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(केवल कार्यालय उपयोग हेतु)

सत्यमेव जयते

भारत सरकार
GOVERNMENT OF INDIA

केन्द्रीय जल आयोग
CENTRAL WATER COMMISSION

जल-वर्ष पुस्तिका
WATER YEAR BOOK

(VOLUME - I)

(जुन - २०१७ - मई-२०१८)
(JUNE 2017 - MAY 2018)

महानदी कछार
MAHANADI BASIN

जल-विज्ञानीय प्रेक्षण परिमंडल
भुवनेश्वर
HYDROLOGICAL OBSERVATION CIRCLE
BHUBANESWAR

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HYDROLOGICAL OBSERVATION CIRCLE
BHUBANESWAR

September – 2018 सितम्बर-२०१८

FOREWORD

Proper assessment, analysis and compilation of hydro-meteorological data is essential for planning and management of precious water resources, which is vital not only for economic development but also for providing basic needs for such a large population of our country. Water reaches the land-mass through precipitation, a part of which evaporates, a portion of it percolates into ground as natural ground water and the excess runoff flows through rivers and drain into the sea. Central Water Commission (CWC), an apex technical Organization of Government of India for surface water resources, carries out systematic collection of hydro-meteorological data, assessment of surface water is one of its prime functions.

Hydro-meteorological observation stations were established by CWC in almost all the river basins of India in a phased manner. These were further modernized and strengthened under various schemes. In the process, additional Divisions, Circles and Regional Offices were set up on a basin-wise concept.

The basin encompassing the east flowing rivers in-between the Ganga and Godavari basins viz. Mahanadi, Subarnarekha, Brahmani, Baitarani Vamsadhara, Rushikulya, Burhabalang, Nagavali and Sarada has been identified as Mahanadi and Eastern Rivers Basin which is dealt by Mahanadi and Eastern Rivers Organization (M&ERO), CWC, Bhubaneswar. Hydrological Observation Circle (HOC), Bhubaneswar under M&ERO carries out hydrological observation and flood forecasting activities in these 9 river basins flowing mainly through Odisha alongwith its neighboring states of Jharkhand, Chhattisgarh, Andhra Pradesh and West Bengal through two Divisions under its jurisdiction viz. Mahanadi Division (MD), Burla and Eastern Rivers Division (ERD), Bhubaneswar.

There are a total of 119 observation stations under M&ERO. Systematic gauge and discharge observation are regularly conducted at 46 hydrological stations (out of the above 119) throughout the year. Sediment, Water Quality and Meteorological data are also observed at some of the stations. After scrutiny and checking, the collected and processed data are stored in a database through custom made software "Surface Water Data Entry System" (SWDES) and published in the form of Water Year Books. The present publication of Water Year Book contains Hydrological, Sediment and Water Quality data for the hydrological year 2017-18, i.e. from June-2017 to May-2018.

Water Year Book pertaining to the Hydrological Observation Circle, CWC, Bhubaneswar is published in four Volumes. While Volume-I incorporates data of Mahanadi Basin, Volume-II contains data of the Brahamani Basin, Volume-III of Subaranarekha, Burhabalang & Baitarani basins, and Volume- IV of Vamsadhara, Nagavali, Rushikulya and Sarada basins. Each Volume contains Discharge data as Section-I, Sediment data as Section-II and Water Quality data as Section-III for respective river basins.

This Volume-I covers Hydrological, Sediment and Water Quality data for Water Year 2017-18 of Twenty two sites of Mahanadi River basin alongwith salient features and other important statistical information. Sincere efforts put in by the officers and staff of Mahanadi Division, CWC, Burla under the leadership of Shri N.Srinivasa Rao, Executive Engineer, in collecting and processing the data and bringing out this publication is highly commendable. The guidance and encouragement of Chief Engineer, M&ERO, Bhubaneswar and co-operation of the officials of H.O. Circle and Chief Engineer office are duly acknowledged.

Place: Bhubaneswar
Date: September - 2018

(D.K.JENA)
Superintending Engineer
HOC, CWC, Bhubaneswar

LIST OF OFFICERS WHO HAVE CONTRIBUTED TO THIS PUBLICATION

Assistance render by the officers and staff of this division in the collection analysis and validation of data in bringing out the book in this form is thankfully acknowledged. Special appreciation is attributed to the field staff under all the Sub-Division of this Division and also Hydrological Observation Circle,C.W.C, Bhubaneswar for collection of data.

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MAHANADI BASIN

1. BASIN DESCRIPTION

1.1 Introduction

River Mahanadi is one of the major inter-state east flowing rivers in the peninsular India. During the course of its traverse, it drains fairly large areas of Chattisgarh and Odisha and comparatively very small areas in the state of Jharkhand, Maharashtra and Madhya Pradesh. The basin encompasses the area within geographical co-ordinates of 80°30′ to 86°50′ East longitudes and 19°20′ to 23°35′ of North latitudes. The basin is physically bounded in the North by Central India hills, in the South and East by the Eastern Ghats, and in the West by Maikala hill range. The total catchment area of the basin is 1,41,600 sq. km.

Table below shows state wise break-up of the drainage area and the percentage with reference to total area of the basin.

Sl. No.	Name of the State	Drainage Area (km^2)	% of Total Area
1	Chhattisgarh	74,970	52.9
2	Odisha	65,600	46.3
3	Jharkhand	650	0.5
4	Maharashtra	250	0.2
5	Madhya Pradesh	130	0.1
	TOTAL	**1,41,600**	**100.0**

Basin map of Mahanadi river system depicting various hydrological and hydro-meteorological observation stations maintained by CWC is enclosed herewith. CWC is maintaining 60 stations in Mahanadi Basin, out of which 18 are of type Gauge/ Discharge/ Sediment/ Water Quality (GDSQ), 1 is of type Gauge /Discharge/ Water Quality (GDQ), 3 are of type Gauge /Discharge (GD), 3 are of type Gauge/Seasonal Discharge (GD(S)), 17 are of type Gauge(G), 12 are of type Gauge (Seasonal). In addition, there are 6 stations of type Rainfall (RF) where only rainfall is observed. This report (Volume-I) contains data of 22 gauge and discharge sites which are being operated round the year.

1.2 River System

River Mahanadi originates at an elevation of about 442 meter above mean sea level near Pharsiya village near Nagri town in Raipur district of Chattisgarh. Total length of the river from its origin to outfall into the Bay of Bengal is about 851 km out of which 357 km is in Chhattisgarh and the balance 494 km in Odisha. During its traverse, a number of tributaries join the river on both the banks. Mahanadi has 8 major tributaries, out of which 6 join it upstream of Hirakud reservoir, while the balance 2 join it down stream of Hirakud.

The catchment upstream of Hirakud reservoir has an area of 83,400 km². The major tributaries in this reach are Seonath, Ib, Pairi, Jonk, Hasdeo and Mand. The catchment downstream of Hirakud reservoir has an area of 58,200 km². The major tributaries in this reach

are Tel and Ong. Though, the catchment area of downstream portion is less than that of the catchment upstream of Hirakud reservoir, it has been seen that the contribution of downstream area to the total flood in Mahanadi is equally significant.

The three major tributaries, namely Seonath and Ib on the Left Bank and Tel on the Right Bank, together constitute nearly 46.63 % of the total catchment area of the river Mahanadi.

Seonath, which is the largest tributary of Mahanadi, rises from an elevation of 533 meter in village Kotgai, District Durg (Chattisgarh), and drains three districts of Chattisgarh, namely, Durg, Rajnandgaon and Bilaspur.

Tel, which is the second largest tributary of Mahanadi, rises from an elevation of 700 m in village Jorigram of Nabarangpur district of Odisha and drains five districts of Odisha, namely Nabarangpur, Kalahandi, Bolangir, Boudh and Kandhamal.

Ib, which is the third largest tributary of Mahanadi, rises from an elevation of 762 m in village Pandrapat, District Raigarh (Chattisgarh). It drains Raigarh and Jashpur districts of Chhattisgarh, along with three districts of Odisha, namely Sundargarh, Jharsuguda and Sambalpur.

The table below shows the details of the catchment area, length and elevation at source of the important tributaries.

Sl. No.	Name of the Tributary/ Sub-basin	Bank	Elevation at source above msl	Length (km)	Catchment Area (sq.km)	% of Total Area
1	Mahanadi		442	851	48,230	34.1
2	Pairi	Right	488	113	3,503	2.5
3	Seonath	Left	533	383	30,761	21.7
4	Jonk	Right	762	196	3,673	2.6
5	Hasdeo	Left	915	333	9,803	6.9
6	Mand	Left	686	242	5,237	3.7
7	Ib	Left	762	251	12,447	8.8
8	Ong	Right	457	204	5.128	3.6
9	Tel	Right	700	296	22,818	16.1
			Total		**1,41,600**	**100.0**

The delta region of river Mahanadi, comprising of the catchment below the Naraj barrage, is characterised by drainage congestion, tidal effect and extreme tendency for meandering and shifting of the course. The river branches repeatedly in this region. This area is also very fertile and supports very high population density. During periods of major floods, the delta area experiences significant economic and social problems.

Some of the major branches originating in the delta area of river Mahanadi include Kathjori, Birupa, Chitrotpala, Kuakhai, Daya, Kushabhadra, and Devi. In the recent years, all the major branches have been protected by construction of flood embankments. Some river reaches, especially near the outfall to the sea, are also experiencing the problem of siltation of the river bed, leading to increased flood problem.

1.3 Climatic Characteristics

The monsoon is the principal rainy season, when over 75 % of the annual rainfall is received over a major portion of the basin, with July/ August as the rainiest month. The average annual rainfall of the basin is of the order of 1400 mm.

Since the Mahanadi river basin covers a vast geographical area, there is wide spatial variation of hydro-meteorological characteristics. In winters, the mean daily temperature varies from 13^0C to 20^0C. In summers, the mean daily temperature varies from 30^0C to 37^0C. The month of May is generally the hottest month. During the year 1998, unusually high day temperatures of the order of 48.2 to 48.8^0C were experienced in the basin.

1.4 Geology

The basin is physically bounded in the north by Central India hills, in the south and east by the Eastern Ghats, and in the west by Maikala hill range. The Chiroli Hills form the watershed dividing the Wainganga valley from the Mahanadi Basin, the upper portion of which is designated as the Chattisgarh Basin.

The floor of the basin is composed of horizontally bedded or very low dipping lime stones and shales of Cuddapah age, and is studded with shallow cup-like depressions. The ridges that form the southern rim of the basin comprise of sandstone and quartzite, dipping inward. Iron-ore ridges also occur here, which stand up very prominently because of resistance of iron ores to weathering agents. Rajhara Pahar is a typical example, which supplies iron ores to the Iron and Steel Plant at Bhilai.

On the north, the basin has a steep uneven edge, formed mainly of strong-bedded gneiss rocks with an east-west strike and high dip southwards.

Coal beds also occur in the basin near Korba. In the Bolangir region, khondalite or quartzite are seen. The Gandhamardan hill range is a good example of khondalite ridge. Sonabera Plateau appears to be a structural platform built of quartzite with an average elevation of 600 metre. It has a radial drainage, with all the streams descending the plateau scarp invariably formed waterfalls on leaving quartzite uplands, especially where they enter sandstone or limestone slopes.

In the upper Mahanadi region, the rocks generally found are belonging to Pleistocene to Archean age. Laterite, Basalt, Lime stone, Dolomite and Iron ore are abundantly found. The Seonath river basin belongs to Archean terrain, comprising of the Chhatisgarh and Eastern Ghats. The rocks are mostly Pleistocene, such as Lime stone Dolomite, Magnetite and Granite. The Hasdeo river basin contains Bauxite, Granite, Lime stone, Coal, Iron ore, Dolomite and Galena. The land of the Mand river basin comes under the Cuddapah series. It exhibits wide level plains of alluvial cover, deposited on the Cuddapah Lime stone and Shale stones. The Ib river basin belongs to the Archean Terrain of Chhotanagpur Plateau, and has been greatly influenced by the geomorphic features. The hilly regions have Igneous and Metamorphic rocks. The Tel river mainly comprises Sand stone, Silt stone and Shale rocks.

The Lower Mahanadi Basin comprises alluvial formation of recent origin, with varying thickness. In the North-Western region of delta, isolated out-crops of Archean sediment are

seen. In the Western and South-Western region, Upper Gondwana rocks have been encountered.

1.5 Water storage / Diversion Structures

The water storage/ diversion structures constructed/ under construction in the basin have been detailed below:

Sl. No.	Name of the Project	River	Status	Original Capacity in Million Cubic Meter (MCM)	
				Gross	Live
1.	Hirakud Dam	Mahanadi	Existing	8141.0	5892.0
2.	Bango Dam	Hasdeo	Existing	3417.0	3046.0
3.	Ravishankar Sagar Dam	Mahanadi	Existing	909.0	768.0
4.	Murumsilli	Sillary	Existing	165.0	162.0
5.	Dudhawa Dam	Mahanadi	Existing	288.0	284.0
6.	Tandula	Tandula	Existing	322.0	312.0
7.	Kharang	Kharang	Existing	-	192.32
8.	Kodar Reservoir	Kodar Nala	Existing	160.23	148.91
9.	Mayana Tank	Naini Nala	Existing	211.24	157.93
10.	Kelo Project	Kelo	Under const.	76.0	46.0
11.	Maniyari Project	Maniyari	Existing	151.0	148.0
12.	Kosarteda Project	Kosarteda	Existing	72.86	63.7
13.	Sikasar Dam	Pairi	Existing	217.0	199.0
14.	Sondur Dam	Sondur	Existing	198.0	179.0
15.	Lower Indra	Indra	Under const.	321.63	314.25
16.	Lower Suktel	Suktel	Under const.	320.28	263.43
17.	Paralkot Dam	Dewadha	Existing	66.3	63.6

2. STREAM FLOW DATA

2.1 Observation Methodology

Standard methods are adopted at all the discharge observation stations under Mahanadi Basin for collecting the data which are explained briefly as under:

Discharge observation Methods:- Area–velocity method is generally adopted for measuring discharge at sites. Velocities at the mid point of segments are observed using current meter suspended from an out-fit from Boat or Bridge, or by rigid rod in case of measurement by wading. Where none of the above methods is possible, velocity is observed by float method and the surface velocities are converted into mean velocities by applying suitable correction factor. The depth is measured by using sounding rod for depths up to 3 meter, and by log-line beyond 3 meter depth. Discharge by area velocity method is being observed once in a day except on Sundays and holidays, starting at 0800 Hrs. at all the sites. Besides, silt and water quality observation are also being made at GDSQ/GDQ sites.

Computation of Flow on Non-observed days:- The observed stage and discharge figures for each season (monsoon and non-monsoon) are plotted and a mean Stage v/s. Discharge curve is drawn, giving due attention to the scattered points with reference to area velocity etc.

The factors responsible for the shifting of the curves are also taken care of by studying the river cross section at regular intervals and with super imposition of previous year's Stage v/s. Discharge curves. Accordingly, the trend of the current curve is finalised. Finally, the discharges of the non observed days are computed from these Stage v/s. Discharge Curves.

2.2 Data Availability:

The data of following sites is presented in this volume:

Sl.No.	Name of Site	Tributary/ Sub-Tributary	Type	Data Available	
				From	To
1.	Rampur	Jonk	GDSQ		
			Gauge	29.01.1971	Continuing
			Discharge	20.02.1971	Continuing
			Sediment	05.07.1976	Continuing
			Water quality	15.09.1972	Continuing
2.	Rajim	-	GDSQ		
			Gauge	01.02.1971	Continuing
			Discharge	01.02.1971	Continuing
			Sediment	04.12.1972	Continuing
			Water quality	01.09.1972	Continuing
3.	Simga	Seonath	GDSQ		
			Gauge	29.09.1971	Continuing
			Discharge	09.09.1971	Continuing
			Sediment	30.12.1972	Continuing
			Water quality	01.09.1972	Continuing
4.	Kotni	Seonath	GDSQ		
			Gauge	22.09.1977	Continuing
			Discharge	30.09.1978	Continuing
			Sediment	25.07.2014	Continuing
			Water Quality	01.06.2015	Continuing

Sl. No.	Name of Site	Tributary/ Sub-Tributary	Type	Data Available	
				From	To
5.	Andhiyarkore	Seonath/ Hamp	GDSQ		
			Gauge	27.09.1977	Continuing
			Discharge	29.11.1977	Continuing
			Sediment	12.07.1980	Continuing
			Water quality	01.06.1980	Continuing
6.	Baronda	Pairi	GDSQ		
			Gauge	12.07.1977	Continuing
			Discharge	06.12.1977	Continuing
			Sediment	29.06.1980	Continuing
			Water quality	02.06.1980	Continuing
7.	Pathardihi	Seonath/ Kharun	GDQ		
			Gauge	12.09.1987	Continuing
			Discharge	15.09.1989	Continuing
			Water quality	01.08.1992	Continuing
8.	Basantpur	-	GDSQ		
			Gauge	01.02.1971	Continuing
			Discharge	11.05.1971	Continuing
			Sediment	07.04.1973	Continuing
			Water quality	01.09.1972	Continuing
9.	Bamnidih	Hasdeo	GDSQ		
			Gauge	29.01.1971	Continuing
			Discharge	18.02.1971	Continuing
			Sediment	01.05.1973	Continuing
			Water quality	01.09.1972	Continuing
10.	Jondhra	Seonath	GDSQ		
			Gauge	24.01.1979	Continuing
			Discharge	21.01.1979	Continuing
			Sediment	11.10.1980	Continuing
			Water quality	02.06.1980	Continuing
11.	Ghatora	Seonath/ Arpa	GDSQ		
			Gauge	15.10.1977	Continuing
			Discharge	17.09.1979	Continuing
			Sediment	01.11.2000	Continuing
			Water quality	01.11.1991	Continuing
12.	Seorinarayan	-	GDSQ		
			Gauge	01.06.1985	Continuing
			Discharge	09.12.1985	Continuing
			Sediment	11.02.2013	Continuing
			Water quality	01.06.2015	
13.	Manendragarh	Hasdeo	GDSQ		
			Gauge	21.06.1987	Continuing
			Discharge	21.06.1989	Continuing
			Sediment	09.07.1993	Continuing
			Water quality	01.10.1992	Continuing

Sl. No.	Name of Site	Tributary/ Sub-ributary	Type	Data Available	
				From	To
14.	Salebhata	Ong	GDSQ		
			Gauge	23.07.1971	Continuing
			Discharge	12.11.1971	Continuing
			Sediment	01.05.1973	Continuing
			Water quality	15.09.1972	Continuing
15.	Kantamal	Tel	GDSQ		
			Gauge	08.08.1971	Continuing
			Discharge	26.08.1971	Continuing
			Sediment	22.07.1976	Continuing
			Water quality	01.10.1972	Continuing
16	Sundargarh	IB	GDSQ		
			Gauge	07.08.1977	Continuing
			Discharge	30.12.1977	Continuing
			Sediment	21.07.1980	Continuing
			Water quality	02.06.1980	Continuing
17.	Kesinga	Tel	GDSQ		
			Gauge	10.11.1977	Continuing
			Discharge	07.11.1978	Continuing
			Sediment	22.09.2006	Continuing
			Water quality	01.06.2001	Continuing
18.	Kurubhata	Mand	GDSQ		
			Gauge	23.10.1977	Continuing
			Discharge	01.04.1978	Continuing
			Sediment	22.07.1980	Continuing
			Water quality	01.07.1980	Continuing
19.	Tikarpara	-	GDSQ		
			Gauge	19.02.1971	Continuing
			Discharge	28.05.1972	Continuing
			Sediment	01.06.1973	Continuing
			Water quality	01.12.1972	Continuing
20.	Gunderdehi	Tandula	GD		
			Gauge	01.07.2013	Continuing
			Discharge	15.07.2013	Continuing
21	Boudh	-	GD		
			Gauge	31.03.2015	Continuing
			Discharge	31.03.2015	Continuing
22.	Kalma	Mahanadi	GD	17.10.2016	Continuing

2.3 Surface Water Data Entry Software (SWDES):

Surface Water Data Entry Software (SWDES), a custom made software for processing hydrological data, has been used for this volume. The explanatory notes described below are designed to assist in the interpretation of data presented in the volume.

i) Water Year ranges from June 1st of one calendar year to May 31st of the next calendar year, and covers one complete annual hydrological cycle.

ii) Discharge is given in cubic meters per second.

iii) Discharge is expressed as 0.000 when the river bed is dry and 0.000 N.F. when velocity is observed as 'NIL'.

iv) The zero Reference Level (R.L.) of gauge is a datum level fixed for given the given site, which is kept 1 or 2 m lower than the lowest water level recorded in a perennial stream. In a non-perennial stream, it is kept 1 or 2 m lower than the lowest bed level of the stream.

v) Discharges are rounded off as per standard practice.

vi) Runoff in mm is the notional depth of water in mm over the catchments equivalent to annual runoff calculated at the discharge measurement station. It is computed using the relation.

$$\text{Runoff (mm)} = \frac{\text{Annual runoff (MCM)} \times 1000}{\text{Catchment area (km}^2\text{)}}$$

vii) Peak and lowest flow correspond to the highest and lowest water levels recorded from 'SWDES' entered data.

viii) Measuring authority refers to the field division of Central Water Commission (Mahanadi Division and Eastern Rivers Division) responsible for the operation of the gauging station.

ix) The gauging station code number is a unique seven column alphanumeric reference number which facilitates storage and retrieval of flow data in data banks. The first column is identifier of either an integral river basin or, for convenience, a region when it has several contiguous river catchments. This is followed by a column which identifies an independent river system which either has one or more outlets to the sea or crosses international border to enter another country. The third, forth and fifth column spaces denote first, second and third order tributaries respectively, from the mouth upstream. The sixth and seventh column spaces indicate the location of the gauging station in one of the 225 slots earmarked on the river. The blank column spaces are filled by zero.

3. HYDROLOGICAL DATA

This volume contains the following information for each of the above-stated site:

i. History Sheet: Site Name, State, District, River Basin, Tributary, Sub-Tributary, Catchment Area, Latitude, Longitude, Date of Opening and Closing for various types of data.

ii. Annual maximum/ minimum discharge since period of observation.

iii. Daily Water level and observed/ computed discharge data including 10-daily, monthly and annual totals etc.

iv. Histogram and hydrograph showing current year monthly mean discharges, historical monthly mean discharges, historical monthly minimum and monthly maximum discharge.

v. Histogram showing annual run-off since beginning of observation.

vi. Pie-Chart showing mean monthly run-off (as percentage of mean annual run-off) for the total years from inception.

vii. Pie-Chart showing monthly run-off (as percentage of annual run-off) for the current year.

viii. Plot of Pre-Monsoon and Post Monsoon Cross-section of the rivers for current year.

ix. Water level hydrograph for 3 (three) major flood events of current year.

4. SEDIMENT DATA (*For Sediment Observation sites*)

Sediment observation is carried out daily during monsoon season and once in a week (on Monday) during the non-monsoon period. Data for non-observed days is estimated/ interpolated from the relationship of Discharge v/s. Sediment Load, prepared on the basis of observed sediment concentration and weighted mean discharge of the same year.

Sediment samples are collected from 0.6 x depth, from all the verticals along the hydrological observation sections where velocity is observed for computation of discharge, using Punjab type bottle sampler. The collected samples from all the segments are combined in 3 to 7 groups having compartments or groups of equal or nearly equal discharge, for analysis. Quantum of suspended sediment load is estimated in three grades, viz. Coarse, Medium and Fine. Coarse and medium grades are separated by sieving process and the fine grade by filtration of left over samples through filter paper. Grade wise concentration is derived gravimetrically as per standard procedure. The results so recorded, include:

- Daily observed suspended sediment (g/l).
- Corresponding discharge.
- Average sediment load in tonnes / day (10 daily & monthly basis).
- Annual sediment load for the current year.
- Annual sediment load and the corresponding volume of inflow for all the year since inception.
- Grain size distribution of bed load.

5. WATER QUALITY DATA (For Water Quality Observation sites)

The Water samples are collected at a regular interval of once in a month, on 1st working day of each month, from the main flowing segment of the stream, just below the water surface (20 to 30 cm) on the Station Gauge line where depth of flow and velocity are maximum, preferably in the mid stream. The water samples are collected in clean and pre-rinsed one-litre capacity plastic bottle having double stopper (inside and out side) system. Sampling bottle is filled to its full capacity without entrapping inside any air bubbles.

After sampling, the collected samples are sent to the Water Quality Laboratory (Level-II) based at Bhubaneswar (under the Eastern Rivers Division) and to Raipur (under Mahanadi Division, Burla), along with information on in-situ physical characteristics, for analysis. The samples received from the sites are preserved in a refrigerator in the Level-II laboratories, prior to analysis.

Analysis of parameters, namely pH, Electrical conductivity, Sodium, Potassium, Iron, Fluoride, Nitrate, Nitrite, Phosphate, Silicate, Boron, Sulphate, Calcium, Magnesium, Carbonate, Bi-carbonate, Chloride, Dissolved Oxygen, BOD and COD, are carried out in the laboratory by using standard methodologies. Micro-biological parameters like total colliform and faecal colliform are also being analyzed. For analysis of trace and toxic elements, samples are sent to Level-II + laboratory at Hyderabad once in a year, in the month of April and to Level – III + Laboratory at Kalindi Bhawan, New Delhi twice in year in the month of March and September. The results so recorded, include:

- River Water Analysis Monthly Physical, Chemical and Biological parameters.
- Annual Water Quality Summary Physical, Chemical and Biological parameters.
- Average Values over the Year season-wise averages:
  - Average for Summer (March to June)
  - Average for Floods (July to October).
  - Average for Winter (November to February)

Sampling Stations

In addition, Water Quality observation samples are also collected from the following locations which are not CWC Sites.

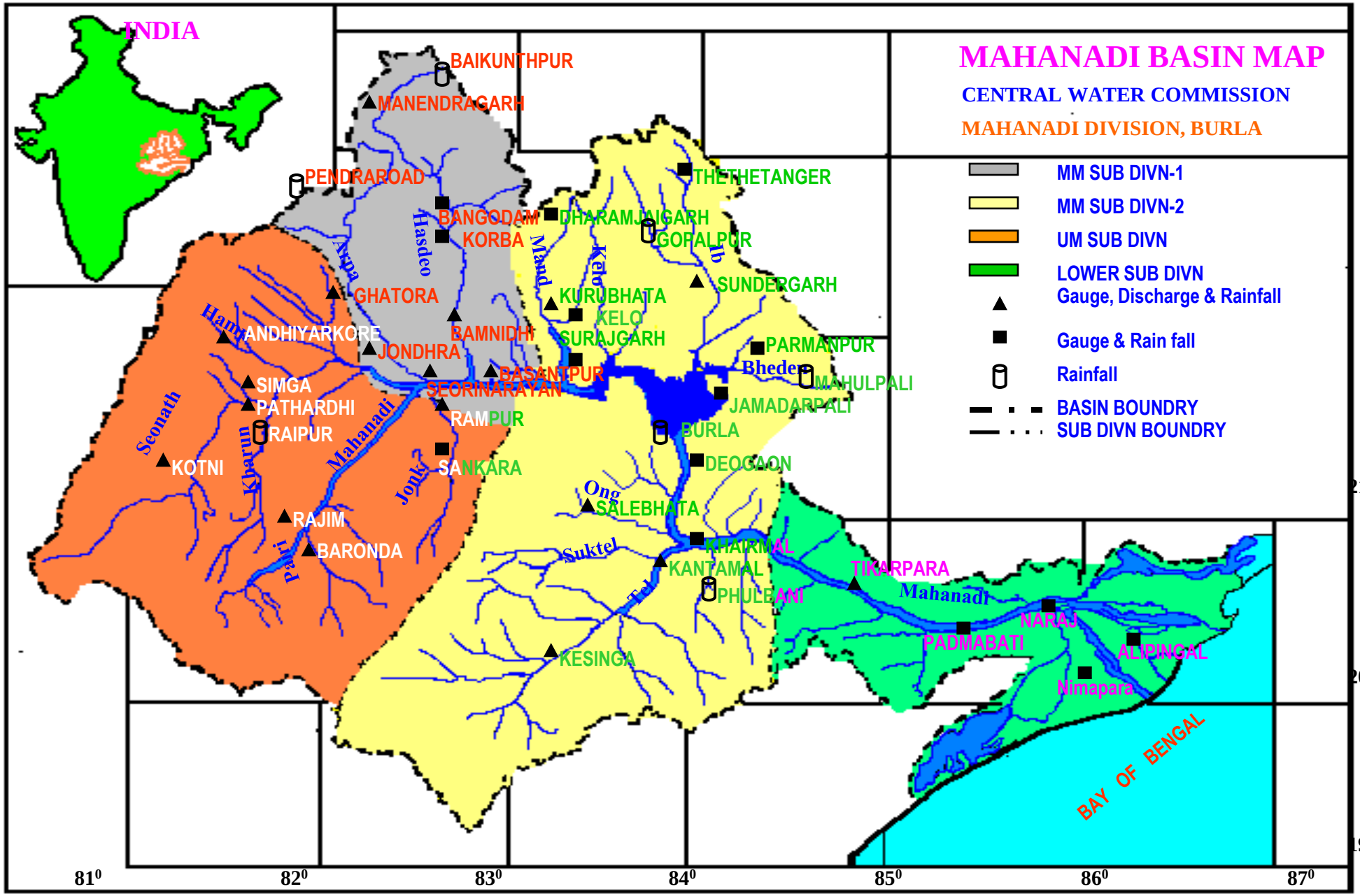
Sl No.	Station Name	River/ Tributary	Type	Co-ordinates	
				Latitude	Longitude
1	Champa Road Bridge	Hasdeo	Q	21^0 53' 55"	82^0 42' 29"
2	Madhya Bharat Paper Mill (MBPL)	Hasdeo	Q	22^0 02' 04"	82^0 13' 34"

DETAILS OF CWC SITES IN MAHANADI BASIN

SlNo.	Station Name	River/ Tributary	Code No	Type	Latitude	Longitude
1	Andhiyarkore	Hamp	EMP60E5	GDSQ	21⁰ 50' 02"	81⁰ 36' 21"
2	Bamnidih	Hasdeo	EMM00B3	GDSQ	21⁰ 53' 55"	82⁰ 43' 02"
3	Bangodam	Hasdeo	001A	G	22⁰ 35' 35"	82⁰ 34' 31"
4	Baronda	Pairi	EMR00A4	GDSQ	20⁰ 54' 45"	81⁰ 53' 10"
5	Basantpur	Mahanadi	EM000R2	GDSQ	21⁰ 43' 36"	82⁰ 47' 17"
6	Baikunthpur	Hasdeo	004A	RF	23⁰ 15' 02"	82⁰ 35' 00"
7	Burla	-	001B	RF	21⁰ 30' 30"	83⁰ 53' 30"
8	Deogaon	Mahanadi	0012B	G	21⁰ 18' 30"	83⁰ 54' 00"
9	Dharamjaigarh	Mond	002B	G	22⁰ 28' 20"	83⁰ 12' 52"
10	Ghatora	Arpa	EMP40F2	GDSQ	22⁰ 03' 24"	82⁰ 13' 15"
11	Gopalpur	Basundhara	0011B	RF	22⁰ 03' 40"	83⁰ 43' 50"
12	Jamadarpali	Mahanadi	008B	G	21⁰ 34' 14"	83⁰ 59' 20"
13	Jondhra	Seonath	EMP00A4	GDSQ	21⁰ 43' 30"	82⁰ 20' 50"
14	Kantamal	Tel	EMF00C3	GDSQ	20⁰ 39' 00"	83⁰ 43' 55"
15	Kelo at Raigarh	Mahanadi	009B	GD(S)	21⁰ 53' 19"	83⁰ 24' 10"
16	Kesinga	Tel	EMF00K6	GDSQ	20⁰ 11' 51"	83⁰ 13' 30"
17	Khairmal	Mahanadi	007B	G	20⁰ 49' 18"	84⁰ 00' 00"
18	Korba	Hasdeo	002A	G	22⁰ 21' 30"	82⁰ 41' 30"
19	Kotni	Seonath	EMP00P8	GDSQ	21⁰ 14' 10"	81⁰ 14' 50"
20	Kurubhata	Mand	EMK00E2	GDSQ	21⁰ 59' 15"	83⁰ 12' 15"
21	Mahulpali	Bheden	0010B	G	22⁰ 52' 30"	84⁰ 25' 00"
22	Manendragarh	Hasdeo	EM00T7	GDSQ	23⁰ 12' 10"	82⁰ 13' 05"
23	Parmanpur	Bheden	004B	GD(S)	21⁰ 46' 50"	84⁰ 04' 54"
24	Patharidihi	Kharun	EMP70F3	GDQ	21⁰ 20' 28"	81⁰ 35' 38"
25	Pendra Road	Arpa	003A	RF	22⁰ 45' 30"	81⁰ 54' 30"
26	Phulbani	Mahanadi	006B	RF	20⁰ 28' 00"	84⁰ 15' 00"
27	Raipur	-	-	RF	21⁰ 15' 36"	81⁰ 36' 18"
28	Rajim	Mahanadi	EM000U7	GDSQ	20⁰ 58' 25"	81⁰ 52' 48"
29	Rampur	Jonk	EMN00B3	GDSQ	21⁰ 39' 06"	82⁰ 31' 10"
30	Salebhata	Ong	EMG00E5	GDSQ	20⁰ 59' 00"	83⁰ 32' 22"
31	Sankara	Jonk	163	G	21⁰ 17' 19"	82⁰ 31' 00"
32	Seorinarayan	Mahanadi	EM000R6	GDSQ	21⁰ 43' 00"	82⁰ 35' 48"
33	Simga	Seonath	EMP00J1	GDSQ	21⁰ 37' 54"	81⁰ 41' 16"
34	Sundargarh	Ib	EMI00H3	GDSQ	22⁰ 06' 55"	84⁰ 00' 40"
35	Surajgarh	Mahanadi	005B	G	21⁰ 41' 35"	83⁰ 22' 17"
36	Thethetanger	Ib	003B	G	22⁰ 40' 05"	83⁰ 54' 36"
37	Alipingal	Devi	-	G	20⁰ 10' 00"	86⁰ 10' 00"
38	Arampur	Sindolijore	-	G	20⁰ 48' 06"	84⁰ 36' 04"
39	Kanas	Daya	-	G(S)	20⁰ 00' 08"	85⁰ 38' 47"
40	Khandapara	Kusumi	-	G	20⁰ 15' 22"	85⁰ 11' 16"
41	Marshaghai	Luna	-	G	20⁰ 20' 24"	86⁰ 28' 51"
42	Naraj	Mahanadi	-	G	20⁰ 28' 30"	85⁰ 46' 30"
43	Nimapara	Kushabhadara	-	G	20⁰ 04' 10"	86⁰ 00' 00"
44	Padmavati	Mahanadi	-	G	20⁰ 20' 36"	85⁰ 17' 51"
45	Pubansa	Luna	-	G(S)	20⁰ 26' 39"	86⁰ 14' 51"
46	Tikarpara	Mahanadi	-	GDSQ	22⁰ 38' 00"	84⁰ 37' 08"

47.	Gunderdehi	Tandula	164	GD	20^0 57' 11"	81^0 16' 45"
48.	BalaKathi Rd. Bridge	Bhargavi	-	G(S)	20°12'09"	85°51'54"
49.	Balanga	Bhargavi	-	G(S)	20°02'20"	85°52'45"
50.	Bhingarpur	Kushbhadra	-	G(S)	20°15'48"	85°55'59"
51.	Daya Rd. Bridge	Daya	-	G(S)	20°12'36"	85°51'07"
52.	Kishan Nagar	Mahanadi	-	G(S)	20°25'34"	86°05'19"
53.	Tarpur	Mahanadi	-	G(S)	20°19'02"	86°22'31"
54.	Kathajodi . Bridge	Kathajodi (Devi)	-	G(S)	20°26'13"	85°53'17"
55	Boudh	Mahanadi	-	GD	20°51'56"	84°18'48"
56	Katghora	Ahiran	-	G(S)	22°29'31"	82°32'19"
57	Padampur	Ong	-	GD(S)	21°00'57"	83°06'11"
58	Maniyari	Maniyari	-	G(S)		
59	Sarangpal	Mahanadi	-	G(S)	21°43'00"	82°20'34"
60	Kalma	Mahanadi	-	GD	21°41'40"	83°16'44"
61	Malgaon	Mahanadi (Pairi)	-	G	20°39'25"	32°02'20"

LIST OF ABBREVIATIONS USED		
CWC	:	Central Water Commission
HP	:	Hydrology Project
IMD	:	India Meteorological Department
msl	:	Mean sea level
Q	:	Discharge
WL	:	Water Level
Type of station		
G	:	Gauge (Water Level)
D	:	Discharge (Volume of water passing through a cross section of river per unit time)
S	:	Sediment (suspended sediment load)
Q	:	Water Quality
RF	:	Rainfall
(S)	:	Seasonal
UNITS		
m	:	Meter
mm	:	Milli meter
km	:	Kilometer
s	:	Second
MCM	:	Million cubic meters
MT	:	Metric ton
G	:	Gram


INDIA
MAHANADI BASIN MAP
CENTRAL WATER COMMISSION
MAHANADI DIVISION, BURLA
MM SUB DIVN-1
MM SUB DIVN-2
UM SUB DIVN
LOWER SUB DIVN
Gauge, Discharge & Rainfall
Gauge & Rain fall
Rainfall
BASIN BOUNDRY
SUB DIVN BOUNDRY
BAIKUNTHPUR
MANENDRAGARH
PENDRAROAD
BANGODAM
KORBA
Hasdeo
Arpa
GHATORA
Hamp
ANDHIYARKORE
JONDHRA
RAMNIDHI
BASANTPUR
SEORINARAYAN
SIMGA
PATHARDHI
RAIPUR
RAMPUR
Seonath
Kharun
Mahanadi
Jonk
KOTNI
SANKARA
RAJIM
BARONDA
Pairi
THETHETANGER
DHARAMJAIGARH
GOPALPUR
Mand
Kelo
Ib
SUNDERGARH
KURUBHATA
KELO
SURAJGARH
PARMANPUR
Bheden
MAHULPALI
JAMADARPALI
BURLA
DEOGAON
Ong
SALEBHATA
Suktel
KHAIRMAL
KANTAMAL
PHULBANI
Tel
KESINGA
TIKARPARA
Mahanadi
NARAJ
PADMABATI
ALIPINGAL
Nimapara
BAY OF BENGAL
81⁰
82⁰
83⁰
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21⁰
20⁰
19⁰

PAIRI SUB-BASIN

SITE BARONDA

HISTORY SHEET

Water Year : 2017-2018

Site	:	**Baronda**	**Code**	:	**EMR00A4**
State	:	Chhattisgarh	District		Gariyaband
Basin	:	Mahanadi	Independent River	:	Mahanadi
Tributary	:	Pairi	Sub Tributary	:	
Sub-Sub Tributary	:		Local River	:	Pairi
Division	:	M.D,CWC,Burla	Sub-Division	:	UMSD,CWC,Burla
Drainage Area	:	3225 Sq. Km.	Bank	:	
Latitude	:	20°55'06"	Longitude	:	81°52'56"
Zero of Gauge (m)	:	283 (m.s.l)	01/06/1978	-	01/06/2018
		Opening Date	Closing Date		
Gauge	:	12/07/1977			
Discharge	:				
Sediment	:	29/06/1980			
Water Quality	:	02/06/1980			

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

	Maximum			Minimum		
Year	**Q (cumecs)**	**WL (m)**	**Date**	**Q (cumecs)**	**WL (m)**	**Date**
1978-1979	900.0	288.630	16/08/1978	0.049	284.070	05/05/1979
1979-1980	546.2	286.095	02/08/1979	0.015	284.040	06/05/1980
1980-1981	6250	289.330	18/09/1980	0.017	283.930	25/05/1981
1981-1982	1327	286.910	09/08/1981	0.100	284.050	03/04/1982
1982-1983	1069	286.430	13/08/1982	0.032	284.040	09/06/1982
1983-1984	1607	286.670	07/08/1983	0.044	284.165	09/04/1984
1984-1985	1709	286.430	09/08/1984	0.010	284.380	19/03/1985
1985-1986	1087	286.650	07/08/1985	0.007	284.260	21/04/1986
1986-1987	3968	287.500	14/08/1986	0.001	284.100	01/05/1987
1987-1988	267.1	285.450	04/09/1987	0.003	284.200	08/06/1987
1988-1989	205.5	285.400	02/07/1988	0.003	284.155	24/04/1989
1989-1990	219.4	285.370	26/08/1989	0.013	284.115	28/03/1990
1990-1991	3104	287.405	05/09/1990	0.051	284.140	20/04/1991
1991-1992	1806	287.190	30/07/1991	0.075	284.110	13/03/1992
1992-1993	5229	287.560	28/07/1992	0.042	284.115	22/03/1993
1993-1994	1154	286.210	20/08/1993	0.064	284.065	19/03/1994
1994-1995	3795	288.000	30/08/1994	0.140	283.960	30/03/1995
1995-1996	3650	288.620	03/09/1995	0.144	284.010	14/05/1996
1996-1997	784.0	286.190	02/08/1996	0.040	283.910	11/06/1996
1997-1998	4754	288.270	22/08/1997	0.249	284.000	17/03/1998
1998-1999	244.7	285.520	13/09/1998	0.139	284.060	28/02/1999
1999-2000	466.4	285.620	02/09/1999	0.235	283.980	24/01/2000

Q : Observed / Computed Discharge WL : Corresponding Water Level(m.s.l)

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

	Maximum			Minimum		
Year	**Q (cumecs)**	**WL (m)**	**Date**	**Q (cumecs)**	**WL (m)**	**Date**
2000-2001	452.4	285.750	19/07/2000	0.035	283.850	30/03/2001
2001-2002	6287	288.980	09/07/2001	0.301	284.000	19/04/2002
2002-2003	406.7	285.740	24/08/2002	0.080	283.950	06/06/2002
2003-2004	3923	288.700	29/08/2003	0.179	284.200	17/04/2004
2004-2005	900.0	286.325	22/08/2004	0.080	284.140	20/03/2005
2005-2006	934.8	286.720	14/09/2005	0.162	284.200	24/01/2006
2006-2007	1035	286.730	31/08/2006	0.157	284.240	21/06/2006
2007-2008	6594	288.582	07/08/2007	0.100	284.040	13/01/2008
2008-2009	4278	288.480	18/09/2008	0.142	283.950	01/01/2009
2009-2010	685.4	285.765	28/08/2009	0.130	284.020	31/12/2009
2010-2011	1812	286.255	06/08/2010	0.316	283.870	15/01/2011
2011-2012	1489	287.400	07/09/2011	0.458	283.980	10/12/2011
2012-2013	865.1	286.450	04/08/2012	0.172	283.980	15/12/2012
2013-2014	1881	287.410	31/07/2013	0.815	284.200	30/11/2013
2014-2015	1444	286.950	22/07/2014	0.000	284.980	16/07/2014
2015-2016	700.0	286.470	17/09/2015	0.000	283.000	31/01/2016
2016-2017	1287	287.020	07/08/2016	0.000	283.000	11/04/2017

Q : Observed / Computed Discharge WL : Corresponding Water Level(m.s.l)

Stage-Dischage Data for the period 2017 - 2018

Station Name : Baronda (EMR00A4) **Division : M.D,CWC,Burla**

Local River : Pairi **Sub-Division : UMSD,CWC,Burla**

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	283.000	0.000 *	283.000	0.000 *	284.350	1.966	284.500	9.964	284.690	82.50 *	284.270	4.452
2	283.000	0.000 *	283.000	0.000 *	284.340	1.789	284.615	11.25	284.615	91.65 *	284.260	4.032
3	283.000	0.000 *	283.000	0.000 *	284.350	1.955	284.510	10.20 *	284.580	44.90	284.250	3.756
4	283.000	0.000 *	283.000	0.000 *	284.513	21.00	284.440	4.318	284.435	15.60	284.250	3.750 *
5	283.000	0.000 *	283.000	0.000 *	284.490	20.08	284.400	4.050 *	284.340	7.285	284.250	3.700 *
6	283.000	0.000 *	283.000	0.000 *	284.505	21.04 *	284.400	2.509	284.453	16.14	284.250	3.445
7	283.000	0.000 *	283.000	0.000 *	284.500	17.49	284.348	2.131	284.305	4.556	284.265	5.261
8	283.000	0.000 *	283.000	0.000 *	284.638	27.23	284.340	1.927	284.325	5.050 *	284.270	5.594
9	283.000	0.000 *	283.000	0.000 *	284.618	24.17	284.440	4.414	285.010	169.4	285.260	5.144
10	283.000	0.000 *	283.000	0.000 *	284.593	22.20	284.880	28.50 *	285.120	206.7	284.260	4.926
11	283.000	0.000 *	284.623	44.68	284.550	12.11	284.515	18.04	285.085	202.4	284.260	4.830
12	283.000	0.000 *	284.435	24.50	284.460	3.617	284.360	6.859	284.735	97.60	284.250	3.420 *
13	283.000	0.000 *	284.390	17.00	284.425	4.300 *	284.528	29.33	284.740	110.0	284.240	3.456
14	283.000	0.000 *	284.340	5.468	284.505	11.35	284.460	14.44	284.580	90.07	284.250	4.072
15	283.000	0.000 *	284.333	5.361	284.715	39.00 *	284.708	59.46	284.540	39.60 *	284.255	4.161
16	283.000	0.000 *	284.580	22.35 *	284.540	18.14	284.628	33.39	284.495	31.64	284.285	6.872
17	283.000	0.000 *	284.440	19.46	284.510	16.61	284.580	34.58 *	284.440	24.41	284.290	7.306
18	283.000	0.000 *	285.040	198.1	284.490	4.940	284.420	6.702	284.400	20.44	284.290	7.071
19	283.000	0.000 *	285.715	598.3	284.645	34.55	284.630	39.70	284.390	18.95 *	284.250	5.000 *
20	283.000	0.000 *	285.140	195.2	284.770	41.00 *	284.665	41.07	284.380	12.61	284.200	1.944
21	283.000	0.000 *	284.810	102.5	284.610	27.03	285.060	185.7	284.380	12.57	284.150	1.581
22	283.000	0.000 *	284.690	38.91	284.505	8.580	284.800	81.34	284.450	24.85 *	284.130	1.515
23	283.000	0.000 *	284.640	26.50 *	284.455	3.056	284.675	66.97	284.423	20.16	284.213	2.327
24	283.000	0.000 *	284.585	18.70	284.450	3.160	284.560	34.21 *	284.495	37.52	284.243	3.195
25	283.000	0.000 *	284.490	10.90	284.240	1.380 *	284.345	8.058	284.430	28.57	284.255	3.361
26	283.000	0.000 *	284.445	5.543	284.703	52.88	284.260	4.484	284.400	14.67	284.255	3.300 *
27	283.000	0.000 *	284.420	4.105	284.580	24.00 *	284.230	4.238	284.390	12.65	284.250	3.257
28	283.000	0.000 *	284.410	4.200 *	285.040	125.2	284.200	3.300	284.273	4.457	284.250	3.222
29	283.000	0.000 *	284.415	4.692	284.905	112.6	284.320	7.750 *	284.455	28.62 *	284.240	2.908
30	283.000	0.000 *	284.410	4.450 *	284.750	83.40	284.730	61.52 *	284.235	4.018	284.240	2.828
31			284.345	1.927	284.620	40.14			284.220	3.378		
Ten-Daily Mean												
I Ten-Daily	283.000	0.000	283.000	0.000	284.490	15.89	284.487	7.926	284.587	64.37	284.358	4.406
II Ten-Daily	283.000	0.000	284.704	113.1	284.561	18.56	284.549	28.36	284.578	64.78	284.257	4.813
III Ten-Daily	283.000	0.000	284.515	20.22	284.623	43.77	284.518	45.75	284.377	17.41	284.223	2.749
Monthly												
Min.	283.000	0.000	283.000	0.000	284.240	1.380	284.200	1.927	284.220	3.378	284.130	1.515
Max.	283.000	0.000	285.715	598.3	285.040	125.2	285.060	185.7	285.120	206.7	285.260	7.306
Mean	283.000	0	284.087	43.64	284.560	26.65	284.518	27.35	284.510	47.84	284.279	3.989

Annual Runoff in MCM = 416 Annual Runoff in mm = 129

Peak Observed Discharge = 598.3 cumecs on 19/07/2017 Corres. Water Level :285.715 m

Lowest Observed Discharge = 0.340 cumecs on 07/05/2018 Corres. Water Level :284.04 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Dischage Data for the period 2017 - 2018

Station Name : Baronda (EMR00A4) **Division : M.D,CWC,Burla**

Local River : Pairi **Sub-Division : UMSD,CWC,Burla**

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	284.240	2.743	284.120	1.302	284.230	2.425	283.000	0.000 *	283.000	0.000 *	284.200	4.616
2	284.240	2.740 *	284.110	1.297	284.200	1.556	283.000	0.000 *	283.000	0.000 *	284.220	4.674
3	284.230	2.700 *	284.100	1.191	284.175	1.136	283.000	0.000 *	283.000	0.000 *	284.200	4.497
4	284.210	2.359	284.080	0.000 *	284.150	1.060 *	283.000	0.000 *	283.000	0.000 *	284.190	3.855
5	284.200	2.326	284.060	0.000 *	284.120	0.448	283.000	0.000 *	283.000	0.000 *	284.150	2.705
6	284.200	2.303	284.060	0.000 *	284.150	1.064	283.000	0.000 *	283.000	0.000 *	284.070	0.400 *
7	284.195	2.247	284.050	0.000 *	284.160	1.135	283.000	0.000 *	283.000	0.000 *	284.040	0.340
8	284.190	2.331	284.030	0.000 *	284.160	1.130	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *
9	284.190	2.186	284.130	0.000 *	284.160	1.096	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *
10	284.185	2.180 *	283.000	0.000 *	284.170	1.140	283.000	0.000 *	284.200	2.743	283.000	0.000 *
11	284.180	1.838	283.000	0.000 *	284.240	2.900 *	283.000	0.000 *	284.210	2.827	283.000	0.000 *
12	284.190	2.086	283.000	0.000 *	284.260	3.369	283.000	0.000 *	284.200	2.749	283.000	0.000 *
13	284.190	2.112	283.000	0.000 *	284.165	1.227	283.000	0.000 *	284.210	2.929	283.000	0.000 *
14	284.150	1.371	283.000	0.000 *	284.140	1.142	283.000	0.000 *	284.190	2.314	283.000	0.000 *
15	284.100	1.469	283.000	0.000 *	284.100	0.469	283.000	0.000 *	284.430	9.210 *	283.000	0.000 *
16	284.170	1.549	283.000	0.000 *	284.090	0.463	283.000	0.000 *	284.350	7.261	283.000	0.000 *
17	284.170	1.545 *	283.000	0.000 *	284.070	0.000 *	283.000	0.000 *	284.190	2.696	283.000	0.000 *
18	284.170	1.570	283.000	0.000 *	284.040	0.000 *	283.000	0.000 *	284.280	5.163	283.000	0.000 *
19	284.170	1.564	283.000	0.000 *	284.030	0.000 *	283.000	0.000 *	284.305	6.140	283.000	0.000 *
20	284.160	1.531	283.000	0.000 *	284.020	0.000 *	283.000	0.000 *	284.300	5.993	283.000	0.000 *
21	284.160	1.535	283.000	0.000 *	283.990	0.000 *	283.000	0.000 *	284.270	5.861	283.000	0.000 *
22	284.160	1.521	283.000	0.000 *	283.880	0.000 *	283.000	0.000 *	284.250	5.140 *	283.000	0.000 *
23	284.150	1.507	283.000	0.000 *	283.280	0.000 *	283.000	0.000 *	284.270	5.897	283.000	0.000 *
24	284.150	1.520 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	284.240	5.184	283.000	0.000 *
25	284.145	1.500 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	284.200	2.813	283.000	0.000 *
26	284.140	1.445	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	284.190	2.674	283.000	0.000 *
27	284.142	1.411	284.378	8.410	283.000	0.000 *	283.000	0.000 *	284.190	2.685	283.000	0.000 *
28	284.130	1.330	284.360	7.500 *	283.000	0.000 *	283.000	0.000 *	284.130	1.887	283.000	0.000 *
29	284.130	1.320	284.315	5.184			283.000	0.000 *	284.120	1.650	283.000	0.000 *
30	284.135	1.341	284.330	5.604			283.000	0.000 *	284.150	1.950	283.000	0.000 *
31	284.120	1.260 *	284.280	3.966			283.000	0.000 *			283.000	0.000 *
Ten-Daily Mean												
I Ten-Daily	284.208	2.411	283.974	0.379	284.167	1.219	283.000	0.000	283.120	0.274	283.807	2.109
II Ten-Daily	284.165	1.663	283.000	0.000	284.116	0.957	283.000	0.000	284.267	4.728	283.000	0.000
III Ten-Daily	284.142	1.426	283.606	2.788	283.269	0.000	283.000	0.000	284.201	3.574	283.000	0.000
Monthly												
Min.	284.100	1.260	283.000	0.000	283.000	0.000	283.000	0.000	283.000	0.000	283.000	0.000
Max.	284.240	2.743	284.378	8.410	284.260	3.369	283.000	0.000	284.430	9.210	284.220	4.674
Mean	284.171	1.821	283.529	1.111	283.892	0.777	283.000	0	283.862	2.859	283.260	0.68

Peak Computed Discharge = 91.65 cumecs on 02/10/2017 **Corres. Water Level :284.615 m**

Lowest Computed Discharge = 0.000 cumecs on 04/01/2018 **Corres. Water Level :284.08 m**

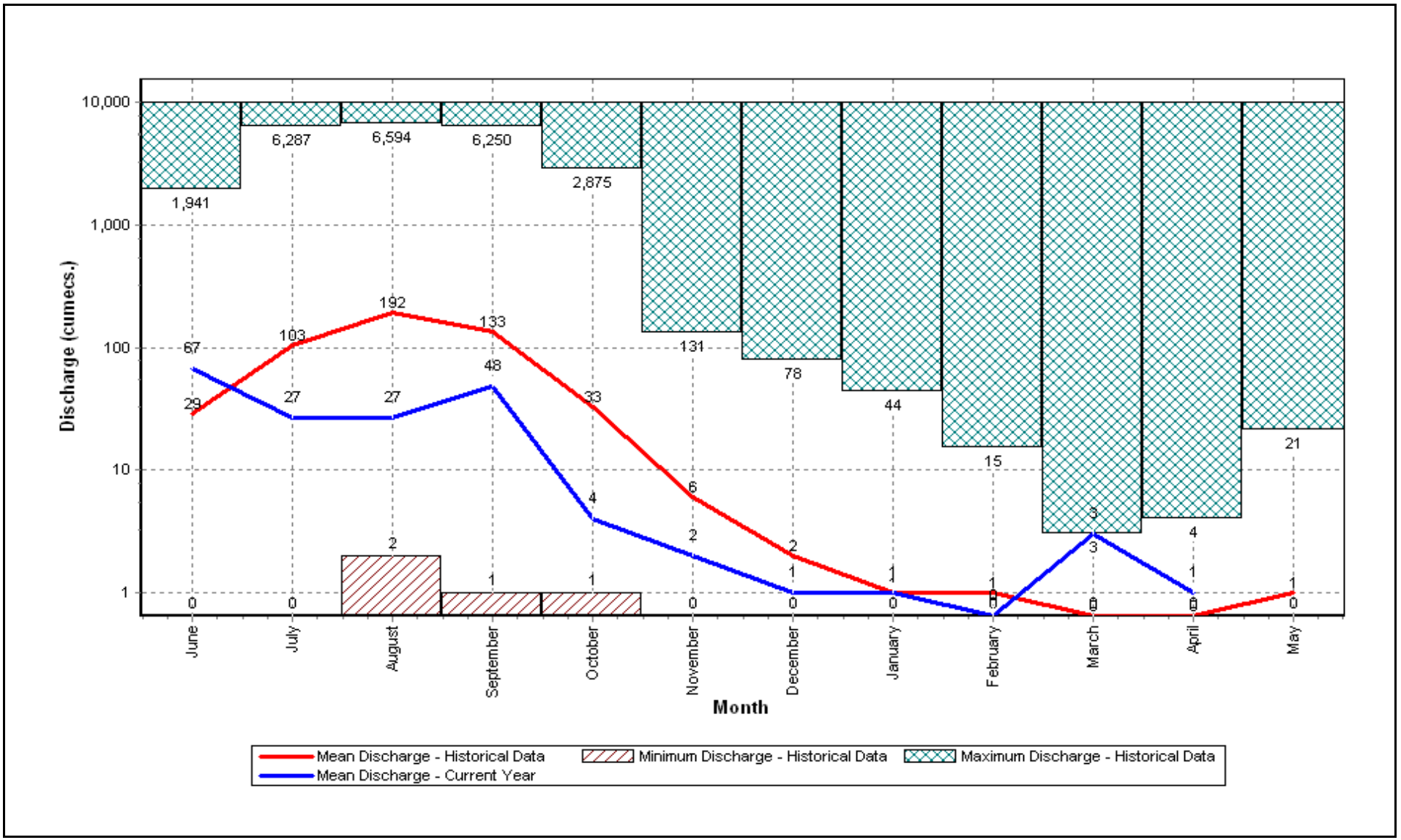
Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2017-2018

Station Name : Baronda (EMR00A4) | **Data considered : 1978-2018** | **Division : M.D,CWC,Burla**

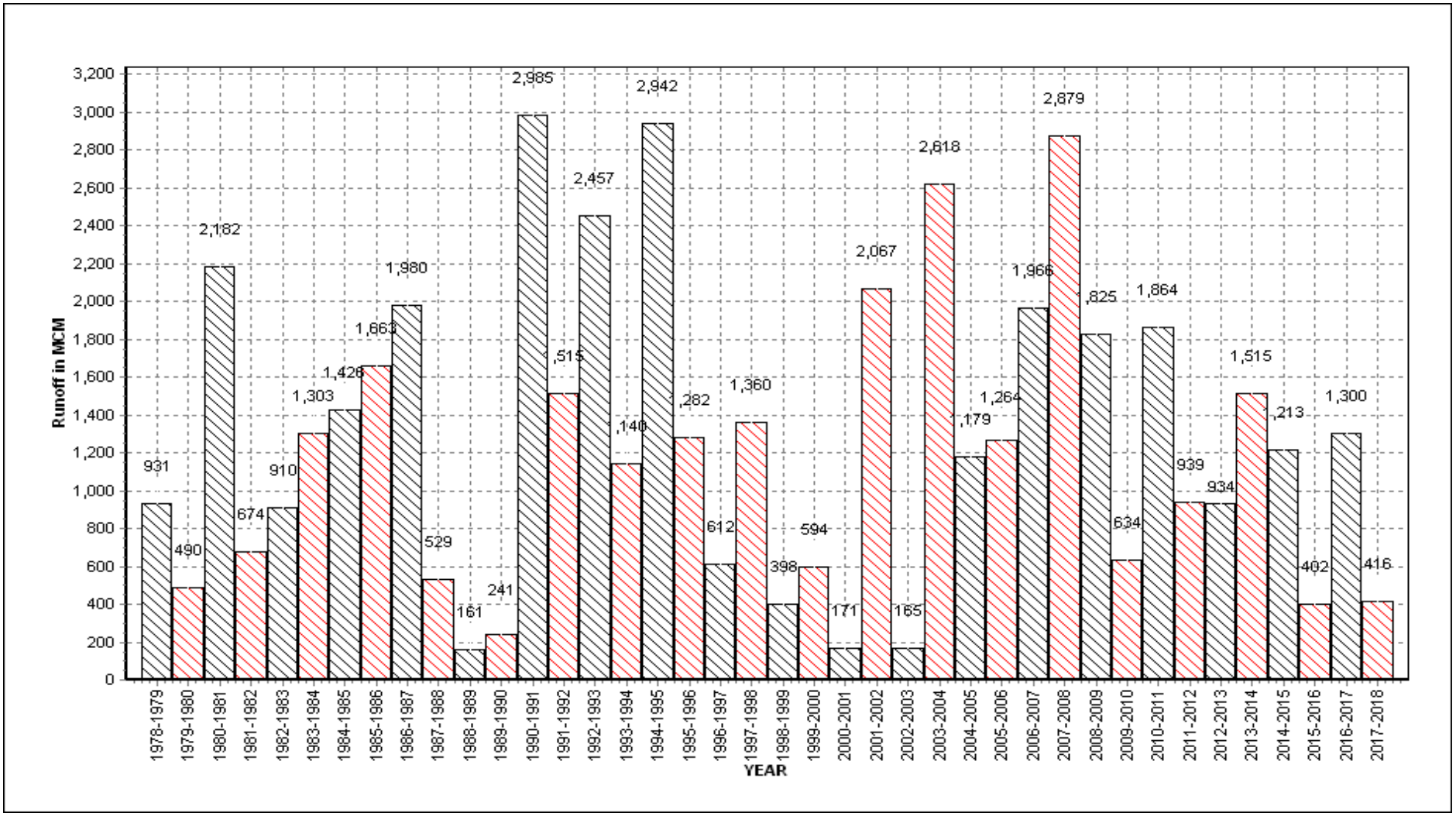
Local River : Pairi | **Sub-Division : UMSD,CWC,Burla**



Annual Runoff Values for the period: 1978 - 2018

Station Name : Baronda (EMR00A4) **Division : M.D,CWC,Burla**

Local River : Pairi **Sub-Division : UMSD,CWC,Burla**



Note: Missing values have not been considered while arriving at Annual Runoff

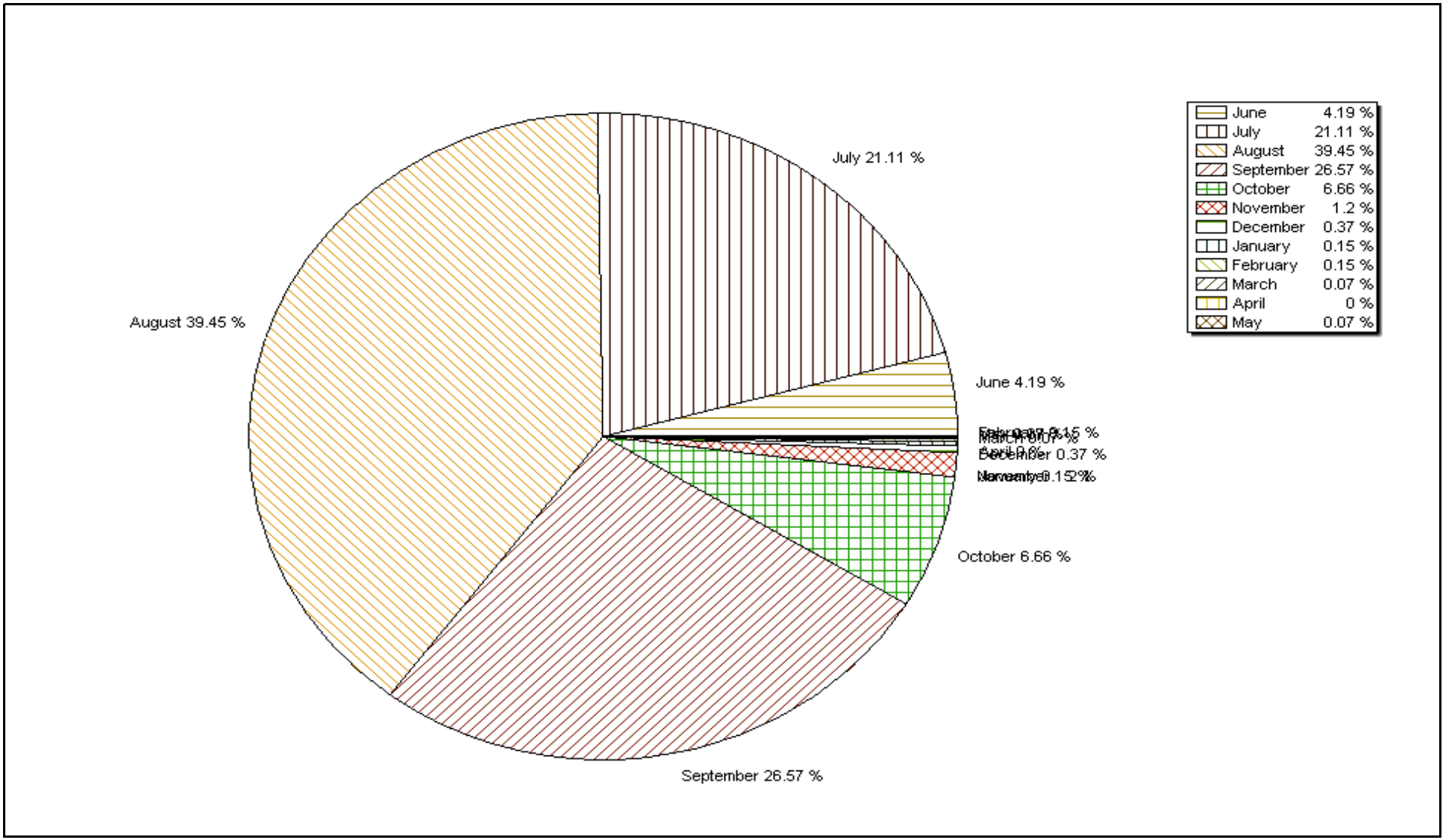
Monthly Average Runoff based on period : 1978-2017

Station Name : Baronda (EMR00A4)

Local River : Pairi

Division : M.D,CWC,Burla

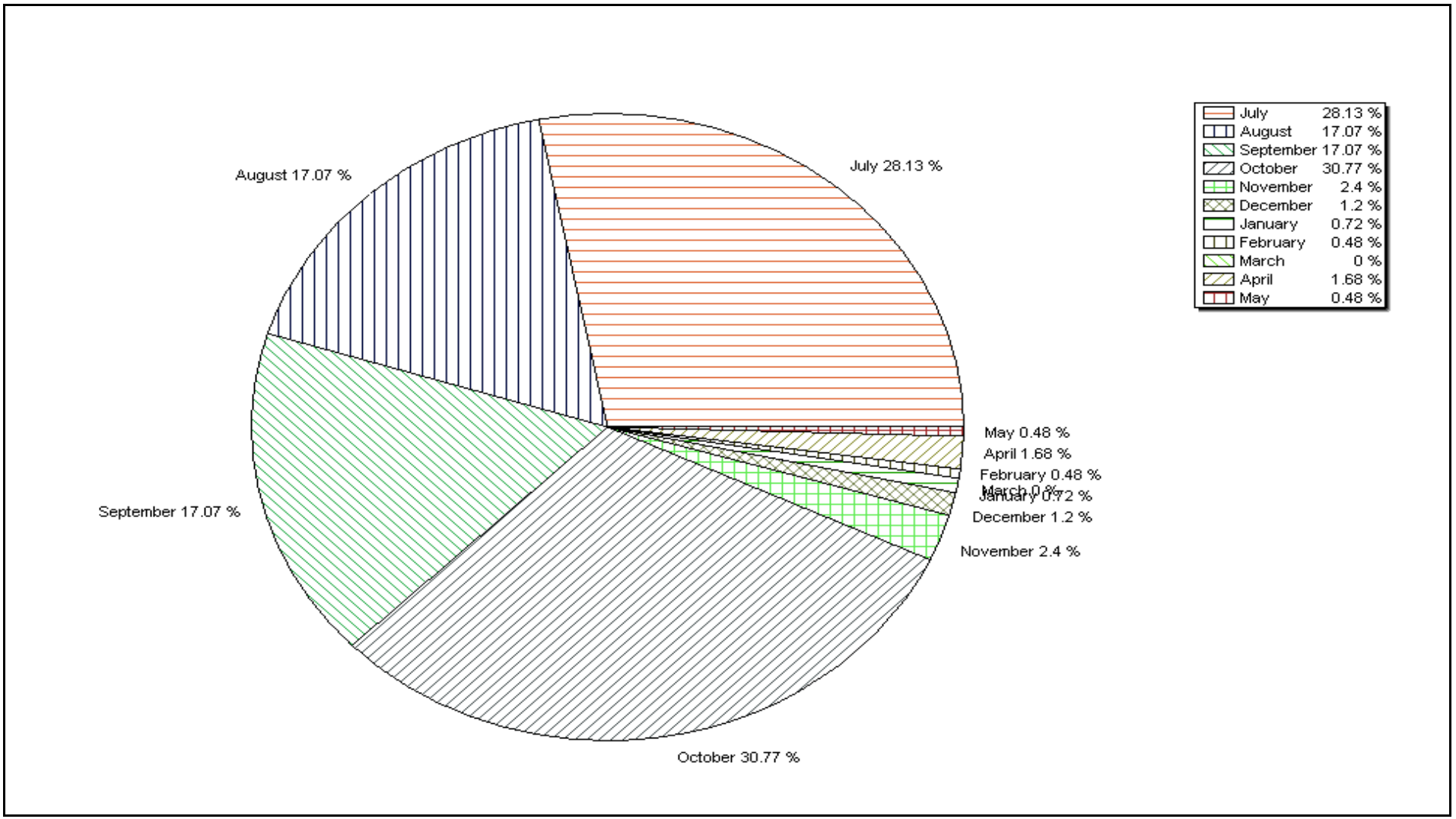
Sub-Division : UMSD,CWC,Burla



Monthly Runoff for the Year : 2017-2018

Station Name : Baronda (EMR00A4) **Division : M.D,CWC,Burla**

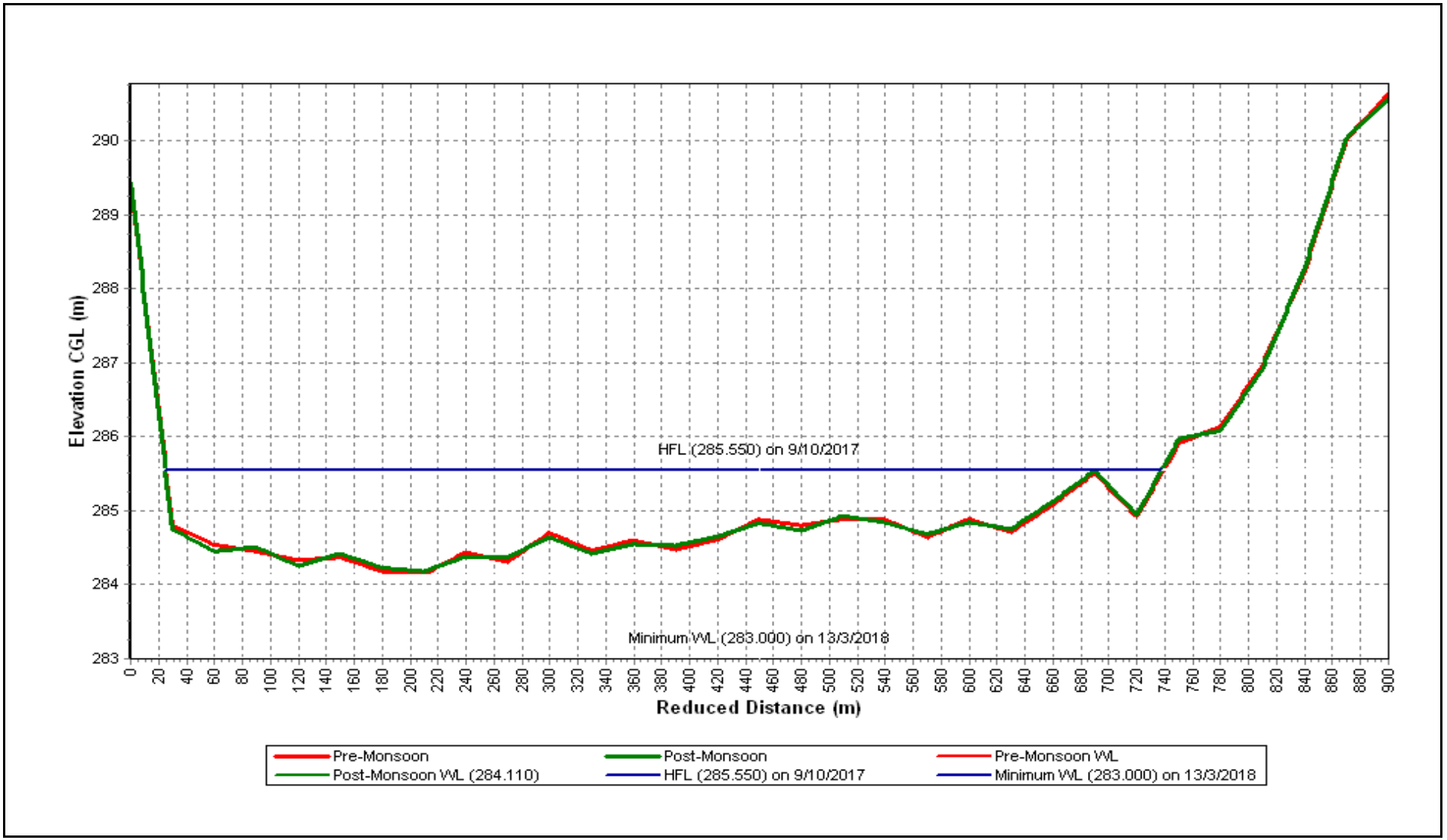
Local River : Pairi **Sub-Division : UMSD,CWC,Burla**



Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2017-2018

Station Name : Baronda (EMR00A4) **Division : M.D,CWC,Burla**

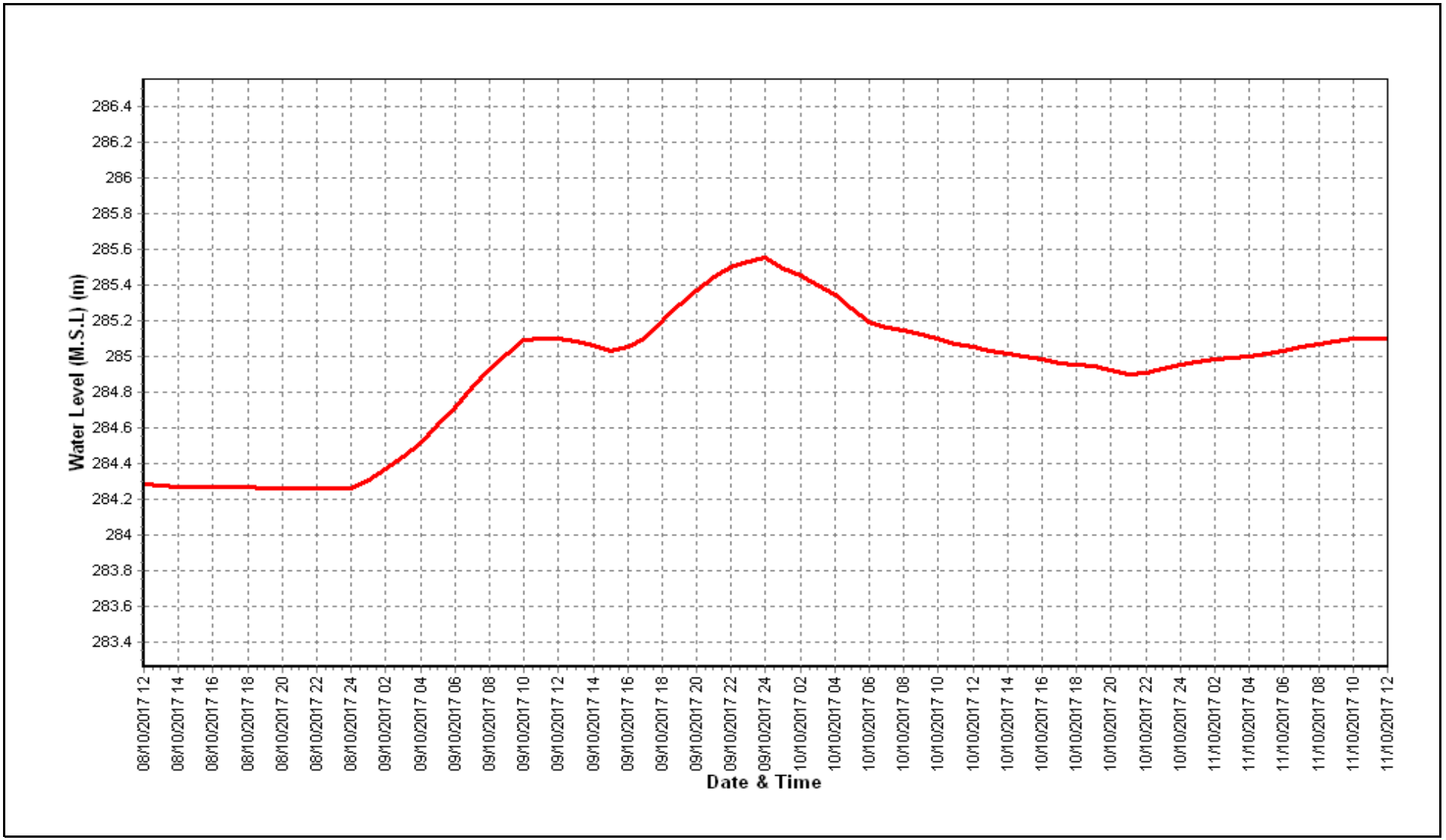
Local River : Pairi **Sub-Division : UMSD,CWC,Burla**



Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2017-2018

Station Name : Baronda (EMR00A4) **Division : M.D,CWC,Burla**

Local River : Pairi **Sub-Division : UMSD,CWC,Burla**

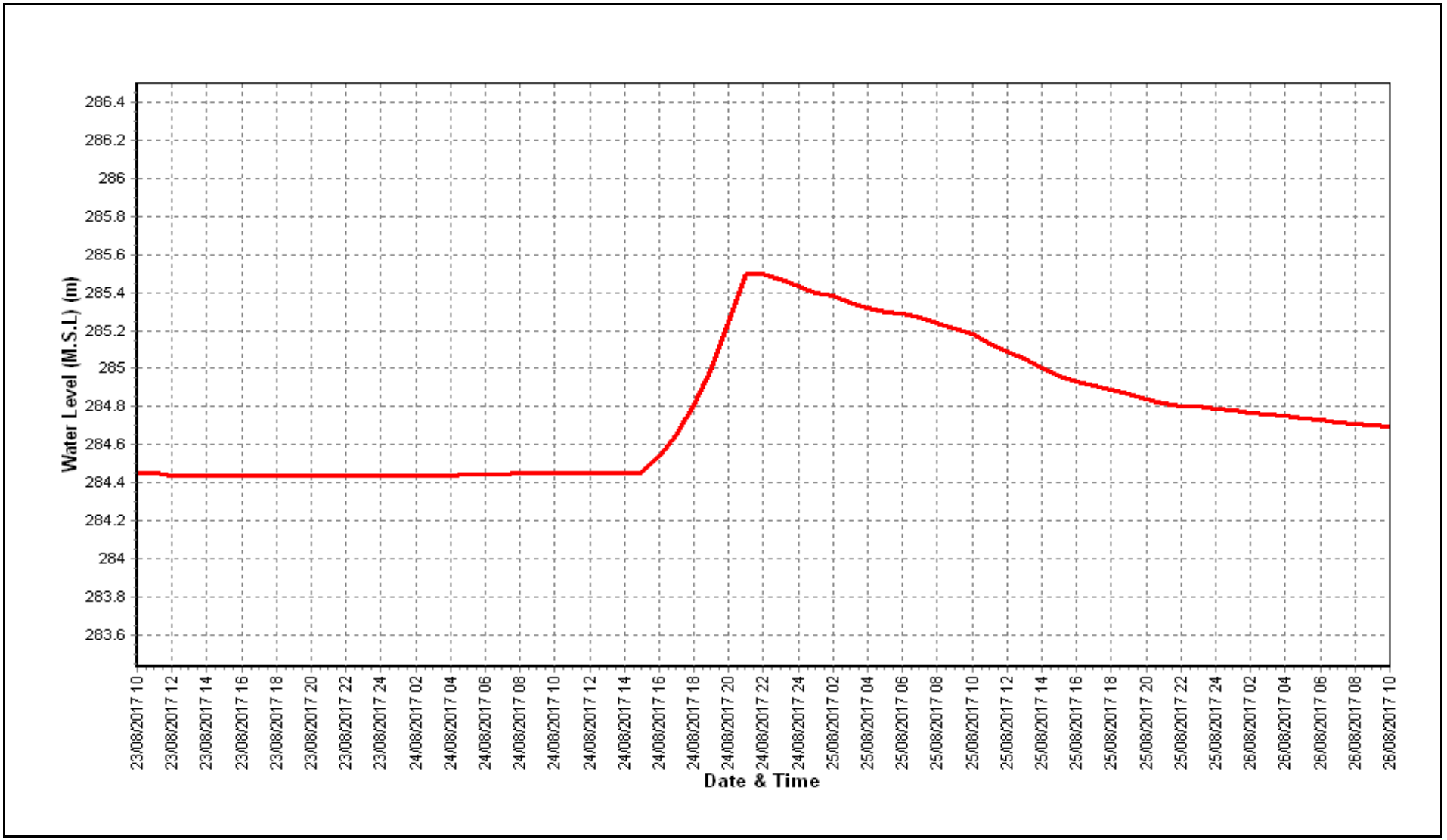


Time Span: 72 Hrs

Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2017-2018

Station Name : Baronda (EMR00A4) **Division : M.D,CWC,Burla**

Local River : Pairi **Sub-Division : UMSD,CWC,Burla**

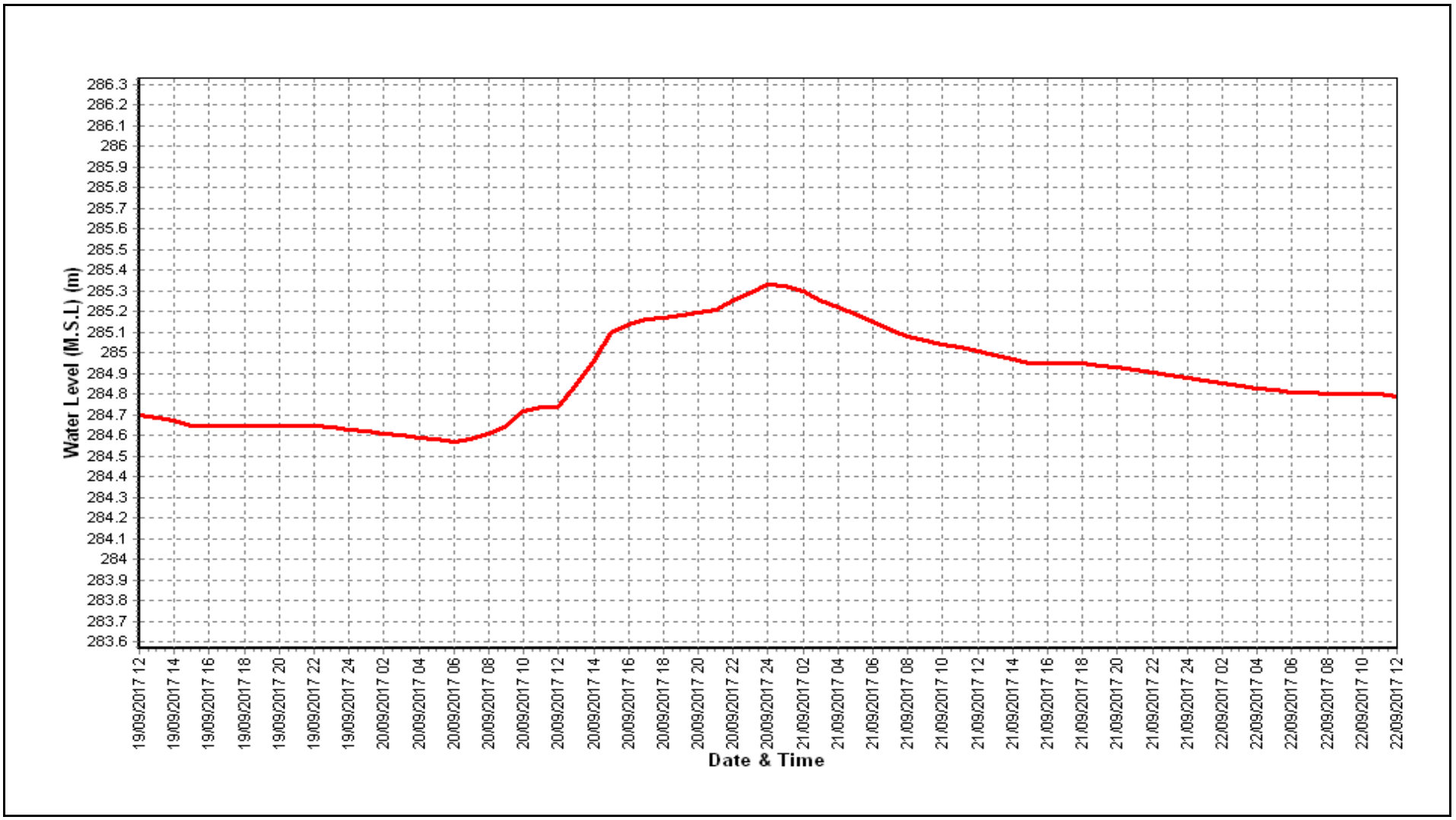


Time Span: 72 Hrs

Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2017-2018

Station Name : Baronda (EMR00A4) **Division : M.D,CWC,Burla**

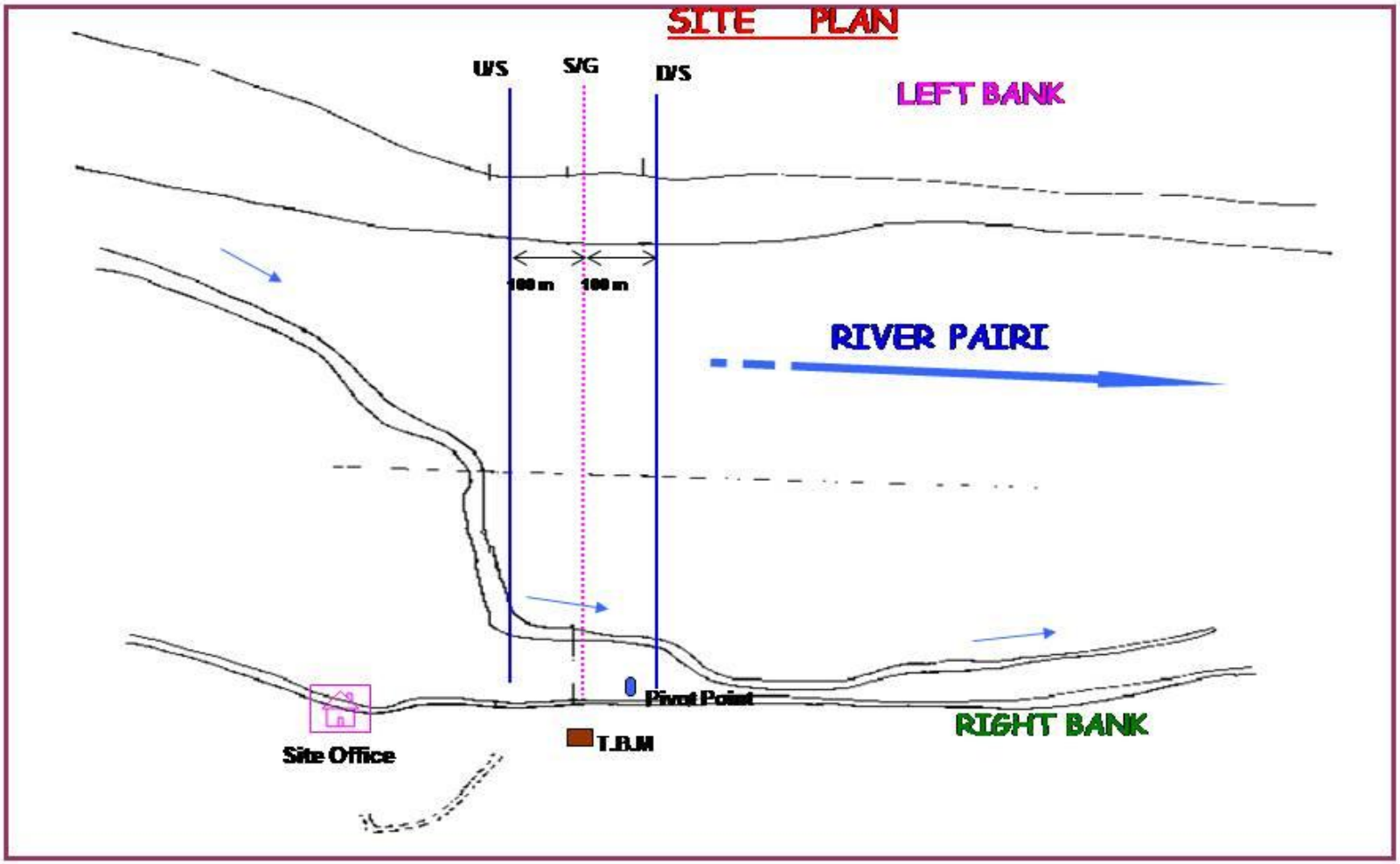
Local River : Pairi **Sub-Division : UMSD,CWC,Burla**



Time Span: 72 Hrs

CENTRAL WATER COMMISSION, MAHANADI DIVISION, BURLA

Site : BARONDA **Code : EMR00A4** **Sub-Division:UMSD CWC Raipur**



SECTION-II

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Baronda (EMR00A4) **Division : M.D,CWC,Burla**

Local River : Pairi **Sub-Division : UMSD,CWC,Burla**

Day	Jun						Jul						Aug					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	1.966	0.000	0.000	0.099	0.099	17
2	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	1.789	0.000	0.000	0.110	0.110	17
3	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	1.955	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	21.00	0.000	0.000	0.128	0.128	232
5	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	20.08	0.000	0.000	0.126	0.126	219
6	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	21.04	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	17.49	0.000	0.000	0.013	0.013	20
8	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	27.23	0.000	0.000	0.002	0.002	5
9	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	24.17	0.000	0.000	0.092	0.092	192
10	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	22.20	0.000	0.000	0.001	0.001	2
11	0.000	0.000	0.000	0.000	0.000	0	44.68	0.000	0.000	0.000	0.000	0	12.11	0.000	0.000	0.001	0.001	1
12	0.000	0.000	0.000	0.000	0.000	0	24.50	0.000	0.000	0.000	0.000	0	3.617	0.000	0.000	0.001	0.001	0
13	0.000	0.000	0.000	0.000	0.000	0	17.00	0.000	0.000	0.000	0.000	0	4.300	0.000	0.000	0.000	0.000	0
14	0.000	0.000	0.000	0.000	0.000	0	5.468	0.000	0.000	0.000	0.000	0	11.35	0.000	0.000	0.110	0.110	108
15	0.000	0.000	0.000	0.000	0.000	0	5.361	0.000	0.000	0.000	0.000	0	39.00	0.000	0.000	0.000	0.000	0
16	0.000	0.000	0.000	0.000	0.000	0	22.35	0.000	0.000	0.000	0.000	0	18.14	0.000	0.000	0.097	0.097	152
17	0.000	0.000	0.000	0.000	0.000	0	19.46	0.000	0.000	0.000	0.000	0	16.61	0.000	0.000	0.109	0.109	156
18	0.000	0.000	0.000	0.000	0.000	0	198.1	0.000	0.000	0.000	0.000	0	4.940	0.000	0.000	0.086	0.086	37
19	0.000	0.000	0.000	0.000	0.000	0	598.3	0.000	0.000	0.000	0.000	0	34.55	0.000	0.000	0.142	0.142	424
20	0.000	0.000	0.000	0.000	0.000	0	195.2	0.000	0.000	0.000	0.000	0	41.00	0.000	0.000	0.000	0.000	0
21	0.000	0.000	0.000	0.000	0.000	0	102.5	0.000	0.000	0.000	0.000	0	27.03	0.000	0.000	0.123	0.123	287
22	0.000	0.000	0.000	0.000	0.000	0	38.91	0.000	0.000	0.000	0.000	0	8.580	0.000	0.000	0.120	0.120	89
23	0.000	0.000	0.000	0.000	0.000	0	26.50	0.000	0.000	0.000	0.000	0	3.056	0.000	0.000	0.109	0.109	29
24	0.000	0.000	0.000	0.000	0.000	0	18.70	0.000	0.000	0.000	0.000	0	3.160	0.000	0.000	0.107	0.107	29
25	0.000	0.000	0.000	0.000	0.000	0	10.90	0.000	0.000	0.000	0.000	0	1.380	0.000	0.000	0.000	0.000	0
26	0.000	0.000	0.000	0.000	0.000	0	5.543	0.000	0.000	0.000	0.000	0	52.88	0.000	0.000	0.109	0.109	498
27	0.000	0.000	0.000	0.000	0.000	0	4.105	0.000	0.000	0.000	0.000	0	24.00	0.000	0.000	0.000	0.000	0
28	0.000	0.000	0.000	0.000	0.000	0	4.200	0.000	0.000	0.000	0.000	0	125.2	0.000	0.000	0.286	0.286	3095
29	0.000	0.000	0.000	0.000	0.000	0	4.692	0.000	0.000	0.000	0.000	0	112.6	0.000	0.000	0.238	0.238	2316
30	0.000	0.000	0.000	0.000	0.000	0	4.450	0.000	0.000	0.000	0.000	0	83.40	0.000	0.000	0.235	0.235	1693
31							1.927	0.000	0.000	0.000	0.000	0	40.14	0.000	0.000	0.110	0.110	381
Ten Daily Mean																		
Ten Daily I								0.000	0.000	0.000	0.000		15.89	0.000	0.000	0.057	0.057	70
Ten Daily II							113.1	0.000	0.000	0.000	0.000	0	18.56	0.000	0.000	0.055	0.055	88
Ten Daily III							21.82	0.000	0.000	0.000	0.000	0	43.77	0.000	0.000	0.131	0.131	765
Monthly																		
Total												0						9999

Annual Sediment Load (Metric Tonnes) : 42914

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Baronda (EMR00A4) **Division : M.D,CWC,Burla**

Local River : Pairi **Sub-Division : UMSD,CWC,Burla**

Day	Sep						Oct						Nov					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	9.964	0.000	0.000	0.013	0.013	11	82.50	0.000	0.000	0.000	0.000	0	4.452	0.000	0.000	0.000	0.000	0
2	11.25	0.000	0.000	0.000	0.000	0	91.65	0.000	0.000	0.000	0.000	0	4.032	0.000	0.000	0.000	0.000	0
3	10.20	0.000	0.000	0.000	0.000	0	44.90	0.000	0.000	0.123	0.123	477	3.756	0.000	0.000	0.000	0.000	0
4	4.318	0.000	0.000	0.010	0.010	4	15.60	0.000	0.000	0.003	0.003	4	3.750	0.000	0.000	0.000	0.000	0
5	4.050	0.000	0.000	0.003	0.003	1	7.285	0.000	0.000	0.002	0.002	1	3.700	0.000	0.000	0.000	0.000	0
6	2.509	0.000	0.000	0.002	0.002	0	16.14	0.000	0.000	0.004	0.004	6	3.445	0.000	0.000	0.000	0.000	0
7	2.131	0.000	0.000	0.001	0.001	0	4.556	0.000	0.000	0.002	0.002	1	5.261	0.000	0.000	0.001	0.001	0
8	1.927	0.000	0.000	0.001	0.001	0	5.050	0.000	0.000	0.000	0.000	0	5.594	0.000	0.000	0.001	0.001	0
9	4.414	0.000	0.000	0.002	0.002	1	169.4	0.000	0.000	0.143	0.143	2093	5.144	0.000	0.000	0.001	0.001	0
10	28.50	0.000	0.000	0.000	0.000	0	206.7	0.000	0.000	0.336	0.336	5999	4.926	0.000	0.000	0.001	0.001	0
11	18.04	0.000	0.000	0.128	0.128	200	202.4	0.000	0.000	0.376	0.376	6577	4.830	0.000	0.000	0.001	0.001	0
12	6.859	0.000	0.000	0.125	0.125	74	97.60	0.000	0.000	0.103	0.103	869	3.420	0.000	0.000	0.000	0.000	0
13	29.33	0.000	0.000	0.220	0.220	558	110.0	0.000	0.000	0.103	0.103	979	3.456	0.000	0.000	0.001	0.001	0
14	14.44	0.000	0.000	0.146	0.146	182	90.07	0.000	0.000	0.025	0.025	195	4.072	0.000	0.000	0.002	0.002	1
15	59.46	0.000	0.000	0.161	0.161	827	39.60	0.000	0.000	0.000	0.000	0	4.161	0.000	0.000	0.002	0.002	1
16	33.39	0.000	0.000	0.160	0.160	462	31.64	0.000	0.000	0.002	0.002	5	6.872	0.000	0.000	0.002	0.002	1
17	34.58	0.000	0.000	0.000	0.000	0	24.41	0.000	0.000	0.002	0.002	4	7.306	0.000	0.000	0.002	0.002	1
18	6.702	0.000	0.000	0.003	0.003	2	20.44	0.000	0.000	0.002	0.002	4	7.071	0.000	0.000	0.002	0.002	1
19	39.70	0.000	0.000	0.248	0.248	851	18.95	0.000	0.000	0.000	0.000	0	5.000	0.000	0.000	0.000	0.000	0
20	41.07	0.000	0.000	0.249	0.249	884	12.61	0.000	0.000	0.001	0.001	1	1.944	0.000	0.000	0.002	0.002	0
21	185.7	0.000	0.000	0.572	0.572	9175	12.57	0.000	0.000	0.002	0.002	2	1.581	0.000	0.000	0.002	0.002	0
22	81.34	0.000	0.000	0.237	0.237	1666	24.85	0.000	0.000	0.000	0.000	0	1.515	0.000	0.000	0.003	0.003	0
23	66.97	0.000	0.000	0.126	0.126	729	20.16	0.000	0.000	0.002	0.002	3	2.327	0.000	0.000	0.003	0.003	1
24	34.21	0.000	0.000	0.000	0.000	0	37.52	0.000	0.000	0.002	0.002	6	3.195	0.000	0.000	0.003	0.003	1
25	8.058	0.000	0.000	0.014	0.014	10	28.57	0.000	0.000	0.003	0.003	7	3.361	0.000	0.000	0.003	0.003	1
26	4.484	0.000	0.000	0.003	0.003	1	14.67	0.000	0.000	0.003	0.003	4	3.300	0.000	0.000	0.000	0.000	0
27	4.238	0.000	0.000	0.002	0.002	1	12.65	0.000	0.000	0.001	0.001	1	3.257	0.000	0.000	0.003	0.003	1
28	3.300	0.000	0.000	0.001	0.001	0	4.457	0.000	0.000	0.000	0.000	0	3.222	0.000	0.000	0.003	0.003	1
29	7.750	0.000	0.000	0.000	0.000	0	28.62	0.000	0.000	0.000	0.000	0	2.908	0.000	0.000	0.003	0.003	1
30	61.52	0.000	0.000	0.000	0.000	0	4.018	0.000	0.000	0.000	0.000	0	2.828	0.000	0.000	0.003	0.003	1
31							3.378	0.000	0.000	0.000	0.000	0						
Ten Daily Mean																		
Ten Daily I	7.926	0.000	0.000	0.003	0.003	2	64.37	0.000	0.000	0.061	0.061	858	4.406	0.000	0.000	0.000	0.000	0
Ten Daily II	28.36	0.000	0.000	0.144	0.144	404	64.78	0.000	0.000	0.061	0.061	863	4.813	0.000	0.000	0.001	0.001	1
Ten Daily III	45.75	0.000	0.000	0.096	0.096	1158	17.41	0.000	0.000	0.001	0.001	2	2.749	0.000	0.000	0.003	0.003	1
Monthly																		
Total						15637						17239						14

Annual Sediment Load (Metric Tonnes) : 42914

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Baronda (EMR00A4) **Division : M.D,CWC,Burla**

Local River : Pairi **Sub-Division : UMSD,CWC,Burla**

Day	Dec						Jan						Feb					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	2.743	0.000	0.000	0.004	0.004	1	1.302	0.000	0.000	0.000	0.000	0	2.425	0.000	0.000	0.001	0.001	0
2	2.740	0.000	0.000	0.000	0.000	0	1.297	0.000	0.000	0.000	0.000	0	1.556	0.000	0.000	0.001	0.001	0
3	2.700	0.000	0.000	0.000	0.000	0	1.191	0.000	0.000	0.000	0.000	0	1.136	0.000	0.000	0.000	0.000	0
4	2.359	0.000	0.000	0.003	0.003	1	0.000	0.000	0.000	0.000	0.000	0	1.060	0.000	0.000	0.000	0.000	0
5	2.326	0.000	0.000	0.003	0.003	1	0.000	0.000	0.000	0.000	0.000	0	0.448	0.000	0.000	0.000	0.000	0
6	2.303	0.000	0.000	0.004	0.004	1	0.000	0.000	0.000	0.000	0.000	0	1.064	0.000	0.000	0.000	0.000	0
7	2.247	0.000	0.000	0.004	0.004	1	0.000	0.000	0.000	0.000	0.000	0	1.135	0.000	0.000	0.000	0.000	0
8	2.331	0.000	0.000	0.001	0.001	0	0.000	0.000	0.000	0.000	0.000	0	1.130	0.000	0.000	0.000	0.000	0
9	2.186	0.000	0.000	0.005	0.005	1	0.000	0.000	0.000	0.000	0.000	0	1.096	0.000	0.000	0.000	0.000	0
10	2.180	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	1.140	0.000	0.000	0.000	0.000	0
11	1.838	0.000	0.000	0.003	0.003	0	0.000	0.000	0.000	0.000	0.000	0	2.900	0.000	0.000	0.000	0.000	0
12	2.086	0.000	0.000	0.002	0.002	0	0.000	0.000	0.000	0.000	0.000	0	3.369	0.000	0.000	0.001	0.001	0
13	2.112	0.000	0.000	0.003	0.003	1	0.000	0.000	0.000	0.000	0.000	0	1.227	0.000	0.000	0.000	0.000	0
14	1.371	0.000	0.000	0.003	0.003	0	0.000	0.000	0.000	0.000	0.000	0	1.142	0.000	0.000	0.000	0.000	0
15	1.469	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.469	0.000	0.000	0.000	0.000	0
16	1.549	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.463	0.000	0.000	0.000	0.000	0
17	1.545	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
18	1.570	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
19	1.564	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	1.531	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
21	1.535	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
22	1.521	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	1.507	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
24	1.520	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
25	1.500	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	1.445	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27	1.411	0.000	0.000	0.000	0.000	0	8.410	0.000	0.000	0.004	0.004	3	0.000	0.000	0.000	0.000	0.000	0
28	1.330	0.000	0.000	0.000	0.000	0	7.500	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
29	1.320	0.000	0.000	0.000	0.000	0	5.184	0.000	0.000	0.004	0.004	2						
30	1.341	0.000	0.000	0.000	0.000	0	5.604	0.000	0.000	0.003	0.003	1						
31	1.260	0.000	0.000	0.000	0.000	0	3.966	0.000	0.000	0.003	0.003	1						
Ten Daily Mean																		
Ten Daily I	2.411	0.000	0.000	0.002	0.002	0	0.379	0.000	0.000	0.000	0.000	0	1.219	0.000	0.000	0.000	0.000	0
Ten Daily II	1.663	0.000	0.000	0.001	0.001	0	0.000	0.000	0.000	0.000	0.000	0	0.957	0.000	0.000	0.000	0.000	0
Ten Daily III	1.426	0.000	0.000	0.000	0.000	0	2.788	0.000	0.000	0.001	0.001	1	0.000	0.000	0.000	0.000	0.000	0
Monthly																		
Total						7						7						1

Annual Sediment Load (Metric Tonnes) : 42914

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Baronda (EMR00A4) **Division : M.D,CWC,Burla**

Local River : Pairi **Sub-Division : UMSD,CWC,Burla**

Day	Mar						Apr						May					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	4.616	0.000	0.000	0.001	0.001	0
2	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	4.674	0.000	0.000	0.001	0.001	0
3	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	4.497	0.000	0.000	0.001	0.001	0
4	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	3.855	0.000	0.000	0.001	0.001	0
5	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	2.705	0.000	0.000	0.001	0.001	0
6	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.400	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.340	0.000	0.000	0.000	0.000	0
8	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
9	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
10	0.000	0.000	0.000	0.000	0.000	0	2.743	0.000	0.000	0.001	0.001	0	0.000	0.000	0.000	0.000	0.000	0
11	0.000	0.000	0.000	0.000	0.000	0	2.827	0.000	0.000	0.001	0.001	0	0.000	0.000	0.000	0.000	0.000	0
12	0.000	0.000	0.000	0.000	0.000	0	2.749	0.000	0.000	0.002	0.002	0	0.000	0.000	0.000	0.000	0.000	0
13	0.000	0.000	0.000	0.000	0.000	0	2.929	0.000	0.000	0.002	0.002	1	0.000	0.000	0.000	0.000	0.000	0
14	0.000	0.000	0.000	0.000	0.000	0	2.314	0.000	0.000	0.003	0.003	1	0.000	0.000	0.000	0.000	0.000	0
15	0.000	0.000	0.000	0.000	0.000	0	9.210	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
16	0.000	0.000	0.000	0.000	0.000	0	7.261	0.000	0.000	0.001	0.001	1	0.000	0.000	0.000	0.000	0.000	0
17	0.000	0.000	0.000	0.000	0.000	0	2.696	0.000	0.000	0.002	0.002	0	0.000	0.000	0.000	0.000	0.000	0
18	0.000	0.000	0.000	0.000	0.000	0	5.163	0.000	0.000	0.002	0.002	1	0.000	0.000	0.000	0.000	0.000	0
19	0.000	0.000	0.000	0.000	0.000	0	6.140	0.000	0.000	0.002	0.002	1	0.000	0.000	0.000	0.000	0.000	0
20	0.000	0.000	0.000	0.000	0.000	0	5.993	0.000	0.000	0.002	0.002	1	0.000	0.000	0.000	0.000	0.000	0
21	0.000	0.000	0.000	0.000	0.000	0	5.861	0.000	0.000	0.001	0.001	1	0.000	0.000	0.000	0.000	0.000	0
22	0.000	0.000	0.000	0.000	0.000	0	5.140	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	0.000	0.000	0.000	0.000	0.000	0	5.897	0.000	0.000	0.002	0.002	1	0.000	0.000	0.000	0.000	0.000	0
24	0.000	0.000	0.000	0.000	0.000	0	5.184	0.000	0.000	0.002	0.002	1	0.000	0.000	0.000	0.000	0.000	0
25	0.000	0.000	0.000	0.000	0.000	0	2.813	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	0.000	0.000	0.000	0.000	0.000	0	2.674	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27	0.000	0.000	0.000	0.000	0.000	0	2.685	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
28	0.000	0.000	0.000	0.000	0.000	0	1.887	0.000	0.000	0.001	0.001	0	0.000	0.000	0.000	0.000	0.000	0
29	0.000	0.000	0.000	0.000	0.000	0	1.650	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
30	0.000	0.000	0.000	0.000	0.000	0	1.950	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
31	0.000	0.000	0.000	0.000	0.000	0							0.000	0.000	0.000	0.000	0.000	0
Ten Daily Mean																		
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	0.274	0.000	0.000	0.000	0.000	0	2.109	0.000	0.000	0.001	0.001	0
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0	4.728	0.000	0.000	0.002	0.002	1	0.000	0.000	0.000	0.000	0.000	0
Ten Daily III	0.000	0.000	0.000	0.000	0.000	0	3.574	0.000	0.000	0.001	0.001	0	0.000	0.000	0.000	0.000	0.000	0
Monthly																		
Total						0						9						2

Annual Sediment Load (Metric Tonnes) : 42914

Annual Sediment Load for period : 1980-2018

Station Name : Baronda (EMR00A4) **Division : M.D,CWC,Burla**

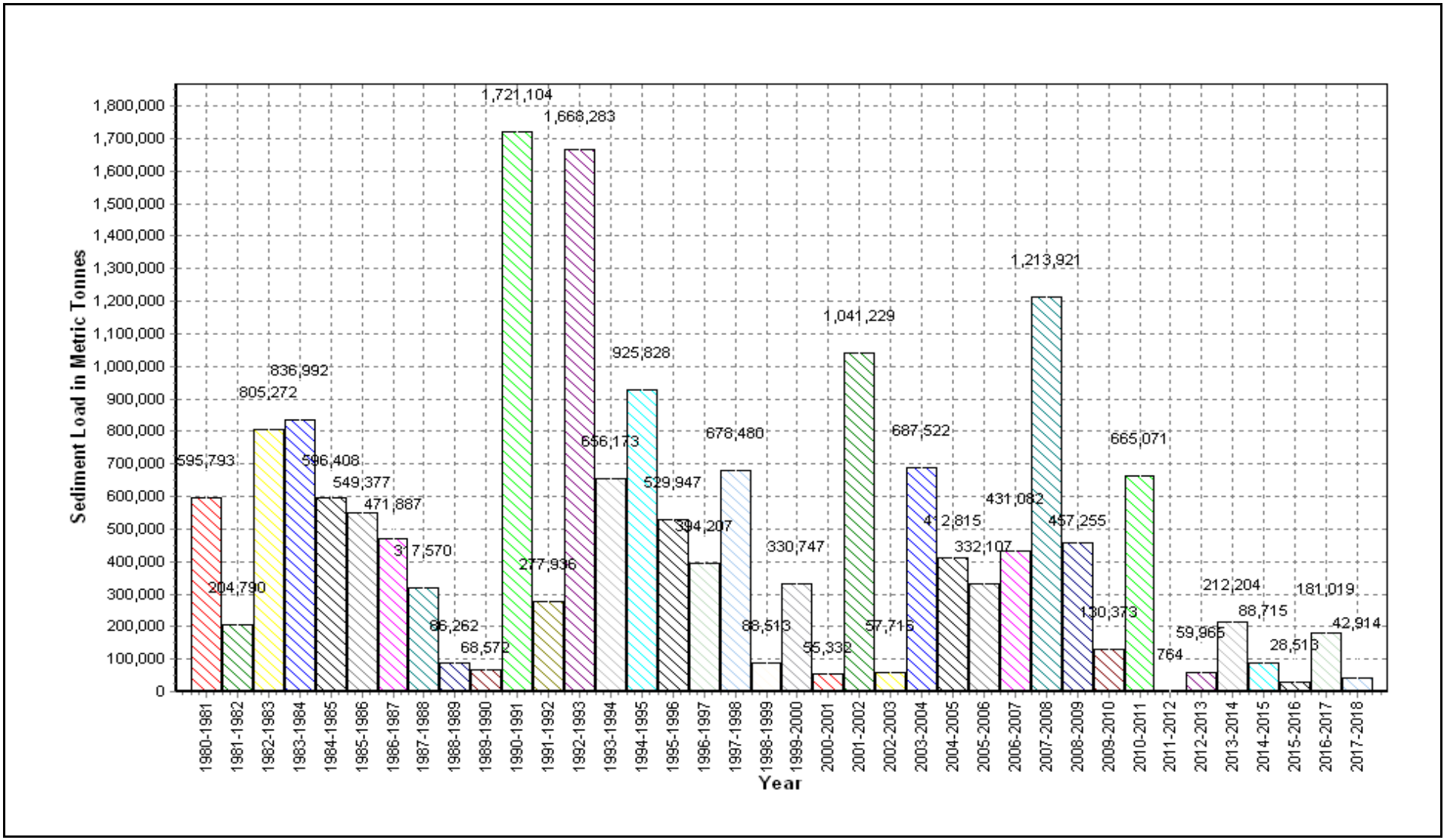
Local River : Pairi **Sub-Division : UMSD,CWC,Burla**

Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)
1980-1981	595793	0	595793	2182
1981-1982	204758	31	204790	674
1982-1983	805169	104	805272	910
1983-1984	836587	405	836992	1303
1984-1985	596408	0	596408	1426
1985-1986	549375	1	549377	1663
1986-1987	471867	20	471887	1980
1987-1988	317512	59	317570	529
1988-1989	86262	0	86262	161
1989-1990	68572	0	68572	241
1990-1991	1721091	12	1721104	2985
1991-1992	277934	2	277936	1515
1992-1993	1668281	2	1668283	2457
1993-1994	656171	2	656173	1140
1994-1995	925730	98	925828	2942
1995-1996	529944	3	529947	1282
1996-1997	394202	4	394207	612
1997-1998	678480	0	678480	1360
1998-1999	88505	8	88513	398
1999-2000	330747	0	330747	594
2000-2001	55332	0	55332	171
2001-2002	1041229	0	1041229	2067
2002-2003	57716	0	57716	165
2003-2004	687469	53	687522	2618
2004-2005	412797	18	412815	1179
2005-2006	332107	0	332107	1264
2006-2007	431082	0	431082	1966
2007-2008	1213921	0	1213921	2879
2008-2009	457255	0	457255	1825
2009-2010	130373	0	130373	634
2010-2011	665071	0	665071	1864
2011-2012	764	0	764	939
2012-2013	59965	0	59965	934
2013-2014	212204	0	212204	1515
2014-2015	88538	177	88715	1213
2015-2016	28513	0	28513	402
2016-2017	181019	0	181019	1300
2017-2018	42889	25	42914	416

Annual Sediment Load for the period: 1980-2018

Station Name : Baronda (EMR00A4)
Local River : Pairi

Division : M.D,CWC,Burla
Sub-Division : UMSD,CWC,Burla



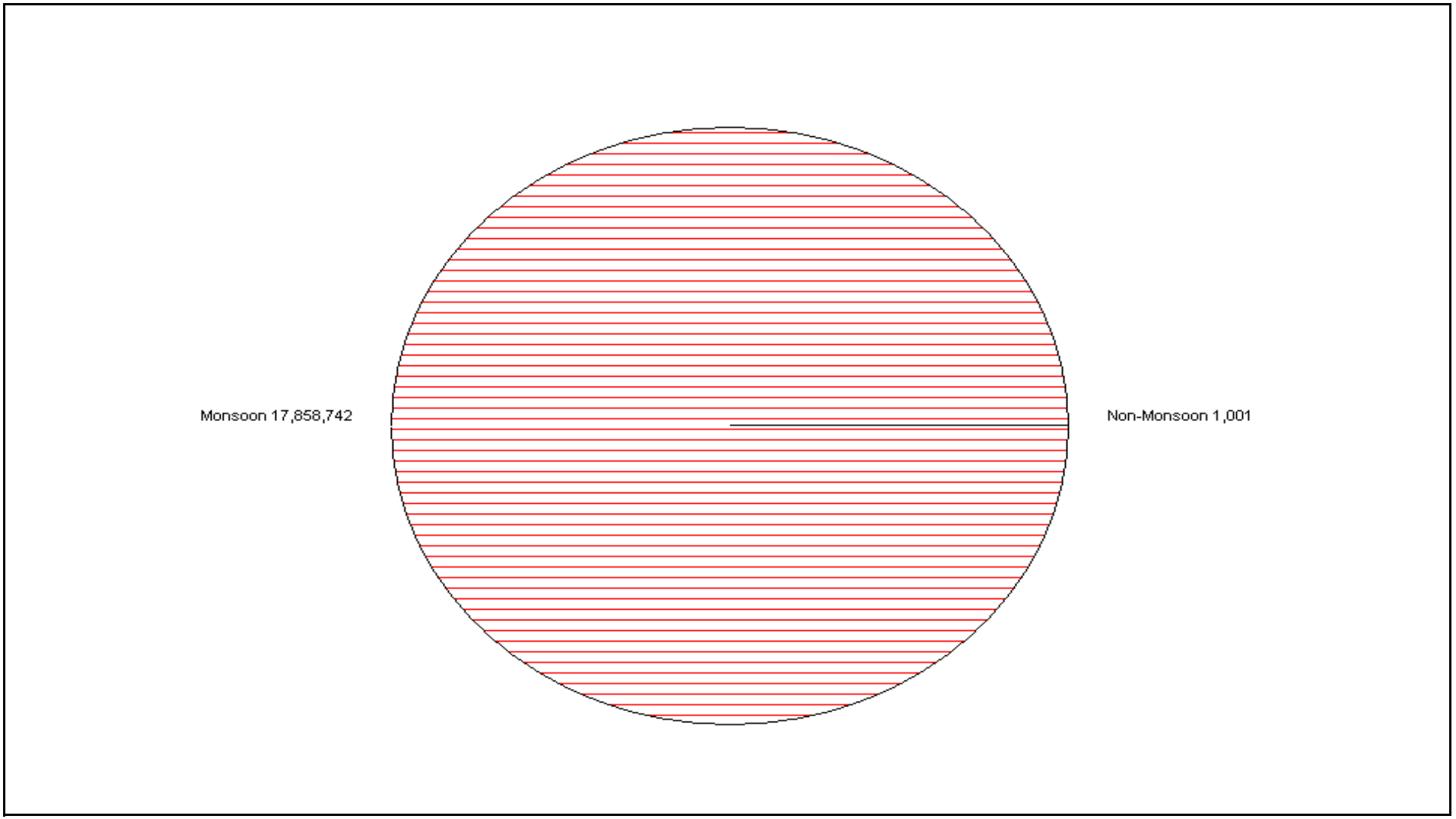
Seasonal Sediment Load for the period : 1980-2017

Station Name : Baronda (EMR00A4)

Local River : Pairi

Division : M.D,CWC,Burla

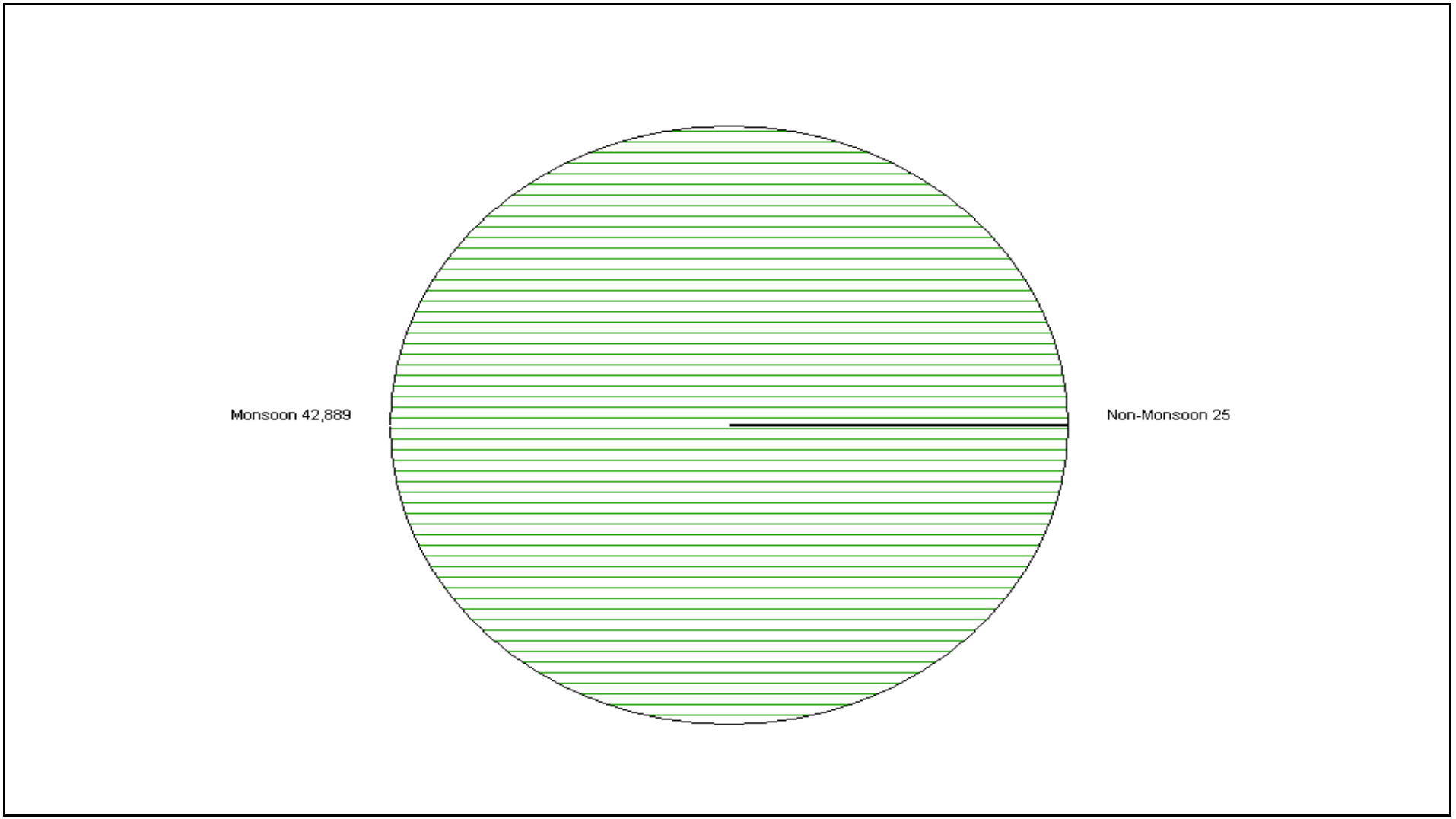
Sub-Division : UMSD,CWC,Burla



Seasonal Sediment Load for the Year: 2017-2018

Station Name : Baronda (EMR00A4)
Local River : Pairi

Division : M.D,CWC,Burla
Sub-Division : UMSD,CWC,Burla



SECTION-III

Water Quality Datasheet for the period : 2017-2018

Station Name : Baronda (EMR00A4) **Division : M.D,CWC,Burla**

Local River : Pairi **River Water Analysis** **Sub-Division : UMSD,CWC,Burla**

S.No	Parameters	01/06/2017	01/07/2017	01/08/2017	01/09/2017	03/10/2017	01/11/2017	01/12/2017	01/01/2018	01/02/2018	01/03/2018	02/04/2018	01/05/2018
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)			1.966	9.964	44.90	4.452	2.743	1.302	2.425	0.000	0.000	4.616
2	Colour_Cod (-)			Clear	Brown	Brown	Clear	Clear	Clear	Clear			Clear
3	EC_FLD (µmho/cm)			89	74	78	87	80	120	87			997
4	EC_GEN (µmho/cm)			98	92	99	106	137	119	321			89
5	Odour_Code (-)			odour free	odour free	odour free	odour free	odour free	odour free	odour free			odour free
6	pH_FLD (pH units)			8.9	7.6	7.3	7.7	7.5	8.0	8.3			8.9
7	pH_GEN (pH units)			8.7	8.2	8.3	7.9	8.5	7.5	8.9			7.9
8	Temp (deg C)			27.0	29.5	31.0	26.0	22.0	22.0	18.5			29.5
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)			0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0
2	ALK-TOT (mgCaCO3/L)			148	108	168	152	136	128	116			116
3	Ca (mg/L)			34	48	29	45	32	26	18			18
4	Cl (mg/L)			16.0	200.0	34.0	33.0	15.0	30.0	13.0			13.0
5	CO3 (mg/L)			0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0
6	HCO3 (mg/L)			90	66	103	93	83	78	71			71
7	K (mg/L)			6.7	10.2	8.2	7.2	8.2	8.8	11.6			8.8
8	Mg (mg/L)			16.5	1.0	6.8	11.7	3.9	6.8	2.9			9.7
9	Na (mg/L)			26.7	16.8	15.9	19.2	21.3	23.3	13.1			20.8
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)			0.7	1.0	1.2	1.0	1.1	0.6	0.8			0.3
2	DO (mg/L)			5.0	6.2	7.9	7.3	7.1	6.6	6.2			6.1
3	DO_SAT% (%)			63	81	106	90	81	75	66			79
4	FCol-MPN (MPN/100mL)			20	40	90	60	90		40			70
5	Tcol-MPN (MPN/100mL)			70	90	110	90	140		70			90
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)			84	120	72	112	80	64	44			44
2	HAR_Total (mgCaCO3/L)			153	124	100	161	96	92	56			85
3	Na% (%)			27	21	24	20	30	33	29			32
4	RSC (-)			0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0
5	SAR (-)			0.9	0.7	0.7	0.7	0.9	1.1	0.8			1.0
	PESTICIDES												

Water Quality Summary for the period : 2017-2018

Station Name : Baronda (EMR00A4) **Division : M.D,CWC,Burla**

Local River : Pairi **Sub-Division : UMSD,CWC,Burla**

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	324	598.3	0.000	14.87
2	EC_FLD (µmho/cm)	8	997	74	202
3	EC_GEN (µmho/cm)	8	321	89	133
4	pH_FLD (pH units)	8	8.9	7.3	8
5	pH_GEN (pH units)	8	8.9	7.5	8.2
6	Temp (deg C)	8	31.0	18.5	25.7
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	8	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	8	168	108	134
3	Ca (mg/L)	8	48	18	31
4	Cl (mg/L)	8	200.0	13.0	44.3
5	CO3 (mg/L)	8	0.0	0.0	0
6	HCO3 (mg/L)	8	103	66	82
7	K (mg/L)	8	11.6	6.7	8.7
8	Mg (mg/L)	8	16.5	1.0	7.4
9	Na (mg/L)	8	26.7	13.1	19.6
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	8	1.2	0.3	0.8
2	DO (mg/L)	8	7.9	5.0	6.5
3	DO_SAT% (%)	8	106	63	80
4	FCol-MPN (MPN/100mL)	7	90	20	59
5	Tcol-MPN (MPN/100mL)	7	140	70	94
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	8	120	44	78
2	HAR_Total (mgCaCO3/L)	8	161	56	109
3	Na% (%)	8	33	20	27
4	RSC (-)	8	0.0	0.0	0
5	SAR (-)	8	1.1	0.7	0.8
	PESTICIDES				

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Baronda (EMR00A4) **Division : M.D,CWC,Burla**

Local River : Pairi **River Water** **Sub-Division : UMSD,CWC,Burla**

S.No	Parameters	Flood														
		Jun - Oct														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	PHYSICAL															
1	Q (cumec)	98.15	39.86	106.3	191.9	152.1	205.7	93.12	37.07	48.66	56.06	288.2	66.08	6.951	65.09	18.94
2	EC_FLD (µmho/cm)	92	110	95	101	91	243	81	80	96	702	682			149	80
3	EC_GEN (µmho/cm)	92	110	97	101	96	206	80	135	111	115	107	79	93	145	96
4	pH_FLD (pH units)	7.8	7.9	7.7	7.4	7.6	7.7	7.9	7.5	7.8	8.3	8.7			7.7	8.0
5	pH_GEN (pH units)	7.8	7.9	7.7	7.4	7.6	7.6	7.8	7.6	7.6	7.9	8.2	7.7	8.2	7.3	8.4
6	Temp (deg C)	30.0	30.8	30.2	27.8	28.4	26.9	28.3	28.0	27.1	27.6	27.0	26.3	26.8	29.3	29.2
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	101	111	50		71	268	55	73	73	78	102	112	116	110	141
3	B (mg/L)			0.06		0.01	0.00	0.00	0.00	0.00	0.00					
4	Ca (mg/L)	13	17	6		9	15	5	8	9	10	13	12	14	25	37
5	Cl (mg/L)	18.3	11.0	10.1		5.3	5.1	3.8	2.8	3.8	6.1	13.3	10.3	13.3	18.5	83.3
6	CO3 (mg/L)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
7	F (mg/L)	1.04		0.17		0.07	0.12	0.06	0.33	0.17	0.14					
8	Fe (mg/L)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
9	HCO3 (mg/L)	62	67	30		43	163	34	44	44	47	62	68	68	67	86
10	K (mg/L)			2.1		1.3	0.8	1.0	1.6	1.8	1.1	4.0	2.6	5.7	8.7	8.4
11	Mg (mg/L)	2.3	6.2	2.6		4.7	8.5	3.2	4.3	4.5	5.7	4.4	5.9	9.5	5.8	8.1
12	Na (mg/L)			6.8		12.6	3.7	2.5	5.6	3.8	7.0	5.8	16.3	11.5	17.5	19.8
13	NO2+NO3 (mg N/L)		0.11	0.03	0.08	0.15	0.71									
14	NO2-N (mgN/L)			0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.03					
15	NO3-N (mgN/L)			0.05	0.07	0.14	0.69									
16	P-Tot (mgP/L)	0.020		0.033		0.010	0.030	0.023	0.012	0.015	0.045					
17	SiO2 (mg/L)			7.2		6.9	13.9	27.5	5.2	8.6	11.4					
18	SO4 (mg/L)	24.0	4.0	7.2		15.4	6.8	6.0	10.0	13.2	12.3					

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Baronda (EMR00A4) **Division : M.D,CWC,Burla**

Local River : Pairi **River Water** **Sub-Division : UMSD,CWC,Burla**

S.No	Parameters	Flood														
		Jun - Oct														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	1.7	0.9	0.7		1.4	0.9	1.5	0.6	0.9	1.3	0.7	0.9	0.6	0.5	1.0
2	COD (mg/L)					12.0	14.0	16.0	13.0	15.0	16.0					
3	DO (mg/L)	7.0	7.7	6.3		7.7	6.3	6.5	6.5	6.4	7.3	7.0	7.3	7.0	5.7	6.4
4	DO_SAT% (%)	95	104	83		99	78	83	82	80	93	88	91	87	81	83
5	FCol-MPN (MPN/100mL)															50
6	Tcol-MPN (MPN/100mL)															90
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	31	44	16		23	36	13	21	22	24	32	29	36	62	92
2	HAR_Total (mgCaCO3/L)	41	69	27		43	72	27	38	41	48	50	54	76	87	126
3	Na% (%)			33		39	13	16	24	16	23	17	39	23	29	24
4	RSC (-)	0.2	0.0	0.1		0.0	1.3	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0
5	SAR (-)			0.6		0.8	0.2	0.2	0.4	0.3	0.4	0.3	1.0	0.6	0.8	0.8
	PESTICIDES															

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Baronda (EMR00A4) **Division : M.D,CWC,Burla**

Local River : Pairi **River Water** **Sub-Division : UMSD,CWC,Burla**

S.No	Parameters	Winter														
		Nov - Feb														
		2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
	PHYSICAL															
1	Q (cumec)	20.47	6.591	2.675	2.879	1.222	2.546	1.279	10.45	1.535	3.090	5.514	2.858	0.523	0.992	2.730
2	EC_FLD (µmho/cm)	197	133	105	95	99	126	98	74	98	754					94
3	EC_GEN (µmho/cm)	197	133	105	95	112	244	104	100	88	127	103	91	91		171
4	pH_FLD (pH units)	7.8	7.8	7.6	8.0	7.9	7.9	8.1	7.9	8.1	8.5					7.9
5	pH_GEN (pH units)	7.8	7.8	7.6	8.0	7.8	8.2	8.0	8.0	7.9	7.5	8.1	7.8	7.7		8.2
6	Temp (deg C)	22.5	23.3	24.7	25.0	20.5	22.5	20.7	22.3	21.6	21.1	22.5	18.3	22.0		22.1
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0		0.0	5.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
2	ALK-TOT (mgCaCO3/L)	192	247	74		79	164	71	73	68	74	116	116	100		133
3	B (mg/L)			0.04		0.01	0.00	0.00	0.00	0.00	0.00					
4	Ca (mg/L)	11	12	6		7	16	7	7	7	9	16	18	18		30
5	Cl (mg/L)	12.3	7.3	11.1		10.4	9.8	4.8	8.9	2.1	9.6	12.5	14.7	9.0		22.8
6	CO3 (mg/L)	0.0	0.0	0.0		0.0	6.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
7	F (mg/L)	0.93	0.41	0.05		0.06	0.09	0.09	0.07	0.14	0.17					
8	Fe (mg/L)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
9	HCO3 (mg/L)	75	150	45		48	93	44	45	41	45	71	71	61		81
10	K (mg/L)		3.9	1.4		1.5	2.2	1.8	1.8	1.6	1.0	11.6	2.2	6.0		8.9
11	Mg (mg/L)	7.4	4.0	3.4		4.4	10.7	3.9	4.9	4.4	5.4	5.3	9.4	5.8		6.3
12	Na (mg/L)		8.3	7.9		16.9	12.0	5.5	7.3	4.5	9.1	9.3	15.4	21.2		19.2
13	NO2+NO3 (mg N/L)		0.15	0.06	0.03	0.10	0.53									
14	NO2-N (mgN/L)			0.00	0.01	0.01	0.04	0.01	0.01	0.01	0.01					
15	NO3-N (mgN/L)			0.06	0.03	0.09	0.49									
16	P-Tot (mgP/L)		0.480	0.011		0.017	0.050	0.013	0.033	0.015	0.025					
17	SiO2 (mg/L)			13.0		16.8	10.5	27.7	3.9	4.3	7.1					
18	SO4 (mg/L)	5.0	8.7	4.7		15.1	19.8	16.3	10.5	9.9	9.6					

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Baronda (EMR00A4) **Division : M.D,CWC,Burla**

Local River : Pairi **River Water** **Sub-Division : UMSD,CWC,Burla**

S.No	Parameters	Winter														
		Nov - Feb														
		2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.9	0.9	1.1		0.9	0.8	0.8	0.8	1.1	0.6	0.3	0.8	1.1		0.9
2	COD (mg/L)					21.0	22.7	13.3	16.0	14.0	20.0					
3	DO (mg/L)	6.9	7.7	8.0		8.1	8.2	7.7	7.8	7.3	7.7	8.4	8.5	7.0		6.8
4	DO_SAT% (%)	82	90	96		89	94	85	90	83	86	98	91	80		78
5	FCol-MPN (MPN/100mL)															63
6	Tcol-MPN (MPN/100mL)															100
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	27	30	16		18	41	18	18	17	22	40	44	44		75
2	HAR_Total (mgCaCO3/L)	57	47	30		37	85	34	38	35	44	62	83	68		101
3	Na% (%)		25	35		50	30	25	26	21	30	20	28	38		28
4	RSC (-)	0.0	1.6	0.2		0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
5	SAR (-)		0.5	0.6		1.3	0.8	0.4	0.5	0.3	0.6	0.5	0.7	1.1		0.9
	PESTICIDES															

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Baronda (EMR00A4) **Division : M.D,CWC,Burla**

Local River : Pairi **River Water** **Sub-Division : UMSD,CWC,Burla**

S.No	Parameters	Summer														
		Mar - May														
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	PHYSICAL															
1	Q (cumec)	2.141	1.730	1.688									0.000	0.000	0.000	1.539
2	EC_FLD (µmho/cm)	184	80	527		147										997
3	EC_GEN (µmho/cm)	184	80	527		165										89
4	pH_FLD (pH units)	7.9	8.1	7.7		8.2										8.9
5	pH_GEN (pH units)	7.9	8.1	7.7		8.0										7.8
6	Temp (deg C)		29.0	30.0		21.9										29.5
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	4.6	0.0		0.0										0.0
2	ALK-TOT (mgCaCO3/L)	179	81	353		127										116
3	B (mg/L)			0.07		0.01										
4	Ca (mg/L)	15	8	38		10										18
5	Cl (mg/L)	11.0	5.0	71.7		25.9										13.0
6	CO3 (mg/L)	0.0	5.5	0.0		0.0										0.0
7	F (mg/L)		0.11	0.12		0.18										
8	Fe (mg/L)			0.2		0.0										
9	HCO3 (mg/L)	109	44	215		77										71
10	K (mg/L)		3.3	4.5		2.2										8.8
11	Mg (mg/L)	2.4	4.4	18.4		4.1										9.7
12	Na (mg/L)		9.2	46.2		20.5										20.8
13	NO2+NO3 (mg N/L)		0.10	0.14		0.19										
14	NO2-N (mgN/L)			0.00		0.01										
15	NO3-N (mgN/L)			0.14		0.18										
16	P-Tot (mgP/L)		0.020	0.027		0.025										
17	SiO2 (mg/L)			10.0		13.4										
18	SO4 (mg/L)	2.4	4.2	31.8		16.5										

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Baronda (EMR00A4) **Division : M.D,CWC,Burla**

Local River : Pairi **River Water** **Sub-Division : UMSD,CWC,Burla**

S.No	Parameters	Summer														
		Mar - May														
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.7	2.2	2.2		1.4										0.3
2	COD (mg/L)					16.0										
3	DO (mg/L)	7.4	7.4	8.2		6.1										6.1
4	DO_SAT% (%)		95	108		68										79
5	FCol-MPN (MPN/100mL)															70
6	Tcol-MPN (MPN/100mL)															90
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	39	20	94		25										44
2	HAR_Total (mgCaCO3/L)	49	38	171		42										85
3	Na% (%)		42	36		52										32
4	RSC (-)	0.8	0.0	0.1		0.5										0.0
5	SAR (-)		1.1	1.5		1.5										1.0
	PESTICIDES															

UPPER MAHANADI SUB-BASIN

SITE RAJIM

HISTORY SHEET

Water Year : 2017-2018

Site	**: Rajim**		**Code**	**: EM000U7**	
State	: Chhattisgarh		District	Gariyaband	
Basin	: Mahanadi		Independent River	: Mahanadi	
Tributary	: -		Sub Tributary	:	
Sub-Sub Tributary	:		Local River	: Mahanadi	
Division	: MD,CWC,Burla		Sub-Division	: UMSD,CWC,Burla	
Drainage Area	: 8760 Sq. Km.		Bank	:	
Latitude	: 20°58'00"		Longitude	: 81°52'30"	
Zero of Gauge (m)	: 275 (m.s.l)		01/02/1971	- 01/02/2021	
	Opening Date		Closing Date		
Gauge	: 01/02/1971				
Discharge	:				
Sediment	: 04/12/1972				
Water Quality	: 01/09/1972				

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

	Maximum			Minimum		
Year	**Q (cumecs)**	**WL (m)**	**Date**	**Q (cumecs)**	**WL (m)**	**Date**
1971-1972	754.2	278.340	23/06/1971	0.100	275.995	29/03/1972
1972-1973	1334	278.840	08/07/1972	0.100	276.150	02/04/1973
1973-1974	7601	282.063	08/07/1973	0.070	276.240	30/04/1974
1974-1975	691.0	278.235	18/08/1974	0.001	276.190	29/04/1975
1975-1976	2765	279.760	09/09/1975	0.001	276.400	14/04/1976
1976-1977	9954	282.545	21/07/1976	0.004	276.315	06/04/1977
1977-1978	7100	281.905	13/09/1977	0.215	276.310	10/06/1977
1978-1979	7669	282.663	16/08/1978	0.387	276.450	05/06/1978
1979-1980	808.0	278.515	04/08/1979	0.003	276.320	06/05/1980
1980-1981	8457	281.700	19/09/1980	0.200	276.485	31/05/1981
1981-1982	3425	280.620	14/08/1981	0.080	276.475	04/06/1981
1982-1983	1210	278.920	14/08/1982	0.008	276.195	17/05/1983
1983-1984	1560	278.950	07/08/1983	0.080	276.205	26/05/1984
1984-1985	1679	279.200	09/08/1984	0.036	276.235	22/04/1985
1985-1986	1649	279.280	07/08/1985	0.058	276.225	01/06/1985
1986-1987	4498	280.500	24/06/1986	0.020	276.285	15/05/1987
1987-1988	486.4	278.110	23/07/1987	0.090	276.335	30/05/1988
1988-1989	280.2	277.600	01/08/1988	0.007	276.195	24/04/1989
1989-1990	255.6	277.830	26/08/1989	0.016	276.120	16/04/1990
1990-1991	7449	281.230	23/08/1990	0.052	276.640	14/05/1991
1991-1992	6923	282.570	30/07/1991	0.006	276.595	22/05/1992
1992-1993	6000	281.300	21/08/1992	0.300	276.425	28/03/1993

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

	Maximum			Minimum		
Year	**Q (cumecs)**	**WL (m)**	**Date**	**Q (cumecs)**	**WL (m)**	**Date**
1993-1994	1631	279.500	20/08/1993	0.074	276.335	18/03/1994
1994-1995	8017	282.680	30/08/1994	0.534	276.425	08/03/1995
1995-1996	3340	280.400	24/07/1995	0.157	276.260	25/05/1996
1996-1997	3823	279.450	02/08/1996	0.155	276.160	20/05/1997
1997-1998	6094	281.145	22/08/1997	0.500	276.210	15/06/1997
1998-1999	400.0	277.900	13/09/1998	0.239	276.205	08/04/1999
1999-2000	933.9	278.500	31/08/1999	0.587	276.315	19/04/2000
2000-2001	1152	278.760	19/07/2000	0.073	276.200	10/02/2001
2001-2002	7133	282.350	09/07/2001	2.477	276.540	01/05/2002
2002-2003	838.0	278.530	24/08/2002	1.001	276.530	22/01/2003
2003-2004	8449	282.625	29/08/2003	0.264	276.340	30/05/2004
2004-2005	3003	280.400	23/08/2004	0.040	276.140	21/05/2005
2005-2006	2907	280.180	14/09/2005	0.227	276.300	03/04/2006
2006-2007	6790	281.665	31/08/2006	0.275	276.360	08/03/2007
2007-2008	4132	280.530	30/06/2007	0.140	276.500	23/05/2008
2008-2009	4771	280.965	18/09/2008	0.116	276.380	07/02/2009
2009-2010	2257	278.925	27/08/2009	0.645	276.390	02/01/2010
2010-2011	3193	279.350	07/09/2010	0.638	276.300	03/02/2011
2011-2012	3679	279.840	07/09/2011	1.880	276.430	05/12/2011
2012-2013	2405	279.275	04/08/2012	0.000	276.480	28/01/2013
2013-2014	2572	279.775	31/07/2013	0.000	276.385	16/01/2014
2014-2015	4058	280.610	05/08/2014	0.000	275.000	27/03/2015
2015-2016	1161	278.615	21/09/2015	0.000	275.000	26/01/2016
2016-2017	1389	278.650	11/09/2016	0.000	275.000	18/06/2016

Q : Observed / Computed Discharge WL : Corresponding Water Level(m.s.l)

Stage-Dischage Data for the period 2017 - 2018

Station Name : Rajim (EM000U7) **Division : MD,CWC,Burla**

Local River : Mahanadi **Sub-Division : UMSD,CWC,Burla**

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	246.070	0.000 *	275.000	0.000 *	276.500	0.000 *	276.968	111.1	277.030	122.7 *	276.410	5.131
2	246.070	0.000 *	275.000	0.000 *	276.480	0.000 *	276.840	102.6 *	276.960	106.2 *	276.420	5.425
3	246.070	0.000 *	275.000	0.000 *	276.410	0.000 *	276.830	101.1 *	276.915	110.2	276.405	4.455
4	246.205	0.000 *	276.790	0.000 *	276.400	0.000 *	276.590	82.86	276.795	71.14	276.680	0.000 *
5	246.220	0.000 *	276.760	0.000 *	276.600	0.000 *	276.400	0.000 *	276.715	56.50	276.430	0.000 *
6	246.220	0.000 *	276.720	0.000 *	276.570	0.000 *	276.350	0.000 *	276.715	56.84	276.400	0.000 *
7	246.230	0.000 *	276.705	0.000 *	276.580	0.000 *	276.400	0.000 *	276.695	55.24	276.390	0.000 *
8	246.230	0.000 *	276.695	0.000 *	276.620	0.000 *	276.400	0.000 *	276.680	52.36 *	276.390	0.000 *
9	246.230	0.000 *	276.690	0.000 *	276.720	94.04	276.400	0.000 *	276.890	72.59	276.390	0.000 *
10	246.230	0.000 *	276.690	0.000 *	276.840	97.93	276.400	0.000 *	277.710	507.1	276.390	0.000 *
11	246.230	0.000 *	276.990	138.7	276.780	90.08	276.948	120.6	277.370	392.8	276.380	0.000 *
12	246.230	0.000 *	276.835	95.88	276.620	0.000 *	276.550	31.56 *	277.160	201.2	276.380	0.000 *
13	246.240	0.000 *	276.840	96.52	276.550	0.000 *	276.440	25.21 *	277.113	141.6	276.380	0.000 *
14	246.295	0.000 *	276.700	0.000	276.550	0.000 *	276.745	60.74	276.908	88.57	276.380	0.000 *
15	246.305	0.000 *	276.650	0.000 *	276.840	0.000 *	276.885	103.8	276.890	72.50 *	276.380	0.000 *
16	246.310	0.000 *	276.820	0.000 *	276.855	83.07	276.938	117.9	276.770	46.47	276.380	0.000 *
17	246.310	0.000 *	276.700	0.000 *	276.690	64.12	276.890	102.6 *	276.720	45.07	276.370	0.000 *
18	246.310	0.000 *	277.080	136.9	276.700	65.80	276.755	55.88	276.660	25.22	276.370	0.000 *
19	246.310	0.000 *	278.153	823.1	276.670	0.000	276.905	105.9	276.620	21.52 *	276.370	0.000 *
20	246.320	0.000 *	277.835	692.0	277.070	153.5 *	277.075	160.0	276.635	23.61	276.370	0.000 *
21	246.310	0.000 *	277.120	284.2	276.960	124.6	277.650	467.4	276.660	25.17	276.370	0.000 *
22	246.310	0.000 *	277.035	152.7	276.875	88.71	277.400	395.4	276.700	43.85 *	276.370	0.000 *
23	246.310	0.000 *	276.780	109.6 *	276.780	60.73	277.028	154.9	276.655	23.77	276.360	0.000 *
24	246.310	0.000 *	276.710	100.4	276.760	61.65	277.010	155.5 *	276.750	47.49	276.360	0.000 *
25	246.320	0.000 *	276.570	0.000 *	277.630	461.4 *	276.760	58.63	276.800	56.27	276.360	0.000 *
26	246.320	0.000 *	276.560	0.000 *	277.045	152.7	276.620	81.79	276.560	11.69	276.360	0.000 *
27	246.315	0.000 *	276.560	0.000 *	276.980	136.5 *	276.600	80.13	276.555	11.41	276.360	0.000 *
28	246.310	0.000 *	276.560	0.000 *	277.033	130.8	276.595	76.34	276.600	13.50	276.360	0.000 *
29	246.310	0.000 *	276.550	0.000 *	277.488	283.2	276.590	75.85 *	276.520	11.25 *	276.380	0.000 *
30	246.550	0.000 *	276.540	0.000 *	277.425	286.0	277.080	161.3 *	276.430	5.754	276.370	0.000 *
31			276.520	0.000 *	277.135	175.5			276.425	5.506		
Ten-Daily Mean												
I Ten-Daily	246.177	0.000	276.205	0.000	276.572	19.20	276.558	39.76	276.910	121.1	276.431	1.501
II Ten-Daily	246.286	0.000	277.060	198.3	276.732	45.66	276.813	88.43	276.884	105.9	276.376	0.000
III Ten-Daily	246.337	0.000	276.682	58.80	277.101	178.3	276.933	170.7	276.605	23.24	276.365	0.000
Monthly												
Min.	246.070	0.000	275.000	0.000	276.400	0.000	276.350	0.000	276.425	5.506	276.360	0.000
Max.	246.550	0.000	278.152	823.1	277.630	461.4	277.650	467.4	277.710	507.1	276.680	5.425
Mean	246.267	0	276.650	84.84	276.811	84.2	276.768	99.63	276.794	81.45	276.391	0.5

Annual Runoff in MCM = 930 Annual Runoff in mm = 106

Peak Observed Discharge = 823.1 cumecs on 19/07/2017 Corres. Water Level :278.1525 m

Lowest Observed Discharge = 0.000 cumecs on 14/07/2017 Corres. Water Level :276.7 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Dischage Data for the period 2017 - 2018

Station Name : Rajim (EM000U7) **Division : MD,CWC,Burla**

Local River : Mahanadi **Sub-Division : UMSD,CWC,Burla**

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	276.360	0.000 *	276.360	0.000 *	276.250	0.000 *	276.220	0.000 *	275.000	0.000 *	275.000	0.000 *
2	276.360	0.000 *	276.350	0.000 *	276.260	0.000 *	276.200	0.000 *	275.000	0.000 *	275.000	0.000 *
3	276.360	0.000 *	276.350	0.000 *	276.240	0.000 *	276.200	0.000 *	275.000	0.000 *	275.000	0.000 *
4	276.360	0.000 *	276.350	0.000 *	276.240	0.000 *	276.200	0.000 *	275.000	0.000 *	275.000	0.000 *
5	276.360	0.000 *	276.350	0.000 *	276.240	0.000 *	276.200	0.000 *	275.000	0.000 *	275.000	0.000 *
6	276.360	0.000 *	276.350	0.000 *	276.240	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
7	276.360	0.000 *	276.260	0.000 *	276.240	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
8	276.360	0.000 *	276.210	0.000 *	276.240	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
9	276.360	0.000 *	276.210	0.000 *	276.240	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
10	276.350	0.000 *	276.210	0.000 *	276.240	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
11	276.350	0.000 *	276.200	0.000 *	276.240	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
12	276.350	0.000 *	276.200	0.000 *	276.240	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
13	276.350	0.000 *	276.200	0.000 *	276.250	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
14	276.350	0.000 *	276.200	0.000 *	276.260	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
15	276.350	0.000 *	276.200	0.000 *	276.270	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
16	276.350	0.000 *	276.200	0.000 *	276.270	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
17	276.370	0.000 *	276.200	0.000 *	276.270	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
18	276.370	0.000 *	276.200	0.000 *	276.270	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
19	276.370	0.000 *	276.200	0.000 *	276.270	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
20	276.370	0.000 *	276.200	0.000 *	276.260	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
21	276.370	0.000 *	276.200	0.000 *	276.250	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
22	276.360	0.000 *	276.200	0.000 *	276.240	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
23	276.360	0.000 *	276.200	0.000 *	276.230	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
24	276.360	0.000 *	276.200	0.000 *	276.230	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
25	276.360	0.000 *	276.200	0.000 *	276.230	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
26	276.360	0.000 *	276.200	0.000 *	276.230	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
27	276.350	0.000 *	276.200	0.000 *	276.220	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
28	276.350	0.000 *	276.200	0.000 *	276.220	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
29	276.350	0.000 *	276.200	0.000 *			275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
30	276.360	0.000 *	276.180	0.000 *			275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
31	276.360	0.000 *	276.240	0.000 *			275.000	0.000 *			275.000	0.000 *
Ten-Daily Mean												
I Ten-Daily	276.359	0.000	276.300	0.000	276.243	0.000	275.602	0.000	275.000	0.000	275.000	0.000
II Ten-Daily	276.358	0.000	276.200	0.000	276.260	0.000	275.000	0.000	275.000	0.000	275.000	0.000
III Ten-Daily	276.358	0.000	276.202	0.000	276.231	0.000	275.000	0.000	275.000	0.000	275.000	0.000
Monthly												
Min.	276.350	0.000	276.180	0.000	276.220	0.000	275.000	0.000	275.000	0.000	275.000	0.000
Max.	276.370	0.000	276.360	0.000	276.270	0.000	276.220	0.000	275.000	0.000	275.000	0.000
Mean	276.358	0	276.233	0	276.246	0	275.194	0	275.000	0	275.000	0

Peak Computed Discharge = 461.4 cumecs on 25/08/2017 **Corres. Water Level :277.63 m**

Lowest Computed Discharge = 0.000 cumecs on 01/07/2017 **Corres. Water Level :275 m**

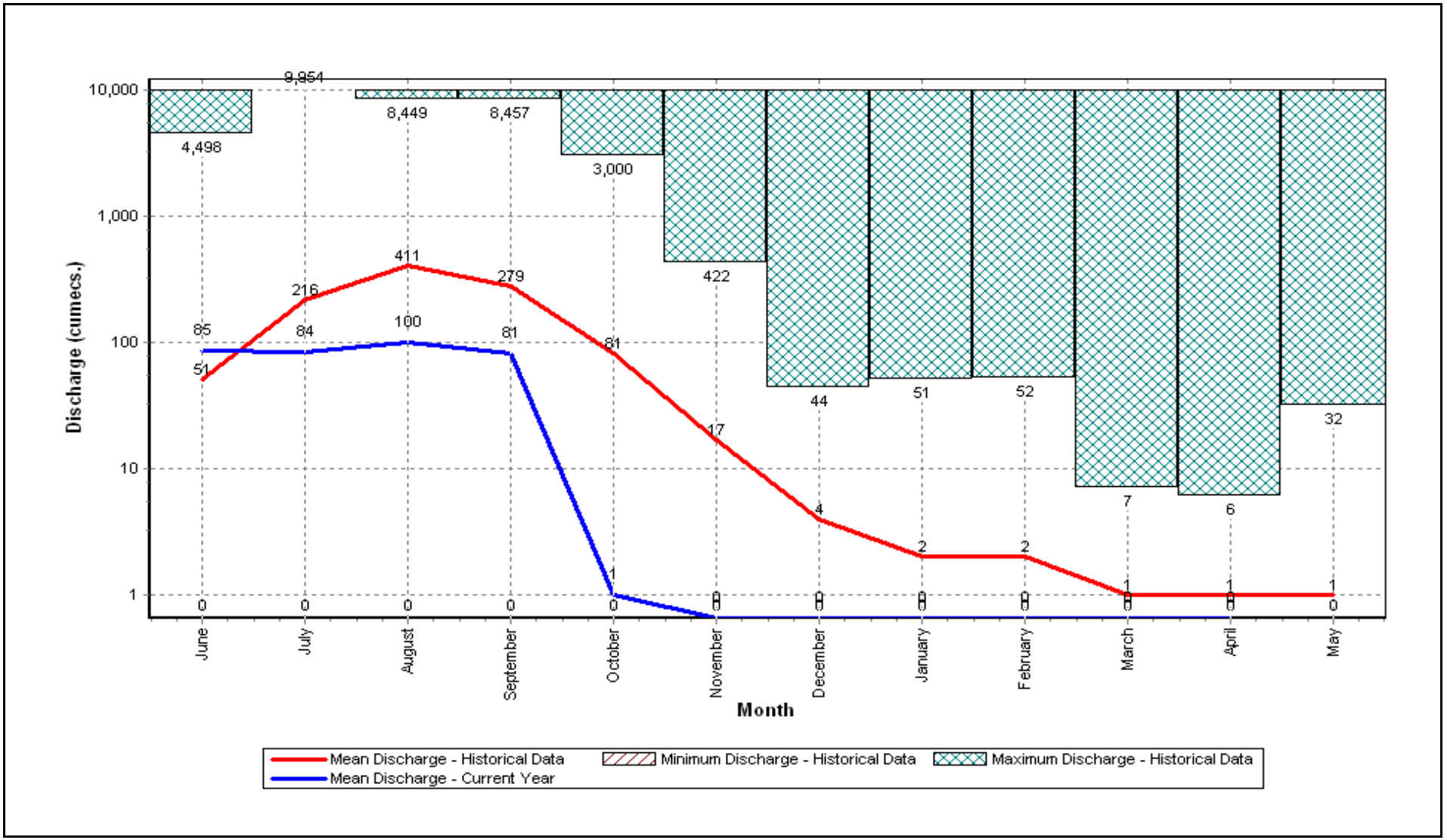
Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2017-2018

Station Name : Rajim (EM000U7) | **Data considered : 1971-2018** | **Division : MD,CWC,Burla**

Local River : Mahanadi | **Sub-Division : UMSD,CWC,Burla**



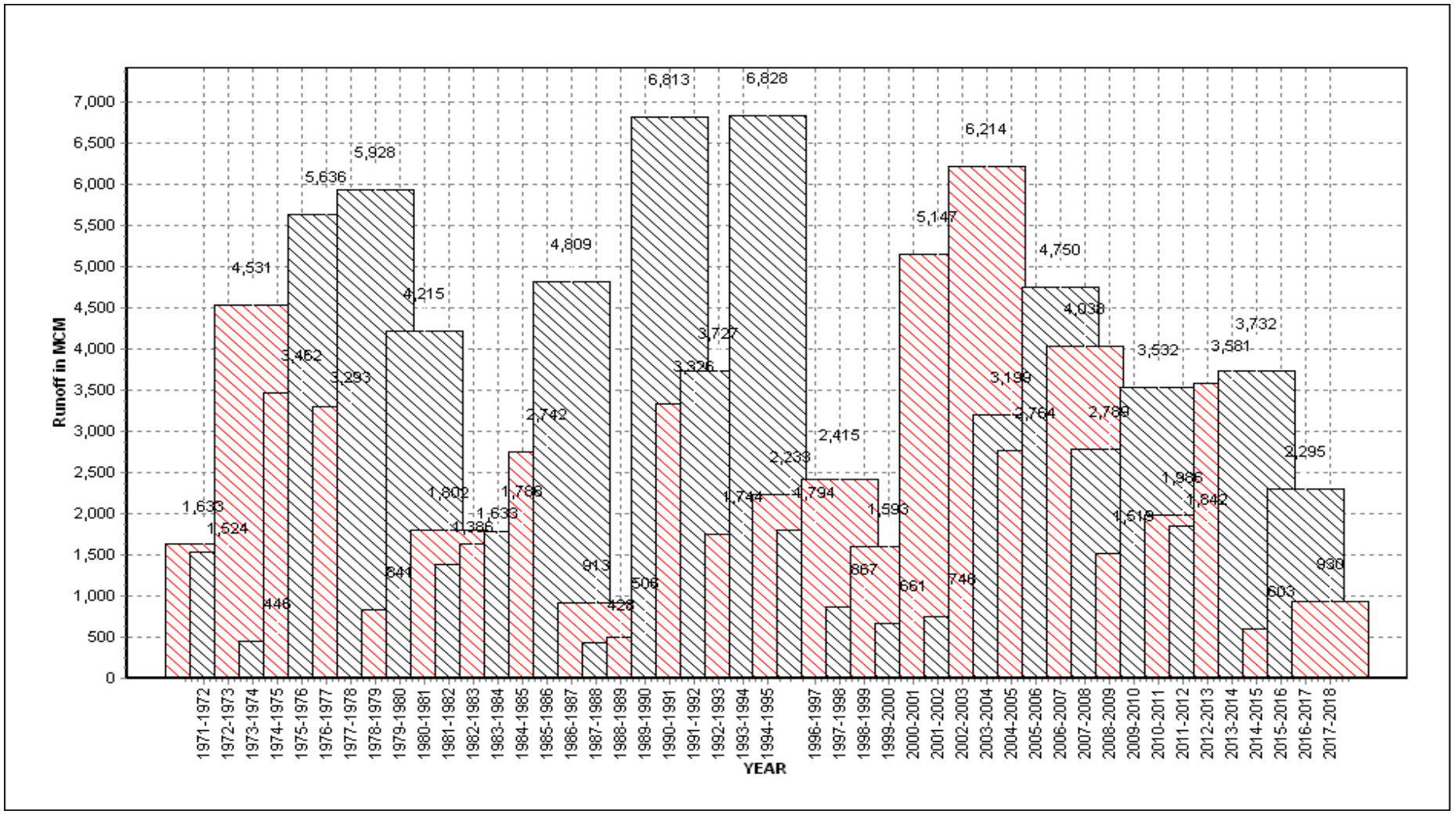
Annual Runoff Values for the period: 1971 - 2018

Station Name : Rajim (EM000U7)

Local River : Mahanadi

Division : MD,CWC,Burla

Sub-Division : UMSD,CWC,Burla



Note: Missing values have not been considered while arriving at Annual Runoff

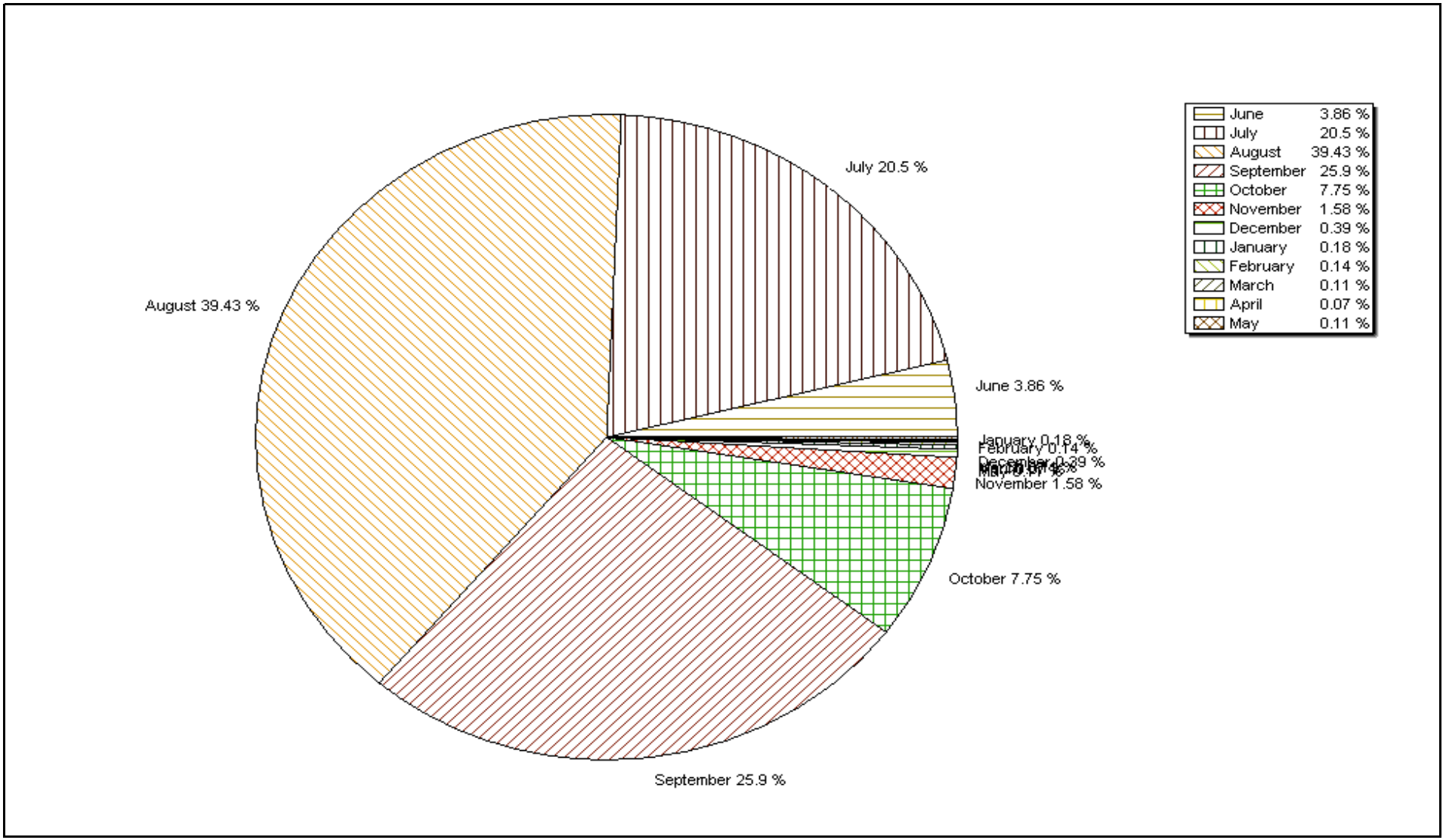
Monthly Average Runoff based on period : 1971-2017

Station Name : Rajim (EM000U7)

Local River : Mahanadi

Division : MD,CWC,Burla

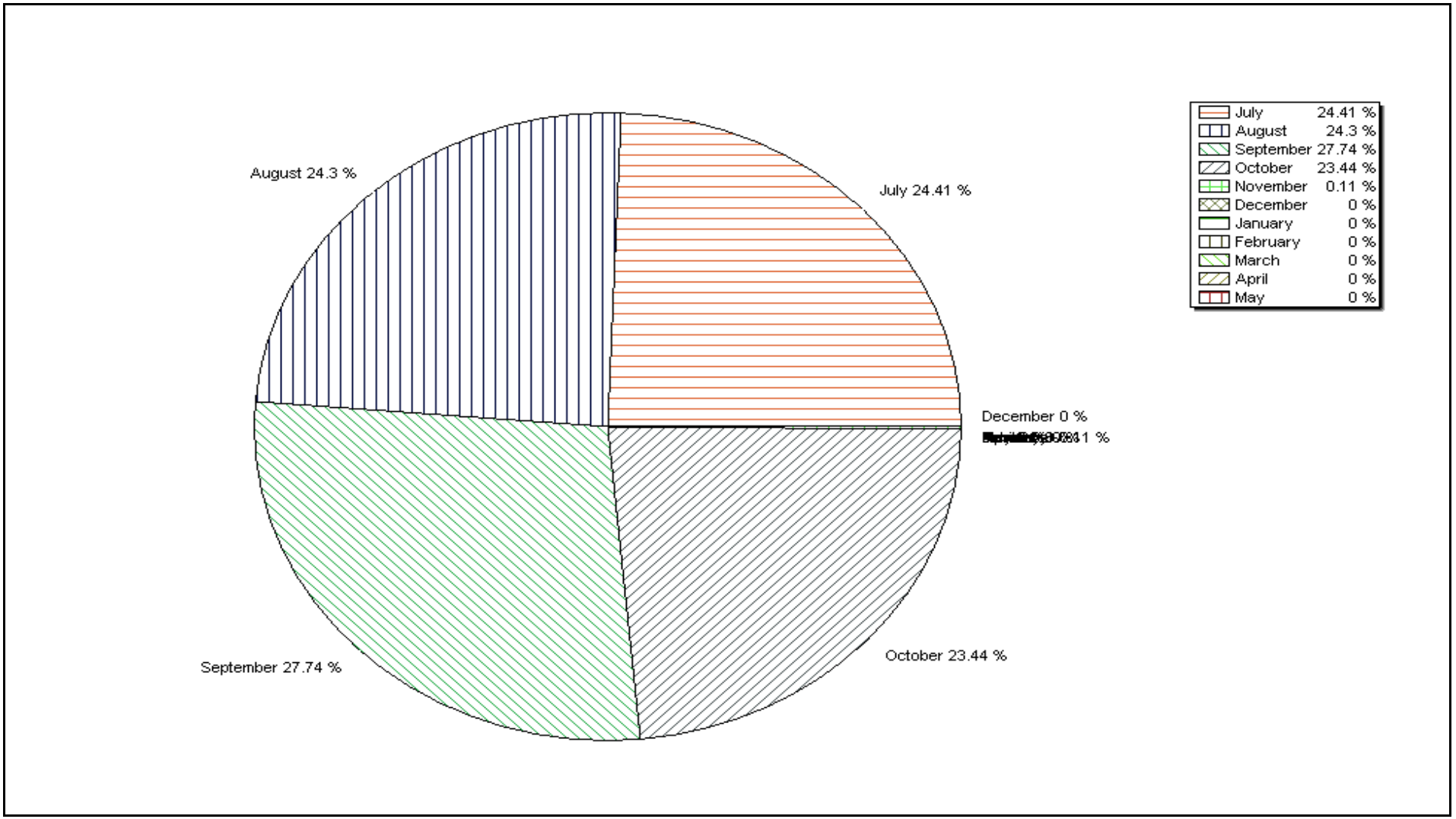
Sub-Division : UMSD,CWC,Burla



Monthly Runoff for the Year : 2017-2018

Station Name : Rajim (EM000U7)
Local River : Mahanadi

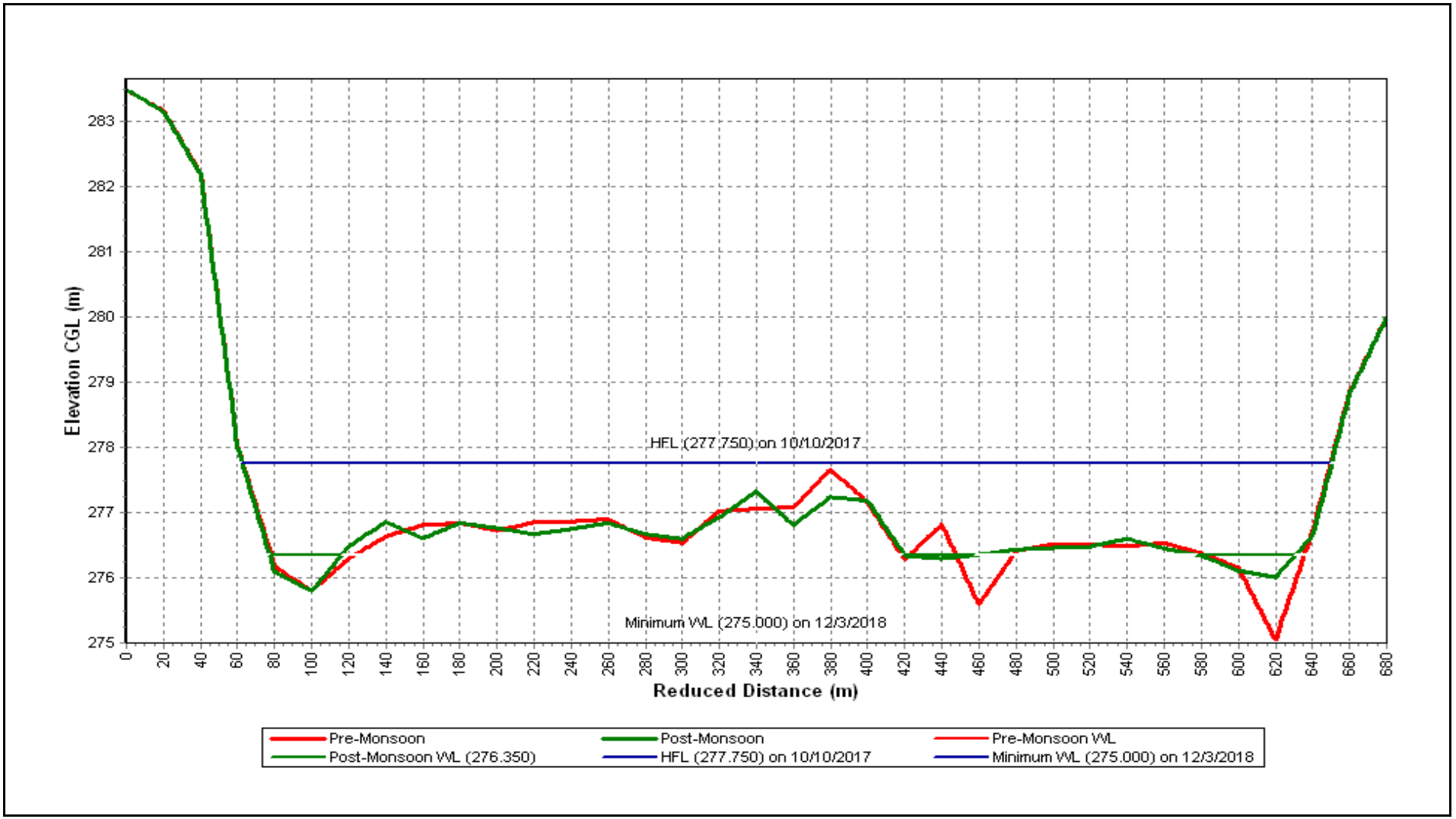
Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Burla



Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2017-2018

Station Name : Rajim (EM000U7) **Division : MD,CWC,Burla**

Local River : Mahanadi **Sub-Division : UMSD,CWC,Burla**



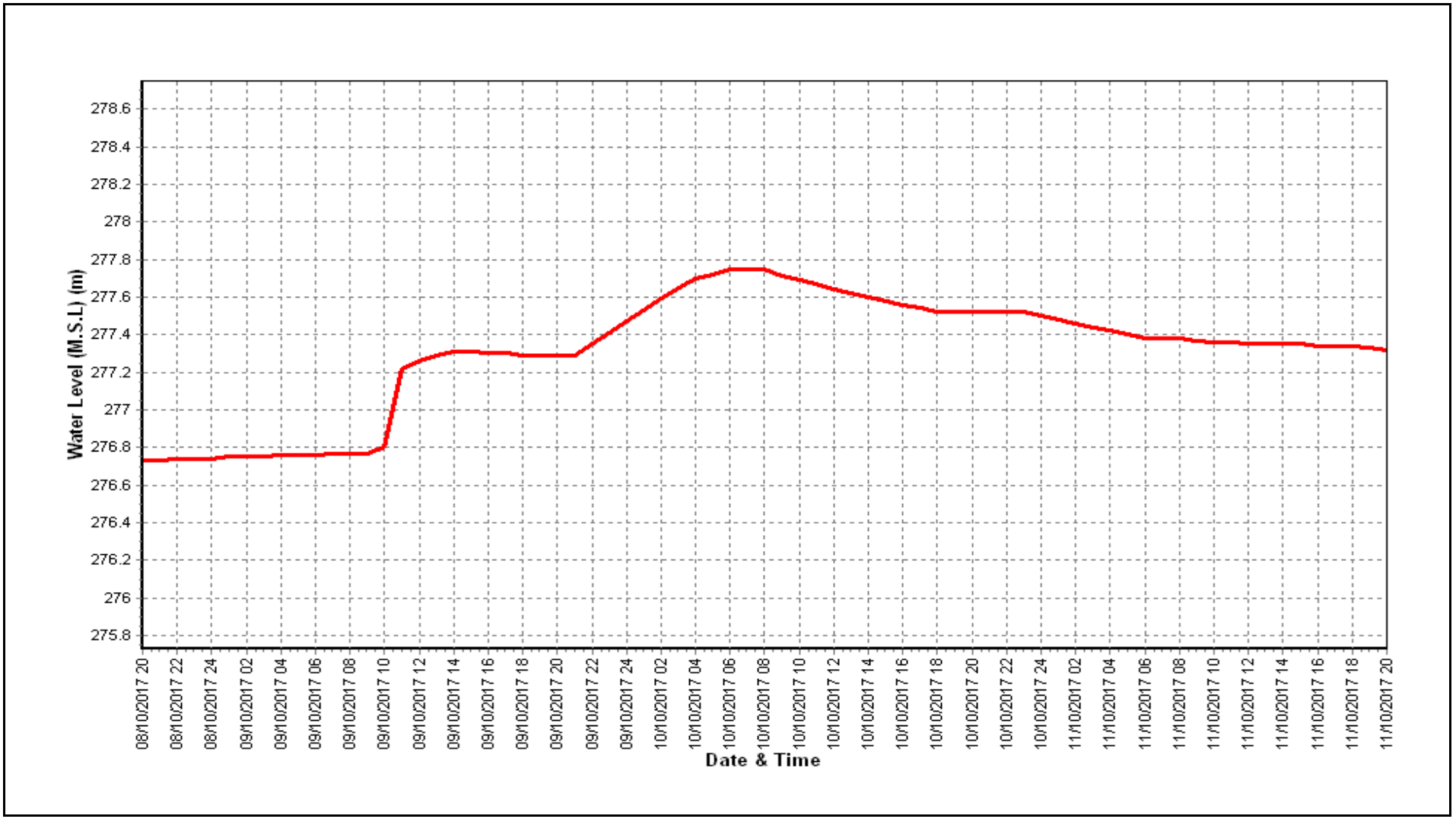
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2017-2018

Station Name : Rajim (EM000U7)

Local River : Mahanadi

Division : MD,CWC,Burla

Sub-Division : UMSD,CWC,Burla



Time Span: 72 Hrs

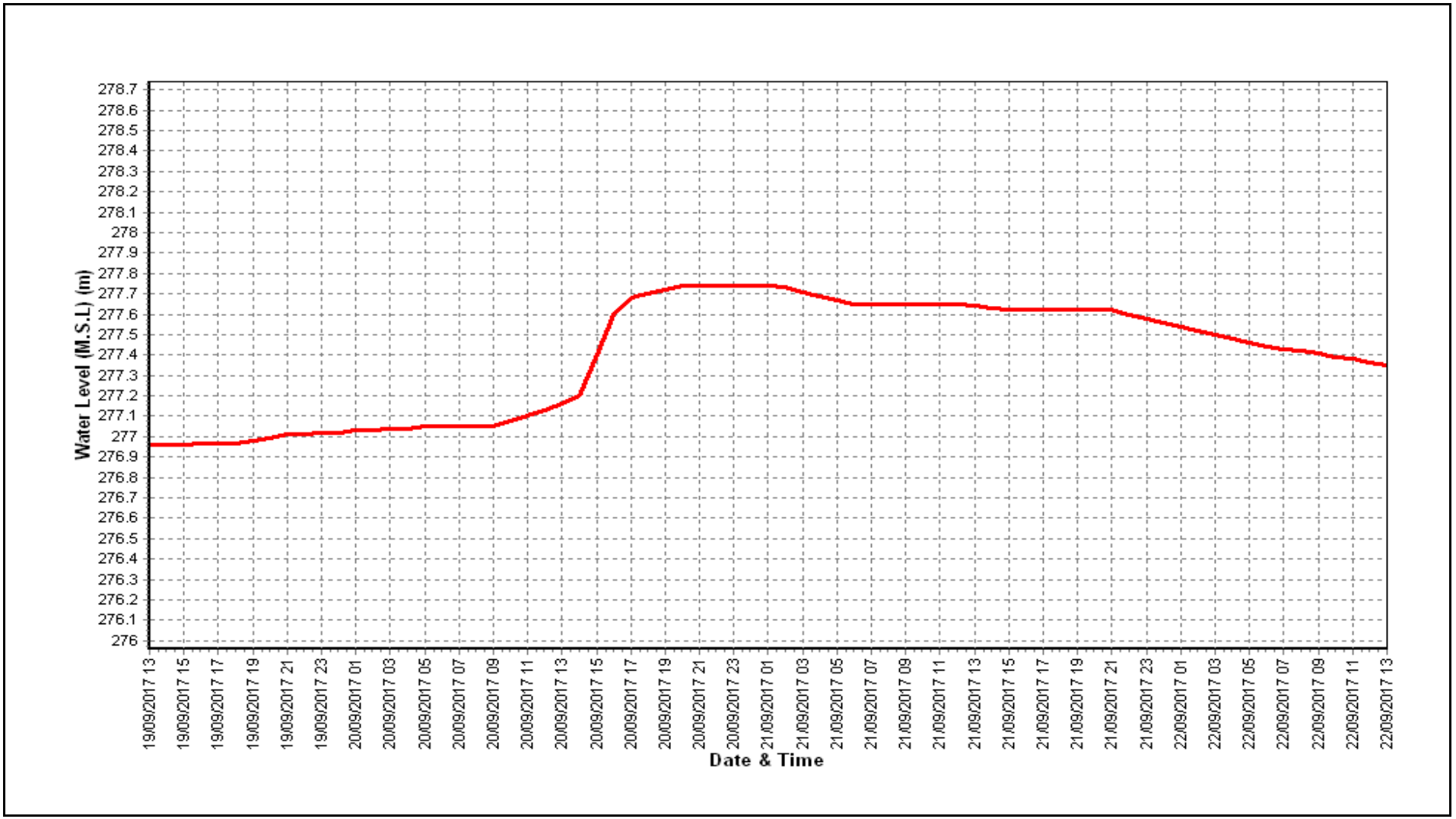
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2017-2018

Station Name : Rajim (EM000U7)

Local River : Mahanadi

Division : MD,CWC,Burla

Sub-Division : UMSD,CWC,Burla

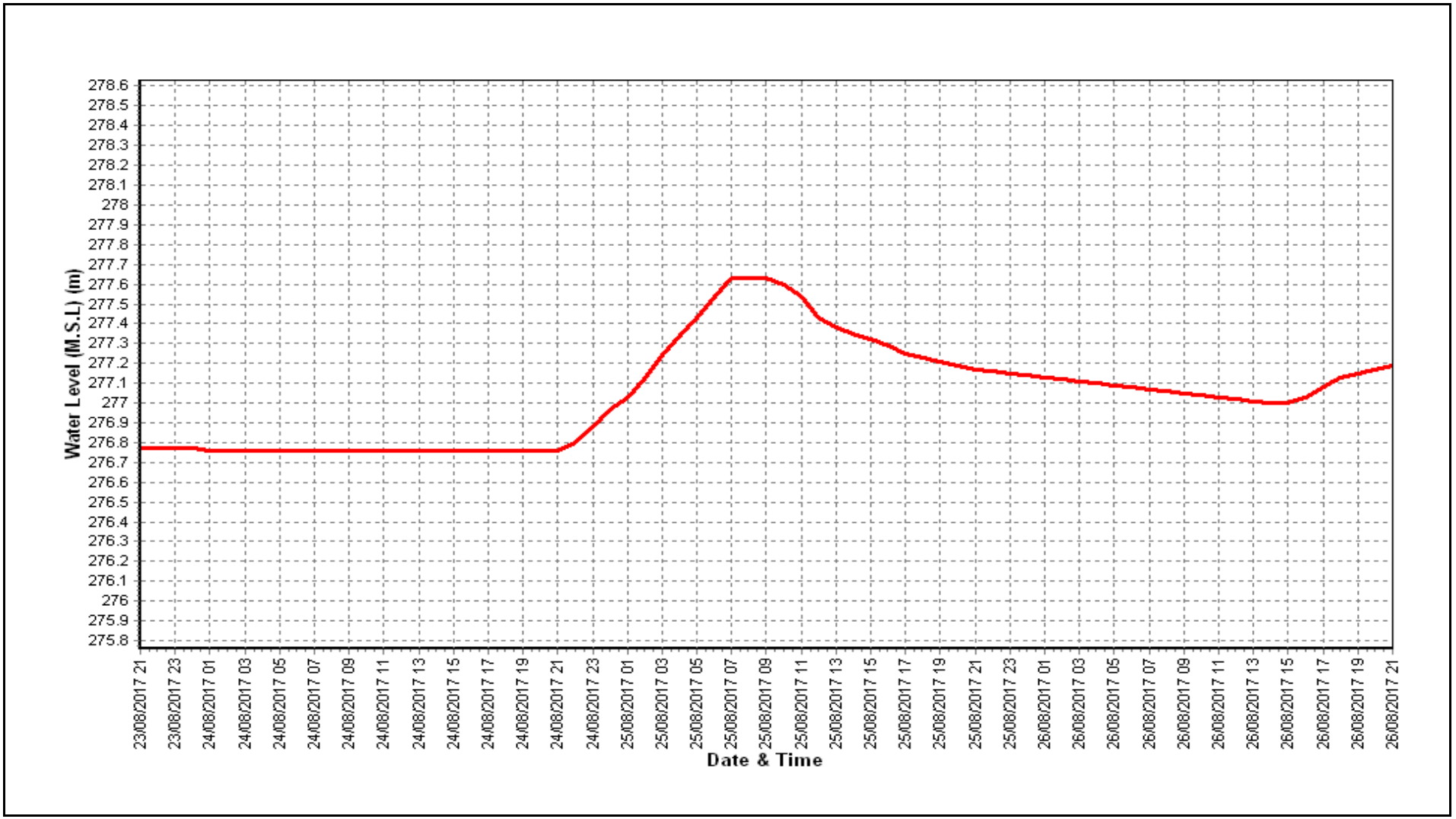


Time Span: 72 Hrs

Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2017-2018

Station Name : Rajim (EM000U7) **Division : MD,CWC,Burla**

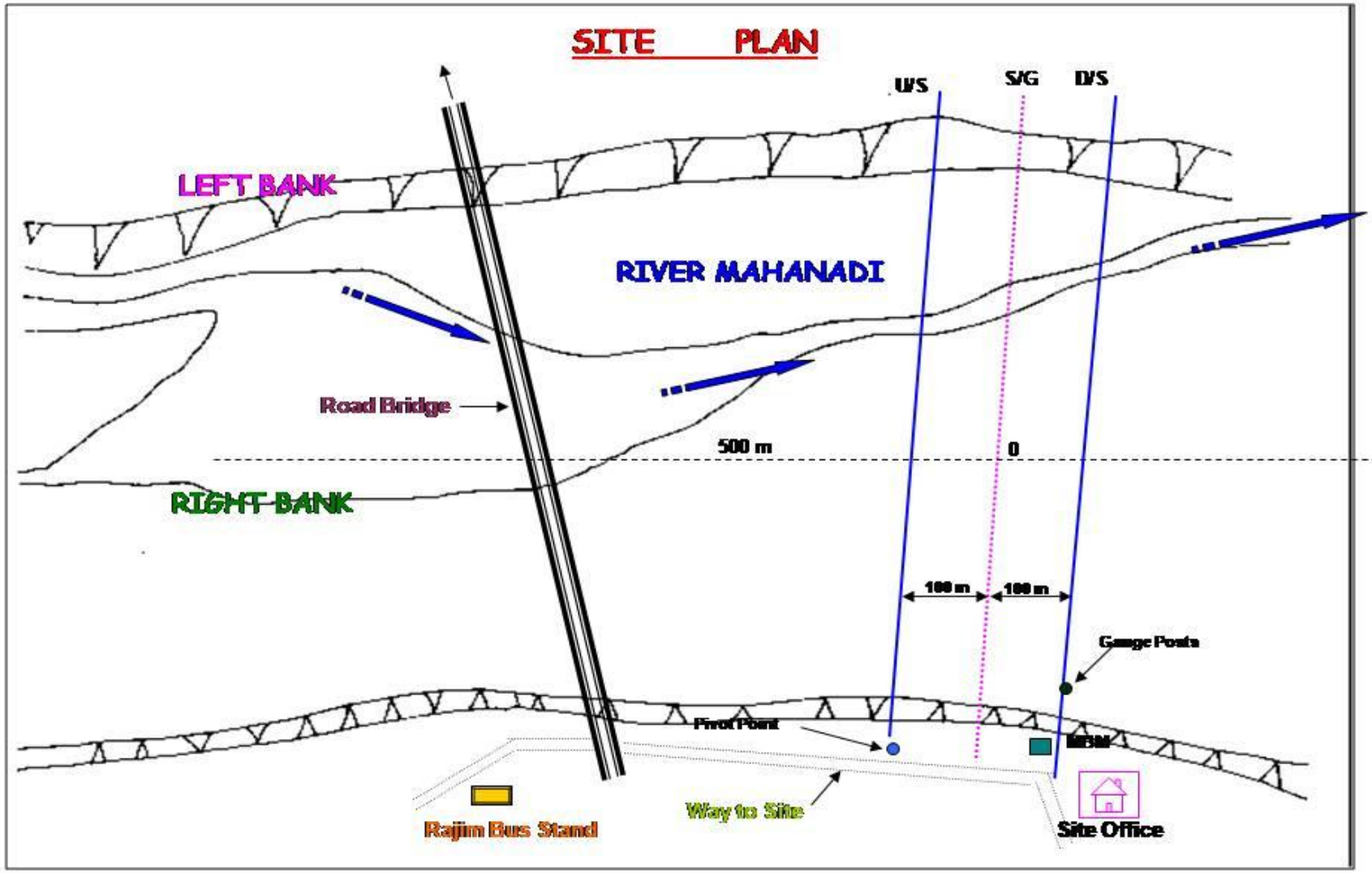
Local River : Mahanadi **Sub-Division : UMSD,CWC,Burla**



Time Span: 72 Hrs

CENTRAL WATER COMMISSION, MAHANADI DIVISION, BURLA

Site : RAJIM Code : EM000U7 Sub-Division :UMSD Raipur



SECTION-II

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Rajim (EM000U7) **Division : MD,CWC,Burla**

Local River : Mahanadi **Sub-Division : UMSD,CWC,Burla**

Day	Jun						Jul						Aug					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
2	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
3	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
8	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
9	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	94.04	0.000	0.000	0.108	0.108	874
10	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	97.93	0.000	0.000	0.102	0.102	866
11	0.000	0.000	0.000	0.000	0.000	0	138.7	0.000	0.000	0.000	0.000	0	90.08	0.000	0.000	0.065	0.065	509
12	0.000	0.000	0.000	0.000	0.000	0	95.88	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
13	0.000	0.000	0.000	0.000	0.000	0	96.52	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
14	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
15	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
16	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	83.07	0.000	0.000	0.100	0.100	721
17	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	64.12	0.000	0.000	0.093	0.093	515
18	0.000	0.000	0.000	0.000	0.000	0	136.9	0.000	0.000	0.000	0.000	0	65.80	0.000	0.000	0.084	0.084	477
19	0.000	0.000	0.000	0.000	0.000	0	823.1	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	0.000	0.000	0.000	0.000	0.000	0	692.0	0.000	0.000	0.000	0.000	0	153.5	0.000	0.000	0.000	0.000	0
21	0.000	0.000	0.000	0.000	0.000	0	284.2	0.000	0.000	0.000	0.000	0	124.6	0.000	0.000	0.207	0.207	2228
22	0.000	0.000	0.000	0.000	0.000	0	152.7	0.000	0.000	0.000	0.000	0	88.71	0.000	0.000	0.214	0.214	1642
23	0.000	0.000	0.000	0.000	0.000	0	109.6	0.000	0.000	0.000	0.000	0	60.73	0.000	0.000	0.206	0.206	1080
24	0.000	0.000	0.000	0.000	0.000	0	100.4	0.000	0.000	0.000	0.000	0	61.65	0.000	0.000	0.084	0.084	450
25	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	461.4	0.000	0.000	0.000	0.000	0
26	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	152.7	0.000	0.000	0.171	0.171	2253
27	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	136.5	0.000	0.000	0.000	0.000	0
28	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	130.8	0.000	0.000	0.119	0.119	1345
29	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	283.2	0.000	0.000	0.100	0.100	2444
30	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	286.0	0.000	0.000	0.070	0.070	1740
31							0.000	0.000	0.000	0.000	0.000	0	175.5	0.000	0.000	0.089	0.089	1349
Ten Daily Mean																		
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	19.20	0.000	0.000	0.021	0.021	174
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0	198.3	0.000	0.000	0.000	0.000	0	45.66	0.000	0.000	0.034	0.034	222
Ten Daily III	0.000	0.000	0.000	0.000	0.000	0	58.80	0.000	0.000	0.000	0.000	0	178.3	0.000	0.000	0.115	0.115	1321
Monthly Total												0						18493

Annual Sediment Load (Metric Tonnes) : 67447

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Rajim (EM000U7) **Division : MD,CWC,Burla**

Local River : Mahanadi **Sub-Division : UMSD,CWC,Burla**

Day	Sep						Oct						Nov					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	111.1	0.000	0.000	0.026	0.026	245	122.7	0.000	0.000	0.000	0.000	0	5.131	0.000	0.000	0.065	0.065	29
2	102.6	0.000	0.000	0.000	0.000	0	106.2	0.000	0.000	0.000	0.000	0	5.425	0.000	0.000	0.066	0.066	31
3	101.1	0.000	0.000	0.000	0.000	0	110.2	0.000	0.000	0.078	0.078	744	4.455	0.000	0.000	0.077	0.077	30
4	82.86	0.000	0.000	0.060	0.060	432	71.14	0.000	0.000	0.068	0.068	416	0.000	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0	56.50	0.000	0.000	0.064	0.064	310	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0	56.84	0.000	0.000	0.037	0.037	179	0.000	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0.000	0	55.24	0.000	0.000	0.051	0.051	244	0.000	0.000	0.000	0.000	0.000	0
8	0.000	0.000	0.000	0.000	0.000	0	52.36	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
9	0.000	0.000	0.000	0.000	0.000	0	72.59	0.000	0.000	0.132	0.132	828	0.000	0.000	0.000	0.000	0.000	0
10	0.000	0.000	0.000	0.000	0.000	0	507.1	0.000	0.000	0.055	0.055	2410	0.000	0.000	0.000	0.000	0.000	0
11	120.6	0.000	0.000	0.197	0.197	2049	392.8	0.000	0.000	0.040	0.040	1371	0.000	0.000	0.000	0.000	0.000	0
12	31.56	0.000	0.000	0.000	0.000	0	201.2	0.000	0.000	0.683	0.683	11870	0.000	0.000	0.000	0.000	0.000	0
13	25.21	0.000	0.000	0.268	0.268	584	141.6	0.000	0.000	0.155	0.155	1901	0.000	0.000	0.000	0.000	0.000	0
14	60.74	0.000	0.000	0.175	0.175	916	88.57	0.000	0.000	0.176	0.176	1345	0.000	0.000	0.000	0.000	0.000	0
15	103.8	0.000	0.000	0.096	0.096	860	72.50	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
16	117.9	0.000	0.000	0.000	0.000	0	46.47	0.000	0.000	0.332	0.332	1333	0.000	0.000	0.000	0.000	0.000	0
17	102.6	0.000	0.000	0.000	0.000	0	45.07	0.000	0.000	0.103	0.103	400	0.000	0.000	0.000	0.000	0.000	0
18	55.88	0.000	0.000	0.089	0.089	430	25.22	0.000	0.000	0.043	0.043	95	0.000	0.000	0.000	0.000	0.000	0
19	105.9	0.000	0.000	0.107	0.107	978	21.52	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	160.0	0.000	0.000	0.110	0.110	1514	23.61	0.000	0.000	0.119	0.119	242	0.000	0.000	0.000	0.000	0.000	0
21	467.4	0.000	0.000	0.101	0.101	4074	25.17	0.000	0.000	0.062	0.062	134	0.000	0.000	0.000	0.000	0.000	0
22	395.4	0.000	0.000	0.127	0.127	4325	43.85	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	154.9	0.000	0.000	0.191	0.191	2551	23.77	0.000	0.000	0.050	0.050	102	0.000	0.000	0.000	0.000	0.000	0
24	155.5	0.000	0.000	0.000	0.000	0	47.49	0.000	0.000	0.032	0.032	130	0.000	0.000	0.000	0.000	0.000	0
25	58.63	0.000	0.000	0.082	0.082	414	56.27	0.000	0.000	0.012	0.012	58	0.000	0.000	0.000	0.000	0.000	0
26	81.79	0.000	0.000	0.155	0.155	1096	11.69	0.000	0.000	0.016	0.016	16	0.000	0.000	0.000	0.000	0.000	0
27	80.13	0.000	0.000	0.532	0.532	3682	11.41	0.000	0.000	0.059	0.059	58	0.000	0.000	0.000	0.000	0.000	0
28	76.34	0.000	0.000	0.058	0.058	381	13.50	0.000	0.000	0.076	0.076	89	0.000	0.000	0.000	0.000	0.000	0
29	75.85	0.000	0.000	0.000	0.000	0	11.25	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
30	161.3	0.000	0.000	0.000	0.000	0	5.754	0.000	0.000	0.066	0.066	33	0.000	0.000	0.000	0.000	0.000	0
31							5.506	0.000	0.000	0.053	0.053	25						
Ten Daily Mean																		
Ten Daily I	39.76	0.000	0.000	0.009	0.009	68	121.1	0.000	0.000	0.048	0.048	513	1.501	0.000	0.000	0.021	0.021	9
Ten Daily II	88.43	0.000	0.000	0.104	0.104	733	105.9	0.000	0.000	0.165	0.165	1856	0.000	0.000	0.000	0.000	0.000	0
Ten Daily III	170.7	0.000	0.000	0.124	0.124	1652	23.24	0.000	0.000	0.039	0.039	59	0.000	0.000	0.000	0.000	0.000	0
Monthly																		
Total						24532						24333						89

Annual Sediment Load (Metric Tonnes) : 67447

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Rajim (EM000U7) **Division : MD,CWC,Burla**

Local River : Mahanadi **Sub-Division : UMSD,CWC,Burla**

Day	Dec						Jan						Feb					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
2	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
3	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
8	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
9	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
10	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
11	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
12	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
13	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
14	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
15	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
16	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
17	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
18	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
19	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
21	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
22	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
24	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
25	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
28	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
29	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0						
30	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0						
31	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0						
Ten Daily Mean																		
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily III	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Monthly Total						0						0						0

Annual Sediment Load (Metric Tonnes) : 67447

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Rajim (EM000U7) **Division : MD,CWC,Burla**

Local River : Mahanadi **Sub-Division : UMSD,CWC,Burla**

Day	Mar						Apr						May					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
2	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
3	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
8	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
9	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
10	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
11	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
12	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
13	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
14	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
15	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
16	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
17	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
18	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
19	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
21	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
22	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
24	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
25	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
28	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
29	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
30	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
31	0.000	0.000	0.000	0.000	0.000	0							0.000	0.000	0.000	0.000	0.000	0
Ten Daily Mean																		
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily III	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Monthly																		
Total						0						0						0

Annual Sediment Load (Metric Tonnes) : 67447

Annual Sediment Load for period : 1973-2018

Station Name : Rajim (EM000U7) **Division : MD,CWC,Burla**

Local River : Mahanadi **Sub-Division : UMSD,CWC,Burla**

Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)
1973-1974	1978702	72	1978774	4531
1974-1975	75961	0	75961	446
1975-1976	2677864	131	2677995	3462
1976-1977	2327108	0	2327108	5636
1977-1978	1605507	59	1605566	3293
1978-1979	3672054	90	3672144	5928
1979-1980	619677	0	619677	841
1980-1981	1469016	37	1469053	4215
1981-1982	224369	251	224620	1802
1982-1983	464795	0	464795	1386
1983-1984	525325	42	525367	1633
1984-1985	461471	0	461471	1788
1985-1986	571298	122	571420	2742
1986-1987	2403869	29	2403898	4809
1987-1988	317775	291	318066	913
1988-1989	127748	0	127748	428
1989-1990	84728	31	84759	506
1990-1991	1437770	327	1438097	6813
1991-1992	701842	2	701844	3326
1992-1993	902131	26	902157	3727
1993-1994	586991	16	587008	1744
1994-1995	1747511	394	1747905	6828
1995-1996	666934	57	666991	2233
1996-1997	567450	1	567452	1794
1997-1998	866508	61	866569	2415
1998-1999	98720	61	98781	867
1999-2000	258778	201	258979	1593
2000-2001	144560	0	144560	661
2001-2002	2395681	170	2395851	5147
2002-2003	86580	12	86592	746
2003-2004	2997447	121	2997569	6214
2004-2005	530911	25	530936	3199
2005-2006	569412	0	569412	2764
2006-2007	1568793	14	1568807	4750
2007-2008	1316593	93	1316686	4038
2008-2009	656713	0	656713	2789
2009-2010	270421	14	270435	1519
2010-2011	857183	128	857311	3532
2011-2012	1844	9	1852	1986
2012-2013	120215	0	120215	1842
2013-2014	306684	17	306702	3581
2014-2015	306802	149	306951	3732
2015-2016	39588	0	39588	603
2016-2017	185757	0	185757	2295
2017-2018	67447	0	67447	930

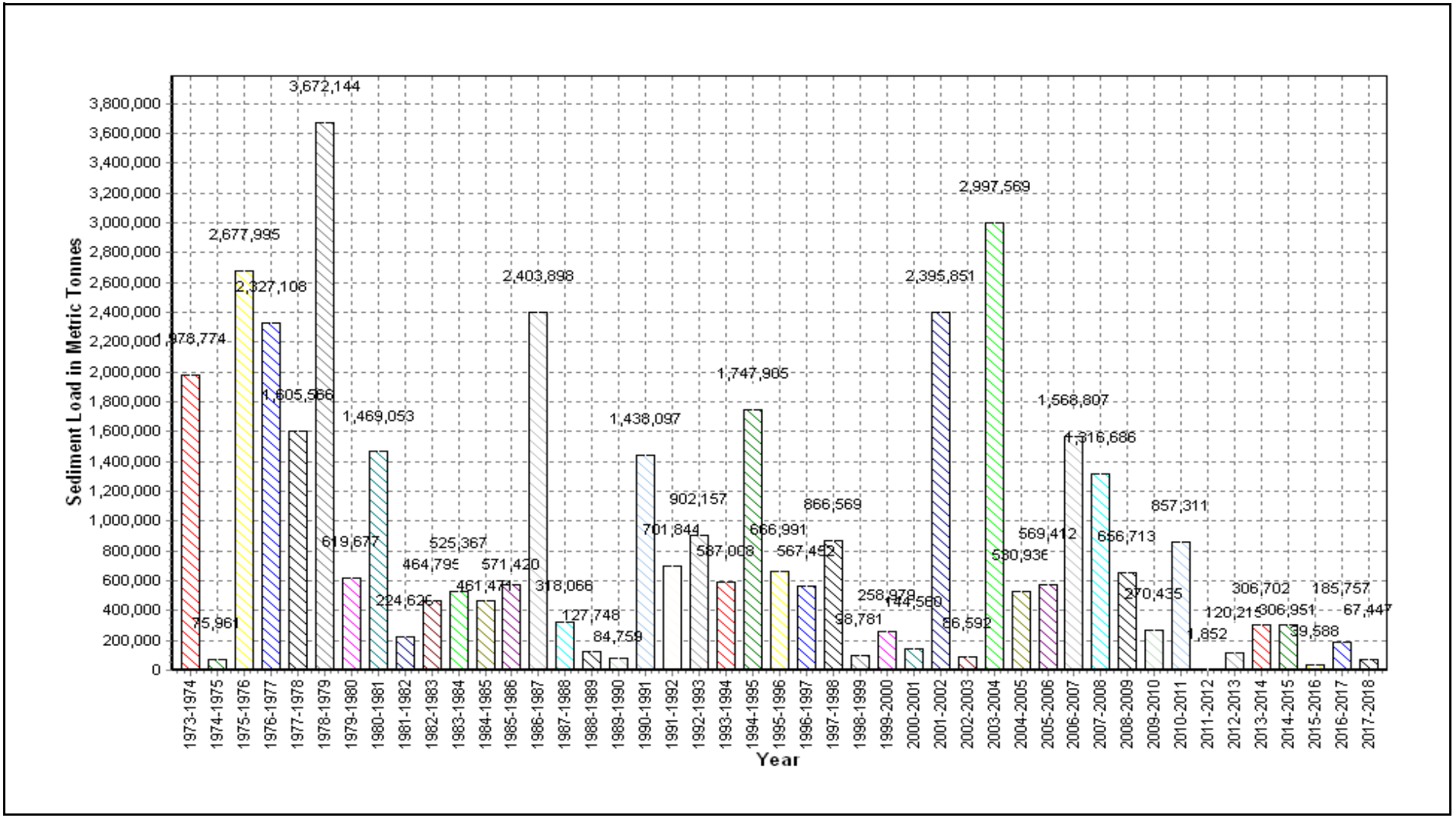
Annual Sediment Load for the period: 1973-2018

Station Name : Rajim (EM000U7)

Local River : Mahanadi

Division : MD,CWC,Burla

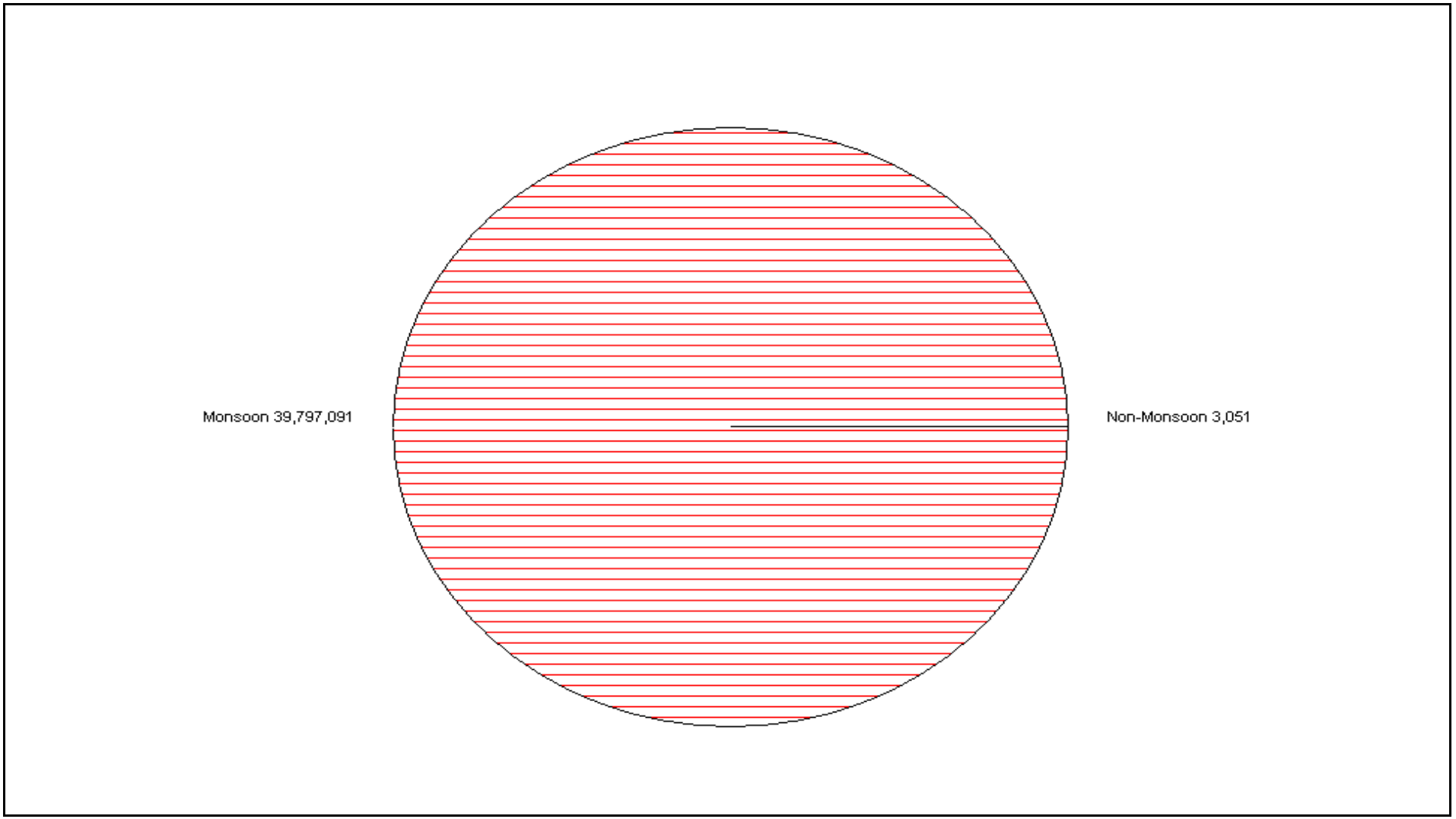
Sub-Division : UMSD,CWC,Burla



Seasonal Sediment Load for the period : 1973-2017

Station Name : Rajim (EM000U7)
Local River : Mahanadi

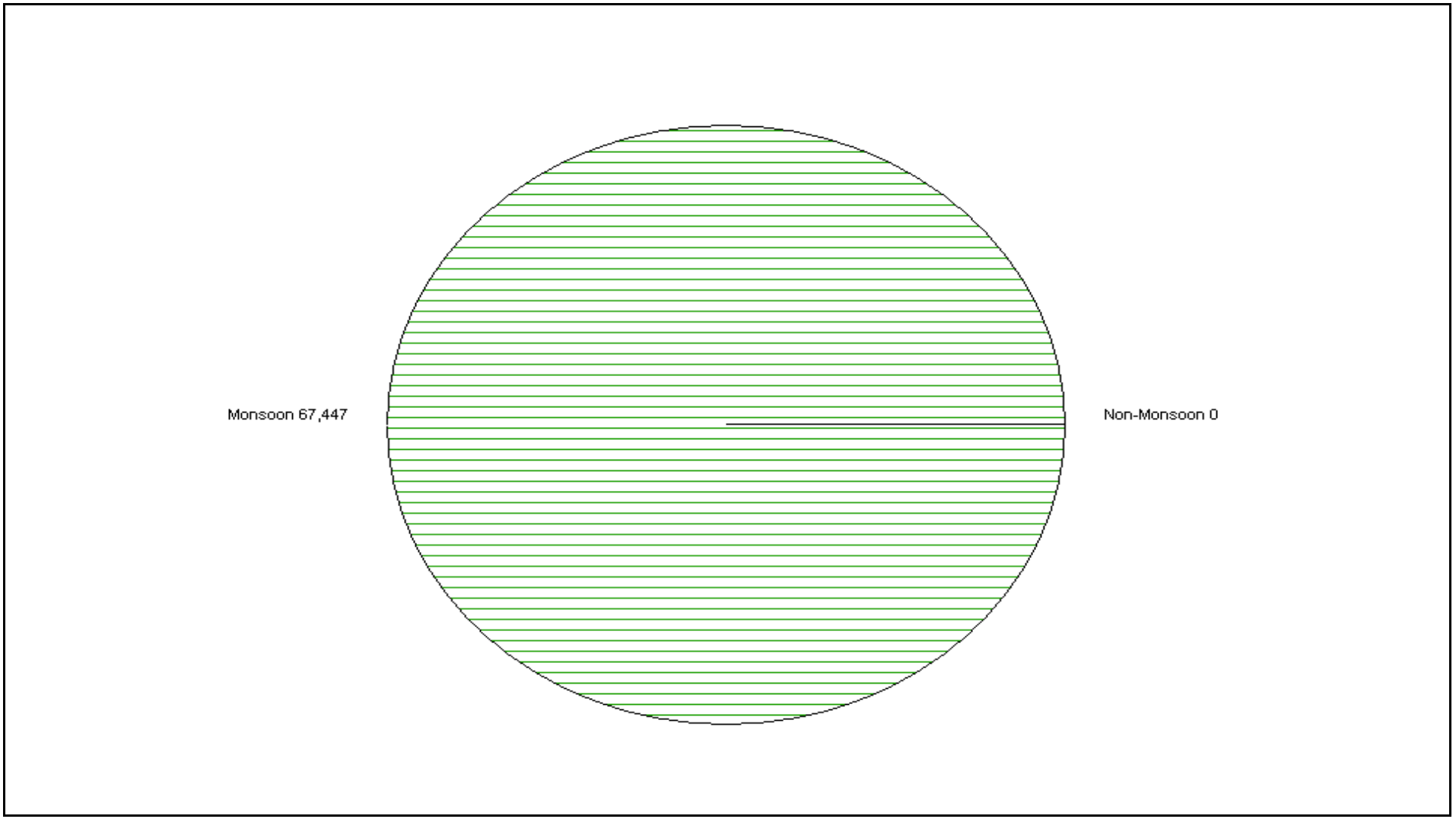
Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Burla



Seasonal Sediment Load for the Year: 2017-2018

Station Name : Rajim (EM000U7)
Local River : Mahanadi

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Burla



SECTION-III

Water Quality Datasheet for the period : 2017-2018

Station Name : Rajim (EM000U7) **Division : MD,CWC,Burla**

Local River : Mahanadi **River Water Analysis** **Sub-Division : UMSD,CWC,Burla**

S.No	Parameters	01/06/2017	01/07/2017	01/08/2017	01/09/2017	03/10/2017	01/11/2017	01/12/2017	01/01/2018	02/02/2018	01/03/2018	02/04/2018	01/05/2018
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)		0.000	0.000	111.1	110.2	5.131	0.000	0.000	0.000	0.000	0.000	0.000
2	Colour_Cod (-)				Brown	Brown	Clear						
3	EC_FLD (µmho/cm)					87	80						
4	EC_GEN (µmho/cm)				121	109	113						
5	Odour_Code (-)				odour free	odour free	odour free						
6	pH_FLD (pH units)					7.0	8.5						
7	pH_GEN (pH units)				8.2	8.3	8.1						
8	Temp (deg C)					28.0	26.0						
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)				0.0	0.0	0.0						
2	ALK-TOT (mgCaCO3/L)				98	144	172						
3	Ca (mg/L)				58	45	22						
4	Cl (mg/L)				24.0	36.0	26.0						
5	CO3 (mg/L)				0.0	0.0	0.0						
6	HCO3 (mg/L)				60	88	105						
7	K (mg/L)				62.9	13.5	9.9						
8	Mg (mg/L)				1.9	3.9	14.6						
9	Na (mg/L)				64.5	22.3	26.4						
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)				1.6	2.0	0.7						
2	DO (mg/L)				5.9	7.0	6.6						
3	DO_SAT% (%)					89	81						
4	FCol-MPN (MPN/100mL)				90	90	90						
5	Tcol-MPN (MPN/100mL)				140	140	170						
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)				144	112	56						
2	HAR_Total (mgCaCO3/L)				152	128	117						
3	Na% (%)				38	25	31						
4	RSC (-)				0.0	0.0	0.0						
5	SAR (-)				2.3	0.9	1.1						
	PESTICIDES												

Water Quality Summary for the period : 2017-2018

Station Name : Rajim (EM000U7) **Division : MD,CWC,Burla**

Local River : Mahanadi **Sub-Division : UMSD,CWC,Burla**

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	335	823.1	0.000	32.15
2	EC_FLD (µmho/cm)	2	87	80	84
3	EC_GEN (µmho/cm)	3	121	109	114
4	pH_FLD (pH units)	2	8.5	7.0	7.7
5	pH_GEN (pH units)	3	8.3	8.1	8.2
6	Temp (deg C)	2	28.0	26.0	27
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	3	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	3	172	98	138
3	Ca (mg/L)	3	58	22	42
4	Cl (mg/L)	3	36.0	24.0	28.7
5	CO3 (mg/L)	3	0.0	0.0	0
6	HCO3 (mg/L)	3	105	60	84
7	K (mg/L)	3	62.9	9.9	28.8
8	Mg (mg/L)	3	14.6	1.9	6.8
9	Na (mg/L)	3	64.5	22.3	37.8
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	3	2.0	0.7	1.4
2	DO (mg/L)	3	7.0	5.9	6.5
3	DO_SAT% (%)	2	89	81	85
4	FCol-MPN (MPN/100mL)	3	90	90	90
5	Tcol-MPN (MPN/100mL)	3	170	140	150
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	3	144	56	104
2	HAR_Total (mgCaCO3/L)	3	152	117	133
3	Na% (%)	3	38	25	31
4	RSC (-)	3	0.0	0.0	0
5	SAR (-)	3	2.3	0.9	1.4
	PESTICIDES				

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Rajim (EM000U7) **Division : MD,CWC,Burla**

Local River : Mahanadi **River Water** **Sub-Division : UMSD,CWC,Burla**

S.No	Parameters	Flood														
		Jun - Oct														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	PHYSICAL															
1	Q (cumec)	264.9	144.5	265.6									150.1	0.000		55.32
2	EC_FLD (µmho/cm)	98	142	113												87
3	EC_GEN (µmho/cm)	98	142	113									104	158		115
4	pH_FLD (pH units)	8.0	7.7	7.6									6.2			7.0
5	pH_GEN (pH units)	8.0	7.7	7.6									7.7	7.9		8.2
6	Temp (deg C)	31.3	30.8	30.2									27.7	28.0		28.0
	CHEMICAL															
1	ALK-TOT (mgCaCO3/L)	267	137	73									131	148		121
2	B (mg/L)			0.05												
3	Ca (mg/L)	15	26	11									12	24		51
4	Cl (mg/L)	22.0	15.8	10.3									10.0	12.0		30.0
5	F (mg/L)	1.18		0.18												
6	Fe (mg/L)			0.1												
7	HCO3 (mg/L)	163	103	44									80	90		74
8	K (mg/L)			1.8									2.8	3.2		38.2
9	Mg (mg/L)	3.4	7.5	14.4									7.5	5.8		2.9
10	Na (mg/L)			6.1									16.8	8.4		43.4
11	NO2+NO3 (mg N/L)		0.05	0.07												
12	NO2-N (mgN/L)			0.00												
13	NO3-N (mgN/L)			0.07												
14	P-Tot (mgP/L)			0.003												
15	SiO2 (mg/L)			8.0												
16	SO4 (mg/L)	20.7	3.2	6.8												

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Rajim (EM000U7) **Division : MD,CWC,Burla**

Local River : Mahanadi **River Water** **Sub-Division : UMSD,CWC,Burla**

S.No	Parameters	Flood														
		Jun - Oct														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.8	1.3	0.7									1.3	0.1		1.8
2	DO (mg/L)	5.4	6.2	6.5									6.9	5.4		6.5
3	DO_SAT% (%)	76	84	87									88	69		89
4	FCol-MPN (MPN/100mL)															90
5	Tcol-MPN (MPN/100mL)															140
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	36	66	27									31	60		128
2	HAR_Total (mgCaCO3/L)	50	97	87									62	84		140
3	Na% (%)			18									36	17		31
4	RSC (-)	2.1	0.0	0.0									0.2	0.0		0.0
5	SAR (-)			0.3									0.9	0.4		1.6
	PESTICIDES															

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Rajim (EM000U7) **Division : MD,CWC,Burla**

Local River : Mahanadi **River Water** **Sub-Division : UMSD,CWC,Burla**

S.No	Parameters	Winter														
		Nov - Feb														
		2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
	PHYSICAL															
1	Q (cumec)	70.16	22.24	4.598									11.09	0.000		1.710
2	EC_FLD (µmho/cm)	114	115	174												80
3	EC_GEN (µmho/cm)	114	115	174									133			113
4	pH_FLD (pH units)	7.9	7.5	7.0									6.3			8.5
5	pH_GEN (pH units)	7.9	7.5	7.0									8.0			8.1
6	Temp (deg C)	22.5	23.3	24.8									22.5			26.0
	CHEMICAL															
1	ALK-TOT (mgCaCO3/L)	108	101	121									139			172
2	B (mg/L)			0.06												
3	Ca (mg/L)	14	9	12									21			22
4	Cl (mg/L)	11.0	5.0	24.4									13.7			26.0
5	F (mg/L)	0.69	0.30	0.09												
6	Fe (mg/L)			0.0												
7	HCO3 (mg/L)	63	62	74									85			105
8	K (mg/L)		2.2	4.8									2.9			9.9
9	Mg (mg/L)	5.0	5.3	5.2									12.3			14.6
10	Na (mg/L)		7.2	11.4									14.2			26.4
11	NO2+NO3 (mg N/L)		0.58	0.06												
12	NO2-N (mgN/L)			0.00												
13	NO3-N (mgN/L)			0.05												
14	P-Tot (mgP/L)		0.030	0.010												
15	SiO2 (mg/L)			19.3												
16	SO4 (mg/L)	6.9	12.7	6.8												

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Rajim (EM000U7) **Division : MD,CWC,Burla**

Local River : Mahanadi **River Water** **Sub-Division : UMSD,CWC,Burla**

S.No	Parameters	Winter														
		Nov - Feb														
		2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.7	1.6	2.8									1.7			0.7
2	DO (mg/L)	6.5	8.2	8.7									8.7			6.6
3	DO_SAT% (%)	86	97	104									101			81
4	FCol-MPN (MPN/100mL)															90
5	Tcol-MPN (MPN/100mL)															170
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	36	24	30									53			56
2	HAR_Total (mgCaCO3/L)	57	45	51									105			117
3	Na% (%)		32	29									22			31
4	RSC (-)		0.2	0.2									0.0			0.0
5	SAR (-)		0.6	0.7									0.6			1.1
	PESTICIDES															

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Rajim (EM000U7) **Division : MD,CWC,Burla**

Local River : Mahanadi **River Water** **Sub-Division : UMSD,CWC,Burla**

S.No	Parameters	Summer														
		Mar - May														
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	PHYSICAL															
1	Q (cumec)	4.093	1.831	0.950									0.000	0.000		0.000
2	EC_FLD (µmho/cm)	219	161	160												
3	EC_GEN (µmho/cm)	219	161	160												
4	pH_FLD (pH units)	8.0	7.6	7.2												
5	pH_GEN (pH units)	8.0	7.6	7.2												
6	Temp (deg C)	29.0	30.3	30.5												
	CHEMICAL															
1	ALK-TOT (mgCaCO3/L)	207	93	117												
2	B (mg/L)			0.08												
3	Ca (mg/L)	30	19	14												
4	Cl (mg/L)	21.5	12.0	18.7												
5	F (mg/L)		0.38	0.05												
6	Fe (mg/L)			0.0												
7	HCO3 (mg/L)	126	57	72												
8	K (mg/L)		2.8	3.5												
9	Mg (mg/L)	9.4	7.4	5.0												
10	Na (mg/L)		8.3	11.2												
11	NO2+NO3 (mg N/L)		0.13	0.09												
12	NO2-N (mgN/L)			0.00												
13	NO3-N (mgN/L)			0.08												
14	P-Tot (mgP/L)		0.013	0.033												
15	SiO2 (mg/L)			14.3												
16	SO4 (mg/L)	2.6	8.9	3.4												

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Rajim (EM000U7) **Division : MD,CWC,Burla**

Local River : Mahanadi **River Water** **Sub-Division : UMSD,CWC,Burla**

S.No	Parameters	Summer														
		Mar - May														
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.7	0.8	1.4												
2	DO (mg/L)	7.1	6.2	4.5												
3	DO_SAT% (%)	93	79	60												
4	FCol-MPN (MPN/100mL)															
5	Tcol-MPN (MPN/100mL)															
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	76	47	36												
2	HAR_Total (mgCaCO3/L)	114	77	57												
3	Na% (%)		19	32												
4	RSC (-)	0.2	0.0	0.1												
5	SAR (-)		0.4	0.7												
	PESTICIDES															

SITE SEORINARAYAN

HISTORY SHEET

Water Year : 2017-2018

Site	**: Seorinarayan**		**Code**	**: EM000R6**	
State	: Chhattisgarh		District	Janjgir-champa	
Basin	: Mahanadi		Independent River	: Mahanadi	
Tributary	: Mahanadi		Sub Tributary	:	
Sub-Sub Tributary	:		Local River	: Mahanadi	
Division	: MD,CWC,Burla		Sub-Division	: MMSD I,CWC,Raipur	
Drainage Area	: 48050 Sq. Km.		Bank	:	
Latitude	: 21°43'00"		Longitude	: 82°35'30"	
Zero of Gauge (m)	: 209.5 (m.s.l)		01/06/1985	- 31/05/2015	

		Opening Date	Closing Date
Gauge	:	01/06/1985	
Discharge	:	09/12/1985	
Sediment	:	11/02/2013	
Water Quality	:		

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

	Maximum			Minimum		
Year	**Q (cumecs)**	**WL (m)**	**Date**	**Q (cumecs)**	**WL (m)**	**Date**
1986-1987	10705	220.985	28/06/1986	5.000	212.090	01/06/1986
1987-1988	3813	216.730	23/07/1987	5.380	212.075	17/05/1988
1988-1989	3927	217.070	05/08/1988	0.190	211.925	30/05/1989
1989-1990	1584	215.840	02/09/1989	1.688	212.045	14/06/1989
1990-1991	13400	221.170	15/09/1990	5.178	212.215	31/05/1991
1991-1992	11206	220.360	31/07/1991	1.187	211.945	29/05/1992
1992-1993	16203	221.775	21/08/1992	0.733	211.970	25/05/1993
1993-1994	10354	219.500	20/08/1993	0.750	211.870	30/05/1994
1994-1995	18960	222.740	11/07/1994	1.290	211.900	01/06/1994
1995-1996	17967	221.780	25/07/1995	3.337	211.740	19/06/1995
1996-1997	7504	218.200	03/08/1996	0.791	211.730	29/05/1997
1997-1998	13470	220.990	23/08/1997	0.407	211.675	10/06/1997
1998-1999	9356	219.020	14/09/1998	3.600	211.910	13/06/1998
1999-2000	5188	217.930	01/09/1999	5.045	211.900	11/06/1999
2000-2001	4156	217.130	20/07/2000	0.124	211.865	03/05/2001
2001-2002	15166	221.470	10/07/2001	0.086	211.885	21/05/2002
2002-2003	3061	216.405	12/09/2002	0.081	211.930	10/06/2002
2003-2004	22800	224.310	30/08/2003	2.963	212.105	31/05/2004
2004-2005	6536	218.400	24/08/2004	1.248	212.125	29/05/2005
2005-2006	12831	220.650	15/09/2005	1.199	212.230	19/05/2006
2006-2007	13796	220.955	14/08/2006	0.961	212.445	31/05/2007

Q : Observed / Computed Discharge WL : Corresponding Water Level(m.s.l)

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

	Maximum			Minimum		
Year	**Q (cumecs)**	**WL (m)**	**Date**	**Q (cumecs)**	**WL (m)**	**Date**
2007-2008	13869	221.390	01/07/2007	0.835	212.425	05/06/2007
2008-2009	13646	221.385	20/09/2008	0.390	212.060	31/05/2009
2009-2010	12907	221.530	22/07/2009	0.075	211.960	22/05/2010
2010-2011	8740	219.205	26/07/2010	0.059	211.955	14/06/2010
2011-2012	17799	223.115	08/09/2011	0.281	211.790	30/05/2012
2012-2013	11282	220.120	05/08/2012	0.142	211.745	14/06/2012
2013-2014	12474	220.800	01/08/2013	0.850	212.050	04/06/2013
2014-2015	17490	221.820	06/08/2014	3.100	213.710	05/04/2015
2015-2016	3343	217.000	22/09/2015	0.000	213.765	28/04/2016
2016-2017	6552	217.740	08/08/2016	0.000	213.735	19/06/2016

Q : Observed / Computed Discharge WL : Corresponding Water Level(m.s.l)

Stage-Dischage Data for the period 2017 - 2018

Station Name : Seorinarayan (EM000R6) **Division : MD,CWC,Burla**

Local River : Mahanadi **Sub-Division : MMSD I,CWC,Raipur**

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	213.780	1.288	213.840	5.204	214.180	121.2	215.095	1661	214.390	350.0 *	214.080	75.51
2	213.795	1.353	213.950	166.9 *	214.050	117.4	214.625	600.0 *	214.425	380.0 *	214.070	72.90
3	213.800	1.350 *	214.188	188.9	214.030	115.8	214.605	580.0 *	214.445	739.3	214.040	66.93
4	213.800	1.350 *	214.120	176.0	213.990	111.5	214.453	427.3	214.405	665.4	214.035	66.50 *
5	213.800	1.349	214.050	183.6	214.030	114.4	214.375	377.7	214.388	644.7	214.010	60.80 *
6	213.795	1.338	214.180	183.6	214.010	112.0 *	214.320	356.1	214.400	665.1	214.000	60.76
7	213.795	1.340	214.250	193.6	213.970	109.6	214.225	291.1	214.393	652.6	213.990	104.3
8	213.805	1.369	214.180	187.3	214.205	126.3	214.180	213.0	214.355	250.0 *	214.000	132.7
9	213.795	1.150	214.160	230.1 *	214.278	127.3	214.140	204.2	214.310	332.3	213.980	127.6
10	213.800	1.091	214.140	229.8	214.180	121.2	214.100	200.0 *	214.388	633.2	213.960	115.1
11	213.800	1.350 *	214.140	230.4	214.250	125.4	214.095	114.3	214.725	827.3	213.940	111.5
12	213.800	1.009	214.180	234.8	214.335	131.2	214.048	110.8	214.685	763.2	213.925	107.5
13	213.800	1.144	214.170	270.1	214.320	130.0 *	214.118	115.2	214.630	731.1	213.920	107.4
14	213.795	1.143	214.200	274.0	214.250	124.8	214.080	111.8	214.583	637.4	213.940	111.6
15	213.795	1.084	214.180	267.8	214.250	124.5 *	214.048	110.4	214.385	340.0 *	214.430	106.4
16	213.800	1.111	214.160	230.1 *	214.240	223.2	214.058	110.9	214.330	304.3	213.920	61.19
17	213.805	1.144	214.160	228.0	214.230	200.4	214.145	160.0 *	214.295	302.9	213.900	59.27
18	213.800	1.350 *	214.230	247.1	214.333	318.2	214.243	211.7	214.230	315.3	213.890	59.26
19	213.810	1.142	214.290	265.4	214.233	202.2	214.285	252.4	214.190	120.0 *	214.000	107.0
20	213.810	1.178	214.845	934.6	214.330	202.2 *	214.503	553.9	214.150	261.3	214.010	107.4
21	213.810	1.186	215.290	1223	214.290	246.8	215.378	2067	214.135	250.1	213.940	71.39
22	213.805	1.090	214.950	1052	214.360	329.9	216.308	3487	214.145	100.0 *	213.910	68.21
23	213.805	1.106	214.675	816.1	214.520	478.3	216.110	2487	214.120	104.3	213.900	66.12
24	213.810	1.124	214.533	574.4	214.400	405.3	215.165	1350 *	214.110	102.6	213.880	65.03
25	213.850	5.200 *	214.400	527.8	214.390	400.0 *	214.755	934.4	214.180	112.3	213.875	64.65
26	213.835	5.130	214.335	310.1	214.430	428.6	214.518	776.5	214.220	126.7	213.870	63.40
27	213.830	5.118	214.275	265.9	214.600	590.0 *	214.450	739.8	214.185	112.3	213.870	63.45
28	213.820	5.021	214.245	250.3	214.540	568.5	214.338	660.1	214.180	114.5	213.865	62.54
29	213.830	5.000	214.218	246.1	214.510	549.9	214.310	260.0 *	214.115	110.0 *	213.860	61.94
30	213.834	5.089	214.178	189.1	214.955	1006	214.260	240.0 *	214.065	71.35	213.855	60.58
31			214.100	123.3	215.480	2066			214.045	69.34		
Ten-Daily Mean												
I Ten-Daily	213.797	1.298	214.106	174.5	214.092	117.7	214.412	491.0	214.390	531.3	214.017	88.31
II Ten-Daily	213.802	1.165	214.256	318.2	214.277	178.2	214.162	185.2	214.420	460.3	213.988	93.85
III Ten-Daily	213.823	3.506	214.473	507.1	214.589	642.7	214.959	1300	214.136	115.8	213.882	64.73
Monthly												
Min.	213.780	1.009	213.840	5.204	213.970	109.6	214.048	110.4	214.045	69.34	213.855	59.26
Max.	213.850	5.200	215.290	1223	215.480	2066	216.307	3487	214.725	827.3	214.430	132.7
Mean	213.807	1.99	214.284	338.9	214.328	323.5	214.511	658.8	214.310	360.9	213.962	82.3

Annual Runoff in MCM = 4721 Annual Runoff in mm = 98

Peak Observed Discharge = 3487 cumecs on 22/09/2017 Corres. Water Level :216.3075 m

Lowest Observed Discharge = 0.000 cumecs on 25/01/2018 Corres. Water Level :211.79 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Dischage Data for the period 2017 - 2018

Station Name : Seorinarayan (EM000R6) **Division : MD,CWC,Burla**

Local River : Mahanadi **Sub-Division : MMSD I,CWC,Raipur**

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	213.350	57.97	213.810	4.605	213.775	0.000	213.785	0.000 *	213.780	0.000 *	213.720	0.000 *
2	213.345	57.87 *	213.810	4.673	213.775	0.000	213.785	0.000 *	213.775	0.000 *	213.715	0.000 *
3	213.340	57.70 *	213.810	4.681	213.775	0.000	213.785	0.000 *	213.775	0.000 *	213.705	0.000 *
4	213.330	14.88	213.805	3.690	213.775	0.000 *	213.785	0.000 *	213.775	0.000 *	213.700	0.000 *
5	213.330	14.90	213.805	3.907	213.775	0.000 *	213.785	0.000 *	213.775	0.000 *	213.700	0.000 *
6	213.325	14.52	213.805	3.654	213.775	0.000 *	213.785	0.000 *	213.775	0.000 *	213.700	0.000 *
7	213.325	13.75	213.800	0.600 *	213.780	0.000 *	213.785	0.000 *	213.775	0.000 *	213.695	0.000 *
8	213.325	15.81	213.800	0.619	213.780	0.000 *	213.785	0.000 *	213.770	0.000 *	213.695	0.000 *
9	213.325	15.75	213.800	0.742	213.780	0.000 *	213.785	0.000 *	213.770	0.000 *	213.695	0.000 *
10	213.325	15.75 *	213.800	0.754	213.780	0.000 *	213.785	0.000 *	213.770	0.000 *	213.690	0.000 *
11	213.320	20.11	213.800	0.747	213.780	0.000 *	213.785	0.000 *	213.770	0.000 *	213.690	0.000 *
12	213.320	21.91	213.800	0.179	213.790	0.000 *	213.780	0.000 *	213.770	0.000 *	213.685	0.000 *
13	213.320	21.52	213.800	0.178	213.790	0.000 *	213.780	0.000 *	213.770	0.000 *	213.680	0.000 *
14	213.320	21.79	213.800	0.170 *	213.795	0.000 *	213.780	0.000 *	213.770	0.000 *	213.670	0.000 *
15	213.320	23.00	213.800	1.113	213.790	0.000 *	213.780	0.000 *	213.770	0.000 *	213.660	0.000 *
16	213.320	22.67	213.800	0.764	213.790	0.000 *	213.780	0.000 *	213.765	0.000 *	213.655	0.000 *
17	213.320	22.67 *	213.795	0.396	213.790	0.000 *	213.785	0.000 *	213.765	0.000 *	213.650	0.000 *
18	213.315	22.77	213.795	0.522	213.785	0.000 *	213.785	0.000 *	213.765	0.000 *	213.650	0.000 *
19	213.315	22.88	213.795	0.525	213.785	0.000 *	213.785	0.000 *	213.760	0.000 *	213.645	0.000 *
20	213.315	23.34	214.295	0.510	213.785	0.000 *	213.785	0.000 *	213.760	0.000 *	213.640	0.000 *
21	213.315	9.578	213.795	0.390 *	213.785	0.000 *	213.785	0.000 *	213.760	0.000 *	213.630	0.000 *
22	213.315	9.349	214.295	0.502	213.785	0.000 *	213.785	0.000 *	213.755	0.000 *	213.625	0.000 *
23	213.315	10.79	213.790	0.556	213.780	0.000 *	213.785	0.000 *	213.745	0.000 *	213.625	0.000 *
24	213.315	10.79 *	213.790	0.641	213.780	0.000 *	213.785	0.000 *	213.740	0.000 *	213.620	0.000 *
25	213.315	10.79 *	211.790	0.000	213.785	0.000 *	213.780	0.000 *	213.735	0.000 *	213.620	0.000 *
26	213.310	5.657	213.790	0.550 *	213.780	0.000 *	213.780	0.000 *	213.735	0.000 *	213.615	0.000 *
27	213.310	8.126	213.790	0.000	213.780	0.000 *	213.780	0.000 *	213.735	0.000 *	213.615	0.000 *
28	213.310	6.483	213.780	0.260 *	213.785	0.000 *	213.780	0.000 *	213.730	0.000 *	213.610	0.000 *
29	213.310	8.086	213.780	0.269			213.780	0.000 *	213.725	0.000 *	213.610	0.000 *
30	213.310	4.288	213.780	0.360			213.780	0.000 *	213.725	0.000 *	213.610	0.000 *
31	213.310	6.400 *	213.775	0.419			213.780	0.000 *			213.610	0.000 *
Ten-Daily Mean												
I Ten-Daily	213.332	27.89	213.805	2.792	213.777	0.000	213.785	0.000	213.774	0.000	213.702	0.000
II Ten-Daily	213.319	22.27	213.848	0.510	213.788	0.000	213.783	0.000	213.767	0.000	213.663	0.000
III Ten-Daily	213.312	8.212	213.650	0.359	213.783	0.000	213.782	0.000	213.738	0.000	213.617	0.000
Monthly												
Min.	213.310	4.288	211.790	0.000	213.775	0.000	213.780	0.000	213.725	0.000	213.610	0.000
Max.	213.350	57.97	214.295	4.681	213.795	0.000	213.785	0.000	213.780	0.000	213.720	0.000
Mean	213.321	19.09	213.764	1.193	213.783	0	213.783	0	213.760	0	213.659	0

Peak Computed Discharge = 1350 cumecs on 24/09/2017 Corres. Water Level :215.165 m

Lowest Computed Discharge = 0.000 cumecs on 04/02/2018 Corres. Water Level :213.775 m

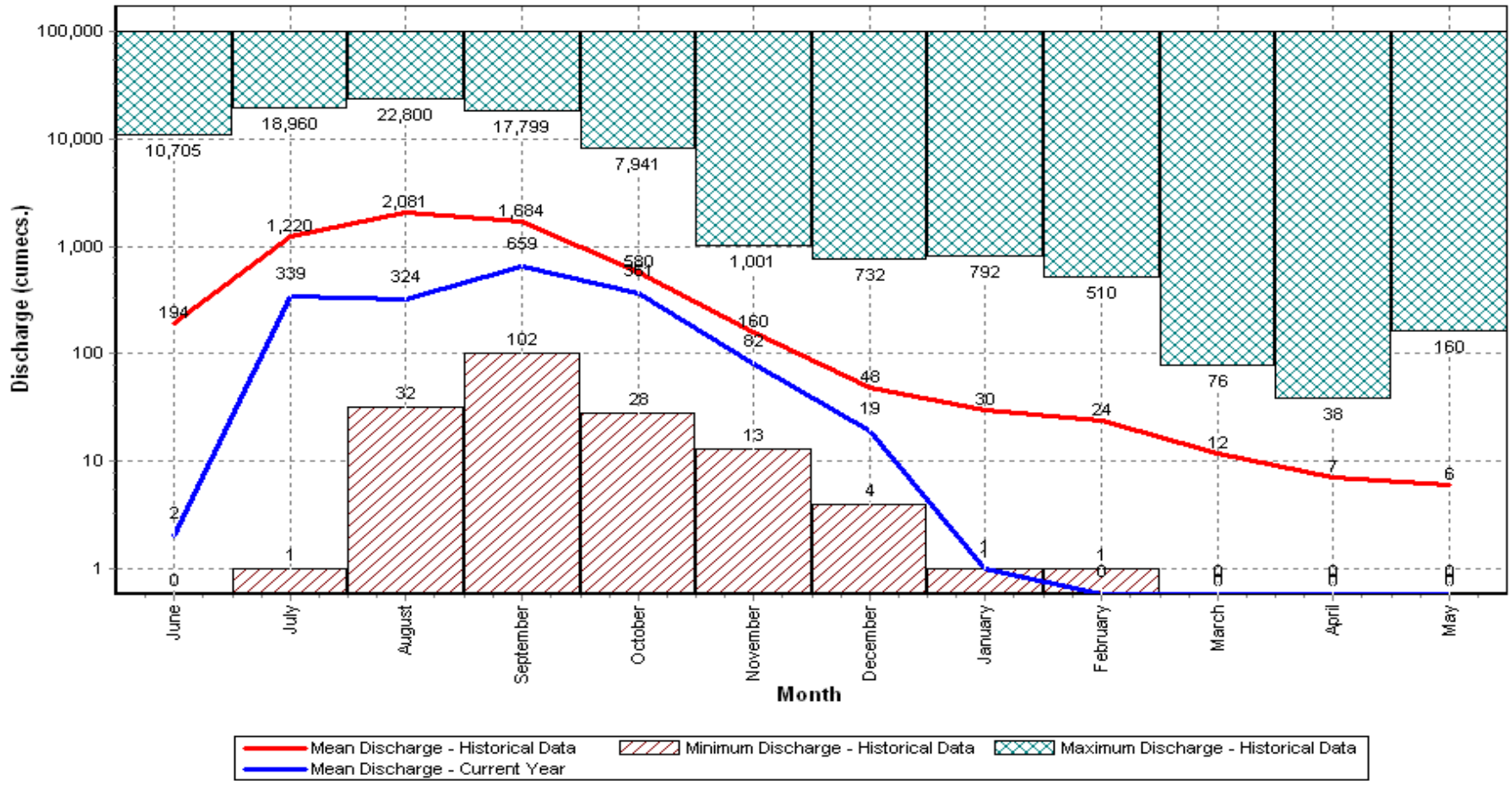
Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2017-2018

Station Name : Seorinarayan (EM000R6) **Data considered : 1986-2018** **Division : MD,CWC,Burla**

Local River : Mahanadi **Sub-Division : MMSD I,CWC,Raipur**



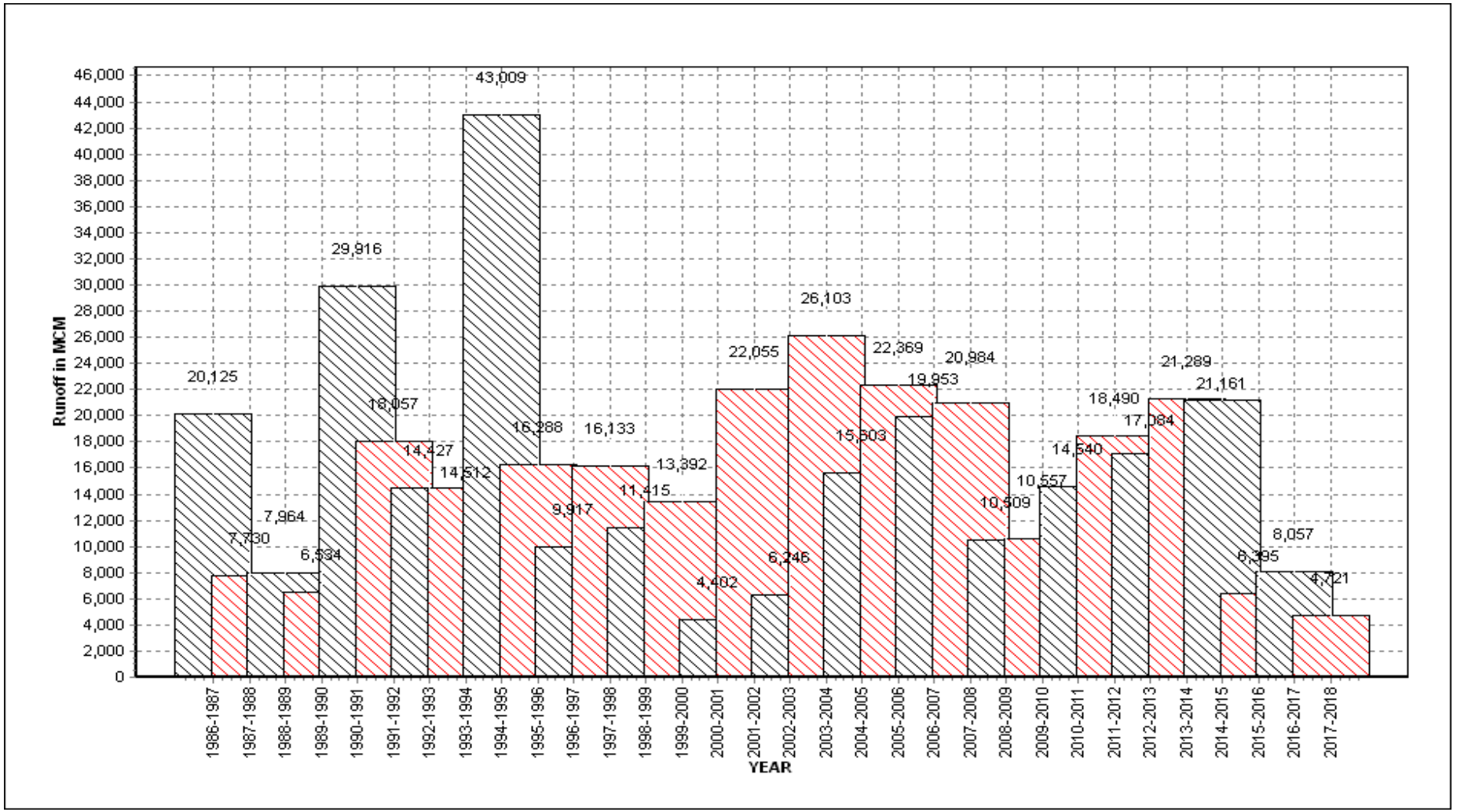
Annual Runoff Values for the period: 1986 - 2018

Station Name : Seorinarayan (EM000R6)

Local River : Mahanadi

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur



Note: Missing values have not been considered while arriving at Annual Runoff

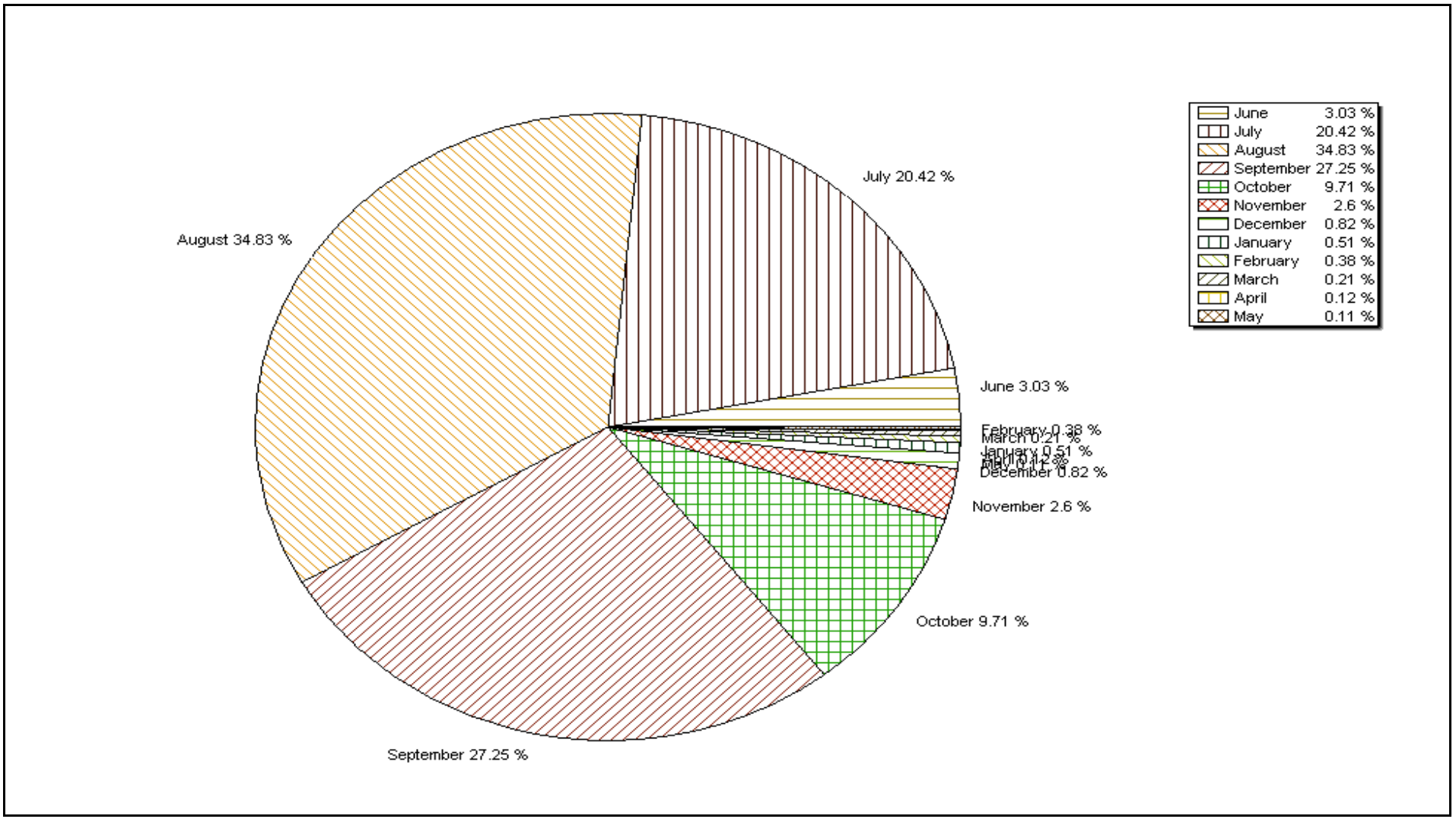
Monthly Average Runoff based on period : 1986-2017

Station Name : Seorinarayan (EM000R6)

Local River : Mahanadi

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur



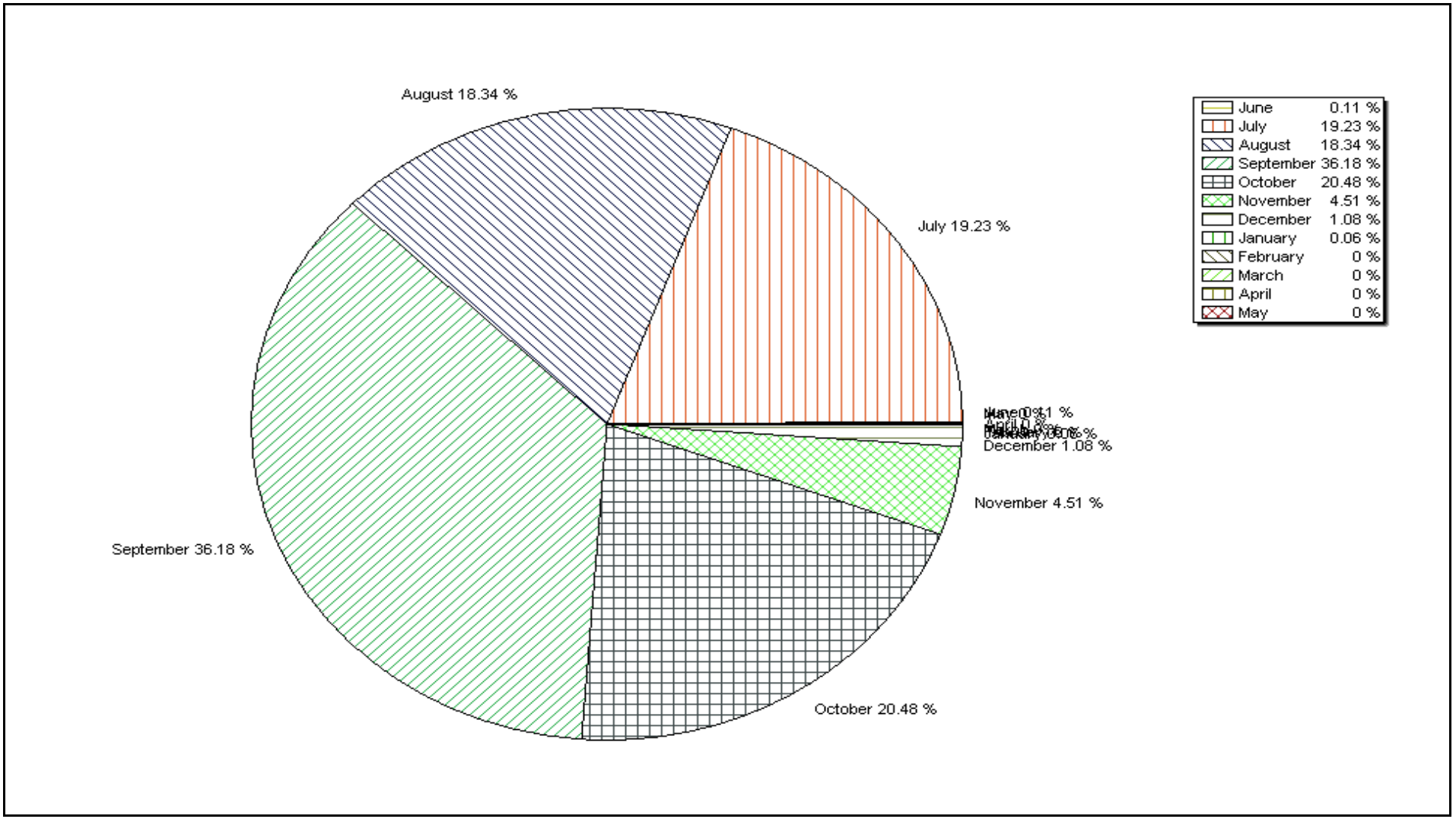
Monthly Runoff for the Year : 2017-2018

Station Name : Seorinarayan (EM000R6)

Local River : Mahanadi

Division : MD,CWC,Burla

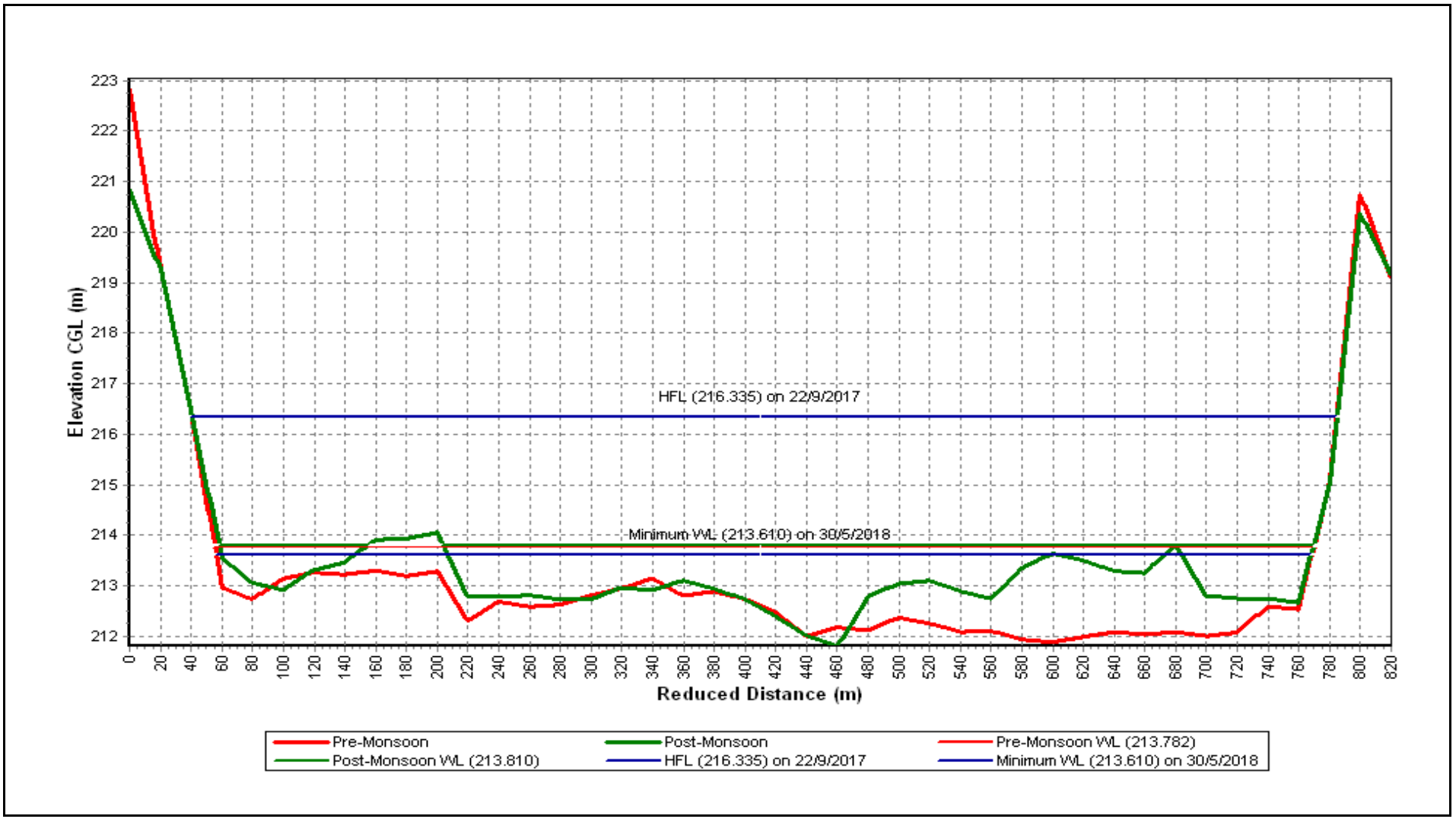
Sub-Division : MMSD I,CWC,Raipur



Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2017-2018

Station Name : Seorinarayan (EM000R6) **Division : MD,CWC,Burla**

Local River : Mahanadi **Sub-Division : MMSD I,CWC,Raipur**



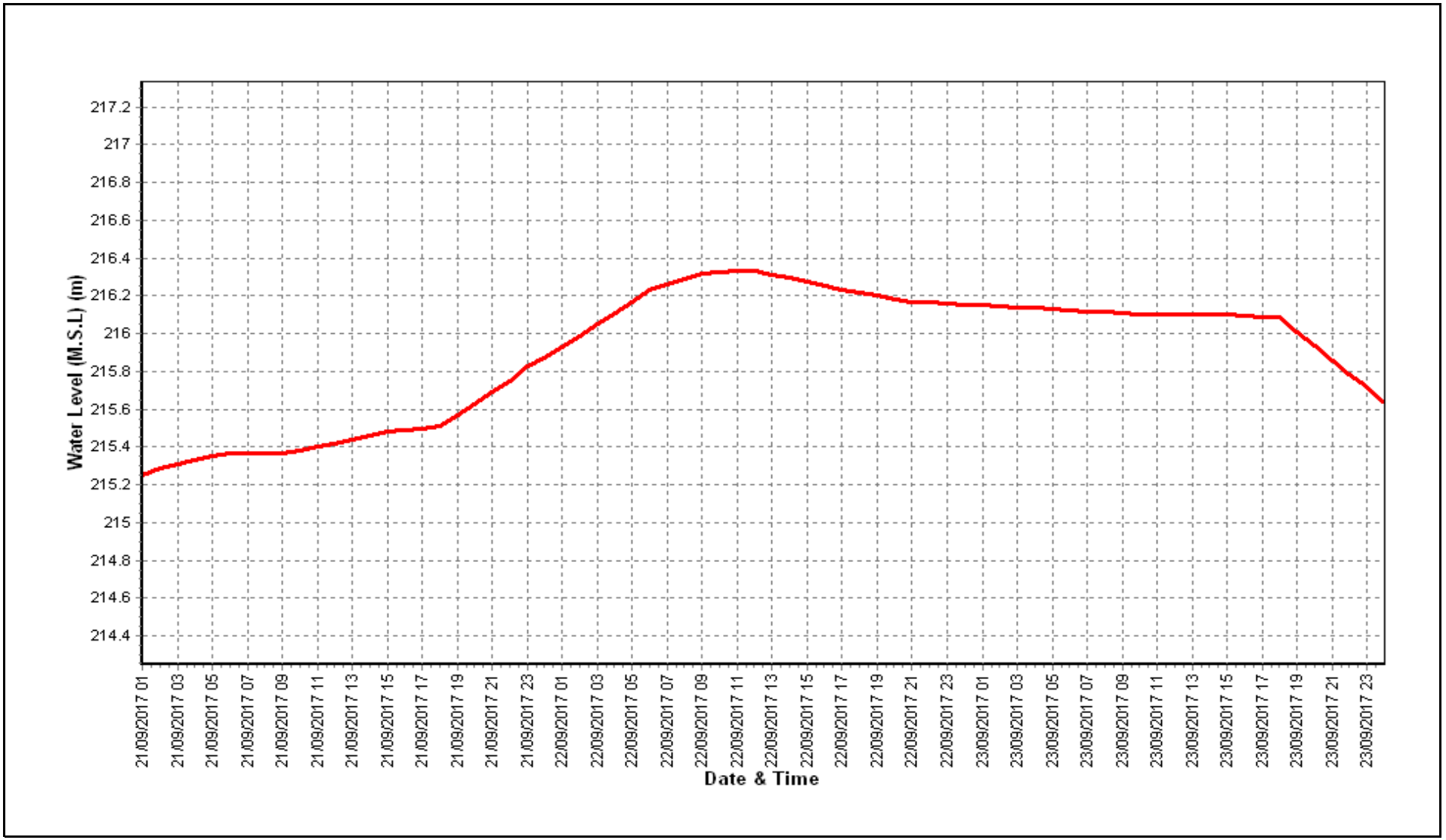
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2017-2018

Station Name : Seorinarayan (EM000R6)

Local River : Mahanadi

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur

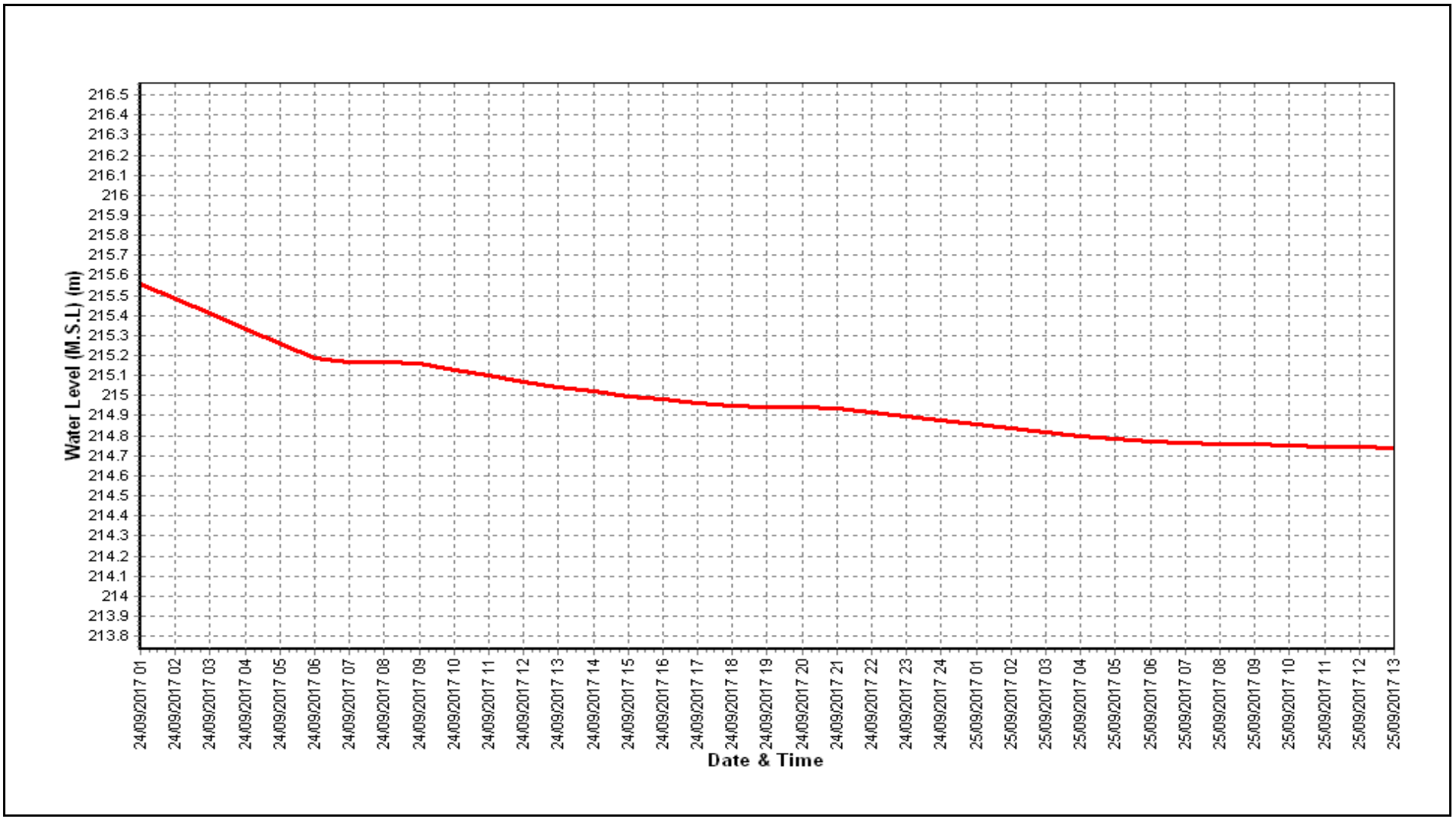


Time Span: 72 Hrs

Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2017-2018

Station Name : Seorinarayan (EM000R6) **Division : MD,CWC,Burla**

Local River : Mahanadi **Sub-Division : MMSD I,CWC,Raipur**

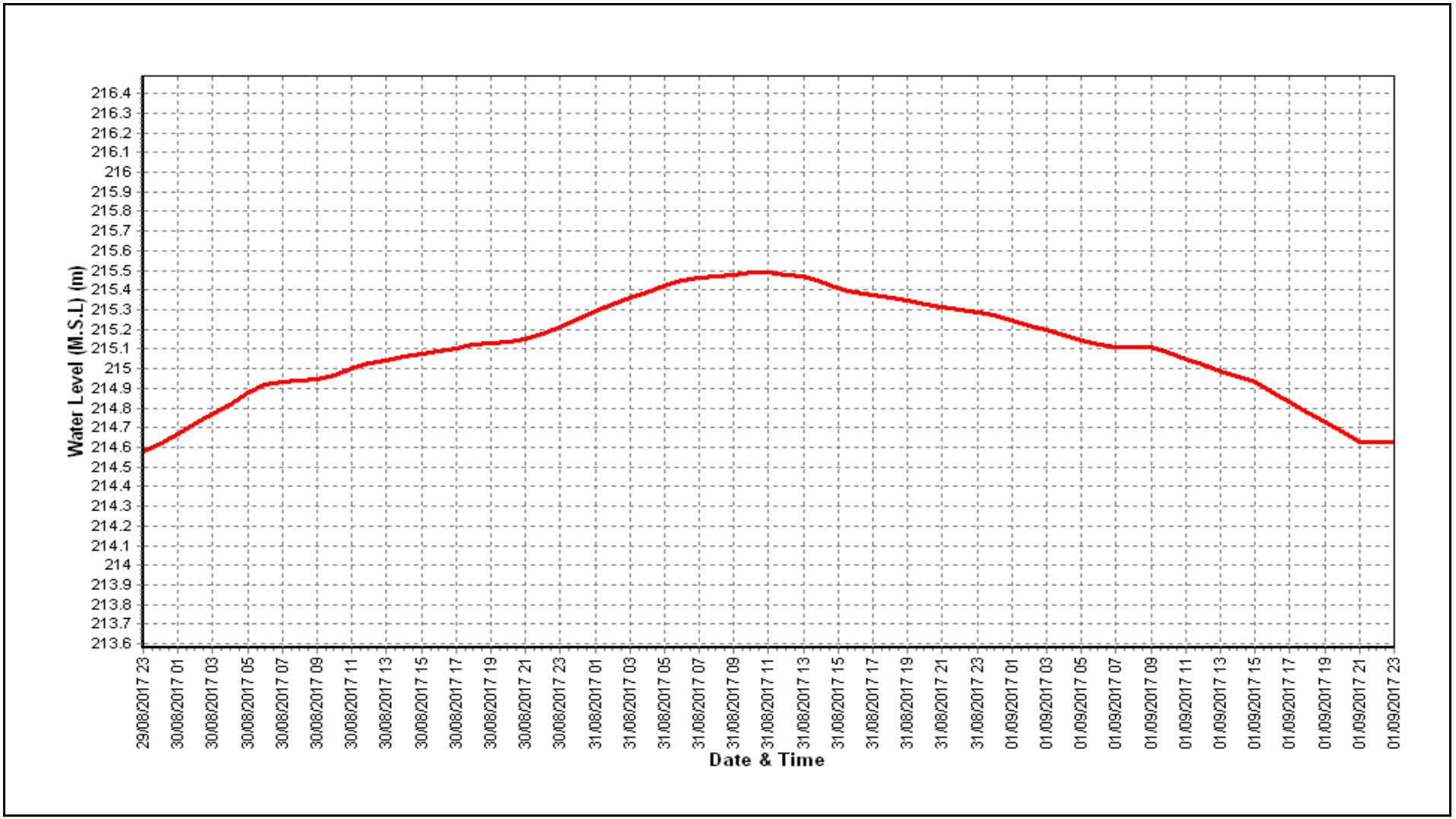


Time Span: 72 Hrs

Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2017-2018

Station Name : Seorinarayan (EM000R6) **Division : MD,CWC,Burla**

Local River : Mahanadi **Sub-Division : MMSD I,CWC,Raipur**

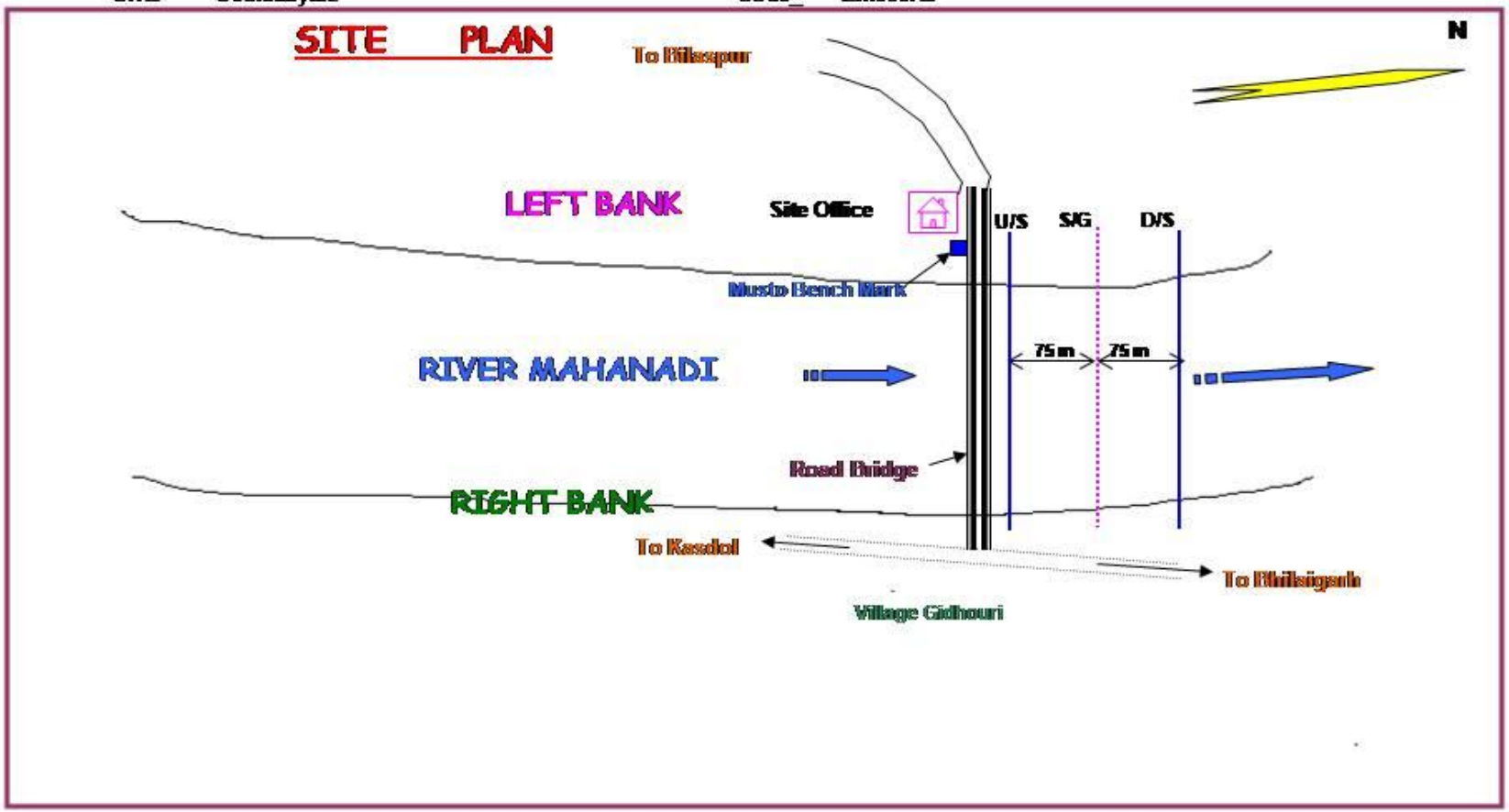


Time Span: 72 Hrs

CENTRAL WATER COMMISSION, MAHANADI DIVISION, BURLA

Sub-Division :MMSD-I Raipur.

SITE- Seominaryan. Code _- EMXXXR6



SECTION-II

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Seorinarayan (EM000R6) **Division : MD,CWC,Burla**

Local River : Mahanadi **Sub-Division : MMSD I,CWC,Raipur**

Day	Jun						Jul						Aug					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	1.288	0.000	0.000	0.000	0.000	0	5.204	0.000	0.000	0.000	0.000	0	121.2	0.000	0.000	0.044	0.044	465
2	1.353	0.000	0.000	0.000	0.000	0	166.9	0.000	0.000	0.000	0.000	0	117.4	0.000	0.000	0.075	0.075	763
3	1.350	0.000	0.000	0.000	0.000	0	188.9	0.000	0.000	0.200	0.200	3264	115.8	0.000	0.000	0.027	0.027	274
4	1.350	0.000	0.000	0.000	0.000	0	176.0	0.000	0.000	0.023	0.023	353	111.5	0.000	0.000	0.027	0.027	255
5	1.349	0.000	0.000	0.000	0.000	0	183.6	0.000	0.000	0.022	0.022	343	114.4	0.000	0.000	0.047	0.047	469
6	1.338	0.000	0.000	0.000	0.000	0	183.6	0.000	0.000	0.028	0.028	444	112.0	0.000	0.000	0.000	0.000	0
7	1.340	0.000	0.000	0.000	0.000	0	193.6	0.000	0.000	0.023	0.023	380	109.6	0.000	0.000	0.015	0.015	146
8	1.369	0.000	0.000	0.000	0.000	0	187.3	0.000	0.000	0.024	0.024	393	126.3	0.000	0.000	0.042	0.042	457
9	1.150	0.000	0.000	0.000	0.000	0	230.1	0.000	0.000	0.000	0.000	0	127.3	0.000	0.000	0.021	0.021	226
10	1.091	0.000	0.000	0.000	0.000	0	229.8	0.000	0.000	0.025	0.025	496	121.2	0.000	0.000	0.025	0.025	266
11	1.350	0.000	0.000	0.000	0.000	0	230.4	0.000	0.000	0.024	0.024	480	125.4	0.000	0.000	0.068	0.068	731
12	1.009	0.000	0.000	0.000	0.000	0	234.8	0.000	0.000	0.026	0.026	534	131.2	0.000	0.000	0.088	0.088	998
13	1.144	0.000	0.000	0.000	0.000	0	270.1	0.000	0.000	0.027	0.027	630	130.0	0.000	0.000	0.000	0.000	0
14	1.143	0.000	0.000	0.000	0.000	0	274.0	0.000	0.000	0.028	0.028	665	124.8	0.000	0.000	0.076	0.076	820
15	1.084	0.000	0.000	0.000	0.000	0	267.8	0.000	0.000	0.026	0.026	590	124.5	0.000	0.000	0.000	0.000	0
16	1.111	0.000	0.000	0.000	0.000	0	230.1	0.000	0.000	0.000	0.000	0	223.2	0.000	0.000	0.077	0.077	1483
17	1.144	0.000	0.000	0.000	0.000	0	228.0	0.000	0.000	0.046	0.046	908	200.4	0.000	0.000	0.053	0.053	918
18	1.350	0.000	0.000	0.000	0.000	0	247.1	0.000	0.000	0.046	0.046	984	318.2	0.000	0.000	0.016	0.016	445
19	1.142	0.000	0.000	0.000	0.000	0	265.4	0.000	0.000	0.034	0.034	780	202.2	0.000	0.000	0.034	0.034	598
20	1.178	0.000	0.000	0.000	0.000	0	934.6	0.000	0.000	0.134	0.134	10788	202.2	0.000	0.000	0.000	0.000	0
21	1.186	0.000	0.000	0.000	0.000	0	1223	0.000	0.000	0.100	0.100	10524	246.8	0.000	0.000	0.033	0.033	710
22	1.090	0.000	0.000	0.000	0.000	0	1052	0.000	0.000	0.049	0.049	4417	329.9	0.000	0.000	0.022	0.022	633
23	1.106	0.000	0.000	0.000	0.000	0	816.1	0.000	0.000	0.000	0.000	0	478.3	0.000	0.000	0.033	0.033	1343
24	1.124	0.000	0.000	0.000	0.000	0	574.4	0.000	0.000	0.019	0.019	918	405.3	0.000	0.000	0.052	0.052	1825
25	5.200	0.000	0.000	0.000	0.000	0	527.8	0.000	0.000	0.138	0.138	6275	400.0	0.000	0.000	0.000	0.000	0
26	5.130	0.000	0.000	0.000	0.000	0	310.1	0.000	0.000	0.124	0.124	3320	428.6	0.000	0.000	0.027	0.027	981
27	5.118	0.000	0.000	0.000	0.000	0	265.9	0.000	0.000	0.061	0.061	1407	590.0	0.000	0.000	0.000	0.000	0
28	5.021	0.000	0.000	0.000	0.000	0	250.3	0.000	0.000	0.096	0.096	2065	568.5	0.000	0.000	0.043	0.043	2097
29	5.000	0.000	0.000	0.000	0.000	0	246.1	0.000	0.000	0.101	0.101	2152	549.9	0.000	0.000	0.045	0.045	2152
30	5.089	0.000	0.000	0.000	0.000	0	189.1	0.000	0.000	0.000	0.000	0	1006	0.000	0.000	0.042	0.042	3643
31							123.3	0.000	0.000	0.020	0.020	210	2066	0.000	0.000	0.035	0.035	6230
Ten Daily Mean																		
Ten Daily I	1.298	0.000	0.000	0.000	0.000	0	174.5	0.000	0.000	0.034	0.034	567	117.7	0.000	0.000	0.032	0.032	332
Ten Daily II	1.165	0.000	0.000	0.000	0.000	0	318.2	0.000	0.000	0.039	0.039	1636	178.2	0.000	0.000	0.041	0.041	599
Ten Daily III	3.506	0.000	0.000	0.000	0.000	0	507.1	0.000	0.000	0.064	0.064	2844	642.7	0.000	0.000	0.030	0.030	1783
Monthly Total						0						53320						28928

Annual Sediment Load (Metric Tonnes) : 148270

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Seorinarayan (EM000R6) **Division : MD,CWC,Burla**

Local River : Mahanadi **Sub-Division : MMSD I,CWC,Raipur**

Day	Sep						Oct						Nov					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	1661	0.000	0.000	0.140	0.140	20088	350.0	0.000	0.000	0.000	0.000	0	75.51	0.000	0.000	0.000	0.000	0
2	600.0	0.000	0.000	0.000	0.000	0	380.0	0.000	0.000	0.000	0.000	0	72.90	0.000	0.000	0.000	0.000	0
3	580.0	0.000	0.000	0.000	0.000	0	739.3	0.000	0.000	0.036	0.036	2293	66.93	0.000	0.000	0.000	0.000	0
4	427.3	0.000	0.000	0.111	0.111	4098	665.4	0.000	0.000	0.008	0.008	454	66.50	0.000	0.000	0.000	0.000	0
5	377.7	0.000	0.000	0.128	0.128	4177	644.7	0.000	0.000	0.008	0.008	440	60.80	0.000	0.000	0.000	0.000	0
6	356.1	0.000	0.000	0.079	0.079	2430	665.1	0.000	0.000	0.010	0.010	546	60.76	0.000	0.000	0.009	0.009	46
7	291.1	0.000	0.000	0.114	0.114	2867	652.6	0.000	0.000	0.006	0.006	355	104.3	0.000	0.000	0.000	0.000	0
8	213.0	0.000	0.000	0.070	0.070	1288	250.0	0.000	0.000	0.000	0.000	0	132.7	0.000	0.000	0.000	0.000	0
9	204.2	0.000	0.000	0.066	0.066	1164	332.3	0.000	0.000	0.010	0.010	273	127.6	0.000	0.000	0.000	0.000	0
10	200.0	0.000	0.000	0.000	0.000	0	633.2	0.000	0.000	0.008	0.008	432	115.1	0.000	0.000	0.000	0.000	0
11	114.3	0.000	0.000	0.088	0.088	869	827.3	0.000	0.000	0.012	0.012	851	111.5	0.000	0.000	0.000	0.000	0
12	110.8	0.000	0.000	0.103	0.103	986	763.2	0.000	0.000	0.013	0.013	837	107.5	0.000	0.000	0.000	0.000	0
13	115.2	0.000	0.000	0.100	0.100	995	731.1	0.000	0.000	0.002	0.002	145	107.4	0.000	0.000	0.010	0.010	90
14	111.8	0.000	0.000	0.103	0.103	995	637.4	0.000	0.000	0.002	0.002	132	111.6	0.000	0.000	0.000	0.000	0
15	110.4	0.000	0.000	0.106	0.106	1011	340.0	0.000	0.000	0.000	0.000	0	106.4	0.000	0.000	0.000	0.000	0
16	110.9	0.000	0.000	0.093	0.093	891	304.3	0.000	0.000	0.007	0.007	187	61.19	0.000	0.000	0.000	0.000	0
17	160.0	0.000	0.000	0.000	0.000	0	302.9	0.000	0.000	0.007	0.007	186	59.27	0.000	0.000	0.000	0.000	0
18	211.7	0.000	0.000	0.111	0.111	2031	315.3	0.000	0.000	0.002	0.002	44	59.26	0.000	0.000	0.000	0.000	0
19	252.4	0.000	0.000	0.133	0.133	2901	120.0	0.000	0.000	0.000	0.000	0	107.0	0.000	0.000	0.000	0.000	0
20	553.9	0.000	0.000	0.175	0.175	8375	261.3	0.000	0.000	0.006	0.006	142	107.4	0.000	0.000	0.008	0.008	72
21	2067	0.000	0.000	0.026	0.026	4680	250.1	0.000	0.000	0.006	0.006	119	71.39	0.000	0.000	0.000	0.000	0
22	3487	0.000	0.000	0.145	0.145	43720	100.0	0.000	0.000	0.000	0.000	0	68.21	0.000	0.000	0.000	0.000	0
23	2487	0.000	0.000	0.091	0.091	19557	104.3	0.000	0.000	0.007	0.007	64	66.12	0.000	0.000	0.000	0.000	0
24	1350	0.000	0.000	0.000	0.000	0	102.6	0.000	0.000	0.011	0.011	98	65.03	0.000	0.000	0.000	0.000	0
25	934.4	0.000	0.000	0.024	0.024	1921	112.3	0.000	0.000	0.007	0.007	69	64.65	0.000	0.000	0.000	0.000	0
26	776.5	0.000	0.000	0.047	0.047	3140	126.7	0.000	0.000	0.012	0.012	130	63.40	0.000	0.000	0.000	0.000	0
27	739.8	0.000	0.000	0.046	0.046	2940	112.3	0.000	0.000	0.013	0.013	123	63.45	0.000	0.000	0.007	0.007	38
28	660.1	0.000	0.000	0.029	0.029	1631	114.5	0.000	0.000	0.025	0.025	243	62.54	0.000	0.000	0.000	0.000	0
29	260.0	0.000	0.000	0.000	0.000	0	110.0	0.000	0.000	0.000	0.000	0	61.94	0.000	0.000	0.000	0.000	0
30	240.0	0.000	0.000	0.000	0.000	0	71.35	0.000	0.000	0.014	0.014	83	60.58	0.000	0.000	0.000	0.000	0
31							69.34	0.000	0.000	0.013	0.013	76						
Ten Daily Mean																		
Ten Daily I	491.0	0.000	0.000	0.071	0.071	3611	531.3	0.000	0.000	0.008	0.008	479	88.31	0.000	0.000	0.001	0.001	5
Ten Daily II	185.2	0.000	0.000	0.101	0.101	1905	460.3	0.000	0.000	0.005	0.005	252	93.85	0.000	0.000	0.002	0.002	16
Ten Daily III	1300	0.000	0.000	0.041	0.041	7759	115.8	0.000	0.000	0.010	0.010	91	64.73	0.000	0.000	0.001	0.001	4
Monthly Total						132757						8323						246

Annual Sediment Load (Metric Tonnes) : 148270

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Seorinarayan (EM000R6) **Division : MD,CWC,Burla**

Local River : Mahanadi **Sub-Division : MMSD I,CWC,Raipur**

Day	Dec						Jan						Feb					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	57.97	0.000	0.000	0.000	0.000	0	4.605	0.000	0.000	0.006	0.006	3	0.000	0.000	0.000	0.000	0.000	0
2	57.87	0.000	0.000	0.000	0.000	0	4.673	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
3	57.70	0.000	0.000	0.000	0.000	0	4.681	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
4	14.88	0.000	0.000	0.007	0.007	9	3.690	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
5	14.90	0.000	0.000	0.000	0.000	0	3.907	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
6	14.52	0.000	0.000	0.000	0.000	0	3.654	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
7	13.75	0.000	0.000	0.000	0.000	0	0.600	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
8	15.81	0.000	0.000	0.000	0.000	0	0.619	0.000	0.000	0.005	0.005	0	0.000	0.000	0.000	0.000	0.000	0
9	15.75	0.000	0.000	0.000	0.000	0	0.742	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
10	15.75	0.000	0.000	0.000	0.000	0	0.754	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
11	20.11	0.000	0.000	0.008	0.008	13	0.747	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
12	21.91	0.000	0.000	0.000	0.000	0	0.179	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
13	21.52	0.000	0.000	0.000	0.000	0	0.178	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
14	21.79	0.000	0.000	0.000	0.000	0	0.170	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
15	23.00	0.000	0.000	0.000	0.000	0	1.113	0.000	0.000	0.005	0.005	0	0.000	0.000	0.000	0.000	0.000	0
16	22.67	0.000	0.000	0.000	0.000	0	0.764	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
17	22.67	0.000	0.000	0.000	0.000	0	0.396	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
18	22.77	0.000	0.000	0.007	0.007	14	0.522	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
19	22.88	0.000	0.000	0.000	0.000	0	0.525	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	23.34	0.000	0.000	0.000	0.000	0	0.510	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
21	9.578	0.000	0.000	0.000	0.000	0	0.390	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
22	9.349	0.000	0.000	0.000	0.000	0	0.502	0.000	0.000	0.022	0.022	1	0.000	0.000	0.000	0.000	0.000	0
23	10.79	0.000	0.000	0.000	0.000	0	0.556	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
24	10.79	0.000	0.000	0.000	0.000	0	0.641	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
25	10.79	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	5.657	0.000	0.000	0.000	0.000	0	0.550	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27	8.126	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
28	6.483	0.000	0.000	0.000	0.000	0	0.260	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
29	8.086	0.000	0.000	0.000	0.000	0	0.269	0.000	0.000	0.008	0.008	0						
30	4.288	0.000	0.000	0.000	0.000	0	0.360	0.000	0.000	0.000	0.000	0						
31	6.400	0.000	0.000	0.000	0.000	0	0.419	0.000	0.000	0.000	0.000	0						
Ten Daily Mean																		
Ten Daily I	27.89	0.000	0.000	0.001	0.001	1	2.792	0.000	0.000	0.001	0.001	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily II	22.27	0.000	0.000	0.001	0.001	3	0.510	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily III	8.212	0.000	0.000	0.000	0.000	0	0.359	0.000	0.000	0.003	0.003	0	0.000	0.000	0.000	0.000	0.000	0
Monthly																		
Total						36						4						0

Annual Sediment Load (Metric Tonnes) : 148270

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Seorinarayan (EM000R6) **Division : MD,CWC,Burla**

Local River : Mahanadi **Sub-Division : MMSD I,CWC,Raipur**

Day	Mar						Apr						May					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
2	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
3	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
8	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
9	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
10	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
11	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
12	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
13	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
14	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
15	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
16	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
17	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
18	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
19	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
21	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
22	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
24	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
25	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
28	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
29	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
30	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
31	0.000	0.000	0.000	0.000	0.000	0							0.000	0.000	0.000	0.000	0.000	0
Ten Daily Mean																		
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily III	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Monthly																		
Total						0						0						0

Annual Sediment Load (Metric Tonnes) : 148270

Annual Sediment Load for period : 2013-2018

Station Name : Seorinarayan (EM000R6) **Division : MD,CWC,Burla**

Local River : Mahanadi **Sub-Division : MMSD I,CWC,Raipur**

Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)
2013-2014	6165457	0	6165457	21289
2014-2015	15490976	226	15491202	21161
2015-2016	531162	118	531280	6395
2016-2017	972932	0	972932	8057
2017-2018	223574	40	223614	4721

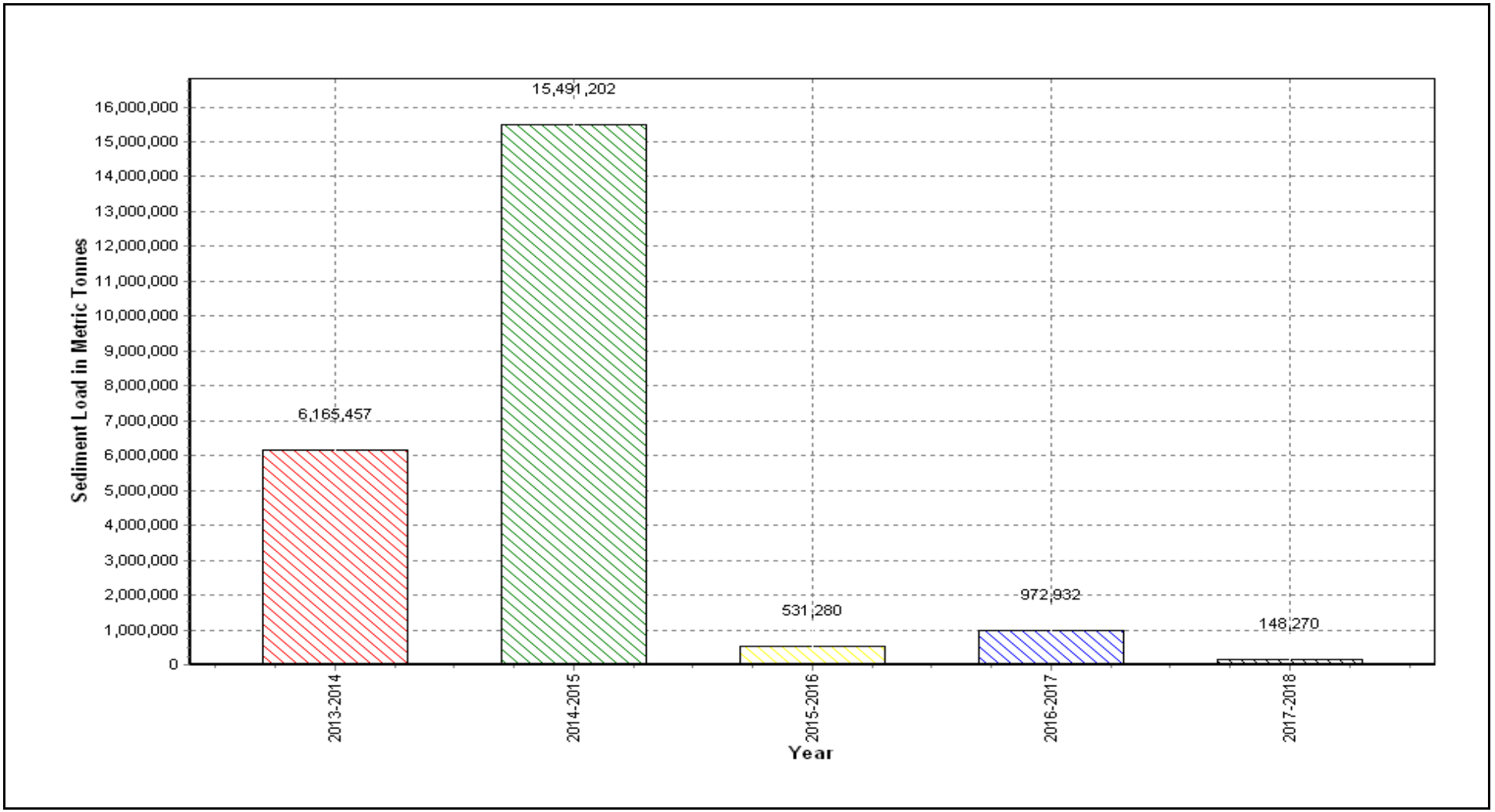
Annual Sediment Load for the period: 2013-2018

Station Name : Seorinarayan (EM000R6)

Local River : Mahanadi

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur



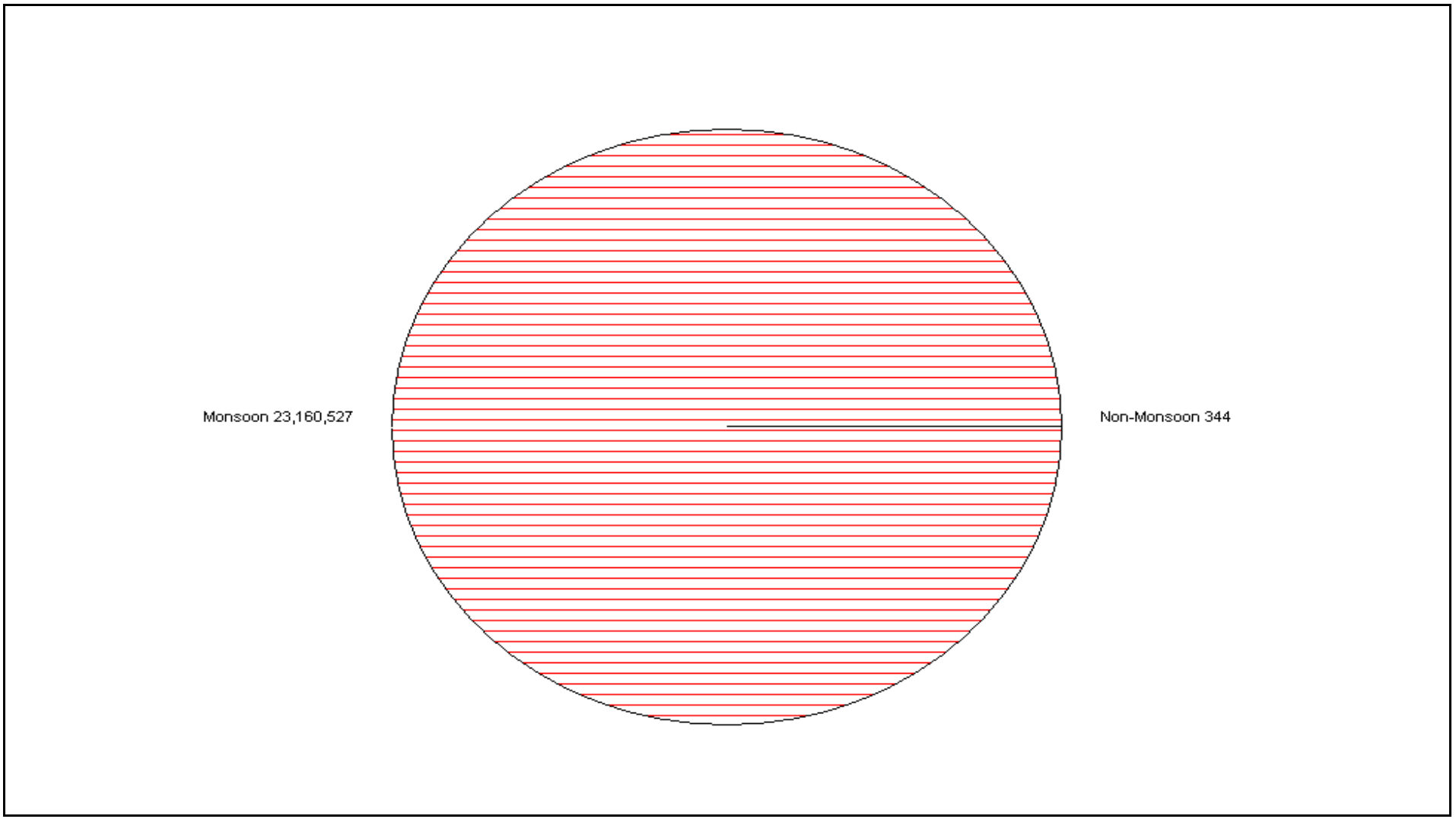
Seasonal Sediment Load for the period : 2013-2017

Station Name : Seorinarayan (EM000R6)

Local River : Mahanadi

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur



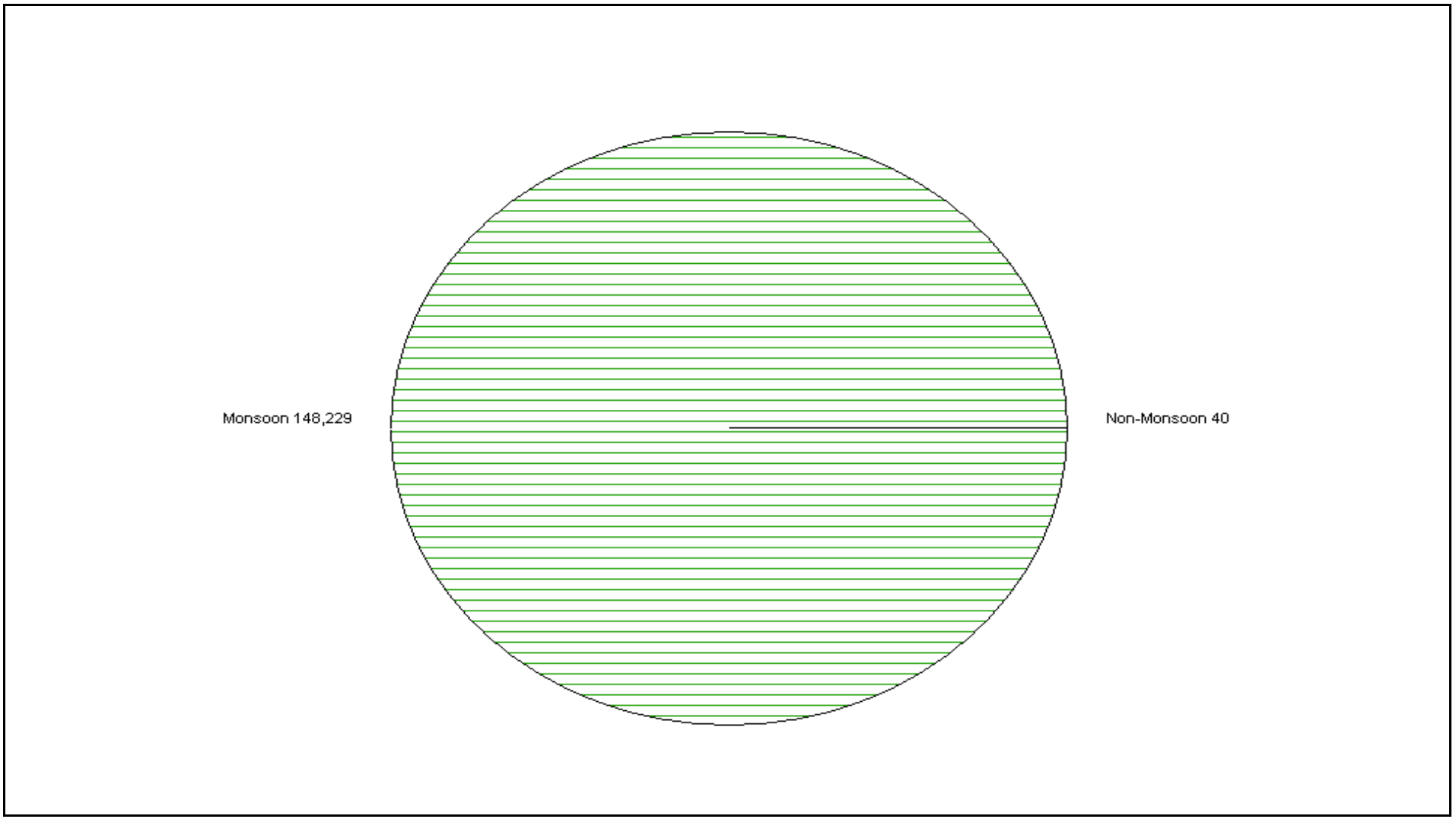
Seasonal Sediment Load for the Year: 2017-2018

Station Name : Seorinarayan (EM000R6)

Local River : Mahanadi

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur



SECTION-III

Water Quality Datasheet for the period : 2017-2018

Station Name : Seorinarayan (EM000R6) **Division : MD,CWC,Burla**

Local River : Mahanadi **River Water Analysis** **Sub-Division : MMSD I,CWC,Raipur**

S.No	Parameters	01/06/2017	01/07/2017	01/08/2017	01/09/2017	03/10/2017	01/11/2017	01/12/2017	01/01/2018	01/02/2018	01/03/2018	02/04/2018	01/05/2018
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)	1.288	5.204	121.2	1661	739.3	75.51	57.97	4.605	0.000	0.000	0.000	0.000
2	Colour_Cod (-)	Clear	Clear	Light Brown	Light Brown	Brown	Light Brown	Light Brown	Clear	Clear		Clear	
3	EC_FLD (µmho/cm)	405	328	349	294	313	310	270	319	295		434	
4	EC_GEN (µmho/cm)	201	183	198	261	262	273	286	348	345		342	
5	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free		odour free	
6	pH_FLD (pH units)	9.3	8.8	8.0	8.0	8.3	8.0	8.5	8.6	9.2		7.1	
7	pH_GEN (pH units)	8.5	8.3	8.5	8.3	8.4	8.1	8.5	8.2	8.3		8.2	
8	Temp (deg C)	33.0	29.5	29.0	30.0	30.0	29.5	23.0	25.8	23.5		25.5	
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	
2	ALK-TOT (mgCaCO3/L)	216	120	184	208	228	172	184	300	296		252	
3	Ca (mg/L)	42	48	71	79	43	53	59	43	64		53	
4	Cl (mg/L)	37.0	42.0	35.0	28.0	43.0	24.0	29.0	56.0	31.0		37.0	
5	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	
6	HCO3 (mg/L)	132	73	112	127	139	105	112	183	181		154	
7	K (mg/L)	20.6	16.0	12.2	18.6	14.7	9.8	10.8	12.2	19.8		15.5	
8	Mg (mg/L)	15.6	15.6	6.8	2.9	9.7	5.8	18.5	19.4	1.0		5.8	
9	Na (mg/L)	40.5	33.1	38.5	35.9	38.2	34.2	33.6	34.8	34.0		45.7	
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)	1.4	1.2	1.5	1.4	1.1	1.5	1.8	2.0	1.4		1.4	
2	DO (mg/L)	6.4	6.3	7.2	7.1	6.4	8.2	7.2	7.5	7.4		5.8	
3	DO_SAT% (%)	89	82	94	94	85	107	84	91	86		70	
4	FCol-MPN (MPN/100mL)	70	90	40	70	40	110	70		90		170	
5	Tcol-MPN (MPN/100mL)	170	170	140	140	70	170	110		210		90	
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)	104	120	176	196	108	132	148	108	160		132	
2	HAR_Total (mgCaCO3/L)	169	185	205	209	149	157	225	189	164		157	
3	Na% (%)	31	26	28	25	33	31	23	27	28		36	
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	
5	SAR (-)	1.4	1.1	1.2	1.1	1.4	1.2	1.0	1.1	1.2		1.6	
	PESTICIDES												

Water Quality Summary for the period : 2017-2018

Station Name : Seorinarayan (EM000R6) **Division : MD,CWC,Burla**

Local River : Mahanadi **Sub-Division : MMSD I,CWC,Raipur**

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	365	3487	0.000	149.7
2	EC_FLD (µmho/cm)	10	434	270	332
3	EC_GEN (µmho/cm)	10	348	183	270
4	pH_FLD (pH units)	10	9.3	7.1	8.4
5	pH_GEN (pH units)	10	8.5	8.1	8.3
6	Temp (deg C)	10	33.0	23.0	27.9
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	10	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	10	300	120	216
3	Ca (mg/L)	10	79	42	55
4	Cl (mg/L)	10	56.0	24.0	36.2
5	CO3 (mg/L)	10	0.0	0.0	0
6	HCO3 (mg/L)	10	183	73	132
7	K (mg/L)	10	20.6	9.8	15
8	Mg (mg/L)	10	19.4	1.0	10.1
9	Na (mg/L)	10	45.7	33.1	36.9
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	10	2.0	1.1	1.5
2	DO (mg/L)	10	8.2	5.8	7
3	DO_SAT% (%)	10	107	70	88
4	FCol-MPN (MPN/100mL)	9	170	40	83
5	Tcol-MPN (MPN/100mL)	9	210	70	141
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	10	196	104	139
2	HAR_Total (mgCaCO3/L)	10	225	149	181
3	Na% (%)	10	36	23	29
4	RSC (-)	10	0.0	0.0	0
5	SAR (-)	10	1.6	1.0	1.2
	PESTICIDES				

Water Quality Seasonal Average for the period: 2015-2018

Station Name : Seorinarayan (EM000R6) | **Division : MD,CWC,Burla**

Local River : Mahanadi | **River Water** | **Sub-Division : MMSD I,CWC,Raipur**

S.No	Parameters	Flood			Winter			Summer		
		Jun - Oct			Nov - Feb			Mar - May		
		2015	2016	2017	2015-2016	2016-2017	2017-2018	2016	2017	2018
	PHYSICAL									
1	Q (cumec)	266.9	784.0	505.5	53.10	81.62	34.52	0.859	1.099	0.000
2	EC_FLD (µmho/cm)	160	420	338	165	304	299	210	412	434
3	EC_GEN (µmho/cm)	281	302	221	339	276	313	402	350	342
4	pH_FLD (pH units)	8.1	8.6	8.5	8.6	8.6	8.6	9.2	9.1	7.1
5	pH_GEN (pH units)	8.0	8.0	8.4	8.3	8.5	8.3	8.5	8.3	8.1
6	Temp (deg C)	30.0	29.7	30.3	23.2	21.9	25.4	28.7	27.8	25.5
	CHEMICAL									
1	Alk-Phen (mgCaCO3/L)	6.8	0.0	0.0	1.5	0.0	0.0	4.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	205	202	191	236	190	238	200	191	252
3	Ca (mg/L)	32	27	56	32	24	55	32	34	53
4	Cl (mg/L)	24.0	32.2	37.0	28.3	34.0	35.0	40.0	63.7	37.0
5	CO3 (mg/L)	8.2	0.0	0.0	1.8	0.0	0.0	4.8	0.0	0.0
6	HCO3 (mg/L)	117	123	117	142	116	145	117	116	154
7	K (mg/L)	8.2	18.8	16.4	8.1	11.6	13.2	17.0	15.6	15.5
8	Mg (mg/L)	10.7	8.6	10.1	17.7	4.1	11.2	18.1	13.6	5.8
9	Na (mg/L)	28.4	45.2	37.2	34.5	34.0	34.2	54.9	46.4	45.7
	BIOLOGICAL/BACTERIOLOGICAL									
1	BOD3-27 (mg/L)	0.9	1.2	1.3	1.4	1.0	1.7	1.0	1.6	1.4
2	DO (mg/L)	6.1	7.2	6.7	8.2	7.3	7.6	5.9	6.7	5.8
3	DO_SAT% (%)	76	94	89	95	83	92	76	85	70
4	FCol-MPN (MPN/100mL)			62			90			170
5	Tcol-MPN (MPN/100mL)			138			163			90
	TRACE & TOXIC									
	CHEMICAL INDICES									
1	HAR_Ca (mgCaCO3/L)	79	67	141	80	59	137	79	84	132
2	HAR_Total (mgCaCO3/L)	124	103	183	154	76	184	154	141	157
3	Na% (%)	31	43	29	32	45	27	37	40	36
4	RSC (-)	0.1	0.3	0.0	0.0	0.4	0.0	0.0	0.0	0.0
5	SAR (-)	1.2	2.0	1.2	1.2	1.7	1.1	1.9	1.8	1.6
	PESTICIDES									

SITE BASANTPUR

HISTORY SHEET

Water Year : 2017-2018

Site	**:**	**Basantpur**	**Code**	**:**	**EM000R2**
State	:	Chhattisgarh	District		Janjgir-champa
Basin	:	Mahanadi	Independent River	:	Mahanadi
Tributary	:	Mahanadi	Sub Tributary	:	
Sub-Sub Tributary	:		Local River	:	Mahanadi
Division	:	MD,CWC,Burla	Sub-Division	:	MMSD I,CWC,Raipur
Drainage Area	:	57780 Sq. Km.	Bank	:	
Latitude	:	21°43'18"	Longitude	:	82°47'27"
Zero of Gauge (m)	:	206 (m.s.l)	01/01/1971		01/01/2020

		Opening Date	Closing Date
Gauge	:	01/02/1971	
Discharge	:	11/05/1971	
Sediment	:	01/09/1972	
Water Quality	:	01/09/1972	

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

	Maximum			Minimum		
Year	**Q (cumecs)**	**WL (m)**	**Date**	**Q (cumecs)**	**WL (m)**	**Date**
1971-1972	17875	202.630	29/07/1971	3.500	208.205	21/05/1972
1972-1973	9552	215.292	13/09/1972	1.900	208.270	29/05/1973
1973-1974	15431	216.380	15/07/1973	1.900	208.265	01/06/1973
1974-1975	15388	216.400	18/08/1974	0.965	207.850	22/05/1975
1975-1976	21162	216.870	21/08/1975	1.227	207.875	17/06/1975
1976-1977	26191	218.020	15/08/1976	2.000	208.110	23/06/1976
1977-1978	14631	216.500	08/08/1977	4.326	208.460	10/06/1977
1978-1979	17665	217.190	29/08/1978	4.308	208.480	07/06/1978
1979-1980	12516	216.250	10/08/1979	1.428	208.375	30/05/1980
1980-1981	26874	219.320	20/09/1980	1.430	208.360	03/06/1980
1981-1982	12309	215.580	23/08/1981	6.860	208.145	01/06/1981
1982-1983	9624	215.450	31/08/1982	6.500	208.265	08/05/1983
1983-1984	8366	214.670	09/09/1983	5.000	208.405	12/06/1983
1984-1985	10075	215.575	10/08/1984	5.800	208.460	31/05/1985
1985-1986	11094	215.680	13/09/1985	5.200	208.440	01/06/1985
1986-1987	18512	217.670	28/06/1986	6.500	208.760	09/06/1986
1987-1988	8568	213.900	15/09/1987	7.000	208.455	07/06/1987
1988-1989	6001	213.785	05/08/1988	2.920	208.470	31/05/1989
1989-1990	2441	212.150	04/07/1989	2.800	208.475	05/06/1989
1990-1991	14915	216.970	15/09/1990	39.76	208.760	25/05/1991
1991-1992	14236	216.420	24/08/1991	4.000	208.605	31/05/1992

Q : Observed / Computed Discharge WL : Corresponding Water Level(m.s.l)

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

	Maximum			Minimum		
Year	**Q (cumecs)**	**WL (m)**	**Date**	**Q (cumecs)**	**WL (m)**	**Date**
1992-1993	17201	217.190	22/08/1992	3.810	208.595	01/06/1992
1993-1994	11006	215.400	21/08/1993	9.444	208.530	04/06/1993
1994-1995	17661	218.230	11/07/1994	31.40	208.760	14/04/1995
1995-1996	15619	217.040	25/07/1995	23.50	208.655	22/05/1996
1996-1997	6300	214.080	03/08/1996	14.61	208.570	18/05/1997
1997-1998	12324	216.540	23/08/1997	17.55	208.630	10/06/1997
1998-1999	8789	215.200	15/09/1998	29.09	208.540	10/05/1999
1999-2000	7234	214.200	10/08/1999	28.19	208.740	13/05/2000
2000-2001	5134	213.170	21/07/2000	26.02	208.765	07/03/2001
2001-2002	15685	216.890	10/07/2001	25.52	208.740	11/06/2001
2002-2003	3402	212.690	12/09/2002	15.00	208.700	04/05/2003
2003-2004	33088	219.310	30/08/2003	9.000	208.600	15/06/2003
2004-2005	7891	214.780	24/08/2004	23.69	208.590	06/05/2005
2005-2006	11521	216.300	15/09/2005	23.83	208.415	10/05/2006
2006-2007	14920	217.015	14/08/2006	28.00	208.560	04/06/2006
2007-2008	12200	216.450	01/07/2007	7.760	208.600	19/05/2008
2008-2009	16827	217.540	20/09/2008	7.657	208.445	04/06/2008
2009-2010	16117	216.985	22/07/2009	2.630	208.610	26/04/2010
2010-2011	9138	214.580	09/09/2010	3.450	208.580	01/06/2010
2011-2012	23366	219.050	09/09/2011	2.267	208.070	29/05/2012
2012-2013	8825	215.920	05/08/2012	2.285	208.050	13/06/2012
2013-2014	12021	216.050	01/08/2013	3.837	207.930	04/06/2013
2014-2015	19935	218.150	06/08/2014	9.127	207.970	06/06/2014
2015-2016	4282	212.800	22/09/2015	1.267	207.500	05/05/2016
2016-2017	6331	213.540	08/08/2016	0.082	207.470	12/04/2017

Q : Observed / Computed Discharge WL : Corresponding Water Level(m.s.l)

Stage-Dischage Data for the period 2017 - 2018

Station Name : Basantpur (EM000R2) **Division : MD,CWC,Burla**

Local River : Mahanadi **Sub-Division : MMSD I,CWC,Raipur**

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	207.830	11.93	208.150	41.21	209.080	317.8	210.540	1811	209.410	700.5 *	208.760	112.1
2	207.740	7.414	208.210	50.60	209.020	219.2	210.100	1250 *	209.600	1120 *	208.770	114.8
3	207.710	6.684	208.730	147.0	209.035	221.3	209.750	900.0 *	209.740	1198	208.750	111.6
4	207.735	8.200 *	208.790	146.8	209.050	226.7	209.550	721.2	209.590	1091	208.720	113.2 *
5	207.740	8.279	208.620	121.4	209.000	188.6	209.410	599.5	209.400	690.0	208.570	81.15 *
6	207.630	2.559	208.960	167.5	208.970	180.0 *	209.220	509.6	209.490	743.1	208.200	51.25
7	207.590	2.024	209.000	176.3	209.035	234.1	209.205	350.8	209.390	696.0	208.120	44.87
8	207.620	2.442	208.980	172.7	209.070	212.4	209.150	282.3	209.380	652.1 *	208.250	57.63
9	207.600	2.133	208.930	170.1 *	209.235	459.5	209.130	257.1	209.420	666.0	208.500	95.55
10	207.590	1.994	208.880	153.8	209.150	392.7	209.145	300.0 *	209.295	600.6	208.440	82.28
11	207.620	2.200 *	209.050	199.8	209.180	397.9	209.120	251.1	209.420	664.4	208.200	53.10
12	207.980	32.81	209.190	330.0	209.270	539.1	209.090	246.0	209.515	773.9	206.000	0.000 *
13	208.040	28.40 *	209.000	200.1	209.240	468.0 *	209.070	239.8	209.830	1152	206.000	0.000 *
14	208.000	28.29	208.980	197.0	209.165	391.2	209.065	248.4	209.500	755.3	208.520	98.07
15	208.000	27.67	208.930	183.2	209.150	390.0 *	209.000	221.5	209.140	550.6 *	208.430	72.16
16	207.905	16.93	208.950	184.7 *	209.140	363.6	208.750	221.6	208.890	346.4	208.460	75.02
17	207.820	13.82	208.780	176.3	209.160	385.7	208.700	200.4 *	209.040	493.2	208.300	30.81
18	207.765	13.00 *	209.160	402.6	209.200	479.2	209.020	343.1	209.070	504.4	208.000	28.90
19	207.820	15.92	209.265	420.0	209.240	511.5	209.280	495.1	208.815	330.4 *	208.150	29.00 *
20	207.810	15.42	209.680	1224	209.275	486.7 *	209.530	740.6	208.900	347.7	208.230	32.78
21	207.780	13.09	211.460	2749	209.180	391.9	210.045	1442	208.870	335.1	208.500	165.3
22	207.720	7.979	210.650	1766	209.230	484.0	212.285	2946	208.740	150.8 *	208.260	73.03
23	207.810	14.94	209.990	1506 *	209.330	613.7	211.690	2761	208.790	180.1	208.450	105.5
24	207.800	14.61	209.610	1137	209.310	540.7	210.910	1923 *	208.770	170.4	208.400	92.71
25	208.140	40.89 *	209.665	1142	209.350	628.9 *	210.060	1110	208.860	217.2	208.290	75.65 *
26	208.250	45.00 *	209.410	736.8	209.350	633.5	209.860	926.9	209.010	291.7	207.900	15.07 *
27	208.150	41.74	209.270	648.9	209.640	862.4 *	209.480	735.1	209.028	306.5	208.000	17.31
28	208.130	40.87	209.290	677.5	209.650	880.1	209.410	711.5	209.080	327.1	208.300	84.68
29	208.170	42.05	209.348	649.3	209.568	764.5	209.030	350.4 *	208.745	110.4 *	208.230	53.95
30	208.150	41.08	209.140	588.6 *	209.920	1299	209.280	525.1 *	208.755	108.4	208.290	61.20
31			209.100	338.9	210.830	2159			208.720	107.1		
Ten-Daily Mean												
I Ten-Daily	207.678	5.366	208.725	134.7	209.064	265.2	209.520	698.2	209.472	815.7	208.508	86.45
II Ten-Daily	207.876	19.44	209.098	351.8	209.202	441.3	209.063	320.8	209.212	591.8	207.829	41.98
III Ten-Daily	208.010	30.23	209.721	1085	209.578	841.7	210.205	1343	208.852	209.5	208.262	74.44
Monthly												
Min.	207.590	1.994	208.150	41.21	208.970	180.0	208.700	200.4	208.720	107.1	206.000	0.000
Max.	208.250	45.00	211.460	2749	210.830	2159	212.285	2946	209.830	1198	208.770	165.3
Mean	207.855	18.35	209.199	542.1	209.291	526.6	209.596	787.3	209.168	528.4	208.200	67.63

Annual Runoff in MCM = 6806 Annual Runoff in mm = 118

Peak Observed Discharge = 2946 cumecs on 22/09/2017 Corres. Water Level :212.285 m

Lowest Observed Discharge = 0.755 cumecs on 07/05/2018 Corres. Water Level :207.53 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Dischage Data for the period 2017 - 2018

Station Name : Basantpur (EM000R2) **Division : MD,CWC,Burla**

Local River : Mahanadi **Sub-Division : MMSD I,CWC,Raipur**

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	208.300	62.25	208.080	27.33	207.990	26.95	207.790	8.282	207.795	19.20 *	207.555	1.348
2	208.190	36.10 *	208.050	25.05	207.985	26.99	207.790	8.276 *	207.795	19.12	207.555	1.209
3	208.210	38.25 *	208.010	26.20	207.970	26.39	207.770	5.106	207.790	18.55	207.550	1.043
4	208.210	38.25	208.040	22.38	208.000	28.80 *	207.770	5.101 *	207.790	18.34	207.550	1.037
5	208.200	36.31	208.040	22.50	207.930	20.20	207.775	5.383	207.795	19.39	207.530	1.009
6	208.220	39.67	208.040	24.66	207.870	18.27	207.775	5.353	207.790	18.75	207.530	0.823 *
7	208.210	37.84	208.040	24.60 *	207.920	19.36	207.800	9.087	207.740	12.92	207.530	0.755
8	208.220	39.23	208.040	24.37	207.800	10.57	207.800	9.019	207.740	12.90 *	207.530	0.821
9	208.210	36.25	208.020	22.71	207.750	4.644	207.790	7.792	207.730	5.940	207.550	1.915
10	208.700	70.00 *	208.010	21.63	207.750	4.546	207.795	8.460	207.730	6.022	207.550	1.796
11	208.390	68.27	208.040	24.54	207.730	4.200 *	207.820	12.25 *	207.735	6.270	207.550	1.899
12	208.210	41.75	207.940	19.45	207.730	3.887	207.950	31.93	207.740	6.550	207.550	1.841
13	208.230	46.65	206.000	9.000 *	207.700	2.975	207.950	31.63	207.720	5.558	207.560	1.800 *
14	208.200	36.12	207.900	19.00 *	207.690	3.316	207.900	27.56	207.725	5.855	207.560	2.190
15	208.200	35.62	208.100	28.77	207.690	3.664	207.700	9.055	207.680	4.013 *	207.560	2.165
16	208.200	35.27	208.080	27.77	207.800	10.62	207.705	9.206	207.600	1.427	207.550	2.116
17	208.220	39.50 *	207.970	21.52	207.090	24.81	207.725	10.12	207.600	1.473	207.550	2.109
18	208.210	36.08	207.990	22.26	208.100	30.92 *	207.720	10.08 *	207.600	1.536	207.550	2.142
19	208.200	35.74	207.985	22.23	208.100	30.93	207.710	9.869	207.620	2.289	207.550	2.110
20	208.200	35.41	207.975	21.87	208.090	29.11	207.710	9.617	207.620	2.073	207.555	2.223 *
21	208.420	69.68	207.910	19.00 *	208.000	43.35	207.705	9.285	207.600	1.329	207.555	2.225
22	208.220	39.52	207.860	15.44	208.100	41.35	207.720	10.34	207.560	1.070 *	207.560	2.254
23	208.225	37.96	207.860	15.17	208.095	41.87	207.710	9.717	207.550	1.099	207.560	2.241
24	207.900	19.00 *	207.855	14.82	208.095	40.96	207.700	9.007	207.550	1.076	207.550	2.097
25	208.050	22.80 *	207.840	9.880	207.780	7.006 *	207.690	8.400 *	207.560	1.563	207.550	2.081
26	208.050	22.87	208.060	28.50 *	207.770	5.462	207.810	20.83	207.565	1.685	207.550	2.123
27	208.050	22.50	207.855	13.05	207.750	4.890	207.810	20.67	207.550	1.106	207.550	2.123 *
28	207.950	19.38	208.000	28.40 *	207.790	8.646	207.800	19.78	207.550	1.078	207.555	2.271
29	207.950	19.17	208.000	28.46			207.800	19.50 *	207.540	1.068 *	207.555	2.270
30	207.980	22.28	207.930	21.12			207.830	22.00 *	207.540	1.068 *	208.140	53.82
31	208.150	23.50 *	207.930	20.29			207.800	19.28			207.545	2.045
Ten-Daily Mean												
I Ten-Daily	208.267	43.41	208.037	24.14	207.897	18.67	207.786	7.186	207.770	15.11	207.543	1.176
II Ten-Daily	208.226	41.04	207.798	21.64	207.772	14.44	207.789	16.13	207.664	3.704	207.554	2.060
III Ten-Daily	208.086	28.97	207.918	19.47	207.923	24.19	207.761	15.35	207.557	1.214	207.606	6.868
Monthly												
Min.	207.900	19.00	206.000	9.000	207.090	2.975	207.690	5.101	207.540	1.068	207.530	0.755
Max.	208.700	70.00	208.100	28.77	208.100	43.35	207.950	31.93	207.795	19.39	208.140	53.82
Mean	208.190	37.52	207.918	21.68	207.859	18.74	207.778	12.97	207.663	6.677	207.569	3.481

Peak Computed Discharge = 1923 cumecs on 24/09/2017 **Corres. Water Level :210.91 m**

Lowest Computed Discharge = 0.000 cumecs on 12/11/2017 **Corres. Water Level :206 m**

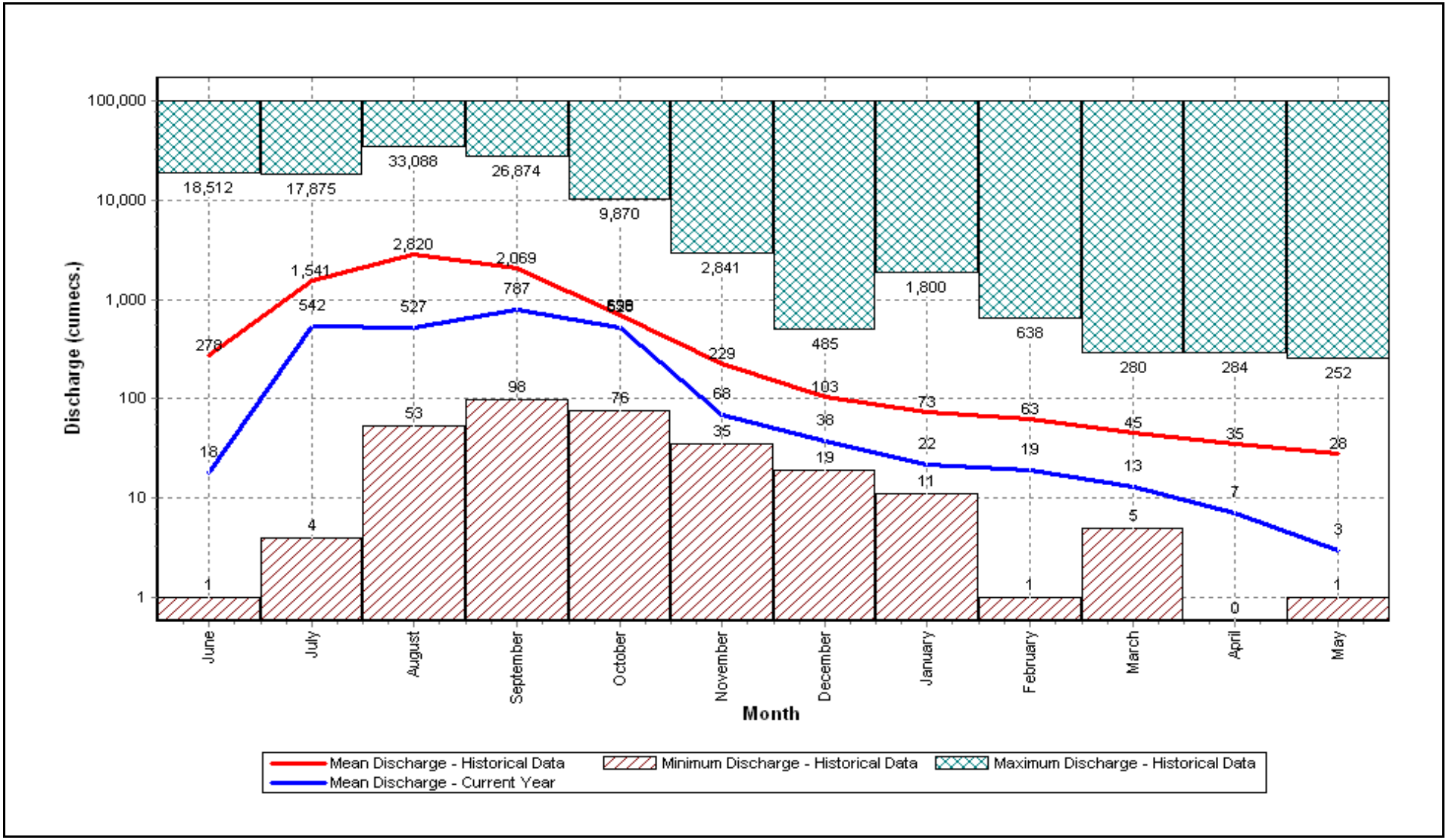
Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2017-2018

Station Name : Basantpur (EM000R2) | **Data considered : 1971-2018** | **Division : MD,CWC,Burla**

Local River : Mahanadi | **Sub-Division : MMSD I,CWC,Raipur**



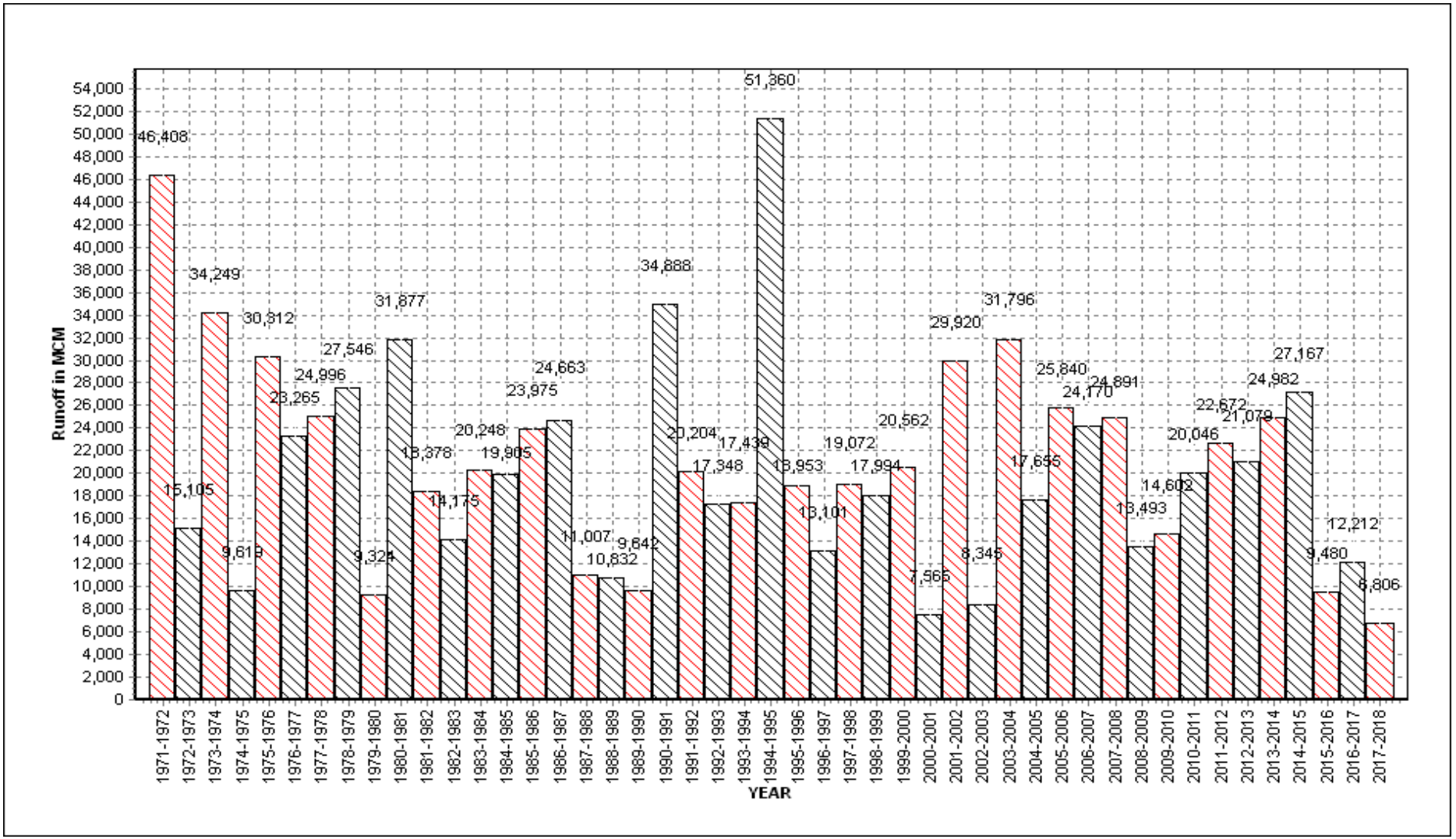
Annual Runoff Values for the period: 1971 - 2018

Station Name : Basantpur (EM000R2)

Local River : Mahanadi

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur

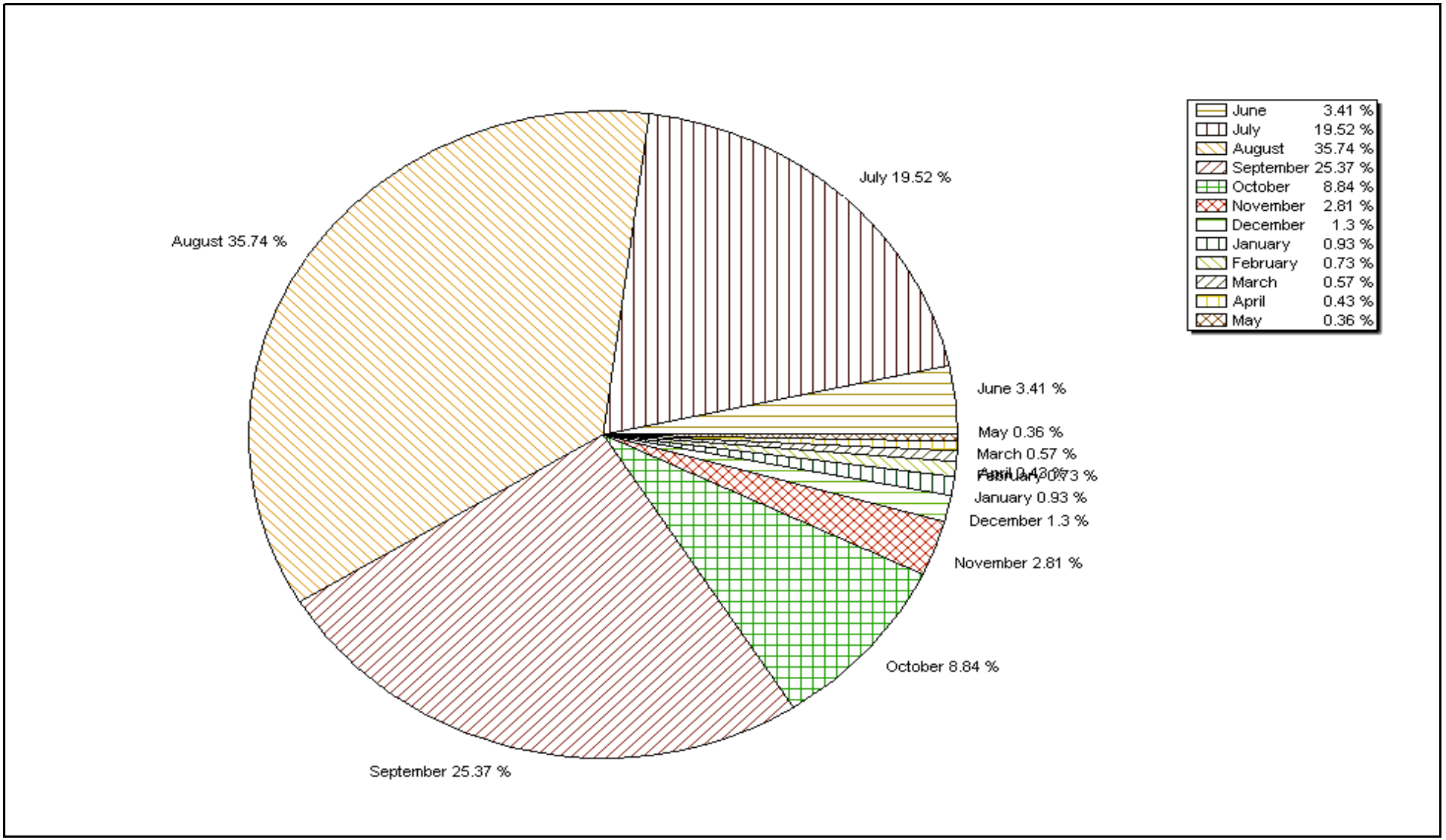


Note: Missing values have not been considered while arriving at Annual Runoff

Monthly Average Runoff based on period : 1971-2017

Station Name : Basantpur (EM000R2)
Local River : Mahanadi

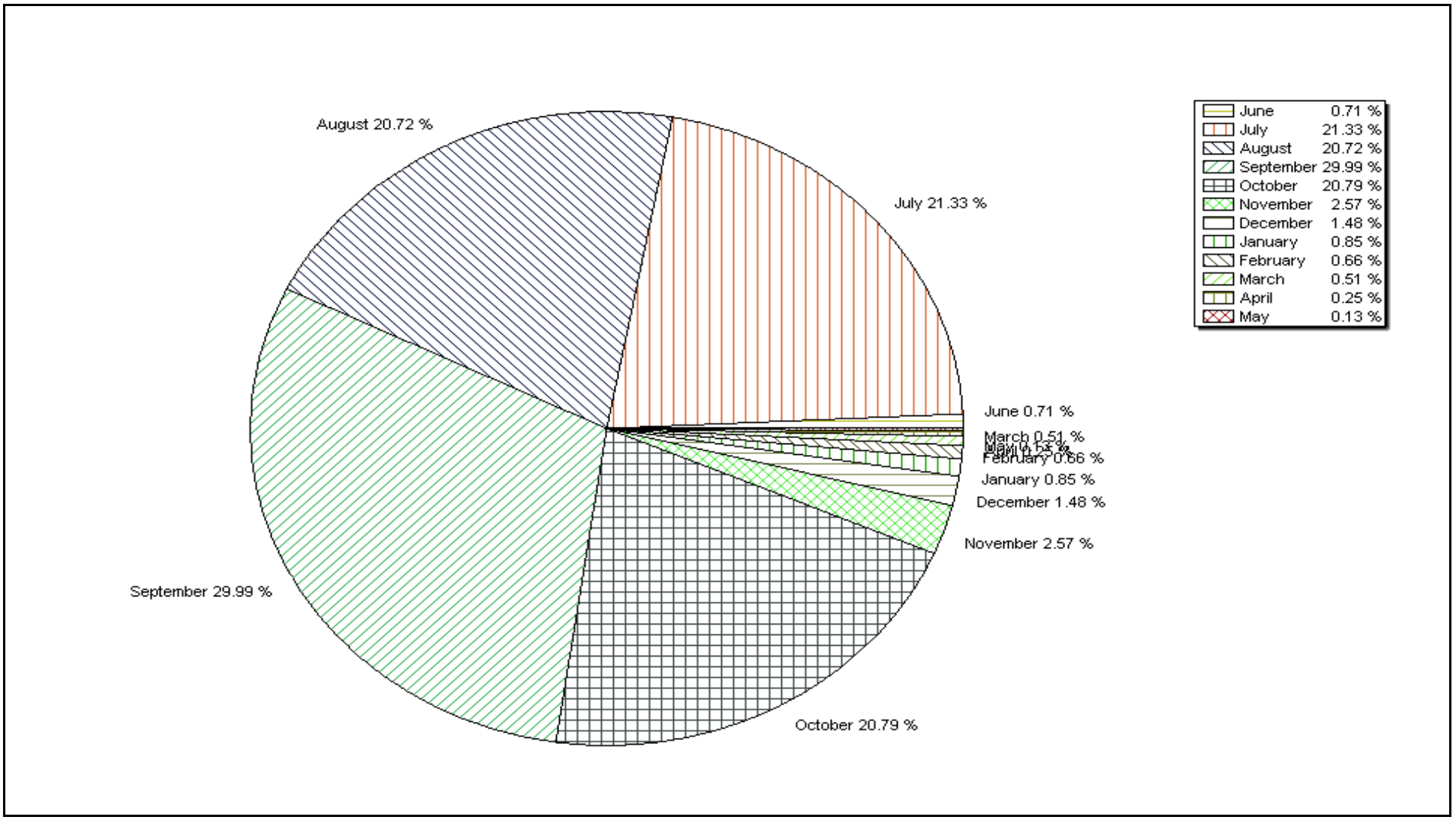
Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur



Monthly Runoff for the Year : 2017-2018

Station Name : Basantpur (EM000R2)
Local River : Mahanadi

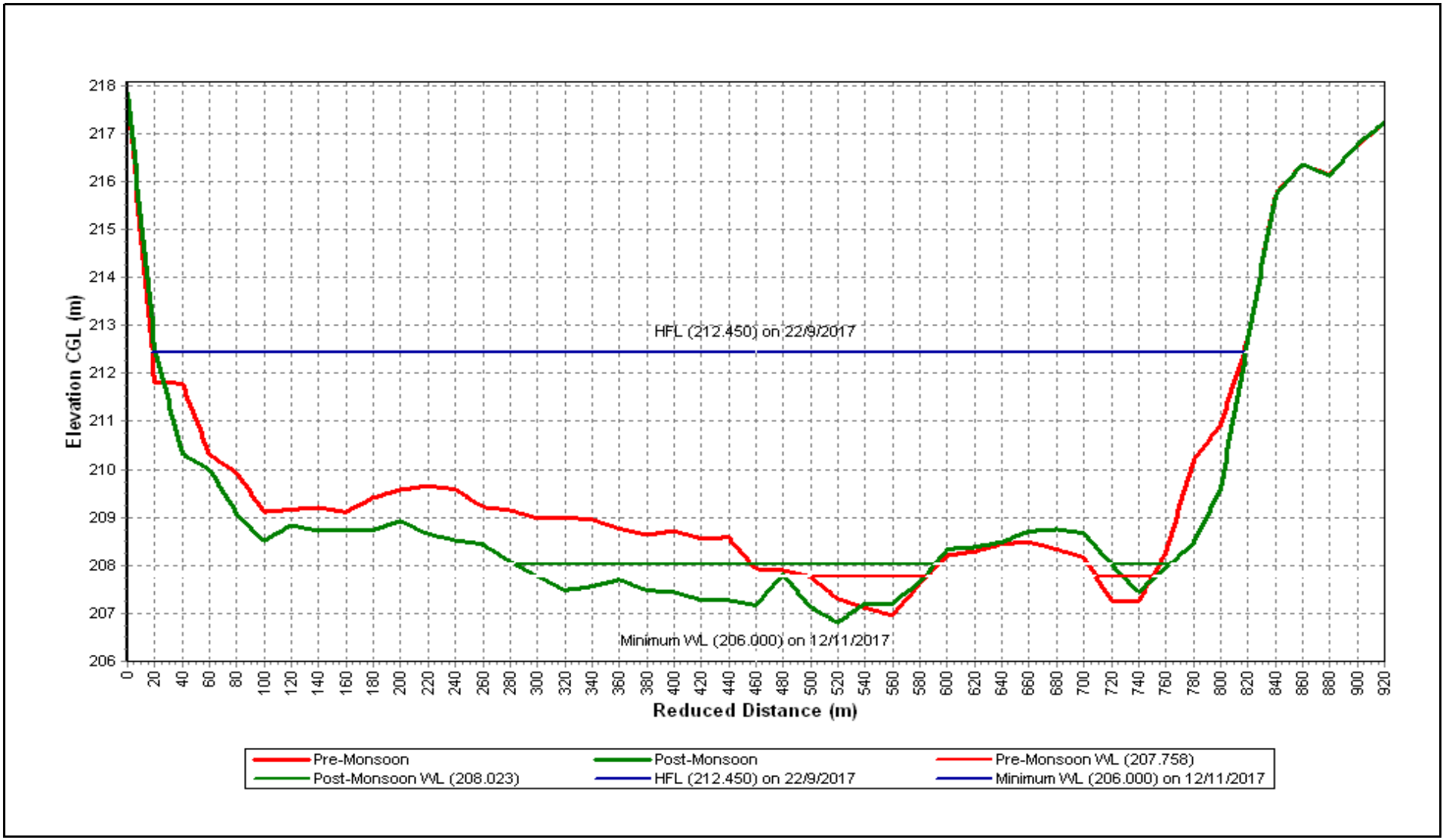
Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur



Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2017-2018

Station Name : Basantpur (EM000R2) **Division : MD,CWC,Burla**

Local River : Mahanadi **Sub-Division : MMSD I,CWC,Raipur**



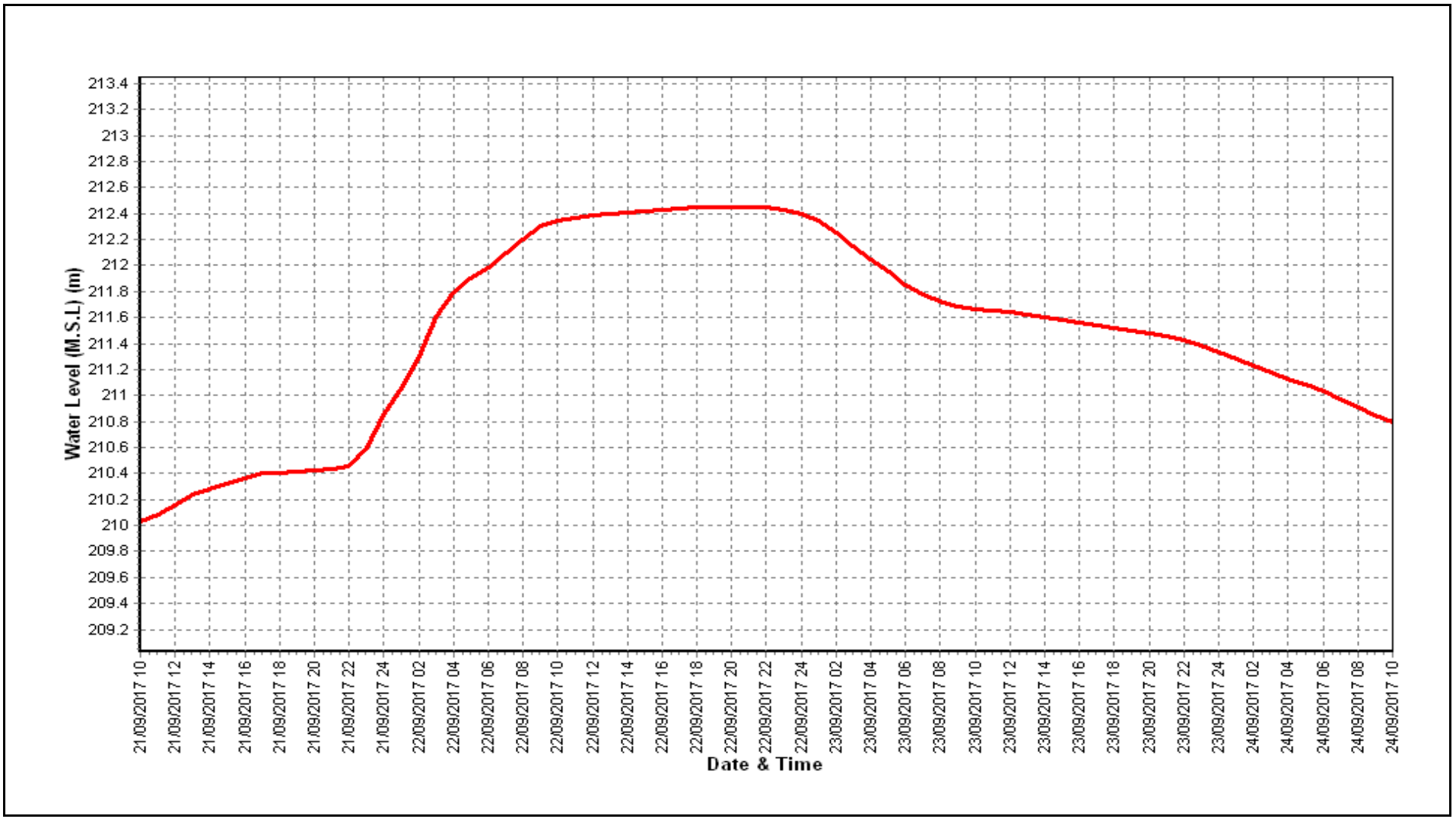
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2017-2018

Station Name : Basantpur (EM000R2)

Local River : Mahanadi

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur



Time Span: 72 Hrs

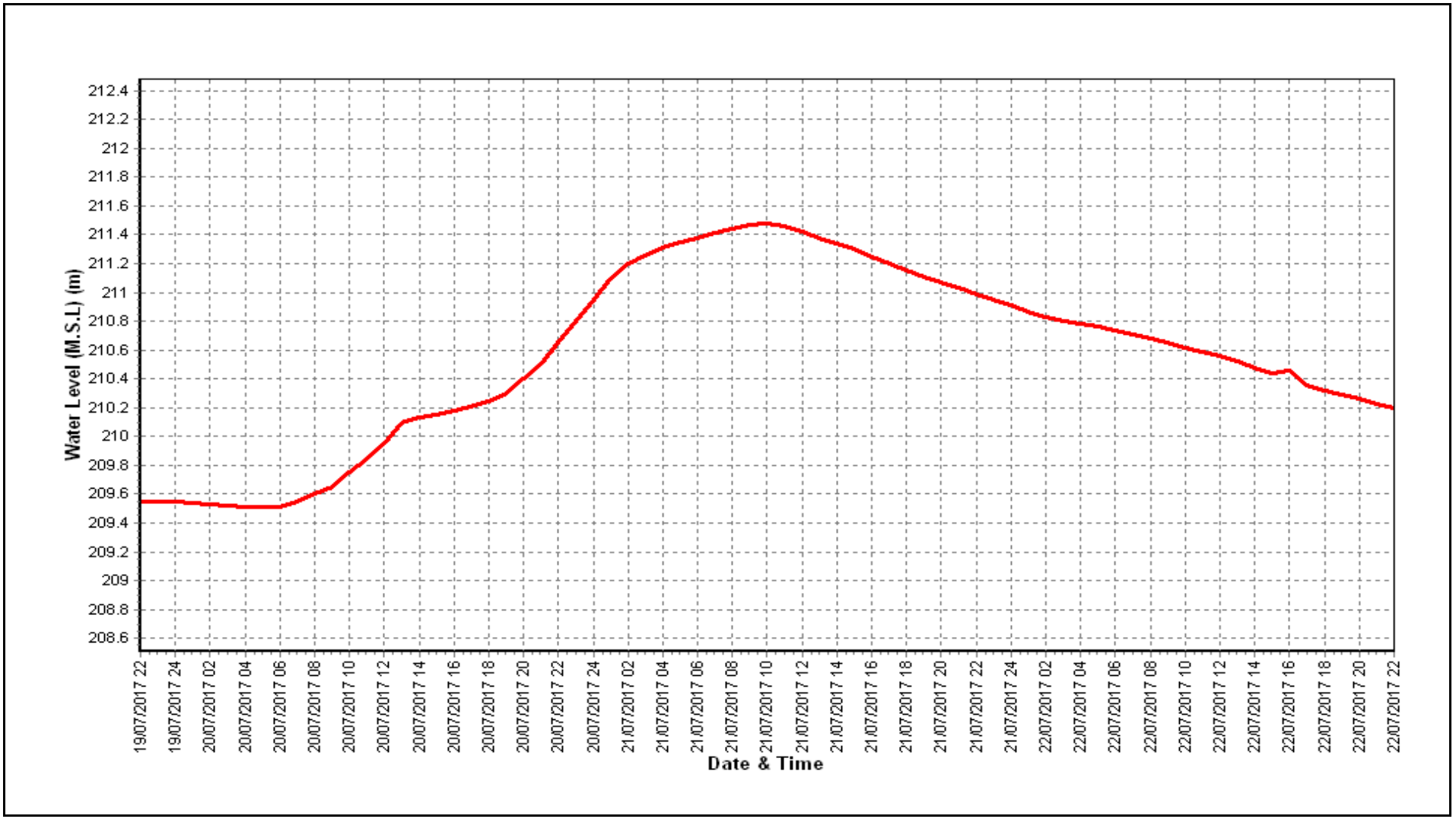
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2017-2018

Station Name : Basantpur (EM000R2)

Local River : Mahanadi

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur



Time Span: 72 Hrs

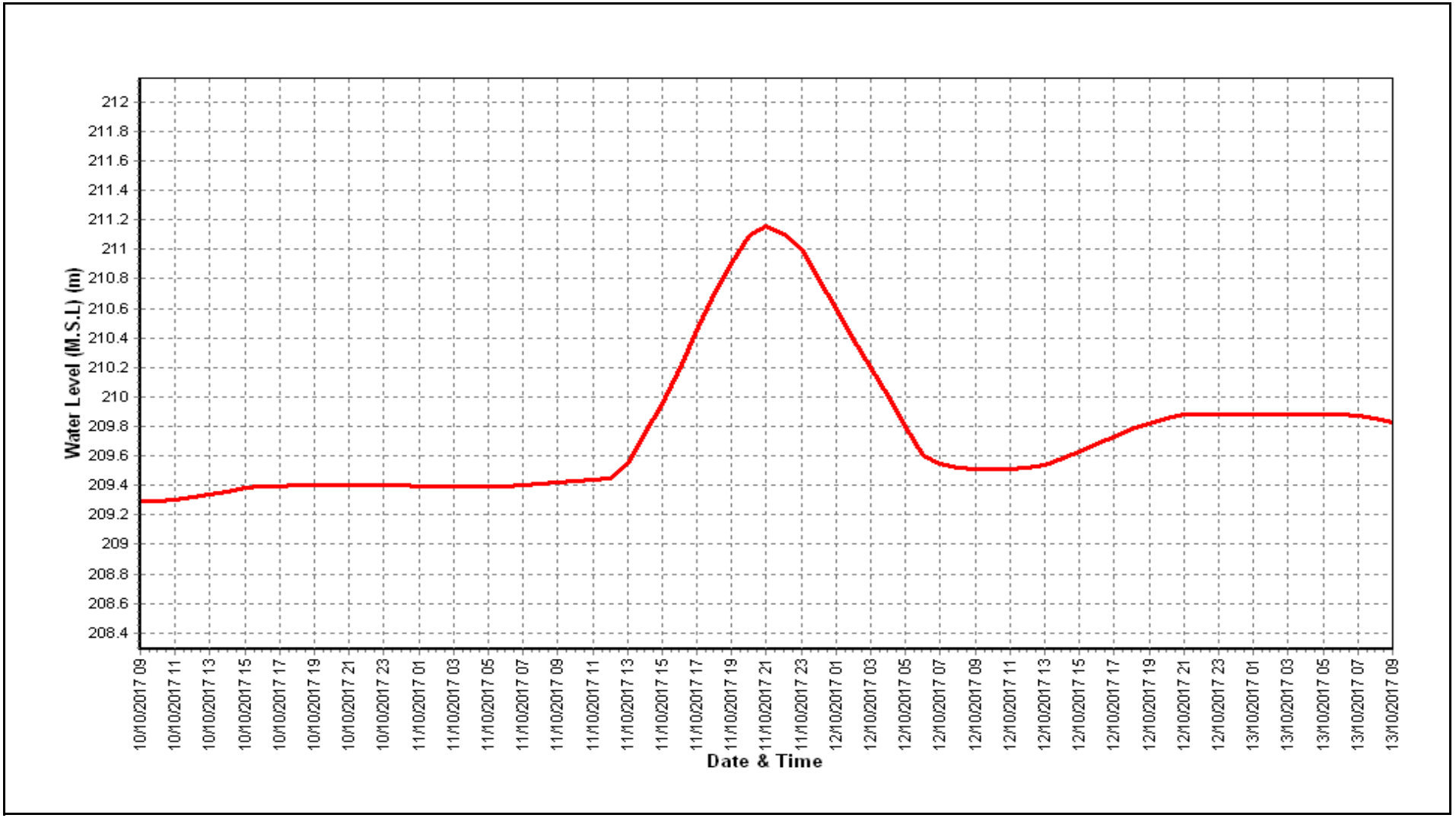
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2017-2018

Station Name : Basantpur (EM000R2)

Local River : Mahanadi

Division : MD,CWC,Burla

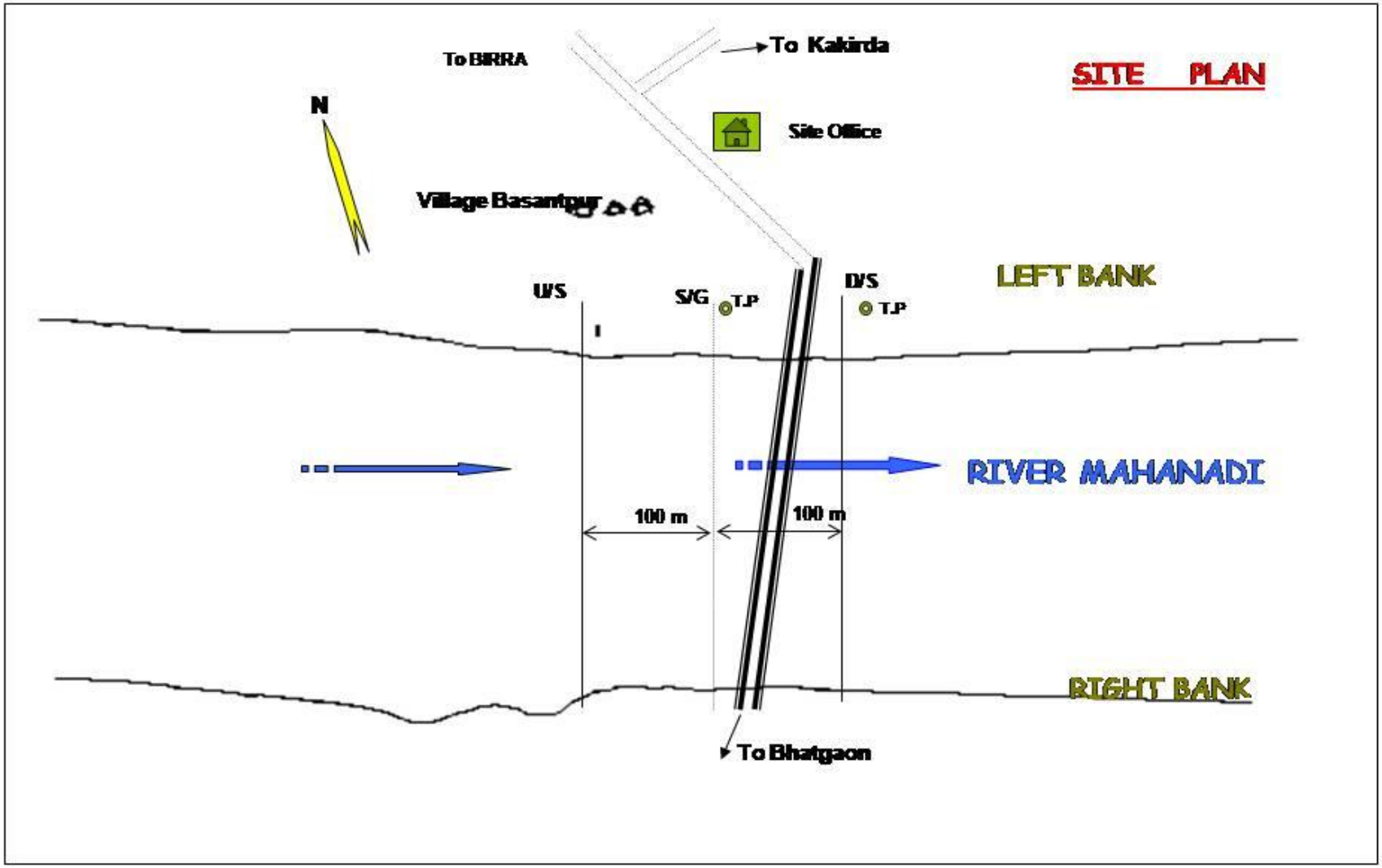
Sub-Division : MMSD I,CWC,Raipur



Time Span: 72 Hrs

CENTRAL WATER COMMISSION, MAHANADI DIVISION, CWC BURLA

Site : BASANTPUR **Code : EM000R2** **Sub-Division: MMSD-I CWC Raipur**



SECTION- II

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Basantpur (EM000R2) **Division : MD,CWC,Burla**

Local River : Mahanadi **Sub-Division : MMSD I,CWC,Raipur**

Day	Jun						Jul						Aug					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	11.93	0.000	0.000	0.000	0.000	0	41.21	0.000	0.000	0.023	0.023	83	317.8	0.000	0.000	0.130	0.130	3578
2	7.414	0.000	0.000	0.000	0.000	0	50.60	0.000	0.000	0.000	0.000	0	219.2	0.000	0.000	0.112	0.112	2123
3	6.684	0.000	0.000	0.000	0.000	0	147.0	0.000	0.000	0.030	0.030	381	221.3	0.000	0.000	0.113	0.113	2153
4	8.200	0.000	0.000	0.000	0.000	0	146.8	0.000	0.000	0.034	0.034	434	226.7	0.000	0.000	0.127	0.127	2490
5	8.279	0.000	0.000	0.000	0.000	0	121.4	0.000	0.000	0.029	0.029	301	188.6	0.000	0.000	0.122	0.122	1992
6	2.559	0.000	0.000	0.000	0.000	0	167.5	0.000	0.000	0.047	0.047	684	180.0	0.000	0.000	0.000	0.000	0
7	2.024	0.000	0.000	0.000	0.000	0	176.3	0.000	0.000	0.057	0.057	865	234.1	0.000	0.000	0.100	0.100	2025
8	2.442	0.000	0.000	0.000	0.000	0	172.7	0.000	0.000	0.056	0.056	830	212.4	0.000	0.000	0.102	0.102	1872
9	2.133	0.000	0.000	0.000	0.000	0	170.1	0.000	0.000	0.000	0.000	0	459.5	0.000	0.000	0.135	0.135	5343
10	1.994	0.000	0.000	0.000	0.000	0	153.8	0.000	0.000	0.036	0.036	472	392.7	0.000	0.000	0.131	0.131	4428
11	2.200	0.000	0.000	0.000	0.000	0	199.8	0.000	0.000	0.066	0.066	1141	397.9	0.000	0.000	0.103	0.103	3527
12	32.81	0.000	0.000	0.000	0.000	0	330.0	0.000	0.000	0.068	0.068	1950	539.1	0.000	0.000	0.104	0.104	4835
13	28.40	0.000	0.000	0.000	0.000	0	200.1	0.000	0.000	0.037	0.037	647	468.0	0.000	0.000	0.000	0.000	0
14	28.29	0.000	0.000	0.000	0.000	0	197.0	0.000	0.000	0.058	0.058	982	391.2	0.000	0.000	0.101	0.101	3410
15	27.67	0.000	0.000	0.000	0.000	0	183.2	0.000	0.000	0.028	0.028	438	390.0	0.000	0.000	0.000	0.000	0
16	16.93	0.000	0.000	0.000	0.000	0	184.7	0.000	0.000	0.000	0.000	0	363.6	0.000	0.000	0.087	0.087	2718
17	13.82	0.000	0.000	0.000	0.000	0	176.3	0.000	0.000	0.057	0.057	865	385.7	0.000	0.000	0.076	0.076	2532
18	13.00	0.000	0.000	0.000	0.000	0	402.6	0.000	0.000	0.074	0.074	2557	479.2	0.000	0.000	0.090	0.090	3726
19	15.92	0.000	0.000	0.000	0.000	0	420.0	0.000	0.000	0.174	0.174	6297	511.5	0.000	0.000	0.097	0.097	4287
20	15.42	0.000	0.000	0.000	0.000	0	1224	0.000	0.000	0.199	0.199	21071	486.7	0.000	0.000	0.000	0.000	0
21	13.09	0.000	0.000	0.000	0.000	0	2749	0.000	0.000	0.386	0.386	91732	391.9	0.000	0.000	0.072	0.072	2438
22	7.979	0.000	0.000	0.000	0.000	0	1766	0.000	0.000	0.336	0.336	51199	484.0	0.000	0.000	0.089	0.089	3722
23	14.94	0.000	0.000	0.000	0.000	0	1506	0.000	0.000	0.000	0.000	0	613.7	0.000	0.000	0.100	0.100	5302
24	14.61	0.000	0.000	0.000	0.000	0	1137	0.000	0.000	0.316	0.316	31071	540.7	0.000	0.000	0.080	0.080	3737
25	40.89	0.000	0.000	0.000	0.000	0	1142	0.000	0.000	0.300	0.300	29583	628.9	0.000	0.000	0.000	0.000	0
26	45.00	0.000	0.000	0.000	0.000	0	736.8	0.000	0.000	0.177	0.177	11261	633.5	0.000	0.000	0.071	0.071	3880
27	41.74	0.000	0.000	0.000	0.000	0	648.9	0.000	0.000	0.183	0.183	10232	862.4	0.000	0.000	0.000	0.000	0
28	40.87	0.000	0.000	0.000	0.000	0	677.5	0.000	0.000	0.174	0.174	10208	880.1	0.000	0.000	0.080	0.080	6083
29	42.05	0.000	0.000	0.000	0.000	0	649.3	0.000	0.000	0.187	0.187	10473	764.5	0.000	0.000	0.091	0.091	6031
30	41.08	0.000	0.000	0.000	0.000	0	588.6	0.000	0.000	0.000	0.000	0	1299	0.000	0.000	0.138	0.138	15482
31							338.9	0.000	0.000	0.171	0.171	5018	2159	0.000	0.000	0.184	0.184	34293
Ten Daily Mean																		
Ten Daily I	5.366	0.000	0.000	0.000	0.000	0	134.7	0.000	0.000	0.031	0.031	405	265.2	0.000	0.000	0.107	0.107	2601
Ten Daily II	19.44	0.000	0.000	0.000	0.000	0	351.8	0.000	0.000	0.076	0.076	3595	441.3	0.000	0.000	0.066	0.066	2503
Ten Daily III	30.23	0.000	0.000	0.000	0.000	0	1085	0.000	0.000	0.203	0.203	22798	841.7	0.000	0.000	0.082	0.082	7361
Monthly																		
Total						0						290775						132008

Annual Sediment Load (Metric Tonnes) : 813267

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Basantpur (EM000R2) **Division : MD,CWC,Burla**

Local River : Mahanadi **Sub-Division : MMSD I,CWC,Raipur**

Day	Sep						Oct						Nov					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	1811	0.000	0.000	0.140	0.140	21908	700.5	0.000	0.000	0.000	0.000	0	112.1	0.000	0.000	0.000	0.000	0
2	1250	0.000	0.000	0.000	0.000	0	1120	0.000	0.000	0.000	0.000	0	114.8	0.000	0.000	0.000	0.000	0
3	900.0	0.000	0.000	0.000	0.000	0	1198	0.000	0.000	0.125	0.125	12933	111.6	0.000	0.000	0.000	0.000	0
4	721.2	0.000	0.000	0.111	0.111	6917	1091	0.000	0.000	0.113	0.113	10655	113.2	0.000	0.000	0.000	0.000	0
5	599.5	0.000	0.000	0.128	0.128	6630	690.0	0.000	0.000	0.048	0.048	2862	81.15	0.000	0.000	0.000	0.000	0
6	509.6	0.000	0.000	0.079	0.079	3478	743.1	0.000	0.000	0.087	0.087	5586	51.25	0.000	0.000	0.020	0.020	88
7	350.8	0.000	0.000	0.114	0.114	3456	696.0	0.000	0.000	0.063	0.063	3789	44.87	0.000	0.000	0.000	0.000	0
8	282.3	0.000	0.000	0.070	0.070	1707	652.1	0.000	0.000	0.000	0.000	0	57.63	0.000	0.000	0.000	0.000	0
9	257.1	0.000	0.000	0.066	0.066	1466	666.0	0.000	0.000	0.107	0.107	6157	95.55	0.000	0.000	0.000	0.000	0
10	300.0	0.000	0.000	0.000	0.000	0	600.6	0.000	0.000	0.073	0.073	3788	82.28	0.000	0.000	0.000	0.000	0
11	251.1	0.000	0.000	0.088	0.088	1909	664.4	0.000	0.000	0.059	0.059	3387	53.10	0.000	0.000	0.000	0.000	0
12	246.0	0.000	0.000	0.103	0.103	2189	773.9	0.000	0.000	0.051	0.051	3410	0.000	0.000	0.000	0.000	0.000	0
13	239.8	0.000	0.000	0.100	0.100	2072	1152	0.000	0.000	0.154	0.154	15326	0.000	0.000	0.000	0.000	0.000	0
14	248.4	0.000	0.000	0.103	0.103	2211	755.3	0.000	0.000	0.088	0.088	5742	98.07	0.000	0.000	0.000	0.000	0
15	221.5	0.000	0.000	0.106	0.106	2029	550.6	0.000	0.000	0.000	0.000	0	72.16	0.000	0.000	0.000	0.000	0
16	221.6	0.000	0.000	0.093	0.093	1780	346.4	0.000	0.000	0.064	0.064	1915	75.02	0.000	0.000	0.000	0.000	0
17	200.4	0.000	0.000	0.000	0.000	0	493.2	0.000	0.000	0.057	0.057	2429	30.81	0.000	0.000	0.000	0.000	0
18	343.1	0.000	0.000	0.111	0.111	3291	504.4	0.000	0.000	0.070	0.070	3050	28.90	0.000	0.000	0.000	0.000	0
19	495.1	0.000	0.000	0.133	0.133	5689	330.4	0.000	0.000	0.000	0.000	0	29.00	0.000	0.000	0.000	0.000	0
20	740.6	0.000	0.000	0.175	0.175	11198	347.7	0.000	0.000	0.046	0.046	1382	32.78	0.000	0.000	0.017	0.017	48
21	1442	0.000	0.000	0.182	0.182	22668	335.1	0.000	0.000	0.044	0.044	1274	165.3	0.000	0.000	0.000	0.000	0
22	2946	0.000	0.000	0.350	0.350	89088	150.8	0.000	0.000	0.000	0.000	0	73.03	0.000	0.000	0.000	0.000	0
23	2761	0.000	0.000	0.191	0.191	45567	180.1	0.000	0.000	0.038	0.038	591	105.5	0.000	0.000	0.000	0.000	0
24	1923	0.000	0.000	0.000	0.000	0	170.4	0.000	0.000	0.037	0.037	545	92.71	0.000	0.000	0.000	0.000	0
25	1110	0.000	0.000	0.109	0.109	10455	217.2	0.000	0.000	0.040	0.040	751	75.65	0.000	0.000	0.000	0.000	0
26	926.9	0.000	0.000	0.085	0.085	6807	291.7	0.000	0.000	0.040	0.040	1008	15.07	0.000	0.000	0.000	0.000	0
27	735.1	0.000	0.000	0.075	0.075	4763	306.5	0.000	0.000	0.039	0.039	1033	17.31	0.000	0.000	0.016	0.016	24
28	711.5	0.000	0.000	0.710	0.710	43649	327.1	0.000	0.000	0.036	0.036	1018	84.68	0.000	0.000	0.000	0.000	0
29	350.4	0.000	0.000	0.000	0.000	0	110.4	0.000	0.000	0.000	0.000	0	53.95	0.000	0.000	0.000	0.000	0
30	525.1	0.000	0.000	0.000	0.000	0	108.4	0.000	0.000	0.029	0.029	271	61.20	0.000	0.000	0.000	0.000	0
31							107.1	0.000	0.000	0.028	0.028	259						
Ten Daily Mean																		
Ten Daily I	698.2	0.000	0.000	0.071	0.071	4556	815.7	0.000	0.000	0.062	0.062	4577	86.45	0.000	0.000	0.002	0.002	9
Ten Daily II	320.8	0.000	0.000	0.101	0.101	3237	591.8	0.000	0.000	0.059	0.059	3664	41.98	0.000	0.000	0.002	0.002	5
Ten Daily III	1343	0.000	0.000	0.170	0.170	22300	209.5	0.000	0.000	0.030	0.030	614	74.44	0.000	0.000	0.002	0.002	2
Monthly																		
Total						300928						89161						160

Annual Sediment Load (Metric Tonnes) : 813267

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Basantpur (EM000R2) **Division : MD,CWC,Burla**

Local River : Mahanadi **Sub-Division : MMSD I,CWC,Raipur**

Day	Dec						Jan						Feb					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	62.25	0.000	0.000	0.000	0.000	0	27.33	0.000	0.000	0.000	0.000	0	26.95	0.000	0.000	0.000	0.000	0
2	36.10	0.000	0.000	0.000	0.000	0	25.05	0.000	0.000	0.000	0.000	0	26.99	0.000	0.000	0.000	0.000	0
3	38.25	0.000	0.000	0.000	0.000	0	26.20	0.000	0.000	0.000	0.000	0	26.39	0.000	0.000	0.000	0.000	0
4	38.25	0.000	0.000	0.013	0.013	43	22.38	0.000	0.000	0.000	0.000	0	28.80	0.000	0.000	0.000	0.000	0
5	36.31	0.000	0.000	0.000	0.000	0	22.50	0.000	0.000	0.000	0.000	0	20.20	0.000	0.000	0.000	0.000	0
6	39.67	0.000	0.000	0.000	0.000	0	24.66	0.000	0.000	0.000	0.000	0	18.27	0.000	0.000	0.000	0.000	0
7	37.84	0.000	0.000	0.000	0.000	0	24.60	0.000	0.000	0.000	0.000	0	19.36	0.000	0.000	0.000	0.000	0
8	39.23	0.000	0.000	0.000	0.000	0	24.37	0.000	0.000	0.000	0.000	0	10.57	0.000	0.000	0.000	0.000	0
9	36.25	0.000	0.000	0.000	0.000	0	22.71	0.000	0.000	0.000	0.000	0	4.644	0.000	0.000	0.000	0.000	0
10	70.00	0.000	0.000	0.000	0.000	0	21.63	0.000	0.000	0.000	0.000	0	4.546	0.000	0.000	0.000	0.000	0
11	68.27	0.000	0.000	0.000	0.000	0	24.54	0.000	0.000	0.000	0.000	0	4.200	0.000	0.000	0.000	0.000	0
12	41.75	0.000	0.000	0.000	0.000	0	19.45	0.000	0.000	0.000	0.000	0	3.887	0.000	0.000	0.012	0.012	4
13	46.65	0.000	0.000	0.000	0.000	0	9.000	0.000	0.000	0.000	0.000	0	2.975	0.000	0.000	0.000	0.000	0
14	36.12	0.000	0.000	0.000	0.000	0	19.00	0.000	0.000	0.000	0.000	0	3.316	0.000	0.000	0.000	0.000	0
15	35.62	0.000	0.000	0.000	0.000	0	28.77	0.000	0.000	0.000	0.000	0	3.664	0.000	0.000	0.000	0.000	0
16	35.27	0.000	0.000	0.000	0.000	0	27.77	0.000	0.000	0.000	0.000	0	10.62	0.000	0.000	0.000	0.000	0
17	39.50	0.000	0.000	0.000	0.000	0	21.52	0.000	0.000	0.000	0.000	0	24.81	0.000	0.000	0.000	0.000	0
18	36.08	0.000	0.000	0.000	0.000	0	22.26	0.000	0.000	0.000	0.000	0	30.92	0.000	0.000	0.000	0.000	0
19	35.74	0.000	0.000	0.000	0.000	0	22.23	0.000	0.000	0.000	0.000	0	30.93	0.000	0.000	0.011	0.011	29
20	35.41	0.000	0.000	0.000	0.000	0	21.87	0.000	0.000	0.000	0.000	0	29.11	0.000	0.000	0.000	0.000	0
21	69.68	0.000	0.000	0.000	0.000	0	19.00	0.000	0.000	0.000	0.000	0	43.35	0.000	0.000	0.000	0.000	0
22	39.52	0.000	0.000	0.000	0.000	0	15.44	0.000	0.000	0.000	0.000	0	41.35	0.000	0.000	0.000	0.000	0
23	37.96	0.000	0.000	0.000	0.000	0	15.17	0.000	0.000	0.000	0.000	0	41.87	0.000	0.000	0.000	0.000	0
24	19.00	0.000	0.000	0.000	0.000	0	14.82	0.000	0.000	0.000	0.000	0	40.96	0.000	0.000	0.000	0.000	0
25	22.80	0.000	0.000	0.000	0.000	0	9.880	0.000	0.000	0.000	0.000	0	7.006	0.000	0.000	0.000	0.000	0
26	22.87	0.000	0.000	0.000	0.000	0	28.50	0.000	0.000	0.000	0.000	0	5.462	0.000	0.000	0.000	0.000	0
27	22.50	0.000	0.000	0.000	0.000	0	13.05	0.000	0.000	0.000	0.000	0	4.890	0.000	0.000	0.000	0.000	0
28	19.38	0.000	0.000	0.000	0.000	0	28.40	0.000	0.000	0.000	0.000	0	8.646	0.000	0.000	0.000	0.000	0
29	19.17	0.000	0.000	0.000	0.000	0	28.46	0.000	0.000	0.000	0.000	0						
30	22.28	0.000	0.000	0.000	0.000	0	21.12	0.000	0.000	0.000	0.000	0						
31	23.50	0.000	0.000	0.000	0.000	0	20.29	0.000	0.000	0.000	0.000	0						
Ten Daily Mean																		
Ten Daily I	43.41	0.000	0.000	0.001	0.001	4	24.14	0.000	0.000	0.000	0.000	0	18.67	0.000	0.000	0.000	0.000	0
Ten Daily II	41.04	0.000	0.000	0.000	0.000	0	21.64	0.000	0.000	0.000	0.000	0	14.44	0.000	0.000	0.002	0.002	3
Ten Daily III	28.97	0.000	0.000	0.000	0.000	0	19.47	0.000	0.000	0.000	0.000	0	24.19	0.000	0.000	0.000	0.000	0
Monthly																		
Total						43						0						34

Annual Sediment Load (Metric Tonnes) : 813267

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Basantpur (EM000R2) **Division : MD,CWC,Burla**

Local River : Mahanadi **Sub-Division : MMSD I,CWC,Raipur**

Day	Mar						Apr						May					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	8.282	0.000	0.000	0.000	0.000	0	19.20	0.000	0.000	0.000	0.000	0	1.348	0.000	0.000	0.000	0.000	0
2	8.276	0.000	0.000	0.000	0.000	0	19.12	0.000	0.000	0.008	0.008	13	1.209	0.000	0.000	0.000	0.000	0
3	5.106	0.000	0.000	0.000	0.000	0	18.55	0.000	0.000	0.000	0.000	0	1.043	0.000	0.000	0.000	0.000	0
4	5.101	0.000	0.000	0.000	0.000	0	18.34	0.000	0.000	0.000	0.000	0	1.037	0.000	0.000	0.000	0.000	0
5	5.383	0.000	0.000	0.019	0.019	9	19.39	0.000	0.000	0.000	0.000	0	1.009	0.000	0.000	0.000	0.000	0
6	5.353	0.000	0.000	0.000	0.000	0	18.75	0.000	0.000	0.000	0.000	0	0.823	0.000	0.000	0.000	0.000	0
7	9.087	0.000	0.000	0.000	0.000	0	12.92	0.000	0.000	0.000	0.000	0	0.755	0.000	0.000	0.000	0.000	0
8	9.019	0.000	0.000	0.000	0.000	0	12.90	0.000	0.000	0.000	0.000	0	0.821	0.000	0.000	0.000	0.000	0
9	7.792	0.000	0.000	0.000	0.000	0	5.940	0.000	0.000	0.007	0.007	3	1.915	0.000	0.000	0.000	0.000	0
10	8.460	0.000	0.000	0.000	0.000	0	6.022	0.000	0.000	0.000	0.000	0	1.796	0.000	0.000	0.000	0.000	0
11	12.25	0.000	0.000	0.000	0.000	0	6.270	0.000	0.000	0.000	0.000	0	1.899	0.000	0.000	0.000	0.000	0
12	31.93	0.000	0.000	0.023	0.023	63	6.550	0.000	0.000	0.000	0.000	0	1.841	0.000	0.000	0.000	0.000	0
13	31.63	0.000	0.000	0.000	0.000	0	5.558	0.000	0.000	0.000	0.000	0	1.800	0.000	0.000	0.000	0.000	0
14	27.56	0.000	0.000	0.000	0.000	0	5.855	0.000	0.000	0.000	0.000	0	2.190	0.000	0.000	0.000	0.000	0
15	9.055	0.000	0.000	0.000	0.000	0	4.013	0.000	0.000	0.000	0.000	0	2.165	0.000	0.000	0.000	0.000	0
16	9.206	0.000	0.000	0.000	0.000	0	1.427	0.000	0.000	0.000	0.000	0	2.116	0.000	0.000	0.000	0.000	0
17	10.12	0.000	0.000	0.000	0.000	0	1.473	0.000	0.000	0.000	0.000	0	2.109	0.000	0.000	0.000	0.000	0
18	10.08	0.000	0.000	0.000	0.000	0	1.536	0.000	0.000	0.000	0.000	0	2.142	0.000	0.000	0.000	0.000	0
19	9.869	0.000	0.000	0.022	0.022	19	2.289	0.000	0.000	0.000	0.000	0	2.110	0.000	0.000	0.000	0.000	0
20	9.617	0.000	0.000	0.000	0.000	0	2.073	0.000	0.000	0.000	0.000	0	2.223	0.000	0.000	0.000	0.000	0
21	9.285	0.000	0.000	0.000	0.000	0	1.329	0.000	0.000	0.000	0.000	0	2.225	0.000	0.000	0.000	0.000	0
22	10.34	0.000	0.000	0.000	0.000	0	1.070	0.000	0.000	0.000	0.000	0	2.254	0.000	0.000	0.000	0.000	0
23	9.717	0.000	0.000	0.000	0.000	0	1.099	0.000	0.000	0.000	0.000	0	2.241	0.000	0.000	0.000	0.000	0
24	9.007	0.000	0.000	0.000	0.000	0	1.076	0.000	0.000	0.000	0.000	0	2.097	0.000	0.000	0.000	0.000	0
25	8.400	0.000	0.000	0.000	0.000	0	1.563	0.000	0.000	0.000	0.000	0	2.081	0.000	0.000	0.000	0.000	0
26	20.83	0.000	0.000	0.028	0.028	51	1.685	0.000	0.000	0.000	0.000	0	2.123	0.000	0.000	0.000	0.000	0
27	20.67	0.000	0.000	0.000	0.000	0	1.106	0.000	0.000	0.000	0.000	0	2.123	0.000	0.000	0.000	0.000	0
28	19.78	0.000	0.000	0.000	0.000	0	1.078	0.000	0.000	0.000	0.000	0	2.271	0.000	0.000	0.000	0.000	0
29	19.50	0.000	0.000	0.000	0.000	0	1.068	0.000	0.000	0.000	0.000	0	2.270	0.000	0.000	0.000	0.000	0
30	22.00	0.000	0.000	0.000	0.000	0	1.068	0.000	0.000	0.000	0.000	0	53.82	0.000	0.000	0.000	0.000	0
31	19.28	0.000	0.000	0.000	0.000	0							2.045	0.000	0.000	0.000	0.000	0
Ten Daily Mean																		
Ten Daily I	7.186	0.000	0.000	0.002	0.002	1	15.11	0.000	0.000	0.001	0.001	2	1.176	0.000	0.000	0.000	0.000	0
Ten Daily II	16.13	0.000	0.000	0.005	0.005	8	3.704	0.000	0.000	0.000	0.000	0	2.060	0.000	0.000	0.000	0.000	0
Ten Daily III	15.35	0.000	0.000	0.003	0.003	5	1.214	0.000	0.000	0.000	0.000	0	6.868	0.000	0.000	0.000	0.000	0
Monthly																		
Total						142						16						0

Annual Sediment Load (Metric Tonnes) : 813267

Annual Sediment Load for period : 1973-2018

Station Name : Basantpur (EM000R2) **Division : MD,CWC,Burla**

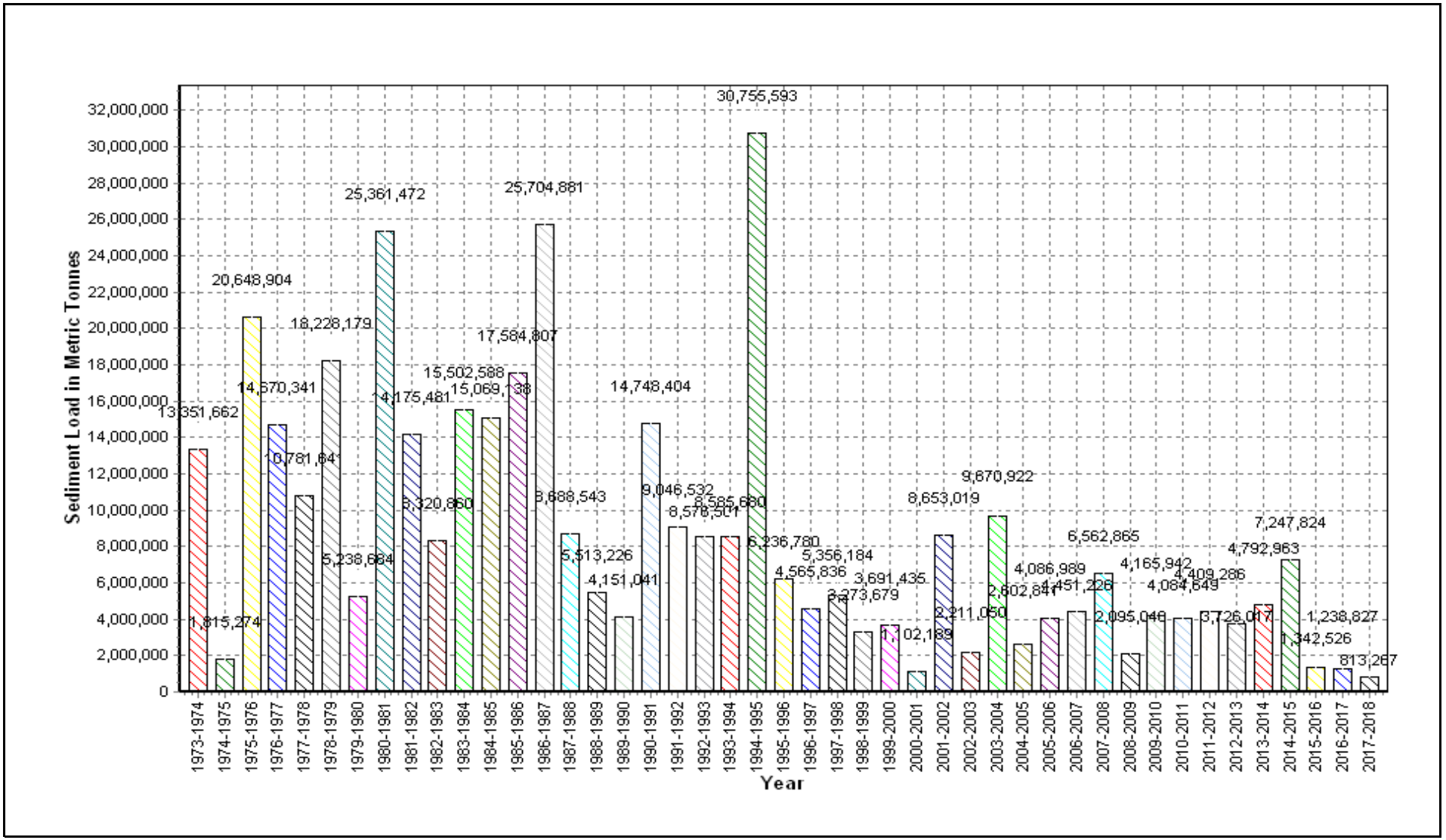
Local River : Mahanadi **Sub-Division : MMSD I,CWC,Raipur**

Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)
1973-1974	13346414	5248	13351662	34249
1974-1975	1815054	220	1815274	9619
1975-1976	20626347	22557	20648904	30312
1976-1977	14668919	1422	14670341	23265
1977-1978	10758712	22928	10781641	24996
1978-1979	18203926	24253	18228179	27546
1979-1980	5235829	2855	5238684	9324
1980-1981	25344116	17356	25361472	31877
1981-1982	14166825	8656	14175481	18378
1982-1983	8317774	3086	8320860	14175
1983-1984	15499685	2903	15502588	20248
1984-1985	15047638	21500	15069138	19905
1985-1986	17583023	1784	17584807	23975
1986-1987	25702082	2799	25704881	24663
1987-1988	8686840	1703	8688543	11007
1988-1989	5511599	1627	5513226	10832
1989-1990	4150721	320	4151041	9642
1990-1991	14745477	2927	14748404	34888
1991-1992	9045509	1023	9046532	20204
1992-1993	8567775	8725	8576501	17348
1993-1994	8583379	2301	8585680	17439
1994-1995	30691520	64073	30755593	51360
1995-1996	6223214	13565	6236780	18953
1996-1997	4562979	2856	4565836	13101
1997-1998	5348879	7305	5356184	19072
1998-1999	3271130	2549	3273679	17994
1999-2000	3685291	6144	3691435	20562
2000-2001	1100237	1951	1102189	7565
2001-2002	8644276	8743	8653019	29920
2002-2003	2203590	7460	2211050	8345
2003-2004	9661577	9345	9670922	31796
2004-2005	2597039	5801	2602841	17655
2005-2006	4084463	2526	4086989	25840
2006-2007	4446277	4949	4451226	24170
2007-2008	6560638	2227	6562865	24891
2008-2009	2093227	1813	2095040	13493
2009-2010	4165017	925	4165942	14602
2010-2011	4084649	0	4084649	20046
2011-2012	4394240	15047	4409286	22672
2012-2013	3718823	7194	3726017	21079
2013-2014	4784581	8381	4792963	24982
2014-2015	7245833	1991	7247824	27167
2015-2016	1341867	659	1342526	9452
2016-2017	1238420	408	1238827	12212
2017-2018	813032	235	813267	6806

Annual Sediment Load for the period: 1973-2018

Station Name : Basantpur (EM000R2)
Local River : Mahanadi

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur



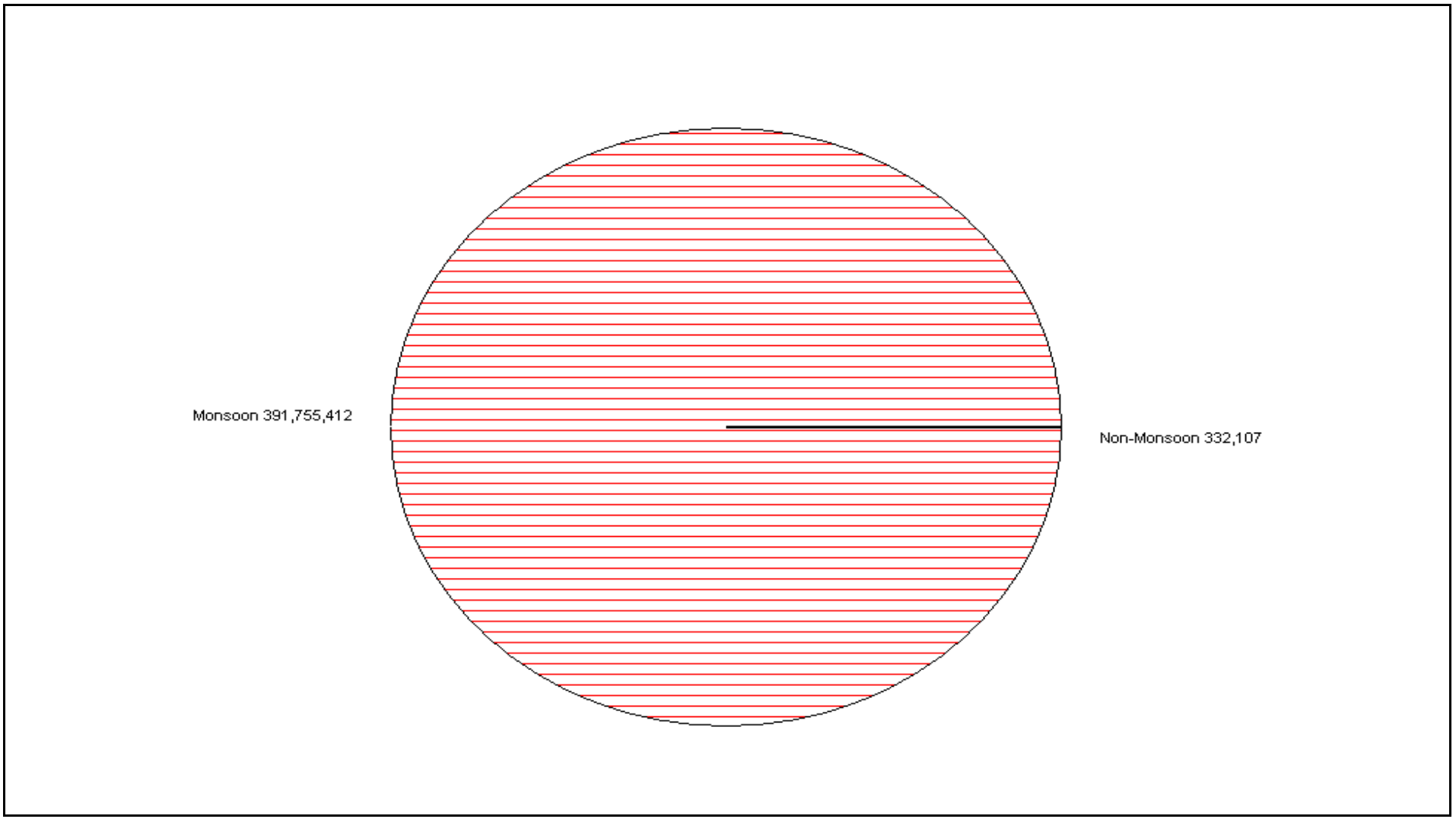
Seasonal Sediment Load for the period : 1973-2017

Station Name : Basantpur (EM000R2)

Local River : Mahanadi

Division : MD,CWC,Burla

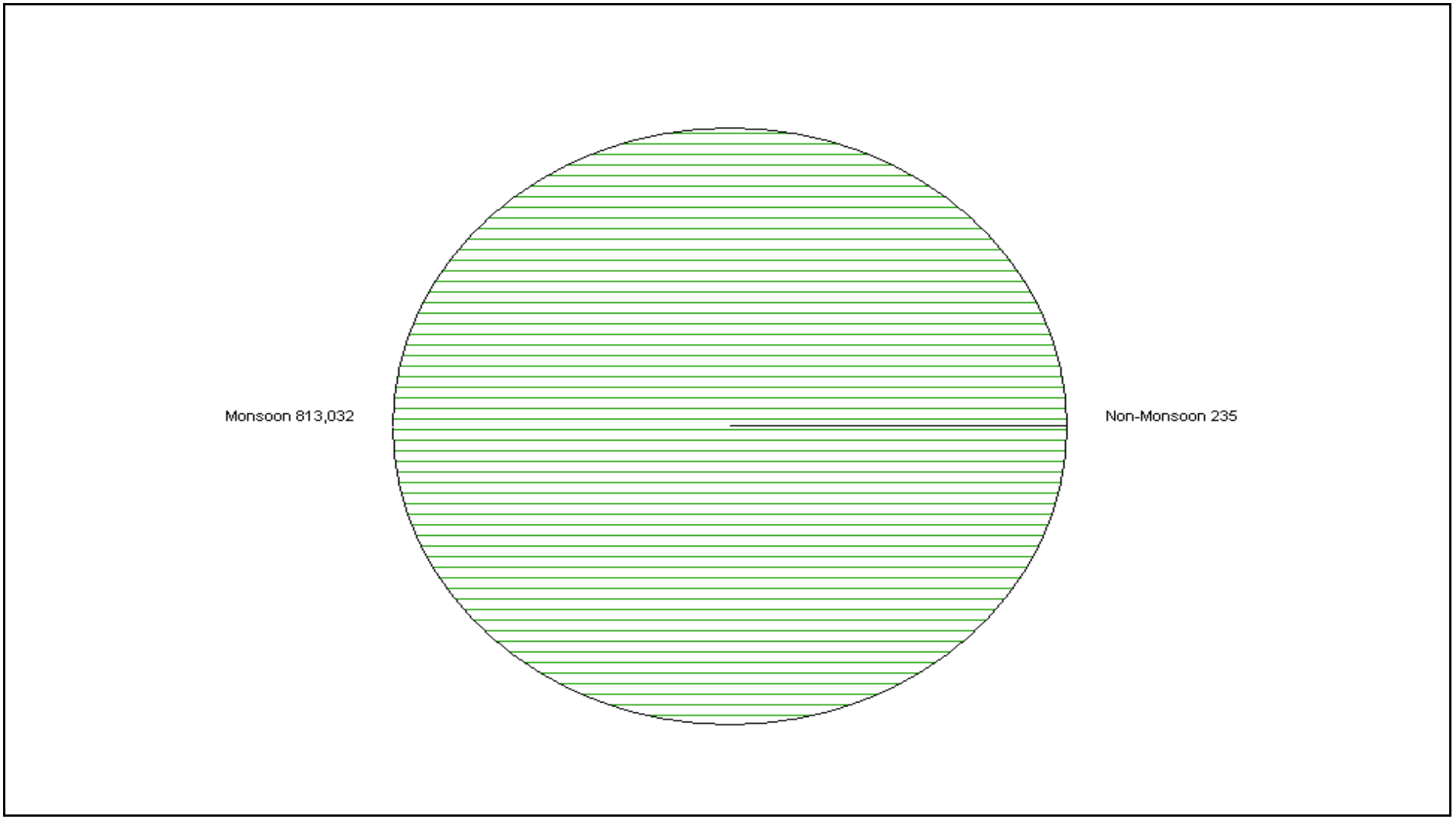
Sub-Division : MMSD I,CWC,Raipur



Seasonal Sediment Load for the Year: 2017-2018

Station Name : Basantpur (EM000R2)
Local River : Mahanadi

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur



SECTION- III

Water Quality Datasheet for the period : 2017-2018

Station Name : Basantpur (EM000R2) **Division : MD,CWC,Burla**

Local River : Mahanadi **River Water Analysis** **Sub-Division : MMSD I,CWC,Raipur**

S.No	Parameters	01/06/2017	01/07/2017	01/08/2017	01/09/2017	03/10/2017	01/11/2017	01/12/2017	01/01/2018	01/02/2018	01/03/2018	02/04/2018	01/05/2018
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)	11.93	41.21	317.8	1811	1198	112.1	62.25	27.33	26.95	8.282	19.12	1.348
2	Colour_Cod (-)	Clear	Clear	Light Brown	Light Brown	Light Brown	Light Brown	Clear	Clear	Clear	Clear	Clear	Clear
3	EC_FLD (µmho/cm)	678	509	472	430	465	586	547	446	437	473	516	542
4	EC_GEN (µmho/cm)	201	180	202	164	185	219	228	276	235	270	347	205
5	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free
6	pH_FLD (pH units)	8.1	9.3	8.7	8.3	8.4	8.8	8.8	8.9	8.5	8.0	7.2	7.6
7	pH_GEN (pH units)	8.2	7.7	7.9	7.7	8.2	8.1	8.5	8.1	7.6	7.5	7.4	7.7
8	Temp (deg C)	33.8	31.0	31.0	30.4	30.5	28.5	24.5	21.5	21.5	25.0	25.5	27.5
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	321	136	152	136	164	140	180	220	208	260	280	220
3	Ca (mg/L)	48	56	40	61	40	43	43	43	45	48	42	27
4	Cl (mg/L)	30.0	31.0	21.0	40.0	27.0	30.0	29.0	40.0	22.0	16.0	30.0	26.0
5	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	HCO3 (mg/L)	196	83	93	83	100	85	110	134	127	159	171	134
7	K (mg/L)	5.8	7.5	6.5	7.6	9.3	7.2	6.9	9.6	8.6	9.1	8.2	8.2
8	Mg (mg/L)	18.5	6.8	10.7	6.8	4.9	11.7	16.5	11.7	1.9	4.9	5.8	9.7
9	Na (mg/L)	11.3	20.6	9.5	16.5	18.2	14.2	12.5	18.2	20.1	28.5	22.7	24.7
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)	0.7	0.8	0.9	1.3	0.7	0.8	0.8	1.4	0.7	0.5	0.6	0.8
2	DO (mg/L)	6.0	5.2	6.0	6.8	6.3	6.6	7.5	7.5	6.5	5.8	6.1	7.0
3	DO_SAT% (%)	84	70	81	90	83	84	89	84	73	70	74	88
4	FCol-MPN (MPN/100mL)	70	60	90	40	60	40	60		90	40	110	40
5	Tcol-MPN (MPN/100mL)	170	90	120	90	90	110	120		140	90	40	60
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)	120	140	100	152	100	108	108	108	112	120	104	68
2	HAR_Total (mgCaCO3/L)	197	169	145	181	120	157	177	157	120	140	128	109
3	Na% (%)	11	20	12	16	23	16	13	19	25	29	26	31
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
5	SAR (-)	0.4	0.7	0.3	0.5	0.7	0.5	0.4	0.6	0.8	1.0	0.9	1.0
	PESTICIDES												

Water Quality Summary for the period : 2017-2018

Station Name : Basantpur (EM000R2) **Division : MD,CWC,Burla**

Local River : Mahanadi **Sub-Division : MMSD I,CWC,Raipur**

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	365	2946	0.000	215.8
2	EC_FLD (µmho/cm)	12	678	430	508
3	EC_GEN (µmho/cm)	12	347	164	226
4	pH_FLD (pH units)	12	9.3	7.2	8.4
5	pH_GEN (pH units)	12	8.5	7.4	7.9
6	Temp (deg C)	12	33.8	21.5	27.6
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	12	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	12	321	136	202
3	Ca (mg/L)	12	61	27	45
4	Cl (mg/L)	12	40.0	16.0	28.5
5	CO3 (mg/L)	12	0.0	0.0	0
6	HCO3 (mg/L)	12	196	83	123
7	K (mg/L)	12	9.6	5.8	7.9
8	Mg (mg/L)	12	18.5	1.9	9.2
9	Na (mg/L)	12	28.5	9.5	18.1
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	12	1.4	0.5	0.8
2	DO (mg/L)	12	7.5	5.2	6.4
3	DO_SAT% (%)	12	90	70	81
4	FCol-MPN (MPN/100mL)	11	110	40	64
5	Tcol-MPN (MPN/100mL)	11	170	40	102
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	12	152	68	112
2	HAR_Total (mgCaCO3/L)	12	197	109	150
3	Na% (%)	12	31	11	20
4	RSC (-)	12	0.2	0.0	0
5	SAR (-)	12	1.0	0.3	0.7
	PESTICIDES				

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Basantpur (EM000R2) | **Division : MD,CWC,Burla**

Local River : Mahanadi | **River Water** | **Sub-Division : MMSD I,CWC,Raipur**

S.No	Parameters	Flood														
		Jun - Oct														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	PHYSICAL															
1	Q (cumec)	1862	1004	2903	3379	2552	582.3	514.9	674.3	1399	1067	3170	2035	523.8	1380	675.9
2	EC_FLD (µmho/cm)	157	168	226	159	188	172	190						315	308	511
3	EC_GEN (µmho/cm)	157	168	226	159	146	168	221	268	260	312	214	247	173	206	186
4	pH_FLD (pH units)	7.6	7.8	7.8	7.6	8.4	7.6	7.2	6.9	7.0	6.4	6.7	6.4	7.9	7.9	8.5
5	pH_GEN (pH units)	7.6	7.8	7.8	7.6	7.6	7.7	7.5	7.4	7.3	7.3	8.0	8.3	7.9	7.4	7.9
6	Temp (deg C)	28.3	32.0	30.2	28.7	28.4	28.3	27.8	27.1	29.6	28.7	27.0	29.5	28.6	30.1	31.3
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	2.6	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	2.8	0.8	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	152	93	127	107	115	127	156	174	181	223	186	203	163	167	182
3	B (mg/L)			0.05	0.01	0.01	0.01	0.00	0.00	0.00	0.00					
4	Ca (mg/L)	18	38	16	10	13	11	15	20	20	28	23	22	22	38	49
5	Cl (mg/L)	19.2	13.3	18.2	8.6	10.5	13.1	10.7	11.8	12.8	15.9	22.8	13.8	15.4	20.6	29.8
6	CO3 (mg/L)	0.0	0.0	3.2	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	3.4	1.0	0.0	0.0
7	F (mg/L)	1.43		0.30	0.05	0.09	0.10	0.14	0.16	0.19	0.23					
8	Fe (mg/L)			0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1					
9	HCO3 (mg/L)	93	62	74	65	70	75	95	106	110	136	114	120	98	102	111
10	K (mg/L)	1.8		3.0	1.7	2.0	2.0	3.1	3.9	4.2	2.9	7.4	14.0	5.5	9.1	7.3
11	Mg (mg/L)	5.6	5.0	5.1	5.1	5.5	7.2	9.6	10.2	10.4	16.1	6.8	10.3	7.6	14.0	9.5
12	Na (mg/L)	6.1		9.9	4.6	5.4	8.1	9.6	15.7	18.2	16.4	15.3	21.6	12.3	19.0	15.2
13	NH3-N (mg N/L)															
14	NO2+NO3 (mg N/L)		0.10	0.06	0.06	0.07	0.32									
15	NO2-N (mgN/L)			0.00	0.01	0.01	0.03	0.01	0.02	0.02	0.05					
16	NO3-N (mgN/L)			0.06	0.05	0.06	0.29									
17	o-PO4-P (mg P/L)						0.080									
18	P-Tot (mgP/L)	0.020		0.013	0.009	0.010	0.034	0.036	0.026	0.054	0.118					
19	SiO2 (mg/L)			12.2	15.7	19.4	23.4	22.1	19.6	22.6	27.4					
20	SO4 (mg/L)	18.0	9.8	10.3	11.0	11.0	13.6	16.8	21.4	24.6	28.3					

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Basantpur (EM000R2) **Division : MD,CWC,Burla**

Local River : Mahanadi **River Water** **Sub-Division : MMSD I,CWC,Raipur**

S.No	Parameters	Flood														
		Jun - Oct														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	1.0	0.8	1.0	0.4	1.2	0.8	0.9	0.8	1.0	1.0	0.7	0.6	0.5	0.9	0.9
2	COD (mg/L)				21.1	18.0	16.8	24.0	24.8	24.8	30.4					
3	DO (mg/L)	5.1	6.4	5.8	6.1	7.2	6.9	5.8	5.1	5.8	5.8	5.6	6.5	5.0	6.1	6.1
4	DO_SAT% (%)	67	89	77	79	92	88	73	64	76	74	70	85	64	80	82
5	FCol-MPN (MPN/100mL)															64
6	Tcol-MPN (MPN/100mL)															112
	TRACE & TOXIC															
1	Al (mg/L)															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	46	96	39	26	33	27	38	49	50	70	58	54	55	95	123
2	HAR_Total (mgCaCO3/L)	69	117	61	47	56	57	78	91	93	137	87	97	87	153	162
3	Na% (%)	14		25	18	17	22	21	22	27	20	22	28	22	21	16
4	RSC (-)	0.3	0.0	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.0	0.2	0.2	0.0	0.0	0.0
5	SAR (-)	0.3		0.6	0.3	0.3	0.5	0.5	0.7	0.8	0.6	0.7	1.0	0.6	0.7	0.5
	PESTICIDES															

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Basantpur (EM000R2) | **Division : MD,CWC,Burla**

Local River : Mahanadi | **River Water** | **Sub-Division : MMSD I,CWC,Raipur**

S.No	Parameters	Winter														
		Nov - Feb														
		2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
	PHYSICAL															
1	Q (cumec)	415.8	164.0	204.3	154.4	131.6	107.6	70.29	149.4	146.5	126.2	209.9	165.9	68.54	31.07	57.15
2	EC_FLD (µmho/cm)	157	300	162	167	195	235							187	463	504
3	EC_GEN (µmho/cm)	157	300	162	167	201	243	313	358	299	354	434	288	227	231	240
4	pH_FLD (pH units)	7.9	8.0	6.9	8.0	8.2	7.2	7.3	8.0	7.8	6.6		6.4	8.0	8.2	8.7
5	pH_GEN (pH units)	7.9	8.0	6.9	8.0	7.8	7.5	7.6	7.4	7.8	7.8	8.1	8.3	8.3	8.4	8.1
6	Temp (deg C)	22.5	23.3	24.8	20.0	20.3	18.5	16.8	22.3	20.5	20.6	21.8	21.4	23.0	21.7	24.0
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	151	190	107	117	150	92	197	261	215	259	255	234	183	151	187
3	B (mg/L)			0.01	0.00	0.01	0.01	0.00	0.00	0.01	0.00					
4	Ca (mg/L)	15	18	12	13	13	18	21	27	23	35	37	35	28	44	44
5	Cl (mg/L)	13.7	8.0	14.1	13.1	17.8	19.5	11.5	22.0	17.0	15.4	22.8	20.3	15.3	29.0	30.3
6	CO3 (mg/L)	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.98		0.08	0.08	0.12	0.11	0.16	0.10	0.14	0.24					
8	Fe (mg/L)			0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1		0.1			
9	HCO3 (mg/L)	91	115	65	72	92	56	120	159	131	158	156	143	112	92	114
10	K (mg/L)		1.3	2.2	1.7	2.1	2.5	3.6	4.8	4.2	1.7	10.1	14.6	4.6	8.1	8.1
11	Mg (mg/L)	4.4	11.4	5.7	7.2	8.8	10.2	10.1	15.7	13.5	16.0	14.1	15.6	10.7	7.5	10.4
12	Na (mg/L)		25.4	8.3	7.0	10.4	12.8	10.2	19.8	17.6	22.4	24.1	21.3	14.4	17.5	16.3
13	NH3-N (mg N/L)															
14	NO2+NO3 (mg N/L)		0.25	0.07	0.04	0.12	0.59						0.20			
15	NO2-N (mgN/L)			0.00	0.00	0.01	0.01	0.02	0.04	0.04	0.04		0.02			
16	NO3-N (mgN/L)			0.06	0.03	0.11	0.57						0.18			
17	o-PO4-P (mg P/L)															
18	P-Tot (mgP/L)	0.010	0.020	0.010	0.006	0.020	0.017	0.042	0.062	0.062	0.072		0.060			
19	SiO2 (mg/L)			15.9	14.1	25.5	20.3	23.8	18.3	14.0	16.2		9.4			
20	SO4 (mg/L)	13.2	14.3	14.8	12.2	20.3	15.7	21.3	32.4	25.5	25.8		26.4			

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Basantpur (EM000R2) **Division : MD,CWC,Burla**

Local River : Mahanadi **River Water** **Sub-Division : MMSD I,CWC,Raipur**

S.No	Parameters	Winter														
		Nov - Feb														
		2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.2	0.9	0.6	1.0	0.7	1.0	0.7	0.9	0.6	0.9	0.7	1.2	0.7	0.8	0.9
2	COD (mg/L)				23.4	23.0	25.0	29.0	30.0	22.0	30.0					
3	DO (mg/L)	6.1	8.7	7.5	7.9	9.0	6.8	7.5	7.3	7.4	7.2	7.9	8.2	7.3	7.4	7.0
4	DO_SAT% (%)	82	102	90	86	98	72	77	83	82	80	89	92	84	84	83
5	FCol-MPN (MPN/100mL)															63
6	Tcol-MPN (MPN/100mL)															123
	TRACE & TOXIC															
1	Al (mg/L)															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	37	44	30	33	32	44	54	67	58	87	92	87	71	110	109
2	HAR_Total (mgCaCO3/L)	55	91	54	63	69	87	96	133	114	154	151	152	116	141	153
3	Na% (%)		36	24	19	24	24	18	23	24	20	24	21	21	21	18
4	RSC (-)	0.6	0.3	0.0	0.0	0.2	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0
5	SAR (-)		1.0	0.5	0.4	0.6	0.6	0.5	0.7	0.7	0.8	0.9	0.8	0.6	0.6	0.6
	PESTICIDES															

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Basantpur (EM000R2) | **Division : MD,CWC,Burla**

Local River : Mahanadi | **River Water** | **Sub-Division : MMSD I,CWC,Raipur**

S.No	Parameters	Summer														
		Mar - May														
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	PHYSICAL															
1	Q (cumec)	94.63	63.28	68.56	97.53	32.94	44.15	7.787	21.04	29.06	29.00	32.59	34.76	7.171	5.568	9.582
2	EC_FLD (µmho/cm)	218	139	134	137	150								277	674	510
3	EC_GEN (µmho/cm)	218	139	134	137	158	276	281	389	347	320	342	232	268	281	274
4	pH_FLD (pH units)	8.0	8.3	7.5	7.6	7.4	7.0	6.9		7.2	6.5				8.4	7.6
5	pH_GEN (pH units)	8.0	8.3	7.5	7.6	8.1	7.6	7.6	7.3	7.6	8.1	8.0	8.3	8.6	8.1	7.5
6	Temp (deg C)	28.0	29.0	32.0	27.7	26.2	23.7	23.8	25.2	25.7	27.3	26.0	25.8	30.3	30.5	26.0
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.3	0.1	9.3	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	205	65	95	93	107	169	202	197	226	265	258	189	224	192	253
3	B (mg/L)			0.03	0.00	0.01	0.00	0.00	0.00	0.00	0.00					
4	Ca (mg/L)	20	48	12	12	11	20	19	25	28	34	36	26	29	57	39
5	Cl (mg/L)	14.0	7.5	10.5	17.4	14.6	13.0	14.6	24.9	22.7	20.7	21.3	22.3	22.3	58.3	24.0
6	CO3 (mg/L)	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.1	11.2	0.0	0.0	0.0
7	F (mg/L)		0.15	0.05	0.16	0.15	0.19	0.14	0.09	0.23	0.21					
8	Fe (mg/L)			0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1		0.1			
9	HCO3 (mg/L)	125	39	58	57	65	103	123	120	138	158	157	104	137	117	155
10	K (mg/L)		1.9	1.7	1.8	2.3	2.9	5.7	6.0	2.7	8.6	4.5	6.3	11.3	10.0	8.5
11	Mg (mg/L)	8.0	-16.3	4.2	5.1	6.5	10.8	13.0	14.1	15.4	7.2	18.8	14.9	5.2	5.5	6.8
12	Na (mg/L)		7.2	8.2	6.9	10.5	10.8	23.5	19.3	18.7	44.9	24.7	18.1	27.8	31.1	25.3
13	NH3-N (mg N/L)															
14	NO2+NO3 (mg N/L)		0.08	0.06	0.08	0.47	0.30						0.21			
15	NO2-N (mgN/L)			0.00	0.00	0.02	0.02	0.02	0.05	0.10	0.07		0.05			
16	NO3-N (mgN/L)			0.05	0.08	0.45	0.28						0.16			
17	o-PO4-P (mg P/L)															
18	P-Tot (mgP/L)		0.020	0.018	0.007	0.020	0.013	0.033	0.103	0.107	0.073		0.063			
19	SiO2 (mg/L)			18.5	15.3	17.2	23.8	15.5	20.4	20.7	19.3		20.7			
20	SO4 (mg/L)	5.1	8.7	9.6	8.6	12.3	22.7	20.3	38.5	36.1	32.7		29.9			

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Basantpur (EM000R2) **Division : MD,CWC,Burla**

Local River : Mahanadi **River Water** **Sub-Division : MMSD I,CWC,Raipur**

S.No	Parameters	Summer														
		Mar - May														
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.4	0.4	0.2	1.0	0.7	0.9	1.1	1.1	1.4	0.7	1.1	0.7	1.2	1.6	0.6
2	COD (mg/L)				24.7	23.7	28.0	24.0	24.0	21.3	25.3					
3	DO (mg/L)	7.4	7.0	6.0	6.2	7.3	5.1	5.7	5.9	5.5	5.7	6.2	6.4	7.1	6.7	6.3
4	DO_SAT% (%)	93	89	81	79	90	60	67	70	67	71	76	78	95	89	77
5	FCol-MPN (MPN/100mL)															63
6	Tcol-MPN (MPN/100mL)															63
	TRACE & TOXIC															
1	Al (mg/L)															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	50	120	31	31	28	49	48	62	69	86	91	64	73	142	98
2	HAR_Total (mgCaCO3/L)	83	53	48	52	55	94	102	121	133	115	169	126	94	165	126
3	Na% (%)		22	26	23	28	19	32	25	22	44	24	23	35	28	29
4	RSC (-)	0.6	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.4	0.0	0.0	0.4	0.0	0.1
5	SAR (-)		0.4	0.5	0.5	0.6	0.5	1.0	0.8	0.7	1.8	0.8	0.7	1.2	1.1	1.0
	PESTICIDES															

SITE KALMA

HISTORY SHEET

			Water Year	:	**2017-2018**
Site	:	**KALMA**	**Code**	:	**KALMA**
State	:	Chhattisgarh	District		Janjgir-champa
Basin	:	Mahanadi	Independent River	:	Mahanadi
Tributary	:		Sub Tributary	:	
Sub-Sub Tributary	:		Local River	:	
Division	:	MD,CWC,Burla	Sub-Division	:	MMSD II,CWC,Burla
Drainage Area	:	Sq. Km.	Bank	:	Left
Latitude	:	21°41'40"	Longitude	:	83°16'44"
Zero of Gauge (m)	:	190 (m.s.l)	17/10/2016		
		Opening Date	Closing Date		
Gauge	:	19/10/2016			
Discharge	:	17/10/2016			
Sediment	:				
Water Quality	:				

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

	Maximum			Minimum		
Year	**Q (cumecs)**	**WL (m)**	**Date**	**Q (cumecs)**	**WL (m)**	**Date**

Q : Observed / Computed Discharge WL : Corresponding Water Level(m.s.l)

Stage-Dischage Data for the period 2017 - 2018

Station Name : KALMA (KALMA) **Division : MD,CWC,Burla**

Local River : **Sub-Division : MMSD II,CWC,Burla**

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	193.680	33.20	192.350	42.62	195.060	669.4	196.550	2694	195.510	1092 *	194.260	304.9
2	193.600	33.21	192.250	38.00 *	194.935	579.6	196.300	2600 *	195.700	1450 *	194.360	274.0
3	193.500	33.53	192.200	77.61	194.995	640.9	195.890	2250 *	195.340	993.5	194.500	287.0
4	193.400	2.100 *	192.600	136.7	194.945	520.5	195.600	1407	195.730	1594	194.380	276.2 *
5	193.350	2.219	193.050	150.1	194.915	502.3	195.300	920.6	195.310	1059	194.330	230.5 *
6	193.580	32.67	192.970	143.0	194.470	480.3 *	195.275	782.6	195.370	1195	194.390	256.1
7	193.520	26.53	193.080	162.9	195.005	619.8	195.085	693.8	195.235	1086	194.230	207.2
8	193.470	18.09	192.970	145.7	195.085	635.3	194.765	622.2	195.240	1092 *	194.180	64.10
9	193.470	16.46	192.670	139.0 *	195.470	915.6	194.730	604.0	195.380	1245	194.310	308.4
10	193.480	19.69	194.580	218.4	195.560	1436	194.800	350.0 *	195.405	1301	194.400	351.7
11	193.450	14.55 *	195.640	1234	195.410	803.4	194.965	579.9	195.360	2145	194.320	300.6
12	193.420	5.278	195.540	1009	195.320	750.2	194.850	529.8	196.085	2487	194.260	220.1 *
13	193.380	1.077	195.555	930.8	195.280	690.1 *	194.840	515.0	195.435	1349	194.040	91.37
14	193.400	4.014	195.160	615.7	195.215	685.4	194.935	472.7	195.540	1274	194.050	92.71
15	193.760	33.43	195.040	451.5	195.160	655.6 *	194.895	421.0	195.280	784.8 *	194.390	224.1
16	193.630	26.49	194.930	235.0 *	195.115	635.9	194.715	375.5	194.860	542.8	194.400	232.6
17	193.600	23.13	195.180	736.4	195.130	634.5	194.690	300.0 *	194.655	446.9	194.100	97.78
18	193.560	20.10 *	195.260	961.9	195.160	665.4	194.710	373.3	194.845	547.5	194.200	112.5
19	193.490	21.40	195.370	979.1	195.295	776.8	194.835	432.9	194.830	525.0	194.060	95.10 *
20	193.470	19.67	195.515	1164	195.270	720.2 *	195.600	1380	194.595	372.5	194.130	101.0
21	193.490	22.00	196.750	3749	195.200	677.0	196.255	2896	194.630	394.0	194.400	409.7
22	193.600	27.12	196.940	3394	195.115	653.1	197.685	6226	194.570	345.0 *	194.150	79.80
23	193.520	25.12	196.420	3180 *	195.075	622.7	197.610	5259	194.535	320.4	193.950	51.31
24	193.780	44.59	196.720	3796	195.280	737.0	197.000	3600 *	194.450	301.9	194.010	49.99
25	193.680	24.10 *	196.465	3383	195.315	797.0	196.275	2674	194.455	301.8	194.175	86.43
26	193.420	4.347	196.160	2894	195.450	957.6	195.700	1967	194.335	288.1	193.920	60.40 *
27	193.950	42.21	196.055	2014	195.420	906.1 *	195.655	1673	194.780	471.1	194.000	75.09
28	192.000	45.48	196.620	2952	195.790	1519	195.345	1104	194.610	449.1	193.990	70.23
29	192.050	43.32	195.960	1775	195.920	1800	194.740	350.0 *	194.620	454.1 *	193.930	64.34
30	192.470	46.38	195.530	1165 *	195.755	1497	195.180	350.0 *	194.320	380.2	194.040	88.63
31			195.215	724.8	196.300	2194			194.365	393.1		
Ten-Daily Mean												
I Ten-Daily	193.505	21.77	192.872	125.4	195.044	699.9	195.429	1292	195.422	1211	194.334	256.0
II Ten-Daily	193.516	16.91	195.319	831.7	195.236	701.7	194.904	538.0	195.148	1047	194.195	156.8
III Ten-Daily	193.196	32.47	196.258	2639	195.511	1124	196.144	2610	194.515	372.6	194.056	103.6
Monthly												
Min.	192.000	1.077	192.200	38.00	194.470	480.3	194.690	300.0	194.320	288.1	193.920	49.99
Max.	193.950	46.38	196.940	3796	196.300	2194	197.685	6226	196.085	2487	194.500	409.7
Mean	193.406	23.72	194.863	1245	195.271	850.9	195.492	1480	195.012	860.7	194.195	172.1

Annual Runoff in MCM = 12444 Annual Runoff in mm =

Peak Observed Discharge = 6226 cumecs on 22/09/2017 Corres. Water Level :197.685 m

Lowest Observed Discharge = 0.000 cumecs on 26/12/2017 Corres. Water Level :193.78 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Dischage Data for the period 2017 - 2018

Station Name : KALMA (KALMA) **Division : MD,CWC,Burla**

Local River : **Sub-Division : MMSD II,CWC,Burla**

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	193.980	74.71	193.660	0.000	193.490	20.33	193.000	0.250	193.100	1.200 *	193.030	0.266
2	193.870	57.28 *	193.800	15.98	193.500	21.54	193.200	3.010 *	193.200	2.155	193.020	0.190
3	193.900	60.12 *	193.800	16.82	193.320	8.933	193.200	2.600	193.220	3.840	193.020	0.197
4	193.950	70.49	193.475	17.78	193.320	6.570 *	193.200	2.950 *	193.330	13.18	193.020	0.193
5	193.920	64.36	193.490	20.11	193.300	7.745	193.100	0.461	193.130	0.979	193.000	0.151
6	193.940	75.56	193.480	15.99	193.360	12.96	193.130	0.977	193.120	0.732	193.000	0.150 *
7	193.930	66.90	193.470	16.10 *	193.350	12.80	193.120	0.744	193.110	0.680	193.000	0.145
8	193.880	54.20	193.470	17.30	193.350	12.30	193.050	0.466	193.110	0.670 *	193.000	0.144
9	193.800	15.50	193.480	16.12	193.330	9.725	193.010	0.419	193.110	0.680	193.000	0.136
10	193.790	14.52 *	193.500	22.38	193.180	2.422	193.020	0.452	193.110	0.715	193.000	0.141
11	194.000	68.17	193.470	19.60	193.200	3.130 *	193.020	0.370 *	193.020	0.378	193.000	0.126
12	193.830	35.57	193.350	11.90	193.200	3.130	193.030	0.528	193.020	0.379	193.020	0.185
13	193.855	31.57	193.340	8.141	193.170	2.432	193.030	0.452	193.010	0.305	193.010	0.180 *
14	193.835	16.31	193.350	10.11 *	193.170	2.706	193.040	0.859	193.010	0.312	193.000	0.132
15	193.820	17.26	193.650	36.34	193.140	1.368	193.280	7.518	193.030	0.450 *	193.000	0.130
16	193.840	19.00	193.350	17.29	193.140	1.454	193.040	0.578	193.050	0.685	193.000	0.133
17	193.830	16.20 *	193.340	9.898	193.140	1.114	193.030	0.448	193.040	0.553	193.000	0.125
18	193.800	18.85	193.450	24.98	193.140	1.300 *	193.030	0.490 *	193.050	0.643	193.030	0.393
19	193.860	22.94	193.500	25.26	193.300	12.43	193.050	1.008	193.030	0.480	193.010	0.284
20	193.800	17.06	193.465	25.48	193.460	21.75	193.280	5.408	193.020	0.383	193.030	0.520 *
21	194.000	58.06	193.450	20.29 *	193.450	22.62	193.270	4.786	193.030	0.436	193.060	0.871
22	193.800	43.24	193.300	7.545	193.610	35.43	193.070	1.226	193.020	0.380 *	193.060	0.815
23	193.920	53.52	193.320	8.658	193.630	37.04	193.050	1.000	193.000	0.185	193.040	0.685
24	193.880	28.35 *	193.350	14.32	193.715	40.81	193.180	3.735	193.000	0.099	193.040	0.655
25	193.790	13.05 *	193.360	13.94	193.600	23.41 *	193.250	7.810 *	193.000	0.101	193.030	0.646
26	193.780	0.000	193.330	9.680 *	193.480	29.28	193.310	11.33	193.000	0.103	193.040	0.629
27	193.780	0.000	193.200	5.064	193.270	8.935	193.170	2.096	193.000	0.106	193.100	1.510 *
28	193.790	0.000	193.250	7.250 *	193.200	2.922	193.190	2.061	193.000	0.103	193.200	2.965
29	193.840	40.30	193.370	13.87			193.170	1.900 *	193.000	0.100 *	193.240	5.275
30	193.820	39.39	193.550	27.67			193.000	0.250 *	193.000	0.100 *	193.240	5.739
31	193.820	35.15 *	193.470	21.61			193.000	0.250			193.300	9.754
Ten-Daily Mean												
I Ten-Daily	193.896	55.37	193.562	15.86	193.350	11.53	193.103	1.233	193.154	2.483	193.009	0.171
II Ten-Daily	193.847	26.29	193.426	18.90	193.206	5.081	193.083	1.766	193.028	0.457	193.010	0.221
III Ten-Daily	193.838	28.28	193.359	13.63	193.494	25.06	193.151	3.313	193.005	0.171	193.123	2.686
Monthly												
Min.	193.780	0.000	193.200	0.000	193.140	1.114	193.000	0.250	193.000	0.099	193.000	0.125
Max.	194.000	75.56	193.800	36.34	193.715	40.81	193.310	11.33	193.330	13.18	193.300	9.754
Mean	193.860	36.38	193.446	16.05	193.340	13.09	193.114	2.143	193.062	1.037	193.050	1.08

Peak Computed Discharge = 3600 cumecs on 24/09/2017 Corres. Water Level :197 m

Lowest Computed Discharge = 0.100 cumecs on 29/04/2018 Corres. Water Level :193 m

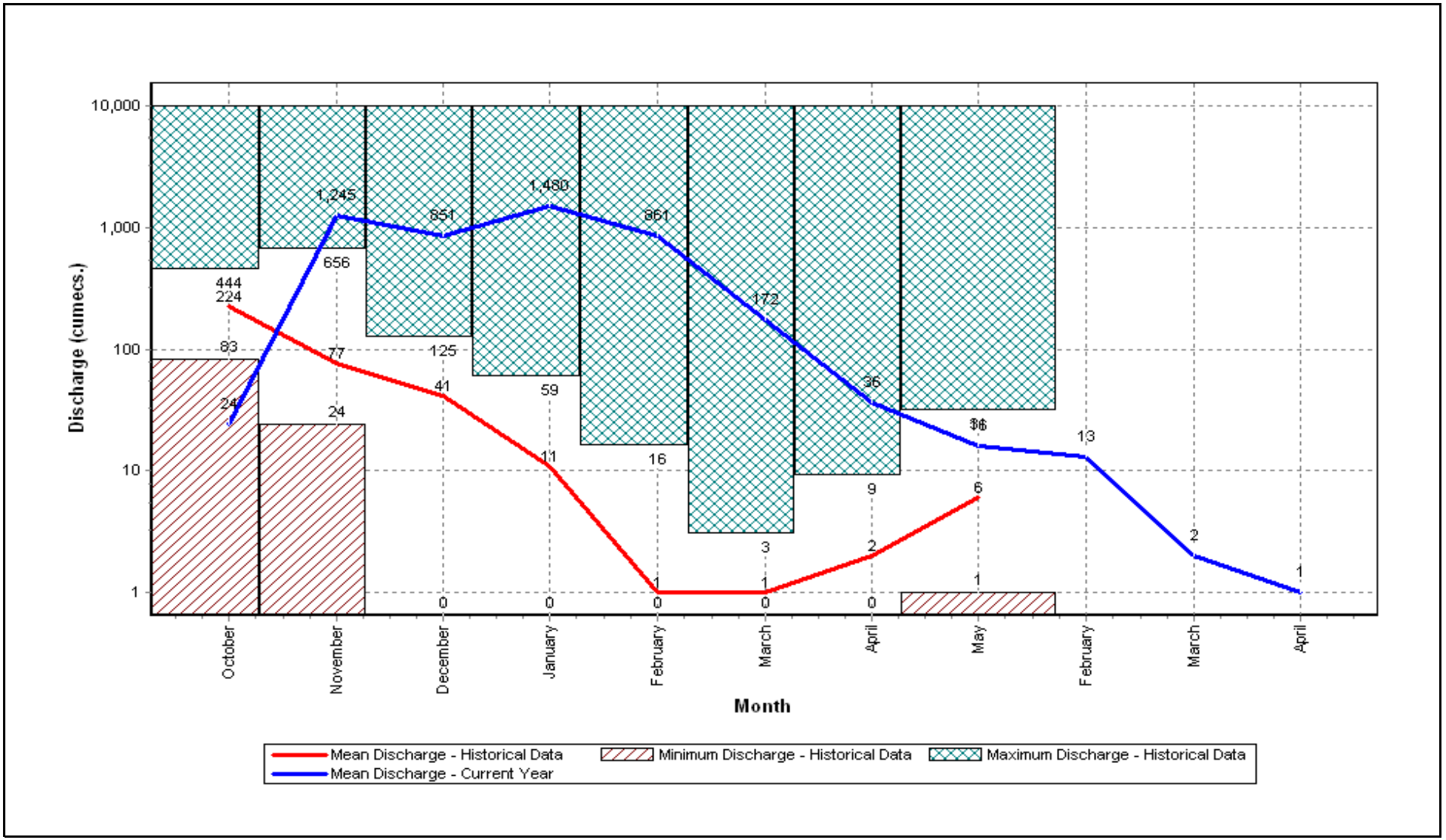
Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2017-2018

Station Name : KALMA (KALMA) | **Data considered : 2017-2018** | **Division : MD,CWC,Burla**

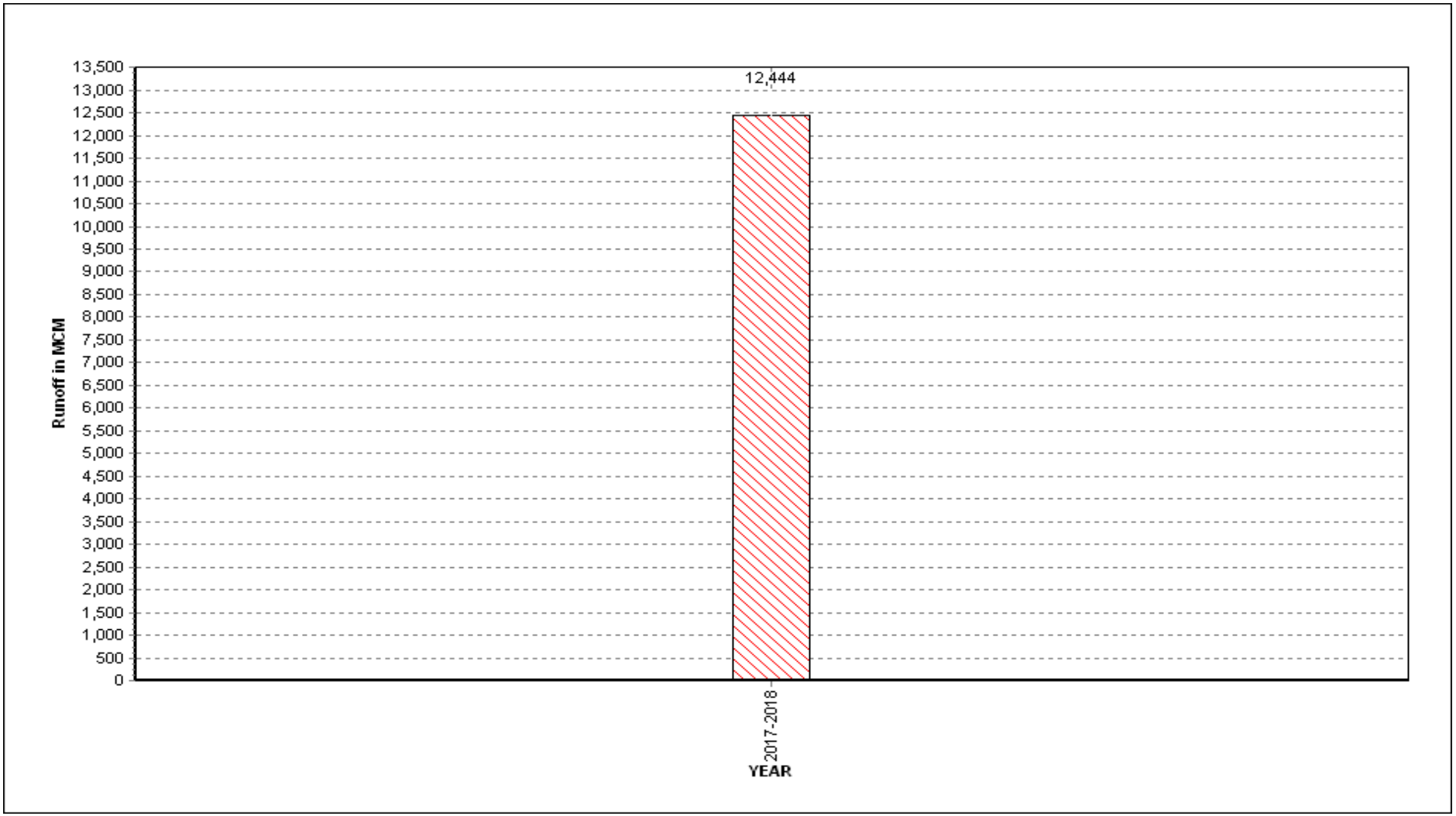
Local River : | **Sub-Division : MMSD II,CWC,Burla**



Annual Runoff Values for the period: 2017 - 2018

Station Name : KALMA (KALMA) **Division : MD,CWC,Burla**

Local River : **Sub-Division : MMSD II,CWC,Burla**

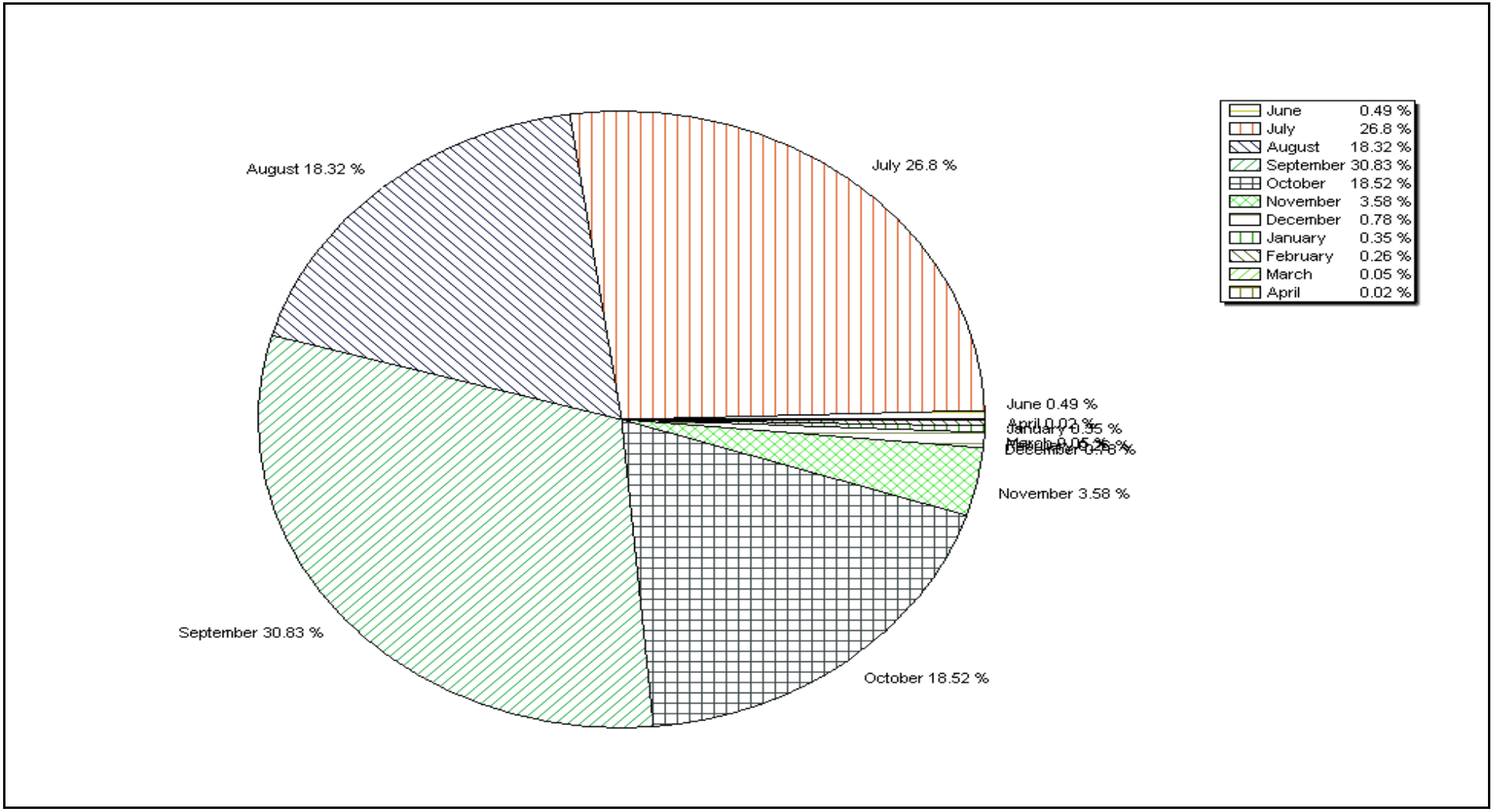


Note: Missing values have not been considered while arriving at Annual Runoff

Monthly Runoff for the Year : 2017-2018

Station Name : KALMA (KALMA) **Division : MD,CWC,Burla**

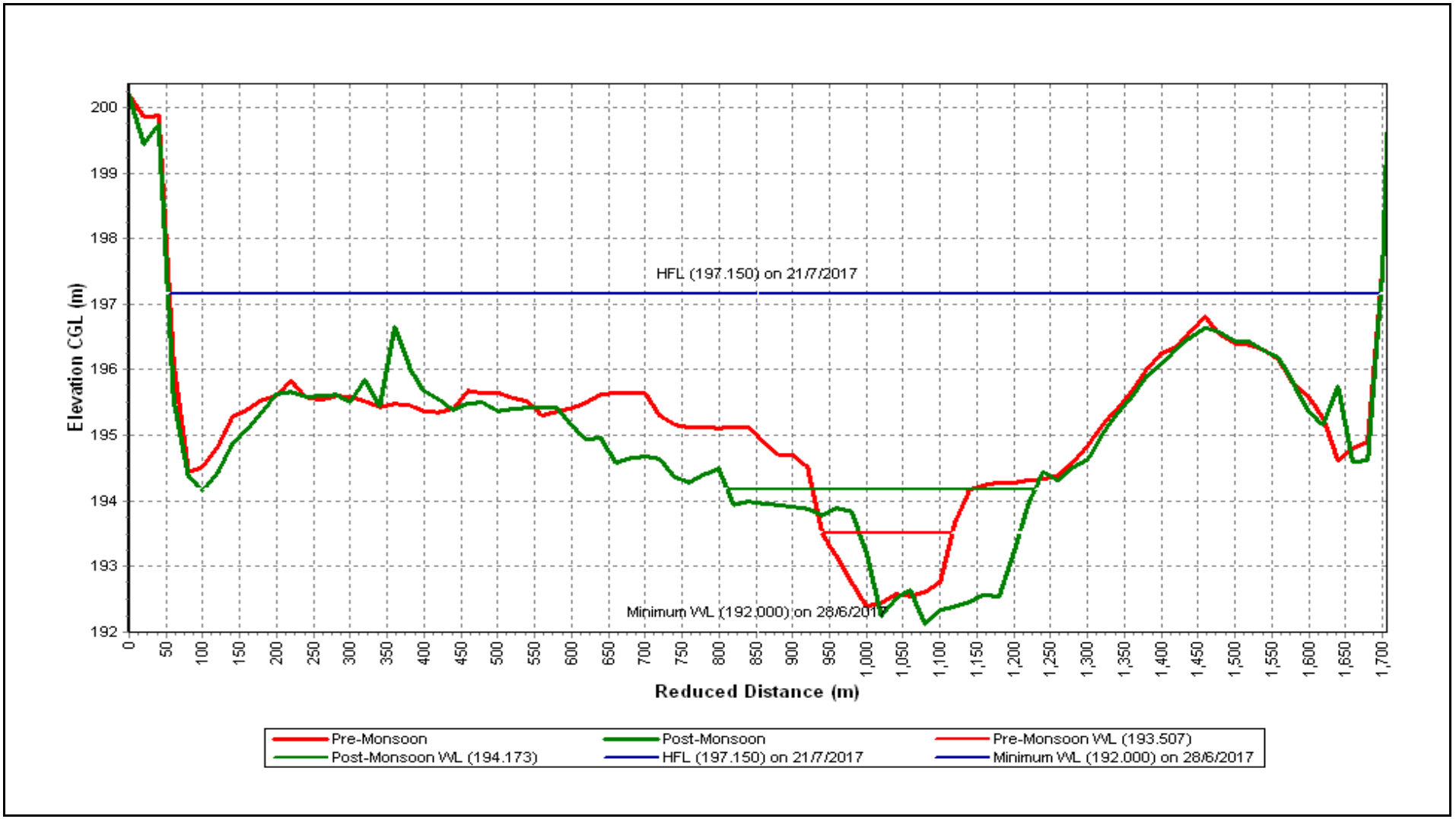
Local River : **Sub-Division : MMSD II,CWC,Burla**



Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2017-2018

Station Name : KALMA (KALMA) **Division : MD,CWC,Burla**

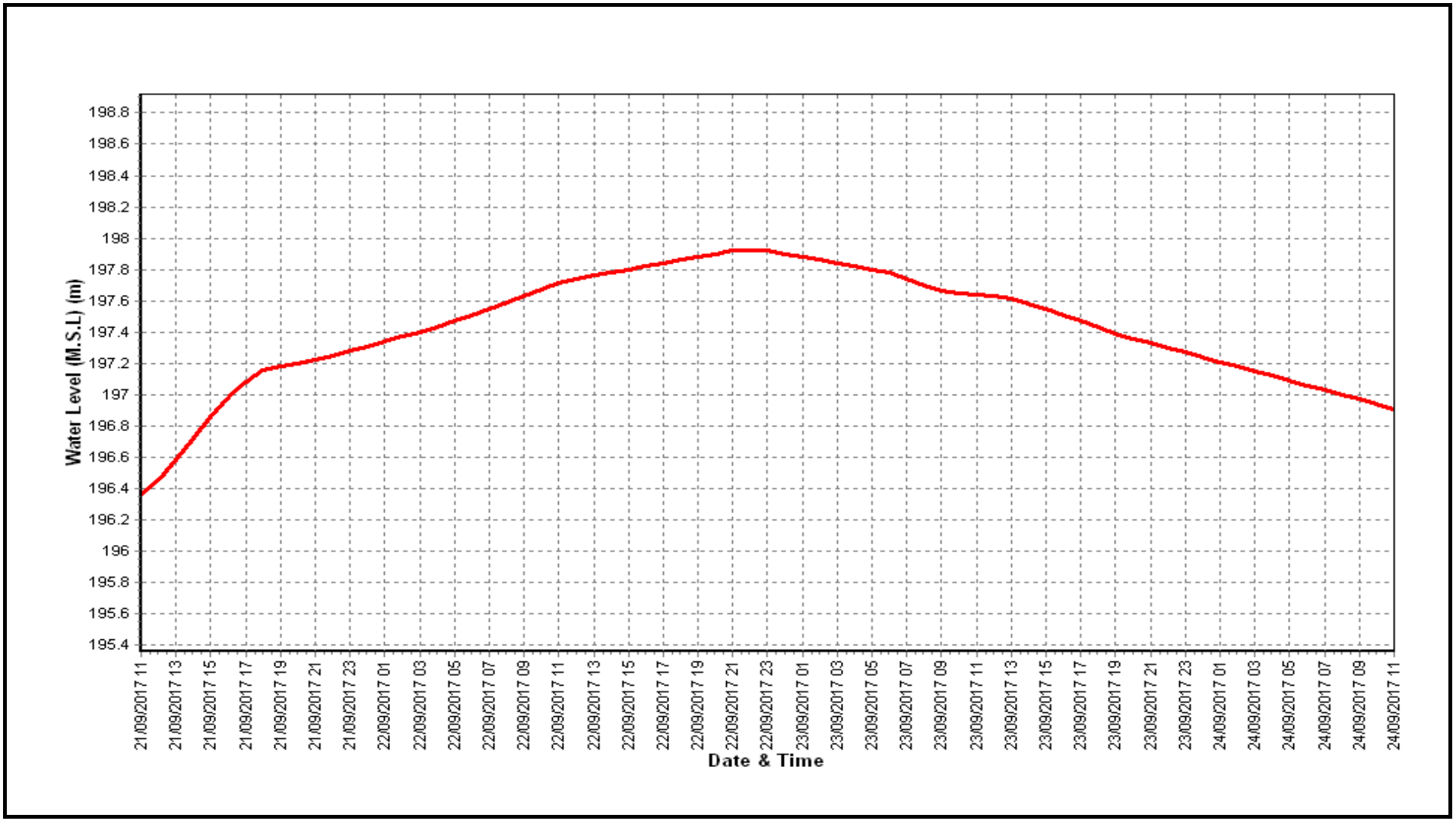
Local River : **Sub-Division : MMSD II,CWC,Burla**



Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2017-2018

Station Name : KALMA (KALMA) **Division : MD,CWC,Burla**

Local River : **Sub-Division : MMSD II,CWC,Burla**



Time Span: 72 Hrs

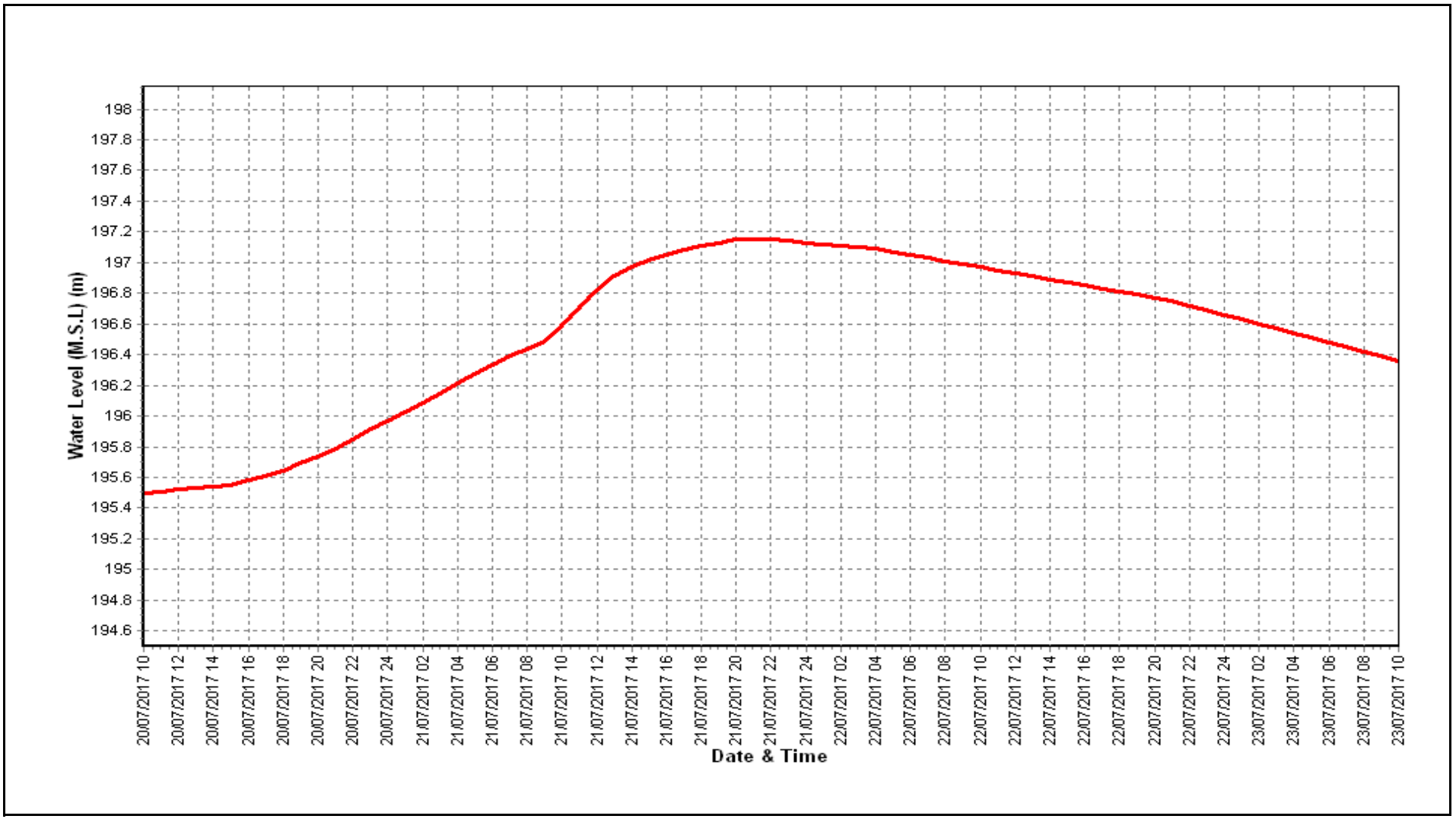
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2017-2018

Station Name : KALMA (KALMA)

Division : MD,CWC,Burla

Local River :

Sub-Division : MMSD II,CWC,Burla

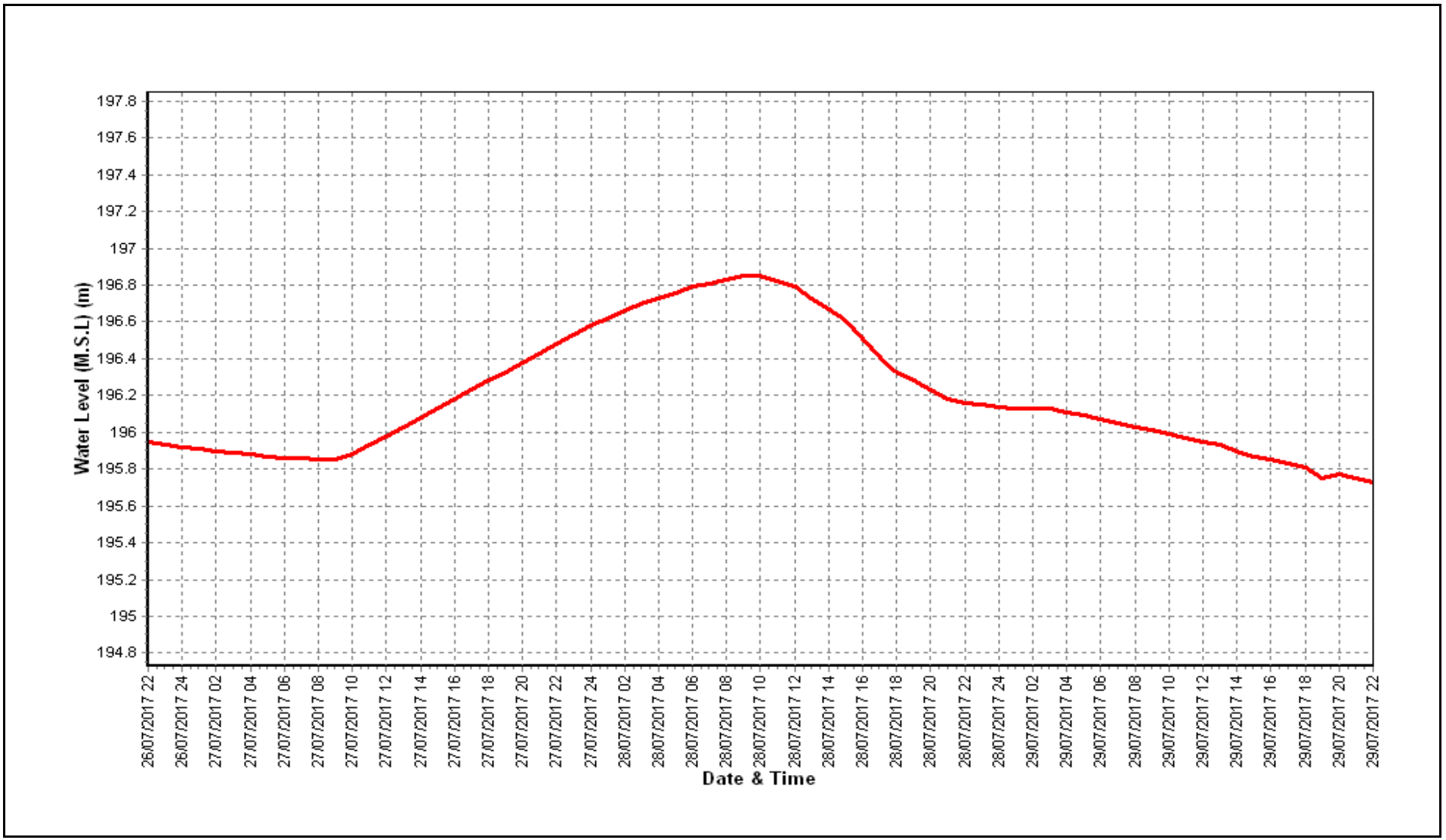


Time Span: 72 Hrs

Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2017-2018

Station Name : KALMA (KALMA) **Division : MD,CWC,Burla**

Local River : **Sub-Division : MMSD II,CWC,Burla**



Time Span: 72 Hrs

SEONATH SUB-BASIN

SITE GUNDERDEHI

HISTORY SHEET

Water Year : 2017-2018

Site	:	**Gunderdehi**	**Code**	:	**164**
State	:	Chhattisgarh	District		Durg
Basin	:	Mahanadi	Independent River	:	Mahanadi
Tributary	:	Seonath	Sub Tributary	:	Tandula
Sub-Sub Tributary	:		Local River	:	Tandula
Division	:	MD,CWC,Burla	Sub-Division	:	UMSD,CWC,Raipur
Drainage Area	:	Sq. Km.	Bank	:	Right
Latitude	:	20°57'11"	Longitude	:	81°16'45"
Zero of Gauge (m)	:				
		Opening Date	Closing Date		
Gauge	:	01/07/2013			
Discharge	:	15/07/2013			
Sediment	:				
Water Quality	:				

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

	Maximum			Minimum		
Year	**Q (cumecs)**	**WL (m)**	**Date**	**Q (cumecs)**	**WL (m)**	**Date**
2014-2015	570.3	296.630	08/09/2014	0.000	292.000	10/07/2014
2015-2016	161.6	294.475	18/09/2015	0.000	293.440	27/10/2015
2016-2017	147.9	294.435	28/09/2016	0.000	293.100	04/03/2017

Q : Observed / Computed Discharge WL : Corresponding Water Level(m.s.l)

Stage-Dischage Data for the period 2017 - 2018

Station Name : Gunderdehi (164) **Division : MD,CWC,Burla**

Local River : Tandula **Sub-Division : UMSD,CWC,Raipur**

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	292.000	0.000 *	292.000	0.000	292.720	0.000 *	293.685	88.99	293.600	0.000	293.610	0.000 *
2	292.000	0.000 *	292.000	0.000 *	292.600	0.000 *	293.380	7.350 *	293.650	0.000	293.600	0.000 *
3	292.000	0.000 *	292.000	0.000 *	292.000	0.000 *	293.280	5.050 *	293.700	0.000 *	293.600	0.000 *
4	292.000	0.000 *	292.000	0.000 *	292.000	0.000 *	293.335	6.969	293.690	0.000 *	293.590	0.000 *
5	292.000	0.000 *	292.680	0.000	292.000	0.000 *	293.320	5.960	293.670	0.000 *	293.590	0.000 *
6	292.000	0.000 *	292.990	0.000 *	292.000	0.000 *	293.300	5.302	293.645	0.000 *	293.590	0.000 *
7	292.000	0.000 *	292.990	0.000 *	292.000	0.000 *	293.310	4.732	293.640	0.000 *	293.585	0.000 *
8	292.000	0.000 *	292.980	0.000 *	292.000	0.000 *	293.470	9.340	293.640	0.000 *	293.585	0.000 *
9	292.000	0.000 *	292.930	0.000 *	292.000	0.000 *	293.470	9.300 *	293.640	0.000 *	293.585	0.000 *
10	292.000	0.000 *	292.600	0.000 *	292.000	0.000 *	293.515	76.58 *	293.690	0.000 *	293.585	0.000 *
11	292.000	0.000 *	292.600	0.000 *	292.630	0.000 *	293.590	0.000 *	293.745	0.000 *	293.585	0.000 *
12	292.000	0.000 *	292.595	0.000 *	292.880	0.000 *	293.680	0.000 *	293.720	0.000 *	293.585	0.000 *
13	292.000	0.000 *	292.875	0.000 *	293.135	0.000 *	293.680	0.000 *	293.695	0.000 *	293.585	0.000 *
14	292.000	0.000 *	292.815	0.000 *	293.320	0.000 *	293.675	0.000 *	293.685	0.000 *	293.580	0.000 *
15	292.000	0.000 *	292.800	0.000 *	293.340	0.000 *	293.765	0.000 *	293.670	0.000 *	293.580	0.000 *
16	292.000	0.000 *	292.805	0.000 *	293.340	0.000 *	293.750	0.000 *	293.650	0.000 *	293.580	0.000 *
17	292.000	0.000 *	292.840	0.000 *	293.535	0.000 *	293.735	0.000 *	293.630	0.000 *	293.580	0.000 *
18	292.000	0.000 *	292.000	0.000 *	293.530	0.000 *	293.700	0.000 *	293.610	0.000 *	293.580	0.000 *
19	292.000	0.000 *	294.430	122.9	293.600	0.000 *	293.660	0.000 *	293.605	0.000 *	293.575	0.000 *
20	292.000	0.000 *	294.180	121.6	293.540	0.000 *	293.210	0.000 *	293.600	0.000 *	293.575	0.000 *
21	292.000	0.000 *	293.860	13.92 *	293.245	0.000 *	295.330	406.6	293.610	0.000 *	293.575	0.000 *
22	292.000	0.000 *	293.525	13.92	293.570	0.000 *	294.455	231.5	293.610	0.000 *	293.575	0.000 *
23	292.000	0.000 *	293.360	14.50 *	293.585	0.000 *	293.955	121.6	293.605	0.000 *	293.570	0.000 *
24	292.000	0.000 *	293.110	6.170	293.500	0.000 *	293.780	108.6 *	293.605	0.000 *	293.570	0.000 *
25	292.000	0.000 *	292.860	3.001	293.640	0.000 *	293.720	0.000 *	293.605	0.000 *	293.570	0.000 *
26	292.000	0.000 *	292.955	3.763	293.730	0.000 *	293.690	0.000 *	293.610	0.000 *	293.570	0.000 *
27	292.000	0.000 *	293.005	5.081	293.735	0.000 *	293.665	0.000 *	293.615	0.000 *	293.570	0.000 *
28	292.000	0.000 *	292.980	3.975	293.755	0.000 *	293.630	0.000 *	293.615	0.000 *	293.570	0.000 *
29	292.000	0.000 *	292.945	3.591	294.365	133.3	293.605	88.25 *	293.615	0.000 *	293.570	0.000 *
30	292.000	0.000 *	292.860	2.600 *	294.160	129.2	293.600	86.52 *	293.615	0.000 *	293.570	0.000 *
31			292.850	2.653	293.775	114.8			293.615	0.000 *		
Ten-Daily Mean												
I Ten-Daily	292.000	0.000	292.517	0.000	292.132	0.000	293.406	21.96	293.657	0.000	293.592	0.000
II Ten-Daily	292.000	0.000	292.994	24.45	293.285	0.000	293.644	0.000	293.661	0.000	293.581	0.000
III Ten-Daily	292.000	0.000	293.119	6.652	293.733	34.29	293.943	104.3	293.611	0.000	293.571	0.000
Monthly												
Min.	292.000	0.000	292.000	0.000	292.000	0.000	293.210	0.000	293.600	0.000	293.570	0.000
Max.	292.000	0.000	294.430	122.9	294.365	133.3	295.330	406.6	293.745	0.000	293.610	0.000
Mean	292.000	0	292.885	10.25	293.072	12.17	293.665	42.09	293.642	0	293.581	0

Annual Runoff in MCM = 169 Annual Runoff in mm =

Peak Observed Discharge = 406.6 cumecs on 21/09/2017 Corres. Water Level :295.33 m

Lowest Observed Discharge = 0.000 cumecs on 01/07/2017 Corres. Water Level :292 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Dischage Data for the period 2017 - 2018

Station Name : Gunderdehi (164) **Division : MD,CWC,Burla**

Local River : Tandula **Sub-Division : UMSD,CWC,Raipur**

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	293.560	0.000 *	293.540	0.000 *	293.565	0.000 *	293.325	0.000 *	293.160	0.000 *	292.870	0.000 *
2	293.560	0.000 *	293.540	0.000 *	293.565	0.000 *	293.320	0.000 *	293.160	0.000 *	292.850	0.000 *
3	293.560	0.000 *	293.540	0.000 *	293.565	0.000 *	293.200	0.000 *	293.160	0.000 *	292.840	0.000 *
4	293.560	0.000 *	293.540	0.000 *	293.565	0.000 *	293.180	0.000 *	293.150	0.000 *	292.830	0.000 *
5	293.560	0.000 *	293.540	0.000 *	293.565	0.000 *	293.160	0.000 *	293.150	0.000 *	292.820	0.000 *
6	293.560	0.000 *	293.570	0.000 *	293.565	0.000 *	293.150	0.000 *	293.140	0.000 *	292.810	0.000 *
7	293.560	0.000 *	293.570	0.000 *	293.565	0.000 *	293.140	0.000 *	293.125	0.000 *	292.790	0.000 *
8	293.560	0.000 *	293.565	0.000 *	293.565	0.000 *	293.140	0.000 *	293.125	0.000 *	292.780	0.000 *
9	293.560	0.000 *	293.565	0.000 *	293.565	0.000 *	293.130	0.000 *	293.110	0.000 *	292.760	0.000 *
10	293.560	0.000 *	293.565	0.000 *	293.565	0.000 *	293.270	0.000 *	293.100	0.000 *	292.750	0.000 *
11	293.560	0.000 *	293.565	0.000 *	293.565	0.000 *	293.270	0.000 *	293.095	0.000 *	292.730	0.000 *
12	293.560	0.000 *	293.565	0.000 *	293.565	0.000 *	293.260	0.000 *	293.090	0.000 *	292.720	0.000 *
13	293.560	0.000 *	293.565	0.000 *	293.565	0.000 *	293.260	0.000 *	293.090	0.000 *	292.720	0.000 *
14	293.560	0.000 *	293.565	0.000 *	293.565	0.000 *	293.250	0.000 *	293.080	0.000 *	292.710	0.000 *
15	293.560	0.000 *	293.565	0.000 *	293.570	0.000 *	293.250	0.000 *	293.050	0.000 *	292.700	0.000 *
16	293.560	0.000 *	293.565	0.000 *	293.565	0.000 *	293.240	0.000 *	293.050	0.000 *	292.690	0.000 *
17	293.560	0.000 *	293.565	0.000 *	293.565	0.000 *	293.230	0.000 *	293.045	0.000 *	292.680	0.000 *
18	293.560	0.000 *	293.565	0.000 *	293.565	0.000 *	293.220	0.000 *	293.040	0.000 *	292.670	0.000 *
19	293.560	0.000 *	293.565	0.000 *	293.565	0.000 *	293.220	0.000 *	293.030	0.000 *	292.670	0.000 *
20	293.560	0.000 *	293.565	0.000 *	293.565	0.000 *	293.220	0.000 *	293.020	0.000 *	292.660	0.000 *
21	293.560	0.000 *	293.565	0.000 *	293.565	0.000 *	293.190	0.000 *	293.000	0.000 *	292.650	0.000 *
22	293.560	0.000 *	293.565	0.000 *	293.350	0.000 *	293.180	0.000 *	292.980	0.000 *	292.640	0.000 *
23	293.550	0.000 *	293.565	0.000 *	293.350	0.000 *	293.170	0.000 *	292.970	0.000 *	292.630	0.000 *
24	293.550	0.000 *	293.565	0.000 *	293.350	0.000 *	293.170	0.000 *	292.960	0.000 *	292.620	0.000 *
25	293.550	0.000 *	293.565	0.000 *	293.350	0.000 *	293.170	0.000 *	292.940	0.000 *	292.610	0.000 *
26	293.540	0.000 *	293.565	0.000 *	293.350	0.000 *	293.170	0.000 *	292.930	0.000 *	292.600	0.000 *
27	293.540	0.000 *	293.565	0.000 *	293.330	0.000 *	293.170	0.000 *	292.920	0.000 *	292.590	0.000 *
28	293.540	0.000 *	293.565	0.000 *	293.330	0.000 *	293.170	0.000 *	292.910	0.000 *	292.590	0.000 *
29	293.540	0.000 *	293.565	0.000 *			293.160	0.000 *	292.900	0.000 *	292.550	0.000 *
30	293.540	0.000 *	293.565	0.000 *			293.160	0.000 *	292.890	0.000 *	292.530	0.000 *
31	293.540	0.000 *	293.565	0.000 *			293.160	0.000 *			292.520	0.000 *
Ten-Daily Mean												
I Ten-Daily	293.560	0.000	293.553	0.000	293.565	0.000	293.202	0.000	293.138	0.000	292.810	0.000
II Ten-Daily	293.560	0.000	293.565	0.000	293.565	0.000	293.242	0.000	293.059	0.000	292.695	0.000
III Ten-Daily	293.546	0.000	293.565	0.000	293.372	0.000	293.170	0.000	292.940	0.000	292.594	0.000
Monthly												
Min.	293.540	0.000	293.540	0.000	293.330	0.000	293.130	0.000	292.890	0.000	292.520	0.000
Max.	293.560	0.000	293.570	0.000	293.570	0.000	293.325	0.000	293.160	0.000	292.870	0.000
Mean	293.555	0	293.561	0	293.510	0	293.203	0	293.046	0	292.696	0

Peak Computed Discharge = 108.6 cumecs on 24/09/2017 Corres. Water Level :293.78 m

Lowest Computed Discharge = 0.000 cumecs on 01/06/2017 Corres. Water Level :292 m

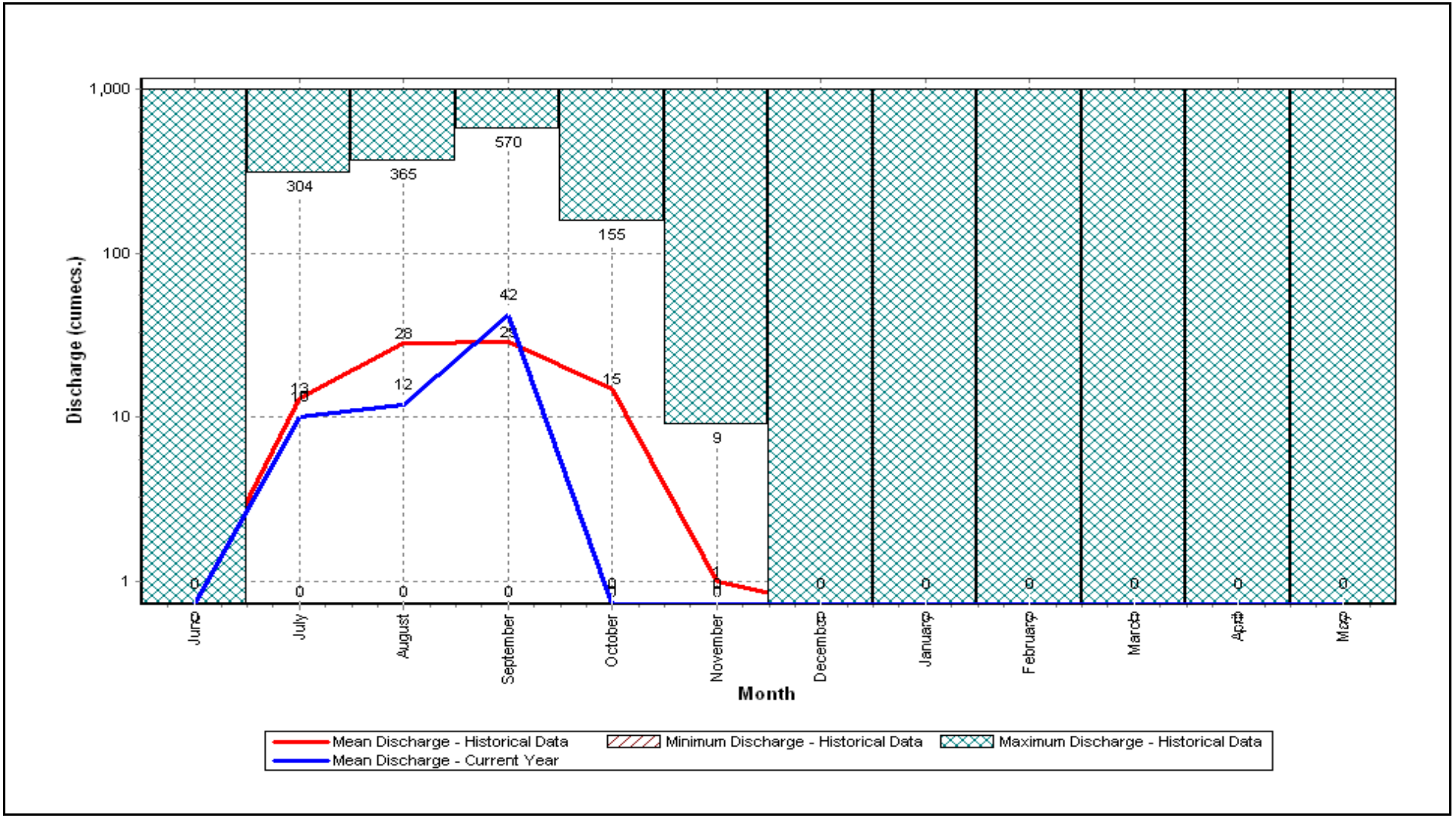
Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2017-2018

Station Name : Gunderdehi (164) | **Data considered : 2014-2018** | **Division : MD,CWC,Burla**

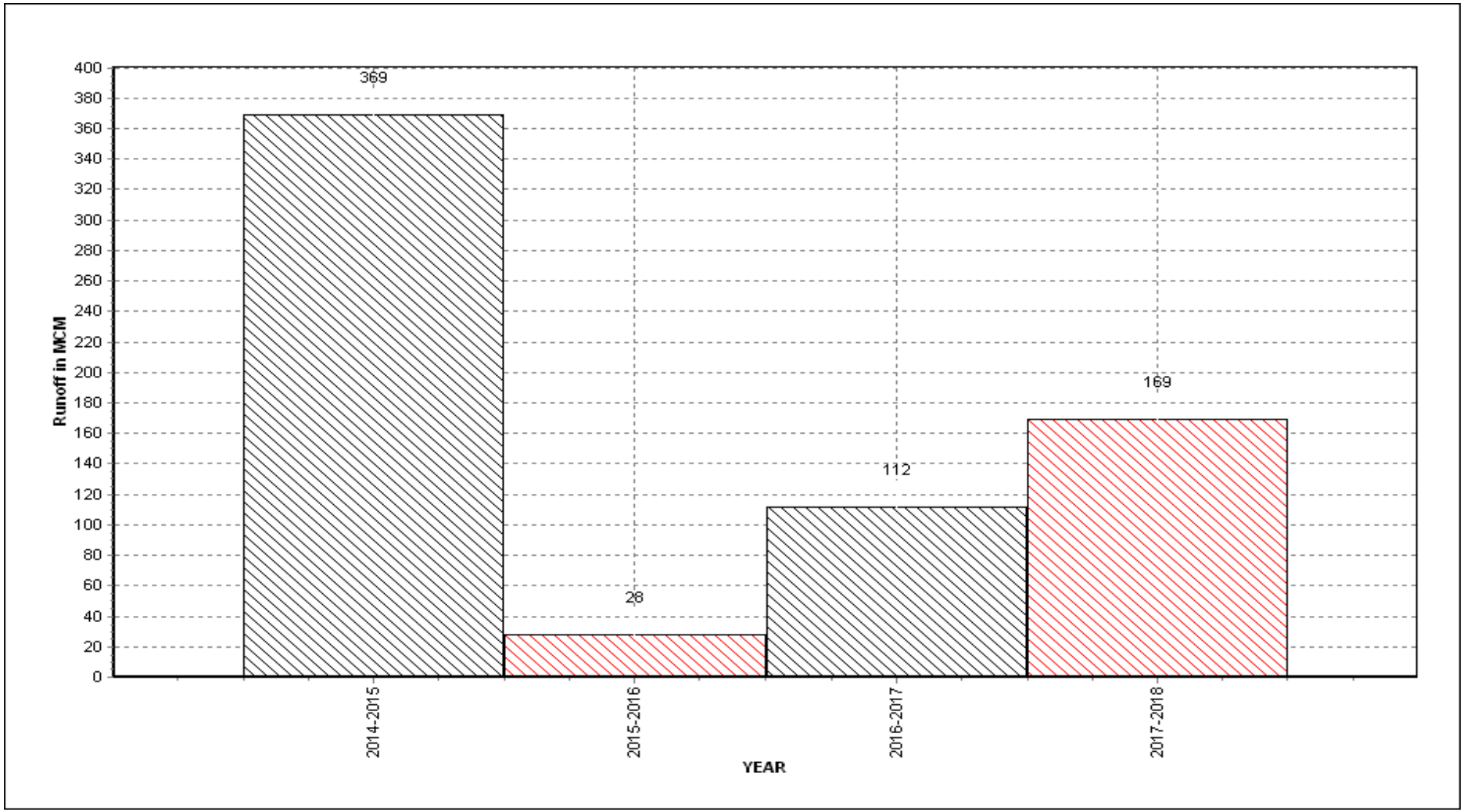
Local River : Tandula | **Sub-Division : UMSD,CWC,Raipur**


1,000
100
10
1
Discharge (cumecs.)
304
365
570
155
9
42
28
23
15
12
10
0
1
0
0
0

Annual Runoff Values for the period: 2014 - 2018

Station Name : Gunderdehi (164)
Local River : Tandula

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur

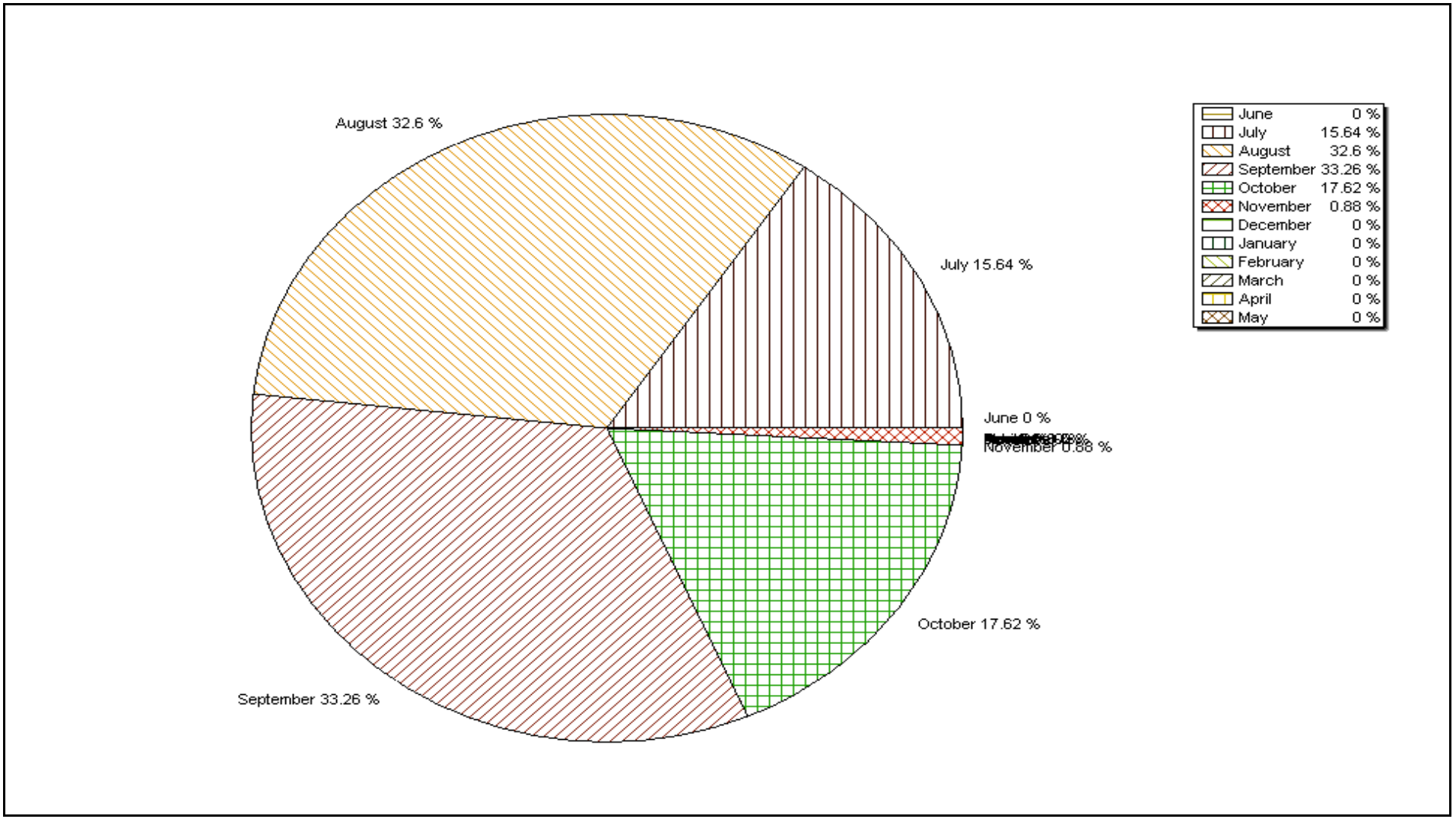


Note: Missing values have not been considered while arriving at Annual Runoff

Monthly Average Runoff based on period : 2014-2017

Station Name : Gunderdehi (164) **Division : MD,CWC,Burla**

Local River : Tandula **Sub-Division : UMSD,CWC,Raipur**



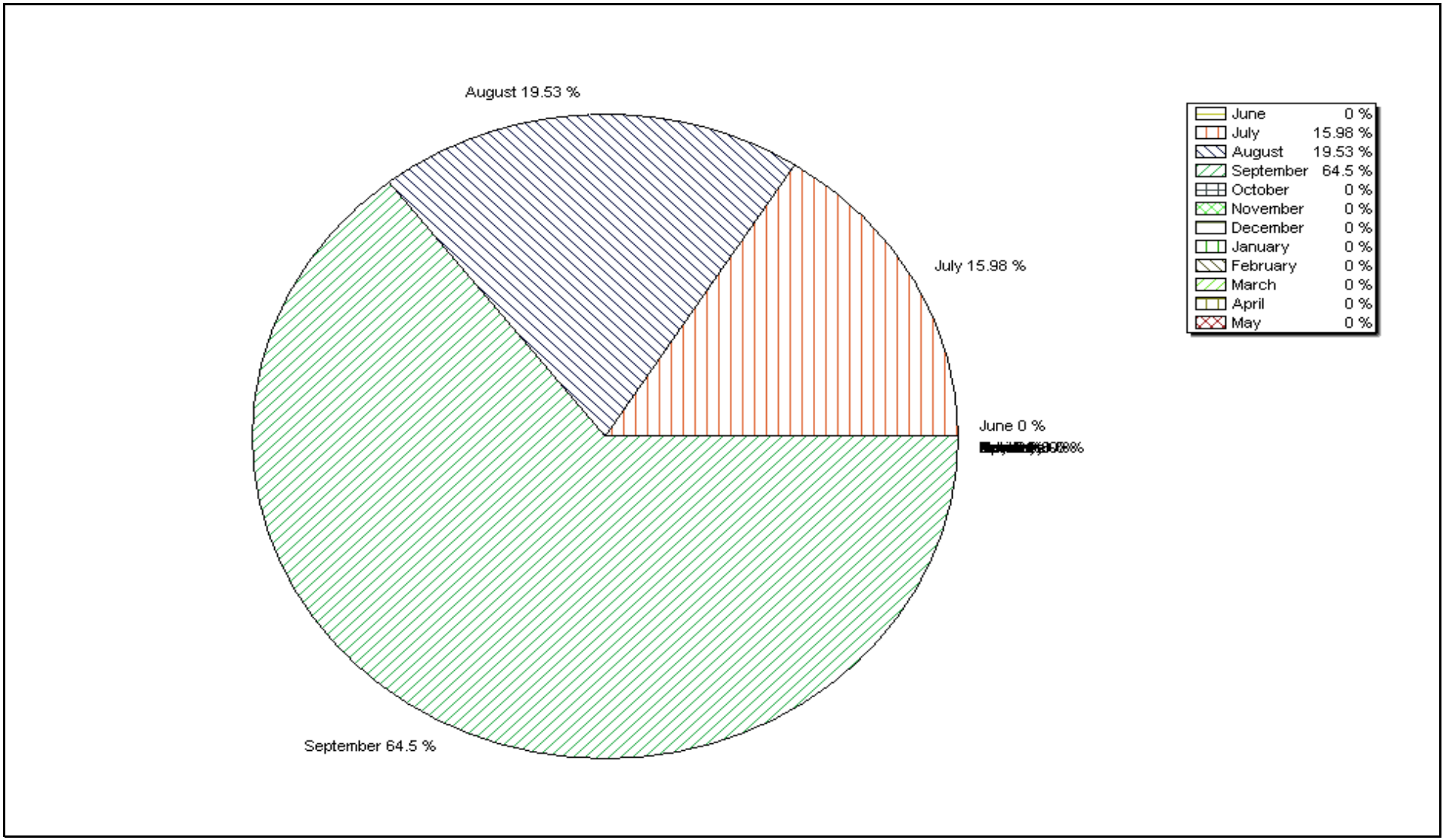
Monthly Runoff for the Year : 2017-2018

Station Name : Gunderdehi (164)

Local River : Tandula

Division : MD,CWC,Burla

Sub-Division : UMSD,CWC,Raipur



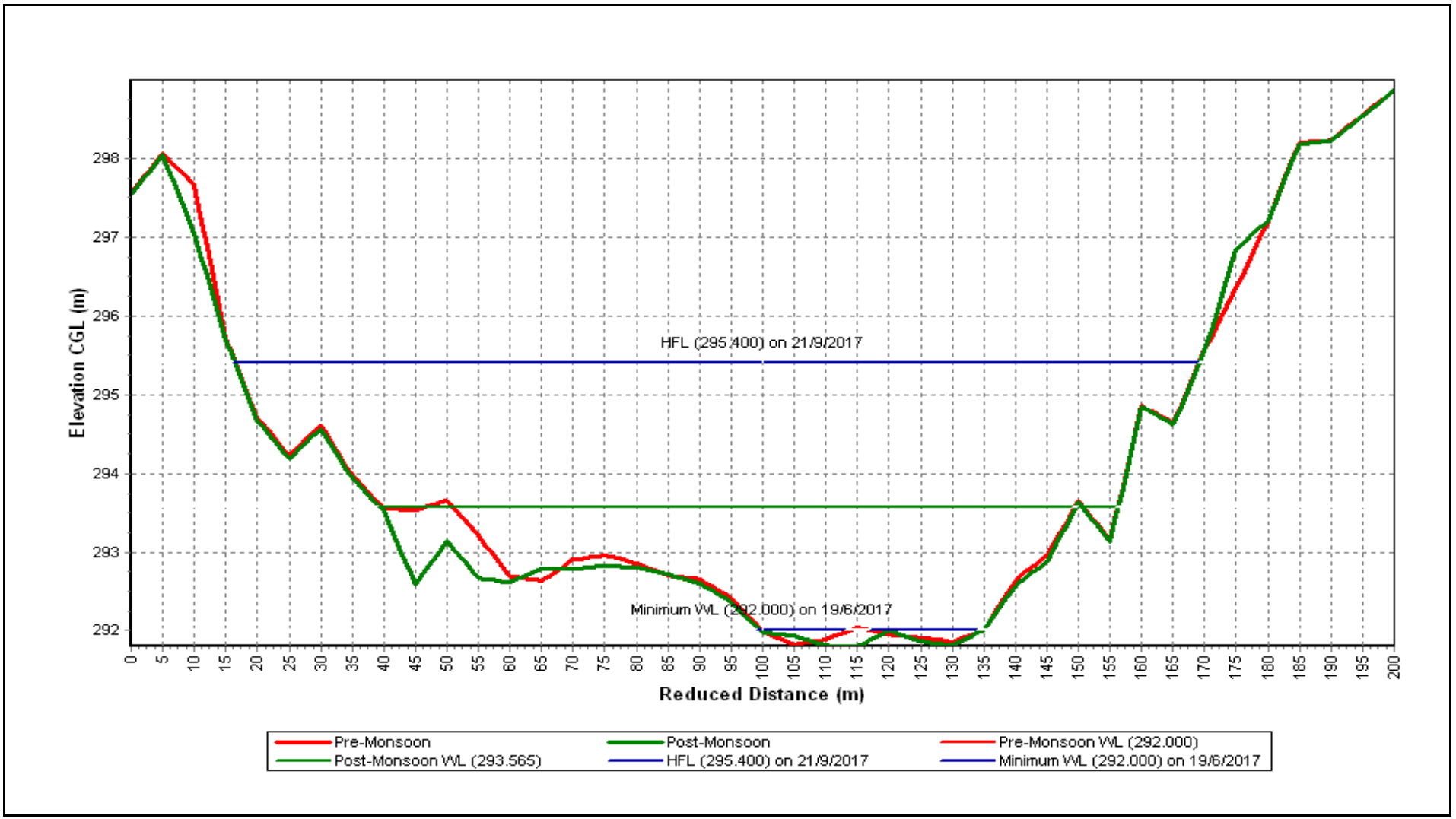
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2017-2018

Station Name : Gunderdehi (164)

Local River : Tandula

Division : MD,CWC,Burla

Sub-Division : UMSD,CWC,Raipur



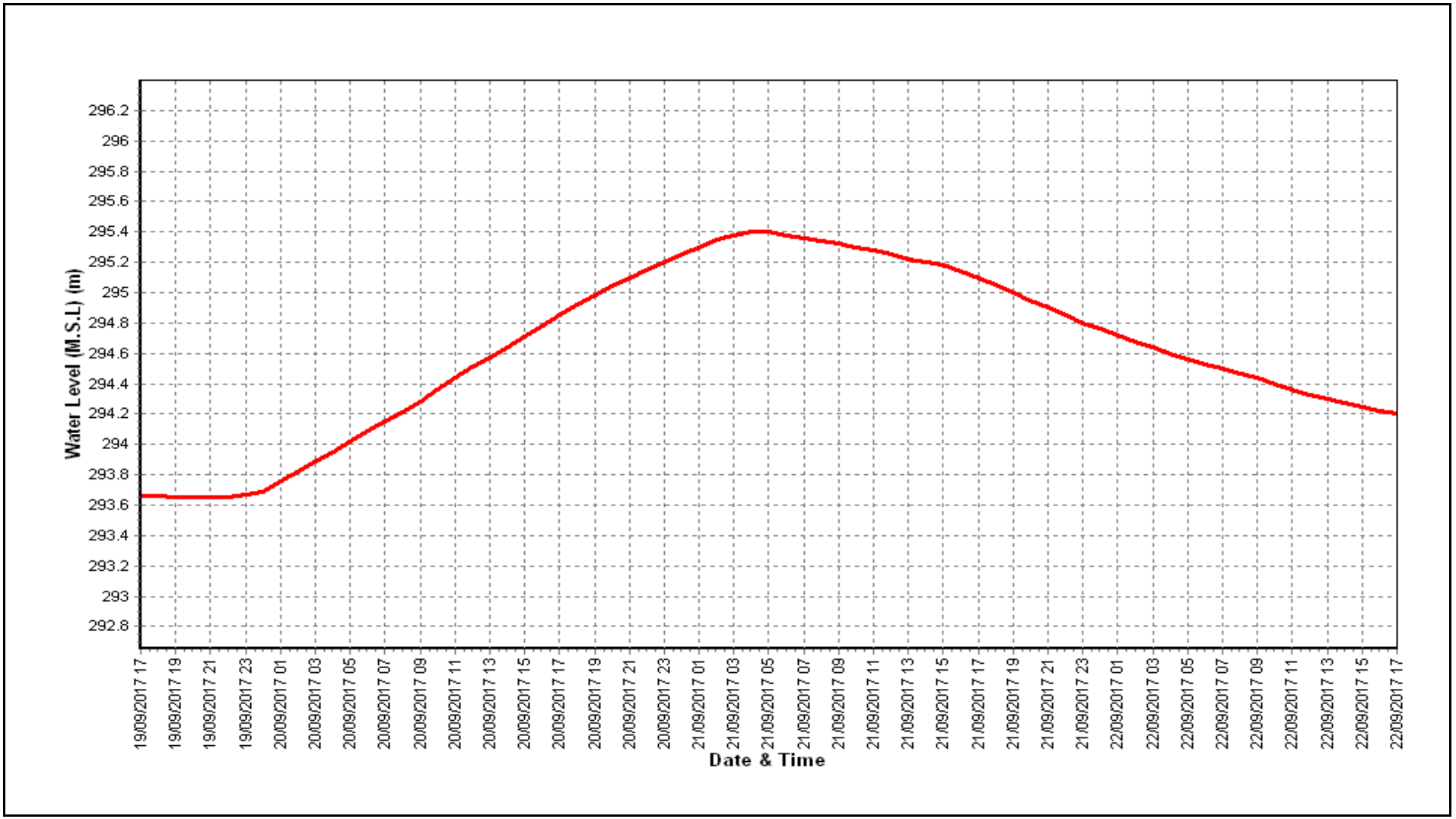
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2017-2018

Station Name : Gunderdehi (164)

Local River : Tandula

Division : MD,CWC,Burla

Sub-Division : UMSD,CWC,Raipur



Time Span: 72 Hrs

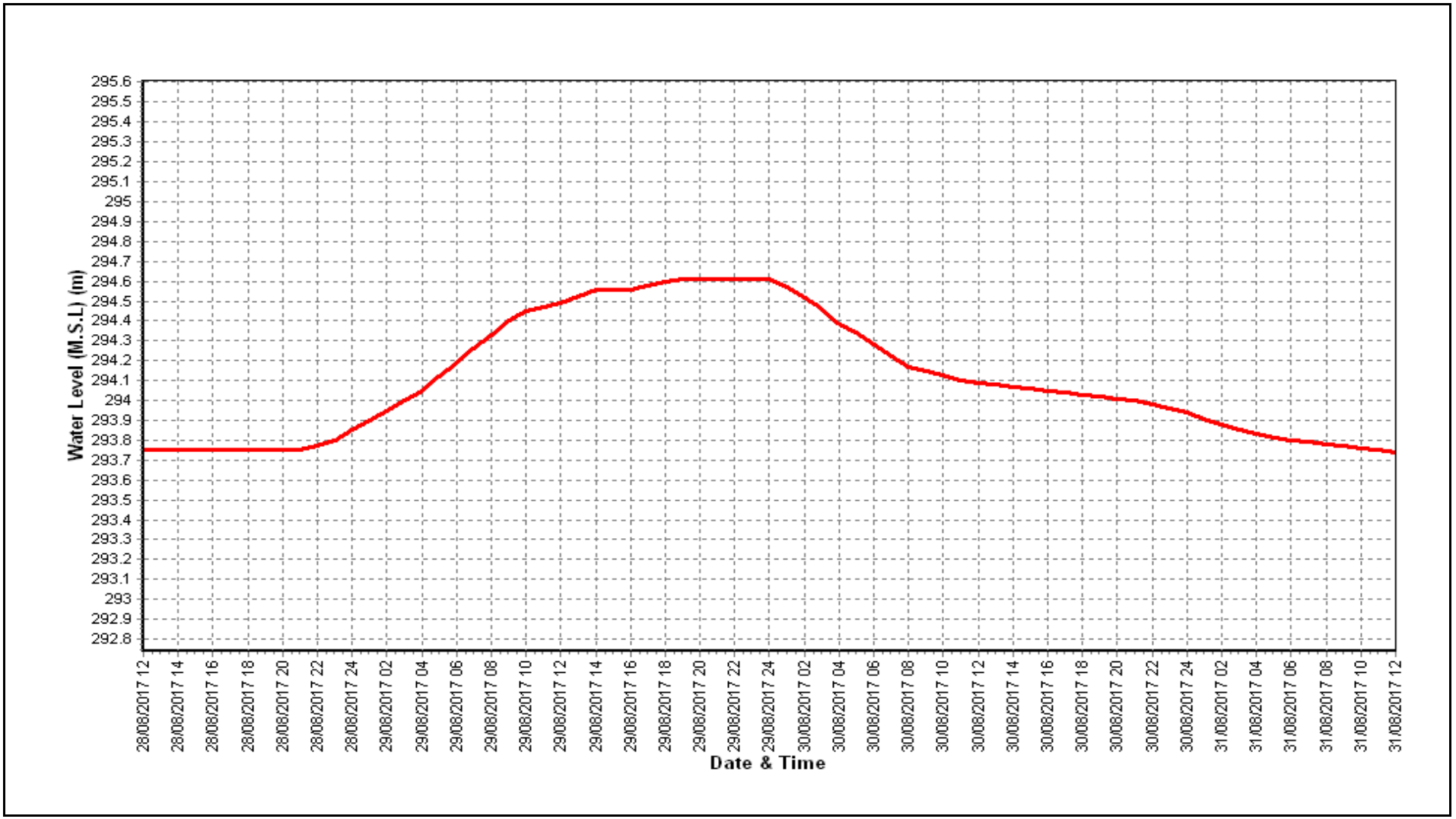
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2017-2018

Station Name : Gunderdehi (164)

Local River : Tandula

Division : MD,CWC,Burla

Sub-Division : UMSD,CWC,Raipur



Time Span: 72 Hrs

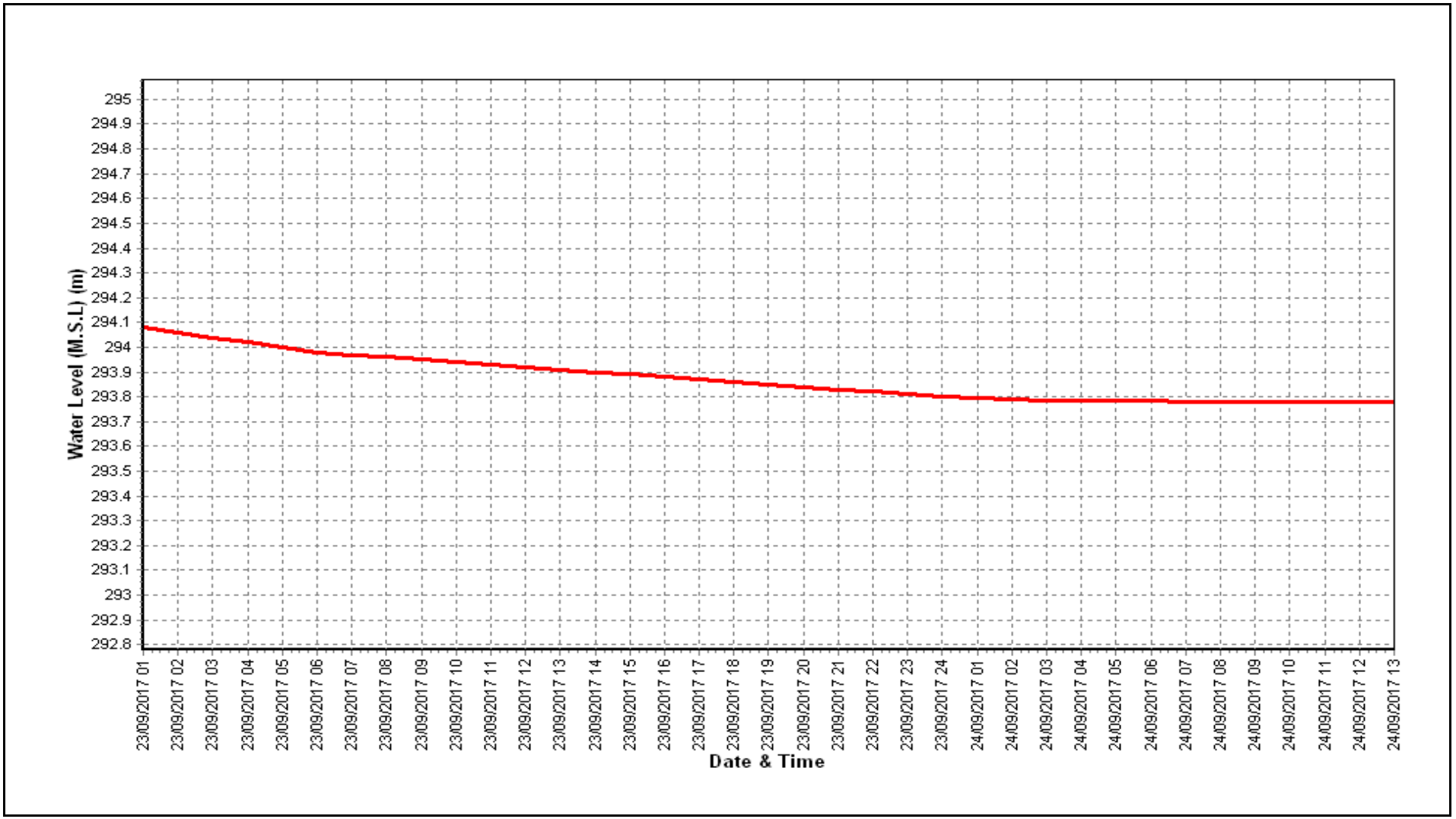
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2017-2018

Station Name : Gunderdehi (164)

Local River : Tandula

Division : MD,CWC,Burla

Sub-Division : UMSD,CWC,Raipur



Time Span: 72 Hrs

SITE KOTNI

HISTORY SHEET

Water Year : 2017-2018

Site	**: Kotni**		**Code**	**: EMP00P8**	
State	: Chhattisgarh		District	Durg	
Basin	: Mahanadi		Independent River	: Mahanadi	
Tributary	: Seonath		Sub Tributary	:	
Sub-Sub Tributary	:		Local River	: Seonath	
Division	: MD,CWC,Burla		Sub-Division	: UMSD,CWC,Raipur	
Drainage Area	: 6990 Sq. Km.		Bank	:	
Latitude	: 21°13'02"		Longitude	: 81°14'19"	
Zero of Gauge (m)	: 268 (m.s.l)		20/09/1977	- 20/09/2017	

	Opening Date	Closing Date
Gauge	: 20/09/1977	
Discharge	: 30/09/1978	
Sediment	: 25/07/2014	
Water Quality	: 01/08/2014	

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

	Maximum			Minimum		
Year	**Q (cumecs)**	**WL (m)**	**Date**	**Q (cumecs)**	**WL (m)**	**Date**
1982-1983	1917	275.835	14/08/1982	0.030	270.115	15/03/1983
1983-1984	1518	275.020	20/08/1983	0.020	269.985	14/03/1984
1984-1985	2934	277.155	03/08/1984	0.020	270.185	25/02/1985
1985-1986	1536	275.295	12/09/1985	0.030	270.510	29/03/1986
1986-1987	5098	278.400	15/08/1986	0.050	270.445	05/03/1987
1987-1988	1204	274.150	28/08/1987	0.010	270.270	12/02/1988
1988-1989	503.0	273.155	31/07/1988	0.050	270.285	31/12/1988
1989-1990	300.0	272.295	15/09/1989	0.010	270.245	11/12/1989
1990-1991	3305	278.090	23/08/1990	0.013	270.380	25/03/1991
1991-1992	2399	277.480	24/08/1991	0.032	270.270	18/01/1992
1992-1993	2524	277.380	22/08/1992	0.094	270.240	04/01/1993
1993-1994	1040	273.635	17/08/1993	0.056	270.150	17/03/1994
1994-1995	5269	279.610	12/07/1994	0.290	270.300	30/04/1995
1995-1996	2409	277.260	25/07/1995	0.010	270.360	05/03/1996
1996-1997	950.0	274.540	02/08/1996	0.043	270.355	13/01/1997
1997-1998	2094	276.070	23/08/1997	0.610	270.375	20/07/1997
1998-1999	938.9	273.620	09/09/1998	0.385	270.510	28/12/1998
1999-2000	754.4	273.435	01/09/1999	0.115	270.430	01/02/2000
2000-2001	1513	275.180	19/07/2000	0.040	270.300	20/11/2000
2001-2002	1800	275.970	20/08/2001	0.011	270.410	20/12/2001
2002-2003	613.3	273.460	25/06/2002	0.020	270.360	30/07/2002

Q : Observed / Computed Discharge WL : Corresponding Water Level(m.s.l)

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

	Maximum			Minimum		
Year	**Q (cumecs)**	**WL (m)**	**Date**	**Q (cumecs)**	**WL (m)**	**Date**
2003-2004	2269	276.790	24/08/2003	0.057	270.470	28/12/2003
2004-2005	721.7	273.260	17/07/2004	0.000	268.000	05/04/2005
2005-2006	2472	279.360	15/09/2005	0.000	268.000	15/04/2006
2006-2007	2393	277.960	14/08/2006	0.000	270.075	24/02/2007
2007-2008	3950	278.030	01/07/2007	0.000	269.950	05/04/2008
2008-2009	803.4	274.467	19/09/2008	0.000	272.300	04/12/2008
2009-2010	2210	276.075	16/07/2009	0.000	272.160	25/01/2010
2010-2011	2838	276.735	07/08/2010	0.000	272.630	25/01/2011
2011-2012	2048	278.390	08/09/2011	0.000	268.000	30/05/2012
2012-2013	1886	275.925	06/09/2012	0.000	272.220	31/10/2012
2013-2014	3000	278.700	01/08/2013	0.000	270.910	28/02/2014
2014-2015	2205	277.780	06/08/2014	0.000	270.450	07/06/2014
2015-2016	656.8	274.080	22/09/2015	0.000	270.430	26/01/2016
2016-2017	941.8	274.550	28/09/2016	0.000	272.290	05/01/2017

Q : Observed / Computed Discharge WL : Corresponding Water Level(m.s.l)

Stage-Dischage Data for the period 2017 - 2018

Station Name : Kotni (EMP00P8) **Division : MD,CWC,Burla**

Local River : Seonath **Sub-Division : UMSD,CWC,Raipur**

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	270.680	0.000 *	271.720	0.000 *	268.000	0.000	273.390	213.0	276.000	542.3 *	272.930	0.000 *
2	270.670	0.000 *	271.780	0.000 *	268.000	0.000	273.420	218.6 *	273.030	84.89 *	272.990	0.000 *
3	270.660	0.000 *	271.830	0.000 *	268.000	0.000	273.310	206.9 *	273.310	190.5	272.980	0.000 *
4	270.650	0.000 *	271.860	0.000 *	268.000	0.000	273.200	90.49	273.340	205.8	272.970	0.000 *
5	270.645	0.000 *	271.900	0.000 *	268.000	0.000	272.960	87.42 *	273.290	180.5	272.960	0.000 *
6	270.640	0.000 *	271.940	0.000 *	268.000	0.000	273.080	82.62	273.260	92.54	272.950	0.000 *
7	270.760	0.000 *	271.980	0.000 *	268.000	0.000	272.950	0.000 *	273.210	86.78	272.950	0.000 *
8	270.800	0.000 *	272.010	0.000 *	268.000	0.000	272.720	0.000 *	273.210	87.21 *	272.950	0.000 *
9	270.820	0.000 *	272.030	0.000 *	268.000	0.000	272.720	0.000 *	273.300	190.1	272.960	0.000 *
10	270.830	0.000 *	272.050	0.000 *	268.000	0.000	272.630	0.000 *	273.290	178.2	272.960	0.000 *
11	270.840	0.000 *	272.070	0.000 *	273.620	362.1	272.660	0.000 *	273.570	265.0	272.960	0.000 *
12	270.850	0.000 *	272.070	0.000 *	273.400	222.8	272.950	0.000 *	273.470	213.3	272.940	0.000 *
13	270.880	0.000 *	272.040	0.000 *	273.230	92.56 *	272.980	0.000 *	273.390	200.8	272.900	0.000 *
14	270.910	0.000 *	272.010	0.000 *	273.085	81.93	272.970	0.000 *	273.325	194.5	272.840	0.000 *
15	270.920	0.000 *	272.020	0.000 *	273.100	83.05 *	273.250	91.77	273.300	182.6 *	272.800	0.000 *
16	270.950	0.000 *	272.050	0.000 *	268.000	0.000 *	273.220	100.6	273.300	181.3	272.760	0.000 *
17	270.980	0.000 *	272.350	0.000 *	268.000	0.000 *	273.230	101.3 *	273.250	91.69	272.720	0.000 *
18	271.010	0.000 *	272.930	0.000 *	268.000	0.000 *	273.200	90.60	273.200	90.85	272.660	0.000 *
19	271.050	0.000 *	273.570	434.8	268.000	0.000 *	273.250	91.96	273.030	86.35 *	272.600	0.000 *
20	271.120	0.000 *	273.800	398.8	273.180	88.06 *	273.385	207.6	272.820	0.000 *	272.540	0.000 *
21	271.150	0.000 *	273.810	424.2	273.335	211.3	275.180	2100	272.850	0.000 *	272.490	0.000 *
22	271.120	0.000 *	273.700	410.4	273.365	225.9	274.550	1288	272.940	0.000 *	272.450	0.000 *
23	271.060	0.000 *	273.590	0.000	273.320	207.6	273.995	561.4	272.990	0.000 *	272.410	0.000 *
24	270.980	0.000 *	273.395	317.0	273.245	88.51	273.770	500.0 *	272.960	0.000 *	272.350	0.000 *
25	271.020	0.000 *	273.235	207.4	272.990	78.32 *	273.425	207.1	272.940	0.000 *	272.290	0.000 *
26	271.090	0.000 *	273.090	141.6	273.170	87.52	273.390	205.6	272.920	0.000 *	272.260	0.000 *
27	271.150	0.000 *	272.080	0.000 *	273.190	89.45 *	273.320	192.7	272.910	0.000 *	272.240	0.000 *
28	271.340	0.000 *	271.930	0.000 *	273.390	218.1	273.240	91.63	272.890	0.000 *	272.230	0.000 *
29	271.500	0.000 *	271.840	0.000 *	273.390	218.1	273.250	93.00 *	272.880	0.000 *	272.220	0.000 *
30	271.620	0.000 *	271.770	0.000 *	273.910	534.2	273.210	88.00 *	272.880	0.000 *	272.200	0.000 *
31			271.400	0.000 *	274.200	730.5			272.910	0.000 *		
Ten-Daily Mean												
I Ten-Daily	270.716	0.000	271.910	0.000	268.000	0.000	273.038	89.89	273.524	183.9	272.960	0.000
II Ten-Daily	270.951	0.000	272.491	83.36	271.161	93.05	273.109	68.38	273.266	150.6	272.772	0.000
III Ten-Daily	271.203	0.000	272.713	136.4	273.410	244.5	273.733	532.7	272.915	0.000	272.314	0.000
Monthly												
Min.	270.640	0.000	271.400	0.000	268.000	0.000	272.630	0.000	272.820	0.000	272.200	0.000
Max.	271.620	0.000	273.810	434.8	274.200	730.5	275.180	2100	276.000	542.3	272.990	0.000
Mean	270.957	0	272.382	75.29	270.939	116.8	273.293	230.3	273.225	107.9	272.682	0

Annual Runoff in MCM = 1401 Annual Runoff in mm = 200

Peak Observed Discharge = 2100 cumecs on 21/09/2017 Corres. Water Level :275.18 m

Lowest Observed Discharge = 0.000 cumecs on 23/07/2017 Corres. Water Level :273.59 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Dischage Data for the period 2017 - 2018

Station Name : Kotni (EMP00P8) **Division : MD,CWC,Burla**

Local River : Seonath **Sub-Division : UMSD,CWC,Raipur**

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	272.170	0.000 *	271.700	0.000 *	271.160	0.000 *	271.060	0.000 *	270.870	0.000 *	270.900	0.000 *
2	272.140	0.000 *	271.690	0.000 *	271.150	0.000 *	271.060	0.000 *	270.860	0.000 *	270.900	0.000 *
3	272.120	0.000 *	271.680	0.000 *	271.140	0.000 *	271.050	0.000 *	270.850	0.000 *	270.890	0.000 *
4	272.100	0.000 *	271.680	0.000 *	271.130	0.000 *	271.040	0.000 *	270.830	0.000 *	270.890	0.000 *
5	272.080	0.000 *	271.690	0.000 *	271.110	0.000 *	271.030	0.000 *	270.820	0.000 *	270.890	0.000 *
6	272.080	0.000 *	271.690	0.000 *	271.110	0.000 *	271.020	0.000 *	270.810	0.000 *	270.890	0.000 *
7	272.070	0.000 *	271.680	0.000 *	271.110	0.000 *	271.010	0.000 *	270.800	0.000 *	270.870	0.000 *
8	272.060	0.000 *	271.660	0.000 *	271.100	0.000 *	271.000	0.000 *	270.800	0.000 *	270.840	0.000 *
9	272.030	0.000 *	271.650	0.000 *	271.100	0.000 *	270.990	0.000 *	270.800	0.000 *	270.810	0.000 *
10	272.020	0.000 *	271.640	0.000 *	271.100	0.000 *	270.980	0.000 *	270.800	0.000 *	270.760	0.000 *
11	272.000	0.000 *	271.620	0.000 *	271.090	0.000 *	270.970	0.000 *	270.800	0.000 *	270.730	0.000 *
12	271.940	0.000 *	271.610	0.000 *	271.090	0.000 *	270.960	0.000 *	270.800	0.000 *	270.700	0.000 *
13	271.920	0.000 *	271.600	0.000 *	271.090	0.000 *	270.960	0.000 *	270.800	0.000 *	270.670	0.000 *
14	271.900	0.000 *	271.590	0.000 *	271.080	0.000 *	270.950	0.000 *	270.820	0.000 *	270.640	0.000 *
15	271.880	0.000 *	271.580	0.000 *	271.110	0.000 *	270.940	0.000 *	270.850	0.000 *	270.600	0.000 *
16	271.870	0.000 *	271.570	0.000 *	271.130	0.000 *	270.930	0.000 *	270.900	0.000 *	270.580	0.000 *
17	271.860	0.000 *	271.560	0.000 *	271.140	0.000 *	270.920	0.000 *	270.900	0.000 *	270.560	0.000 *
18	271.850	0.000 *	271.540	0.000 *	271.140	0.000 *	270.910	0.000 *	270.900	0.000 *	270.550	0.000 *
19	271.840	0.000 *	271.510	0.000 *	271.130	0.000 *	270.910	0.000 *	270.900	0.000 *	270.530	0.000 *
20	271.830	0.000 *	271.490	0.000 *	271.130	0.000 *	270.910	0.000 *	270.900	0.000 *	270.520	0.000 *
21	271.820	0.000 *	271.480	0.000 *	271.120	0.000 *	270.910	0.000 *	270.900	0.000 *	270.500	0.000 *
22	271.810	0.000 *	271.470	0.000 *	271.120	0.000 *	270.910	0.000 *	270.900	0.000 *	270.460	0.000 *
23	271.800	0.000 *	271.440	0.000 *	271.110	0.000 *	270.910	0.000 *	270.900	0.000 *	270.450	0.000 *
24	271.790	0.000 *	271.410	0.000 *	271.100	0.000 *	270.900	0.000 *	270.900	0.000 *	270.450	0.000 *
25	271.780	0.000 *	271.380	0.000 *	271.100	0.000 *	270.900	0.000 *	270.900	0.000 *	270.400	0.000 *
26	271.770	0.000 *	271.350	0.000 *	271.080	0.000 *	270.890	0.000 *	270.900	0.000 *	270.360	0.000 *
27	271.760	0.000 *	271.320	0.000 *	271.080	0.000 *	270.890	0.000 *	270.900	0.000 *	270.330	0.000 *
28	271.750	0.000 *	271.290	0.000 *	271.070	0.000 *	270.890	0.000 *	270.900	0.000 *	270.370	0.000 *
29	271.740	0.000 *	271.260	0.000 *			270.880	0.000 *	270.900	0.000 *	270.350	0.000 *
30	271.730	0.000 *	271.220	0.000 *			270.880	0.000 *	270.900	0.000 *	270.330	0.000 *
31	271.720	0.000 *	271.180	0.000 *			270.870	0.000 *			270.310	0.000 *
Ten-Daily Mean												
I Ten-Daily	272.087	0.000	271.676	0.000	271.121	0.000	271.024	0.000	270.824	0.000	270.864	0.000
II Ten-Daily	271.889	0.000	271.567	0.000	271.113	0.000	270.936	0.000	270.857	0.000	270.608	0.000
III Ten-Daily	271.770	0.000	271.345	0.000	271.097	0.000	270.894	0.000	270.900	0.000	270.392	0.000
Monthly												
Min.	271.720	0.000	271.180	0.000	271.070	0.000	270.870	0.000	270.800	0.000	270.310	0.000
Max.	272.170	0.000	271.700	0.000	271.160	0.000	271.060	0.000	270.900	0.000	270.900	0.000
Mean	271.911	0	271.524	0	271.111	0	270.949	0	270.860	0	270.614	0

Peak Computed Discharge = 542.3 cumecs on 01/10/2017 Corres. Water Level :276 m

Lowest Computed Discharge = 0.000 cumecs on 01/07/2017 Corres. Water Level :271.72 m

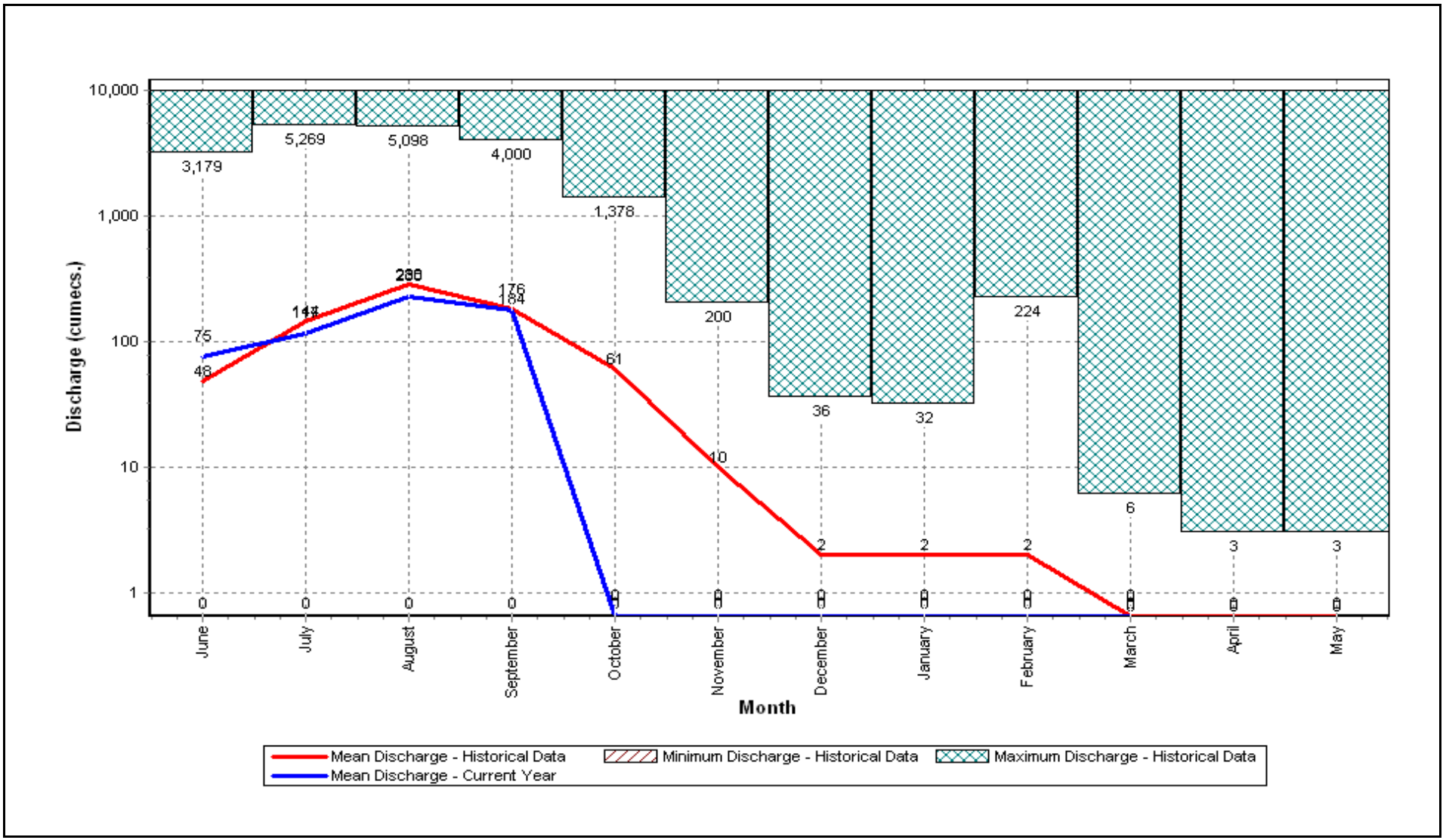
Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2017-2018

Station Name : Kotni (EMP00P8) | **Data considered : 1982-2018** | **Division : MD,CWC,Burla**

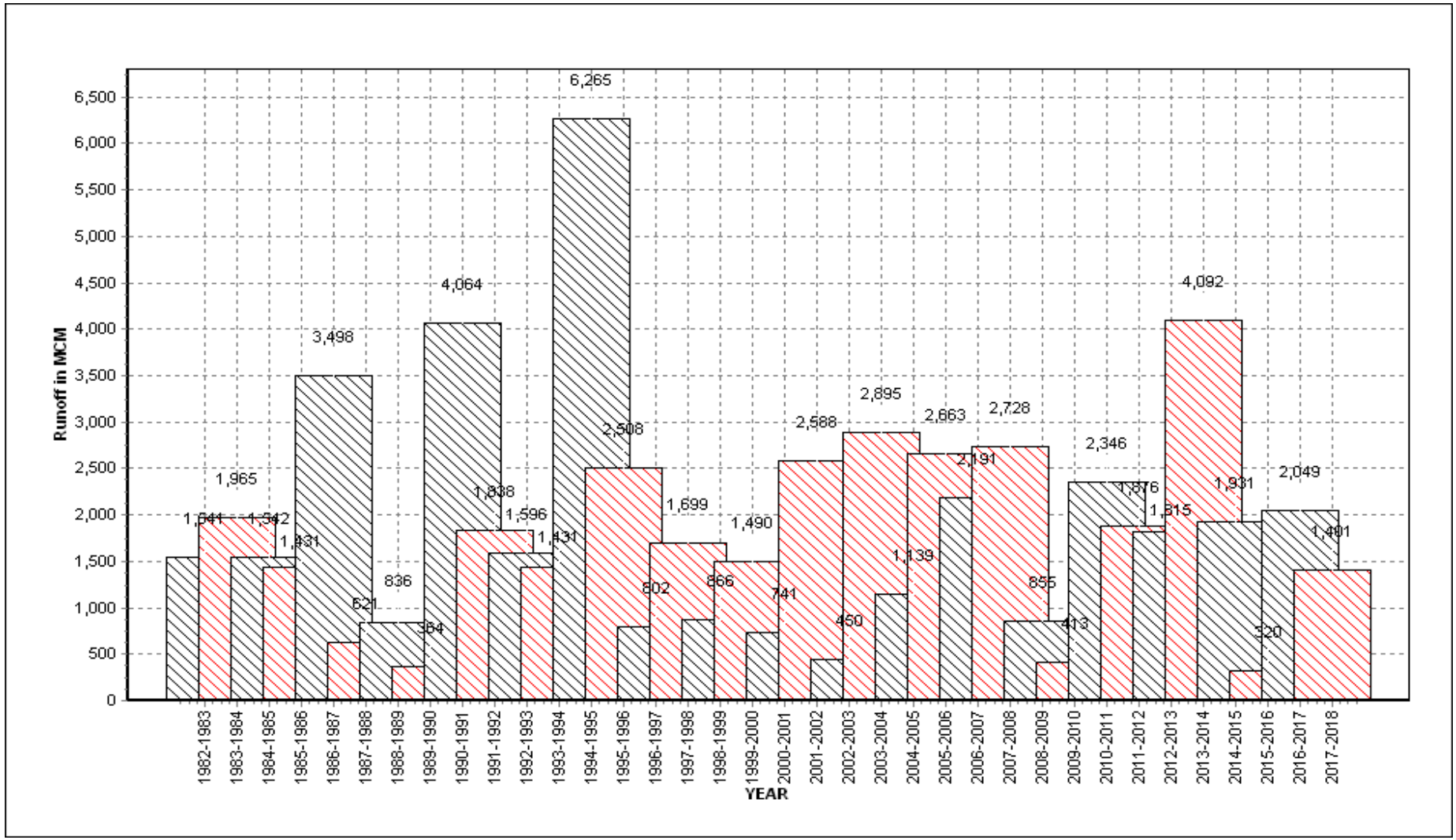
Local River : Seonath | **Sub-Division : UMSD,CWC,Raipur**



Annual Runoff Values for the period: 1982 - 2018

Station Name : Kotni (EMP00P8) **Division : MD,CWC,Burla**

Local River : Seonath **Sub-Division : UMSD,CWC,Raipur**



Note: Missing values have not been considered while arriving at Annual Runoff

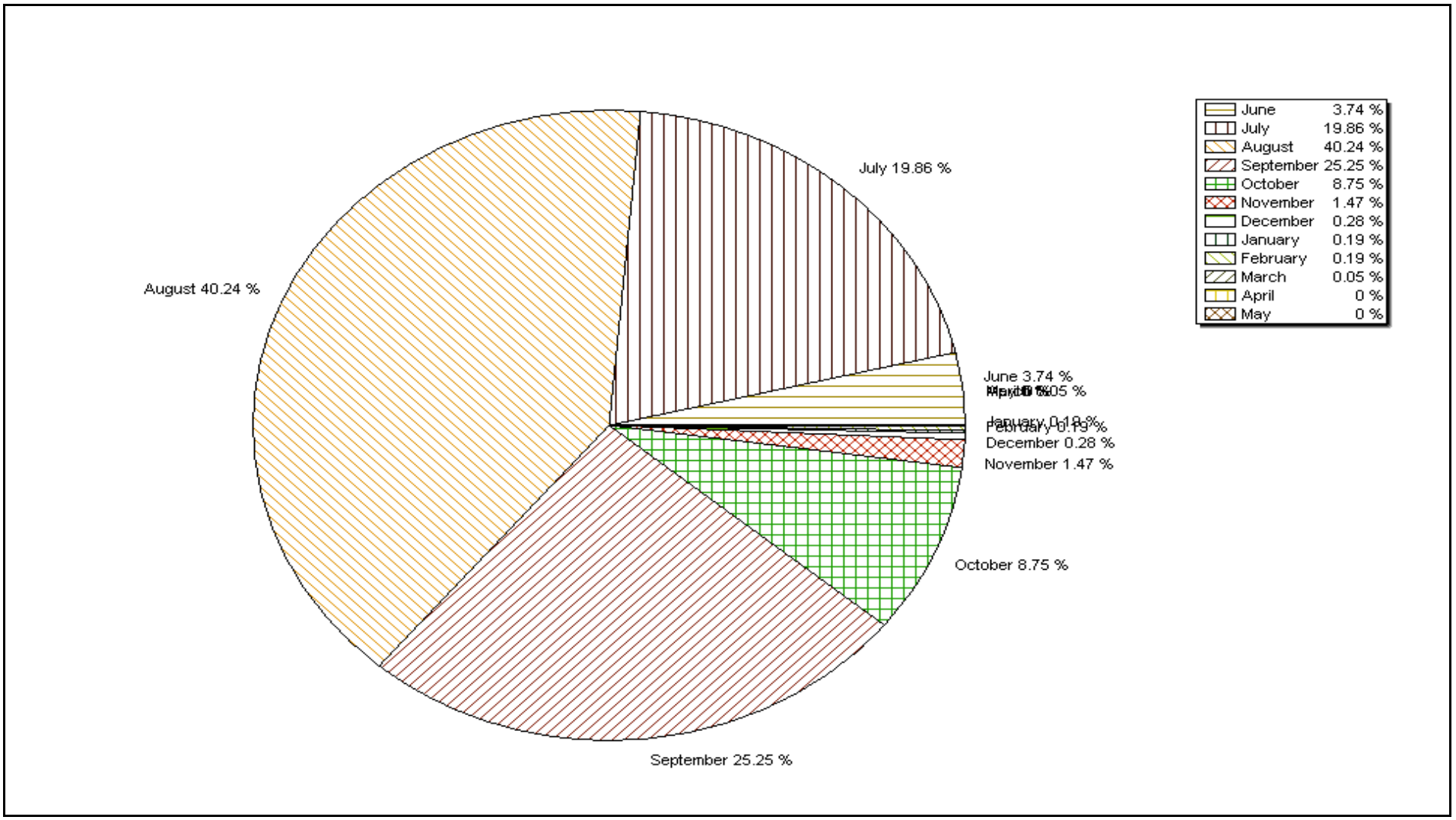
Monthly Average Runoff based on period : 1982-2017

Station Name : Kotni (EMP00P8)

Local River : Seonath

Division : MD,CWC,Burla

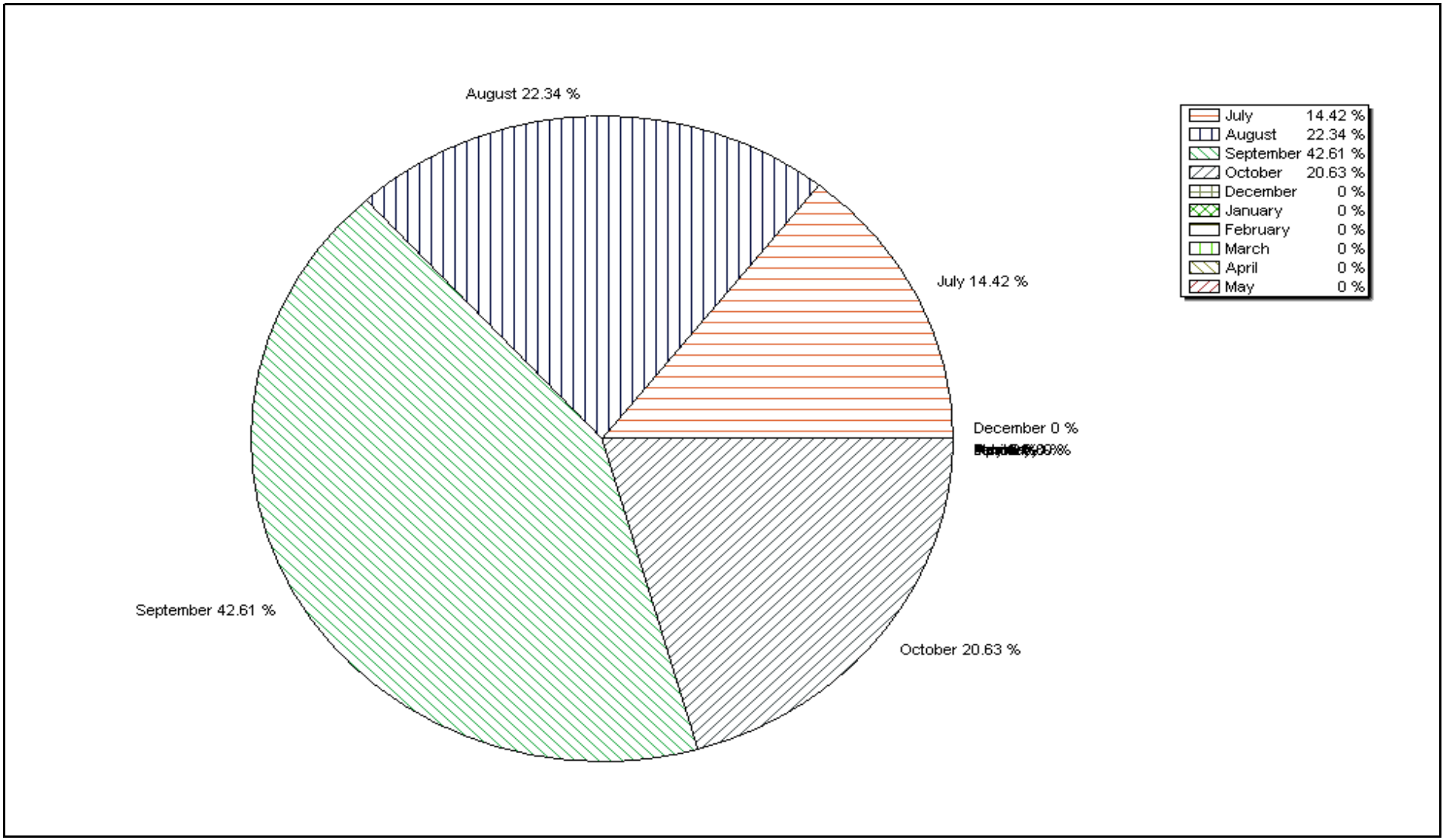
Sub-Division : UMSD,CWC,Raipur



Monthly Runoff for the Year : 2017-2018

Station Name : Kotni (EMP00P8)
Local River : Seonath

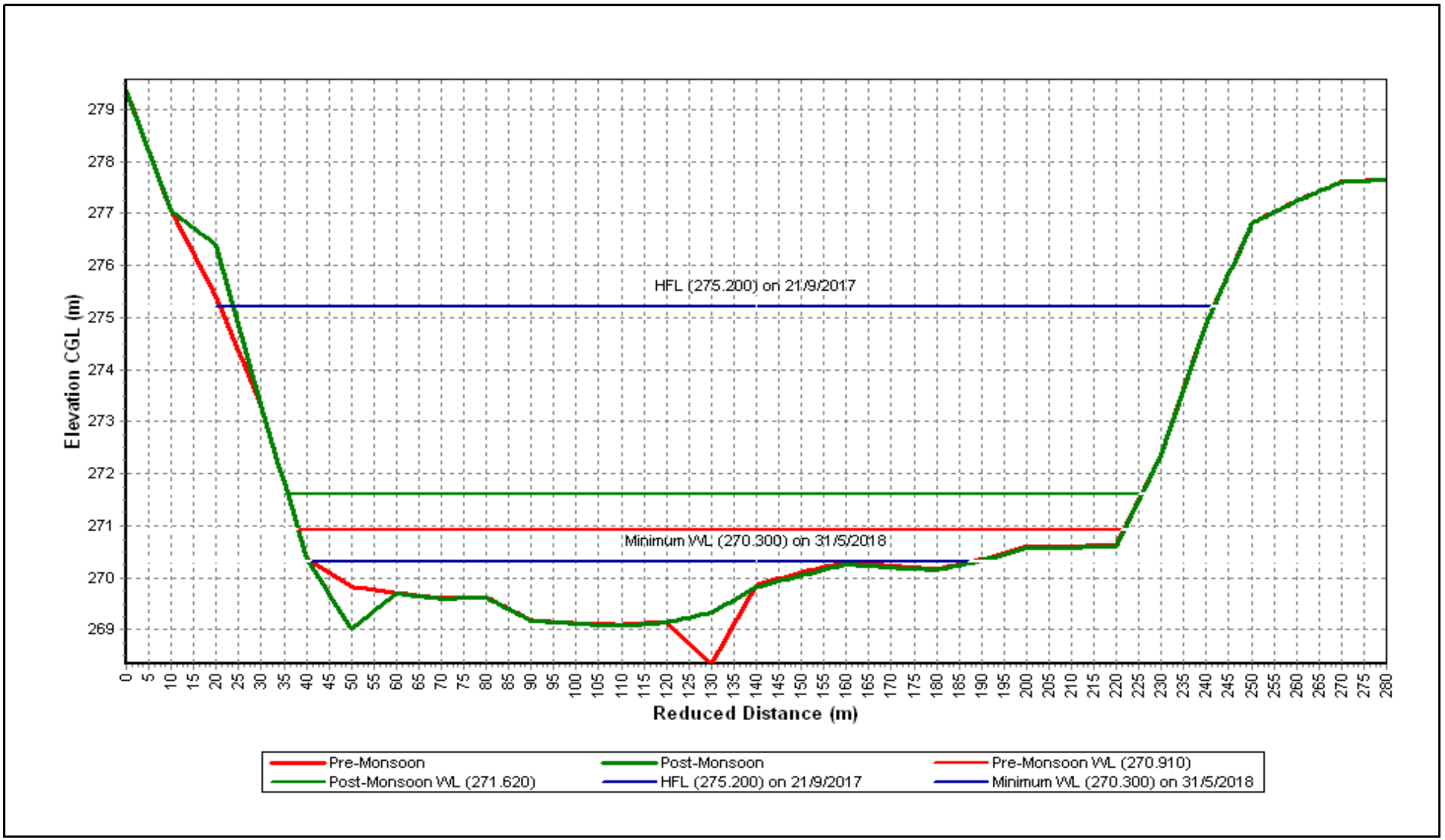
Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur



Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2017-2018

Station Name : Kotni (EMP00P8) **Division : MD,CWC,Burla**

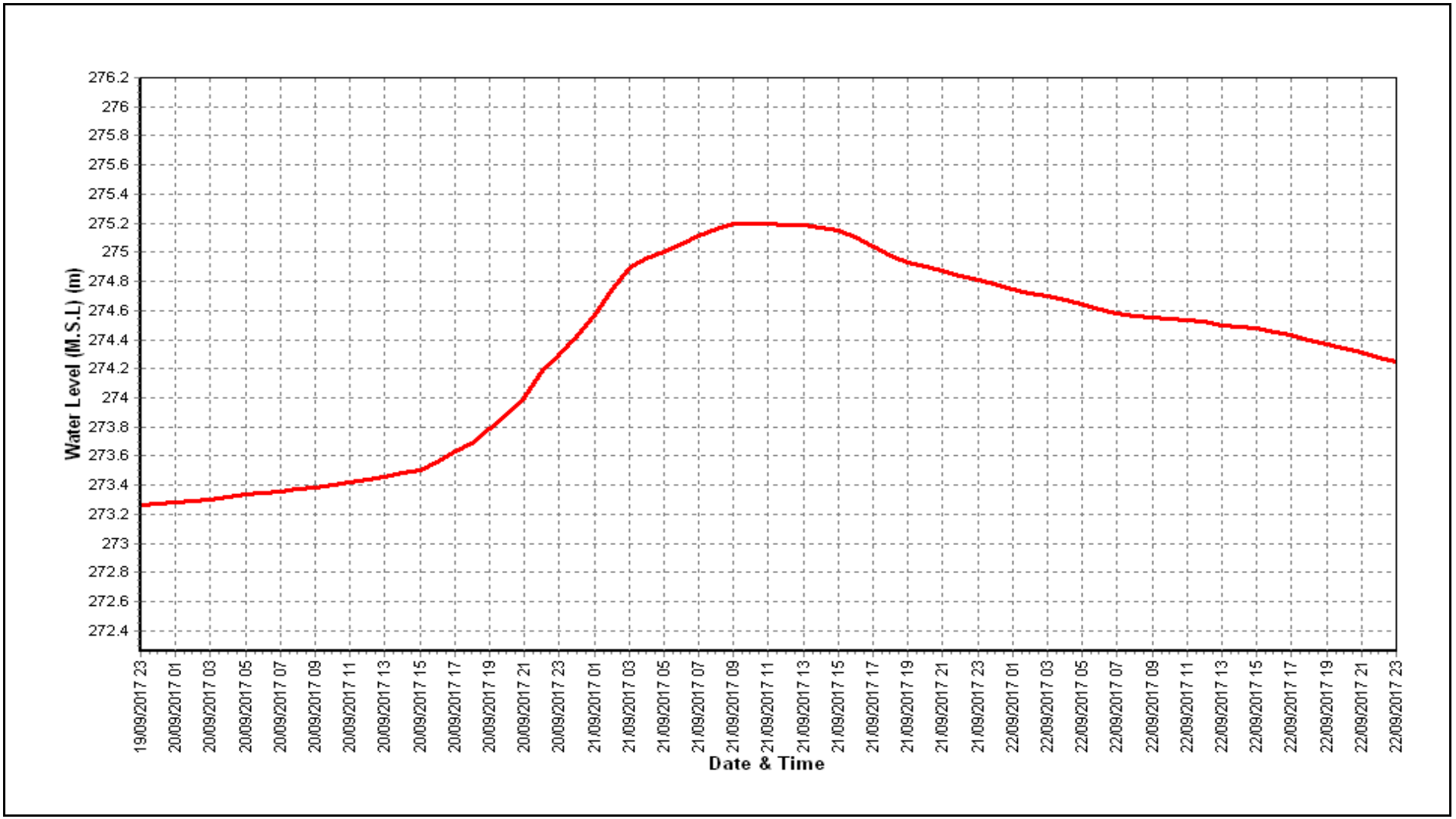
Local River : Seonath **Sub-Division : UMSD,CWC,Raipur**



Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2017-2018

Station Name : Kotni (EMP00P8) **Division : MD,CWC,Burla**

Local River : Seonath **Sub-Division : UMSD,CWC,Raipur**

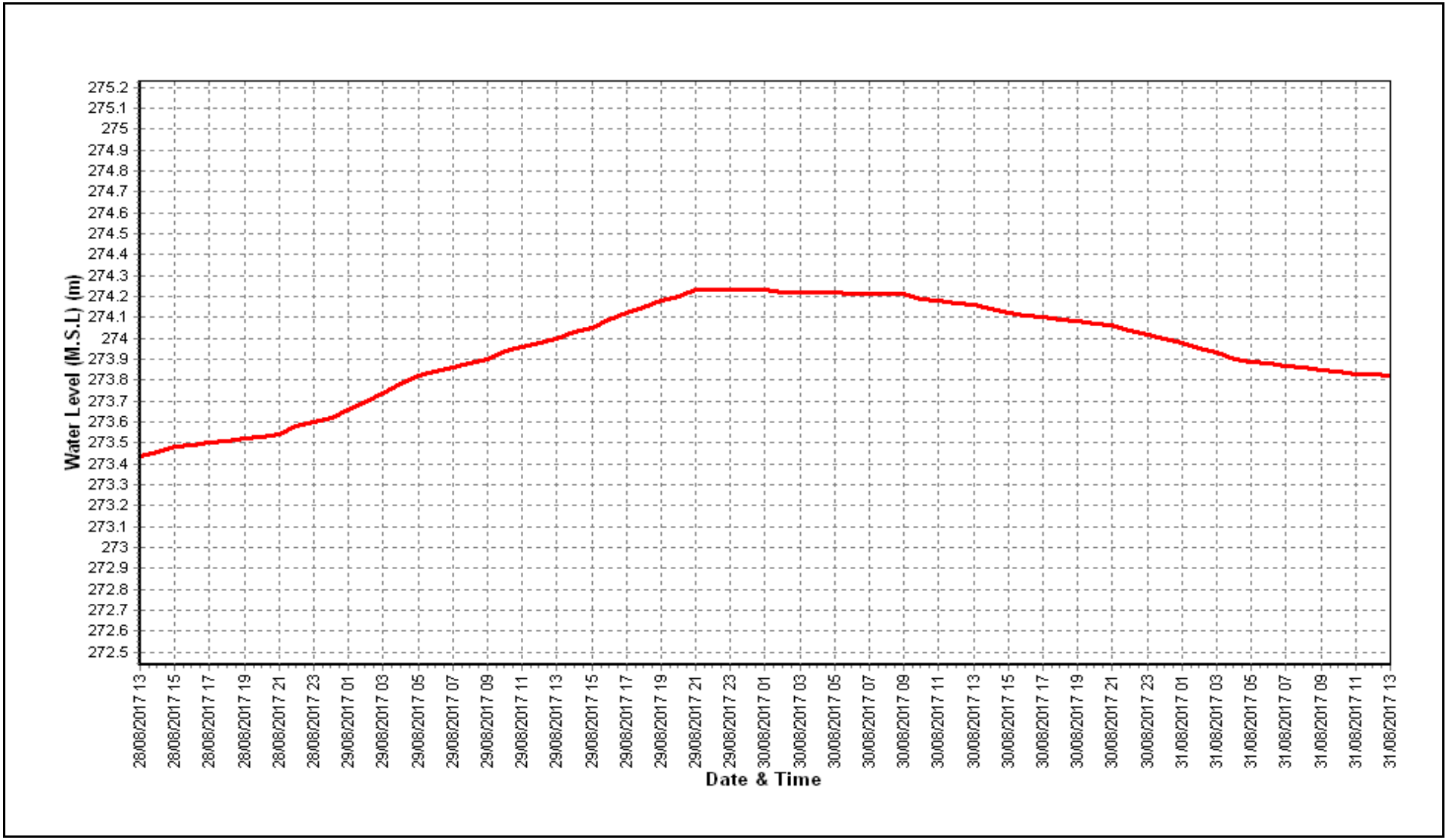


Time Span: 72 Hrs

Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2017-2018

Station Name : Kotni (EMP00P8) **Division : MD,CWC,Burla**

Local River : Seonath **Sub-Division : UMSD,CWC,Raipur**

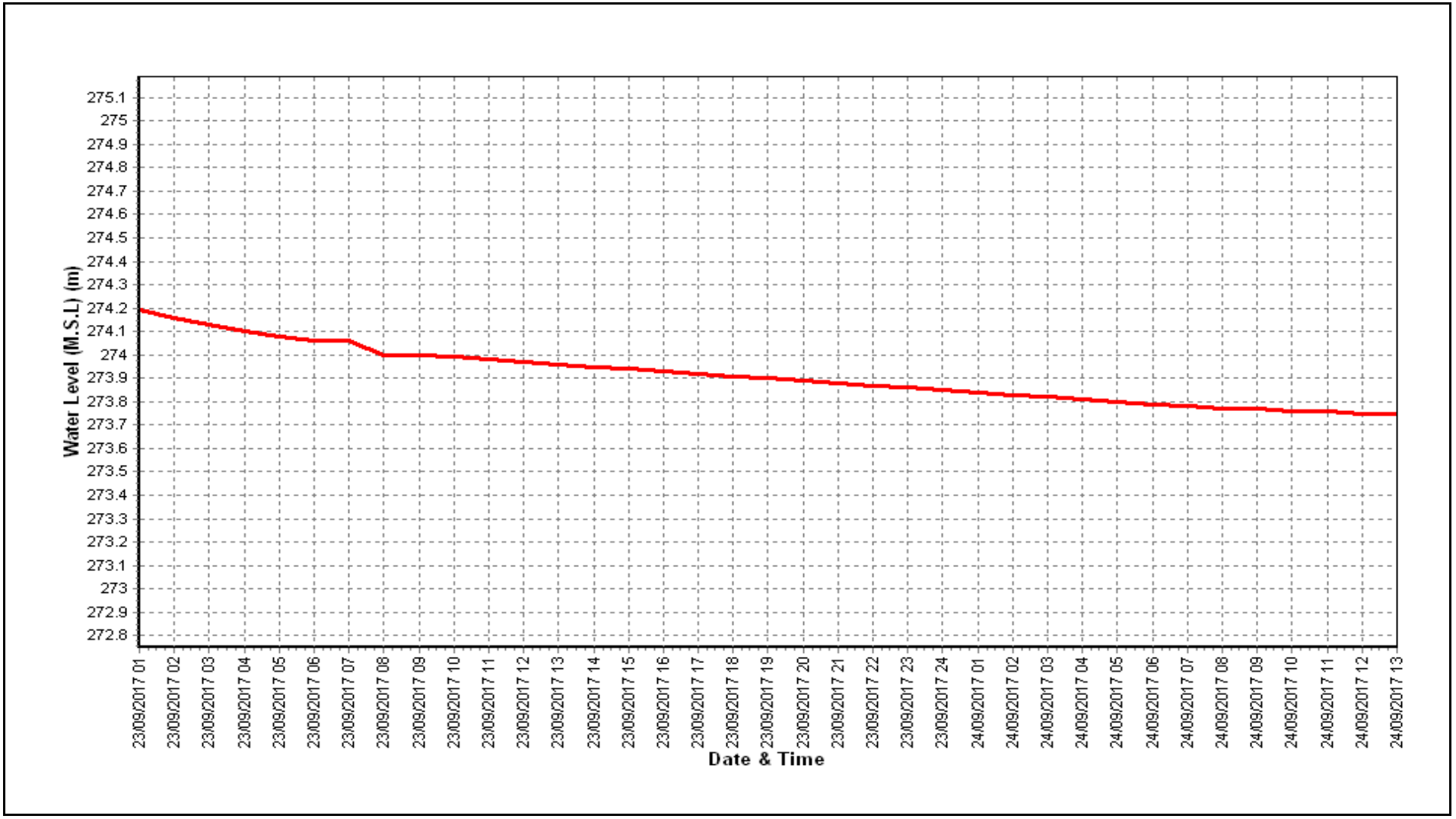


Time Span: 72 Hrs

Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2017-2018

Station Name : Kotni (EMP00P8) **Division : MD,CWC,Burla**

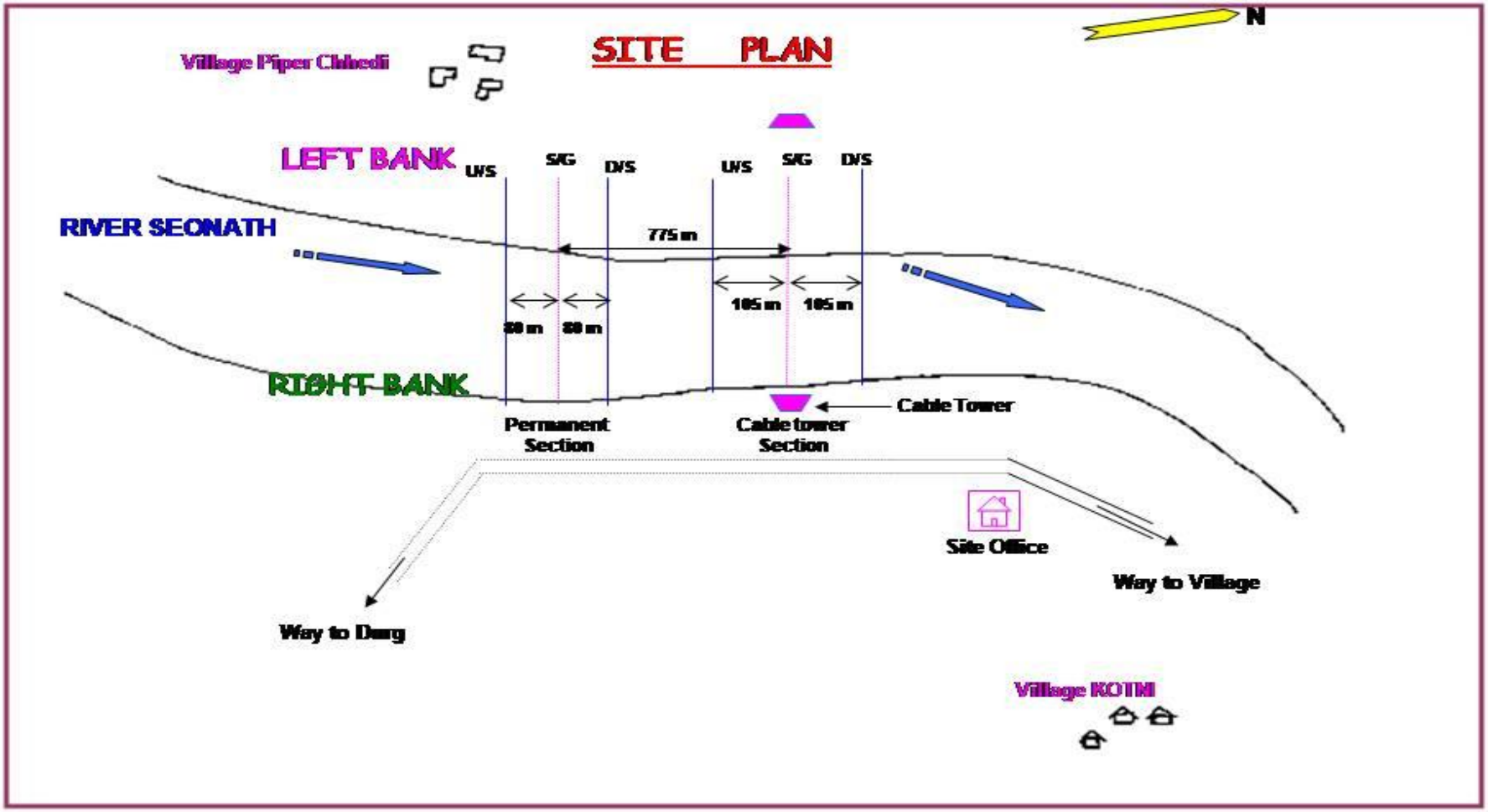
Local River : Seonath **Sub-Division : UMSD,CWC,Raipur**



Time Span: 72 Hrs

CENTRAL WATER COMMISSION, MAHANADI DIVISION, BURLA

Site : KOTNI | Code : EMP00P8 | Sub-Division : UMSD CWC Raipur



SECTION-II

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Kotni (EMP00P8) **Division : MD,CWC,Burla**

Local River : Seonath **Sub-Division : UMSD,CWC,Raipur**

Day	Jun						Jul						Aug					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
2	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
3	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
8	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
9	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
10	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
11	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	362.1	0.000	0.000	1.340	1.340	41922
12	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	222.8	0.000	0.000	1.510	1.510	29063
13	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	92.56	0.000	0.000	0.000	0.000	0
14	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	81.93	0.000	0.000	0.940	0.940	6654
15	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	83.05	0.000	0.000	0.000	0.000	0
16	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
17	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
18	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
19	0.000	0.000	0.000	0.000	0.000	0	434.8	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	0.000	0.000	0.000	0.000	0.000	0	398.8	0.000	0.000	0.000	0.000	0	88.06	0.000	0.000	0.000	0.000	0
21	0.000	0.000	0.000	0.000	0.000	0	424.2	0.000	0.000	0.000	0.000	0	211.3	0.000	0.000	0.350	0.350	6391
22	0.000	0.000	0.000	0.000	0.000	0	410.4	0.000	0.000	0.000	0.000	0	225.9	0.000	0.000	0.810	0.810	15806
23	0.000	0.000	0.000	0.000	0.000	0	350.0	0.000	0.000	0.000	0.000	0	207.6	0.000	0.000	0.910	0.910	16321
24	0.000	0.000	0.000	0.000	0.000	0	317.0	0.000	0.000	0.000	0.000	0	88.51	0.000	0.000	0.430	0.430	3288
25	0.000	0.000	0.000	0.000	0.000	0	207.4	0.000	0.000	0.000	0.000	0	78.32	0.000	0.000	0.000	0.000	0
26	0.000	0.000	0.000	0.000	0.000	0	141.6	0.000	0.000	0.000	0.000	0	87.52	0.000	0.000	0.320	0.320	2420
27	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	89.45	0.000	0.000	0.000	0.000	0
28	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	218.1	0.000	0.000	1.280	1.280	24123
29	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	218.1	0.000	0.000	0.550	0.550	10365
30	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	534.2	0.000	0.000	0.400	0.400	18463
31							0.000	0.000	0.000	0.000	0.000	0	730.5	0.000	0.000	0.700	0.700	44178
Ten Daily Mean																		
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0	83.36	0.000	0.000	0.000	0.000	0	93.05	0.000	0.000	0.379	0.379	7764
Ten Daily III	0.000	0.000	0.000	0.000	0.000	0	168.2	0.000	0.000	0.000	0.000	0	244.5	0.000	0.000	0.523	0.523	12851
Monthly																		
Total						0						0						218995

Annual Sediment Load (Metric Tonnes) : 273646

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Kotni (EMP00P8) **Division : MD,CWC,Burla**

Local River : Seonath **Sub-Division : UMSD,CWC,Raipur**

Day	Sep						Oct						Nov					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	213.0	0.000	0.000	0.000	0.000	0	542.3	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
2	218.6	0.000	0.000	0.000	0.000	0	84.89	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
3	206.9	0.000	0.000	0.000	0.000	0	190.5	0.000	0.000	0.170	0.170	2798	0.000	0.000	0.000	0.000	0.000	0
4	90.49	0.000	0.000	0.000	0.000	0	205.8	0.000	0.000	0.090	0.090	1600	0.000	0.000	0.000	0.000	0.000	0
5	87.42	0.000	0.000	0.000	0.000	0	180.5	0.000	0.000	0.040	0.040	624	0.000	0.000	0.000	0.000	0.000	0
6	82.62	0.000	0.000	0.000	0.000	0	92.54	0.000	0.000	0.140	0.140	1119	0.000	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0.000	0	86.78	0.000	0.000	0.100	0.100	750	0.000	0.000	0.000	0.000	0.000	0
8	0.000	0.000	0.000	0.000	0.000	0	87.21	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
9	0.000	0.000	0.000	0.000	0.000	0	190.1	0.000	0.000	0.050	0.050	821	0.000	0.000	0.000	0.000	0.000	0
10	0.000	0.000	0.000	0.000	0.000	0	178.2	0.000	0.000	0.130	0.130	2002	0.000	0.000	0.000	0.000	0.000	0
11	0.000	0.000	0.000	0.000	0.000	0	265.0	0.000	0.000	0.120	0.120	2747	0.000	0.000	0.000	0.000	0.000	0
12	0.000	0.000	0.000	0.000	0.000	0	213.3	0.000	0.000	0.130	0.130	2396	0.000	0.000	0.000	0.000	0.000	0
13	0.000	0.000	0.000	0.000	0.000	0	200.8	0.000	0.000	0.290	0.290	5031	0.000	0.000	0.000	0.000	0.000	0
14	0.000	0.000	0.000	0.000	0.000	0	194.5	0.000	0.000	0.900	0.900	15128	0.000	0.000	0.000	0.000	0.000	0
15	91.77	0.000	0.000	0.000	0.000	0	182.6	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
16	100.6	0.000	0.000	0.000	0.000	0	181.3	0.000	0.000	0.900	0.900	14102	0.000	0.000	0.000	0.000	0.000	0
17	101.3	0.000	0.000	0.000	0.000	0	91.69	0.000	0.000	0.530	0.530	4199	0.000	0.000	0.000	0.000	0.000	0
18	90.60	0.000	0.000	0.000	0.000	0	90.85	0.000	0.000	0.170	0.170	1334	0.000	0.000	0.000	0.000	0.000	0
19	91.96	0.000	0.000	0.000	0.000	0	86.35	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	207.6	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
21	2100	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
22	1288	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	561.4	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
24	500.0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
25	207.1	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	205.6	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27	192.7	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
28	91.63	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
29	93.00	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
30	88.00	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
31							0.000	0.000	0.000	0.000	0.000	0						
Ten Daily Mean																		
Ten Daily I	89.89	0.000	0.000	0.000	0.000	0	183.9	0.000	0.000	0.072	0.072	971	0.000	0.000	0.000	0.000	0.000	0
Ten Daily II	68.38	0.000	0.000	0.000	0.000	0	150.6	0.000	0.000	0.304	0.304	4494	0.000	0.000	0.000	0.000	0.000	0
Ten Daily III	532.7	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Monthly																		
Total						0						54651						0

Annual Sediment Load (Metric Tonnes) : 273646

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Kotni (EMP00P8) **Division : MD,CWC,Burla**

Local River : Seonath **Sub-Division : UMSD,CWC,Raipur**

Day	Dec						Jan						Feb					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
2	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
3	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
8	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
9	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
10	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
11	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
12	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
13	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
14	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
15	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
16	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
17	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
18	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
19	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
21	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
22	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
24	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
25	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
28	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
29	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0						
30	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0						
31	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0						
Ten Daily Mean																		
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily III	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Monthly																		
Total						0						0						0

Annual Sediment Load (Metric Tonnes) : 273646

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Kotni (EMP00P8) **Division : MD,CWC,Burla**

Local River : Seonath **Sub-Division : UMSD,CWC,Raipur**

Day	Mar						Apr						May					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
2	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
3	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
8	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
9	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
10	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
11	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
12	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
13	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
14	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
15	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
16	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
17	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
18	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
19	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
21	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
22	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
24	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
25	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
28	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
29	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
30	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
31	0.000	0.000	0.000	0.000	0.000	0							0.000	0.000	0.000	0.000	0.000	0
Ten Daily Mean																		
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily III	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Monthly																		
Total						0						0						0

Annual Sediment Load (Metric Tonnes) : 273646

Annual Sediment Load for period : 2014-2018

Station Name : Kotni (EMP00P8) **Division : MD,CWC,Burla**

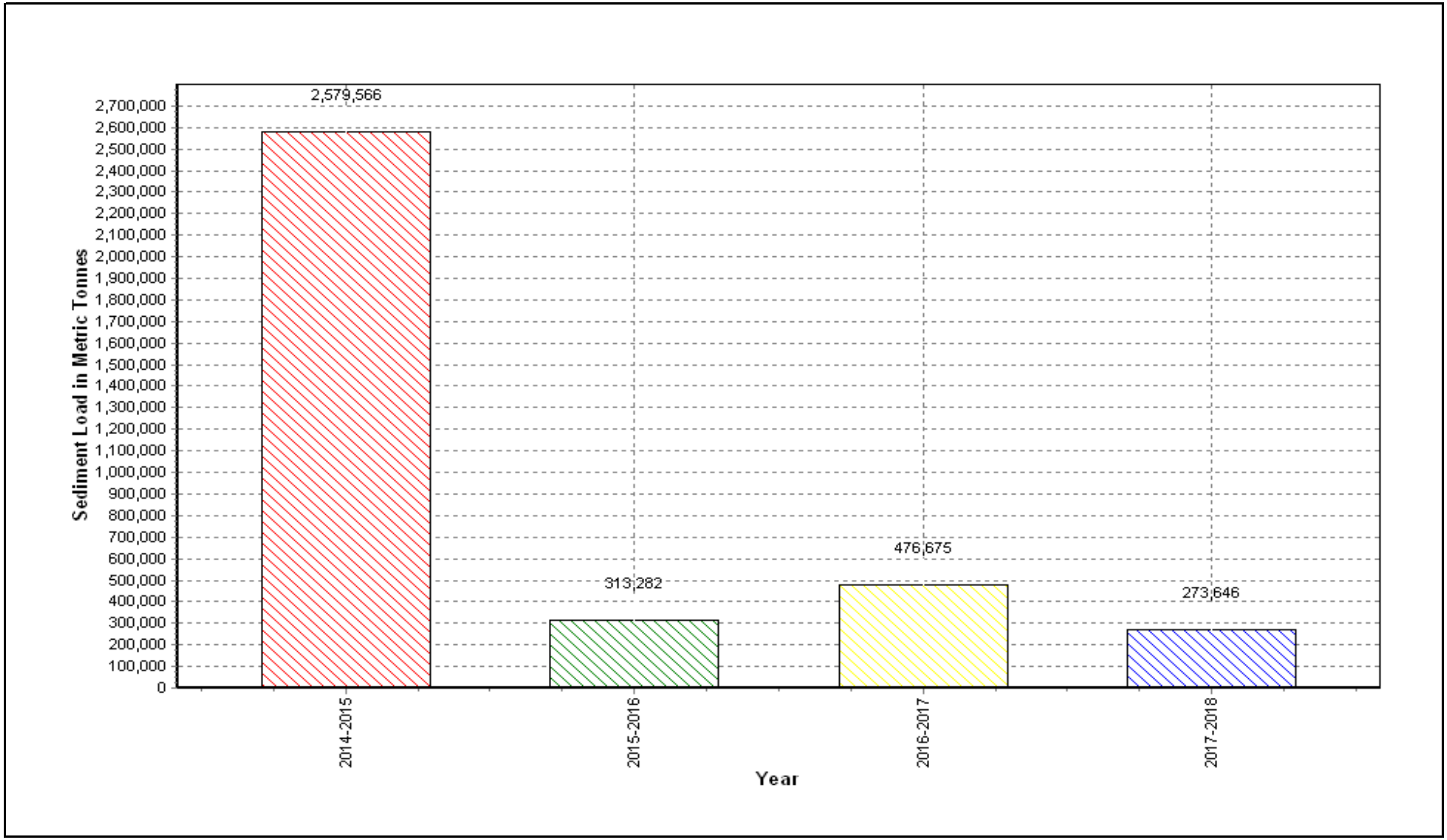
Local River : Seonath **Sub-Division : UMSD,CWC,Raipur**

Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)
2014-2015	2579566	0	2579566	1931
2015-2016	313282	0	313282	320
2016-2017	476675	0	476675	2049
2017-2018	273646	0	273646	1401

Annual Sediment Load for the period: 2014-2018

Station Name : Kotni (EMP00P8)
Local River : Seonath

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur



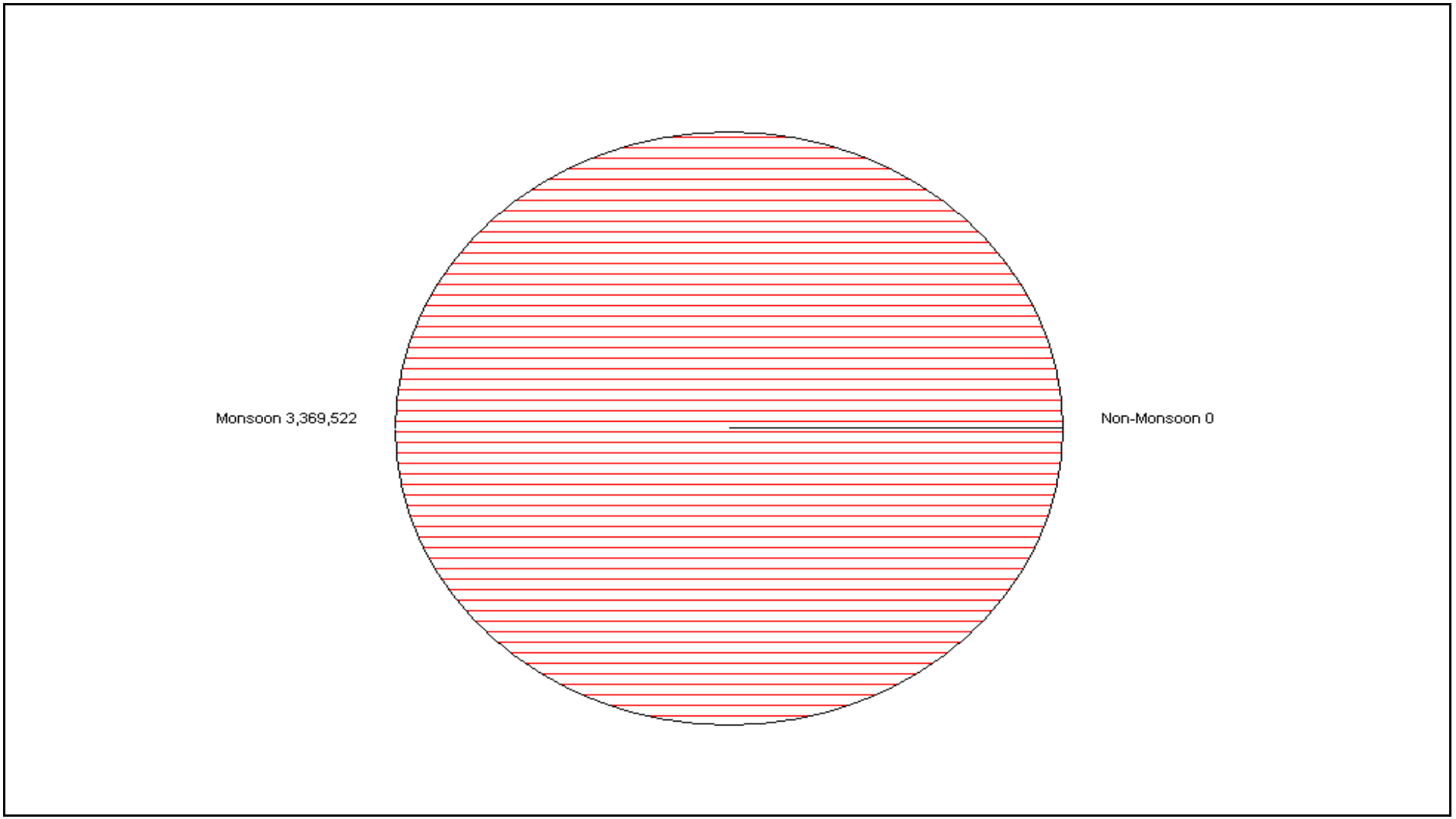
Seasonal Sediment Load for the period : 2014-2017

Station Name : Kotni (EMP00P8)

Local River : Seonath

Division : MD,CWC,Burla

Sub-Division : UMSD,CWC,Raipur



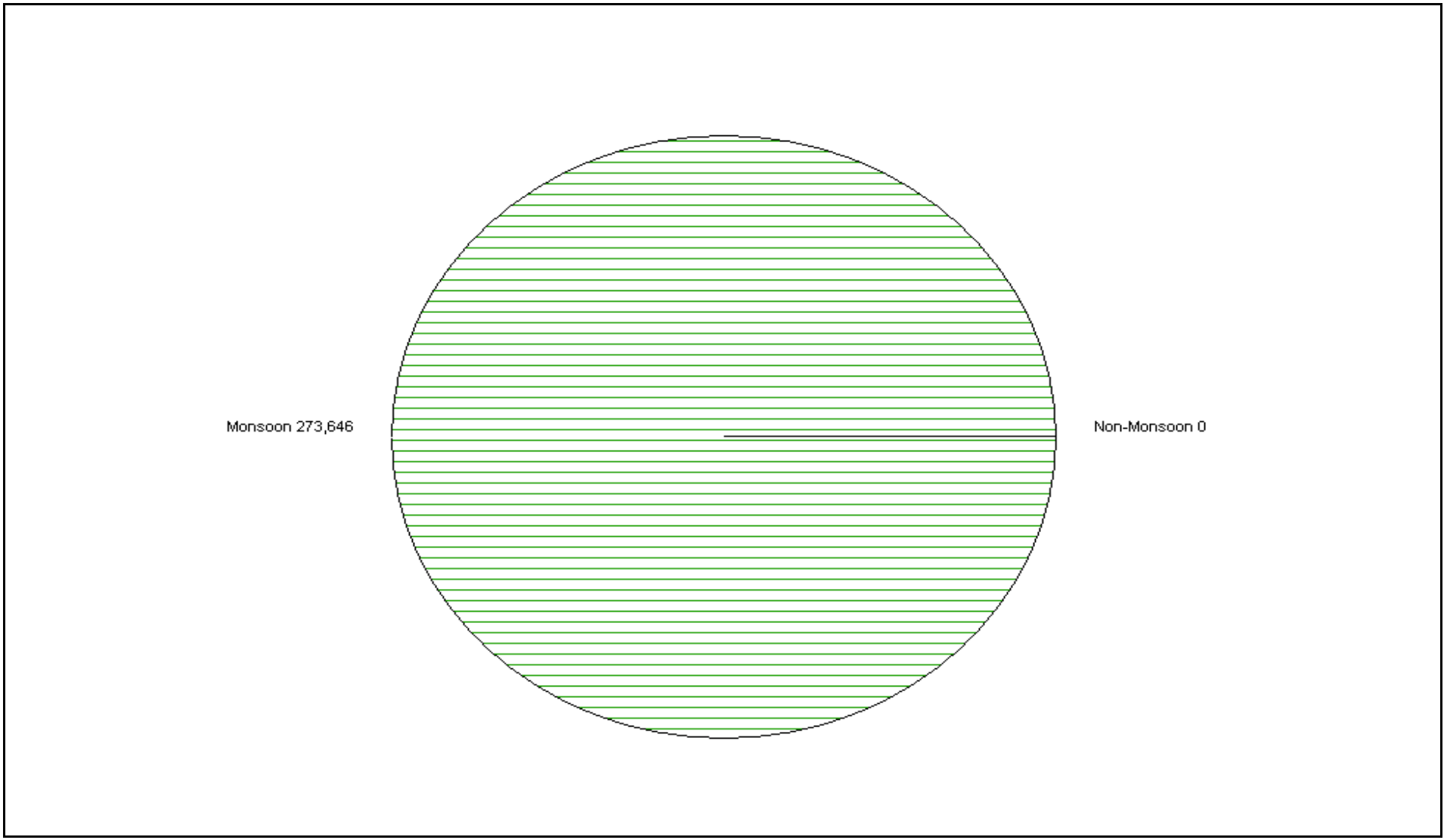
Seasonal Sediment Load for the Year: 2017-2018

Station Name : Kotni (EMP00P8)

Division : MD,CWC,Burla

Local River : Seonath

Sub-Division : UMSD,CWC,Raipur



SECTION-III

Water Quality Datasheet for the period : 2017-2018

Station Name : Kotni (EMP00P8) **Division : MD,CWC,Burla**

Local River : Seonath **River Water Analysis** **Sub-Division : UMSD,CWC,Raipur**

S.No	Parameters	01/06/2017	01/07/2017	01/08/2017	01/09/2017	03/10/2017	01/11/2017	01/12/2017	01/01/2018	01/02/2018	01/03/2018	02/04/2018	01/05/2018
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)		0.000	0.000	213.0	190.5		0.000	0.000	0.000	0.000	0.000	0.000
2	Colour_Cod (-)			Light Brown	Light Brown	Clear			Clear	Clear	Clear		
3	EC_FLD (µmho/cm)			122	360	582			115	398	266		
4	EC_GEN (µmho/cm)			196	189	207			219	348	216		
5	Odour_Code (-)			odour free	odour free	odour free			odour free	odour free	odour free		
6	pH_FLD (pH units)			8.0	7.0	7.7			8.1	8.7	9.4		
7	pH_GEN (pH units)			8.5	8.4	8.1			8.5	8.2	7.8		
8	Temp (deg C)			31.0	31.0	31.0			17.0	19.0	25.0		
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)			0.0	0.0	0.0			0.0	0.0	0.0		
2	ALK-TOT (mgCaCO3/L)			192	164	140			204	292	228		
3	Ca (mg/L)			46	75	42			38	51	27		
4	Cl (mg/L)			40.0	20.0	41.0			42.0	38.0	28.0		
5	CO3 (mg/L)			0.0	0.0	0.0			0.0	0.0	0.0		
6	HCO3 (mg/L)			117	100	85			124	178	139		
7	K (mg/L)			8.6	13.1	11.2			8.9	20.8	2.9		
8	Mg (mg/L)			2.9	1.9	13.6			14.6	1.0	6.8		
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)			1.1	1.2	1.0			1.5	0.8	6.0		
2	DO (mg/L)			6.1	6.0	5.2			7.7	5.7	6.2		
3	DO_SAT% (%)			82	81	70			80	61	75		
4	FCol-MPN (MPN/100mL)			40	20	90				90	60		
5	Tcol-MPN (MPN/100mL)			60	90	110				140	120		
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)			116	188	104			96	128	68		
2	HAR_Total (mgCaCO3/L)			128	196	161			157	132	96		
3	Na% (%)			24	19	28			26	39	35		
4	RSC (-)			0.0	0.0	0.0			0.0	0.3	0.4		
5	SAR (-)			0.8	0.7	1.1			0.9	1.8	1.1		
	PESTICIDES												

Water Quality Summary for the period : 2017-2018

Station Name : Kotni (EMP00P8) **Division : MD,CWC,Burla**

Local River : Seonath **Sub-Division : UMSD,CWC,Raipur**

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	293	2100	0.000	55.32
2	EC_FLD (µmho/cm)	6	582	115	307
3	EC_GEN (µmho/cm)	6	348	189	229
4	pH_FLD (pH units)	6	9.4	7.0	8.1
5	pH_GEN (pH units)	6	8.5	7.8	8.2
6	Temp (deg C)	6	31.0	17.0	25.7
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	6	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	6	292	140	203
3	Ca (mg/L)	6	75	27	47
4	Cl (mg/L)	6	42.0	20.0	34.8
5	CO3 (mg/L)	6	0.0	0.0	0
6	HCO3 (mg/L)	6	178	85	124
7	K (mg/L)	6	20.8	2.9	10.9
8	Mg (mg/L)	6	14.6	1.0	6.8
9	Na (mg/L)	6	46.6	20.0	28.7
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	6	6.0	0.8	1.9
3	DO_SAT% (%)	6	82	61	75
4	FCol-MPN (MPN/100mL)	5	90	20	60
5	Tcol-MPN (MPN/100mL)	5	140	60	104
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	6	188	68	117
2	HAR_Total (mgCaCO3/L)	6	196	96	145
3	Na% (%)	6	39	19	28
4	RSC (-)	6	0.4	0.0	0.1
5	SAR (-)	6	1.8	0.7	1.1
	PESTICIDES				

Water Quality Seasonal Average for the period: 2015-2018

Station Name : Kotni (EMP00P8) **Division : MD,CWC,Burla**

Local River : Seonath **River Water** **Sub-Division : UMSD,CWC,Raipur**

S.No	Parameters	Flood			Winter			Summer		
		Jun - Oct			Nov - Feb			Mar - May		
		2015	2016	2017	2015-2016	2016-2017	2017-2018	2016	2017	2018
	PHYSICAL									
1	Q (cumec)	26.10	132.1	100.9	0.000	0.000	0.000	0.000	0.000	0.000
2	EC_FLD (µmho/cm)	436	142	355			257			266
3	EC_GEN (µmho/cm)	210	182	197			284			216
4	pH_FLD (pH units)	7.5	7.9	7.5			8.4			9.4
5	pH_GEN (pH units)	7.9	7.7	8.3			8.3			7.8
6	Temp (deg C)	29.0	29.3	31.0			18.0			25.0
	CHEMICAL									
1	ALK-TOT (mgCaCO3/L)	199	146	165			248			228
2	Ca (mg/L)	33	49	55			45			27
3	Cl (mg/L)	23.3	21.3	33.7			40.0			28.0
4	HCO3 (mg/L)	122	89	101			151			139
5	K (mg/L)	7.0	17.2	11.0			14.8			2.9
6	Mg (mg/L)	9.2	9.7	6.2			7.8			6.8
7	Na (mg/L)	21.4	37.7	24.5			36.9			25.0
	BIOLOGICAL/BACTERIOLOGICAL									
2	DO (mg/L)	5.3	6.4	5.8			6.7			6.2
3	DO_SAT% (%)	69	84	78			71			75
4	FCol-MPN (MPN/100mL)			50			90			60
5	Tcol-MPN (MPN/100mL)			87			140			120
	TRACE & TOXIC									
	CHEMICAL INDICES									
1	HAR_Ca (mgCaCO3/L)	82	123	136			112			68
2	HAR_Total (mgCaCO3/L)	121	163	162			145			96
3	Na% (%)	26	29	23			33			35
4	RSC (-)	0.0	0.0	0.0			0.1			0.4
5	SAR (-)	0.8	1.3	0.8			1.4			1.1
	PESTICIDES									

SITE PATHARDIH

HISTORY SHEET

Water Year : 2017-2018

Site	**: Pathardih**		**Code**	**: EMP70F3**	
State	: Chhattisgarh		District	Raipur	
Basin	: Mahanadi		Independent River	: Mahanadi	
Tributary	: Seonath		Sub Tributary	:	
Sub-Sub Tributary	:		Local River	: Kharun	
Division	: MD,CWC,Burla		Sub-Division	: UMSD,CWC,Raipur	
Drainage Area	: 2511 Sq. Km.		Bank	:	
Latitude	: 21°20'28"		Longitude	: 81°35'48"	
Zero of Gauge (m)	: 271 (m.s.l)		12/06/1987	- 12/06/2017	
	Opening Date		Closing Date		
Gauge	: 12/06/1987				
Discharge	: 05/06/1989				
Sediment	:				
Water Quality	: 01/06/1995				

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

	Maximum			Minimum		
Year	**Q (cumecs)**	**WL (m)**	**Date**	**Q (cumecs)**	**WL (m)**	**Date**
1990-1991	1115	277.140	23/08/1990	0.080	272.110	17/04/1991
1991-1992	1170	277.190	24/08/1991	0.146	272.045	18/05/1992
1992-1993	1618	278.220	29/07/1992	0.050	272.085	30/04/1993
1993-1994	595.2	275.670	20/08/1993	0.125	272.200	12/05/1994
1994-1995	1695	279.210	12/07/1994	1.009	272.290	06/06/1994
1995-1996	1554	278.115	25/07/1995	0.113	272.165	12/06/1995
1996-1997	1163	279.145	02/08/1996	0.099	272.120	11/07/1996
1997-1998	1092	277.860	23/08/1997	0.215	272.170	29/05/1998
1998-1999	235.1	274.570	11/07/1998	0.028	272.200	22/02/1999
1999-2000	1255	277.485	31/08/1999	0.094	272.155	14/04/2000
2000-2001	875.4	276.830	20/07/2000	0.100	272.215	16/10/2000
2001-2002	968.3	276.475	10/07/2001	0.375	272.180	28/02/2002
2002-2003	350.0	274.830	18/08/2002	0.170	272.115	12/07/2002
2003-2004	1243	277.450	29/08/2003	0.139	272.180	17/02/2004
2004-2005	706.3	276.233	30/07/2004	0.060	272.360	28/02/2005
2005-2006	2000	278.600	14/09/2005	0.156	272.155	05/04/2006
2006-2007	1500	278.920	14/08/2006	0.130	272.160	28/02/2007
2007-2008	909.0	279.630	01/07/2007	0.451	272.085	18/12/2007
2008-2009	878.7	276.915	20/09/2008	0.594	272.490	25/11/2008
2009-2010	646.2	276.085	22/07/2009	1.090	272.235	09/11/2009
2010-2011	753.5	276.565	07/08/2010	0.430	272.140	03/12/2010
2011-2012	1441	277.865	08/09/2011	0.302	272.160	06/12/2011

Q : Observed / Computed Discharge WL : Corresponding Water Level(m.s.l)

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

	Maximum			Minimum		
Year	**Q (cumecs)**	**WL (m)**	**Date**	**Q (cumecs)**	**WL (m)**	**Date**
2012-2013	1103	277.505	04/08/2012	0.338	272.065	12/11/2012
2013-2014	1300	278.270	01/08/2013	0.806	272.110	15/11/2013
2014-2015	1284	278.705	23/07/2014	0.000	272.035	08/02/2015
2015-2016	321.9	274.810	18/09/2015	0.000	272.150	26/01/2016
2016-2017	1008	276.810	07/08/2016	0.000	272.225	08/04/2017

Q : Observed / Computed Discharge WL : Corresponding Water Level(m.s.l)

Stage-Dischage Data for the period 2017 - 2018

Station Name : Pathardih (EMP70F3) **Division : MD,CWC,Burla**

Local River : Kharun **Sub-Division : UMSD,CWC,Raipur**

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	272.200	0.000 *	272.375	11.27	272.355	9.150	273.288	99.77	272.250	5.000 *	272.218	5.004
2	272.205	0.000 *	273.085	58.00 *	272.375	10.76	272.920	80.00 *	272.805	47.56 *	272.148	4.549
3	272.210	0.000 *	272.988	34.30	272.335	8.682	272.640	25.00 *	273.443	99.02	272.100	0.000 *
4	272.210	0.000 *	272.905	21.20	272.310	8.091	272.528	20.53	273.323	104.5	272.050	0.000 *
5	272.205	0.000 *	272.375	10.51	272.320	8.620	272.375	11.46	273.470	102.6	272.100	0.000 *
6	272.205	0.000 *	272.340	10.89	272.350	9.000 *	272.485	20.18	273.340	107.7	272.020	0.000 *
7	272.205	0.000 *	272.320	8.315	272.370	10.85	272.415	13.25	273.280	96.42	272.025	0.000 *
8	272.200	0.000 *	272.445	17.29	272.350	8.491	272.395	11.14	273.205	96.58 *	272.040	0.000 *
9	272.200	0.000 *	272.420	17.20 *	272.428	14.20	272.375	10.86	273.490	107.9	272.045	0.000 *
10	272.205	0.000 *	272.365	10.32	272.393	11.49	272.530	21.00 *	273.735	142.7	272.050	0.000 *
11	272.215	0.000 *	272.313	8.218	273.035	49.99	272.410	12.30	273.970	202.8	272.060	0.000 *
12	272.220	0.000 *	272.353	11.49	272.853	27.24	272.405	9.914	273.700	134.4	272.070	0.000 *
13	272.230	0.000 *	272.370	10.55	272.605	22.00 *	272.375	10.98	273.340	106.8	272.075	0.000 *
14	272.235	0.000 *	272.350	10.98	272.425	13.90	272.350	8.832	273.218	74.98	272.085	0.000 *
15	272.245	0.000 *	272.313	7.830	272.415	13.50 *	272.385	10.08	272.965	56.32 *	272.085	0.000 *
16	272.260	0.000 *	272.300	8.100 *	272.865	28.35	272.375	11.20	272.425	16.57	272.080	0.000 *
17	272.270	0.000 *	272.453	14.10	272.615	24.49	272.395	12.00 *	272.320	8.541	272.070	0.000 *
18	272.250	0.000 *	272.543	19.08	272.535	19.27	272.485	20.70	272.253	7.296	272.065	0.000 *
19	272.235	0.000 *	273.098	59.91	273.025	50.21	273.425	97.78	272.210	6.650 *	272.060	0.000 *
20	272.220	0.000 *	273.990	207.8	273.380	85.00 *	274.100	183.1	272.268	7.396	272.055	0.000 *
21	272.260	0.000 *	273.598	130.6	273.290	102.2	275.110	393.4	272.240	6.885	272.050	0.000 *
22	272.475	17.22	273.215	93.38	273.015	49.65	274.858	323.3	272.215	6.950 *	272.045	0.000 *
23	272.655	26.95	272.820	27.00 *	272.753	30.62	274.505	297.4	272.320	8.916	272.060	0.000 *
24	272.610	23.07	272.628	24.28	272.325	8.841	274.270	250.0 *	272.243	7.330	272.065	0.000 *
25	272.730	30.02 *	272.453	14.14	272.735	30.00 *	273.740	149.9	272.250	7.304	272.070	0.000 *
26	273.055	90.23 *	272.295	7.229	273.120	56.25	273.085	52.73	272.280	8.056	272.080	0.000 *
27	273.340	107.8	272.365	9.820	273.050	56.10 *	272.985	47.13	272.193	4.685	272.085	0.000 *
28	273.310	102.2	272.345	8.139	273.080	51.79	272.510	19.70	272.140	4.497	272.095	0.000 *
29	272.655	26.83	272.298	7.458	273.570	120.6	272.485	19.00 *	272.115	3.850 *	272.110	0.000 *
30	272.320	7.936	272.265	7.000 *	274.308	228.5	272.260	16.00 *	272.105	3.606	272.120	0.000 *
31			272.330	7.849	273.835	169.5			272.195	4.944		
Ten-Daily Mean												
I Ten-Daily	272.204	0.000	272.562	19.93	272.359	9.933	272.595	31.32	273.234	91.00	272.079	0.955
II Ten-Daily	272.238	0.000	272.608	35.80	272.775	33.39	272.671	37.69	272.867	62.18	272.070	0.000
III Ten-Daily	272.741	43.22	272.601	30.62	273.189	82.19	273.581	156.9	272.209	6.093	272.078	0.000
Monthly												
Min.	272.200	0.000	272.265	7.000	272.310	8.091	272.260	8.832	272.105	3.606	272.020	0.000
Max.	273.340	107.8	273.990	207.8	274.307	228.5	275.110	393.4	273.970	202.8	272.217	5.004
Mean	272.395	14.41	272.591	28.85	272.788	43.14	272.949	75.29	272.752	51.58	272.076	0.318

Annual Runoff in MCM = 564 Annual Runoff in mm = 225

Peak Observed Discharge = 393.4 cumecs on 21/09/2017 Corres. Water Level :275.11 m

Lowest Observed Discharge = 3.606 cumecs on 30/10/2017 Corres. Water Level :272.105 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Dischage Data for the period 2017 - 2018

Station Name : Pathardih (EMP70F3) **Division : MD,CWC,Burla**

Local River : Kharun **Sub-Division : UMSD,CWC,Raipur**

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	272.130	0.000 *	272.080	0.000 *	272.125	0.000 *	272.130	0.000 *	272.120	.00 *	272.055	.00 *
2	272.145	0.000 *	272.075	0.000 *	272.130	0.000 *	272.135	0.000 *	272.135	.00 *	272.050	.00 *
3	272.155	0.000 *	272.075	0.000 *	272.130	0.000 *	272.135	0.000 *	272.140	.00 *	272.065	.00 *
4	272.155	0.000 *	272.070	0.000 *	272.120	0.000 *	272.125	0.000 *	272.130	.00 *	272.070	.00 *
5	272.150	0.000 *	272.080	0.000 *	272.110	0.000 *	272.115	0.000 *	272.125	.00 *	272.080	.00 *
6	272.145	0.000 *	272.090	0.000 *	272.105	0.000 *	272.110	0.000 *	272.115	.00 *	272.085	.00 *
7	272.130	0.000 *	272.100	0.000 *	272.090	0.000 *	272.095	0.000 *	272.120	.00 *	272.095	.00 *
8	272.125	0.000 *	272.120	0.000 *	272.085	0.000 *	272.090	0.000 *	272.130	.00 *	272.100	.00 *
9	272.125	0.000 *	272.125	0.000 *	272.070	0.000 *	272.080	0.000 *	272.135	.00 *	272.105	.00 *
10	272.140	0.000 *	272.135	0.000 *	272.065	0.000 *	272.075	0.000 *	272.140	.00 *	272.110	.00 *
11	272.145	0.000 *	272.110	0.000 *	272.060	0.000 *	272.065	0.000 *	272.130	.00 *	272.115	.00 *
12	272.135	0.000 *	272.095	0.000 *	272.065	0.000 *	272.060	0.000 *	272.120	.00 *	272.120	.00 *
13	272.120	0.000 *	272.090	0.000 *	272.075	0.000 *	272.055	0.000 *	272.115	.00 *	272.130	.00 *
14	272.115	0.000 *	272.090	0.000 *	272.085	0.000 *	272.055	0.000 *	272.120	.00 *	272.135	.00 *
15	272.105	0.000 *	272.085	0.000 *	272.095	0.000 *	272.060	0.000 *	272.140	.00 *	272.140	.00 *
16	272.095	0.000 *	272.090	0.000 *	272.105	0.000 *	272.070	0.000 *	272.160	.00 *	272.145	.00 *
17	272.090	0.000 *	272.095	0.000 *	272.110	0.000 *	272.085	0.000 *	272.155	.00 *	272.140	.00 *
18	272.070	0.000 *	272.105	0.000 *	272.120	0.000 *	272.095	0.000 *	272.140	.00 *	272.135	.00 *
19	272.075	0.000 *	272.110	0.000 *	272.125	0.000 *	272.110	0.000 *	272.135	.00 *	272.130	.00 *
20	272.085	0.000 *	272.115	0.000 *	272.135	0.000 *	272.120	0.000 *	272.125	.00 *	272.120	.00 *
21	272.090	0.000 *	272.105	0.000 *	272.125	0.000 *	272.130	0.000 *	272.120	.00 *	272.115	.00 *
22	272.105	0.000 *	272.100	0.000 *	272.120	0.000 *	272.135	0.000 *	272.110	.00 *	272.110	.00 *
23	272.115	0.000 *	272.090	0.000 *	272.105	0.000 *	272.145	0.000 *	272.105	.00 *	272.105	.00 *
24	272.125	0.000 *	272.085	0.000 *	272.100	0.000 *	272.150	0.000 *	272.095	.00 *	272.100	.00 *
25	272.130	0.000 *	272.080	0.000 *	272.095	0.000 *	272.160	0.000 *	272.090	.00 *	272.095	.00 *
26	272.140	0.000 *	272.075	0.000 *	272.100	0.000 *	272.170	0.000 *	272.085	.00 *	272.090	.00 *
27	272.145	0.000 *	272.095	0.000 *	272.115	0.000 *	272.160	0.000 *	272.080	.00 *	272.090	.00 *
28	272.130	0.000 *	272.010	0.000 *	272.120	0.000 *	272.150	0.000 *	272.075	.00 *	272.085	.00 *
29	272.120	0.000 *	272.110	0.000 *			272.145	0.000 *	272.070	.00 *	272.080	.00 *
30	272.110	0.000 *	272.115	0.000 *			272.135	0.000 *	272.060	.00 *	272.075	.00 *
31	272.090	0.000 *	272.120	0.000 *			272.130	0.000 *			272.070	.00 *
Ten-Daily Mean												
I Ten-Daily	272.140	0.000	272.095	0.000	272.103	0.000	272.109	0.000	272.129	.000	272.081	.000
II Ten-Daily	272.103	0.000	272.098	0.000	272.097	0.000	272.077	0.000	272.134	.000	272.131	.000
III Ten-Daily	272.118	0.000	272.090	0.000	272.110	0.000	272.146	0.000	272.089	.000	272.092	.000
Monthly												
Min.	272.070	0.000	272.010	0.000	272.060	0.000	272.055	0.000	272.060	.000	272.050	.000
Max.	272.155	0.000	272.135	0.000	272.135	0.000	272.170	0.000	272.160	.000	272.145	.000
Mean	272.120	0	272.094	0	272.103	0	272.112	0	272.117	0	272.101	0

Peak Computed Discharge = 250.0 cumecs on 24/09/2017 **Corres. Water Level :274.27 m**

Lowest Computed Discharge = 0.000 cumecs on 03/11/2017 **Corres. Water Level :272.1 m**

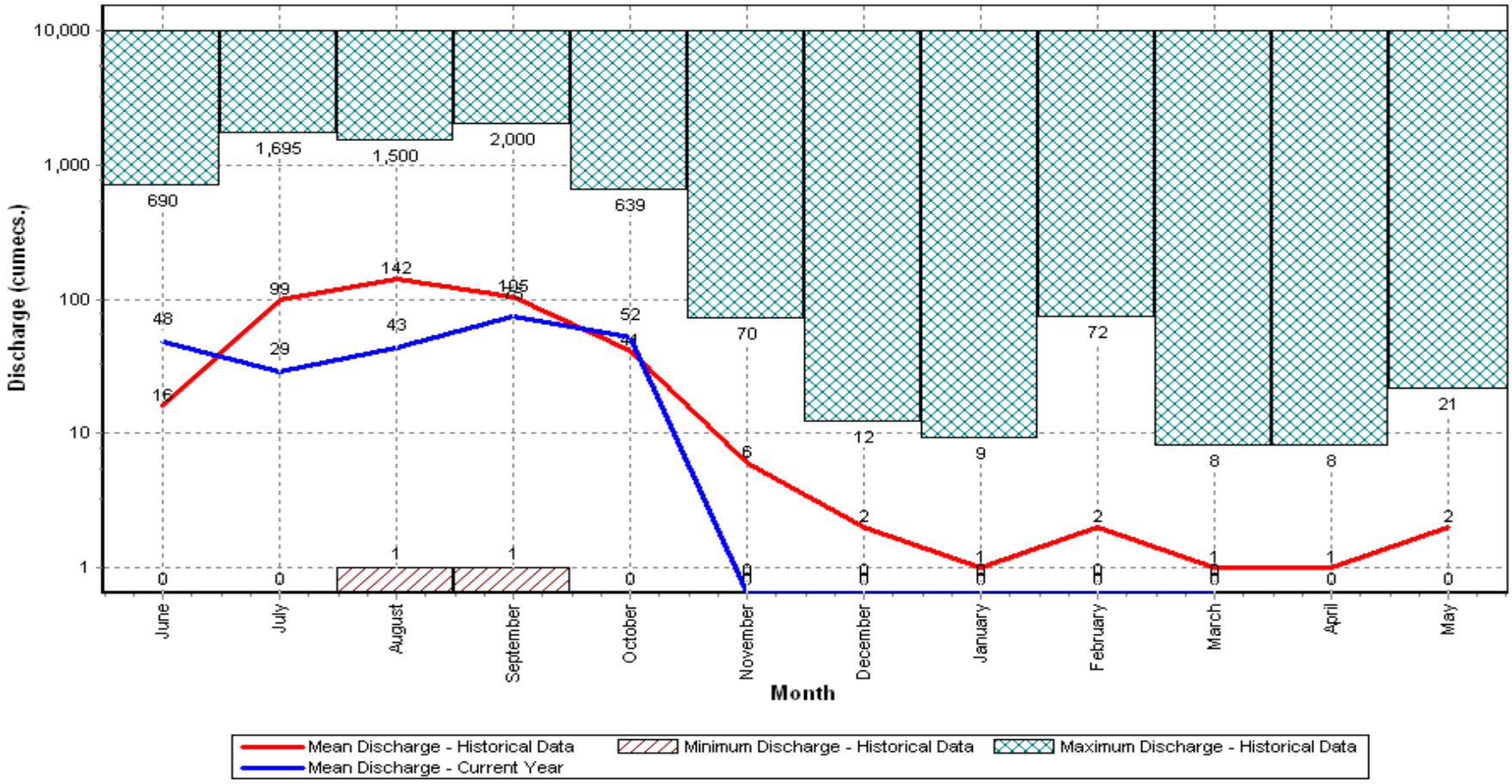
Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2017-2018

Station Name : Pathardih (EMP70F3) | **Data considered : 1990-2018** | **Division : MD,CWC,Burla**

Local River : Kharun | **Sub-Division : UMSD,CWC,Raipur**



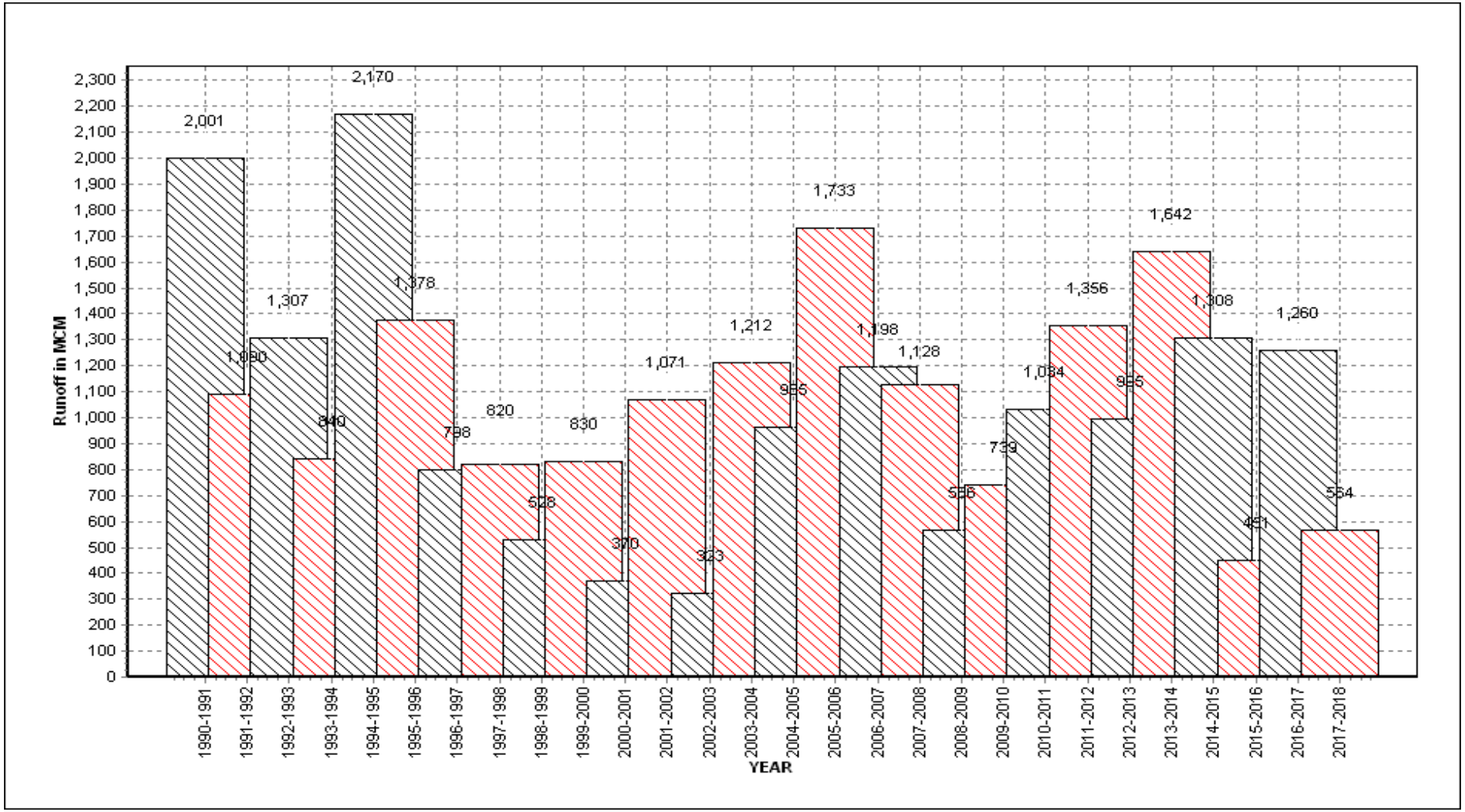
Annual Runoff Values for the period: 1990 - 2018

Station Name : Pathardih (EMP70F3)

Division : MD,CWC,Burla

Local River : Kharun

Sub-Division : UMSD,CWC,Raipur



Note: Missing values have not been considered while arriving at Annual Runoff

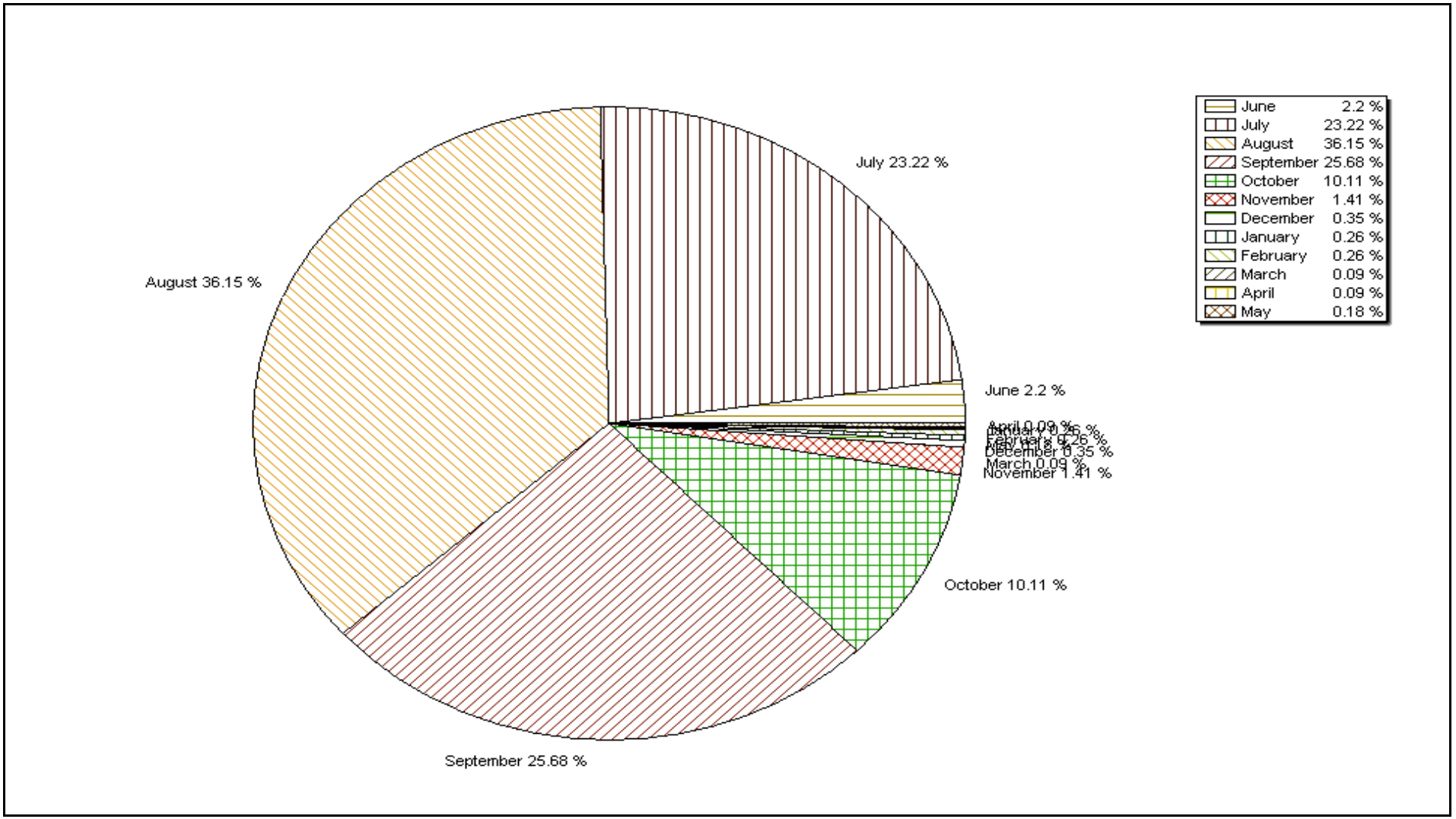
Monthly Average Runoff based on period : 1990-2017

Station Name : Pathardih (EMP70F3)

Local River : Kharun

Division : MD,CWC,Burla

Sub-Division : UMSD,CWC,Raipur



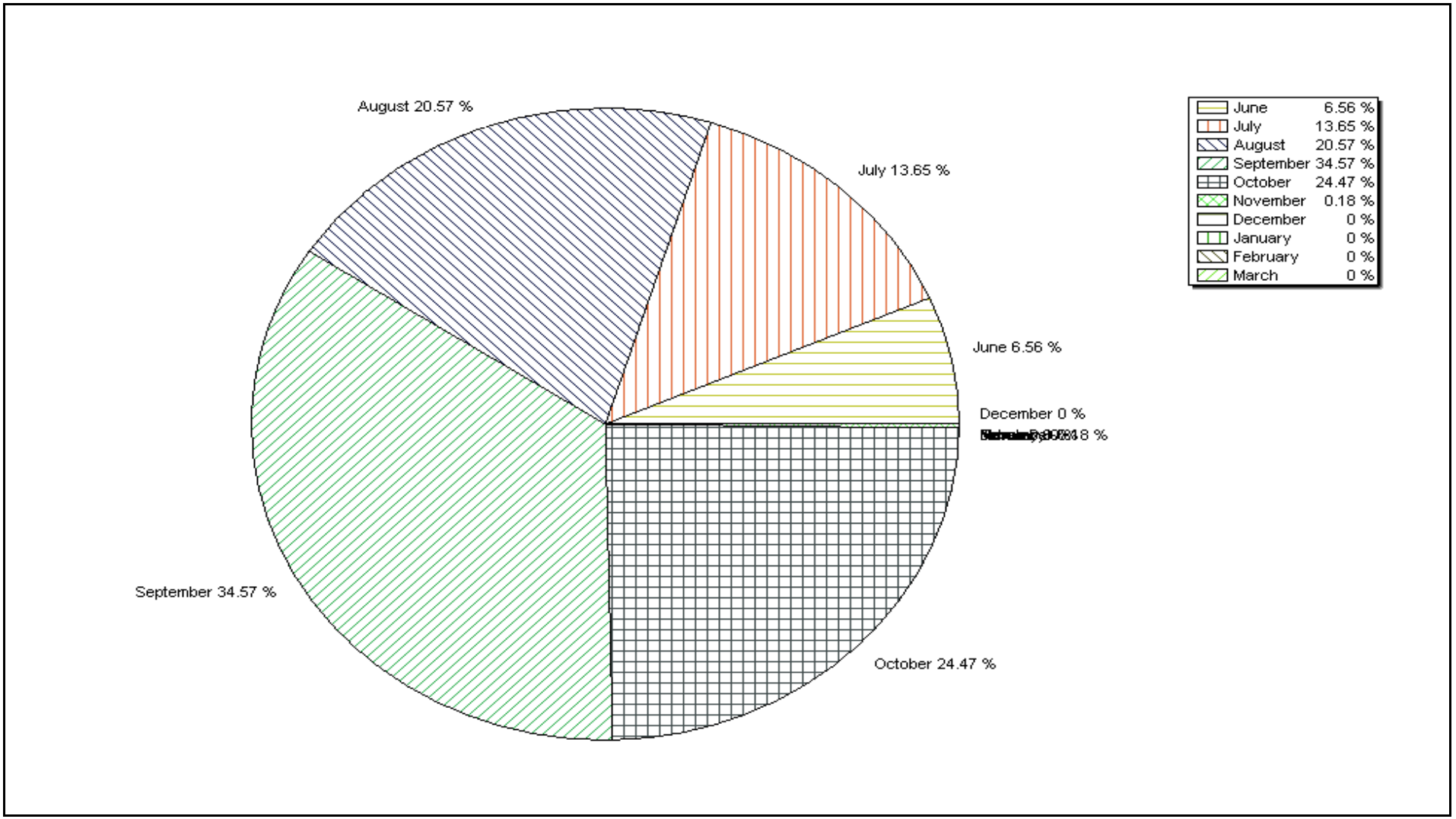
Monthly Runoff for the Year : 2017-2018

Station Name : Pathardih (EMP70F3)

Local River : Kharun

Division : MD,CWC,Burla

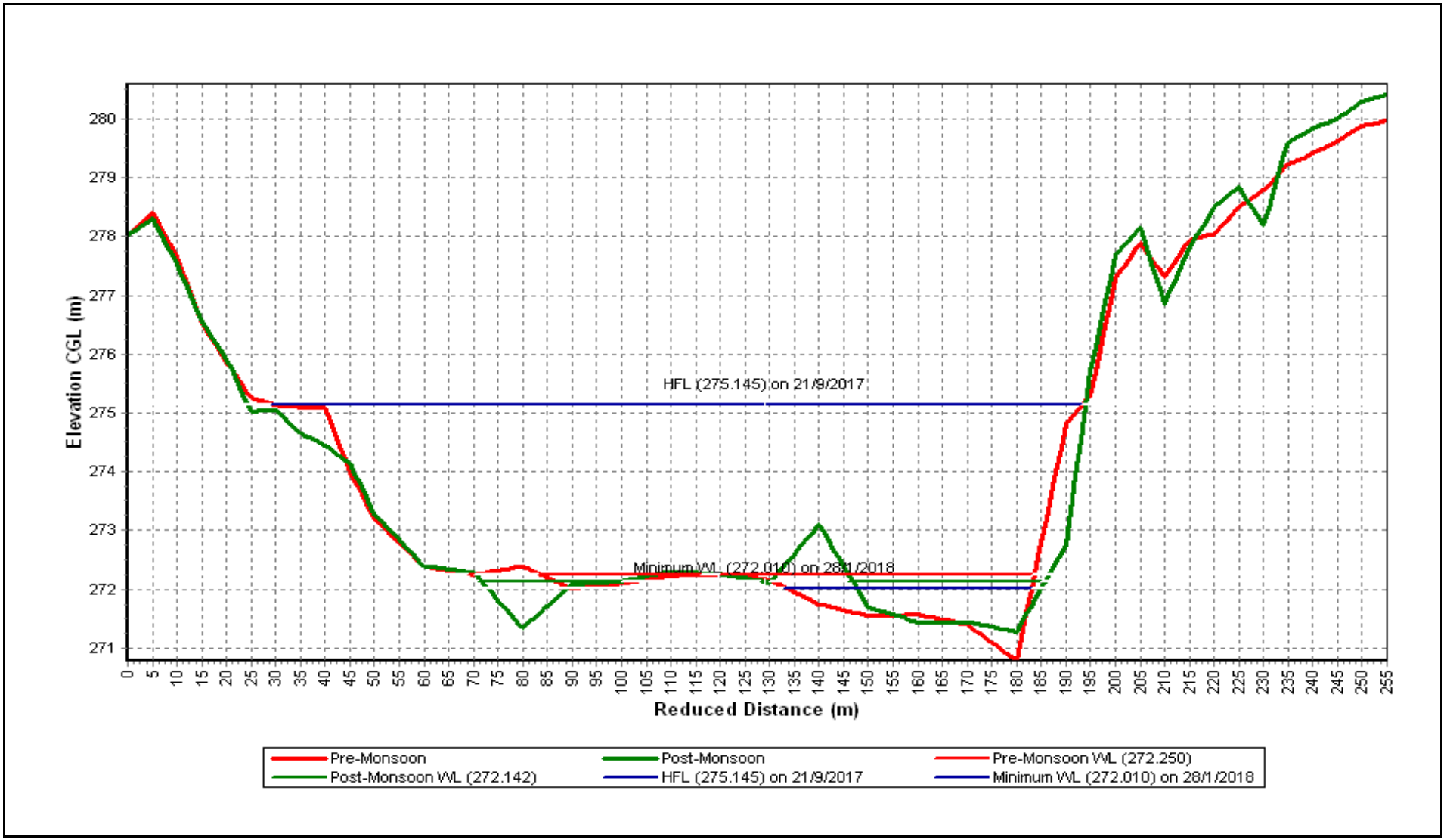
Sub-Division : UMSD,CWC,Raipur



Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2017-2018

Station Name : Pathardih (EMP70F3) **Division : MD,CWC,Burla**

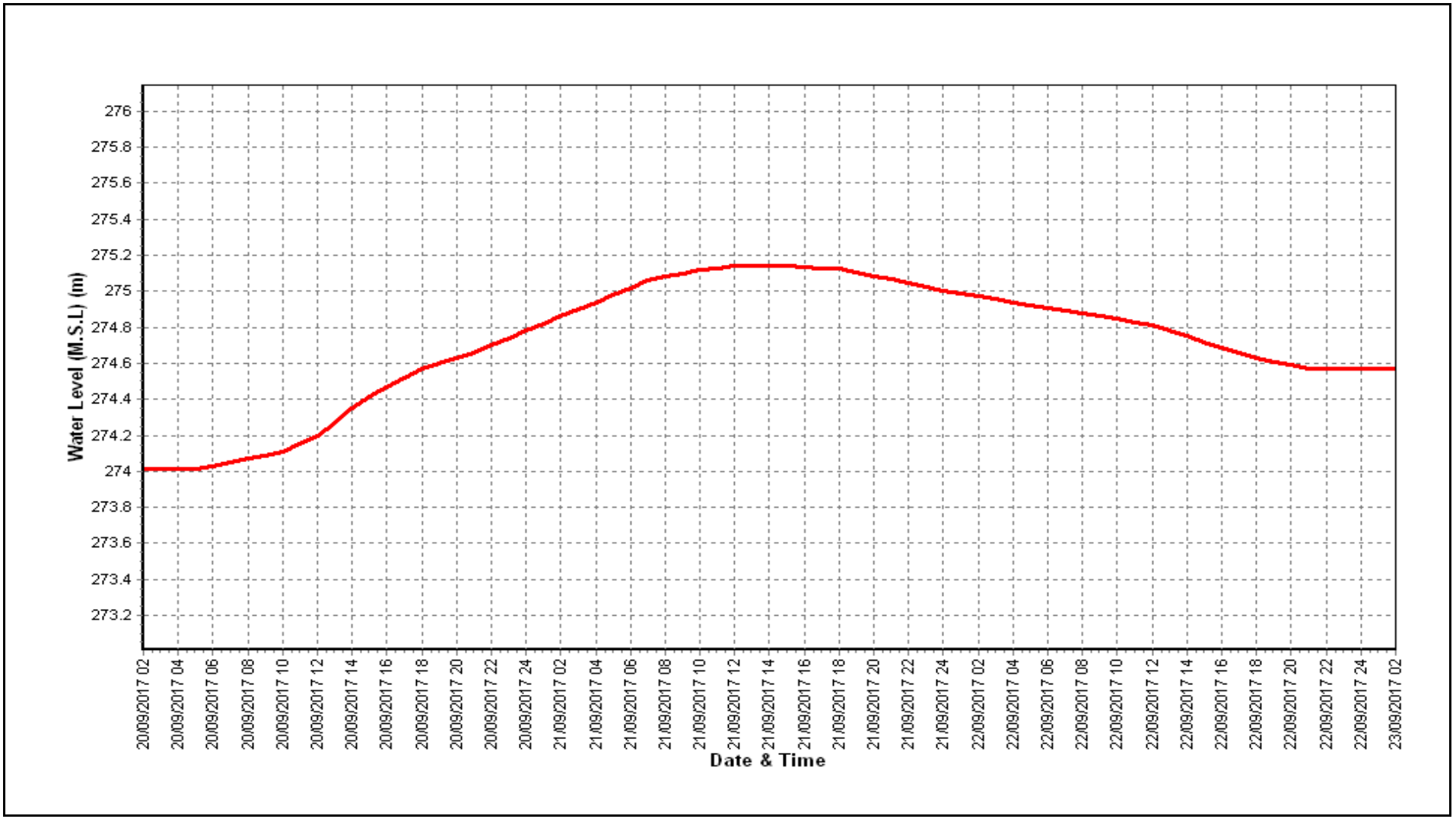
Local River : Kharun **Sub-Division : UMSD,CWC,Raipur**



Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2017-2018

Station Name : Pathardih (EMP70F3) **Division : MD,CWC,Burla**

Local River : Kharun **Sub-Division : UMSD,CWC,Raipur**



Time Span: 72 Hrs

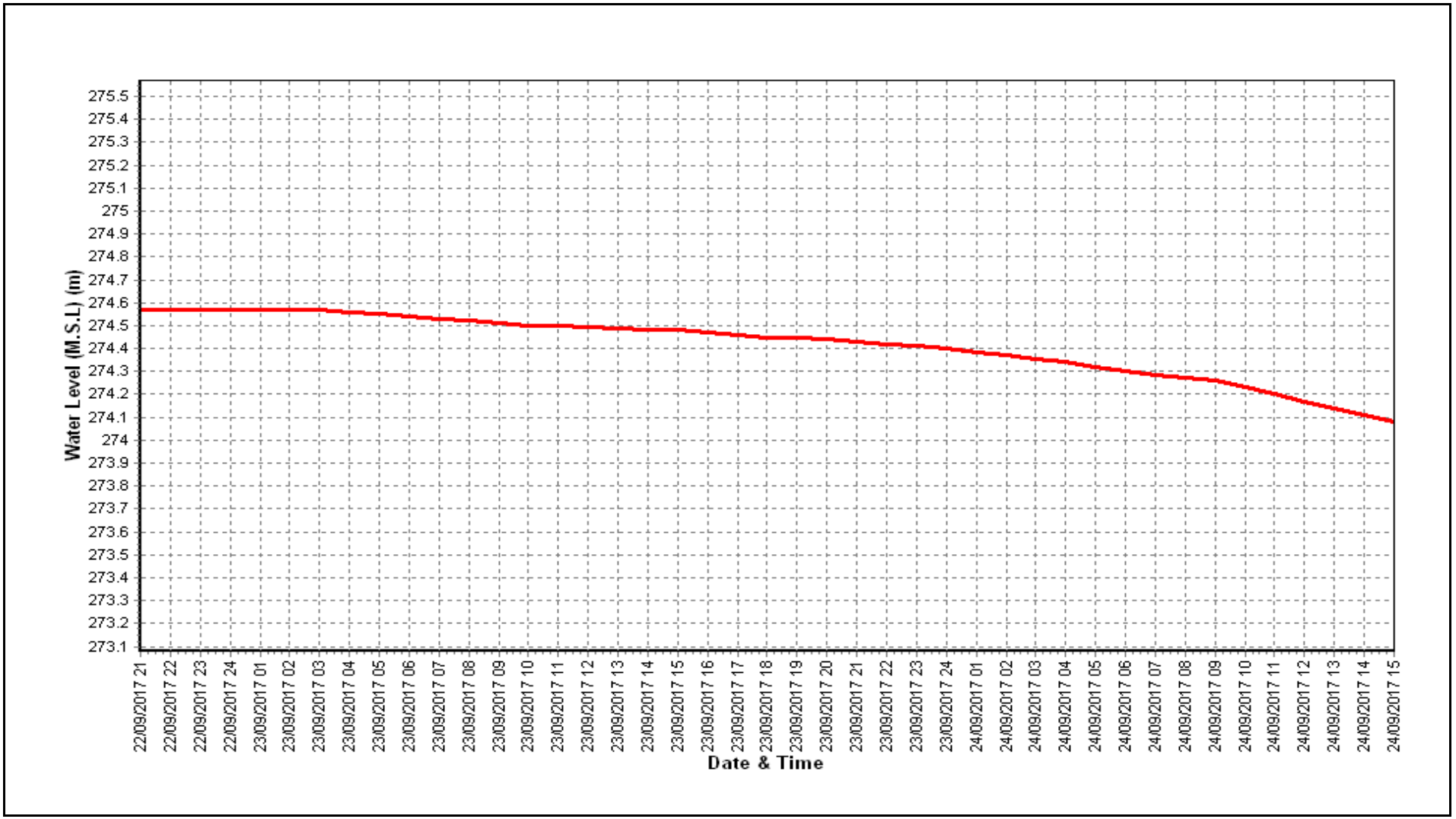
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2017-2018

Station Name : Pathardih (EMP70F3)

Local River : Kharun

Division : MD,CWC,Burla

Sub-Division : UMSD,CWC,Raipur

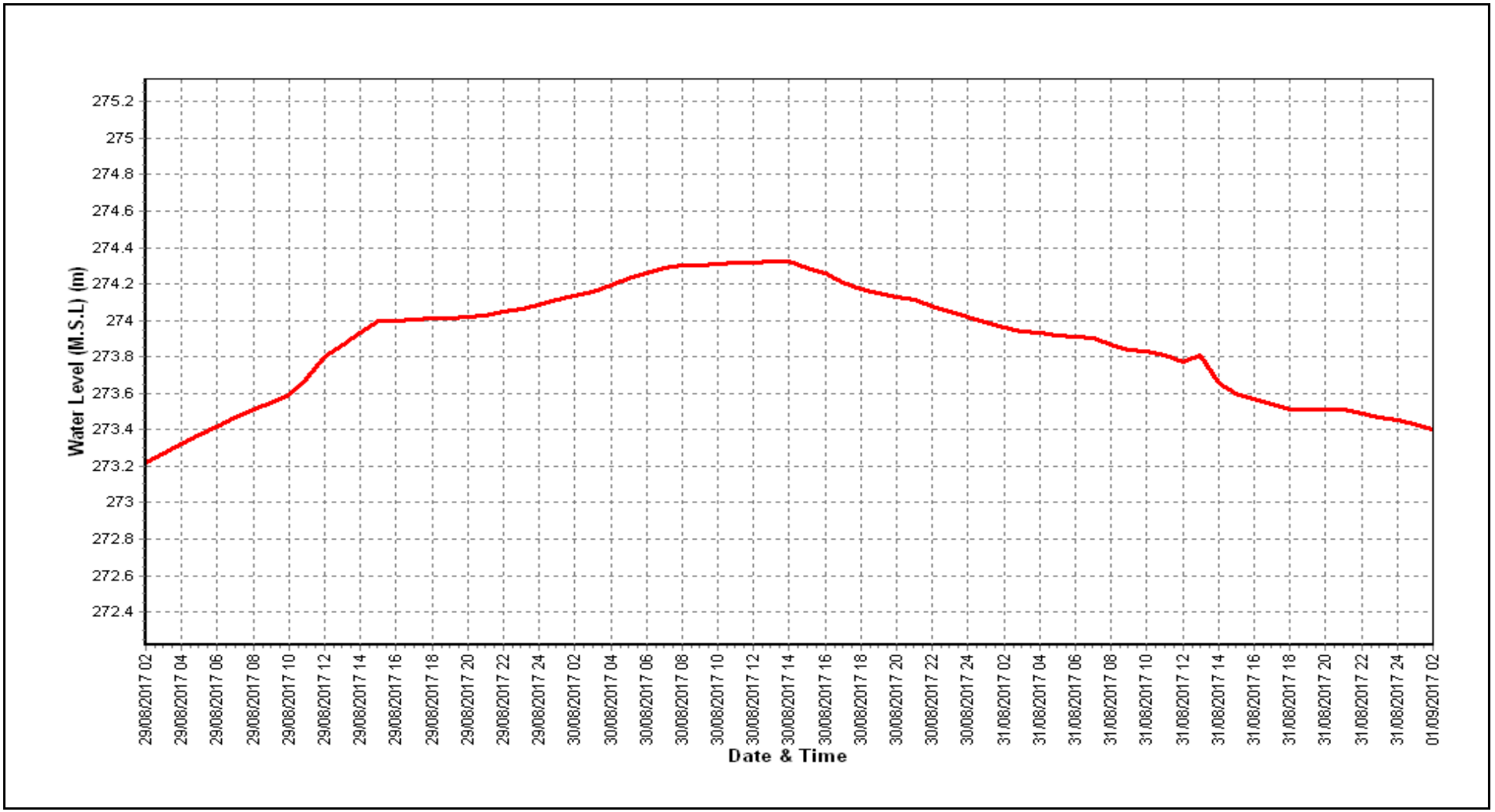


Time Span: 72 Hrs

Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2017-2018

Station Name : Pathardih (EMP70F3) **Division : MD,CWC,Burla**

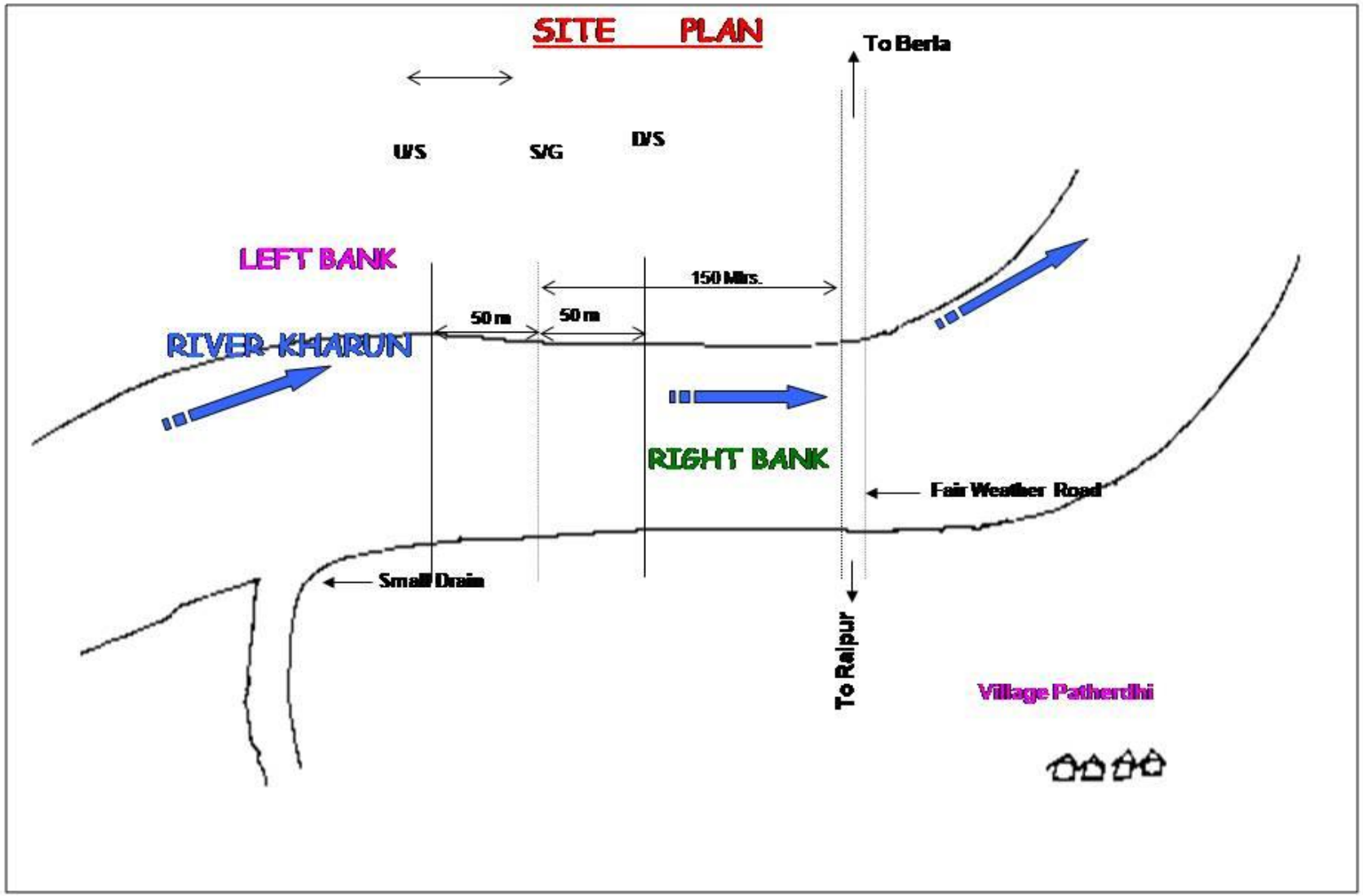
Local River : Kharun **Sub-Division : UMSD,CWC,Raipur**



Time Span: 72 Hrs

CENTRAL WATER COMMISSION, MAHANADI DIVISION, BURLA

Site : PATHERDHI Code : EMP70F3 Sub-division: UMSD CWC Raipur



SECTION-III

Water Quality Datasheet for the period : 2017-2018

Station Name : Pathardih (EMP70F3) **Division : MD,CWC,Burla**

Local River : Kharun **River Water Analysis** **Sub-Division : UMSD,CWC,Raipur**

S.No	Parameters	01/06/2017	01/07/2017	01/08/2017	01/09/2017	03/10/2017	01/11/2017	01/12/2017	01/01/2018	01/02/2018	01/03/2018	02/04/2018	01/05/2018
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)		11.27	9.150	99.77	99.02	5.004	0.000	0.000	0.000	0.000		
2	Colour_Cod (-)		Light Brown	Light Brown	Light Brown	Light Brown	Clear		Clear	Clear	Clear		
3	EC_FLD (µmho/cm)		112	295	175	239	274		587	625	663		
4	EC_GEN (µmho/cm)		310	169	221	297	215		714	173	226		
5	Odour_Code (-)		odour free	odour free	odour free	odour free	odour free		odour free	odour free	odour free		
6	pH_FLD (pH units)		8.3	8.1	7.8	8.3	7.9		7.5	7.5	7.6		
7	pH_GEN (pH units)		7.9	8.3	8.2	8.4	7.9		7.3	7.9	7.9		
8	Temp (deg C)		30.1	30.8	30.8	31.2	30.9		20.3	21.0	25.5		
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		
2	ALK-TOT (mgCaCO3/L)		164	136	156	168	148		307	440	444		
3	Ca (mg/L)		64	56	75	51	45		55	46	53		
4	Cl (mg/L)		32.0	37.0	33.0	42.0	32.0		26.0	64.0	65.0		
5	CO3 (mg/L)		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		
6	HCO3 (mg/L)		100	83	95	103	90		187	268	271		
7	K (mg/L)		12.2	11.5	14.8	11.9	7.8		10.3	34.9	22.3		
8	Mg (mg/L)		5.8	12.6	1.0	4.9	11.7		2.9	7.8	3.9		
9	Na (mg/L)		20.1	37.0	32.0	27.5	27.4		31.4	53.2	54.4		
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)		0.6	1.7	2.4	1.6	0.6		0.7	2.3	5.4		
2	DO (mg/L)		5.1	6.2	6.8	5.3	5.7		5.7	5.5	6.3		
3	DO_SAT% (%)		67	82	90	71	76		63	62	76		
4	FCol-MPN (MPN/100mL)		40	40	60	60	90			40	70		
5	Tcol-MPN (MPN/100mL)		70	70	90	120	140			110	140		
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)		160	140	188	128	112		136	116	132		
2	HAR_Total (mgCaCO3/L)		185	193	192	149	161		148	149	148		
3	Na% (%)		18	28	25	27	26		30	38	40		
4	RSC (-)		0.0	0.0	0.0	0.0	0.0		0.1	1.4	1.5		
5	SAR (-)		0.6	1.2	1.0	1.0	0.9		1.1	1.9	1.9		
	PESTICIDES												

Water Quality Summary for the period : 2017-2018

Station Name : Pathardih (EMP70F3) **Division : MD,CWC,Burla**

Local River : Kharun **Sub-Division : UMSD,CWC,Raipur**

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	283	393.4	0.000	23.08
2	EC_FLD (µmho/cm)	8	663	112	371
3	EC_GEN (µmho/cm)	8	714	169	291
4	pH_FLD (pH units)	8	8.3	7.5	7.9
5	pH_GEN (pH units)	8	8.4	7.3	8
6	Temp (deg C)	8	31.2	20.3	27.6
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	8	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	8	444	136	245
3	Ca (mg/L)	8	75	45	56
4	Cl (mg/L)	8	65.0	26.0	41.4
5	CO3 (mg/L)	8	0.0	0.0	0
6	HCO3 (mg/L)	8	271	83	150
7	K (mg/L)	8	34.9	7.8	15.7
8	Mg (mg/L)	8	12.6	1.0	6.3
9	Na (mg/L)	8	54.4	20.1	35.4
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	8	5.4	0.6	1.9
2	DO (mg/L)	8	6.8	5.1	5.8
3	DO_SAT% (%)	8	90	62	73
4	FCol-MPN (MPN/100mL)	7	90	40	57
5	Tcol-MPN (MPN/100mL)	7	140	70	106
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	8	188	112	139
2	HAR_Total (mgCaCO3/L)	8	193	148	166
3	Na% (%)	8	40	18	29
4	RSC (-)	8	1.5	0.0	0.4
5	SAR (-)	8	1.9	0.6	1.2
	PESTICIDES				

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Pathardih (EMP70F3) **Division : MD,CWC,Burla**

Local River : Kharun **River Water** **Sub-Division : UMSD,CWC,Raipur**

S.No	Parameters	Flood														
		Jun - Oct														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	PHYSICAL															
1	Q (cumec)	113.5	62.85	392.7	299.8	222.4	43.70	83.23	91.14	190.6	158.5	378.6	40.48	10.44	69.66	54.80
2	EC_FLD (µmho/cm)	203	555	308	224	241								131	105	205
3	EC_GEN (µmho/cm)	203	555	308	224	216	341	285	268	313	313	276	393	284	208	249
4	pH_FLD (pH units)	7.7	7.7	7.4	7.6	7.6				7.3	6.0	7.0	7.5	7.9	7.9	8.1
5	pH_GEN (pH units)	7.7	7.7	7.4	7.6	7.6	7.6	7.9	7.4	7.6	7.5	8.2	7.7	7.6	7.1	8.2
6	Temp (deg C)	29.5	30.0	29.4	26.1	29.0	25.5	27.0	29.2	27.5	28.8	30.8	32.4	30.3	30.5	30.7
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	199	222	171		162	255	191	187	219	222	208	235	251	168	156
3	B (mg/L)			0.05		0.01	0.01	0.00	0.00	0.00	0.00					
4	Ca (mg/L)	22	30	22		18	25	20	20	24	28	29	35	41	55	62
5	Cl (mg/L)	34.0	14.7	35.2		13.7	20.8	13.3	8.7	11.6	12.6	33.0	28.3	38.8	31.3	36.0
6	CO3 (mg/L)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.2	0.0	0.0
7	F (mg/L)	1.62		0.30		0.13	0.15	0.21	0.18	0.22	0.26					
8	Fe (mg/L)			0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1					
9	HCO3 (mg/L)	121	166	104		99	155	117	114	134	136	127	143	149	102	95
10	K (mg/L)			5.1		2.4	4.1	3.6	4.9	4.9	3.4	6.8	10.8	8.5	9.2	12.6
11	Mg (mg/L)	4.0	24.3	7.5		6.8	15.2	13.3	12.6	14.6	15.6	10.0	11.4	13.6	9.7	6.1
12	Na (mg/L)			19.5		15.4	12.9	14.6	17.5	13.5	9.9	13.3	17.1	24.8	17.8	29.2
13	NO2+NO3 (mg N/L)			0.13	0.13	0.10	0.80									
14	NO2-N (mgN/L)			0.00	0.01	0.01	0.01	0.02	0.03	0.04	0.05					
15	NO3-N (mgN/L)			0.12	0.09	0.09	0.79									
16	P-Tot (mgP/L)	0.020		0.023		0.017	0.053	0.047	0.070	0.053	0.103					
17	SiO2 (mg/L)			8.5		14.8	18.3	21.9	15.3	17.3	20.5					
18	SO4 (mg/L)	16.1	8.0	23.0		14.3	17.3	16.7	15.9	23.5	24.2					

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Pathardih (EMP70F3) **Division : MD,CWC,Burla**

Local River : Kharun **River Water** **Sub-Division : UMSD,CWC,Raipur**

S.No	Parameters	Flood														
		Jun - Oct														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	1.5	1.0	1.1		1.4	0.9	1.7	0.7	1.1	2.0	1.1	1.2	0.8	1.5	1.6
2	COD (mg/L)					17.6	19.0	25.3	38.7	29.3	26.7					
3	DO (mg/L)	5.9	5.2	4.5		7.1	6.1	6.7	5.6	4.8	6.9	5.5	1.2	4.3	5.7	5.9
4	DO_SAT% (%)	71	69	60		92	75	84	73	61	89	74	16	56	76	78
5	FCol-MPN (MPN/100mL)															50
6	Tcol-MPN (MPN/100mL)															88
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	56	74	55		44	62	51	50	61	69	73	87	103	136	154
2	HAR_Total (mgCaCO3/L)	72	174	86		72	126	106	103	122	134	115	135	160	177	180
3	Na% (%)			31		33	18	23	25	18	14	18	20	24	17	24
4	RSC (-)	0.6	0.0	0.0		0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
5	SAR (-)			0.9		0.8	0.5	0.6	0.7	0.5	0.4	0.5	0.6	0.9	0.6	0.9
	PESTICIDES															

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Pathardih (EMP70F3) **Division : MD,CWC,Burla**

Local River : Kharun **River Water** **Sub-Division : UMSD,CWC,Raipur**

S.No	Parameters	Winter														
		Nov - Feb														
		2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
	PHYSICAL															
1	Q (cumec)	6.353	9.876	5.384	3.179	7.031	5.472	1.344	7.186	5.622	4.050	26.06	4.017	0.803	0.678	1.251
2	EC_FLD (µmho/cm)	430	629	510	337	428								170		495
3	EC_GEN (µmho/cm)	430	629	510	337	445	489	490	407	396	451	286	362	455	346	367
4	pH_FLD (pH units)	8.0	7.7	7.4	8.1	7.7			7.3	7.6		7.7	7.9	8.0	8.6	7.6
5	pH_GEN (pH units)	8.0	7.7	7.3	8.1	7.7	8.0	7.9	7.5	7.8	8.2	7.7	8.1	7.6	8.3	7.7
6	Temp (deg C)	22.5	23.3	24.8	24.0	24.8	17.7	25.0	24.6	25.8	24.0	28.9	27.0	26.1	25.3	24.1
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	425	341	334		323	316	325	281	274	335	248	280	252	140	298
3	B (mg/L)			0.05		0.01	0.00	0.00	0.00	0.00	0.00					
4	Ca (mg/L)	41	42	28		27	35	34	30	30	14	35	45	55	51	49
5	Cl (mg/L)	29.6	28.2	61.9		43.2	61.3	27.8	38.9	36.7	19.2	25.0	39.0	43.0	35.0	40.7
6	CO3 (mg/L)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	1.36	1.33	0.14		0.33	0.13	0.14	0.21	0.25	0.32					
8	Fe (mg/L)			0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0					
9	HCO3 (mg/L)	256	208	204		197	192	198	171	167	204	151	171	154	85	182
10	K (mg/L)		8.9	7.3		7.7	7.9	5.4	6.6	6.2	4.8	27.1	6.2	6.0	11.3	17.6
11	Mg (mg/L)	16.5	19.4	20.8		18.2	18.3	19.4	17.5	16.6	9.2	10.7	15.6	15.1	12.6	7.5
12	Na (mg/L)		43.0	35.1		23.4	42.9	27.6	17.0	24.1	59.4	19.6	15.3	23.7	23.0	37.3
13	NO2+NO3 (mg N/L)		0.79	0.39	0.20	0.32	1.56									
14	NO2-N (mgN/L)			0.00	0.01	0.01	0.03	0.05	0.06	0.03	0.04					
15	NO3-N (mgN/L)			0.39	0.20	0.31	1.53									
16	P-Tot (mgP/L)	0.080	0.020	0.018		0.025	0.163	0.011	0.070	0.200	0.060					
17	SiO2 (mg/L)			12.1		21.4	19.5	21.0	16.1	15.0	18.4					
18	SO4 (mg/L)	49.8	58.2	44.9		32.5	33.5	12.0	29.6	28.9	19.8					

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Pathardih (EMP70F3) **Division : MD,CWC,Burla**

Local River : Kharun **River Water** **Sub-Division : UMSD,CWC,Raipur**

S.No	Parameters	Winter														
		Nov - Feb														
		2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	1.1	2.0	1.1		0.8	0.7	1.1	0.8	1.4	1.8	1.3	4.1	0.8	0.6	1.2
2	COD (mg/L)					34.0	32.0	48.0	130.0	20.0	24.0					
3	DO (mg/L)	5.1	7.2	6.1		7.3	6.9	9.6	6.3	7.6	7.5	7.3	4.1	3.0	7.0	5.6
4	DO_SAT% (%)	62	84	74		87	73	116	75	92	89	93	51	37	85	67
5	FCol-MPN (MPN/100mL)															65
6	Tcol-MPN (MPN/100mL)															125
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	102	106	71		68	87	84	75	74	36	88	112	136	128	122
2	HAR_Total (mgCaCO3/L)	170	186	158		144	163	165	148	143	74	133	177	199	181	153
3	Na% (%)		33	32		25	35	26	19	26	62	20	15	20	20	31
4	RSC (-)	0.4	0.5	0.3		0.4	0.1	0.0	0.0	0.1	1.9	0.0	0.0	0.0	0.0	0.5
5	SAR (-)		1.4	1.3		0.8	1.5	0.9	0.6	0.9	3.0	0.7	0.5	0.7	0.7	1.3
	PESTICIDES															

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Pathardih (EMP70F3) **Division : MD,CWC,Burla**

Local River : Kharun **River Water** **Sub-Division : UMSD,CWC,Raipur**

S.No	Parameters	Summer														
		Mar - May														
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	PHYSICAL															
1	Q (cumec)			0.565									0.000	0.000	0.000	0.000
2	EC_FLD (µmho/cm)			581												663
3	EC_GEN (µmho/cm)			581		426										226
4	pH_FLD (pH units)			6.9		7.9										7.6
5	pH_GEN (pH units)			6.9		8.1										7.9
6	Temp (deg C)			30.5		23.5										25.5
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)			0.0		2.7										0.0
2	ALK-TOT (mgCaCO3/L)			398		256										444
3	B (mg/L)			0.08		0.01										
4	Ca (mg/L)			56		28										53
5	Cl (mg/L)			61.5		79.8										65.0
6	CO3 (mg/L)			0.0		3.3										0.0
7	F (mg/L)			0.12		0.16										
8	Fe (mg/L)			0.5		0.1										
9	HCO3 (mg/L)			243		153										271
10	K (mg/L)			8.5		9.0										22.3
11	Mg (mg/L)			17.7		9.2										3.9
12	Na (mg/L)			36.5		34.9										54.4
13	NO2+NO3 (mg N/L)			0.19		0.22										
14	NO2-N (mgN/L)			0.01		0.01										
15	NO3-N (mgN/L)			0.18		0.21										
16	P-Tot (mgP/L)			0.015		0.025										
17	SiO2 (mg/L)			16.5		20.0										
18	SO4 (mg/L)			29.3		25.5										

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Pathardih (EMP70F3) **Division : MD,CWC,Burla**

Local River : Kharun **River Water** **Sub-Division : UMSD,CWC,Raipur**

S.No	Parameters	Summer														
		Mar - May														
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)			0.8		2.0										5.4
2	COD (mg/L)					26.0										
3	DO (mg/L)			7.2		6.9										6.3
4	DO_SAT% (%)			95		81										76
5	FCol-MPN (MPN/100mL)															70
6	Tcol-MPN (MPN/100mL)															140
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)			139		71										132
2	HAR_Total (mgCaCO3/L)			213		109										148
3	Na% (%)			27		37										40
4	RSC (-)			0.0		0.4										1.5
5	SAR (-)			1.1		1.5										1.9
	PESTICIDES															

SITE SIMGA

HISTORY SHEET

Water Year : 2017-2018

Site	**: Simga**		**Code**	**: EMP00J1**	
State	: Chhattisgarh		District	Baloda Bazar	
Basin	: Mahanadi		Independent River	: Mahanadi	
Tributary	: Seonath		Sub Tributary	:	
Sub-Sub Tributary	:		Local River	: Seonath	
Division	: MD,CWC,Burla		Sub-Division	: UMSD,CWC,Raipur	
Drainage Area	: 30761 Sq. Km.		Bank	:	
Latitude	: 21°37'33"		Longitude	: 81°41'36"	
Zero of Gauge (m)	: 244 (m.s.l)		29/09/1971	- 29/09/2071	
	Opening Date		Closing Date		
Gauge	: 29/07/1971				
Discharge	:				
Sediment	: 30/12/1972				
Water Quality	: 01/09/1972				

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

	Maximum			Minimum		
Year	**Q (cumecs)**	**WL (m)**	**Date**	**Q (cumecs)**	**WL (m)**	**Date**
1972-1973	1703	250.860	24/08/1972	0.800	245.895	14/06/1972
1973-1974	6320	256.305	10/07/1973	1.000	245.935	19/05/1974
1974-1975	3484	252.675	18/08/1974	0.217	246.375	26/05/1975
1975-1976	5761	254.045	16/08/1975	0.780	246.385	09/05/1976
1976-1977	3423	253.140	15/08/1976	1.142	245.905	26/05/1977
1977-1978	6253	255.065	08/08/1977	0.902	245.880	06/06/1977
1978-1979	6965	256.730	31/08/1978	1.650	245.957	09/06/1978
1979-1980	4392	255.150	10/08/1979	1.160	245.945	28/04/1980
1980-1981	6626	255.600	15/09/1980	1.998	245.975	03/06/1980
1981-1982	4210	254.030	11/08/1981	3.047	246.005	11/05/1982
1982-1983	2876	253.490	09/08/1982	3.006	245.945	03/05/1983
1983-1984	3200	251.415	09/08/1983	2.937	245.955	09/06/1983
1984-1985	5339	254.465	04/08/1984	4.600	245.945	31/05/1985
1985-1986	6150	254.660	13/09/1985	5.300	245.945	02/06/1985
1986-1987	5615	254.780	26/06/1986	4.345	245.970	01/05/1987
1987-1988	1208	249.600	30/08/1987	4.500	245.980	12/05/1988
1988-1989	858.3	248.860	02/08/1988	0.330	245.850	18/05/1989
1989-1990	1157	249.700	03/07/1989	0.230	245.830	07/06/1989
1990-1991	5909	254.480	15/09/1990	1.925	245.940	14/05/1991
1991-1992	5447	254.320	25/08/1991	1.236	245.855	13/05/1992
1992-1993	5799	254.600	22/08/1992	0.083	245.695	12/05/1993
1993-1994	2353	251.450	18/08/1993	0.387	245.865	23/05/1994

Q : Observed / Computed Discharge WL : Corresponding Water Level(m.s.l)

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

	Maximum			Minimum		
Year	**Q (cumecs)**	**WL (m)**	**Date**	**Q (cumecs)**	**WL (m)**	**Date**
1994-1995	10821	257.590	13/07/1994	2.264	245.910	08/06/1994
1995-1996	5024	254.780	26/07/1995	1.190	245.940	16/06/1995
1996-1997	3564	253.120	02/08/1996	0.392	245.800	26/05/1997
1997-1998	4917	253.960	23/08/1997	0.306	245.820	05/06/1997
1998-1999	2189	251.540	14/09/1998	0.036	245.790	13/05/1999
1999-2000	2216	251.600	31/08/1999	0.186	245.780	12/05/2000
2000-2001	2824	251.910	20/07/2000	0.016	245.785	17/04/2001
2001-2002	3513	252.220	22/08/2001	0.014	245.680	14/05/2002
2002-2003	1950	250.750	18/08/2002	0.057	245.730	07/05/2003
2003-2004	4865	253.810	30/08/2003	0.092	245.820	05/05/2004
2004-2005	1697	250.650	30/07/2004	0.197	245.830	16/04/2005
2005-2006	11000	256.950	16/09/2005	0.517	245.790	06/03/2006
2006-2007	7200	255.890	15/08/2006	0.260	245.785	16/04/2007
2007-2008	11332	256.790	02/07/2007	0.109	245.765	05/06/2007
2008-2009	2977	252.035	20/09/2008	0.080	245.910	05/02/2009
2009-2010	3039	251.960	17/07/2009	0.000	245.610	04/05/2010
2010-2011	3349	252.120	09/09/2010	0.000	244.000	15/06/2010
2011-2012	7359	255.610	09/09/2011	0.000	245.750	09/05/2012
2012-2013	2995	252.390	06/09/2012	0.000	245.800	07/06/2012
2013-2014	6844	255.750	02/08/2013	0.000	245.720	06/06/2013
2014-2015	9572	256.640	24/07/2014	0.000	245.830	09/05/2015
2015-2016	1177	249.680	19/09/2015	0.000	245.540	02/05/2016
2016-2017	1547	252.360	13/09/2016	0.000	246.170	12/01/2017

Q : Observed / Computed Discharge WL : Corresponding Water Level(m.s.l)

Stage-Dischage Data for the period 2017 - 2018

Station Name : Simga (EMP00J1) **Division : MD,CWC,Burla**

Local River : Seonath **Sub-Division : UMSD,CWC,Raipur**

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	246.070	0.00 *	246.560	0.000	246.550	50.67	248.090	536.8	247.070	285.0 *	246.680	31.40
2	246.070	0.00 *	246.645	0.000	246.560	52.85	247.680	465.0 *	247.040	285.0 *	246.650	29.50
3	246.070	0.00 *	247.560	0.000	246.510	42.52	247.440	436.5 *	246.690	31.15	246.650	29.57
4	246.205	0.00 *	247.080	314.8	246.600	32.90	247.130	278.6	247.140	276.7	246.670	29.50 *
5	246.220	0.00 *	247.020	298.0	246.570	32.10	246.850	217.5	247.200	271.0	246.680	30.60 *
6	246.220	0.00 *	246.913	262.9	246.470	30.58 *	246.740	189.6	247.170	282.9	246.670	33.60
7	246.230	0.00 *	246.560	0.000	246.370	17.55	246.650	40.67	247.160	288.3	246.630	30.22
8	246.230	0.00 *	246.520	0.000	246.250	22.11	246.600	25.22	247.140	279.8 *	246.620	34.16
9	246.230	0.00 *	246.600	0.000	246.510	42.52	246.600	27.55	247.175	289.2	246.620	28.23
10	246.230	0.00 *	246.510	0.000	246.555	21.28	246.550	25.36 *	247.385	340.6	246.580	20.91
11	246.230	0.00 *	246.490	0.000	246.500	18.84	246.600	28.82	247.830	473.2	246.570	19.74
12	246.230	0.00 *	246.375	0.000	247.000	260.1	246.630	38.11	247.710	449.8	246.550	18.35 *
13	246.240	0.00 *	246.350	0.000	247.320	293.6 *	246.650	36.95	247.530	387.7	246.570	21.34
14	246.295	0.00 *	246.345	0.000	247.115	259.5	246.640	34.66	247.290	307.0	246.570	19.60
15	246.305	0.00 *	246.330	0.000	246.760	39.85 *	246.640	34.51	247.120	287.1	246.560	18.99
16	246.310	0.00 *	246.225	0.000	246.875	211.9	246.660	35.25	247.120	244.5 *	246.540	13.91
17	246.310	0.00 *	246.210	18.73	246.920	248.8	246.820	42.53 *	247.060	261.3	246.560	0.000
18	246.310	0.00 *	246.575	23.93	246.920	230.4	246.660	36.02	247.020	251.3	246.560	0.000 *
19	246.310	0.00 *	246.960	275.5	246.820	180.1	246.670	36.55	246.810	250.1 *	246.570	0.000 *
20	246.320	0.00 *	249.380	908.1	247.090	245.5 *	246.985	257.3	246.700	30.90	246.570	0.000 *
21	246.310	0.00 *	248.600	653.3	247.643	466.6	249.035	741.5	246.685	30.00	246.570	0.000 *
22	246.310	0.00 *	248.020	550.5	247.400	338.9	249.900	1084	246.780	30.01 *	246.550	0.000 *
23	246.310	0.00 *	247.790	385.3 *	247.355	258.0	248.765	705.0	247.210	299.3	246.490	0.000 *
24	246.310	0.00 *	247.520	384.9	247.250	296.9	248.100	706.1 *	247.130	269.4	246.480	0.000 *
25	246.320	0.00 *	247.310	348.9	247.070	232.6 *	247.690	434.9	247.040	251.6	246.475	0.000 *
26	246.320	0.00 *	247.150	328.5	247.250	289.8	247.360	336.6	246.955	244.8	246.470	0.000 *
27	246.315	0.00 *	246.930	252.6	247.150	262.5 *	247.120	256.2	246.710	31.45	246.470	0.000 *
28	246.310	0.00 *	246.800	212.2	247.120	290.9	247.140	276.1	246.940	229.1	246.470	0.000 *
29	246.310	0.00 *	246.610	52.51	248.100	555.2	247.060	285.0 *	246.800	38.60 *	246.470	0.000 *
30	246.550	0.00 *	246.560	47.11 *	249.000	796.4	247.010	284.9 *	246.665	31.61	246.470	0.000 *
31			246.540	46.74	248.715	726.4			246.675	32.25		
Ten-Daily Mean												
I Ten-Daily	246.177	0.000	246.797	87.56	246.494	34.51	247.033	224.3	247.117	263.0	246.645	29.77
II Ten-Daily	246.286	0.000	246.724	122.6	246.932	198.9	246.696	58.07	247.219	294.3	246.562	11.19
III Ten-Daily	246.337	0.000	247.257	296.6	247.641	410.4	247.918	511.0	246.872	135.3	246.491	0.000
Monthly												
Min.	246.070	0.000	246.210	0.000	246.250	17.55	246.550	25.22	246.665	30.00	246.470	0.000
Max.	246.550	0.000	249.380	908.1	249.000	796.4	249.900	1084	247.830	473.2	246.680	34.16
Mean	246.267	0	246.937	173	247.043	220.9	247.216	264.5	247.063	227.8	246.566	13.65

Annual Runoff in MCM = 2386 Annual Runoff in mm = 78

Peak Observed Discharge = 1084 cumecs on 22/09/2017 Corres. Water Level :249.9 m

Lowest Observed Discharge = 0.000 cumecs on 01/07/2017 Corres. Water Level :246.56 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Dischage Data for the period 2017 - 2018

Station Name : Simga (EMP00J1) **Division : MD,CWC,Burla**

Local River : Seonath **Sub-Division : UMSD,CWC,Raipur**

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	246.470	0.000 *	246.470	0.000 *	245.880	0.000 *	246.525	0.000 *	246.520	0.000 *	246.470	0.000 *
2	246.470	0.000 *	246.470	0.000 *	245.875	0.000 *	246.545	0.000 *	246.525	0.000 *	246.470	0.000 *
3	246.490	0.000 *	246.460	0.000 *	245.875	0.000 *	246.540	0.000 *	246.525	0.000 *	246.470	0.000 *
4	246.500	0.000 *	246.460	0.000 *	245.875	0.000 *	246.530	0.000 *	246.525	0.000 *	246.480	0.000 *
5	246.490	0.000 *	246.450	0.000 *	245.875	0.000 *	246.555	0.000 *	246.525	0.000 *	246.470	0.000 *
6	246.490	0.000 *	246.450	0.000 *	245.875	0.000 *	246.530	0.000 *	246.525	0.000 *	246.465	0.000 *
7	246.490	0.000 *	246.440	0.000 *	245.875	0.000 *	246.525	0.000 *	246.525	0.000 *	246.460	0.000 *
8	246.490	0.000 *	246.420	0.000 *	245.875	0.000 *	246.515	0.000 *	246.525	0.000 *	246.455	0.000 *
9	246.490	0.000 *	246.400	0.000 *	245.875	0.000 *	246.510	0.000 *	246.525	0.000 *	246.455	0.000 *
10	246.490	0.000 *	246.370	0.000 *	245.875	0.000 *	246.505	0.000 *	246.520	0.000 *	246.450	0.000 *
11	246.490	0.000 *	246.340	0.000 *	245.875	0.000 *	246.500	0.000 *	246.520	0.000 *	246.450	0.000 *
12	246.490	0.000 *	246.270	0.000 *	245.885	0.000 *	246.520	0.000 *	246.520	0.000 *	246.450	0.000 *
13	246.480	0.000 *	246.220	0.000 *	245.895	0.000 *	246.515	0.000 *	246.515	0.000 *	246.450	0.000 *
14	246.480	0.000 *	246.185	0.000 *	245.915	0.000 *	246.515	0.000 *	246.515	0.000 *	246.450	0.000 *
15	246.480	0.000 *	246.095	0.000 *	245.925	0.000 *	246.515	0.000 *	246.525	0.000 *	246.445	0.000 *
16	246.480	0.000 *	246.080	0.000 *	245.935	0.000 *	246.515	0.000 *	246.525	0.000 *	246.430	0.000 *
17	246.480	0.000 *	246.025	0.000 *	245.955	0.000 *	246.515	0.000 *	246.525	0.000 *	246.425	0.000 *
18	246.470	0.000 *	245.985	0.000 *	245.970	0.000 *	246.515	0.000 *	246.525	0.000 *	246.420	0.000 *
19	246.470	0.000 *	245.895	0.000 *	246.015	0.000 *	246.515	0.000 *	246.525	0.000 *	246.420	0.000 *
20	246.470	0.000 *	245.890	0.000 *	246.115	0.000 *	246.510	0.000 *	246.520	0.000 *	246.410	0.000 *
21	246.470	0.000 *	245.890	0.000 *	246.165	0.000 *	246.510	0.000 *	246.490	0.000 *	246.400	0.000 *
22	246.470	0.000 *	245.890	0.000 *	246.205	0.000 *	246.510	0.000 *	246.490	0.000 *	246.390	0.000 *
23	246.470	0.000 *	245.885	0.000 *	246.235	0.000 *	246.520	0.000 *	246.480	0.000 *	246.390	0.000 *
24	246.470	0.000 *	245.885	0.000 *	246.240	0.000 *	246.520	0.000 *	246.480	0.000 *	246.380	0.000 *
25	246.470	0.000 *	245.880	0.000 *	246.340	0.000 *	246.520	0.000 *	246.480	0.000 *	246.380	0.000 *
26	246.470	0.000 *	245.880	0.000 *	246.360	0.000 *	246.525	0.000 *	246.480	0.000 *	246.370	0.000 *
27	246.470	0.000 *	245.880	0.000 *	246.375	0.000 *	246.530	0.000 *	246.480	0.000 *	246.360	0.000 *
28	246.470	0.000 *	245.880	0.000 *	246.445	0.000 *	246.540	0.000 *	246.480	0.000 *	246.360	0.000 *
29	246.470	0.000 *	245.880	0.000 *			246.525	0.000 *	246.480	0.000 *	246.340	0.000 *
30	246.470	0.000 *	245.880	0.000 *			246.520	0.000 *	246.480	0.000 *	246.330	0.000 *
31	246.470	0.000 *	245.880	0.000 *			246.520	0.000 *			246.310	0.000 *
Ten-Daily Mean												
I Ten-Daily	246.487	0.000	246.439	0.000	245.875	0.000	246.528	0.000	246.524	0.000	246.464	0.000
II Ten-Daily	246.479	0.000	246.098	0.000	245.948	0.000	246.514	0.000	246.522	0.000	246.435	0.000
III Ten-Daily	246.470	0.000	245.883	0.000	246.296	0.000	246.522	0.000	246.482	0.000	246.365	0.000
Monthly												
Min.	246.470	0.000	245.880	0.000	245.875	0.000	246.500	0.000	246.480	0.000	246.310	0.000
Max.	246.500	0.000	246.470	0.000	246.445	0.000	246.555	0.000	246.525	0.000	246.480	0.000
Mean	246.478	0	246.132	0	246.022	0	246.521	0	246.509	0	246.420	0

Peak Computed Discharge = 706.1 cumecs on 24/09/2017 Corres. Water Level :248.1 m

Lowest Computed Discharge = 0.000 cumecs on 18/11/2017 Corres. Water Level :246.56 m

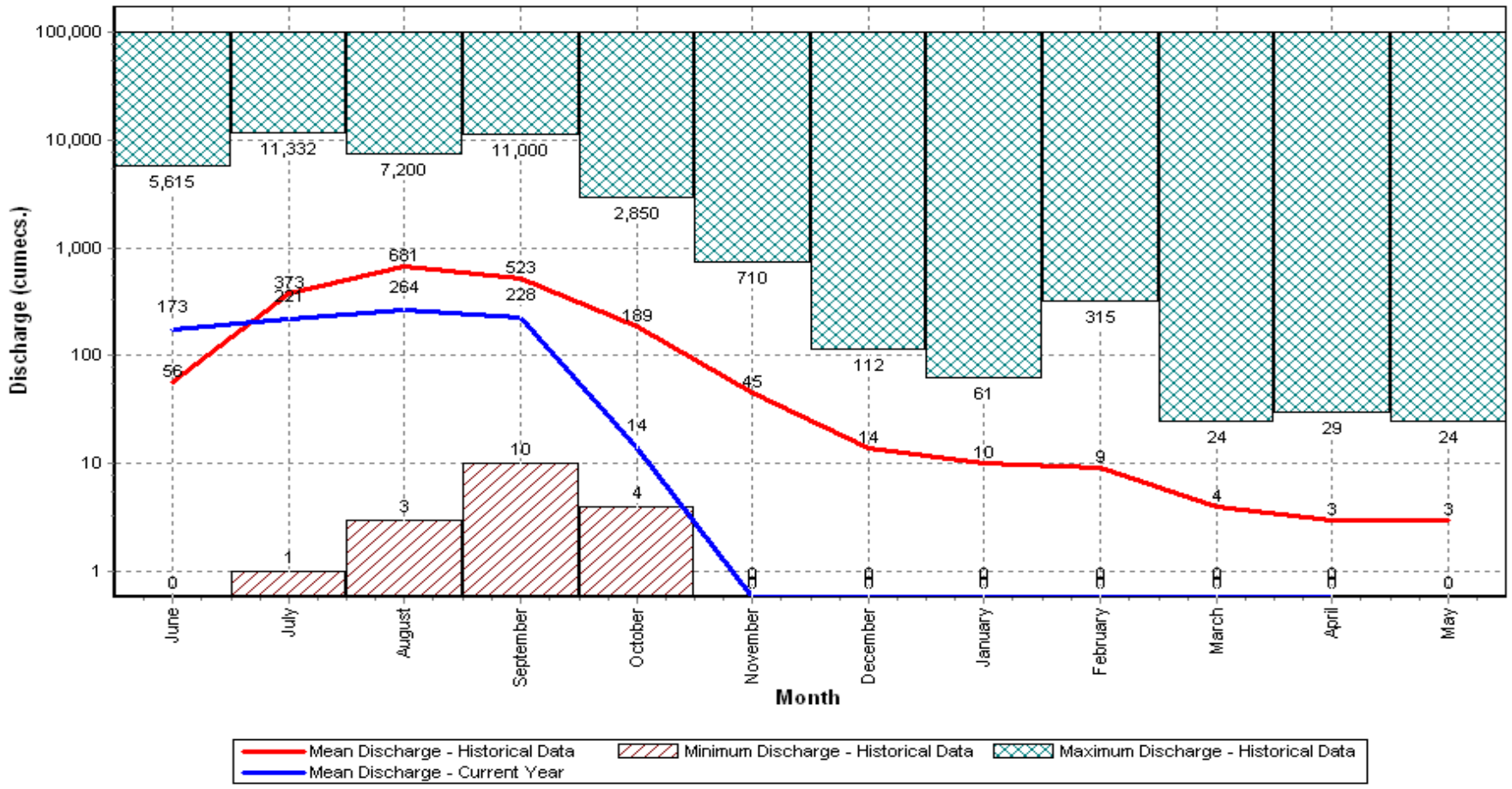
Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2017-2018

Station Name : Simga (EMP00J1) | **Data considered : 1972-2018** | **Division : MD,CWC,Burla**

Local River : Seonath | **Sub-Division : UMSD,CWC,Raipur**



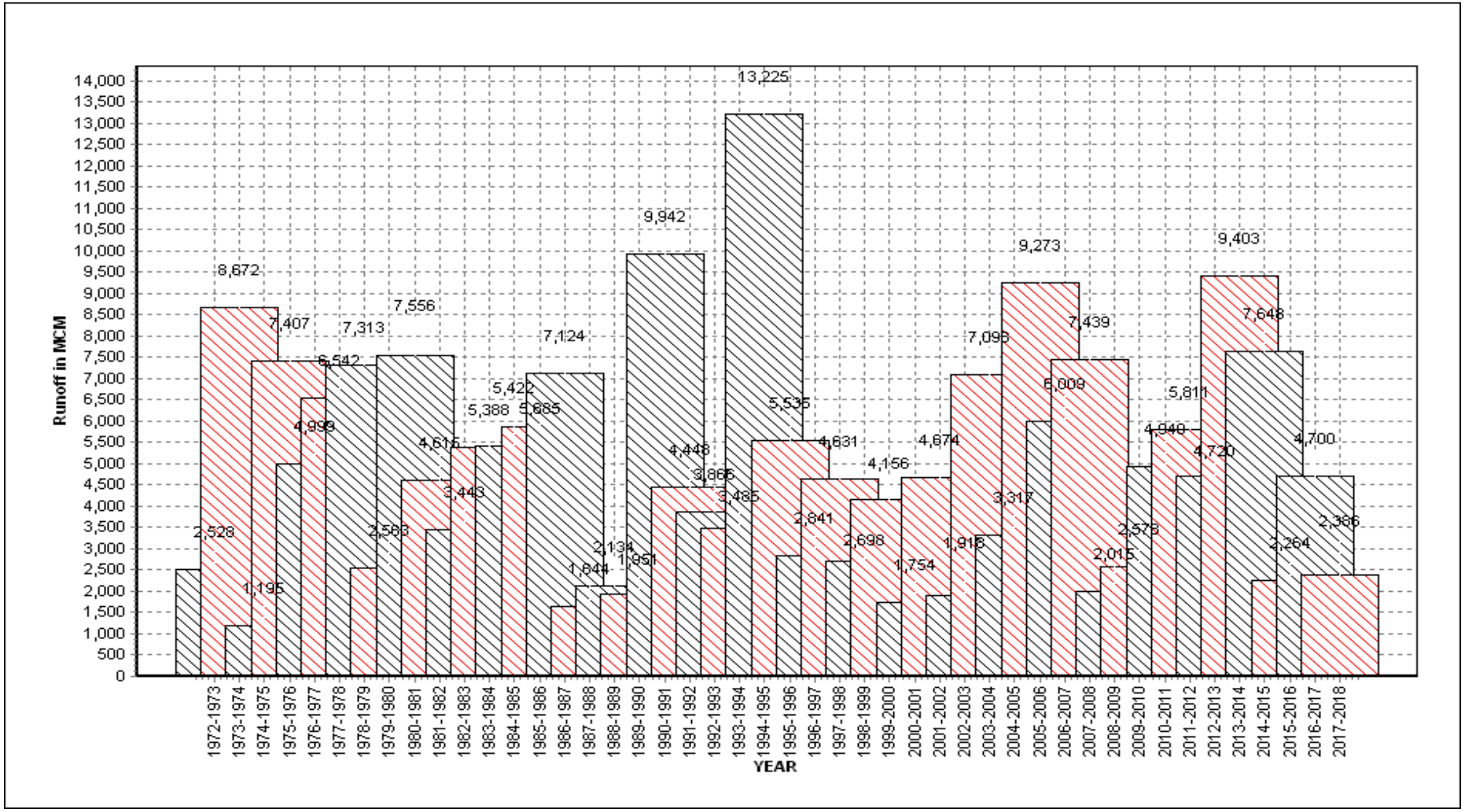
Annual Runoff Values for the period: 1972 - 2018

Station Name : Simga (EMP00J1)

Local River : Seonath

Division : MD,CWC,Burla

Sub-Division : UMSD,CWC,Raipur

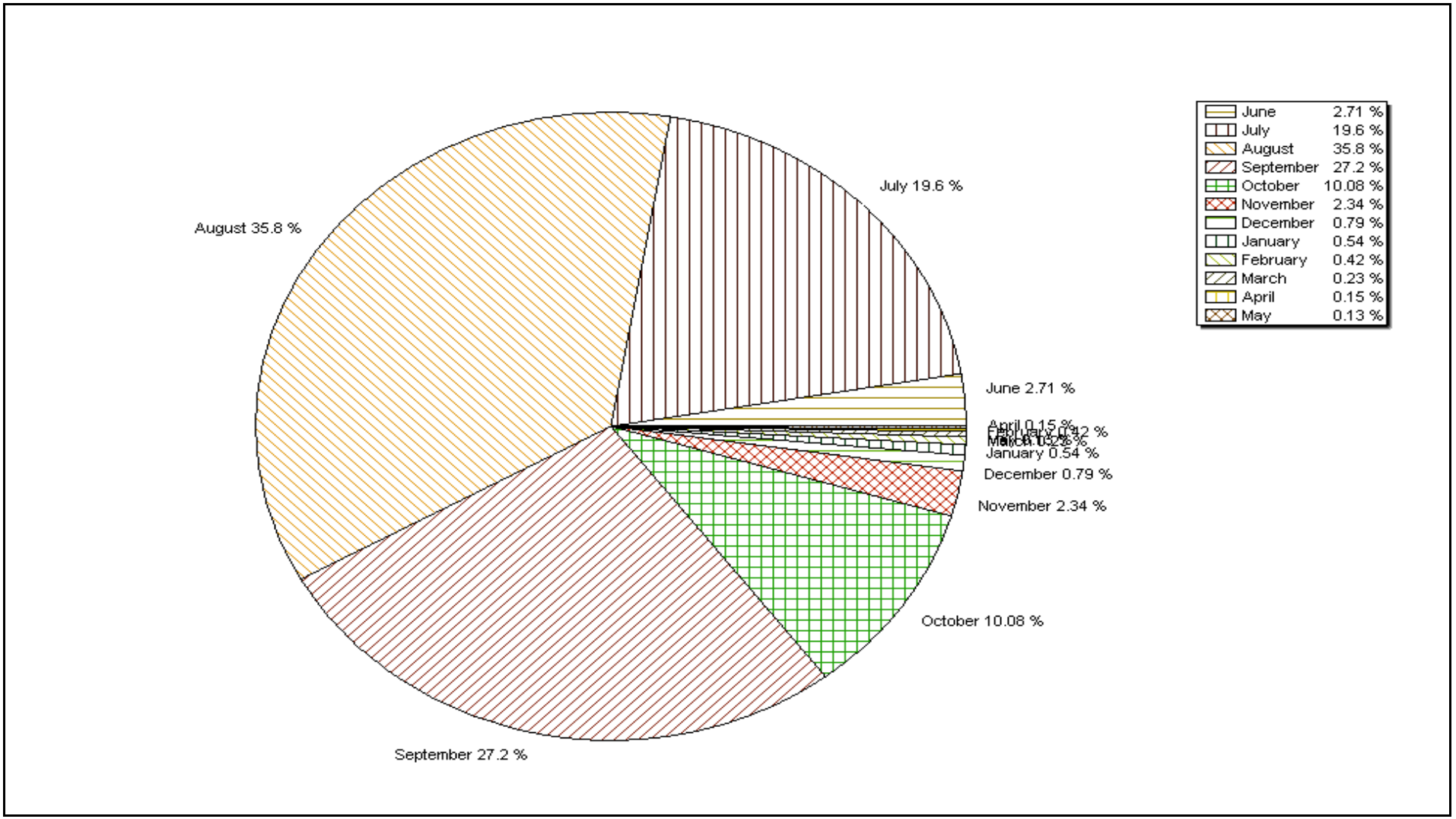


Note: Missing values have not been considered while arriving at Annual Runoff

Monthly Average Runoff based on period : 1972-2017

Station Name : Simga (EMP00J1)
Local River : Seonath

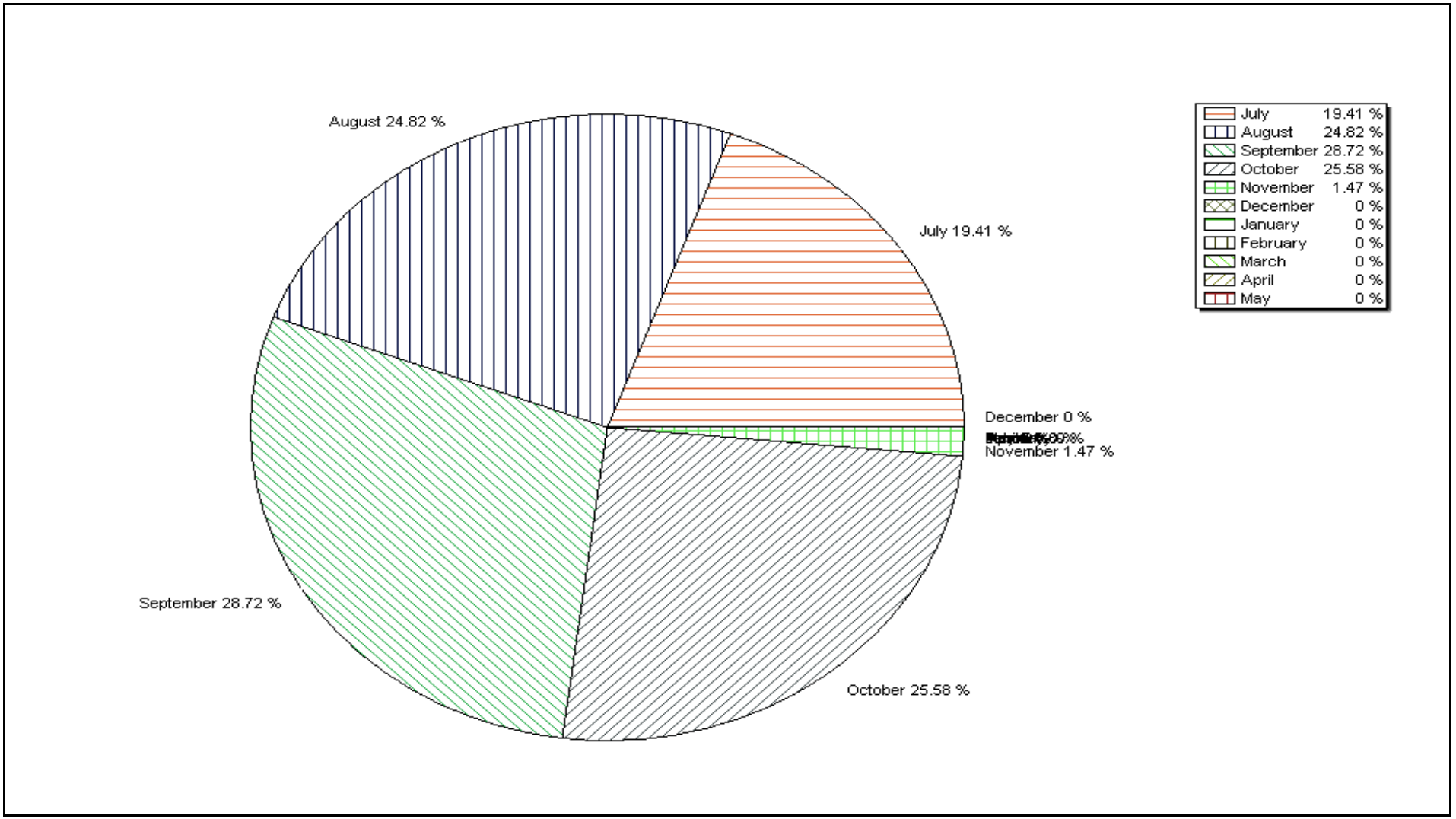
Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur



Monthly Runoff for the Year : 2017-2018

Station Name : Simga (EMP00J1)
Local River : Seonath

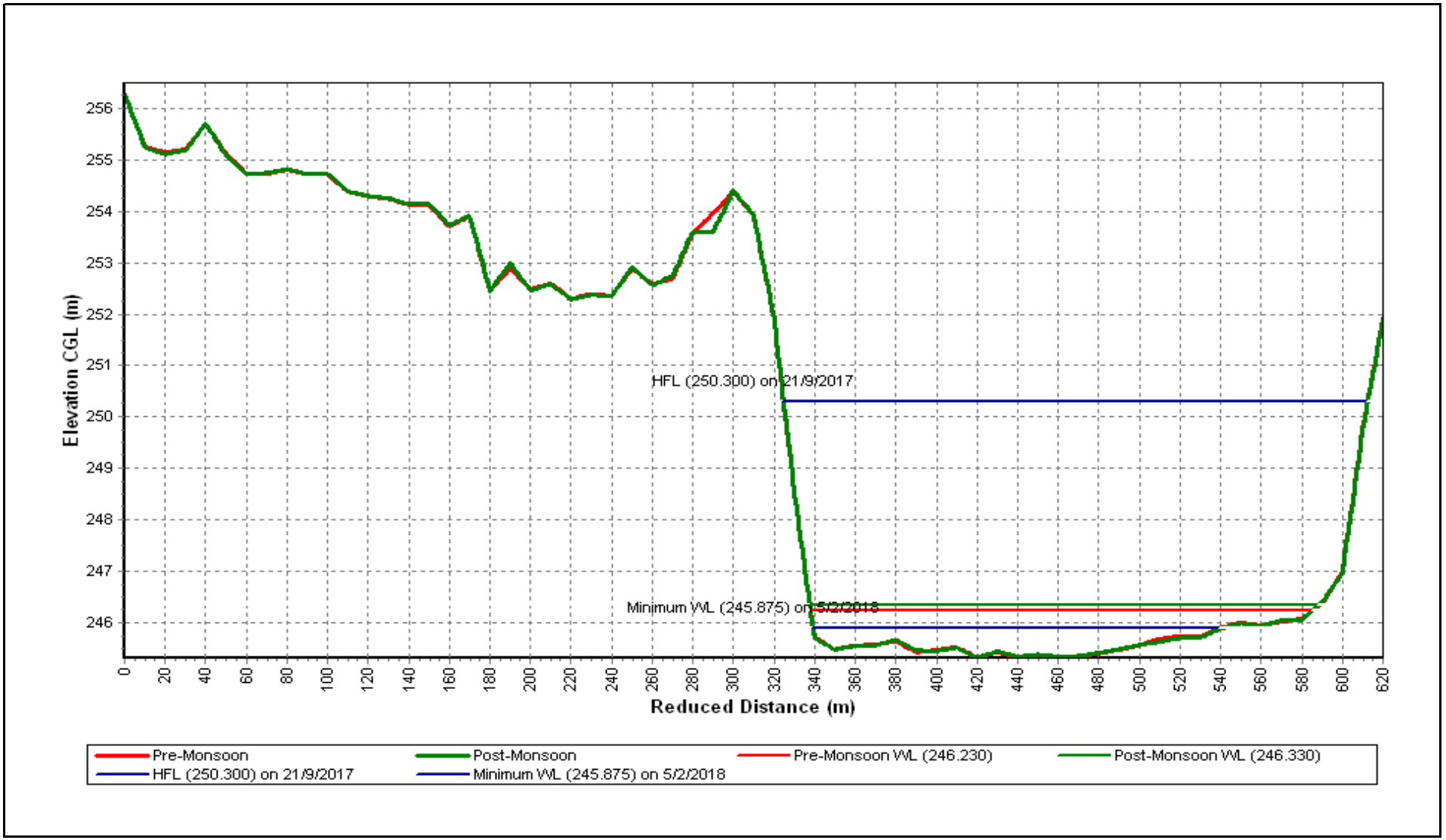
Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur



Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2017-2018

Station Name : Simga (EMP00J1) **Division : MD,CWC,Burla**

Local River : Seonath **Sub-Division : UMSD,CWC,Raipur**



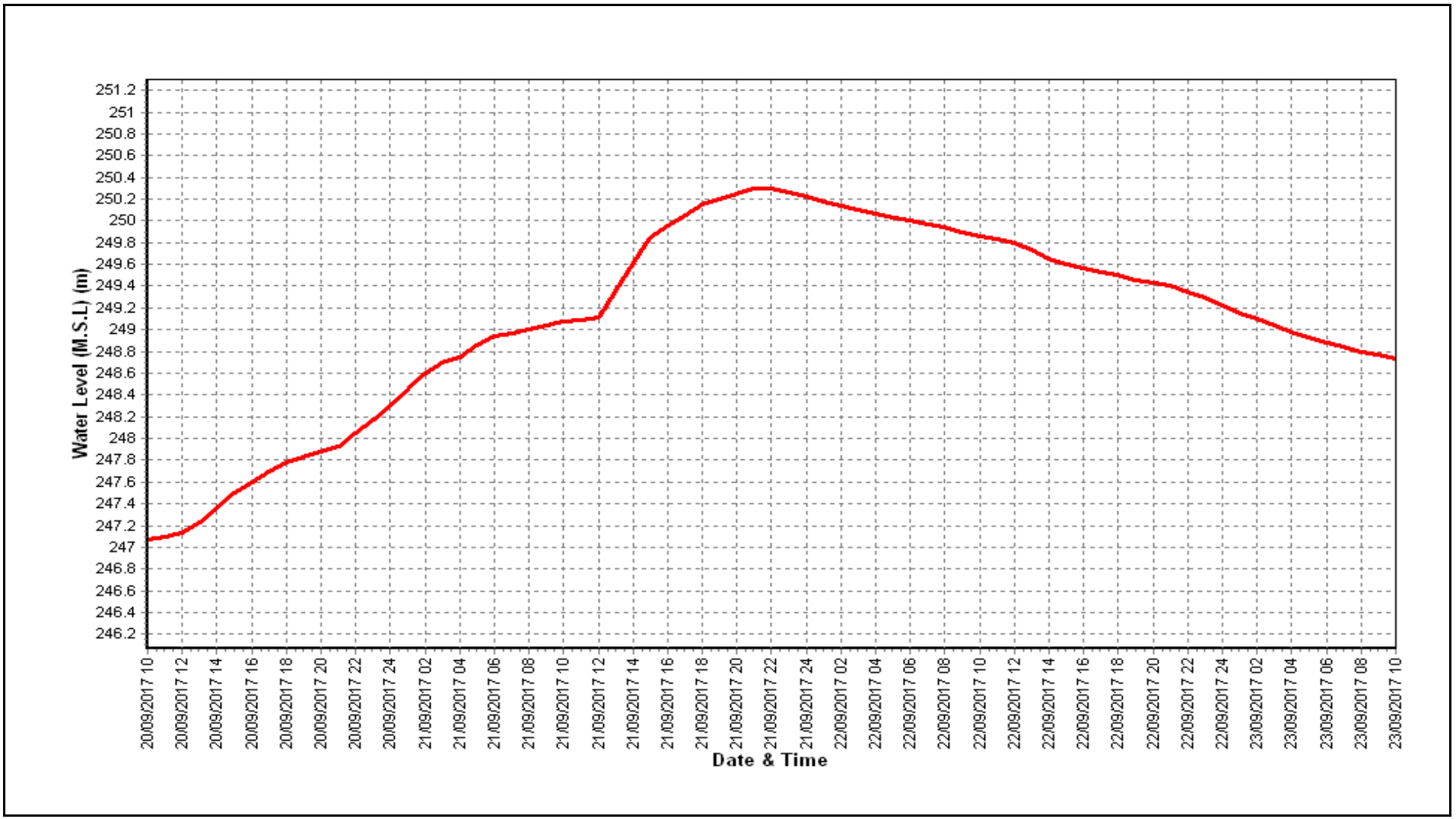
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2017-2018

Station Name : Simga (EMP00J1)

Local River : Seonath

Division : MD,CWC,Burla

Sub-Division : UMSD,CWC,Raipur

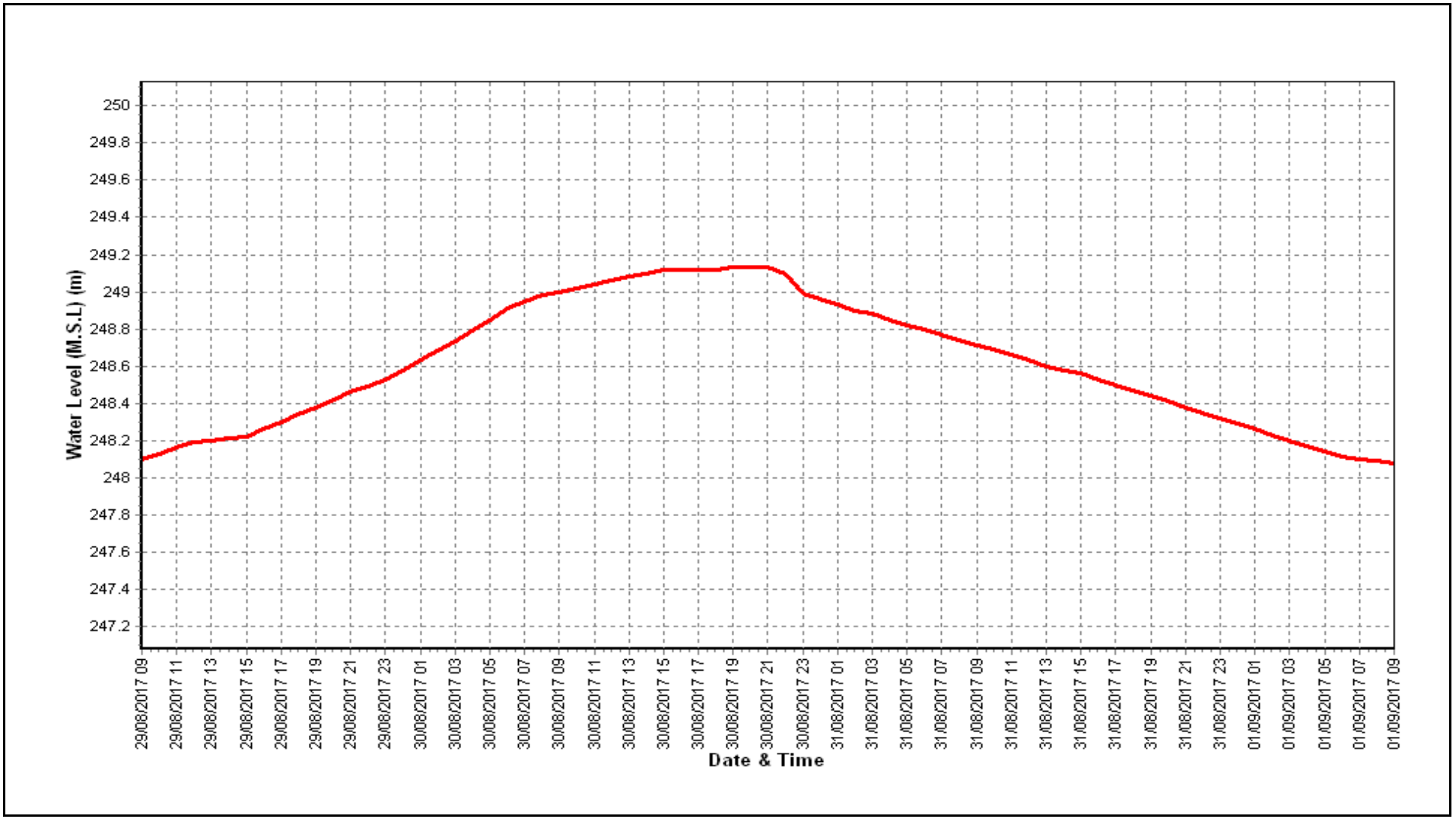


Time Span: 72 Hrs

Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2017-2018

Station Name : Simga (EMP00J1)
Local River : Seonath

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur

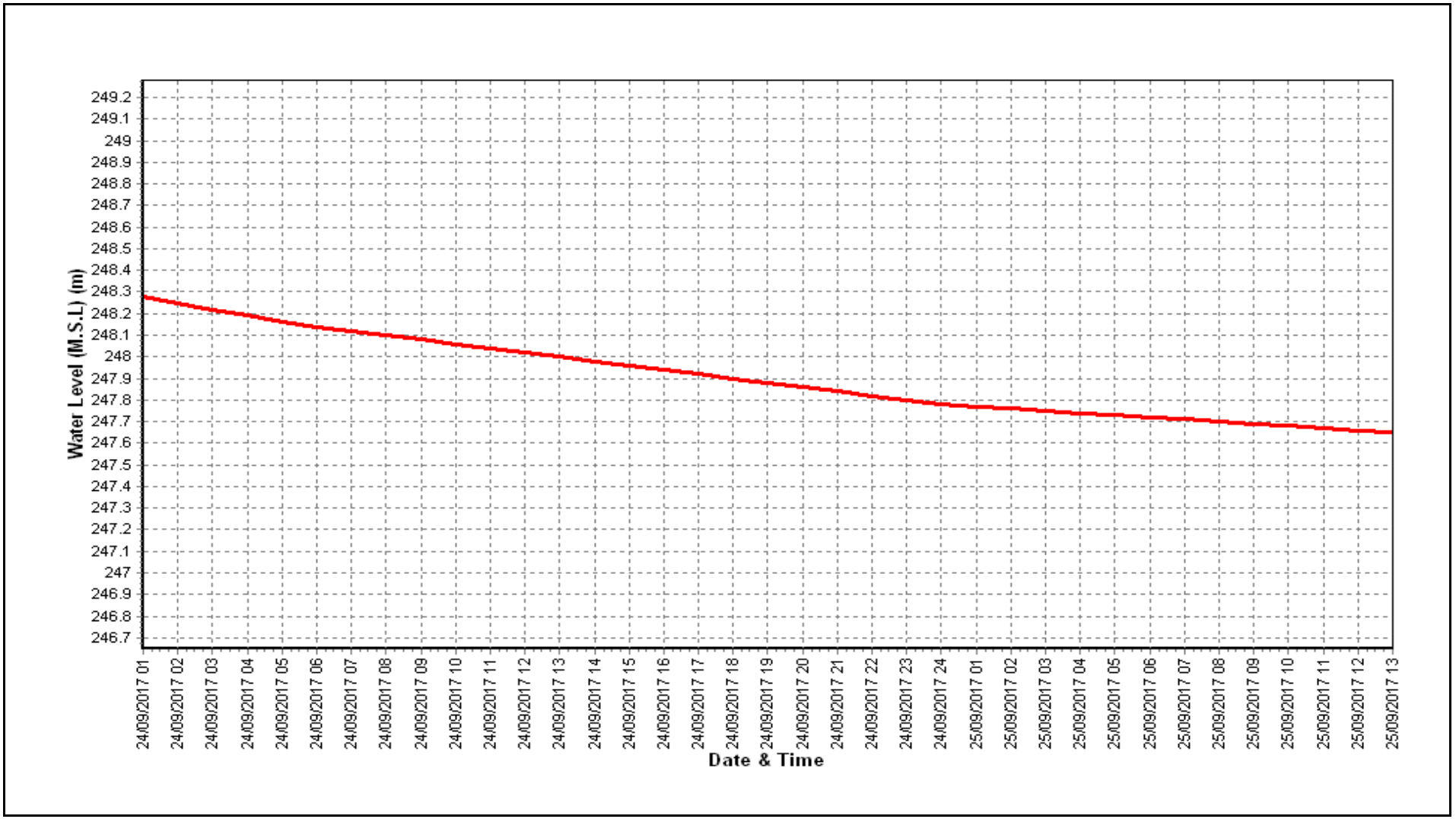


Time Span: 72 Hrs

Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2017-2018

Station Name : Simga (EMP00J1) **Division : MD,CWC,Burla**

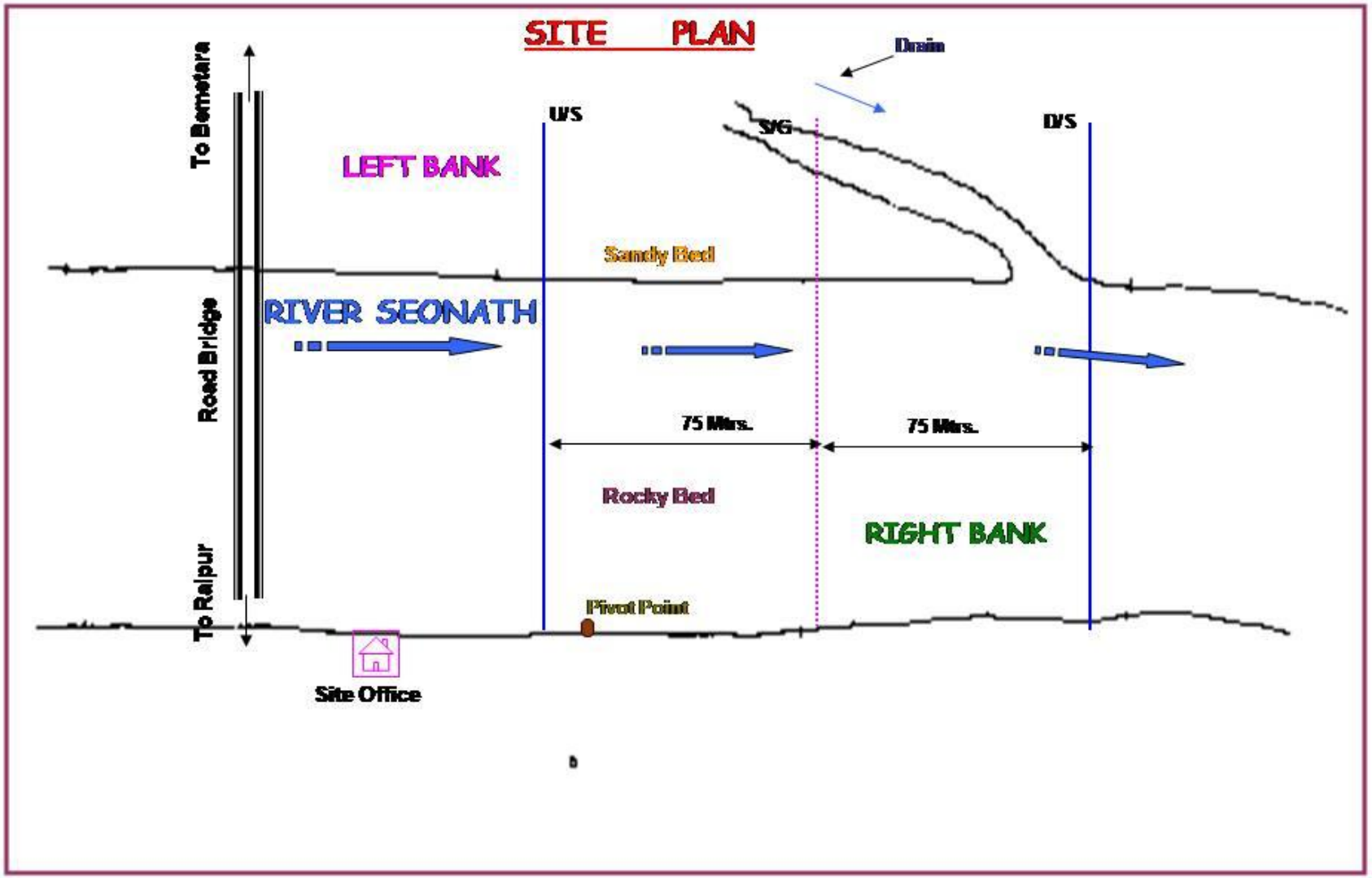
Local River : Seonath **Sub-Division : UMSD,CWC,Raipur**



Time Span: 72 Hrs

CENTRAL WATER COMMISSION, MAHANADI DIVISION, BURLA

Site : SIMGA Code : EMP00J1 Sub-Division : UMSD CWC Raipur



SECTION-II

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Simga (EMP00J1) **Division : MD,CWC,Burla**

Local River : Seonath **Sub-Division : UMSD,CWC,Raipur**

Day	Jun						Jul						Aug					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	50.67	0.000	0.000	0.000	0.000	0
2	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	52.85	0.000	0.000	0.000	0.000	0
3	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	42.52	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0	314.8	0.000	0.000	0.000	0.000	0	32.90	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0	298.0	0.000	0.000	0.000	0.000	0	32.10	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0	262.9	0.000	0.000	0.000	0.000	0	30.58	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	17.55	0.000	0.000	0.000	0.000	0
8	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	22.11	0.000	0.000	0.000	0.000	0
9	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	42.52	0.000	0.000	0.000	0.000	0
10	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	21.28	0.000	0.000	0.000	0.000	0
11	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	18.84	0.000	0.000	0.000	0.000	0
12	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	260.1	0.000	0.000	0.000	0.000	0
13	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	293.6	0.000	0.000	0.000	0.000	0
14	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	259.5	0.000	0.000	0.000	0.000	0
15	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	39.85	0.000	0.000	0.000	0.000	0
16	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	211.9	0.000	0.000	0.000	0.000	0
17	0.000	0.000	0.000	0.000	0.000	0	18.73	0.000	0.000	0.000	0.000	0	248.8	0.000	0.000	0.000	0.000	0
18	0.000	0.000	0.000	0.000	0.000	0	23.93	0.000	0.000	0.000	0.000	0	230.4	0.000	0.000	0.000	0.000	0
19	0.000	0.000	0.000	0.000	0.000	0	275.5	0.000	0.000	0.000	0.000	0	180.1	0.000	0.000	0.000	0.000	0
20	0.000	0.000	0.000	0.000	0.000	0	908.1	0.000	0.000	0.000	0.000	0	245.5	0.000	0.000	0.000	0.000	0
21	0.000	0.000	0.000	0.000	0.000	0	653.3	0.000	0.000	0.000	0.000	0	466.6	0.000	0.000	0.000	0.000	0
22	0.000	0.000	0.000	0.000	0.000	0	550.5	0.000	0.000	0.000	0.000	0	338.9	0.000	0.000	0.000	0.000	0
23	0.000	0.000	0.000	0.000	0.000	0	385.3	0.000	0.000	0.000	0.000	0	258.0	0.000	0.000	0.000	0.000	0
24	0.000	0.000	0.000	0.000	0.000	0	384.9	0.000	0.000	0.000	0.000	0	296.9	0.000	0.000	0.000	0.000	0
25	0.000	0.000	0.000	0.000	0.000	0	348.9	0.000	0.000	0.000	0.000	0	232.6	0.000	0.000	0.000	0.000	0
26	0.000	0.000	0.000	0.000	0.000	0	328.5	0.000	0.000	0.000	0.000	0	289.8	0.000	0.000	0.000	0.000	0
27	0.000	0.000	0.000	0.000	0.000	0	252.6	0.000	0.000	0.000	0.000	0	262.5	0.000	0.000	0.000	0.000	0
28	0.000	0.000	0.000	0.000	0.000	0	212.2	0.000	0.000	0.000	0.000	0	290.9	0.000	0.000	0.000	0.000	0
29	0.000	0.000	0.000	0.000	0.000	0	52.51	0.000	0.000	0.000	0.000	0	555.2	0.000	0.000	0.000	0.000	0
30	0.000	0.000	0.000	0.000	0.000	0	47.11	0.000	0.000	0.000	0.000	0	796.4	0.000	0.000	0.000	0.000	0
31							46.74	0.000	0.000	0.000	0.000	0	726.4	0.000	0.000	0.000	0.000	0
Ten Daily Mean																		
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	87.56	0.000	0.000	0.000	0.000	0	34.51	0.000	0.000	0.000	0.000	0
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0	122.6	0.000	0.000	0.000	0.000	0	198.9	0.000	0.000	0.000	0.000	0
Ten Daily III	0.000	0.000	0.000	0.000	0.000	0	296.6	0.000	0.000	0.000	0.000	0	410.4	0.000	0.000	0.000	0.000	0
Monthly Total						0						0						0

Annual Sediment Load (Metric Tonnes) : 84278

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Simga (EMP00J1) **Division : MD,CWC,Burla**

Local River : Seonath **Sub-Division : UMSD,CWC,Raipur**

Day	Sep						Oct						Nov					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	536.8	0.000	0.000	0.000	0.000	0	285.0	0.000	0.000	0.000	0.000	0	31.40	0.000	0.000	0.000	0.000	0
2	465.0	0.000	0.000	0.000	0.000	0	285.0	0.000	0.000	0.000	0.000	0	29.50	0.000	0.000	0.000	0.000	0
3	436.5	0.000	0.000	0.000	0.000	0	31.15	0.000	0.000	0.221	0.221	595	29.57	0.000	0.000	0.000	0.000	0
4	278.6	0.000	0.000	0.000	0.000	0	276.7	0.000	0.000	0.172	0.172	4112	29.50	0.000	0.000	0.000	0.000	0
5	217.5	0.000	0.000	0.000	0.000	0	271.0	0.000	0.000	0.168	0.168	3934	30.60	0.000	0.000	0.000	0.000	0
6	189.6	0.000	0.000	0.000	0.000	0	282.9	0.000	0.000	0.149	0.149	3642	33.60	0.000	0.000	0.000	0.000	0
7	40.67	0.000	0.000	0.000	0.000	0	288.3	0.000	0.000	0.149	0.149	3709	30.22	0.000	0.000	0.000	0.000	0
8	25.22	0.000	0.000	0.000	0.000	0	279.8	0.000	0.000	0.000	0.000	0	34.16	0.000	0.000	0.000	0.000	0
9	27.55	0.000	0.000	0.000	0.000	0	289.2	0.000	0.000	0.149	0.149	3727	28.23	0.000	0.000	0.000	0.000	0
10	25.36	0.000	0.000	0.000	0.000	0	340.6	0.000	0.000	0.265	0.265	7798	20.91	0.000	0.000	0.000	0.000	0
11	28.82	0.000	0.000	0.000	0.000	0	473.2	0.000	0.000	0.271	0.271	11080	19.74	0.000	0.000	0.000	0.000	0
12	38.11	0.000	0.000	0.000	0.000	0	449.8	0.000	0.000	0.260	0.260	10103	18.35	0.000	0.000	0.000	0.000	0
13	36.95	0.000	0.000	0.000	0.000	0	387.7	0.000	0.000	0.157	0.157	5259	21.34	0.000	0.000	0.000	0.000	0
14	34.66	0.000	0.000	0.000	0.000	0	307.0	0.000	0.000	0.128	0.128	3395	19.60	0.000	0.000	0.000	0.000	0
15	34.51	0.000	0.000	0.000	0.000	0	287.1	0.000	0.000	0.000	0.000	0	18.99	0.000	0.000	0.000	0.000	0
16	35.25	0.000	0.000	0.000	0.000	0	244.5	0.000	0.000	0.139	0.139	2934	13.91	0.000	0.000	0.000	0.000	0
17	42.53	0.000	0.000	0.000	0.000	0	261.3	0.000	0.000	0.119	0.119	2687	0.000	0.000	0.000	0.000	0.000	0
18	36.02	0.000	0.000	0.000	0.000	0	251.3	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
19	36.55	0.000	0.000	0.000	0.000	0	250.1	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	257.3	0.000	0.000	0.000	0.000	0	30.90	0.000	0.000	0.138	0.138	367	0.000	0.000	0.000	0.000	0.000	0
21	741.5	0.000	0.000	0.000	0.000	0	30.00	0.000	0.000	0.132	0.132	342	0.000	0.000	0.000	0.000	0.000	0
22	1084	0.000	0.000	0.000	0.000	0	30.01	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	705.0	0.000	0.000	0.000	0.000	0	299.3	0.000	0.000	0.201	0.201	5200	0.000	0.000	0.000	0.000	0.000	0
24	706.1	0.000	0.000	0.000	0.000	0	269.4	0.000	0.000	0.199	0.199	4636	0.000	0.000	0.000	0.000	0.000	0
25	434.9	0.000	0.000	0.000	0.000	0	251.6	0.000	0.000	0.172	0.172	3739	0.000	0.000	0.000	0.000	0.000	0
26	336.6	0.000	0.000	0.000	0.000	0	244.8	0.000	0.000	0.151	0.151	3193	0.000	0.000	0.000	0.000	0.000	0
27	256.2	0.000	0.000	0.000	0.000	0	31.45	0.000	0.000	0.122	0.122	331	0.000	0.000	0.000	0.000	0.000	0
28	276.1	0.000	0.000	0.000	0.000	0	229.1	0.000	0.000	0.140	0.140	2767	0.000	0.000	0.000	0.000	0.000	0
29	285.0	0.000	0.000	0.000	0.000	0	38.60	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
30	284.9	0.000	0.000	0.000	0.000	0	31.61	0.000	0.000	0.141	0.141	385	0.000	0.000	0.000	0.000	0.000	0
31							32.25	0.000	0.000	0.123	0.123	341						
Ten Daily Mean																		
Ten Daily I	224.3	0.000	0.000	0.000	0.000	0	263.0	0.000	0.000	0.127	0.127	2752	29.77	0.000	0.000	0.000	0.000	0
Ten Daily II	58.07	0.000	0.000	0.000	0.000	0	294.3	0.000	0.000	0.121	0.121	3583	11.19	0.000	0.000	0.000	0.000	0
Ten Daily III	511.0	0.000	0.000	0.000	0.000	0	135.3	0.000	0.000	0.126	0.126	1903	0.000	0.000	0.000	0.000	0.000	0
Monthly																		
Total						0						84278						0

Annual Sediment Load (Metric Tonnes) : 84278

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Simga (EMP00J1) **Division : MD,CWC,Burla**

Local River : Seonath **Sub-Division : UMSD,CWC,Raipur**

Day	Dec						Jan						Feb					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
2	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
3	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
8	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
9	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
10	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
11	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
12	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
13	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
14	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
15	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
16	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
17	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
18	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
19	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
21	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
22	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
24	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
25	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
28	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
29	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0						
30	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0						
31	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0						
Ten Daily Mean																		
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily III	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Monthly																		
Total						0						0						0

Annual Sediment Load (Metric Tonnes) : 84278

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Simga (EMP00J1) **Division : MD,CWC,Burla**

Local River : Seonath **Sub-Division : UMSD,CWC,Raipur**

Day	Mar						Apr						May					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
2	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
3	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
8	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
9	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
10	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
11	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
12	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
13	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
14	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
15	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
16	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
17	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
18	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
19	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
21	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
22	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
24	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
25	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
28	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
29	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
30	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
31	0.000	0.000	0.000	0.000	0.000	0							0.000	0.000	0.000	0.000	0.000	0
Ten Daily Mean																		
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily III	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Monthly Total						0						0						0

Annual Sediment Load (Metric Tonnes) : 84278

Annual Sediment Load for period : 1973-2018

Station Name : Simga (EMP00J1) **Division : MD,CWC,Burla**

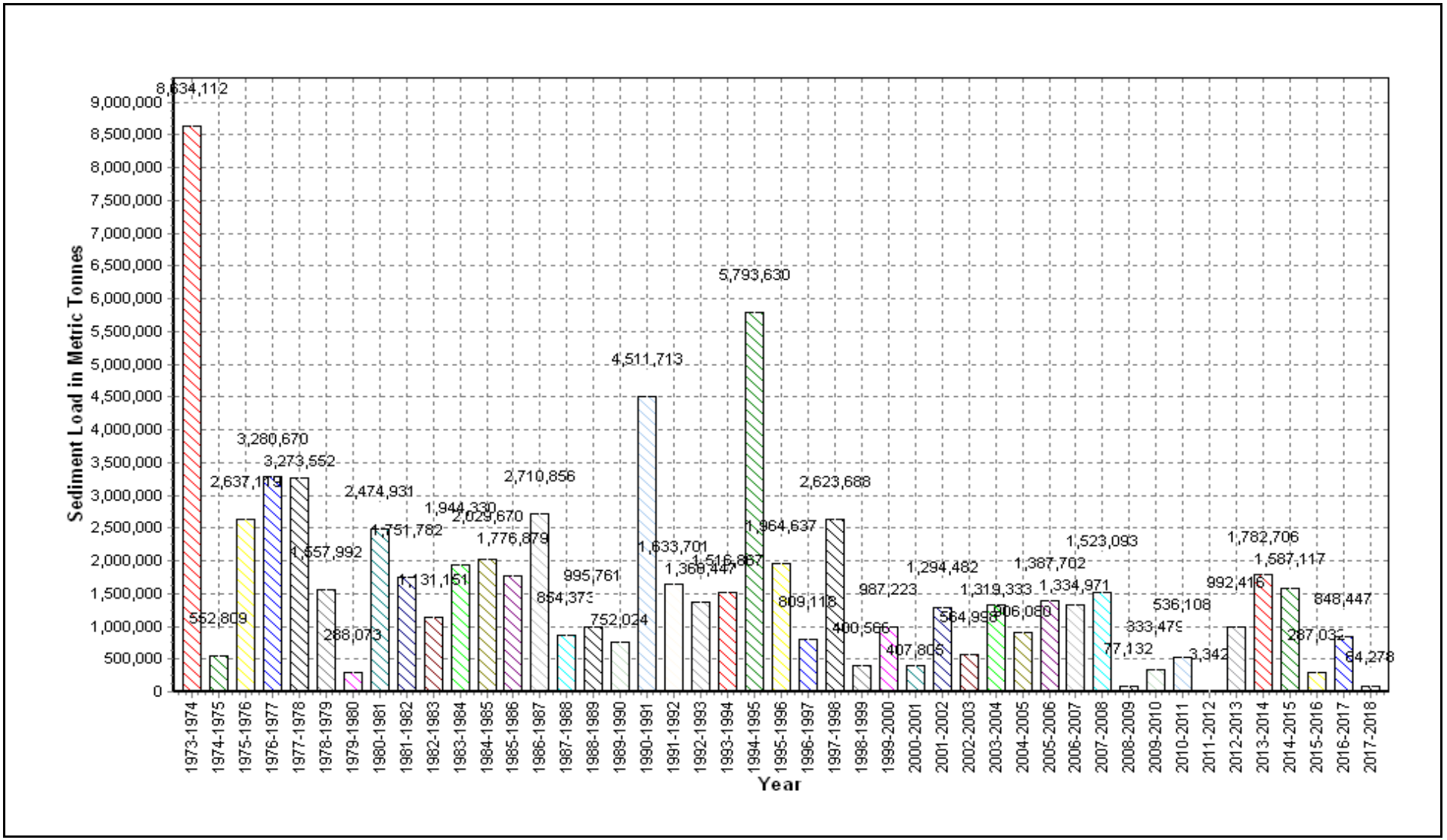
Local River : Seonath **Sub-Division : UMSD,CWC,Raipur**

Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)
1973-1974	8633624	488	8634112	8672
1974-1975	552567	242	552809	1195
1975-1976	2636789	329	2637119	7407
1976-1977	3280499	172	3280670	4999
1977-1978	3272656	897	3273552	6542
1978-1979	1555367	2625	1557992	7313
1979-1980	287152	921	288073	2563
1980-1981	2473978	953	2474931	7556
1981-1982	1750534	1247	1751782	4615
1982-1983	1129926	1225	1131151	3443
1983-1984	1942544	1786	1944330	5388
1984-1985	2027292	2378	2029670	5422
1985-1986	1775076	1803	1776879	5885
1986-1987	2708448	2408	2710856	7124
1987-1988	852238	2135	854373	1644
1988-1989	995421	339	995761	2134
1989-1990	752008	16	752024	1951
1990-1991	4511713	0	4511713	9942
1991-1992	1633701	0	1633701	4448
1992-1993	1366421	27	1366447	3866
1993-1994	1516760	107	1516867	3485
1994-1995	5793115	514	5793630	13225
1995-1996	1964637	0	1964637	5535
1996-1997	809059	59	809118	2841
1997-1998	2621519	2169	2623688	4631
1998-1999	400209	356	400566	2698
1999-2000	986930	293	987223	4156
2000-2001	407804	1	407805	1754
2001-2002	1294363	119	1294482	4674
2002-2003	564989	8	564998	1918
2003-2004	1318798	535	1319333	7098
2004-2005	905870	210	906080	3317
2005-2006	1387681	20	1387702	9273
2006-2007	1334956	15	1334971	6009
2007-2008	1523035	58	1523093	7439
2008-2009	77129	3	77132	2015
2009-2010	333474	5	333479	2578
2010-2011	536078	30	536108	4940
2011-2012	3312	31	3342	5811
2012-2013	992401	15	992416	4720
2013-2014	1782673	33	1782706	9403
2014-2015	1587090	26	1587117	7648
2015-2016	287030	2	287032	2264
2016-2017	848447	0	848447	4700
2017-2018	84278	0	84278	2386

Annual Sediment Load for the period: 1973-2018

Station Name : Simga (EMP00J1)
Local River : Seonath

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur



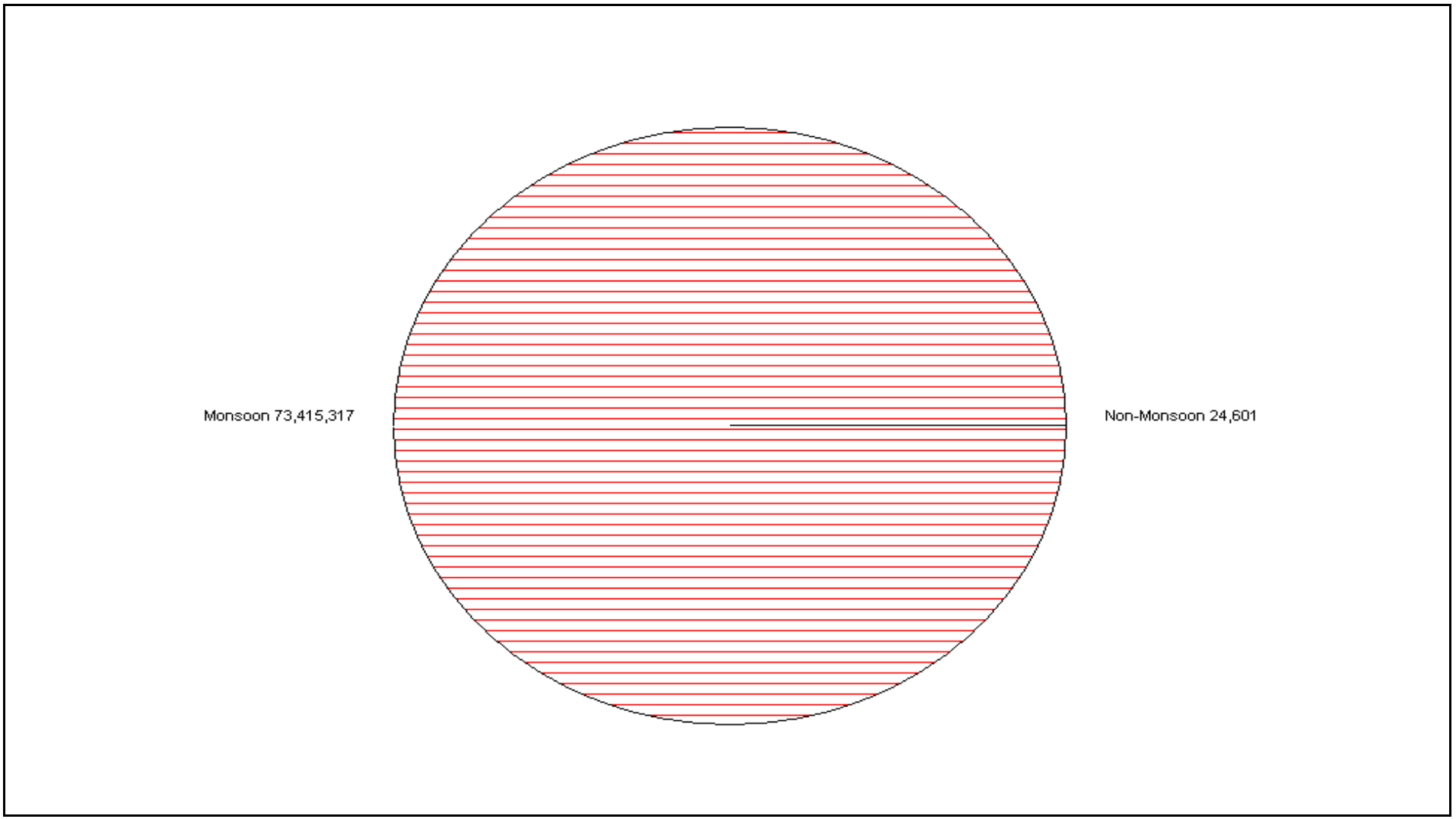
Seasonal Sediment Load for the period : 1973-2017

Station Name : Simga (EMP00J1)

Local River : Seonath

Division : MD,CWC,Burla

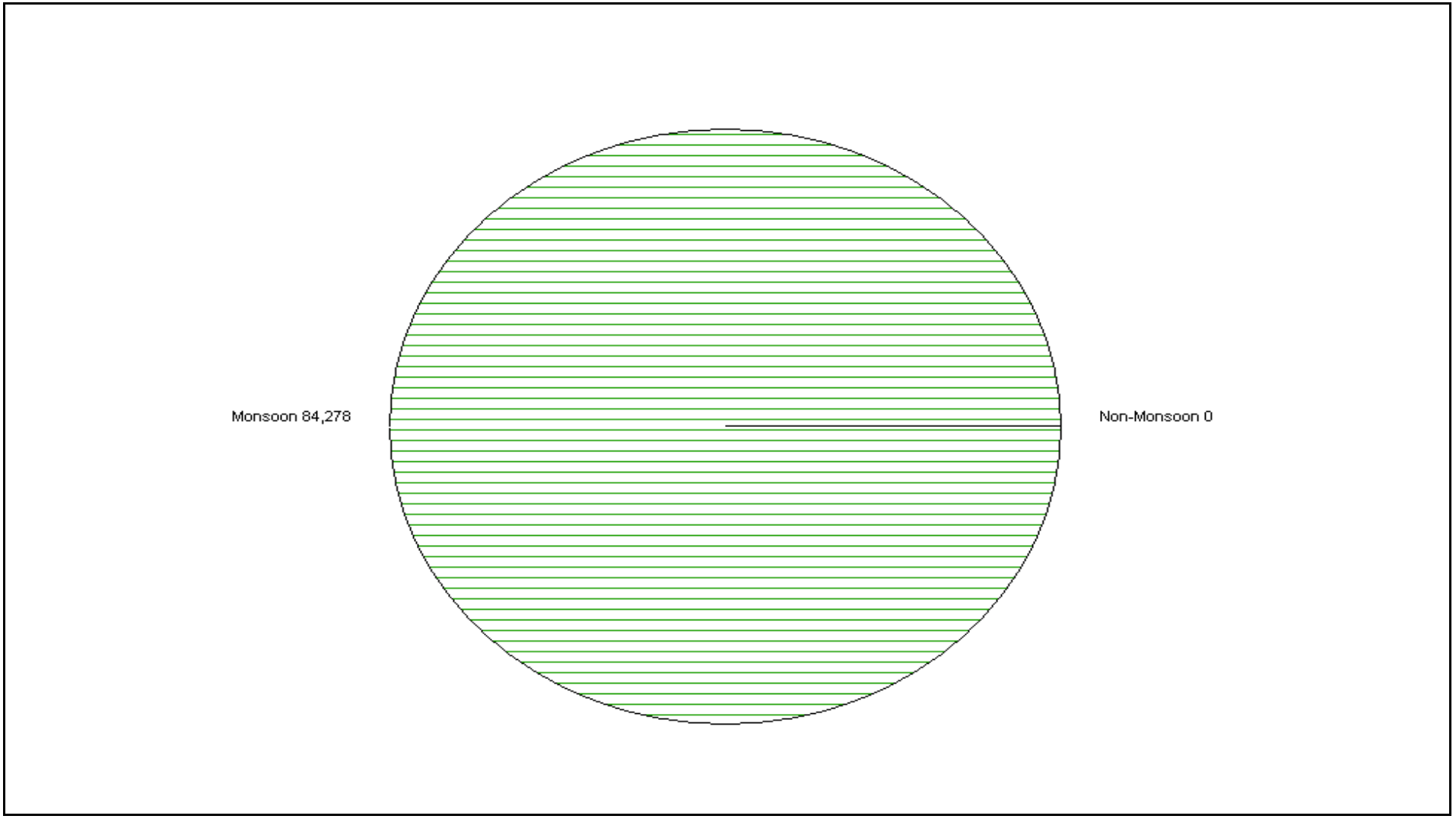
Sub-Division : UMSD,CWC,Raipur



Seasonal Sediment Load for the Year: 2017-2018

Station Name : Simga (EMP00J1)
Local River : Seonath

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur



SECTION-III

Water Quality Datasheet for the period : 2017-2018

Station Name : Simga (EMP00J1) **Division : MD,CWC,Burla**

Local River : Seonath **River Water Analysis** **Sub-Division : UMSD,CWC,Raipur**

S.No	Parameters	01/06/2017	01/07/2017	01/08/2017	01/09/2017	03/10/2017	01/11/2017	01/12/2017	01/01/2018	01/02/2018	01/03/2018	02/04/2018	01/05/2018
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)		0.000	50.67	536.8	31.15	31.40	0.000	0.000	0.000	0.000	0.000	0.000
2	Colour_Cod (-)			Brown	Brown	Brown	Clear						
3	EC_FLD (µmho/cm)					317	440						
4	EC_GEN (µmho/cm)			221	235	258	313						
5	Odour_Code (-)			odour free	odour free	odour free	odour free						
6	pH_FLD (pH units)					8.6	8.8						
7	pH_GEN (pH units)			8.4	8.0	8.4	8.2						
8	Temp (deg C)			28.5	27.5	30.0	27.6						
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)			0.0	0.0	0.0	0.0						
2	ALK-TOT (mgCaCO3/L)			256	168	108	112						
3	Ca (mg/L)			48	58	40	46						
4	Cl (mg/L)			25.0	26.0	39.0	41.0						
5	CO3 (mg/L)			0.0	0.0	0.0	0.0						
6	HCO3 (mg/L)			156	103	66	68						
7	K (mg/L)			7.4	61.3	8.5	7.7						
8	Mg (mg/L)			35.0	1.9	9.7	15.6						
9	Na (mg/L)			23.7	78.0	19.8	23.4						
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)			0.9	1.4	0.7	0.9						
2	DO (mg/L)			5.7	5.1	5.7	7.9						
3	DO_SAT% (%)			73	64	75	99						
4	FCol-MPN (MPN/100mL)			60	90	60	60						
5	Tcol-MPN (MPN/100mL)			170	170	120	140						
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)			120	144	100	116						
2	HAR_Total (mgCaCO3/L)			266	152	141	181						
3	Na% (%)			16	42	22	21						
4	RSC (-)			0.0	0.0	0.0	0.0						
5	SAR (-)			0.6	2.8	0.7	0.8						
	PESTICIDES												

Water Quality Summary for the period : 2017-2018

Station Name : Simga (EMP00J1) **Division : MD,CWC,Burla**

Local River : Seonath **Sub-Division : UMSD,CWC,Raipur**

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	335	1084	0.000	82.44
2	EC_FLD (µmho/cm)	2	440	317	378
3	EC_GEN (µmho/cm)	4	313	221	257
4	pH_FLD (pH units)	2	8.8	8.6	8.7
5	pH_GEN (pH units)	4	8.4	8.0	8.3
6	Temp (deg C)	4	30.0	27.5	28.4
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	4	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	4	256	108	161
3	Ca (mg/L)	4	58	40	48
4	Cl (mg/L)	4	41.0	25.0	32.8
5	CO3 (mg/L)	4	0.0	0.0	0
6	HCO3 (mg/L)	4	156	66	98
7	K (mg/L)	4	61.3	7.4	21.2
8	Mg (mg/L)	4	35.0	1.9	15.6
9	Na (mg/L)	4	78.0	19.8	36.2
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	4	1.4	0.7	1
2	DO (mg/L)	4	7.9	5.1	6.1
3	DO_SAT% (%)	4	99	64	78
4	FCol-MPN (MPN/100mL)	4	90	60	68
5	Tcol-MPN (MPN/100mL)	4	170	120	150
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	4	144	100	120
2	HAR_Total (mgCaCO3/L)	4	266	141	185
3	Na% (%)	4	42	16	25
4	RSC (-)	4	0.0	0.0	0
5	SAR (-)	4	2.8	0.6	1.2
	PESTICIDES				

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Simga (EMP00J1) **Division : MD,CWC,Burla**

Local River : Seonath **River Water** **Sub-Division : UMSD,CWC,Raipur**

S.No	Parameters	Flood														
		Jun - Oct														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	PHYSICAL															
1	Q (cumec)	489.6	196.7	763.1	852.2	2484	82.91	104.3	222.8	333.2	384.7	1498	214.7	141.3	334.3	154.7
2	EC_FLD (µmho/cm)	171	304	288	310	300	303	339	314	375	307	426	393	661	434	317
3	EC_GEN (µmho/cm)	171	304	288	310	245	320	313	280	348	265	243	344	317	330	238
4	pH_FLD (pH units)	8.0	8.0	7.9	7.9	7.8	7.8	7.7	7.8	7.5	8.4	8.2	7.5	8.6	8.1	8.6
5	pH_GEN (pH units)	8.0	8.0	7.9	7.9	7.7	7.7	7.9	7.5	7.4	7.8	8.0	7.9	7.9	7.4	8.3
6	Temp (deg C)	30.0	30.8	30.2	29.0	27.2	29.4	29.2	27.5	25.8	29.0	27.4	28.7	27.6	28.8	28.7
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	3.4		0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	180	298	154		172	224	229	195	239	184	206	272	266	175	177
3	B (mg/L)			0.06		0.01	0.00	0.00	0.00	0.00	0.00					
4	Ca (mg/L)	20	39	18		18	25	27	19	32	26	26	31	34	42	49
5	Cl (mg/L)	41.3	72.2	22.2		22.8	27.4	27.6	8.7	15.0	11.2	18.8	25.0	31.5	37.8	30.0
6	CO3 (mg/L)	0.0	0.0	4.1		0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0	0.0
7	F (mg/L)	1.37		0.23		0.15	0.12	0.21	0.22	0.22	0.21					
8	Fe (mg/L)			0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.1					
9	HCO3 (mg/L)	110	175	90		105	137	140	119	146	112	126	166	156	107	108
10	K (mg/L)			5.2		3.2	4.5	5.7	4.8	6.5	3.4	6.0	8.6	7.7	18.3	25.7
11	Mg (mg/L)	7.3	21.7	9.1		9.9	10.8	14.0	11.8	18.6	14.4	7.8	10.1	14.3	16.0	15.6
12	Na (mg/L)			22.6		19.9	24.9	12.5	15.1	24.9	18.9	9.6	32.9	22.3	31.5	40.5
13	NO2+NO3 (mg N/L)			0.10	0.09	0.11	0.63									
14	NO2-N (mgN/L)			0.00	0.01	0.02	0.02	0.02	0.02	0.05	0.06					
15	NO3-N (mgN/L)			0.07	0.13	0.09	0.61									
16	o-PO4-P (mg P/L)						0.098									
17	P-Tot (mgP/L)	0.015		0.005		0.016	0.046	0.052	0.035	0.060	0.085					
18	SiO2 (mg/L)			9.5		19.0	18.9	21.9	14.6	21.8	18.1					
19	SO4 (mg/L)	9.0	6.5	14.6		16.8	13.6	21.4	16.2	19.4	19.4					

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Simga (EMP00J1) **Division : MD,CWC,Burla**

Local River : Seonath **River Water** **Sub-Division : UMSD,CWC,Raipur**

S.No	Parameters	Flood														
		Jun - Oct														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	1.7	1.1	0.9	0.5	1.2	0.8	1.7	1.6	1.9	1.8	1.1	0.4	1.2	0.8	1.0
2	COD (mg/L)					23.0	22.8	23.2	27.0	26.4	29.0					
3	DO (mg/L)	5.9	6.0	6.0	6.0	6.3	5.4	6.0	5.4	4.6	5.8	4.9	5.2	5.6	6.9	5.5
4	DO_SAT% (%)	75	81	79	78	79	71	78	68	57	75	61	66	70	90	71
5	FCol-MPN (MPN/100mL)															70
6	Tcol-MPN (MPN/100mL)															153
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	50	98	45		44	63	67	48	81	64	64	79	85	106	122
2	HAR_Total (mgCaCO3/L)	80	188	83		86	108	125	97	159	124	97	121	145	173	186
3	Na% (%)			30		33	31	16	24	24	25	17	33	24	25	27
4	RSC (-)	0.2	0.0	0.0		0.1	0.2	0.0	0.2	0.1	0.0	0.2	0.4	0.1	0.0	0.0
5	SAR (-)			1.0		1.0	1.1	0.5	0.7	0.8	0.8	0.4	1.3	0.8	1.0	1.4
	PESTICIDES															

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Simga (EMP00J1) **Division : MD,CWC,Burla**

Local River : Seonath **River Water** **Sub-Division : UMSD,CWC,Raipur**

S.No	Parameters	Winter														
		Nov - Feb														
		2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
	PHYSICAL															
1	Q (cumec)	63.78	23.69	38.06	14.52	20.98	6.633	11.87	29.77	16.30	15.41	67.09	30.71	9.383	13.71	7.849
2	EC_FLD (µmho/cm)	383	459	398	327	460	445	402	432	362	289	420	387	470	428	440
3	EC_GEN (µmho/cm)	383	459	398	327	367	495	414	468	430	457	444	453	394	307	313
4	pH_FLD (pH units)	8.1	8.1	7.2	8.2	8.0	8.1	7.5	7.5	8.1	8.3	7.5	7.0	6.8	7.2	8.8
5	pH_GEN (pH units)	8.1	8.1	7.2	8.2	7.9	7.8	8.0	7.5	8.0	7.8	8.0	8.3	8.3	8.4	8.2
6	Temp (deg C)	22.5	23.3	24.8	25.5	19.6	19.5	21.0	21.4	22.3	23.0	23.8	21.0	23.1	23.0	27.6
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0		0.0	1.8	2.8	0.0	2.5	1.3	0.0	2.5	7.6	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	367	309	271		232	304	248	321	293	333	339	327	266	208	112
3	B (mg/L)			0.09		0.01	0.00	0.00	0.00	0.00	0.00					
4	Ca (mg/L)	41	30	29		29	37	26	36	34	39	55	40	29	32	46
5	Cl (mg/L)	25.3	46.0	43.8		46.2	50.3	24.5	40.3	34.7	25.7	36.0	48.8	51.8	38.0	41.0
6	CO3 (mg/L)	0.0	0.0	0.0		0.0	2.2	3.3	0.0	3.0	1.6	0.0	3.0	9.1	0.0	0.0
7	F (mg/L)	1.01	0.38	0.11		0.22	0.16	0.21	0.17	0.22	0.25					
8	Fe (mg/L)			0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1		0.1			
9	HCO3 (mg/L)	199	189	165		141	183	148	196	175	202	207	196	153	127	68
10	K (mg/L)		4.1	3.8		5.2	5.5	6.9	13.2	5.2	1.9	15.3	9.3	9.6	9.8	7.7
11	Mg (mg/L)	12.2	17.2	17.1		18.2	18.2	16.2	21.9	20.3	19.4	13.8	23.3	18.0	26.2	15.6
12	Na (mg/L)		38.5	29.6		26.5	36.1	20.9	42.2	27.1	49.5	53.1	41.7	34.1	16.6	23.4
13	NO2+NO3 (mg N/L)		2.62	0.11	0.12	0.18	0.63						0.25			
14	NO2-N (mgN/L)			0.00	0.03	0.01	0.02	0.03	0.07	0.14	0.04		0.04			
15	NO3-N (mgN/L)			0.11	0.09	0.16	0.61						0.21			
16	o-PO4-P (mg P/L)															
17	P-Tot (mgP/L)	0.030	0.020			0.017	0.060	0.052	0.083	0.120	0.080		0.070			
18	SiO2 (mg/L)			12.8		16.7	24.9	21.7	25.1	17.5	15.6		17.8			
19	SO4 (mg/L)	7.8	18.7	15.1		19.5	34.1	26.3	40.2	40.2	25.9		23.0			

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Simga (EMP00J1) | **Division : MD,CWC,Burla**

Local River : Seonath | **River Water** | **Sub-Division : UMSD,CWC,Raipur**

S.No	Parameters	Winter														
		Nov - Feb														
		2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.7	1.1	0.9	0.3	1.1	0.9	0.9	1.8	1.4	1.4	1.1	1.6	0.9	1.3	0.9
2	COD (mg/L)					26.0	36.0	46.0	97.0	30.0	24.0					
3	DO (mg/L)	5.7	8.4	8.3	7.6	8.4	6.6	7.0	6.9	7.3	6.4	7.1	8.1	7.7	7.1	7.9
4	DO_SAT% (%)	72	98	100	92	91	73	78	77	83	74	83	91	89	83	99
5	FCol-MPN (MPN/100mL)															60
6	Tcol-MPN (MPN/100mL)															140
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	103	76	73		72	92	66	91	86	98	137	101	72	80	116
2	HAR_Total (mgCaCO3/L)	153	147	144		148	168	134	182	170	179	195	198	147	189	181
3	Na% (%)		37	30		26	31	23	31	25	37	32	29	31	15	21
4	RSC (-)	0.6	0.6	0.1		0.1	0.0	0.0	0.0	0.0	0.3	0.3	0.0	0.2	0.0	0.0
5	SAR (-)		1.4	1.1		0.9	1.2	0.8	1.4	0.9	1.6	1.6	1.3	1.2	0.5	0.8
	PESTICIDES															

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Simga (EMP00J1) | **Division : MD,CWC,Burla**

Local River : Seonath | **River Water** | **Sub-Division : UMSD,CWC,Raipur**

S.No	Parameters	Summer														
		Mar - May														
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	PHYSICAL															
1	Q (cumec)	2.793	2.635	1.088	0.792	5.397		0.348	4.901	2.241	2.601	11.03	0.279	0.444	0.000	0.000
2	EC_FLD (µmho/cm)	516	458	441		421	520	498	512	334		427		665		
3	EC_GEN (µmho/cm)	516	458	441		384	464	500	577	490		514		609		
4	pH_FLD (pH units)	8.1	8.0	7.9		7.9	8.9	7.8	7.4	8.5		7.5		5.8		
5	pH_GEN (pH units)	8.1	8.0	7.9		8.0	8.5	8.1	7.2	7.7		7.9		8.3		
6	Temp (deg C)	26.0	30.3	32.0		27.3	24.0	24.0	22.7	27.7		25.3		27.9		
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0		0.0	14.7	0.0	0.0	0.0		0.0		0.0		
2	ALK-TOT (mgCaCO3/L)	495	244	308		217	314	361	286	333		269		226		
3	B (mg/L)			0.07		0.01	0.00	0.00	0.00	0.00						
4	Ca (mg/L)	48	24	32		25	34	37	24	37		38		50		
5	Cl (mg/L)	40.0	30.0	74.4		40.1	19.4	53.9	51.6	42.5		55.0		100.0		
6	CO3 (mg/L)	0.0	0.0	0.0		0.0	17.7	0.0	0.0	0.0		0.0		0.0		
7	F (mg/L)		0.62	0.09		0.19	0.15	0.34	0.42	0.27						
8	Fe (mg/L)			0.1	0.0	0.0	0.0	0.0	0.3	0.3						
9	HCO3 (mg/L)	302	149	188		132	173	220	174	203		164		138		
10	K (mg/L)		8.4	6.8		6.5	9.1	12.2	7.9	8.0		6.5		14.7		
11	Mg (mg/L)	17.8	10.4	17.0		15.3	19.4	22.4	17.8	20.9		16.5		5.8		
12	Na (mg/L)		46.4	46.0		34.4	30.7	66.0	44.0	53.2		49.3		42.7		
13	NO2+NO3 (mg N/L)		0.40	0.10	0.10	0.54	0.43									
14	NO2-N (mgN/L)			0.00	0.01	0.02	0.03	0.10	0.49	0.29						
15	NO3-N (mgN/L)			0.10	0.09	0.52	0.40									
16	o-PO4-P (mg P/L)															
17	P-Tot (mgP/L)		0.020			0.030	0.040	0.060	0.127	0.247						
18	SiO2 (mg/L)			20.9		20.4	28.0	10.2	19.1	20.2						
19	SO4 (mg/L)	25.6	31.1	16.1		23.2	40.0	33.0	43.5	39.1						

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Simga (EMP00J1) **Division : MD,CWC,Burla**

Local River : Seonath **River Water** **Sub-Division : UMSD,CWC,Raipur**

S.No	Parameters	Summer														
		Mar - May														
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.6	0.4	1.3		1.6	1.2	2.6	2.4	1.6		1.0		2.1		
2	COD (mg/L)					25.3	64.0	80.0	46.7	29.3						
3	DO (mg/L)	6.6	5.3	7.5		6.8	5.5	1.4	5.8	4.1		5.6		6.6		
4	DO_SAT% (%)	86	68	102		85	65	17	67	52		70		83		
5	FCol-MPN (MPN/100mL)															
6	Tcol-MPN (MPN/100mL)															
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	121	59	81		62	86	92	59	94		96		125		
2	HAR_Total (mgCaCO3/L)	194	102	152		125	167	186	133	181		165		149		
3	Na% (%)		46	39		36	27	42	44	38		35		36		
4	RSC (-)	1.7	0.4	0.3		0.2	0.1	0.0	0.3	0.0		0.0		0.0		
5	SAR (-)		2.0	1.7		1.3	1.0	2.1	1.9	1.7		1.7		1.5		
	PESTICIDES															

SITE ANDHIARKHORE

HISTORY SHEET

Water Year : 2017-2018

Site	:	**Andhiarkhore**	**Code**	:	**EMP60E5**
State	:	Chhattisgarh	District		Bemetra
Basin	:	Mahanadi	Independent River	:	Mahanadi
Tributary	:	Seonath	Sub Tributary	:	
Sub-Sub Tributary	:		Local River	:	Hamp
Division	:	MD,CWC,Burla	Sub-Division	:	UMSD,CWC,Raipur
Drainage Area	:	2210 Sq. Km.	Bank	:	Right
Latitude	:	21°47'00"	Longitude	:	81°36'30"
Zero of Gauge (m)	:	252 (m.s.l)	27/09/1977	-	27/09/2027
		Opening Date	Closing Date		
Gauge	:	27/09/1977			
Discharge	:				
Sediment	:	12/07/1980			
Water Quality	:	01/06/1980			

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

	Maximum			Minimum		
Year	**Q (cumecs)**	**WL (m)**	**Date**	**Q (cumecs)**	**WL (m)**	**Date**
1978-1979	414.8	256.700	24/08/1978	0.323	253.790	26/05/1979
1979-1980	694.6	258.930	09/08/1979	0.100	253.795	26/04/1980
1980-1981	240.5	256.160	05/09/1980	0.100	253.775	05/06/1980
1981-1982	126.9	255.550	29/09/1981	0.287	253.790	19/06/1981
1982-1983	133.9	255.300	14/08/1982	0.173	253.720	09/05/1983
1983-1984	367.7	256.440	30/09/1983	0.175	253.730	16/06/1983
1984-1985	141.0	256.075	24/08/1984	0.262	253.725	07/05/1985
1985-1986	220.0	256.100	09/08/1985	0.285	253.740	06/06/1985
1986-1987	129.2	256.200	07/08/1986	0.290	253.735	30/05/1987
1987-1988	240.3	256.265	16/09/1987	0.190	253.700	31/05/1988
1988-1989	269.0	256.620	02/08/1988	0.145	253.670	19/05/1989
1989-1990	267.9	256.445	01/09/1989	0.150	253.710	26/04/1990
1990-1991	425.9	257.500	26/09/1990	0.548	253.795	27/05/1991
1991-1992	443.9	257.280	24/08/1991	0.148	253.695	25/05/1992
1992-1993	264.6	256.435	21/08/1992	0.122	253.690	09/06/1992
1993-1994	196.7	255.670	16/08/1993	0.117	253.740	19/05/1994
1994-1995	990.0	258.920	09/10/1994	0.263	253.760	11/06/1994
1995-1996	228.3	256.020	24/07/1995	0.284	253.755	25/05/1996
1996-1997	236.8	256.200	20/08/1996	0.148	253.715	19/05/1997
1997-1998	196.3	257.090	23/08/1997	0.168	253.685	03/06/1997
1998-1999	852.0	258.225	13/09/1998	0.094	253.805	20/04/1999
1999-2000	364.7	257.080	19/09/1999	0.238	253.835	03/05/2000

Q : Observed / Computed Discharge WL : Corresponding Water Level(m.s.l)

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

	Maximum			Minimum		
Year	**Q (cumecs)**	**WL (m)**	**Date**	**Q (cumecs)**	**WL (m)**	**Date**
2000-2001	46.74	254.955	20/06/2000	0.065	253.730	21/05/2001
2001-2002	442.3	257.200	15/08/2001	0.058	253.710	27/05/2002
2002-2003	413.4	256.970	07/09/2002	0.029	253.815	17/05/2003
2003-2004	275.5	256.550	03/09/2003	0.073	253.835	24/04/2004
2004-2005	383.6	256.940	09/08/2004	0.085	253.970	02/01/2005
2005-2006	583.9	258.285	15/09/2005	0.249	253.860	12/04/2006
2006-2007	154.6	256.350	06/09/2006	0.136	253.840	11/02/2007
2007-2008	205.2	256.685	30/09/2007	0.036	253.795	06/03/2008
2008-2009	99.29	255.550	19/09/2008	0.059	253.690	31/12/2008
2009-2010	38.23	254.833	17/07/2009	0.017	253.700	14/10/2009
2010-2011	192.4	256.540	08/09/2010	0.044	253.645	01/03/2011
2011-2012	361.3	258.300	08/09/2011	0.021	253.600	21/03/2012
2012-2013	74.52	255.800	07/09/2012	0.030	253.585	19/04/2013
2013-2014	160.4	257.220	20/08/2013	0.044	253.660	20/05/2014
2014-2015	329.3	258.850	06/08/2014	0.000	253.590	13/06/2014
2015-2016	75.65	254.815	22/09/2015	0.000	252.000	29/05/2016
2016-2017	190.0	256.190	30/09/2016	0.000	253.640	26/03/2017

Q : Observed / Computed Discharge WL : Corresponding Water Level(m.s.l)

Stage-Dischage Data for the period 2017 - 2018

Station Name : Andhiarkhore (EMP60E5) **Division : MD,CWC,Burla**

Local River : Hamp **Sub-Division : UMSD,CWC,Raipur**

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	252.000	0.000 *	253.755	0.835	253.670	0.139	254.535	50.80	253.780	1.156 *	253.720	0.942
2	252.000	0.000 *	253.750	0.825 *	253.665	0.095	254.330	40.00 *	253.780	1.153 *	253.720	0.932
3	252.000	0.000 *	253.755	0.846	253.640	0.012	254.165	38.00 *	253.700	0.794	253.710	0.847
4	252.000	0.000 *	253.760	0.905	253.615	0.000 *	253.995	7.177	253.840	3.075	253.710	0.847 *
5	252.000	0.000 *	253.750	0.773	253.610	0.000 *	253.880	3.335	253.820	1.154	253.700	0.840 *
6	252.000	0.000 *	253.800	1.812	253.615	0.000 *	253.855	2.273	253.805	1.489	253.695	0.690
7	252.000	0.000 *	253.790	1.720	253.615	0.000 *	253.760	0.869	253.880	3.542	253.690	0.588
8	252.000	0.000 *	253.770	1.028	253.615	0.000 *	253.870	3.720	253.820	1.155 *	253.730	0.915
9	252.000	0.000 *	253.780	1.050 *	254.525	47.83	253.880	3.567	253.770	1.151	253.775	1.463
10	252.000	0.000 *	253.985	6.212	254.140	13.72	253.760	0.900 *	253.840	3.028	253.840	3.238
11	252.000	0.000 *	253.765	0.919	254.165	14.21	254.090	11.41	253.820	1.183	253.800	1.593
12	252.000	0.000 *	254.020	6.991	254.025	8.506	253.950	6.037	253.800	2.053	253.800	1.570 *
13	252.000	0.000 *	253.800	1.825	253.870	0.680 *	253.860	2.948	253.780	1.834	253.820	2.233
14	252.000	0.000 *	253.728	0.557	253.850	0.664	253.750	0.846	253.730	0.941	253.880	4.108
15	252.000	0.000 *	253.718	0.546	253.690	0.000 *	253.730	0.789	253.770	1.810 *	253.950	5.994
16	252.000	0.000 *	253.730	0.615 *	253.690	0.000	253.770	1.151	253.755	1.251	253.970	0.000
17	252.000	0.000 *	253.725	0.569	253.690	0.000	253.770	1.100 *	253.740	1.334	253.920	0.000 *
18	252.000	0.000 *	253.865	2.254	253.650	0.000 *	253.720	0.477	253.730	0.857	254.000	0.000 *
19	252.000	0.000 *	254.480	36.36	253.635	0.000 *	253.700	0.366	253.720	0.840 *	253.965	0.000 *
20	252.000	0.000 *	254.155	10.38	253.650	0.000 *	254.005	7.876	253.710	0.937	253.885	0.000 *
21	252.000	0.000 *	253.950	3.337	253.650	0.000 *	254.100	10.18	253.710	0.904	253.845	0.000 *
22	252.000	0.000 *	254.125	10.35	253.730	0.570	254.500	44.53	253.700	0.890 *	253.810	0.000 *
23	252.000	0.000 *	253.885	2.950 *	253.770	1.168	254.505	48.85	253.680	0.398	253.850	0.000 *
24	252.000	0.000 *	253.780	1.282	253.745	0.869	254.290	20.00 *	253.670	0.392	253.940	0.000 *
25	252.000	0.000 *	253.730	0.556	254.150	13.98 *	254.160	15.07	253.645	0.364	253.855	0.000 *
26	252.000	0.000 *	253.710	0.434	254.320	17.89	254.020	8.620	253.665	0.379	253.835	0.000 *
27	252.000	0.000 *	253.700	0.317	254.090	7.525 *	253.950	6.071	253.718	0.913	253.805	0.000 *
28	252.000	0.000 *	253.690	0.244	254.088	7.349	253.840	2.938	253.695	0.699	253.820	0.000 *
29	253.720	0.561	253.690	0.239	253.860	0.774	253.760	1.100 *	253.695	0.690 *	253.785	0.000 *
30	253.780	1.291	253.680	0.210 *	256.035	132.2	253.790	1.110 *	253.705	0.928	253.750	0.000 *
31			253.675	0.220	254.700	67.16			253.705	0.710		
Ten-Daily Mean												
I Ten-Daily	252.000	0.000	253.790	1.601	253.771	6.180	254.003	15.06	253.803	1.770	253.729	1.130
II Ten-Daily	252.000	0.000	253.899	6.101	253.791	2.406	253.835	3.300	253.755	1.304	253.899	1.550
III Ten-Daily	252.350	0.185	253.783	1.831	254.194	22.68	254.091	15.85	253.690	0.661	253.829	0.000
Monthly												
Min.	252.000	0.000	253.675	0.210	253.610	0.000	253.700	0.366	253.645	0.364	253.690	0.000
Max.	253.780	1.291	254.480	36.36	256.035	132.2	254.535	50.80	253.880	3.542	254.000	5.994
Mean	252.117	0.062	253.822	3.134	253.928	10.82	253.976	11.4	253.748	1.226	253.819	0.893

Annual Runoff in MCM = 73 Annual Runoff in mm = 33

Peak Observed Discharge = 132.2 cumecs on 30/08/2017 Corres. Water Level :256.035 m

Lowest Observed Discharge = 0.000 cumecs on 16/08/2017 Corres. Water Level :253.69 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Dischage Data for the period 2017 - 2018

Station Name : Andhiarkhore (EMP60E5) **Division : MD,CWC,Burla**

Local River : Hamp **Sub-Division : UMSD,CWC,Raipur**

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	253.725	0.000 *	253.740	0.000 *	253.710	0.000 *	253.950	0.000 *	253.480	0.000 *	253.540	0.000 *
2	253.710	0.000 *	253.740	0.000 *	253.705	0.000 *	253.960	0.000 *	253.480	0.000 *	253.520	0.000 *
3	253.690	0.000 *	253.740	0.000 *	253.700	0.000 *	253.960	0.000 *	253.470	0.000 *	253.540	0.000 *
4	253.710	0.000 *	253.740	0.000 *	253.695	0.000 *	253.990	0.000 *	253.460	0.000 *	253.530	0.000 *
5	253.750	0.000 *	253.735	0.000 *	253.690	0.000 *	253.990	0.000 *	253.450	0.000 *	253.520	0.000 *
6	253.790	0.000 *	253.745	0.000 *	253.675	0.000 *	253.990	0.000 *	253.440	0.000 *	253.510	0.000 *
7	253.800	0.000 *	253.745	0.000 *	253.665	0.000 *	253.960	0.000 *	253.430	0.000 *	253.490	0.000 *
8	253.805	0.000 *	253.735	0.000 *	253.650	0.000 *	253.930	0.000 *	253.410	0.000 *	253.480	0.000 *
9	253.805	0.000 *	253.725	0.000 *	253.645	0.000 *	253.950	0.000 *	253.400	0.000 *	253.470	0.000 *
10	253.800	0.000 *	253.720	0.000 *	253.630	0.000 *	253.990	0.000 *	253.390	0.000 *	253.450	0.000 *
11	253.800	0.000 *	253.710	0.000 *	253.620	0.000 *	253.970	0.000 *	253.380	0.000 *	253.440	0.000 *
12	253.795	0.000 *	253.700	0.000 *	253.610	0.000 *	253.940	0.000 *	253.360	0.000 *	253.430	0.000 *
13	253.785	0.000 *	253.705	0.000 *	253.610	0.000 *	253.870	0.000 *	253.350	0.000 *	253.420	0.000 *
14	253.785	0.000 *	253.720	0.000 *	253.620	0.000 *	253.850	0.000 *	253.360	0.000 *	253.410	0.000 *
15	253.785	0.000 *	253.745	0.000 *	253.630	0.000 *	253.820	0.000 *	253.380	0.000 *	253.400	0.000 *
16	253.795	0.000 *	253.750	0.000 *	253.790	0.000 *	253.800	0.000 *	253.450	0.000 *	253.400	0.000 *
17	253.795	0.000 *	253.750	0.000 *	253.750	0.000 *	253.790	0.000 *	253.460	0.000 *	253.390	0.000 *
18	253.780	0.000 *	253.745	0.000 *	253.760	0.000 *	253.770	0.000 *	253.690	0.000 *	253.380	0.000 *
19	253.780	0.000 *	253.735	0.000 *	253.760	0.000 *	253.740	0.000 *	253.830	0.000 *	253.370	0.000 *
20	253.775	0.000 *	253.725	0.000 *	253.760	0.000 *	253.710	0.000 *	253.740	0.000 *	253.360	0.000 *
21	253.770	0.000 *	253.750	0.000 *	253.760	0.000 *	253.700	0.000 *	253.680	0.000 *	253.360	0.000 *
22	253.780	0.000 *	253.745	0.000 *	253.780	0.000 *	253.670	0.000 *	253.680	0.000 *	253.350	0.000 *
23	253.780	0.000 *	253.750	0.000 *	253.770	0.000 *	253.650	0.000 *	253.670	0.000 *	253.350	0.000 *
24	253.775	0.000 *	253.735	0.000 *	253.760	0.000 *	253.630	0.000 *	253.660	0.000 *	253.340	0.000 *
25	253.770	0.000 *	253.725	0.000 *	253.740	0.000 *	253.610	0.000 *	253.640	0.000 *	253.340	0.000 *
26	253.765	0.000 *	253.720	0.000 *	253.850	0.000 *	253.600	0.000 *	253.620	0.000 *	253.330	0.000 *
27	253.760	0.000 *	253.720	0.000 *	253.900	0.000 *	253.570	0.000 *	253.620	0.000 *	253.320	0.000 *
28	253.760	0.000 *	253.720	0.000 *	253.940	0.000 *	253.550	0.000 *	253.620	0.000 *	252.000	0.000 *
29	253.755	0.000 *	253.720	0.000 *			253.520	0.000 *	253.590	0.000 *	252.000	0.000 *
30	253.740	0.000 *	253.720	0.000 *			253.510	0.000 *	253.560	0.000 *	252.000	0.000 *
31	253.740	0.000 *	253.710	0.000 *			253.490	0.000 *			252.000	0.000 *
Ten-Daily Mean												
I Ten-Daily	253.758	0.000	253.736	0.000	253.677	0.000	253.967	0.000	253.441	0.000	253.505	0.000
II Ten-Daily	253.788	0.000	253.729	0.000	253.691	0.000	253.826	0.000	253.500	0.000	253.400	0.000
III Ten-Daily	253.763	0.000	253.729	0.000	253.813	0.000	253.591	0.000	253.634	0.000	252.854	0.000
Monthly												
Min.	253.690	0.000	253.700	0.000	253.610	0.000	253.490	0.000	253.350	0.000	252.000	0.000
Max.	253.805	0.000	253.750	0.000	253.940	0.000	253.990	0.000	253.830	0.000	253.540	0.000
Mean	253.770	0	253.731	0	253.721	0	253.788	0	253.525	0	253.240	0

Peak Computed Discharge = 40.00 cumecs on 02/09/2017 Corres. Water Level :254.33 m

Lowest Computed Discharge = 0.000 cumecs on 01/06/2017 Corres. Water Level :252 m

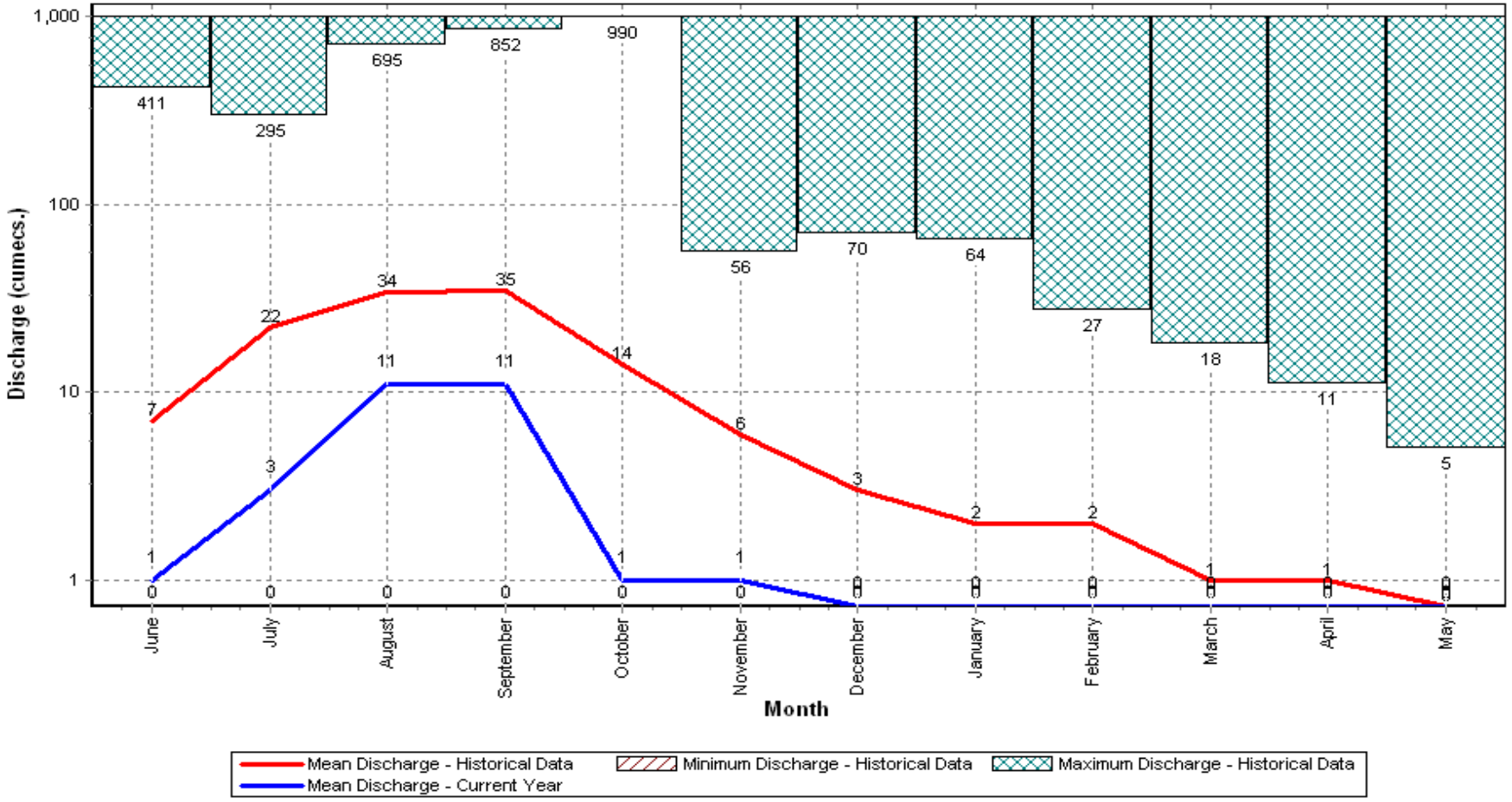
Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2017-2018

Station Name : Andhiarkhore (EMP60E5) | **Data considered : 1978-2018** | **Division : MD,CWC,Burla**

Local River : Hamp | **Sub-Division : UMSD,CWC,Raipur**



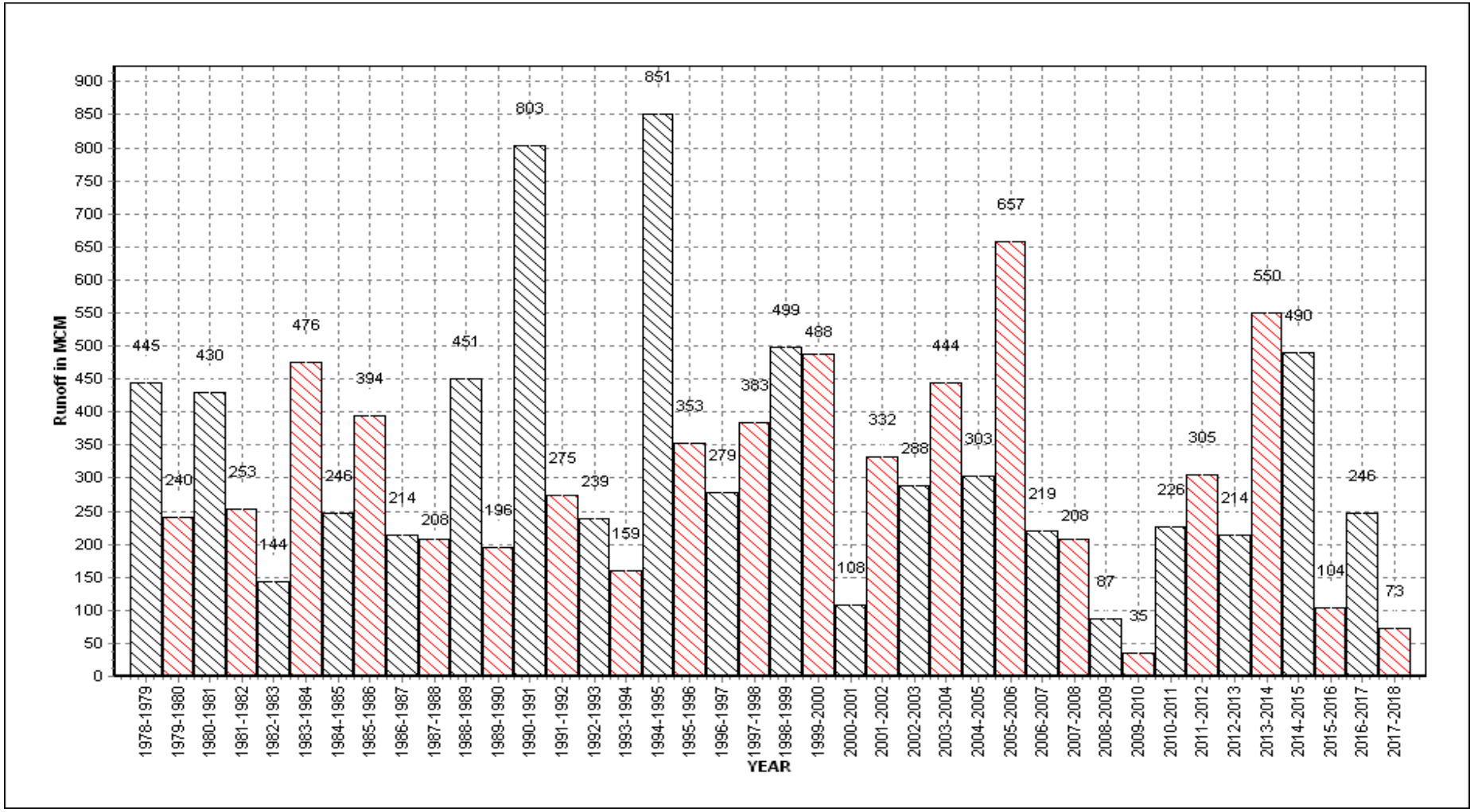
Annual Runoff Values for the period: 1978 - 2018

Station Name : Andhiarkhore (EMP60E5)

Division : MD,CWC,Burla

Local River : Hamp

Sub-Division : UMSD,CWC,Raipur



Note: Missing values have not been considered while arriving at Annual Runoff

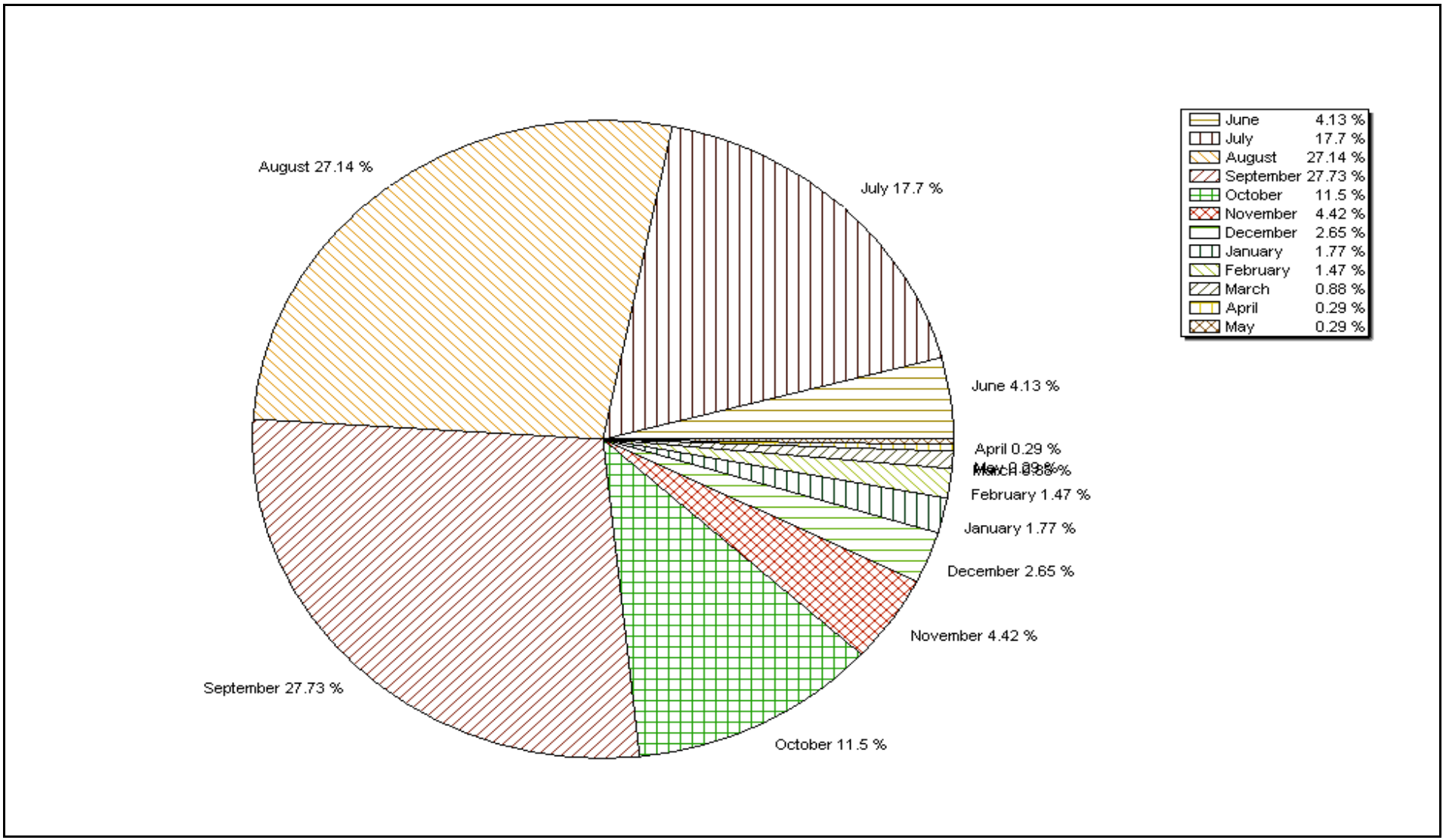
Monthly Average Runoff based on period : 1978-2017

Station Name : Andhiarkhore (EMP60E5)

Local River : Hamp

Division : MD,CWC,Burla

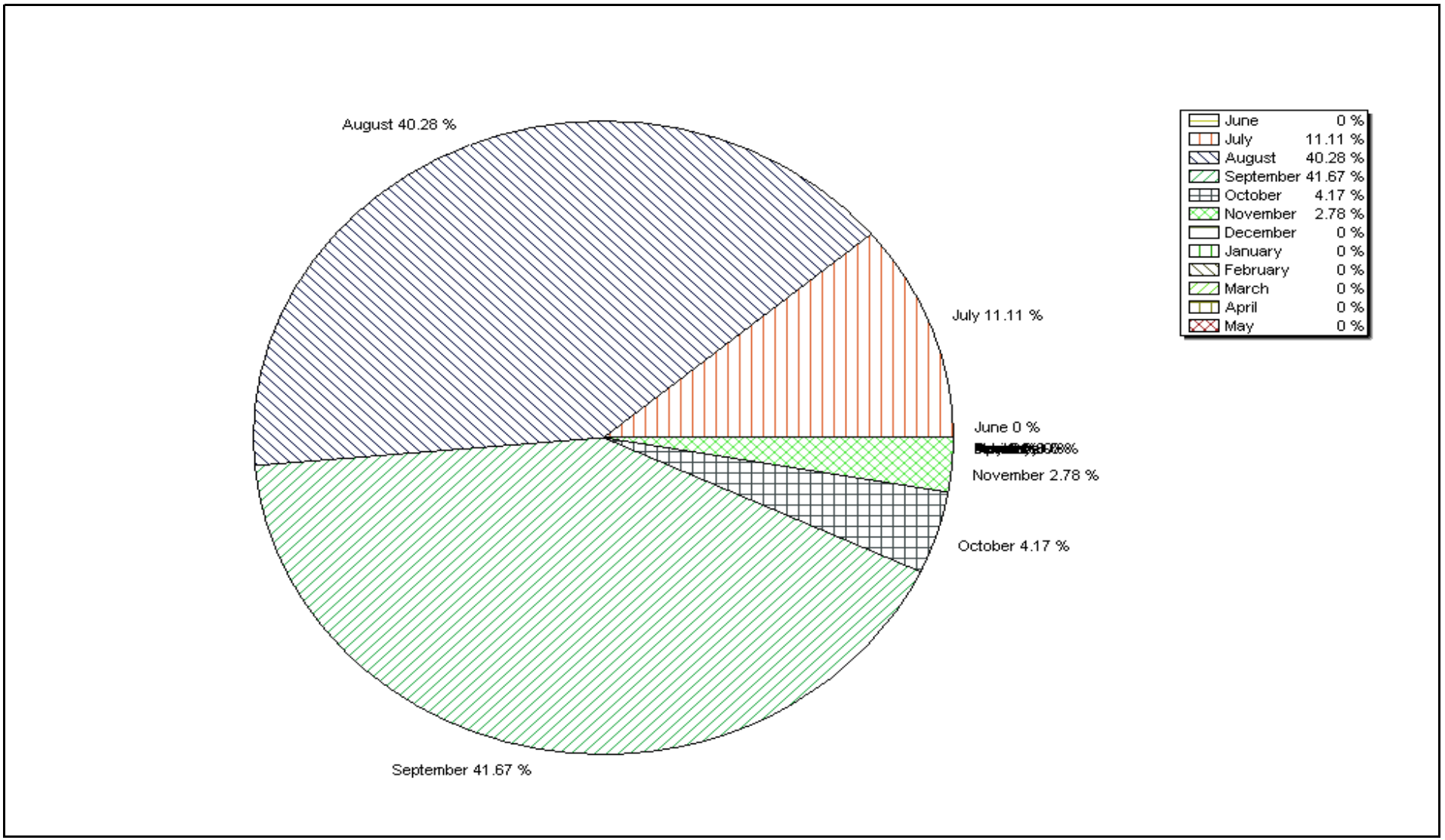
Sub-Division : UMSD,CWC,Raipur



Monthly Runoff for the Year : 2017-2018

Station Name : Andhiarkhore (EMP60E5)
Local River : Hamp

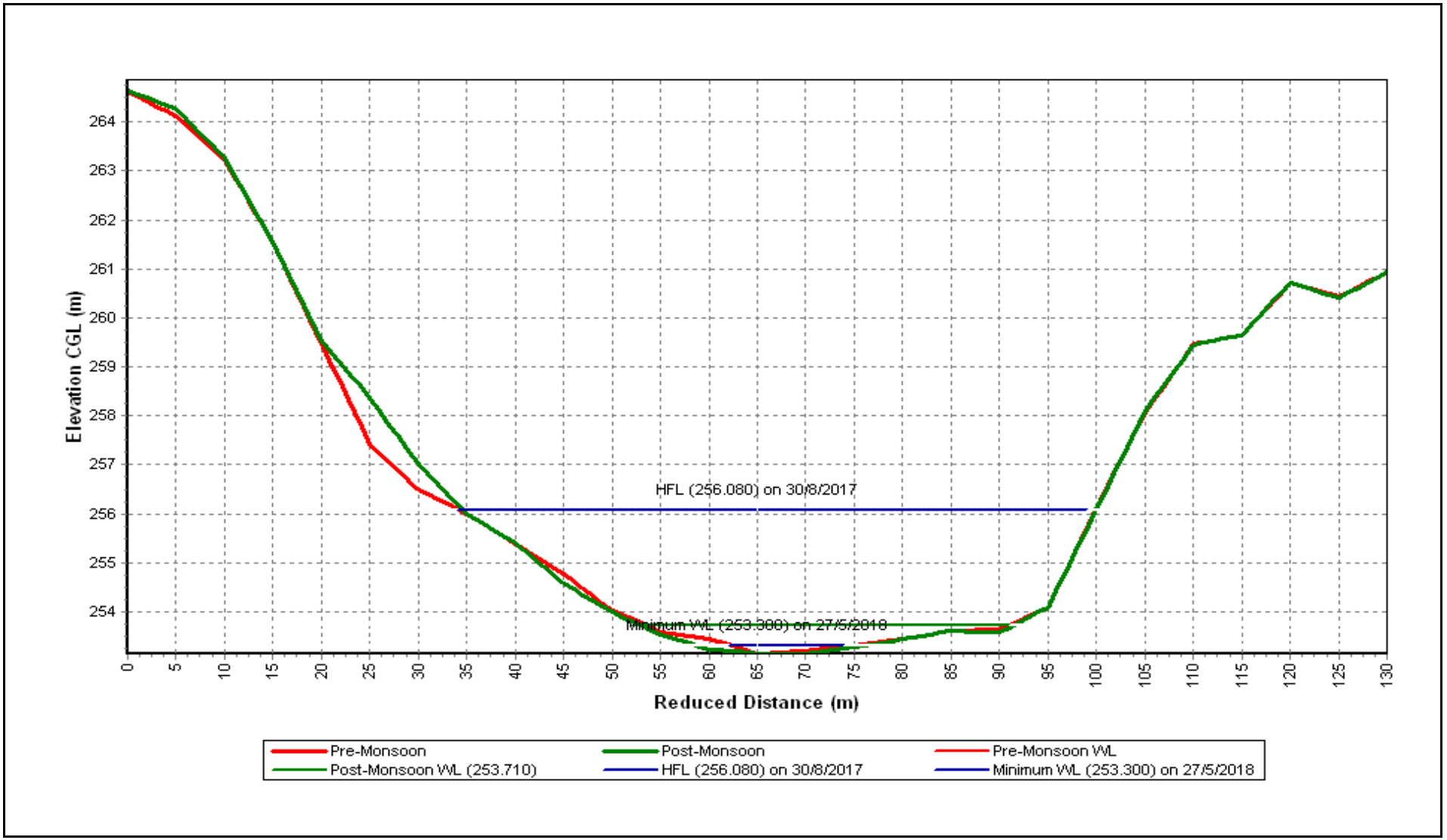
Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur



Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2017-2018

Station Name : Andhiarkhore (EMP60E5) **Division : MD,CWC,Burla**

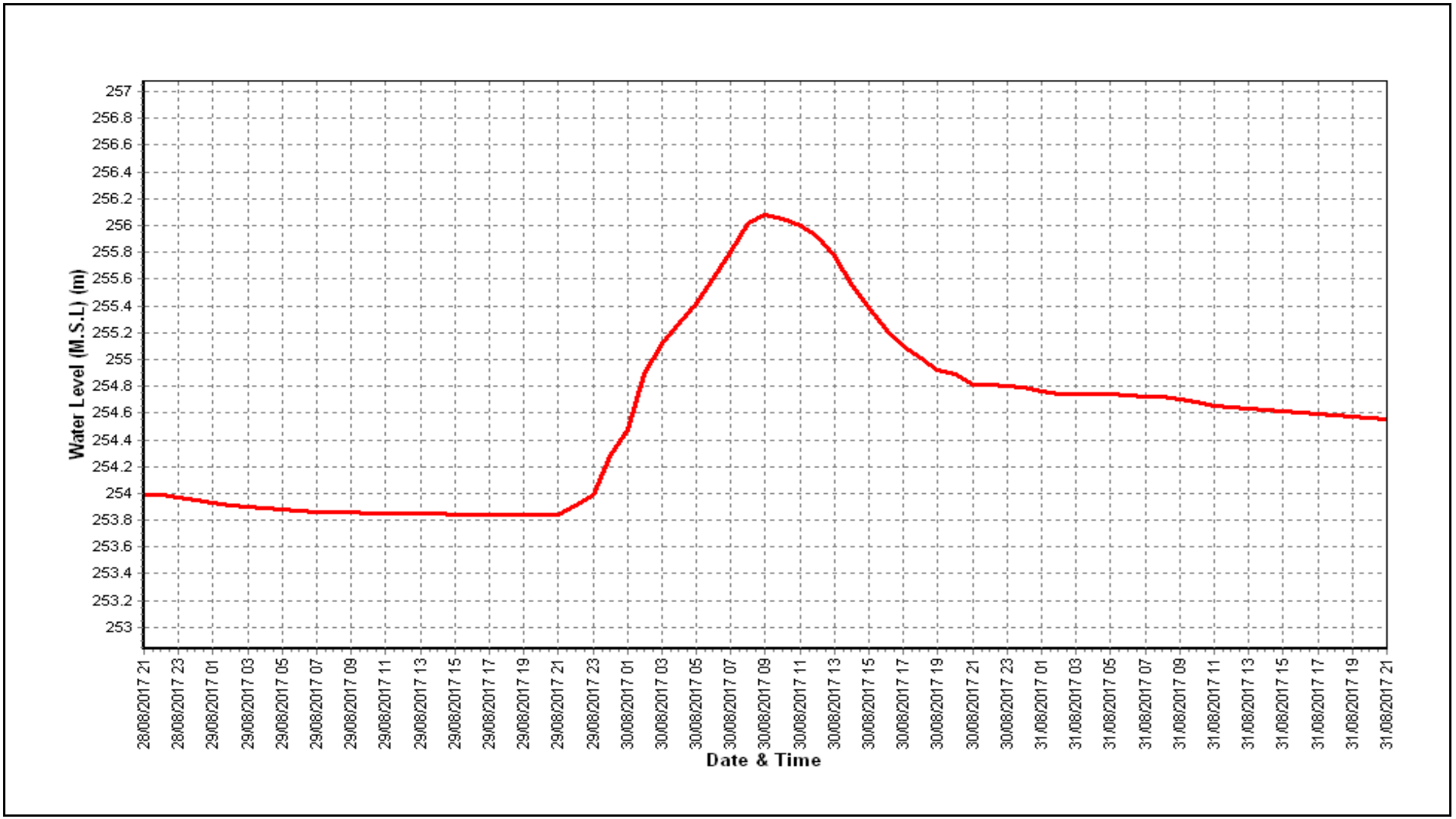
Local River : Hamp **Sub-Division : UMSD,CWC,Raipur**



Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2017-2018

Station Name : Andhiarkhore (EMP60E5) **Division : MD,CWC,Burla**

Local River : Hamp **Sub-Division : UMSD,CWC,Raipur**

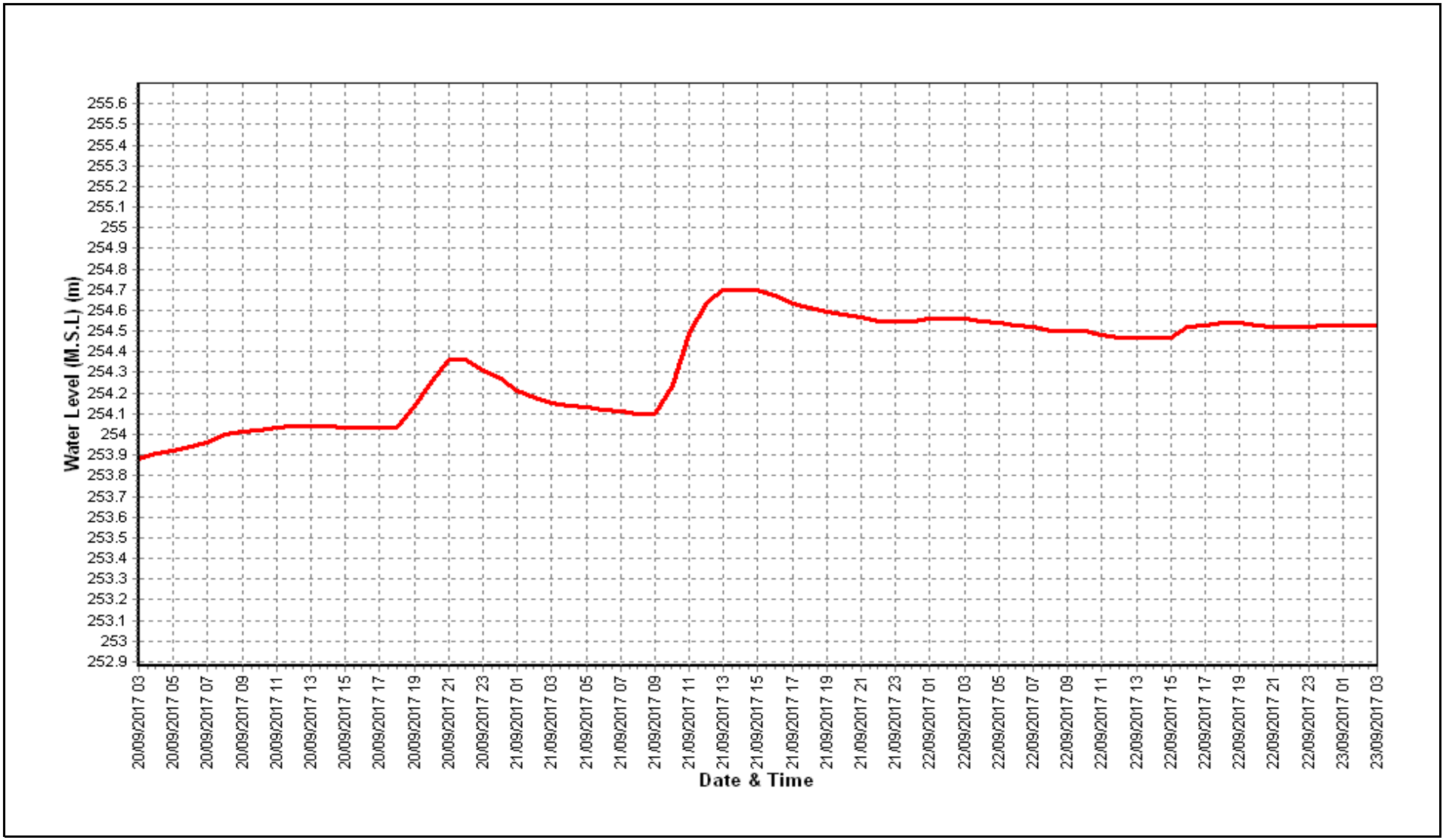


Time Span: 72 Hrs

Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2017-2018

Station Name : Andhiarkhore (EMP60E5) **Division : MD,CWC,Burla**

Local River : Hamp **Sub-Division : UMSD,CWC,Raipur**

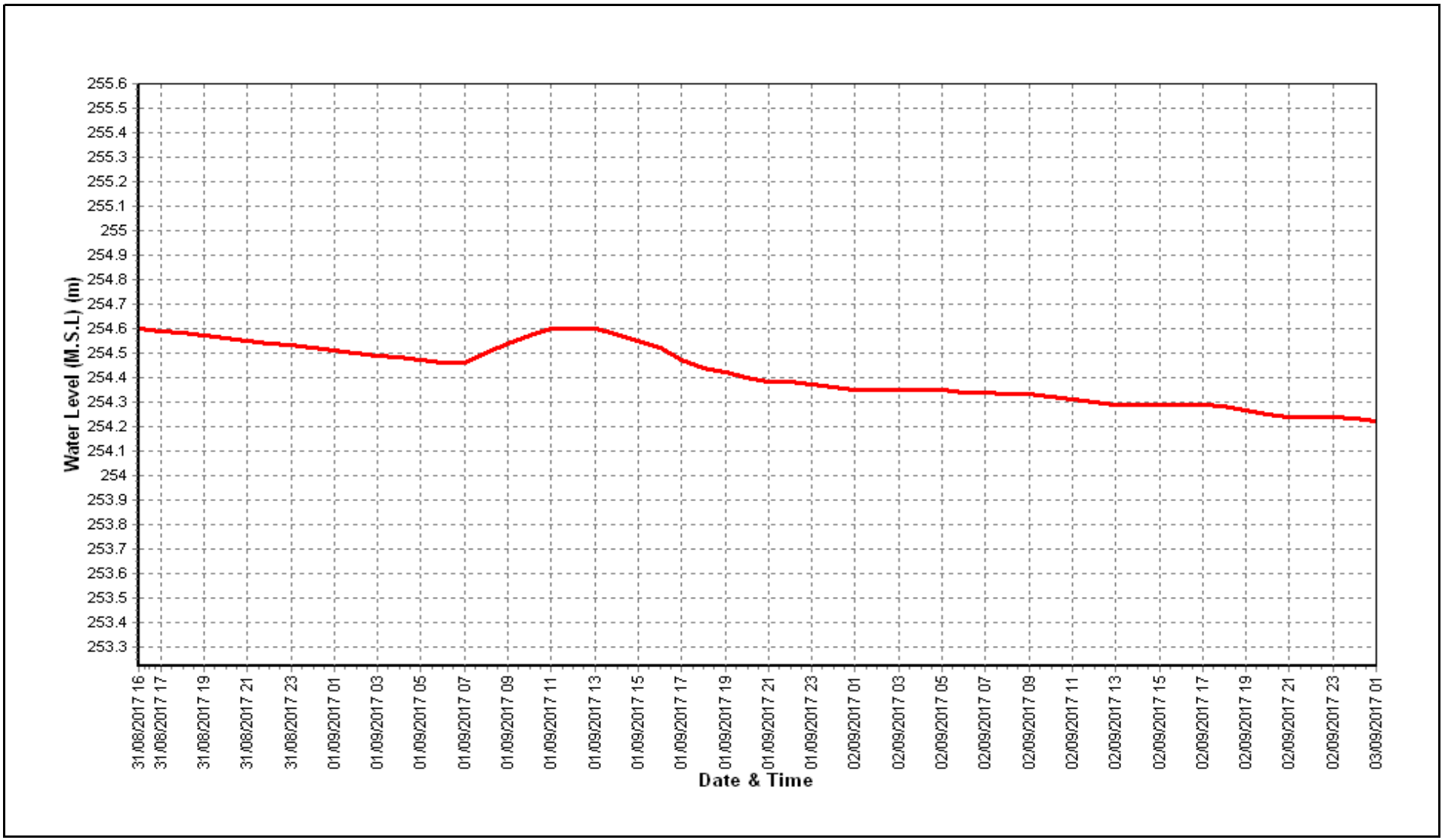


Time Span: 72 Hrs

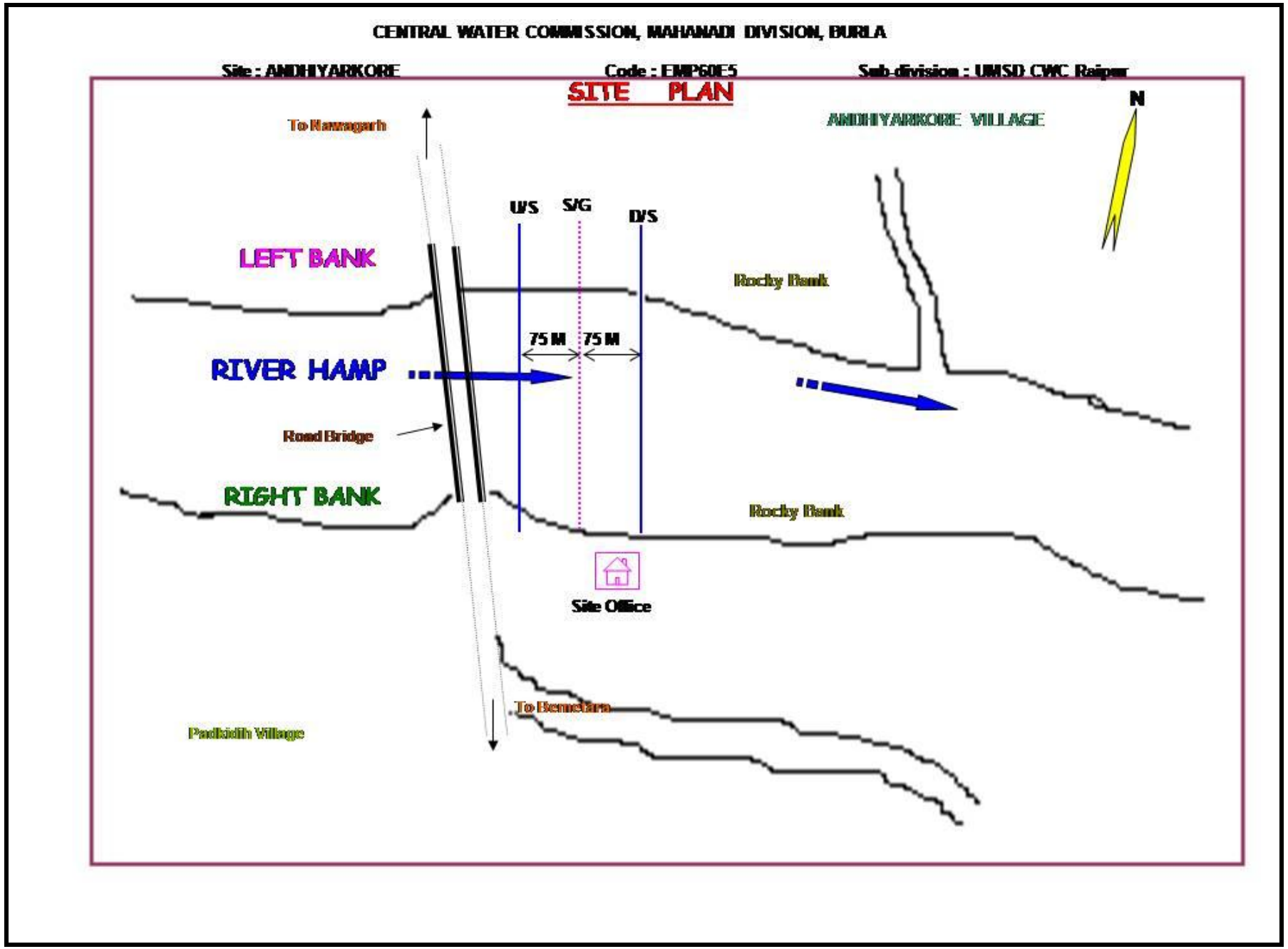
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2017-2018

Station Name : Andhiarkhore (EMP60E5) **Division : MD,CWC,Burla**

Local River : Hamp **Sub-Division : UMSD,CWC,Raipur**



Time Span: 72 Hrs


CENTRAL WATER COMMISSION, MAHANADI DIVISION, BURLA
Site : ANDHIYARKORE
Code : EMP60E5
Sub-division : UMSD CWC Raipur
SITE PLAN
To Rajnagarh
ANDHIYARKORE VILLAGE
N
U/S
S/G
D/S
LEFT BANK
Rocky Bank
75 M
75 M
RIVER HAMP
Road Bridge
RIGHT BANK
Rocky Bank
Site Office
To Bemetara
Padkidih Village

SECTION-II

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Andhiarkhore (EMP60E5) **Division : MD,CWC,Burla**

Local River : Hamp **Sub-Division : UMSD,CWC,Raipur**

Day	Jun						Jul						Aug					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	0.835	0.000	0.000	0.000	0.000	0	0.139	0.000	0.000	0.000	0.000	0
2	0.000	0.000	0.000	0.000	0.000	0	0.825	0.000	0.000	0.000	0.000	0	0.095	0.000	0.000	0.000	0.000	0
3	0.000	0.000	0.000	0.000	0.000	0	0.846	0.000	0.000	0.000	0.000	0	0.012	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0	0.905	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0	0.773	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0	1.812	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0.000	0	1.720	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
8	0.000	0.000	0.000	0.000	0.000	0	1.028	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
9	0.000	0.000	0.000	0.000	0.000	0	1.050	0.000	0.000	0.000	0.000	0	47.83	0.000	0.000	0.660	0.660	2729
10	0.000	0.000	0.000	0.000	0.000	0	6.212	0.000	0.000	0.038	0.038	20	13.72	0.000	0.000	0.226	0.226	267
11	0.000	0.000	0.000	0.000	0.000	0	0.919	0.000	0.000	0.000	0.000	0	14.21	0.000	0.000	0.218	0.218	267
12	0.000	0.000	0.000	0.000	0.000	0	6.991	0.000	0.000	0.225	0.225	136	8.506	0.000	0.000	0.082	0.082	60
13	0.000	0.000	0.000	0.000	0.000	0	1.825	0.000	0.000	0.000	0.000	0	0.680	0.000	0.000	0.000	0.000	0
14	0.000	0.000	0.000	0.000	0.000	0	0.557	0.000	0.000	0.000	0.000	0	0.664	0.000	0.000	0.000	0.000	0
15	0.000	0.000	0.000	0.000	0.000	0	0.546	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
16	0.000	0.000	0.000	0.000	0.000	0	0.615	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
17	0.000	0.000	0.000	0.000	0.000	0	0.569	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
18	0.000	0.000	0.000	0.000	0.000	0	2.254	0.000	0.000	0.581	0.581	113	0.000	0.000	0.000	0.000	0.000	0
20	0.000	0.000	0.000	0.000	0.000	0	10.38	0.000	0.000	0.589	0.589	528	0.000	0.000	0.000	0.000	0.000	0
21	0.000	0.000	0.000	0.000	0.000	0	3.337	0.000	0.000	0.576	0.576	166	0.000	0.000	0.000	0.000	0.000	0
22	0.000	0.000	0.000	0.000	0.000	0	10.35	0.000	0.000	0.257	0.257	230	0.570	0.000	0.000	0.000	0.000	0
23	0.000	0.000	0.000	0.000	0.000	0	2.950	0.000	0.000	0.000	0.000	0	1.168	0.000	0.000	0.000	0.000	0
24	0.000	0.000	0.000	0.000	0.000	0	1.282	0.000	0.000	0.000	0.000	0	0.869	0.000	0.000	0.000	0.000	0
25	0.000	0.000	0.000	0.000	0.000	0	0.556	0.000	0.000	0.000	0.000	0	13.98	0.000	0.000	0.000	0.000	0
26	0.000	0.000	0.000	0.000	0.000	0	0.434	0.000	0.000	0.000	0.000	0	17.89	0.000	0.000	0.586	0.586	906
27	0.000	0.000	0.000	0.000	0.000	0	0.317	0.000	0.000	0.000	0.000	0	7.525	0.000	0.000	0.000	0.000	0
28	0.000	0.000	0.000	0.000	0.000	0	0.244	0.000	0.000	0.000	0.000	0	7.349	0.000	0.000	0.232	0.232	147
29	0.561	0.000	0.000	0.000	0.000	0	0.239	0.000	0.000	0.000	0.000	0	0.774	0.000	0.000	0.000	0.000	0
30	1.291	0.000	0.000	0.000	0.000	0	0.210	0.000	0.000	0.000	0.000	0	132.2	0.000	0.000	3.031	3.031	34628
31							0.220	0.000	0.000	0.000	0.000	0	67.16	0.000	0.000	2.828	2.828	16407
Ten Daily Mean																		
Ten Daily I		0.000	0.000	0.000	0.000		1.601	0.000	0.000	0.004	0.004	2	6.180	0.000	0.000	0.089	0.089	300
Ten Daily II		0.000	0.000	0.000	0.000		6.101	0.000	0.000	0.196	0.196	256	2.406	0.000	0.000	0.030	0.030	33
Ten Daily III	0.926	0.000	0.000	0.000	0.000	0	1.831	0.000	0.000	0.076	0.076	36	22.68	0.000	0.000	0.607	0.607	4735
Monthly																		
Total						0						2972						55413

Annual Sediment Load (Metric Tonnes) : 60775

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Andhiarkhore (EMP60E5) **Division : MD,CWC,Burla**

Local River : Hamp **Sub-Division : UMSD,CWC,Raipur**

Day	Sep						Oct						Nov					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	50.80	0.000	0.000	0.141	0.141	619	1.156	0.000	0.000	0.000	0.000	0	0.942	0.000	0.000	0.000	0.000	0
2	40.00	0.000	0.000	0.000	0.000	0	1.153	0.000	0.000	0.000	0.000	0	0.932	0.000	0.000	0.000	0.000	0
3	38.00	0.000	0.000	0.000	0.000	0	0.794	0.000	0.000	0.000	0.000	0	0.847	0.000	0.000	0.000	0.000	0
4	7.177	0.000	0.000	0.043	0.043	27	3.075	0.000	0.000	0.008	0.008	2	0.847	0.000	0.000	0.000	0.000	0
5	3.335	0.000	0.000	0.031	0.031	9	1.154	0.000	0.000	0.000	0.000	0	0.840	0.000	0.000	0.000	0.000	0
6	2.273	0.000	0.000	0.036	0.036	7	1.489	0.000	0.000	0.000	0.000	0	0.690	0.000	0.000	0.000	0.000	0
7	0.869	0.000	0.000	0.000	0.000	0	3.542	0.000	0.000	0.018	0.018	6	0.588	0.000	0.000	0.000	0.000	0
8	3.720	0.000	0.000	0.029	0.029	9	1.155	0.000	0.000	0.000	0.000	0	0.915	0.000	0.000	0.000	0.000	0
9	3.567	0.000	0.000	0.030	0.030	9	1.151	0.000	0.000	0.000	0.000	0	1.463	0.000	0.000	0.000	0.000	0
10	0.900	0.000	0.000	0.000	0.000	0	3.028	0.000	0.000	0.022	0.022	6	3.238	0.000	0.000	0.000	0.000	0
11	11.41	0.000	0.000	0.029	0.029	29	1.183	0.000	0.000	0.000	0.000	0	1.593	0.000	0.000	0.000	0.000	0
12	6.037	0.000	0.000	0.054	0.054	28	2.053	0.000	0.000	0.000	0.000	0	1.570	0.000	0.000	0.000	0.000	0
13	2.948	0.000	0.000	0.052	0.052	13	1.834	0.000	0.000	0.000	0.000	0	2.233	0.000	0.000	0.000	0.000	0
14	0.846	0.000	0.000	0.000	0.000	0	0.941	0.000	0.000	0.000	0.000	0	4.108	0.000	0.000	0.000	0.000	0
15	0.789	0.000	0.000	0.000	0.000	0	1.810	0.000	0.000	0.000	0.000	0	5.994	0.000	0.000	0.000	0.000	0
16	1.151	0.000	0.000	0.000	0.000	0	1.251	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
17	1.100	0.000	0.000	0.000	0.000	0	1.334	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
18	0.477	0.000	0.000	0.000	0.000	0	0.857	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	7.876	0.000	0.000	0.059	0.059	40	0.937	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
21	10.18	0.000	0.000	0.071	0.071	62	0.904	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
22	44.53	0.000	0.000	0.215	0.215	826	0.890	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	48.85	0.000	0.000	0.134	0.134	567	0.398	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
24	20.00	0.000	0.000	0.000	0.000	0	0.392	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
25	15.07	0.000	0.000	0.059	0.059	77	0.364	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	8.620	0.000	0.000	0.039	0.039	29	0.379	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27	6.071	0.000	0.000	0.031	0.031	16	0.913	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
28	2.938	0.000	0.000	0.032	0.032	8	0.699	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
29	1.100	0.000	0.000	0.000	0.000	0	0.690	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
30	1.110	0.000	0.000	0.000	0.000	0	0.928	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
31							0.710	0.000	0.000	0.000	0.000	0						
Ten Daily Mean																		
Ten Daily I	15.06	0.000	0.000	0.031	0.031	68	1.770	0.000	0.000	0.005	0.005	1	1.130	0.000	0.000	0.000	0.000	0
Ten Daily II	3.300	0.000	0.000	0.019	0.019	11	1.304	0.000	0.000	0.000	0.000	0	1.550	0.000	0.000	0.000	0.000	0
Ten Daily III	15.85	0.000	0.000	0.058	0.058	159	0.661	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Monthly																		
Total						2378						13						0

Annual Sediment Load (Metric Tonnes) : 60775

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Andhiarkhore (EMP60E5) **Division : MD,CWC,Burla**

Local River : Hamp **Sub-Division : UMSD,CWC,Raipur**

Day	Dec						Jan						Feb					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
2	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
3	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
8	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
9	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
10	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
11	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
12	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
13	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
14	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
15	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
16	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
17	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
18	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
21	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
22	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
24	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
25	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
28	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
29	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0						
30	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0						
31	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0						
Ten Daily Mean																		
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily III	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Monthly																		
Total						0						0						0

Annual Sediment Load (Metric Tonnes) : 60775

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Andhiarkhore (EMP60E5) **Division : MD,CWC,Burla**

Local River : Hamp **Sub-Division : UMSD,CWC,Raipur**

Day	Mar						Apr						May					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
2	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
3	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
8	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
9	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
10	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
11	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
12	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
13	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
14	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
15	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
16	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
17	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
18	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
21	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
22	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
24	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
25	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
28	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
29	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
30	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
31	0.000	0.000	0.000	0.000	0.000	0							0.000	0.000	0.000	0.000	0.000	0
Ten Daily Mean																		
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily III	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Monthly																		
Total						0						0						0

Annual Sediment Load (Metric Tonnes) : 60775

Annual Sediment Load for period : 1981-2018

Station Name : Andhiarkhore (EMP60E5) **Division : MD,CWC,Burla**

Local River : Hamp **Sub-Division : UMSD,CWC,Raipur**

Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)
1981-1982	366761	305	367066	253
1982-1983	198763	329	199092	144
1983-1984	666010	2250	668260	476
1984-1985	280497	10	280507	246
1985-1986	747637	13305	760941	394
1986-1987	226302	236	226538	214
1987-1988	302283	710	302993	208
1988-1989	657821	29	657849	451
1989-1990	401497	48	401545	196
1990-1991	900465	95	900560	803
1991-1992	383501	11	383512	275
1992-1993	682188	18	682206	239
1993-1994	304165	52	304218	159
1994-1995	1764637	269	1764906	851
1995-1996	524816	146	524961	353
1996-1997	387777	58	387835	279
1997-1998	352580	11876	364456	383
1998-1999	444938	93	445031	499
1999-2000	454147	77	454224	488
2001-2002	609448	3	609452	332
2002-2003	634926	0	634927	288
2003-2004	460567	17	460583	444
2004-2005	383042	13	383055	303
2005-2006	528279	3	528282	657
2006-2007	87708	4	87712	219
2007-2008	131031	0	131031	208
2008-2009	24004	6	24010	87
2009-2010	20796	0	20796	35
2010-2011	74081	24	74105	226
2011-2012	147975	48	148023	305
2012-2013	34729	10	34738	214
2013-2014	168566	27	168593	550
2014-2015	218195	1	218196	490
2015-2016	15139	12	15151	104
2016-2017	62405	0	62405	246
2017-2018	60775	0	60775	73

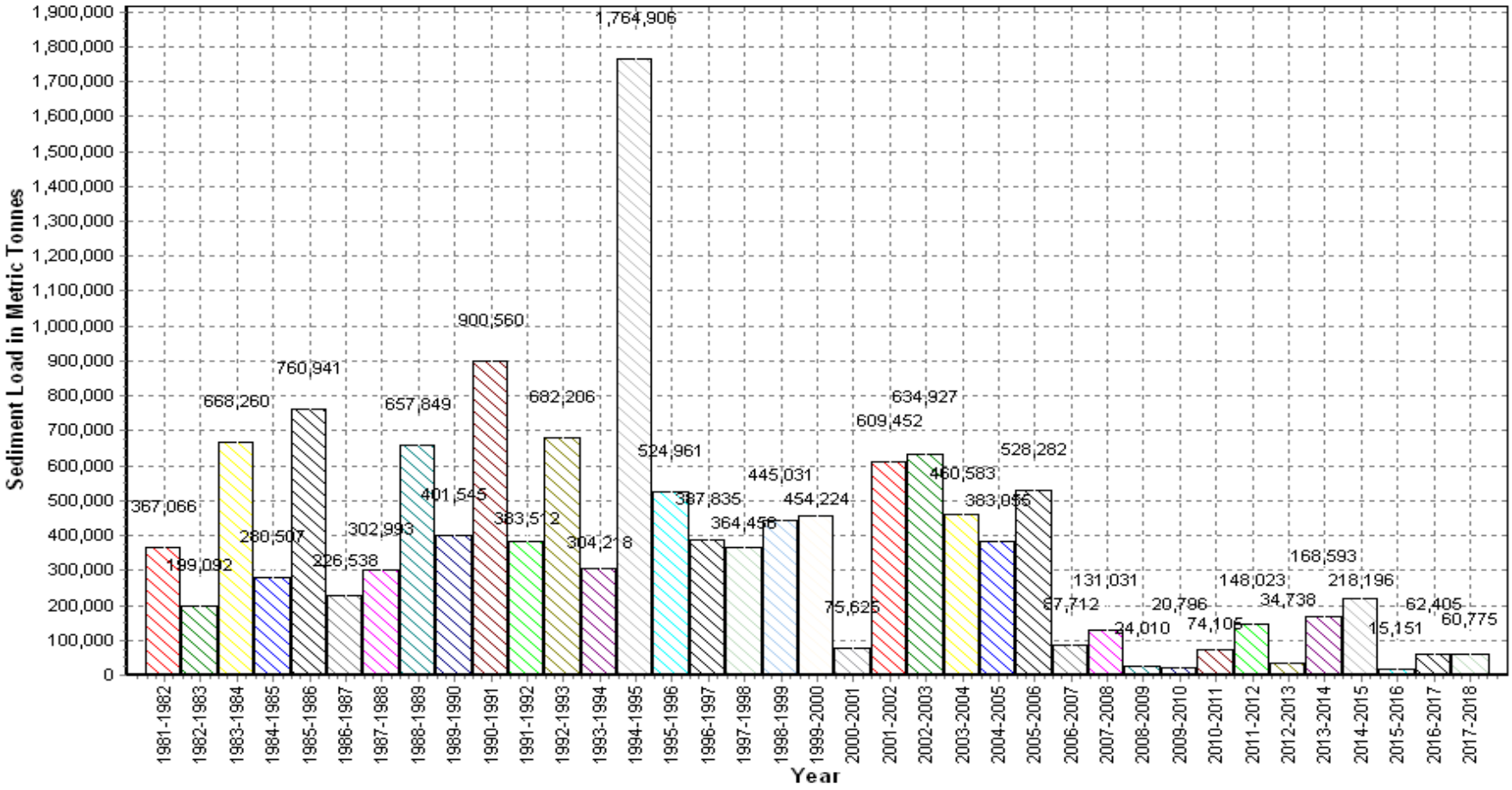
Annual Sediment Load for the period: 1981-2018

Station Name : Andhiarkhore (EMP60E5)

Local River : Hamp

Division : MD,CWC,Burla

Sub-Division : UMSD,CWC,Raipur



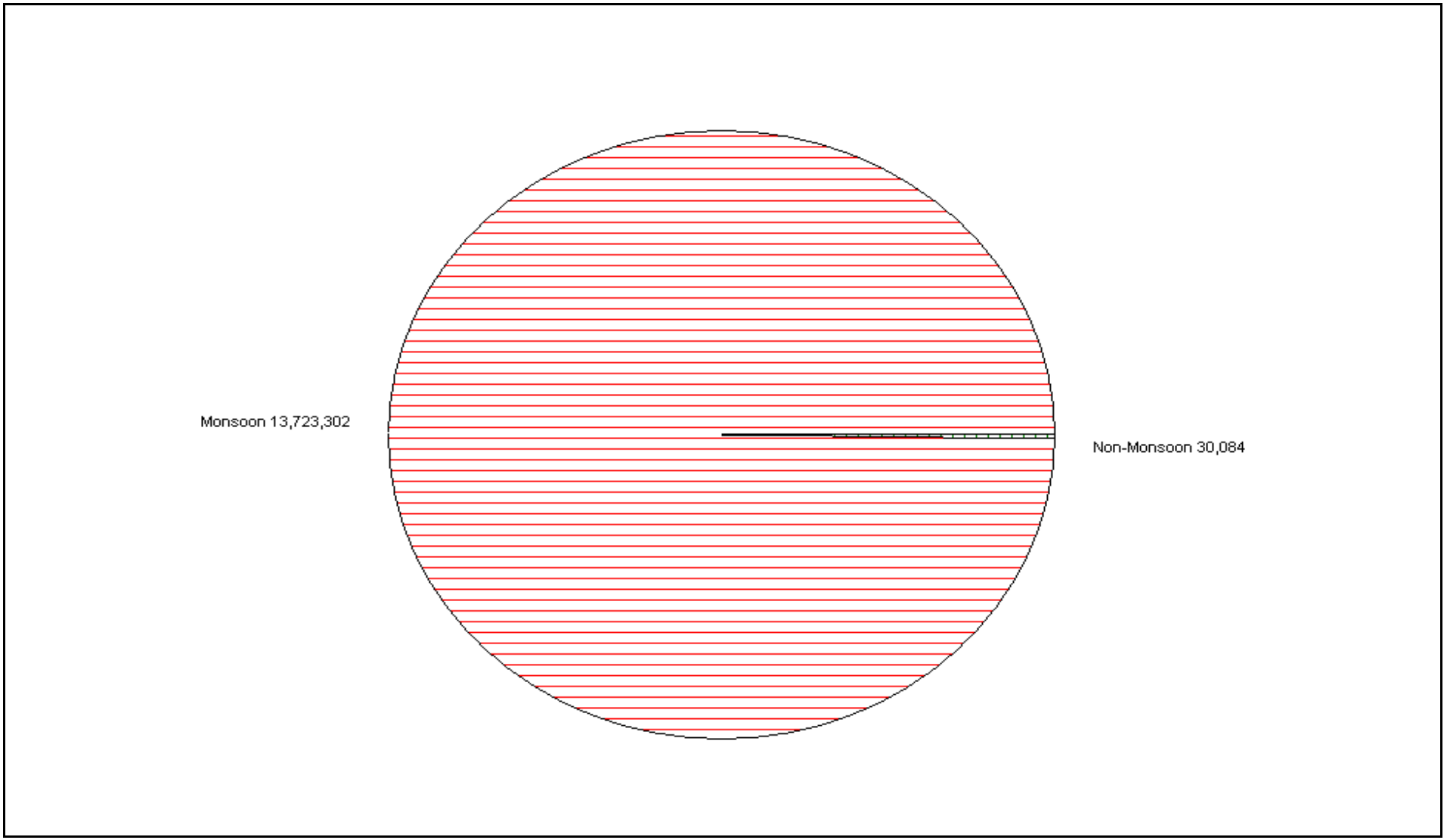
Seasonal Sediment Load for the period : 1981-2017

Station Name : Andhiarkhore (EMP60E5)

Local River : Hamp

Division : MD,CWC,Burla

Sub-Division : UMSD,CWC,Raipur



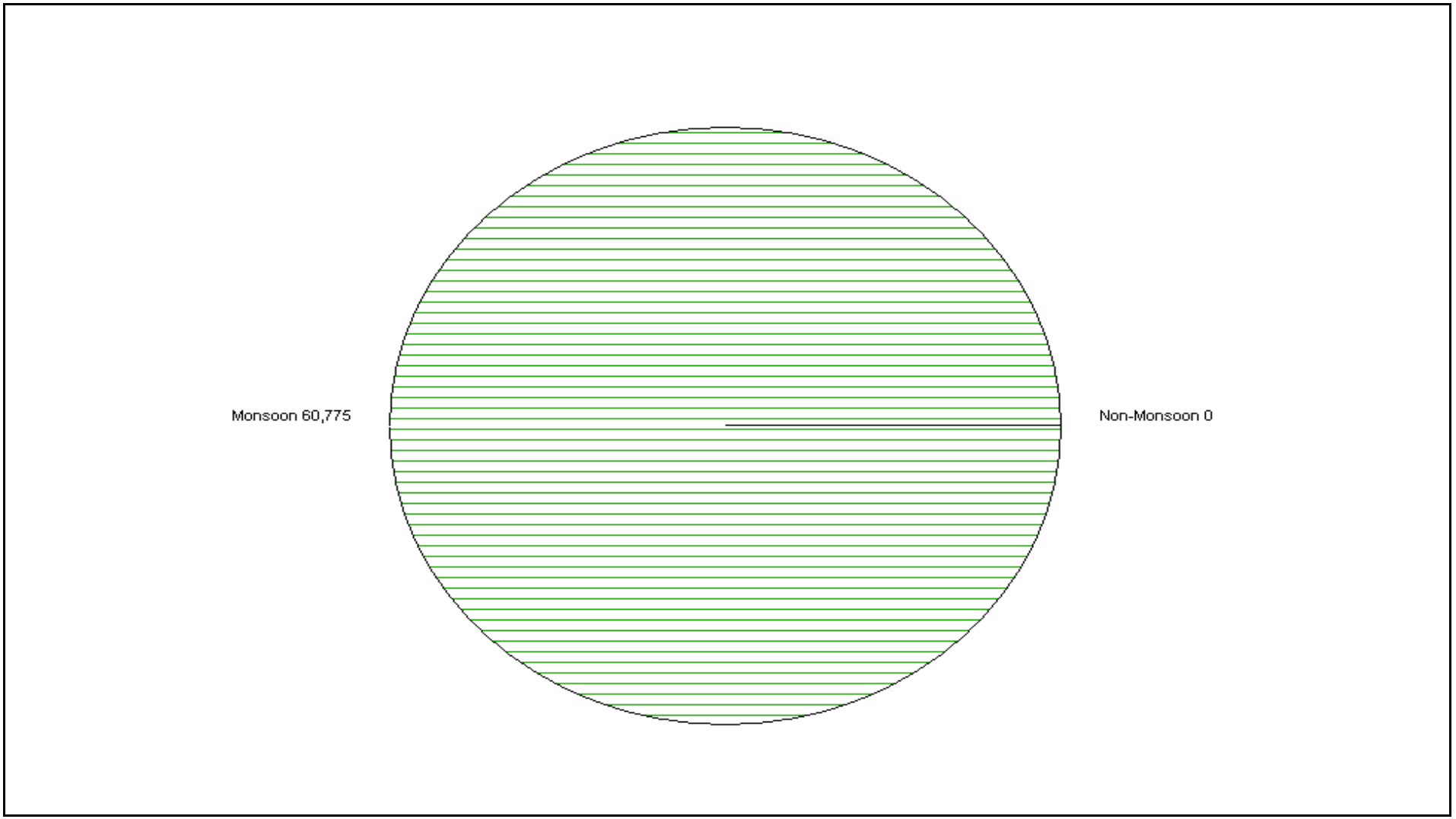
Seasonal Sediment Load for the Year: 2017-2018

Station Name : Andhiarkhore (EMP60E5)

Local River : Hamp

Division : MD,CWC,Burla

Sub-Division : UMSD,CWC,Raipur



SECTION-III

Water Quality Datasheet for the period : 2017-2018

Station Name : Andhiarkhore (EMP60E5) **Division : MD,CWC,Burla**

Local River : Hamp **River Water Analysis** **Sub-Division : UMSD,CWC,Raipur**

S.No	Parameters	01/06/2017	01/07/2017	01/08/2017	01/09/2017	03/10/2017	01/11/2017	01/12/2017	01/01/2018	01/02/2018	01/03/2018	02/04/2018	01/05/2018
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)		0.835	0.139	50.80	0.794	0.942	0.000	0.000	0.000	0.000	0.000	0.000
2	Colour_Cod (-)		Brown	Light Brown	Brown	Brown	Clear						
3	EC_FLD (µmho/cm)		194	334	234	352	491						
4	EC_GEN (µmho/cm)		185	198	231	355	273						
5	Odour_Code (-)		odour free	odour free	odour free	odour free	odour free						
6	pH_FLD (pH units)		7.0	7.2	6.1	7.9	8.5						
7	pH_GEN (pH units)		8.3	8.5	8.4	8.1	8.2						
8	Temp (deg C)		28.0	28.5	28.0	29.0	25.0						
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)		0.0	0.0	0.0	0.0	0.0						
2	ALK-TOT (mgCaCO3/L)		24	252	184	148	160						
3	Ca (mg/L)		40	46	45	59	38						
4	Cl (mg/L)		29.0	32.0	18.0	36.0	24.0						
5	CO3 (mg/L)		0.0	0.0	0.0	0.0	0.0						
6	HCO3 (mg/L)		15	154	112	90	98						
7	K (mg/L)		8.4	7.1	12.5	11.9	9.1						
8	Mg (mg/L)		12.6	16.5	7.8	4.9	21.4						
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)		0.7	0.5	1.5	0.5	0.8						
2	DO (mg/L)		4.7	4.8	6.4	5.5	7.0						
3	DO_SAT% (%)		60	61	82	72	85						
4	FCol-MPN (MPN/100mL)		90	90	40	90	70						
5	Tcol-MPN (MPN/100mL)		140	170	90	140	110						
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)		100	116	112	148	96						
2	HAR_Total (mgCaCO3/L)		153	185	145	169	185						
3	Na% (%)		16	24	24	20	25						
4	RSC (-)		0.0	0.0	0.0	0.0	0.0						
5	SAR (-)		0.5	0.9	0.9	0.7	1.0						
	PESTICIDES												

Water Quality Summary for the period : 2017-2018

Station Name : Andhiarkhore (EMP60E5) **Division : MD,CWC,Burla**

Local River : Hamp **Sub-Division : UMSD,CWC,Raipur**

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	337	132.2	0.000	2.496
2	EC_FLD (µmho/cm)	5	491	194	321
3	EC_GEN (µmho/cm)	5	355	185	248
4	pH_FLD (pH units)	5	8.5	6.1	7.3
5	pH_GEN (pH units)	5	8.5	8.1	8.3
6	Temp (deg C)	5	29.0	25.0	27.7
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	5	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	5	252	24	154
3	Ca (mg/L)	5	59	38	46
4	Cl (mg/L)	5	36.0	18.0	27.8
5	CO3 (mg/L)	5	0.0	0.0	0
6	HCO3 (mg/L)	5	154	15	94
7	K (mg/L)	5	12.5	7.1	9.8
8	Mg (mg/L)	5	21.4	4.9	12.6
9	Na (mg/L)	5	30.3	14.2	23.5
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	5	1.5	0.5	0.8
3	DO_SAT% (%)	5	85	60	72
4	FCol-MPN (MPN/100mL)	5	90	40	76
5	Tcol-MPN (MPN/100mL)	5	170	90	130
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	5	148	96	115
2	HAR_Total (mgCaCO3/L)	5	185	145	167
3	Na% (%)	5	25	16	22
4	RSC (-)	5	0.0	0.0	0
5	SAR (-)	5	1.0	0.5	0.8
	PESTICIDES				

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Andhiarkhore (EMP60E5) **Division : MD,CWC,Burla**

Local River : Hamp **River Water** **Sub-Division : UMSD,CWC,Raipur**

S.No	Parameters	Flood														
		Jun - Oct														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	PHYSICAL															
1	Q (cumec)	48.54	18.31	68.08	37.74	23.31	6.028	2.549	6.549	14.96	5.954	37.39	16.39	5.178	35.35	13.14
2	EC_FLD (µmho/cm)	277	375	386	349	305	768		232	541	134			477	232	279
3	EC_GEN (µmho/cm)	277	375	386	349	277	371	333	323	365	370	365	459	549	205	242
4	pH_FLD (pH units)	7.8	8.2	7.9	7.8	7.7	7.5	7.9	7.7	8.2				8.0	7.0	7.0
5	pH_GEN (pH units)	7.8	8.2	7.9	7.8	7.6	7.6	7.9	7.5	7.5	8.0	8.3	8.2	8.1	7.5	8.3
6	Temp (deg C)	30.0	30.8	29.4	28.8	28.4	26.9	27.8	27.1	26.0	27.4	27.9	29.4	28.2	28.0	28.4
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	4.5	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.8	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	296	262	231		221	261	148	219	254	247	360	395	358	199	152
3	B (mg/L)			0.02		0.01	0.01	0.00	0.00	0.00	0.00					
4	Ca (mg/L)	31	39	29		21	25	9	23	32	32	40	45	29	26	48
5	Cl (mg/L)	21.7	19.2	40.4		13.6	31.9	23.6	10.0	12.2	12.3	21.8	18.3	29.0	20.3	28.8
6	CO3 (mg/L)	0.0	13.4	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.6	0.0	0.0
7	F (mg/L)	1.70		0.26		0.22	0.14	0.19	0.53	0.23	0.25					
8	Fe (mg/L)			0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1					
10	K (mg/L)			3.6		2.1	4.7	3.6	4.5	5.2	3.3	5.6	6.5	9.1	11.9	10.0
11	Mg (mg/L)	8.8	28.6	11.8		13.0	12.8	6.5	14.5	19.7	18.0	11.4	14.7	25.1	18.5	10.5
12	Na (mg/L)			22.4		26.2	25.4	8.6	19.2	24.6	29.5	24.1	39.2	41.2	18.8	21.7
13	NO2+NO3 (mg N/L)			0.12	0.14	0.31	0.66									
14	NO2-N (mgN/L)			0.00	0.01	0.02	0.02	0.02	0.04	0.06	0.10					
15	NO3-N (mgN/L)			0.11	0.17	0.29	0.64									
16	P-Tot (mgP/L)			0.003		0.012	0.042	0.040	0.035	0.050	0.130					
17	SiO2 (mg/L)			9.6		19.5	24.2	22.0	16.1	22.0	24.3					
18	SO4 (mg/L)	17.2	13.0	22.9		19.3	39.4	22.3	26.3	32.2	23.4					

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Andhiarkhore (EMP60E5) **Division : MD,CWC,Burla**

Local River : Hamp **River Water** **Sub-Division : UMSD,CWC,Raipur**

S.No	Parameters	Flood														
		Jun - Oct														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	1.3	1.3	0.6		4.3	0.7	2.2	1.5	1.2	1.5	0.2	1.0	2.3	1.1	0.8
2	COD (mg/L)					18.4	21.0	53.0	48.0	28.0	32.0					
3	DO (mg/L)	5.6	6.0	5.3		7.1	5.4	5.1	6.5	6.0	6.5	6.5	6.6	6.3	6.0	5.4
4	DO_SAT% (%)	78	82	69		91	67	65	81	73	81	83	86	80	76	69
5	FCol-MPN (MPN/100mL)															78
6	Tcol-MPN (MPN/100mL)															135
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	77	96	72		53	63	23	59	80	79	99	113	74	66	119
2	HAR_Total (mgCaCO3/L)	113	214	121		107	116	50	119	162	154	147	174	178	143	163
3	Na% (%)			26		35	31	31	24	24	31	26	31	32	21	21
4	RSC (-)	0.4	0.0	0.0		0.2	0.3	0.5	0.0	0.0	0.0	0.7	0.5	0.3	0.1	0.0
5	SAR (-)			0.8		1.1	1.2	0.6	0.7	0.8	1.2	0.9	1.3	1.3	0.7	0.7
	PESTICIDES															

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Andhiarkhore (EMP60E5) **Division : MD,CWC,Burla**

Local River : Hamp **River Water** **Sub-Division : UMSD,CWC,Raipur**

S.No	Parameters	Winter														
		Nov - Feb														
		2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
	PHYSICAL															
1	Q (cumec)	16.12	6.806	4.293	1.136	1.332	0.646	0.305	3.099	2.210	2.442	10.24	8.450	1.811	3.276	0.235
2	EC_FLD (µmho/cm)	487	600	570	683		531	476	606	598	317			511	435	491
3	EC_GEN (µmho/cm)	487	600	570	683	648	566	604	593	525	633	542	528	489	402	273
4	pH_FLD (pH units)	8.1	8.0	7.2	8.2	8.2	8.0	7.4	7.8					6.9	8.5	8.4
5	pH_GEN (pH units)	8.1	8.0	7.2	8.2	7.8	8.0	7.9	7.7	8.1	7.8	8.2	8.4	8.4	8.4	8.2
6	Temp (deg C)	22.5	23.3	24.8	24.0	20.0	17.8	13.3	20.0	19.4	19.6	20.5	20.6	20.8	19.9	25.0
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0		0.0	2.5	0.0	0.0	0.0	10.0	0.0	3.0	12.9	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	486	386	395		389	487	443	421	377	470	501	404	384	149	160
3	B (mg/L)			0.10		0.01	0.00	0.00	0.00	0.00	0.00					
4	Ca (mg/L)	42	40	46		40	43	43	46	43	42	55	32	30	40	38
5	Cl (mg/L)	18.7	9.3	74.3		79.3	130.8	35.1	56.4	43.9	19.8	22.5	24.8	22.0	24.3	24.0
6	CO3 (mg/L)	0.0	0.0	0.0		0.0	3.0	0.0	0.0	0.0	12.0	0.0	3.6	15.6	0.0	0.0
7	F (mg/L)	1.08	0.38	0.16		0.34	0.32	0.63	0.39	0.26	0.31					
8	Fe (mg/L)			0.1	0.0	0.0	0.0	0.1	0.1	0.2	0.1		0.1			
10	K (mg/L)		4.2	2.3		3.5	3.1	4.4	5.1	3.6	1.4	10.9	4.9	9.2	8.6	9.1
11	Mg (mg/L)	14.2	32.3	22.5		25.3	26.4	25.3	24.7	24.3	30.2	21.0	29.9	25.5	25.3	21.4
12	Na (mg/L)		43.0	50.4		48.2	93.3	33.8	37.4	36.7	58.3	59.0	40.8	34.8	34.2	30.3
13	NO2+NO3 (mg N/L)		0.30	0.10	0.08	0.10	0.54						0.19			
14	NO2-N (mgN/L)			0.00	0.01	0.01	0.05	0.05	0.29	0.09	0.07		0.07			
15	NO3-N (mgN/L)			0.10	0.06	0.09	0.48						0.12			
16	P-Tot (mgP/L)		0.020	0.008		0.030	0.177	0.130	0.122	0.250	0.153		0.160			
17	SiO2 (mg/L)			25.1		24.8	23.9	47.6	28.3	12.7	17.9		15.0			
18	SO4 (mg/L)	34.3	31.5	42.0		38.8	35.3	66.0	58.1	46.4	45.8		35.0			

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Andhiarkhore (EMP60E5) **Division : MD,CWC,Burla**

Local River : Hamp **River Water** **Sub-Division : UMSD,CWC,Raipur**

S.No	Parameters	Winter														
		Nov - Feb														
		2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.8	2.1	0.9		1.2	1.0	0.9	1.7	1.7	1.2	0.7	1.3	0.9	0.9	0.8
2	COD (mg/L)					29.0	52.0	96.0	170.0	33.0	25.0					
3	DO (mg/L)	5.5	7.0	7.3		8.1	6.1	6.7	7.5	7.2	7.8	8.1	8.9	6.8	6.3	7.0
4	DO_SAT% (%)	82	82	88		88	64	64	82	78	84	89	98	76	68	85
5	FCol-MPN (MPN/100mL)															70
6	Tcol-MPN (MPN/100mL)															110
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	104	99	116		99	108	107	116	108	106	136	80	74	100	96
2	HAR_Total (mgCaCO3/L)	163	232	210		204	218	213	219	209	232	224	205	180	206	185
3	Na% (%)		37	34		33	48	26	26	27	33	34	29	29	27	25
4	RSC (-)	1.5	0.7	0.1		0.4	0.6	0.2	0.2	0.0	0.8	0.7	0.1	0.8	0.0	0.0
5	SAR (-)		1.5	1.5		1.5	2.8	1.0	1.1	1.1	1.7	1.7	1.2	1.1	1.1	1.0
	PESTICIDES															

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Andhiarkhore (EMP60E5) | **Division : MD,CWC,Burla**

Local River : Hamp | **River Water** | **Sub-Division : UMSD,CWC,Raipur**

S.No	Parameters	Summer														
		Mar - May														
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	PHYSICAL															
1	Q (cumec)	0.906	0.807	0.522	0.244	0.103			0.044	0.730	0.436	1.657	0.688	0.036	0.088	0.000
2	EC_FLD (µmho/cm)	700	707	685							155			589	473	
3	EC_GEN (µmho/cm)	700	707	685		619			719	564	615	625	614	580	333	
4	pH_FLD (pH units)	8.1	7.8	7.6		7.8								7.4	8.5	
5	pH_GEN (pH units)	8.1	7.8	7.6		8.0			7.6	7.7	8.4	8.0	8.3	8.4	8.3	
6	Temp (deg C)	26.5	30.3	30.5		22.5			24.5	21.5	23.2	26.7	25.8	24.0	21.0	
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0		0.0			0.0	0.0	6.6	0.2	25.2	0.0	0.0	
2	ALK-TOT (mgCaCO3/L)	699	402	503		345			396	427	569	443	472	516	212	
3	B (mg/L)			0.10		0.01			0.00	0.00	0.00					
4	Ca (mg/L)	69	34	50		27			39	43	35	34	33	27	40	
5	Cl (mg/L)	21.5	92.0	99.0		70.6			44.5	50.8	25.5	32.3	37.3	30.0	40.0	
6	CO3 (mg/L)	0.0	0.0	0.0		0.0			0.0	0.0	7.9	0.2	30.4	0.0	0.0	
7	F (mg/L)		0.39	0.14		0.21			0.62	0.26	0.21					
8	Fe (mg/L)			0.1	0.0	0.0			0.9	0.4	0.2		0.1			
10	K (mg/L)		4.9	4.3		3.0			8.1	3.1	11.8	8.0	7.8	5.6	6.6	
11	Mg (mg/L)	14.9	16.2	19.9		18.0			25.5	24.3	22.4	32.4	31.8	27.2	19.4	
12	Na (mg/L)		78.3	67.6		60.0			37.0	81.4	62.7	72.5	60.5	41.9	77.9	
13	NO2+NO3 (mg N/L)		0.12	0.09	0.06	0.27							0.26			
14	NO2-N (mgN/L)			0.00	0.00	0.02			0.37	0.30	0.14		0.14			
15	NO3-N (mgN/L)			0.09	0.06	0.25							0.12			
16	P-Tot (mgP/L)		0.030	0.044		0.085			0.320	0.220	0.145		0.157			
17	SiO2 (mg/L)			22.5		23.2			20.4	19.4	16.5		14.6			
18	SO4 (mg/L)	40.3	50.0	27.3		45.5			62.8	37.2	37.0		36.0			

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Andhiarkhore (EMP60E5) **Division : MD,CWC,Burla**

Local River : Hamp **River Water** **Sub-Division : UMSD,CWC,Raipur**

S.No	Parameters	Summer														
		Mar - May														
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.8	1.6	1.6		1.9			1.8	1.0	1.1	1.1	1.4	2.0	2.3	
2	COD (mg/L)					48.0			122.0	32.0	26.0					
3	DO (mg/L)	7.5	6.8	4.4		5.9			3.3	5.5	3.9	5.9	6.7	4.1	6.6	
4	DO_SAT% (%)	92	87	59		68			40	62	45	73	82	49	74	
5	FCol-MPN (MPN/100mL)															
6	Tcol-MPN (MPN/100mL)															
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	171	85	126		68			98	108	88	85	81	68	100	
2	HAR_Total (mgCaCO3/L)	233	152	209		143			205	210	181	220	214	182	181	
3	Na% (%)		52	41		47			27	46	41	42	36	33	47	
4	RSC (-)	2.9	1.1	0.9		0.6			0.0	0.1	2.2	0.3	1.0	1.6	0.0	
5	SAR (-)		2.8	2.1		2.2			1.1	2.5	2.0	2.2	1.8	1.4	2.5	
	PESTICIDES															

SITE GHATORA

HISTORY SHEET

Water Year : 2017-2018

Site	**:**	**Ghatora**	**Code**	**:**	**EMP40F2**
State	:	Chhattisgarh	District		Bilaspur
Basin	:	Mahanadi	Independent River	:	Mahanadi
Tributary	:	Seonath	Sub Tributary	:	
Sub-Sub Tributary	:		Local River	:	Arpa
Division	:	MD,CWC,Burla	Sub-Division	:	MMSD I,CWC,Raipur
Drainage Area	:	3035 Sq. Km.	Bank	:	
Latitude	:	22°02'04"	Longitude	:	82°13'34"
Zero of Gauge (m)	:	246 (m.s.l)	17/09/1979	-	01/10/2020
		Opening Date	Closing Date		
Gauge	:	15/10/1977	01/10/2020		
Discharge	:	17/09/1979	01/10/2020		
Sediment	:	01/11/2000	01/10/2020		
Water Quality	:	01/11/1991	01/10/2020		

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

	Maximum			Minimum		
Year	**Q (cumecs)**	**WL (m)**	**Date**	**Q (cumecs)**	**WL (m)**	**Date**
1980-1981	1300	252.155	20/09/1980	0.135	247.640	05/06/1980
1981-1982	545.0	251.045	23/08/1981	0.053	247.500	20/05/1982
1982-1983	275.3	249.690	13/09/1982	0.229	247.480	09/05/1983
1983-1984	472.2	250.600	05/09/1983	0.235	247.480	10/06/1983
1984-1985	588.4	251.340	10/08/1984	0.334	247.555	27/05/1985
1985-1986	728.2	250.905	03/08/1985	0.360	247.555	01/06/1985
1986-1987	500.1	250.425	09/07/1986	0.059	247.565	30/05/1987
1987-1988	600.0	250.680	16/09/1987	0.280	247.620	21/05/1988
1988-1989	627.5	250.840	11/08/1988	0.185	247.585	29/05/1989
1989-1990	137.2	249.010	07/08/1989	0.229	247.600	03/06/1989
1990-1991	453.6	250.400	15/09/1990	0.337	247.560	13/05/1991
1991-1992	1260	252.450	24/09/1991	0.119	247.510	23/05/1992
1992-1993	649.9	250.780	11/09/1992	0.040	247.355	16/05/1993
1993-1994	1316	252.200	20/08/1993	0.120	247.430	02/06/1993
1994-1995	2872	253.500	21/07/1994	0.216	247.420	01/06/1994
1995-1996	499.2	250.300	09/08/1995	0.179	247.010	23/05/1996
1996-1997	1019	251.025	20/08/1996	0.056	247.065	21/02/1997
1997-1998	450.4	250.130	09/09/1997	0.244	247.110	09/06/1997
1998-1999	1280	251.800	13/09/1998	0.495	247.080	01/06/1998
1999-2000	658.2	250.490	09/08/1999	0.618	247.045	15/02/2000
2000-2001	220.8	249.010	20/07/2000	0.080	246.975	30/04/2001
2001-2002	749.5	250.320	24/08/2001	0.120	247.100	14/04/2002

Q : Observed / Computed Discharge WL : Corresponding Water Level(m.s.l)

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

	Maximum			Minimum		
Year	**Q (cumecs)**	**WL (m)**	**Date**	**Q (cumecs)**	**WL (m)**	**Date**
2002-2003	383.2	250.030	09/09/2002	0.155	247.260	31/03/2003
2003-2004	464.4	250.080	10/09/2003	0.112	247.050	17/06/2003
2004-2005	444.0	250.385	13/08/2004	0.800	247.090	27/02/2005
2005-2006	635.9	250.700	05/08/2005	0.411	247.010	11/02/2006
2006-2007	159.5	248.500	01/08/2006	0.390	247.025	06/01/2007
2007-2008	240.8	248.925	21/08/2007	0.099	246.945	29/01/2008
2008-2009	348.7	248.650	20/09/2008	0.042	246.990	23/01/2009
2009-2010	111.6	247.890	22/08/2009	0.127	246.925	31/10/2009
2010-2011	343.5	248.680	20/09/2010	0.492	247.000	10/12/2010
2011-2012	670.0	250.375	07/09/2011	5.798	247.110	29/07/2011
2012-2013	468.3	248.180	28/08/2012	5.490	246.960	04/11/2012
2013-2014	528.9	248.535	05/10/2013	0.229	246.450	10/05/2014
2014-2015	923.1	250.415	06/08/2014	0.000	246.300	28/04/2015
2015-2016	721.1	247.980	22/09/2015	0.000	246.230	15/03/2016
2016-2017	616.1	248.065	27/09/2016	0.000	246.260	27/03/2017

Q : Observed / Computed Discharge WL : Corresponding Water Level(m.s.l)

Stage-Dischage Data for the period 2017 - 2018

Station Name : Ghatora (EMP40F2) **Division : MD,CWC,Burla**

Local River : Arpa **Sub-Division : MMSD I,CWC,Raipur**

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	246.050	.00 *	246.990	32.46	246.620	3.998	246.415	98.19	246.710	0.900 *	246.440	1.607
2	246.330	.00 *	246.770	2.500 *	246.725	7.970	247.270	55.00 *	246.890	15.50 *	246.440	1.605
3	246.200	.00 *	246.680	1.384	246.723	7.997	247.230	52.00 *	246.680	7.670	246.520	2.317
4	246.150	.00 *	246.815	6.956	246.350	0.616	246.160	48.90	246.575	3.569	246.440	1.600 *
5	246.120	.00 *	246.755	2.566	246.375	0.729	246.940	29.62	246.890	13.96	246.420	1.066 *
6	246.120	.00 *	246.750	2.446	246.350	0.610 *	246.200	49.49	246.735	10.44	246.420	1.066
7	246.110	.00 *	246.645	1.811	246.420	0.797	247.000	29.50	246.645	5.164	246.430	1.089
8	246.110	.00 *	246.740	2.826	246.690	5.888	246.920	24.93	246.970	22.00 *	246.420	1.056
9	246.150	.00 *	246.620	1.950 *	246.700	5.890	246.940	27.80	247.395	68.11	246.420	1.167
10	246.140	.00 *	246.630	4.410	246.708	7.696	246.900	25.00 *	247.020	34.42	246.260	0.247
11	246.130	.00 *	246.855	15.41	247.540	401.3	247.215	50.01	247.040	37.30	246.260	0.291
12	246.120	.00 *	246.790	11.98	247.220	51.41	246.885	26.65	247.015	36.53	246.250	0.280 *
13	246.300	.00 *	246.855	13.70	247.130	50.00 *	247.010	33.78	246.750	10.50	246.260	0.310
14	246.260	.00 *	246.710	8.052	246.890	16.11	246.800	8.824	246.720	6.905	246.255	0.289
15	246.260	.00 *	246.815	12.43	246.780	15.80 *	246.950	30.00	246.815	14.19	246.260	0.297
16	246.250	.00 *	246.830	14.00 *	246.900	27.09	246.980	28.73	246.800	13.56	246.270	0.343
17	246.250	.00 *	246.740	8.477	246.820	14.65	246.810	9.000 *	246.690	8.639	246.270	0.338
18	246.240	.00 *	247.030	32.23	246.775	10.49	246.930	23.05	246.650	5.673	246.265	0.326
19	246.240	.00 *	247.070	34.48	246.072	11.70	246.810	10.82	246.640	5.200 *	246.270	0.338 *
20	246.230	.00 *	247.040	34.36	246.770	15.70 *	247.500	382.7	246.620	3.866	246.360	0.905
21	246.220	.00 *	247.550	408.3	247.235	48.32	247.865	526.6	246.590	3.268	246.380	0.781
22	246.380	.00 *	247.260	57.52	246.705	7.632	247.875	526.9	246.620	4.800 *	246.390	0.981
23	246.350	.00 *	247.060	36.00 *	246.960	25.81	247.650	421.5	246.570	3.228	246.380	0.930
24	246.330	.00 *	247.960	21.29	246.840	9.519	247.480	330.0 *	246.620	3.851	246.370	0.878
25	246.320	.00 *	247.045	33.62	246.670	20.00 *	247.190	49.72	246.600	3.646	246.370	0.873
26	246.390	.00 *	246.915	19.69	247.060	35.57	247.130	39.14	246.560	3.218	246.370	0.800 *
27	246.360	.00 *	247.790	10.67	247.000	34.00 *	246.870	13.59	246.610	5.567	246.370	0.785
28	246.370	.00 *	247.700	6.369	246.975	30.09	246.770	11.84	246.520	2.321	246.360	0.775
29	246.390	.00 *	246.680	5.263	247.110	44.21	246.710	10.00 *	246.460	0.500 *	246.365	0.779
30	246.960	1.4	247.640	30.00 *	247.220	50.38	247.040	33.00 *	246.450	1.841	246.365	0.759
31			246.650	5.383	247.845	518.2			246.450	1.610		
Ten-Daily Mean												
I Ten-Daily	246.148	.000	246.740	5.931	246.566	4.219	246.797	44.05	246.851	18.17	246.421	1.282
II Ten-Daily	246.228	.000	246.874	18.51	246.890	61.43	246.989	60.35	246.774	14.24	246.272	0.372
III Ten-Daily	246.407	.146	247.295	57.64	247.056	74.89	247.258	196.2	246.550	3.077	246.372	0.834
Monthly												
Min.	246.050	.000	246.620	1.384	246.072	0.610	246.160	8.824	246.450	0.500	246.250	0.247
Max.	246.960	1.46	247.960	408.3	247.845	518.2	247.875	526.9	247.395	68.11	246.520	2.317
Mean	246.261	1	246.980	28.34	246.844	47.75	247.015	100.2	246.719	11.55	246.355	0.829

Annual Runoff in MCM = 501 Annual Runoff in mm = 165

Peak Observed Discharge = 526.9 cumecs on 22/09/2017 Corres. Water Level :247.875 m

Lowest Observed Discharge = 0.247 cumecs on 10/11/2017 Corres. Water Level :246.26 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Dischage Data for the period 2017 - 2018

Station Name : Ghatora (EMP40F2) **Division : MD,CWC,Burla**

Local River : Arpa **Sub-Division : MMSD I,CWC,Raipur**

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	246.360	0.772	246.400	0.690	246.350	0.000 *	246.330	0.000 *	246.320	0.000 *	246.350	0.000 *
2	247.020	8.000 *	246.410	0.755	246.350	0.000 *	246.320	0.000 *	246.300	0.000 *	246.340	0.000 *
3	246.770	6.600 *	246.410	0.759	246.360	0.000 *	246.310	0.000 *	246.300	0.000 *	246.340	0.000 *
4	246.660	6.341	246.390	0.654	246.380	0.000 *	246.310	0.000 *	246.300	0.000 *	246.340	0.000 *
5	246.280	0.273	246.370	0.594	246.400	0.000 *	246.320	0.000 *	246.310	0.000 *	246.340	0.000 *
6	246.390	0.983	246.380	0.634	246.360	0.000 *	246.320	0.000 *	246.310	0.000 *	246.340	0.000 *
7	246.380	0.923	246.380	0.630 *	246.360	0.000 *	246.310	0.000 *	246.330	0.000 *	246.340	0.000 *
8	246.390	0.981	246.370	0.548	246.400	0.000 *	246.310	0.000 *	246.320	0.000 *	246.340	0.000 *
9	246.310	0.488	246.360	0.427	246.350	0.000 *	246.320	0.000 *	246.320	0.000 *	246.340	0.000 *
10	246.260	0.302 *	246.350	0.361	246.350	0.000 *	246.320	0.000 *	246.320	0.000 *	246.340	0.000 *
11	246.260	0.302	246.350	0.365	246.350	0.000 *	246.320	0.000 *	246.320	0.000 *	246.350	0.000 *
12	246.270	0.346	246.500	1.703	246.340	0.000 *	246.320	0.000 *	246.320	0.000 *	246.350	0.000 *
13	246.300	0.452	246.490	1.666	246.340	0.000 *	246.320	0.000 *	246.320	0.000 *	246.350	0.000 *
14	246.380	0.873	246.350	0.360 *	246.340	0.000 *	246.320	0.000 *	246.320	0.000 *	246.340	0.000 *
15	246.410	0.991	246.320	0.250 *	246.350	0.000 *	246.320	0.000 *	246.330	0.000 *	246.340	0.000 *
16	246.400	0.964	246.320	0.000 *	246.360	0.000 *	246.320	0.000 *	246.330	0.000 *	246.340	0.000 *
17	246.440	0.980 *	246.320	0.000 *	246.360	0.000 *	246.320	0.000 *	246.330	0.000 *	246.340	0.000 *
18	246.340	0.380	246.330	0.000 *	246.360	0.000 *	246.320	0.000 *	246.330	0.000 *	246.340	0.000 *
19	246.385	0.908	246.330	0.000 *	246.350	0.000 *	246.320	0.000 *	246.330	0.000 *	246.340	0.000 *
20	246.390	0.908	246.320	0.000 *	246.340	0.000 *	246.330	0.000 *	246.330	0.000 *	246.310	0.000 *
21	246.460	1.837	246.320	0.000 *	246.340	0.000 *	246.330	0.000 *	246.330	0.000 *	246.310	0.000 *
22	246.530	2.142	246.320	0.000 *	246.340	0.000 *	246.330	0.000 *	246.330	0.000 *	246.310	0.000 *
23	246.510	2.122	246.320	0.000 *	246.340	0.000 *	246.330	0.000 *	246.330	0.000 *	246.310	0.000 *
24	246.300	0.452 *	246.320	0.000 *	246.340	0.000 *	246.330	0.000 *	246.330	0.000 *	246.310	0.000 *
25	246.300	0.452 *	246.350	0.000 *	246.340	0.000 *	246.330	0.000 *	246.330	0.000 *	246.310	0.000 *
26	246.310	0.482	246.350	0.000 *	246.340	0.000 *	246.330	0.000 *	246.330	0.000 *	246.320	0.000 *
27	246.320	0.492	246.350	0.000 *	246.350	0.000 *	246.330	0.000 *	246.340	0.000 *	246.330	0.000 *
28	246.340	0.522	246.350	0.000 *	246.500	0.000 *	246.330	0.000 *	246.350	0.000 *	246.310	0.000 *
29	246.390	0.654	246.350	0.000 *			246.330	0.000 *	246.350	0.000 *	246.290	0.000 *
30	246.390	0.642	246.350	0.000 *			246.320	0.000 *	246.350	0.000 *	246.290	0.000 *
31	246.390	0.642 *	246.350	0.000 *			246.320	0.000 *			246.260	0.000 *
Ten-Daily Mean												
I Ten-Daily	246.482	2.566	246.382	0.605	246.366	0.000	246.317	0.000	246.313	0.000	246.341	0.000
II Ten-Daily	246.357	0.710	246.363	0.434	246.349	0.000	246.321	0.000	246.326	0.000	246.340	0.000
III Ten-Daily	246.385	0.949	246.339	0.000	246.361	0.000	246.328	0.000	246.337	0.000	246.305	0.000
Monthly												
Min.	246.260	0.273	246.320	0.000	246.340	0.000	246.310	0.000	246.300	0.000	246.260	0.000
Max.	247.020	8.000	246.500	1.703	246.500	0.000	246.330	0.000	246.350	0.000	246.350	0.000
Mean	246.408	1.394	246.361	0.335	246.359	0	246.322	0	246.325	0	246.328	0

Peak Computed Discharge = 330.0 cumecs on 24/09/2017 Corres. Water Level :247.48 m

Lowest Computed Discharge = 0.000 cumecs on 16/01/2018 Corres. Water Level :246.32 m

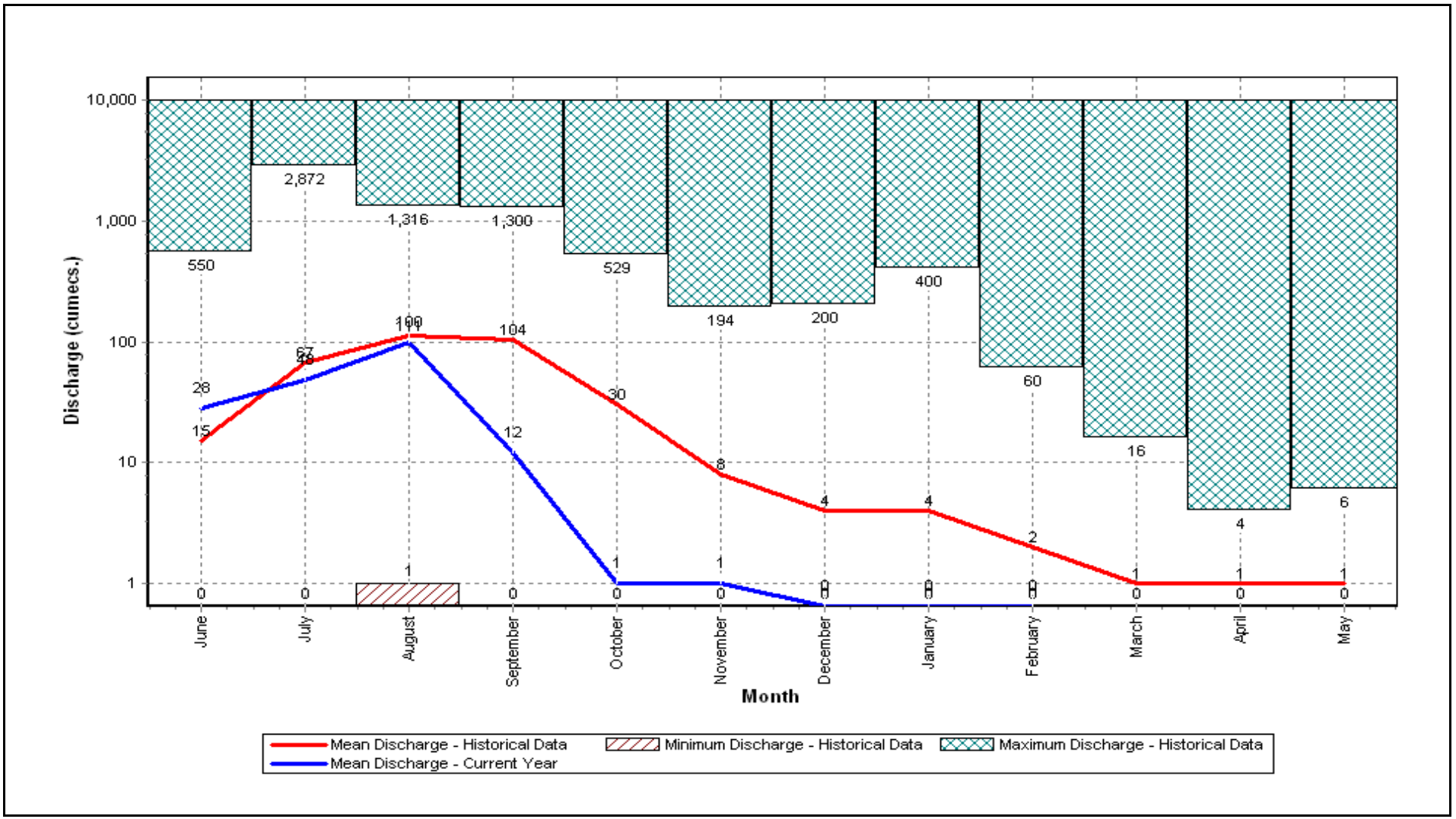
Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2017-2018

Station Name : Ghatora (EMP40F2) | **Data considered : 1980-2018** | **Division : MD,CWC,Burla**

Local River : Arpa | **Sub-Division : MMSD I,CWC,Raipur**



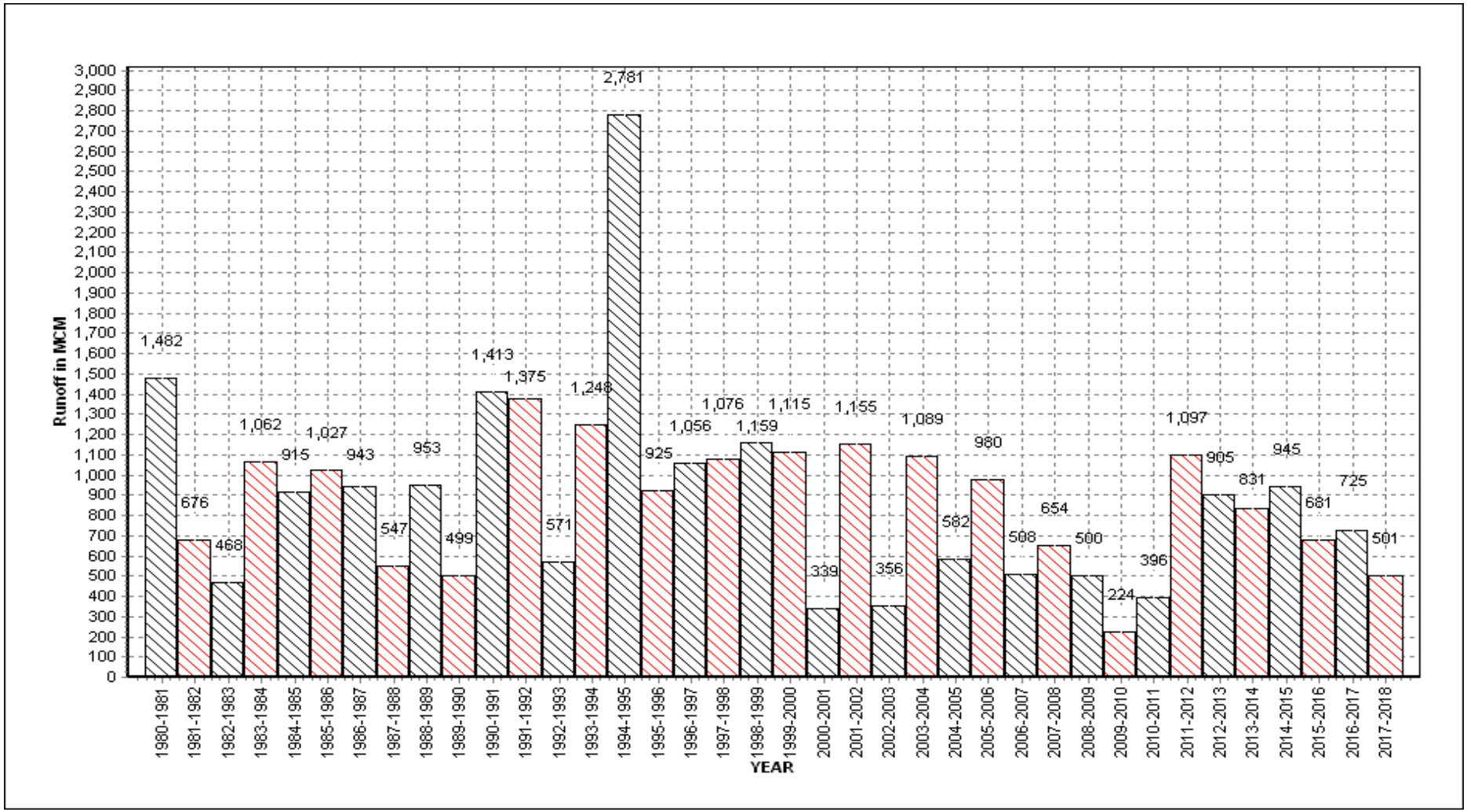
Annual Runoff Values for the period: 1980 - 2018

Station Name : Ghatora (EMP40F2)

Local River : Arpa

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur



Note: Missing values have not been considered while arriving at Annual Runoff

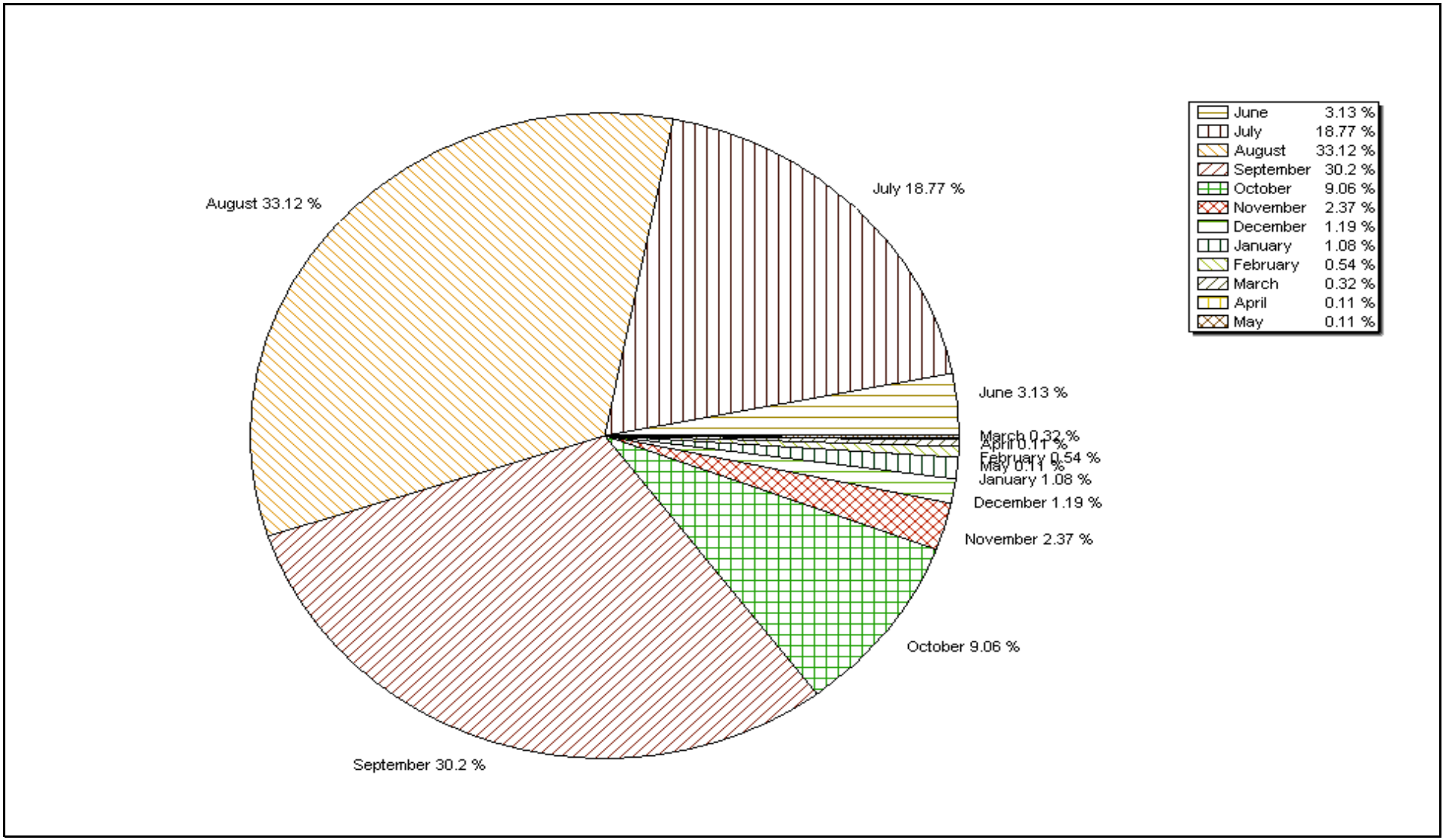
Monthly Average Runoff based on period : 1980-2017

Station Name : Ghatora (EMP40F2)

Local River : Arpa

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur



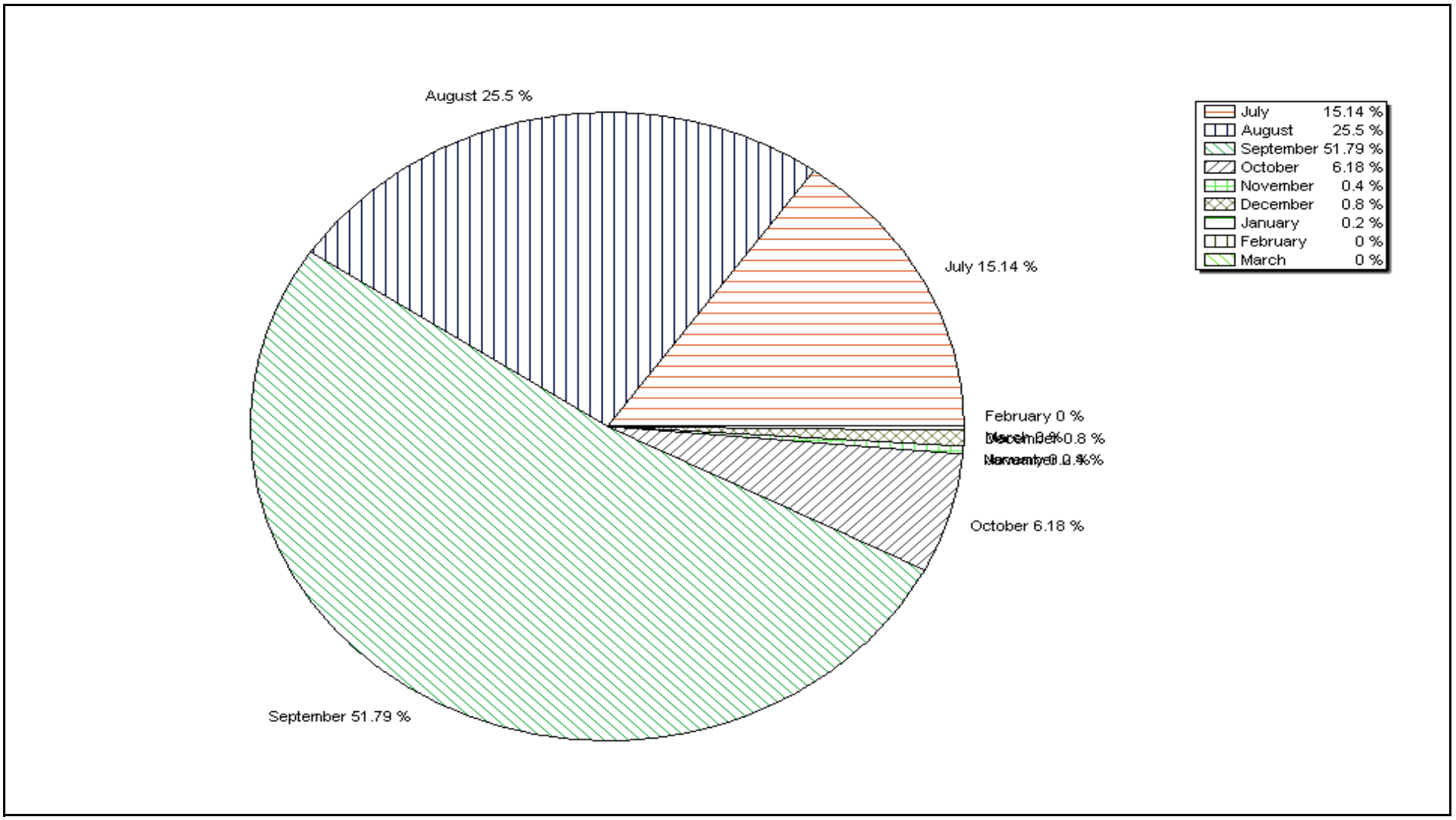
Monthly Runoff for the Year : 2017-2018

Station Name : Ghatora (EMP40F2)

Local River : Arpa

Division : MD,CWC,Burla

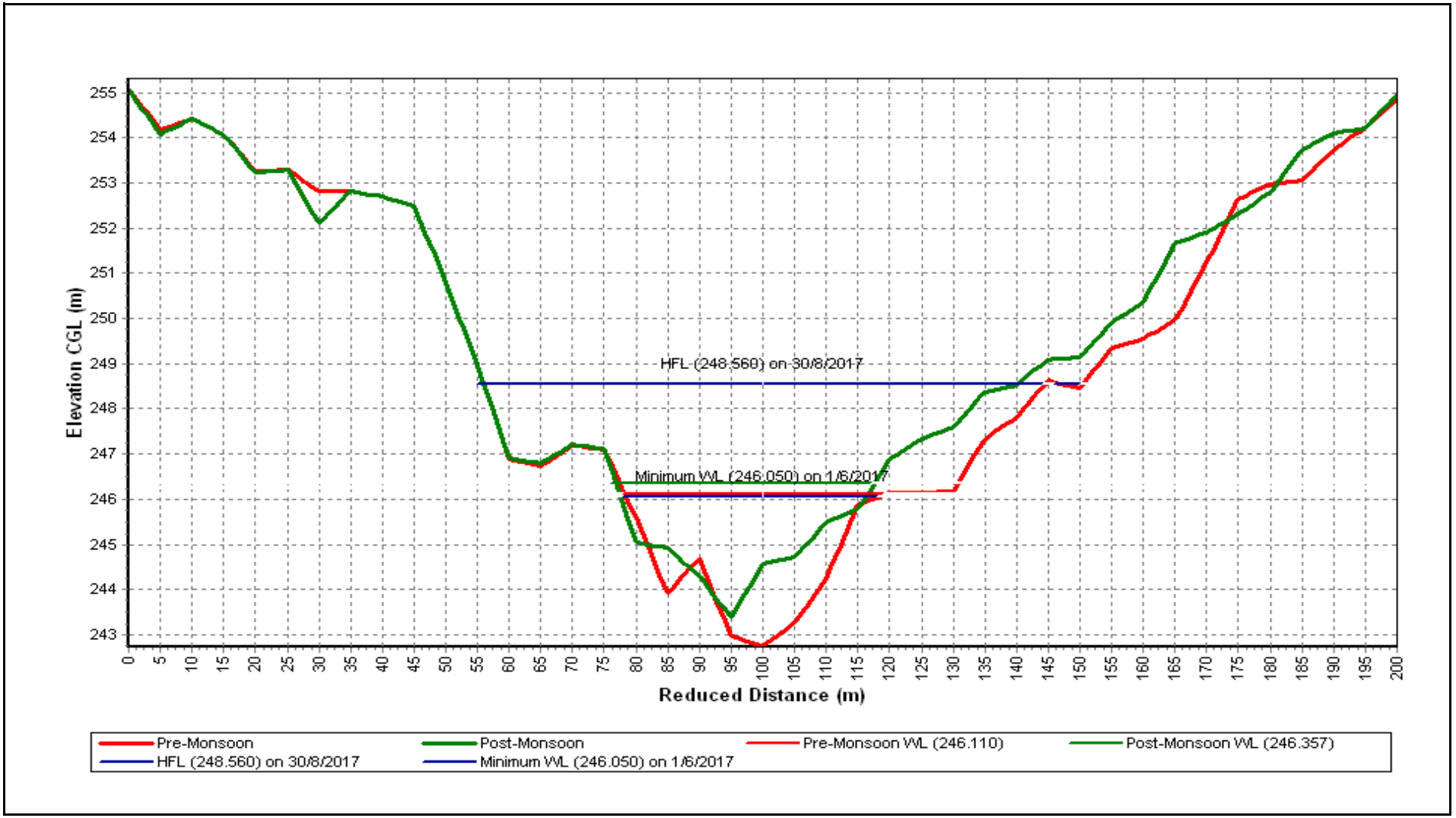
Sub-Division : MMSD I,CWC,Raipur



Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2017-2018

Station Name : Ghatora (EMP40F2) **Division : MD,CWC,Burla**

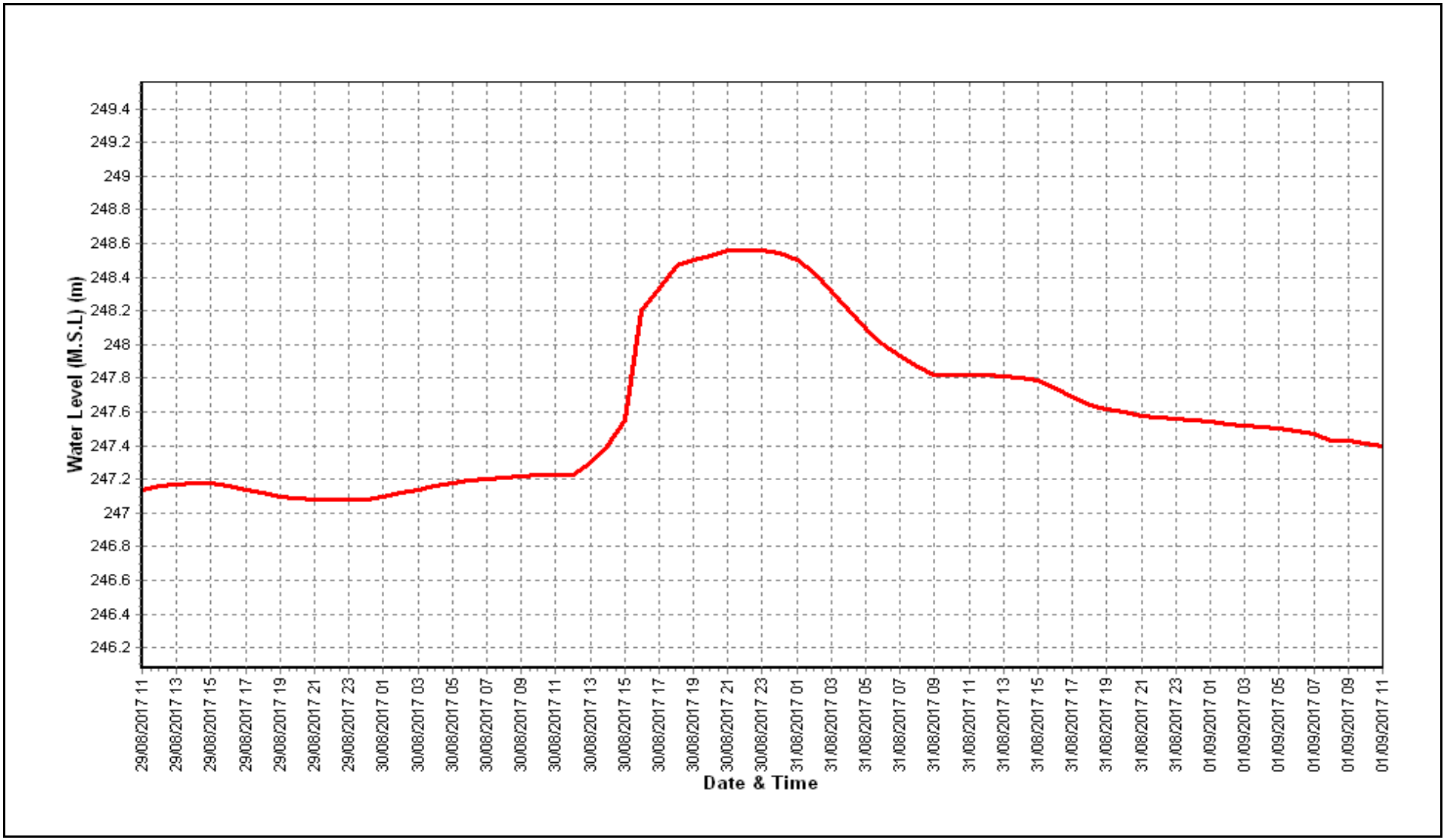
Local River : Arpa **Sub-Division : MMSD I,CWC,Raipur**



Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2017-2018

Station Name : Ghatora (EMP40F2) **Division : MD,CWC,Burla**

Local River : Arpa **Sub-Division : MMSD I,CWC,Raipur**

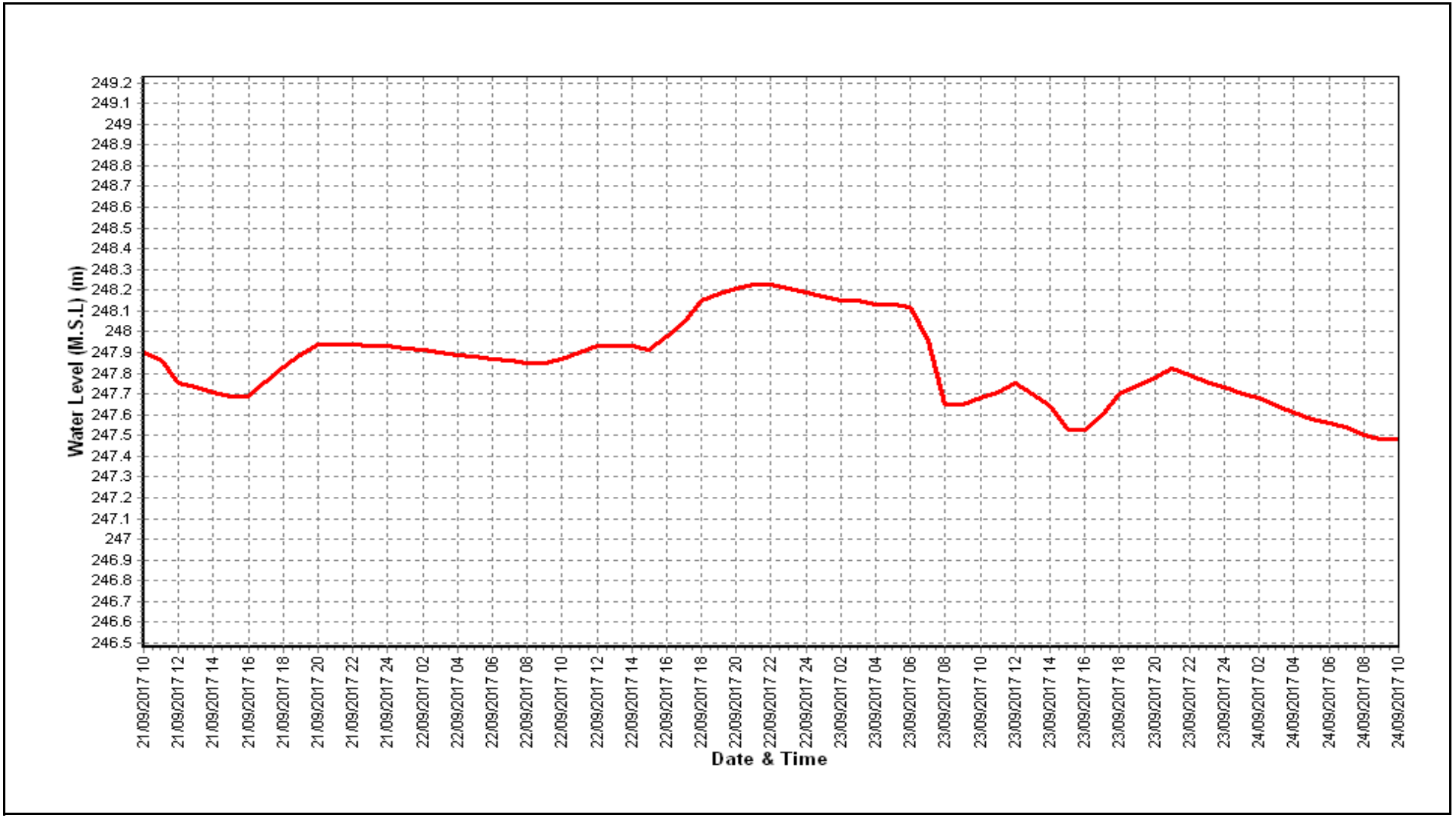


Time Span: 72 Hrs

Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2017-2018

Station Name : Ghatora (EMP40F2) **Division : MD,CWC,Burla**

Local River : Arpa **Sub-Division : MMSD I,CWC,Raipur**

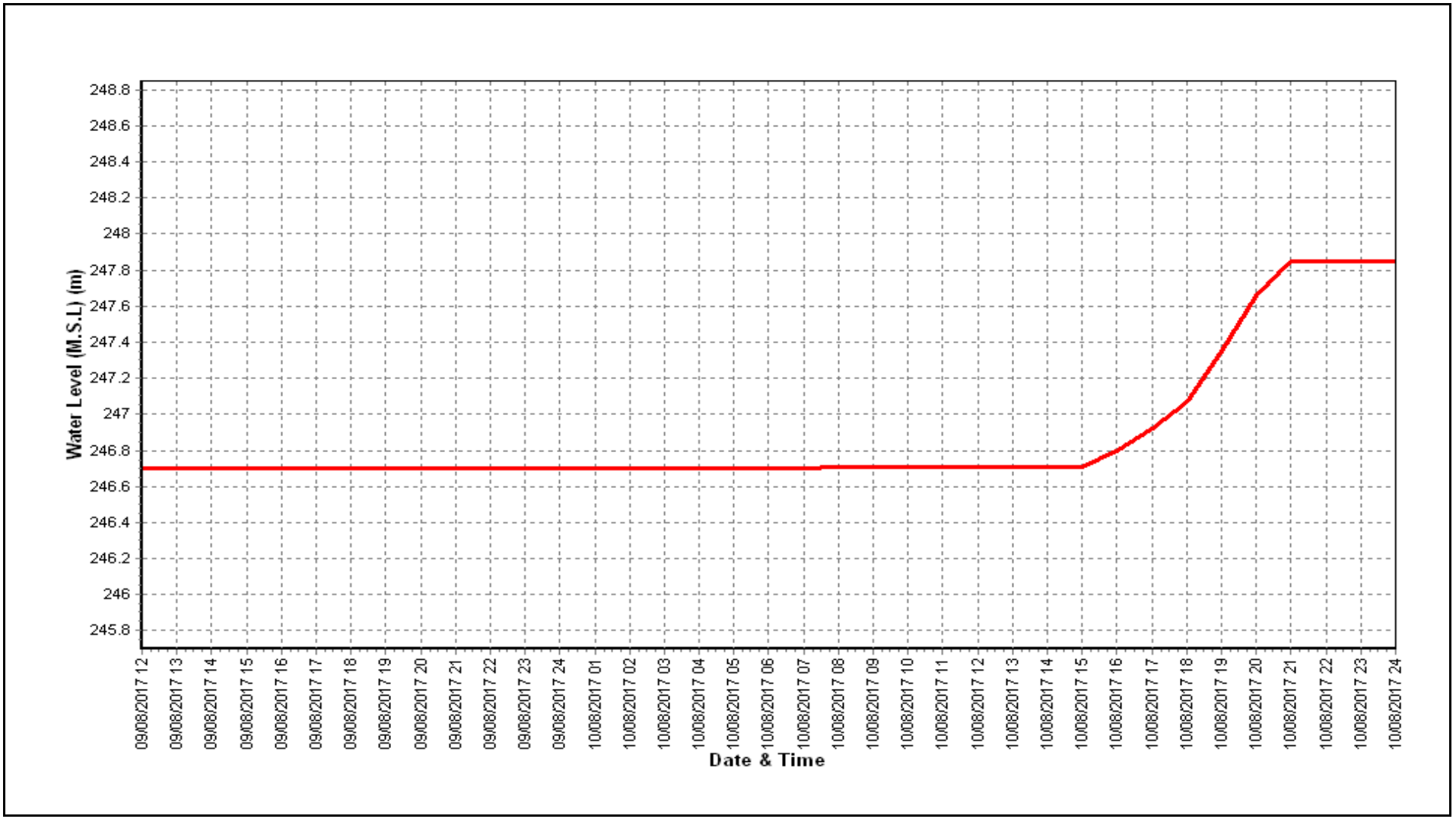


Time Span: 72 Hrs

Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2017-2018

Station Name : Ghatora (EMP40F2) **Division : MD,CWC,Burla**

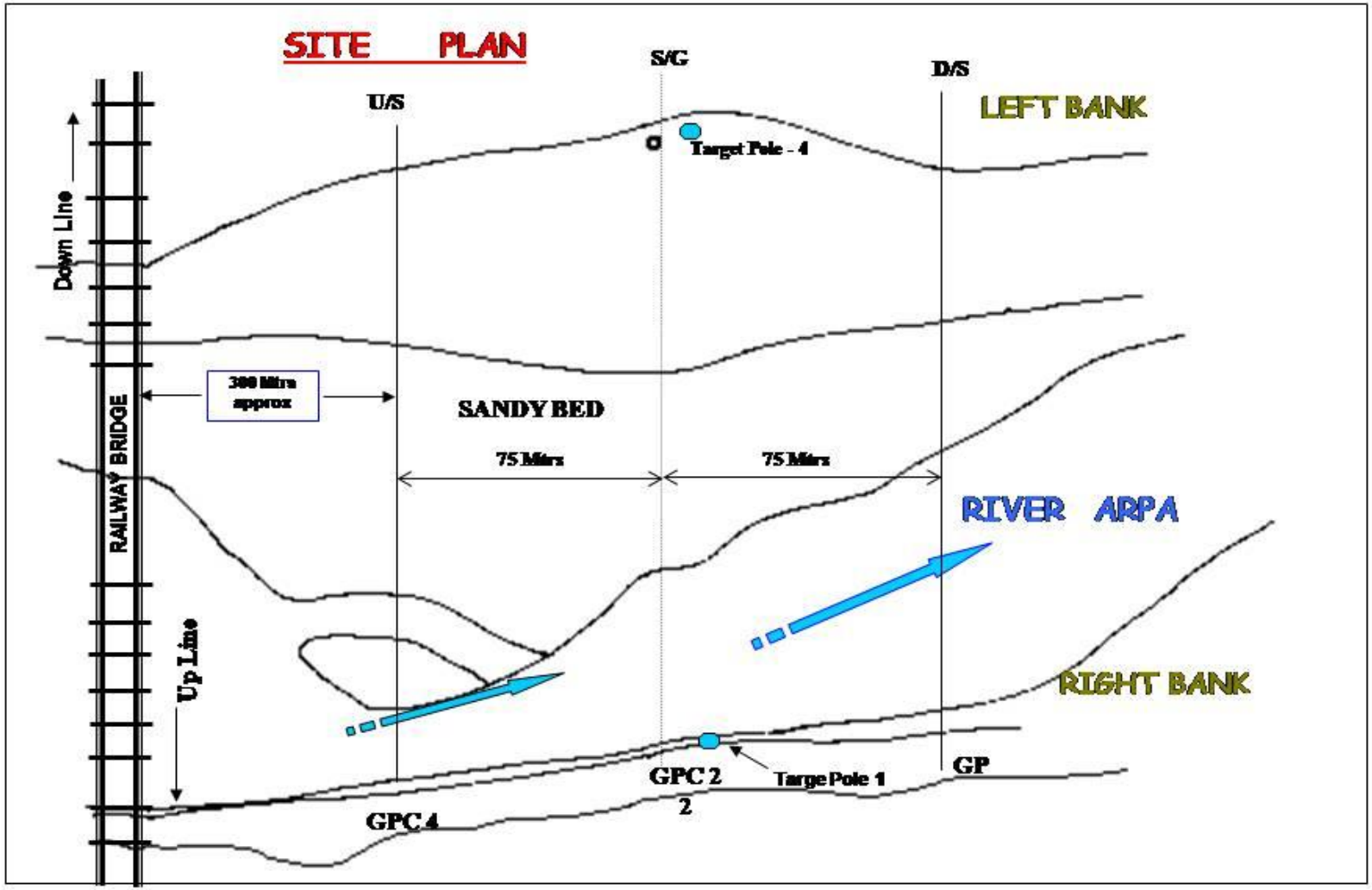
Local River : Arpa **Sub-Division : MMSD I,CWC,Raipur**



Time Span: 72 Hrs

CENTRAL WATER COMMISSION, MAHANADI DIVISION, CWC BURLA

Site : GHATORA Code : EMP40F2 Sub-Division :MMSD-I CWC Raipur



SECTION-II

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Ghatora (EMP40F2) **Division : MD,CWC,Burla**

Local River : Arpa **Sub-Division : MMSD I,CWC,Raipur**

Day	Jun						Jul						Aug					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	32.17	0.000	0.000	0.135	0.135	375	3.998	0.000	0.000	0.040	0.040	14
2	0.000	0.000	0.000	0.000	0.000	0	30.00	0.000	0.000	0.000	0.000	0	7.970	0.000	0.000	0.040	0.040	28
3	0.000	0.000	0.000	0.000	0.000	0	1.372	0.000	0.000	0.267	0.267	32	7.997	0.000	0.000	0.053	0.053	36
4	0.000	0.000	0.000	0.000	0.000	0	6.897	0.000	0.000	0.070	0.070	42	0.616	0.000	0.000	0.028	0.028	1
5	0.000	0.000	0.000	0.000	0.000	0	2.544	0.000	0.000	0.085	0.085	19	0.729	0.000	0.000	0.025	0.025	2
6	0.000	0.000	0.000	0.000	0.000	0	2.426	0.000	0.000	0.075	0.075	16	0.610	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0.000	0	1.795	0.000	0.000	0.083	0.083	13	0.797	0.000	0.000	0.028	0.028	2
8	0.000	0.000	0.000	0.000	0.000	0	2.805	0.000	0.000	0.100	0.100	24	5.888	0.000	0.000	0.050	0.050	25
9	0.000	0.000	0.000	0.000	0.000	0	4.110	0.000	0.000	0.000	0.000	0	5.890	0.000	0.000	0.028	0.028	14
10	0.000	0.000	0.000	0.000	0.000	0	4.374	0.000	0.000	0.050	0.050	19	7.696	0.000	0.000	0.023	0.023	15
11	0.000	0.000	0.000	0.000	0.000	0	15.27	0.000	0.000	0.080	0.080	106	401.3	0.000	0.000	0.035	0.035	1205
12	0.000	0.000	0.000	0.000	0.000	0	11.87	0.000	0.000	0.063	0.063	64	51.41	0.000	0.000	0.012	0.012	51
13	0.000	0.000	0.000	0.000	0.000	0	13.56	0.000	0.000	0.103	0.103	120	50.00	0.000	0.000	0.000	0.000	0
14	0.000	0.000	0.000	0.000	0.000	0	7.976	0.000	0.000	0.083	0.083	57	16.11	0.000	0.000	0.040	0.040	56
15	0.000	0.000	0.000	0.000	0.000	0	12.30	0.000	0.000	0.075	0.075	80	15.80	0.000	0.000	0.000	0.000	0
16	0.000	0.000	0.000	0.000	0.000	0	13.00	0.000	0.000	0.000	0.000	0	27.09	0.000	0.000	0.075	0.075	176
17	0.000	0.000	0.000	0.000	0.000	0	8.395	0.000	0.000	0.105	0.105	76	14.65	0.000	0.000	0.045	0.045	57
18	0.000	0.000	0.000	0.000	0.000	0	31.95	0.000	0.000	0.190	0.190	525	10.49	0.000	0.000	0.060	0.060	54
19	0.000	0.000	0.000	0.000	0.000	0	34.18	0.000	0.000	0.450	0.450	1329	11.70	0.000	0.000	0.073	0.073	73
20	0.000	0.000	0.000	0.000	0.000	0	34.06	0.000	0.000	0.180	0.180	530	15.70	0.000	0.000	0.000	0.000	0
21	0.000	0.000	0.000	0.000	0.000	0	408.3	0.000	0.000	0.670	0.670	23635	48.32	0.000	0.000	0.005	0.005	22
22	0.000	0.000	0.000	0.000	0.000	0	57.01	0.000	0.000	0.208	0.208	1022	7.632	0.000	0.000	0.030	0.030	20
23	0.000	0.000	0.000	0.000	0.000	0	34.01	0.000	0.000	0.000	0.000	0	25.81	0.000	0.000	0.038	0.038	84
24	0.000	0.000	0.000	0.000	0.000	0	21.29	0.000	0.000	0.098	0.098	179	9.519	0.000	0.000	0.033	0.033	27
25	0.000	0.000	0.000	0.000	0.000	0	33.33	0.000	0.000	0.133	0.133	382	20.00	0.000	0.000	0.000	0.000	0
26	0.000	0.000	0.000	0.000	0.000	0	19.52	0.000	0.000	0.085	0.085	143	35.57	0.000	0.000	0.055	0.055	169
27	0.000	0.000	0.000	0.000	0.000	0	10.55	0.000	0.000	0.040	0.040	36	34.00	0.000	0.000	0.000	0.000	0
28	0.000	0.000	0.000	0.000	0.000	0	6.314	0.000	0.000	0.045	0.045	25	30.09	0.000	0.000	0.050	0.050	130
29	0.000	0.000	0.000	0.000	0.000	0	5.219	0.000	0.000	0.043	0.043	19	44.21	0.000	0.000	0.038	0.038	143
30	0.000	0.000	0.000	0.000	0.000	0	5.180	0.000	0.000	0.000	0.000	0	50.38	0.000	0.000	0.083	0.083	359
31	0.000						5.339	0.000	0.000	0.058	0.058	27	518.2	0.000	0.000	0.027	0.027	1187
Ten Daily Mean																		
Ten Daily I		0.000	0.000	0.000	0.000		8.849	0.000	0.000	0.086	0.086	54	4.219	0.000	0.000	0.031	0.031	14
Ten Daily II		0.000	0.000	0.000	0.000		18.26	0.000	0.000	0.133	0.133	289	61.43	0.000	0.000	0.034	0.034	167
Ten Daily III		0.000	0.000	0.000	0.000		55.10	0.000	0.000	0.125	0.125	2315	74.89	0.000	0.000	0.032	0.032	195
Monthly																		
Total						0						28893						3949

Annual Sediment Load (Metric Tonnes) : 63407

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Ghatora (EMP40F2) **Division : MD,CWC,Burla**

Local River : Arpa **Sub-Division : MMSD I,CWC,Raipur**

Day	Sep						Oct						Nov					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	98.19	0.000	0.000	0.120	0.120	1018	0.900	0.000	0.000	0.000	0.000	0	1.607	0.000	0.000	0.000	0.000	0
2	55.00	0.000	0.000	0.000	0.000	0	15.50	0.000	0.000	0.000	0.000	0	1.605	0.000	0.000	0.000	0.000	0
3	52.00	0.000	0.000	0.000	0.000	0	7.670	0.000	0.000	0.018	0.018	12	2.317	0.000	0.000	0.000	0.000	0
4	48.90	0.000	0.000	0.100	0.100	423	3.569	0.000	0.000	0.008	0.008	2	1.600	0.000	0.000	0.000	0.000	0
5	29.62	0.000	0.000	0.058	0.058	147	13.96	0.000	0.000	0.010	0.010	12	1.066	0.000	0.000	0.000	0.000	0
6	49.49	0.000	0.000	0.048	0.048	203	10.44	0.000	0.000	0.010	0.010	9	1.066	0.000	0.000	0.015	0.015	1
7	29.50	0.000	0.000	0.108	0.108	274	5.164	0.000	0.000	0.005	0.005	2	1.089	0.000	0.000	0.000	0.000	0
8	24.93	0.000	0.000	0.058	0.058	124	22.00	0.000	0.000	0.000	0.000	0	1.056	0.000	0.000	0.000	0.000	0
9	27.80	0.000	0.000	0.038	0.038	90	68.11	0.000	0.000	0.023	0.023	132	1.167	0.000	0.000	0.000	0.000	0
10	25.00	0.000	0.000	0.000	0.000	0	34.42	0.000	0.000	0.013	0.013	37	0.247	0.000	0.000	0.000	0.000	0
11	50.01	0.000	0.000	0.123	0.123	529	37.30	0.000	0.000	0.013	0.013	40	0.291	0.000	0.000	0.000	0.000	0
12	26.65	0.000	0.000	0.098	0.098	224	36.53	0.000	0.000	0.025	0.025	79	0.280	0.000	0.000	0.000	0.000	0
13	33.78	0.000	0.000	0.070	0.070	204	10.50	0.000	0.000	0.013	0.013	11	0.310	0.000	0.000	0.013	0.013	0
14	8.824	0.000	0.000	0.043	0.043	32	6.905	0.000	0.000	0.005	0.005	3	0.289	0.000	0.000	0.000	0.000	0
15	30.00	0.000	0.000	0.045	0.045	117	14.19	0.000	0.000	0.005	0.005	6	0.297	0.000	0.000	0.000	0.000	0
16	28.73	0.000	0.000	0.050	0.050	124	13.56	0.000	0.000	0.008	0.008	9	0.343	0.000	0.000	0.000	0.000	0
17	9.000	0.000	0.000	0.000	0.000	0	8.639	0.000	0.000	0.008	0.008	6	0.338	0.000	0.000	0.000	0.000	0
18	23.05	0.000	0.000	0.040	0.040	80	5.673	0.000	0.000	0.005	0.005	2	0.326	0.000	0.000	0.000	0.000	0
19	10.82	0.000	0.000	0.038	0.038	35	5.200	0.000	0.000	0.000	0.000	0	0.338	0.000	0.000	0.000	0.000	0
20	382.7	0.000	0.000	0.213	0.213	7026	3.866	0.000	0.000	0.003	0.003	1	0.905	0.000	0.000	0.015	0.015	1
21	526.6	0.000	0.000	0.243	0.243	11033	3.268	0.000	0.000	0.008	0.008	2	0.781	0.000	0.000	0.000	0.000	0
22	526.9	0.000	0.000	0.105	0.105	4780	4.800	0.000	0.000	0.000	0.000		0.981	0.000	0.000	0.000	0.000	0
23	421.5	0.000	0.000	0.085	0.085	3096	3.228	0.000	0.000	0.008	0.008	2	0.930	0.000	0.000	0.000	0.000	0
24	330.0	0.000	0.000	0.000	0.000	0	3.851	0.000	0.000	0.010	0.010	3	0.878	0.000	0.000	0.000	0.000	0
25	49.72	0.000	0.000	0.068	0.068	290	3.646	0.000	0.000	0.008	0.008	2	0.873	0.000	0.000	0.000	0.000	0
26	39.14	0.000	0.000	0.070	0.070	237	3.218	0.000	0.000	0.008	0.008	2	0.800	0.000	0.000	0.000	0.000	
27	13.59	0.000	0.000	0.048	0.048	56	5.567	0.000	0.000	0.008	0.008	4	0.785	0.000	0.000	0.008	0.008	1
28	11.84	0.000	0.000	0.033	0.033	33	2.321	0.000	0.000	0.008	0.008	2	0.775	0.000	0.000	0.000	0.000	0
29	10.00						0.500	0.000	0.000	0.000	0.000	0	0.779	0.000	0.000	0.000	0.000	0
30	33.00						1.841	0.000	0.000	0.005	0.005	1	0.759	0.000	0.000	0.000	0.000	0
31							1.610	0.000	0.000	0.005	0.005	1						
Ten Daily Mean																		
Ten Daily I	44.05	0.000	0.000	0.075	0.075	326	18.17	0.000	0.000	0.012	0.012	30	1.282	0.000	0.000	0.002	0.002	0
Ten Daily II	60.35	0.000	0.000	0.080	0.080	930	14.24	0.000	0.000	0.009	0.009	17	0.372	0.000	0.000	0.003	0.003	0
Ten Daily III	196.2	0.000	0.000	0.093	0.093	2789	3.077	0.000	0.000	0.007	0.007	2	0.834	0.000	0.000	0.001	0.001	0
Monthly																		
Total						30176						383						3

Annual Sediment Load (Metric Tonnes) : 63407

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Ghatora (EMP40F2) **Division : MD,CWC,Burla**

Local River : Arpa **Sub-Division : MMSD I,CWC,Raipur**

Day	Dec						Jan						Feb					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.772	0.000	0.000	0.000	0.000	0	0.690	0.000	0.000	0.010	0.010	1	0.000	0.000	0.000	0.000	0.000	0
2	8.000	0.000	0.000	0.000	0.000	0	0.755	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
3	6.600	0.000	0.000	0.000	0.000	0	0.759	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
4	6.341	0.000	0.000	0.005	0.005	3	0.654	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
5	0.273	0.000	0.000	0.000	0.000	0	0.594	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
6	0.983	0.000	0.000	0.000	0.000	0	0.634	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
7	0.923	0.000	0.000	0.000	0.000	0	0.630	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
8	0.981	0.000	0.000	0.000	0.000	0	0.548	0.000	0.000	0.003	0.003	0	0.000	0.000	0.000	0.000	0.000	0
9	0.488	0.000	0.000	0.000	0.000	0	0.427	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
10	0.302	0.000	0.000	0.000	0.000	0	0.361	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
11	0.302	0.000	0.000	0.005	0.005	0	0.365	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
12	0.346	0.000	0.000	0.000	0.000	0	1.703	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
13	0.452	0.000	0.000	0.000	0.000	0	1.666	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
14	0.873	0.000	0.000	0.000	0.000	0	0.360	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
15	0.991	0.000	0.000	0.000	0.000	0	0.250	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
16	0.964	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
17	0.980	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
18	0.380	0.000	0.000	0.003	0.003	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
19	0.908	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	0.908	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
21	1.837	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
22	2.142	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	2.122	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
24	0.452	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
25	0.452	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	0.482	0.000	0.000	0.003	0.003	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27	0.492	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
28	0.522	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
29	0.654	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0						
30	0.642	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0						
31	0.642						0.000	0.000	0.000	0.000	0.000	0						
Ten Daily Mean																		
Ten Daily I	2.566	0.000	0.000	0.001	0.001	0	0.605	0.000	0.000	0.001	0.001	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily II	0.710	0.000	0.000	0.001	0.001	0	0.434	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily III	0.949	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Monthly																		
Total						3						1						0

Annual Sediment Load (Metric Tonnes) : 63407

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Ghatora (EMP40F2) **Division : MD,CWC,Burla**

Local River : Arpa **Sub-Division : MMSD I,CWC,Raipur**

Day	Mar						Apr						May					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
2	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
3	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
8	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
9	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
10	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
11	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
12	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
13	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
14	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
15	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
16	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
17	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
18	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
19	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
21	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
22	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
24	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
25	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
28	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
29	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
30	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
31	0.000	0.000	0.000	0.000	0.000	0							0.000	0.000	0.000	0.000	0.000	0
Ten Daily Mean																		
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily III	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Monthly																		
Total						0						0						0

Annual Sediment Load (Metric Tonnes) : 63407

Annual Sediment Load for period : 2001-2018

Station Name : Ghatora (EMP40F2) **Division : MD,CWC,Burla**

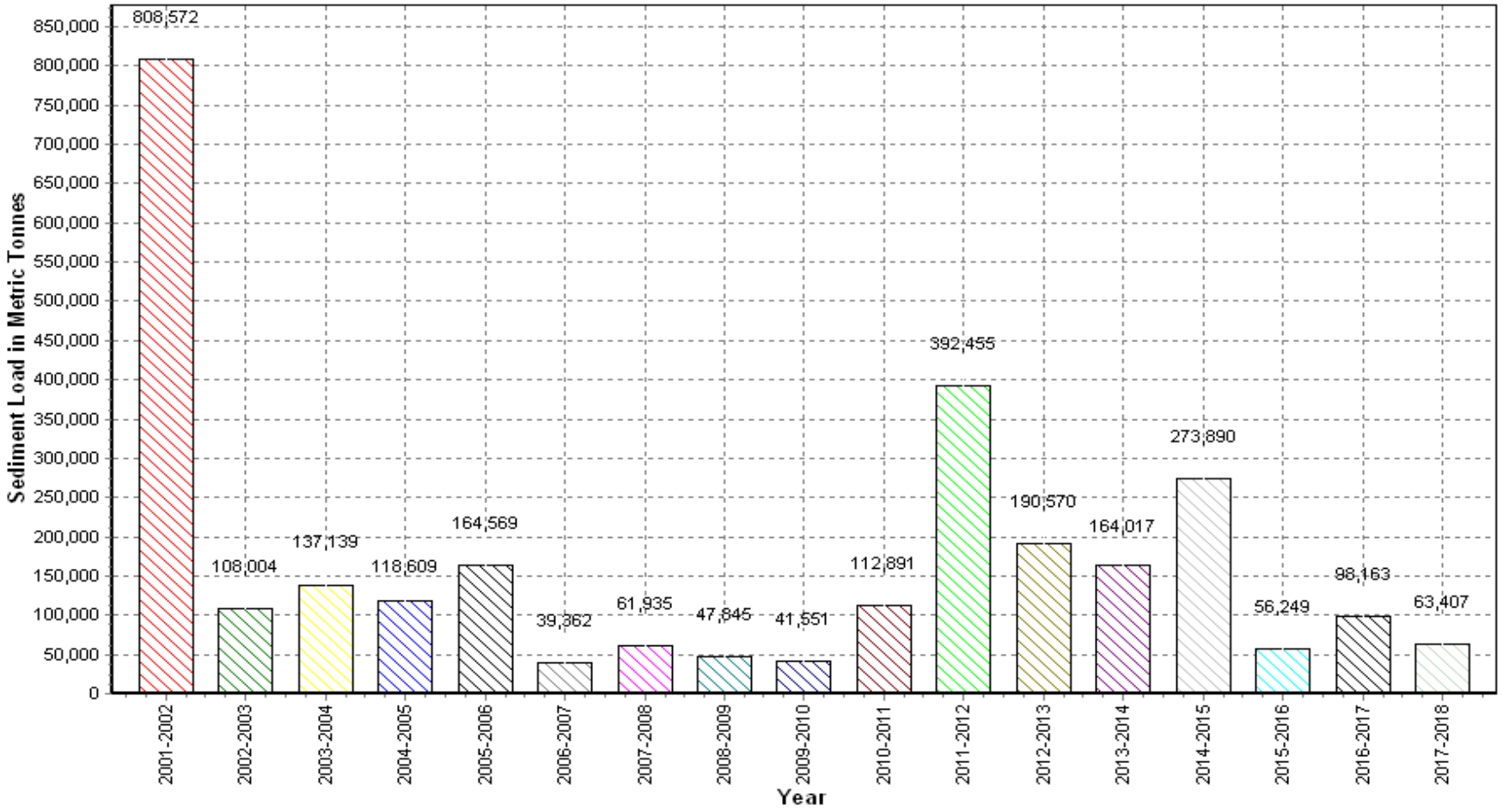
Local River : Arpa **Sub-Division : MMSD I,CWC,Raipur**

Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)
2001-2002	808571	2	808572	1155
2002-2003	107997	7	108004	356
2003-2004	137127	12	137139	1089
2004-2005	118565	44	118609	582
2005-2006	164436	133	164569	980
2006-2007	39354	7	39362	508
2007-2008	61839	97	61935	654
2008-2009	47845	0	47845	500
2009-2010	41551	0	41551	224
2010-2011	112886	5	112891	396
2011-2012	392455	0	392455	1097
2012-2013	190570	0	190570	905
2013-2014	163884	134	164017	831
2014-2015	273837	53	273890	945
2015-2016	56240	10	56249	681
2016-2017	98160	4	98163	725
2017-2018	63403	4	63407	501

Annual Sediment Load for the period: 2001-2018

Station Name : Ghatora (EMP40F2)
Local River : Arpa

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur



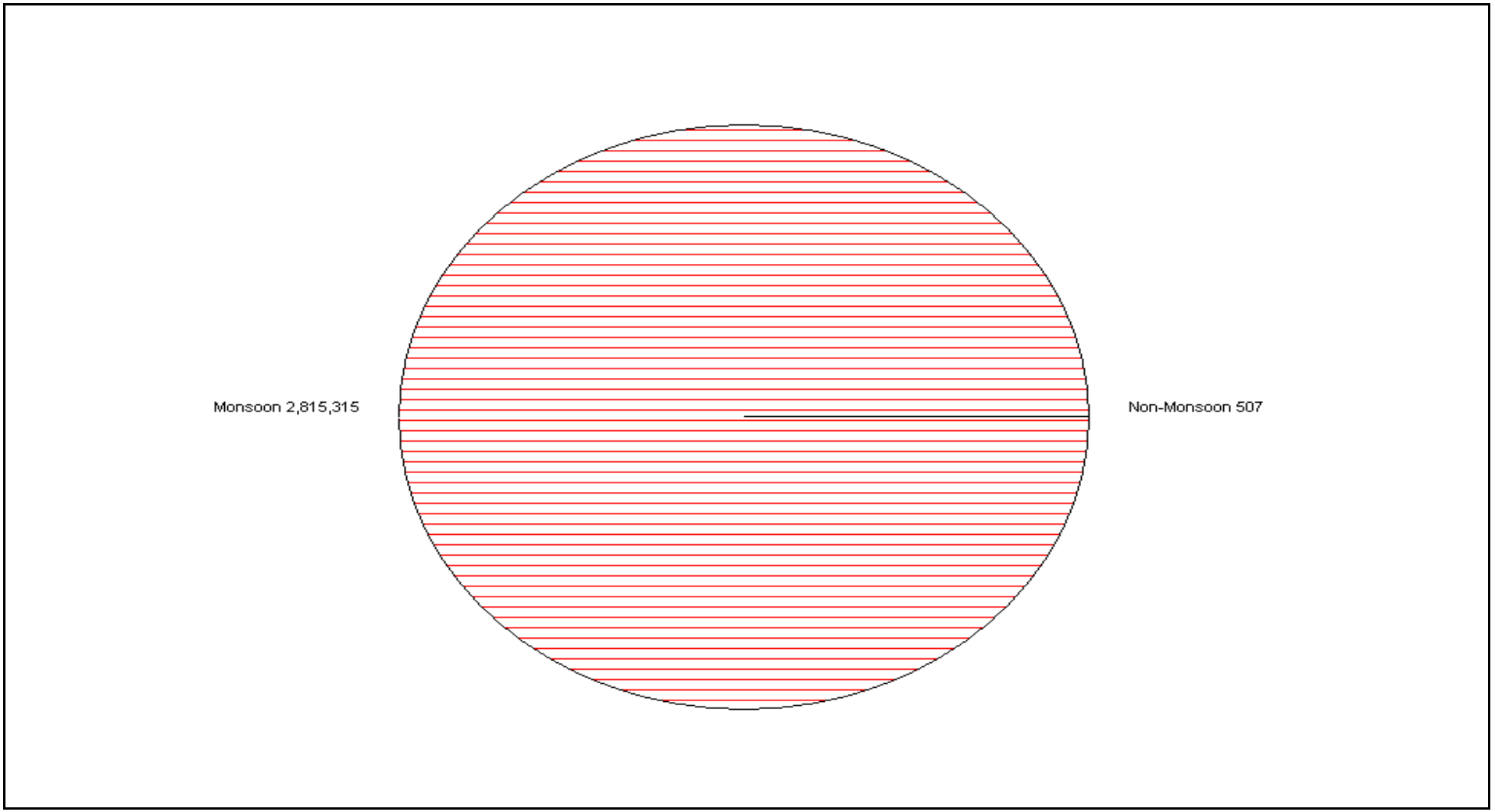
Seasonal Sediment Load for the period : 2001-2017

Station Name : Ghatora (EMP40F2)

Local River : Arpa

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur



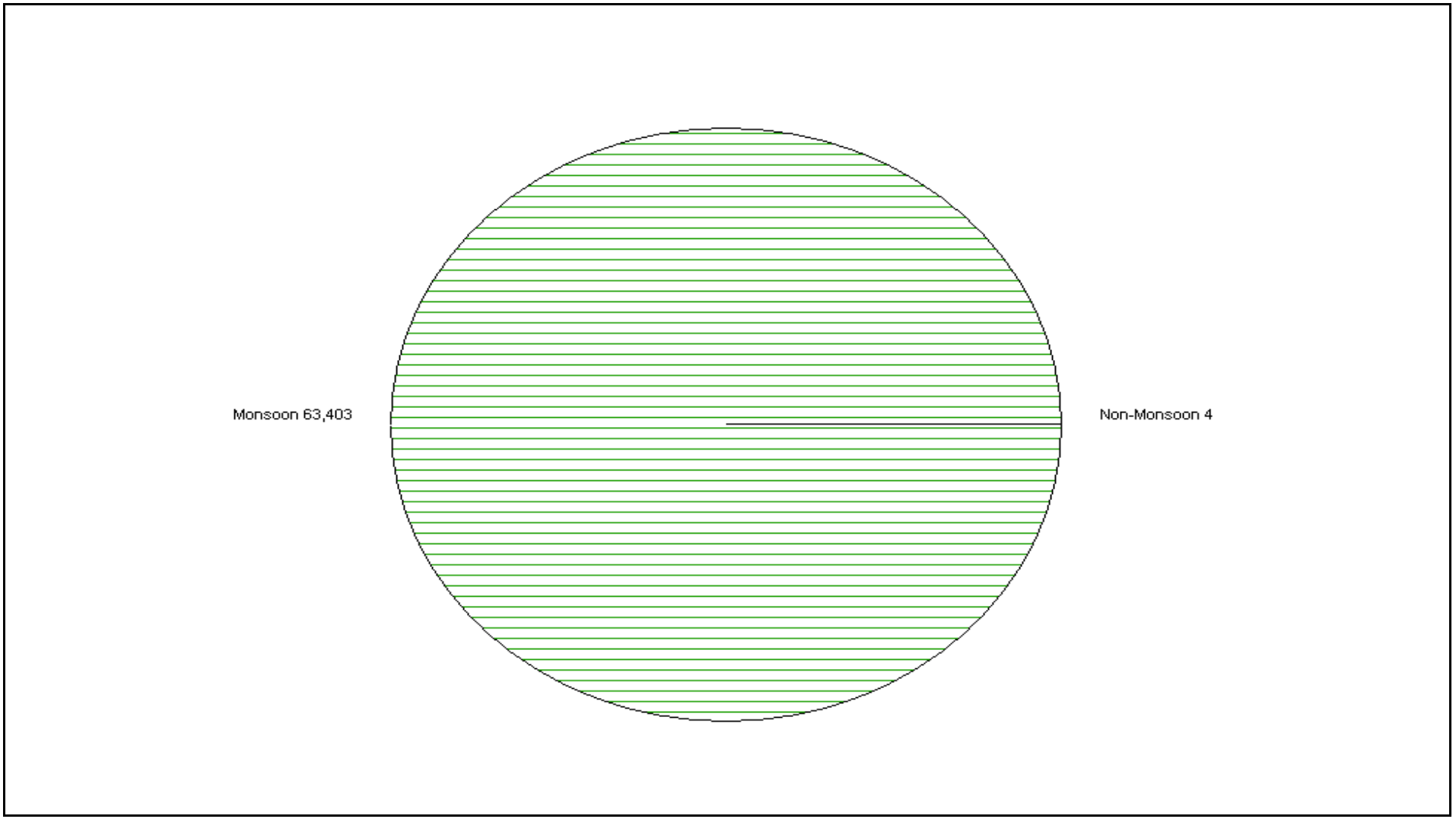
Seasonal Sediment Load for the Year: 2017-2018

Station Name : Ghatora (EMP40F2)

Local River : Arpa

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur



SECTION-III

Water Quality Datasheet for the period : 2017-2018

Station Name : Ghatora (EMP40F2) **Division : MD,CWC,Burla**

Local River : Arpa **River Water Analysis** **Sub-Division : MMSD I,CWC,Raipur**

S.No	Parameters	01/06/2017	01/07/2017	01/08/2017	01/09/2017	03/10/2017	01/11/2017	01/12/2017	01/01/2018	01/02/2018	01/03/2018	02/04/2018	01/05/2018
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)		32.17	3.998	98.19	7.670	1.607	0.772	0.690	0.000	0.000		
2	Colour_Cod (-)		Clear	Light Brown	Light Brown	Light Brown	Clear	Clear	Clear				
3	EC_FLD (µmho/cm)		135	188	513	123	164	172	176				
4	EC_GEN (µmho/cm)		178	328	114	245	286	397	497				
5	Odour_Code (-)		odour free	odour free	odour free	odour free	odour free	odour free	odour free				
6	pH_FLD (pH units)		7.4	7.6	7.9	8.2	8.1	8.1	7.9				
7	pH_GEN (pH units)		7.8	8.2	8.3	8.4	8.0	8.4	7.6				
8	Temp (deg C)		26.5	28.0	28.0	28.0	25.0	20.5	19.0				
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)		0.0	0.0	0.0	0.0	0.0	0.0	0.0				
2	ALK-TOT (mgCaCO3/L)		168	248	188	204	164	136	224				
3	Ca (mg/L)		22	56	58	38	37	48	53				
4	Cl (mg/L)		65.0	41.0	24.0	37.0	29.0	32.0	42.0				
5	CO3 (mg/L)		0.0	0.0	0.0	0.0	0.0	0.0	0.0				
6	HCO3 (mg/L)		103	151	115	124	100	83	137				
7	K (mg/L)		11.0	9.6	9.3	10.0	7.1	7.0	9.3				
8	Mg (mg/L)		26.2	20.4	7.8	5.8	27.2	24.3	31.1				
9	Na (mg/L)		16.0	14.7	24.4	20.7	25.5	20.9	20.7				
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)		1.2	0.6	0.6	1.7	0.9	1.2	0.8				
2	DO (mg/L)		5.2	5.0	6.5	5.6	5.9	6.7	6.1				
3	DO_SAT% (%)		64	64	83	72	71	74	66				
4	FCol-MPN (MPN/100mL)		90	60	60	70	60	60					
5	Tcol-MPN (MPN/100mL)		170	90	90	140	120	90					
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)		56	140	144	96	92	120	132				
2	HAR_Total (mgCaCO3/L)		165	225	177	120	206	221	262				
3	Na% (%)		16	12	22	25	21	17	14				
4	RSC (-)		0.0	0.0	0.0	0.0	0.0	0.0	0.0				
5	SAR (-)		0.5	0.4	0.8	0.8	0.8	0.6	0.6				
	PESTICIDES												

Water Quality Summary for the period : 2017-2018

Station Name : Ghatora (EMP40F2) **Division : MD,CWC,Burla**

Local River : Arpa **Sub-Division : MMSD I,CWC,Raipur**

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	274	526.9	0.000	21.17
2	EC_FLD (µmho/cm)	7	513	123	210
3	EC_GEN (µmho/cm)	7	497	114	292
4	pH_FLD (pH units)	7	8.2	7.4	7.9
5	pH_GEN (pH units)	7	8.4	7.6	8.1
6	Temp (deg C)	7	28.0	19.0	25
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	7	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	7	248	136	190
3	Ca (mg/L)	7	58	22	45
4	Cl (mg/L)	7	65.0	24.0	38.6
5	CO3 (mg/L)	7	0.0	0.0	0
6	HCO3 (mg/L)	7	151	83	116
7	K (mg/L)	7	11.0	7.0	9
8	Mg (mg/L)	7	31.1	5.8	20.4
9	Na (mg/L)	7	25.5	14.7	20.4
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	7	1.7	0.6	1
2	DO (mg/L)	7	6.7	5.0	5.9
3	DO_SAT% (%)	7	83	64	71
4	FCol-MPN (MPN/100mL)	6	90	60	67
5	Tcol-MPN (MPN/100mL)	6	170	90	117
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	7	144	56	112
2	HAR_Total (mgCaCO3/L)	7	262	120	197
3	Na% (%)	7	25	12	18
4	RSC (-)	7	0.0	0.0	0
5	SAR (-)	7	0.8	0.4	0.6
	PESTICIDES				

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Ghatora (EMP40F2) | **Division : MD,CWC,Burla**

Local River : Arpa | **River Water** | **Sub-Division : MMSD I,CWC,Raipur**

S.No	Parameters	Flood														
		Jun - Oct														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	PHYSICAL															
1	Q (cumec)	100.1	22.03	142.4	99.57	63.58	31.60	20.65	16.79	60.73	48.59	50.33	52.89	11.08	173.9	35.51
2	EC_FLD (µmho/cm)	152	289	194	146	282	272	337	210						648	240
3	EC_GEN (µmho/cm)	132	289	194	146	261	252	378	202	193	195	215	370	348	126	216
4	pH_FLD (pH units)	7.7	7.9	7.6	7.4	7.0	7.5	7.5	7.2						7.2	7.8
5	pH_GEN (pH units)	7.7	8.0	7.7	7.4	7.4	7.6	7.7	7.6	7.7	7.7	8.1	7.9	7.6	7.1	8.2
6	Temp (deg C)	27.3	30.8	29.4	20.0	27.7	29.0	29.5	29.3	27.0	28.3	27.0	29.5	28.3	27.5	27.6
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	168	207	113		89	190	277	144	134	142	200	371	320	148	202
3	B (mg/L)			0.08		0.01	0.01	0.00	0.00	0.00	0.00					
4	Ca (mg/L)	17	29	13		22	16	30	14	13	24	25	28	39	34	44
5	Cl (mg/L)	20.5	25.2	21.5		8.5	12.9	11.5	5.1	5.8	8.8	14.0	29.4	34.3		41.8
6	CO3 (mg/L)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	0.0	0.0
7	F (mg/L)	1.39		0.20		0.11	0.12	0.22	0.18	0.23	0.21					
8	Fe (mg/L)			0.1		0.0	0.0	0.1	0.0	0.0	0.0					
9	HCO3 (mg/L)	102	202	69		54	116	169	88	82	87	122	226	192	90	123
10	K (mg/L)			3.1		2.9	2.0	2.7	3.0	2.1	1.8	4.2	8.6	7.4	9.0	10.0
11	Mg (mg/L)	5.8	22.4	4.7		12.0	8.7	15.9	8.9	8.0	13.4	6.2	20.2	17.7	8.7	15.1
12	Na (mg/L)			11.7		18.2	8.9	10.1	9.0	8.1	14.8	9.3	45.4	17.7	17.4	18.9
13	NH3-N (mg N/L)															
14	NO2+NO3 (mg N/L)			0.07	0.05	0.12	0.40									
15	NO2-N (mgN/L)			0.00	0.00	0.01	0.05	0.03	0.01	0.02	0.05					
16	NO3-N (mgN/L)			0.06	0.04	0.11	0.35									
17	P-Tot (mgP/L)	0.030		0.033		0.010	0.025	0.300	0.030	0.040	0.073					
18	SiO2 (mg/L)			6.1		10.2	22.7	24.9	12.1	11.3	15.1					
19	SO4 (mg/L)	9.7	7.2	9.5		14.2	11.7	37.7	13.5	10.5	15.9					

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Ghatora (EMP40F2) **Division : MD,CWC,Burla**

Local River : Arpa **River Water** **Sub-Division : MMSD I,CWC,Raipur**

S.No	Parameters	Flood														
		Jun - Oct														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	1.0	0.8	1.0		1.6	1.7	2.7	0.9	1.3	1.4	1.8	1.9	2.8	1.3	1.0
2	COD (mg/L)					19.2	18.0	33.3	20.0	24.0	22.7					
3	DO (mg/L)	5.7	5.4	4.7		6.6	5.6	4.8	5.2	6.3	7.0	7.0	6.0	5.7	5.7	5.6
4	DO_SAT% (%)	70	73	62		83	73	66	68	79	90	87	78	73	87	71
5	FCol-MPN (MPN/100mL)															70
6	Tcol-MPN (MPN/100mL)															123
	TRACE & TOXIC															
1	Al (mg/L)															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	43	73	33		54	41	76	34	32	60	61	70	98	84	109
2	HAR_Total (mgCaCO3/L)	67	166	53		104	77	142	71	65	116	87	154	172	121	172
3	Na% (%)			32		27	20	13	21	21	22	18	34	18	23	19
4	RSC (-)	0.2	0.0	0.1		0.0	0.4	0.0	0.1	0.0	0.0	0.4	0.7	0.1	0.0	0.0
5	SAR (-)			0.7		0.8	0.5	0.4	0.5	0.4	0.6	0.4	1.5	0.6	0.7	0.6
	PESTICIDES															

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Ghatora (EMP40F2) | **Division : MD,CWC,Burla**

Local River : Arpa | **River Water** | **Sub-Division : MMSD I,CWC,Raipur**

S.No	Parameters	Winter														
		Nov - Feb														
		2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
	PHYSICAL															
1	Q (cumec)	14.32	9.985	2.740	4.432	6.290	2.678		3.492	21.47	9.449	11.23	12.02	0.847	1.455	0.767
2	EC_FLD (µmho/cm)	366	534	472	365	420	612	365	290						184	171
3	EC_GEN (µmho/cm)	366	534	472	365	387	639	365	287	314	353	331	366	502	352	393
4	pH_FLD (pH units)	7.9	7.7	7.4	8.0	7.6	7.7	7.6	8.0						7.5	8.1
5	pH_GEN (pH units)	7.9	7.7	7.4	8.0	7.9	7.8	8.2	8.0	7.8	7.9	7.9	7.7	7.9	8.0	8.0
6	Temp (deg C)	22.5	23.3	24.8	14.0	20.3	20.3	23.0	22.0	22.0	24.0	22.0	21.5	21.6	22.0	21.5
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	368	324	319		261	379	194	198	213	298	315	335	439	119	175
3	B (mg/L)			0.08		0.01	0.00	0.00	0.00	0.00	0.00					
4	Ca (mg/L)	27	40	36		26	43	24	19	21	45	46	46	49	30	46
5	Cl (mg/L)	18.3	19.5	56.0		41.1	49.5	9.4	24.0	28.0	18.5	24.7	29.0	46.5	32.5	34.3
6	CO3 (mg/L)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.99	0.47	0.13		0.23	0.35	0.22	0.12	0.24	0.32					
8	Fe (mg/L)			0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0		0.1			
9	HCO3 (mg/L)	180	197	195		159	231	118	121	130	182	192	204	268	73	107
10	K (mg/L)		4.6	4.0		3.4	4.0	2.3	16.2	2.6	1.8	14.7	6.2	7.8	10.6	7.8
11	Mg (mg/L)	14.9	16.1	17.7		16.2	23.2	14.1	14.8	13.6	26.2	8.1	16.3	20.2	37.8	27.5
12	Na (mg/L)		36.5	32.5		24.0	37.2	10.0	39.6	18.8	8.1	44.5	24.4	31.0	25.2	22.3
13	NH3-N (mg N/L)															
14	NO2+NO3 (mg N/L)		0.26	0.26	0.08	0.11	0.75						0.11			
15	NO2-N (mgN/L)			0.00	0.01	0.01	0.08	0.04	0.01	0.02	0.03		0.03			
16	NO3-N (mgN/L)			0.26	0.08	0.10	0.68						0.08			
17	P-Tot (mgP/L)	0.335	0.032	0.007		0.022	0.147	0.030	0.050	0.040	0.030		0.060			
18	SiO2 (mg/L)			18.4		18.6	40.9	23.0	13.0	12.0	17.2		9.2			
19	SO4 (mg/L)	6.6	8.9	14.7		15.1	53.8	27.0	15.8	16.6	17.5		15.0			

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Ghatora (EMP40F2) **Division : MD,CWC,Burla**

Local River : Arpa **River Water** **Sub-Division : MMSD I,CWC,Raipur**

S.No	Parameters	Winter														
		Nov - Feb														
		2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.8	3.4	2.5		1.5	1.6	1.8	2.4	1.3	1.6	10.0	3.6	2.1	1.3	1.0
2	COD (mg/L)					24.0	65.0	32.0	22.0	16.0	24.0					
3	DO (mg/L)	5.2	6.0	5.4		5.9	6.4	5.3	4.9	5.6	5.5	6.9	7.5	5.4	5.7	6.2
4	DO_SAT% (%)	58	71	66		65	72	62	62	64	65	79	85	61	60	70
5	FCol-MPN (MPN/100mL)															60
6	Tcol-MPN (MPN/100mL)															105
	TRACE & TOXIC															
1	Al (mg/L)															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	66	100	91		66	109	60	48	52	112	115	114	123	76	115
2	HAR_Total (mgCaCO3/L)	128	167	165		133	205	119	110	109	221	149	182	207	234	230
3	Na% (%)		30	28		28	28	15	39	27	7	32	20	24	20	17
4	RSC (-)	0.6	0.4	0.1		0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.0	0.7	0.0	0.0
5	SAR (-)		1.2	1.1		0.9	1.1	0.4	1.7	0.8	0.2	1.5	0.8	0.9	0.8	0.6
	PESTICIDES															

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Ghatora (EMP40F2) | **Division : MD,CWC,Burla**

Local River : Arpa | **River Water** | **Sub-Division : MMSD I,CWC,Raipur**

S.No	Parameters	Summer														
		Mar - May														
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	PHYSICAL															
1	Q (cumec)	2.797	1.068									1.287	0.132	0.000	0.000	0.000
2	EC_FLD (µmho/cm)	511	604													
3	EC_GEN (µmho/cm)	511	604									681	596			
4	pH_FLD (pH units)	7.8	7.8													
5	pH_GEN (pH units)	7.8	7.8									7.7	7.9			
6	Temp (deg C)	28.0	28.0									26.2	23.0			
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.0			0.0						0.5	0.0			
2	ALK-TOT (mgCaCO3/L)	506	574			34						445	504			
3	B (mg/L)					0.01										
4	Ca (mg/L)	57	42			32						67	51			
5	Cl (mg/L)	37.0	32.0			51.1						65.3	12.0			
6	CO3 (mg/L)	0.0	0.0			0.0						0.6	0.0			
7	F (mg/L)		0.30			0.33										
8	Fe (mg/L)												0.1			
9	HCO3 (mg/L)	309	350			21						271	307			
10	K (mg/L)		7.2			3.7						8.4	4.1			
11	Mg (mg/L)	14.6	22.4			19.9						22.4	30.1			
12	Na (mg/L)		53.9			28.9						68.2	19.5			
13	NH3-N (mg N/L)															
14	NO2+NO3 (mg N/L)		1.48													
15	NO2-N (mgN/L)															
16	NO3-N (mgN/L)															
17	P-Tot (mgP/L)		0.017			0.020							0.040			
18	SiO2 (mg/L)					26.0							9.3			
19	SO4 (mg/L)	8.3	16.0			12.0							17.0			

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Ghatora (EMP40F2) **Division : MD,CWC,Burla**

Local River : Arpa **River Water** **Sub-Division : MMSD I,CWC,Raipur**

S.No	Parameters	Summer														
		Mar - May														
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.9	4.5			1.2						2.3	4.8			
2	COD (mg/L)					28.0										
3	DO (mg/L)	5.9	5.0									5.6	7.6			
4	DO_SAT% (%)	88	64									69	89			
5	FCol-MPN (MPN/100mL)															
6	Tcol-MPN (MPN/100mL)															
	TRACE & TOXIC															
1	Al (mg/L)															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	143	104			80						167	128			
2	HAR_Total (mgCaCO3/L)	203	196			163						260	254			
3	Na% (%)		36			27						35	14			
4	RSC (-)	1.7	1.8			0.0						0.0	0.0			
5	SAR (-)		1.7			1.0						1.9	0.5			
	PESTICIDES															

SITE JONDHRA

HISTORY SHEET

Water Year : 2017-2018

Site	:	**Jondhra**	**Code**	:	**EMP00A4**
State	:	Chhattisgarh	District		Bilaspur
Basin	:	Mahanadi	Independent River	:	Mahanadi
Tributary	:	Seonath	Sub Tributary	:	
Sub-Sub Tributary	:		Local River	:	Seonath
Division	:	MD,CWC,Burla	Sub-Division	:	MMSD I,CWC,Raipur
Drainage Area	:	29645 Sq. Km.	Bank	:	
Latitude	:	21°43'00"	Longitude	:	82°20'34"
Zero of Gauge (m)	:	219 (m.s.l)	24/01/1979	-	01/02/2025
		Opening Date	Closing Date		
Gauge	:	24/01/1979			
Discharge	:	21/07/1979			
Sediment	:	11/10/1980			
Water Quality	:	02/06/1980			

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

	Maximum			Minimum		
Year	**Q (cumecs)**	**WL (m)**	**Date**	**Q (cumecs)**	**WL (m)**	**Date**
1980-1981	11033	229.950	20/09/1980	0.560	219.710	02/06/1980
1981-1982	4444	226.280	11/08/1981	3.340	219.725	12/05/1982
1982-1983	4372	225.820	10/08/1982	2.500	219.720	04/05/1983
1983-1984	4902	225.210	08/09/1983	1.600	219.685	11/06/1983
1984-1985	7284	227.140	19/08/1984	3.400	219.740	10/05/1985
1985-1986	5953	227.265	13/09/1985	3.800	219.725	01/06/1985
1986-1987	6248	227.145	28/06/1986	4.700	219.800	31/05/1987
1987-1988	2063	223.760	16/09/1987	4.500	219.795	01/06/1987
1988-1989	3737	225.435	05/08/1988	1.170	219.545	30/04/1989
1989-1990	1720	223.750	02/09/1989	0.145	219.715	20/04/1990
1990-1991	7132	228.380	15/09/1990	2.200	219.690	26/05/1991
1991-1992	5376	227.860	25/08/1991	0.858	219.630	27/05/1992
1992-1993	3978	227.775	22/08/1992	0.061	219.500	28/05/1993
1993-1994	4528	227.050	20/08/1993	0.018	219.500	01/06/1993
1994-1995	12700	230.570	14/07/1994	0.669	219.595	09/06/1994
1995-1996	4239	227.275	26/07/1995	3.000	220.210	18/06/1995
1996-1997	3785	226.110	03/08/1996	0.076	219.790	27/05/1997
1997-1998	5980	227.080	24/08/1997	3.411	219.990	21/06/1997
1998-1999	4341	227.730	14/09/1998	0.430	219.810	12/05/1999
1999-2000	3681	225.565	01/09/1999	0.839	219.815	11/06/1999
2000-2001	2811	225.110	21/07/2000	0.038	219.620	26/04/2001
2001-2002	4469	226.200	22/08/2001	0.087	219.590	20/04/2002

Q : Observed / Computed Discharge WL : Corresponding Water Level(m.s.l)

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

	Maximum			Minimum		
Year	**Q (cumecs)**	**WL (m)**	**Date**	**Q (cumecs)**	**WL (m)**	**Date**
2002-2003	1600	224.200	08/09/2002	0.240	219.655	20/04/2003
2003-2004	5721	229.300	30/08/2003	0.494	219.660	31/05/2004
2004-2005	2772	225.900	10/08/2004	0.493	219.730	31/05/2005
2005-2006	7526	229.060	18/09/2005	0.167	219.690	29/05/2006
2006-2007	6068	228.380	14/08/2006	0.000	219.660	11/05/2007
2007-2008	6874	227.720	03/07/2007	0.000	219.465	13/05/2008
2008-2009	4209	226.663	20/09/2008	0.000	219.430	17/04/2009
2009-2010	3056	225.997	17/07/2009	0.000	221.315	07/03/2010
2010-2011	3203	226.325	21/09/2010	0.000	222.285	25/01/2011
2011-2012	9193	229.905	10/09/2011	0.000	220.960	06/04/2012
2012-2013	3812	226.505	07/09/2012	0.000	222.320	22/12/2012
2013-2014	6529	227.965	03/08/2013	0.000	220.560	19/06/2013
2014-2015	9676	229.220	07/08/2014	0.000	222.600	05/04/2015
2015-2016	2083	224.720	22/09/2015	0.000	222.480	28/11/2015
2016-2017	2837	225.415	08/08/2016	0.000	220.420	01/04/2017

Q : Observed / Computed Discharge WL : Corresponding Water Level(m.s.l)

Stage-Dischage Data for the period 2017 - 2018

Station Name : Jondhra (EMP00A4) **Division : MD,CWC,Burla**

Local River : Seonath **Sub-Division : MMSD I,CWC,Raipur**

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	220.270	0.000	220.340	0.000	220.890	53.23	223.400	405.4	222.490	168.2 *	221.855	45.46
2	220.270	0.000 *	220.340	0.000	220.710	45.79	223.130	350.0 *	222.540	186.9 *	221.570	39.53
3	220.260	0.000 *	220.340	0.000	220.570	23.06	222.930	311.0 *	222.360	103.2	221.500	38.80
4	220.260	0.000 *	220.390	0.000	220.540	23.66	222.730	293.0	222.120	111.2	221.480	39.94 *
5	220.250	0.000 *	220.400	0.000	220.640	25.67	222.550	278.6	222.610	281.9	221.200	39.57 *
6	220.250	0.000 *	220.530	0.000	220.600	25.00 *	221.960	132.9	222.700	293.1	220.860	39.11
7	220.240	0.000 *	220.610	0.000	220.560	21.99	222.120	135.3	222.540	270.5	220.810	37.62
8	220.240	0.000 *	220.610	0.000	220.540	21.41	221.888	126.9	222.540	276.1 *	220.800	37.39
9	220.240	0.000 *	220.940	0.000	220.540	21.12	221.620	74.84	222.550	264.2	220.770	36.12
10	220.230	0.000 *	221.130	81.71	220.680	25.73	221.830	118.0 *	222.700	296.3	220.700	29.81
11	220.230	0.000 *	221.030	73.06	220.800	50.70	221.485	44.85	222.830	307.8	220.670	29.26
12	220.230	0.000 *	220.990	55.34	221.450	125.5	221.915	94.58	222.960	319.6	220.700	30.90 *
13	220.310	0.000 *	220.935	54.50	221.310	115.0 *	221.020	94.04	222.830	316.3	220.860	38.25
14	220.300	0.000 *	220.910	50.15	221.280	111.6	221.670	76.05	222.800	311.3	220.830	37.84
15	220.300	0.000 *	220.900	49.62	221.335	119.0 *	221.685	74.73	222.660	260.7 *	220.670	29.79
16	220.290	0.000 *	220.810	38.00 *	221.260	109.0	221.645	72.90	222.390	159.3	220.670	28.84
17	220.290	0.000 *	220.800	37.49	221.130	81.31	221.940	95.00 *	221.910	108.7	220.620	26.21
18	220.280	0.000 *	220.920	53.59	221.100	69.93	222.300	109.2	221.860	105.7	220.570	25.76
19	220.270	0.000 *	220.935	55.46	222.140	142.6	222.200	101.2	221.730	86.04 *	220.560	25.74 *
20	220.270	0.000 *	221.130	82.27	221.780	100.0 *	222.390	110.7	221.480	66.76	220.550	25.64
21	220.260	0.000 *	223.440	683.2	221.570	80.65	222.900	286.4	221.635	76.03	220.540	25.52
22	220.260	0.000 *	223.200	566.2	222.000	120.8	224.405	1654	221.665	79.51 *	220.510	22.69
23	220.260	0.000 *	222.930	400.0 *	222.790	256.1	224.030	1409	221.630	74.66	220.500	22.34
24	220.300	0.000 *	222.785	269.1	222.750	251.7	223.500	815.4 *	221.890	106.3	220.490	22.03
25	220.380	0.000 *	222.570	265.9	222.730	230.0 *	223.180	433.2	222.160	113.2	220.480	21.72
26	220.390	0.000 *	222.360	172.5	222.750	249.7	222.990	372.7	222.070	111.8	220.470	20.01 *
27	220.375	0.000 *	221.850	111.4	222.690	200.0 *	222.840	308.0	222.000	110.4	220.430	13.18
28	220.370	0.000 *	221.375	119.3	222.600	159.6	222.800	299.8	221.615	77.34	220.425	12.96
29	220.380	0.000 *	221.260	112.1	222.580	157.7	222.650	235.2 *	221.670	80.00 *	220.420	12.64
30	220.380	0.000 *	221.100	90.00 *	223.240	561.4	222.470	143.6 *	221.990	51.35	220.420	12.46
31			221.020	66.17	223.940	933.6			222.000	51.75		
Ten-Daily Mean												
I Ten-Daily	220.251	0.000	220.563	81.71	220.627	28.67	222.416	222.6	222.515	225.2	221.154	38.34
II Ten-Daily	220.277	0.000	220.936	54.95	221.358	102.5	221.825	87.33	222.345	204.2	220.670	29.82
III Ten-Daily	220.335	0.000	222.172	259.6	222.695	291.0	223.176	595.8	221.848	84.76	220.469	18.55
Monthly												
Min.	220.230	0.000	220.340	37.49	220.540	21.12	221.020	44.85	221.480	51.35	220.420	12.46
Max.	220.390	0.000	223.440	683.2	223.940	933.6	224.405	1654	222.960	319.6	221.855	45.46
Mean	220.288	0	221.254	158.5	221.597	145.6	222.472	301.9	222.223	168.6	220.764	28.9

Annual Runoff in MCM = 2027 Annual Runoff in mm = 68

Peak Observed Discharge = 1654 cumecs on 22/09/2017 Corres. Water Level :224.405 m

Lowest Observed Discharge = 0.157 cumecs on 19/03/2018 Corres. Water Level :220.19 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Dischage Data for the period 2017 - 2018

Station Name : Jondhra (EMP00A4) **Division : MD,CWC,Burla**

Local River : Seonath **Sub-Division : MMSD I,CWC,Raipur**

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	220.420	12.61	220.100	2.653	220.550	0.620	220.420	0.296	220.140	0.000 *	219.000	0.000 *
2	220.420	12.60 *	220.100	2.962	220.520	0.617	220.415	0.293 *	220.140	0.000 *	219.000	0.000 *
3	220.420	12.60 *	220.090	2.530	220.500	0.619	220.410	0.291	220.140	0.000 *	219.000	0.000 *
4	220.415	12.25	220.040	1.575	220.490	0.588 *	220.390	0.284 *	220.160	0.000 *	219.000	0.000 *
5	220.415	12.22	220.040	1.549	220.480	0.557	220.370	0.261	220.170	0.000 *	219.000	0.000 *
6	220.415	12.19	220.035	1.455	220.490	0.549	220.360	0.274	220.170	0.000 *	219.000	0.000 *
7	220.415	12.24	220.030	1.434 *	220.490	0.538	220.340	0.250	220.150	0.000 *	220.150	0.000 *
8	220.405	10.43	220.050	1.489	220.485	0.538	220.330	0.245	220.140	0.000 *	220.200	0.000 *
9	220.405	10.37	220.050	1.721	220.480	0.540	220.300	0.247	220.140	0.000 *	220.200	0.000 *
10	220.405	10.37 *	220.045	1.648	220.480	0.541	220.320	0.250	220.140	0.000 *	220.200	0.000 *
11	220.400	9.982	220.045	1.603	220.450	0.525 *	220.300	0.304 *	220.130	0.000 *	220.190	0.000 *
12	220.400	10.29	220.410	0.642	220.430	0.530	220.270	0.385	220.130	0.000 *	220.180	0.000 *
13	220.400	10.19	220.420	0.638	220.430	0.513	220.240	0.318	220.130	0.000 *	220.170	0.000 *
14	220.390	9.887	220.444	0.706 *	220.445	0.542	220.230	0.313	220.150	0.000 *	220.160	0.000 *
15	220.390	9.825	220.460	0.823	220.450	0.536	220.220	0.300	220.150	0.000 *	220.160	0.000 *
16	220.390	9.931	220.480	0.812	220.445	0.529	220.210	0.208	220.140	0.000 *	220.020	0.000 *
17	220.380	9.800 *	220.500	0.821	220.445	0.501	220.200	0.183	220.140	0.000 *	220.020	0.000 *
18	220.350	7.074	220.510	0.816	220.440	0.498 *	220.195	0.170 *	220.140	0.000 *	220.020	0.000 *
19	220.345	6.986	220.510	0.791	220.425	0.489	220.190	0.157	220.120	0.000 *	220.010	0.000 *
20	220.340	6.904	220.510	0.754	220.420	0.478	220.180	0.000 *	220.120	0.000 *	220.010	0.000 *
21	220.340	6.712	220.550	0.737 *	220.420	0.446	220.180	0.000 *	220.110	0.000 *	220.000	0.000 *
22	220.335	6.697	220.620	0.710	220.415	0.436	220.180	0.000 *	220.100	0.000 *	220.000	0.000 *
23	220.330	6.313	220.660	0.717	220.415	0.439	220.180	0.000 *	219.000	0.000 *	219.990	0.000 *
24	220.320	6.200 *	220.680	0.691	220.415	0.435	220.170	0.000 *	219.000	0.000 *	219.980	0.000 *
25	220.300	6.100 *	220.680	0.693	220.380	0.396 *	220.170	0.000 *	219.000	0.000 *	219.970	0.000 *
26	220.280	3.576	220.680	0.683 *	220.320	0.357	220.160	0.000 *	219.000	0.000 *	219.970	0.000 *
27	220.275	3.235	220.684	0.672	220.440	0.321	220.150	0.000 *	219.000	0.000 *	219.960	0.000 *
28	220.275	3.478	220.640	0.639 *	220.430	0.300	220.150	0.000 *	219.000	0.000 *	219.960	0.000 *
29	220.265	3.431	220.610	0.618			220.140	0.000 *	219.000	0.000 *	219.950	0.000 *
30	220.100	2.650	220.590	0.617			220.140	0.000 *	219.000	0.000 *	219.950	0.000 *
31	220.100	2.650 *	220.560	0.617			220.140	0.000 *			219.960	0.000 *
Ten-Daily Mean												
I Ten-Daily	220.413	11.79	220.058	1.902	220.497	0.571	220.366	0.269	220.149	0.000	219.475	0.000
II Ten-Daily	220.378	9.087	220.429	0.841	220.438	0.514	220.223	0.234	220.135	0.000	220.094	0.000
III Ten-Daily	220.265	4.640	220.632	0.672	220.404	0.391	220.160	0.000	219.221	0.000	219.972	0.000
Monthly												
Min.	220.100	2.650	220.030	0.617	220.320	0.300	220.140	0.000	219.000	0.000	219.000	0.000
Max.	220.420	12.61	220.684	2.962	220.550	0.620	220.420	0.385	220.170	0.000	220.200	0.000
Mean	220.350	8.38	220.381	1.123	220.449	0.499	220.247	0.162	219.835	0	219.851	0

Peak Computed Discharge = 815.4 cumecs on 24/09/2017 Corres. Water Level :223.5 m

Lowest Computed Discharge = 0.000 cumecs on 20/03/2018 Corres. Water Level :220.18 m

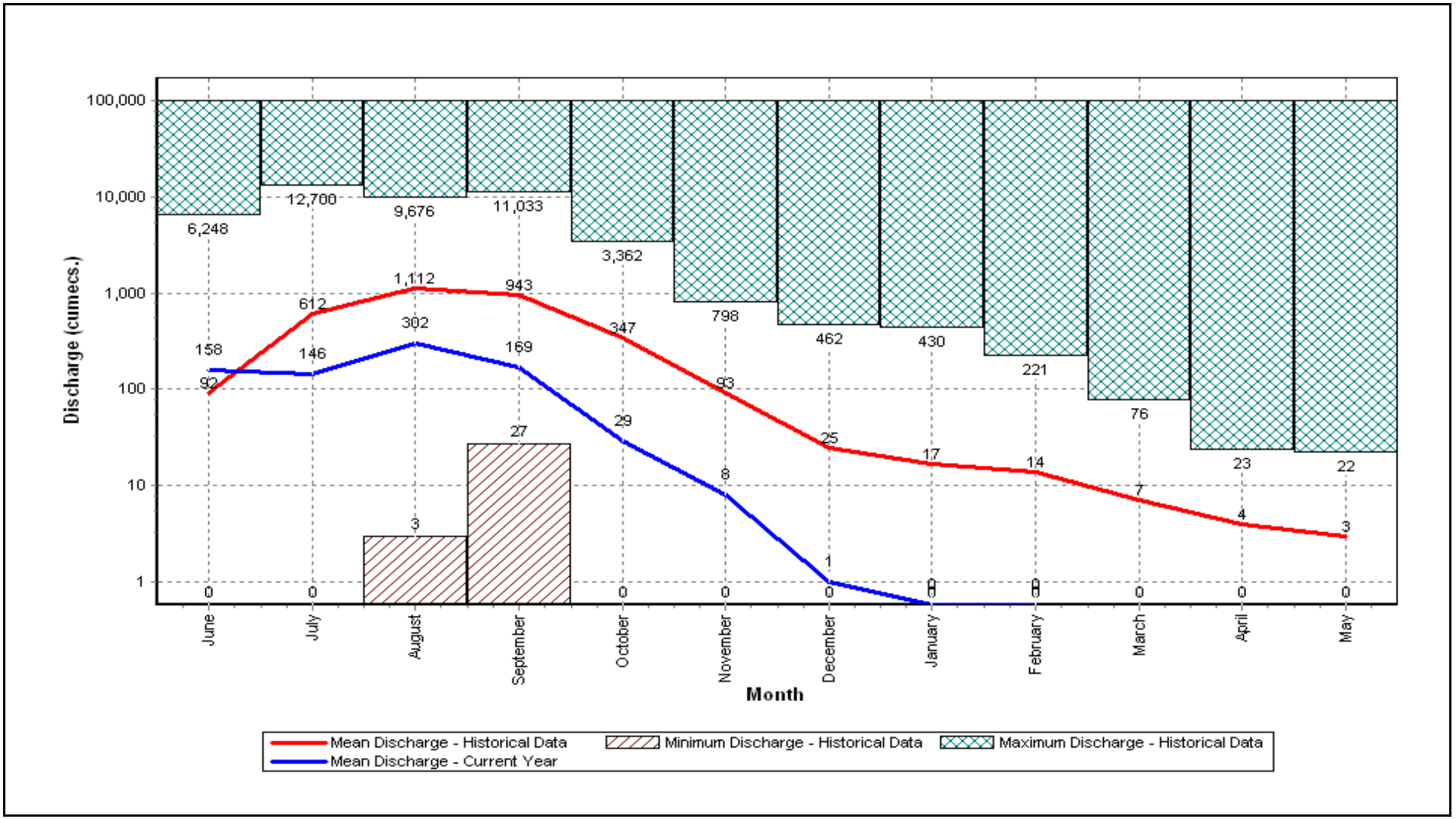
Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2017-2018

Station Name : Jondhra (EMP00A4) | **Data considered : 1980-2018** | **Division : MD,CWC,Burla**

Local River : Seonath | **Sub-Division : MMSD I,CWC,Raipur**



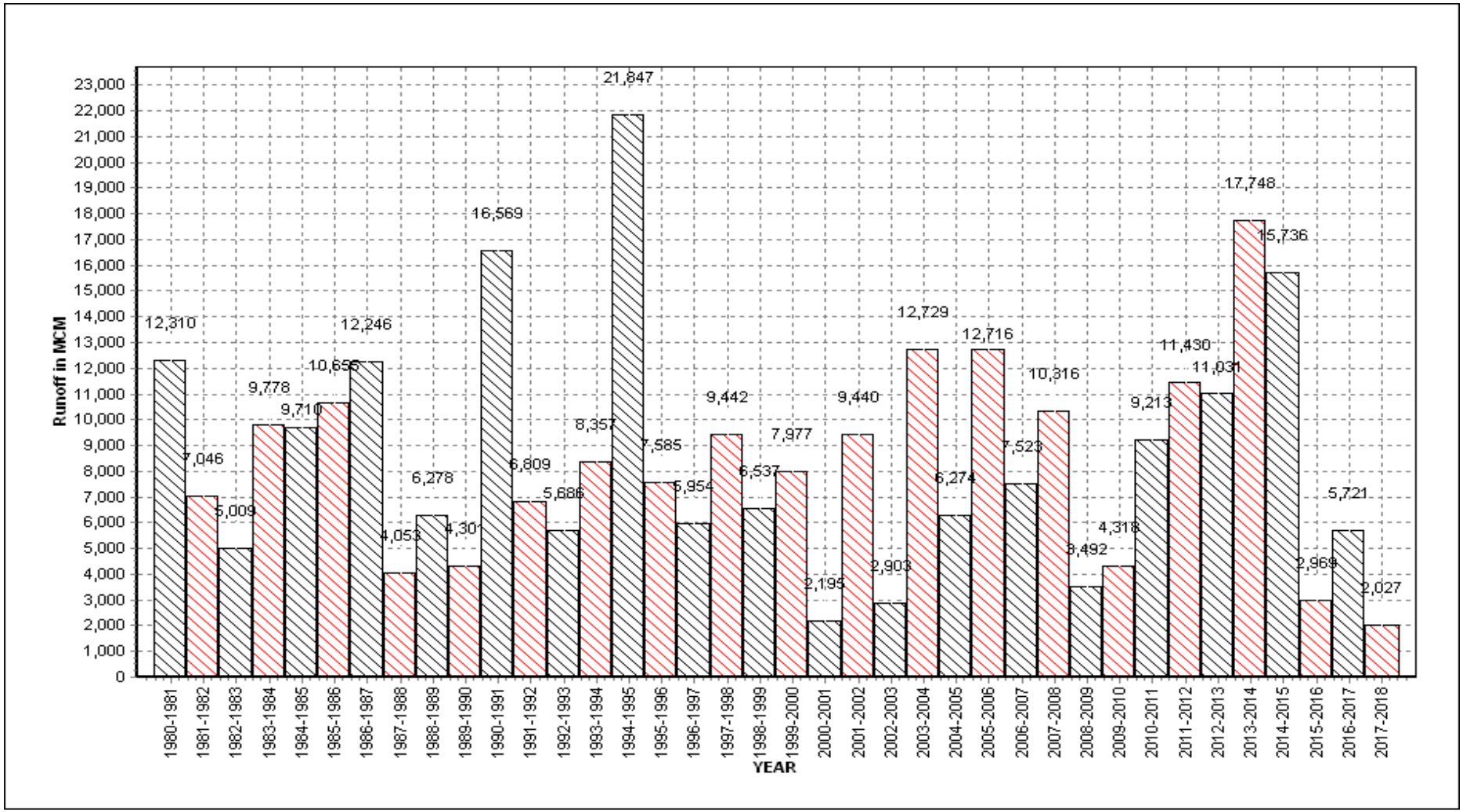
Annual Runoff Values for the period: 1980 - 2018

Station Name : Jondhra (EMP00A4)

Local River : Seonath

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur



Note: Missing values have not been considered while arriving at Annual Runoff

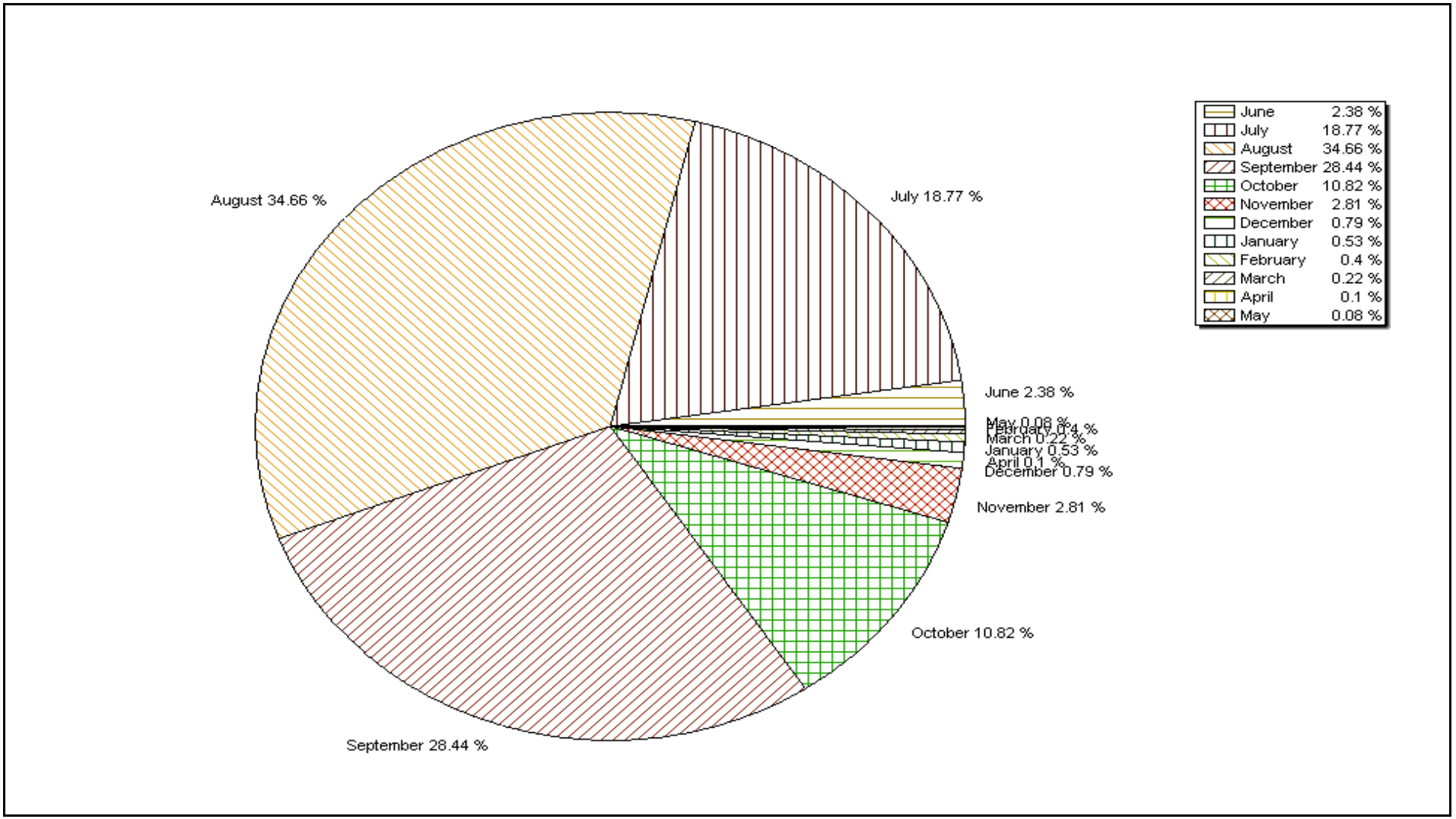
Monthly Average Runoff based on period : 1980-2017

Station Name : Jondhra (EMP00A4)

Local River : Seonath

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur



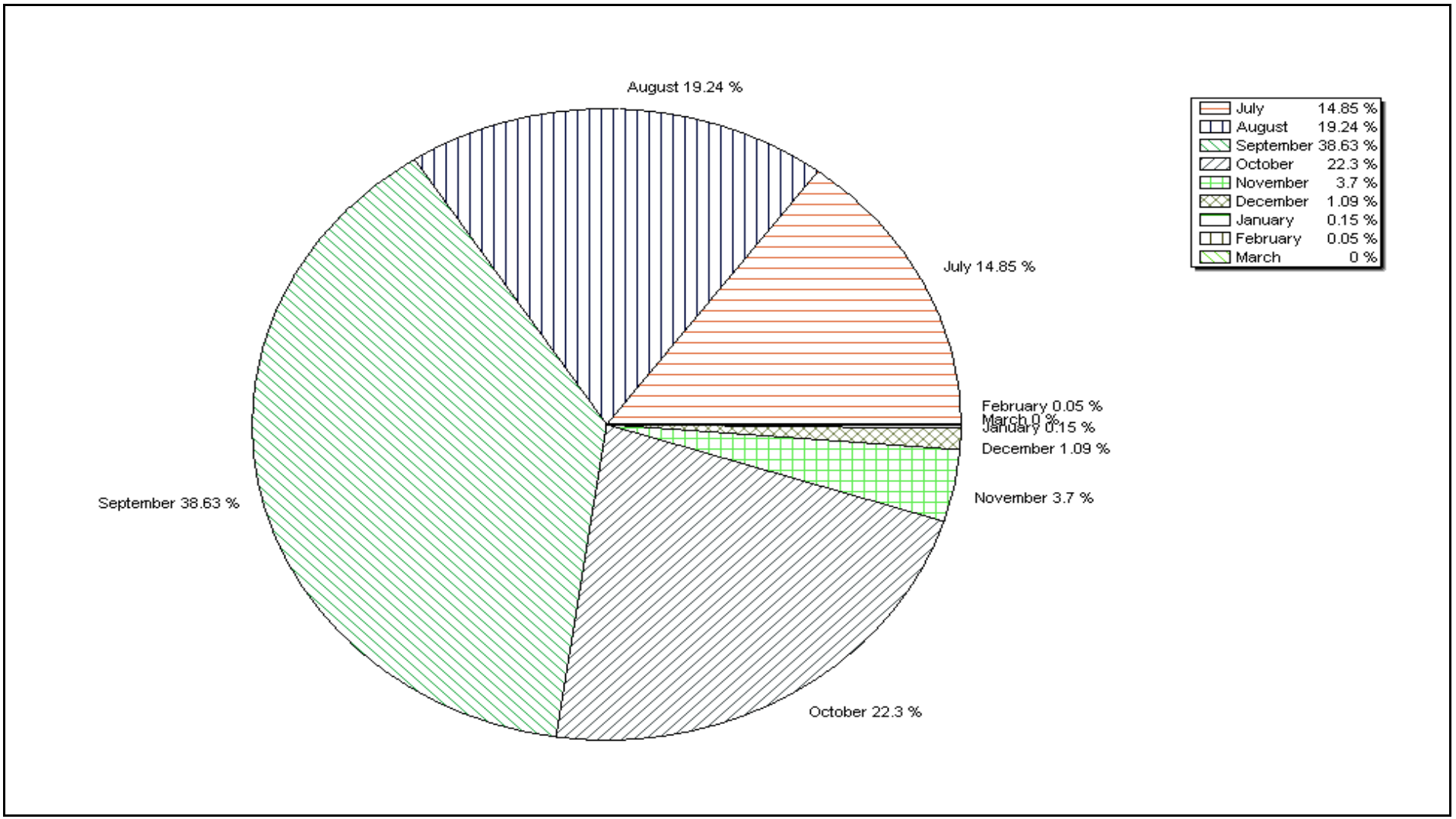
Monthly Runoff for the Year : 2017-2018

Station Name : Jondhra (EMP00A4)

Local River : Seonath

Division : MD,CWC,Burla

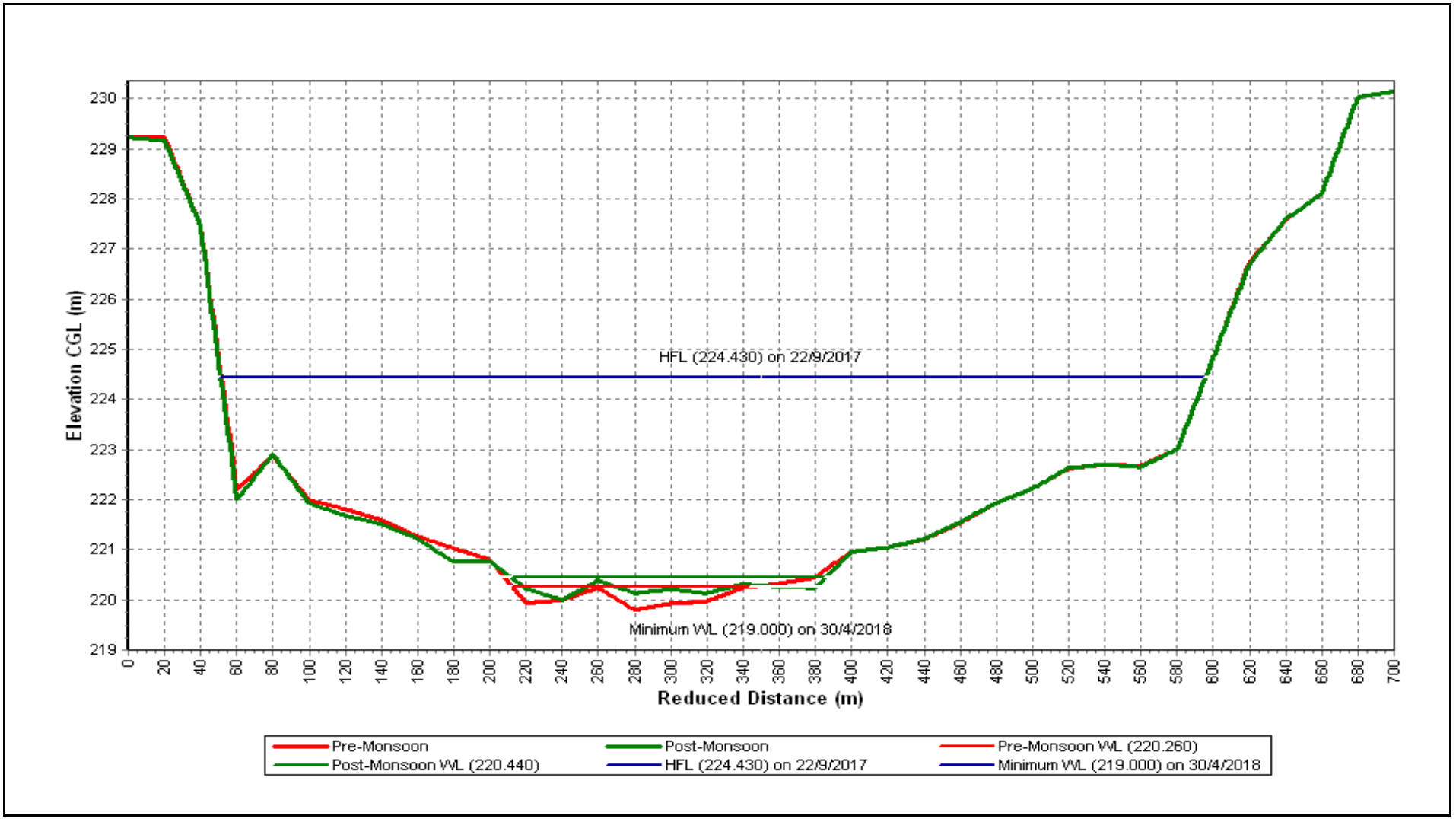
Sub-Division : MMSD I,CWC,Raipur



Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2017-2018

Station Name : Jondhra (EMP00A4)
Local River : Seonath

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur



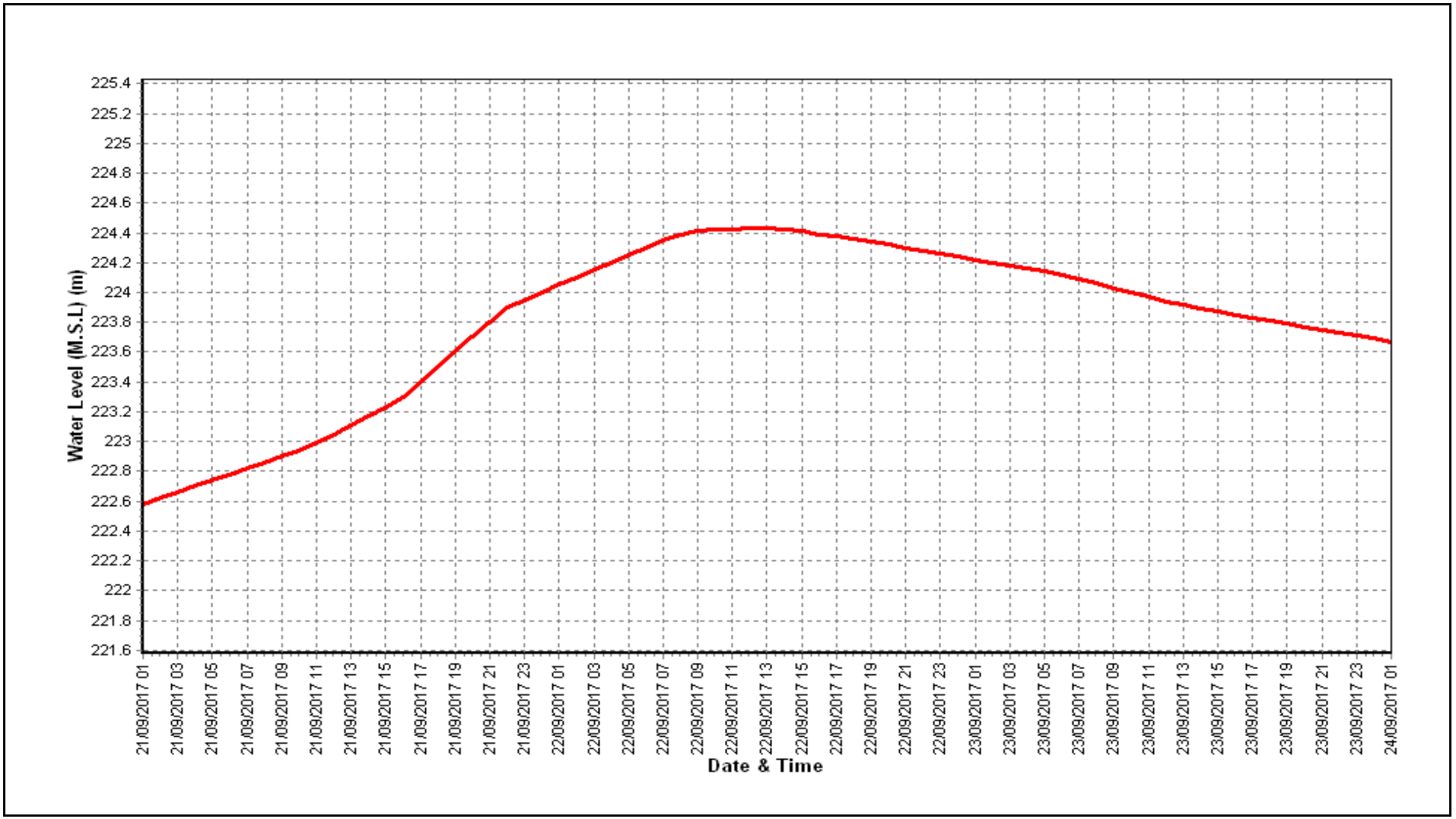
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2017-2018

Station Name : Jondhra (EMP00A4)

Local River : Seonath

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur

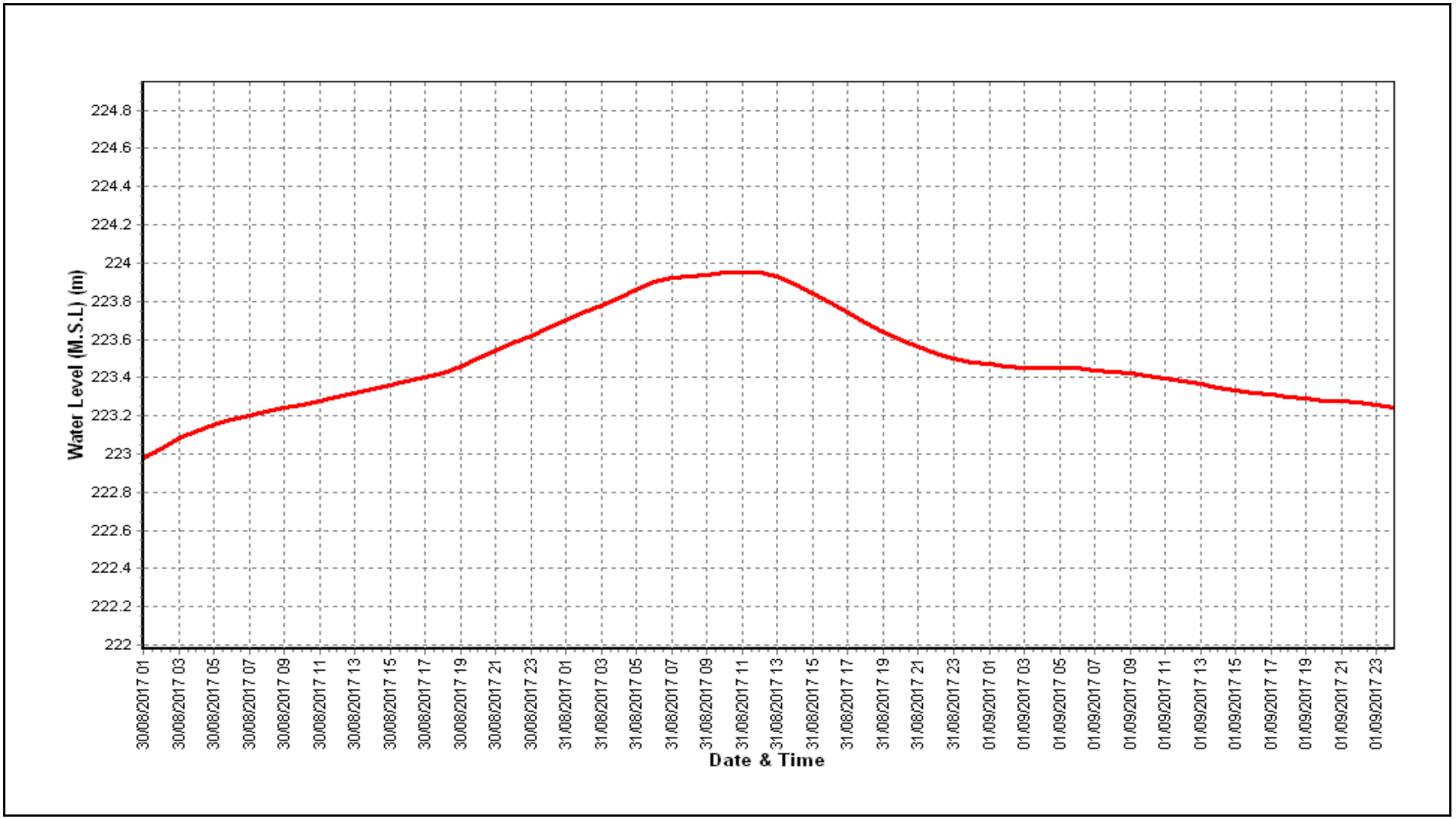


Time Span: 72 Hrs

Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2017-2018

Station Name : Jondhra (EMP00A4)
Local River : Seonath

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur

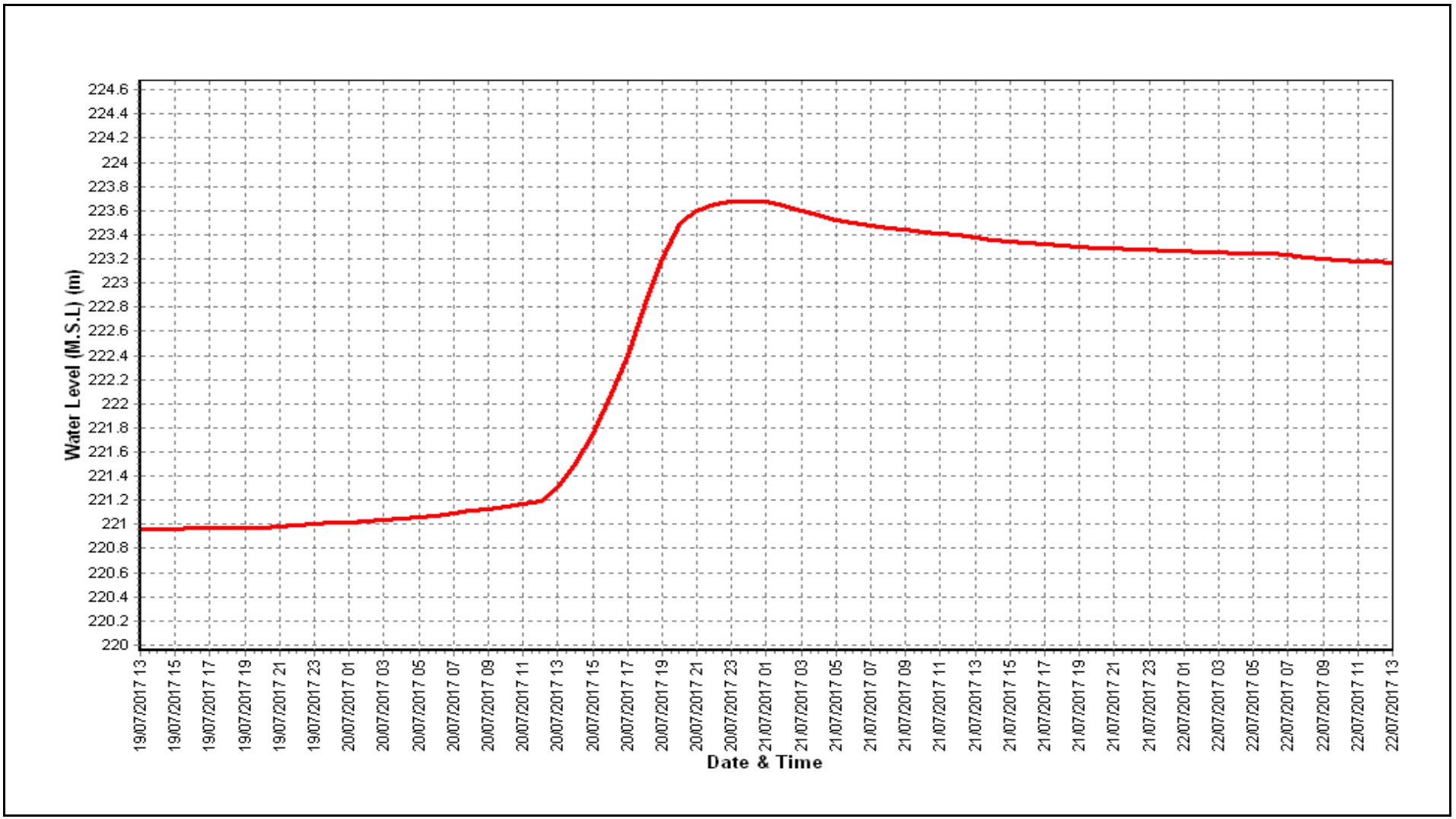


Time Span: 72 Hrs

Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2017-2018

Station Name : Jondhra (EMP00A4) **Division : MD,CWC,Burla**

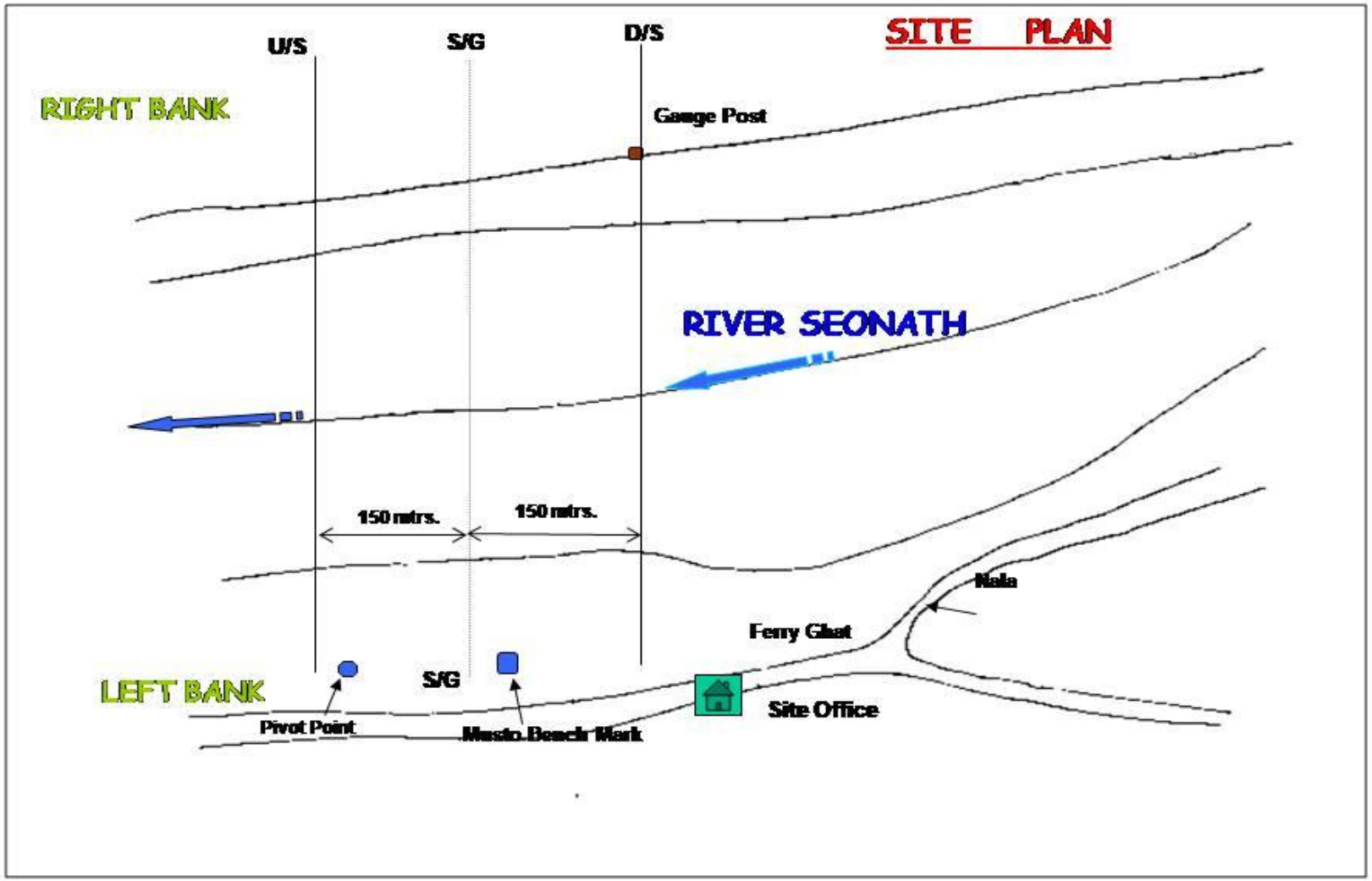
Local River : Seonath **Sub-Division : MMSD I,CWC,Raipur**



Time Span: 72 Hrs

CENTRAL WATER COMMISSION, MAHANADI DIVISION, BURLA

Site : JONDHRA Code : EMP00A4 Sub-Division :MMSD-I CWC Raipur



SECTION-II

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Jondhra (EMP00A4) **Division : MD,CWC,Burla**

Local River : Seonath **Sub-Division : MMSD I,CWC,Raipur**

Day	Jun						Jul						Aug					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	53.23	0.000	0.000	1.090	1.090	5013
2	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	45.79	0.000	0.000	0.670	0.670	2651
3	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	23.06	0.000	0.000	0.440	0.440	877
4	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	23.66	0.000	0.000	0.210	0.210	429
5	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	25.67	0.000	0.000	0.150	0.150	333
6	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	25.00	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	21.99	0.000	0.000	0.640	0.640	1216
8	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	21.41	0.000	0.000	1.700	1.700	3145
9	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	21.12	0.000	0.000	1.160	1.160	2117
10	0.000	0.000	0.000	0.000	0.000	0	81.71	0.000	0.000	0.070	0.070	494	25.73	0.000	0.000	0.220	0.220	489
11	0.000	0.000	0.000	0.000	0.000	0	73.06	0.000	0.000	0.001	0.001	6	50.70	0.000	0.000	0.120	0.120	526
12	0.000	0.000	0.000	0.000	0.000	0	55.34	0.000	0.000	0.012	0.012	57	125.5	0.000	0.000	0.290	0.290	3144
13	0.000	0.000	0.000	0.000	0.000	0	54.50	0.000	0.000	0.090	0.090	424	115.0	0.000	0.000	0.000	0.000	0
14	0.000	0.000	0.000	0.000	0.000	0	50.15	0.000	0.000	0.016	0.016	69	111.6	0.000	0.000	0.680	0.680	6554
15	0.000	0.000	0.000	0.000	0.000	0	49.62	0.000	0.000	0.018	0.018	77	119.0	0.000	0.000	0.000	0.000	0
16	0.000	0.000	0.000	0.000	0.000	0	38.00	0.000	0.000	0.000	0.000	0	109.0	0.000	0.000	0.150	0.150	1413
17	0.000	0.000	0.000	0.000	0.000	0	37.49	0.000	0.000	0.200	0.200	648	81.31	0.000	0.000	0.130	0.130	913
18	0.000	0.000	0.000	0.000	0.000	0	53.59	0.000	0.000	0.080	0.080	370	69.93	0.000	0.000	0.530	0.530	3202
19	0.000	0.000	0.000	0.000	0.000	0	55.46	0.000	0.000	0.100	0.100	479	142.6	0.000	0.000	0.530	0.530	6529
20	0.000	0.000	0.000	0.000	0.000	0	82.27	0.000	0.000	0.040	0.040	284	100.0	0.000	0.000	0.000	0.000	0
21	0.000	0.000	0.000	0.000	0.000	0	683.2	0.000	0.000	2.490	2.490	146984	80.65	0.000	0.000	0.410	0.410	2857
22	0.000	0.000	0.000	0.000	0.000	0	566.2	0.000	0.000	0.618	0.618	30231	120.8	0.000	0.000	0.320	0.320	3340
23	0.000	0.000	0.000	0.000	0.000	0	400.0	0.000	0.000	0.000	0.000	0	256.1	0.000	0.000	0.420	0.420	9295
24	0.000	0.000	0.000	0.000	0.000	0	269.1	0.000	0.000	2.110	2.110	49060	251.7	0.000	0.000	0.540	0.540	11745
25	0.000	0.000	0.000	0.000	0.000	0	265.9	0.000	0.000	0.670	0.670	15390	230.0	0.000	0.000	0.000	0.000	0
26	0.000	0.000	0.000	0.000	0.000	0	172.5	0.000	0.000	2.170	2.170	32345	249.7	0.000	0.000	0.540	0.540	11649
27	0.000	0.000	0.000	0.000	0.000	0	111.4	0.000	0.000	2.030	2.030	19536	200.0	0.000	0.000	0.000	0.000	0
28	0.000	0.000	0.000	0.000	0.000	0	119.3	0.000	0.000	0.710	0.710	7316	159.6	0.000	0.000	0.590	0.590	8137
29	0.000	0.000	0.000	0.000	0.000	0	112.1	0.000	0.000	0.870	0.870	8423	157.7	0.000	0.000	0.630	0.630	8581
30	0.000	0.000	0.000	0.000	0.000	0	90.00	0.000	0.000	0.000	0.000	0	561.4	0.000	0.000	1.530	1.530	74212
31							66.17	0.000	0.000	0.560	0.560	3202	933.6	0.000	0.000	1.690	1.690	136326
Ten Daily Mean																		
Ten Daily I		0.000	0.000	0.000	0.000		81.71	0.000	0.000	0.007	0.007	494	28.67	0.000	0.000	0.628	0.628	1627
Ten Daily II		0.000	0.000	0.000	0.000		54.95	0.000	0.000	0.062	0.062	268	102.5	0.000	0.000	0.243	0.243	2228
Ten Daily III		0.000	0.000	0.000	0.000		259.6	0.000	0.000	1.359	1.359	34721	291.0	0.000	0.000	0.606	0.606	24195
Monthly																		
Total						0						315397						304692

Annual Sediment Load (Metric Tonnes) : 1168965

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Jondhra (EMP00A4) **Division : MD,CWC,Burla**

Local River : Seonath **Sub-Division : MMSD I,CWC,Raipur**

Day	Sep						Oct						Nov					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	405.4	0.000	0.000	0.710	0.710	24871	168.2	0.000	0.000	0.000	0.000	0	45.46	0.000	0.000	0.000	0.000	0
2	350.0	0.000	0.000	0.000	0.000	0	186.9	0.000	0.000	0.000	0.000	0	39.53	0.000	0.000	0.000	0.000	0
3	311.0	0.000	0.000	0.000	0.000	0	103.2	0.000	0.000	0.170	0.170	1517	38.80	0.000	0.000	0.000	0.000	0
4	293.0	0.000	0.000	1.880	1.880	47599	111.2	0.000	0.000	0.230	0.230	2211	39.94	0.000	0.000	0.000	0.000	0
5	278.6	0.000	0.000	1.470	1.470	35387	281.9	0.000	0.000	0.180	0.180	4383	39.57	0.000	0.000	0.000	0.000	0
6	132.9	0.000	0.000	0.460	0.460	5281	293.1	0.000	0.000	0.080	0.080	2026	39.11	0.000	0.000	0.000	0.000	0
7	135.3	0.000	0.000	0.700	0.700	8183	270.5	0.000	0.000	0.140	0.140	3272	37.62	0.000	0.000	0.000	0.000	0
8	126.9	0.000	0.000	0.580	0.580	6361	276.1	0.000	0.000	0.000	0.000	0	37.39	0.000	0.000	0.000	0.000	0
9	74.84	0.000	0.000	0.480	0.480	3104	264.2	0.000	0.000	0.180	0.180	4109	36.12	0.000	0.000	0.000	0.000	0
10	118.0	0.000	0.000	0.000	0.000	0	296.3	0.000	0.000	0.170	0.170	4352	29.81	0.000	0.000	0.000	0.000	0
11	44.85	0.000	0.000	0.020	0.020	78	307.8	0.000	0.000	0.120	0.120	3191	29.26	0.000	0.000	0.000	0.000	0
12	94.58	0.000	0.000	0.090	0.090	735	319.6	0.000	0.000	0.140	0.140	3866	30.90	0.000	0.000	0.000	0.000	0
13	94.04	0.000	0.000	0.060	0.060	488	316.3	0.000	0.000	0.160	0.160	4373	38.25	0.000	0.000	0.000	0.000	0
14	76.05	0.000	0.000	0.030	0.030	197	311.3	0.000	0.000	0.130	0.130	3497	37.84	0.000	0.000	0.000	0.000	0
15	74.73	0.000	0.000	0.170	0.170	1098	260.7	0.000	0.000	0.000	0.000	0	29.79	0.000	0.000	0.000	0.000	0
16	72.90	0.000	0.000	0.160	0.160	1008	159.3	0.000	0.000	0.120	0.120	1652	28.84	0.000	0.000	0.000	0.000	0
17	95.00	0.000	0.000	0.000	0.000	0	108.7	0.000	0.000	0.040	0.040	376	26.21	0.000	0.000	0.000	0.000	0
18	109.2	0.000	0.000	0.170	0.170	1604	105.7	0.000	0.000	0.047	0.047	429	25.76	0.000	0.000	0.000	0.000	0
19	101.2	0.000	0.000	0.160	0.160	1399	86.04	0.000	0.000	0.000	0.000	0	25.74	0.000	0.000	0.000	0.000	0
20	110.7	0.000	0.000	0.390	0.390	3730	66.76	0.000	0.000	0.040	0.040	231	25.64	0.000	0.000	0.000	0.000	0
21	286.4	0.000	0.000	0.760	0.760	18803	76.03	0.000	0.000	0.049	0.049	322	25.52	0.000	0.000	0.000	0.000	0
22	1654	0.000	0.000	2.050	2.050	292968	79.51	0.000	0.000	0.000	0.000	0	22.69	0.000	0.000	0.000	0.000	0
23	1409	0.000	0.000	0.010	0.010	1218	74.66	0.000	0.000	0.045	0.045	290	22.34	0.000	0.000	0.000	0.000	0
24	815.4	0.000	0.000	0.000	0.000	0	106.3	0.000	0.000	0.043	0.043	395	22.03	0.000	0.000	0.000	0.000	0
25	433.2	0.000	0.000	0.140	0.140	5240	113.2	0.000	0.000	0.047	0.047	460	21.72	0.000	0.000	0.000	0.000	0
26	372.7	0.000	0.000	0.170	0.170	5475	111.8	0.000	0.000	0.044	0.044	425	20.01	0.000	0.000	0.000	0.000	0
27	308.0	0.000	0.000	0.870	0.870	23155	110.4	0.000	0.000	0.046	0.046	439	13.18	0.000	0.000	0.000	0.000	0
28	299.8	0.000	0.000	0.710	0.710	18390	77.34	0.000	0.000	0.048	0.048	321	12.96	0.000	0.000	0.000	0.000	0
29	235.2	0.000	0.000	0.000	0.000	0	80.00	0.000	0.000	0.000	0.000	0	12.64	0.000	0.000	0.000	0.000	0
30	143.6	0.000	0.000	0.000	0.000	0	51.35	0.000	0.000	0.041	0.041	182	12.46	0.000	0.000	0.000	0.000	0
31							51.75	0.000	0.000	0.042	0.042	188						
Ten Daily Mean																		
Ten Daily I	222.6	0.000	0.000	0.628	0.628	13079	225.2	0.000	0.000	0.164	0.164	3124	38.34	0.000	0.000	0.000	0.000	0
Ten Daily II	87.33	0.000	0.000	0.125	0.125	1034	204.2	0.000	0.000	0.100	0.100	2202	29.82	0.000	0.000	0.000	0.000	0
Ten Daily III	595.8	0.000	0.000	0.471	0.471	36525	84.76	0.000	0.000	0.045	0.045	336	18.55	0.000	0.000	0.000	0.000	0
Monthly																		
Total						506370						42506						0

Annual Sediment Load (Metric Tonnes) : 1168965

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Jondhra (EMP00A4) **Division : MD,CWC,Burla**

Local River : Seonath **Sub-Division : MMSD I,CWC,Raipur**

Day	Dec						Jan						Feb					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	12.61	0.000	0.000	0.000	0.000	0	2.653	0.000	0.000	0.000	0.000	0	0.620	0.000	0.000	0.000	0.000	0
2	12.60	0.000	0.000	0.000	0.000	0	2.962	0.000	0.000	0.000	0.000	0	0.617	0.000	0.000	0.000	0.000	0
3	12.60	0.000	0.000	0.000	0.000		2.530	0.000	0.000	0.000	0.000	0	0.619	0.000	0.000	0.000	0.000	0
4	12.25	0.000	0.000	0.000	0.000	0	1.575	0.000	0.000	0.000	0.000	0	0.588	0.000	0.000	0.000	0.000	0
5	12.22	0.000	0.000	0.000	0.000	0	1.549	0.000	0.000	0.000	0.000	0	0.557	0.000	0.000	0.000	0.000	0
6	12.19	0.000	0.000	0.000	0.000	0	1.455	0.000	0.000	0.000	0.000	0	0.549	0.000	0.000	0.000	0.000	0
7	12.24	0.000	0.000	0.000	0.000	0	1.434	0.000	0.000	0.000	0.000	0	0.538	0.000	0.000	0.000	0.000	0
8	10.43	0.000	0.000	0.000	0.000	0	1.489	0.000	0.000	0.000	0.000	0	0.538	0.000	0.000	0.000	0.000	0
9	10.37	0.000	0.000	0.000	0.000	0	1.721	0.000	0.000	0.000	0.000	0	0.540	0.000	0.000	0.000	0.000	0
10	10.37	0.000	0.000	0.000	0.000	0	1.648	0.000	0.000	0.000	0.000	0	0.541	0.000	0.000	0.000	0.000	0
11	9.982	0.000	0.000	0.000	0.000	0	1.603	0.000	0.000	0.000	0.000	0	0.525	0.000	0.000	0.000	0.000	0
12	10.29	0.000	0.000	0.000	0.000	0	0.642	0.000	0.000	0.000	0.000	0	0.530	0.000	0.000	0.000	0.000	0
13	10.19	0.000	0.000	0.000	0.000	0	0.638	0.000	0.000	0.000	0.000	0	0.513	0.000	0.000	0.000	0.000	0
14	9.887	0.000	0.000	0.000	0.000	0	0.706	0.000	0.000	0.000	0.000	0	0.542	0.000	0.000	0.000	0.000	0
15	9.825	0.000	0.000	0.000	0.000	0	0.823	0.000	0.000	0.000	0.000	0	0.536	0.000	0.000	0.000	0.000	0
16	9.931	0.000	0.000	0.000	0.000	0	0.812	0.000	0.000	0.000	0.000	0	0.529	0.000	0.000	0.000	0.000	0
17	9.800	0.000	0.000	0.000	0.000	0	0.821	0.000	0.000	0.000	0.000	0	0.501	0.000	0.000	0.000	0.000	0
18	7.074	0.000	0.000	0.000	0.000	0	0.816	0.000	0.000	0.000	0.000	0	0.498	0.000	0.000	0.000	0.000	0
19	6.986	0.000	0.000	0.000	0.000	0	0.791	0.000	0.000	0.000	0.000	0	0.489	0.000	0.000	0.000	0.000	0
20	6.904	0.000	0.000	0.000	0.000	0	0.754	0.000	0.000	0.000	0.000	0	0.478	0.000	0.000	0.000	0.000	0
21	6.712	0.000	0.000	0.000	0.000	0	0.737	0.000	0.000	0.000	0.000	0	0.446	0.000	0.000	0.000	0.000	0
22	6.697	0.000	0.000	0.000	0.000	0	0.710	0.000	0.000	0.000	0.000	0	0.436	0.000	0.000	0.000	0.000	0
23	6.313	0.000	0.000	0.000	0.000	0	0.717	0.000	0.000	0.000	0.000	0	0.439	0.000	0.000	0.000	0.000	0
24	6.200	0.000	0.000	0.000	0.000	0	0.691	0.000	0.000	0.000	0.000	0	0.435	0.000	0.000	0.000	0.000	0
25	6.100	0.000	0.000	0.000	0.000	0	0.693	0.000	0.000	0.000	0.000	0	0.396	0.000	0.000	0.000	0.000	0
26	3.576	0.000	0.000	0.000	0.000	0	0.683	0.000	0.000	0.000	0.000	0	0.357	0.000	0.000	0.000	0.000	0
27	3.235	0.000	0.000	0.000	0.000	0	0.672	0.000	0.000	0.000	0.000	0	0.321	0.000	0.000	0.000	0.000	0
28	3.478	0.000	0.000	0.000	0.000	0	0.639	0.000	0.000	0.000	0.000	0	0.300	0.000	0.000	0.000	0.000	0
29	3.431	0.000	0.000	0.000	0.000	0	0.618	0.000	0.000	0.000	0.000	0						
30	2.650	0.000	0.000	0.000	0.000	0	0.617	0.000	0.000	0.000	0.000	0						
31	2.650	0.000	0.000	0.000	0.000	0	0.617	0.000	0.000	0.000	0.000	0						
Ten Daily Mean																		
Ten Daily I	11.79	0.000	0.000	0.000	0.000	0	1.902	0.000	0.000	0.000	0.000	0	0.571	0.000	0.000	0.000	0.000	0
Ten Daily II	9.087	0.000	0.000	0.000	0.000	0	0.841	0.000	0.000	0.000	0.000	0	0.514	0.000	0.000	0.000	0.000	0
Ten Daily III	4.640	0.000	0.000	0.000	0.000	0	0.672	0.000	0.000	0.000	0.000	0	0.391	0.000	0.000	0.000	0.000	0
Monthly																		
Total						0						0						0

Annual Sediment Load (Metric Tonnes) : 1168965

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Jondhra (EMP00A4) **Division : MD,CWC,Burla**

Local River : Seonath **Sub-Division : MMSD I,CWC,Raipur**

Day	Mar						Apr						May					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.296	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
2	0.293	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
3	0.291	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
4	0.284	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
5	0.261	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
6	0.274	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
7	0.250	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
8	0.245	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
9	0.247	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
10	0.250	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
11	0.304	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
12	0.385	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
13	0.318	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
14	0.313	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
15	0.300	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
16	0.208	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
17	0.183	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
18	0.170	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
19	0.157	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
21	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
22	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
24	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
25	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
28	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
29	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
30	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
31	0.000	0.000	0.000	0.000	0.000	0							0.000	0.000	0.000	0.000	0.000	0
Ten Daily Mean																		
Ten Daily I	0.269	0.000	0.000	0.000	0.000	0		0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily II	0.234	0.000	0.000	0.000	0.000	0		0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily III	0.000	0.000	0.000	0.000	0.000	0		0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Monthly																		
Total						0						0						0

Annual Sediment Load (Metric Tonnes) : 1168965

Annual Sediment Load for period : 1981-2018

Station Name : Jondhra (EMP00A4) **Division : MD,CWC,Burla**

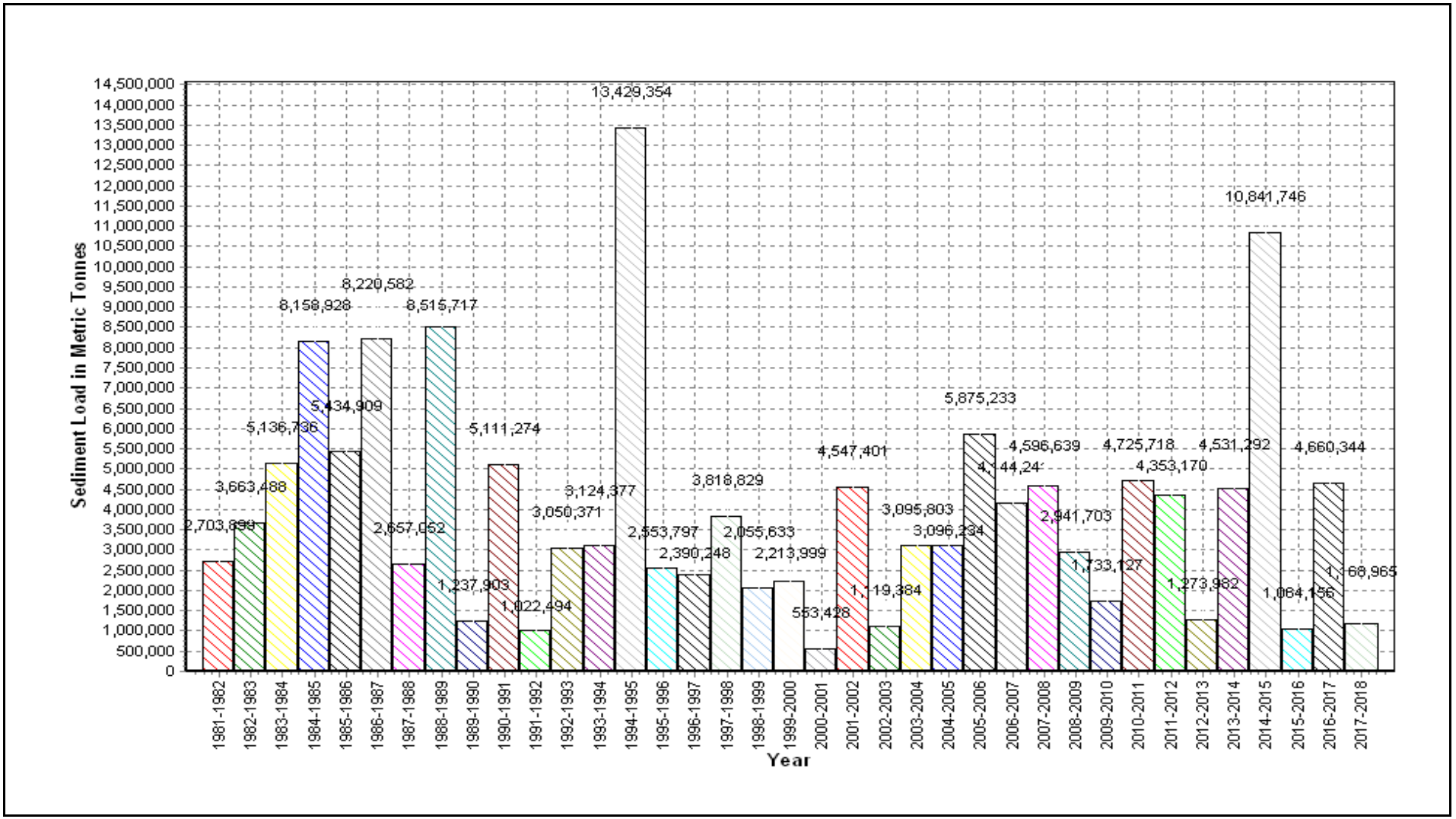
Local River : Seonath **Sub-Division : MMSD I,CWC,Raipur**

Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)
1981-1982	2701888	2011	2703899	7046
1982-1983	3658286	5202	3663488	5009
1983-1984	5135428	1308	5136736	9778
1984-1985	8157193	1735	8158928	9710
1985-1986	5425689	9220	5434909	10655
1986-1987	8187572	33010	8220582	12246
1987-1988	2655124	1929	2657052	4053
1988-1989	8515717	0	8515717	6278
1989-1990	1237887	16	1237903	4301
1990-1991	5108016	3258	5111274	16569
1991-1992	1021262	1232	1022494	6809
1992-1993	3050087	284	3050371	5686
1993-1994	3122400	1977	3124377	8357
1994-1995	13426735	2620	13429354	21847
1995-1996	2552604	1193	2553797	7585
1996-1997	2390221	26	2390248	5954
1997-1998	3805375	13454	3818829	9442
1998-1999	2054269	1364	2055633	6537
1999-2000	2213743	256	2213999	7977
2000-2001	553284	143	553428	2195
2001-2002	4547058	343	4547401	9440
2002-2003	1119259	124	1119384	2903
2003-2004	3093789	2013	3095803	12729
2004-2005	3093620	2614	3096234	6274
2005-2006	5875061	172	5875233	12716
2006-2007	4143875	366	4144241	7523
2007-2008	4596384	255	4596639	10316
2008-2009	2940115	1588	2941703	3492
2009-2010	1732725	402	1733127	4318
2010-2011	4725718	0	4725718	9213
2011-2012	4353170	0	4353170	11430
2012-2013	1273982	0	1273982	11031
2013-2014	4531292	0	4531292	17748
2014-2015	10841746	0	10841746	15736
2015-2016	1064156	0	1064156	2969
2016-2017	4660344	0	4660344	5721
2017-2018	1168965	0	1168965	2027

Annual Sediment Load for the period: 1981-2018

Station Name : Jondhra (EMP00A4)
Local River : Seonath

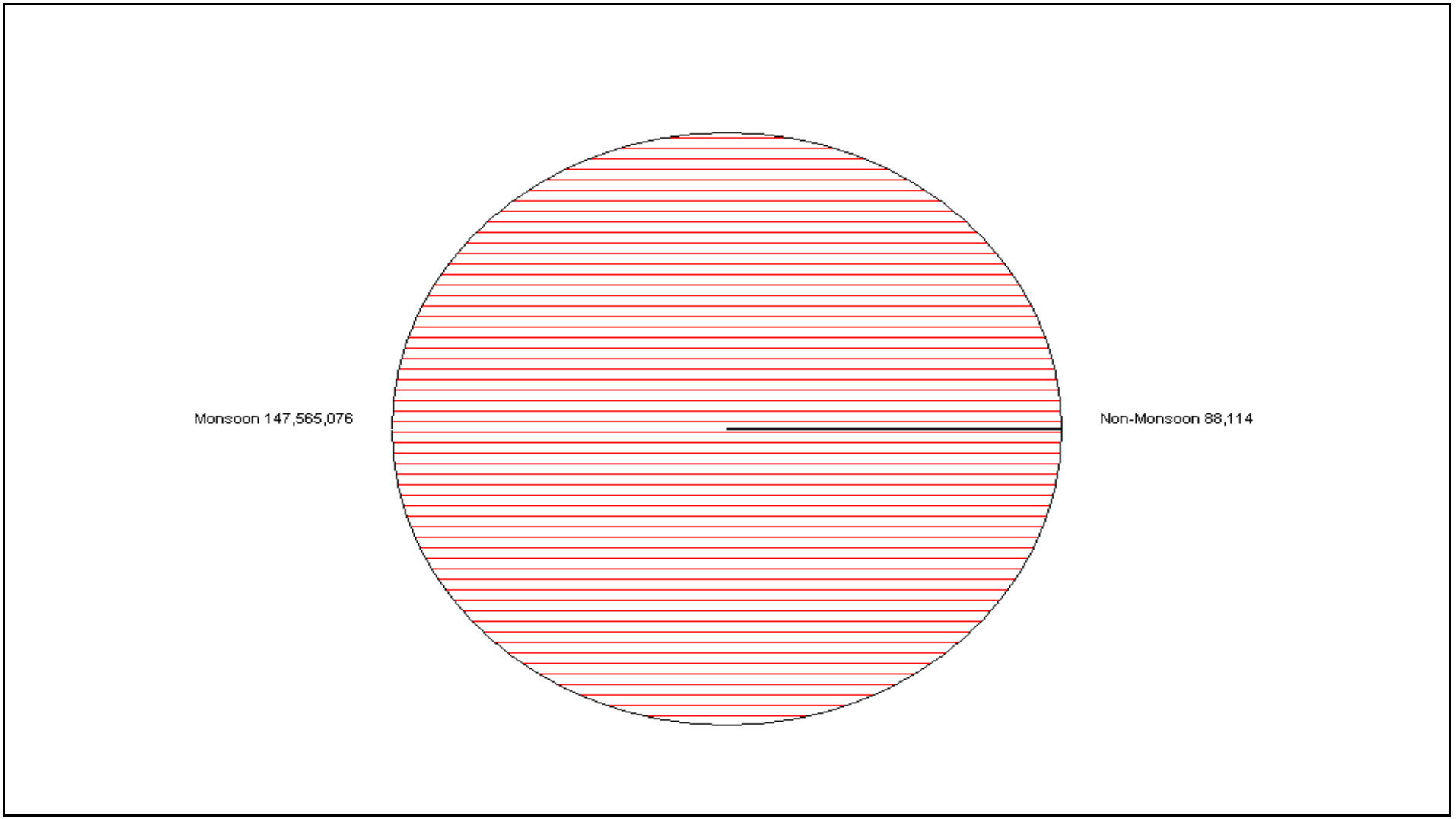
Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur



Seasonal Sediment Load for the period : 1981-2017

Station Name : Jondhra (EMP00A4)
Local River : Seonath

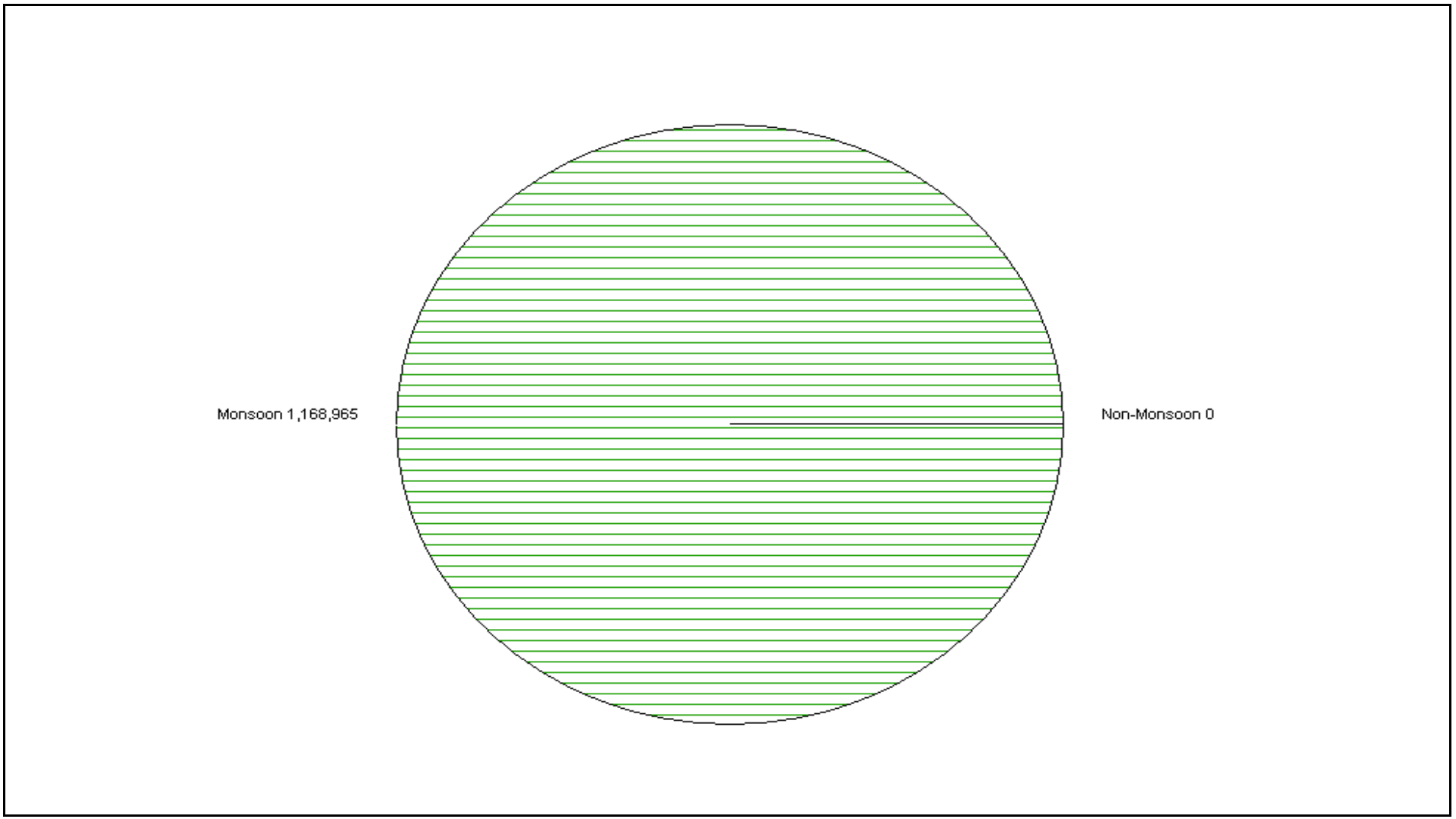
Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur



Seasonal Sediment Load for the Year: 2017-2018

Station Name : Jondhra (EMP00A4)
Local River : Seonath

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur



SECTION-III

Water Quality Datasheet for the period : 2017-2018

Station Name : Jondhra (EMP00A4) **Division : MD,CWC,Burla**

Local River : Seonath **River Water Analysis** **Sub-Division : MMSD I,CWC,Raipur**

S.No	Parameters	01/06/2017	01/07/2017	01/08/2017	01/09/2017	04/10/2017	01/11/2017	01/12/2017	01/01/2018	01/02/2018	01/03/2018	02/04/2018	01/05/2018
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)			53.23	405.4	111.2	45.46	12.61	2.653	0.620	0.296		
2	Colour_Cod (-)			Light Brown	Brown	Brown	Clear	Clear	Clear	Clear	Clear		
3	EC_FLD (µmho/cm)			689	652	792	765	974	802	897	271		
4	EC_GEN (µmho/cm)			348	201	233	312	296	330	710	347		
5	Odour_Code (-)			odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free		
6	pH_FLD (pH units)			9.0	8.9	7.8	6.9	7.7	7.5	7.8	7.7		
7	pH_GEN (pH units)			8.3	8.1	8.2	8.4	8.4	8.4	7.8	7.9		
8	Temp (deg C)			27.5	30.5	31.0	28.0	17.5	16.0	20.6	25.9		
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
2	ALK-TOT (mgCaCO3/L)			80	224	200	116	144	268	272	268		
3	Ca (mg/L)			42	58	48	43	55	30	26	16		
4	Cl (mg/L)			26.0	29.0	33.0	31.0	22.0	20.0	31.0	30.0		
5	CO3 (mg/L)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
6	HCO3 (mg/L)			49	137	122	71	88	164	166	164		
7	K (mg/L)			8.2	8.2	7.2	8.4	8.0	10.2	12.3	4.7		
8	Mg (mg/L)			17.5	4.9	1.9	24.3	4.9	46.7	19.4	24.3		
9	Na (mg/L)			18.7	14.9	18.3	21.4	19.9	26.7	39.0	46.9		
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)			0.6	0.9	2.0	1.1	0.7	0.6	2.9	1.1		
2	DO (mg/L)			5.9	6.1	7.5	6.2	5.1	7.0	7.2	4.5		
3	DO_SAT% (%)			74	81	101	79	53	71	79	55		
4	FCol-MPN (MPN/100mL)			40	60	90	70	70		70	60		
5	Tcol-MPN (MPN/100mL)			80	90	110	120	120		170	140		
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)			104	144	120	108	136	76	64	40		
2	HAR_Total (mgCaCO3/L)			177	165	128	209	157	271	145	141		
3	Na% (%)			18	16	23	18	21	17	35	41		
4	RSC (-)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
5	SAR (-)			0.6	0.5	0.7	0.6	0.7	0.7	1.4	1.7		
	PESTICIDES												

Water Quality Summary for the period : 2017-2018

Station Name : Jondhra (EMP00A4) **Division : MD,CWC,Burla**

Local River : Seonath **Sub-Division : MMSD I,CWC,Raipur**

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	265	1654	0.000	88.54
2	EC_FLD (µmho/cm)	8	974	271	730
3	EC_GEN (µmho/cm)	8	710	201	347
4	pH_FLD (pH units)	8	9.0	6.9	7.9
5	pH_GEN (pH units)	8	8.4	7.8	8.2
6	Temp (deg C)	8	31.0	16.0	24.6
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	8	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	8	272	80	197
3	Ca (mg/L)	8	58	16	40
4	Cl (mg/L)	8	33.0	20.0	27.8
5	CO3 (mg/L)	8	0.0	0.0	0
6	HCO3 (mg/L)	8	166	49	120
7	K (mg/L)	8	12.3	4.7	8.4
8	Mg (mg/L)	8	46.7	1.9	18
9	Na (mg/L)	8	46.9	14.9	25.7
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	8	2.9	0.6	1.2
2	DO (mg/L)	8	7.5	4.5	6.2
3	DO_SAT% (%)	8	101	53	74
4	FCol-MPN (MPN/100mL)	7	90	40	66
5	Tcol-MPN (MPN/100mL)	7	170	80	119
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	8	144	40	99
2	HAR_Total (mgCaCO3/L)	8	271	128	174
3	Na% (%)	8	41	16	23
4	RSC (-)	8	0.0	0.0	0
5	SAR (-)	8	1.7	0.5	0.9
	PESTICIDES				

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Jondhra (EMP00A4) | **Division : MD,CWC,Burla**

Local River : Seonath | **River Water** | **Sub-Division : MMSD I,CWC,Raipur**

S.No	Parameters	Flood														
		Jun - Oct														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	PHYSICAL															
1	Q (cumec)	1271	373.3	1150	925.3	1779	162.3	133.1	518.5	634.6	688.2	1507	873.0	166.1	630.2	190.0
2	EC_FLD (µmho/cm)	165	297	261	286	181									217	711
3	EC_GEN (µmho/cm)	165	297	261	286	180	253	263	245	287	277	241	246	272	201	261
4	pH_FLD (pH units)	7.6	8.1	8.0	7.9	7.7	7.6	7.7	7.4	7.4					7.8	8.6
5	pH_GEN (pH units)	7.7	8.1	8.0	7.9	7.5	7.6	8.0	7.6	7.6	7.8	8.2	8.0	8.0	6.9	8.2
6	Temp (deg C)	30.0	30.8	30.2	25.5	28.0	29.1	29.0	29.7	27.9	29.2	28.9	28.7	29.2	28.3	29.7
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	3.0		0.0	0.0	4.9	0.0	0.0	0.0	0.0	0.0	10.5	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	66	253	153		138	187	183	173	202	185	208	239	249	117	168
3	B (mg/L)			0.09		0.01	0.01	0.00	0.00	0.00	0.00					
4	Ca (mg/L)	21	37	17		15	17	19	20	24	23	29	35	35	41	49
5	Cl (mg/L)	23.0	20.8	37.7		8.0	20.5	12.3	6.2	8.9	11.0	18.8	16.0	22.7	22.0	29.3
6	CO3 (mg/L)	0.0	0.0	3.6		0.0	0.0	5.9	0.0	0.0	0.0	0.0	0.0	12.7	0.0	0.0
7	F (mg/L)	4.55		0.18		0.10	0.13	0.19	0.16	0.21	0.21					
8	Fe (mg/L)			0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0					
9	HCO3 (mg/L)	40	199	89		84	114	106	105	123	113	127	146	139	72	102
10	K (mg/L)			5.4		2.4	2.2	2.7	3.2	3.1	2.2	5.3	5.1	8.6	10.7	7.9
11	Mg (mg/L)	3.5	21.6	8.6		8.8	8.5	10.5	12.4	13.1	13.3	7.5	11.3	14.6	8.7	8.1
12	Na (mg/L)			22.3		15.7	9.0	6.7	11.2	12.5	13.4	10.7	18.3	19.0	18.5	17.3
13	NO2+NO3 (mg N/L)			0.04		0.09	0.50									
14	NO2-N (mgN/L)			0.00		0.01	0.02	0.02	0.02	0.03	0.05					
15	NO3-N (mgN/L)			0.04	0.14	0.08	0.48									
16	P-Tot (mgP/L)					0.012	0.030	0.107	0.037	0.037	0.047					
17	SiO2 (mg/L)			10.6		7.1	22.5	26.1	13.0	17.6	15.5					
18	SO4 (mg/L)	11.5	7.2	13.5		13.8	9.6	13.7	16.7	18.0	20.3					

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Jondhra (EMP00A4) **Division : MD,CWC,Burla**

Local River : Seonath **River Water** **Sub-Division : MMSD I,CWC,Raipur**

S.No	Parameters	Flood														
		Jun - Oct														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.8	0.8	1.0	0.6	3.4	0.7	1.4	1.4	1.4	0.9	0.8	1.2	0.7	1.0	1.2
2	COD (mg/L)					14.3	72.0	20.0	22.7	29.0	22.7					
3	DO (mg/L)	3.9	5.5	4.9	5.5	6.6	4.6	6.4	6.3	6.3	7.6	7.0	6.5	6.4	5.7	6.5
4	DO_SAT% (%)	53	75	65	67	84	60	83	83	80	99	90	84	83	73	85
5	FCol-MPN (MPN/100mL)															63
6	Tcol-MPN (MPN/100mL)															93
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	56	92	42		37	43	47	49	59	57	72	87	88	103	123
2	HAR_Total (mgCaCO3/L)	73	180	78		73	78	91	101	113	113	103	134	149	139	157
3	Na% (%)			32		32	18	13	19	18	20	17	23	20	21	19
4	RSC (-)	0.0	0.0	0.1		0.0	0.3	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
5	SAR (-)			1.0		0.8	0.4	0.3	0.5	0.5	0.5	0.5	0.7	0.7	0.7	0.6
	PESTICIDES															

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Jondhra (EMP00A4) | **Division : MD,CWC,Burla**

Local River : Seonath | **River Water** | **Sub-Division : MMSD I,CWC,Raipur**

S.No	Parameters	Winter														
		Nov - Feb														
		2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
	PHYSICAL															
1	Q (cumec)	152.7	39.20	90.31	32.88	47.19	18.01	12.80	0.000	0.000	39.71	199.5	119.3	11.09	50.23	15.34
2	EC_FLD (µmho/cm)	371	505	426	337	452									318	859
3	EC_GEN (µmho/cm)	371	505	426	337	436	451	361			396	279	339	337	315	412
4	pH_FLD (pH units)	8.1	8.1	7.5	8.2	8.2	7.2	7.6							8.3	7.5
5	pH_GEN (pH units)	8.1	8.1	7.5	8.2	8.2	8.2	8.5			7.8	7.8	8.4	8.7	8.4	8.2
6	Temp (deg C)	22.5	23.3	24.8	23.0	21.4	22.0	23.8			20.0	24.5	21.5	21.3	20.1	20.5
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0		2.3	6.0	18.1			0.0	0.0	0.0	4.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	308	316	308		295	310	158			247	284	318	234	102	200
3	B (mg/L)			0.08		0.01	0.00	0.00			0.00					
4	Ca (mg/L)	46	36	33		30	32	28			34	37	42	30	43	38
5	Cl (mg/L)	20.0	14.5	51.6		40.7	46.2	12.6			13.5	20.0	28.0	23.5	31.8	26.0
6	CO3 (mg/L)	0.0	0.0	0.0		2.8	7.2	21.8			0.0	0.0	0.0	4.8	0.0	0.0
7	F (mg/L)	1.09		0.20		0.23	0.17	0.15			0.30					
8	Fe (mg/L)			0.0	0.0	0.0	0.1	0.0			0.0					
9	HCO3 (mg/L)	153	192	188		177	182	74			151	173	194	138	62	122
10	K (mg/L)		2.3	2.8		4.1	3.3	3.5			2.4	24.5	4.2	4.8	8.0	9.7
11	Mg (mg/L)	14.2	18.7	19.2		19.2	19.1	21.4			18.4	8.8	18.5	12.6	14.8	23.8
12	Na (mg/L)		43.6	32.6		23.8	31.8	13.5			35.8	20.4	24.0	23.3	19.3	26.7
13	NO2+NO3 (mg N/L)		0.22	0.05		0.11	0.51									
14	NO2-N (mgN/L)			0.00		0.01	0.02	0.03			0.03					
15	NO3-N (mgN/L)			0.05	0.05	0.10	0.49									
16	P-Tot (mgP/L)		0.030	0.011		0.025	0.092	0.027			0.035					
17	SiO2 (mg/L)			11.3		18.0	21.5	24.2			14.3					
18	SO4 (mg/L)	26.9	28.6	26.1		31.8	37.3	28.3			18.2					

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Jondhra (EMP00A4) | **Division : MD,CWC,Burla**

Local River : Seonath | **River Water** | **Sub-Division : MMSD I,CWC,Raipur**

S.No	Parameters	Winter														
		Nov - Feb														
		2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.7	1.0	0.9	0.2	1.0	0.5	1.7			1.4	0.5	1.3	0.8	1.2	1.3
2	COD (mg/L)					23.0	37.0	46.7			24.0					
3	DO (mg/L)	5.6	8.0	8.4	7.2	9.5	8.7	9.9			8.2	8.3	9.6	9.8	6.6	6.4
4	DO_SAT% (%)	84	94	100	84	106	99	117			89	99	109	109	73	71
5	FCol-MPN (MPN/100mL)															70
6	Tcol-MPN (MPN/100mL)															137
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	97	89	81		75	81	70			85	92	106	74	108	96
2	HAR_Total (mgCaCO3/L)	151	166	161		155	160	159			162	129	183	127	170	195
3	Na% (%)		37	30		24	30	15			31	22	21	27	21	22
4	RSC (-)		0.2	0.1		0.1	0.1	0.0			0.0	0.3	0.0	0.4	0.0	0.0
5	SAR (-)		1.5	1.1		0.8	1.1	0.5			1.2	0.8	0.8	0.9	0.7	0.9
	PESTICIDES															

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Jondhra (EMP00A4) | **Division : MD,CWC,Burla**

Local River : Seonath | **River Water** | **Sub-Division : MMSD I,CWC,Raipur**

S.No	Parameters	Summer														
		Mar - May														
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	PHYSICAL															
1	Q (cumec)	5.982	4.317	2.350	1.530	3.174	0.127	0.000	0.000	0.000	0.000	0.000	4.160	1.340	0.497	0.296
2	EC_FLD (µmho/cm)	620	427	405		514									365	271
3	EC_GEN (µmho/cm)	620	427	405		495	464							434	367	347
4	pH_FLD (pH units)	8.1	8.1	8.1		8.2	6.8								8.6	7.7
5	pH_GEN (pH units)	8.1	8.1	8.1		8.3	8.8							9.0	8.4	7.9
6	Temp (deg C)	26.5	30.3	32.0		29.7	24.5							27.0	27.3	25.9
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	3.3	4.0		4.3	22.1							3.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	601	251	272		319	302							247	192	268
3	B (mg/L)			0.07		0.01	0.00									
4	Ca (mg/L)	58	24	31		30	35							30	40	16
5	Cl (mg/L)	38.0	8.1	40.0		60.7	36.5							43.0	44.5	30.0
6	CO3 (mg/L)	0.0	3.9	4.8		5.2	26.6							3.7	0.0	0.0
7	F (mg/L)		0.22	0.05		0.17	0.15									
8	Fe (mg/L)			0.1	0.0	0.0	0.0									
9	HCO3 (mg/L)	366	149	161		189	157							147	117	164
10	K (mg/L)		23.9	4.4		6.4	6.0							10.5	11.4	4.7
11	Mg (mg/L)	16.9	11.5	12.8		18.2	20.4							15.6	14.6	24.3
12	Na (mg/L)		41.7	40.2		53.8	36.4							35.5	49.0	46.9
13	NO2+NO3 (mg N/L)		0.26	0.09		0.42	0.33									
14	NO2-N (mgN/L)			0.01		0.02	0.03									
15	NO3-N (mgN/L)			0.08		0.41	0.30									
16	P-Tot (mgP/L)		0.020	0.066		0.040	0.040									
17	SiO2 (mg/L)			10.3		18.5	28.4									
18	SO4 (mg/L)	24.1	16.9	23.7		24.7	27.2									

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Jondhra (EMP00A4) **Division : MD,CWC,Burla**

Local River : Seonath **River Water** **Sub-Division : MMSD I,CWC,Raipur**

S.No	Parameters	Summer														
		Mar - May														
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	1.1	1.0	1.4		1.4	2.4							0.9	2.5	1.1
2	COD (mg/L)					32.0	64.0									
3	DO (mg/L)	7.5	6.0	6.5		9.2	6.2							6.5	7.8	4.5
4	DO_SAT% (%)	90	77	90		120	74							82	97	55
5	FCol-MPN (MPN/100mL)															60
6	Tcol-MPN (MPN/100mL)															140
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	144	61	77		76	86							76	100	40
2	HAR_Total (mgCaCO3/L)	214	108	130		151	171							141	161	141
3	Na% (%)		41	36		43	31							33	38	41
4	RSC (-)	2.4	0.5	0.3		0.5	0.1							0.1	0.0	0.0
5	SAR (-)		1.8	1.4		1.9	1.2							1.3	1.7	1.7
	PESTICIDES															

JONK SUB-BASIN

SITE RAMPUR

HISTORY SHEET

Water Year : 2017-2018

Site	**: Rampur**		**Code**	**: EMN00B3**	
State	: Chhattisgarh		District	Baloda Bazar	
Basin	: Mahanadi		Independent River	: Mahanadi	
Tributary	: Jonk		Sub Tributary	:	
Sub-Sub Tributary	:		Local River	: Jonk	
Division	: MD,CWC,Burla		Sub-Division	: UMSD,CWC,Raipur	
Drainage Area	: 2920 Sq. Km.		Bank	:	
Latitude	: 21°39'57"		Longitude	: 82°31'30"	
Zero of Gauge (m)	: 219 (m.s.l)		01/09/1971	- 31/12/2010	

	Opening Date	Closing Date
Gauge	: 29/01/1971	31/12/2020
Discharge	:	
Sediment	: 05/07/1976	31/12/2020
Water Quality	: 15/01/1972	31/12/2020

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

	Maximum			Minimum		
Year	**Q (cumecs)**	**WL (m)**	**Date**	**Q (cumecs)**	**WL (m)**	**Date**
1971-1972	1290	223.290	28/07/1971	0.001	220.115	31/05/1972
1972-1973	1397	224.660	14/08/1972	0.100	220.265	28/01/1973
1973-1974	3320	227.195	15/07/1973	0.006	220.210	31/05/1974
1974-1975	356.0	225.000	18/08/1974	0.003	220.255	24/04/1975
1975-1976	1341	224.540	13/08/1975	0.002	220.310	23/05/1976
1976-1977	2132	225.145	14/08/1976	0.008	220.400	05/02/1977
1977-1978	1367	224.250	13/09/1977	0.019	220.450	19/02/1978
1978-1979	2472	226.000	29/08/1978	0.010	220.505	28/02/1979
1979-1980	1811	225.260	09/08/1979	0.036	220.360	08/01/1980
1980-1981	3163	226.730	19/09/1980	0.140	220.490	17/02/1981
1981-1982	712.8	223.180	22/08/1981	0.029	220.210	20/04/1982
1982-1983	4100	227.510	31/08/1982	0.003	220.255	03/06/1982
1983-1984	996.7	223.625	20/08/1983	0.024	220.395	21/06/1983
1984-1985	1433	224.965	09/08/1984	0.050	220.315	03/04/1985
1985-1986	1794	225.160	17/07/1985	0.008	220.430	27/05/1986
1986-1987	2063	225.025	21/08/1986	0.001	220.420	01/06/1986
1987-1988	2582	225.800	23/07/1987	0.010	220.255	29/03/1988
1988-1989	90.00	221.400	25/09/1988	0.020	220.160	06/02/1989
1989-1990	364.6	222.555	29/07/1989	0.021	220.170	24/02/1990
1990-1991	2850	226.130	04/09/1990	0.100	220.325	27/02/1991

Q : Observed / Computed Discharge WL : Corresponding Water Level(m.s.l)

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

	Maximum			Minimum		
Year	**Q (cumecs)**	**WL (m)**	**Date**	**Q (cumecs)**	**WL (m)**	**Date**
1991-1992	863.7	223.720	30/07/1991	0.010	220.200	06/02/1992
1992-1993	3240	226.880	21/08/1992	0.076	220.295	17/02/1993
1993-1994	2250	225.285	20/08/1993	0.067	220.195	10/02/1994
1994-1995	2815	226.575	10/07/1994	0.100	220.320	27/02/1995
1995-1996	2764	226.200	25/07/1995	0.086	220.205	08/02/1996
1996-1997	231.2	222.040	26/08/1996	0.047	220.215	20/12/1996
1997-1998	2520	226.010	30/08/1997	0.073	220.150	24/03/1998
1998-1999	316.6	222.350	11/09/1998	0.030	220.060	28/02/1999
1999-2000	1044	223.610	09/08/1999	0.072	220.015	24/03/2000
2000-2001	113.0	221.660	20/07/2000	0.500	220.110	10/04/2001
2001-2002	1383	224.100	09/07/2001	0.390	220.100	02/06/2001
2002-2003	619.7	222.870	12/09/2002	0.050	220.115	08/05/2003
2003-2004	10958	229.655	29/08/2003	0.143	220.040	20/03/2004
2004-2005	910.7	223.715	15/06/2004	0.200	220.040	08/03/2005
2005-2006	1583	224.940	01/08/2005	0.300	220.040	05/01/2006
2006-2007	3000	226.470	13/08/2006	0.500	220.100	31/12/2006
2007-2008	2100	225.340	01/07/2007	1.023	220.230	02/01/2008
2008-2009	3380	226.100	19/09/2008	0.496	220.370	01/12/2008
2009-2010	1000	228.750	22/07/2009	0.200	219.950	10/01/2010
2010-2011	368.1	223.750	26/07/2010	0.281	219.865	13/01/2011
2011-2012	2849	227.600	08/09/2011	0.248	220.120	21/02/2012
2012-2013	527.0	224.350	05/08/2012	0.228	220.010	11/01/2013
2013-2014	850.0	225.000	01/08/2013	0.428	219.820	01/05/2014
2014-2015	812.4	226.080	22/07/2014	0.000	219.800	25/03/2015
2015-2016	450.3	222.700	04/08/2015	0.000	219.960	11/02/2016
2016-2017	285.4	222.000	13/09/2016	0.000	219.830	28/12/2016

Q : Observed / Computed Discharge WL : Corresponding Water Level(m.s.l)

Stage-Dischage Data for the period 2017 - 2018

Station Name : Rampur (EMN00B3) **Division : MD,CWC,Burla**

Local River : Jonk **Sub-Division : UMSD,CWC,Raipur**

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	219.545	0.000 *	219.835	0.000 *	220.125	3.622	220.600	39.40	220.660	64.05 *	220.200	4.650
2	219.545	0.000 *	220.920	142.0 *	220.120	5.376	220.440	22.00 *	220.730	66.53 *	220.110	2.665
3	219.545	0.000 *	219.810	0.000 *	220.125	3.603	220.370	12.00 *	220.670	64.36	220.100	0.000 *
4	219.540	0.000 *	219.990	0.000 *	220.093	1.844	220.353	11.02	220.830	80.30	220.220	0.000 *
5	219.540	0.000 *	219.880	0.000 *	220.065	1.801	220.210	10.83	220.790	75.58	220.160	0.000 *
6	219.540	0.000 *	220.040	0.000 *	220.080	1.901 *	220.135	2.686	220.650	56.79	220.150	0.000 *
7	219.535	0.000 *	219.900	0.000 *	220.068	1.816	220.120	2.602	220.590	53.58	220.125	0.000 *
8	219.535	0.000 *	219.860	0.000 *	220.395	18.95	220.110	2.112	220.590	53.50 *	220.100	4.451
9	219.535	0.000 *	219.710	1.690 *	220.393	0.000	220.063	1.007	220.568	51.66	220.080	4.384
10	219.530	0.000 *	219.710	0.000 *	220.300	0.000	220.140	2.700 *	220.690	59.63	220.030	2.535
11	219.530	0.000 *	220.620	34.56	220.220	5.251	220.090	1.920	220.663	56.99	220.020	2.418
12	219.540	0.000 *	220.460	29.49	220.148	2.721	220.295	14.15	220.685	58.98	220.020	2.400 *
13	219.680	0.000 *	220.672	36.50	220.115	5.150 *	220.253	8.584	220.670	58.10	220.020	2.347
14	219.680	0.000 *	220.500	30.35	220.090	0.592	220.200	6.918	220.575	53.10	220.020	2.275
15	219.690	0.000 *	220.388	24.34	220.075	0.523 *	220.150	5.063	220.520	46.50 *	220.020	2.069
16	219.690	0.000 *	220.280	11.20 *	220.060	0.000	220.333	15.36	220.460	30.14	220.020	2.011
17	219.680	0.000 *	220.400	14.12	220.060	0.000	220.400	21.28 *	220.440	28.87	220.020	2.002
18	219.680	0.000 *	220.460	18.75	220.085	0.000	220.375	15.89	220.400	26.79	220.020	2.054
19	219.700	0.000 *	220.505	19.38	220.120	2.306	220.528	45.38	220.360	32.00 *	220.020	2.300 *
20	219.670	0.000 *	220.902	140.5	220.260	6.050 *	221.190	191.9	220.330	24.70	220.020	2.030
21	219.670	0.000 *	220.895	139.8	220.450	19.92	222.200	302.3	220.388	30.62	220.040	3.032
22	219.680	0.000 *	220.635	40.85	220.395	19.92	221.860	235.4	220.385	30.52 *	220.030	2.881
23	219.750	0.000 *	220.475	19.52 *	220.675	47.91	221.295	208.3	220.370	29.69	220.025	2.740
24	219.900	0.000 *	220.365	14.39	220.660	46.03	221.105	120.0 *	220.370	30.97	220.020	2.665
25	219.950	0.000 *	220.320	13.11	220.670	46.89 *	220.770	66.10	220.465	45.57	220.020	2.606
26	219.960	0.000 *	220.255	7.948	220.780	59.38	220.588	39.55	220.355	30.42	220.020	2.310 *
27	219.910	0.000 *	220.210	6.340	221.020	182.6 *	220.483	23.92	220.195	4.702	220.020	2.570
28	219.850	0.000 *	220.200	5.334	220.960	171.7	220.400	21.28	220.125	4.479	220.010	2.452
29	219.825	0.000 *	220.125	5.018	221.010	180.6	220.540	38.00 *	220.230	5.120 *	220.010	2.068
30	219.810	0.000 *	220.100	3.980 *	221.150	183.5	220.600	40.00 *	220.228	5.034	220.010	2.001
31			220.080	4.172	220.910	154.1			220.200	4.674		
Ten-Daily Mean												
I Ten-Daily	219.539	0.000	219.965	14.37	220.176	3.891	220.254	10.64	220.677	62.60	220.127	1.869
II Ten-Daily	219.654	0.000	220.519	35.92	220.123	2.259	220.381	32.65	220.510	41.62	220.020	2.190
III Ten-Daily	219.830	0.000	220.333	23.68	220.789	101.1	220.984	109.5	220.301	20.16	220.021	2.533
Monthly												
Min.	219.530	0.000	219.710	0.000	220.060	0.000	220.063	1.007	220.125	4.479	220.010	0.000
Max.	219.960	0.000	220.920	142.0	221.150	183.5	222.200	302.3	220.830	80.30	220.220	4.650
Mean	219.674	0	220.274	24.62	220.377	37.87	220.540	50.93	220.490	40.77	220.056	2.197

Annual Runoff in MCM = 417 Annual Runoff in mm = 143

Peak Observed Discharge = 302.3 cumecs on 21/09/2017 Corres. Water Level :222.2 m

Lowest Observed Discharge = 0.000 cumecs on 09/08/2017 Corres. Water Level :220.3925 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Dischage Data for the period 2017 - 2018

Station Name : Rampur (EMN00B3) **Division : MD,CWC,Burla**

Local River : Jonk **Sub-Division : UMSD,CWC,Raipur**

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	220.000	1.778	220.155	0.000 *	220.140	0.000 *	220.090	0.000 *	219.990	0.000 *	219.800	0.000 *
2	220.000	1.770 *	220.155	0.000 *	220.140	0.000 *	220.100	0.000 *	219.990	0.000 *	219.800	0.000 *
3	220.000	1.770 *	220.150	0.000 *	220.140	0.000 *	220.100	0.000 *	219.990	0.000 *	219.820	0.000 *
4	220.000	1.190	220.150	0.000 *	220.130	0.000 *	220.100	0.000 *	219.990	0.000 *	219.820	0.000 *
5	219.970	1.128	220.145	0.000 *	220.130	0.000 *	220.100	0.000 *	219.980	0.000 *	219.825	0.000 *
6	219.970	1.116	220.145	0.000 *	220.130	0.000 *	220.100	0.000 *	219.980	0.000 *	219.820	0.000 *
7	219.970	1.287	220.140	0.000 *	220.125	0.000 *	220.100	0.000 *	219.970	0.000 *	219.820	0.000 *
8	219.970	1.241	220.140	0.000 *	220.125	0.000 *	220.100	0.000 *	219.960	0.000 *	219.805	0.000 *
9	219.970	1.022	220.140	0.000 *	220.125	0.000 *	220.100	0.000 *	219.960	0.000 *	219.780	0.000 *
10	219.965	1.000 *	220.140	0.000 *	220.125	0.000 *	220.100	0.000 *	219.960	0.000 *	219.770	0.000 *
11	219.985	1.489	220.100	0.000 *	220.120	0.000 *	220.090	0.000 *	219.960	0.000 *	219.770	0.000 *
12	219.970	1.210	220.100	0.000 *	220.130	0.000 *	220.090	0.000 *	219.950	0.000 *	219.765	0.000 *
13	219.970	1.186	220.090	0.000 *	220.130	0.000 *	220.080	0.000 *	219.950	0.000 *	219.760	0.000 *
14	219.970	1.175	220.090	0.000 *	220.120	0.000 *	220.075	0.000 *	219.940	0.000 *	219.755	0.000 *
15	219.970	1.142	220.090	0.000 *	220.090	0.000 *	220.070	0.000 *	219.930	0.000 *	219.755	0.000 *
16	219.970	1.133	220.080	0.000 *	220.080	0.000 *	220.070	0.000 *	219.930	0.000 *	219.745	0.000 *
17	220.000	1.770 *	220.080	0.000 *	220.080	0.000 *	220.070	0.000 *	219.930	0.000 *	219.740	0.000 *
18	220.030	1.111	220.080	0.000 *	220.080	0.000 *	220.065	0.000 *	219.920	0.000 *	219.740	0.000 *
19	220.020	1.030	220.080	0.000 *	220.115	0.000 *	220.060	0.000 *	219.910	0.000 *	219.735	0.000 *
20	220.020	1.035	220.080	0.000 *	220.120	0.000 *	220.055	0.000 *	219.910	0.000 *	219.730	0.000 *
21	220.070	0.942	220.140	0.000 *	220.100	0.000 *	220.050	0.000 *	219.910	0.000 *	219.730	0.000 *
22	220.220	0.936	220.115	0.000 *	220.090	0.000 *	220.050	0.000 *	219.900	0.000 *	219.715	0.000 *
23	220.220	0.998	220.110	0.000 *	220.080	0.000 *	220.040	0.000 *	219.890	0.000 *	219.705	0.000 *
24	220.220	0.990 *	220.110	0.000 *	220.080	0.000 *	220.030	0.000 *	219.880	0.000 *	219.700	0.000 *
25	220.220	0.990 *	220.110	0.000 *	220.060	0.000 *	220.025	0.000 *	219.870	0.000 *	219.690	0.000 *
26	220.220	0.761	220.155	0.000 *	220.060	0.000 *	220.015	0.000 *	219.860	0.000 *	219.675	0.000 *
27	220.220	0.875	220.150	0.000 *	220.080	0.000 *	220.010	0.000 *	219.860	0.000 *	219.670	0.000 *
28	220.170	0.000 *	220.150	0.000 *	220.090	0.000 *	220.000	0.000 *	219.860	0.000 *	219.670	0.000 *
29	220.170	0.000 *	220.150	0.000 *			220.000	0.000 *	219.840	0.000 *	219.660	0.000 *
30	220.160	0.000 *	220.150	0.000 *			220.000	0.000 *	219.820	0.000 *	219.660	0.000 *
31	220.155	0.000 *	220.150	0.000 *			219.990	0.000 *			219.660	0.000 *
Ten-Daily Mean												
I Ten-Daily	219.981	1.330	220.146	0.000	220.131	0.000	220.099	0.000	219.977	0.000	219.806	0.000
II Ten-Daily	219.991	1.228	220.087	0.000	220.106	0.000	220.073	0.000	219.933	0.000	219.749	0.000
III Ten-Daily	220.186	0.590	220.135	0.000	220.080	0.000	220.019	0.000	219.869	0.000	219.685	0.000
Monthly												
Min.	219.965	0.000	220.080	0.000	220.060	0.000	219.990	0.000	219.820	0.000	219.660	0.000
Max.	220.220	1.778	220.155	0.000	220.140	0.000	220.100	0.000	219.990	0.000	219.825	0.000
Mean	220.057	1.035	220.123	0	220.108	0	220.062	0	219.926	0	219.745	0

Peak Computed Discharge = 182.6 cumecs on 27/08/2017 **Corres. Water Level :221.02 m**

Lowest Computed Discharge = 0.000 cumecs on 01/06/2017 **Corres. Water Level :219.545 m**

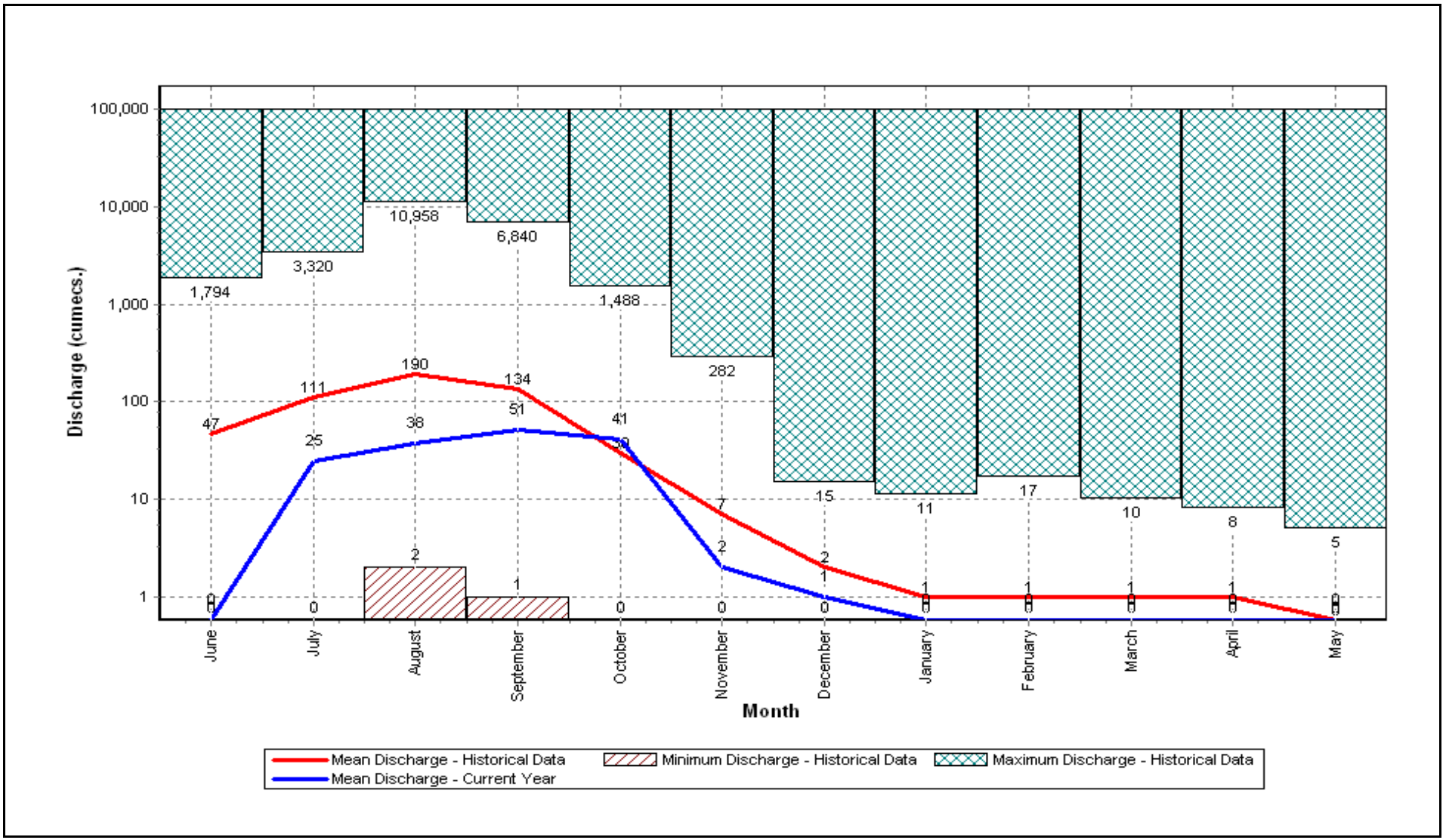
Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2017-2018

Station Name : Rampur (EMN00B3) **Data considered : 1971-2018** **Division : MD,CWC,Burla**

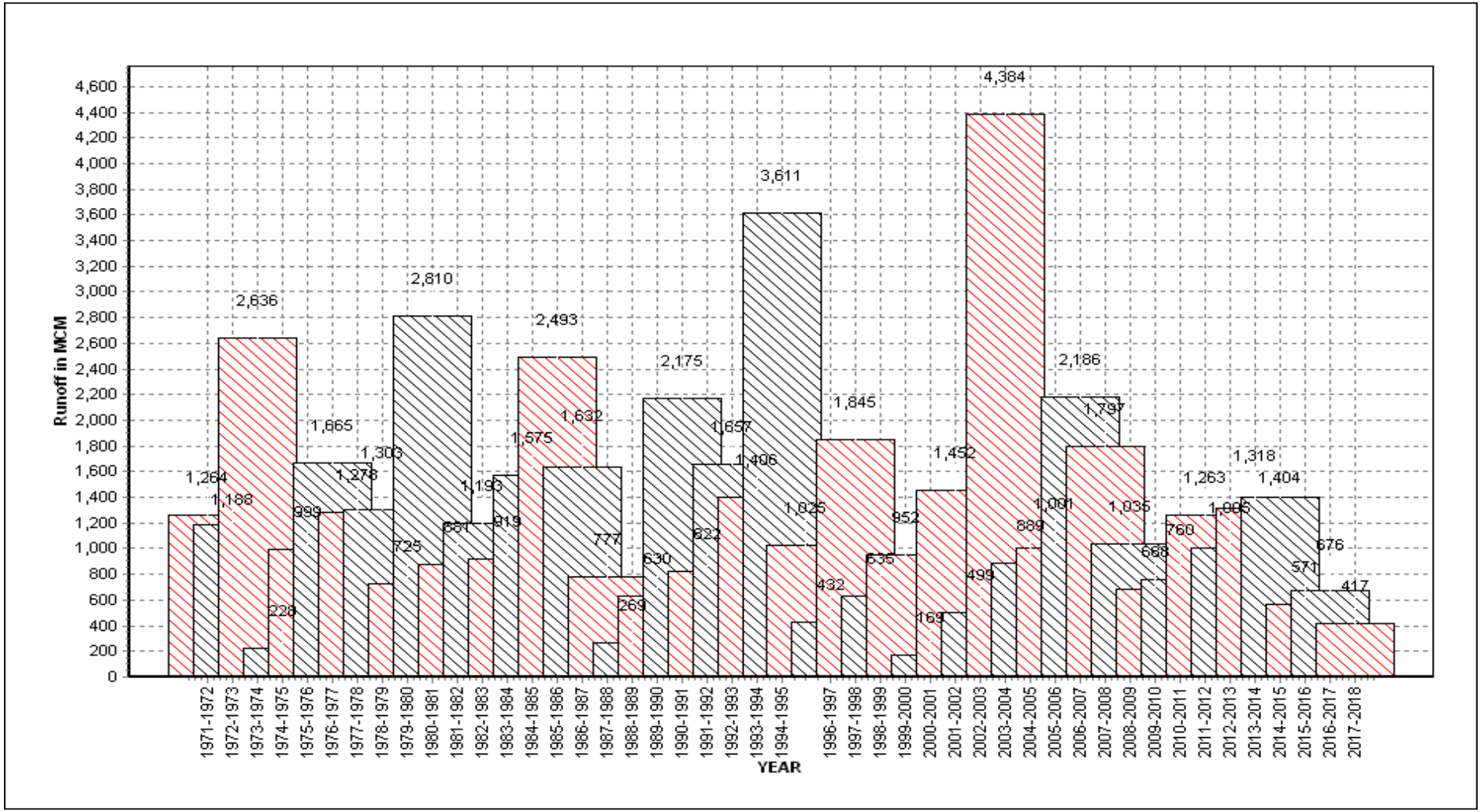
Local River : Jonk **Sub-Division : UMSD,CWC,Raipur**



Annual Runoff Values for the period: 1971 - 2018

Station Name : Rampur (EMN00B3)
Local River : Jonk

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur



Note: Missing values have not been considered while arriving at Annual Runoff

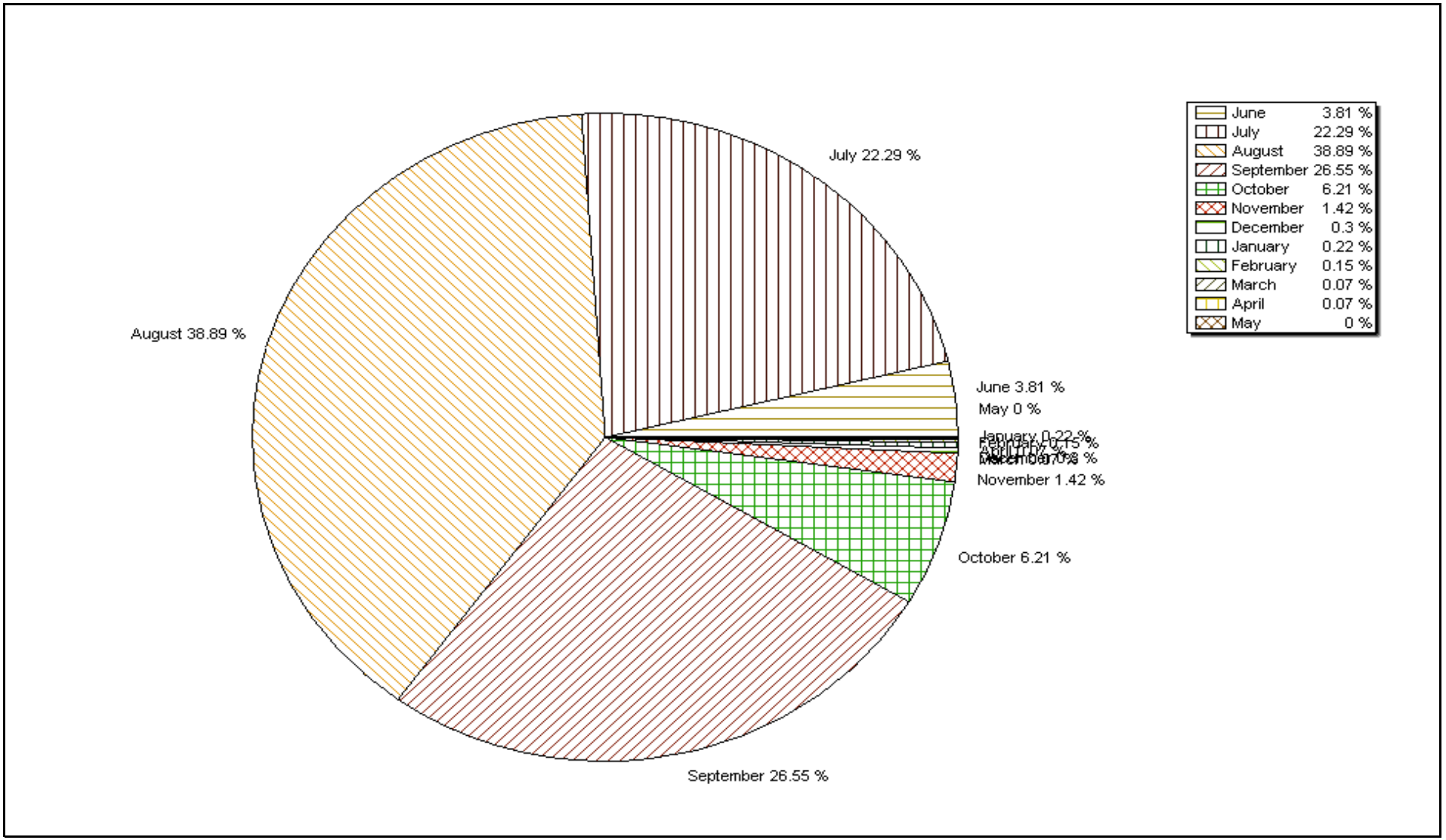
Monthly Average Runoff based on period : 1971-2017

Station Name : Rampur (EMN00B3)

Local River : Jonk

Division : MD,CWC,Burla

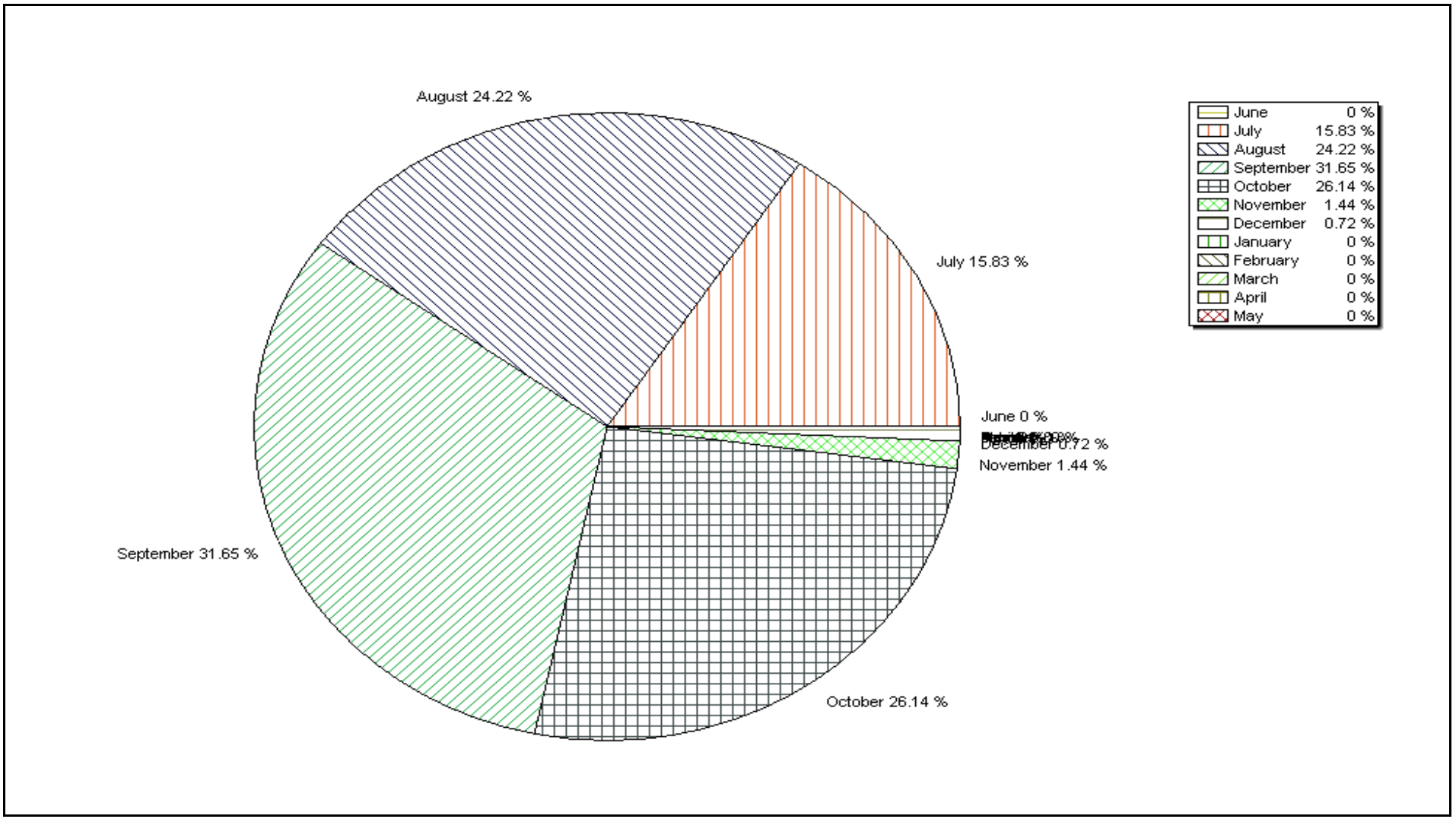
Sub-Division : UMSD,CWC,Raipur



Monthly Runoff for the Year : 2017-2018

Station Name : Rampur (EMN00B3)
Local River : Jonk

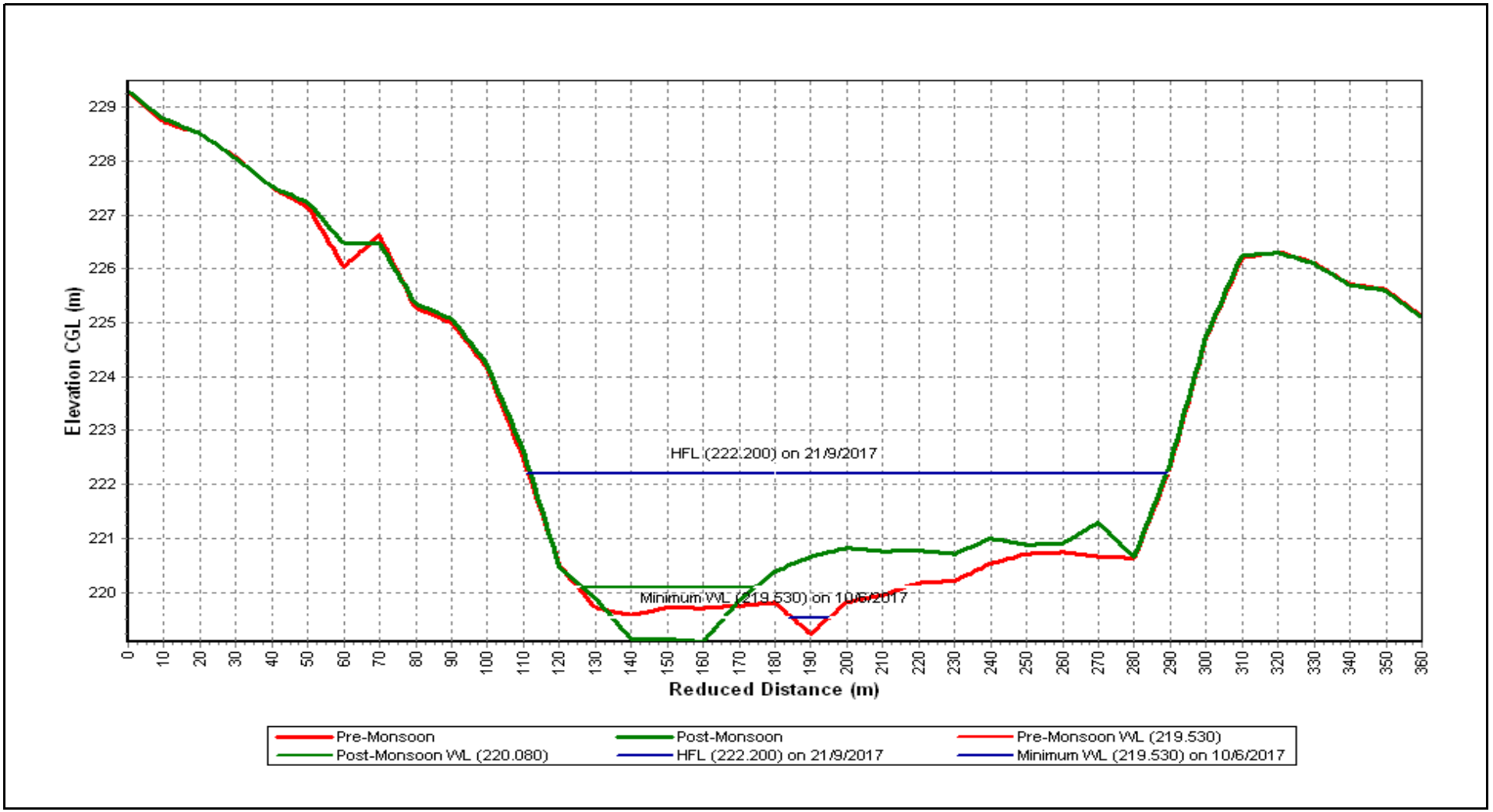
Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur



Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2017-2018

Station Name : Rampur (EMN00B3) **Division : MD,CWC,Burla**

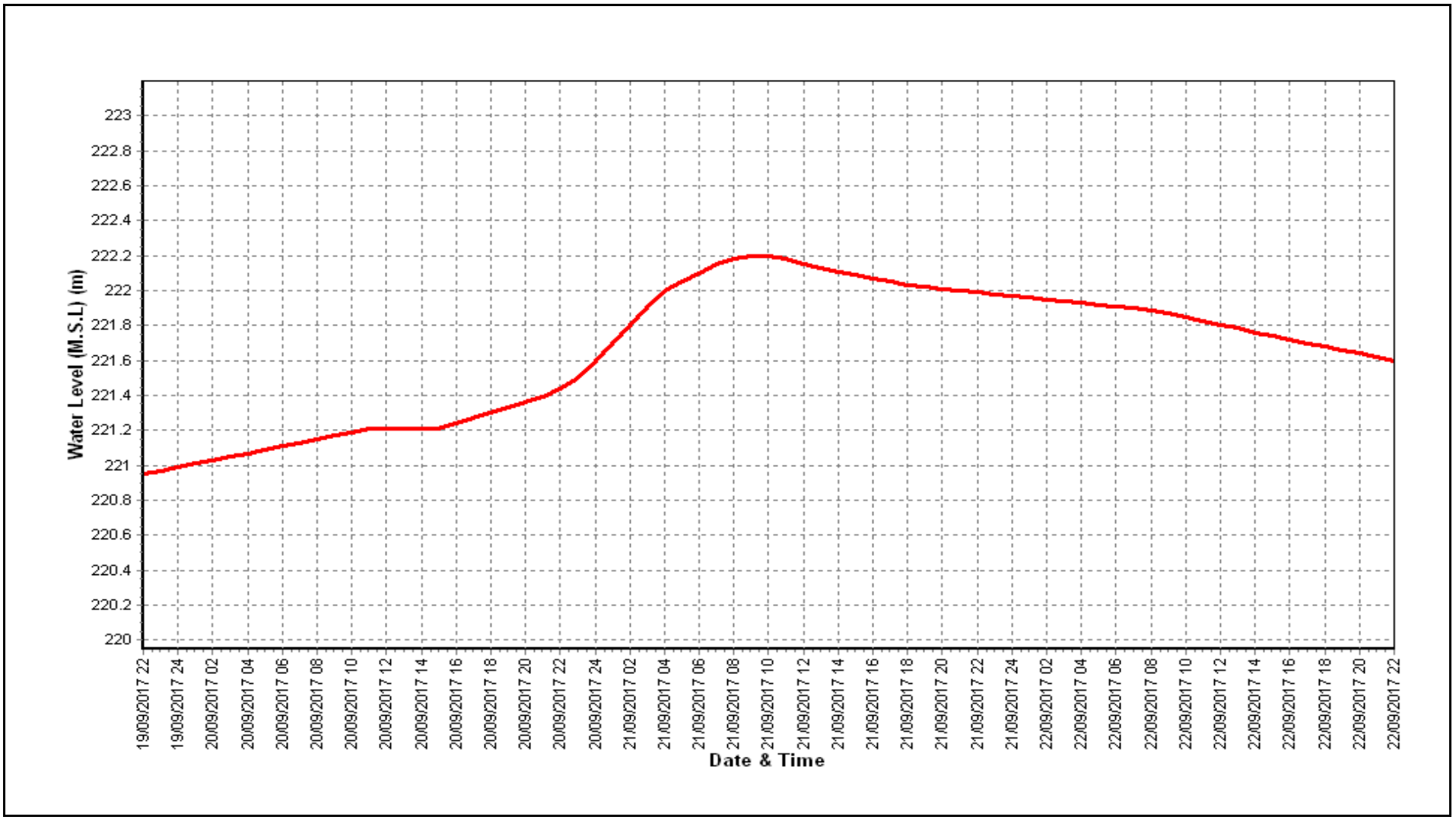
Local River : Jonk **Sub-Division : UMSD,CWC,Raipur**



Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2017-2018

Station Name : Rampur (EMN00B3) **Division : MD,CWC,Burla**

Local River : Jonk **Sub-Division : UMSD,CWC,Raipur**

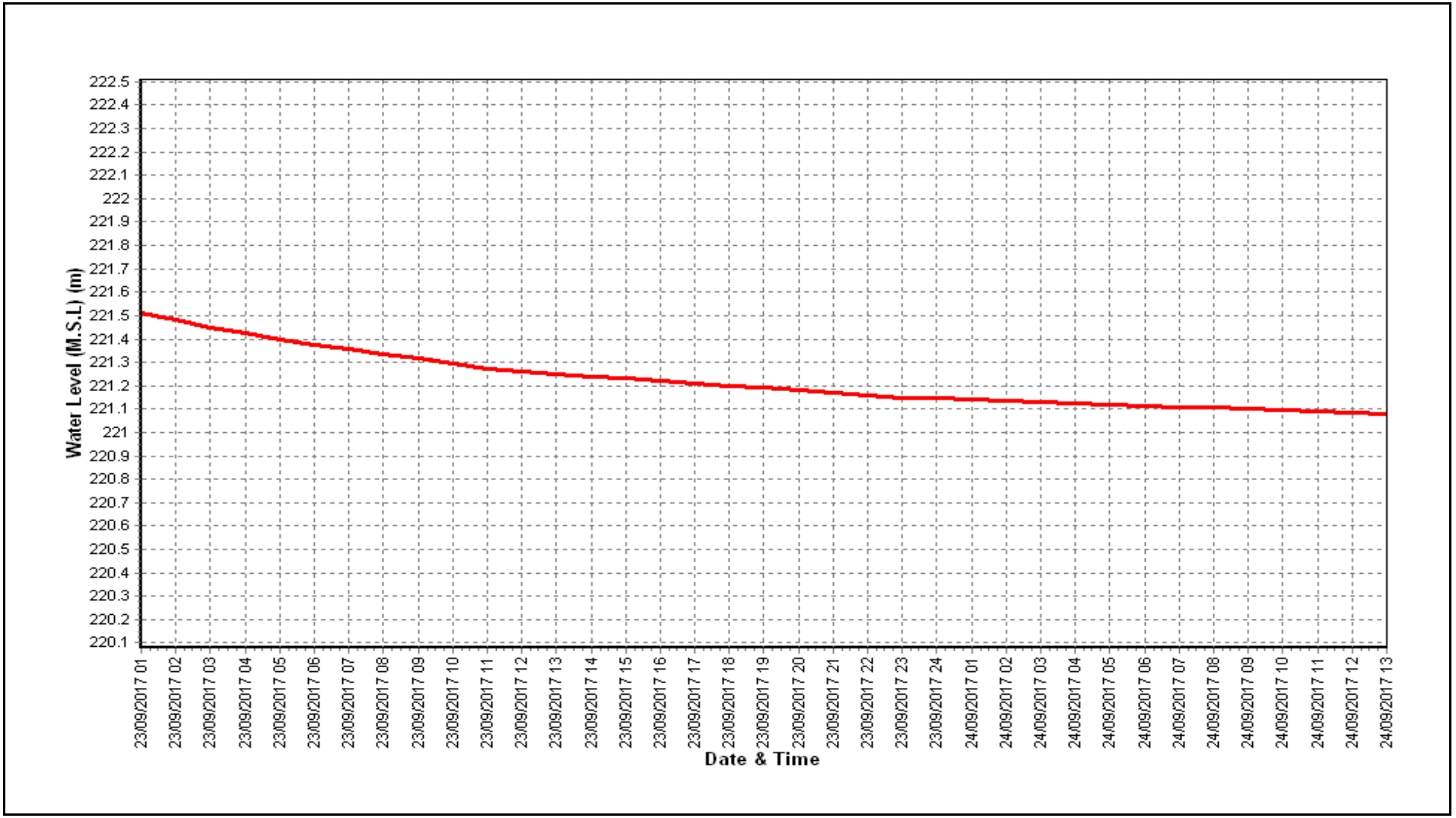


Time Span: 72 Hrs

Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2017-2018

Station Name : Rampur (EMN00B3) **Division : MD,CWC,Burla**

Local River : Jonk **Sub-Division : UMSD,CWC,Raipur**

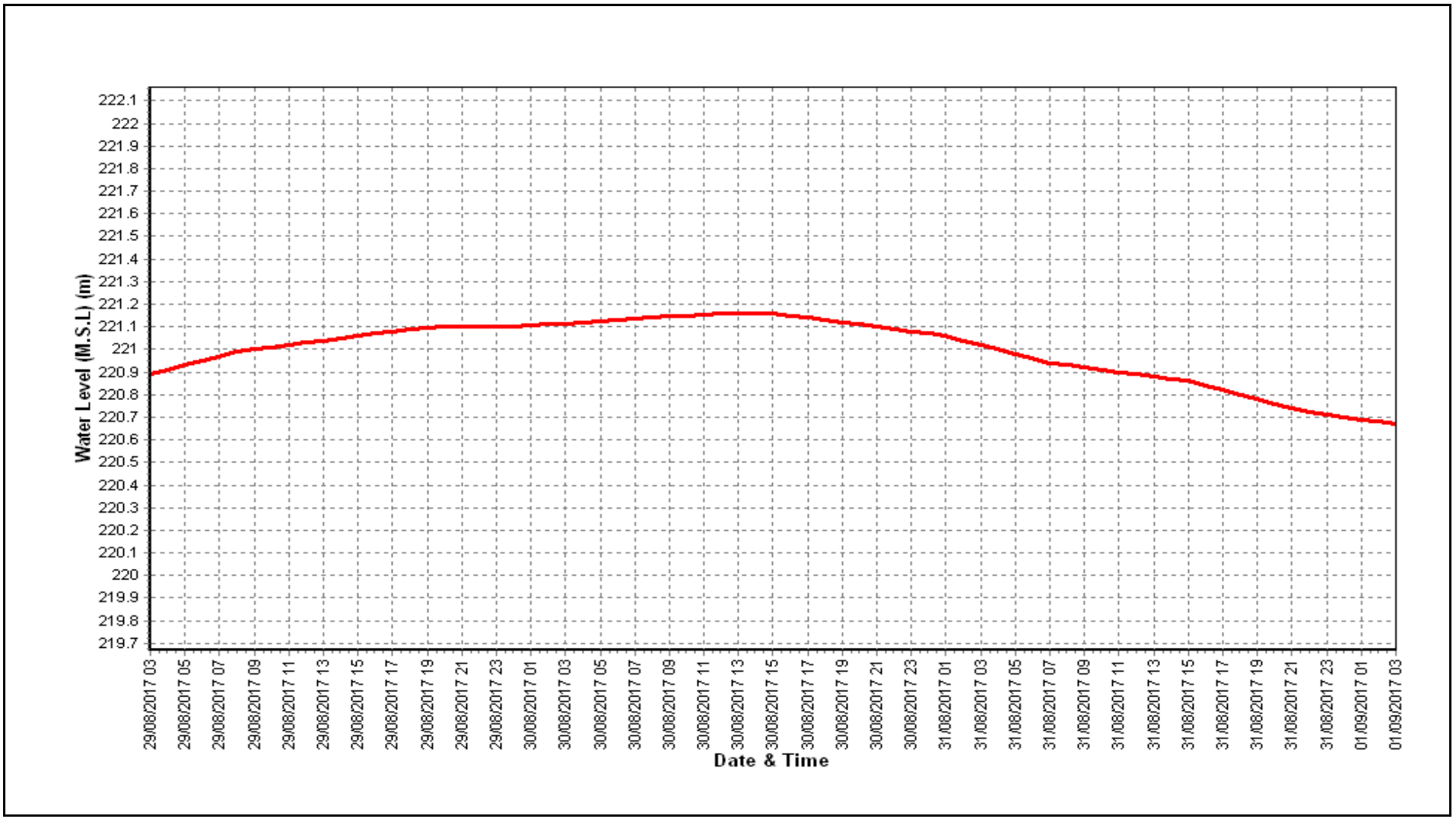


Time Span: 72 Hrs

Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2017-2018

Station Name : Rampur (EMN00B3) **Division : MD,CWC,Burla**

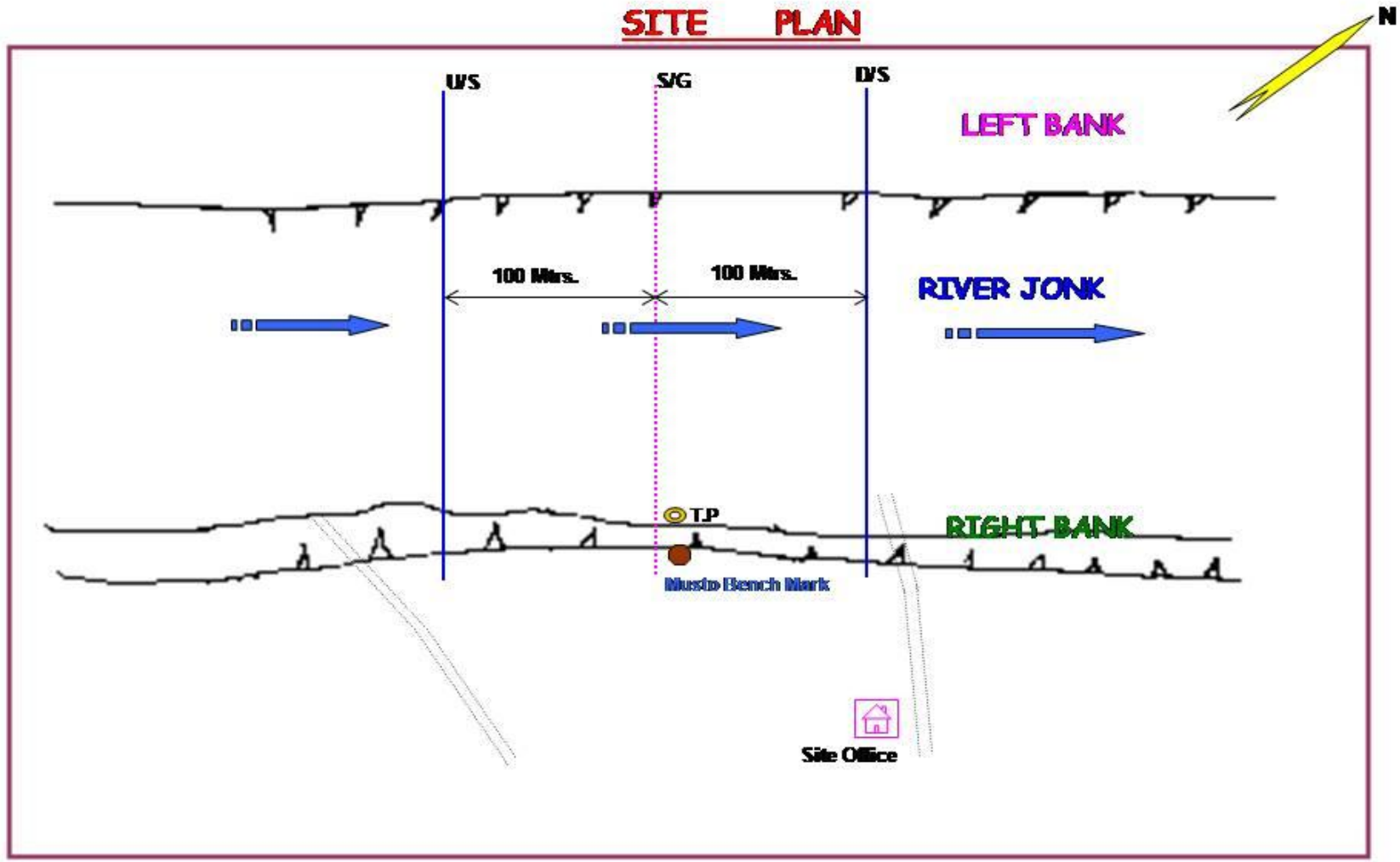
Local River : Jonk **Sub-Division : UMSD,CWC,Raipur**



Time Span: 72 Hrs

CENTRAL WATER COMMISSION, MAHANADI DIVISION, BURLA

Site : RAMPUR Code : EMN00B3 Sub-Division :UMSD CWC Raipur



SECTION-II

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Rampur (EMN00B3) **Division : MD,CWC,Burla**

Local River : Jonk **Sub-Division : UMSD,CWC,Raipur**

Day	Jun						Jul						Aug					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	3.622	0.000	0.000	0.103	0.103	32
2	0.000	0.000	0.000	0.000	0.000	0	142.0	0.000	0.000	0.000	0.000	0	5.376	0.000	0.000	0.083	0.083	39
3	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	3.603	0.000	0.000	0.052	0.052	16
4	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	1.844	0.000	0.000	0.073	0.073	12
5	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	1.801	0.000	0.000	0.051	0.051	8
6	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	1.901	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	1.816	0.000	0.000	0.070	0.070	11
8	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	18.95	0.000	0.000	0.091	0.091	149
9	0.000	0.000	0.000	0.000	0.000	0	1.690	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.124	0.124	0
10	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.052	0.052	0
11	0.000	0.000	0.000	0.000	0.000	0	34.56	0.000	0.000	0.134	0.134	400	5.251	0.000	0.000	0.131	0.131	59
12	0.000	0.000	0.000	0.000	0.000	0	29.49	0.000	0.000	0.210	0.210	535	2.721	0.000	0.000	0.072	0.072	17
13	0.000	0.000	0.000	0.000	0.000	0	36.50	0.000	0.000	0.337	0.337	1063	5.150	0.000	0.000	0.000	0.000	0
14	0.000	0.000	0.000	0.000	0.000	0	30.35	0.000	0.000	0.265	0.265	695	0.592	0.000	0.000	0.055	0.055	3
15	0.000	0.000	0.000	0.000	0.000	0	24.34	0.000	0.000	0.380	0.380	799	0.523	0.000	0.000	0.000	0.000	0
16	0.000	0.000	0.000	0.000	0.000	0	11.20	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.076	0.076	0
17	0.000	0.000	0.000	0.000	0.000	0	14.12	0.000	0.000	0.266	0.266	325	0.000	0.000	0.000	0.077	0.077	0
18	0.000	0.000	0.000	0.000	0.000	0	18.75	0.000	0.000	0.204	0.204	331	0.000	0.000	0.000	0.032	0.032	0
19	0.000	0.000	0.000	0.000	0.000	0	19.38	0.000	0.000	0.196	0.196	328	2.306	0.000	0.000	0.013	0.013	3
20	0.000	0.000	0.000	0.000	0.000	0	140.5	0.000	0.000	0.210	0.210	2549	6.050	0.000	0.000	0.000	0.000	0
21	0.000	0.000	0.000	0.000	0.000	0	139.8	0.000	0.000	0.303	0.303	3660	19.92	0.000	0.000	0.065	0.065	112
22	0.000	0.000	0.000	0.000	0.000	0	40.85	0.000	0.000	0.249	0.249	879	19.92	0.000	0.000	0.023	0.023	40
23	0.000	0.000	0.000	0.000	0.000	0	19.52	0.000	0.000	0.000	0.000	0	47.91	0.000	0.000	0.036	0.036	149
24	0.000	0.000	0.000	0.000	0.000	0	14.39	0.000	0.000	0.225	0.225	280	46.03	0.000	0.000	0.071	0.071	282
25	0.000	0.000	0.000	0.000	0.000	0	13.11	0.000	0.000	0.175	0.175	198	46.89	0.000	0.000	0.000	0.000	0
26	0.000	0.000	0.000	0.000	0.000	0	7.948	0.000	0.000	0.086	0.086	59	59.38	0.000	0.000	0.053	0.053	272
27	0.000	0.000	0.000	0.000	0.000	0	6.340	0.000	0.000	0.087	0.087	48	182.6	0.000	0.000	0.000	0.000	0
28	0.000	0.000	0.000	0.000	0.000	0	5.334	0.000	0.000	0.101	0.101	47	171.7	0.000	0.000	0.119	0.119	1766
29	0.000	0.000	0.000	0.000	0.000	0	5.018	0.000	0.000	0.036	0.036	16	180.6	0.000	0.000	0.121	0.121	1888
30	0.000	0.000	0.000	0.000	0.000	0	3.980	0.000	0.000	0.000	0.000	0	183.5	0.000	0.000	0.124	0.124	1966
31							4.172	0.000	0.000	0.037	0.037	13	154.1	0.000	0.000	0.134	0.134	1784
Ten Daily Mean																		
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	14.37	0.000	0.000	0.000	0.000	0	3.891	0.000	0.000	0.070	0.070	27
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0	35.92	0.000	0.000	0.220	0.220	702	2.259	0.000	0.000	0.046	0.046	8
Ten Daily III	0.000	0.000	0.000	0.000	0.000	0	23.68	0.000	0.000	0.118	0.118	473	101.1	0.000	0.000	0.068	0.068	751
Monthly																		
Total						0						12224						8606

Annual Sediment Load (Metric Tonnes) : 48422

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Rampur (EMN00B3) **Division : MD,CWC,Burla**

Local River : Jonk **Sub-Division : UMSD,CWC,Raipur**

Day	Sep						Oct						Nov					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	39.40	0.000	0.000	0.132	0.132	449	64.05	0.000	0.000	0.000	0.000	0	4.650	0.000	0.000	0.019	0.019	8
2	22.00	0.000	0.000	0.000	0.000	0	66.53	0.000	0.000	0.000	0.000	0	2.665	0.000	0.000	0.021	0.021	5
3	12.00	0.000	0.000	0.000	0.000	0	64.36	0.000	0.000	0.046	0.046	256	0.000	0.000	0.000	0.000	0.000	0
4	11.02	0.000	0.000	0.033	0.033	31	80.30	0.000	0.000	0.034	0.034	236	0.000	0.000	0.000	0.000	0.000	0
5	10.83	0.000	0.000	0.080	0.080	75	75.58	0.000	0.000	0.048	0.048	313	0.000	0.000	0.000	0.000	0.000	0
6	2.686	0.000	0.000	0.039	0.039	9	56.79	0.000	0.000	0.032	0.032	157	0.000	0.000	0.000	0.000	0.000	0
7	2.602	0.000	0.000	0.047	0.047	11	53.58	0.000	0.000	0.051	0.051	236	0.000	0.000	0.000	0.000	0.000	0
8	2.112	0.000	0.000	0.053	0.053	10	53.50	0.000	0.000	0.000	0.000	0	4.451	0.000	0.000	0.000	0.000	0
9	1.007	0.000	0.000	0.057	0.057	5	51.66	0.000	0.000	0.081	0.081	362	4.384	0.000	0.000	0.000	0.000	0
10	2.700	0.000	0.000	0.000	0.000	0	59.63	0.000	0.000	0.075	0.075	386	2.535	0.000	0.000	0.000	0.000	0
11	1.920	0.000	0.000	0.055	0.055	9	56.99	0.000	0.000	0.064	0.064	315	2.418	0.000	0.000	0.000	0.000	0
12	14.15	0.000	0.000	0.047	0.047	57	58.98	0.000	0.000	0.012	0.012	61	2.400	0.000	0.000	0.000	0.000	0
13	8.584	0.000	0.000	0.050	0.050	37	58.10	0.000	0.000	0.040	0.040	201	2.347	0.000	0.000	0.000	0.000	0
14	6.918	0.000	0.000	0.025	0.025	15	53.10	0.000	0.000	0.051	0.051	234	2.275	0.000	0.000	0.000	0.000	0
15	5.063	0.000	0.000	0.039	0.039	17	46.50	0.000	0.000	0.000	0.000	0	2.069	0.000	0.000	0.000	0.000	0
16	15.36	0.000	0.000	0.038	0.038	50	30.14	0.000	0.000	0.042	0.042	109	2.011	0.000	0.000	0.000	0.000	0
17	21.28	0.000	0.000	0.000	0.000	0	28.87	0.000	0.000	0.042	0.042	105	2.002	0.000	0.000	0.000	0.000	0
18	15.89	0.000	0.000	0.017	0.017	23	26.79	0.000	0.000	0.029	0.029	67	2.054	0.000	0.000	0.000	0.000	0
19	45.38	0.000	0.000	0.116	0.116	455	32.00	0.000	0.000	0.000	0.000	0	2.300	0.000	0.000	0.000	0.000	0
20	191.9	0.000	0.000	0.265	0.265	4394	24.70	0.000	0.000	0.048	0.048	102	2.030	0.000	0.000	0.000	0.000	0
21	302.3	0.000	0.000	0.413	0.413	10788	30.62	0.000	0.000	0.013	0.013	34	3.032	0.000	0.000	0.000	0.000	0
22	235.4	0.000	0.000	0.251	0.251	5106	30.52	0.000	0.000	0.000	0.000	0	2.881	0.000	0.000	0.000	0.000	0
23	208.3	0.000	0.000	0.087	0.087	1566	29.69	0.000	0.000	0.013	0.013	33	2.740	0.000	0.000	0.000	0.000	0
24	120.0	0.000	0.000	0.000	0.000	0	30.97	0.000	0.000	0.015	0.015	40	2.665	0.000	0.000	0.000	0.000	0
25	66.10	0.000	0.000	0.046	0.046	263	45.57	0.000	0.000	0.084	0.084	331	2.606	0.000	0.000	0.000	0.000	0
26	39.55	0.000	0.000	0.042	0.042	144	30.42	0.000	0.000	0.123	0.123	323	2.310	0.000	0.000	0.000	0.000	0
27	23.92	0.000	0.000	0.004	0.004	8	4.702	0.000	0.000	0.029	0.029	12	2.570	0.000	0.000	0.000	0.000	0
28	21.28	0.000	0.000	0.051	0.051	94	4.479	0.000	0.000	0.063	0.063	24	2.452	0.000	0.000	0.000	0.000	0
29	38.00	0.000	0.000	0.000	0.000	0	5.120	0.000	0.000	0.000	0.000	0	2.068	0.000	0.000	0.000	0.000	0
30	40.00	0.000	0.000	0.000	0.000	0	5.034	0.000	0.000	0.030	0.030	13	2.001	0.000	0.000	0.000	0.000	0
31							4.674	0.000	0.000	0.030	0.030	12						
Ten Daily Mean																		
Ten Daily I	10.64	0.000	0.000	0.044	0.044	59	62.60	0.000	0.000	0.037	0.037	195	1.869	0.000	0.000	0.004	0.004	1
Ten Daily II	32.65	0.000	0.000	0.065	0.065	506	41.62	0.000	0.000	0.033	0.033	119	2.190	0.000	0.000	0.000	0.000	0
Ten Daily III	109.5	0.000	0.000	0.089	0.089	1797	20.16	0.000	0.000	0.036	0.036	75	2.533	0.000	0.000	0.000	0.000	0
Monthly																		
Total						23616						3964						12

Annual Sediment Load (Metric Tonnes) : 48422

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Rampur (EMN00B3) **Division : MD,CWC,Burla**

Local River : Jonk **Sub-Division : UMSD,CWC,Raipur**

Day	Dec						Jan						Feb					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	1.778	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
2	1.770	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
3	1.770	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
4	1.190	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
5	1.128	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
6	1.116	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
7	1.287	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
8	1.241	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
9	1.022	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
10	1.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
11	1.489	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
12	1.210	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
13	1.186	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
14	1.175	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
15	1.142	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
16	1.133	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
17	1.770	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
18	1.111	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
19	1.030	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	1.035	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
21	0.942	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
22	0.936	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	0.998	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
24	0.990	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
25	0.990	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	0.761	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27	0.875	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
28	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
29	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0						
30	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0						
31	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0						
Ten Daily Mean																		
Ten Daily I	1.330	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily II	1.228	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily III	0.590	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Monthly																		
Total						0						0						0

Annual Sediment Load (Metric Tonnes) : 48422

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Rampur (EMN00B3) **Division : MD,CWC,Burla**

Local River : Jonk **Sub-Division : UMSD,CWC,Raipur**

Day	Mar						Apr						May					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
2	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
3	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
8	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
9	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
10	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
11	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
12	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
13	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
14	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
15	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
16	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
17	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
18	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
19	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
21	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
22	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
24	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
25	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
28	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
29	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
30	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
31	0.000	0.000	0.000	0.000	0.000	0							0.000	0.000	0.000	0.000	0.000	0
Ten Daily Mean																		
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily III	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Monthly Total						0						0						0

Annual Sediment Load (Metric Tonnes) : 48422

Annual Sediment Load for period : 1977-2018

Station Name : Rampur (EMN00B3) **Division : MD,CWC,Burla**

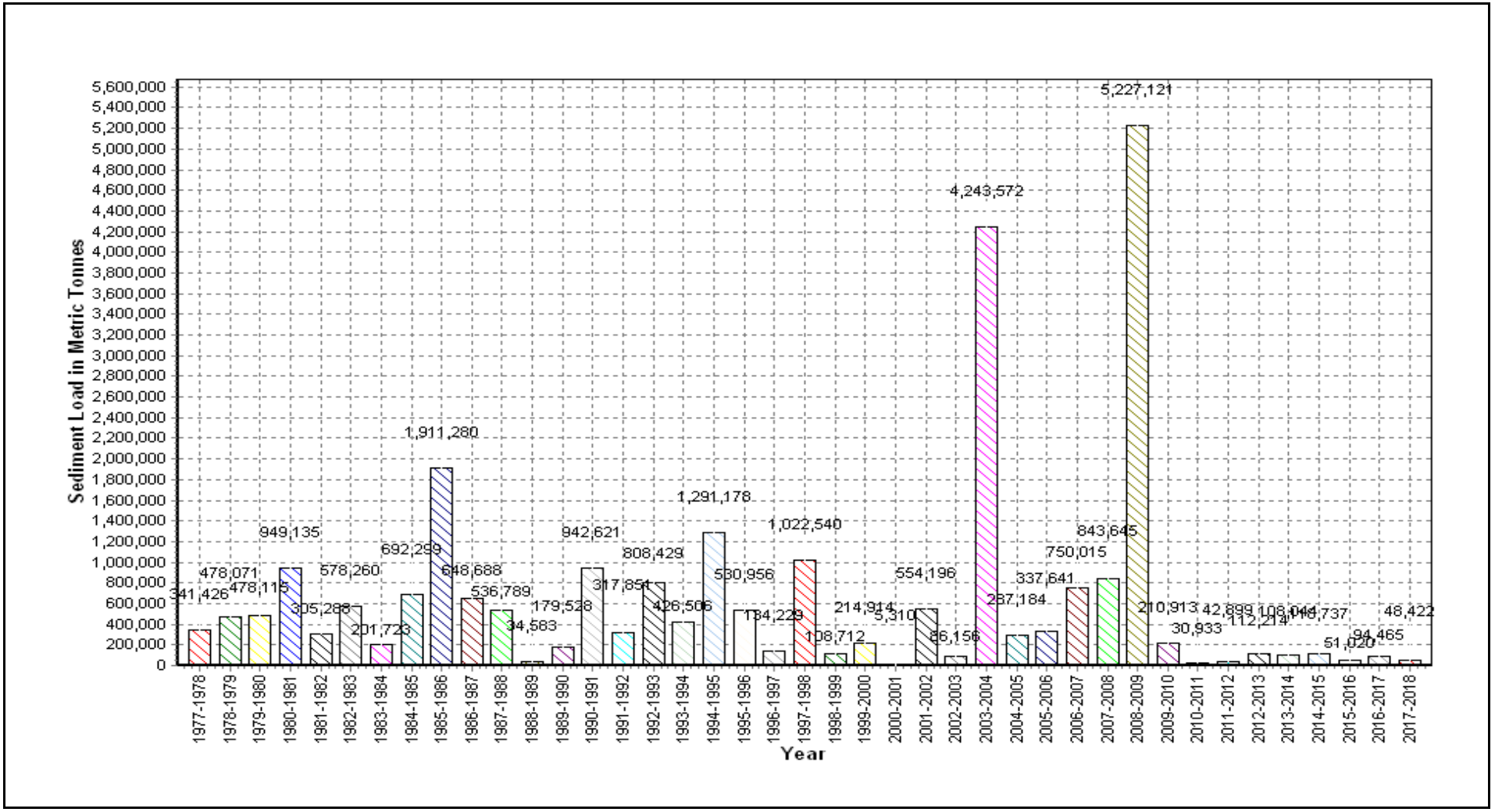
Local River : Jonk **Sub-Division : UMSD,CWC,Raipur**

Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)
1977-1978	341426	0	341426	1278
1978-1979	478071	0	478071	1303
1979-1980	478115	0	478115	725
1980-1981	949109	26	949135	2810
1981-1982	305288	0	305288	881
1982-1983	578258	2	578260	1193
1983-1984	201661	62	201723	919
1984-1985	692295	5	692299	1575
1985-1986	1911047	232	1911280	2493
1986-1987	648688	0	648688	1632
1987-1988	536720	69	536789	777
1988-1989	34583	0	34583	269
1989-1990	179528	0	179528	630
1990-1991	942621	0	942621	2175
1991-1992	317836	15	317851	822
1992-1993	808429	0	808429	1657
1993-1994	426506	0	426506	1406
1994-1995	1291178	0	1291178	3611
1995-1996	530956	0	530956	1025
1996-1997	134229	0	134229	432
1997-1998	1022540	0	1022540	1845
1998-1999	108712	0	108712	635
1999-2000	214914	0	214914	952
2000-2001	5310	0	5310	169
2001-2002	554196	0	554196	1452
2002-2003	86156	0	86156	499
2003-2004	4243551	21	4243572	4384
2004-2005	287184	0	287184	889
2005-2006	337641	0	337641	1001
2006-2007	750015	0	750015	2186
2007-2008	843645	0	843645	1797
2008-2009	5227121	0	5227121	1035
2009-2010	210913	0	210913	688
2010-2011	30933	0	30933	760
2011-2012	42899	0	42899	1263
2012-2013	112214	0	112214	1005
2013-2014	108043	1	108044	1318
2014-2015	118735	2	118737	1404
2015-2016	50997	23	51020	571
2016-2017	94465	0	94465	676
2017-2018	48422	0	48422	417

Annual Sediment Load for the period: 1977-2018

Station Name : Rampur (EMN00B3)
Local River : Jonk

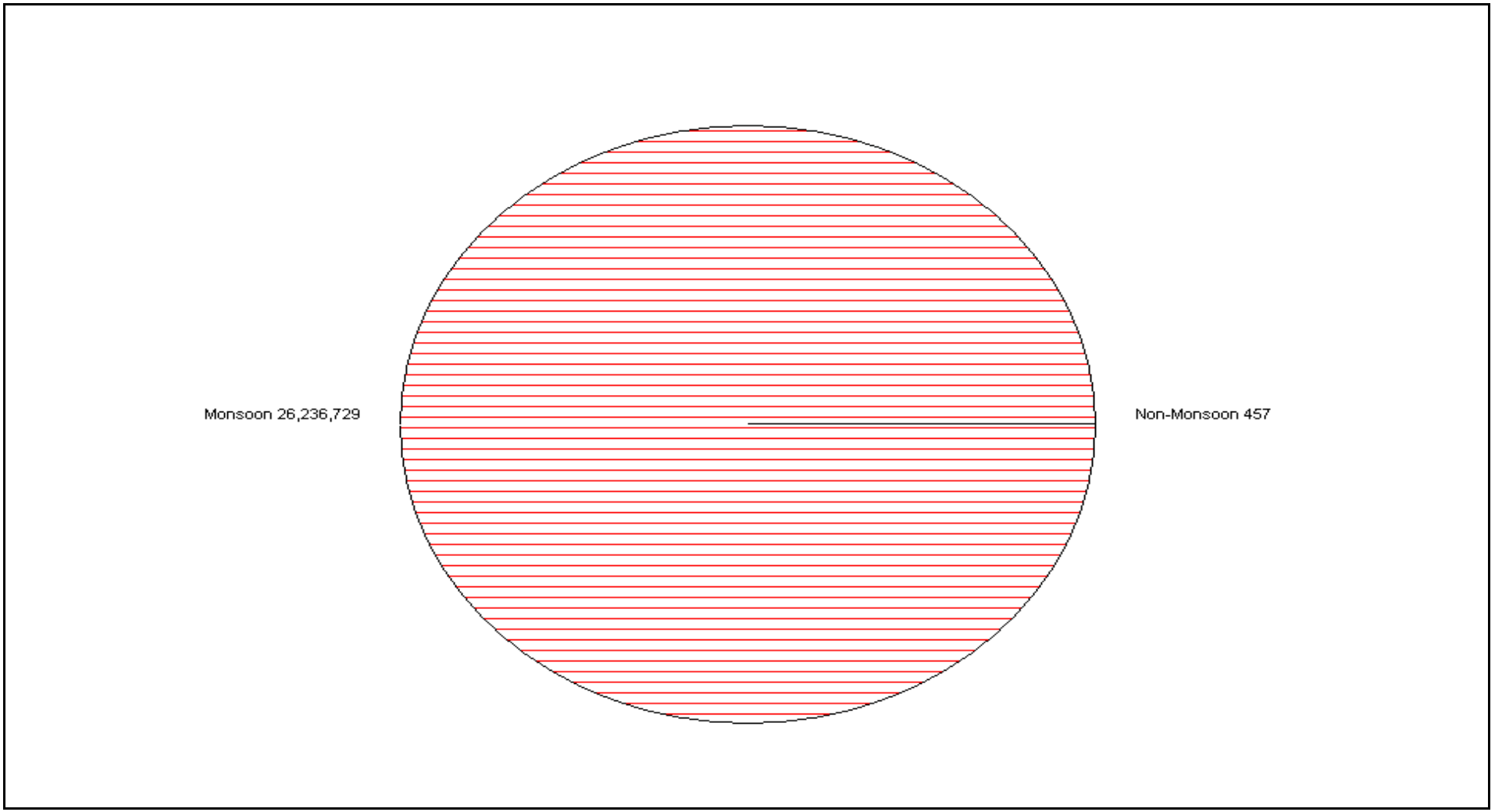
Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur



Seasonal Sediment Load for the period : 1977-2017

Station Name : Rampur (EMN00B3)
Local River : Jonk

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur



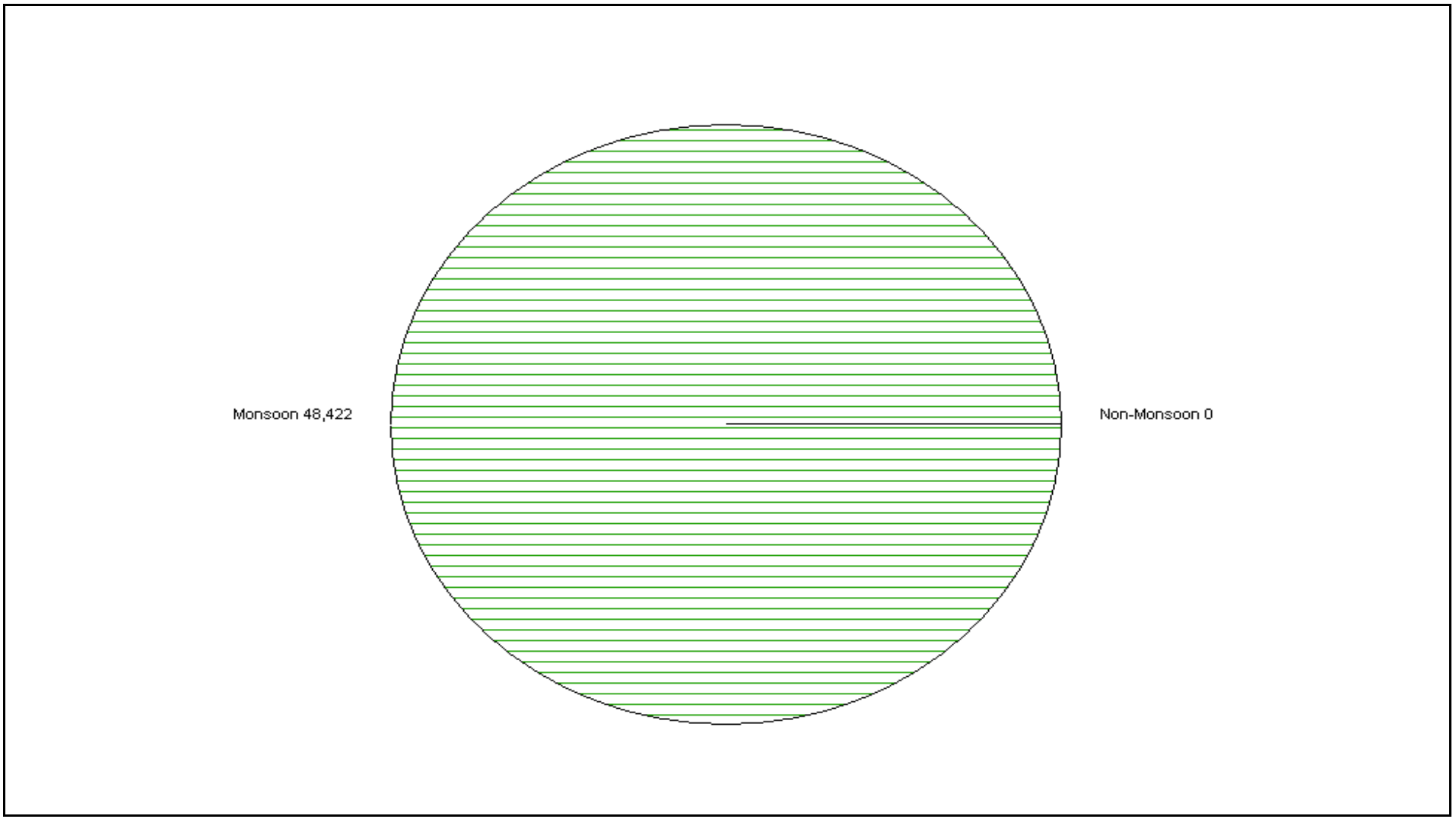
Seasonal Sediment Load for the Year: 2017-2018

Station Name : Rampur (EMN00B3)

Local River : Jonk

Division : MD,CWC,Burla

Sub-Division : UMSD,CWC,Raipur



SECTION-III

Water Quality Datasheet for the period : 2017-2018

Station Name : Rampur (EMN00B3) **Division : MD,CWC,Burla**

Local River : Jonk **River Water Analysis** **Sub-Division : UMSD,CWC,Raipur**

S.No	Parameters	01/06/2017	01/07/2017	01/08/2017	01/09/2017	03/10/2017	01/11/2017	01/12/2017	01/01/2018	01/02/2018	01/03/2018	02/04/2018	01/05/2018
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)	0.000	0.000	3.622	39.40	64.36	4.650	1.778	0.000	0.000	0.000	0.000	0.000
2	Colour_Cod (-)			Light Brown	Light Brown	Light Brown	Clear	Clear					
3	EC_FLD (µmho/cm)			94	283	77	84	250					
4	EC_GEN (µmho/cm)			155	193	306	216	238					
5	Odour_Code (-)			odour free	odour free	odour free	odour free	odour free					
6	pH_FLD (pH units)			7.8	7.8	7.9	8.1	7.5					
7	pH_GEN (pH units)			7.8	7.8	8.3	7.9	8.1					
8	Temp (deg C)			29.0	29.5	28.5	28.0	25.0					
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)			0.0	0.0	0.0	0.0	0.0					
2	ALK-TOT (mgCaCO3/L)			228	160	124	172	136					
3	Ca (mg/L)			50	53	53	40	30					
4	Cl (mg/L)			30.0	16.0	33.0	33.0	25.0					
5	CO3 (mg/L)			0.0	0.0	0.0	0.0	0.0					
6	HCO3 (mg/L)			139	98	76	105	83					
7	K (mg/L)			8.2	13.2	11.7	6.7	9.1					
8	Mg (mg/L)			10.7	1.0	1.9	9.7	11.7					
9	Na (mg/L)			20.1	22.7	23.8	19.8	21.2					
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)			1.7	1.5	1.0	0.7	1.0					
2	DO (mg/L)			4.6	5.9	5.6	6.3	8.0					
3	DO_SAT% (%)			60	77	72	80	97					
4	FCol-MPN (MPN/100mL)			40	90	40	70	70					
5	Tcol-MPN (MPN/100mL)			90	140	80	110	120					
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)			124	132	132	100	76					
2	HAR_Total (mgCaCO3/L)			169	136	140	141	125					
3	Na% (%)			20	24	25	22	25					
4	RSC (-)			0.0	0.0	0.0	0.0	0.0					
5	SAR (-)			0.7	0.8	0.9	0.7	0.8					
	PESTICIDES												

Water Quality Summary for the period : 2017-2018

Station Name : Rampur (EMN00B3) **Division : MD,CWC,Burla**

Local River : Jonk **Sub-Division : UMSD,CWC,Raipur**

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	365	302.3	0.000	13.22
2	EC_FLD (µmho/cm)	5	283	77	158
3	EC_GEN (µmho/cm)	5	306	155	222
4	pH_FLD (pH units)	5	8.1	7.5	7.8
5	pH_GEN (pH units)	5	8.3	7.8	8
6	Temp (deg C)	5	29.5	25.0	28
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	5	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	5	228	124	164
3	Ca (mg/L)	5	53	30	45
4	Cl (mg/L)	5	33.0	16.0	27.4
5	CO3 (mg/L)	5	0.0	0.0	0
6	HCO3 (mg/L)	5	139	76	100
7	K (mg/L)	5	13.2	6.7	9.8
8	Mg (mg/L)	5	11.7	1.0	7
9	Na (mg/L)	5	23.8	19.8	21.5
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	5	1.7	0.7	1.2
2	DO (mg/L)	5	8.0	4.6	6.1
3	DO_SAT% (%)	5	97	60	77
4	FCol-MPN (MPN/100mL)	5	90	40	62
5	Tcol-MPN (MPN/100mL)	5	140	80	108
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	5	132	76	113
2	HAR_Total (mgCaCO3/L)	5	169	125	142
3	Na% (%)	5	25	20	23
4	RSC (-)	5	0.0	0.0	0
5	SAR (-)	5	0.9	0.7	0.8
	PESTICIDES				

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Rampur (EMN00B3) **Division : MD,CWC,Burla**

Local River : Jonk **River Water** **Sub-Division : UMSD,CWC,Raipur**

S.No	Parameters	Flood														
		Jun - Oct														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	PHYSICAL															
1	Q (cumec)	114.9	29.59	405.2	264.7	184.8	40.07	35.84	46.61	49.08	52.05	286.1	107.1	26.40	71.55	21.48
2	EC_FLD (µmho/cm)	196	221	186	164	96	163	164						290	112	151
3	EC_GEN (µmho/cm)	196	221	186	164	123	173	171	190	218	207	151	181	188	153	218
4	pH_FLD (pH units)	7.6	7.8	7.5	7.7	7.4	8.2	8.2	7.6	7.3	7.5	7.4	7.5	7.7	7.9	7.8
5	pH_GEN (pH units)	7.6	7.8	7.5	7.7	7.6	7.5	7.9	7.5	7.4	7.4	8.1	7.9	7.8	7.0	8.0
6	Temp (deg C)	27.2	30.0	30.0	27.7	28.4	28.0	29.5	29.8	28.0	28.3	27.6	28.8	29.2	28.7	29.0
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	6.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	123	108	113		90	141	108	129	146	138	143	221	204	177	171
3	B (mg/L)			0.02		0.01	0.01	0.01	0.00	0.00	0.00					
4	Ca (mg/L)	14	42	17		9	13	12	14	16	17	18	25	25	43	52
5	Cl (mg/L)	23.0	9.5	17.9		6.3	13.6	6.1	4.4	6.7	9.4	15.3	11.0	15.0	21.0	26.3
6	CO3 (mg/L)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	7.2	0.0	0.0
7	F (mg/L)	1.10		0.29		0.06	0.11	0.12	0.12	0.19	0.20					
8	Fe (mg/L)			0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
9	HCO3 (mg/L)	75	111	69		55	86	66	78	89	84	87	133	117	108	104
10	K (mg/L)			1.1		1.3	0.8	1.2	1.5	2.0	1.2	2.6	3.1	3.7	5.9	11.0
11	Mg (mg/L)	3.7	8.6	4.7		5.8	7.4	6.7	8.1	9.0	9.4	5.3	5.6	9.5	24.9	4.5
12	Na (mg/L)			11.3		3.4	9.0	5.4	11.1	10.5	10.7	6.4	16.2	15.9	16.4	22.2
13	NO2+NO3 (mg N/L)		1.17	0.03	0.05	0.07	0.36									
14	NO2-N (mgN/L)			0.00	0.00	0.01	0.02	0.02	0.01	0.02	0.03					
15	NO3-N (mgN/L)			0.03	0.05	0.06	0.34									
16	P-Tot (mgP/L)	0.020		0.013		0.010	0.020	0.020	0.023	0.025	0.080					
17	SiO2 (mg/L)			9.9		14.4	21.1	17.9	9.6	18.9	18.4					
18	SO4 (mg/L)	9.3	3.2	8.1		7.4	9.8	13.0	10.3	15.6	17.3					

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Rampur (EMN00B3) **Division : MD,CWC,Burla**

Local River : Jonk **River Water** **Sub-Division : UMSD,CWC,Raipur**

S.No	Parameters	Flood														
		Jun - Oct														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.7	0.7	0.6	0.4	1.6	0.9	1.0	0.9	0.9	1.6	0.4	1.0	0.4	1.0	1.4
2	COD (mg/L)				17.6	14.4	14.0	17.3	18.7	22.0	25.0					
3	DO (mg/L)	5.7	5.6	5.6	6.7	6.9	6.1	6.5	5.6	5.8	6.7	6.9	6.7	6.4	6.1	5.4
4	DO_SAT% (%)	71	74	74	85	88	78	85	74	74	85	87	87	83	78	69
5	FCol-MPN (MPN/100mL)															57
6	Tcol-MPN (MPN/100mL)															103
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	36	106	41		22	33	31	34	39	43	45	63	63	107	130
2	HAR_Total (mgCaCO3/L)	51	142	61		46	64	58	68	76	82	67	86	103	211	148
3	Na% (%)			29		14	24	16	26	22	23	17	29	24	15	23
4	RSC (-)	0.3	0.0	0.1		0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.5	0.2	0.0	0.0
5	SAR (-)			0.6		0.2	0.5	0.3	0.6	0.5	0.5	0.3	0.8	0.7	0.5	0.8
	PESTICIDES															

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Rampur (EMN00B3) **Division : MD,CWC,Burla**

Local River : Jonk **River Water** **Sub-Division : UMSD,CWC,Raipur**

S.No	Parameters	Winter														
		Nov - Feb														
		2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
	PHYSICAL															
1	Q (cumec)	16.79	2.161	4.868	2.657	3.092	0.748	2.314	3.797	1.180	2.373	7.911	5.287	1.400	1.455	1.607
2	EC_FLD (µmho/cm)	258	313	280	250		285							253	140	167
3	EC_GEN (µmho/cm)	258	313	280	250	231	280	299	343	255	315	281	252	218	194	227
4	pH_FLD (pH units)	8.0	7.8	7.2	8.0		7.7	7.7	7.4	7.5	7.4	7.3	7.4	7.6	7.0	7.8
5	pH_GEN (pH units)	8.0	7.8	7.2	8.0	8.2	7.6	7.6	7.6	8.0	8.1	8.3	8.0	8.0	7.9	8.0
6	Temp (deg C)	24.3	24.5	26.0	23.0	19.3	21.9	22.2	22.3	21.3	19.5	20.5	20.3	24.5	24.0	26.5
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	2.7	0.0	3.9	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	248	222	187		200	203	216	239	180	232	312	263	194	120	154
3	B (mg/L)			0.11		0.01	0.00	0.00	0.00	0.00	0.00					
4	Ca (mg/L)	47	29	24		20	20	22	27	20	31	31	35	35	48	35
5	Cl (mg/L)	45.3	8.0	28.4		23.9	23.8	8.5	19.6	17.1	12.1	17.0	16.3	8.0	25.0	29.0
6	CO3 (mg/L)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	3.2	0.0	4.8	0.0	0.0	0.0
7	F (mg/L)	0.93		0.08		0.16	0.09	0.12	0.11	0.14	0.20					
8	Fe (mg/L)			0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0		0.1			
9	HCO3 (mg/L)	128	135	114		122	124	132	146	110	138	190	156	118	73	94
10	K (mg/L)			1.8		1.2	1.4	1.7	2.8	1.5	1.1	7.4	2.9	5.6	6.9	7.9
11	Mg (mg/L)	11.1	20.2	11.2		12.3	12.4	12.3	15.9	11.8	16.5	13.1	17.5	8.8	1.9	10.7
12	Na (mg/L)			13.0		15.4	16.8	8.7	20.2	16.0	37.2	23.7	18.8	14.3	12.5	20.5
13	NO2+NO3 (mg N/L)		1.37	0.05	0.11	0.08	0.52						0.21			
14	NO2-N (mgN/L)			0.00	0.01	0.01	0.01	0.03	0.04	0.02	0.03		0.03			
15	NO3-N (mgN/L)			0.05	0.11	0.07	0.50						0.18			
16	P-Tot (mgP/L)	0.010		0.013		0.020	0.020	0.037	0.060	0.057	0.050		0.040			
17	SiO2 (mg/L)			17.5		26.1	23.0	21.2	18.3	14.7	16.1		13.2			
18	SO4 (mg/L)	11.6	2.9	5.8		16.5	28.7	22.7	31.3	25.3	18.9		22.0			

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Rampur (EMN00B3) **Division : MD,CWC,Burla**

Local River : Jonk **River Water** **Sub-Division : UMSD,CWC,Raipur**

S.No	Parameters	Winter														
		Nov - Feb														
		2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.4	0.8	0.8	0.3	0.5	0.5	1.4	0.4	0.8	1.1	0.9	1.1	0.4	0.5	0.8
2	COD (mg/L)				24.0	18.7	28.0	28.0	28.0	22.0	17.3					
3	DO (mg/L)	5.9	7.3	7.3	6.6	7.6	7.3	6.7	7.1	7.9	7.6	8.1	8.2	6.5	5.6	7.2
4	DO_SAT% (%)	76	87	89	77	81	82	77	81	88	83	89	90	78	67	89
5	FCol-MPN (MPN/100mL)															70
6	Tcol-MPN (MPN/100mL)															115
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	116	72	59		49	51	54	67	50	78	78	88	88	120	88
2	HAR_Total (mgCaCO3/L)	162	155	106		101	103	105	133	99	146	133	161	125	128	133
3	Na% (%)			20		25	26	15	25	25	35	27	20	19	17	24
4	RSC (-)	0.1	0.1	0.0		0.1	0.0	0.1	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
5	SAR (-)			0.5		0.7	0.7	0.4	0.8	0.7	1.3	0.9	0.6	0.6	0.5	0.8
	PESTICIDES															

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Rampur (EMN00B3) **Division : MD,CWC,Burla**

Local River : Jonk **River Water** **Sub-Division : UMSD,CWC,Raipur**

S.No	Parameters	Summer														
		Mar - May														
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	PHYSICAL															
1	Q (cumec)	1.800	1.190	1.900								1.532	0.000	0.000	0.000	0.000
2	EC_FLD (µmho/cm)	289				192										
3	EC_GEN (µmho/cm)	289				150						261				
4	pH_FLD (pH units)	8.2				8.8						7.7				
5	pH_GEN (pH units)	8.2				8.0						8.0				
6	Temp (deg C)					28.0						25.3				
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0				0.0						0.1				
2	ALK-TOT (mgCaCO3/L)	275				229						271				
3	B (mg/L)					0.01										
4	Ca (mg/L)	36				17						37				
5	Cl (mg/L)	15.0				17.5						18.7				
6	CO3 (mg/L)	0.0				0.0						0.1				
7	F (mg/L)					0.13										
8	Fe (mg/L)					0.1										
9	HCO3 (mg/L)	168				140						165				
10	K (mg/L)					1.7						2.7				
11	Mg (mg/L)	5.0				10.7						11.7				
12	Na (mg/L)					16.6						20.9				
13	NO2+NO3 (mg N/L)					0.54										
14	NO2-N (mgN/L)					0.04										
15	NO3-N (mgN/L)					0.50										
16	P-Tot (mgP/L)					0.060										
17	SiO2 (mg/L)					20.0										
18	SO4 (mg/L)	3.0				12.0										

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Rampur (EMN00B3) **Division : MD,CWC,Burla**

Local River : Jonk **River Water** **Sub-Division : UMSD,CWC,Raipur**

S.No	Parameters	Summer														
		Mar - May														
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.5				2.1						0.5	1.7			
2	COD (mg/L)					28.0										
3	DO (mg/L)	6.8				8.4						6.7				
4	DO_SAT% (%)					107						81				
5	FCol-MPN (MPN/100mL)															
6	Tcol-MPN (MPN/100mL)															
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	90				42						91				
2	HAR_Total (mgCaCO3/L)	110				87						140				
3	Na% (%)					29						24				
4	RSC (-)	0.5				0.6						0.1				
5	SAR (-)					0.8						0.8				
	PESTICIDES															

HASDEO SUB-BASIN

SITE MANENDRAGARH

HISTORY SHEET

Water Year : 2017-2018

Site	**: Manendragarh**		**Code**	**: EMM00T7**	
State	: Chhattisgarh		District	Koria	
Basin	: Mahanadi		Independent River	: Mahanadi	
Tributary	: Hasdeo		Sub Tributary	:	
Sub-Sub Tributary	:		Local River	: Hasdeo	
Division	: MD,CWC,Burla		Sub-Division	: MMSD I,CWC,Raipur	
Drainage Area	: 1100 Sq. Km.		Bank	:	
Latitude	: 23°12'10"		Longitude	: 82°12'54"	
Zero of Gauge (m)	: 411 (m.s.l)		01/06/2015		

	Opening Date	Closing Date
Gauge	: 21/06/1987	
Discharge	: 21/06/1989	
Sediment	: 09/07/1993	
Water Quality	: 01/10/1992	

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

	Maximum			Minimum		
Year	**Q (cumecs)**	**WL (m)**	**Date**	**Q (cumecs)**	**WL (m)**	**Date**
1990-1991	2329	420.440	12/07/1990	0.171	412.630	04/04/1991
1991-1992	465.3	415.200	23/08/1991	0.062	412.410	31/03/1992
1992-1993	97.51	414.245	12/09/1992	0.310	412.450	09/02/1993
1993-1994	709.4	416.510	16/09/1993	0.099	412.240	21/03/1994
1994-1995	541.5	416.595	08/10/1994	0.202	411.580	24/04/1995
1995-1996	310.8	415.750	18/07/1995	0.450	411.560	30/06/1995
1996-1997	290.7	414.605	04/09/1996	1.145	412.435	31/12/1996
1997-1998	130.0	414.000	07/08/1997	0.450	412.110	17/11/1997
1998-1999	990.0	416.000	19/07/1998	0.217	412.130	06/04/1999
1999-2000	175.5	414.330	03/08/1999	1.250	412.210	22/06/1999
2000-2001	240.0	414.670	03/09/2000	0.244	412.470	14/02/2001
2001-2002	374.3	415.610	13/07/2001	0.140	412.260	03/05/2002
2002-2003	355.3	415.870	12/09/2002	0.070	412.340	10/04/2003
2003-2004	328.1	415.570	27/09/2003	0.368	412.355	20/04/2004
2004-2005	170.0	414.670	08/08/2004	0.657	411.900	06/04/2005
2005-2006	169.7	414.380	01/07/2005	0.532	412.270	28/02/2006
2006-2007	174.8	414.950	31/07/2006	0.440	411.720	31/03/2007
2007-2008	115.0	413.960	02/09/2007	0.496	411.650	18/01/2008
2008-2009	212.2	414.900	07/08/2008	0.402	411.700	20/02/2009
2009-2010	112.9	413.745	21/07/2009	0.120	411.540	10/03/2010
2010-2011	119.1	413.750	05/08/2010	0.329	411.600	31/12/2010

Q : Observed / Computed Discharge WL : Corresponding Water Level(m.s.l)

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

	Maximum			Minimum		
Year	**Q (cumecs)**	**WL (m)**	**Date**	**Q (cumecs)**	**WL (m)**	**Date**
2011-2012	448.0	412.810	05/09/2011	0.718	411.560	20/12/2011
2012-2013	235.4	415.225	10/07/2012	0.620	411.510	11/01/2013
2013-2014	85.00	413.490	28/07/2013	0.600	411.520	23/03/2014
2014-2015	279.2	414.735	05/08/2014	0.000	411.000	01/05/2015
2015-2016	127.8	413.758	09/07/2015	0.000	411.000	14/03/2016
2016-2017	278.9	414.440	13/08/2016	0.000	411.000	31/01/2017

Q : Observed / Computed Discharge WL : Corresponding Water Level(m.s.l)

Stage-Dischage Data for the period 2017 - 2018

Station Name : Manendragarh (EMM00T7) **Division : MD,CWC,Burla**

Local River : Hasdeo **Sub-Division : MMSD I,CWC,Raipur**

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	411.000	0.000	411.875	0.000 *	412.260	21.86	411.845	10.25	411.775	8.500 *	411.400	0.460
2	411.000	0.000	411.600	0.000 *	412.233	18.95	411.810	9.000 *	411.760	8.200 *	411.390	0.445
3	411.000	0.000	411.625	0.000 *	412.048	10.96	411.660	4.000 *	411.735	7.528	411.390	0.476
4	411.000	0.000	411.830	0.000 *	411.955	9.129	411.728	4.423	411.688	5.491	411.385	0.470 *
5	411.000	0.000	412.110	0.000 *	412.040	22.32	411.690	3.540	411.480	5.919	411.380	0.460 *
6	411.000	0.000	411.850	0.000 *	412.370	29.25 *	411.740	3.701	411.475	5.293	411.360	0.459
7	411.000	0.000	411.680	6.233	412.170	15.22	411.930	10.79	411.728	14.88	411.330	0.804
8	411.000	0.000	411.610	3.694	412.210	14.26	411.778	6.394	411.728	6.500 *	411.325	0.682
9	411.000	0.000	411.630	3.890 *	412.080	9.005	412.043	14.57	411.895	19.16	411.310	0.592
10	411.000	0.000	411.645	3.959	412.335	29.00	411.820	9.000 *	411.708	7.113	411.300	0.562
11	411.000	0.000	411.620	3.206	412.190	19.86	412.165	23.67	411.690	6.360	411.280	0.477
12	411.000	0.000	411.730	5.369	412.248	27.28	412.090	23.05	411.660	4.878	411.240	0.450 *
13	411.000	0.000	411.665	3.706	414.440	279.0	412.120	18.00	411.625	4.358	411.200	0.400
14	411.000	0.000	411.640	3.740	411.940	11.00	412.278	27.38	411.600	3.621	411.220	0.521
15	411.000	0.000	411.620	2.052	411.880	7.000 *	412.078	20.81	411.600	4.000 *	411.230	0.523
16	411.000	0.000	411.590	2.010 *	411.850	6.426	411.868	10.12	411.575	3.202	411.225	0.533
17	411.000	0.000	412.190	31.61	411.705	5.973	411.870	9.000 *	411.555	3.109	411.240	0.638
18	411.000	0.000	411.910	13.11	412.115	15.42	411.885	10.35	411.535	2.780	411.230	0.630
19	411.000	0.000	411.670	3.465	411.910	8.541	412.645	40.39	411.535	2.500 *	411.230	0.630 *
20	411.000	0.000	412.140	19.94	411.880	7.000 *	412.125	23.16	411.543	2.805	411.210	0.615
21	411.000	0.000	411.675	12.44	411.875	6.842	412.483	36.18	411.515	2.733	411.210	0.554
22	411.000	0.000	412.260	20.05	411.828	6.621	412.535	38.80	411.550	2.400 *	411.220	0.589
23	411.000	0.000	412.460	28.00 *	411.753	4.238	412.168	26.96	411.533	2.274	411.210	0.392
24	411.000	0.000	414.130	32.00 *	411.935	15.33	412.985	45.00 *	411.505	2.351	411.200	0.382
25	411.000	0.000	412.840	30.00 *	412.210	17.00 *	411.878	13.81	411.395	0.489	411.190	0.399
26	411.000	0.000	412.083	26.41	412.108	16.41	411.805	9.814	411.395	0.482	411.190	0.390 *
27	411.000	0.000	414.130	32.00 *	412.405	21.00 *	411.750	8.319	411.390	0.472	411.200	0.383
28	411.000	0.000	413.310	33.00 *	412.295	31.91	411.730	6.483	411.390	0.467	411.220	0.537
29	412.210	0.000	412.115	8.324	412.310	32.70	412.355	30.00 *	411.385	1.500 *	411.210	0.505
30	412.305	0.000	412.495	29.00 *	412.080	19.18	412.110	20.00 *	411.380	0.456	411.200	0.498
31			412.165	18.59	411.990	15.79			411.450	2.640		
Ten-Daily Mean												
I Ten-Daily	411.000	0.000	411.746	1.778	412.170	18.00	411.804	7.567	411.697	8.858	411.357	0.541
II Ten-Daily	411.000	0.000	411.777	8.820	412.216	38.75	412.112	20.59	411.592	3.761	411.231	0.542
III Ten-Daily	412.258	0.000	412.697	24.53	412.072	17.00	412.180	23.54	411.444	1.479	411.205	0.463
Monthly												
Min.	411.000	0.000	411.590	0.000	411.705	4.238	411.660	3.540	411.380	0.456	411.190	0.382
Max.	412.305	0.000	414.130	33.00	414.440	279.0	412.985	45.00	411.895	19.16	411.400	0.804
Mean	411.838	0	412.093	12.12	412.150	24.34	412.032	17.23	411.573	4.595	411.264	0.515

Annual Runoff in MCM = 158 Annual Runoff in mm = 143

Peak Observed Discharge = 279.0 cumecs on 13/08/2017 Corres. Water Level :414.44 m

Lowest Observed Discharge = 0.170 cumecs on 23/12/2017 Corres. Water Level :411.21 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Dischage Data for the period 2017 - 2018

Station Name : Manendragarh (EMM00T7) **Division : MD,CWC,Burla**

Local River : Hasdeo **Sub-Division : MMSD I,CWC,Raipur**

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	411.195	0.482	411.000	0.000 *	411.165	0.000 *	411.135	0.000 *	411.000	.00 *	411.000	0.000 *
2	411.190	0.400 *	411.000	0.000 *	411.170	0.000 *	411.300	0.000 *	411.000	.00 *	411.000	0.000 *
3	411.190	0.400 *	411.000	0.000 *	411.165	0.000 *	411.125	0.000 *	411.000	.00 *	411.000	0.000 *
4	411.210	0.598	411.000	0.000 *	411.150	0.000 *	411.130	0.000 *	411.000	.00 *	411.000	0.000 *
5	411.190	0.567	411.000	0.000 *	411.160	0.000 *	411.130	0.000 *	411.000	.00 *	411.000	0.000 *
6	411.185	0.555	411.000	0.000 *	411.160	0.000 *	411.130	0.000 *	411.000	.00 *	411.000	0.000 *
7	411.190	0.632	411.000	0.000 *	411.155	0.000 *	411.130	0.000 *	411.000	.00 *	411.000	0.000 *
8	411.180	0.602	411.000	0.000 *	411.160	0.000 *	411.130	0.000 *	411.000	.00 *	411.000	0.000 *
9	411.180	0.596	411.000	0.000 *	411.150	0.000 *	411.130	0.000 *	411.000	.00 *	411.000	0.000 *
10	411.185	0.555 *	411.000	0.000 *	411.160	0.000 *	411.120	0.000 *	411.000	.00 *	411.000	0.000 *
11	411.180	0.612	411.000	0.000 *	411.150	0.000 *	411.120	0.000 *	411.000	.00 *	411.000	0.000 *
12	411.180	0.626	411.000	0.000 *	411.160	0.000 *	411.000	0.000 *	411.000	.00 *	411.000	0.000 *
13	411.210	0.968	411.000	0.000 *	411.170	0.000 *	411.000	0.000 *	411.000	.00 *	411.000	0.000 *
14	411.225	0.931	411.000	0.000 *	411.230	0.000 *	411.000	0.000 *	411.000	.00 *	411.000	0.000 *
15	411.250	0.560	411.000	0.000 *	411.240	0.000 *	411.000	0.000 *	411.000	.00 *	411.000	0.000 *
16	411.240	0.404	411.000	0.000 *	411.220	0.000 *	411.000	0.000 *	411.000	.00 *	411.000	0.000 *
17	411.235	0.370 *	411.000	0.000 *	411.205	0.000 *	411.000	0.000 *	411.000	.00 *	411.000	0.000 *
18	411.230	0.360	411.000	0.000 *	411.200	0.000 *	411.000	0.000 *	411.000	.00 *	411.000	0.000 *
19	411.225	0.277	411.080	0.000 *	411.180	0.000 *	411.000	0.000 *	411.000	.00 *	411.000	0.000 *
20	411.235	0.282	411.180	0.000 *	411.180	0.000 *	411.000	0.000 *	411.000	.00 *	411.000	0.000 *
21	411.225	0.222	411.170	0.000 *	411.175	0.000 *	411.000	0.000 *	411.000	.00 *	411.000	0.000 *
22	411.210	0.271	411.180	0.000 *	411.170	0.000 *	411.000	0.000 *	411.000	.00 *	411.000	0.000 *
23	411.210	0.170	411.170	0.000 *	411.150	0.000 *	411.000	0.000 *	411.000	.00 *	411.000	0.000 *
24	411.215	0.190 *	411.170	0.000 *	411.140	0.000 *	411.000	0.000 *	411.000	.00 *	411.000	0.000 *
25	411.220	0.250 *	411.175	0.000 *	411.140	0.000 *	411.000	0.000 *	411.000	.00 *	411.000	0.000 *
26	411.320	1.408	411.175	0.000 *	411.155	0.000 *	411.000	0.000 *	411.000	.00 *	411.000	0.000 *
27	411.315	1.390	411.180	0.000 *	411.150	0.000 *	411.000	0.000 *	411.000	.00 *	411.000	0.000 *
28	411.380	2.245	411.180	0.000 *	411.145	0.000 *	411.000	0.000 *	411.000	.00 *	411.000	0.000 *
29	411.370	2.136	411.170	0.000 *			411.000	0.000 *	411.000	.00 *	411.000	0.000 *
30	411.220	0.339	411.160	0.000 *			411.000	0.000 *	411.000	.00 *	411.000	0.000 *
31	411.210	0.170 *	411.160	0.000 *			411.000	0.000 *			411.000	0.000 *
Ten-Daily Mean												
I Ten-Daily	411.189	0.539	411.000	0.000	411.159	0.000	411.146	0.000	411.000	.000	411.000	0.000
II Ten-Daily	411.221	0.539	411.026	0.000	411.194	0.000	411.012	0.000	411.000	.000	411.000	0.000
III Ten-Daily	411.263	0.799	411.172	0.000	411.153	0.000	411.000	0.000	411.000	.000	411.000	0.000
Monthly												
Min.	411.180	0.170	411.000	0.000	411.140	0.000	411.000	0.000	411.000	.000	411.000	0.000
Max.	411.380	2.245	411.180	0.000	411.240	0.000	411.300	0.000	411.000	.000	411.000	0.000
Mean	411.226	0.631	411.069	0	411.170	0	411.051	0	411.000	0	411.000	0

Peak Computed Discharge = 45.00 cumecs on 24/09/2017 Corres. Water Level :412.985 m

Lowest Computed Discharge = 0.000 cumecs on 01/06/2017 Corres. Water Level :411 m

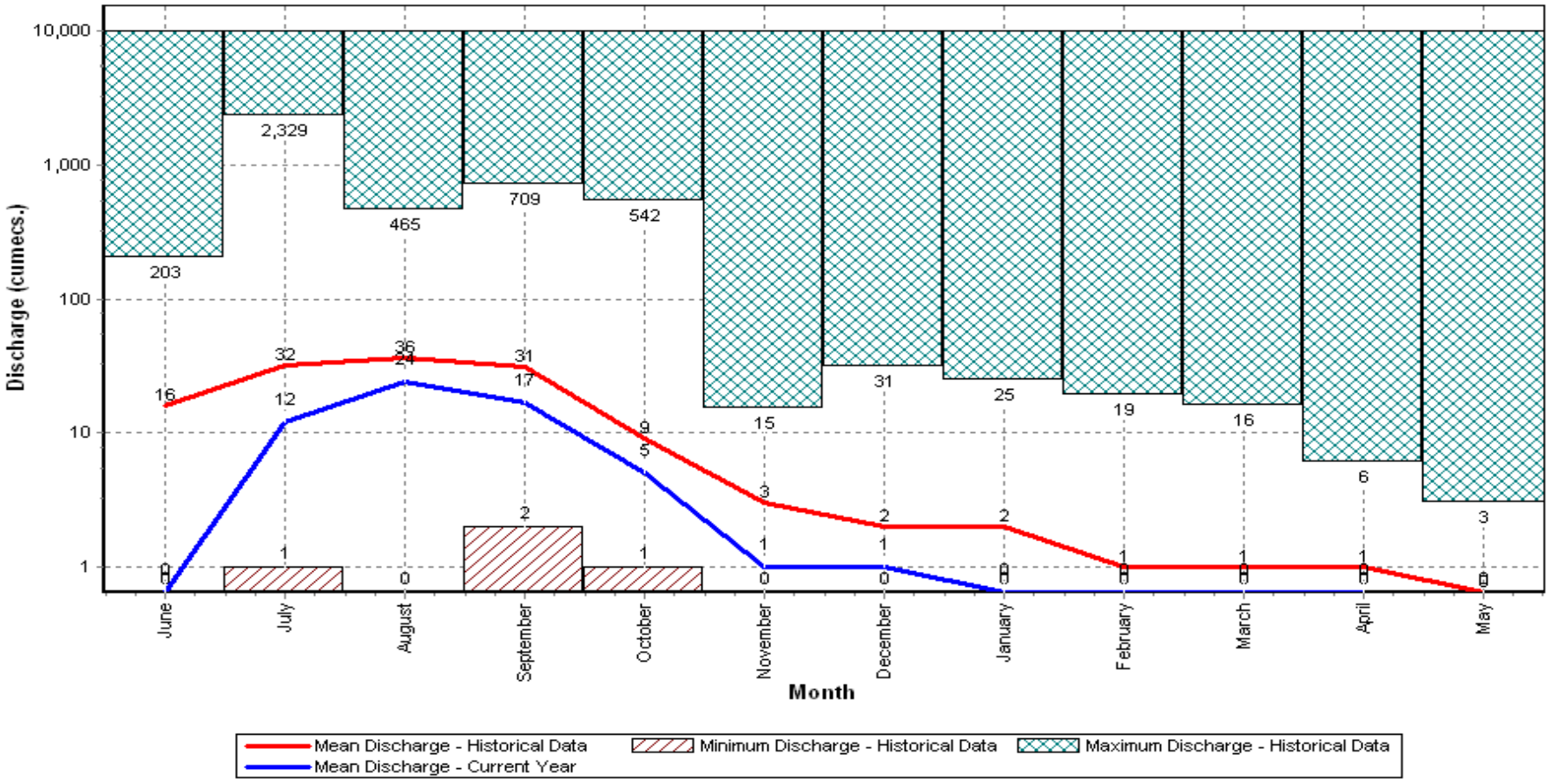
Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2017-2018

Station Name : Manendragarh (EMM00T7) | **Data considered : 1990-2018** | **Division : MD,CWC,Burla**

Local River : Hasdeo | **Sub-Division : MMSD I,CWC,Raipur**


Discharge (cumecs.)
10,000
1,000
100
10
1
203
2,329
465
709
542
15
31
25
19
16
6
3
16
32
24
31
17
9
5
3
2
2
1
1
1
1
1
1
1
1
1
0
0
0

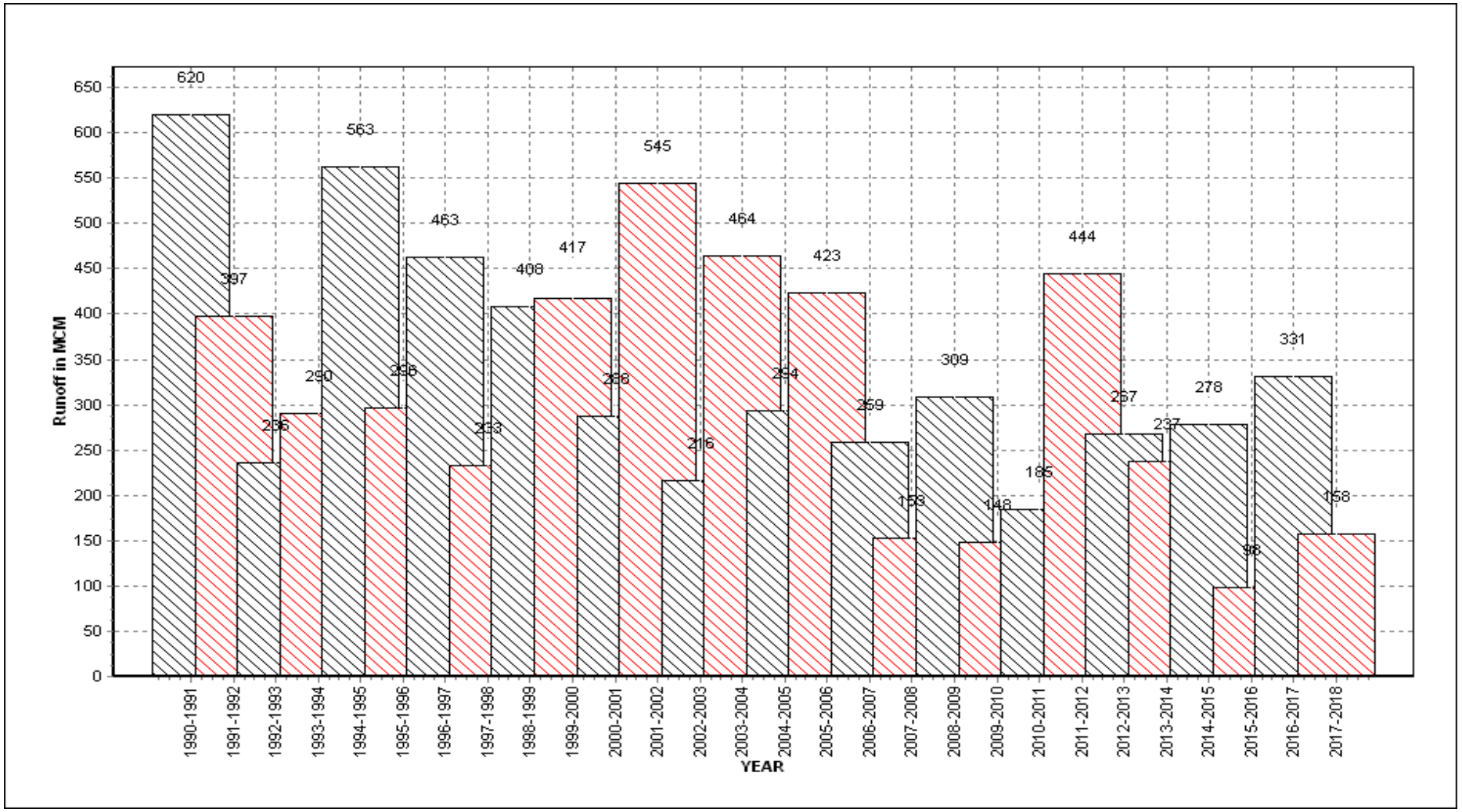
Annual Runoff Values for the period: 1990 - 2018

Station Name : Manendragarh (EMM00T7)

Local River : Hasdeo

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur



Note: Missing values have not been considered while arriving at Annual Runoff

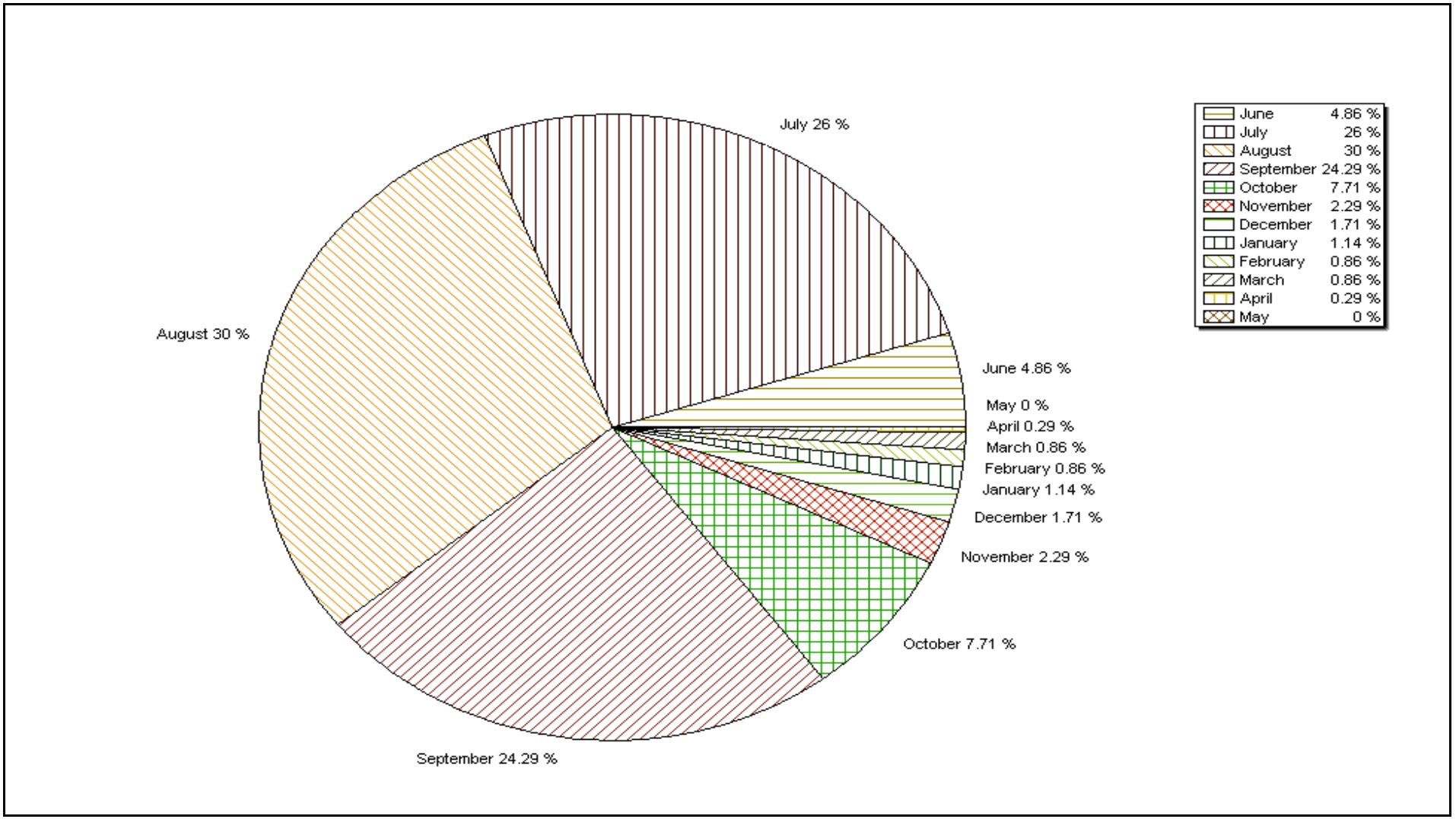
Monthly Average Runoff based on period : 1990-2017

Station Name : Manendragarh (EMM00T7)

Local River : Hasdeo

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur



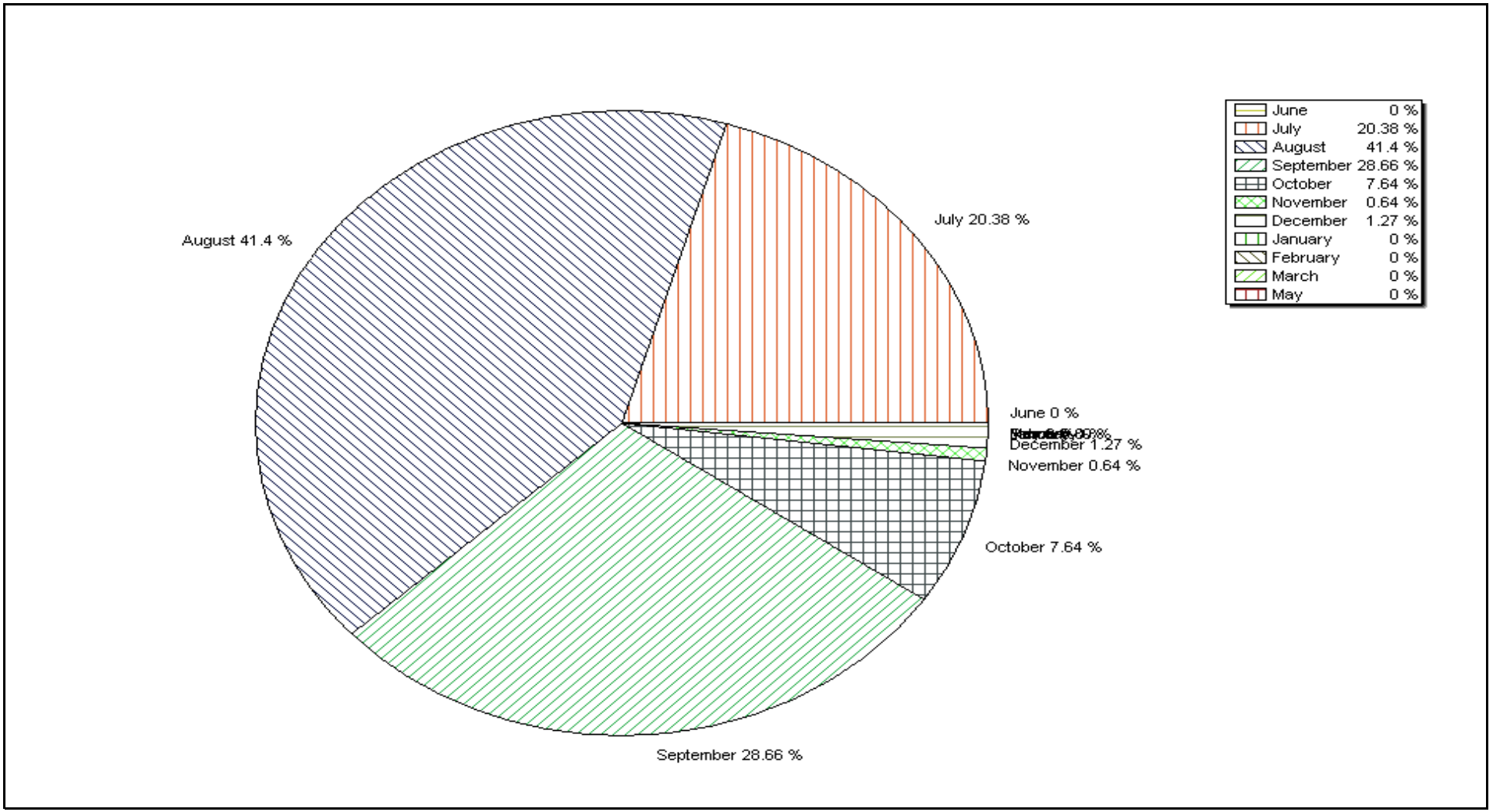
Monthly Runoff for the Year : 2017-2018

Station Name : Manendragarh (EMM00T7)

Local River : Hasdeo

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur



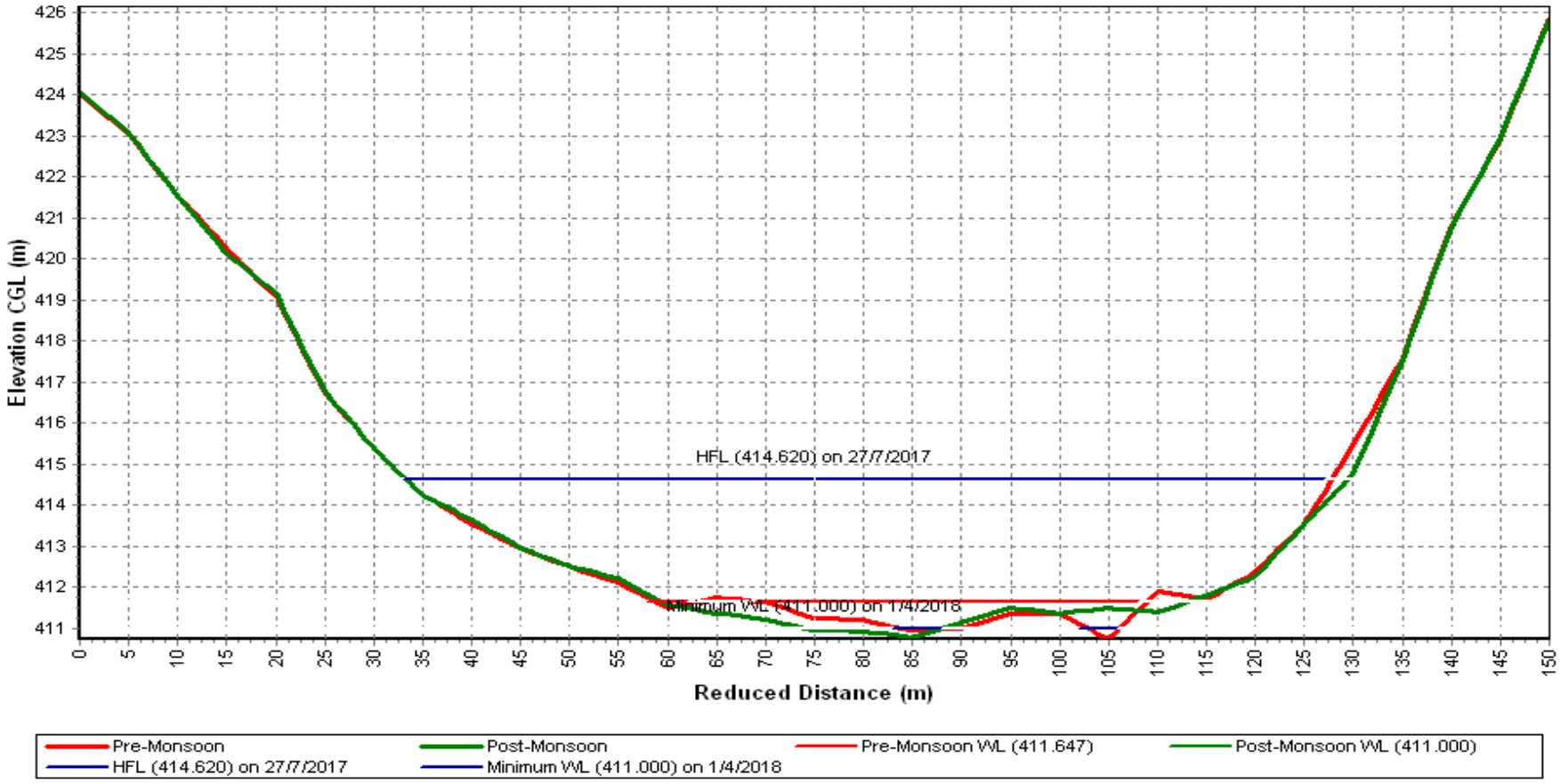
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2017-2018

Station Name : Manendragarh (EMM00T7)

Local River : Hasdeo

Division : MD,CWC,Burla

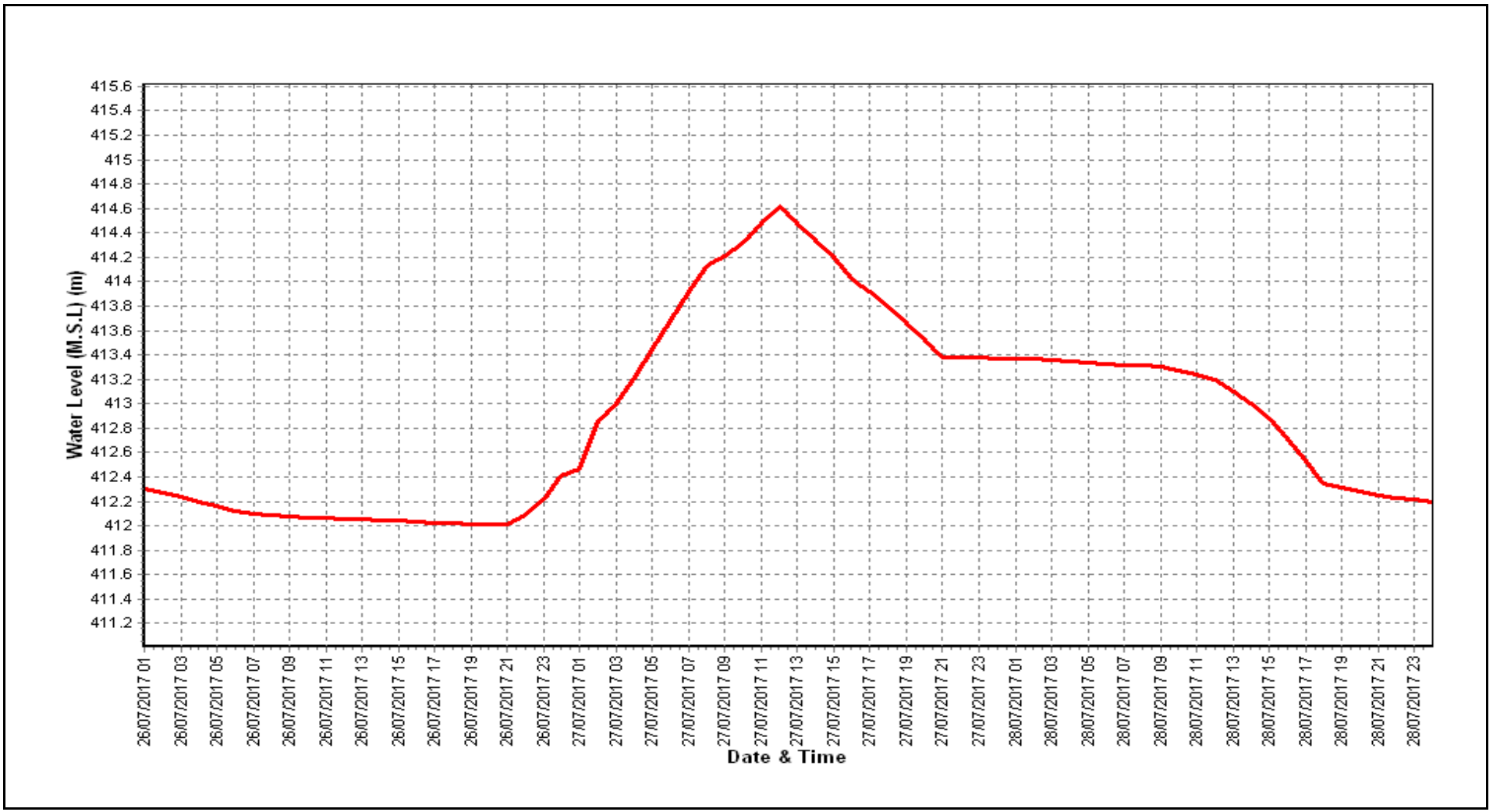
Sub-Division : MMSD I,CWC,Raipur



Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2017-2018

Station Name : Manendragarh (EMM00T7) **Division : MD,CWC,Burla**

Local River : Hasdeo **Sub-Division : MMSD I,CWC,Raipur**

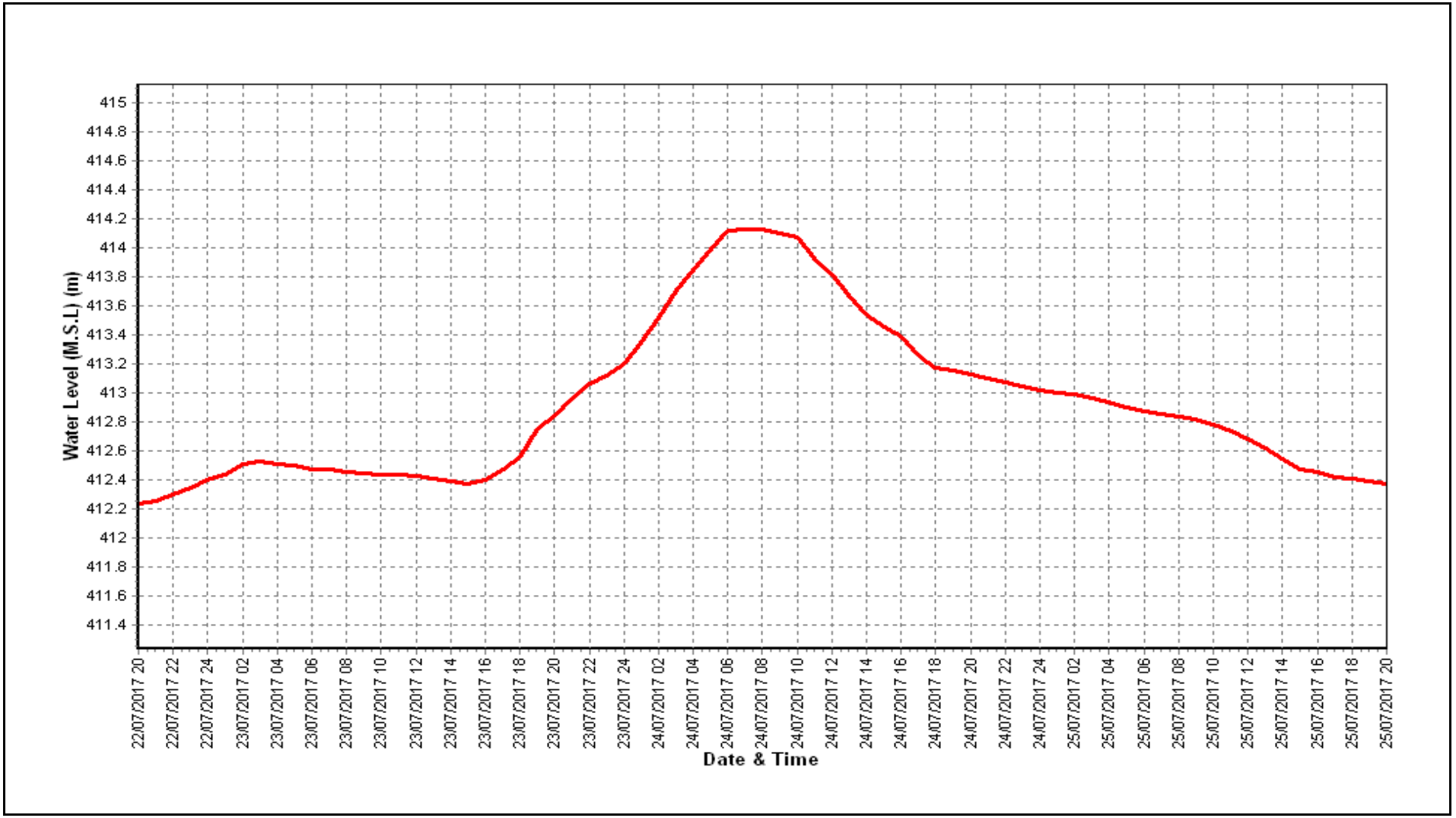


Time Span: 72 Hrs

Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2017-2018

Station Name : Manendragarh (EMM00T7) **Division : MD,CWC,Burla**

Local River : Hasdeo **Sub-Division : MMSD I,CWC,Raipur**

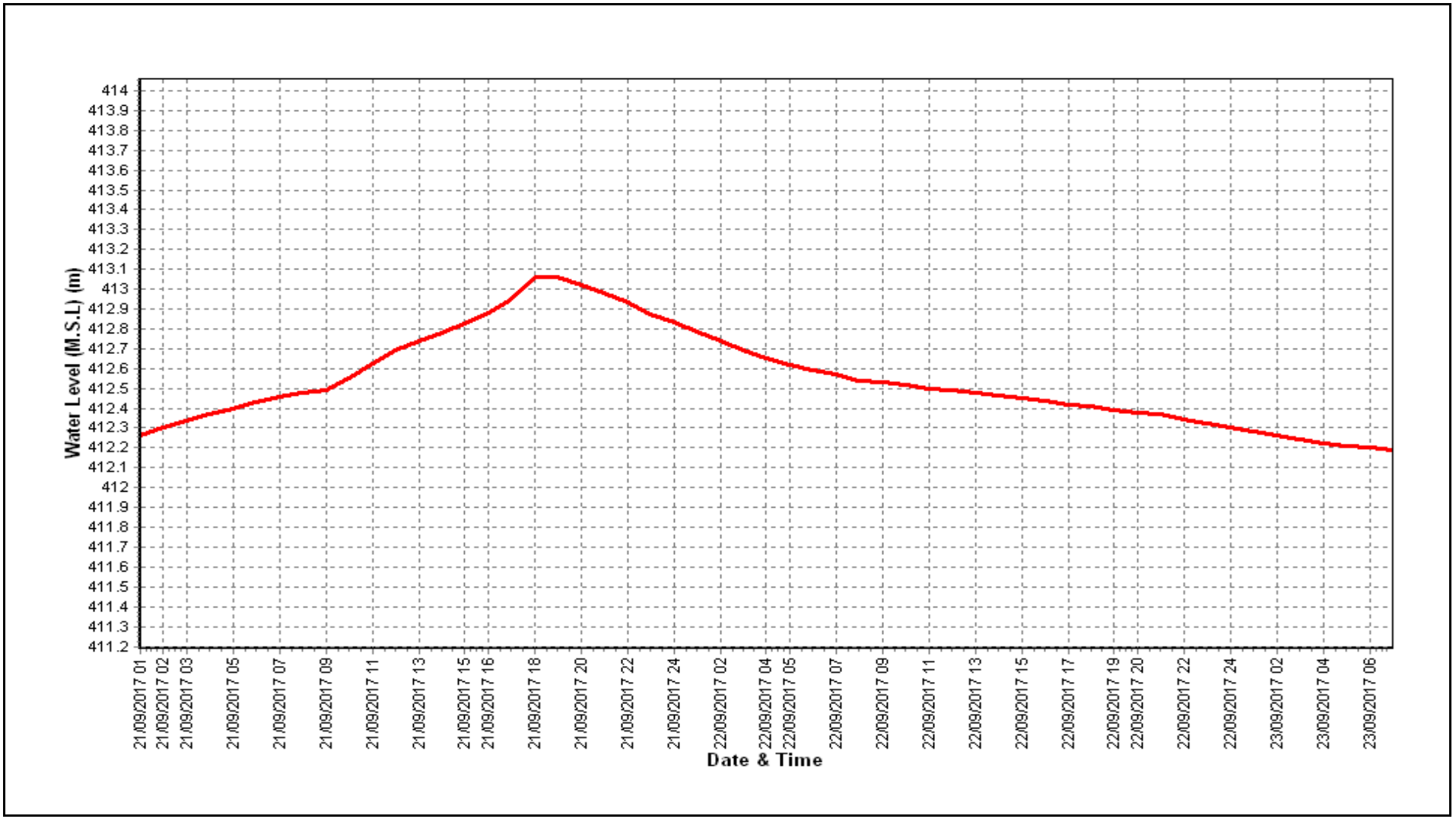


Time Span: 72 Hrs

Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2017-2018

Station Name : Manendragarh (EMM00T7) **Division : MD,CWC,Burla**

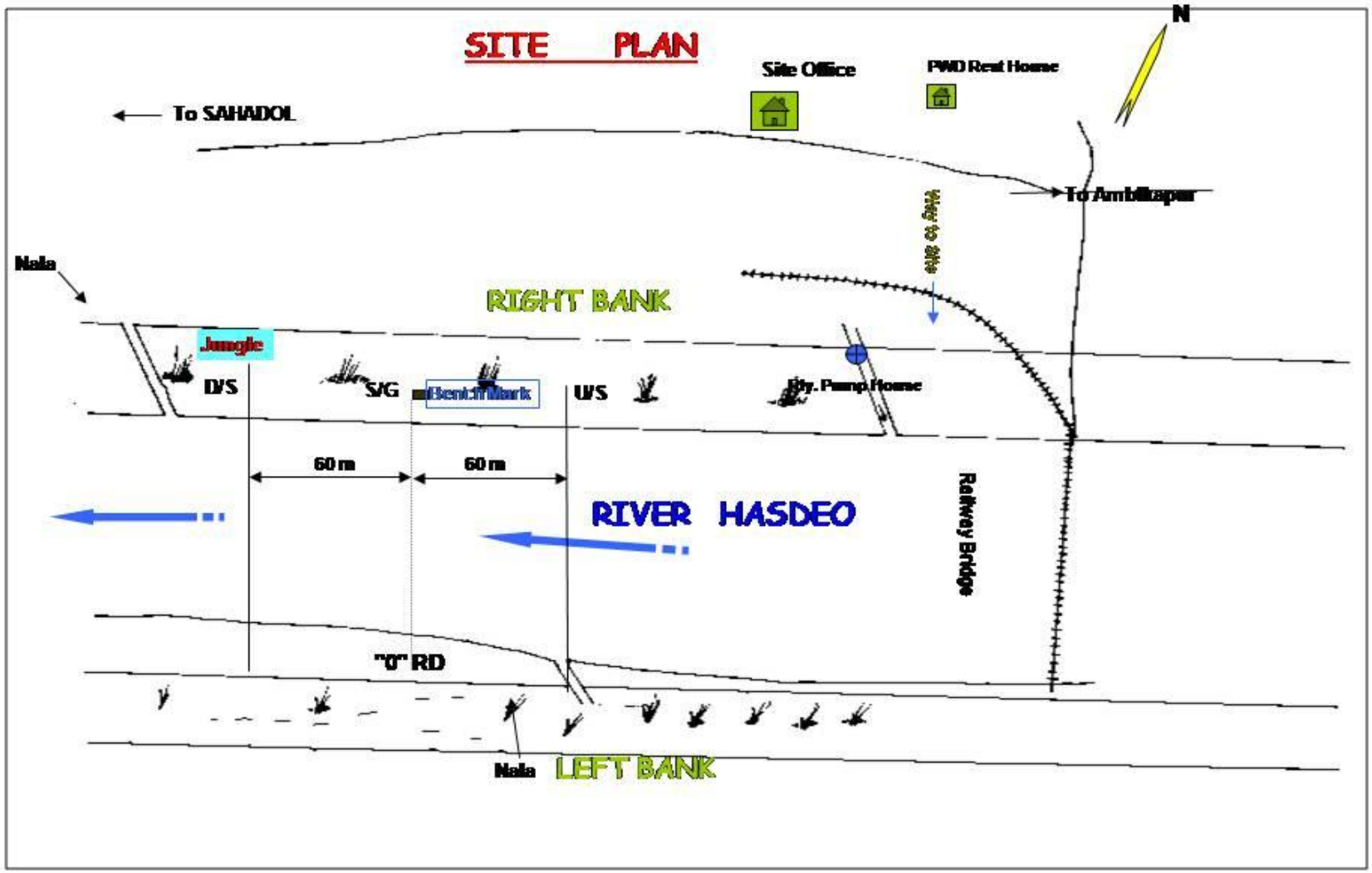
Local River : Hasdeo **Sub-Division : MMSD I,CWC,Raipur**



Time Span: 72 Hrs

CENTRAL WATER COMMISSION, MAHANADI DIVISION, BURLA

Site : MAINENDRAGARH Code : EMM00T7 Sub-Division: MMSD-I CWC Raipur



SECTION-II

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Manendragarh (EMM00T7) **Division : MD,CWC,Burla**

Local River : Hasdeo **Sub-Division : MMSD I,CWC,Raipur**

Day	Jun						Jul						Aug					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	21.86	0.000	0.000	0.064	0.064	121
2	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	18.95	0.000	0.000	0.074	0.074	121
3	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	10.96	0.000	0.000	0.023	0.023	22
4	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	9.129	0.000	0.000	0.074	0.074	58
5	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	22.32	0.000	0.000	0.022	0.022	42
6	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	29.25	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0.000	0	6.233	0.000	0.000	0.016	0.016	9	15.22	0.000	0.000	0.022	0.022	29
8	0.000	0.000	0.000	0.000	0.000	0	3.694	0.000	0.000	0.010	0.010	3	14.26	0.000	0.000	0.026	0.026	32
9	0.000	0.000	0.000	0.000	0.000	0	3.890	0.000	0.000	0.000	0.000	0	9.005	0.000	0.000	0.026	0.026	20
10	0.000	0.000	0.000	0.000	0.000	0	3.959	0.000	0.000	0.008	0.008	3	29.00	0.000	0.000	0.082	0.082	205
11	0.000	0.000	0.000	0.000	0.000	0	3.206	0.000	0.000	0.008	0.008	2	19.86	0.000	0.000	0.074	0.074	127
12	0.000	0.000	0.000	0.000	0.000	0	5.369	0.000	0.000	0.016	0.016	7	27.28	0.000	0.000	0.066	0.066	156
13	0.000	0.000	0.000	0.000	0.000	0	3.706	0.000	0.000	0.018	0.018	6	279.0	0.000	0.000	0.000	0.000	0
14	0.000	0.000	0.000	0.000	0.000	0	3.740	0.000	0.000	0.006	0.006	2	11.00	0.000	0.000	0.034	0.034	32
15	0.000	0.000	0.000	0.000	0.000	0	2.052	0.000	0.000	0.014	0.014	2	7.000	0.000	0.000	0.000	0.000	0
16	0.000	0.000	0.000	0.000	0.000	0	2.010	0.000	0.000	0.000	0.000	0	6.426	0.000	0.000	0.034	0.034	19
17	0.000	0.000	0.000	0.000	0.000	0	31.61	0.000	0.000	0.008	0.008	22	5.973	0.000	0.000	0.022	0.022	11
18	0.000	0.000	0.000	0.000	0.000	0	13.11	0.000	0.000	0.024	0.024	27	15.42	0.000	0.000	0.016	0.016	21
19	0.000	0.000	0.000	0.000	0.000	0	3.465	0.000	0.000	0.006	0.006	2	8.541	0.000	0.000	0.002	0.002	1
20	0.000	0.000	0.000	0.000	0.000	0	19.94	0.000	0.000	0.008	0.008	14	7.000	0.000	0.000	0.000	0.000	0
21	0.000	0.000	0.000	0.000	0.000	0	12.44	0.000	0.000	0.030	0.030	32	6.842	0.000	0.000	0.022	0.022	13
22	0.000	0.000	0.000	0.000	0.000	0	20.05	0.000	0.000	0.072	0.072	125	6.621	0.000	0.000	0.030	0.030	17
23	0.000	0.000	0.000	0.000	0.000	0	28.00	0.000	0.000	0.000	0.000	0	4.238	0.000	0.000	0.024	0.024	9
24	0.000	0.000	0.000	0.000	0.000	0	32.00	0.000	0.000	0.080	0.080	221	15.33	0.000	0.000	0.010	0.010	14
25	0.000	0.000	0.000	0.000	0.000	0	30.00	0.000	0.000	0.054	0.054	140	17.00	0.000	0.000	0.000	0.000	0
26	0.000	0.000	0.000	0.000	0.000	0	26.41	0.000	0.000	0.044	0.044	100	16.41	0.000	0.000	0.182	0.182	258
27	0.000	0.000	0.000	0.000	0.000	0	32.00	0.000	0.000	0.048	0.048	133	21.00	0.000	0.000	0.000	0.000	0
28	0.000	0.000	0.000	0.000	0.000	0	33.00	0.000	0.000	0.042	0.042	120	31.91	0.000	0.000	0.034	0.034	94
29	0.000	0.000	0.000	0.000	0.000	0	8.324	0.000	0.000	0.050	0.050	36	32.70	0.000	0.000	0.030	0.030	85
30	0.000	0.000	0.000	0.000	0.000	0	29.00	0.000	0.000	0.000	0.000	0	19.18	0.000	0.000	0.010	0.010	17
31							18.59	0.000	0.000	0.044	0.044	71	15.79	0.000	0.000	0.012	0.012	16
Ten Daily Mean																		
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	1.778	0.000	0.000	0.004	0.004	2	18.00	0.000	0.000	0.041	0.041	65
Ten Daily II							8.820	0.000	0.000	0.012	0.012	9	38.75	0.000	0.000	0.025	0.025	37
Ten Daily III	0.000	0.000	0.000	0.000	0.000	0	24.53	0.000	0.000	0.052	0.052	109	17.00	0.000	0.000	0.032	0.032	47
Monthly																		
Total						0						1077						1541

Annual Sediment Load (Metric Tonnes) : 3096

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Manendragarh (EMM00T7) **Division : MD,CWC,Burla**

Local River : Hasdeo **Sub-Division : MMSD I,CWC,Raipur**

Day	Sep						Oct						Nov					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	10.25	0.000	0.000	0.012	0.012	11	8.500	0.000	0.000	0.000	0.000	0	0.460	0.000	0.000	0.000	0.000	0
2	9.000	0.000	0.000	0.000	0.000	0	8.200	0.000	0.000	0.000	0.000	0	0.445	0.000	0.000	0.000	0.000	0
3	4.000	0.000	0.000	0.000	0.000	0	7.528	0.000	0.000	0.004	0.004	3	0.476	0.000	0.000	0.000	0.000	0
4	4.423	0.000	0.000	0.022	0.022	8	5.491	0.000	0.000	0.008	0.008	4	0.470	0.000	0.000	0.000	0.000	0
5	3.540	0.000	0.000	0.006	0.006	2	5.919	0.000	0.000	0.006	0.006	3	0.460	0.000	0.000	0.000	0.000	0
6	3.701	0.000	0.000	0.006	0.006	2	5.293	0.000	0.000	0.006	0.006	3	0.459	0.000	0.000	0.006	0.006	0
7	10.79	0.000	0.000	0.018	0.018	17	14.88	0.000	0.000	0.008	0.008	10	0.804	0.000	0.000	0.000	0.000	0
8	6.394	0.000	0.000	0.014	0.014	8	6.500	0.000	0.000	0.000	0.000	0	0.682	0.000	0.000	0.000	0.000	0
9	14.57	0.000	0.000	0.010	0.010	13	19.16	0.000	0.000	0.006	0.006	10	0.592	0.000	0.000	0.000	0.000	0
10	9.000	0.000	0.000	0.000	0.000	0	7.113	0.000	0.000	0.010	0.010	6	0.562	0.000	0.000	0.000	0.000	0
11	23.67	0.000	0.000	0.008	0.008	16	6.360	0.000	0.000	0.006	0.006	3	0.477	0.000	0.000	0.000	0.000	0
12	23.05	0.000	0.000	0.004	0.004	8	4.878	0.000	0.000	0.002	0.002	1	0.450	0.000	0.000	0.000	0.000	0
13	18.00	0.000	0.000	0.006	0.006	9	4.358	0.000	0.000	0.024	0.024	9	0.400	0.000	0.000	0.004	0.004	0
14	27.38	0.000	0.000	0.016	0.016	38	3.621	0.000	0.000	0.004	0.004	1	0.521	0.000	0.000	0.000	0.000	0
15	20.81	0.000	0.000	0.010	0.010	18	4.000	0.000	0.000	0.000	0.000	0	0.523	0.000	0.000	0.000	0.000	0
16	10.12	0.000	0.000	0.008	0.008	7	3.202	0.000	0.000	0.004	0.004	1	0.533	0.000	0.000	0.000	0.000	0
17	9.000	0.000	0.000	0.000	0.000	0	3.109	0.000	0.000	0.006	0.006	2	0.638	0.000	0.000	0.000	0.000	0
18	10.35	0.000	0.000	0.012	0.012	11	2.780	0.000	0.000	0.002	0.002	0	0.630	0.000	0.000	0.000	0.000	0
19	40.39	0.000	0.000	0.008	0.008	28	2.500	0.000	0.000	0.000	0.000	0	0.630	0.000	0.000	0.000	0.000	0
20	23.16	0.000	0.000	0.012	0.012	24	2.805	0.000	0.000	0.002	0.002	0	0.615	0.000	0.000	0.003	0.003	0
21	36.18	0.000	0.000	0.022	0.022	69	2.733	0.000	0.000	0.004	0.004	1	0.554	0.000	0.000	0.000	0.000	0
22	38.80	0.000	0.000	0.022	0.022	74	2.400	0.000	0.000	0.000	0.000	0	0.589	0.000	0.000	0.000	0.000	0
23	26.96	0.000	0.000	0.010	0.010	23	2.274	0.000	0.000	0.002	0.002	0	0.392	0.000	0.000	0.000	0.000	0
24	45.00	0.000	0.000	0.000	0.000	0	2.351	0.000	0.000	0.002	0.002	0	0.382	0.000	0.000	0.000	0.000	0
25	13.81	0.000	0.000	0.012	0.012	14	0.489	0.000	0.000	0.002	0.002	0	0.399	0.000	0.000	0.000	0.000	0
26	9.814	0.000	0.000	0.010	0.010	8	0.482	0.000	0.000	0.002	0.002	0	0.390	0.000	0.000	0.000	0.000	0
27	8.319	0.000	0.000	0.008	0.008	6	0.472	0.000	0.000	0.004	0.004	0	0.383	0.000	0.000	0.002	0.002	0
28	6.483	0.000	0.000	0.008	0.008	4	0.467	0.000	0.000	0.004	0.004	0	0.537	0.000	0.000	0.000	0.000	0
29	30.00	0.000	0.000	0.000	0.000	0	1.500	0.000	0.000	0.000	0.000	0	0.505	0.000	0.000	0.000	0.000	0
30	20.00	0.000	0.000	0.000	0.000	0	0.456	0.000	0.000	0.006	0.006	0	0.498	0.000	0.000	0.000	0.000	0
31							2.640	0.000	0.000	0.002	0.002	0						
Ten Daily Mean																		
Ten Daily I	7.567	0.000	0.000	0.009	0.009	6	8.858	0.000	0.000	0.007	0.007	6	0.541	0.000	0.000	0.001	0.001	0
Ten Daily II	20.59	0.000	0.000	0.008	0.008	16	3.761	0.000	0.000	0.006	0.006	2	0.542	0.000	0.000	0.001	0.001	0
Ten Daily III	23.54	0.000	0.000	0.009	0.009	20	1.479	0.000	0.000	0.003	0.003	0	0.463	0.000	0.000	0.000	0.000	0
Monthly																		
Total						418						60						1

Annual Sediment Load (Metric Tonnes) : 3096

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Manendragarh (EMM00T7) **Division : MD,CWC,Burla**

Local River : Hasdeo **Sub-Division : MMSD I,CWC,Raipur**

Day	Dec						Jan						Feb					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.482	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
2	0.400	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
3	0.400	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
4	0.598	0.000	0.000	0.006	0.006	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
5	0.567	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
6	0.555	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
7	0.632	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
8	0.602	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
9	0.596	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
10	0.555	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
11	0.612	0.000	0.000	0.002	0.002	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
12	0.626	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
13	0.968	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
14	0.931	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
15	0.560	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
16	0.404	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
17	0.370	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
18	0.360	0.000	0.000	0.002	0.002	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
19	0.277	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	0.282	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
21	0.222	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
22	0.271	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	0.170	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
24	0.190	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
25	0.250	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	1.408	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27	1.390	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
28	2.245	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
29	2.136	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0						
30	0.339	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0						
31	0.170	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0						
Ten Daily Mean																		
Ten Daily I	0.539	0.000	0.000	0.001	0.001	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily II	0.539	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily III	0.799	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Monthly																		
Total						0						0						0

Annual Sediment Load (Metric Tonnes) : 3096

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Manendragarh (EMM00T7) **Division : MD,CWC,Burla**

Local River : Hasdeo **Sub-Division : MMSD I,CWC,Raipur**

Day	Mar						Apr						May					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
2	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
3	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
8	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
9	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
10	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
11	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
12	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
13	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
14	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
15	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
16	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
17	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
18	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
19	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
21	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
22	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
24	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
25	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
28	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
29	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
30	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
31	0.000	0.000	0.000	0.000	0.000	0							0.000	0.000	0.000	0.000	0.000	0
Ten Daily Mean																		
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0		0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0		0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0
Ten Daily III	0.000	0.000	0.000	0.000	0.000	0		0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0
Monthly																		
Total						0						0						0

Annual Sediment Load (Metric Tonnes) : 3096

Annual Sediment Load for period : 1994-2018

Station Name : Manendragarh (EMM00T7) **Division : MD,CWC,Burla**

Local River : Hasdeo **Sub-Division : MMSD I,CWC,Raipur**

Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)
1994-1995	144367	2	144369	563
1995-1996	36308	0	36308	296
1996-1997	84841	0	84841	463
1997-1998	26587	0	26587	233
1998-1999	118788	0	118788	408
1999-2000	91607	0	91607	417
2000-2001	59838	0	59838	288
2001-2002	77057	0	77057	545
2002-2003	36463	0	36463	216
2003-2004	73333	0	73333	464
2004-2005	29668	8	29677	294
2005-2006	29300	0	29300	423
2006-2007	22033	0	22033	259
2007-2008	14348	0	14348	153
2008-2009	40410	9	40419	309
2009-2010	24719	41	24760	148
2010-2011	54762	20	54782	185
2011-2012	28796	0	28796	444
2012-2013	18291	7	18298	267
2013-2014	9361	5	9365	237
2014-2015	5009	37	5047	278
2015-2016	1854	3	1856	98
2016-2017	36044	1	36045	331
2017-2018	3096	0	3096	158

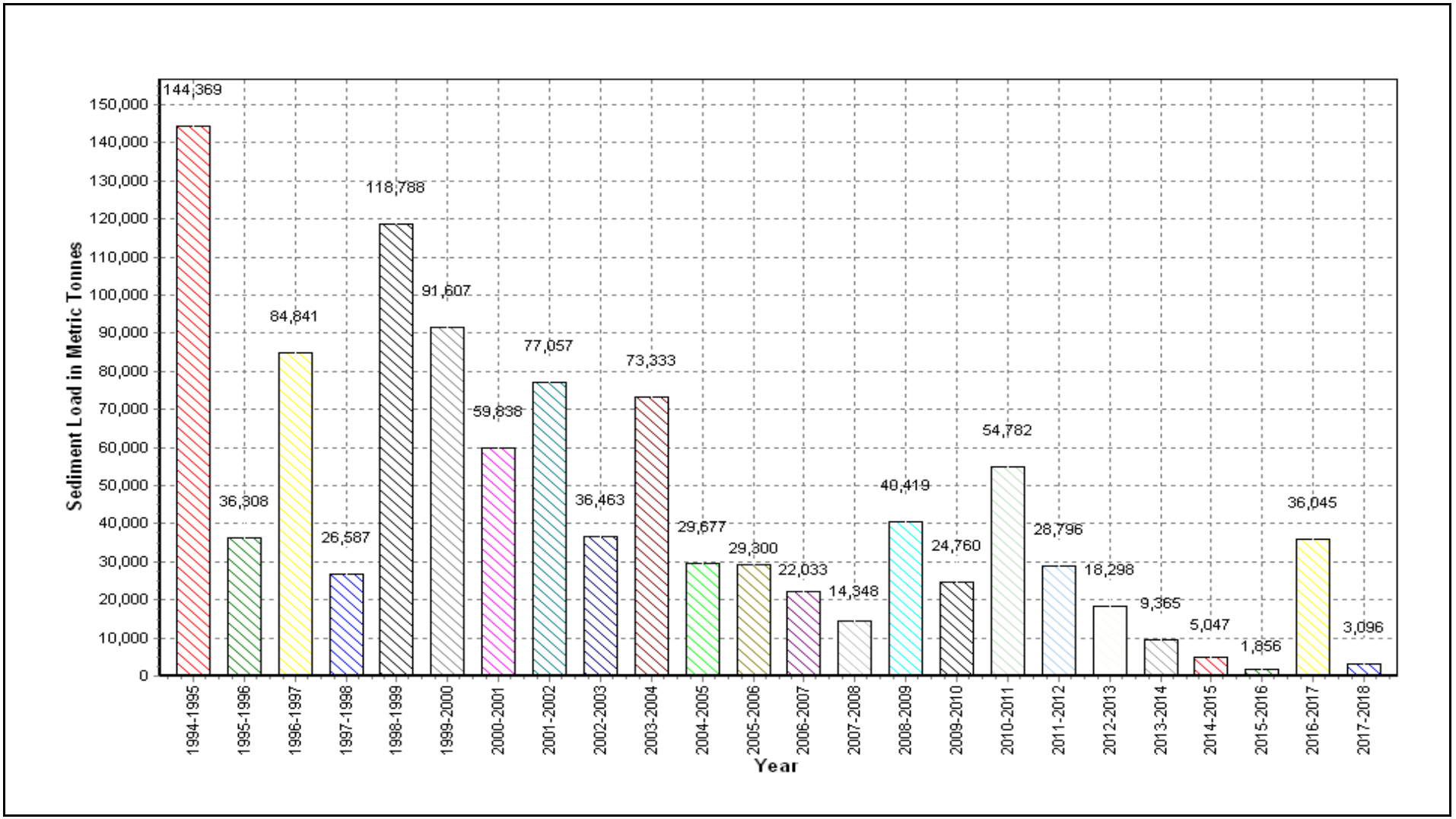
Annual Sediment Load for the period: 1994-2018

Station Name : Manendragarh (EMM00T7)

Local River : Hasdeo

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur



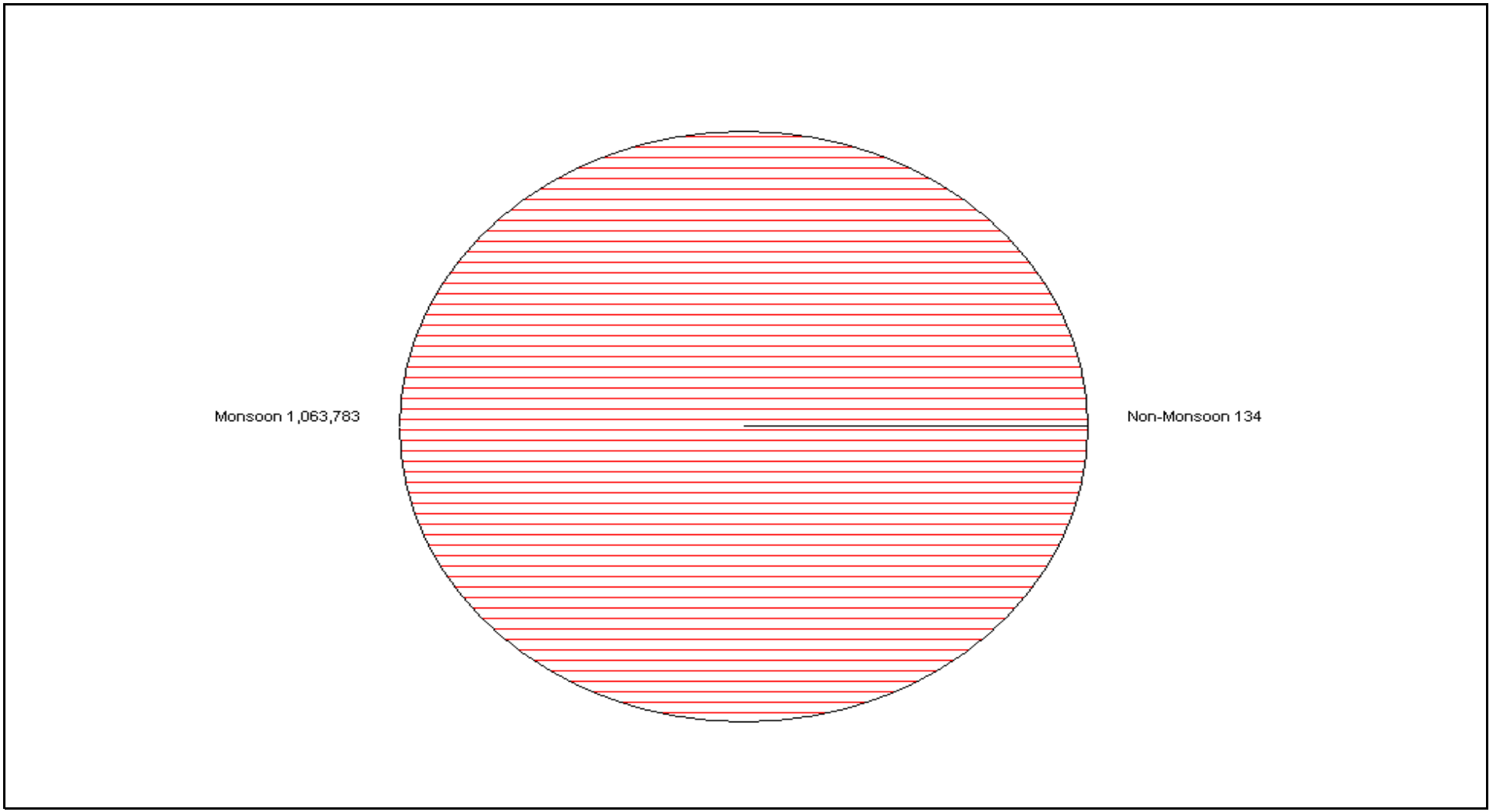
Seasonal Sediment Load for the period : 1994-2017

Station Name : Manendragarh (EMM00T7)

Local River : Hasdeo

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur



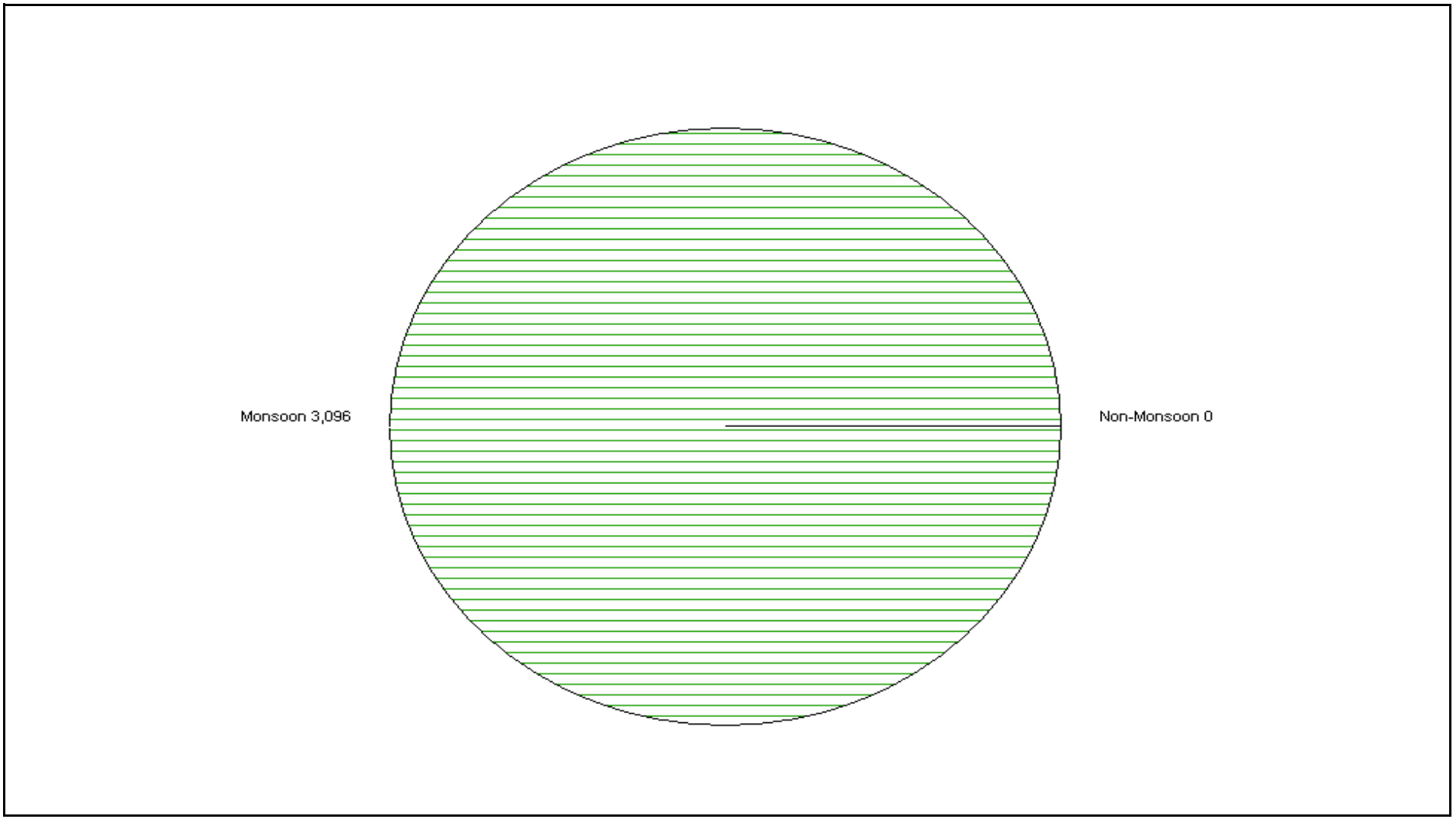
Seasonal Sediment Load for the Year: 2017-2018

Station Name : Manendragarh (EMM00T7)

Local River : Hasdeo

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur



SECTION-III

Water Quality Datasheet for the period : 2017-2018

Station Name : Manendragarh (EMM00T7) | **Division : MD,CWC,Burla**

Local River : Hasdeo | **River Water Analysis** | **Sub-Division : MMSD I,CWC,Raipur**

S.No	Parameters	01/06/2017	01/07/2017	01/08/2017	01/09/2017	03/10/2017	01/11/2017	01/12/2017	01/01/2018	01/02/2018	01/03/2018	02/04/2018	01/05/2018
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)	0.000	0.000	21.86	10.25	7.528	0.460	0.482	0.000	0.000	0.000		0.000
2	Colour_Cod (-)			Light Brown	Light Brown	Light Brown	Clear	Clear		Clear			
3	EC_FLD (µmho/cm)			174	126	696	136	114		846			
4	EC_GEN (µmho/cm)			204	108	123	150	153		213			
5	Odour_Code (-)			odour free	odour free	odour free	odour free	odour free		odour free			
6	pH_FLD (pH units)			7.9	7.4	7.0	7.3	6.4		7.1			
7	pH_GEN (pH units)			8.1	8.3	8.4	8.0	8.4		8.2			
8	Temp (deg C)			28.0	29.3	31.1	24.6	23.0		19.5			
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)			0.0	0.0	0.0	0.0	0.0		0.0			
2	ALK-TOT (mgCaCO3/L)			152	128	156	112	236		184			
3	Ca (mg/L)			40	37	45	34	34		37			
4	Cl (mg/L)			26.0	30.0	34.0	90.0	27.0		18.0			
5	CO3 (mg/L)			0.0	0.0	0.0	0.0	0.0		0.0			
6	HCO3 (mg/L)			93	78	95	68	144		112			
7	K (mg/L)			8.3	19.2	17.9	8.9	9.9		17.5			
8	Mg (mg/L)			11.7	20.1	9.7	17.5	9.7		3.9			
9	Na (mg/L)			28.9	32.3	34.6	29.1	31.3		22.1			
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)			0.7	1.0	0.7	2.5	1.3		0.4			
2	DO (mg/L)			6.0	5.5	5.7	8.0	6.1		3.4			
3	DO_SAT% (%)			77	72	77	95	71		37			
4	FCol-MPN (MPN/100mL)			40	60	40	90	90		110			
5	Tcol-MPN (MPN/100mL)			90	90	90	170	140		140			
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)			100	92	112	84	84		92			
2	HAR_Total (mgCaCO3/L)			149	176	153	157	125		108			
3	Na% (%)			28	26	30	27	33		27			
4	RSC (-)			0.0	0.0	0.0	0.0	0.0		0.0			
5	SAR (-)			1.0	1.1	1.2	1.0	1.2		0.9			
	PESTICIDES												

Water Quality Summary for the period : 2017-2018

Station Name : Manendragarh (EMM00T7) **Division : MD,CWC,Burla**

Local River : Hasdeo **Sub-Division : MMSD I,CWC,Raipur**

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	335	279.0	0.000	5.447
2	EC_FLD (µmho/cm)	6	846	114	349
3	EC_GEN (µmho/cm)	6	213	108	159
4	pH_FLD (pH units)	6	7.9	6.4	7.2
5	pH_GEN (pH units)	6	8.4	8.0	8.2
6	Temp (deg C)	6	31.1	19.5	25.9
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	6	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	6	236	112	161
3	Ca (mg/L)	6	45	34	38
4	Cl (mg/L)	6	90.0	18.0	37.5
5	CO3 (mg/L)	6	0.0	0.0	0
6	HCO3 (mg/L)	6	144	68	98
7	K (mg/L)	6	19.2	8.3	13.6
8	Mg (mg/L)	6	20.1	3.9	12.1
9	Na (mg/L)	6	34.6	22.1	29.7
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	6	2.5	0.4	1.1
2	DO (mg/L)	6	8.0	3.4	5.8
3	DO_SAT% (%)	6	95	37	71
4	FCol-MPN (MPN/100mL)	6	110	40	72
5	Tcol-MPN (MPN/100mL)	6	170	90	120
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	6	112	84	94
2	HAR_Total (mgCaCO3/L)	6	176	108	145
3	Na% (%)	6	33	26	29
4	RSC (-)	6	0.0	0.0	0
5	SAR (-)	6	1.2	0.9	1.1
	PESTICIDES				

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Manendragarh (EMM00T7) | **Division : MD,CWC,Burla**

Local River : Hasdeo | **River Water** | **Sub-Division : MMSD I,CWC,Raipur**

S.No	Parameters	Flood														
		Jun - Oct														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	PHYSICAL															
1	Q (cumec)	38.07	8.658			26.89	21.73	16.87	21.59	32.40	18.48	16.10	14.84	3.774	19.28	7.930
2	EC_FLD (µmho/cm)	80	106			172	89	189		85		149		233	127	332
3	EC_GEN (µmho/cm)	80	106			139	154	177	112	121	139	100	244	136	150	145
4	pH_FLD (pH units)	7.4	7.7			7.5	7.6	7.6	7.1	7.4		7.2		7.1	6.9	7.4
5	pH_GEN (pH units)	7.4	7.7			7.5	7.6	7.7	7.6	7.6	7.8	8.1	7.9	7.8	7.4	8.3
6	Temp (deg C)	24.3	30.0			27.3	22.8	27.0	27.0	25.2	26.5	27.9	27.3	27.5	27.0	29.5
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.6	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	91	103			59	131	131	78	87	105	88	118	113	144	145
3	B (mg/L)					0.01	0.00	0.00	0.00	0.00	0.00					
4	Ca (mg/L)	9	15			6	12	14	8	10	14	12	16	19	40	41
5	Cl (mg/L)	15.6	12.0			3.6	7.1	3.7	3.6	7.5	8.8	13.8	14.0	17.8	15.5	30.0
6	CO3 (mg/L)	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.7	0.0	0.0
7	F (mg/L)	1.07				0.05	0.08	0.06	0.08	0.16	0.13					
8	Fe (mg/L)					0.0	0.0	0.0	0.0	0.0	0.0					
9	HCO3 (mg/L)	56	86			36	80	80	47	53	64	54	72	62	88	89
10	K (mg/L)					0.8	1.3	1.4	1.4	1.9	1.2	2.8	3.1	7.0	12.0	15.1
11	Mg (mg/L)	2.4	8.1			3.2	6.1	7.5	4.4	5.8	6.0	4.9	7.0	9.9	10.4	13.8
12	Na (mg/L)					11.7	5.5	3.6	10.9	3.7	5.3	3.4	17.4	17.6	20.2	31.9
13	NO2+NO3 (mg N/L)		1.36			0.05	0.64									
14	NO2-N (mgN/L)					0.01	0.02	0.02	0.01	0.02	0.02					
15	NO3-N (mgN/L)					0.05	0.62									
16	P-Tot (mgP/L)	0.030				0.010	0.020	0.050	0.015	0.027	0.043					
17	SiO2 (mg/L)					5.8	13.1	11.3	6.6	7.6	10.3					
18	SO4 (mg/L)	25.5	6.5			8.5	5.8	13.0	9.4	7.7	13.0					

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Manendragarh (EMM00T7) **Division : MD,CWC,Burla**

Local River : Hasdeo **River Water** **Sub-Division : MMSD I,CWC,Raipur**

S.No	Parameters	Flood														
		Jun - Oct														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	1.2	0.9			0.6	1.1	1.4	0.9	0.9	1.4	1.0	0.8	1.1	1.1	0.8
2	COD (mg/L)					8.0	18.0	18.0	14.0	28.0	18.7					
3	DO (mg/L)	5.2	5.0			8.3	7.2	6.5	6.1	6.9	7.9	6.9	6.0	5.9	5.8	5.7
4	DO_SAT% (%)	61	66			100	83	82	77	84	97	88	75	74	72	75
5	FCol-MPN (MPN/100mL)															47
6	Tcol-MPN (MPN/100mL)															90
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	24	37			15	31	35	20	24	34	31	40	47	101	102
2	HAR_Total (mgCaCO3/L)	34	70			28	56	66	38	48	59	51	69	89	145	159
3	Na% (%)					49	17	10	34	15	16	12	34	27	22	28
4	RSC (-)	0.1	0.0			0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
5	SAR (-)					1.0	0.3	0.2	0.7	0.2	0.3	0.2	0.9	0.8	0.7	1.1
	PESTICIDES															

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Manendragarh (EMM00T7) **Division : MD,CWC,Burla**

Local River : Hasdeo **River Water** **Sub-Division : MMSD I,CWC,Raipur**

S.No	Parameters	Winter														
		Nov - Feb														
		2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
	PHYSICAL															
1	Q (cumec)	4.587	5.423			1.076	1.435	0.932	0.679	2.914	1.594	2.077	2.479	0.811	1.072	0.235
2	EC_FLD (µmho/cm)	192	198			199	108	149	294	140		83	760	85	141	366
3	EC_GEN (µmho/cm)	192	198			162	148	176	230	176		216	199	143	186	172
4	pH_FLD (pH units)	7.6	7.8			7.7	7.6	8.1	7.4	7.8		6.7	6.5	6.8	7.4	6.9
5	pH_GEN (pH units)	7.6	7.8			8.0	7.6	8.3	7.7	8.1		8.2	7.9	8.3	8.3	8.2
6	Temp (deg C)	22.5	24.0			10.5	15.0	18.5	26.0	18.5		17.8	16.9	18.3	16.1	22.4
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.0			0.0	0.0	8.3	0.0	0.0		1.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	187	151			120	131	94	163	129		198	192	114	105	177
3	B (mg/L)					0.01	0.00	0.00	0.00	0.00						
4	Ca (mg/L)	40	11			13	13	13	17	13		31	28	19	59	35
5	Cl (mg/L)	17.0	5.7			18.0	11.0	7.1	8.1	6.2		23.3	20.3	14.3	24.0	45.0
6	CO3 (mg/L)	0.0	0.0			0.0	0.0	9.9	0.0	0.0		1.2	0.0	0.0	0.0	0.0
7	F (mg/L)	0.47				0.08	0.09	0.18	0.18	0.14						
8	Fe (mg/L)					0.0	0.0	0.0	0.0	0.0			0.1			
9	HCO3 (mg/L)	69	92			73	80	47	99	78		120	117	70	64	108
10	K (mg/L)		1.2			2.5	2.2	1.9	1.4	1.6		9.8	5.4	5.7	13.5	12.1
11	Mg (mg/L)	-5.2	8.8			6.3	6.6	6.6	10.2	7.8		20.9	18.7	9.0	13.9	10.4
12	Na (mg/L)		4.9			14.8	8.8	6.5	3.5	7.4		23.0	21.0	17.9	29.2	27.5
13	NO2+NO3 (mg N/L)		1.48			0.18	0.86						0.13			
14	NO2-N (mgN/L)					0.01	0.01	0.01	0.02	0.01			0.02			
15	NO3-N (mgN/L)					0.17	0.85						0.11			
16	P-Tot (mgP/L)					0.020	0.035	0.010	0.030	0.020			0.020			
17	SiO2 (mg/L)					13.0	12.5	8.4	13.2	4.2			10.0			
18	SO4 (mg/L)	19.7	16.7			28.5	16.0	37.5	26.6	21.6			18.5			

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Manendragarh (EMM00T7) **Division : MD,CWC,Burla**

Local River : Hasdeo **River Water** **Sub-Division : MMSD I,CWC,Raipur**

S.No	Parameters	Winter														
		Nov - Feb														
		2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.6	0.7			1.2	0.5	0.8	0.4	0.5		1.7	2.6	0.9	1.5	1.4
2	COD (mg/L)					20.0	22.0	14.0	20.0	16.0						
3	DO (mg/L)	5.1	8.5			9.7	8.2	8.7	7.7	8.5		8.3	7.8	8.1	7.3	5.8
4	DO_SAT% (%)		101			88	81	92	95	90		87	80	86	74	68
5	FCol-MPN (MPN/100mL)															97
6	Tcol-MPN (MPN/100mL)															150
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	100	27			33	32	33	42	32		78	71	47	148	87
2	HAR_Total (mgCaCO3/L)	79	63			59	60	60	85	65		165	149	84	206	130
3	Na% (%)		14			34	24	18	8	20		20	22	30	22	29
4	RSC (-)	0.0	0.5			0.0	0.1	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
5	SAR (-)		0.3			0.8	0.5	0.4	0.2	0.4		0.8	0.7	0.9	0.9	1.1
	PESTICIDES															

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Manendragarh (EMM00T7) | **Division : MD,CWC,Burla**

Local River : Hasdeo | **River Water** | **Sub-Division : MMSD I,CWC,Raipur**

S.No	Parameters	Summer														
		Mar - May														
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	PHYSICAL															
1	Q (cumec)	0.896	0.860					0.292				1.304	0.200	0.000	0.000	0.000
2	EC_FLD (µmho/cm)	284											785			
3	EC_GEN (µmho/cm)	284				157						520	409			
4	pH_FLD (pH units)	7.9											6.6			
5	pH_GEN (pH units)	8.0				8.4						7.6	7.9			
6	Temp (deg C)					15.0						17.0	24.3			
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0				9.2						0.0	6.0			
2	ALK-TOT (mgCaCO3/L)	279				103						320	232			
3	B (mg/L)					0.01										
4	Ca (mg/L)	15				11						61	53			
5	Cl (mg/L)	15.0				18.4						48.0	33.0			
6	CO3 (mg/L)	0.0				11.1						0.0	7.2			
7	F (mg/L)					0.07										
8	Fe (mg/L)					0.1							0.1			
9	HCO3 (mg/L)	170				52						195	134			
10	K (mg/L)					1.0						3.6	7.1			
11	Mg (mg/L)	7.5				5.8						10.9	20.4			
12	Na (mg/L)					14.0						40.9	20.3			
13	NO2+NO3 (mg N/L)					0.28							0.17			
14	NO2-N (mgN/L)					0.01							0.06			
15	NO3-N (mgN/L)					0.27							0.10			
16	P-Tot (mgP/L)					0.020							0.015			
17	SiO2 (mg/L)					11.8							10.7			
18	SO4 (mg/L)	30.0				16.0							14.8			

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Manendragarh (EMM00T7) **Division : MD,CWC,Burla**

Local River : Hasdeo **River Water** **Sub-Division : MMSD I,CWC,Raipur**

S.No	Parameters	Summer														
		Mar - May														
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.7				1.4						0.8	10.8			
2	COD (mg/L)					16.0										
3	DO (mg/L)	7.3										5.0	6.1			
4	DO_SAT% (%)											52	72			
5	FCol-MPN (MPN/100mL)															
6	Tcol-MPN (MPN/100mL)															
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	38				28						152	132			
2	HAR_Total (mgCaCO3/L)	69				52						198	217			
3	Na% (%)					36						31	21			
4	RSC (-)	1.4				0.2						0.0	0.0			
5	SAR (-)					0.8						1.3	0.8			
	PESTICIDES															

SITE BAMNIDHI

HISTORY SHEET

Water Year : 2017-2018

Site	**: Bamnidhi**		**Code**	**: EMM00B3**	
State	: Chhattisgarh		District	Janjgir-champa	
Basin	: Mahanadi		Independent River	: Mahanadi	
Tributary	: Hasdeo		Sub Tributary	:	
Sub-Sub Tributary	:		Local River	: Hasdeo	
Division	: MD,CWC,Burla		Sub-Division	: MMSD I,CWC,Raipur	
Drainage Area	: 9730 Sq. Km.		Bank	:	
Latitude	: 21°53'55"		Longitude	: 82°42'29"	
Zero of Gauge (m)	: 223 (m.s.l)		29/01/1971	- 31/12/2025	
	Opening Date		Closing Date		
Gauge	: 29/01/1971				
Discharge	: 18/02/1971				
Sediment	: 01/01/1973				
Water Quality	: 01/09/1972				

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

	Maximum			Minimum		
Year	**Q (cumecs)**	**WL (m)**	**Date**	**Q (cumecs)**	**WL (m)**	**Date**
1971-1972	8843	228.510	28/07/1971	1.000	224.425	28/05/1972
1972-1973	4688	227.948	13/09/1972	1.100	224.405	02/06/1972
1973-1974	5801	228.340	04/09/1973	1.200	224.380	01/06/1973
1974-1975	1955	227.555	18/08/1974	1.600	224.680	14/05/1975
1975-1976	12700	228.883	22/08/1975	2.194	224.420	30/04/1976
1976-1977	5445	228.250	15/08/1976	1.491	224.390	10/02/1977
1977-1978	5802	228.055	16/07/1977	2.057	224.385	02/06/1977
1978-1979	2900	227.375	12/08/1978	1.000	224.350	31/05/1979
1979-1980	2348	227.315	09/08/1979	0.864	224.330	10/05/1980
1980-1981	4916	228.250	20/09/1980	1.292	224.360	02/06/1980
1981-1982	2665	228.600	23/08/1981	3.245	224.395	02/06/1981
1982-1983	2571	227.600	31/08/1982	2.850	224.515	16/04/1983
1983-1984	2001	227.665	09/09/1983	2.000	224.520	12/06/1983
1984-1985	4502	228.200	09/08/1984	3.460	224.710	02/06/1984
1985-1986	3500	227.350	08/08/1985	2.950	224.765	02/06/1985
1986-1987	3480	228.185	28/06/1986	2.200	224.525	12/06/1986
1987-1988	6658	228.453	15/09/1987	3.580	224.675	02/06/1987
1988-1989	1547	227.070	11/08/1988	2.531	224.490	12/05/1989
1989-1990	914.0	226.395	28/07/1989	2.511	224.485	03/06/1989
1990-1991	1381	226.750	20/07/1990	5.255	224.525	06/06/1990
1991-1992	1691	227.050	14/08/1991	3.500	224.630	24/05/1992
1992-1993	758.9	226.380	20/08/1992	5.000	224.655	21/03/1993

Q : Observed / Computed Discharge WL : Corresponding Water Level(m.s.l)

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

	Maximum			Minimum		
Year	**Q (cumecs)**	**WL (m)**	**Date**	**Q (cumecs)**	**WL (m)**	**Date**
1993-1994	1259	226.645	27/09/1993	7.000	224.700	13/06/1993
1994-1995	5169	228.560	04/08/1994	17.93	224.735	26/02/1995
1995-1996	1551	227.370	18/07/1995	17.69	224.655	28/05/1996
1996-1997	1701	227.020	26/07/1996	9.846	224.625	15/05/1997
1997-1998	814.3	226.390	09/09/1997	18.97	224.690	22/06/1997
1998-1999	4163	227.600	12/09/1998	11.00	224.645	16/05/1999
1999-2000	1719	227.220	09/08/1999	16.72	224.820	12/05/2000
2000-2001	930.8	226.550	27/07/2000	20.88	224.850	11/05/2001
2001-2002	3036	227.840	24/07/2001	29.31	224.870	19/06/2001
2002-2003	805.9	226.110	25/06/2002	13.37	224.480	12/05/2003
2003-2004	6731	228.520	08/09/2003	9.500	224.450	15/06/2003
2004-2005	4691	228.257	12/08/2004	21.27	224.830	25/04/2005
2005-2006	3267	227.730	05/08/2005	10.86	224.580	08/05/2006
2006-2007	1640	226.880	23/08/2006	22.95	224.785	09/01/2007
2007-2008	1379	226.615	21/08/2007	4.520	224.600	18/05/2008
2008-2009	752.9	226.355	19/09/2008	8.232	224.640	04/06/2008
2009-2010	346.7	225.925	14/07/2009	1.884	224.560	21/05/2010
2010-2011	803.3	226.155	06/08/2010	4.002	224.480	24/05/2011
2011-2012	7732	228.620	10/09/2011	2.500	224.350	27/05/2012
2012-2013	827.4	226.380	23/08/2012	2.460	224.330	04/06/2012
2013-2014	718.7	226.275	29/08/2013	2.914	224.330	19/05/2014
2014-2015	7392	228.615	06/08/2014	4.280	224.280	04/07/2014
2015-2016	811.5	226.300	18/08/2015	1.589	224.240	12/05/2016
2016-2017	1083	226.320	06/08/2016	2.000	224.260	19/06/2016

Q : Observed / Computed Discharge WL : Corresponding Water Level(m.s.l)

Stage-Dischage Data for the period 2017 - 2018

Station Name : Bamnidhi (EMM00B3) **Division : MD,CWC,Burla**

Local River : Hasdeo **Sub-Division : MMSD I,CWC,Raipur**

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	224.455	6.320	224.780	36.00	225.015	82.98	225.145	141.3	225.230	98.26 *	224.680	26.49
2	224.435	5.865	224.840	38.20 *	224.770	58.20	225.150	150.0 *	225.170	95.48 *	224.710	28.18
3	224.420	5.398	224.710	31.51	225.055	72.17	225.145	140.0 *	224.930	69.35	224.670	26.46
4	224.415	5.300 *	224.730	32.83	225.065	78.60	225.090	71.21	224.910	64.36	224.610	22.40 *
5	224.400	4.968	224.865	44.27	225.025	64.60	225.050	66.84	224.893	61.20	224.580	22.75 *
6	224.390	4.566	224.890	50.63	224.990	61.00 *	225.080	70.29	224.900	56.83	224.615	23.82
7	224.370	4.331	224.950	68.80 *	225.165	130.1	224.915	29.02	224.950	58.49	224.680	26.65
8	224.360	4.477	224.995	72.97	225.335	141.2	225.010	36.39	224.950	55.20 *	224.610	23.37
9	224.340	4.031	224.880	60.39 *	225.265	130.4	225.100	66.40	225.020	73.50	224.600	21.61
10	224.335	3.871	224.780	60.27	225.275	128.5	225.135	56.00 *	224.965	65.22	224.690	25.70
11	224.330	3.800 *	225.505	179.9	225.315	154.6	225.035	58.54	224.880	51.45	224.600	22.01
12	224.720	30.62	225.480	246.7	225.295	148.6	224.945	52.84	224.900	53.89	224.590	23.67 *
13	224.660	28.16	225.135	147.0	225.180	133.0 *	225.155	68.73	224.880	51.20	224.650	28.97
14	224.680	29.45	224.935	82.72	224.980	68.29	225.090	60.75	224.775	43.93	224.610	23.83
15	224.690	31.15	224.800	50.31	224.900	60.00 *	225.075	64.58	224.690	25.75 *	224.590	21.21
16	224.610	27.08	224.760	50.10 *	224.975	73.73	225.040	61.07	224.680	23.22	224.610	24.95
17	224.590	24.40	224.880	55.30	225.055	80.00	224.940	50.28 *	224.680	22.46	224.630	24.95
18	224.550	24.00 *	225.180	157.3	225.050	74.53	225.028	60.39	224.675	21.60	224.635	25.50
19	224.453	6.120	225.305	222.1	225.030	74.92	225.175	93.27	224.670	21.28 *	224.615	23.92 *
20	224.400	5.571	225.280	226.1	225.020	74.50 *	225.205	96.28	224.670	20.95	224.590	21.54
21	224.390	6.600 *	226.320	625.7	224.865	68.15	225.415	190.6	224.660	20.76	224.570	19.45
22	224.390	6.626	225.880	631.9	224.800	64.80	226.355	727.2	224.650	20.48 *	224.560	18.27
23	224.390	5.872	225.370	83.11 *	224.880	72.29	225.708	511.6	224.600	17.73	224.560	19.54
24	224.645	28.04	225.265	77.50	224.905	69.12	225.205	98.50 *	224.600	16.97	224.570	20.05
25	224.820	37.00 *	225.315	80.02	225.020	74.50 *	224.978	69.08	224.610	17.77	224.560	18.14
26	224.715	32.45 *	225.175	62.99	224.950	70.91	224.835	59.32	224.600	17.51	224.560	18.10 *
27	224.780	36.92	225.065	74.08	225.140	78.10 *	224.800	55.30	224.590	16.55	224.560	17.85
28	224.740	34.31	225.360	154.6	225.135	78.29	224.810	59.16	224.620	17.58	224.570	18.42
29	224.820	37.84	225.293	150.4	225.105	80.76	224.770	54.20 *	224.645	20.27 *	224.550	16.86
30	224.710	32.41	225.365	154.1 *	225.230	148.2	224.900	68.40 *	224.610	16.71	224.520	14.24
31			225.220	137.6	225.100	128.7			224.620	24.21		
Ten-Daily Mean												
I Ten-Daily	224.392	4.913	224.842	49.59	225.096	94.79	225.082	82.75	224.992	69.79	224.644	24.74
II Ten-Daily	224.568	21.04	225.126	141.8	225.080	94.21	225.069	66.67	224.750	33.57	224.612	24.05
III Ten-Daily	224.640	25.81	225.421	202.9	225.012	84.89	225.177	189.3	224.619	18.78	224.558	18.09
Monthly												
Min.	224.330	3.800	224.710	31.51	224.770	58.20	224.770	29.02	224.590	16.55	224.520	14.24
Max.	224.820	37.84	226.320	631.9	225.335	154.6	226.355	727.2	225.230	98.26	224.710	28.97
Mean	224.533	17.25	225.139	133.7	225.061	91.09	225.109	112.9	224.781	40.01	224.605	22.3

Annual Runoff in MCM = 1285 Annual Runoff in mm = 132

Peak Observed Discharge = 727.2 cumecs on 22/09/2017 Corres. Water Level :226.355 m

Lowest Observed Discharge = 2.761 cumecs on 21/05/2018 Corres. Water Level :224.265 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Dischage Data for the period 2017 - 2018

Station Name : Bamnidhi (EMM00B3) **Division : MD,CWC,Burla**

Local River : Hasdeo **Sub-Division : MMSD I,CWC,Raipur**

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	224.500	12.83	224.565	15.86	224.445	11.77	224.520	14.51	224.300	3.860 *	224.280	3.419
2	224.490	12.21 *	224.560	15.35	224.445	11.71	224.520	14.50 *	224.300	3.969	224.275	3.037
3	224.480	11.72 *	224.550	15.36	224.460	12.00	224.520	14.36	224.300	3.942	224.280	3.220
4	224.540	16.61	224.565	16.76	224.470	12.75 *	224.515	14.10 *	224.300	3.818	224.270	3.086
5	224.500	15.65	224.560	15.93	224.470	12.87	224.500	13.50	224.290	3.773	224.280	3.724
6	224.500	15.14	224.520	21.35	224.470	12.92	224.510	14.22	224.290	3.471	224.275	3.512 *
7	224.500	15.21	224.520	21.50 *	224.490	12.45	224.510	14.02	224.280	3.184	224.270	3.182
8	224.500	14.34	224.540	21.89	224.490	12.98	224.510	14.80	224.280	3.274 *	224.280	3.490
9	224.685	43.49	224.510	20.71	224.490	12.38	224.510	14.39	224.280	3.460	224.280	3.277
10	224.600	24.00 *	224.520	20.82	224.490	12.49	224.530	15.50	224.275	3.178	224.270	3.030
11	224.520	18.48	224.500	19.52	224.490	12.71 *	224.525	14.80 *	224.270	2.902	224.270	3.013
12	224.510	17.62	224.490	18.94	224.500	13.48	224.520	14.64	224.275	2.993	224.270	2.920
13	224.500	16.79	224.530	21.13	224.480	12.58	224.530	15.47	224.270	2.765	224.270	3.017 *
14	224.500	16.21	224.540	21.60 *	224.490	12.76	224.520	14.43	224.275	2.928	224.275	3.113
15	224.510	16.68	224.510	19.65	224.500	13.47	224.510	13.09	224.270	2.814 *	224.270	2.990
16	224.500	15.90	224.510	19.00	224.495	12.99	224.520	13.68	224.275	3.016	224.270	2.851
17	224.510	16.12 *	224.500	18.65	224.500	13.52	224.515	13.38	224.280	3.099	224.270	2.882
18	224.660	28.43	224.490	18.17	224.515	14.60 *	224.520	13.95 *	224.270	2.851	224.270	2.828
19	224.650	27.66	224.490	18.35	224.530	15.11	224.520	14.36	224.280	3.101	224.270	2.825
20	224.640	27.00	224.500	19.20	224.520	14.58	224.515	13.95	224.280	3.050	224.260	2.820 *
21	224.560	16.42	224.490	17.20 *	224.520	14.23	224.510	13.34	224.270	2.774	224.265	2.761
22	224.550	15.89	224.480	16.37	224.530	15.43	224.510	14.08	224.270	2.884 *	224.270	2.951
23	224.560	16.41	224.480	16.21	224.530	15.04	224.510	13.45	224.270	2.929	224.270	2.856
24	224.550	16.03 *	224.610	25.56	224.530	14.84	224.500	13.22	224.280	2.966	224.280	3.487
25	224.550	15.98 *	224.500	16.63	224.540	15.10 *	224.490	12.80 *	224.280	2.903	224.280	3.457
26	224.545	15.81	224.490	15.98 *	224.540	15.50	224.450	10.29	224.280	3.065	224.280	3.305
27	224.540	15.44	224.490	15.69	224.530	14.96	224.440	10.16	224.270	2.843	224.280	3.485 *
28	224.540	15.71	224.470	14.52 *	224.530	15.08	224.460	10.67	224.270	2.850	224.285	3.607
29	224.550	15.91	224.440	11.64			224.420	8.530 *	224.270	2.820 *	224.285	3.430
30	224.545	15.07	224.450	12.09			224.380	6.700 *	224.270	2.850 *	224.280	3.241
31	224.550	15.68 *	224.450	12.21			224.300	3.749			224.285	3.484
Ten-Daily Mean												
I Ten-Daily	224.530	18.12	224.541	18.55	224.472	12.43	224.514	14.39	224.290	3.593	224.276	3.298
II Ten-Daily	224.550	20.09	224.506	19.42	224.502	13.58	224.520	14.18	224.275	2.952	224.270	2.926
III Ten-Daily	224.549	15.85	224.486	15.83	224.531	15.02	224.452	10.64	224.273	2.888	224.278	3.279
Monthly												
Min.	224.480	11.72	224.440	11.64	224.445	11.71	224.300	3.749	224.270	2.765	224.260	2.761
Max.	224.685	43.49	224.610	25.56	224.540	15.50	224.530	15.50	224.300	3.969	224.285	3.724
Mean	224.543	17.95	224.510	17.87	224.500	13.58	224.494	12.99	224.279	3.144	224.275	3.171

Peak Computed Discharge = 154.1 cumecs on 30/07/2017 Corres. Water Level :225.365 m

Lowest Computed Discharge = 2.814 cumecs on 15/04/2018 Corres. Water Level :224.27 m

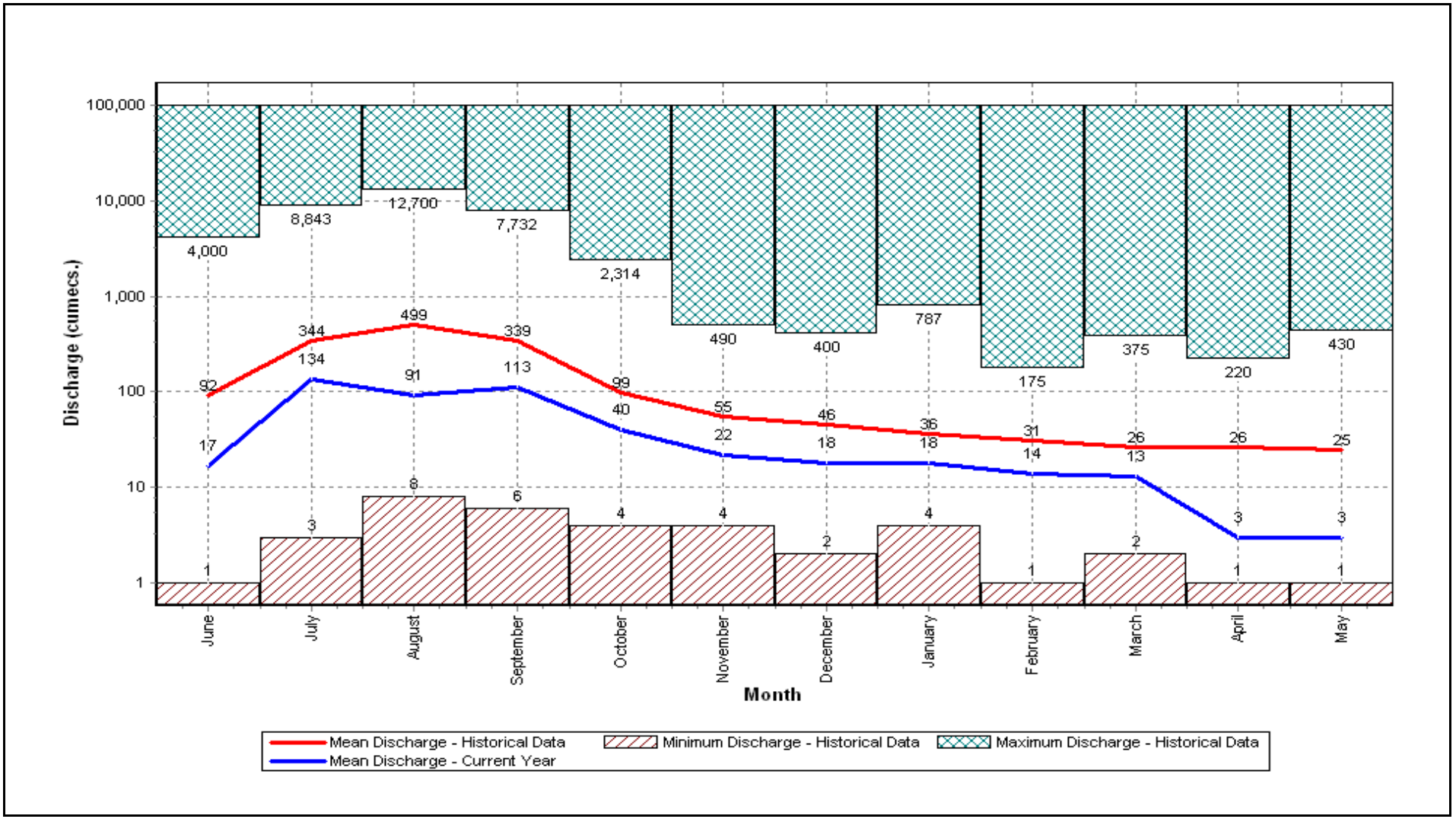
Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2017-2018

Station Name : Bamnidhi (EMM00B3) | **Data considered : 1971-2018** | **Division : MD,CWC,Burla**

Local River : Hasdeo | **Sub-Division : MMSD I,CWC,Raipur**



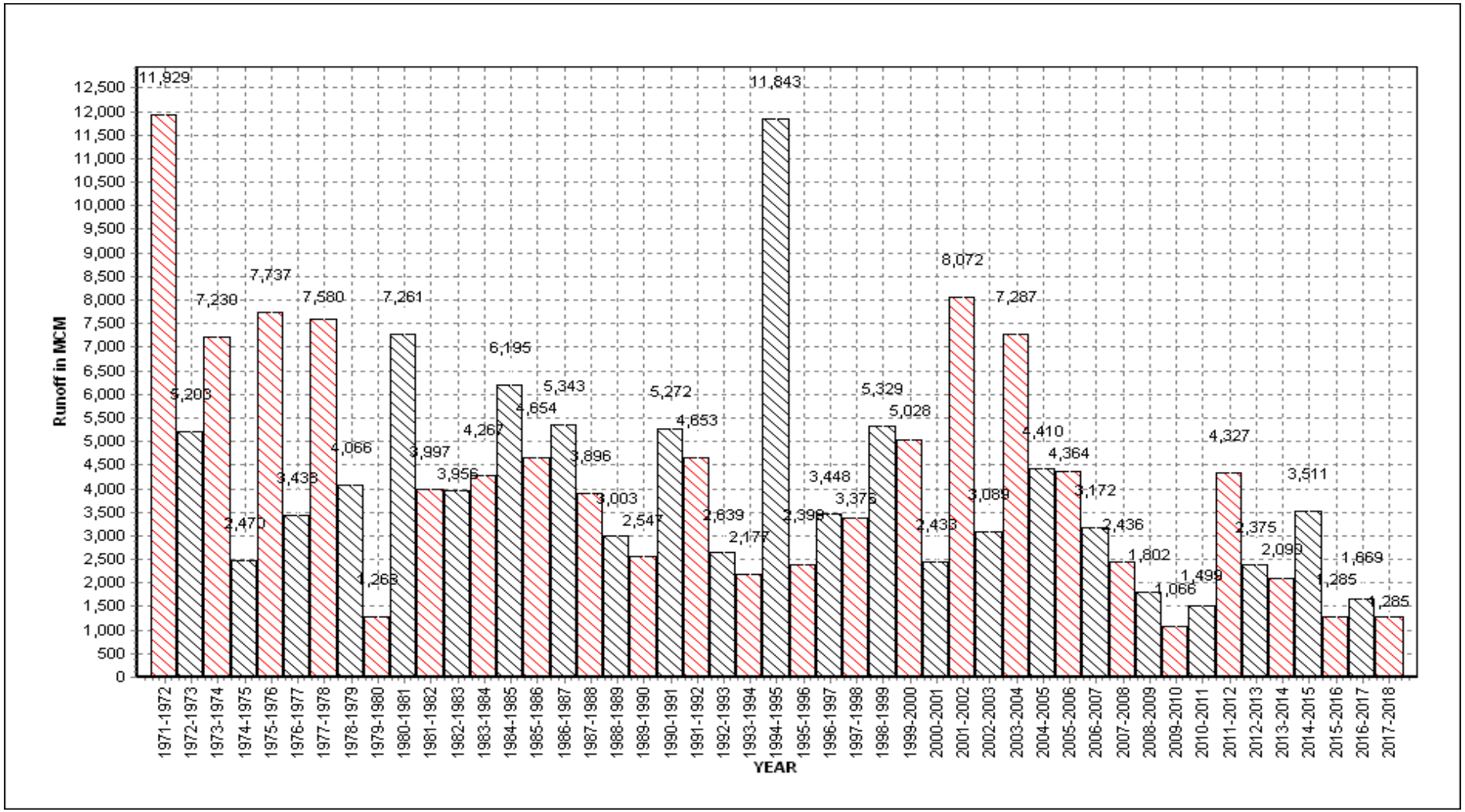
Annual Runoff Values for the period: 1971 - 2018

Station Name : Bamnidhi (EMM00B3)

Local River : Hasdeo

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur



Note: Missing values have not been considered while arriving at Annual Runoff

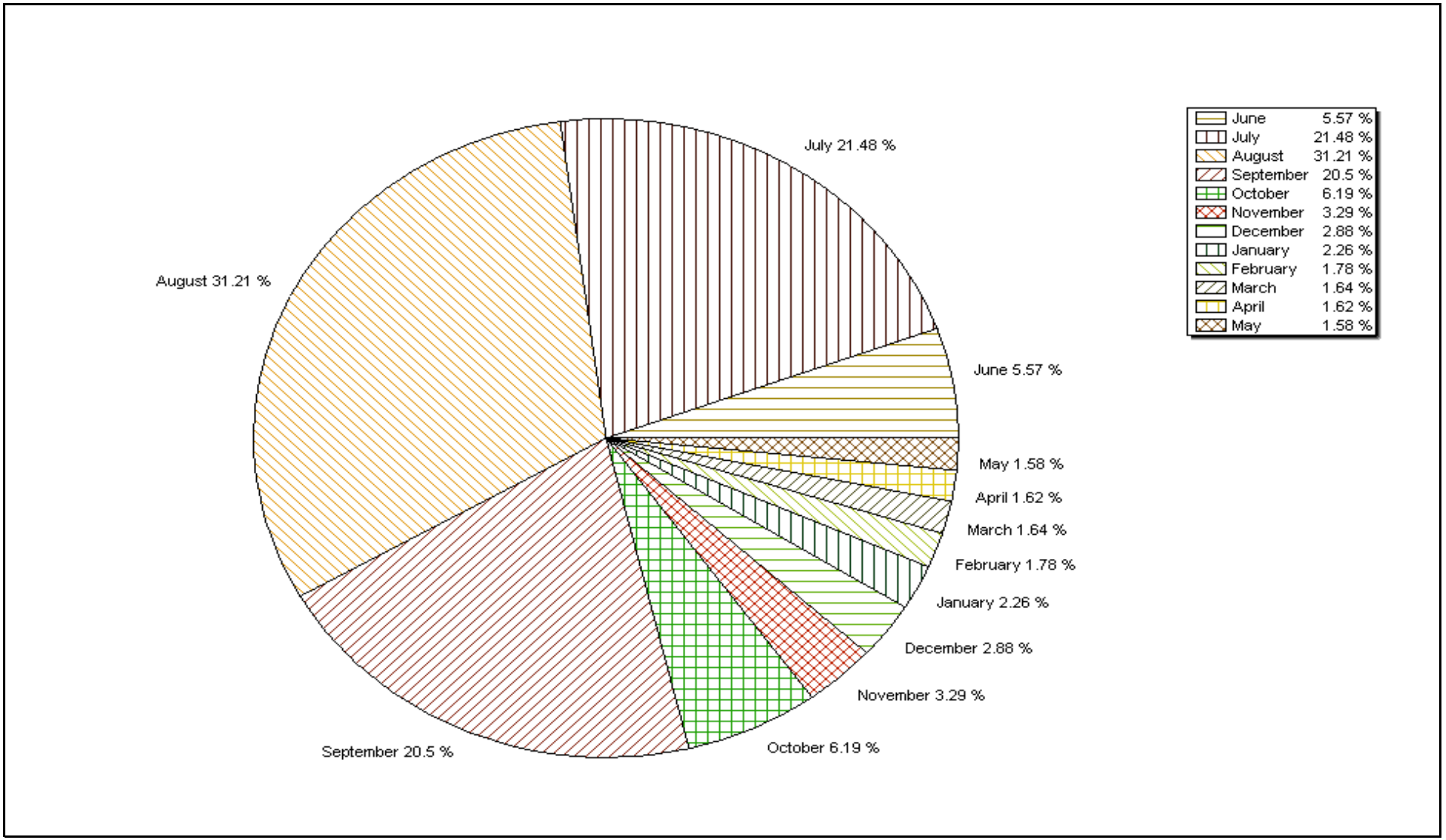
Monthly Average Runoff based on period : 1971-2017

Station Name : Bamnidhi (EMM00B3)

Local River : Hasdeo

Division : MD,CWC,Burla

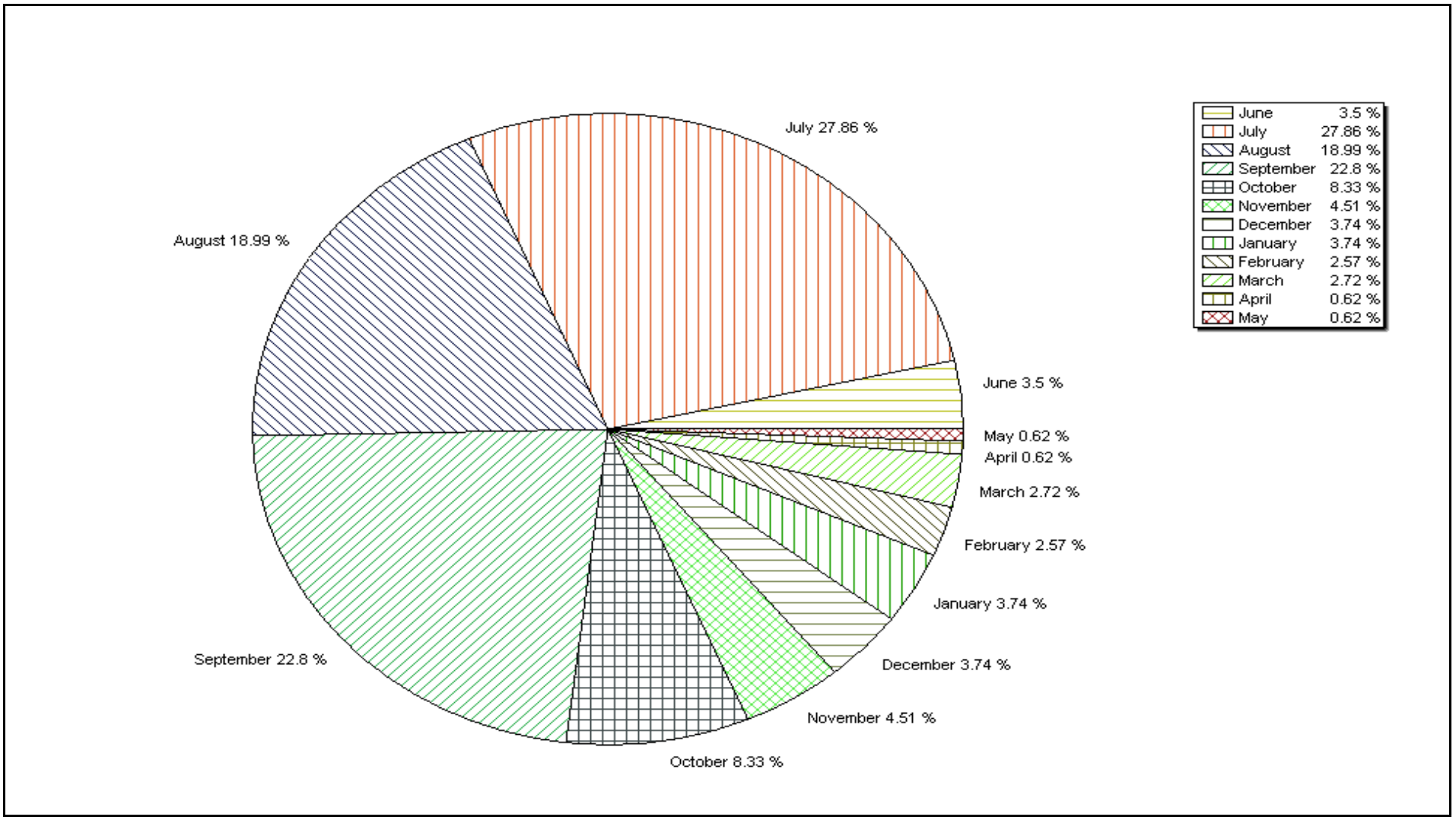
Sub-Division : MMSD I,CWC,Raipur



Monthly Runoff for the Year : 2017-2018

Station Name : Bamnidhi (EMM00B3)
Local River : Hasdeo

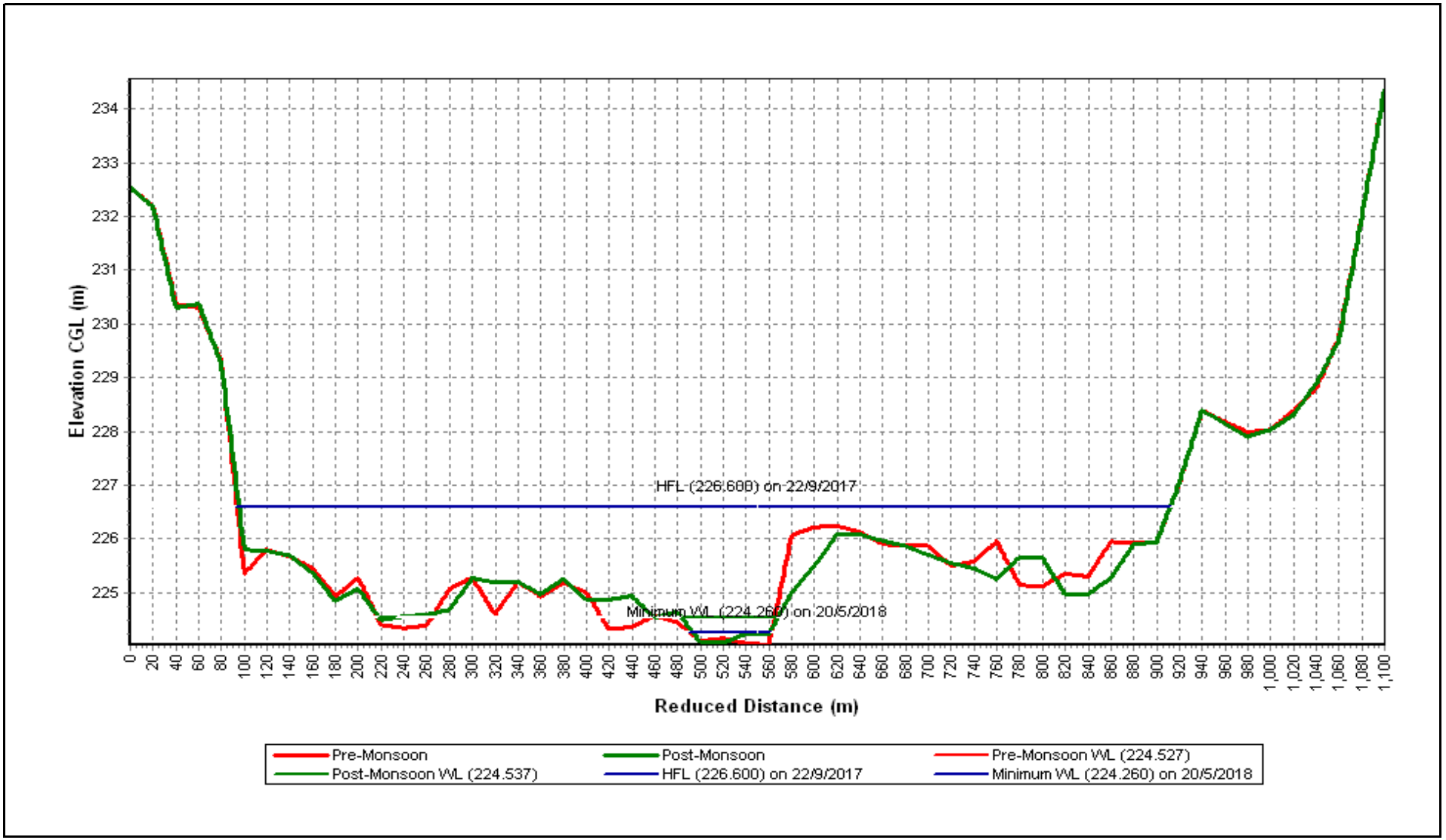
Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur



Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2017-2018

Station Name : Bamnidhi (EMM00B3) **Division : MD,CWC,Burla**

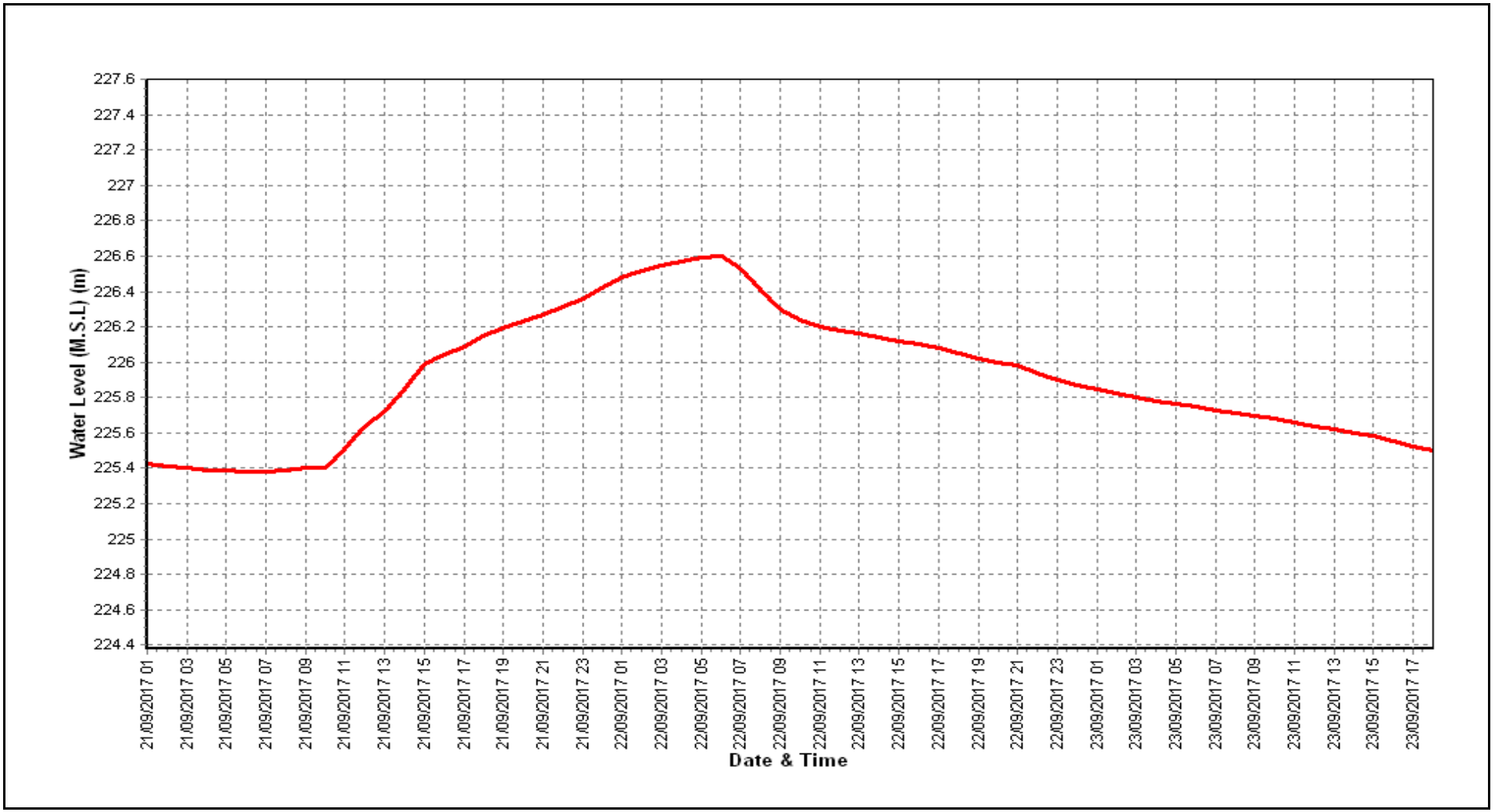
Local River : Hasdeo **Sub-Division : MMSD I,CWC,Raipur**



Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2017-2018

Station Name : Bamnidhi (EMM00B3) **Division : MD,CWC,Burla**

Local River : Hasdeo **Sub-Division : MMSD I,CWC,Raipur**



Time Span: 72 Hrs

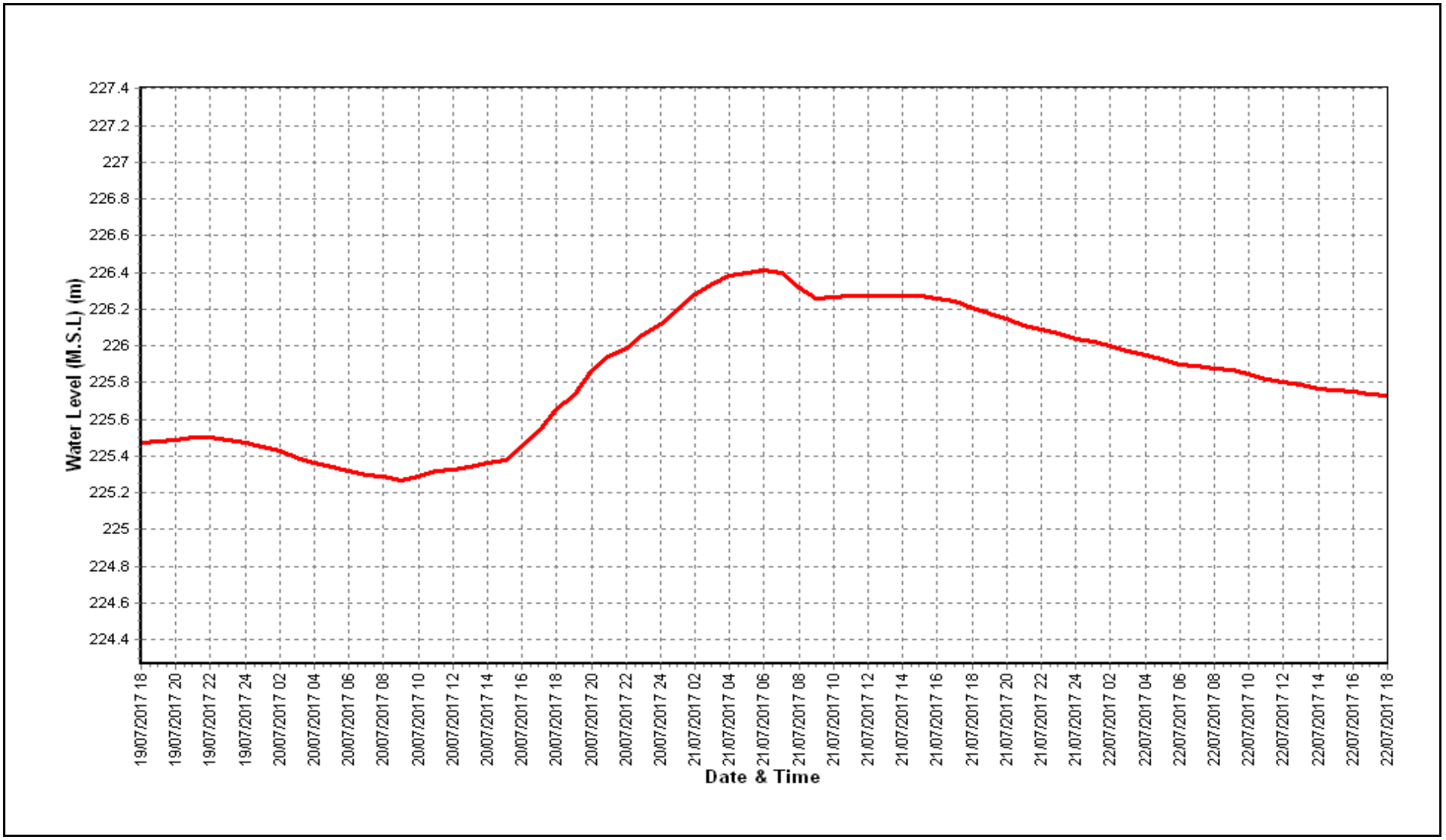
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2017-2018

Station Name : Bamnidhi (EMM00B3)

Local River : Hasdeo

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur

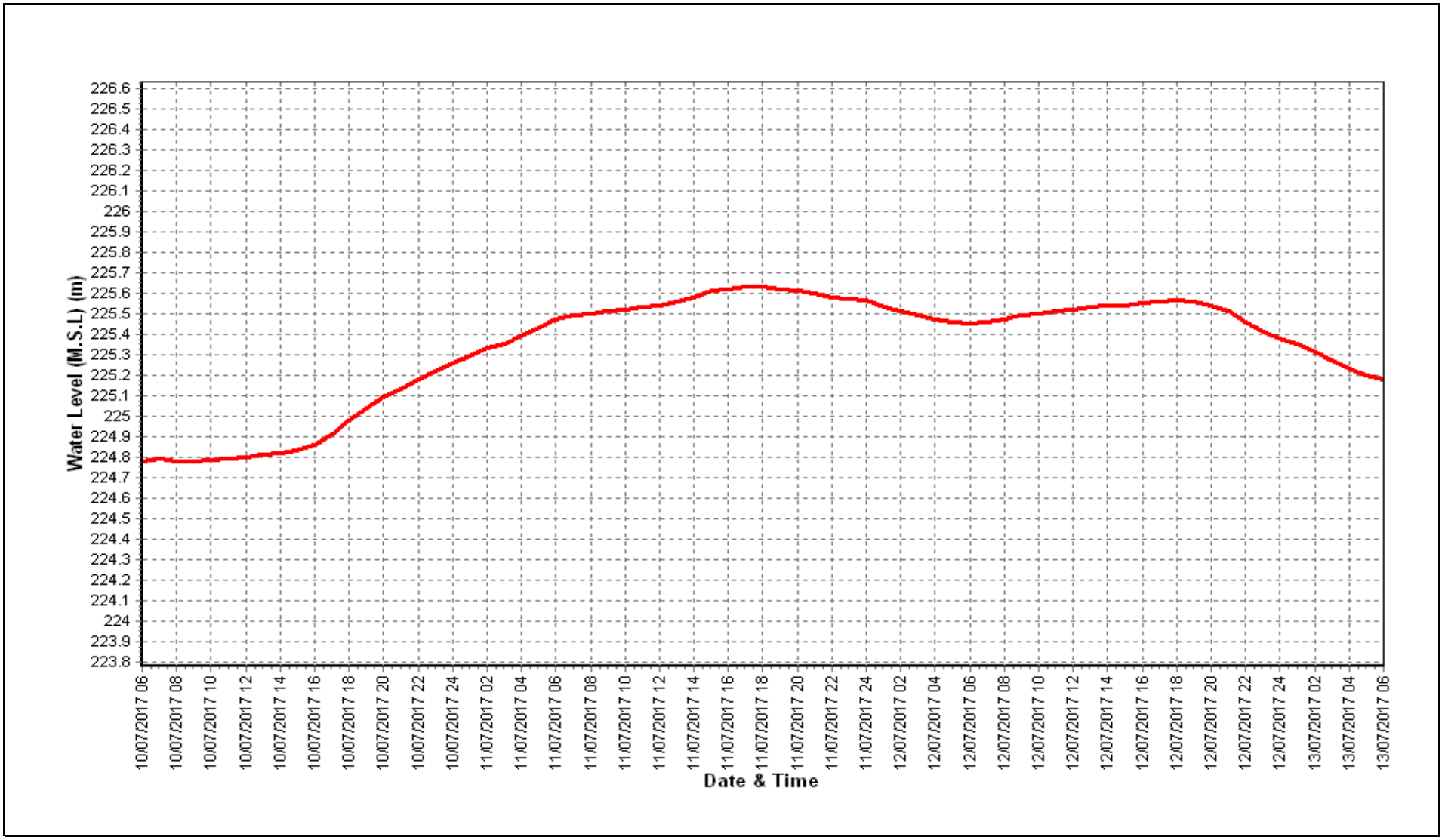


Time Span: 72 Hrs

Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2017-2018

Station Name : Bamnidhi (EMM00B3) **Division : MD,CWC,Burla**

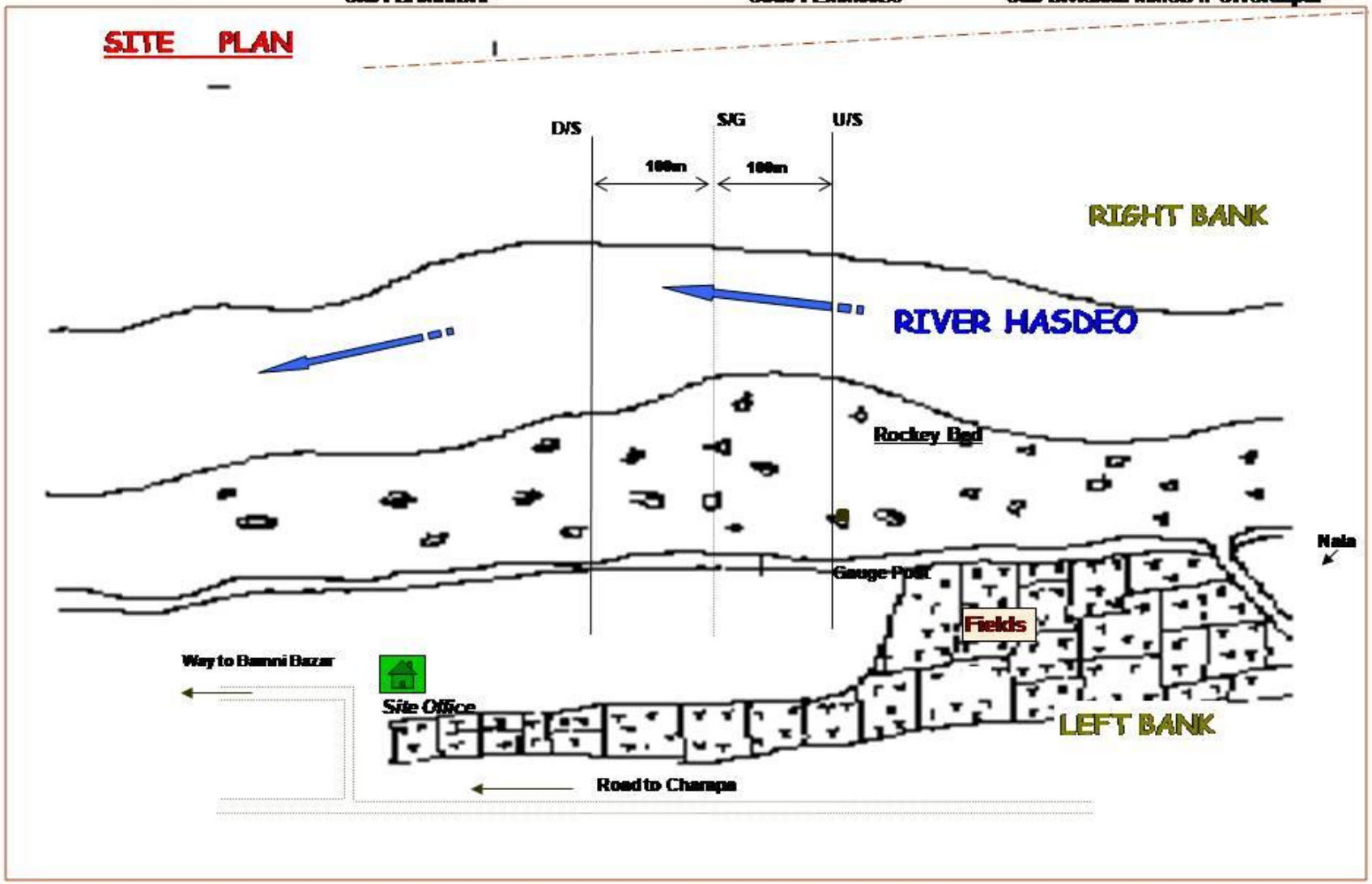
Local River : Hasdeo **Sub-Division : MMSD I,CWC,Raipur**



Time Span: 72 Hrs

CENTRAL WATER COMMISSION, MAHANADI DIVISION, BURLA

Site : BAMNIDIH Code : EMM0083 Sub-Division: MMSD-II CWCRaipur



SECTION-II

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Bamnidhi (EMM00B3) **Division : MD,CWC,Burla**

Local River : Hasdeo **Sub-Division : MMSD I,CWC,Raipur**

Day	Jun						Jul						Aug					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	6.320	0.000	0.000	0.038	0.038	21	36.00	0.000	0.000	0.065	0.065	202	82.98	0.000	0.000	0.054	0.054	387
2	5.865	0.000	0.000	0.037	0.037	19	38.20	0.000	0.000	0.000	0.000	0	58.20	0.000	0.000	0.040	0.040	201
3	5.398	0.000	0.000	0.035	0.035	16	31.51	0.000	0.000	0.055	0.055	150	72.17	0.000	0.000	0.055	0.055	343
4	5.300	0.000	0.000	0.000	0.000	0	32.83	0.000	0.000	0.057	0.057	162	78.60	0.000	0.000	0.056	0.056	380
5	4.968	0.000	0.000	0.034	0.034	15	44.27	0.000	0.000	0.067	0.067	256	64.60	0.000	0.000	0.052	0.052	290
6	4.566	0.000	0.000	0.032	0.032	13	50.63	0.000	0.000	0.068	0.068	297	61.00	0.000	0.000	0.000	0.000	0
7	4.331	0.000	0.000	0.031	0.031	12	68.80	0.000	0.000	0.069	0.069	410	130.1	0.000	0.000	0.055	0.055	618
8	4.477	0.000	0.000	0.029	0.029	11	72.97	0.000	0.000	0.070	0.070	441	141.2	0.000	0.000	0.056	0.056	683
9	4.031	0.000	0.000	0.027	0.027	9	60.39	0.000	0.000	0.000	0.000	0	130.4	0.000	0.000	0.057	0.057	642
10	3.871	0.000	0.000	0.025	0.025	8	60.27	0.000	0.000	0.064	0.064	333	128.5	0.000	0.000	0.058	0.058	644
11	3.800	0.000	0.000	0.000	0.000	0	179.9	0.000	0.000	0.073	0.073	1135	154.6	0.000	0.000	0.050	0.050	668
12	30.62	0.000	0.000	0.055	0.055	146	246.7	0.000	0.000	0.071	0.071	1513	148.6	0.000	0.000	0.046	0.046	590
13	28.16	0.000	0.000	0.047	0.047	114	147.0	0.000	0.000	0.065	0.065	826	133.0	0.000	0.000	0.000	0.000	0
14	29.45	0.000	0.000	0.052	0.052	132	82.72	0.000	0.000	0.046	0.046	329	68.29	0.000	0.000	0.037	0.037	218
15	31.15	0.000	0.000	0.054	0.054	145	50.31	0.000	0.000	0.043	0.043	187	60.00	0.000	0.000	0.000	0.000	0
16	27.08	0.000	0.000	0.043	0.043	101	50.10	0.000	0.000	0.000	0.000	0	73.73	0.000	0.000	0.035	0.035	223
17	24.40	0.000	0.000	0.041	0.041	86	55.30	0.000	0.000	0.044	0.044	210	80.00	0.000	0.000	0.037	0.037	256
18	24.00	0.000	0.000	0.000	0.000	0	157.3	0.000	0.000	0.055	0.055	748	74.53	0.000	0.000	0.036	0.036	232
19	6.120	0.000	0.000	0.039	0.039	21	222.1	0.000	0.000	0.062	0.062	1190	74.92	0.000	0.000	0.032	0.032	207
20	5.571	0.000	0.000	0.034	0.034	16	226.1	0.000	0.000	0.060	0.060	1172	74.50	0.000	0.000	0.000	0.000	0
21	6.600	0.000	0.000	0.033	0.033	19	625.7	0.000	0.000	0.081	0.081	4379	68.15	0.000	0.000	0.030	0.030	177
22	6.626	0.000	0.000	0.034	0.034	19	631.9	0.000	0.000	0.075	0.075	4095	64.80	0.000	0.000	0.027	0.027	151
23	5.872	0.000	0.000	0.032	0.032	16	83.11	0.000	0.000	0.000	0.000	0	72.29	0.000	0.000	0.029	0.029	181
24	28.04	0.000	0.000	0.045	0.045	109	77.50	0.000	0.000	0.063	0.063	422	69.12	0.000	0.000	0.021	0.021	125
25	37.00	0.000	0.000	0.000	0.000	0	80.02	0.000	0.000	0.064	0.064	442	74.50	0.000	0.000	0.000	0.000	0
26	32.45	0.000	0.000	0.000	0.000	0	62.99	0.000	0.000	0.061	0.061	332	70.91	0.000	0.000	0.034	0.034	208
27	36.92	0.000	0.000	0.065	0.065	207	74.08	0.000	0.000	0.060	0.060	384	78.10	0.000	0.000	0.000	0.000	0
28	34.31	0.000	0.000	0.057	0.057	169	154.6	0.000	0.000	0.063	0.063	842	78.29	0.000	0.000	0.045	0.045	304
29	37.84	0.000	0.000	0.059	0.059	193	150.4	0.000	0.000	0.065	0.065	845	80.76	0.000	0.000	0.037	0.037	258
30	32.41	0.000	0.000	0.054	0.054	151	154.1	0.000	0.000	0.000	0.000	0	148.2	0.000	0.000	0.040	0.040	512
31							137.6	0.000	0.000	0.056	0.056	666	128.7	0.000	0.000	0.035	0.035	389
Ten Daily Mean																		
Ten Daily I	4.913	0.000	0.000	0.032	0.032	14	49.59	0.000	0.000	0.064	0.064	282	94.79	0.000	0.000	0.048	0.048	419
Ten Daily II	21.04	0.000	0.000	0.046	0.046	95	141.8	0.000	0.000	0.058	0.058	812	94.21	0.000	0.000	0.027	0.027	239
Ten Daily III	25.81	0.000	0.000	0.047	0.047	110	202.9	0.000	0.000	0.065	0.065	1378	84.89	0.000	0.000	0.027	0.027	210
Monthly																		
Total						1769						21967						8891

Annual Sediment Load (Metric Tonnes) : 75758

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Bamnidhi (EMM00B3) **Division : MD,CWC,Burla**

Local River : Hasdeo **Sub-Division : MMSD I,CWC,Raipur**

Day	Sep						Oct						Nov					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	141.3	0.000	0.000	0.074	0.074	904	98.26	0.000	0.000	0.000	0.000	0.000	26.49	0.000	0.000	0.000	0.000	0
2	150.0	0.000	0.000	0.000	0.000	0	95.48	0.000	0.000	0.000	0.000	0.000	28.18	0.000	0.000	0.000	0.000	0
3	140.0	0.000	0.000	0.000	0.000	0	69.35	0.000	0.000	0.057	0.057	342	26.46	0.000	0.000	0.000	0.000	0
4	71.21	0.000	0.000	0.070	0.070	431	64.36	0.000	0.000	0.052	0.052	289	22.40	0.000	0.000	0.000	0.000	0
5	66.84	0.000	0.000	0.062	0.062	358	61.20	0.000	0.000	0.050	0.050	264	22.75	0.000	0.000	0.000	0.000	0
6	70.29	0.000	0.000	0.068	0.068	413	56.83	0.000	0.000	0.051	0.051	250	23.82	0.000	0.000	0.051	0.051	105
7	29.02	0.000	0.000	0.055	0.055	138	58.49	0.000	0.000	0.059	0.059	298	26.65	0.000	0.000	0.000	0.000	0
8	36.39	0.000	0.000	0.060	0.060	189	55.20	0.000	0.000	0.000	0.000	0	23.37	0.000	0.000	0.000	0.000	0
9	66.40	0.000	0.000	0.074	0.074	425	73.50	0.000	0.000	0.061	0.061	387	21.61	0.000	0.000	0.000	0.000	0
10	56.00	0.000	0.000	0.000	0.000	0	65.22	0.000	0.000	0.060	0.060	338	25.70	0.000	0.000	0.000	0.000	0
11	58.54	0.000	0.000	0.085	0.085	430	51.45	0.000	0.000	0.058	0.058	258	22.01	0.000	0.000	0.000	0.000	0
12	52.84	0.000	0.000	0.069	0.069	315	53.89	0.000	0.000	0.059	0.059	275	23.67	0.000	0.000	0.000	0.000	0
13	68.73	0.000	0.000	0.092	0.092	546	51.20	0.000	0.000	0.055	0.055	243	28.97	0.000	0.000	0.042	0.042	105
14	60.75	0.000	0.000	0.071	0.071	373	43.93	0.000	0.000	0.053	0.053	201	23.83	0.000	0.000	0.000	0.000	0
15	64.58	0.000	0.000	0.068	0.068	379	25.75	0.000	0.000	0.000	0.000	0	21.21	0.000	0.000	0.000	0.000	0
16	61.07	0.000	0.000	0.066	0.066	348	23.22	0.000	0.000	0.051	0.051	102	24.95	0.000	0.000	0.000	0.000	0
17	50.28	0.000	0.000	0.000	0.000	0	22.46	0.000	0.000	0.050	0.050	97	24.95	0.000	0.000	0.000	0.000	0
18	60.39	0.000	0.000	0.055	0.055	287	21.60	0.000	0.000	0.048	0.048	90	25.50	0.000	0.000	0.000	0.000	0
19	93.27	0.000	0.000	0.084	0.084	677	21.28	0.000	0.000	0.000	0.000	0	23.92	0.000	0.000	0.000	0.000	0
20	96.28	0.000	0.000	0.075	0.075	624	20.95	0.000	0.000	0.047	0.047	85	21.54	0.000	0.000	0.041	0.041	76
21	190.6	0.000	0.000	0.105	0.105	1729	20.76	0.000	0.000	0.045	0.045	81	19.45	0.000	0.000	0.000	0.000	0
22	727.2	0.000	0.000	0.115	0.115	7226	20.48	0.000	0.000	0.000	0.000	0	18.27	0.000	0.000	0.000	0.000	0
23	511.6	0.000	0.000	0.102	0.102	4508	17.73	0.000	0.000	0.043	0.043	66	19.54	0.000	0.000	0.000	0.000	0
24	98.50	0.000	0.000	0.000	0.000	0	16.97	0.000	0.000	0.044	0.044	65	20.05	0.000	0.000	0.000	0.000	0
25	69.08	0.000	0.000	0.920	0.920	5491	17.77	0.000	0.000	0.045	0.045	69	18.14	0.000	0.000	0.000	0.000	0
26	59.32	0.000	0.000	0.850	0.850	4356	17.51	0.000	0.000	0.043	0.043	65	18.10	0.000	0.000	0.000	0.000	0
27	55.30	0.000	0.000	0.840	0.840	4013	16.55	0.000	0.000	0.042	0.042	60	17.85	0.000	0.000	0.039	0.039	60
28	59.16	0.000	0.000	0.800	0.800	4089	17.58	0.000	0.000	0.043	0.043	65	18.42	0.000	0.000	0.000	0.000	0
29	54.20	0.000	0.000	0.000	0.000	0	20.27	0.000	0.000	0.000	0.000	0	16.86	0.000	0.000	0.000	0.000	0
30	68.40	0.000	0.000	0.000	0.000	0	16.71	0.000	0.000	0.040	0.040	58	14.24	0.000	0.000	0.000	0.000	0
31							24.21	0.000	0.000	0.041	0.041	86						
Ten Daily Mean																		
Ten Daily I	82.75	0.000	0.000	0.046	0.046	286	69.79	0.000	0.000	0.056	0.056	310	24.74	0.000	0.000	0.005	0.005	10
Ten Daily II	66.67	0.000	0.000	0.067	0.067	398	33.57	0.000	0.000	0.053	0.053	169	24.05	0.000	0.000	0.008	0.008	18
Ten Daily III	189.3	0.000	0.000	0.373	0.373	3141	18.78	0.000	0.000	0.043	0.043	68	18.09	0.000	0.000	0.004	0.004	6
Monthly																		
Total						38249						4134						347

Annual Sediment Load (Metric Tonnes) : 75758

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Bamnidhi (EMM00B3) **Division : MD,CWC,Burla**

Local River : Hasdeo **Sub-Division : MMSD I,CWC,Raipur**

Day	Dec						Jan						Feb					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	12.83	0.000	0.000	0.000	0.000	0	15.86	0.000	0.000	0.013	0.013	18	11.77	0.000	0.000	0.000	0.000	0
2	12.21	0.000	0.000	0.000	0.000	0	15.35	0.000	0.000	0.000	0.000	0	11.71	0.000	0.000	0.000	0.000	0
3	11.72	0.000	0.000	0.000	0.000	0	15.36	0.000	0.000	0.000	0.000	0	12.00	0.000	0.000	0.000	0.000	0
4	16.61	0.000	0.000	0.037	0.037	53	16.76	0.000	0.000	0.000	0.000	0	12.75	0.000	0.000	0.000	0.000	0
5	15.65	0.000	0.000	0.000	0.000	0	15.93	0.000	0.000	0.000	0.000	0	12.87	0.000	0.000	0.024	0.024	26
6	15.14	0.000	0.000	0.000	0.000	0	21.35	0.000	0.000	0.000	0.000	0	12.92	0.000	0.000	0.000	0.000	0
7	15.21	0.000	0.000	0.000	0.000	0	21.50	0.000	0.000	0.000	0.000	0	12.45	0.000	0.000	0.000	0.000	0
8	14.34	0.000	0.000	0.000	0.000	0	21.89	0.000	0.000	0.023	0.023	44	12.98	0.000	0.000	0.000	0.000	0
9	43.49	0.000	0.000	0.000	0.000	0	20.71	0.000	0.000	0.000	0.000	0	12.38	0.000	0.000	0.000	0.000	0
10	24.00	0.000	0.000	0.000	0.000	0	20.82	0.000	0.000	0.000	0.000	0	12.49	0.000	0.000	0.000	0.000	0
11	18.48	0.000	0.000	0.036	0.036	57	19.52	0.000	0.000	0.000	0.000	0	12.71	0.000	0.000	0.000	0.000	0
12	17.62	0.000	0.000	0.000	0.000	0	18.94	0.000	0.000	0.000	0.000	0	13.48	0.000	0.000	0.000	0.000	0
13	16.79	0.000	0.000	0.000	0.000	0	21.13	0.000	0.000	0.000	0.000	0	12.58	0.000	0.000	0.000	0.000	0
14	16.21	0.000	0.000	0.000	0.000	0	21.60	0.000	0.000	0.000	0.000	0	12.76	0.000	0.000	0.000	0.000	0
15	16.68	0.000	0.000	0.000	0.000	0	19.65	0.000	0.000	0.022	0.022	37	13.47	0.000	0.000	0.000	0.000	0
16	15.90	0.000	0.000	0.000	0.000	0	19.00	0.000	0.000	0.000	0.000	0	12.99	0.000	0.000	0.000	0.000	0
17	16.12	0.000	0.000	0.000	0.000	0	18.65	0.000	0.000	0.000	0.000	0	13.52	0.000	0.000	0.000	0.000	0
18	28.43	0.000	0.000	0.042	0.042	103	18.17	0.000	0.000	0.000	0.000	0	14.60	0.000	0.000	0.000	0.000	0
19	27.66	0.000	0.000	0.000	0.000	0	18.35	0.000	0.000	0.000	0.000	0	15.11	0.000	0.000	0.000	0.000	0
20	27.00	0.000	0.000	0.000	0.000	0	19.20	0.000	0.000	0.000	0.000	0	14.58	0.000	0.000	0.000	0.000	0
21	16.42	0.000	0.000	0.000	0.000	0	17.20	0.000	0.000	0.000	0.000	0	14.23	0.000	0.000	0.000	0.000	0
22	15.89	0.000	0.000	0.000	0.000	0	16.37	0.000	0.000	0.027	0.027	37	15.43	0.000	0.000	0.000	0.000	0
23	16.41	0.000	0.000	0.000	0.000	0	16.21	0.000	0.000	0.000	0.000	0	15.04	0.000	0.000	0.000	0.000	0
24	16.03	0.000	0.000	0.000	0.000	0	25.56	0.000	0.000	0.000	0.000	0	14.84	0.000	0.000	0.000	0.000	0
25	15.98	0.000	0.000	0.000	0.000	0	16.63	0.000	0.000	0.000	0.000	0	15.10	0.000	0.000	0.000	0.000	0
26	15.81	0.000	0.000	0.000	0.000	0	15.98	0.000	0.000	0.000	0.000	0	15.50	0.000	0.000	0.000	0.000	0
27	15.44	0.000	0.000	0.000	0.000	0	15.69	0.000	0.000	0.000	0.000	0	14.96	0.000	0.000	0.000	0.000	0
28	15.71	0.000	0.000	0.000	0.000	0	14.52	0.000	0.000	0.000	0.000	0	15.08	0.000	0.000	0.000	0.000	0
29	15.91	0.000	0.000	0.000	0.000	0	11.64	0.000	0.000	0.025	0.025	25						
30	15.07	0.000	0.000	0.000	0.000	0	12.09	0.000	0.000	0.000	0.000	0						
31	15.68	0.000	0.000	0.000	0.000	0	12.21	0.000	0.000	0.000	0.000	0						
Ten Daily Mean																		
Ten Daily I	18.12	0.000	0.000	0.005	0.005	8	18.55	0.000	0.000	0.004	0.004	6	12.43	0.000	0.000	0.002	0.002	3
Ten Daily II	20.09	0.000	0.000	0.009	0.009	18	19.42	0.000	0.000	0.002	0.002	4	13.58	0.000	0.000	0.000	0.000	0
Ten Daily III	15.85	0.000	0.000	0.000	0.000	0	15.83	0.000	0.000	0.005	0.005	6	15.02	0.000	0.000	0.000	0.000	0
Monthly																		
Total						214						161						26

Annual Sediment Load (Metric Tonnes) : 75758

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Bamnidhi (EMM00B3) **Division : MD,CWC,Burla**

Local River : Hasdeo **Sub-Division : MMSD I,CWC,Raipur**

Day	Mar						Apr						May					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	14.51	0.000	0.000	0.000	0.000	0	3.860	0.000	0.000	0.000	0.000	0	3.419	0.000	0.000	0.000	0.000	0
2	14.50	0.000	0.000	0.000	0.000	0	3.969	0.000	0.000	0.000	0.000	0	3.037	0.000	0.000	0.000	0.000	0
3	14.36	0.000	0.000	0.000	0.000	0	3.942	0.000	0.000	0.000	0.000	0	3.220	0.000	0.000	0.000	0.000	0
4	14.10	0.000	0.000	0.000	0.000	0	3.818	0.000	0.000	0.000	0.000	0	3.086	0.000	0.000	0.000	0.000	0
5	13.50	0.000	0.000	0.000	0.000	0	3.773	0.000	0.000	0.000	0.000	0	3.724	0.000	0.000	0.000	0.000	0
6	14.22	0.000	0.000	0.000	0.000	0	3.471	0.000	0.000	0.000	0.000	0	3.512	0.000	0.000	0.000	0.000	0
7	14.02	0.000	0.000	0.000	0.000	0	3.184	0.000	0.000	0.000	0.000	0	3.182	0.000	0.000	0.000	0.000	0
8	14.80	0.000	0.000	0.000	0.000	0	3.274	0.000	0.000	0.000	0.000	0	3.490	0.000	0.000	0.000	0.000	0
9	14.39	0.000	0.000	0.000	0.000	0	3.460	0.000	0.000	0.000	0.000	0	3.277	0.000	0.000	0.000	0.000	0
10	15.50	0.000	0.000	0.000	0.000	0	3.178	0.000	0.000	0.000	0.000	0	3.030	0.000	0.000	0.000	0.000	0
11	14.80	0.000	0.000	0.000	0.000	0	2.902	0.000	0.000	0.000	0.000	0	3.013	0.000	0.000	0.000	0.000	0
12	14.64	0.000	0.000	0.000	0.000	0	2.993	0.000	0.000	0.000	0.000	0	2.920	0.000	0.000	0.000	0.000	0
13	15.47	0.000	0.000	0.000	0.000	0	2.765	0.000	0.000	0.000	0.000	0	3.017	0.000	0.000	0.000	0.000	0
14	14.43	0.000	0.000	0.000	0.000	0	2.928	0.000	0.000	0.000	0.000	0	3.113	0.000	0.000	0.000	0.000	0
15	13.09	0.000	0.000	0.000	0.000	0	2.814	0.000	0.000	0.000	0.000	0	2.990	0.000	0.000	0.000	0.000	0
16	13.68	0.000	0.000	0.000	0.000	0	3.016	0.000	0.000	0.000	0.000	0	2.851	0.000	0.000	0.000	0.000	0
17	13.38	0.000	0.000	0.000	0.000	0	3.099	0.000	0.000	0.000	0.000	0	2.882	0.000	0.000	0.000	0.000	0
18	13.95	0.000	0.000	0.000	0.000	0	2.851	0.000	0.000	0.000	0.000	0	2.828	0.000	0.000	0.000	0.000	0
19	14.36	0.000	0.000	0.000	0.000	0	3.101	0.000	0.000	0.000	0.000	0	2.825	0.000	0.000	0.000	0.000	0
20	13.95	0.000	0.000	0.000	0.000	0	3.050	0.000	0.000	0.000	0.000	0	2.820	0.000	0.000	0.000	0.000	0
21	13.34	0.000	0.000	0.000	0.000	0	2.774	0.000	0.000	0.000	0.000	0	2.761	0.000	0.000	0.000	0.000	0
22	14.08	0.000	0.000	0.000	0.000	0	2.884	0.000	0.000	0.000	0.000	0	2.951	0.000	0.000	0.000	0.000	0
23	13.45	0.000	0.000	0.000	0.000	0	2.929	0.000	0.000	0.000	0.000	0	2.856	0.000	0.000	0.000	0.000	0
24	13.22	0.000	0.000	0.000	0.000	0	2.966	0.000	0.000	0.000	0.000	0	3.487	0.000	0.000	0.000	0.000	0
25	12.80	0.000	0.000	0.000	0.000	0	2.903	0.000	0.000	0.000	0.000	0	3.457	0.000	0.000	0.000	0.000	0
26	10.29	0.000	0.000	0.000	0.000	0	3.065	0.000	0.000	0.000	0.000	0	3.305	0.000	0.000	0.000	0.000	0
27	10.16	0.000	0.000	0.000	0.000	0	2.843	0.000	0.000	0.000	0.000	0	3.485	0.000	0.000	0.000	0.000	0
28	10.67	0.000	0.000	0.000	0.000	0	2.850	0.000	0.000	0.000	0.000	0	3.607	0.000	0.000	0.000	0.000	0
29	8.530	0.000	0.000	0.000	0.000	0	2.820	0.000	0.000	0.000	0.000	0	3.430	0.000	0.000	0.000	0.000	0
30	6.700	0.000	0.000	0.000	0.000	0	2.850	0.000	0.000	0.000	0.000	0	3.241	0.000	0.000	0.000	0.000	0
31	3.749	0.000	0.000	0.000	0.000	0							3.484	0.000	0.000	0.000	0.000	0
Ten Daily Mean																		
Ten Daily I	14.39	0.000	0.000	0.000	0.000	0	3.593	0.000	0.000	0.000	0.000	0	3.298	0.000	0.000	0.000	0.000	0
Ten Daily II	14.18	0.000	0.000	0.000	0.000	0	2.952	0.000	0.000	0.000	0.000	0	2.926	0.000	0.000	0.000	0.000	0
Ten Daily III	10.64	0.000	0.000	0.000	0.000	0	2.888	0.000	0.000	0.000	0.000	0	3.279	0.000	0.000	0.000	0.000	0
Monthly																		
Total						0						0						0

Annual Sediment Load (Metric Tonnes) : 75758

Annual Sediment Load for period : 1973-2018

Station Name : Bamnidhi (EMM00B3) **Division : MD,CWC,Burla**

Local River : Hasdeo **Sub-Division : MMSD I,CWC,Raipur**

Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)
1973-1974	4985905	1145	4987050	7230
1974-1975	827802	506	828308	2470
1975-1976	5121021	658	5121679	7724
1976-1977	777248	2084	779332	3438
1977-1978	2850762	15454	2866216	7580
1978-1979	1818635	16533	1835168	4065
1979-1980	671245	70	671315	1268
1980-1981	5975583	2672	5978255	7261
1981-1982	2116994	4620	2121614	3997
1982-1983	3863897	4954	3868851	3956
1983-1984	4062501	1795	4064296	4267
1984-1985	7125910	8684	7134595	6195
1985-1986	4720960	3655	4724615	4654
1986-1987	4998838	4216	5003054	5343
1987-1988	5309089	724	5309813	3896
1988-1989	1592501	1039	1593540	3003
1989-1990	1342945	4761	1347706	2547
1990-1991	1507793	7455	1515249	5272
1991-1992	1731227	3728	1734954	4653
1992-1993	1053635	14871	1068506	2639
1993-1994	1066243	4574	1070817	2177
1994-1995	7237568	9420	7246988	11843
1995-1996	644833	3023	647855	2399
1996-1997	608151	2060	610210	3448
1997-1998	306204	6048	312252	3376
1998-1999	389270	10248	399517	5329
1999-2000	582621	6695	589316	5028
2000-2001	143985	5720	149704	2433
2001-2002	1227180	4108	1231288	8072
2002-2003	147706	1635	149342	3089
2003-2004	555515	449	555964	7287
2004-2005	246644	2833	249476	4410
2005-2006	269829	6302	276130	4364
2006-2007	204522	4380	208901	3172
2007-2008	164272	3643	167915	2436
2008-2009	94371	629	94999	1802
2009-2010	100236	870	101105	1066
2010-2011	133560	263	133823	1499
2011-2012	943246	352	943598	4327
2012-2013	320026	1032	321058	2375
2013-2014	113957	1400	115357	2090
2014-2015	186657	1136	187793	3511
2015-2016	44705	406	45111	1285
2016-2017	110223	842	111064	1669
2017-2018	75357	401	75758	1285

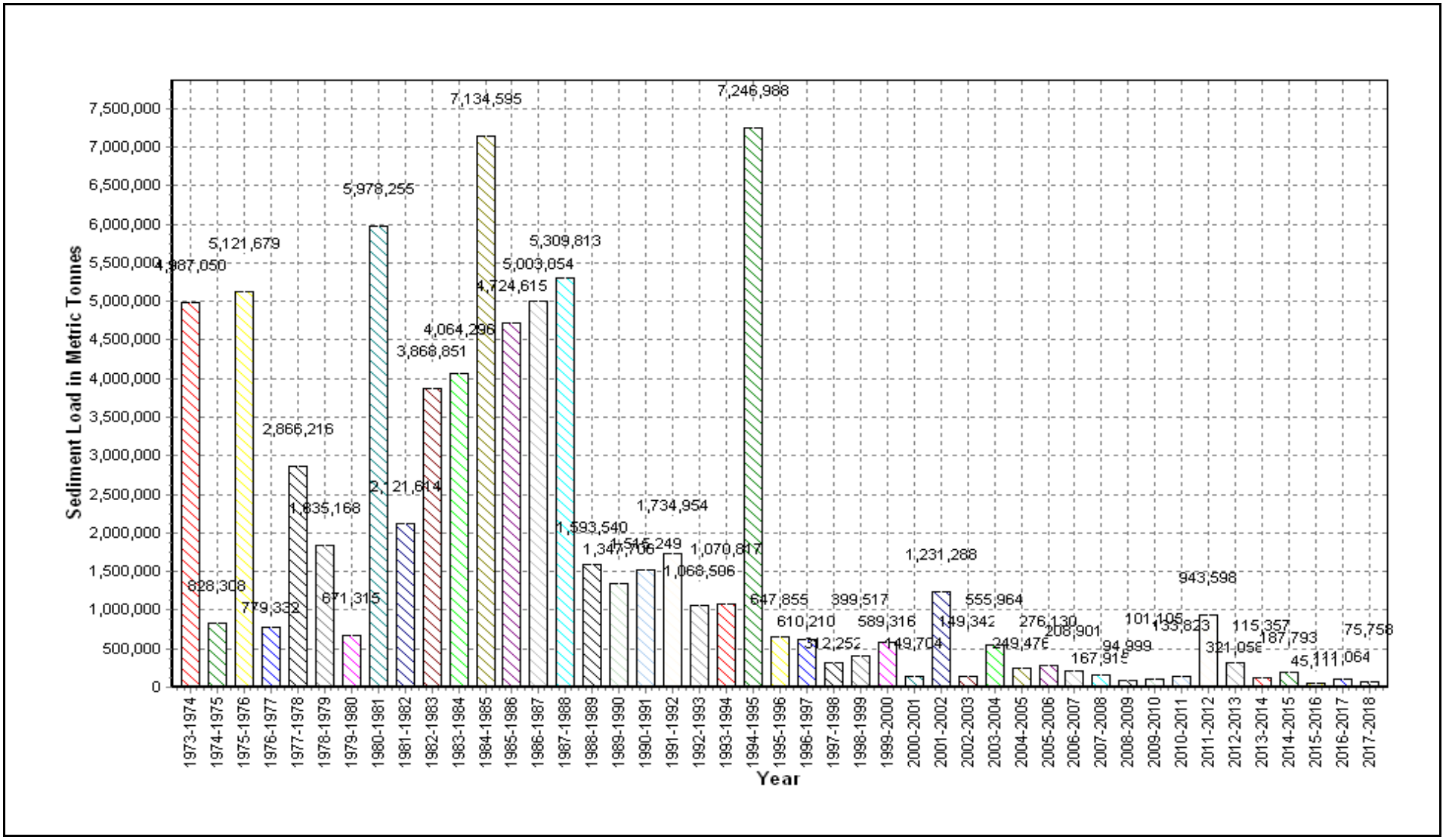
Annual Sediment Load for the period: 1973-2018

Station Name : Bamnidhi (EMM00B3)

Local River : Hasdeo

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur



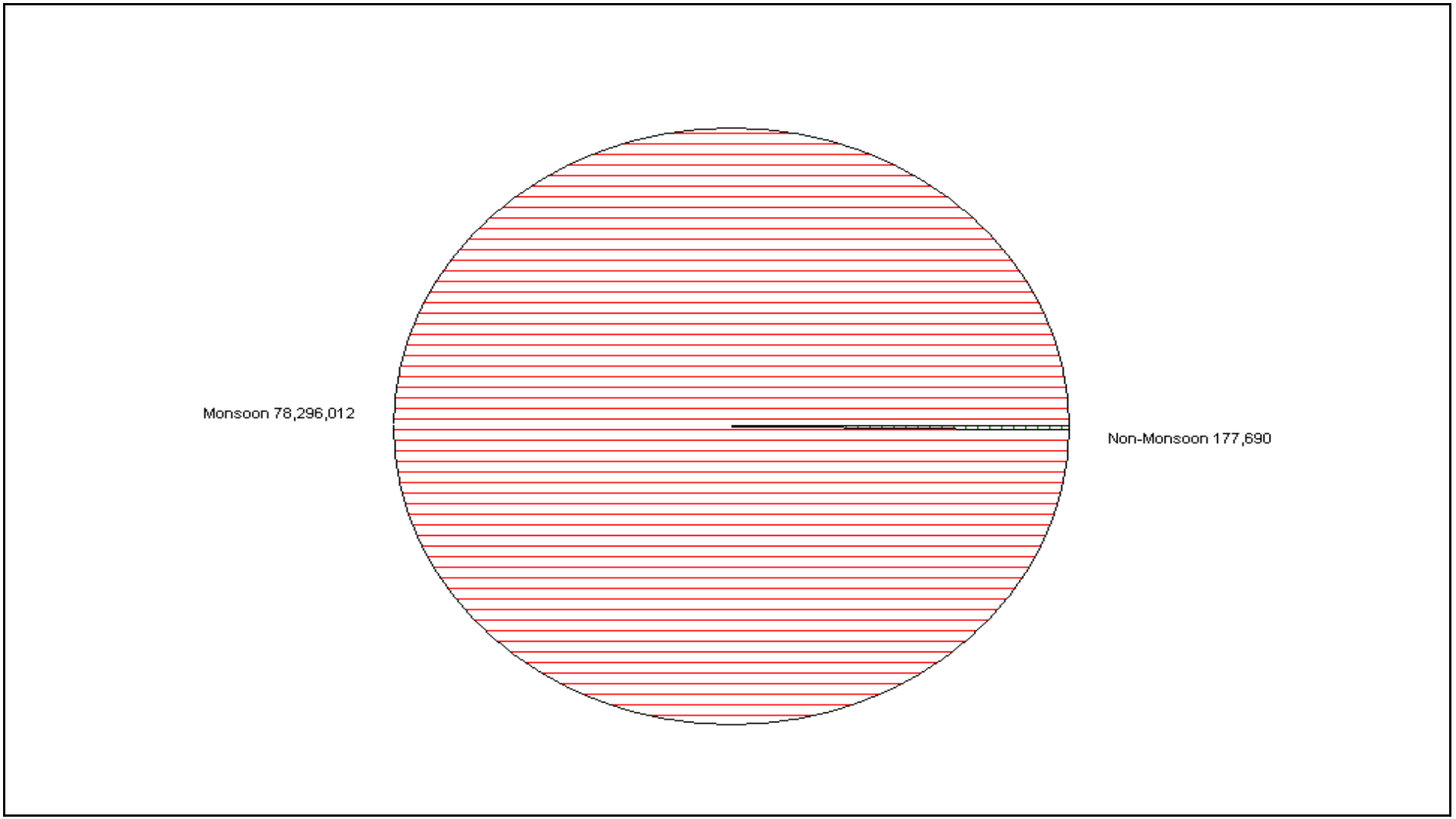
Seasonal Sediment Load for the period : 1973-2017

Station Name : Bamnidhi (EMM00B3)

Local River : Hasdeo

Division : MD,CWC,Burla

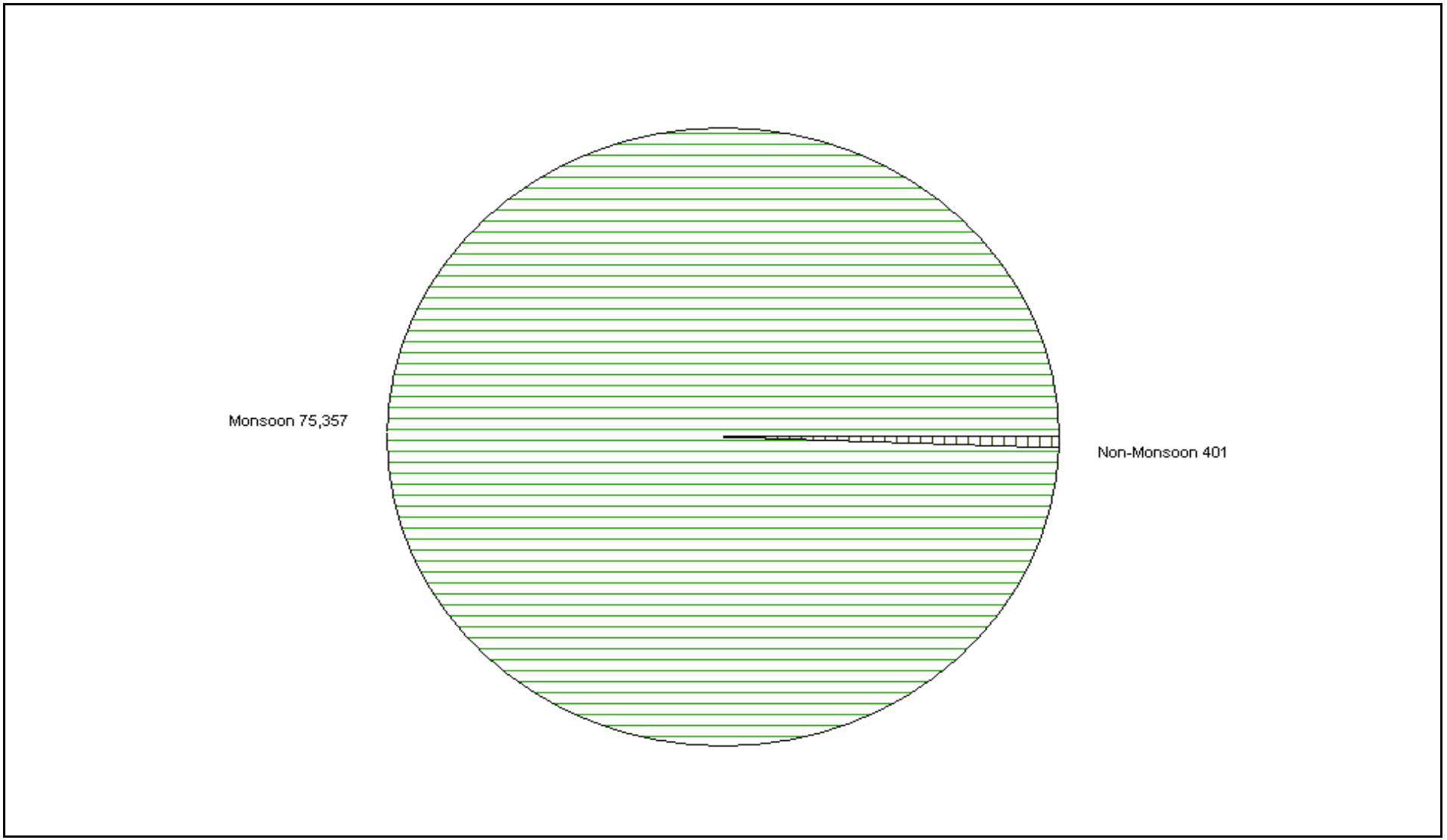
Sub-Division : MMSD I,CWC,Raipur



Seasonal Sediment Load for the Year: 2017-2018

Station Name : Bamnidhi (EMM00B3)
Local River : Hasdeo

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur



SECTION-III

Water Quality Datasheet for the period : 2017-2018

Station Name : Bamnidhi (EMM00B3) **Division : MD,CWC,Burla**

Local River : Hasdeo **River Water Analysis** **Sub-Division : MMSD I,CWC,Raipur**

S.No	Parameters	01/06/2017	01/07/2017	01/08/2017	01/09/2017	03/10/2017	01/11/2017	01/12/2017	01/01/2018	01/02/2018	01/03/2018	02/04/2018	01/05/2018
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)	6.320	36.00	82.98	141.3	69.35	26.49	12.83	15.86	11.77	14.51	3.969	3.419
2	Colour_Cod (-)	Clear	Clear	Brown	Light Brown	Light Brown	Clear	Clear	Clear	Clear	Clear	Clear	Clear
3	EC_FLD (µmho/cm)	855	849	148	153	166	208	160	187	158	193	201	
4	EC_GEN (µmho/cm)	171	189	144	185	196	185	213	245	242	239	347	268
5	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free
6	pH_FLD (pH units)	8.4	8.6	7.7	7.8	8.2	8.1	8.2	8.1	7.8	7.3	8.2	8.2
7	pH_GEN (pH units)	8.2	7.8	8.1	8.1	8.2	8.3	8.4	8.0	7.7	7.5	7.8	7.9
8	Temp (deg C)	32.0	30.0	30.0	28.0	30.0	27.5	22.0	23.5	21.0	26.0	28.0	30.0
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	341	140	156	96	220	148	136	184	200	200	304	220
3	Ca (mg/L)	42	56	53	51	40	30	45	37	19	24	13	29
4	Cl (mg/L)	40.0	29.0	16.0	19.0	24.0	24.0	21.0	29.0	26.0	14.0	14.0	29.0
5	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	HCO3 (mg/L)	208	85	95	59	134	90	83	112	122	122	185	134
7	K (mg/L)	5.0	8.4	6.7	36.3	14.1	8.2	6.3	8.0	11.7	9.7	7.3	7.9
8	Mg (mg/L)	25.3	24.3	2.9	2.9	11.7	10.7	5.8	19.4	16.5	17.5	20.4	13.6
9	Na (mg/L)	19.9	22.8	15.1	35.6	30.5	24.4	19.8	20.1	20.9	26.0	20.3	21.4
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)	1.3	0.8	0.8	1.0	0.8	1.2	0.8	0.4	0.9	0.9	0.8	1.2
2	DO (mg/L)	5.4	6.0	4.8	6.2	6.0	7.2	7.2	6.9	6.2	5.9	5.1	5.5
3	DO_SAT% (%)	74	79	64	79	79	90	82	81	70	73	65	73
4	FCol-MPN (MPN/100mL)	90	60	60	90	90	70	70		60	60	140	210
5	Tcol-MPN (MPN/100mL)	120	120	90	170	170	140	110		120	90	90	260
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)	104	140	132	128	100	76	112	92	48	60	32	72
2	HAR_Total (mgCaCO3/L)	209	242	144	140	149	121	136	173	117	133	117	129
3	Na% (%)	17	16	18	29	29	29	23	19	26	28	26	25
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0
5	SAR (-)	0.6	0.6	0.5	1.3	1.1	1.0	0.7	0.7	0.8	1.0	0.8	0.8
	PESTICIDES												

Water Quality Summary for the period : 2017-2018

Station Name : Bamnidhi (EMM00B3) **Division : MD,CWC,Burla**

Local River : Hasdeo **Sub-Division : MMSD I,CWC,Raipur**

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	365	727.2	2.761	40.74
2	EC_FLD (µmho/cm)	11	855	148	298
3	EC_GEN (µmho/cm)	12	347	144	219
4	pH_FLD (pH units)	12	8.6	7.3	8
5	pH_GEN (pH units)	12	8.4	7.5	8
6	Temp (deg C)	12	32.0	21.0	27.3
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	12	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	12	341	96	196
3	Ca (mg/L)	12	56	13	37
4	Cl (mg/L)	12	40.0	14.0	23.8
5	CO3 (mg/L)	12	0.0	0.0	0
6	HCO3 (mg/L)	12	208	59	119
7	K (mg/L)	12	36.3	5.0	10.8
8	Mg (mg/L)	12	25.3	2.9	14.3
9	Na (mg/L)	12	35.6	15.1	23.1
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	12	1.3	0.4	0.9
2	DO (mg/L)	12	7.2	4.8	6
3	DO_SAT% (%)	12	90	64	76
4	FCol-MPN (MPN/100mL)	11	210	60	91
5	Tcol-MPN (MPN/100mL)	11	260	90	135
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	12	140	32	92
2	HAR_Total (mgCaCO3/L)	12	242	117	151
3	Na% (%)	12	29	16	24
4	RSC (-)	12	0.7	0.0	0.1
5	SAR (-)	12	1.3	0.5	0.8
	PESTICIDES				

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Bamnidhi (EMM00B3) **Division : MD,CWC,Burla**

Local River : Hasdeo **River Water** **Sub-Division : MMSD I,CWC,Raipur**

S.No	Parameters	Flood														
		Jun - Oct														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	PHYSICAL															
1	Q (cumec)	275.7	144.3	310.2	250.2	113.8	80.08	35.90	82.01	74.04	52.05	107.4	116.0	69.30	128.3	67.19
2	EC_FLD (µmho/cm)	119	210	138	143	141	136	167	257				306	252	410	434
3	EC_GEN (µmho/cm)	119	210	138	143	138	154	201	236	220	282	193	204	155	177	177
4	pH_FLD (pH units)	7.3	8.0	7.7	7.5	7.6	7.3	7.6	6.9				7.3	6.1	6.5	8.1
5	pH_GEN (pH units)	7.3	8.0	7.7	7.5	7.5	7.6	7.7	7.5	7.5	7.4	8.3	7.6	8.0	7.5	8.1
6	Temp (deg C)	27.3	30.8	30.2	28.4	27.8	27.9	28.5	27.2	27.8	27.6	27.8	27.0	25.6	28.8	30.0
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.4	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	1.6	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	127	84	87		96	118	145	152	111	190	150	207	131	171	191
3	B (mg/L)			0.03	0.01	0.01	0.09	0.00	0.00	0.00	0.00					
4	Ca (mg/L)	17	34	9		11	11	13	16	15	23	19	25	20	33	48
5	Cl (mg/L)	20.2	13.4	14.1		8.8	18.4	10.3	7.8	10.4	13.3	22.4	12.4	16.0	18.2	25.6
6	CO3 (mg/L)	0.0	1.3	0.0		0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	1.9	0.0	0.0
7	F (mg/L)	0.63		0.29		0.06	0.10	0.13	0.14	0.16	0.18					
8	Fe (mg/L)			0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1					
9	HCO3 (mg/L)	77	37	53	42	58	72	89	92	68	116	91	126	78	104	116
10	K (mg/L)	2.1		2.3		1.8	1.8	2.3	3.8	4.4	2.8	7.6	5.4	6.5	7.1	14.1
11	Mg (mg/L)	2.2	11.0	5.6		6.0	6.7	9.0	10.1	9.0	13.8	6.8	6.8	6.4	14.8	13.4
12	Na (mg/L)	4.7		8.8		4.1	8.1	8.1	16.4	12.0	14.5	17.9	15.9	14.9	15.6	24.8
13	NO2+NO3 (mg N/L)			0.06	0.07	0.06	0.26									
14	NO2-N (mgN/L)			0.00	0.01	0.01	0.02	0.02	0.02	0.03	0.04					
15	NO3-N (mgN/L)			0.06	0.07	0.05	0.24									
16	o-PO4-P (mg P/L)						0.080									
17	P-Tot (mgP/L)	0.010		0.011		0.010	0.030	0.024	0.020	0.044	0.116					
18	SiO2 (mg/L)			8.8		14.4	16.4	17.8	15.4	20.5	22.9					
19	SO4 (mg/L)	15.5	10.5	11.4		9.6	14.2	14.6	15.6	21.0	22.0					

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Bamnidhi (EMM00B3) | **Division : MD,CWC,Burla**

Local River : Hasdeo | **River Water** | **Sub-Division : MMSD I,CWC,Raipur**

S.No	Parameters	Flood														
		Jun - Oct														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.7	0.4	0.7	0.3	1.2	0.5	0.8	0.6	0.9	0.9	0.4	0.6	0.8	0.7	0.9
2	COD (mg/L)				23.0	15.4	13.6	20.0	23.2	19.2	26.4					
3	DO (mg/L)	6.1	5.8	5.5	5.5	7.2	6.2	6.6	5.2	6.1	6.3	6.6	5.0	6.4	6.1	5.7
4	DO_SAT% (%)	75	79	73	71	92	79	85	66	77	79	83	62	78	79	75
5	FCol-MPN (MPN/100mL)															78
6	Tcol-MPN (MPN/100mL)															134
	TRACE & TOXIC															
1	Al (mg/L)															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	43	84	24		28	27	33	41	37	57	48	62	50	82	121
2	HAR_Total (mgCaCO3/L)	52	129	47		53	55	71	83	75	115	76	90	77	144	177
3	Na% (%)	12		29		14	22	19	28	23	22	25	28	27	18	22
4	RSC (-)	0.3	0.0	0.1		0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.4	0.0	0.0	0.0
5	SAR (-)	0.2		0.6		0.3	0.5	0.4	0.8	0.6	0.6	0.8	0.8	0.7	0.6	0.8
	PESTICIDES															

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Bamnidhi (EMM00B3) | **Division : MD,CWC,Burla**

Local River : Hasdeo | **River Water** | **Sub-Division : MMSD I,CWC,Raipur**

S.No	Parameters	Winter														
		Nov - Feb														
		2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
	PHYSICAL															
1	Q (cumec)	103.0	49.38	67.75	53.38	36.47	24.68	17.22	18.97	21.39	21.31	31.54	22.59	17.79	10.70	16.74
2	EC_FLD (µmho/cm)	130	153	129	163	176	153	159				285	257	265	788	178
3	EC_GEN (µmho/cm)	130	153	129	163	162	342	226	275	215	301	297	203	189	262	221
4	pH_FLD (pH units)	7.8	7.8	7.1	8.1	7.1	7.3	7.4				7.4	6.4	6.1	7.7	8.0
5	pH_GEN (pH units)	7.8	7.8	7.1	8.1	7.7	7.7	8.0	7.5	7.3	7.5	8.2	8.3	8.2	8.2	8.1
6	Temp (deg C)	22.5	23.3	24.8	22.2	21.0	19.3	17.6	20.8	20.3	18.5	18.1	17.5	18.8	18.2	23.5
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	126	102	91		115	139	166	192	153	186	179	168	134	164	167
3	B (mg/L)			0.09		0.01	0.00	0.00	0.00	0.00	0.00					
4	Ca (mg/L)	16	12	11		11	18	18	21	17	25	29	27	28	42	33
5	Cl (mg/L)	12.7	4.5	13.6		17.9	17.3	8.6	18.2	13.9	15.7	21.5	17.5	13.3	31.7	25.0
6	CO3 (mg/L)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.93	0.58	0.13		0.10	0.08	0.09	0.09	0.12	0.17					
8	Fe (mg/L)			0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.1		0.1			
9	HCO3 (mg/L)	69	62	56	54	70	85	101	117	93	114	109	102	82	100	102
10	K (mg/L)		1.5	1.9		2.8	2.7	2.7	5.0	3.9	2.2	10.8	6.1	5.3	7.2	8.5
11	Mg (mg/L)	4.6	5.6	4.4		9.0	8.7	9.5	12.4	10.0	9.0	7.3	14.6	4.6	4.5	13.1
12	Na (mg/L)		6.1	8.6		7.8	11.1	7.8	14.0	12.7	21.8	26.2	15.9	12.5	15.4	21.3
13	NO2+NO3 (mg N/L)		0.11	0.06	0.05	0.10	0.51						0.18			
14	NO2-N (mgN/L)			0.00	0.00	0.01	0.01	0.02	0.02	0.02	0.02		0.02			
15	NO3-N (mgN/L)			0.06	0.05	0.09	0.49						0.16			
16	o-PO4-P (mg P/L)															
17	P-Tot (mgP/L)	0.010	0.030	0.016		0.010	0.025	0.032	0.042	0.042	0.055		0.040			
18	SiO2 (mg/L)			12.3		20.3	18.6	14.2	14.0	9.4	11.8		12.6			
19	SO4 (mg/L)	14.3	11.4	13.9		17.8	17.8	17.3	23.4	19.9	17.0		25.0			

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Bamnidhi (EMM00B3) | **Division : MD,CWC,Burla**

Local River : Hasdeo | **River Water** | **Sub-Division : MMSD I,CWC,Raipur**

S.No	Parameters	Winter														
		Nov - Feb														
		2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.5	0.6	0.5	0.3	0.5	0.6	0.8	0.5	1.4	1.6	1.4	2.0	0.3	2.8	0.8
2	COD (mg/L)				18.5	22.0	21.0	24.0	23.0	24.0	24.0					
3	DO (mg/L)	6.2	8.0	7.9	8.4	8.4	7.5	8.0	6.8	6.0	7.0	7.8	8.2	8.0	7.2	6.9
4	DO_SAT% (%)	84	91	95	96	93	81	83	76	66	75	82	85	85	76	81
5	FCol-MPN (MPN/100mL)															67
6	Tcol-MPN (MPN/100mL)															123
	TRACE & TOXIC															
1	Al (mg/L)															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	39	29	28		27	45	45	52	43	63	73	67	70	106	82
2	HAR_Total (mgCaCO3/L)	58	52	46		65	81	84	103	84	100	104	128	89	124	137
3	Na% (%)		23	28		20	23	16	21	24	27	30	20	22	20	24
4	RSC (-)	0.1	0.1	0.0		0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
5	SAR (-)		0.4	0.6		0.4	0.5	0.4	0.6	0.6	1.0	1.2	0.6	0.6	0.6	0.8
	PESTICIDES															

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Bamnidhi (EMM00B3) **Division : MD,CWC,Burla**

Local River : Hasdeo **River Water** **Sub-Division : MMSD I,CWC,Raipur**

S.No	Parameters	Summer														
		Mar - May														
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	PHYSICAL															
1	Q (cumec)	52.16	50.24	61.11	71.89	23.60	14.59	6.882	6.855	9.035	12.18	15.85	18.70	9.736	5.438	7.298
2	EC_FLD (µmho/cm)	225	119	121	130	152	159	193				332	320	270	930	197
3	EC_GEN (µmho/cm)	225	119	121	130	141	196	288	395	302	280	262	320	243	299	285
4	pH_FLD (pH units)	7.8	8.4	7.3	7.5	7.5	7.6	7.5				7.3	6.2	6.5	8.2	7.9
5	pH_GEN (pH units)	7.8	8.4	7.3	7.5	8.1	8.1	7.7	7.1	7.4	8.0	8.1	8.2	8.3	8.1	7.7
6	Temp (deg C)		29.0	32.0	25.5	23.2	23.7	23.7	21.7	23.8	25.5	22.0	22.2	27.3	27.0	28.0
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	1.1	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	222	58	84		96	137	201	272	205	215	183	147	225	168	241
3	B (mg/L)			0.04		0.01	0.00	0.00	0.00	0.00	0.00					
4	Ca (mg/L)	22	11	9		10	16	21	28	21	42	40	21	29	41	22
5	Cl (mg/L)	20.5	6.0	8.9		10.2	9.9	12.0	30.5	21.0	29.0	27.0	17.3	18.0	39.7	19.0
6	CO3 (mg/L)	0.0	1.3	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)		0.40	0.05		0.11	0.13	0.17	0.21	0.23	0.19					
8	Fe (mg/L)			0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1		0.1			
9	HCO3 (mg/L)	135	34	51	54	59	84	122	166	125	131	111	89	137	102	147
10	K (mg/L)		1.7	1.7		2.4	2.1	5.7	10.1	3.9	11.8	5.8	6.4	11.1	11.7	8.3
11	Mg (mg/L)	4.3	7.2	4.0		4.5	9.2	12.8	17.2	12.0	3.9	8.1	11.7	7.1	6.2	17.2
12	Na (mg/L)		5.7	6.6		8.7	11.7	22.8	24.3	17.2	44.0	19.6	15.1	24.5	32.2	22.6
13	NO2+NO3 (mg N/L)		0.08	0.10	0.08	0.40	2.42						0.57			
14	NO2-N (mgN/L)			0.00	0.00	0.01	0.01	0.02	0.05	0.09	0.06		0.05			
15	NO3-N (mgN/L)			0.09	0.08	0.39	2.41						0.52			
16	o-PO4-P (mg P/L)															
17	P-Tot (mgP/L)		0.020	0.020		0.017	0.010	0.033	0.100	0.080	0.080		0.067			
18	SiO2 (mg/L)			18.5		15.6	17.1	18.1	25.7	16.6	16.3		16.6			
19	SO4 (mg/L)	5.0	4.9	11.1		12.0	17.6	21.3	46.6	26.7	24.0		25.0			

Water Quality Seasonal Average for the period: 2003-2018

Station Name : Bamnidhi (EMM00B3) | **Division : MD,CWC,Burla**

Local River : Hasdeo | **River Water** | **Sub-Division : MMSD I,CWC,Raipur**

S.No	Parameters	Summer														
		Mar - May														
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.4	0.9	0.5	0.6	0.9	0.5	1.5	4.8	1.5	0.4	3.1	1.1	0.5	1.5	1.0
2	COD (mg/L)				25.0	15.3	24.0	25.3	25.3	20.0	16.0					
3	DO (mg/L)	6.9	10.0	6.2	6.3	7.1	6.6	5.0	4.1	4.9	4.3	6.5	6.0	7.0	6.7	5.5
4	DO_SAT% (%)		128	84	76	82	78	59	49	58	52	74	69	89	84	70
5	FCol-MPN (MPN/100mL)															137
6	Tcol-MPN (MPN/100mL)															147
	TRACE & TOXIC															
1	Al (mg/L)															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	54	28	23		24	41	51	69	53	106	100	52	73	102	55
2	HAR_Total (mgCaCO3/L)	72	58	40		43	79	105	141	103	122	134	101	103	127	126
3	Na% (%)		19	26		29	24	31	25	26	42	23	23	31	33	26
4	RSC (-)	1.0	0.0	0.1		0.2	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.3	0.0	0.2
5	SAR (-)		0.3	0.5		0.6	0.6	1.0	0.9	0.7	1.8	0.7	0.7	1.1	1.2	0.9
	PESTICIDES															

MOND SUB-BASIN

SITE KURUBHATA

HISTORY SHEET

Water Year : 2017-2018

Site	**: KURUBHATA**		**Code**	**: EMK00E2**	
State	: Chhattisgarh		District	Raigarh	
Basin	: Mahanadi		Independent River	: Mahanadi	
Tributary	: Mand		Sub Tributary	:	
Sub-Sub Tributary	:		Local River	: Mand	
Division	: MD,CWC,Burla		Sub-Division	: MMSD II,CWC,Burla	
Drainage Area	: 4625 Sq. Km.		Bank	:	
Latitude	: 21°59'15"		Longitude	: 83°12'15"	
Zero of Gauge (m)	: 215 (m.s.l)		23/10/1977	- 23/10/2025	
	Opening Date		Closing Date		
Gauge	: 23/10/1977				
Discharge	: 01/04/1978				
Sediment	: 22/07/1980				
Water Quality	: 01/07/1980				

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

	Maximum			Minimum		
Year	**Q (cumecs)**	**WL (m)**	**Date**	**Q (cumecs)**	**WL (m)**	**Date**
1978-1979	756.0	218.440	01/07/1978	0.500	215.910	08/06/1978
1979-1980	1149	219.035	09/08/1979	0.022	215.875	26/04/1980
1980-1981	1721	219.305	24/08/1980	0.400	215.950	07/06/1980
1981-1982	789.2	218.670	23/08/1981	0.400	215.800	02/06/1981
1982-1983	1780	219.575	15/08/1982	0.500	215.840	15/04/1983
1983-1984	870.6	218.885	03/08/1983	0.300	216.150	21/05/1984
1984-1985	847.9	218.900	09/08/1984	1.100	215.970	04/05/1985
1985-1986	2119	219.830	08/08/1985	1.100	216.050	28/05/1986
1986-1987	1660	219.560	27/07/1986	0.800	216.100	21/04/1987
1987-1988	1925	219.600	29/08/1987	0.941	216.090	02/06/1987
1988-1989	930.0	218.900	11/08/1988	0.149	215.880	02/05/1989
1989-1990	1809	219.300	28/07/1989	0.450	215.930	29/04/1990
1990-1991	1167	219.140	20/07/1990	1.499	216.035	23/05/1991
1991-1992	2005	219.860	24/07/1991	1.039	215.780	01/05/1992
1992-1993	1120	218.825	05/09/1992	0.261	215.600	24/04/1993
1993-1994	1334	218.750	27/09/1993	0.175	215.620	28/04/1994
1994-1995	1963	219.690	20/07/1994	1.148	215.720	03/05/1995
1995-1996	2200	220.280	18/07/1995	0.262	215.640	07/05/1996
1996-1997	1625	219.400	26/07/1996	0.132	215.460	26/04/1997
1997-1998	1033	218.760	09/09/1997	2.300	215.700	11/05/1998
1998-1999	1828	219.300	14/09/1998	0.486	215.760	31/03/1999
1999-2000	2160	219.680	08/08/1999	0.552	215.610	09/03/2000

Q : Observed / Computed Discharge WL : Corresponding Water Level(m.s.l)

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

	Maximum			Minimum		
Year	**Q (cumecs)**	**WL (m)**	**Date**	**Q (cumecs)**	**WL (m)**	**Date**
2000-2001	800.0	218.220	03/09/2000	0.752	215.860	27/02/2001
2001-2002	1978	219.950	24/07/2001	2.159	215.760	23/03/2002
2002-2003	1671	219.100	12/09/2002	0.243	215.660	08/04/2003
2003-2004	1919	219.880	02/09/2003	0.116	215.550	13/03/2004
2004-2005	1910	219.560	12/08/2004	0.968	215.630	24/03/2005
2005-2006	1980	219.960	05/08/2005	0.544	215.640	10/02/2006
2006-2007	1502	219.010	31/07/2006	0.396	215.570	13/03/2007
2007-2008	1094	218.810	07/07/2007	0.929	215.680	03/04/2008
2008-2009	1545	219.470	19/09/2008	0.319	215.550	19/05/2009
2009-2010	649.5	218.040	21/07/2009	0.123	215.420	06/04/2010
2010-2011	961.7	218.650	21/09/2010	0.163	215.210	27/06/2010
2011-2012	2005	220.075	10/09/2011	0.290	215.580	13/03/2012
2012-2013	1460	218.800	12/08/2012	0.289	215.550	18/04/2013
2013-2014	1144	219.020	30/08/2013	0.150	215.290	13/04/2014
2014-2015	1337	219.330	04/08/2014	0.177	215.280	05/06/2014
2015-2016	1400	218.990	12/07/2015	0.270	215.490	31/05/2016
2016-2017	1171	219.020	08/08/2016	0.000	215.570	16/05/2017

Q : Observed / Computed Discharge WL : Corresponding Water Level(m.s.l)

Stage-Dischage Data for the period 2017 - 2018

Station Name : KURUBHATA (EMK00E2) **Division : MD,CWC,Burla**

Local River : Mand **Sub-Division : MMSD II,CWC,Burla**

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	215.650	0.401	216.360	57.60	216.730	267.7	216.350	100.5	216.710	150.0 *	215.770	26.66
2	215.650	0.406	216.440	64.60 *	217.200	393.8	216.410	80.00 *	216.600	152.0 *	215.760	25.93
3	215.650	0.395	216.500	70.36	217.020	353.9	216.430	81.00 *	216.670	147.2	215.760	29.09
4	215.660	0.420 *	216.400	60.59	216.835	171.9	216.240	64.98	216.700	149.9	215.750	16.00 *
5	215.640	0.369	216.500	70.26	216.570	144.1	216.160	56.85	216.590	137.7	215.750	16.00 *
6	215.660	0.433	216.480	67.93	216.750	168.0 *	216.060	46.31	216.400	90.35	215.740	27.53
7	215.650	0.407	216.500	81.58	216.700	162.4	215.990	43.87	216.570	144.0	215.730	26.78
8	215.660	0.448	216.340	66.62	216.750	169.3	215.950	38.17	216.590	148.0 *	215.730	24.90
9	215.660	0.439	216.220	39.40 *	217.220	305.5	215.930	36.73	216.610	153.1	215.730	24.99
10	215.670	0.483	218.310	1080	217.010	214.6	216.090	45.00 *	216.580	147.0	215.730	22.86
11	215.670	0.480 *	217.780	441.9	216.810	186.3	216.200	71.10	216.590	148.5	215.800	25.17
12	215.680	0.514	217.290	309.4	216.570	146.2	216.100	63.67	216.400	90.50	215.840	25.00 *
13	215.735	1.006	216.670	136.8	216.780	177.0 *	216.090	61.48	216.310	80.09	215.820	23.31
14	215.770	1.131	216.390	65.26	216.780	178.0	216.410	80.96	216.220	69.26	215.820	22.03
15	215.780	1.202	216.380	57.63	216.650	170.0 *	216.360	75.24	216.150	60.00 *	215.770	17.88
16	215.890	3.144	216.340	52.40 *	216.420	115.7	216.200	72.08	216.100	59.30	215.770	17.83
17	215.900	4.969	216.620	91.23	216.460	122.0	216.110	65.00 *	216.085	46.98	215.770	17.84
18	215.850	4.200 *	216.440	67.75	216.450	118.9	216.380	94.83	216.040	42.09	215.820	22.52
19	215.810	3.230	216.420	64.85	216.800	186.0	216.260	75.94	216.020	41.00 *	215.820	22.70 *
20	215.860	3.896	216.590	86.66	216.550	110.0 *	216.840	182.3	216.050	42.65	215.820	22.67
21	215.910	5.200	217.460	383.1	216.400	112.3	217.680	474.2	216.030	42.11	215.820	22.32
22	216.000	21.85	217.370	358.1	216.290	99.83	218.780	1399	216.010	41.00 *	215.820	22.50
23	216.160	37.34	216.940	200.0 *	216.240	93.53	217.790	881.2	215.970	36.23	215.810	22.00
24	215.950	19.66	219.485	1759	216.270	97.76	217.220	300.0 *	216.030	39.00	215.780	17.21
25	215.830	3.800 *	218.480	1341	216.410	114.9	216.900	199.3	216.250	73.13	215.780	16.87
26	215.920	16.40 *	217.780	730.8	216.510	126.0	216.590	141.2	215.900	34.75	215.770	16.00 *
27	215.870	15.36	218.750	1511	216.960	205.0 *	216.460	126.9	215.850	31.03	215.770	19.83
28	215.890	16.03	218.840	1267	216.970	208.0	216.410	120.9	215.830	29.95	215.770	19.49
29	216.170	38.14	217.655	476.3	217.020	241.3	216.590	140.0 *	215.810	29.00 *	215.720	16.43
30	216.350	55.20	217.170	200.0 *	216.680	150.9	216.660	145.0 *	215.790	28.10	215.710	14.08
31			216.760	277.4	216.420	109.6			215.780	27.35		
Ten-Daily Mean												
I Ten-Daily	215.655	0.420	216.605	165.9	216.878	235.1	216.161	59.34	216.602	141.9	215.745	24.08
II Ten-Daily	215.795	2.377	216.692	137.4	216.627	151.0	216.295	84.26	216.197	68.04	215.805	21.69
III Ten-Daily	216.005	22.90	217.881	773.2	216.561	141.7	217.108	392.8	215.932	37.42	215.775	18.67
Monthly												
Min.	215.640	0.369	216.220	39.40	216.240	93.53	215.930	36.73	215.780	27.35	215.710	14.08
Max.	216.350	55.20	219.485	1759	217.220	393.8	218.780	1399	216.710	153.1	215.840	29.09
Mean	215.818	8.565	217.086	372.2	216.685	174.8	216.521	178.8	216.233	81.01	215.775	21.48

Annual Runoff in MCM = 2270 Annual Runoff in mm = 491

Peak Observed Discharge = 1759 cumecs on 24/07/2017 Corres. Water Level :219.485 m

Lowest Observed Discharge = 0.125 cumecs on 18/04/2018 Corres. Water Level :215.39 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Dischage Data for the period 2017 - 2018

Station Name : KURUBHATA (EMK00E2) **Division : MD,CWC,Burla**

Local River : Mand **Sub-Division : MMSD II,CWC,Burla**

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	215.720	16.73	215.610	6.189	215.580	3.020	215.520	1.691	215.410	0.320 *	215.000	0.000 *
2	215.720	16.00 *	215.610	6.032	215.580	2.986	215.520	1.600	215.400	0.202	215.000	0.000 *
3	215.710	14.00 *	215.600	5.668	215.580	2.803	215.480	1.237	215.400	0.201	215.000	0.000 *
4	215.700	13.65	215.600	5.381	215.580	2.700 *	215.480	1.200	215.400	0.202	215.000	0.000 *
5	215.700	13.62	215.600	4.593	215.540	2.786	215.480	1.231	215.400	0.201	215.000	0.000 *
6	215.700	13.81	215.655	4.168	215.540	2.764	215.480	1.217	215.400	0.198	215.000	0.000 *
7	215.700	13.68	215.650	4.000 *	215.540	2.761	215.470	1.155	215.400	0.158	215.000	0.000 *
8	215.690	12.85	215.650	6.159	215.540	2.530	215.460	0.736	215.400	0.160 *	215.000	0.000 *
9	215.670	11.12	215.640	5.187	215.540	2.519	215.460	0.734	215.400	0.157	215.000	0.000 *
10	215.695	10.71 *	215.640	5.163	215.540	2.513	215.460	0.762	215.400	0.151	215.000	0.000 *
11	215.690	10.67	215.640	5.109	215.540	2.500 *	215.460	0.700 *	215.400	0.147	215.000	0.000 *
12	215.690	10.64	215.640	5.060	215.550	3.366	215.440	0.637	215.400	0.145	215.000	0.000 *
13	215.680	10.76	215.630	4.071	215.550	3.325	215.430	0.630	215.400	0.144	215.000	0.000 *
14	215.670	10.39	215.630	4.600 *	215.550	3.435	215.440	0.702	215.400	0.158	215.000	0.000 *
15	215.650	8.728	215.620	3.744	215.570	3.977	215.440	0.703	215.400	0.142 *	215.000	0.000 *
16	215.640	8.461	215.620	3.939	215.570	3.935	215.440	0.698	215.400	0.139	215.000	0.000 *
17	215.640	8.000 *	215.620	3.619	215.580	4.028	215.430	0.411	215.390	0.127	215.000	0.000 *
18	215.630	8.064	215.620	3.623	215.580	4.000 *	215.430	0.410 *	215.390	0.125	215.000	0.000 *
19	215.620	7.801	215.600	3.560	215.550	3.206	215.430	0.449	215.000	0.000 *	215.000	0.000 *
20	215.620	6.777	215.600	3.532	215.550	3.214	215.430	0.447	215.000	0.000 *	215.000	0.000 *
21	215.610	6.646	215.600	3.500 *	215.550	3.205	215.430	0.438	215.000	0.000 *	215.000	0.000 *
22	215.610	6.562	215.590	3.195	215.550	3.183	215.430	0.432	215.000	0.000 *	215.000	0.000 *
23	215.620	7.340	215.590	3.177	215.550	3.174	215.420	0.424	215.000	0.000 *	215.000	0.000 *
24	215.620	7.000 *	215.590	3.126	215.550	3.173	215.420	0.421	215.000	0.000 *	215.000	0.000 *
25	215.620	7.000 *	215.590	3.647	215.540	2.500 *	215.420	0.400 *	215.000	0.000 *	215.000	0.000 *
26	215.610	7.006	215.590	3.600 *	215.520	1.850	215.410	0.365	215.000	0.000 *	215.000	0.000 *
27	215.610	6.495	215.590	3.047	215.520	1.853	215.410	0.329	215.000	0.000 *	215.000	0.000 *
28	215.610	6.945	215.590	3.000 *	215.520	1.693	215.410	0.344	215.000	0.000 *	215.000	0.000 *
29	215.610	6.478	215.590	3.158			215.410	0.340 *	215.000	0.000 *	215.000	0.000 *
30	215.620	7.422	215.590	3.155			215.410	0.340 *	215.000	0.000 *	215.000	0.000 *
31	215.620	7.000 *	215.580	3.017			215.410	0.341			215.000	0.000 *
Ten-Daily Mean												
I Ten-Daily	215.700	13.62	215.626	5.254	215.556	2.738	215.481	1.156	215.401	0.195	215.000	0.000
II Ten-Daily	215.653	9.029	215.622	4.086	215.559	3.499	215.437	0.579	215.318	0.113	215.000	0.000
III Ten-Daily	215.615	6.900	215.590	3.238	215.538	2.579	215.416	0.379	215.000	0.000	215.000	0.000
Monthly												
Min.	215.610	6.478	215.580	3.000	215.520	1.693	215.410	0.329	215.000	0.000	215.000	0.000
Max.	215.720	16.73	215.655	6.189	215.580	4.028	215.520	1.691	215.410	0.320	215.000	0.000
Mean	215.655	9.753	215.612	4.162	215.552	2.964	215.444	0.694	215.240	0.103	215.000	0

Peak Computed Discharge = 300.0 cumecs on 24/09/2017 Corres. Water Level :217.22 m

Lowest Computed Discharge = 0.000 cumecs on 19/04/2018 Corres. Water Level :215 m

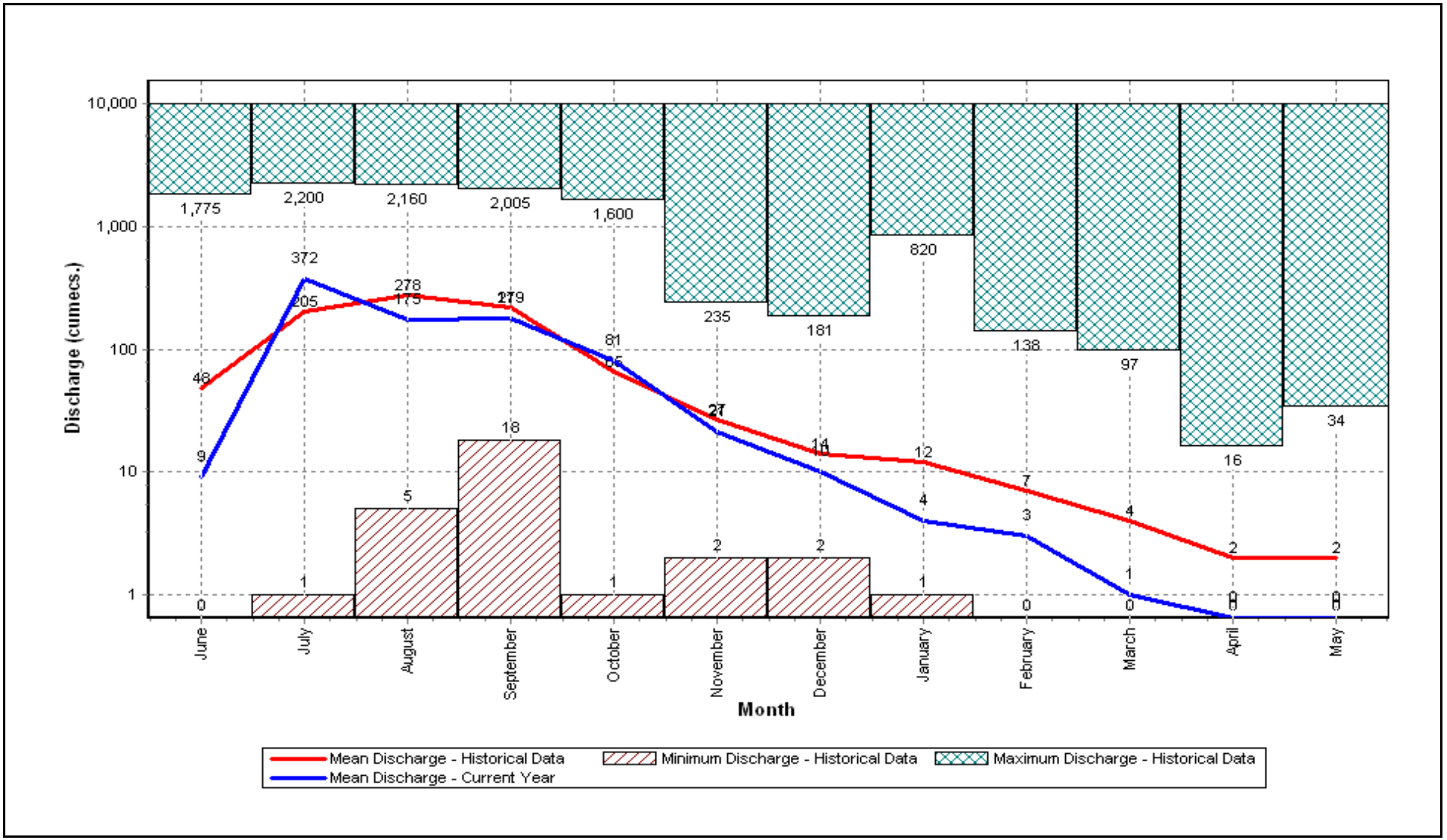
Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2017-2018

Station Name : KURUBHATA (EMK00E2) | **Data considered : 1978-2018** | **Division : MD,CWC,Burla**

Local River : Mand | **Sub-Division : MMSD II,CWC,Burla**



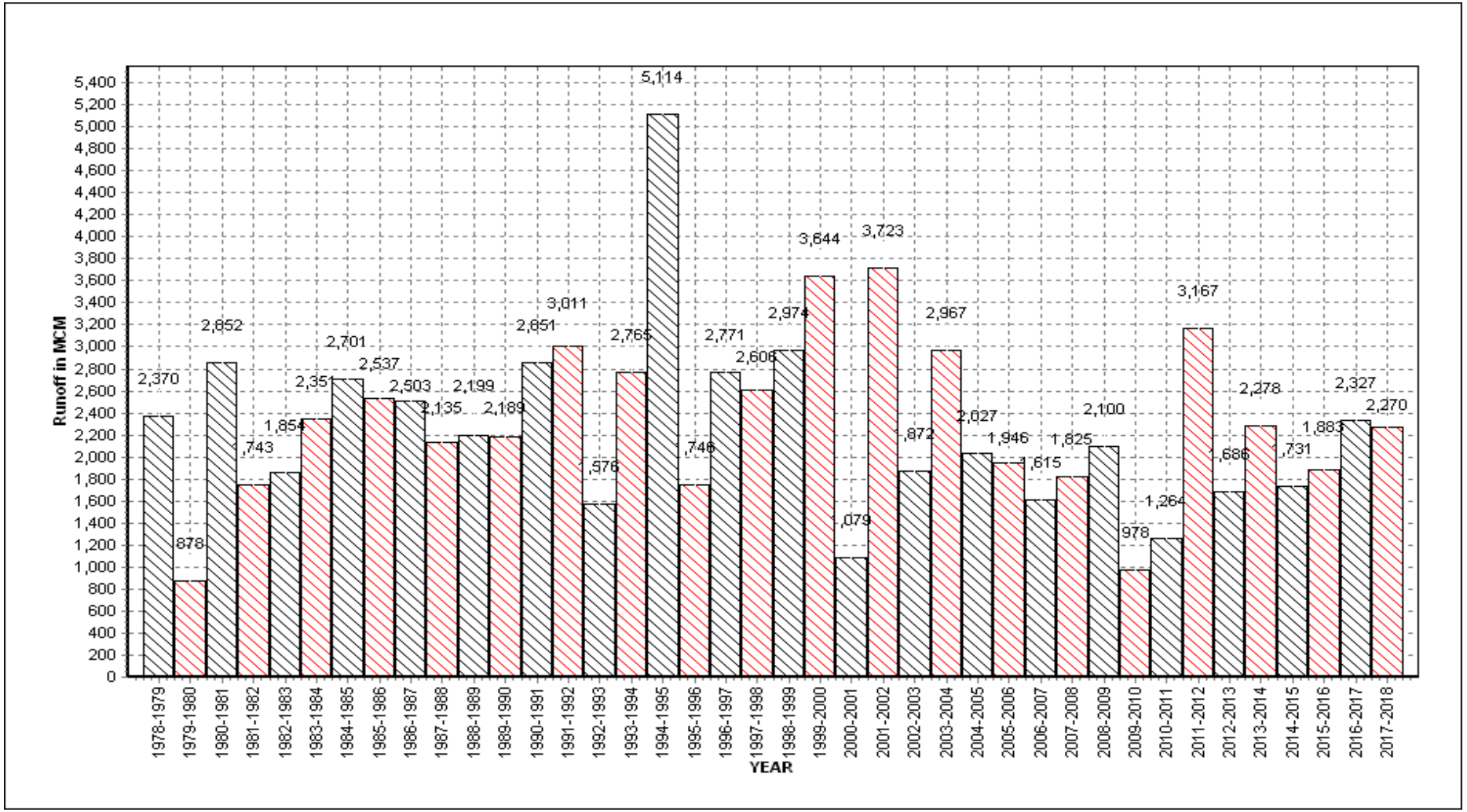
Annual Runoff Values for the period: 1978 - 2018

Station Name : KURUBHATA (EMK00E2)

Local River : Mand

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla



Note: Missing values have not been considered while arriving at Annual Runoff

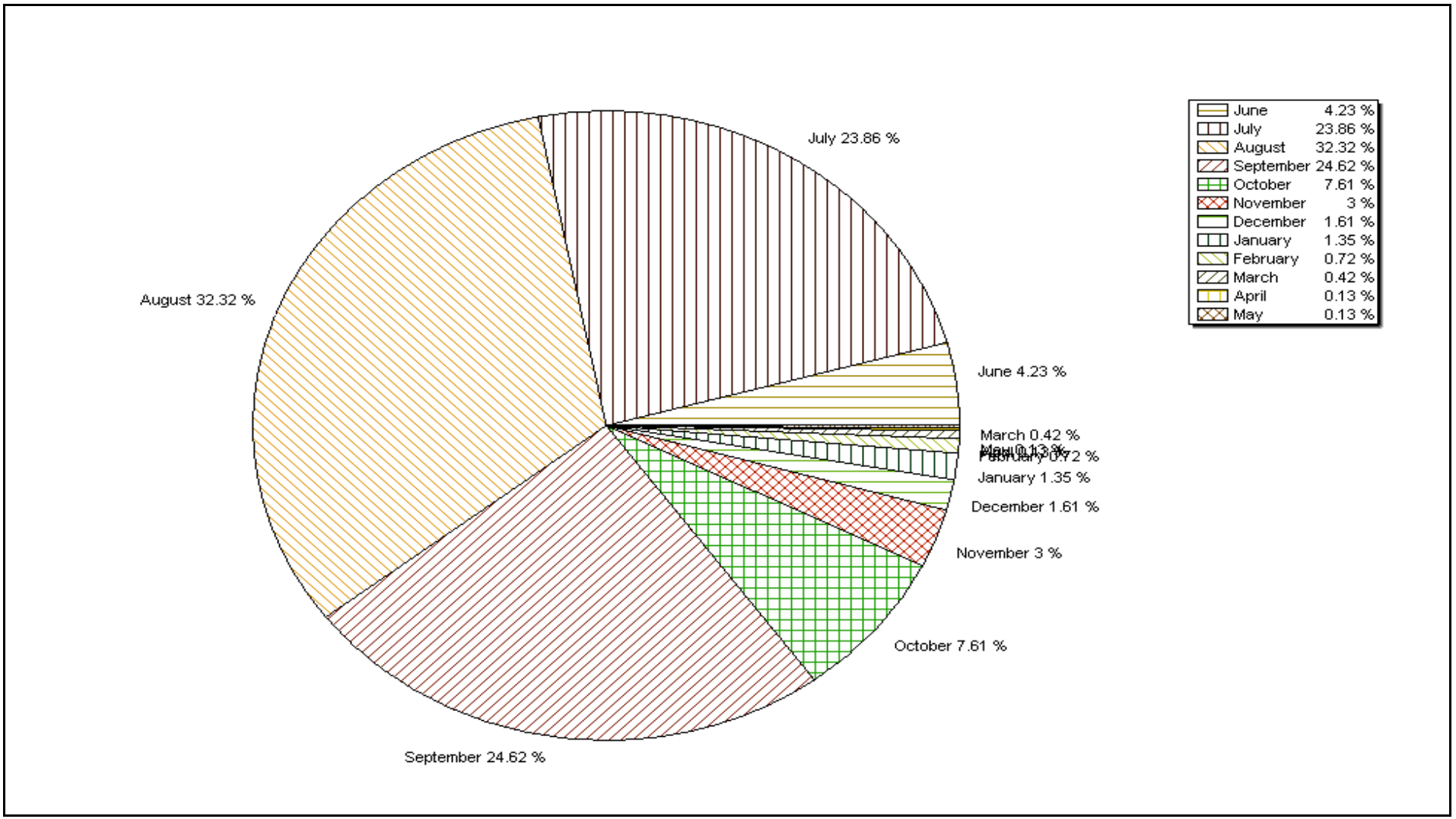
Monthly Average Runoff based on period : 1978-2017

Station Name : KURUBHATA (EMK00E2)

Local River : Mand

Division : MD,CWC,Burla

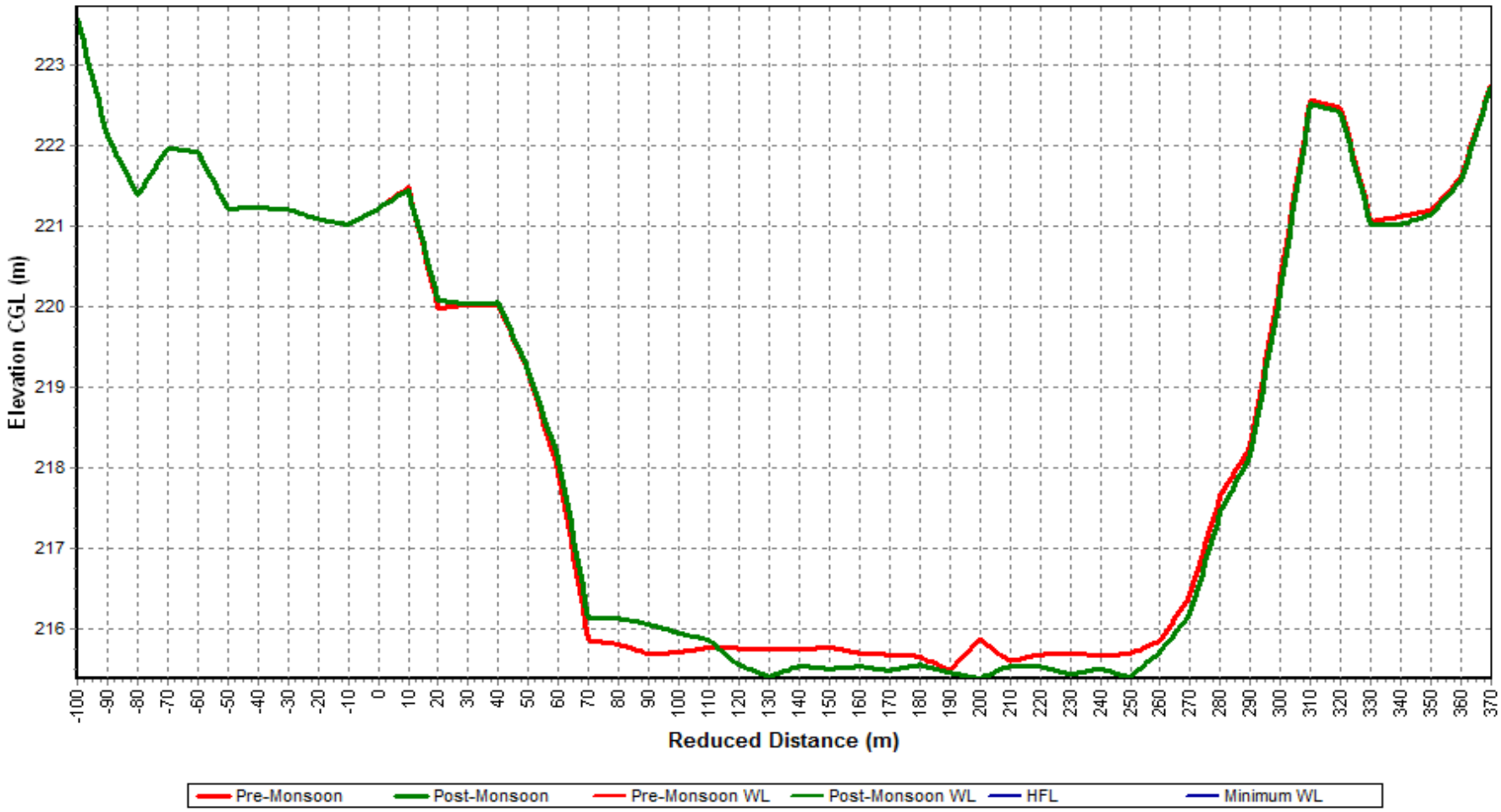
Sub-Division : MMSD II,CWC,Burla



Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2017-2018

Station Name : Kurubhata (EMK00E2) **Division : MD,CWC,Burla**

Local River : River Mand **Sub-Division: MMSDII,CWC,Burla**



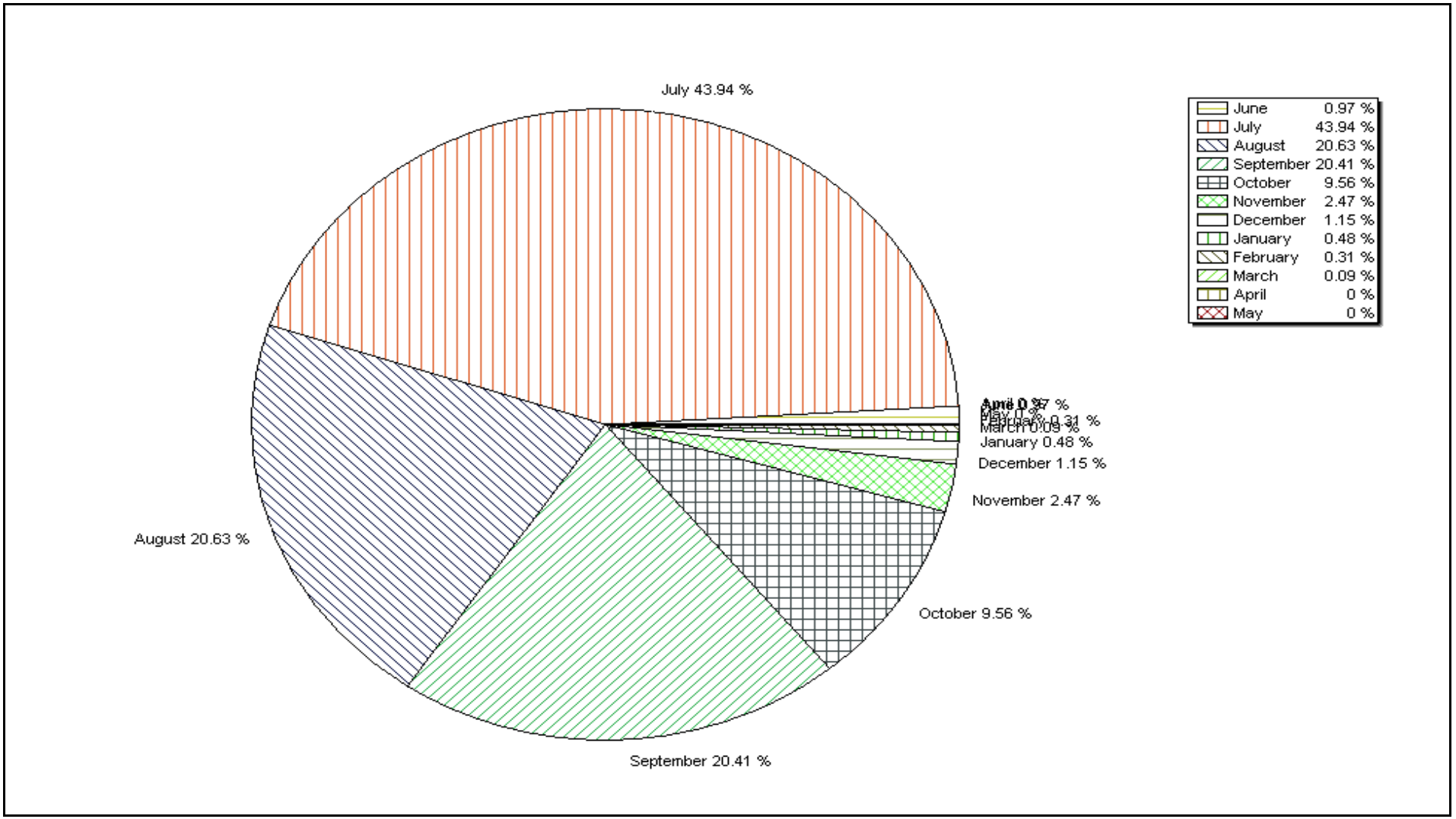
Monthly Runoff for the Year : 2017-2018

Station Name : KURUBHATA (EMK00E2)

Local River : Mand

Division : MD,CWC,Burla

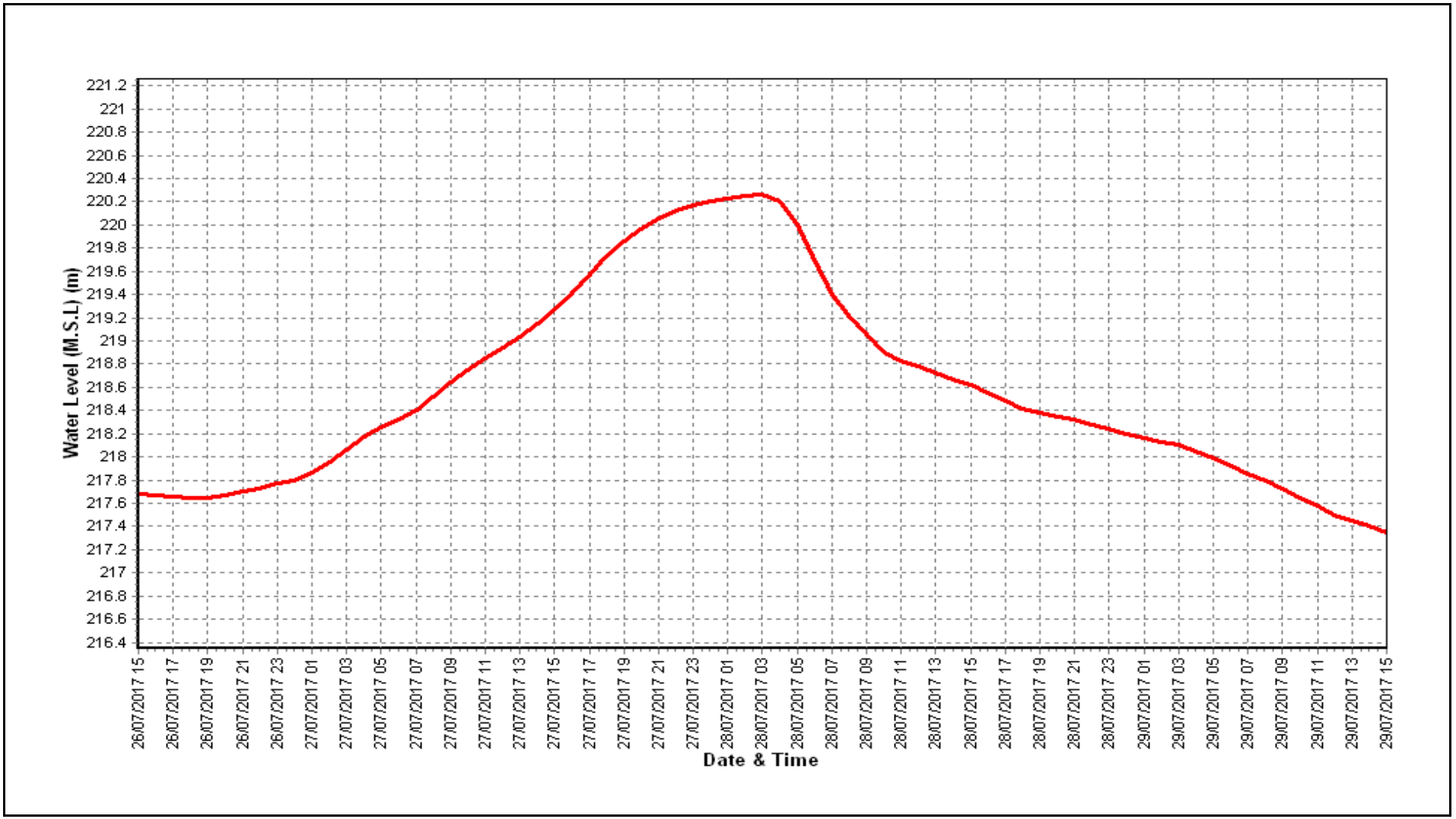
Sub-Division : MMSD II,CWC,Burla



Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2017-2018

Station Name : KURUBHATA (EMK00E2) **Division : MD,CWC,Burla**

Local River : Mand **Sub-Division : MMSD II,CWC,Burla**



Time Span: 72 Hrs

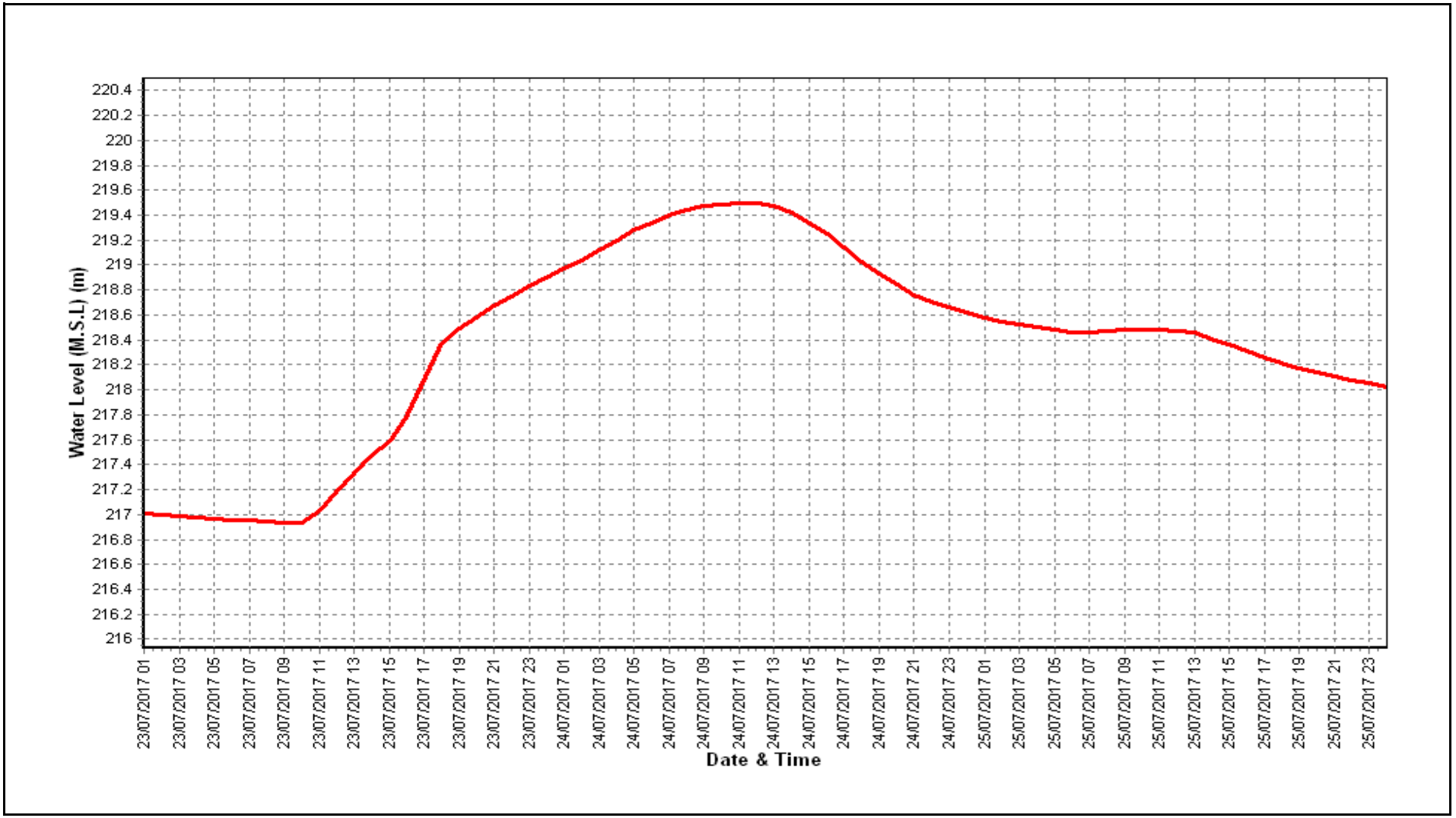
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2017-2018

Station Name : KURUBHATA (EMK00E2)

Local River : Mand

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla

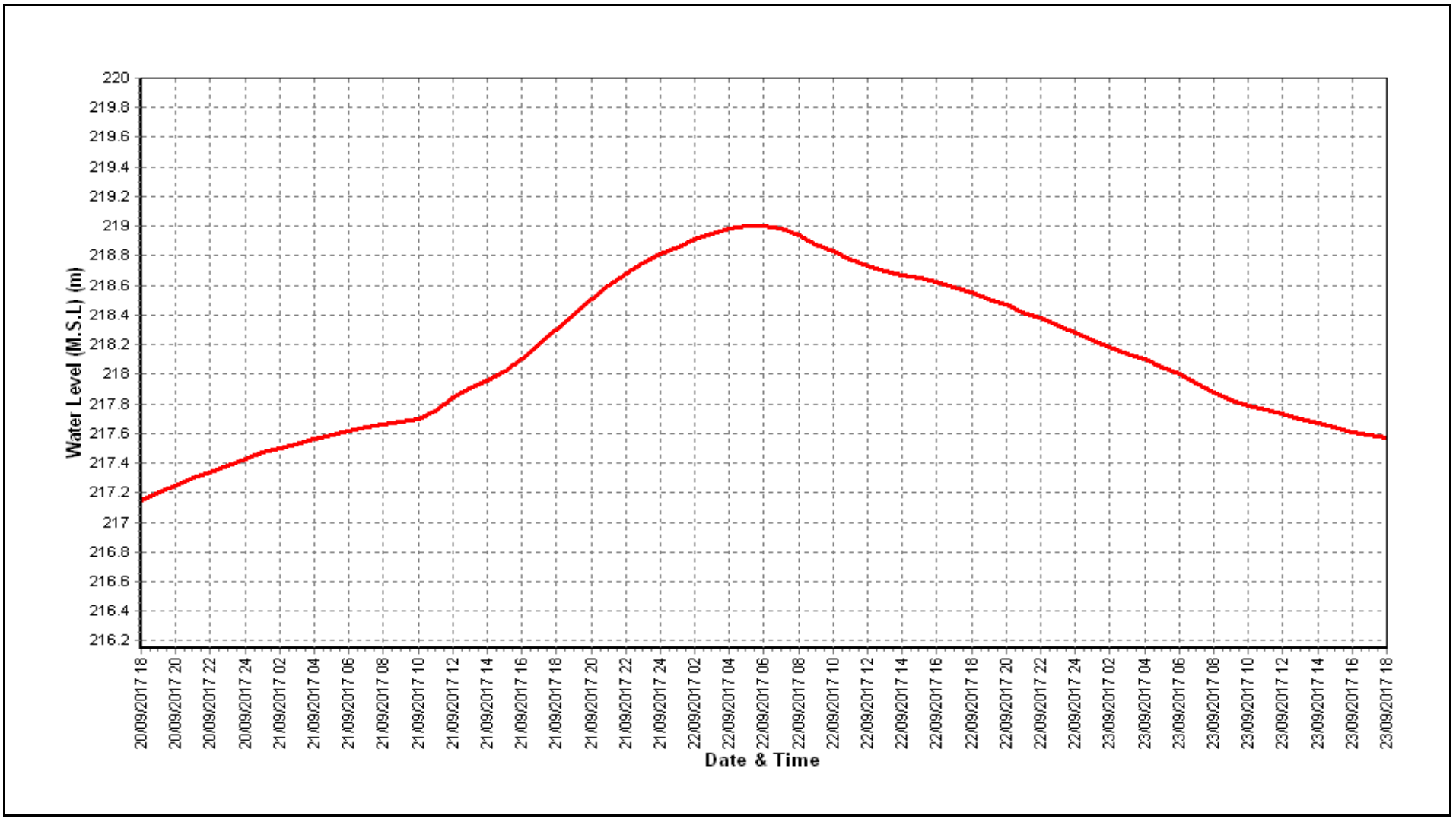


Time Span: 72 Hrs

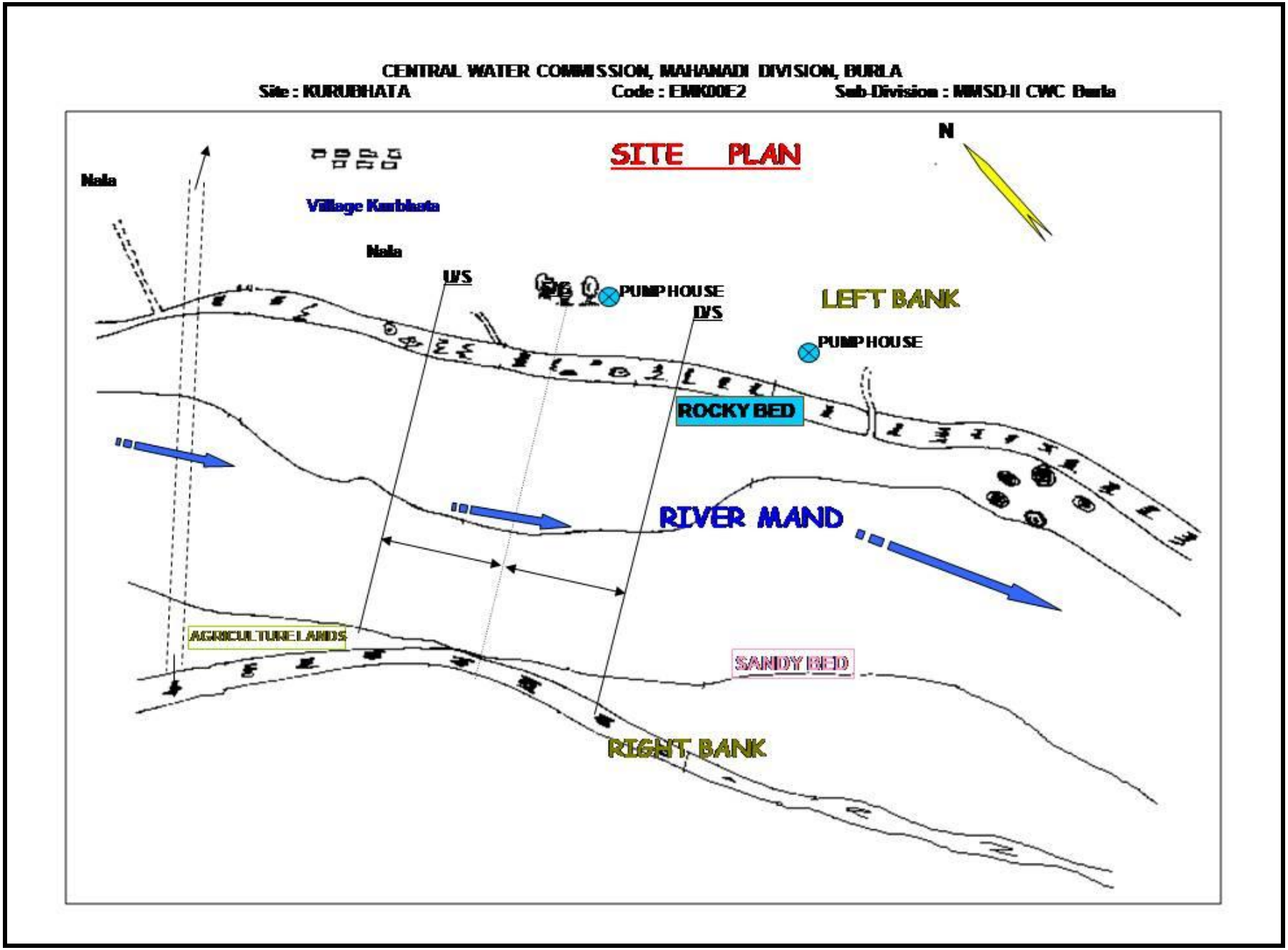
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2017-2018

Station Name : KURUBHATA (EMK00E2) **Division : MD,CWC,Burla**

Local River : Mand **Sub-Division : MMSD II,CWC,Burla**



Time Span: 72 Hrs


CENTRAL WATER COMMISSION, MAHANADI DIVISION, BURLA
Site : KURUBHATA
Code : EMK00E2
Sub-Division : MMSD-II CWC Burla
SITE PLAN
N
Nala
Village Kurbhata
Nala
US
PUMP HOUSE
DS
LEFT BANK
PUMP HOUSE
ROCKY BED
RIVER MAND
AGRICULTURE LANDS
SANDY BED
RIGHT BANK

SECTION-II

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : KURUBHATA (EMK00E2) **Division : MD,CWC,Burla**

Local River : Mand **Sub-Division : MMSD II,CWC,Burla**

Day	Jun						Jul						Aug					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.401	0.000	0.000	0.000	0.000	0	57.60	0.000	0.000	0.355	0.355	1767	267.7	0.000	0.000	0.627	0.627	14507
2	0.406	0.000	0.000	0.000	0.000	0	64.60	0.000	0.000	0.000	0.000	0	393.8	0.000	0.000	0.841	0.841	28595
3	0.395	0.000	0.000	0.000	0.000	0	70.36	0.000	0.000	0.384	0.384	2332	353.9	0.000	0.000	0.820	0.820	25066
4	0.420	0.000	0.000	0.000	0.000	0	60.59	0.000	0.000	0.364	0.364	1905	171.9	0.000	0.000	0.721	0.721	10702
5	0.369	0.000	0.000	0.000	0.000	0	70.26	0.000	0.000	0.471	0.471	2857	144.1	0.000	0.000	0.425	0.425	5291
6	0.433	0.000	0.000	0.000	0.000	0	67.93	0.000	0.000	0.466	0.466	2735	168.0	0.000	0.000	0.000	0.000	0
7	0.407	0.000	0.000	0.000	0.000	0	81.58	0.000	0.000	0.474	0.474	3344	162.4	0.000	0.000	0.405	0.405	5683
8	0.448	0.000	0.000	0.000	0.000	0	66.62	0.000	0.000	0.359	0.359	2069	169.3	0.000	0.000	0.415	0.415	6069
9	0.439	0.000	0.000	0.000	0.000	0	39.40	0.000	0.000	0.000	0.000	0	305.5	0.000	0.000	0.850	0.850	22426
10	0.483	0.000	0.000	0.000	0.000	0	1080	0.373	0.372	1.801	2.546	237504	214.6	0.000	0.000	0.785	0.785	14552
11	0.480	0.000	0.000	0.000	0.000	0	441.9	0.000	0.000	1.436	1.436	54820	186.3	0.000	0.000	0.435	0.435	7001
12	0.514	0.000	0.000	0.000	0.000	0	309.4	0.000	0.000	1.715	1.715	45842	146.2	0.000	0.000	0.385	0.385	4862
13	1.006	0.000	0.000	0.000	0.000	0	136.8	0.000	0.000	0.664	0.664	7854	177.0	0.000	0.000	0.000	0.000	0
14	1.131	0.000	0.000	0.000	0.000	0	65.26	0.000	0.000	0.317	0.317	1789	178.0	0.000	0.000	0.405	0.405	6226
15	1.202	0.000	0.000	0.000	0.000	0	57.63	0.000	0.000	0.217	0.217	1082	170.0	0.000	0.000	0.000	0.000	0
16	3.144	0.000	0.000	0.000	0.000	0	52.40	0.000	0.000	0.000	0.000	0	115.7	0.000	0.000	0.346	0.346	3454
17	4.969	0.000	0.000	0.000	0.000	0	91.23	0.000	0.000	0.540	0.540	4257	122.0	0.000	0.000	0.350	0.350	3689
18	4.200	0.000	0.000	0.000	0.000	0	67.75	0.000	0.000	0.392	0.392	2296	118.9	0.000	0.000	0.345	0.345	3541
19	3.230	0.000	0.000	0.000	0.000	0	64.85	0.000	0.000	0.581	0.581	3253	186.0	0.000	0.000	0.420	0.420	6744
20	3.896	0.000	0.000	0.000	0.000	0	86.66	0.000	0.000	0.405	0.405	3033	110.0	0.000	0.000	0.000	0.000	0
21	5.200	0.000	0.000	0.000	0.000	0	383.1	0.000	0.000	1.008	1.008	33360	112.3	0.000	0.000	0.325	0.325	3155
22	21.85	0.000	0.000	0.000	0.000	0	358.1	0.000	0.000	0.876	0.876	27086	99.83	0.000	0.000	0.305	0.305	2628
23	37.34	0.000	0.000	0.000	0.000	0	200.0	0.000	0.000	0.000	0.000	0	93.53	0.000	0.000	0.295	0.295	2382
24	19.66	0.000	0.000	0.000	0.000	0	1759	0.825	0.914	0.971	2.710	411954	97.76	0.000	0.000	0.294	0.294	2485
25	3.800	0.000	0.000	0.000	0.000	0	1341	0.657	0.765	1.148	2.570	297780	114.9	0.000	0.000	0.330	0.330	3275
26	16.40	0.000	0.000	0.000	0.000	0	730.8	0.000	0.000	0.995	0.995	62823	126.0	0.000	0.000	0.374	0.374	4074
27	15.36	0.000	0.000	0.000	0.000	0	1511	0.678	0.770	0.830	2.279	297522	205.0	0.000	0.000	0.000	0.000	0
28	16.03	0.000	0.000	0.000	0.000	0	1267	0.437	0.411	0.755	1.604	175563	208.0	0.000	0.000	0.745	0.745	13382
29	38.14	0.000	0.000	0.000	0.000	0	476.3	0.000	0.000	0.860	0.860	35391	241.3	0.000	0.000	0.754	0.754	15720
30	55.20	0.000	0.000	0.000	0.000	0	200.0	0.000	0.000	0.000	0.000	0	150.9	0.000	0.000	0.416	0.416	5416
31							277.4	0.000	0.000	0.664	0.664	15921	109.6	0.000	0.000	0.345	0.345	3265
Ten Daily Mean																		
Ten Daily I	0.420	0.000	0.000	0.000	0.000	0	165.9	0.047	0.047	0.584	0.677	31814	235.1	0.000	0.000	0.654	0.654	14766
Ten Daily II	2.377	0.000	0.000	0.000	0.000	0	137.4	0.000	0.000	0.696	0.696	13803	151.0	0.000	0.000	0.384	0.384	5074
Ten Daily III	22.90	0.000	0.000	0.000	0.000	0	773.2	0.289	0.318	0.901	1.507	150822	141.7	0.000	0.000	0.418	0.418	5578
Monthly																		
Total						0						1736137						224192

Annual Sediment Load (Metric Tonnes) : 2435520

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : KURUBHATA (EMK00E2) **Division : MD,CWC,Burla**

Local River : Mand **Sub-Division : MMSD II,CWC,Burla**

Day	Sep						Oct						Nov					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	100.5	0.000	0.000	0.119	0.119	1035	150.0	0.000	0.000	0.000	0.000	0	26.66	0.000	0.000	0.000	0.000	0
2	80.00	0.000	0.000	0.000	0.000	0	152.0	0.000	0.000	0.000	0.000	0	25.93	0.000	0.000	0.000	0.000	0
3	81.00	0.000	0.000	0.000	0.000	0	147.2	0.000	0.000	0.396	0.396	5036	29.09	0.000	0.000	0.000	0.000	0
4	64.98	0.000	0.000	0.084	0.084	471	149.9	0.000	0.000	0.391	0.391	5061	16.00	0.000	0.000	0.000	0.000	0
5	56.85	0.000	0.000	0.102	0.102	499	137.7	0.000	0.000	0.260	0.260	3092	16.00	0.000	0.000	0.000	0.000	0
6	46.31	0.000	0.000	0.096	0.096	382	90.35	0.000	0.000	0.190	0.190	1480	27.53	0.000	0.000	0.048	0.048	115
7	43.87	0.000	0.000	0.090	0.090	342	144.0	0.000	0.000	0.285	0.285	3547	26.78	0.000	0.000	0.000	0.000	0
8	38.17	0.000	0.000	0.090	0.090	297	148.0	0.000	0.000	0.000	0.000	0	24.90	0.000	0.000	0.000	0.000	0
9	36.73	0.000	0.000	0.085	0.085	268	153.1	0.000	0.000	0.288	0.288	3806	24.99	0.000	0.000	0.000	0.000	0
10	45.00	0.000	0.000	0.000	0.000	0	147.0	0.000	0.000	0.245	0.245	3106	22.86	0.000	0.000	0.000	0.000	0
11	71.10	0.000	0.000	0.111	0.111	681	148.5	0.000	0.000	0.203	0.203	2599	25.17	0.000	0.000	0.000	0.000	0
12	63.67	0.000	0.000	0.110	0.110	605	90.50	0.000	0.000	0.160	0.160	1250	25.00	0.000	0.000	0.000	0.000	0
13	61.48	0.000	0.000	0.110	0.110	584	80.09	0.000	0.000	0.121	0.121	836	23.31	0.000	0.000	0.041	0.041	83
14	80.96	0.000	0.000	0.120	0.120	840	69.26	0.000	0.000	0.087	0.087	522	22.03	0.000	0.000	0.000	0.000	0
15	75.24	0.000	0.000	0.118	0.118	767	60.00	0.000	0.000	0.000	0.000	0	17.88	0.000	0.000	0.000	0.000	0
16	72.08	0.000	0.000	0.112	0.112	698	59.30	0.000	0.000	0.085	0.085	435	17.83	0.000	0.000	0.000	0.000	0
17	65.00	0.000	0.000	0.000	0.000	0	46.98	0.000	0.000	0.082	0.082	332	17.84	0.000	0.000	0.000	0.000	0
18	94.83	0.000	0.000	0.122	0.122	1001	42.09	0.000	0.000	0.080	0.080	291	22.52	0.000	0.000	0.000	0.000	0
19	75.94	0.000	0.000	0.116	0.116	763	41.00	0.000	0.000	0.000	0.000	0	22.70	0.000	0.000	0.000	0.000	0
20	182.3	0.000	0.000	0.455	0.455	7164	42.65	0.000	0.000	0.080	0.080	295	22.67	0.000	0.000	0.041	0.041	80
21	474.2	0.000	0.000	0.869	0.869	35604	42.11	0.000	0.000	0.075	0.075	273	22.32	0.000	0.000	0.000	0.000	0
22	1399	0.595	0.725	1.128	2.448	295874	41.00	0.000	0.000	0.000	0.000	0	22.50	0.000	0.000	0.000	0.000	0
23	881.2	0.000	0.000	0.883	0.883	67260	36.23	0.000	0.000	0.072	0.072	225	22.00	0.000	0.000	0.000	0.000	0
24	300.0	0.000	0.000	0.000	0.000	0	39.00	0.000	0.000	0.074	0.074	249	17.21	0.000	0.000	0.000	0.000	0
25	199.3	0.000	0.000	0.740	0.740	12739	73.13	0.000	0.000	0.084	0.084	531	16.87	0.000	0.000	0.000	0.000	0
26	141.2	0.000	0.000	0.405	0.405	4938	34.75	0.000	0.000	0.065	0.065	195	16.00	0.000	0.000	0.000	0.000	0
27	126.9	0.000	0.000	0.386	0.386	4227	31.03	0.000	0.000	0.063	0.063	169	19.83	0.000	0.000	0.040	0.040	69
28	120.9	0.000	0.000	0.380	0.380	3966	29.95	0.000	0.000	0.063	0.063	162	19.49	0.000	0.000	0.000	0.000	0
29	140.0	0.000	0.000	0.000	0.000	0	29.00	0.000	0.000	0.000	0.000	0	16.43	0.000	0.000	0.000	0.000	0
30	145.0	0.000	0.000	0.000	0.000	0	28.10	0.000	0.000	0.060	0.060	146	14.08	0.000	0.000	0.000	0.000	0
31							27.35	0.000	0.000	0.059	0.059	139						
Ten Daily Mean																		
Ten Daily I	59.34	0.000	0.000	0.095	0.095	471	141.9	0.000	0.000	0.205	0.205	2513	24.08	0.000	0.000	0.005	0.005	11
Ten Daily II	84.26	0.000	0.000	0.153	0.153	1456	68.04	0.000	0.000	0.090	0.090	656	21.69	0.000	0.000	0.008	0.008	16
Ten Daily III	392.8	0.074	0.091	0.684	0.873	60658	37.42	0.000	0.000	0.061	0.061	209	18.67	0.000	0.000	0.004	0.004	7
Monthly																		
Total						441006						33779						346

Annual Sediment Load (Metric Tonnes) : 2435520

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : KURUBHATA (EMK00E2) **Division : MD,CWC,Burla**

Local River : Mand **Sub-Division : MMSD II,CWC,Burla**

Day	Dec						Jan						Feb					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	16.73	0.000	0.000	0.000	0.000	0	6.189	0.000	0.000	0.000	0.000	0	3.020	0.000	0.000	0.000	0.000	0
2	16.00	0.000	0.000	0.000	0.000	0	6.032	0.000	0.000	0.000	0.000	0	2.986	0.000	0.000	0.000	0.000	0
3	14.00	0.000	0.000	0.000	0.000	0	5.668	0.000	0.000	0.000	0.000	0	2.803	0.000	0.000	0.000	0.000	0
4	13.65	0.000	0.000	0.022	0.022	26	5.381	0.000	0.000	0.000	0.000	0	2.700	0.000	0.000	0.000	0.000	0
5	13.62	0.000	0.000	0.000	0.000	0	4.593	0.000	0.000	0.000	0.000	0	2.786	0.000	0.000	0.000	0.000	0
6	13.81	0.000	0.000	0.000	0.000	0	4.168	0.000	0.000	0.000	0.000	0	2.764	0.000	0.000	0.000	0.000	0
7	13.68	0.000	0.000	0.000	0.000	0	4.000	0.000	0.000	0.000	0.000	0	2.761	0.000	0.000	0.000	0.000	0
8	12.85	0.000	0.000	0.000	0.000	0	6.159	0.000	0.000	0.000	0.000	0	2.530	0.000	0.000	0.000	0.000	0
9	11.12	0.000	0.000	0.000	0.000	0	5.187	0.000	0.000	0.000	0.000	0	2.519	0.000	0.000	0.000	0.000	0
10	10.71	0.000	0.000	0.000	0.000	0	5.163	0.000	0.000	0.000	0.000	0	2.513	0.000	0.000	0.000	0.000	0
11	10.67	0.000	0.000	0.020	0.020	19	5.109	0.000	0.000	0.000	0.000	0	2.500	0.000	0.000	0.000	0.000	0
12	10.64	0.000	0.000	0.000	0.000	0	5.060	0.000	0.000	0.000	0.000	0	3.366	0.000	0.000	0.000	0.000	0
13	10.76	0.000	0.000	0.000	0.000	0	4.071	0.000	0.000	0.000	0.000	0	3.325	0.000	0.000	0.000	0.000	0
14	10.39	0.000	0.000	0.000	0.000	0	4.600	0.000	0.000	0.000	0.000	0	3.435	0.000	0.000	0.000	0.000	0
15	8.728	0.000	0.000	0.000	0.000	0	3.744	0.000	0.000	0.000	0.000	0	3.977	0.000	0.000	0.000	0.000	0
16	8.461	0.000	0.000	0.000	0.000	0	3.939	0.000	0.000	0.000	0.000	0	3.935	0.000	0.000	0.000	0.000	0
17	8.000	0.000	0.000	0.000	0.000	0	3.619	0.000	0.000	0.000	0.000	0	4.028	0.000	0.000	0.000	0.000	0
18	8.064	0.000	0.000	0.020	0.020	14	3.623	0.000	0.000	0.000	0.000	0	4.000	0.000	0.000	0.000	0.000	0
19	7.801	0.000	0.000	0.000	0.000	0	3.560	0.000	0.000	0.000	0.000	0	3.206	0.000	0.000	0.000	0.000	0
20	6.777	0.000	0.000	0.000	0.000	0	3.532	0.000	0.000	0.000	0.000	0	3.214	0.000	0.000	0.000	0.000	0
21	6.646	0.000	0.000	0.000	0.000	0	3.500	0.000	0.000	0.000	0.000	0	3.205	0.000	0.000	0.000	0.000	0
22	6.562	0.000	0.000	0.000	0.000	0	3.195	0.000	0.000	0.000	0.000	0	3.183	0.000	0.000	0.000	0.000	0
23	7.340	0.000	0.000	0.000	0.000	0	3.177	0.000	0.000	0.000	0.000	0	3.174	0.000	0.000	0.000	0.000	0
24	7.000	0.000	0.000	0.000	0.000	0	3.126	0.000	0.000	0.000	0.000	0	3.173	0.000	0.000	0.000	0.000	0
25	7.000	0.000	0.000	0.000	0.000	0	3.647	0.000	0.000	0.000	0.000	0	2.500	0.000	0.000	0.000	0.000	0
26	7.006	0.000	0.000	0.000	0.000	0	3.600	0.000	0.000	0.000	0.000	0	1.850	0.000	0.000	0.000	0.000	0
27	6.495	0.000	0.000	0.000	0.000	0	3.047	0.000	0.000	0.000	0.000	0	1.853	0.000	0.000	0.000	0.000	0
28	6.945	0.000	0.000	0.000	0.000	0	3.000	0.000	0.000	0.000	0.000	0	1.693	0.000	0.000	0.000	0.000	0
29	6.478	0.000	0.000	0.000	0.000	0	3.158	0.000	0.000	0.000	0.000	0						
30	7.422	0.000	0.000	0.000	0.000	0	3.155	0.000	0.000	0.000	0.000	0						
31	7.000	0.000	0.000	0.000	0.000	0	3.017	0.000	0.000	0.000	0.000	0						
Ten Daily Mean																		
Ten Daily I	13.62	0.000	0.000	0.002	0.002	3	5.254	0.000	0.000	0.000	0.000	0	2.738	0.000	0.000	0.000	0.000	0
Ten Daily II	9.029	0.000	0.000	0.004	0.004	3	4.086	0.000	0.000	0.000	0.000	0	3.499	0.000	0.000	0.000	0.000	0
Ten Daily III	6.900	0.000	0.000	0.000	0.000	0	3.238	0.000	0.000	0.000	0.000	0	2.579	0.000	0.000	0.000	0.000	0
Monthly																		
Total						59						0						0

Annual Sediment Load (Metric Tonnes) : 2435520

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : KURUBHATA (EMK00E2) **Division : MD,CWC,Burla**

Local River : Mand **Sub-Division : MMSD II,CWC,Burla**

Day	Mar						Apr						May					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	1.691	0.000	0.000	0.000	0.000	0	0.320	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
2	1.600	0.000	0.000	0.000	0.000	0	0.202	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
3	1.237	0.000	0.000	0.000	0.000	0	0.201	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
4	1.200	0.000	0.000	0.000	0.000	0	0.202	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
5	1.231	0.000	0.000	0.000	0.000	0	0.201	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
6	1.217	0.000	0.000	0.000	0.000	0	0.198	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
7	1.155	0.000	0.000	0.000	0.000	0	0.158	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
8	0.736	0.000	0.000	0.000	0.000	0	0.160	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
9	0.734	0.000	0.000	0.000	0.000	0	0.157	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
10	0.762	0.000	0.000	0.000	0.000	0	0.151	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
11	0.700	0.000	0.000	0.000	0.000	0	0.147	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
12	0.637	0.000	0.000	0.000	0.000	0	0.145	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
13	0.630	0.000	0.000	0.000	0.000	0	0.144	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
14	0.702	0.000	0.000	0.000	0.000	0	0.158	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
15	0.703	0.000	0.000	0.000	0.000	0	0.142	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
16	0.698	0.000	0.000	0.000	0.000	0	0.139	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
17	0.411	0.000	0.000	0.000	0.000	0	0.127	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
18	0.410	0.000	0.000	0.000	0.000	0	0.125	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
19	0.449	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	0.447	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
21	0.438	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
22	0.432	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	0.424	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
24	0.421	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
25	0.400	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	0.365	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27	0.329	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
28	0.344	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
29	0.340	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
30	0.340	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
31	0.341	0.000	0.000	0.000	0.000	0							0.000	0.000	0.000	0.000	0.000	0
Ten Daily Mean																		
Ten Daily I	1.156	0.000	0.000	0.000	0.000	0	0.195	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily II	0.579	0.000	0.000	0.000	0.000	0	0.113	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily III	0.379	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Monthly																		
Total						0						0						0

Annual Sediment Load (Metric Tonnes) : 2435520

Annual Sediment Load for period : 1978-2018

Station Name : KURUBHATA (EMK00E2) **Division : MD,CWC,Burla**

Local River : Mand **Sub-Division : MMSD II,CWC,Burla**

Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)
1978-1979	0	0	0	2370
1979-1980	0	0	0	878
1980-1981	2387494	359	2387852	2852
1981-1982	1613961	3434	1617396	1743
1982-1983	2227490	7152	2234642	1854
1983-1984	2364467	4440	2368907	2351
1984-1985	2782091	9684	2791774	2701
1985-1986	2602368	4691	2607059	2537
1986-1987	2364143	4776	2368919	2503
1987-1988	3517501	10970	3528472	2135
1988-1989	2962040	168	2962208	2199
1989-1990	2477458	524	2477982	2189
1990-1991	1996120	917	1997037	2851
1991-1992	4354575	2451	4357027	3011
1992-1993	1221530	79	1221609	1576
1993-1994	2436824	216	2437040	2765
1994-1995	5220590	2133	5222723	5114
1995-1996	1389085	415	1389501	1746
1996-1997	3441848	330	3442178	2771
1997-1998	2402131	25741	2427873	2606
1998-1999	2360419	3066	2363485	2974
1999-2000	2196790	2056	2198846	3644
2000-2001	440600	22	440621	1079
2001-2002	2826376	1064	2827440	3723
2002-2003	1767900	407	1768307	1872
2003-2004	1902520	866	1903386	2967
2004-2005	627685	2078	629763	2027
2005-2006	1479334	278	1479612	1946
2006-2007	1234428	83	1234511	1615
2007-2008	1141781	109	1141890	1825
2008-2009	1325650	68	1325718	2100
2009-2010	196647	129	196776	978
2010-2011	197845	0	197845	1264
2011-2012	3248276	0	3248276	3167
2012-2013	464127	137	464264	1686
2013-2014	854229	1800	856029	2278
2014-2015	1781541	397	1781938	1731
2015-2016	1717284	190	1717474	1883
2016-2017	750397	56	750453	2327
2017-2018	2435461	59	2435520	2270

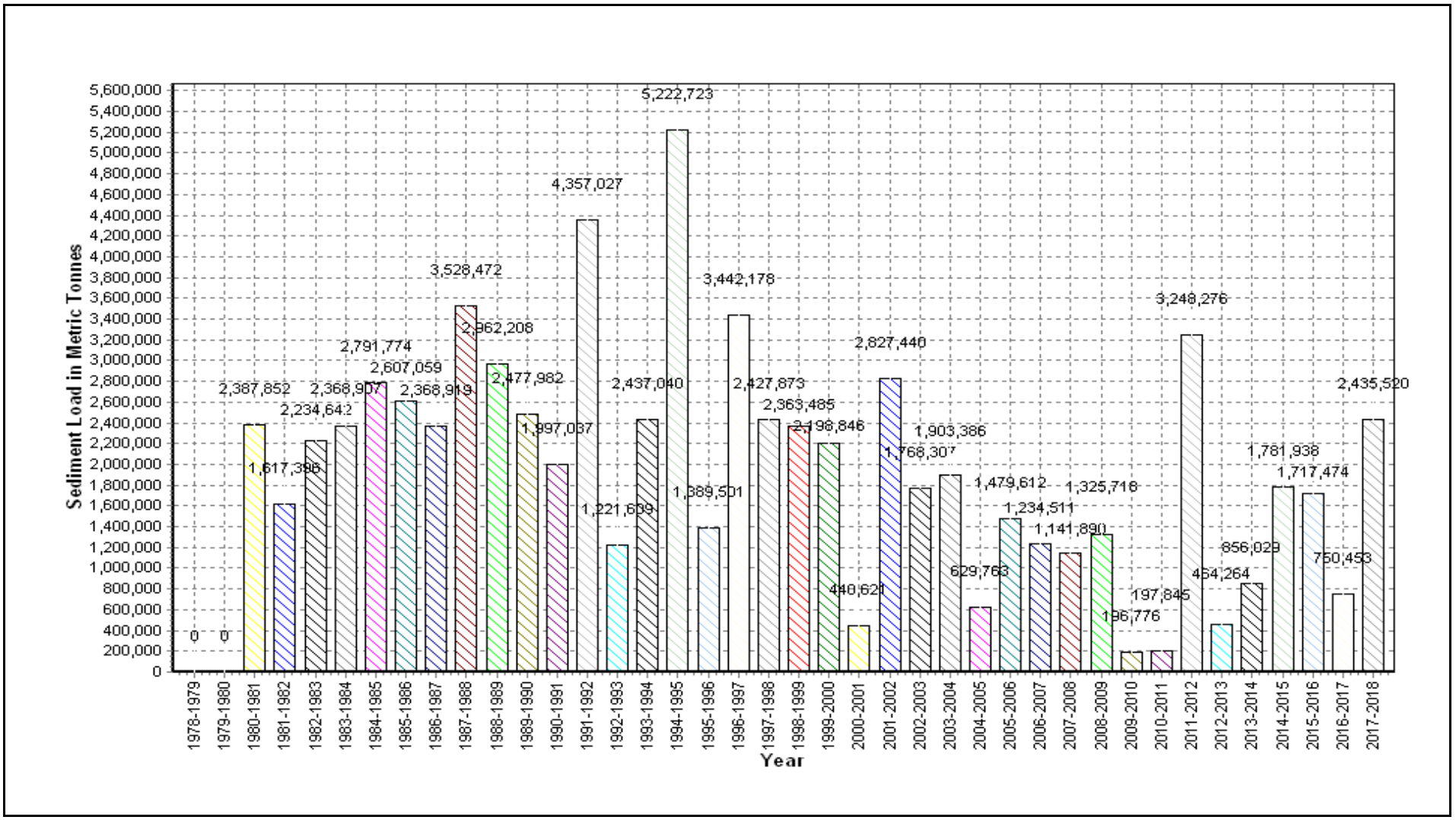
Annual Sediment Load for the period: 1978-2018

Station Name : KURUBHATA (EMK00E2)

Local River : Mand

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla



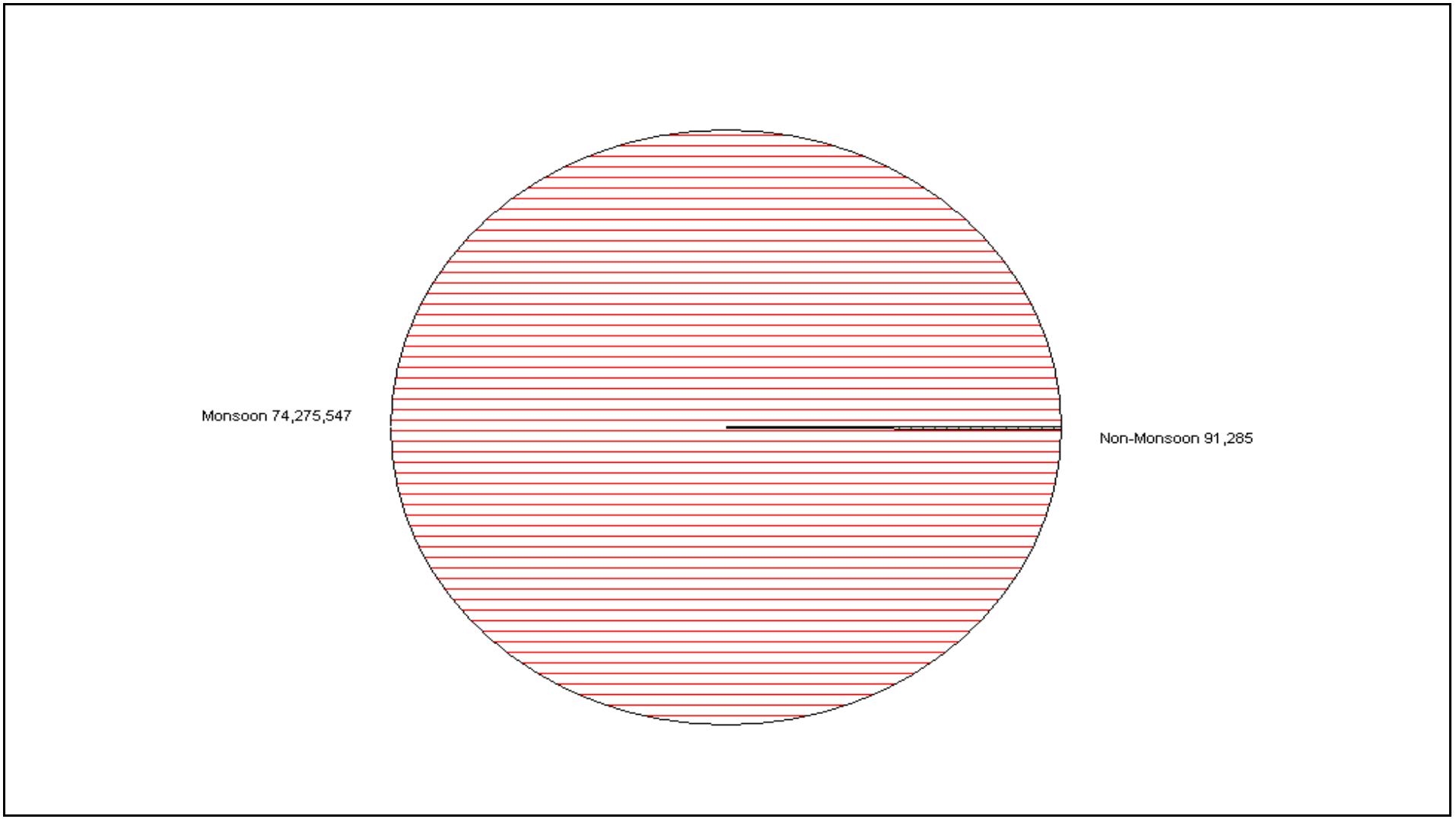
Seasonal Sediment Load for the period : 1978-2017

Station Name : KURUBHATA (EMK00E2)

Local River : Mand

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla



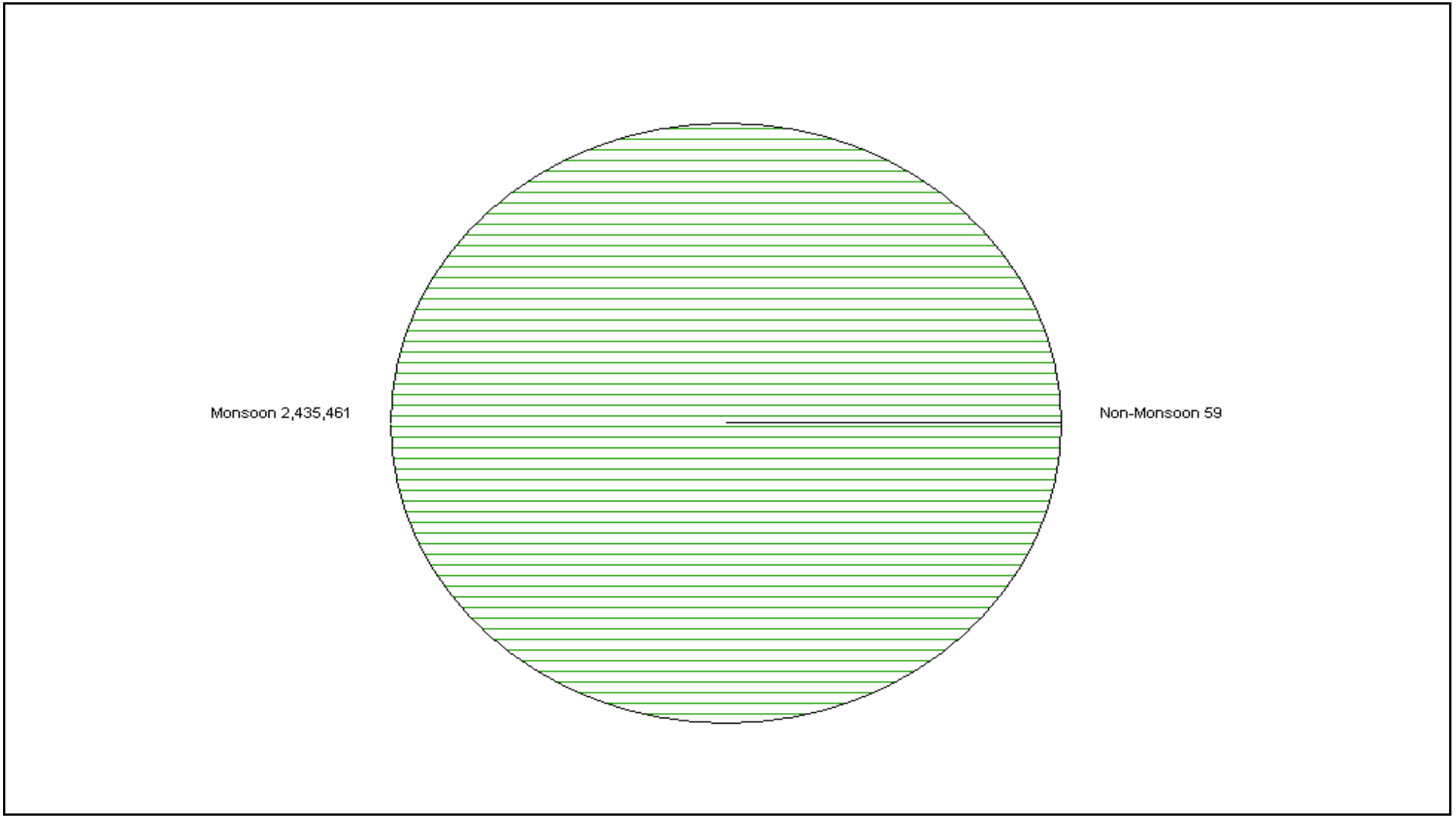
Seasonal Sediment Load for the Year: 2017-2018

Station Name : KURUBHATA (EMK00E2)

Local River : Mand

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla



SECTION-III

Water Quality Datasheet for the period : 2017-2018

Station Name : KURUBHATA (EMK00E2) **Division : MD,CWC,Burla**

Local River : Mand **River Water Analysis** **Sub-Division : MMSD II,CWC,Burla**

S.No	Parameters	01/06/2017	01/07/2017	01/08/2017	01/09/2017	03/10/2017	01/11/2017	01/12/2017	01/01/2018	01/02/2018	01/03/2018	02/04/2018	01/05/2018
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)	0.401	57.60	267.7	100.5	147.2	26.66	16.73	6.189	3.020	1.691	0.202	0.000
2	Colour_Cod (-)	Clear	Brown	Brown	Light Brown	Light Brown	Clear	Clear	Clear	Clear	Clear	Clear	
3	EC_FLD (µmho/cm)	194		88	116	114	287	142	132	135	132	143	
4	EC_GEN (µmho/cm)	188	117	249	89	181	254	129	151	159	145	162	
5	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	
6	pH_FLD (pH units)	7.7	7.4	7.1	7.7	7.6	8.1	7.4	7.4	7.4	7.5	7.4	
7	pH_GEN (pH units)	8.3	7.8	8.2	8.4	8.3	7.6	8.5	7.7	7.9	7.7	7.8	
8	Temp (deg C)	32.2	26.5	29.6	31.5	31.8	26.2	21.4	19.0	18.4	24.4	26.2	
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
2	ALK-TOT (mgCaCO3/L)	196	96	168	156	128	116	64	160	176	164	156	
3	Ca (mg/L)	46	32	37	21	45	37	29	46	30	29	34	
4	Cl (mg/L)	22.0	33.0	15.0	25.0	24.0	24.0	22.0	39.0	14.0	15.0	17.0	
5	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
6	HCO3 (mg/L)	120	59	103	95	78	71	39	98	107	100	95	
7	K (mg/L)	12.1	18.8	7.6	16.3	14.6	6.7	8.4	11.1	19.0	6.6	11.2	
8	Mg (mg/L)	19.4	9.8	1.9	25.3	6.8	8.8	9.7	3.9	7.8	6.8	8.8	
9	Na (mg/L)	15.7	43.7	28.8	37.1	40.3	16.5	18.3	33.4	17.0	12.1	19.9	
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)	0.5	0.5	0.6	0.8	0.9	0.8	0.9	0.4	1.7	0.6	0.9	
2	DO (mg/L)	5.6	5.5	4.8	6.8	6.2	6.8	7.2	6.8	6.7	6.2	5.7	
3	DO_SAT% (%)	77	68	62	92	84	84	81	73	71	74	70	
4	FCol-MPN (MPN/100mL)	40	40	140	60	60	40	70		60	60	70	
5	Tcol-MPN (MPN/100mL)	90	90	210	90	90	70	110		120	90	40	
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)	116	80	92	52	112	92	72	116	76	72	84	
2	HAR_Total (mgCaCO3/L)	197	121	100	157	141	129	113	132	109	100	121	
3	Na% (%)	14	40	36	31	36	21	24	33	22	19	24	
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
5	SAR (-)	0.5	1.7	1.3	1.3	1.5	0.6	0.8	1.3	0.7	0.5	0.8	
	PESTICIDES												

Water Quality Summary for the period : 2017-2018

Station Name : KURUBHATA (EMK00E2) **Division : MD,CWC,Burla**

Local River : Mand **Sub-Division : MMSD II,CWC,Burla**

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	365	1759	0.000	71.98
2	EC_FLD (µmho/cm)	10	287	88	148
3	EC_GEN (µmho/cm)	11	254	89	166
4	pH_FLD (pH units)	11	8.1	7.1	7.5
5	pH_GEN (pH units)	11	8.5	7.6	8
6	Temp (deg C)	11	32.2	18.4	26.1
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	11	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	11	196	64	144
3	Ca (mg/L)	11	46	21	35
4	Cl (mg/L)	11	39.0	14.0	22.7
5	CO3 (mg/L)	11	0.0	0.0	0
6	HCO3 (mg/L)	11	120	39	88
7	K (mg/L)	11	19.0	6.6	12
8	Mg (mg/L)	11	25.3	1.9	9.9
9	Na (mg/L)	11	43.7	12.1	25.7
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	11	1.7	0.4	0.8
2	DO (mg/L)	11	7.2	4.8	6.2
3	DO_SAT% (%)	11	92	62	76
4	FCol-MPN (MPN/100mL)	10	140	40	64
5	Tcol-MPN (MPN/100mL)	10	210	40	100
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	11	116	52	88
2	HAR_Total (mgCaCO3/L)	11	197	100	129
3	Na% (%)	11	40	14	27
4	RSC (-)	11	0.0	0.0	0
5	SAR (-)	11	1.7	0.5	1
	PESTICIDES				

Water Quality Seasonal Average for the period: 2003-2018

Station Name : KURUBHATA (EMK00E2) | **Division : MD,CWC,Burla**

Local River : Mand | **River Water** | **Sub-Division : MMSD II,CWC,Burla**

S.No	Parameters	Flood														
		Jun - Oct														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	PHYSICAL															
1	Q (cumec)	557.1	91.17	265.1	252.8	105.2	340.3	46.96	50.21	76.02	118.8	130.5	41.21	93.14	135.0	114.7
2	EC_FLD (µmho/cm)	122	94	103	79	75								130	138	128
3	EC_GEN (µmho/cm)	122	94	103	79	80	196	114	113	99	116	95	114	103	162	165
4	pH_FLD (pH units)	6.6	8.1	7.5	7.4	7.5	7.7	7.8	7.8	7.6	6.4	6.5	6.7	7.4	6.9	7.5
5	pH_GEN (pH units)	6.6	8.1	7.5	7.5	7.7	7.8	7.9	7.5	7.7	8.0	8.3	7.9	7.8	7.6	8.2
6	Temp (deg C)	26.0	30.0	30.0	26.9	28.0	28.5	30.3	28.0	28.1	27.2	28.3	29.6	29.1	30.8	30.3
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	123	114	68		56	143	80	78	96	102	113	121	109	130	149
3	B (mg/L)			0.04		0.01	0.00	0.00	0.00	0.00	0.00					
4	Ca (mg/L)	12	16	7		7	12	8	9	7	11	14	16	16	26	36
5	Cl (mg/L)	18.8	10.5	12.3		5.8	4.8	5.3	3.6	4.8	9.0	12.8	11.4	14.4	14.0	23.8
6	CO3 (mg/L)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0
7	F (mg/L)	0.99		0.29		0.07	0.09	0.07	0.07	0.17	0.12					
8	Fe (mg/L)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
9	HCO3 (mg/L)	75	92	41		34	87	49	47	58	62	69	74	65	80	91
10	K (mg/L)			1.3		0.8	1.2	1.6	2.3	1.9	1.3	5.1	4.1	5.5	15.5	13.9
11	Mg (mg/L)	3.0	4.0	3.1		3.3	8.3	4.4	6.0	5.4	6.1	3.5	6.8	8.8	8.4	12.6
12	Na (mg/L)			6.9		12.2	5.2	5.1	5.3	2.9	7.1	11.4	15.4	11.0	26.0	33.1
13	NO2+NO3 (mg N/L)			0.05	0.06	0.08	0.77									
14	NO2-N (mgN/L)			0.00	0.00	0.01	0.01	0.01	0.01	0.02	0.03					
15	NO3-N (mgN/L)			0.05	0.05	0.07	0.76									
16	P-Tot (mgP/L)			0.030		0.010	0.017	0.015	0.017	0.027	0.047					
17	SiO2 (mg/L)			5.1		6.8	15.7	8.9	5.9	12.9	12.1					
18	SO4 (mg/L)	22.0	57.0	7.7		7.3	6.3	9.8	8.9	11.5	13.6					

Water Quality Seasonal Average for the period: 2003-2018

Station Name : KURUBHATA (EMK00E2) | **Division : MD,CWC,Burla**

Local River : Mand | **River Water** | **Sub-Division : MMSD II,CWC,Burla**

S.No	Parameters	Flood														
		Jun - Oct														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	1.9	0.7	0.7	0.5	1.6	0.9	0.9	0.8	0.5	0.8	0.4	0.6	0.6	0.7	0.7
2	COD (mg/L)					12.0	14.0	16.0	13.0	16.0	19.0					
3	DO (mg/L)	6.2	4.8	6.3	6.4	8.8	6.6	7.0	6.4	6.7	7.2	7.0	7.1	6.4	6.5	5.8
4	DO_SAT% (%)	77	63	83	80	112	84	93	81	85	90	89	92	84	87	76
5	FCol-MPN (MPN/100mL)															68
6	Tcol-MPN (MPN/100mL)															114
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	29	40	18		17	31	20	22	19	27	36	41	39	66	91
2	HAR_Total (mgCaCO3/L)	42	57	31		31	66	38	47	41	52	51	69	76	101	143
3	Na% (%)			34		46	24	22	19	13	22	21	32	21	31	31
4	RSC (-)	0.4	0.0	0.1		0.1	0.1	0.1	0.0	0.1	0.1	0.3	0.0	0.0	0.0	0.0
5	SAR (-)			0.6		1.0	0.4	0.4	0.3	0.2	0.4	0.6	0.8	0.5	1.1	1.2
	PESTICIDES															

Water Quality Seasonal Average for the period: 2003-2018

Station Name : KURUBHATA (EMK00E2) **Division : MD,CWC,Burla**

Local River : Mand **River Water** **Sub-Division : MMSD II,CWC,Burla**

S.No	Parameters	Winter														
		Nov - Feb														
		2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
	PHYSICAL															
1	Q (cumec)	41.76	28.52	25.59	5.278	9.164	13.19	8.365	7.620	18.26	7.739	33.20	11.28	23.98	10.80	13.15
2	EC_FLD (µmho/cm)	98	116	112	126								130	113	95	174
3	EC_GEN (µmho/cm)	98	116	112	126	211	124	142	137	120	158	192	107	111	137	173
4	pH_FLD (pH units)	7.7	7.7	7.7	8.1		8.3	7.8	8.2	7.5	6.7	6.3	6.8	7.3	7.1	7.6
5	pH_GEN (pH units)	7.7	7.7	7.7	8.1	8.0	8.2	8.0	7.7	8.0	7.8	8.2	8.1	8.1	8.0	7.9
6	Temp (deg C)	22.5	23.7	24.7	23.0	18.6	21.9	20.0	21.8	21.4	19.3	20.3	22.1	22.7	22.8	21.3
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0		0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	91	87	79		154	85	100	66	90	132	138	134	119	127	129
3	B (mg/L)			0.06		0.01	0.00	0.01	0.00	0.00	0.00					
4	Ca (mg/L)	11	8	9		11	8	10	12	10	16	22	20	17	41	36
5	Cl (mg/L)	11.0	4.0	10.0		26.9	10.2	4.5	14.2	12.9	14.3	13.8	13.8	12.0	26.5	24.8
6	CO3 (mg/L)	0.0	0.0	0.0		0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.77	19.00	0.05		0.10	0.06	0.09	0.06	0.17	0.21					
8	Fe (mg/L)			0.0		0.1	0.1	0.0	0.0	0.1	0.0		0.1			
9	HCO3 (mg/L)	51	53	48		94	50	61	40	55	81	84	82	73	77	79
10	K (mg/L)		1.6	1.9		2.5	2.2	1.4	1.6	2.1	1.2	10.9	3.8	5.9	7.5	11.3
11	Mg (mg/L)	5.7	3.7	3.7		8.6	4.4	5.2	6.8	5.8	8.4	6.5	10.9	9.0	13.9	7.5
12	Na (mg/L)		4.7	6.1		14.6	6.9	6.9	14.5	7.7	25.3	18.8	15.7	15.4	18.5	21.3
13	NO2+NO3 (mg N/L)		0.77	0.04	0.03	0.09	0.30						0.11			
14	NO2-N (mgN/L)			0.00	0.00	0.01	0.01	0.02	0.01	0.01	0.02		0.01			
15	NO3-N (mgN/L)			0.04	0.03	0.08	0.30						0.10			
16	P-Tot (mgP/L)		0.020	0.017		0.030	0.010	0.015	0.030	0.032	0.042		0.040			
17	SiO2 (mg/L)			18.0		17.3	5.6	7.6	11.8	11.5	11.0		9.0			
18	SO4 (mg/L)	8.7	3.4	5.0		11.0	11.2	11.0	14.7	14.9	14.2		13.8			

Water Quality Seasonal Average for the period: 2003-2018

Station Name : KURUBHATA (EMK00E2) | **Division : MD,CWC,Burla**

Local River : Mand | **River Water** | **Sub-Division : MMSD II,CWC,Burla**

S.No	Parameters	Winter														
		Nov - Feb														
		2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.5	0.5	0.4	0.5	0.7	0.5	0.6	0.8	0.4	0.8	0.7	0.6	0.5	1.1	1.0
2	COD (mg/L)					19.0	17.0	21.0	16.0	14.0	19.0					
3	DO (mg/L)	6.3	7.7	7.8	7.5	8.8	8.2	7.9	8.0	8.1	8.5	8.4	8.4	7.7	7.0	6.9
4	DO_SAT% (%)	85	91	94	87	93	93	85	91	91	91	92	95	88	81	77
5	FCol-MPN (MPN/100mL)															57
6	Tcol-MPN (MPN/100mL)															100
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	29	20	22		27	20	25	29	25	40	54	50	42	102	89
2	HAR_Total (mgCaCO3/L)	52	35	38		63	38	47	57	49	74	81	96	80	159	121
3	Na% (%)		25	25		39	27	23	34	24	36	25	25	28	20	25
4	RSC (-)	0.0	0.2	0.1		0.3	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
5	SAR (-)		0.4	0.4		1.0	0.5	0.5	0.8	0.5	1.3	0.9	0.7	0.8	0.6	0.8
	PESTICIDES															

Water Quality Seasonal Average for the period: 2003-2018

Station Name : KURUBHATA (EMK00E2) **Division : MD,CWC,Burla**

Local River : Mand **River Water** **Sub-Division : MMSD II,CWC,Burla**

S.No	Parameters	Summer														
		Mar - May														
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	PHYSICAL															
1	Q (cumec)	4.000	16.21		1.417	1.442	0.455	0.208		2.121	1.340	9.190	0.470	1.252	0.579	0.631
2	EC_FLD (µmho/cm)	119	121											139	129	138
3	EC_GEN (µmho/cm)	119	121			188	139	135	271	157	145	167	118	173	222	154
4	pH_FLD (pH units)	7.8	7.7			8.8	8.0	7.4	7.1	7.5	6.8	6.8	7.2	8.1	8.0	7.5
5	pH_GEN (pH units)	7.8	7.7			7.8	7.9	8.0	6.8	7.7	8.7	8.2	8.4	8.4	8.3	7.7
6	Temp (deg C)		28.0			27.2	26.5	24.1	29.0	22.6	27.5	26.9	25.5	29.3	27.0	25.3
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	110	128			93	99	98	173	113	171	161	140	159	173	160
3	B (mg/L)					0.01	0.00	0.01	0.00	0.00	0.00					
4	Ca (mg/L)	14	16			9	10	9	21	14	15	19	18	19	37	31
5	Cl (mg/L)	9.0	6.0			12.3	6.4	5.7	8.6	15.2	20.7	14.7	14.7	15.3	40.7	16.0
6	CO3 (mg/L)	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	0.0	0.0	0.0
7	F (mg/L)		0.38			0.12	0.08	0.63	0.12	0.17	0.19					
8	Fe (mg/L)					0.1	0.1	0.0	0.0	0.1	0.1		0.1			
9	HCO3 (mg/L)	67	78			56	60	60	105	69	104	98	81	97	106	98
10	K (mg/L)		1.8			2.3	2.6	4.1	2.2	1.8	6.1	3.7	5.9	16.5	6.2	8.9
11	Mg (mg/L)	5.1	4.4			4.9	5.3	5.3	10.7	8.3	3.6	13.6	11.0	4.8	16.5	7.8
12	Na (mg/L)		30.4			15.2	4.1	11.0	6.4	5.8	23.6	7.7	17.1	29.4	13.8	16.0
13	NO2+NO3 (mg N/L)					0.81	1.66						0.37			
14	NO2-N (mgN/L)					0.34	0.01	0.01	0.03	0.07	0.07		0.03			
15	NO3-N (mgN/L)					0.47	1.65						0.34			
16	P-Tot (mgP/L)		0.020			0.020	0.023	0.035	0.040	0.130	0.100		0.080			
17	SiO2 (mg/L)					16.7	13.9	17.6	26.9	12.1	13.2		13.3			
18	SO4 (mg/L)	1.6	15.2			8.0	10.5	10.5	23.0	15.8	16.0		15.5			

Water Quality Seasonal Average for the period: 2003-2018

Station Name : KURUBHATA (EMK00E2) **Division : MD,CWC,Burla**

Local River : Mand **River Water** **Sub-Division : MMSD II,CWC,Burla**

S.No	Parameters	Summer														
		Mar - May														
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	1.4	0.8			0.9	0.4	0.8	0.7	1.1	0.8	0.3	0.9	0.6	1.3	0.8
2	COD (mg/L)					16.0	20.0	20.0	32.0	28.0	21.3					
3	DO (mg/L)	7.7	7.5			7.4	6.7	6.5	6.0	7.5	6.8	6.7	7.2	6.8	7.0	5.9
4	DO_SAT% (%)		96			92	83	77	78	86	85	83	87	87	93	72
5	FCol-MPN (MPN/100mL)															65
6	Tcol-MPN (MPN/100mL)															65
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	35	40			23	25	23	52	36	39	48	44	47	92	78
2	HAR_Total (mgCaCO3/L)	56	58			43	47	45	96	70	54	105	90	67	161	111
3	Na% (%)		52			42	15	32	12	15	37	14	27	41	16	22
4	RSC (-)	0.0	0.1			0.1	0.1	0.1	0.0	0.0	0.6	0.0	0.0	0.5	0.0	0.0
5	SAR (-)		1.7			1.0	0.3	0.7	0.3	0.3	1.4	0.3	0.8	1.8	0.5	0.7
	PESTICIDES															

IB SUB-BASIN

SITE SUNDARGARH

HISTORY SHEET

Water Year : 2017-2018

Site	**: SUNDERGARH**		**Code**	**: EMI00H3**	
State	: Orissa		District	Sundergarh	
Basin	: Mahanadi		Independent River	: Mahanadi	
Tributary	: Ib		Sub Tributary	:	
Sub-Sub Tributary	:		Local River	: Ib	
Division	: MD,CWC,Burla		Sub-Division	: MMSD II,CWC,Burla	
Drainage Area	: 5870 Sq. Km.		Bank	:	
Latitude	: 22°06'55"		Longitude	: 84°00'40"	
Zero of Gauge (m)	: 214 (m.s.l)		07/08/1977	- 07/08/2025	
	Opening Date		Closing Date		
Gauge	: 07/08/1977				
Discharge	: 30/12/1977				
Sediment	: 21/07/1980				
Water Quality	: 02/06/1980				

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

	Maximum			Minimum		
Year	**Q (cumecs)**	**WL (m)**	**Date**	**Q (cumecs)**	**WL (m)**	**Date**
1978-1979	2067	220.813	03/09/1978	0.100	216.660	31/05/1979
1979-1980	1180	219.753	09/08/1979	0.050	216.610	13/06/1979
1980-1981	1600	220.000	10/07/1980	0.300	216.525	14/04/1981
1981-1982	2400	220.870	15/08/1981	0.100	216.640	15/05/1982
1982-1983	1187	219.750	08/08/1982	0.100	216.925	15/04/1983
1983-1984	1403	220.190	19/09/1983	0.100	216.880	21/05/1984
1984-1985	1709	220.400	19/06/1984	0.100	216.945	02/06/1984
1985-1986	2820	220.960	08/08/1985	0.400	216.885	13/04/1986
1986-1987	1385	219.940	27/07/1986	0.090	217.200	17/04/1987
1987-1988	4000	221.140	29/08/1987	0.100	216.610	06/06/1987
1988-1989	2842	220.950	04/08/1988	1.680	216.680	23/05/1989
1989-1990	914.4	219.060	13/07/1989	0.326	216.860	28/04/1990
1990-1991	1350	219.990	15/07/1990	0.446	217.060	11/05/1991
1991-1992	4591	222.140	24/07/1991	0.683	216.690	29/04/1992
1992-1993	1639	220.430	22/07/1992	0.030	216.820	07/05/1993
1993-1994	962.0	220.120	26/06/1993	0.090	216.750	10/05/1994
1994-1995	5780	221.850	18/09/1994	0.356	216.760	05/06/1994
1995-1996	800.3	219.720	18/07/1995	0.078	216.670	06/05/1996
1996-1997	6341	222.600	23/06/1996	0.155	216.590	27/05/1997
1997-1998	1306	219.980	10/09/1997	0.021	216.550	04/06/1997
1998-1999	10404	222.300	11/09/1998	0.520	216.420	24/04/1999
1999-2000	2030	220.640	14/09/1999	0.850	216.790	21/04/2000

Q : Observed / Computed Discharge WL : Corresponding Water Level(m.s.l)

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

	Maximum			Minimum		
Year	**Q (cumecs)**	**WL (m)**	**Date**	**Q (cumecs)**	**WL (m)**	**Date**
2000-2001	2000	219.480	19/07/2000	0.050	216.620	17/05/2001
2001-2002	3200	221.480	22/07/2001	0.130	216.235	23/05/2002
2002-2003	1664	220.220	12/09/2002	0.073	216.240	30/04/2003
2003-2004	1150	221.250	25/10/2003	0.445	216.725	28/05/2004
2004-2005	1112	219.760	09/08/2004	0.090	217.130	10/12/2004
2005-2006	878.5	219.370	05/08/2005	0.165	216.975	29/04/2006
2006-2007	1356	219.985	31/07/2006	0.005	216.905	14/04/2007
2007-2008	1418	219.765	07/07/2007	0.100	216.815	21/05/2008
2008-2009	1346	219.900	16/08/2008	0.081	216.770	15/04/2009
2009-2010	1675	220.090	03/10/2009	0.035	216.700	27/04/2010
2010-2011	1196	219.560	21/09/2010	0.103	216.750	04/04/2011
2011-2012	3099	221.160	10/09/2011	0.300	216.530	31/05/2012
2012-2013	1420	219.710	10/09/2012	0.170	216.495	14/06/2012
2013-2014	1070	219.520	14/10/2013	0.507	216.790	25/04/2014
2014-2015	1828	219.635	05/08/2014	0.157	216.590	24/03/2015
2015-2016	5652	222.530	11/07/2015	0.000	216.195	21/05/2016
2016-2017	993.1	219.350	18/07/2016	0.000	216.360	20/05/2017

Q : Observed / Computed Discharge WL : Corresponding Water Level(m.s.l)

Stage-Dischage Data for the period 2017 - 2018

Station Name : SUNDERGARH (EMI00H3) **Division : MD,CWC,Burla**

Local River : Ib **Sub-Division : MMSD II,CWC,Burla**

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	216.360	0.000 *	217.905	240.1	217.670	82.31	217.320	91.40	217.840	191.0 *	216.870	24.86
2	216.360	0.000 *	217.850	235.0 *	218.340	355.0	217.320	80.00	217.770	170.0 *	216.860	24.57
3	216.360	0.000 *	217.450	104.3	217.900	173.4	217.280	85.00	217.710	221.5	216.855	24.14
4	216.355	0.000 *	217.700	175.2	217.730	112.9	217.230	83.30	217.580	214.4	216.865	24.70 *
5	216.360	0.000 *	217.543	116.8	217.685	92.14	217.140	61.65	217.520	170.7	216.850	23.00 *
6	216.360	0.000 *	217.595	143.3	218.500	520.0 *	217.170	66.87	217.360	162.7	216.835	19.42
7	216.365	0.000 *	217.310	77.70	218.420	410.0	217.168	67.37	217.365	203.4	216.895	28.55
8	216.365	0.000 *	217.250	62.74	218.800	650.0	217.155	62.31	217.310	100.0 *	216.860	23.27
9	216.360	0.000 *	217.440	100.0 *	218.880	621.5	217.155	78.01	217.330	162.2	216.830	22.65
10	216.360	0.000 *	218.035	325.7	218.040	234.0	217.290	88.00 *	217.375	164.5	216.825	21.35
11	216.360	0.000 *	217.935	304.4	217.840	191.4	216.355	180.2	217.275	140.7	216.815	20.12
12	216.380	0.304	217.695	172.3	217.640	131.3	217.360	166.2	217.190	104.9	216.810	20.00 *
13	216.385	0.320	217.375	93.81	217.900	250.0 *	217.453	127.0	217.150	75.04	216.805	20.12
14	216.495	1.661	217.460	110.6	217.760	168.7	217.465	135.1	217.105	78.17	216.815	21.73
15	216.510	2.816	217.430	105.3	218.000	300.0 *	217.225	120.2	217.095	72.00 *	216.810	20.44
16	216.520	2.933	217.740	190.0 *	217.810	179.2	217.220	98.32	217.065	64.47	216.800	20.17
17	216.510	2.826	218.040	368.1	218.005	222.4	217.170	66.80 *	218.655	450.6	216.800	20.72
18	216.500	2.800 *	218.180	424.2	218.775	648.4	217.178	88.99	217.000	46.72	216.800	20.43
19	216.485	1.683	217.608	128.3	218.225	329.2	217.235	100.0	216.970	42.00 *	216.800	20.40 *
20	216.470	1.622	217.395	92.10	217.710	175.0 *	218.245	469.6	216.975	42.89	216.795	21.60
21	216.500	4.930	218.090	336.3	217.505	65.94	218.300	499.5	216.973	44.51	216.790	21.33
22	216.585	7.479	218.000	328.8	217.380	116.0	218.610	663.5	216.965	43.00 *	216.765	18.77
23	216.835	17.45	218.270	460.0 *	217.380	118.7	218.125	367.9	216.960	42.60	216.750	17.05
24	216.965	25.00	220.085	1633	217.505	108.8	217.720	175.0 *	216.965	41.79	216.740	16.39
25	217.050	33.10 *	219.660	1394	218.065	296.2	217.470	137.7	216.955	40.41	216.720	14.73
26	217.200	50.00 *	218.630	754.0	217.995	237.4	217.330	151.4	216.940	35.87	216.715	14.50 *
27	217.080	33.55	221.905	4232	217.610	142.0 *	217.250	105.6	216.920	34.01	216.690	15.21
28	217.025	33.04	219.695	908.5	217.735	171.7	217.190	100.7	216.915	33.09	216.690	15.94
29	217.945	251.2	218.620	371.2	217.490	143.0	217.570	122.0	216.895	30.00 *	216.665	13.36
30	217.660	144.5	218.050	300.0 *	217.400	123.6	217.970	290.0	216.885	28.03	216.655	12.60
31			216.855	155.3	217.340	109.1			216.880	30.04		
Ten-Daily Mean												
I Ten-Daily	216.361	0.000	217.608	158.1	218.197	325.1	217.223	76.39	217.516	176.0	216.854	23.65
II Ten-Daily	216.462	1.697	217.686	198.9	217.967	259.6	217.290	155.2	217.248	111.7	216.805	20.57
III Ten-Daily	217.085	60.02	218.896	988.5	217.582	148.4	217.753	261.3	216.932	36.67	216.718	15.99
Monthly												
Min.	216.355	0.000	216.855	62.74	217.340	65.94	216.355	61.65	216.880	28.03	216.655	12.60
Max.	217.945	251.2	221.905	4232	218.880	650.0	218.610	663.5	218.655	450.6	216.895	28.55
Mean	216.635	20.57	218.090	465.9	217.904	241.3	217.422	164.3	217.222	105.8	216.792	20.07

Annual Runoff in MCM = 2755 Annual Runoff in mm = 469

Peak Observed Discharge = 4232 cumecs on 27/07/2017 Corres. Water Level :221.905 m

Lowest Observed Discharge = 0.127 cumecs on 28/04/2018 Corres. Water Level :216.345 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Dischage Data for the period 2017 - 2018

Station Name : SUNDERGARH (EMI00H3) **Division : MD,CWC,Burla**

Local River : Ib **Sub-Division : MMSD II,CWC,Burla**

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	216.645	12.68	216.550	5.034	216.505	2.883	216.455	1.789	216.370	0.430 *	216.375	0.330
2	216.645	12.69 *	216.560	5.451	216.500	2.682	216.455	1.740 *	216.370	0.402	216.370	0.321
3	216.645	12.69 *	216.555	5.375	216.500	2.682	216.455	1.693	216.370	0.388	216.370	0.329
4	216.670	11.93	216.550	5.179	216.500	2.680 *	216.450	1.540 *	216.365	0.383	216.350	0.308
5	216.665	12.53	216.545	5.065	216.490	2.561	216.440	1.379	216.365	0.381	216.375	0.325
6	216.660	9.477	216.575	6.375	216.490	2.692	216.435	1.341	216.365	0.373	216.375	0.323 *
7	216.655	9.823	216.550	5.150 *	216.490	2.686	216.430	1.280	216.365	0.382	216.375	0.323
8	216.655	10.33	216.545	5.066	216.490	2.649	216.430	1.268	216.365	0.382 *	216.370	0.312
9	216.645	9.529	216.545	4.990	216.490	2.623	216.430	0.929	216.360	0.224	216.435	1.485
10	216.645	9.530 *	216.540	4.681	216.485	2.432	216.420	1.128	216.360	0.221	216.430	1.460
11	216.645	9.342	216.535	4.610	216.485	2.430 *	216.420	1.140 *	216.360	0.217	216.410	1.320
12	216.645	9.076	216.535	4.674	216.485	2.560	216.425	1.152	216.360	0.218	216.400	1.214
13	216.645	9.525	216.530	4.532	216.485	2.799	216.425	1.160	216.365	0.241	216.400	1.225 *
14	216.640	8.846	216.530	4.530 *	216.485	2.520	216.425	1.088	216.365	0.237	216.390	0.801
15	216.620	7.192	216.530	4.165	216.490	2.575	216.355	0.533	216.365	0.237 *	216.380	0.795
16	216.620	7.613	216.525	4.079	216.490	2.523	216.365	0.591	216.370	0.316	216.360	0.664
17	216.620	7.600 *	216.525	4.066	216.505	3.122	216.365	0.589	216.370	0.312	216.350	0.321
18	216.605	7.249	216.520	3.712	216.500	2.680 *	216.370	0.520 *	216.370	0.313	216.360	0.331
19	216.605	7.220	216.520	3.368	216.520	3.595	216.375	0.437	216.370	0.311	216.355	0.324
20	216.605	7.251	216.520	3.406	216.520	3.515	216.370	0.426	216.370	0.309	216.350	0.334 *
21	216.595	6.523	216.520	3.500 *	216.515	3.444	216.360	0.295	216.370	0.303	216.350	0.332
22	216.595	6.754	216.515	3.506	216.505	3.190	216.370	0.427	216.370	0.304 *	216.355	0.343
23	216.595	6.573	216.515	3.433	216.495	2.725	216.370	0.420	216.360	0.241	216.390	0.796
24	216.590	6.500 *	216.510	3.338	216.490	2.823	216.365	0.411	216.360	0.238	216.390	0.774
25	216.580	6.480 *	216.510	3.340	216.485	2.490 *	216.365	0.414 *	216.355	0.218	216.410	0.866
26	216.575	6.356	216.510	3.300 *	216.480	2.246	216.365	0.386	216.355	0.204	216.480	2.382
27	216.570	5.842	216.510	3.505	216.480	2.221	216.360	0.375	216.350	0.139	216.480	2.398 *
28	216.570	5.372	216.510	3.300 *	216.470	2.089	216.360	0.370	216.345	0.127	216.475	2.332
29	216.565	5.285	216.510	3.169			216.370	0.430 *	216.345	0.127 *	216.470	2.260
30	216.570	5.206	216.505	3.008			216.370	0.430 *	216.370	0.309 *	216.480	2.376
31	216.570	5.760 *	216.505	3.040			216.370	0.425			216.550	3.474
Ten-Daily Mean												
I Ten-Daily	216.653	11.12	216.552	5.237	216.494	2.657	216.440	1.409	216.366	0.357	216.382	0.552
II Ten-Daily	216.625	8.091	216.527	4.114	216.497	2.832	216.389	0.764	216.367	0.271	216.375	0.733
III Ten-Daily	216.580	6.059	216.511	3.313	216.490	2.653	216.366	0.398	216.358	0.221	216.439	1.667
Monthly												
Min.	216.565	5.206	216.505	3.008	216.470	2.089	216.355	0.295	216.345	0.127	216.350	0.308
Max.	216.670	12.69	216.575	6.375	216.520	3.595	216.455	1.789	216.370	0.430	216.550	3.474
Mean	216.618	8.348	216.529	4.192	216.494	2.718	216.397	0.842	216.363	0.283	216.400	1.006

Peak Computed Discharge = 520.0 cumecs on 06/08/2017 Corres. Water Level :218.5 m

Lowest Computed Discharge = 0.000 cumecs on 01/06/2017 Corres. Water Level :216.36 m

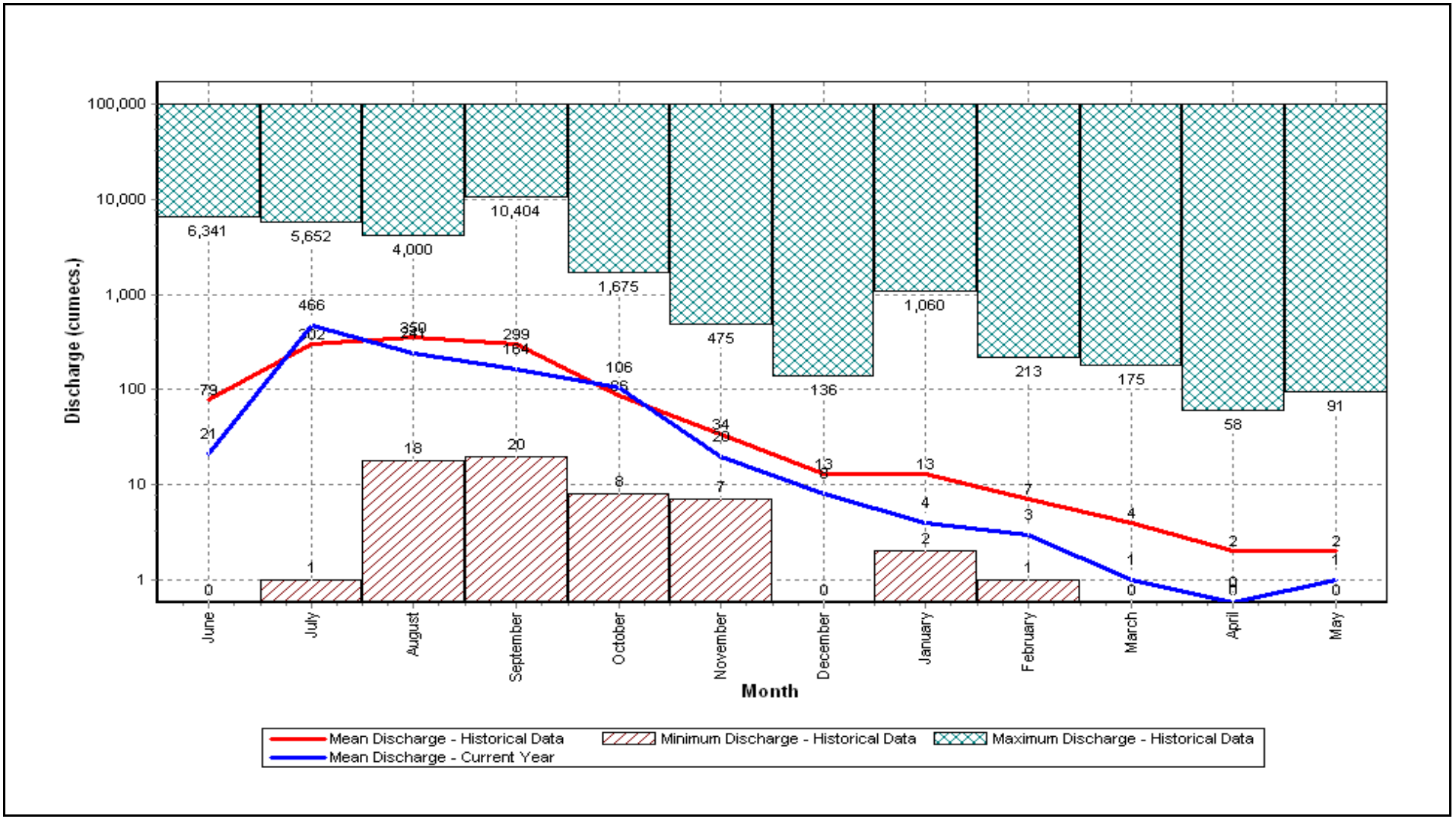
Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2017-2018

Station Name : SUNDERGARH (EMI00H3) | **Data considered : 1978-2018** | **Division : MD,CWC,Burla**

Local River : Ib | **Sub-Division : MMSD II,CWC,Burla**



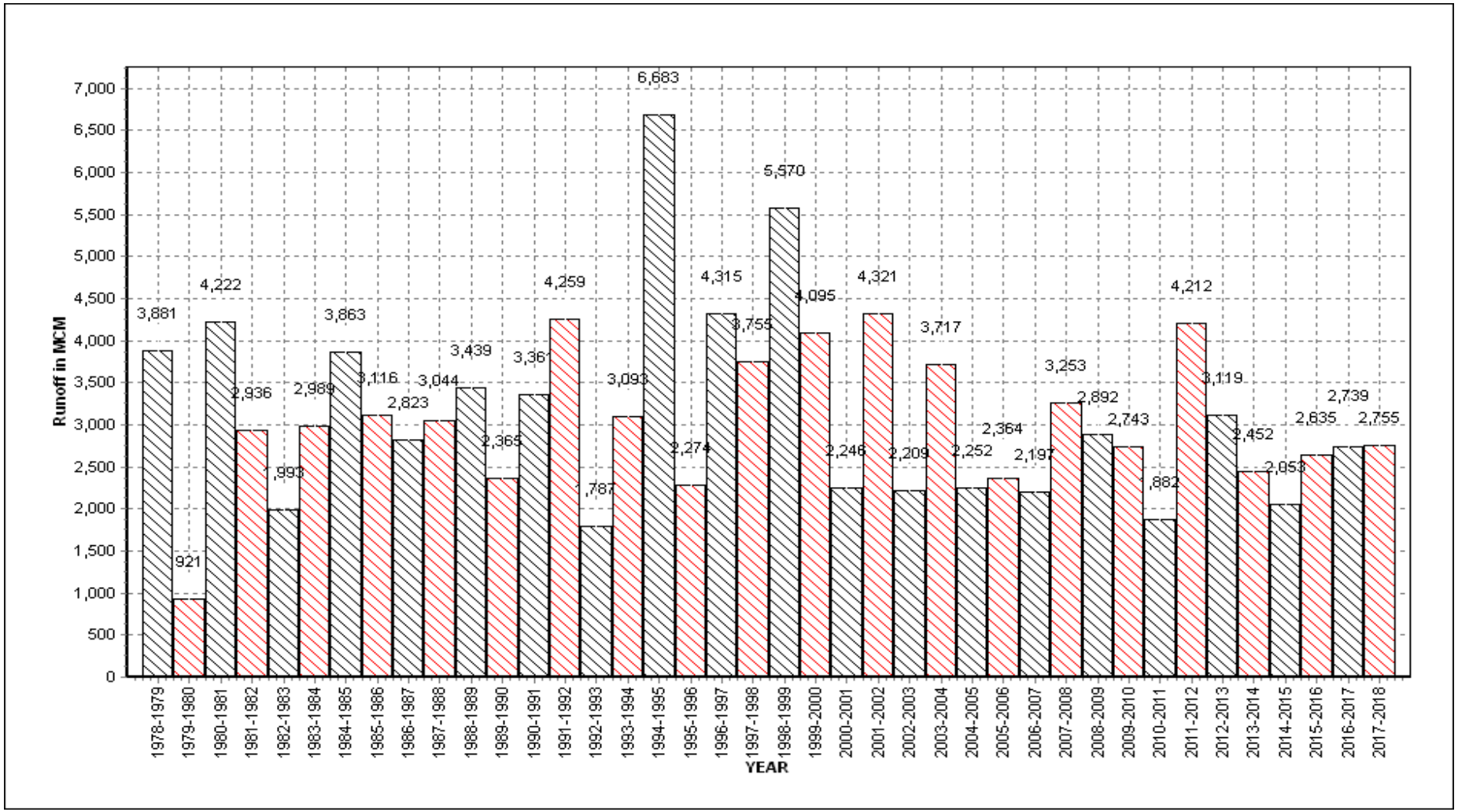
Annual Runoff Values for the period: 1978 - 2018

Station Name : SUNDERGARH (EMI00H3)

Local River : Ib

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla



Note: Missing values have not been considered while arriving at Annual Runoff

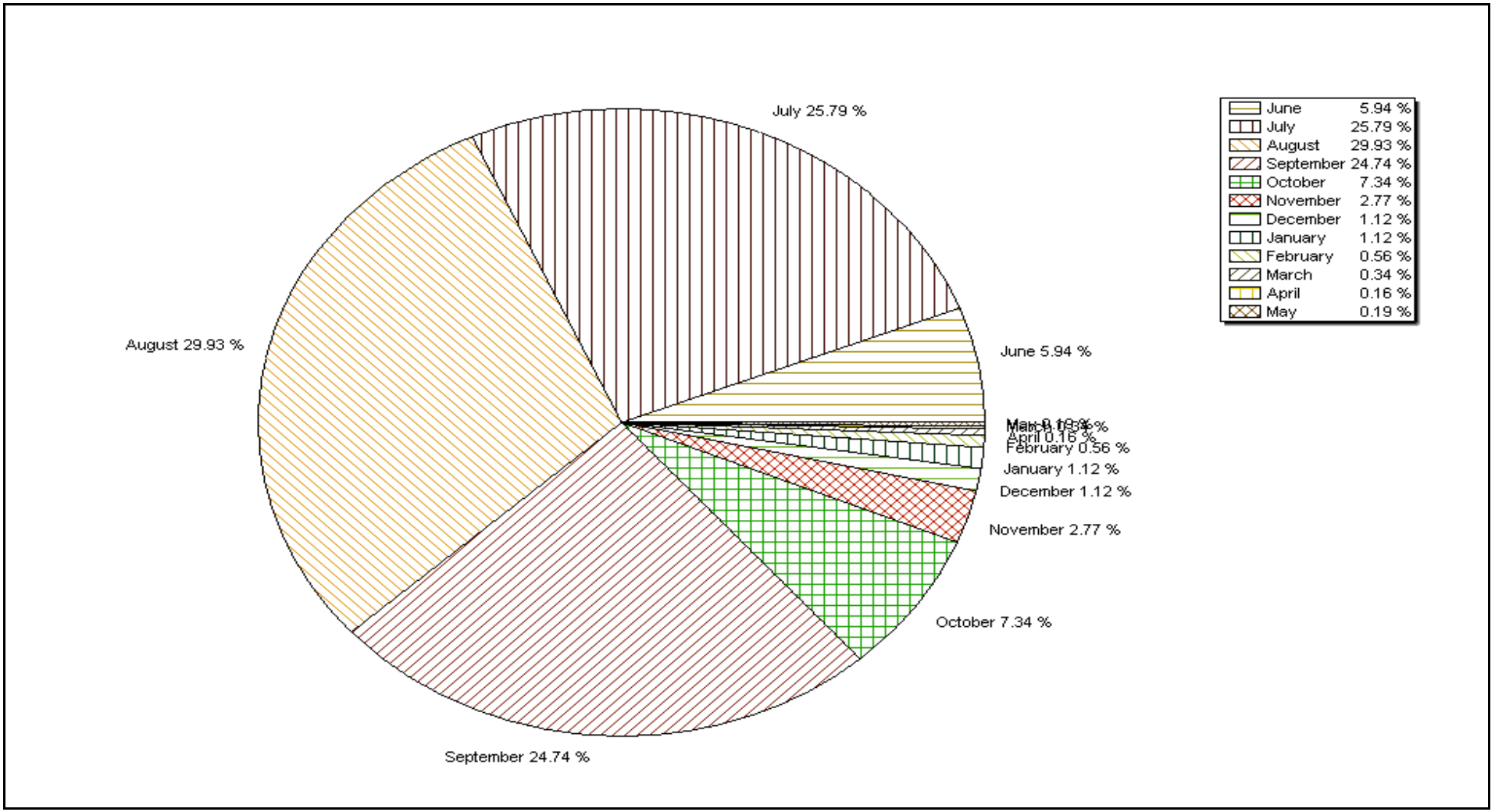
Monthly Average Runoff based on period : 1978-2017

Station Name : SUNDERGARH (EMI00H3)

Division : MD,CWC,Burla

Local River : Ib

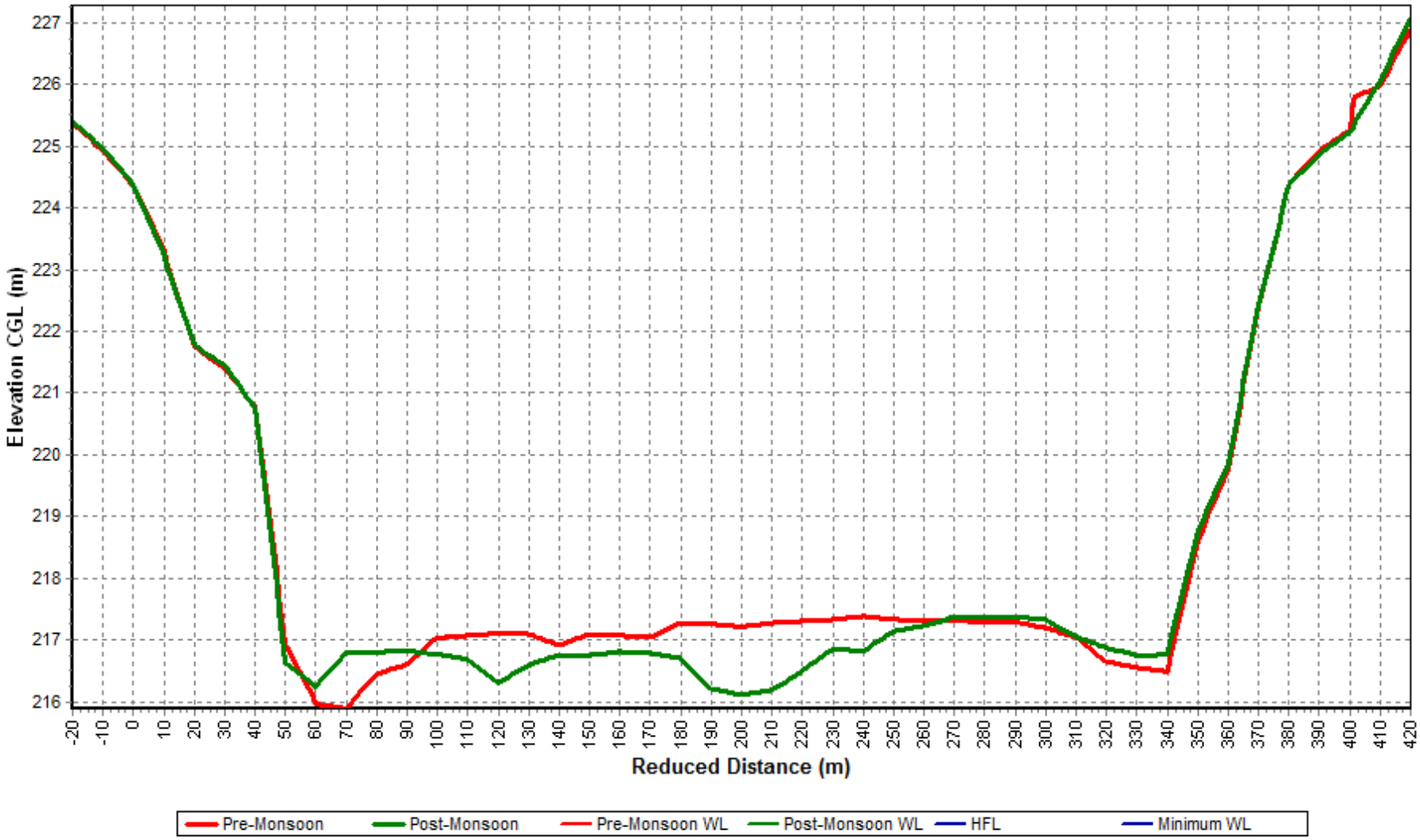
Sub-Division : MMSD II,CWC,Burla



Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2017-2018

Station Name : Sundargarh (EMI00H3) **Division : MD,CWC, Burla**

Local River : IB **Sub-Division: MMSD II,CWC,Burla**



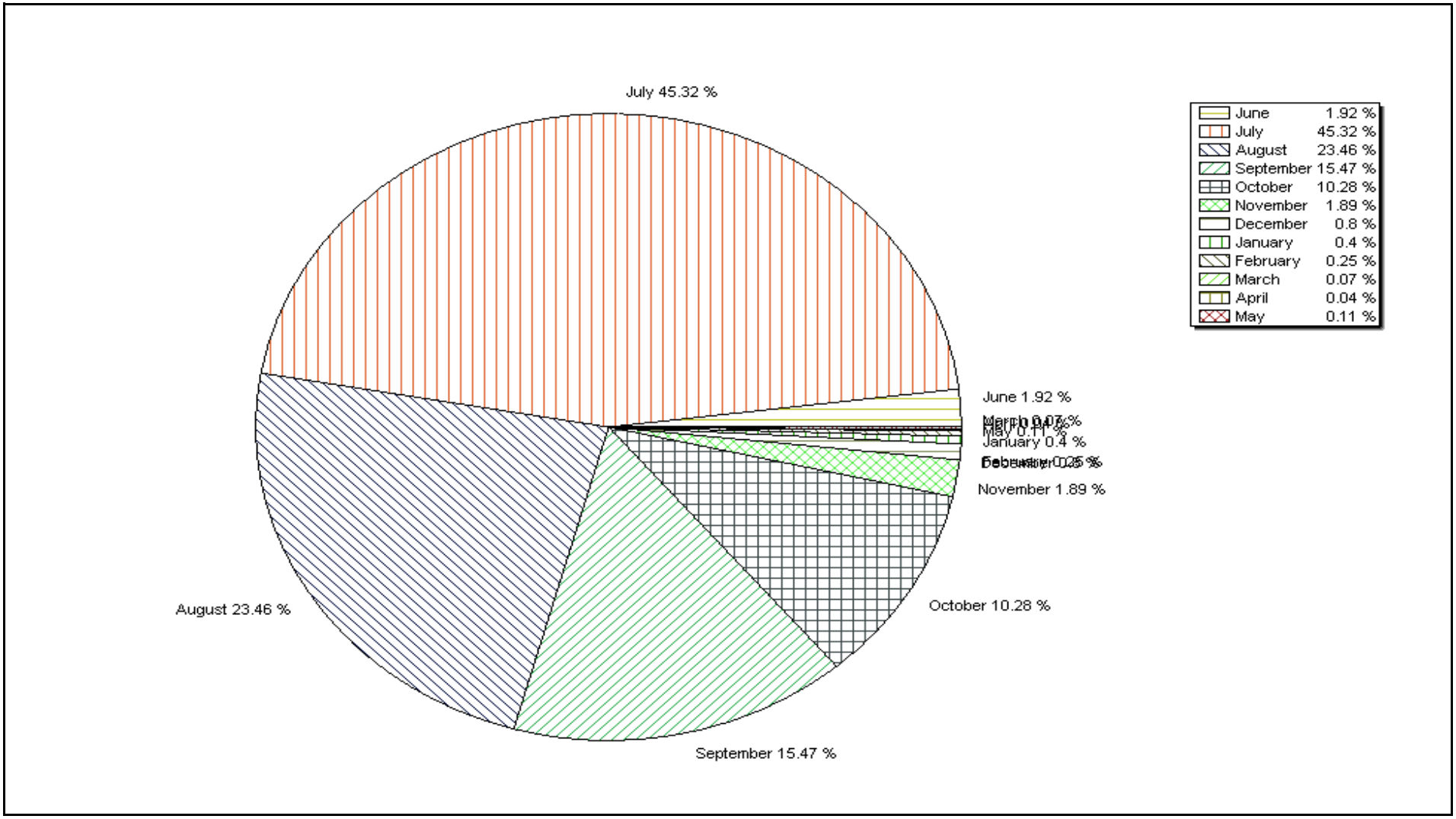
Monthly Runoff for the Year : 2017-2018

Station Name : SUNDERGARH (EMI00H3)

Local River : Ib

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla



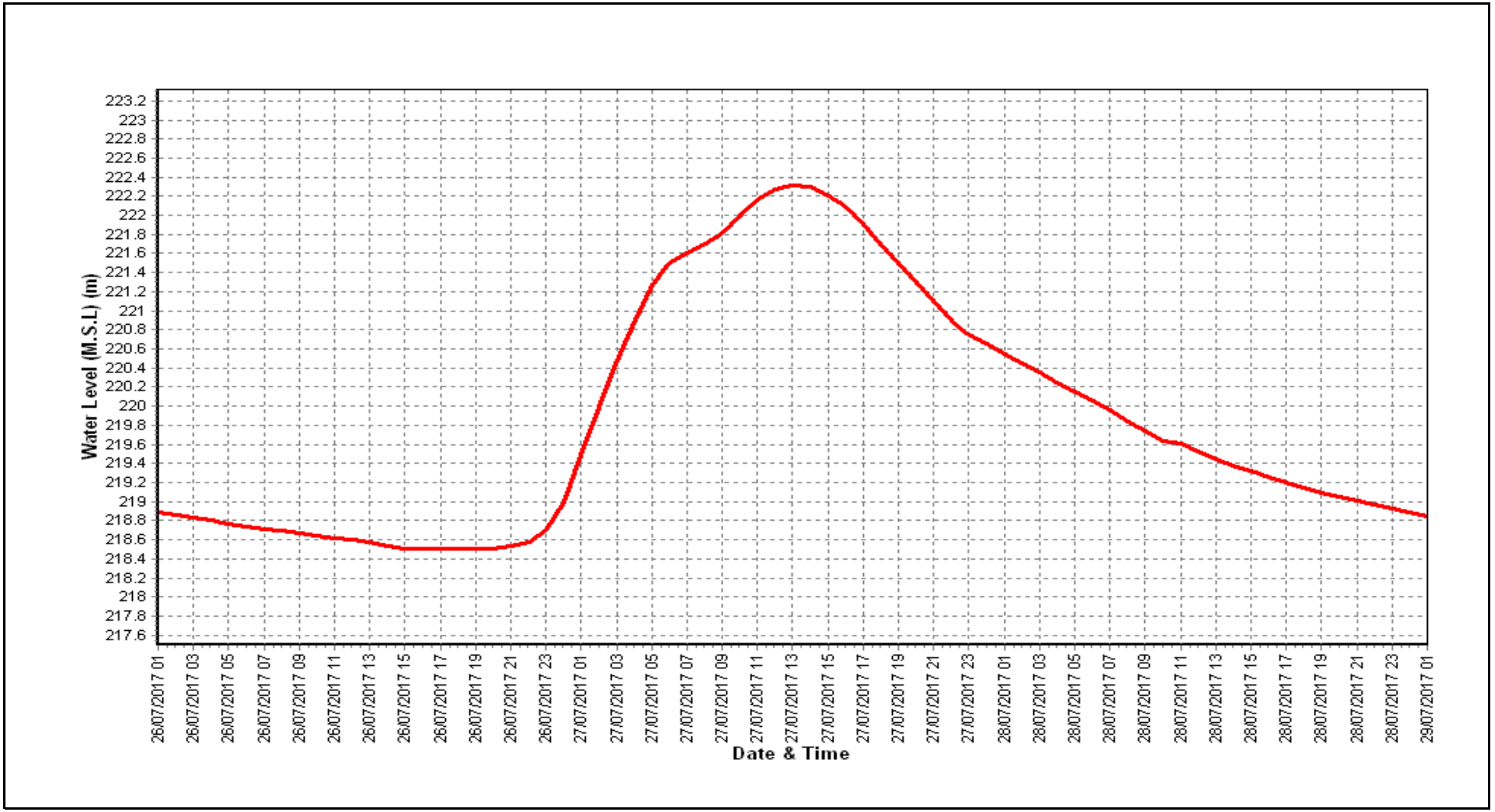
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2017-2018

Station Name : SUNDERGARH (EMI00H3)

Division : MD,CWC,Burla

Local River : Ib

Sub-Division : MMSD II,CWC,Burla

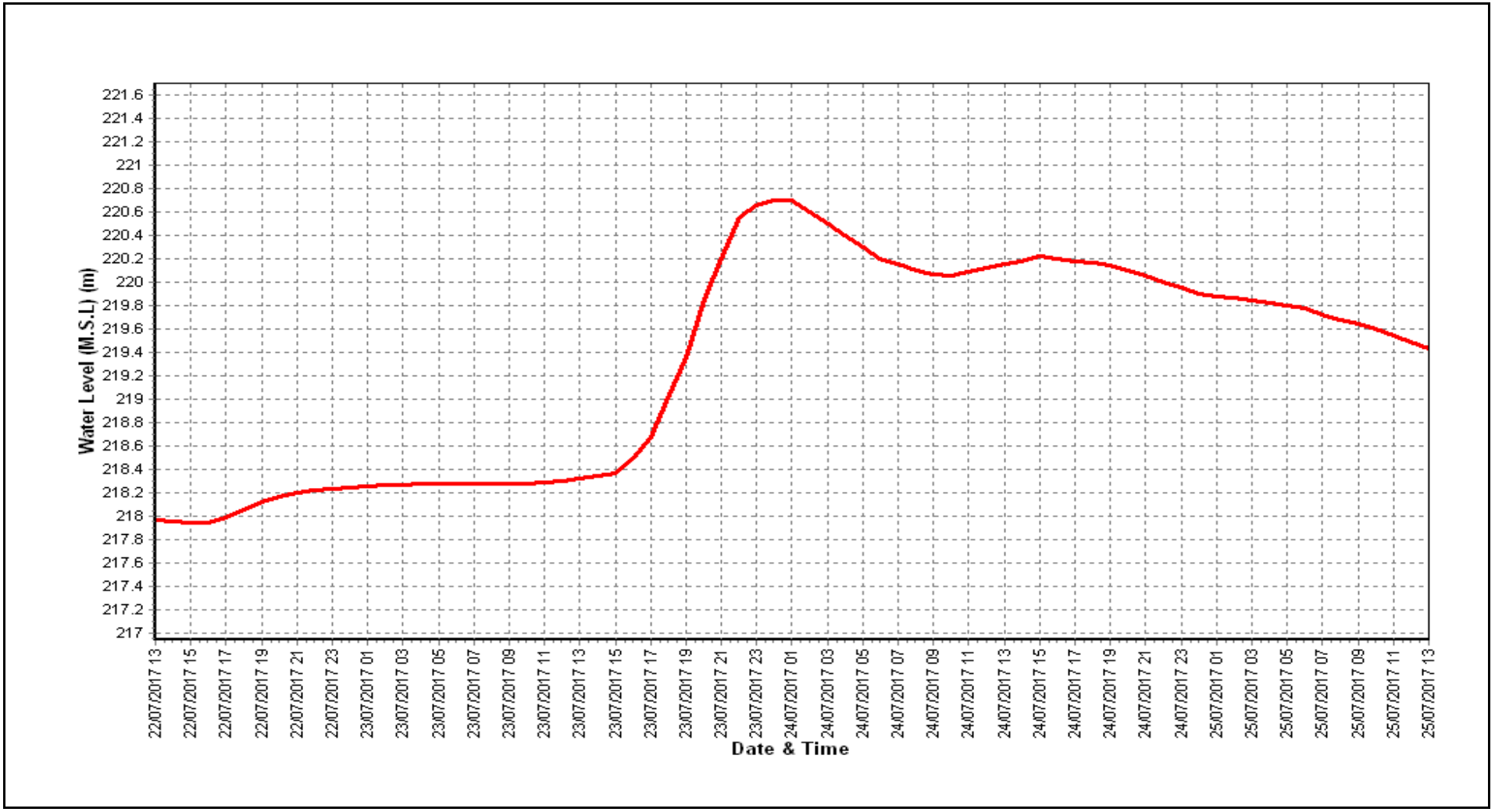


Time Span: 72 Hrs

Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2017-2018

Station Name : SUNDERGARH (EMI00H3) **Division : MD,CWC,Burla**

Local River : Ib **Sub-Division : MMSD II,CWC,Burla**

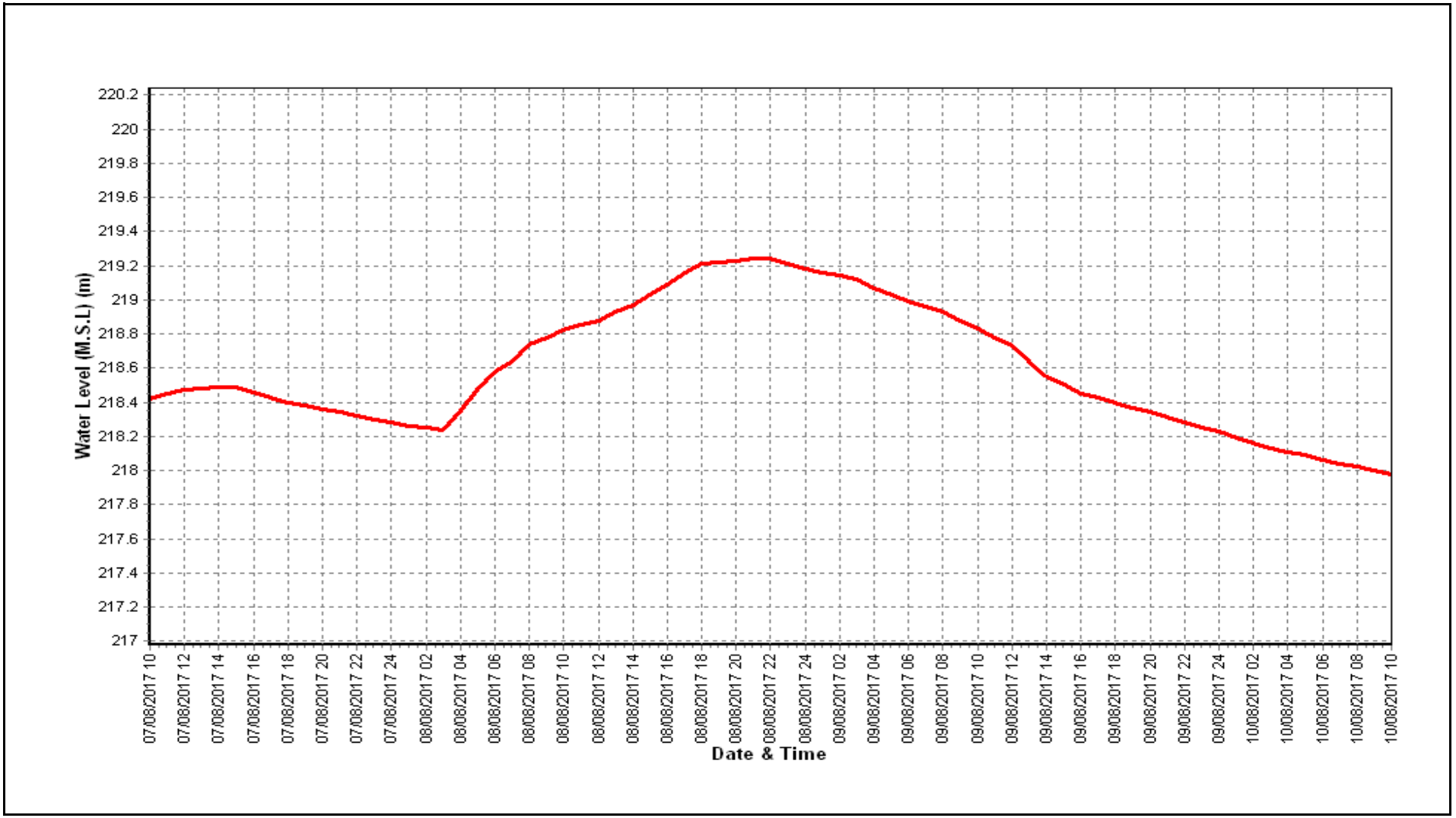


Time Span: 72 Hrs

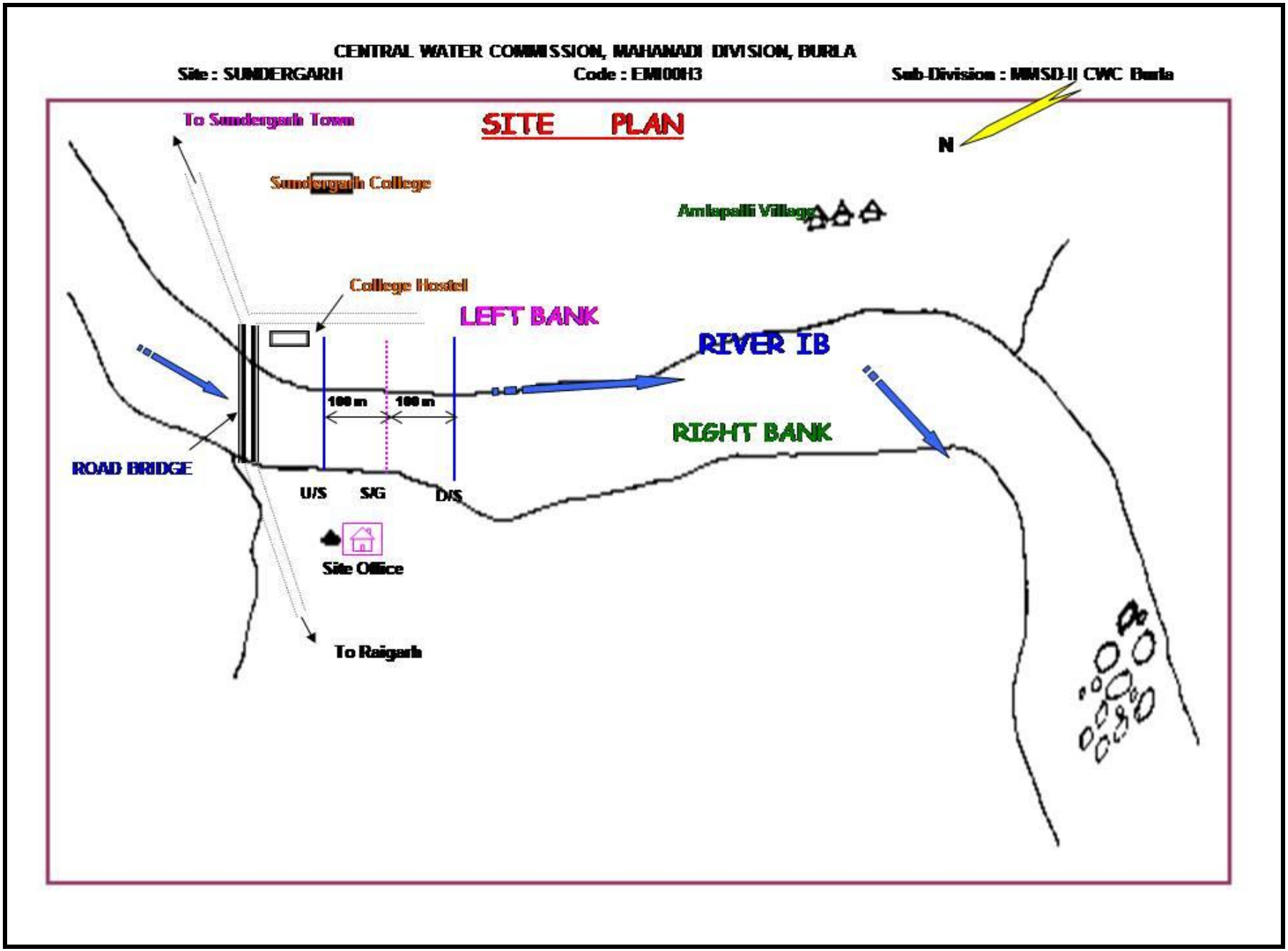
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2017-2018

Station Name : SUNDERGARH (EMI00H3) **Division : MD,CWC,Burla**

Local River : Ib **Sub-Division : MMSD II,CWC,Burla**



Time Span: 72 Hrs


CENTRAL WATER COMMISSION, MAHANADI DIVISION, BURLA
Site : SUNDERGARH
Code : EM00H3
Sub-Division : MMSD-II CWC Burla
SITE PLAN
N
To Sundergarh Town
Sundergarh College
Amlapalli Village
College Hostel
LEFT BANK
RIVER IB
100 m
100 m
RIGHT BANK
ROAD BRIDGE
U/S
S/G
D/S
Site Office
To Raigarh

SECTION-II

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : SUNDERGARH (EMI00H3) **Division : MD,CWC,Burla**

Local River : Ib **Sub-Division : MMSD II,CWC,Burla**

Day	Jun						Jul						Aug					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	240.1	0.000	0.000	0.000	0.000	0	82.31	0.000	0.000	0.128	0.128	910
2	0.000	0.000	0.000	0.000	0.000	0	235.0	0.000	0.000	0.000	0.000	0	355.0	0.000	0.000	0.550	0.550	16869
3	0.000	0.000	0.000	0.000	0.000	0	104.3	0.000	0.000	0.602	0.602	5427	173.4	0.000	0.000	0.381	0.381	5715
4	0.000	0.000	0.000	0.000	0.000	0	175.2	0.000	0.000	0.409	0.409	6185	112.9	0.000	0.000	0.144	0.144	1409
5	0.000	0.000	0.000	0.000	0.000	0	116.8	0.000	0.000	0.388	0.388	3916	92.14	0.000	0.000	0.070	0.070	557
6	0.000	0.000	0.000	0.000	0.000	0	143.3	0.000	0.000	0.387	0.387	4789	520.0	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0.000	0	77.70	0.000	0.000	0.000	0.000	0	410.0	0.000	0.000	0.256	0.256	9069
8	0.000	0.000	0.000	0.000	0.000	0	62.74	0.000	0.000	0.000	0.000	0	650.0	0.144	0.088	0.541	0.773	43398
9	0.000	0.000	0.000	0.000	0.000	0	100.0	0.000	0.000	0.000	0.000	0	621.5	0.210	0.276	0.545	1.030	55311
10	0.000	0.000	0.000	0.000	0.000	0	325.7	0.000	0.000	0.543	0.543	15286	234.0	0.000	0.000	0.236	0.236	4771
11	0.000	0.000	0.000	0.000	0.000	0	304.4	0.000	0.000	0.340	0.340	8942	191.4	0.000	0.000	0.200	0.200	3300
12	0.304	0.000	0.000	0.000	0.000	0	172.3	0.000	0.000	0.850	0.850	12648	131.3	0.000	0.000	0.142	0.142	1613
13	0.320	0.000	0.000	0.000	0.000	0	93.81	0.000	0.000	0.230	0.230	1864	250.0	0.000	0.000	0.000	0.000	0
14	1.661	0.000	0.000	0.000	0.000	0	110.6	0.000	0.000	0.381	0.381	3643	168.7	0.000	0.000	0.211	0.211	3075
15	2.816	0.000	0.000	0.000	0.000	0	105.3	0.000	0.000	0.385	0.385	3506	300.0	0.000	0.000	0.109	0.109	2830
16	2.933	0.000	0.000	0.000	0.000	0	190.0	0.000	0.000	0.000	0.000	0	179.2	0.000	0.000	0.109	0.109	1691
17	2.826	0.000	0.000	0.000	0.000	0	368.1	0.000	0.000	0.641	0.641	20395	222.4	0.000	0.000	0.455	0.455	8736
18	2.800	0.000	0.000	0.000	0.000	0	424.2	0.000	0.000	0.471	0.471	17274	648.4	0.070	0.050	0.423	0.544	30474
19	1.683	0.000	0.000	0.000	0.000	0	128.3	0.000	0.000	0.334	0.334	3702	329.2	0.000	0.000	0.243	0.243	6900
20	1.622	0.000	0.000	0.000	0.000	0	92.10	0.000	0.000	0.282	0.282	2241	175.0	0.000	0.000	0.000	0.000	0
21	4.930	0.000	0.000	0.000	0.000	0	336.3	0.000	0.000	0.260	0.260	7565	65.94	0.000	0.000	0.087	0.087	494
22	7.479	0.000	0.000	0.000	0.000	0	328.8	0.000	0.000	0.328	0.328	9317	116.0	0.000	0.000	0.057	0.057	566
23	17.45	0.000	0.000	0.000	0.000	0	460.0	0.000	0.000	0.000	0.000	0	118.7	0.000	0.000	0.116	0.116	1192
24	25.00	0.000	0.000	0.000	0.000	0	1633	0.067	0.122	0.374	0.563	79486	108.8	0.000	0.000	0.079	0.079	738
25	33.10	0.000	0.000	0.000	0.000	0	1394	0.026	0.082	0.494	0.602	72475	296.2	0.000	0.000	0.263	0.263	6726
26	50.00	0.000	0.000	0.000	0.000	0	754.0	0.028	0.012	0.605	0.645	42046	237.4	0.000	0.000	0.545	0.545	11170
27	33.55	0.000	0.000	0.000	0.000	0	4232	0.000	0.000	0.886	0.886	323851	142.0	0.000	0.000	0.000	0.000	0
28	33.04	0.000	0.000	0.000	0.000	0	908.5	0.187	0.101	0.585	0.873	68500	171.7	0.000	0.000	0.286	0.286	4248
29	251.2	0.000	0.000	0.000	0.000	0	371.2	0.000	0.000	0.264	0.264	8468	143.0	0.000	0.000	0.097	0.097	1193
30	144.5	0.000	0.000	0.000	0.000	0	300.0	0.000	0.000	0.000	0.000	0	123.6	0.000	0.000	0.075	0.075	802
31							155.3	0.000	0.000	0.041	0.041	552	109.1	0.000	0.000	0.106	0.106	1002
Ten Daily Mean																		
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	158.1	0.000	0.000	0.233	0.233	3560	325.1	0.035	0.036	0.285	0.357	13801
Ten Daily II	1.697	0.000	0.000	0.000	0.000	0	198.9	0.000	0.000	0.391	0.391	7421	259.6	0.007	0.005	0.189	0.201	5862
Ten Daily III	60.02	0.000	0.000	0.000	0.000	0	988.5	0.028	0.029	0.349	0.406	55660	148.4	0.000	0.000	0.155	0.155	2557
Monthly																		
Total						0						722078						224758

Annual Sediment Load (Metric Tonnes) : 1044719

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : SUNDERGARH (EMI00H3) **Division : MD,CWC,Burla**

Local River : Ib **Sub-Division : MMSD II,CWC,Burla**

Day	Sep						Oct						Nov					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	91.40	0.000	0.000	0.029	0.029	231	191.0	0.000	0.000	0.000	0.000	0	24.86	0.000	0.000	0.000	0.000	0
2	80.00	0.000	0.000	0.000	0.000	0	170.0	0.000	0.000	0.000	0.000	0	24.57	0.000	0.000	0.000	0.000	0
3	85.00	0.000	0.000	0.000	0.000	0	221.5	0.000	0.000	0.069	0.069	1317	24.14	0.000	0.000	0.000	0.000	0
4	83.30	0.000	0.000	0.262	0.262	1886	214.4	0.000	0.000	0.098	0.098	1815	24.70	0.000	0.000	0.000	0.000	0
5	61.65	0.000	0.000	0.042	0.042	226	170.7	0.000	0.000	0.066	0.066	979	23.00	0.000	0.000	0.000	0.000	0
6	66.87	0.000	0.000	0.111	0.111	638	162.7	0.000	0.000	0.067	0.067	936	19.42	0.000	0.000	0.028	0.028	48
7	67.37	0.000	0.000	0.057	0.057	329	203.4	0.000	0.000	0.039	0.039	680	28.55	0.000	0.000	0.000	0.000	0
8	62.31	0.000	0.000	0.042	0.042	228	100.0	0.000	0.000	0.000	0.000	0	23.27	0.000	0.000	0.000	0.000	0
9	78.01	0.000	0.000	0.028	0.028	188	162.2	0.000	0.000	0.026	0.026	370	22.65	0.000	0.000	0.000	0.000	0
10	88.00	0.000	0.000	0.000	0.000	0	164.5	0.000	0.000	0.038	0.038	544	21.35	0.000	0.000	0.000	0.000	0
11	180.2	0.000	0.000	0.128	0.128	1994	140.7	0.000	0.000	0.035	0.035	428	20.12	0.000	0.000	0.000	0.000	0
12	166.2	0.000	0.000	0.097	0.097	1392	104.9	0.000	0.000	0.029	0.029	265	20.00	0.000	0.000	0.000	0.000	0
13	127.0	0.000	0.000	0.124	0.124	1357	75.04	0.000	0.000	0.020	0.020	130	20.12	0.000	0.000	0.022	0.022	38
14	135.1	0.000	0.000	0.140	0.140	1628	78.17	0.000	0.000	0.027	0.027	182	21.73	0.000	0.000	0.000	0.000	0
15	120.2	0.000	0.000	0.070	0.070	727	72.00	0.000	0.000	0.000	0.000	0	20.44	0.000	0.000	0.000	0.000	0
16	98.32	0.000	0.000	0.036	0.036	302	64.47	0.000	0.000	0.000	0.000	0	20.17	0.000	0.000	0.000	0.000	0
17	66.80	0.000	0.000	0.000	0.000	0	450.6	0.000	0.000	0.030	0.030	1156	20.72	0.000	0.000	0.000	0.000	0
18	88.99	0.000	0.000	0.069	0.069	528	46.72	0.000	0.000	0.031	0.031	126	20.43	0.000	0.000	0.000	0.000	0
19	100.0	0.000	0.000	0.214	0.214	1850	42.00	0.000	0.000	0.000	0.000	0	20.40	0.000	0.000	0.000	0.000	0
20	469.6	0.000	0.000	0.289	0.289	11742	42.89	0.000	0.000	0.017	0.017	64	21.60	0.000	0.000	0.016	0.016	29
21	499.5	0.000	0.000	0.306	0.306	13205	44.51	0.000	0.000	0.179	0.179	688	21.33	0.000	0.000	0.000	0.000	0
22	663.5	0.457	0.044	0.199	0.700	40130	43.00	0.000	0.000	0.000	0.000	0	18.77	0.000	0.000	0.000	0.000	0
23	367.9	0.000	0.000	0.214	0.214	6793	42.60	0.000	0.000	0.030	0.030	109	17.05	0.000	0.000	0.000	0.000	0
24	175.0	0.000	0.000	0.000	0.000	0	41.79	0.000	0.000	0.030	0.030	109	16.39	0.000	0.000	0.000	0.000	0
25	137.7	0.000	0.000	0.085	0.085	1016	40.41	0.000	0.000	0.027	0.027	93	14.73	0.000	0.000	0.000	0.000	0
26	151.4	0.000	0.000	0.038	0.038	498	35.87	0.000	0.000	0.018	0.018	56	14.50	0.000	0.000	0.000	0.000	0
27	105.6	0.000	0.000	0.037	0.037	333	34.01	0.000	0.000	0.008	0.008	23	15.21	0.000	0.000	0.002	0.002	3
28	100.7	0.000	0.000	0.047	0.047	410	33.09	0.000	0.000	0.007	0.007	19	15.94	0.000	0.000	0.000	0.000	0
29	122.0	0.000	0.000	0.000	0.000	0	30.00	0.000	0.000	0.000	0.000	0	13.36	0.000	0.000	0.000	0.000	0
30	290.0	0.000	0.000	0.000	0.000	0	28.03	0.000	0.000	0.003	0.003	7	12.60	0.000	0.000	0.000	0.000	0
31							30.04	0.000	0.000	0.005	0.005	14						
Ten Daily Mean																		
Ten Daily I	76.39	0.000	0.000	0.057	0.057	373	176.0	0.000	0.000	0.040	0.040	664	23.65	0.000	0.000	0.003	0.003	5
Ten Daily II	155.2	0.000	0.000	0.117	0.117	2152	111.7	0.000	0.000	0.019	0.019	235	20.57	0.000	0.000	0.004	0.004	7
Ten Daily III	261.3	0.046	0.004	0.093	0.143	6239	36.67	0.000	0.000	0.028	0.028	102	15.99	0.000	0.000	0.000	0.000	0
Monthly																		
Total						87632						10111						118

Annual Sediment Load (Metric Tonnes) : 1044719

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : SUNDERGARH (EMI00H3) **Division : MD,CWC,Burla**

Local River : Ib **Sub-Division : MMSD II,CWC,Burla**

Day	Dec						Jan						Feb					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	12.68	0.000	0.000	0.000	0.000	0	5.034	0.000	0.000	0.017	0.017	7	2.883	0.000	0.000	0.000	0.000	0
2	12.69	0.000	0.000	0.000	0.000	0	5.451	0.000	0.000	0.000	0.000	0	2.682	0.000	0.000	0.000	0.000	0
3	12.69	0.000	0.000	0.000	0.000	0	5.375	0.000	0.000	0.000	0.000	0	2.682	0.000	0.000	0.000	0.000	0
4	11.93	0.000	0.000	0.019	0.019	20	5.179	0.000	0.000	0.000	0.000	0	2.680	0.000	0.000	0.000	0.000	0
5	12.53	0.000	0.000	0.000	0.000	0	5.065	0.000	0.000	0.000	0.000	0	2.561	0.000	0.000	0.000	0.000	0
6	9.477	0.000	0.000	0.000	0.000	0	6.375	0.000	0.000	0.000	0.000	0	2.692	0.000	0.000	0.000	0.000	0
7	9.823	0.000	0.000	0.000	0.000	0	5.150	0.000	0.000	0.000	0.000	0	2.686	0.000	0.000	0.000	0.000	0
8	10.33	0.000	0.000	0.000	0.000	0	5.066	0.000	0.000	0.008	0.008	4	2.649	0.000	0.000	0.000	0.000	0
9	9.529	0.000	0.000	0.000	0.000	0	4.990	0.000	0.000	0.000	0.000	0	2.623	0.000	0.000	0.000	0.000	0
10	9.530	0.000	0.000	0.000	0.000	0	4.681	0.000	0.000	0.000	0.000	0	2.432	0.000	0.000	0.000	0.000	0
11	9.342	0.000	0.000	0.020	0.020	16	4.610	0.000	0.000	0.000	0.000	0	2.430	0.000	0.000	0.000	0.000	0
12	9.076	0.000	0.000	0.000	0.000	0	4.674	0.000	0.000	0.000	0.000	0	2.560	0.000	0.000	0.000	0.000	0
13	9.525	0.000	0.000	0.000	0.000	0	4.532	0.000	0.000	0.000	0.000	0	2.799	0.000	0.000	0.000	0.000	0
14	8.846	0.000	0.000	0.000	0.000	0	4.530	0.000	0.000	0.000	0.000	0	2.520	0.000	0.000	0.000	0.000	0
15	7.192	0.000	0.000	0.000	0.000	0	4.165	0.000	0.000	0.017	0.017	6	2.575	0.000	0.000	0.000	0.000	0
16	7.613	0.000	0.000	0.000	0.000	0	4.079	0.000	0.000	0.000	0.000	0	2.523	0.000	0.000	0.000	0.000	0
17	7.600	0.000	0.000	0.000	0.000	0	4.066	0.000	0.000	0.000	0.000	0	3.122	0.000	0.000	0.000	0.000	0
18	7.249	0.000	0.000	0.005	0.005	3	3.712	0.000	0.000	0.000	0.000	0	2.680	0.000	0.000	0.000	0.000	0
19	7.220	0.000	0.000	0.000	0.000	0	3.368	0.000	0.000	0.000	0.000	0	3.595	0.000	0.000	0.000	0.000	0
20	7.251	0.000	0.000	0.000	0.000	0	3.406	0.000	0.000	0.000	0.000	0	3.515	0.000	0.000	0.000	0.000	0
21	6.523	0.000	0.000	0.000	0.000	0	3.500	0.000	0.000	0.000	0.000	0	3.444	0.000	0.000	0.000	0.000	0
22	6.754	0.000	0.000	0.000	0.000	0	3.506	0.000	0.000	0.020	0.020	6	3.190	0.000	0.000	0.000	0.000	0
23	6.573	0.000	0.000	0.000	0.000	0	3.433	0.000	0.000	0.000	0.000	0	2.725	0.000	0.000	0.000	0.000	0
24	6.500	0.000	0.000	0.000	0.000	0	3.338	0.000	0.000	0.000	0.000	0	2.823	0.000	0.000	0.000	0.000	0
25	6.480	0.000	0.000	0.000	0.000	0	3.340	0.000	0.000	0.000	0.000	0	2.490	0.000	0.000	0.000	0.000	0
26	6.356	0.000	0.000	0.000	0.000	0	3.300	0.000	0.000	0.000	0.000	0	2.246	0.000	0.000	0.000	0.000	0
27	5.842	0.000	0.000	0.000	0.000	0	3.505	0.000	0.000	0.000	0.000	0	2.221	0.000	0.000	0.000	0.000	0
28	5.372	0.000	0.000	0.000	0.000	0	3.300	0.000	0.000	0.000	0.000	0	2.089	0.000	0.000	0.000	0.000	0
29	5.285	0.000	0.000	0.000	0.000	0	3.169	0.000	0.000	0.000	0.000	0						
30	5.206	0.000	0.000	0.000	0.000	0	3.008	0.000	0.000	0.000	0.000	0						
31	5.760	0.000	0.000	0.000	0.000	0	3.040	0.000	0.000	0.000	0.000	0						
Ten Daily Mean																		
Ten Daily I	11.12	0.000	0.000	0.002	0.002	2	5.237	0.000	0.000	0.002	0.002	1	2.657	0.000	0.000	0.000	0.000	0
Ten Daily II	8.091	0.000	0.000	0.003	0.003	2	4.114	0.000	0.000	0.002	0.002	1	2.832	0.000	0.000	0.000	0.000	0
Ten Daily III	6.059	0.000	0.000	0.000	0.000	0	3.313	0.000	0.000	0.002	0.002	1	2.653	0.000	0.000	0.000	0.000	0
Monthly																		
Total						39						23						0

Annual Sediment Load (Metric Tonnes) : 1044719

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : SUNDERGARH (EMI00H3) **Division : MD,CWC,Burla**

Local River : Ib **Sub-Division : MMSD II,CWC,Burla**

Day	Mar						Apr						May					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	1.789	0.000	0.000	0.000	0.000	0	0.430	0.000	0.000	0.000	0.000	0	0.330	0.000	0.000	0.000	0.000	0
2	1.740	0.000	0.000	0.000	0.000	0	0.402	0.000	0.000	0.000	0.000	0	0.321	0.000	0.000	0.000	0.000	0
3	1.693	0.000	0.000	0.000	0.000	0	0.388	0.000	0.000	0.000	0.000	0	0.329	0.000	0.000	0.000	0.000	0
4	1.540	0.000	0.000	0.000	0.000	0	0.383	0.000	0.000	0.000	0.000	0	0.308	0.000	0.000	0.000	0.000	0
5	1.379	0.000	0.000	0.000	0.000	0	0.381	0.000	0.000	0.000	0.000	0	0.325	0.000	0.000	0.000	0.000	0
6	1.341	0.000	0.000	0.000	0.000	0	0.373	0.000	0.000	0.000	0.000	0	0.323	0.000	0.000	0.000	0.000	0
7	1.280	0.000	0.000	0.000	0.000	0	0.382	0.000	0.000	0.000	0.000	0	0.323	0.000	0.000	0.000	0.000	0
8	1.268	0.000	0.000	0.000	0.000	0	0.382	0.000	0.000	0.000	0.000	0	0.312	0.000	0.000	0.000	0.000	0
9	0.929	0.000	0.000	0.000	0.000	0	0.224	0.000	0.000	0.000	0.000	0	1.485	0.000	0.000	0.000	0.000	0
10	1.128	0.000	0.000	0.000	0.000	0	0.221	0.000	0.000	0.000	0.000	0	1.460	0.000	0.000	0.000	0.000	0
11	1.140	0.000	0.000	0.000	0.000	0	0.217	0.000	0.000	0.000	0.000	0	1.320	0.000	0.000	0.000	0.000	0
12	1.152	0.000	0.000	0.000	0.000	0	0.218	0.000	0.000	0.000	0.000	0	1.214	0.000	0.000	0.000	0.000	0
13	1.160	0.000	0.000	0.000	0.000	0	0.241	0.000	0.000	0.000	0.000	0	1.225	0.000	0.000	0.000	0.000	0
14	1.088	0.000	0.000	0.000	0.000	0	0.237	0.000	0.000	0.000	0.000	0	0.801	0.000	0.000	0.000	0.000	0
15	0.533	0.000	0.000	0.000	0.000	0	0.237	0.000	0.000	0.000	0.000	0	0.795	0.000	0.000	0.000	0.000	0
16	0.591	0.000	0.000	0.000	0.000	0	0.316	0.000	0.000	0.000	0.000	0	0.664	0.000	0.000	0.000	0.000	0
17	0.589	0.000	0.000	0.000	0.000	0	0.312	0.000	0.000	0.000	0.000	0	0.321	0.000	0.000	0.000	0.000	0
18	0.520	0.000	0.000	0.000	0.000	0	0.313	0.000	0.000	0.000	0.000	0	0.331	0.000	0.000	0.000	0.000	0
19	0.437	0.000	0.000	0.000	0.000	0	0.311	0.000	0.000	0.000	0.000	0	0.324	0.000	0.000	0.000	0.000	0
20	0.426	0.000	0.000	0.000	0.000	0	0.309	0.000	0.000	0.000	0.000	0	0.334	0.000	0.000	0.000	0.000	0
21	0.295	0.000	0.000	0.000	0.000	0	0.303	0.000	0.000	0.000	0.000	0	0.332	0.000	0.000	0.000	0.000	0
22	0.427	0.000	0.000	0.000	0.000	0	0.304	0.000	0.000	0.000	0.000	0	0.343	0.000	0.000	0.000	0.000	0
23	0.420	0.000	0.000	0.000	0.000	0	0.241	0.000	0.000	0.000	0.000	0	0.796	0.000	0.000	0.000	0.000	0
24	0.411	0.000	0.000	0.000	0.000	0	0.238	0.000	0.000	0.000	0.000	0	0.774	0.000	0.000	0.000	0.000	0
25	0.414	0.000	0.000	0.000	0.000	0	0.218	0.000	0.000	0.000	0.000	0	0.866	0.000	0.000	0.000	0.000	0
26	0.386	0.000	0.000	0.000	0.000	0	0.204	0.000	0.000	0.000	0.000	0	2.382	0.000	0.000	0.000	0.000	0
27	0.375	0.000	0.000	0.000	0.000	0	0.139	0.000	0.000	0.000	0.000	0	2.398	0.000	0.000	0.000	0.000	0
28	0.370	0.000	0.000	0.000	0.000	0	0.127	0.000	0.000	0.000	0.000	0	2.332	0.000	0.000	0.000	0.000	0
29	0.430	0.000	0.000	0.000	0.000	0	0.127	0.000	0.000	0.000	0.000	0	2.260	0.000	0.000	0.000	0.000	0
30	0.430	0.000	0.000	0.000	0.000	0	0.309	0.000	0.000	0.000	0.000	0	2.376	0.000	0.000	0.000	0.000	0
31	0.425	0.000	0.000	0.000	0.000	0							3.474	0.000	0.000	0.000	0.000	0
Ten Daily Mean																		
Ten Daily I	1.409	0.000	0.000	0.000	0.000	0	0.357	0.000	0.000	0.000	0.000	0	0.552	0.000	0.000	0.000	0.000	0
Ten Daily II	0.764	0.000	0.000	0.000	0.000	0	0.271	0.000	0.000	0.000	0.000	0	0.733	0.000	0.000	0.000	0.000	0
Ten Daily III	0.398	0.000	0.000	0.000	0.000	0	0.221	0.000	0.000	0.000	0.000	0	1.667	0.000	0.000	0.000	0.000	0
Monthly																		
Total						0						0						0

Annual Sediment Load (Metric Tonnes) : 1044719

Annual Sediment Load for period : 1978-2018

Station Name : SUNDERGARH (EMI00H3) **Division : MD,CWC,Burla**

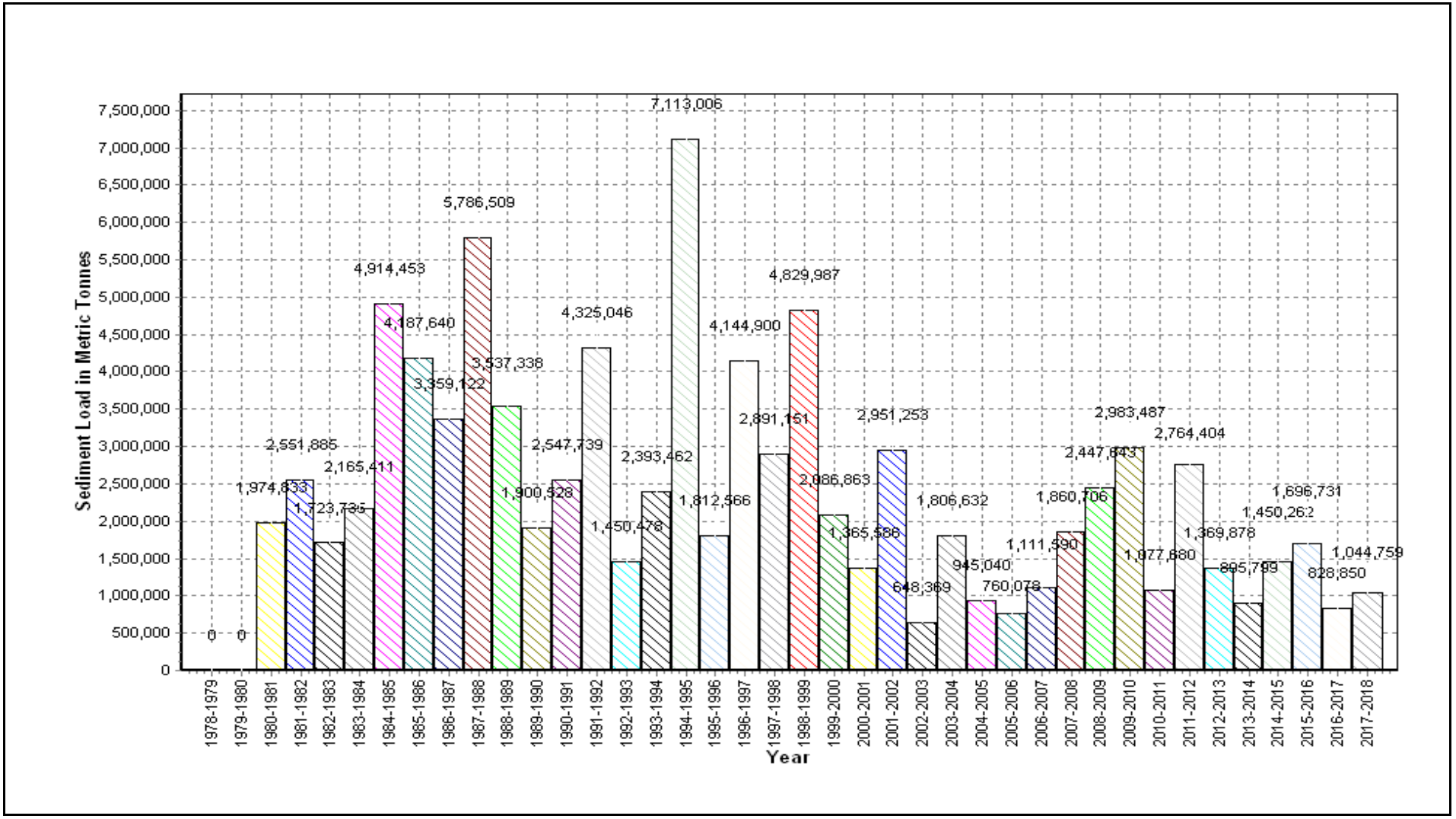
Local River : Ib **Sub-Division : MMSD II,CWC,Burla**

Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)
1978-1979	0	0	0	3881
1979-1980	0	0	0	921
1980-1981	1973346	1488	1974833	4222
1981-1982	2537361	14524	2551885	2936
1982-1983	1709154	14581	1723735	1993
1983-1984	2164257	1154	2165411	2989
1984-1985	4909711	4742	4914453	3863
1985-1986	4183840	3800	4187640	3116
1986-1987	3358332	790	3359122	2823
1987-1988	5786196	313	5786509	3044
1988-1989	3536298	1040	3537338	3439
1989-1990	1893644	6884	1900528	2365
1990-1991	2544599	3140	2547739	3361
1991-1992	4315397	9648	4325046	4259
1992-1993	1450421	58	1450478	1787
1993-1994	2393421	41	2393462	3093
1994-1995	7112058	948	7113006	6683
1995-1996	1812143	422	1812566	2274
1996-1997	4144785	115	4144900	4315
1997-1998	2532072	359079	2891151	3755
1998-1999	4829481	506	4829987	5570
1999-2000	2086621	242	2086863	4095
2000-2001	1365571	15	1365586	2246
2001-2002	2951179	74	2951253	4321
2002-2003	648229	140	648369	2209
2003-2004	1806451	181	1806632	3717
2004-2005	945040	0	945040	2252
2005-2006	760078	0	760078	2364
2006-2007	1111560	31	1111590	2197
2007-2008	1860640	67	1860706	3253
2008-2009	2447643	0	2447643	2892
2009-2010	2983406	82	2983487	2743
2010-2011	1077524	156	1077680	1882
2011-2012	2762936	1468	2764404	4212
2012-2013	1369843	34	1369878	3119
2013-2014	892612	3186	895799	2452
2014-2015	1450049	213	1450262	2053
2015-2016	1695717	1014	1696731	2635
2016-2017	828706	144	828850	2739
2017-2018	1044697	62	1044759	2755

Annual Sediment Load for the period: 1978-2018

Station Name : SUNDERGARH (EMI00H3)
Local River : Ib

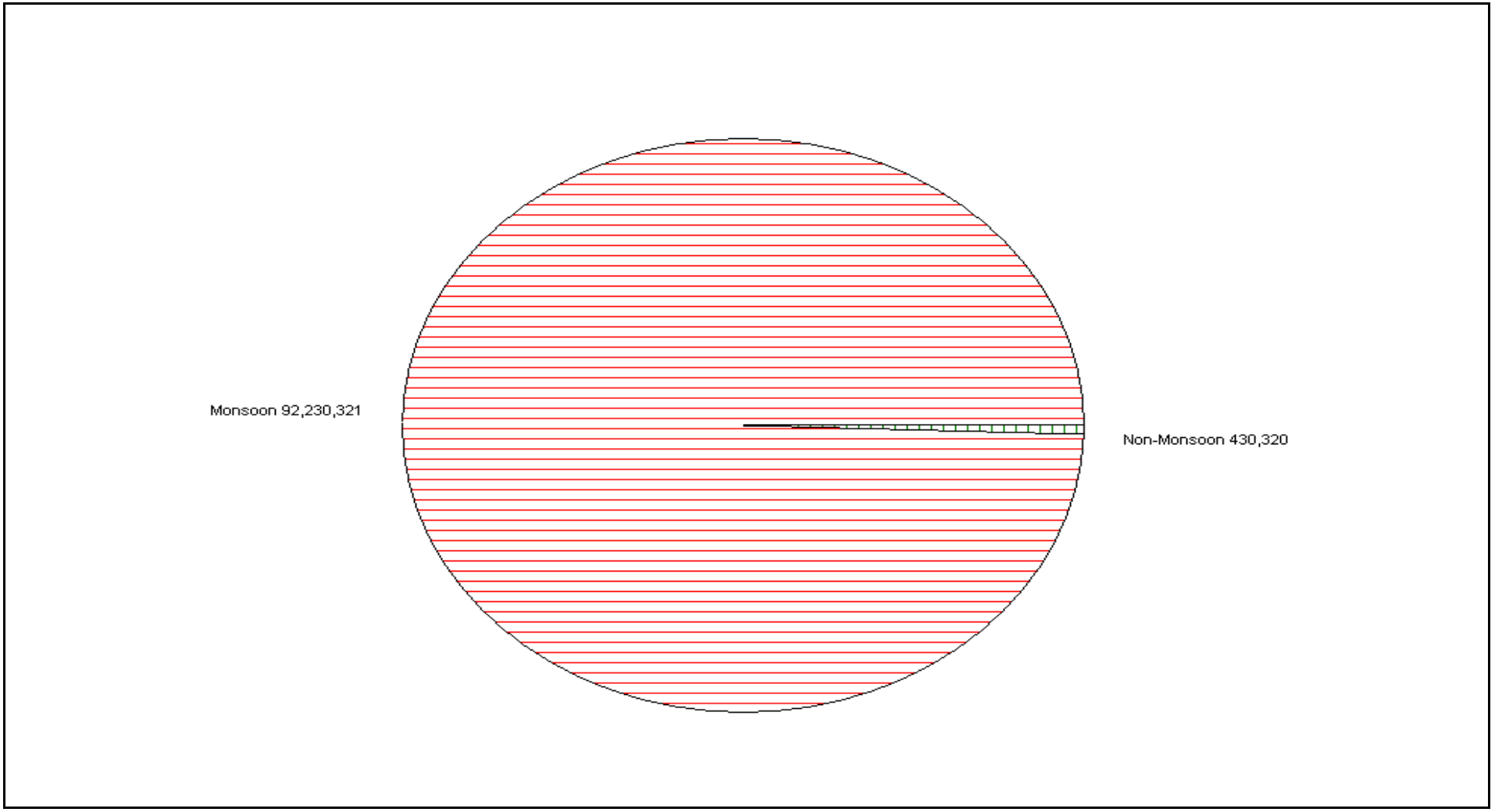
Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla



Seasonal Sediment Load for the period : 1978-2017

Station Name : SUNDERGARH (EMI00H3)
Local River : Ib

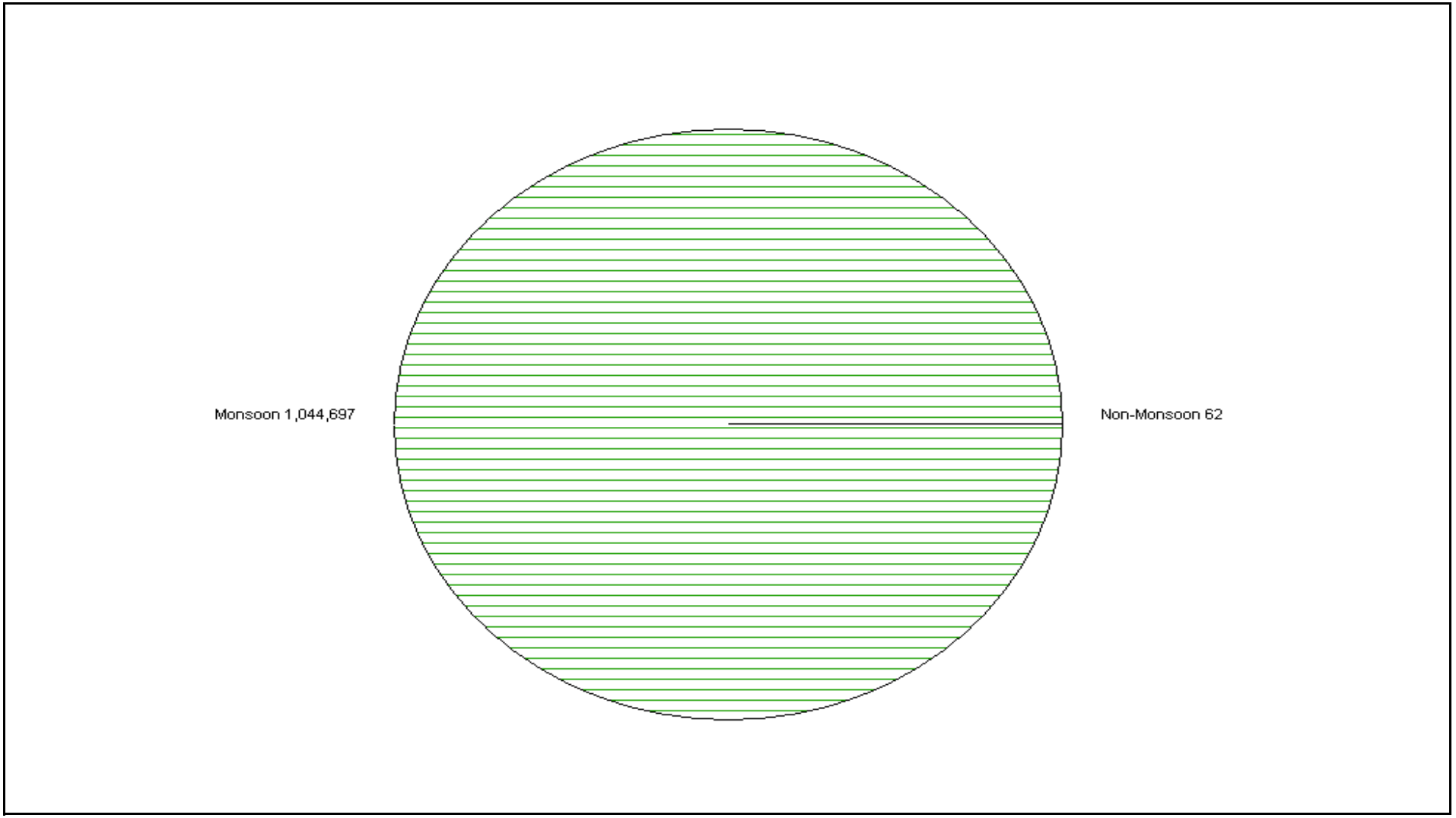
Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla



Seasonal Sediment Load for the Year: 2017-2018

Station Name : SUNDERGARH (EMI00H3)
Local River : Ib

Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla



SECTION-III

Water Quality Datasheet for the period : 2017-2018

Station Name : SUNDERGARH (EMI00H3) | **Division : MD,CWC,Burla**

Local River : Ib | **River Water Analysis** | **Sub-Division : MMSD II,CWC,Burla**

S.No	Parameters	01/06/2017	01/07/2017	01/08/2017	01/09/2017	03/10/2017	01/11/2017	01/12/2017	01/01/2018	01/02/2018	01/03/2018	02/04/2018	01/05/2018
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)	0.000	240.1	82.31	91.40	221.5	24.86	12.68	5.034	2.883	1.789	0.402	0.330
2	Colour_Cod (-)			Brown	Light Brown	Light Brown	Clear	Clear	Clear	Clear	Clear	Clear	Clear
3	EC_FLD (µmho/cm)			170	200	160	190	190	170	200	210	230	162
4	EC_GEN (µmho/cm)			149	108	100	239	139	187	420	167	178	182
5	Odour_Code (-)			odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free
6	pH_FLD (pH units)			7.0	7.0	7.1	7.0	7.1	7.0	7.2	7.0		7.1
7	pH_GEN (pH units)			8.4	8.3	8.3	8.1	8.5	7.8	8.0	7.5	7.9	7.9
8	Temp (deg C)			28.0	29.0	29.0	23.5	18.0	15.5	15.5	21.0	22.0	26.0
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)			168	164	148	116	180	176	204	200	208	184
3	Ca (mg/L)			10	42	32	30	35	34	32	21	29	21
4	Cl (mg/L)			13.0	15.0	20.0	34.0	22.0	50.0	13.0	15.0	18.0	26.0
5	CO3 (mg/L)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	HCO3 (mg/L)			103	100	90	71	110	107	124	122	127	112
7	K (mg/L)			8.4	11.1	13.3	5.8	6.7	8.3	11.1	3.6	9.3	6.9
8	Mg (mg/L)			1.9	16.6	7.8	13.6	6.8	10.7	3.9	7.8	7.8	8.8
9	Na (mg/L)			14.5	21.2	24.9	13.7	16.5	19.0	21.4	19.3	24.4	16.2
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)			0.5	1.0	1.0	0.7	0.8	0.6	1.0	0.8	0.8	1.7
2	DO (mg/L)			5.1	6.3	6.5	6.5	7.0	7.1	8.0	6.8	4.9	7.3
3	DO_SAT% (%)			65	82	85	76	74	70	79	76	56	90
4	FCol-MPN (MPN/100mL)			70	70	40	40	90		70	60	110	70
5	Tcol-MPN (MPN/100mL)			120	90	90	70	110		120	90	90	110
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)			25	104	80	76	88	84	80	52	72	52
2	HAR_Total (mgCaCO3/L)			33	173	113	133	117	129	96	85	105	89
3	Na% (%)			42	20	30	18	22	23	30	32	31	27
4	RSC (-)			1.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.0	0.1
5	SAR (-)			1.1	0.7	1.0	0.5	0.7	0.7	1.0	0.9	1.0	0.8
	PESTICIDES												

Water Quality Summary for the period : 2017-2018

Station Name : SUNDERGARH (EMI00H3) **Division : MD,CWC,Burla**

Local River : Ib **Sub-Division : MMSD II,CWC,Burla**

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	365	4232	0.000	87.35
2	EC_FLD (µmho/cm)	10	230	160	188
3	EC_GEN (µmho/cm)	10	420	100	187
4	pH_FLD (pH units)	9	7.2	7.0	7.1
5	pH_GEN (pH units)	10	8.5	7.5	8.1
6	Temp (deg C)	10	29.0	15.5	22.8
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	10	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	10	208	116	175
3	Ca (mg/L)	10	42	10	29
4	Cl (mg/L)	10	50.0	13.0	22.6
5	CO3 (mg/L)	10	0.0	0.0	0
6	HCO3 (mg/L)	10	127	71	107
7	K (mg/L)	10	13.3	3.6	8.4
8	Mg (mg/L)	10	16.6	1.9	8.6
9	Na (mg/L)	10	24.9	13.7	19.1
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	10	1.7	0.5	0.9
2	DO (mg/L)	10	8.0	4.9	6.6
3	DO_SAT% (%)	10	90	56	75
4	FCol-MPN (MPN/100mL)	9	110	40	69
5	Tcol-MPN (MPN/100mL)	9	120	70	99
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	10	104	25	71
2	HAR_Total (mgCaCO3/L)	10	173	33	107
3	Na% (%)	10	42	18	27
4	RSC (-)	10	1.0	0.0	0.2
5	SAR (-)	10	1.1	0.5	0.8
	PESTICIDES				

Water Quality Seasonal Average for the period: 2003-2018

Station Name : SUNDERGARH (EMI00H3) | **Division : MD,CWC,Burla**

Local River : Ib | **River Water** | **Sub-Division : MMSD II,CWC,Burla**

S.No	Parameters	Flood														
		Jun - Oct														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	PHYSICAL															
1	Q (cumec)	256.9	108.0	326.2	197.0	223.2	388.0	151.3	120.9	113.0	128.2	115.0	117.2	108.5	159.4	127.1
2	EC_FLD (µmho/cm)		83	106	90	168	247	113	162	88			116	159	127	177
3	EC_GEN (µmho/cm)		83	106	90	123	211	107	106	99	129	104	116	112	85	119
4	pH_FLD (pH units)			7.4	7.5	7.6	7.7	7.8	7.7	8.0			7.0	7.0	7.1	7.0
5	pH_GEN (pH units)			7.4	7.5	7.7	7.6	7.9	7.5	7.5	7.8	8.2	7.9	7.9	7.3	8.3
6	Temp (deg C)		30.0	29.4	27.1	27.5	26.9	28.8	27.5	30.0	27.6	26.8	28.1	29.2	29.8	28.7
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)		99	68		93	154	68	75	124	91	124	135	134	94	160
3	B (mg/L)			0.02		0.01	0.00	0.00	0.00	0.00	0.00					
4	Ca (mg/L)		12	7		10	16	6	10	8	10	14	14	16	23	28
5	Cl (mg/L)		8.7	23.4		75.1	6.0	6.1	3.9	3.3	13.0	11.8	9.4	15.0	14.5	16.0
6	CO3 (mg/L)			0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	0.0	0.0
7	F (mg/L)			0.15		0.06	0.10	0.05	0.09	0.18	0.21					
8	Fe (mg/L)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
9	HCO3 (mg/L)			42		57	94	42	46	75	56	76	82	79	57	98
10	K (mg/L)			2.4		0.9	0.9	1.0	1.6	2.4	1.1	2.4	2.7	4.2	14.8	10.9
11	Mg (mg/L)		4.7	3.1		4.8	7.5	4.0	7.0	4.9	6.1	4.6	5.7	8.2	6.8	8.8
12	Na (mg/L)			14.0		14.9	6.1	4.3	6.8	5.9	10.3	6.5	14.9	15.9	27.6	20.2
13	NO2+NO3 (mg N/L)		0.05	0.06	0.04	0.07	0.33									
14	NO2-N (mgN/L)			0.01	0.00	0.01	0.03	0.01	0.01	0.01	0.08					
15	NO3-N (mgN/L)			0.05	0.04	0.06	0.30									
16	P-Tot (mgP/L)			0.003	0.020	0.010	0.022	0.030	0.010	0.030	0.040					
17	SiO2 (mg/L)			4.5		10.5	17.0	7.9	6.4	11.0	15.8					
18	SO4 (mg/L)		7.2	13.1		7.0	7.1	7.5	10.5	15.0	12.4					

Water Quality Seasonal Average for the period: 2003-2018

Station Name : SUNDERGARH (EMI00H3) **Division : MD,CWC,Burla**

Local River : Ib **River Water** **Sub-Division : MMSD II,CWC,Burla**

S.No	Parameters	Flood														
		Jun - Oct														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)		0.9	0.8	0.4	1.3	0.9	0.9	0.9	1.4	0.8	0.5	0.3	0.7	0.9	0.8
2	COD (mg/L)				10.6	15.3	26.0	13.0	13.0	22.0	18.0					
3	DO (mg/L)		4.6	6.0	6.8	7.6	6.7	6.6	6.4	6.7	7.7	7.1	6.7	6.4	6.9	6.0
4	DO_SAT% (%)		60	79	85	96	83	86	81	87	98	88	86	83	91	77
5	FCol-MPN (MPN/100mL)															60
6	Tcol-MPN (MPN/100mL)															100
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)		30	18		24	40	16	25	21	25	35	35	39	57	70
2	HAR_Total (mgCaCO3/L)		49	30		44	72	32	54	41	50	54	59	73	85	106
3	Na% (%)			43		44	25	22	22	23	30	20	35	29	35	30
4	RSC (-)			0.1		0.1	0.1	0.0	0.0	0.4	0.0	0.2	0.2	0.1	0.0	0.3
5	SAR (-)			1.2		1.0	0.4	0.3	0.4	0.4	0.6	0.4	0.9	0.8	1.3	0.9
	PESTICIDES															

Water Quality Seasonal Average for the period: 2003-2018

Station Name : SUNDERGARH (EMI00H3) | **Division : MD,CWC,Burla**

Local River : Ib | **River Water** | **Sub-Division : MMSD II,CWC,Burla**

S.No	Parameters	Winter														
		Nov - Feb														
		2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
	PHYSICAL															
1	Q (cumec)	83.39	9.759	17.45	11.09	16.76	12.05	15.90	10.29	18.47	16.51	32.20	15.83	8.169	12.23	11.37
2	EC_FLD (µmho/cm)		150	127	154	134	136	136	157			183	130	140	153	188
3	EC_GEN (µmho/cm)		150	127	154	228	150	154	148	134	176	143	134	113	139	246
4	pH_FLD (pH units)		7.8	8.2	7.9	7.8	7.9	7.6	7.5			7.1	7.1	7.0	7.1	7.1
5	pH_GEN (pH units)		7.8	8.2	7.9	8.0	8.0	7.9	7.7	8.0	8.2	8.3	8.2	8.2	8.2	8.1
6	Temp (deg C)		21.0	27.0	17.5	20.7	20.4	18.9	18.5	19.9	18.9	18.6	19.3	20.8	21.9	18.1
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)		98	98		83	111	115	107	101	176	161	164	140	96	169
3	B (mg/L)			0.10		0.01	0.00	0.00	0.00	0.00	0.00					
4	Ca (mg/L)		12	10		13	11	12	13	12	24	20	21	18	38	33
5	Cl (mg/L)		5.0	17.2		60.3	14.9	5.9	13.2	14.0	14.2	14.8	15.5	12.3	28.0	29.8
6	CO3 (mg/L)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)					0.11	0.08	0.07	0.08	0.10	0.15					
8	Fe (mg/L)			0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.1			
9	HCO3 (mg/L)		60	60		51	68	70	65	61	108	98	100	85	59	103
10	K (mg/L)		0.7	1.3		1.5	1.1	1.1	1.6	1.1	0.9	8.8	3.1	4.5	7.1	7.9
11	Mg (mg/L)		4.4	4.9		10.0	5.6	6.7	6.3	6.2	9.2	9.0	10.2	8.1	7.8	8.7
12	Na (mg/L)		11.7	10.7		14.9	11.5	6.9	14.9	12.0	23.7	23.7	19.4	15.3	17.4	17.7
13	NO2+NO3 (mg N/L)		0.05	0.08	0.02	0.09	0.30						0.13			
14	NO2-N (mgN/L)			0.00	0.01	0.01	0.01	0.01	0.02	0.02	0.02		0.02			
15	NO3-N (mgN/L)			0.08	0.01	0.08	0.29						0.11			
16	P-Tot (mgP/L)		0.030	0.026	0.075	0.095	0.012	0.015	0.027	0.032	0.032		0.030			
17	SiO2 (mg/L)			20.0		17.3	11.6	11.5	5.9	8.9	7.1		9.5			
18	SO4 (mg/L)		3.0	4.4		12.1	10.9	12.0	21.4	14.8	16.2		16.7			

Water Quality Seasonal Average for the period: 2003-2018

Station Name : SUNDERGARH (EMI00H3) | **Division : MD,CWC,Burla**

Local River : Ib | **River Water** | **Sub-Division : MMSD II,CWC,Burla**

S.No	Parameters	Winter														
		Nov - Feb														
		2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)		0.6	0.3	0.5	0.8	0.6	0.7	0.6	0.7	1.1	0.9	0.7	0.7	0.7	0.8
2	COD (mg/L)				31.3	20.0	16.0	25.0	20.0	14.0	16.0					
3	DO (mg/L)		8.2	7.6	8.9	8.6	7.7	7.3	8.2	8.2	8.7	7.9	8.3	8.0	7.2	7.1
4	DO_SAT% (%)		92	95	92	95	86	78	90	90	92	83	89	89	82	75
5	FCol-MPN (MPN/100mL)															67
6	Tcol-MPN (MPN/100mL)															100
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)		30	24		34	29	30	31	30	60	50	53	44	96	82
2	HAR_Total (mgCaCO3/L)		48	44		75	52	58	58	55	98	88	96	78	129	119
3	Na% (%)		34	34		33	32	20	34	30	31	31	29	29	22	23
4	RSC (-)		0.0	0.1		0.0	0.1	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
5	SAR (-)		0.7	0.7		0.8	0.7	0.4	0.8	0.7	1.1	1.1	0.9	0.8	0.7	0.7
	PESTICIDES															

Water Quality Seasonal Average for the period: 2003-2018

Station Name : SUNDERGARH (EMI00H3) | **Division : MD,CWC,Burla**

Local River : Ib | **River Water** | **Sub-Division : MMSD II,CWC,Burla**

S.No	Parameters	Summer														
		Mar - May														
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	PHYSICAL															
1	Q (cumec)	3.019	1.406	1.109	1.280	3.187	0.793	1.812	2.541	1.830	3.720	5.221	4.464	5.516	0.535	0.840
2	EC_FLD (µmho/cm)		163	132	158	181	166	199	176			118	153	145	190	201
3	EC_GEN (µmho/cm)		163	132	158	140	170	201	331	161	171	171	145	145	151	176
4	pH_FLD (pH units)		8.0	7.8	8.3	8.2	7.8	7.5	7.2			7.0	7.1	7.0	7.0	7.0
5	pH_GEN (pH units)		8.0	7.8	8.3	8.2	8.0	7.8	7.1	7.6	8.5	8.1	8.4	8.1	8.3	7.8
6	Temp (deg C)		30.3	31.0	23.8	24.3	22.8	23.8	26.8	23.0	23.8	23.7	23.8	23.0	22.0	23.0
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)		0.0	0.0		2.5	0.0	0.0	0.0	0.0	8.0	0.0	10.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)		88	103		100	126	144	107	126	167	185	175	126	182	197
3	B (mg/L)			0.03		0.01	0.00	0.00	0.00	0.00	0.00					
4	Ca (mg/L)		12	15		11	12	22	28	16	16	22	17	20	25	24
5	Cl (mg/L)		12.5	12.6		15.7	10.1	9.2	21.1	16.6	25.7	15.7	15.7	16.5	40.0	19.7
6	CO3 (mg/L)		0.0	0.0		3.0	0.0	0.0	0.0	0.0	9.6	0.0	12.0	0.0	0.0	0.0
7	F (mg/L)		0.14			0.11	0.14	0.11	0.30	0.16	0.15					
8	Fe (mg/L)			0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1		0.1			
9	HCO3 (mg/L)		54	63		58	77	88	66	77	92	113	94	77	111	120
10	K (mg/L)		6.6	1.1		1.3	2.0	1.9	1.7	1.1	2.6	2.4	4.2	10.6	7.3	6.6
11	Mg (mg/L)		5.3	4.4		4.9	6.8	8.3	17.2	8.9	4.2	13.6	10.7	4.4	11.2	8.1
12	Na (mg/L)		13.6	9.1		14.4	8.4	24.7	18.4	12.1	39.5	14.8	19.6	28.2	12.4	20.0
13	NO2+NO3 (mg N/L)		0.05	0.04	0.03	0.50	1.18						0.31			
14	NO2-N (mgN/L)			0.00	0.00	0.01	0.01	0.01	0.32	0.07	0.06		0.06			
15	NO3-N (mgN/L)			0.04	48.68	0.49	1.17						0.25			
16	P-Tot (mgP/L)		0.020	0.009	0.025	0.023	0.030	0.025	0.070	0.067	0.050		0.043			
17	SiO2 (mg/L)			8.0		13.3	13.7	10.3	19.8	11.9	11.8		9.9			
18	SO4 (mg/L)		6.1	4.4		9.4	13.2	13.5	48.8	14.1	16.2		18.5			

Water Quality Seasonal Average for the period: 2003-2018

Station Name : SUNDERGARH (EMI00H3) **Division : MD,CWC,Burla**

Local River : Ib **River Water** **Sub-Division : MMSD II,CWC,Burla**

S.No	Parameters	Summer														
		Mar - May														
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)		0.9	0.6	0.5	1.0	0.5	1.1	0.8	0.6	0.4	0.9	0.5	1.1	1.1	1.1
2	COD (mg/L)				10.4	17.3	24.0	18.0	26.0	17.3	13.3					
3	DO (mg/L)		7.2	7.8	7.9	9.1	7.2	5.8	6.2	7.1	6.6	7.2	7.1	6.6	7.1	6.3
4	DO_SAT% (%)		92	105	94	107	82	64	77	83	77	85	84	77	81	74
5	FCol-MPN (MPN/100mL)															80
6	Tcol-MPN (MPN/100mL)															97
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)		30	38		27	31	55	71	39	40	55	43	50	62	59
2	HAR_Total (mgCaCO3/L)		52	56		47	59	89	143	77	58	111	87	68	109	93
3	Na% (%)		33	26		39	23	39	24	26	57	23	30	43	19	30
4	RSC (-)		0.0	0.0		0.2	0.1	0.0	0.0	0.0	0.7	0.2	0.2	0.1	0.0	0.1
5	SAR (-)		0.8	0.5		0.9	0.5	1.3	0.7	0.6	2.3	0.6	0.9	1.5	0.5	0.9
	PESTICIDES															

ONG SUB-BASIN

SITE SALEBHATA

HISTORY SHEET

Water Year : 2017-2018

Site	**: SALEBHATA**		**Code**	**: EMG00E5**	
State	: Orissa		District	Balangir	
Basin	: Mahanadi		Independent River	: Mahanadi	
Tributary	: Ong		Sub Tributary	:	
Sub-Sub Tributary	:		Local River	: Ong	
Division	: MD,CWC,Burla		Sub-Division	: MMSD II,CWC,Burla	
Drainage Area	: 4650 Sq. Km.		Bank	:	
Latitude	: 20°59'00"		Longitude	: 83°32'22"	
Zero of Gauge (m)	: 130 (m.s.l)		23/07/1971	- 23/07/2025	
	Opening Date		Closing Date		
Gauge	: 23/07/1971				
Discharge	:				
Sediment	: 01/05/1973				
Water Quality	: 15/09/1972				

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

	Maximum			Minimum		
Year	**Q (cumecs)**	**WL (m)**	**Date**	**Q (cumecs)**	**WL (m)**	**Date**
1973-1974	3571	135.900	08/07/1973	0.100	130.535	17/05/1974
1974-1975	3670	135.278	18/08/1974	0.001	130.585	17/05/1975
1975-1976	800.4	133.850	13/08/1975	0.100	130.630	26/05/1976
1976-1977	2123	134.930	14/08/1976	0.082	130.565	20/06/1976
1977-1978	1416	134.070	13/09/1977	0.055	130.585	31/05/1978
1978-1979	1737	134.375	29/08/1978	0.048	130.560	20/06/1978
1979-1980	1547	134.015	09/08/1979	0.010	130.605	04/06/1979
1980-1981	2850	135.090	02/07/1980	0.100	130.600	10/06/1980
1981-1982	1176	133.630	09/08/1981	0.020	130.580	17/05/1982
1982-1983	14545	139.570	30/08/1982	0.010	130.620	24/05/1983
1983-1984	3864	134.000	07/09/1983	0.100	130.285	31/05/1984
1984-1985	1701	134.570	08/08/1984	0.010	130.505	23/05/1985
1985-1986	2645	135.525	11/09/1985	0.100	130.570	26/04/1986
1986-1987	3771	137.000	21/08/1986	0.060	130.405	28/05/1987
1987-1988	838.6	134.580	23/07/1987	0.110	130.385	03/06/1987
1988-1989	411.0	132.350	12/07/1988	0.110	130.300	30/05/1989
1989-1990	489.7	132.950	29/07/1989	0.110	130.300	03/06/1989
1990-1991	1629	134.130	05/09/1990	0.154	130.530	17/05/1991
1991-1992	1260	134.190	14/08/1991	0.100	130.480	31/05/1992
1992-1993	3250	137.620	28/07/1992	0.015	130.635	08/05/1993
1993-1994	1341	134.700	20/08/1993	0.033	130.640	11/06/1993
1994-1995	3577	135.390	21/06/1994	0.569	130.720	25/04/1995

Q : Observed / Computed Discharge WL : Corresponding Water Level(m.s.l)

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

	Maximum			Minimum		
Year	**Q (cumecs)**	**WL (m)**	**Date**	**Q (cumecs)**	**WL (m)**	**Date**
1995-1996	2346	134.800	24/07/1995	0.100	130.390	24/05/1996
1996-1997	398.3	132.015	24/08/1996	0.016	130.510	16/12/1996
1997-1998	2428	134.950	21/08/1997	0.105	130.335	31/05/1998
1998-1999	560.0	132.755	12/07/1998	0.120	130.305	06/06/1998
1999-2000	1935	134.720	09/08/1999	0.209	130.405	09/06/1999
2000-2001	114.0	131.585	13/07/2000	0.024	130.310	16/01/2001
2001-2002	3225	135.308	17/07/2001	0.095	130.490	08/05/2002
2002-2003	1545	133.405	12/09/2002	0.660	130.600	28/04/2003
2003-2004	7916	139.580	29/08/2003	0.476	130.205	25/04/2004
2004-2005	1147	133.080	15/06/2004	0.022	130.260	20/05/2005
2005-2006	1924	135.005	31/07/2005	0.016	130.305	15/05/2006
2006-2007	4681	136.790	30/08/2006	0.061	130.290	28/04/2007
2007-2008	2419	134.350	30/06/2007	0.026	130.130	12/05/2008
2008-2009	3271	135.400	19/09/2008	0.134	130.460	21/04/2009
2009-2010	4331	135.975	22/07/2009	0.340	130.090	31/12/2009
2010-2011	787.8	132.560	26/07/2010	0.200	130.190	30/12/2010
2011-2012	4552	135.755	08/09/2011	0.067	130.150	20/05/2012
2012-2013	4880	135.850	04/08/2012	0.353	130.070	02/01/2013
2013-2014	895.3	133.000	09/10/2013	0.092	130.120	23/05/2014
2014-2015	7441	137.600	31/07/2014	0.035	130.130	31/05/2015
2015-2016	612.5	132.440	29/08/2015	0.000	130.000	20/04/2016
2016-2017	560.8	132.355	05/09/2016	0.000	130.000	31/05/2017

Q : Observed / Computed Discharge WL : Corresponding Water Level(m.s.l)

Stage-Dischage Data for the period 2017 - 2018

Station Name : SALEBHATA (EMG00E5) **Division : MD,CWC,Burla**

Local River : Ong **Sub-Division : MMSD II,CWC,Burla**

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	130.000	0.000 *	130.565	11.95	130.590	16.09	131.000	68.40	130.920	58.40 *	130.390	7.940
2	130.000	0.000 *	130.550	10.00 *	130.550	14.30	131.040	86.62 *	130.920	58.40 *	130.380	7.592
3	130.000	0.000 *	130.500	9.081	130.715	22.13	131.070	100.3 *	130.895	55.60	130.400	8.084
4	130.000	0.000 *	130.810	33.92	130.705	22.00	131.095	111.7	130.880	51.95	130.390	7.862 *
5	130.000	0.000 *	130.880	38.78	130.610	17.64	130.935	58.16	130.850	48.54	130.380	7.640 *
6	130.000	0.000 *	130.880	45.39	130.580	14.60 *	130.790	33.68	130.845	47.40	130.380	7.644
7	130.000	0.000 *	130.820	33.70	130.665	23.24	130.765	32.96	130.800	37.40	130.390	7.794
8	130.000	0.000 *	130.790	27.88	130.880	42.12	130.620	19.67	130.750	30.15 *	130.380	7.674
9	130.000	0.000 *	130.670	15.50 *	130.785	32.49	130.545	13.02	131.040	72.22	130.340	5.839
10	130.000	0.000 *	130.620	15.03	130.885	45.03	130.560	14.64 *	130.950	63.36	130.340	5.668
11	130.000	0.000 *	130.560	10.62	130.785	31.09	130.825	43.28	130.880	50.82	130.330	5.204
12	130.000	0.000 *	130.530	10.22	130.620	18.67	130.900	56.86	130.895	55.35	130.290	4.683 *
13	130.000	0.000 *	130.635	15.18	130.720	26.73 *	130.740	30.50	130.830	43.71	130.200	3.508
14	130.000	0.000 *	130.890	38.38	130.680	23.37	130.630	24.92	130.760	34.27	130.190	3.411
15	130.000	0.000 *	130.765	30.73	130.680	23.51 *	130.750	31.36	130.710	29.60 *	130.180	3.078
16	130.000	0.000 *	130.730	28.00 *	130.700	25.18	130.735	30.94	130.680	26.79	130.180	3.151
17	130.000	0.000 *	131.125	99.02	130.670	23.89	130.640	22.87 *	130.635	18.23	130.200	3.626
18	130.000	0.000 *	131.935	372.1	131.025	66.98	130.575	17.33	130.670	24.77	130.190	3.340
19	130.000	0.000 *	131.443	198.1	131.060	71.08	130.605	18.72	130.610	20.16 *	130.190	3.342 *
20	130.000	0.000 *	131.315	157.1	131.050	73.66 *	130.790	35.40	130.590	18.60	130.200	3.614
21	130.000	0.000 *	131.225	136.7	130.970	66.80	130.945	62.85	130.605	20.55	130.200	3.522
22	130.000	0.000 *	131.025	104.6	131.090	75.86	131.240	155.2	130.600	20.00 *	130.190	3.351
23	130.000	0.000 *	130.880	40.70 *	131.090	75.98	131.105	117.5	130.600	19.73	130.190	3.377
24	130.000	0.000 *	130.880	40.71	131.045	71.25	130.860	52.81 *	130.590	16.94	130.185	3.288
25	130.000	0.000 *	130.770	31.42	131.520	237.6	130.805	38.29	130.550	13.89	130.200	3.482
26	130.000	0.000 *	130.870	37.43	131.545	245.8	130.700	27.91	130.495	10.58	130.180	3.000 *
27	130.000	0.000 *	130.900	42.93	131.330	181.6 *	130.660	22.89	130.490	9.749	130.150	2.276
28	130.000	0.000 *	130.830	36.18	131.230	151.7	130.565	18.68	130.480	9.459	130.150	2.213
29	130.490	7.787	130.740	26.97	131.155	111.1	130.700	27.93 *	130.400	8.990 *	130.100	1.083
30	130.605	12.93	130.660	15.00 *	131.320	167.5	130.710	34.90 *	130.445	8.642	130.090	1.003
31			130.570	14.79	131.155	119.8			130.430	8.532		
Ten-Daily Mean												
I Ten-Daily	130.000	0.000	130.709	24.12	130.697	24.96	130.842	53.91	130.885	52.34	130.377	7.374
II Ten-Daily	130.000	0.000	130.993	95.96	130.799	38.42	130.719	31.22	130.726	32.23	130.215	3.696
III Ten-Daily	130.109	2.071	130.850	47.95	131.223	136.8	130.829	55.89	130.517	13.37	130.163	2.660
Monthly												
Min.	130.000	0.000	130.500	9.081	130.550	14.30	130.545	13.02	130.400	8.532	130.090	1.003
Max.	130.605	12.93	131.935	372.1	131.545	245.8	131.240	155.2	131.040	72.22	130.400	8.084
Mean	130.036	0.69	130.850	55.75	130.916	68.99	130.797	47.01	130.703	32.02	130.252	4.576

Annual Runoff in MCM = 566 Annual Runoff in mm = 122

Peak Observed Discharge = 372.1 cumecs on 18/07/2017 Corres. Water Level :131.935 m

Lowest Observed Discharge = 0.247 cumecs on 16/04/2018 Corres. Water Level :130.02 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Dischage Data for the period 2017 - 2018

Station Name : SALEBHATA (EMG00E5) **Division : MD,CWC,Burla**

Local River : Ong **Sub-Division : MMSD II,CWC,Burla**

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	130.080	0.874	130.000	0.000 *	130.110	0.964	130.135	1.052	130.110	0.938 *	130.000	0.000 *
2	130.070	0.805 *	130.000	0.000 *	130.120	0.997	130.125	1.021 *	130.135	1.061	130.000	0.000 *
3	130.060	0.737 *	130.000	0.000 *	130.160	1.146	130.120	0.993	130.135	1.071	130.000	0.000 *
4	130.040	0.593	130.000	0.000 *	130.160	1.154 *	130.140	1.086 *	130.120	0.991	130.000	0.000 *
5	130.040	0.586	130.000	0.000 *	130.160	1.141	130.160	1.168	130.110	0.946	130.000	0.000 *
6	130.035	0.587	130.000	0.000 *	130.140	1.096	130.155	1.116	130.100	0.906	130.000	0.000 *
7	130.030	0.543	130.000	0.000 *	130.180	1.321	130.155	1.130	130.160	1.205	130.000	0.000 *
8	130.030	0.552	130.000	0.000 *	130.190	1.366	130.170	1.269	130.190	1.558 *	130.000	0.000 *
9	130.025	0.532	130.000	0.000 *	130.210	1.498	130.170	1.225	130.215	1.837	130.000	0.000 *
10	130.010	0.215 *	130.000	0.000 *	130.220	1.550	130.180	1.341	130.210	1.766	130.000	0.000 *
11	130.000	0.000 *	130.000	0.000 *	130.240	1.944 *	130.180	1.345 *	130.205	1.661	130.000	0.000 *
12	130.000	0.000 *	130.120	1.086	130.260	2.324	130.190	1.382	130.200	1.587	130.000	0.000 *
13	130.000	0.000 *	130.120	1.022	130.250	2.302	130.180	1.295	130.120	0.852	130.000	0.000 *
14	130.000	0.000 *	130.140	1.091 *	130.240	2.260	130.140	1.095	130.040	0.456	130.000	0.000 *
15	130.000	0.000 *	130.160	1.146	130.230	2.251	130.140	1.081	130.030	0.354 *	130.000	0.000 *
16	130.000	0.000 *	130.170	1.220	130.210	1.704	130.135	1.074	130.020	0.247	130.000	0.000 *
17	130.000	0.000 *	130.160	1.167	130.190	1.503	130.170	1.297	130.000	0.000 *	130.000	0.000 *
18	130.000	0.000 *	130.155	1.117	130.180	1.389 *	130.170	1.282 *	130.000	0.000 *	130.000	0.000 *
19	130.000	0.000 *	130.155	1.090	130.170	1.257	130.170	1.256	130.000	0.000 *	130.000	0.000 *
20	130.000	0.000 *	130.170	1.162	130.160	1.180	130.170	1.232	130.000	0.000 *	130.000	0.000 *
21	130.000	0.000 *	130.160	1.134 *	130.170	1.261	130.130	1.026	130.000	0.000 *	130.000	0.000 *
22	130.000	0.000 *	130.130	1.030	130.170	1.243	130.130	0.981	130.000	0.000 *	130.000	0.000 *
23	130.000	0.000 *	130.160	1.165	130.170	1.268	130.130	1.006	130.000	0.000 *	130.000	0.000 *
24	130.000	0.000 *	130.140	1.084	130.155	1.129	130.130	1.034	130.000	0.000 *	130.000	0.000 *
25	130.000	0.000 *	130.140	1.084	130.145	1.107 *	130.120	0.992 *	130.000	0.000 *	130.000	0.000 *
26	130.000	0.000 *	130.130	1.034 *	130.135	1.070	130.100	0.883	130.000	0.000 *	130.000	0.000 *
27	130.000	0.000 *	130.130	1.026	130.135	1.055	130.100	0.866	130.000	0.000 *	130.000	0.000 *
28	130.000	0.000 *	130.120	0.971 *	130.140	1.080	130.090	0.812	130.000	0.000 *	130.000	0.000 *
29	130.000	0.000 *	130.100	0.839			130.090	0.817 *	130.000	0.000 *	130.000	0.000 *
30	130.000	0.000 *	130.100	0.818			130.100	0.887 *	130.000	0.000 *	130.000	0.000 *
31	130.000	0.000 *	130.100	0.811			130.100	0.882			130.000	0.000 *
Ten-Daily Mean												
I Ten-Daily	130.042	0.603	130.000	0.000	130.165	1.223	130.151	1.140	130.148	1.228	130.000	0.000
II Ten-Daily	130.000	0.000	130.135	1.010	130.213	1.811	130.165	1.234	130.061	0.516	130.000	0.000
III Ten-Daily	130.000	0.000	130.128	1.000	130.153	1.152	130.111	0.926	130.000	0.000	130.000	0.000
Monthly												
Min.	130.000	0.000	130.000	0.000	130.110	0.964	130.090	0.812	130.000	0.000	130.000	0.000
Max.	130.080	0.874	130.170	1.220	130.260	2.324	130.190	1.382	130.215	1.837	130.000	0.000
Mean	130.014	0.194	130.089	0.681	130.179	1.413	130.141	1.094	130.070	0.581	130.000	0

Peak Computed Discharge = 181.6 cumecs on 27/08/2017 Corres. Water Level :131.33 m

Lowest Computed Discharge = 0.000 cumecs on 17/04/2018 Corres. Water Level :130 m

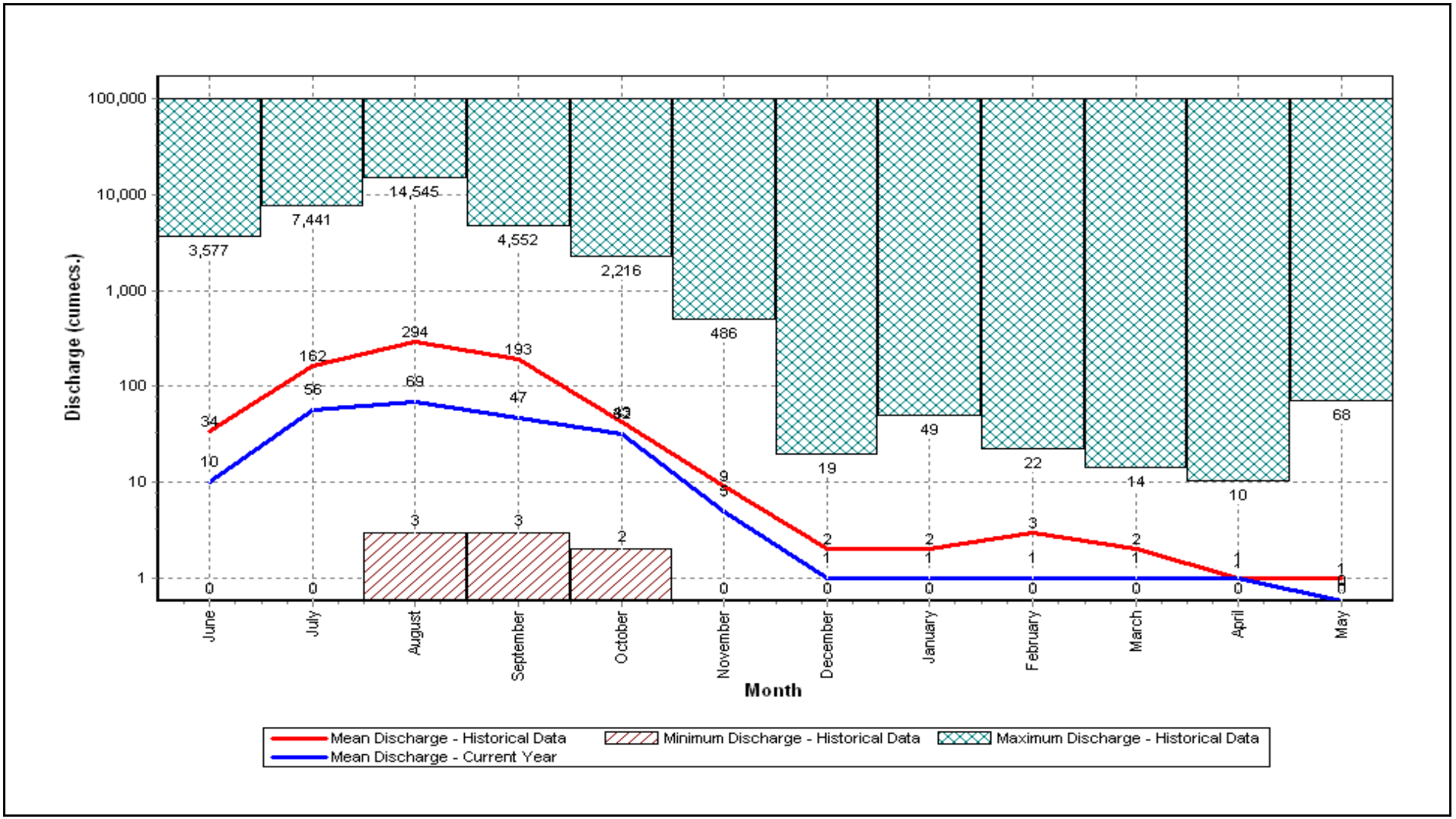
Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2017-2018

Station Name : SALEBHATA (EMG00E5) | **Data considered : 1973-2018** | **Division : MD,CWC,Burla**

Local River : Ong | **Sub-Division : MMSD II,CWC,Burla**


Discharge (cumecs.)
100,000
10,000
1,000
100
10
1
3,577
7,441
14,545
4,552
2,216
486
19
49
22
14
10
68
34
162
294
193
56
69
47
10
0
0
3
3
2
0
0
0

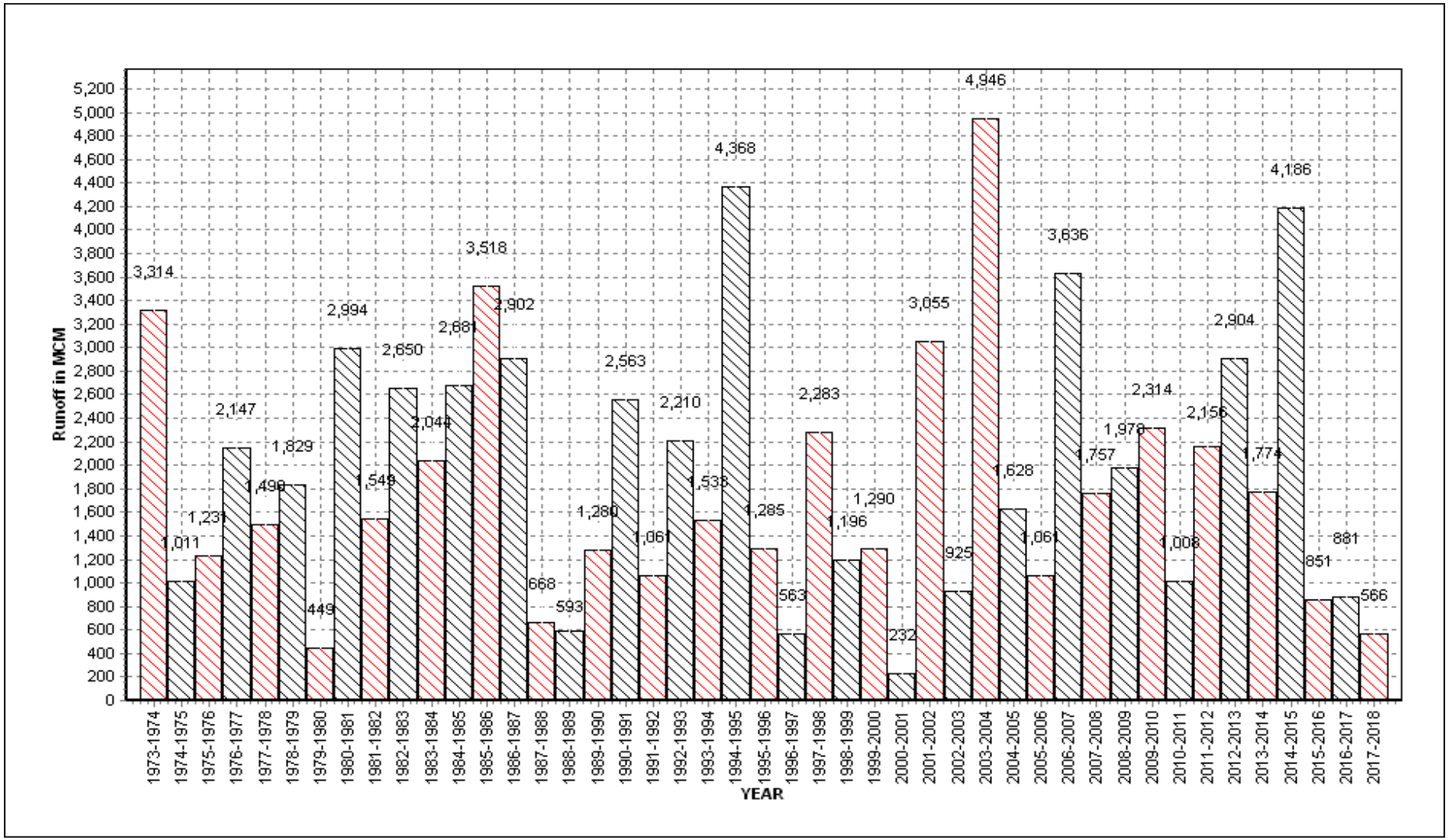
Annual Runoff Values for the period: 1973 - 2018

Station Name : SALEBHATA (EMG00E5)

Local River : Ong

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla



Note: Missing values have not been considered while arriving at Annual Runoff

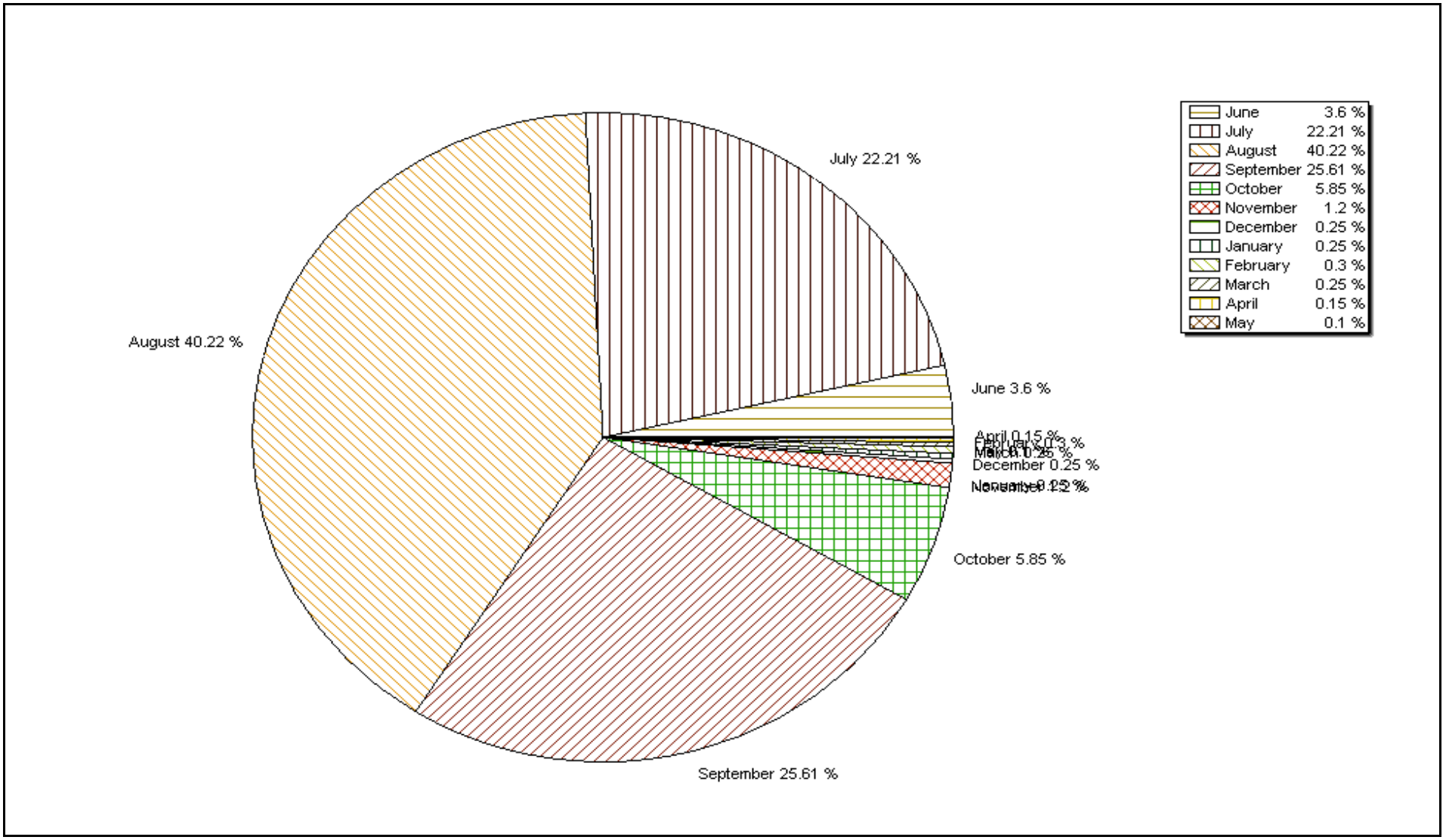
Monthly Average Runoff based on period : 1973-2017

Station Name : SALEBHATA (EMG00E5)

Local River : Ong

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla



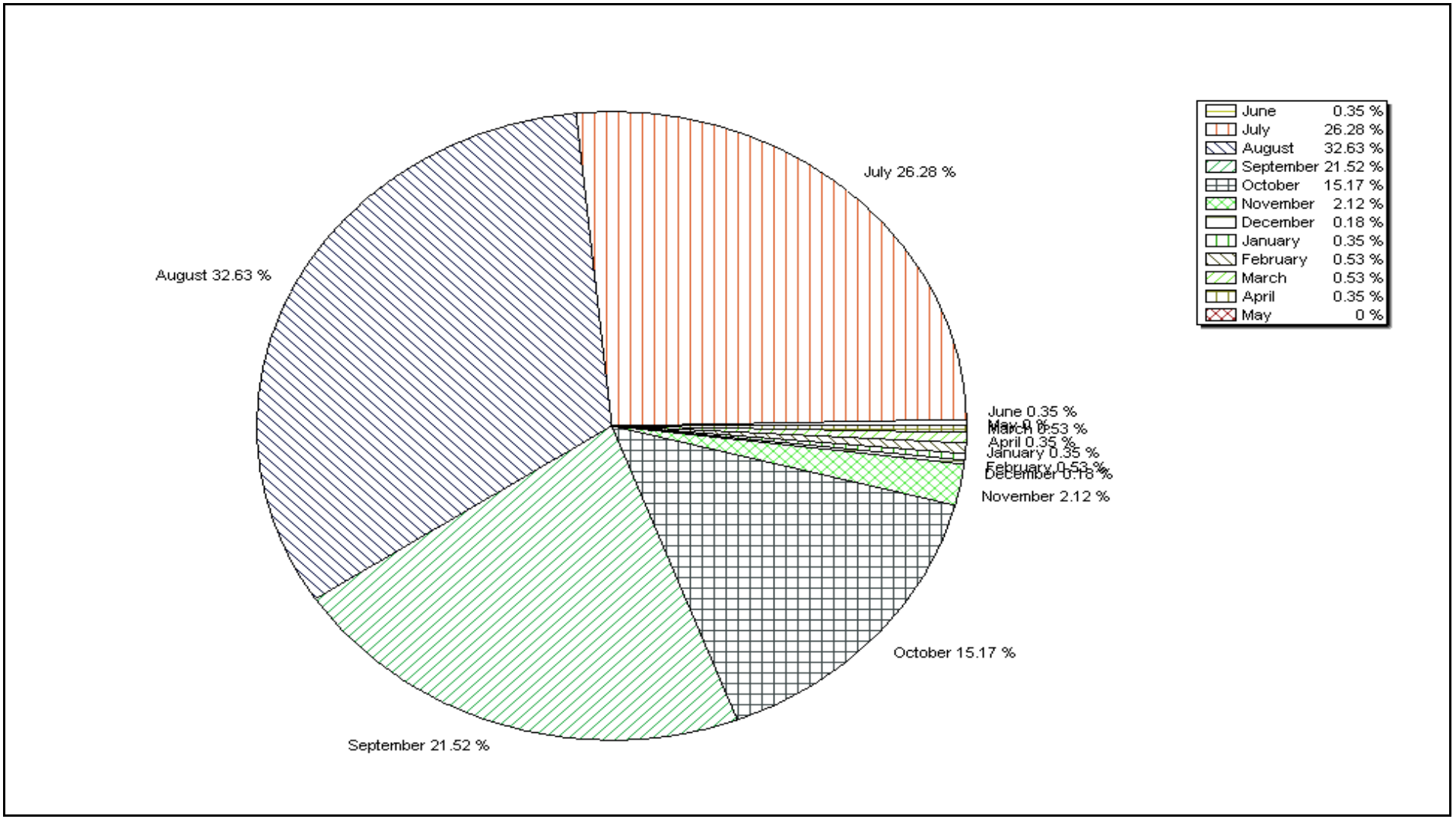
Monthly Runoff for the Year : 2017-2018

Station Name : SALEBHATA (EMG00E5)

Local River : Ong

Division : MD,CWC,Burla

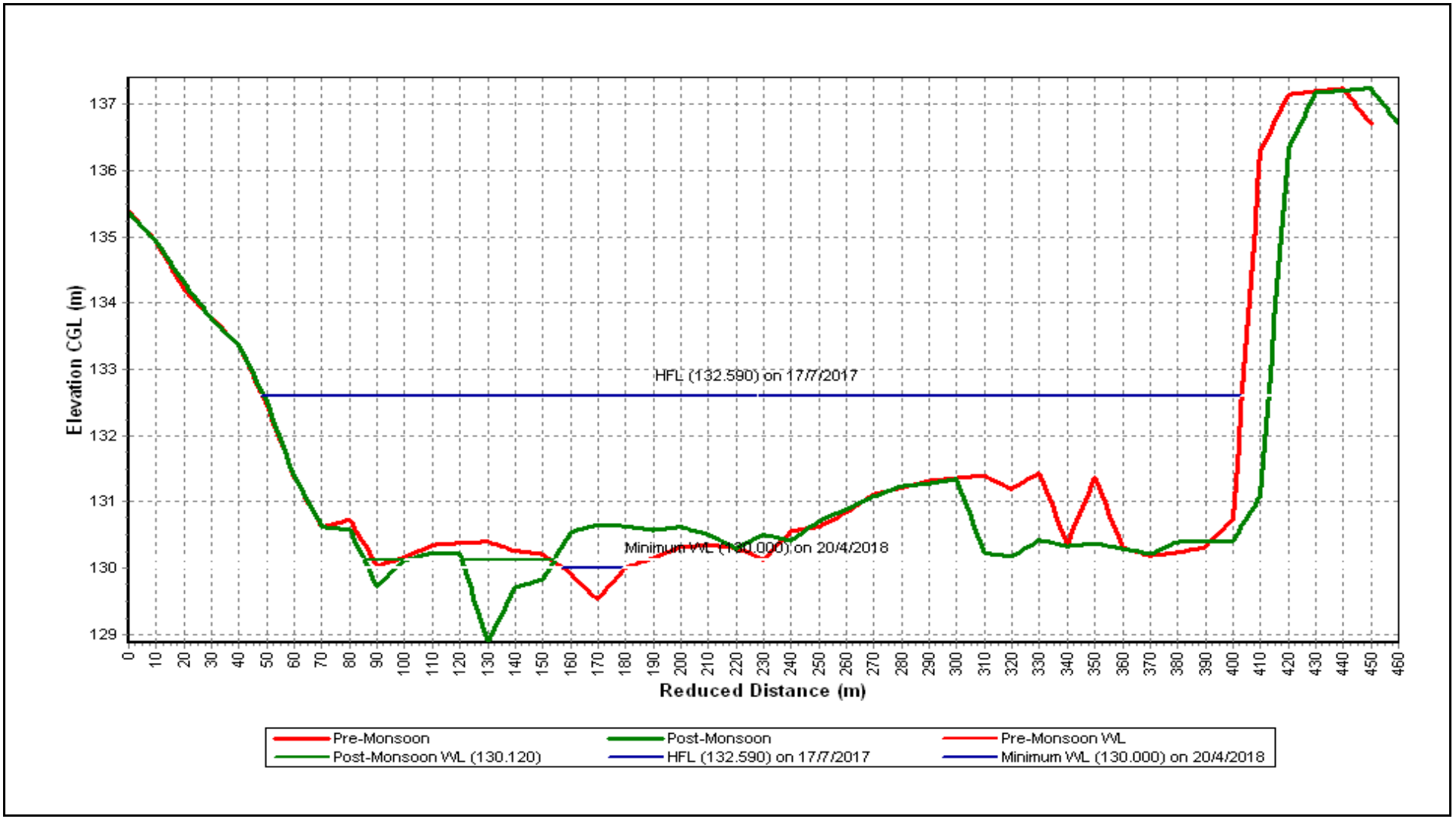
Sub-Division : MMSD II,CWC,Burla



Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2017-2018

Station Name : SALEBHATA (EMG00E5) **Division : MD,CWC,Burla**

Local River : Ong **Sub-Division : MMSD II,CWC,Burla**



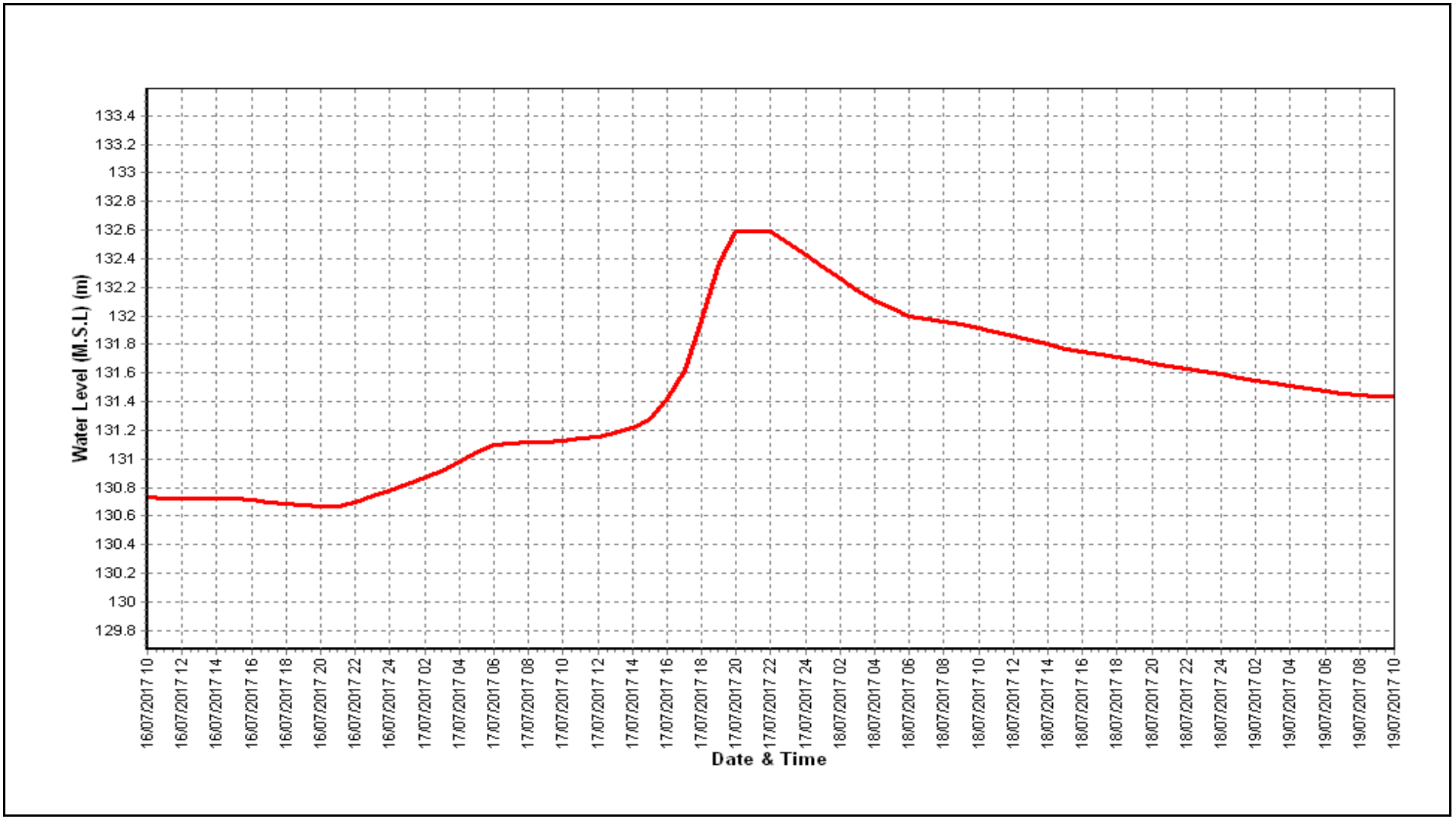
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2017-2018

Station Name : SALEBHATA (EMG00E5)

Local River : Ong

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla



Time Span: 72 Hrs

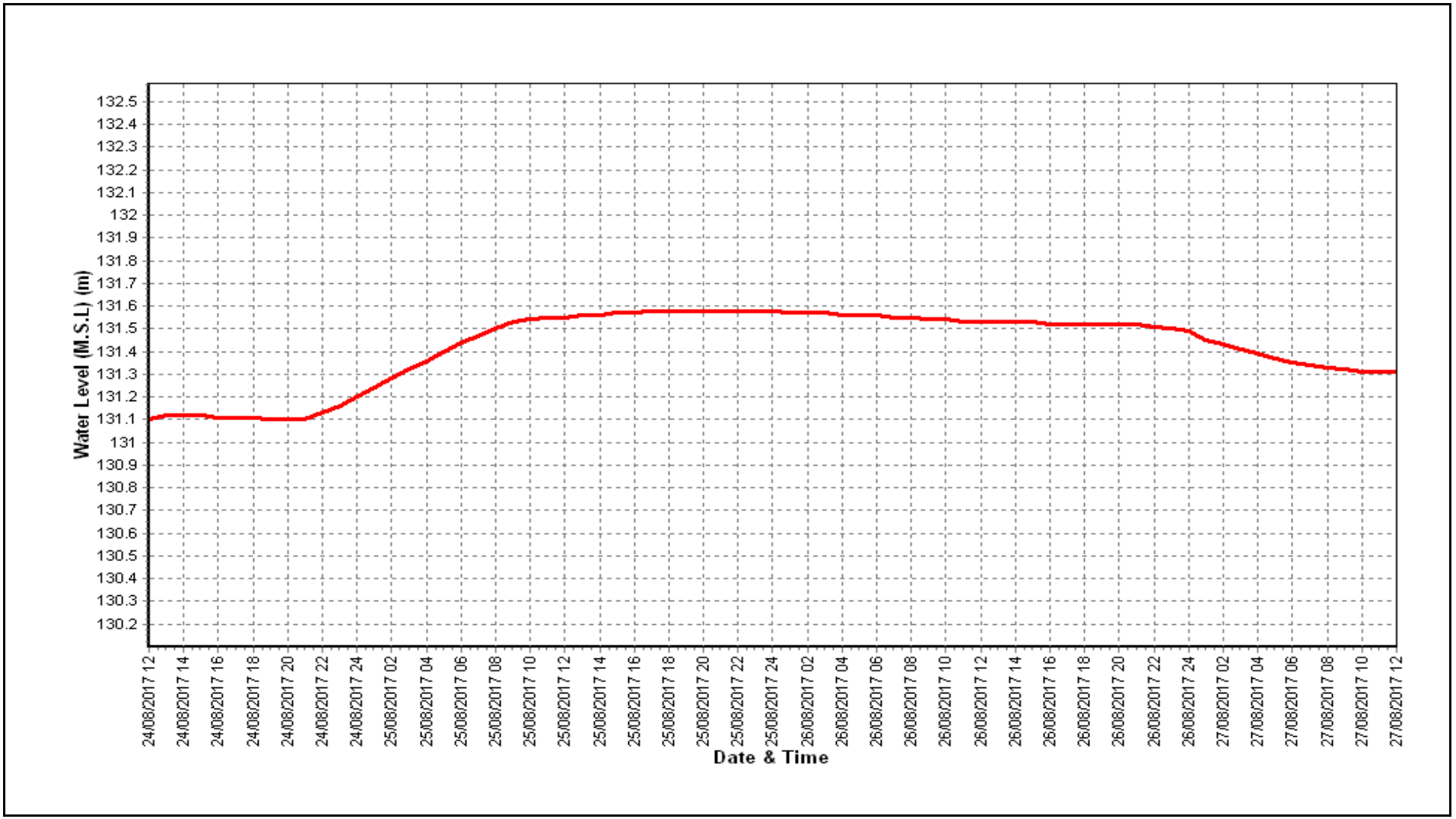
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2017-2018

Station Name : SALEBHATA (EMG00E5)

Division : MD,CWC,Burla

Local River : Ong

Sub-Division : MMSD II,CWC,Burla



Time Span: 72 Hrs

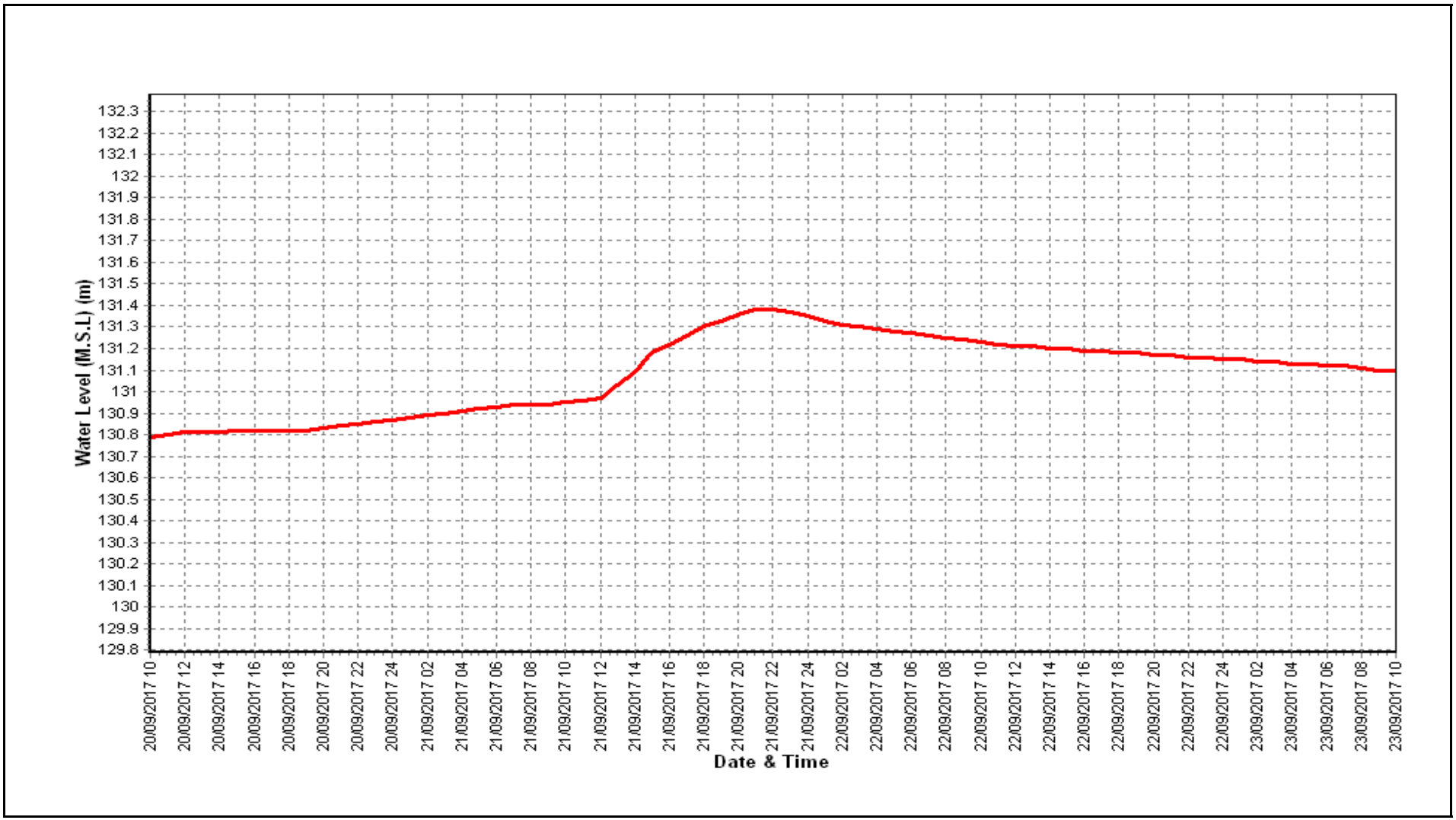
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2017-2018

Station Name : SALEBHATA (EMG00E5)

Local River : Ong

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla



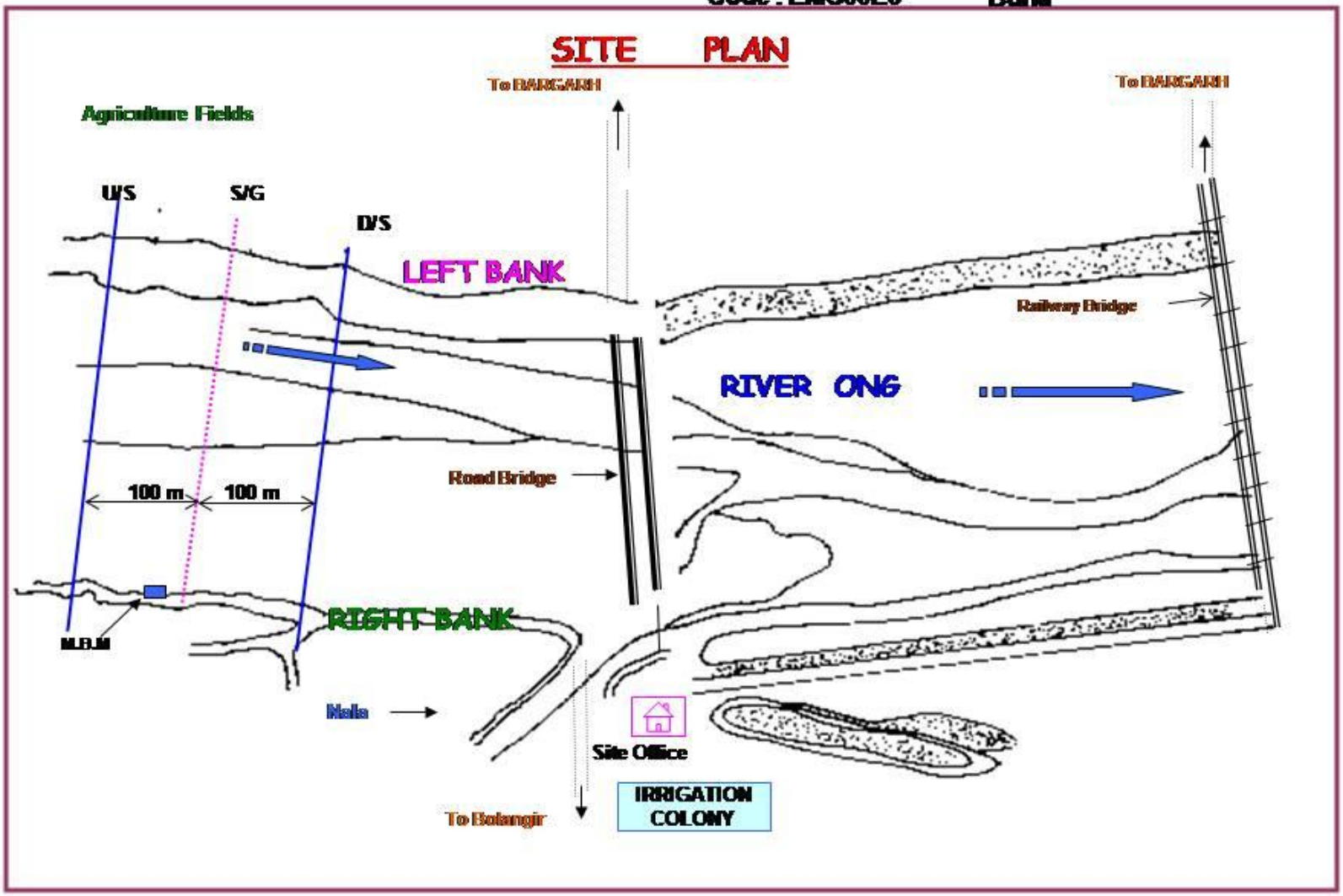
Time Span: 72 Hrs

CENTRAL WATER COMMISSION, MAHANADI DIVISION, BURLA

Site : SALEBHATA

Code : EMG00E5

Sub-Division :MMSD-II CWC Burla



SECTION-II

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : SALEBHATA (EMG00E5) **Division : MD,CWC,Burla**

Local River : Ong **Sub-Division : MMSD II,CWC,Burla**

Day	Jun						Jul						Aug					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	11.95	0.000	0.000	0.028	0.028	28	16.09	0.000	0.000	0.040	0.040	56
2	0.000	0.000	0.000	0.000	0.000	0	10.00	0.000	0.000	0.000	0.000	0	14.30	0.000	0.000	0.040	0.040	50
3	0.000	0.000	0.000	0.000	0.000	0	9.081	0.000	0.000	0.020	0.020	15	22.13	0.000	0.000	0.109	0.109	208
4	0.000	0.000	0.000	0.000	0.000	0	33.92	0.000	0.000	0.013	0.013	37	22.00	0.000	0.000	0.049	0.049	94
5	0.000	0.000	0.000	0.000	0.000	0	38.78	0.000	0.000	0.025	0.025	84	17.64	0.000	0.000	0.038	0.038	58
6	0.000	0.000	0.000	0.000	0.000	0	45.39	0.000	0.000	0.023	0.023	92	14.60	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0.000	0	33.70	0.000	0.000	0.019	0.019	56	23.24	0.000	0.000	0.051	0.051	103
8	0.000	0.000	0.000	0.000	0.000	0	27.88	0.000	0.000	0.015	0.015	37	42.12	0.000	0.000	0.037	0.037	135
9	0.000	0.000	0.000	0.000	0.000	0	15.50	0.000	0.000	0.000	0.000	0	32.49	0.000	0.000	0.026	0.026	72
10	0.000	0.000	0.000	0.000	0.000	0	15.03	0.000	0.000	0.020	0.020	26	45.03	0.000	0.000	0.018	0.018	69
11	0.000	0.000	0.000	0.000	0.000	0	10.62	0.000	0.000	0.019	0.019	18	31.09	0.000	0.000	0.019	0.019	51
12	0.000	0.000	0.000	0.000	0.000	0	10.22	0.000	0.000	0.018	0.018	16	18.67	0.000	0.000	0.018	0.018	29
13	0.000	0.000	0.000	0.000	0.000	0	15.18	0.000	0.000	0.020	0.020	26	26.73	0.000	0.000	0.000	0.000	0
14	0.000	0.000	0.000	0.000	0.000	0	38.38	0.000	0.000	0.020	0.020	67	23.37	0.000	0.000	0.022	0.022	44
15	0.000	0.000	0.000	0.000	0.000	0	30.73	0.000	0.000	0.016	0.016	41	23.51	0.000	0.000	0.000	0.000	0
16	0.000	0.000	0.000	0.000	0.000	0	28.00	0.000	0.000	0.000	0.000	0	25.18	0.000	0.000	0.016	0.016	35
17	0.000	0.000	0.000	0.000	0.000	0	99.02	0.000	0.000	0.053	0.053	453	23.89	0.000	0.000	0.029	0.029	59
18	0.000	0.000	0.000	0.000	0.000	0	372.1	0.000	0.000	0.389	0.389	12498	66.98	0.000	0.000	0.038	0.038	220
19	0.000	0.000	0.000	0.000	0.000	0	198.1	0.000	0.000	0.144	0.144	2462	71.08	0.000	0.000	0.054	0.054	329
20	0.000	0.000	0.000	0.000	0.000	0	157.1	0.000	0.000	0.125	0.125	1698	73.66	0.000	0.000	0.000	0.000	0
21	0.000	0.000	0.000	0.000	0.000	0	136.7	0.000	0.000	0.110	0.110	1294	66.80	0.000	0.000	0.085	0.085	491
22	0.000	0.000	0.000	0.000	0.000	0	104.6	0.000	0.000	0.088	0.088	794	75.86	0.000	0.000	0.071	0.071	467
23	0.000	0.000	0.000	0.000	0.000	0	40.70	0.000	0.000	0.000	0.000	0	75.98	0.000	0.000	0.051	0.051	332
24	0.000	0.000	0.000	0.000	0.000	0	40.71	0.000	0.000	0.056	0.056	198	71.25	0.000	0.000	0.021	0.021	128
25	0.000	0.000	0.000	0.000	0.000	0	31.42	0.000	0.000	0.043	0.043	118	237.6	0.000	0.000	0.099	0.099	2028
26	0.000	0.000	0.000	0.000	0.000	0	37.43	0.000	0.000	0.033	0.033	105	245.8	0.000	0.000	0.051	0.051	1077
27	0.000	0.000	0.000	0.000	0.000	0	42.93	0.000	0.000	0.036	0.036	133	181.6	0.000	0.000	0.000	0.000	0
28	0.000	0.000	0.000	0.000	0.000	0	36.18	0.000	0.000	0.024	0.024	76	151.7	0.000	0.000	0.051	0.051	663
29	7.787	0.000	0.000	0.021	0.021	14	26.97	0.000	0.000	0.047	0.047	108	111.1	0.000	0.000	0.048	0.048	464
30	12.93	0.000	0.000	0.024	0.024	26	15.00	0.000	0.000	0.000	0.000	0	167.5	0.000	0.000	0.038	0.038	547
31							14.79	0.000	0.000	0.021	0.021	27	119.8	0.000	0.000	0.038	0.038	395
Ten Daily Mean																		
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	24.12	0.000	0.000	0.016	0.016	38	24.96	0.000	0.000	0.041	0.041	84
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0	95.96	0.000	0.000	0.080	0.080	1728	38.42	0.000	0.000	0.020	0.020	77
Ten Daily III	10.36	0.000	0.000	0.022	0.022	20	47.95	0.000	0.000	0.042	0.042	259	136.8	0.000	0.000	0.050	0.050	599
Monthly																		
Total						40						20507						8206

Annual Sediment Load (Metric Tonnes) : 32432

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : SALEBHATA (EMG00E5) **Division : MD,CWC,Burla**

Local River : Ong **Sub-Division : MMSD II,CWC,Burla**

Day	Sep						Oct						Nov					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	68.40	0.000	0.000	0.000	0.000	0	58.40	0.000	0.000	0.000	0.000	0	7.940	0.000	0.000	0.000	0.000	0
2	86.62	0.000	0.000	0.000	0.000	0	58.40	0.000	0.000	0.000	0.000	0	7.592	0.000	0.000	0.000	0.000	0
3	100.3	0.000	0.000	0.000	0.000	0	55.60	0.000	0.000	0.009	0.009	44	8.084	0.000	0.000	0.000	0.000	0
4	111.7	0.000	0.000	0.045	0.045	437	51.95	0.000	0.000	0.010	0.010	47	7.862	0.000	0.000	0.000	0.000	0
5	58.16	0.000	0.000	0.031	0.031	156	48.54	0.000	0.000	0.010	0.010	41	7.640	0.000	0.000	0.000	0.000	0
6	33.68	0.000	0.000	0.024	0.024	69	47.40	0.000	0.000	0.009	0.009	36	7.644	0.000	0.000	0.000	0.000	0
7	32.96	0.000	0.000	0.019	0.019	55	37.40	0.000	0.000	0.009	0.009	28	7.794	0.000	0.000	0.000	0.000	0
8	19.67	0.000	0.000	0.024	0.024	41	30.15	0.000	0.000	0.000	0.000	0	7.674	0.000	0.000	0.000	0.000	0
9	13.02	0.000	0.000	0.012	0.012	14	72.22	0.000	0.000	0.017	0.017	104	5.839	0.000	0.000	0.000	0.000	0
10	14.64	0.000	0.000	0.000	0.000	0	63.36	0.000	0.000	0.010	0.010	55	5.668	0.000	0.000	0.000	0.000	0
11	43.28	0.000	0.000	0.022	0.022	82	50.82	0.000	0.000	0.010	0.010	43	5.204	0.000	0.000	0.000	0.000	0
12	56.86	0.000	0.000	0.034	0.034	165	55.35	0.000	0.000	0.009	0.009	41	4.683	0.000	0.000	0.000	0.000	0
13	30.50	0.000	0.000	0.015	0.015	39	43.71	0.000	0.000	0.009	0.009	33	3.508	0.000	0.000	0.000	0.000	0
14	24.92	0.000	0.000	0.015	0.015	33	34.27	0.000	0.000	0.009	0.009	26	3.411	0.000	0.000	0.000	0.000	0
15	31.36	0.000	0.000	0.036	0.036	98	29.60	0.000	0.000	0.000	0.000	0	3.078	0.000	0.000	0.000	0.000	0
16	30.94	0.000	0.000	0.025	0.025	67	26.79	0.000	0.000	0.009	0.009	21	3.151	0.000	0.000	0.000	0.000	0
17	22.87	0.000	0.000	0.000	0.000	0	18.23	0.000	0.000	0.011	0.011	17	3.626	0.000	0.000	0.000	0.000	0
18	17.33	0.000	0.000	0.022	0.022	32	24.77	0.000	0.000	0.008	0.008	18	3.340	0.000	0.000	0.000	0.000	0
19	18.72	0.000	0.000	0.026	0.026	42	20.16	0.000	0.000	0.000	0.000	0	3.342	0.000	0.000	0.000	0.000	0
20	35.40	0.000	0.000	0.028	0.028	84	18.60	0.000	0.000	0.010	0.010	17	3.614	0.000	0.000	0.000	0.000	0
21	62.85	0.000	0.000	0.029	0.029	159	20.55	0.000	0.000	0.012	0.012	21	3.522	0.000	0.000	0.000	0.000	0
22	155.2	0.000	0.000	0.059	0.059	787	20.00	0.000	0.000	0.000	0.000	0	3.351	0.000	0.000	0.000	0.000	0
23	117.5	0.000	0.000	0.050	0.050	507	19.73	0.000	0.000	0.011	0.011	18	3.377	0.000	0.000	0.000	0.000	0
24	52.81	0.000	0.000	0.000	0.000	0	16.94	0.000	0.000	0.010	0.010	14	3.288	0.000	0.000	0.000	0.000	0
25	38.29	0.000	0.000	0.018	0.018	60	13.89	0.000	0.000	0.009	0.009	11	3.482	0.000	0.000	0.000	0.000	0
26	27.91	0.000	0.000	0.015	0.015	37	10.58	0.000	0.000	0.008	0.008	7	3.000	0.000	0.000	0.000	0.000	0
27	22.89	0.000	0.000	0.017	0.017	33	9.749	0.000	0.000	0.006	0.006	5	2.276	0.000	0.000	0.000	0.000	0
28	18.68	0.000	0.000	0.015	0.015	23	9.459	0.000	0.000	0.005	0.005	4	2.213	0.000	0.000	0.000	0.000	0
29	27.93	0.000	0.000	0.000	0.000	0	8.990	0.000	0.000	0.000	0.000	0	1.083	0.000	0.000	0.000	0.000	0
30	34.90	0.000	0.000	0.000	0.000	0	8.642	0.000	0.000	0.005	0.005	3	1.003	0.000	0.000	0.000	0.000	0
31							8.532	0.000	0.000	0.005	0.005	4						
Ten Daily Mean																		
Ten Daily I	53.91	0.000	0.000	0.016	0.016	77	52.34	0.000	0.000	0.007	0.007	35	7.374	0.000	0.000	0.000	0.000	0
Ten Daily II	31.22	0.000	0.000	0.022	0.022	64	32.23	0.000	0.000	0.007	0.007	22	3.696	0.000	0.000	0.000	0.000	0
Ten Daily III	55.89	0.000	0.000	0.020	0.020	161	13.37	0.000	0.000	0.006	0.006	8	2.660	0.000	0.000	0.000	0.000	0
Monthly																		
Total						3021						658						0

Annual Sediment Load (Metric Tonnes) : 32432

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : SALEBHATA (EMG00E5) **Division : MD,CWC,Burla**

Local River : Ong **Sub-Division : MMSD II,CWC,Burla**

Day	Dec						Jan						Feb					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.874	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.964	0.000	0.000	0.000	0.000	0
2	0.805	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.997	0.000	0.000	0.000	0.000	0
3	0.737	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	1.146	0.000	0.000	0.000	0.000	0
4	0.593	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	1.154	0.000	0.000	0.000	0.000	0
5	0.586	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	1.141	0.000	0.000	0.000	0.000	0
6	0.587	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	1.096	0.000	0.000	0.000	0.000	0
7	0.543	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	1.321	0.000	0.000	0.000	0.000	0
8	0.552	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	1.366	0.000	0.000	0.000	0.000	0
9	0.532	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	1.498	0.000	0.000	0.000	0.000	0
10	0.215	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	1.550	0.000	0.000	0.000	0.000	0
11	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	1.944	0.000	0.000	0.000	0.000	0
12	0.000	0.000	0.000	0.000	0.000	0	1.086	0.000	0.000	0.000	0.000	0	2.324	0.000	0.000	0.000	0.000	0
13	0.000	0.000	0.000	0.000	0.000	0	1.022	0.000	0.000	0.000	0.000	0	2.302	0.000	0.000	0.000	0.000	0
14	0.000	0.000	0.000	0.000	0.000	0	1.091	0.000	0.000	0.000	0.000	0	2.260	0.000	0.000	0.000	0.000	0
15	0.000	0.000	0.000	0.000	0.000	0	1.146	0.000	0.000	0.000	0.000	0	2.251	0.000	0.000	0.000	0.000	0
16	0.000	0.000	0.000	0.000	0.000	0	1.220	0.000	0.000	0.000	0.000	0	1.704	0.000	0.000	0.000	0.000	0
17	0.000	0.000	0.000	0.000	0.000	0	1.167	0.000	0.000	0.000	0.000	0	1.503	0.000	0.000	0.000	0.000	0
18	0.000	0.000	0.000	0.000	0.000	0	1.117	0.000	0.000	0.000	0.000	0	1.389	0.000	0.000	0.000	0.000	0
19	0.000	0.000	0.000	0.000	0.000	0	1.090	0.000	0.000	0.000	0.000	0	1.257	0.000	0.000	0.000	0.000	0
20	0.000	0.000	0.000	0.000	0.000	0	1.162	0.000	0.000	0.000	0.000	0	1.180	0.000	0.000	0.000	0.000	0
21	0.000	0.000	0.000	0.000	0.000	0	1.134	0.000	0.000	0.000	0.000	0	1.261	0.000	0.000	0.000	0.000	0
22	0.000	0.000	0.000	0.000	0.000	0	1.030	0.000	0.000	0.000	0.000	0	1.243	0.000	0.000	0.000	0.000	0
23	0.000	0.000	0.000	0.000	0.000	0	1.165	0.000	0.000	0.000	0.000	0	1.268	0.000	0.000	0.000	0.000	0
24	0.000	0.000	0.000	0.000	0.000	0	1.084	0.000	0.000	0.000	0.000	0	1.129	0.000	0.000	0.000	0.000	0
25	0.000	0.000	0.000	0.000	0.000	0	1.084	0.000	0.000	0.000	0.000	0	1.107	0.000	0.000	0.000	0.000	0
26	0.000	0.000	0.000	0.000	0.000	0	1.034	0.000	0.000	0.000	0.000	0	1.070	0.000	0.000	0.000	0.000	0
27	0.000	0.000	0.000	0.000	0.000	0	1.026	0.000	0.000	0.000	0.000	0	1.055	0.000	0.000	0.000	0.000	0
28	0.000	0.000	0.000	0.000	0.000	0	0.971	0.000	0.000	0.000	0.000	0	1.080	0.000	0.000	0.000	0.000	0
29	0.000	0.000	0.000	0.000	0.000	0	0.839	0.000	0.000	0.000	0.000	0						
30	0.000	0.000	0.000	0.000	0.000	0	0.818	0.000	0.000	0.000	0.000	0						
31	0.000	0.000	0.000	0.000	0.000	0	0.811	0.000	0.000	0.000	0.000	0						
Ten Daily Mean																		
Ten Daily I	0.603	0.000	0.000	0.000	0.000	0		0.000	0.000	0.000	0.000		1.223	0.000	0.000	0.000	0.000	0
Ten Daily II	0.603	0.000	0.000	0.000	0.000		1.122	0.000	0.000	0.000	0.000	0	1.811	0.000	0.000	0.000	0.000	0
Ten Daily III	0.603	0.000	0.000	0.000	0.000		1.000	0.000	0.000	0.000	0.000	0	1.152	0.000	0.000	0.000	0.000	0
Monthly																		
Total						0						0						0

Annual Sediment Load (Metric Tonnes) : 32432

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : SALEBHATA (EMG00E5) **Division : MD,CWC,Burla**

Local River : Ong **Sub-Division : MMSD II,CWC,Burla**

Day	Mar						Apr						May					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	1.052	0.000	0.000	0.000	0.000	0	0.938	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
2	1.021	0.000	0.000	0.000	0.000	0	1.061	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
3	0.993	0.000	0.000	0.000	0.000	0	1.071	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
4	1.086	0.000	0.000	0.000	0.000	0	0.991	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
5	1.168	0.000	0.000	0.000	0.000	0	0.946	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
6	1.116	0.000	0.000	0.000	0.000	0	0.906	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
7	1.130	0.000	0.000	0.000	0.000	0	1.205	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
8	1.269	0.000	0.000	0.000	0.000	0	1.558	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
9	1.225	0.000	0.000	0.000	0.000	0	1.837	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
10	1.341	0.000	0.000	0.000	0.000	0	1.766	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
11	1.345	0.000	0.000	0.000	0.000	0	1.661	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
12	1.382	0.000	0.000	0.000	0.000	0	1.587	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
13	1.295	0.000	0.000	0.000	0.000	0	0.852	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
14	1.095	0.000	0.000	0.000	0.000	0	0.456	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
15	1.081	0.000	0.000	0.000	0.000	0	0.354	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
16	1.074	0.000	0.000	0.000	0.000	0	0.247	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
17	1.297	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
18	1.282	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
19	1.256	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	1.232	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
21	1.026	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
22	0.981	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	1.006	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
24	1.034	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
25	0.992	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	0.883	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27	0.866	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
28	0.812	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
29	0.817	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
30	0.887	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
31	0.882	0.000	0.000	0.000	0.000	0							0.000	0.000	0.000	0.000	0.000	0
Ten Daily Mean																		
Ten Daily I	1.140	0.000	0.000	0.000	0.000	0	1.228	0.000	0.000	0.000	0.000	0	0.000	0.603	0.603	0.603	0.603	0
Ten Daily II	1.234	0.000	0.000	0.000	0.000	0	0.516	0.000	0.000	0.000	0.000	0	0.000	0.603	0.603	0.603	0.603	0
Ten Daily III	0.926	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.603	0.603	0.603	0.603	0
Monthly																		
Total						0						0						

Annual Sediment Load (Metric Tonnes) : 32432

Annual Sediment Load for period : 1973-2018

Station Name : SALEBHATA (EMG00E5) **Division : MD,CWC,Burla**

Local River : Ong **Sub-Division : MMSD II,CWC,Burla**

Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)
1973-1974	351704	69	351773	3314
1974-1975	656223	0	656223	1011
1975-1976	335101	33	335134	1231
1976-1977	818927	0	818927	2147
1977-1978	437367	506	437873	1490
1978-1979	665132	487	665619	1829
1979-1980	460067	65	460132	449
1980-1981	1905525	467	1905991	2994
1981-1982	623245	247	623492	1549
1982-1983	997865	92	997957	2650
1983-1984	967114	86	967199	2044
1984-1985	1441899	35	1441935	2681
1985-1986	1461585	619	1462204	3518
1986-1987	1332653	22	1332675	2902
1987-1988	173925	3	173927	668
1988-1989	63783	9	63792	593
1989-1990	44754	0	44754	1280
1990-1991	351783	24	351807	2563
1991-1992	201445	3	201448	1061
1992-1993	804947	0	804947	2210
1993-1994	398861	2	398862	1533
1994-1995	645553	49	645602	4368
1995-1996	205745	3	205748	1285
1996-1997	120152	8	120159	563
1997-1998	426483	206	426689	2283
1998-1999	215268	60	215328	1196
1999-2000	164001	44	164045	1290
2000-2001	13418	9	13427	232
2001-2002	664612	0	664612	3055
2002-2003	218766	0	218766	925
2003-2004	1504390	0	1504390	4946
2004-2005	409366	0	409366	1628
2005-2006	987039	0	987039	1061
2006-2007	852623	2	852625	3636
2007-2008	209994	5	209999	1757
2008-2009	747416	0	747416	1978
2009-2010	65998	0	65998	2314
2010-2011	103171	0	103171	1008
2011-2012	276004	0	276004	2156
2012-2013	365583	0	365583	2904
2013-2014	128467	0	128467	1774
2014-2015	399110	0	399110	4186
2015-2016	43703	0	43703	851
2016-2017	43053	0	43053	881
2017-2018	32432	0	32432	566

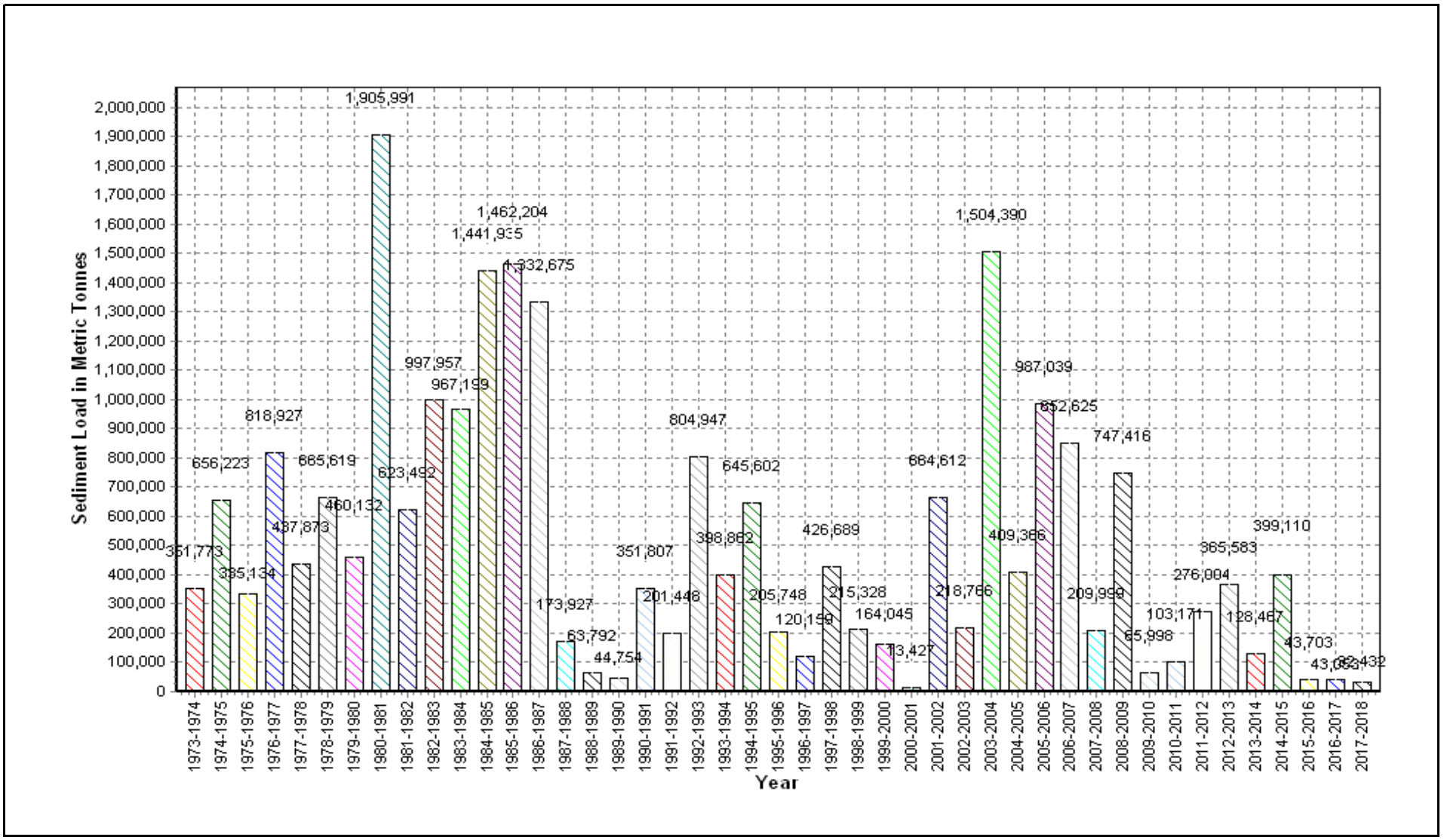
Annual Sediment Load for the period: 1973-2018

Station Name : SALEBHATA (EMG00E5)

Local River : Ong

Division : MD,CWC,Burla

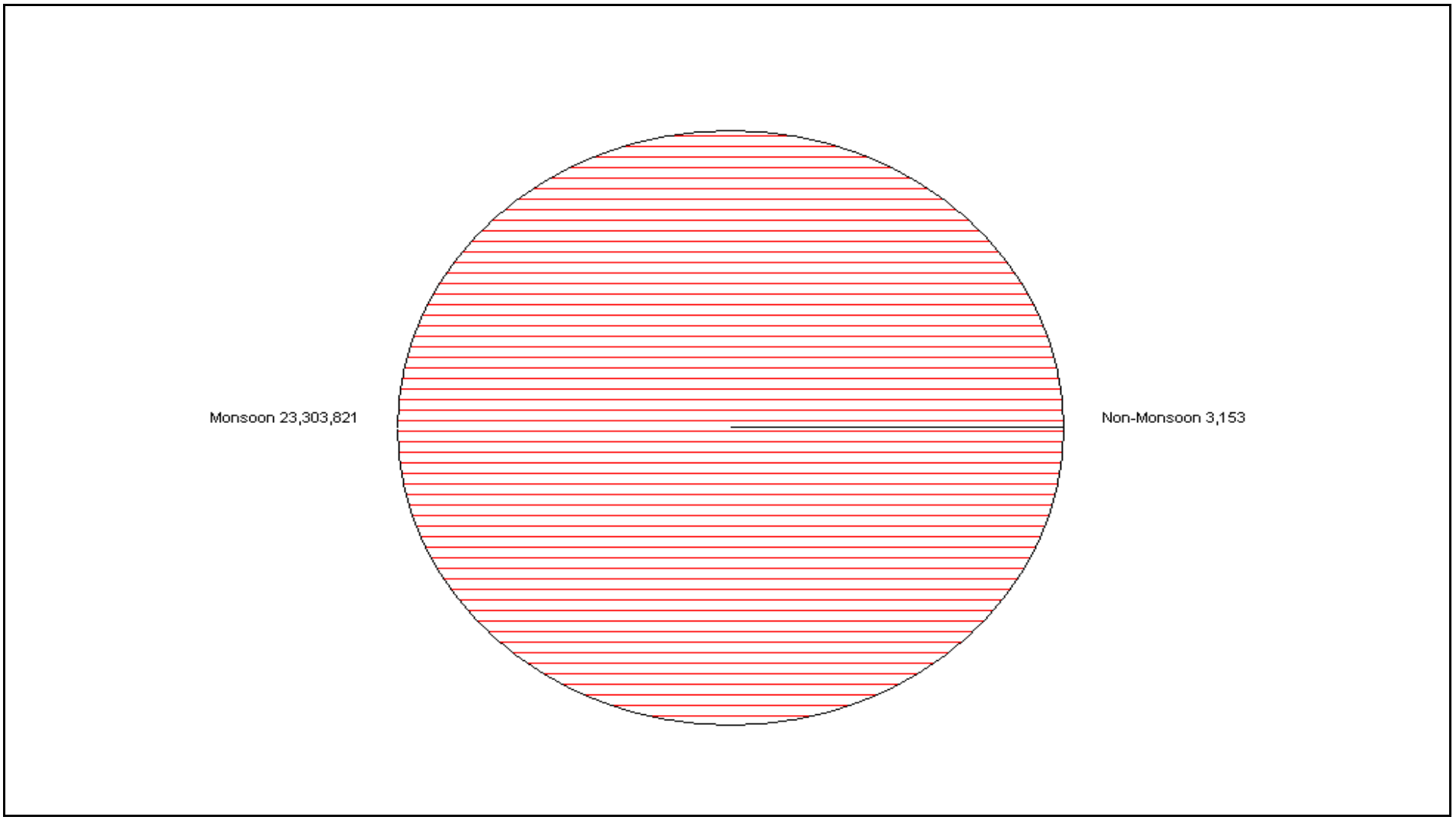
Sub-Division : MMSD II,CWC,Burla



Seasonal Sediment Load for the period : 1973-2017

Station Name : SALEBHATA (EMG00E5)
Local River : Ong

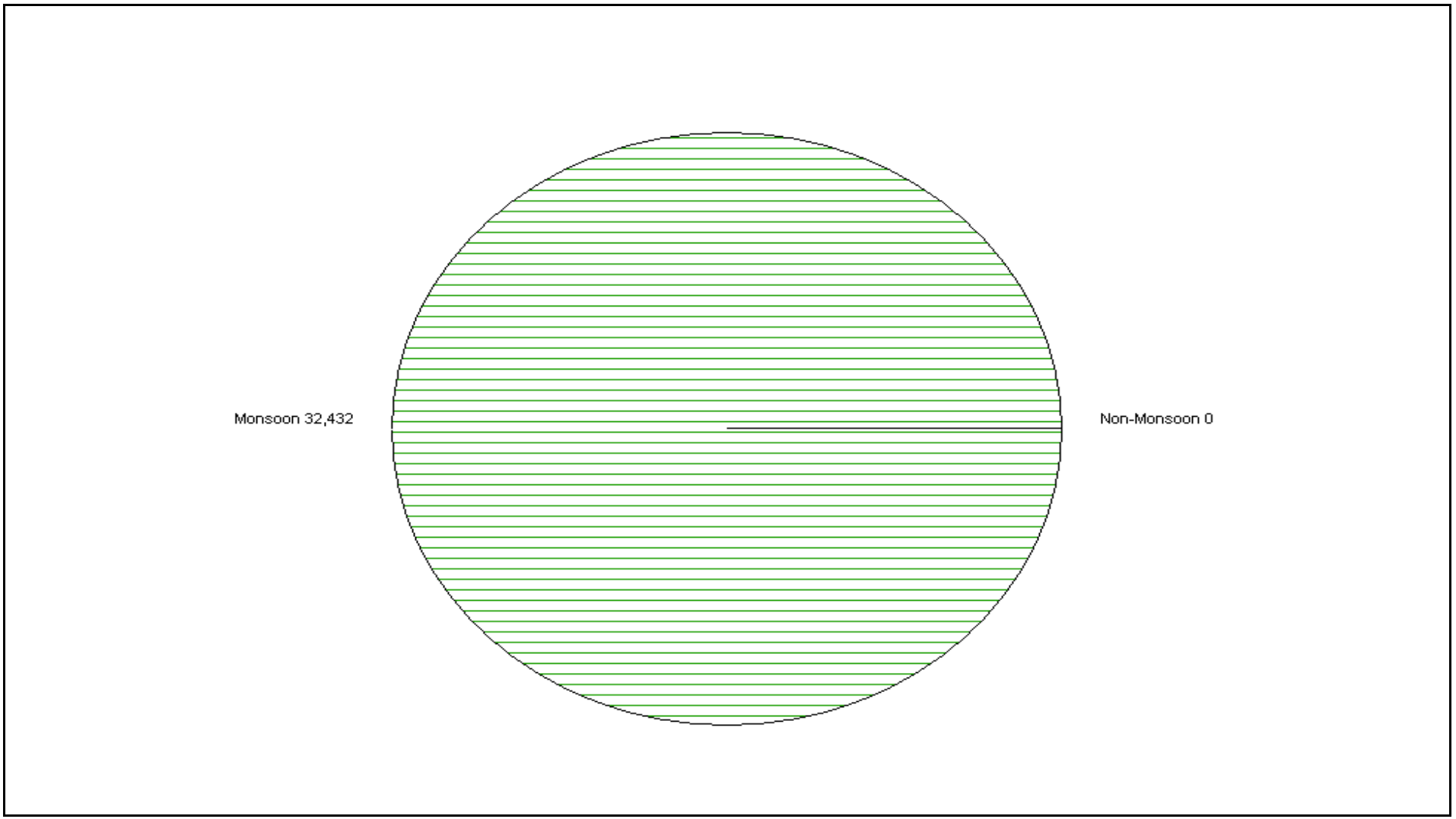
Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla



Seasonal Sediment Load for the Year: 2017-2018

Station Name : SALEBHATA (EMG00E5)
Local River : Ong

Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla



SECTION-III

Water Quality Datasheet for the period : 2017-2018

Station Name : SALEBHATA (EMG00E5) **Division : MD,CWC,Burla**

Local River : Ong **River Water Analysis** **Sub-Division : MMSD II,CWC,Burla**

S.No	Parameters	01/06/2017	01/07/2017	01/08/2017	01/09/2017	04/10/2017	01/11/2017	01/12/2017	01/01/2018	01/02/2018	01/03/2018	02/04/2018	01/05/2018
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)		11.95	16.09	68.40	51.95	7.940	0.874		0.964	1.052	1.061	0.000
2	Colour_Cod (-)		Light Brown	Light Brown	Light Brown	Light Brown	Clear	Clear		Clear	Clear	Clear	
3	EC_FLD (µmho/cm)		353	294	218	242	287	261		273	285	316	
4	EC_GEN (µmho/cm)		177	146	220	244	202	337		231	414	433	
5	Odour_Code (-)		odour free	odour free	odour free	odour free	odour free	odour free		odour free	odour free	odour free	
6	pH_FLD (pH units)		8.7	7.8	8.8	8.8	8.1	8.4		8.4	8.0	8.1	
7	pH_GEN (pH units)		8.2	8.5	8.4	8.2	8.1	8.3		8.0	7.8	8.1	
8	Temp (deg C)		28.2	29.7	30.0	29.2	26.2	18.0		19.8	23.1	26.7	
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	
2	ALK-TOT (mgCaCO3/L)		240	140	204	148	124	168		416	488	368	
3	Ca (mg/L)		61	56	66	10	38	61		72	58	46	
4	Cl (mg/L)		36.0	37.0	35.0	34.0	38.0	29.0		23.0	30.0	23.0	
5	CO3 (mg/L)		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	
6	HCO3 (mg/L)		146	85	124	90	76	103		254	298	225	
7	K (mg/L)		9.6	6.2	8.0	8.9	7.6	7.2		18.1	6.8	15.0	
8	Mg (mg/L)		3.9	18.5	2.9	20.4	13.6	8.8		1.9	13.6	12.6	
9	Na (mg/L)		48.0	28.2	19.6	17.8	23.3	21.8		42.2	39.9	38.2	
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)		0.9	0.7	0.5	1.0	0.6	0.8		1.4	1.5	0.6	
2	DO (mg/L)		5.8	4.9	4.3	6.4	5.9	6.8		7.0	8.0	5.2	
3	DO_SAT% (%)		74	64	57	83	73	72		76	93	64	
4	FCol-MPN (MPN/100mL)		70	20	40	20	40	60		60	90	60	
5	Tcol-MPN (MPN/100mL)		90	40	60	90	70	120		90	170	120	
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)		152	140	164	24	96	152		180	144	116	
2	HAR_Total (mgCaCO3/L)		168	217	176	109	153	189		188	201	169	
3	Na% (%)		37	22	19	24	24	19		30	29	31	
4	RSC (-)		0.0	0.0	0.0	0.0	0.0	0.0		0.4	0.9	0.3	
5	SAR (-)		1.6	0.8	0.6	0.7	0.8	0.7		1.3	1.2	1.3	
	PESTICIDES												

Water Quality Summary for the period : 2017-2018

Station Name : SALEBHATA (EMG00E5) **Division : MD,CWC,Burla**

Local River : Ong **Sub-Division : MMSD II,CWC,Burla**

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	305	372.1	0.000	21.46
2	EC_FLD (µmho/cm)	9	353	218	281
3	EC_GEN (µmho/cm)	9	433	146	267
4	pH_FLD (pH units)	9	8.8	7.8	8.3
5	pH_GEN (pH units)	9	8.5	7.8	8.2
6	Temp (deg C)	9	30.0	18.0	25.7
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	9	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	9	488	124	255
3	Ca (mg/L)	9	72	10	52
4	Cl (mg/L)	9	38.0	23.0	31.7
5	CO3 (mg/L)	9	0.0	0.0	0
6	HCO3 (mg/L)	9	298	76	156
7	K (mg/L)	9	18.1	6.2	9.7
8	Mg (mg/L)	9	20.4	1.9	10.7
9	Na (mg/L)	9	48.0	17.8	31
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	9	1.5	0.5	0.9
2	DO (mg/L)	9	8.0	4.3	6
3	DO_SAT% (%)	9	93	57	73
4	FCol-MPN (MPN/100mL)	9	90	20	51
5	Tcol-MPN (MPN/100mL)	9	170	40	94
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	9	180	24	130
2	HAR_Total (mgCaCO3/L)	9	217	109	175
3	Na% (%)	9	37	19	26
4	RSC (-)	9	0.9	0.0	0.2
5	SAR (-)	9	1.6	0.6	1
	PESTICIDES				

Water Quality Seasonal Average for the period: 2003-2018

Station Name : SALEBHATA (EMG00E5) | **Division : MD,CWC,Burla**

Local River : Ong | **River Water** | **Sub-Division : MMSD II,CWC,Burla**

S.No	Parameters	Flood														
		Jun - Oct														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	PHYSICAL															
1	Q (cumec)	261.3	32.99	245.6	251.8	183.5	65.12	41.47	35.53	97.43	191.7	285.5	354.2	66.26	44.23	37.10
2	EC_FLD (µmho/cm)	152	662	338	207	297	343							272	267	277
3	EC_GEN (µmho/cm)	152	662	338	207	245	319	217	276	281	214	224	270	219	218	197
4	pH_FLD (pH units)	8.0		8.1	7.7	7.8	7.8		7.6	7.7	7.8	7.5	7.5	7.7	8.1	8.5
5	pH_GEN (pH units)	8.0		8.0	7.7	7.9	7.6	8.1	7.5	7.7	8.0	8.2	8.1	7.9	7.6	8.3
6	Temp (deg C)	27.5	30.0	29.9	26.8	28.0	26.9	26.2	27.2	29.9	29.6	28.5	31.2	29.1	31.3	29.3
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0		0.0	0.0	3.7	0.0	0.0	0.0	2.0	1.2	2.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	165	417	181		117	227	146	195	197	154	228	206	211	107	183
3	B (mg/L)			0.07		0.01	0.00	0.00	0.00	0.00	0.00					
4	Ca (mg/L)	26	83	20		19	24	15	20	24	19	25	26	24	53	48
5	Cl (mg/L)	25.0	150.0	21.0		66.0	14.3	9.0	9.7	9.1	9.0	19.5	15.8	14.0	23.3	35.5
6	CO3 (mg/L)	0.0		0.0		0.0	0.0	4.4	0.0	0.0	0.0	2.4	1.4	2.4	0.0	0.0
7	F (mg/L)	0.48		8.78		0.14	0.11	0.14	0.20	0.22	0.17					
8	Fe (mg/L)			0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
9	HCO3 (mg/L)	100		111		71	138	85	119	120	94	137	124	126	65	112
10	K (mg/L)	1.5		2.3		2.2	1.0	1.0	2.0	2.6	1.1	3.3	3.4	4.4	10.0	8.2
11	Mg (mg/L)	8.3	-31.8	6.0		10.3	12.0	8.5	12.3	13.1	9.5	8.0	8.9	11.2	12.3	11.4
12	Na (mg/L)	18.7		12.0		16.9	10.0	6.9	11.5	19.1	11.8	12.1	20.5	15.7	21.9	28.4
13	NO2+NO3 (mg N/L)			0.10	0.05	0.06	0.31									
14	NO2-N (mgN/L)			0.00	0.01	0.02	0.03	0.02	0.02	0.03	0.03					
15	NO3-N (mgN/L)			0.10	0.04	0.04	0.28									
16	P-Tot (mgP/L)	0.050		0.046		0.012	0.053	0.047	0.027	0.020	0.060					
17	SiO2 (mg/L)			10.4		14.0	26.8	21.1	12.3	19.0	13.3					
18	SO4 (mg/L)	6.0		7.6		9.5	10.3	14.0	21.3	18.1	16.9					

Water Quality Seasonal Average for the period: 2003-2018

Station Name : SALEBHATA (EMG00E5) **Division : MD,CWC,Burla**

Local River : Ong **River Water** **Sub-Division : MMSD II,CWC,Burla**

S.No	Parameters	Flood														
		Jun - Oct														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.4	0.8	1.5	0.6	1.4	0.5	1.3	0.7	0.8	1.2	0.7	0.7	0.1	1.3	0.8
2	COD (mg/L)					19.8	18.0	17.3	25.0	24.0	22.0					
3	DO (mg/L)	6.0	5.5	6.8	6.6	7.7	6.7	7.0	6.5	7.1	7.3	7.0	7.3	6.2	6.9	5.4
4	DO_SAT% (%)	84	72	89	83	98	83	86	81	94	95	90	99	81	94	70
5	FCol-MPN (MPN/100mL)															38
6	Tcol-MPN (MPN/100mL)															70
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	65	208	50		47	61	39	50	59	47	63	66	59	132	120
2	HAR_Total (mgCaCO3/L)	99	77	75		90	111	74	101	114	86	97	103	106	184	168
3	Na% (%)	22		23		29	17	17	20	23	23	20	29	26	19	25
4	RSC (-)	0.2		0.3		0.0	0.1	0.1	0.1	0.0	0.0	0.4	0.4	0.2	0.0	0.0
5	SAR (-)	0.7		0.6		0.8	0.4	0.4	0.5	0.7	0.6	0.5	0.9	0.7	0.7	1.0
	PESTICIDES															

Water Quality Seasonal Average for the period: 2003-2018

Station Name : SALEBHATA (EMG00E5) | **Division : MD,CWC,Burla**

Local River : Ong | **River Water** | **Sub-Division : MMSD II,CWC,Burla**

S.No	Parameters	Winter														
		Nov - Feb														
		2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
	PHYSICAL															
1	Q (cumec)	17.16	5.015	6.533	4.552	4.504	2.498	5.760	8.622	2.679	3.692	13.44	3.524	1.507	3.038	3.259
2	EC_FLD (µmho/cm)	260	326	298		322	370							292	284	274
3	EC_GEN (µmho/cm)	260	326	298		291	323	352	292	307	366	260	307	280	211	257
4	pH_FLD (pH units)	8.2	7.7	7.9		7.7	7.8		7.6	7.7	8.1	7.7	7.3	7.7	7.9	8.3
5	pH_GEN (pH units)	8.2	7.7	7.9		8.1	8.1	7.9	7.9	8.0	7.9	8.3	8.4	8.3	8.2	8.1
6	Temp (deg C)		21.0	27.0		21.5	21.3	18.2	22.8	22.7	22.5	22.5	20.4	24.1	22.3	21.3
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0		0.0	2.3	0.0	0.0	0.0	3.0	0.0	0.0	1.5	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	251	208	200		246	227	246	211	212	275	341	337	289	128	236
3	B (mg/L)			0.08		0.01	0.00	0.00	0.00	0.00	0.00					
4	Ca (mg/L)	23	20	21		23	23	26	22	22	30	43	38	33	49	57
5	Cl (mg/L)	14.7	9.9	29.1		29.7	24.3	15.5	25.9	27.0	18.0	20.5	22.5	18.3	35.0	30.0
6	CO3 (mg/L)	0.0	0.0	0.0		0.0	2.8	0.0	0.0	0.0	3.6	0.0	0.0	1.8	0.0	0.0
7	F (mg/L)	2.27	0.45	0.10		0.16	0.21	0.15	0.15	0.20	0.24					
8	Fe (mg/L)			0.1		0.0	0.0	0.0	0.1	0.0	0.1		0.1			
9	HCO3 (mg/L)	143	127	122		150	136	150	129	129	164	208	206	174	78	144
10	K (mg/L)		1.7	1.5		1.8	1.4	1.3	2.3	1.6	1.2	8.6	3.2	6.4	7.8	11.0
11	Mg (mg/L)	8.0	12.1	14.1		13.6	13.3	14.9	13.0	13.6	11.9	6.8	12.9	9.7	10.5	8.1
12	Na (mg/L)		24.3	19.8		18.1	22.6	15.6	25.1	23.2	25.0	34.0	21.7	27.2	24.3	29.1
13	NO2+NO3 (mg N/L)			0.06		0.08	0.40						0.14			
14	NO2-N (mgN/L)			0.00		0.02	0.02	0.02	0.02	0.04	0.04		0.04			
15	NO3-N (mgN/L)			0.06		0.06	0.38						0.10			
16	P-Tot (mgP/L)			0.020		0.025	0.045	0.047	0.052	0.065	0.070		0.040			
17	SiO2 (mg/L)			16.0		18.8	24.7	6.3	13.0	12.3	13.3		10.2			
18	SO4 (mg/L)	6.4	8.6	5.6		14.2	26.1	18.3	25.6	26.0	23.3		24.4			

Water Quality Seasonal Average for the period: 2003-2018

Station Name : SALEBHATA (EMG00E5) **Division : MD,CWC,Burla**

Local River : Ong **River Water** **Sub-Division : MMSD II,CWC,Burla**

S.No	Parameters	Winter														
		Nov - Feb														
		2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.6	1.1	0.5		2.6	0.6	0.7	0.5	0.8	0.9	0.9	1.1	0.8	1.3	0.9
2	COD (mg/L)					23.0	22.0	29.3	23.0	22.0	24.0					
3	DO (mg/L)	6.1	7.0	7.1		9.1	7.4	7.8	7.9	7.5	8.5	8.7	8.5	7.8	7.7	6.6
4	DO_SAT% (%)		79	89		102	83	82	92	87	97	100	95	92	87	73
5	FCol-MPN (MPN/100mL)															53
6	Tcol-MPN (MPN/100mL)															93
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	58	50	52		59	58	65	55	55	76	107	94	83	123	143
2	HAR_Total (mgCaCO3/L)	91	100	111		115	113	127	109	112	125	136	148	123	167	177
3	Na% (%)		34	28		25	30	21	34	30	28	33	24	31	24	25
4	RSC (-)	0.3	0.1	0.0		0.2	0.1	0.0	0.0	0.1	0.3	0.7	0.5	0.7	0.0	0.1
5	SAR (-)		1.1	0.8		0.7	0.9	0.6	1.1	1.0	1.0	1.3	0.8	1.1	0.8	1.0
	PESTICIDES															

Water Quality Seasonal Average for the period: 2003-2018

Station Name : SALEBHATA (EMG00E5) | **Division : MD,CWC,Burla**

Local River : Ong | **River Water** | **Sub-Division : MMSD II,CWC,Burla**

S.No	Parameters	Summer														
		Mar - May														
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	PHYSICAL															
1	Q (cumec)	3.316	1.503	1.027	1.491	2.186	1.518	2.870		2.145	2.210	3.119	2.104	1.761	0.477	0.704
2	EC_FLD (µmho/cm)	310	343		342	380								285	353	301
3	EC_GEN (µmho/cm)	310	343		342	339	331	358	409	358	369	371	338	379	245	424
4	pH_FLD (pH units)	8.2	7.8		8.0	8.3			7.7	7.7	8.1	8.4	7.5	7.9	7.9	8.1
5	pH_GEN (pH units)	8.2	7.9		8.0	8.2	7.9	8.1	7.3	7.7	8.5	8.0	8.3	8.1	8.3	7.9
6	Temp (deg C)		30.5		29.0	27.0	23.0	24.0	27.8	27.6	28.9	28.8	27.2	27.4	26.3	24.9
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.0			0.0	0.0	0.0	0.0	0.0	6.6	0.3	23.2	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	363	236			257	244	233	280	245	327	325	324	238	228	428
3	B (mg/L)					0.02	0.00	0.00	0.00	0.00	0.00					
4	Ca (mg/L)	27	24			25	24	28	32	30	29	50	42	34	43	52
5	Cl (mg/L)	18.0	9.7			40.5	13.6	20.3	37.9	33.5	36.0	25.7	20.0	19.5	39.5	26.5
6	CO3 (mg/L)	0.0	0.0			0.0	0.0	0.0	0.0	0.0	8.0	0.4	28.0	0.0	0.0	0.0
7	F (mg/L)		0.34			0.14	0.25	0.26	0.12	0.19	0.22					
8	Fe (mg/L)				0.0	0.1	0.1	0.1	0.1	0.1	0.1		0.1			
9	HCO3 (mg/L)	221	144			157	149	142	171	149	191	198	169	145	139	261
10	K (mg/L)		7.3			1.3	1.7	2.9	2.5	1.3	5.8	3.3	3.5	9.1	9.3	10.9
11	Mg (mg/L)	7.3	10.7			12.9	15.1	16.3	18.6	17.3	6.8	12.3	12.6	20.4	11.2	13.1
12	Na (mg/L)		15.2			27.1	16.8	28.2	34.1	24.0	50.0	26.3	31.2	40.8	41.0	39.0
13	NO2+NO3 (mg N/L)				0.12	0.40	1.04						0.25			
14	NO2-N (mgN/L)				0.06	0.02	0.02	0.04	0.15	0.14	0.08		0.06			
15	NO3-N (mgN/L)				0.06	0.38	1.02						0.19			
16	P-Tot (mgP/L)					0.030	0.045	0.047	0.087	0.083	0.073		0.047			
17	SiO2 (mg/L)					13.8	26.5	21.4	23.0	18.7	18.3		15.3			
18	SO4 (mg/L)	4.0	15.5			10.7	29.3	29.7	54.2	22.2	23.7		24.7			

Water Quality Seasonal Average for the period: 2003-2018

Station Name : SALEBHATA (EMG00E5) **Division : MD,CWC,Burla**

Local River : Ong **River Water** **Sub-Division : MMSD II,CWC,Burla**

S.No	Parameters	Summer														
		Mar - May														
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	1.1	1.2			0.8	1.0	1.1	0.7	0.9	0.6	1.2	1.3	0.5	1.4	1.1
2	COD (mg/L)					20.0	28.0	25.3	25.3	20.0	21.3					
3	DO (mg/L)	7.4	6.6		5.2	7.9	5.3	6.9	5.9	6.4	6.1	7.4	6.7	6.3	7.4	6.6
4	DO_SAT% (%)		84		68	94	61	79	74	80	77	94	84	78	91	79
5	FCol-MPN (MPN/100mL)															75
6	Tcol-MPN (MPN/100mL)															145
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	67	59			62	59	70	81	76	74	124	104	86	108	130
2	HAR_Total (mgCaCO3/L)	97	103			116	122	138	158	148	102	176	157	171	155	185
3	Na% (%)		23			33	23	29	31	26	50	24	29	33	35	30
4	RSC (-)	1.7	0.4			0.4	0.1	0.0	0.0	0.0	1.4	0.1	0.6	0.3	0.0	0.6
5	SAR (-)		0.7			1.1	0.7	1.0	1.2	0.9	2.2	0.8	1.1	1.4	1.4	1.3
	PESTICIDES															

TEL SUB-BASIN

SITE KESINGA

HISTORY SHEET

Water Year : 2017-2018

Site	**: KESINGA**		**Code**	**: EMF00K6**	
State	: Orissa		District	Kalahandi	
Basin	: Mahanadi		Independent River	: Mahanadi	
Tributary	: Tel		Sub Tributary	:	
Sub-Sub Tributary	:		Local River	: Tel	
Division	: MD,CWC,Burla		Sub-Division	: MMSD II,CWC,Burla	
Drainage Area	: 11960 Sq. Km.		Bank	:	
Latitude	: 20°11'51"		Longitude	: 83°13'30"	
Zero of Gauge (m)	: 166 (m.s.l)		10/11/1977	- 10/11/2025	
	Opening Date		Closing Date		
Gauge	: 10/11/1977				
Discharge	: 07/11/1978				
Sediment	: 22/09/2006				
Water Quality	: 01/06/2001				

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

	Maximum			Minimum		
Year	**Q (cumecs)**	**WL (m)**	**Date**	**Q (cumecs)**	**WL (m)**	**Date**
1980-1981	11157	175.960	19/09/1980	0.100	168.240	03/06/1980
1981-1982	9480	174.175	16/08/1981	0.200	168.115	28/05/1982
1982-1983	4822	173.850	30/08/1982	0.100	168.025	04/04/1983
1983-1984	1655	171.500	27/06/1983	0.020	168.230	06/04/1984
1984-1985	4143	173.175	02/08/1984	0.050	168.210	28/03/1985
1985-1986	7001	174.340	08/08/1985	0.100	168.215	02/06/1985
1986-1987	3707	172.950	23/07/1986	0.020	168.225	16/04/1987
1987-1988	2484	172.365	05/09/1987	0.020	168.300	02/04/1988
1988-1989	1029	170.860	24/09/1988	0.030	168.270	18/06/1988
1989-1990	1463	171.820	12/08/1989	0.150	168.300	28/04/1990
1990-1991	15000	176.090	05/10/1990	0.613	168.185	10/05/1991
1991-1992	9969	176.000	30/07/1991	0.556	168.250	26/05/1992
1992-1993	17568	177.630	28/07/1992	0.183	168.050	20/05/1993
1993-1994	2858	172.740	02/08/1993	0.070	168.300	24/04/1994
1994-1995	9734	175.410	30/08/1994	0.677	168.415	06/06/1994
1995-1996	6608	174.890	24/07/1995	0.066	167.880	31/05/1996
1996-1997	2926	172.830	02/08/1996	0.075	168.075	31/05/1997
1997-1998	8143	176.000	22/08/1997	0.833	168.225	16/04/1998
1998-1999	600.0	171.120	12/07/1998	0.242	168.280	01/04/1999
1999-2000	1368	171.480	30/08/1999	7.000	168.500	10/06/1999
2000-2001	2452	172.430	19/07/2000	30.00	169.000	06/05/2001
2001-2002	12822	176.620	09/07/2001	13.00	168.755	28/04/2002

Q : Observed / Computed Discharge WL : Corresponding Water Level(m.s.l)

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

	Maximum			Minimum		
Year	**Q (cumecs)**	**WL (m)**	**Date**	**Q (cumecs)**	**WL (m)**	**Date**
2002-2003	1991	171.480	24/08/2002	5.329	168.610	09/01/2003
2003-2004	8908	175.960	29/08/2003	35.10	168.773	13/06/2003
2004-2005	4917	175.685	15/06/2004	25.00	168.565	14/01/2005
2005-2006	8121	175.750	14/09/2005	12.00	168.450	15/01/2006
2006-2007	21192	178.500	04/07/2006	26.86	168.410	20/03/2007
2007-2008	10942	176.635	07/08/2007	10.00	168.400	29/05/2008
2008-2009	20124	177.525	18/09/2008	18.16	167.730	22/05/2009
2009-2010	4607	173.430	20/07/2009	6.175	167.900	10/01/2010
2010-2011	8765	175.495	06/08/2010	20.34	168.205	04/01/2011
2011-2012	2900	172.552	31/08/2011	7.000	168.160	18/03/2012
2012-2013	2688	172.340	06/08/2012	13.12	168.510	14/01/2013
2013-2014	4554	174.500	25/06/2013	19.78	168.690	04/01/2014
2014-2015	7402	175.450	05/08/2014	23.59	168.710	15/01/2015
2015-2016	5400	176.070	17/09/2015	7.000	168.560	10/01/2016
2016-2017	1631	171.430	06/08/2016	7.000	168.630	15/01/2017

Q : Observed / Computed Discharge WL : Corresponding Water Level(m.s.l)

Stage-Dischage Data for the period 2017 - 2018

Station Name : KESINGA (EMF00K6) **Division : MD,CWC,Burla**

Local River : Tel **Sub-Division : MMSD II,CWC,Burla**

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	169.200	94.51	169.520	263.5	169.745	329.3	170.290	613.0	170.200	675.0	169.230	99.99
2	168.800	24.29	169.400	166.0 *	169.840	373.7	170.250	600.0 *	169.730	310.0 *	169.240	101.0
3	169.030	59.65	169.120	89.43	169.825	367.3	170.110	500.0 *	169.820	424.6	169.240	103.8
4	169.120	80.00 *	169.220	115.2	169.960	449.0	170.000	480.8	169.800	406.4	169.250	106.0 *
5	169.155	104.4	169.530	273.7	169.820	356.7	169.800	349.0	169.965	520.9	169.250	106.0 *
6	169.310	133.7	169.280	120.5	170.000	420.0 *	169.750	305.5	170.200	674.9	169.260	110.7
7	168.975	55.11	169.220	116.8	170.300	615.8	169.760	331.1	169.860	442.7	169.260	116.9
8	169.005	64.22	169.120	86.69	170.210	580.2	169.730	306.9	170.250	680.0 *	169.500	177.6
9	169.020	65.51	169.260	120.0 *	170.000	437.2	169.640	259.6	170.215	662.6	169.440	158.0
10	169.180	110.3	169.100	88.14	169.980	417.4	169.890	360.0 *	170.290	740.2	169.430	153.6
11	169.040	58.00 *	169.470	197.4	169.625	224.4	169.850	393.2	170.460	848.7	169.300	141.7
12	169.060	82.93	169.590	298.7	169.770	339.4	169.605	257.6	170.110	600.3	169.330	145.0 *
13	168.990	61.26	169.485	207.3	169.670	300.0 *	169.810	348.9	169.980	525.1	169.280	136.2
14	168.960	56.45	169.400	167.3	169.850	391.4	170.000	510.5	169.790	413.2	169.230	124.5
15	169.200	113.3	169.150	96.84	169.990	420.0 *	170.430	710.2	169.780	400.0 *	169.270	132.2
16	169.180	106.9	169.460	197.0 *	170.080	466.4	170.625	936.7	169.750	379.4	169.280	144.6
17	169.215	114.4	171.400	1515	170.100	475.9	170.280	560.0 *	169.600	285.1	169.260	132.4
18	169.190	110.0 *	172.285	1968	170.410	704.3	170.545	889.3	169.600	236.1	169.300	150.4
19	169.095	91.26	172.920	2287	170.865	1211	170.345	677.9	169.500	200.0 *	169.340	145.0 *
20	169.200	113.4	174.200	3396	170.930	1220 *	170.830	1077	169.400	167.1	169.280	135.8
21	169.210	111.2	171.025	1126	170.470	712.4	172.220	1910	169.615	289.0	169.160	87.20
22	169.085	82.13	170.210	577.7	170.110	523.9	170.955	1206	169.540	210.0 *	169.230	106.0
23	170.380	780.9	170.000	450.0 *	170.000	428.1	170.390	696.9	169.465	162.2	169.160	87.43
24	169.885	332.5	169.750	308.0	169.830	391.1	170.150	520.0 *	169.400	153.2	169.100	81.35
25	169.700	325.0 *	169.360	161.7	169.970	422.8	169.960	486.2	169.380	146.8	169.080	76.07
26	169.600	300.0 *	169.415	183.7	169.990	420.5	169.830	419.4	169.370	143.7	169.070	65.00 *
27	169.240	177.8	170.100	481.2	170.280	630.0 *	169.755	378.6	169.370	141.2	169.070	66.95
28	169.680	320.6	170.150	531.1	170.290	636.6	169.800	400.8	169.350	135.8	169.040	60.44
29	169.480	281.4	169.765	325.8	171.955	1743	169.800	400.0 *	169.350	135.0 *	169.140	84.11
30	169.390	165.5	169.650	311.0 *	171.085	1312	169.740	350.0 *	169.330	111.7	169.270	123.4
31			169.740	325.9	170.445	723.7			169.290	101.7		
Ten-Daily Mean												
I Ten-Daily	169.080	79.17	169.277	144.0	169.968	434.7	169.922	410.6	170.033	553.7	169.310	123.4
II Ten-Daily	169.113	90.80	170.736	1033	170.129	575.3	170.232	636.1	169.797	405.5	169.287	138.8
III Ten-Daily	169.565	287.7	169.924	434.8	170.402	722.2	170.260	676.8	169.405	157.3	169.132	83.79
Monthly												
Min.	168.800	24.29	169.100	86.69	169.625	224.4	169.605	257.6	169.290	101.7	169.040	60.44
Max.	170.380	780.9	174.200	3396	171.955	1743	172.220	1910	170.460	848.7	169.500	177.6
Mean	169.253	152.6	169.977	534	170.174	582.1	170.138	574.5	169.734	365.2	169.243	115.3

Annual Runoff in MCM = 6827 Annual Runoff in mm = 571

Peak Observed Discharge = 3396 cumecs on 20/07/2017 Corres. Water Level :174.2 m

Lowest Observed Discharge = 9.241 cumecs on 20/01/2018 Corres. Water Level :168.77 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Dischage Data for the period 2017 - 2018

Station Name : KESINGA (EMF00K6) **Division : MD,CWC,Burla**

Local River : Tel **Sub-Division : MMSD II,CWC,Burla**

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	169.100	82.51	169.000	55.19	168.790	18.05	168.800	23.75	169.000	67.00 *	168.970	35.34
2	169.080	76.00 *	168.980	51.69	168.820	21.15	168.820	20.00 *	168.980	35.65	168.880	30.41
3	169.100	81.00 *	168.900	31.16	168.860	21.16	168.850	23.75	168.940	32.20	168.840	27.96
4	169.060	62.28	168.820	26.57	168.850	20.00 *	168.800	20.00 *	168.900	27.99	168.960	34.18
5	169.040	60.74	168.810	25.14	168.820	17.32	168.740	15.21	168.800	19.35	168.890	33.51
6	169.040	60.48	168.820	25.85	168.820	17.13	168.750	15.87	168.820	22.35	168.940	34.00 *
7	169.080	75.93	168.840	29.00 *	168.810	17.21	168.700	13.14	168.800	19.80	169.020	39.52
8	169.020	44.01	169.000	43.65	168.800	16.03	168.710	14.10	168.780	18.00 *	168.980	36.63
9	169.030	55.72	168.920	33.00	168.820	17.69	168.890	26.83	168.770	17.62	168.970	35.82
10	169.010	40.00 *	168.840	29.70	169.110	80.77	168.820	21.62	168.800	21.42	168.920	32.76
11	168.980	38.38	168.840	28.04	169.090	78.00 *	168.800	20.00 *	168.800	21.24	168.900	30.85
12	168.990	41.70	168.790	10.62	169.080	80.99	168.940	31.60	168.930	30.50	169.150	103.3
13	169.050	58.72	168.780	9.647	169.000	67.25	168.780	22.82	168.960	34.43	169.250	130.0 *
14	169.030	55.80	168.800	25.00 *	169.000	70.57	168.770	22.55	168.910	27.00	169.200	113.7
15	169.090	77.47	168.940	34.26	168.900	62.13	168.820	23.22	168.880	25.00 *	169.180	107.8
16	168.960	36.04	168.900	32.06	168.860	19.46	168.760	19.31	168.830	22.32	168.980	37.12
17	168.950	35.60 *	168.830	25.51	168.790	18.47	168.760	19.71	168.820	21.40	169.300	147.0
18	168.980	39.04	168.810	25.56	168.790	18.00 *	168.760	19.00 *	168.800	18.87	169.250	131.5
19	169.900	31.33	168.870	9.749	168.780	17.34	168.770	22.14	168.980	35.18	169.340	146.9
20	169.030	52.98	168.770	9.241	168.880	25.10	168.740	19.76	168.820	20.74	169.340	146.0 *
21	169.140	84.71	168.760	18.00 *	168.880	25.14	168.760	19.14	168.870	30.83	169.460	185.8
22	169.040	59.62	168.710	12.51	168.890	26.67	168.740	18.27	168.960	34.00 *	168.980	36.55
23	169.050	59.95	168.710	12.07	168.880	24.94	168.720	17.60	168.890	33.01	169.280	142.4
24	169.000	40.00 *	168.710	12.56	168.880	25.21	168.750	19.47	168.850	28.93	169.280	142.1
25	168.960	36.00 *	168.710	12.36	168.870	17.00 *	168.800	20.00 *	168.890	31.88	169.300	151.8
26	169.120	78.62	168.700	12.00 *	168.870	24.13	168.870	30.47	169.000	37.31	169.380	156.8
27	169.120	77.90	168.700	11.84	168.880	25.32	168.820	24.50	168.970	34.43	169.480	130.0 *
28	168.950	35.90	168.700	12.00 *	168.820	23.74	168.800	21.77	168.980	35.20	169.400	163.1
29	169.040	59.20	168.760	15.48			168.800	21.00 *	168.860	29.00 *	169.300	141.9
30	169.070	75.25	168.780	18.34			168.780	19.00 *	168.860	29.00 *	169.290	137.7
31	168.990	40.00 *	168.800	18.69			168.750	17.62			169.200	127.9
Ten-Daily Mean												
I Ten-Daily	169.056	63.87	168.893	35.09	168.850	24.65	168.788	19.43	168.859	28.14	168.937	34.01
II Ten-Daily	169.096	46.71	168.833	20.97	168.917	45.73	168.790	22.01	168.873	25.67	169.189	109.4
III Ten-Daily	169.044	58.83	168.731	14.17	168.871	24.02	168.781	20.80	168.913	32.36	169.305	137.8
Monthly												
Min.	168.950	31.33	168.700	9.241	168.780	16.03	168.700	13.14	168.770	17.62	168.840	27.96
Max.	169.900	84.71	169.000	55.19	169.110	80.99	168.940	31.60	169.000	67.00	169.480	185.8
Mean	169.065	56.54	168.816	23.11	168.880	32	168.786	20.75	168.882	28.72	169.149	95.18

Peak Computed Discharge = 1220 cumecs on 20/08/2017 Corres. Water Level :170.93 m

Lowest Computed Discharge = 12.00 cumecs on 26/01/2018 Corres. Water Level :168.7 m

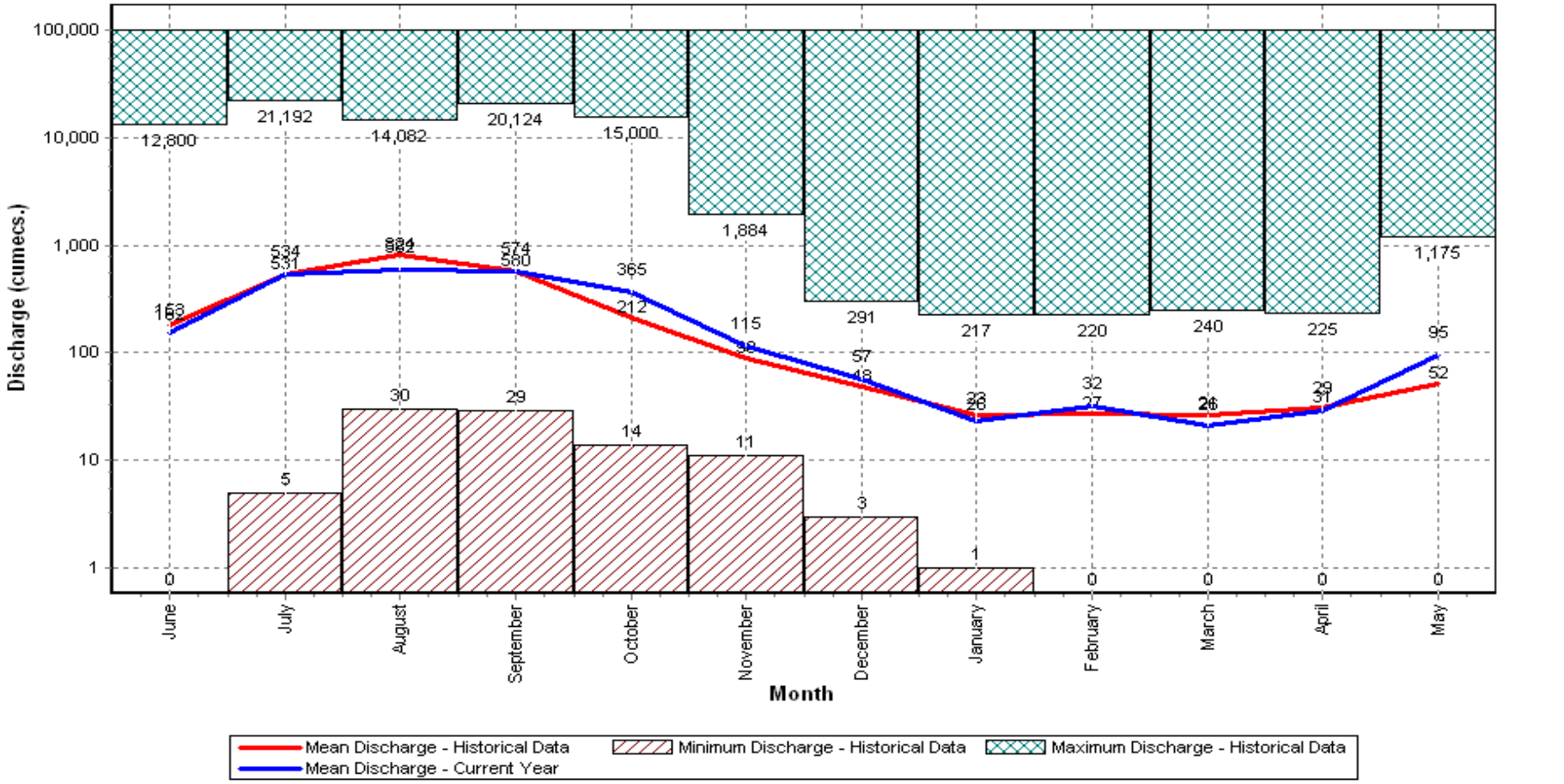
Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2017-2018

Station Name : KESINGA (EMF00K6) | **Data considered : 1980-2018** | **Division : MD,CWC,Burla**

Local River : Tel | **Sub-Division : MMSD II,CWC,Burla**



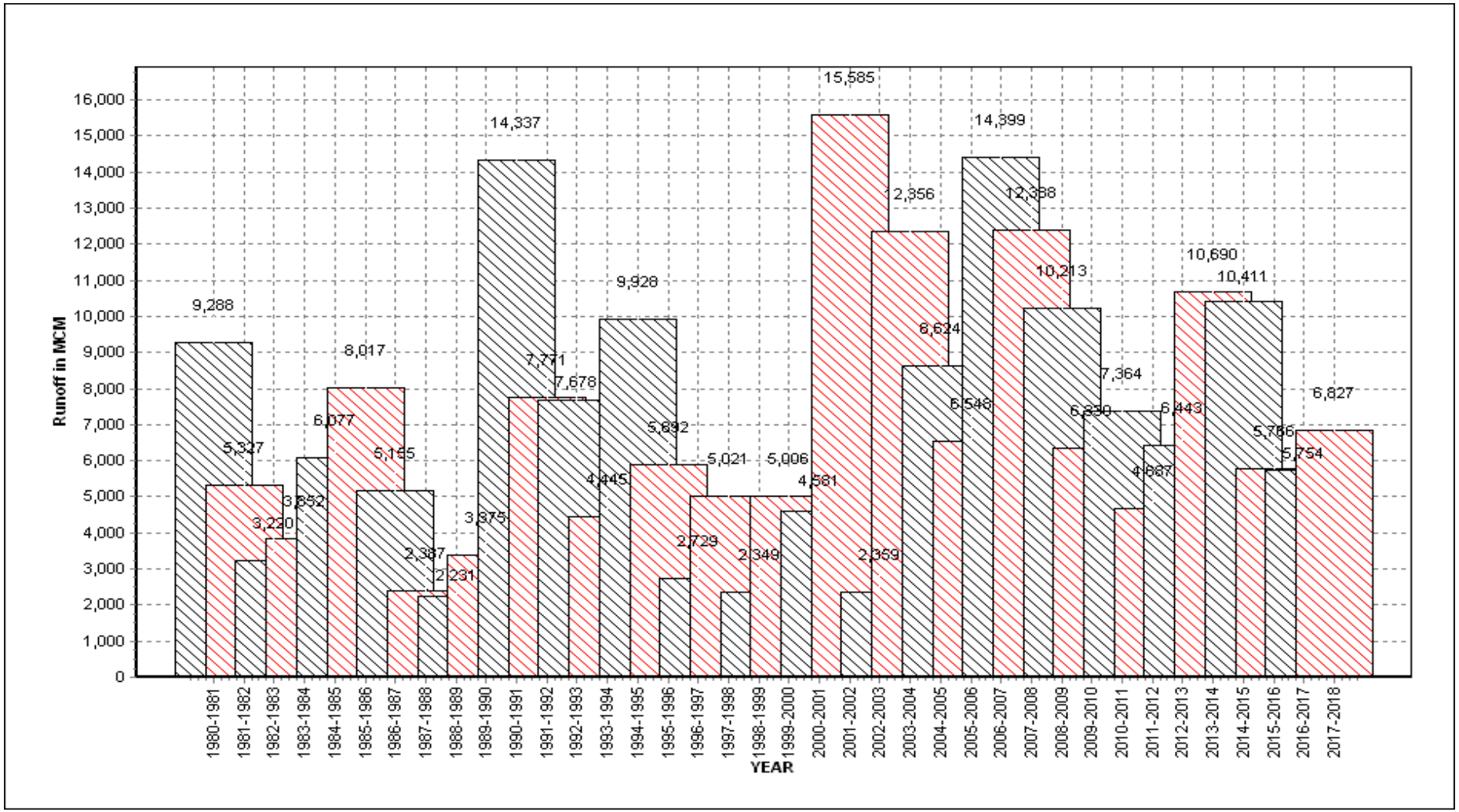
Annual Runoff Values for the period: 1980 - 2018

Station Name : KESINGA (EMF00K6)

Local River : Tel

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla

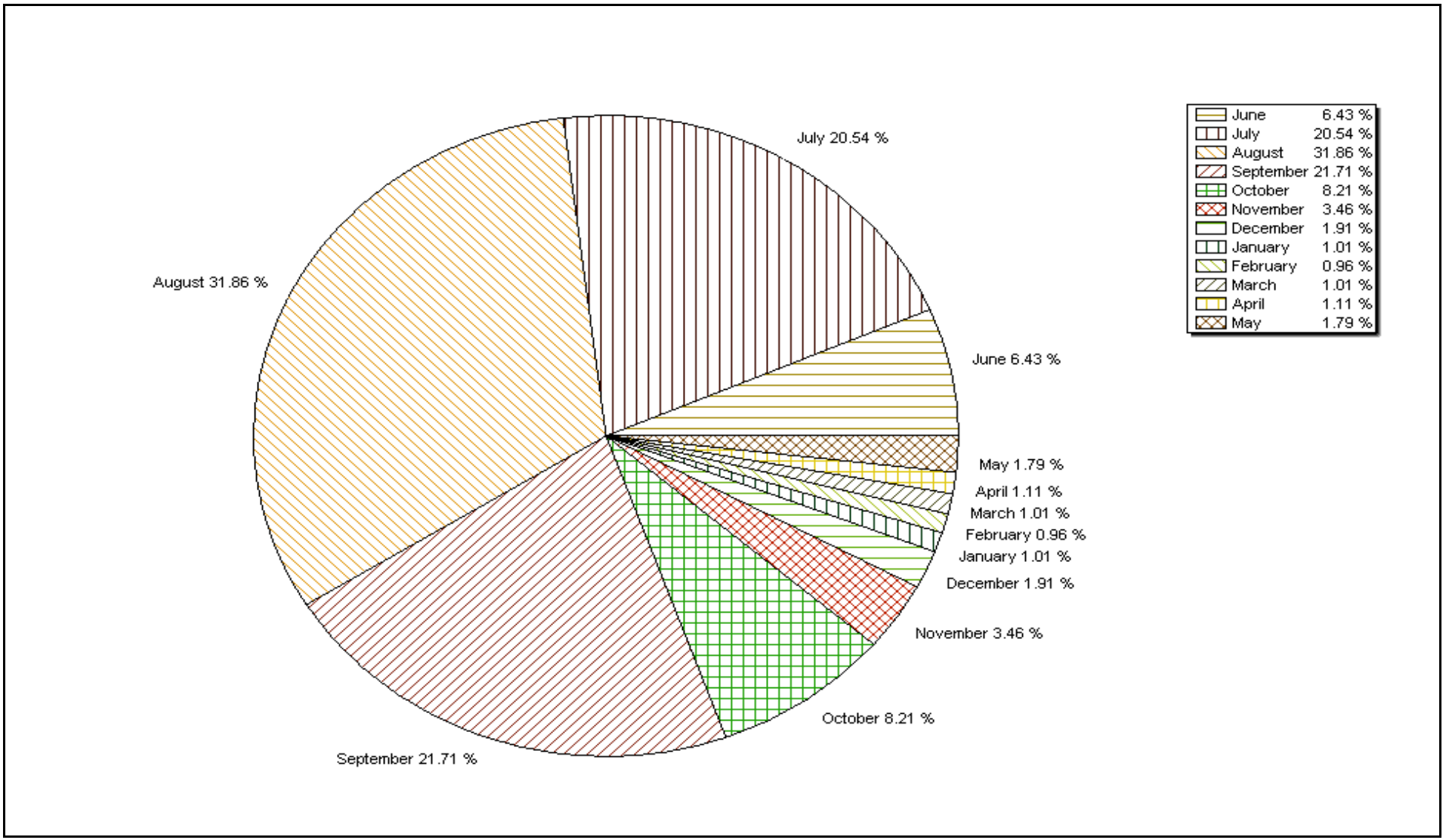


Note: Missing values have not been considered while arriving at Annual Runoff

Monthly Average Runoff based on period : 1980-2017

Station Name : KESINGA (EMF00K6)
Local River : Tel

Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla



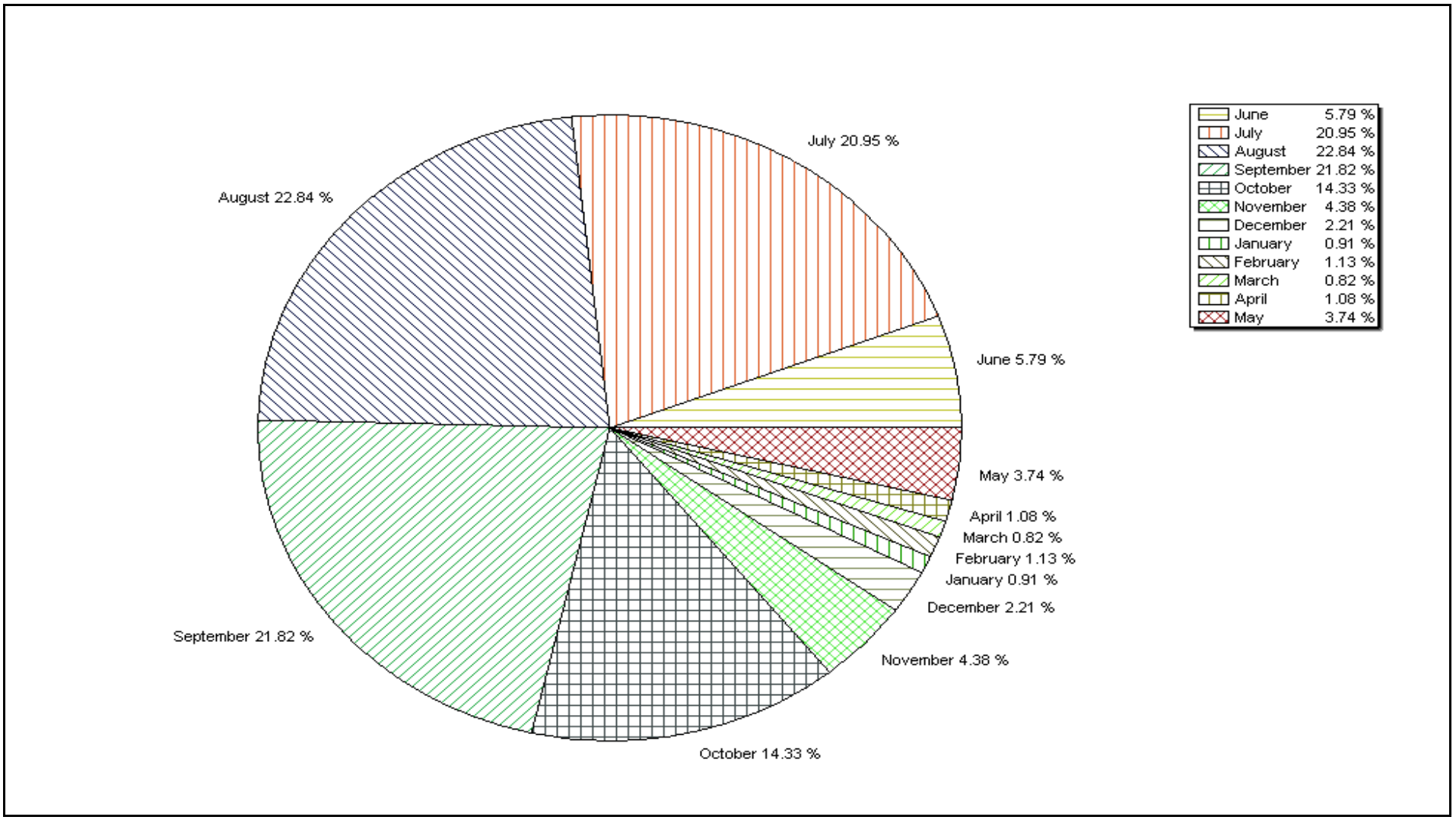
Monthly Runoff for the Year : 2017-2018

Station Name : KESINGA (EMF00K6)

Local River : Tel

Division : MD,CWC,Burla

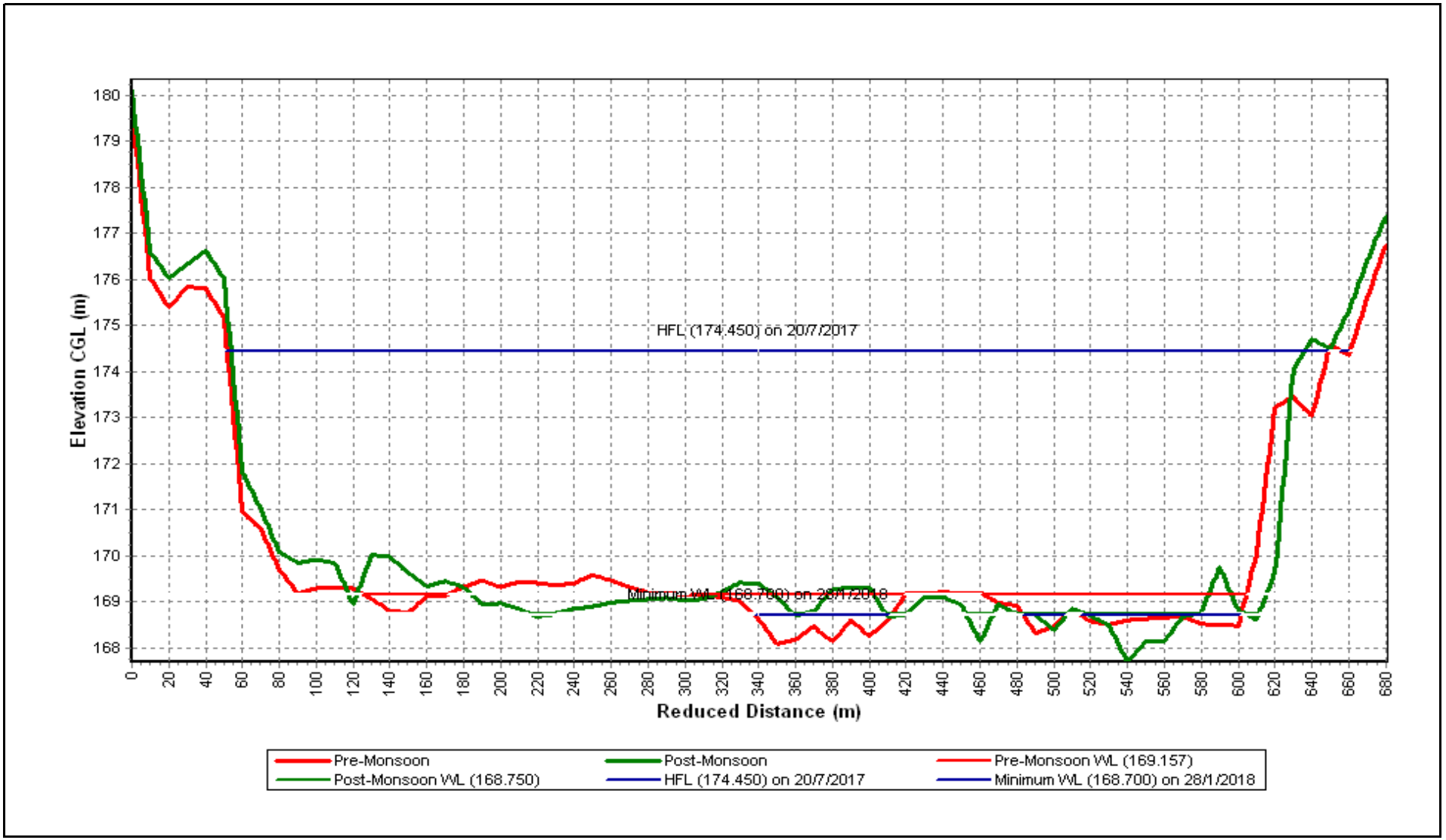
Sub-Division : MMSD II,CWC,Burla



Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2017-2018

Station Name : KESINGA (EMF00K6) **Division : MD,CWC,Burla**

Local River : Tel **Sub-Division : MMSD II,CWC,Burla**



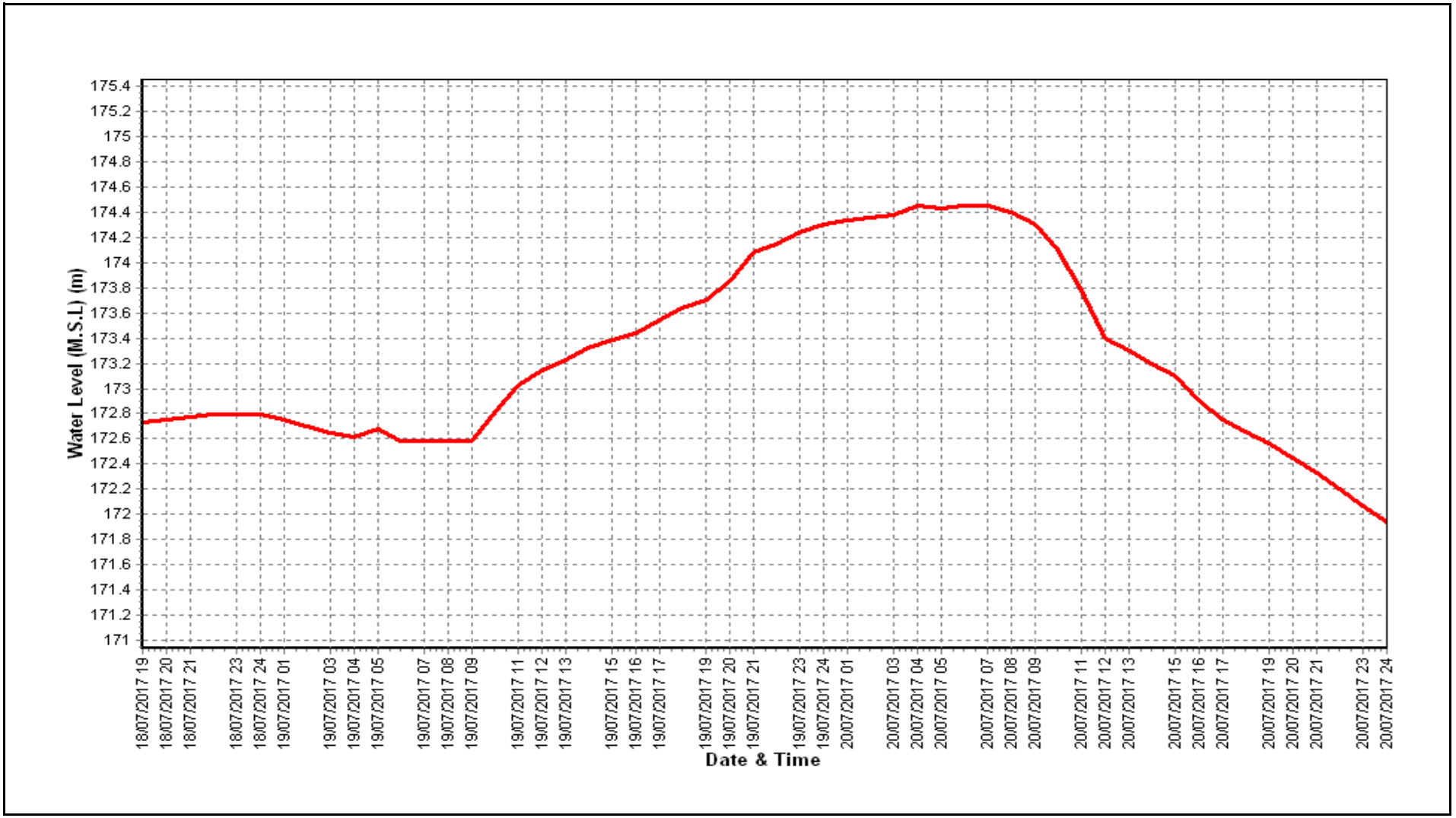
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2017-2018

Station Name : KESINGA (EMF00K6)

Local River : Tel

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla



Time Span: 72 Hrs

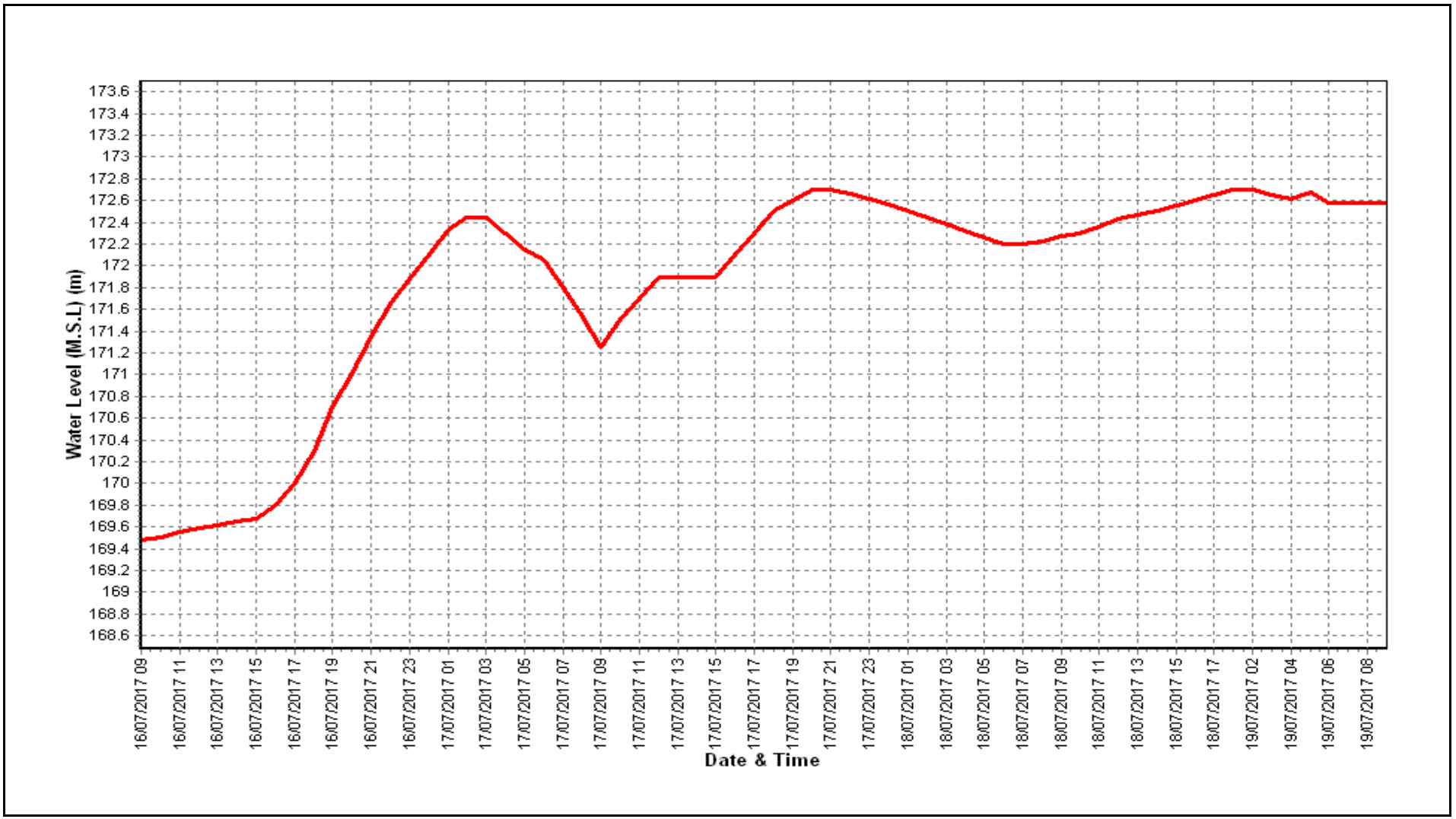
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2017-2018

Station Name : KESINGA (EMF00K6)

Local River : Tel

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla



Time Span: 72 Hrs

Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2017-2018

Station Name : KESINGA (EMF00K6)

Division : MD,CWC,Burla

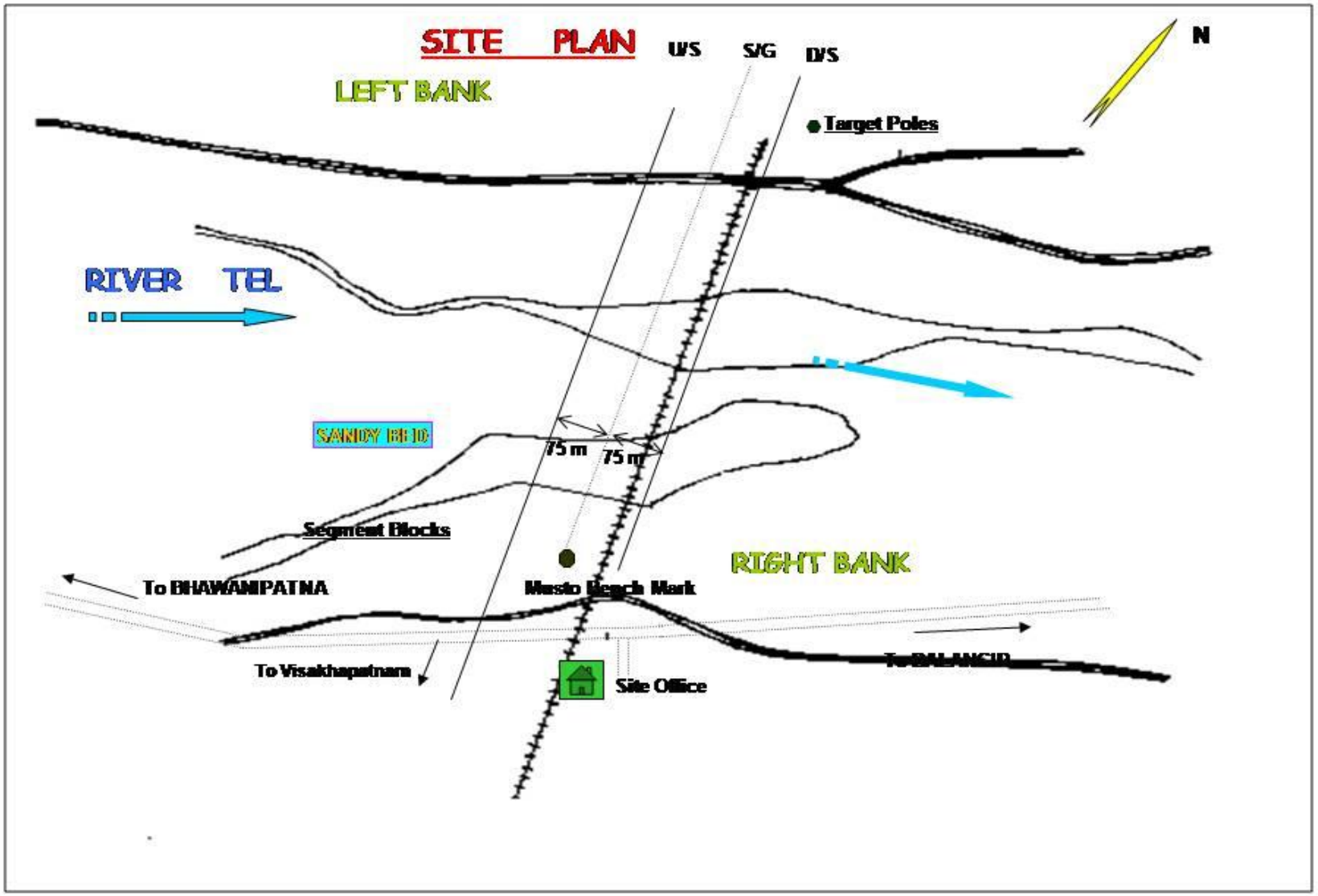
Local River : Tel

Sub-Division : MMSD II,CWC,Burla

Time Span: 72 Hrs

CENTRAL WATER COMMISSION, MAHANADI DIVISION, BURLA

Site : KESINGA Code : EMF00K6 Sub-Division : MMSD-II CWC Burla



SECTION-II

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : KESINGA (EMF00K6) **Division : MD,CWC,Burla**

Local River : Tel **Sub-Division : MMSD II,CWC,Burla**

Day	Jun						Jul						Aug					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	94.51	0.000	0.000	0.080	0.080	653	263.5	0.000	0.000	0.240	0.240	5464	329.3	0.000	0.000	0.600	0.600	17072
2	24.29	0.000	0.000	0.060	0.060	126	166.0	0.000	0.000	0.000	0.000	0	373.7	0.000	0.000	0.650	0.650	20988
3	59.65	0.000	0.000	0.070	0.070	361	89.43	0.000	0.000	0.090	0.090	695	367.3	0.000	0.000	0.580	0.580	18406
4	80.00	0.000	0.000	0.000	0.000	0	115.2	0.000	0.000	0.150	0.150	1492	449.0	0.000	0.000	0.680	0.680	26382
5	104.4	0.000	0.000	0.080	0.080	721	273.7	0.000	0.000	0.250	0.250	5911	356.7	0.000	0.000	0.640	0.640	19723
6	133.7	0.000	0.000	0.090	0.090	1039	120.5	0.000	0.000	0.160	0.160	1666	420.0	0.000	0.000	0.000	0.000	0
7	55.11	0.000	0.000	0.070	0.070	333	116.8	0.000	0.000	0.150	0.150	1514	615.8	0.000	0.000	0.700	0.700	37244
8	64.22	0.000	0.000	0.080	0.080	444	86.69	0.000	0.000	0.100	0.100	749	580.2	0.000	0.000	0.670	0.670	33588
9	65.51	0.000	0.000	0.070	0.070	396	120.0	0.000	0.000	0.000	0.000	0	437.2	0.000	0.000	0.550	0.550	20775
10	110.3	0.000	0.000	0.090	0.090	858	88.14	0.000	0.000	0.110	0.110	838	417.4	0.000	0.000	0.530	0.530	19112
11	58.00	0.000	0.000	0.000	0.000	0	197.4	0.000	0.000	0.200	0.200	3411	224.4	0.000	0.000	0.250	0.250	4846
12	82.93	0.000	0.000	0.080	0.080	573	298.7	0.000	0.000	0.330	0.330	8516	339.4	0.000	0.000	0.540	0.540	15837
13	61.26	0.000	0.000	0.070	0.070	371	207.3	0.000	0.000	0.200	0.200	3582	300.0	0.000	0.000	0.000	0.000	0
14	56.45	0.000	0.000	0.060	0.060	293	167.3	0.000	0.000	0.170	0.170	2458	391.4	0.000	0.000	0.500	0.500	16907
15	113.3	0.000	0.000	0.110	0.110	1077	96.84	0.000	0.000	0.120	0.120	1004	420.0	0.000	0.000	0.000	0.000	0
16	106.9	0.000	0.000	0.100	0.100	924	197.0	0.000	0.000	0.000	0.000	0	466.4	0.000	0.000	0.540	0.540	21762
17	114.4	0.000	0.000	0.120	0.120	1186	1515	0.000	0.000	0.780	0.780	102113	475.9	0.000	0.000	0.600	0.600	24673
18	110.0	0.000	0.000	0.000	0.000	0	1968	0.000	0.000	0.900	0.900	153029	704.3	0.000	0.100	0.760	0.860	52333
19	91.26	0.000	0.000	0.110	0.110	867	2287	0.000	0.000	1.430	1.430	282593	1211	0.000	0.150	0.800	0.950	99436
20	113.4	0.000	0.000	0.130	0.130	1274	3396	0.000	0.000	1.560	1.560	457673	1220	0.000	0.000	0.000	0.000	0
21	111.2	0.000	0.000	0.140	0.140	1346	1126	0.000	0.000	0.700	0.700	68124	712.4	0.000	0.080	0.078	0.158	9724
22	82.13	0.000	0.000	0.090	0.090	639	577.7	0.000	0.000	0.650	0.650	32444	523.9	0.000	0.070	0.070	0.140	6337
23	780.9	0.000	0.000	0.500	0.500	33737	450.0	0.000	0.000	0.000	0.000	0	428.1	0.000	0.050	0.005	0.055	2034
24	332.5	0.000	0.000	0.350	0.350	10055	308.0	0.000	0.000	0.450	0.450	11975	391.1	0.000	0.000	0.450	0.450	15207
25	325.0	0.000	0.000	0.000	0.000	0	161.7	0.000	0.000	0.420	0.420	5868	422.8	0.000	0.000	0.530	0.530	19361
26	300.0	0.000	0.000	0.000	0.000	0	183.7	0.000	0.000	0.500	0.500	7934	420.5	0.000	0.000	0.500	0.500	18167
27	177.8	0.000	0.000	0.150	0.150	2304	481.2	0.000	0.000	0.650	0.650	27024	630.0	0.000	0.000	0.000	0.000	0
28	320.6	0.000	0.000	0.210	0.210	5817	531.1	0.000	0.000	0.700	0.700	32121	636.6	0.000	0.080	0.600	0.680	37399
29	281.4	0.000	0.000	0.200	0.200	4863	325.8	0.000	0.000	0.600	0.600	16889	1743	0.000	0.600	0.800	1.400	210884
30	165.5	0.000	0.000	0.160	0.160	2288	311.0	0.000	0.000	0.000	0.000	0	1312	0.000	0.900	1.300	2.200	249400
31							325.9	0.000	0.000	0.590	0.590	16611	723.7	0.000	0.180	1.070	1.250	78157
Ten Daily Mean																		
Ten Daily I	79.17	0.000	0.000	0.069	0.069	493	144.0	0.000	0.000	0.125	0.125	1833	434.7	0.000	0.000	0.560	0.560	21329
Ten Daily II	90.80	0.000	0.000	0.078	0.078	656	1033	0.000	0.000	0.569	0.569	101438	575.3	0.000	0.025	0.399	0.424	23579
Ten Daily III	287.7	0.000	0.000	0.180	0.180	6105	434.8	0.000	0.000	0.478	0.478	19908	722.2	0.000	0.178	0.491	0.669	58788
Monthly																		
Total						72545						1251699						1095754

Annual Sediment Load (Metric Tonnes) : 10662165

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : KESINGA (EMF00K6) **Division : MD,CWC,Burla**

Local River : Tel **Sub-Division : MMSD II,CWC,Burla**

Day	Sep						Oct						Nov					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	613.0	0.000	0.000	0.600	0.600	31778	675.0	0.000	0.000	0.000	0.000	0	99.99	0.000	0.000	0.000	0.000	0
2	600.0	0.000	0.000	0.000	0.000	0	310.0	0.000	0.000	0.000	0.000	0	101.0	0.000	0.000	0.000	0.000	0
3	500.0	0.000	0.000	0.000	0.000	0	424.6	0.000	0.000	0.560	0.560	20546	103.8	0.000	0.000	0.000	0.000	0
4	480.8	0.000	0.000	0.580	0.580	24094	406.4	0.000	0.000	0.540	0.540	18963	106.0	0.000	0.000	0.000	0.000	0
5	349.0	0.000	0.000	0.450	0.450	13570	520.9	0.000	0.000	0.530	0.530	23854	106.0	0.000	0.000	0.000	0.000	0
6	305.5	0.000	0.000	0.400	0.400	10559	674.9	0.000	0.000	0.550	0.550	32074	110.7	0.000	0.000	0.050	0.050	478
7	331.1	0.000	0.000	0.410	0.410	11730	442.7	0.000	0.000	0.520	0.520	19891	116.9	0.000	0.000	0.000	0.000	0
8	306.9	0.000	0.000	0.320	0.320	8485	680.0	0.000	0.000	0.000	0.000	0	177.6	0.000	0.000	0.000	0.000	0
9	259.6	0.000	0.000	0.300	0.300	6729	662.6	0.000	0.000	0.540	0.540	30913	158.0	0.000	0.000	0.000	0.000	0
10	360.0	0.000	0.000	0.000	0.000	0	740.2	0.000	0.000	0.600	0.600	38371	153.6	0.000	0.000	0.000	0.000	0
11	393.2	0.000	0.000	0.450	0.450	15287	848.7	0.000	0.000	0.610	0.610	44729	141.7	0.000	0.000	0.000	0.000	0
12	257.6	0.000	0.000	0.300	0.300	6677	600.3	0.000	0.000	0.410	0.410	21265	145.0	0.000	0.000	0.000	0.000	0
13	348.9	0.000	0.000	0.410	0.410	12361	525.1	0.000	0.000	0.400	0.400	18149	136.2	0.000	0.000	0.060	0.060	706
14	510.5	0.000	0.000	0.520	0.520	22935	413.2	0.000	0.000	0.360	0.360	12852	124.5	0.000	0.000	0.000	0.000	0
15	710.2	0.000	0.080	0.700	0.780	47861	400.0	0.000	0.000	0.000	0.000	0	132.2	0.000	0.000	0.000	0.000	0
16	936.7	0.000	0.100	0.730	0.830	67171	379.4	0.000	0.000	0.210	0.210	6884	144.6	0.000	0.000	0.000	0.000	0
17	560.0	0.000	0.000	0.000	0.000	0	285.1	0.000	0.000	0.180	0.180	4433	132.4	0.000	0.000	0.000	0.000	0
18	889.3	0.000	0.090	0.680	0.770	59160	236.1	0.000	0.000	0.180	0.180	3672	150.4	0.000	0.000	0.000	0.000	0
19	677.9	0.000	0.060	0.610	0.670	39245	200.0	0.000	0.000	0.000	0.000	0	145.0	0.000	0.000	0.000	0.000	0
20	1077	0.000	0.230	0.840	1.070	99526	167.1	0.000	0.000	0.090	0.090	1300	135.8	0.000	0.000	0.060	0.060	704
21	1910	0.000	0.250	0.900	1.150	189741	289.0	0.000	0.000	0.080	0.080	1998	87.20	0.000	0.000	0.000	0.000	0
22	1206	0.000	0.260	0.960	1.220	127113	210.0	0.000	0.000	0.000	0.000	0	106.0	0.000	0.000	0.000	0.000	0
23	696.9	0.000	0.060	0.620	0.680	40942	162.2	0.000	0.000	0.070	0.070	981	87.43	0.000	0.000	0.000	0.000	0
24	520.0	0.000	0.000	0.000	0.000	0	153.2	0.000	0.000	0.060	0.060	794	81.35	0.000	0.000	0.000	0.000	0
25	486.2	0.000	0.000	0.620	0.620	26046	146.8	0.000	0.000	0.060	0.060	761	76.07	0.000	0.000	0.000	0.000	0
26	419.4	0.000	0.000	0.580	0.580	21017	143.7	0.000	0.000	0.050	0.050	621	65.00	0.000	0.000	0.000	0.000	0
27	378.6	0.000	0.000	0.550	0.550	17993	141.2	0.000	0.000	0.060	0.060	732	66.95	0.000	0.000	0.050	0.050	289
28	400.8	0.000	0.000	0.570	0.570	19741	135.8	0.000	0.000	0.050	0.050	586	60.44	0.000	0.000	0.000	0.000	0
29	400.0	0.000	0.000	0.000	0.000	0	135.0	0.000	0.000	0.000	0.000	0	84.11	0.000	0.000	0.000	0.000	0
30	350.0	0.000	0.000	0.000	0.000	0	111.7	0.000	0.000	0.050	0.050	482	123.4	0.000	0.000	0.000	0.000	0
31							101.7	0.000	0.000	0.045	0.045	395						
Ten Daily Mean																		
Ten Daily I	410.6	0.000	0.000	0.306	0.306	10694	553.7	0.000	0.000	0.384	0.384	18461	123.4	0.000	0.000	0.005	0.005	48
Ten Daily II	636.1	0.000	0.056	0.524	0.580	37022	405.5	0.000	0.000	0.244	0.244	11328	138.8	0.000	0.000	0.012	0.012	141
Ten Daily III	676.8	0.000	0.057	0.480	0.537	44259	157.3	0.000	0.000	0.048	0.048	668	83.79	0.000	0.000	0.005	0.005	29
Monthly																		
Total						919760						305246						2177

Annual Sediment Load (Metric Tonnes) : 10662165

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : KESINGA (EMF00K6) **Division : MD,CWC,Burla**

Local River : Tel **Sub-Division : MMSD II,CWC,Burla**

Day	Dec						Jan						Feb					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	82.51	0.000	0.000	0.000	0.000	0	55.19	0.000	0.000	0.020	0.020	95	18.05	0.000	0.000	0.000	0.000	0
2	76.00	0.000	0.000	0.000	0.000	0	51.69	0.000	0.000	0.000	0.000	0	21.15	0.000	0.000	0.000	0.000	0
3	81.00	0.000	0.000	0.000	0.000	0	31.16	0.000	0.000	0.000	0.000	0	21.16	0.000	0.000	0.000	0.000	0
4	62.28	0.000	0.000	0.040	0.040	215	26.57	0.000	0.000	0.000	0.000	0	20.00	0.000	0.000	0.000	0.000	0
5	60.74	0.000	0.000	0.000	0.000	0	25.14	0.000	0.000	0.000	0.000	0	17.32	0.000	0.000	0.030	0.030	45
6	60.48	0.000	0.000	0.000	0.000	0	25.85	0.000	0.000	0.000	0.000	0	17.13	0.000	0.000	0.000	0.000	0
7	75.93	0.000	0.000	0.000	0.000	0	29.00	0.000	0.000	0.000	0.000	0	17.21	0.000	0.000	0.000	0.000	0
8	44.01	0.000	0.000	0.000	0.000	0	43.65	0.000	0.000	0.030	0.030	113	16.03	0.000	0.000	0.000	0.000	0
9	55.72	0.000	0.000	0.000	0.000	0	33.00	0.000	0.000	0.000	0.000	0	17.69	0.000	0.000	0.000	0.000	0
10	40.00	0.000	0.000	0.000	0.000	0	29.70	0.000	0.000	0.000	0.000	0	80.77	0.000	0.000	0.000	0.000	0
11	38.38	0.000	0.000	0.030	0.030	99	28.04	0.000	0.000	0.000	0.000	0	78.00	0.000	0.000	0.000	0.000	0
12	41.70	0.000	0.000	0.000	0.000	0	10.62	0.000	0.000	0.000	0.000	0	80.99	0.000	0.000	0.040	0.040	280
13	58.72	0.000	0.000	0.000	0.000	0	9.647	0.000	0.000	0.000	0.000	0	67.25	0.000	0.000	0.000	0.000	0
14	55.80	0.000	0.000	0.000	0.000	0	25.00	0.000	0.000	0.000	0.000	0	70.57	0.000	0.000	0.000	0.000	0
15	77.47	0.000	0.000	0.000	0.000	0	34.26	0.000	0.000	0.020	0.020	59	62.13	0.000	0.000	0.000	0.000	0
16	36.04	0.000	0.000	0.000	0.000	0	32.06	0.000	0.000	0.000	0.000	0	19.46	0.000	0.000	0.000	0.000	0
17	35.60	0.000	0.000	0.000	0.000	0	25.51	0.000	0.000	0.000	0.000	0	18.47	0.000	0.000	0.000	0.000	0
18	39.04	0.000	0.000	0.030	0.030	101	25.56	0.000	0.000	0.000	0.000	0	18.00	0.000	0.000	0.000	0.000	0
19	31.33	0.000	0.000	0.000	0.000	0	9.749	0.000	0.000	0.000	0.000	0	17.34	0.000	0.000	0.030	0.030	45
20	52.98	0.000	0.000	0.000	0.000	0	9.241	0.000	0.000	0.000	0.000	0	25.10	0.000	0.000	0.000	0.000	0
21	84.71	0.000	0.000	0.000	0.000	0	18.00	0.000	0.000	0.000	0.000	0	25.14	0.000	0.000	0.000	0.000	0
22	59.62	0.000	0.000	0.000	0.000	0	12.51	0.000	0.000	0.040	0.040	43	26.67	0.000	0.000	0.000	0.000	0
23	59.95	0.000	0.000	0.000	0.000	0	12.07	0.000	0.000	0.000	0.000	0	24.94	0.000	0.000	0.000	0.000	0
24	40.00	0.000	0.000	0.000	0.000	0	12.56	0.000	0.000	0.000	0.000	0	25.21	0.000	0.000	0.000	0.000	0
25	36.00	0.000	0.000	0.000	0.000	0	12.36	0.000	0.000	0.000	0.000	0	17.00	0.000	0.000	0.000	0.000	0
26	78.62	0.000	0.000	0.000	0.000	0	12.00	0.000	0.000	0.000	0.000	0	24.13	0.000	0.000	0.035	0.035	73
27	77.90	0.000	0.000	0.000	0.000	0	11.84	0.000	0.000	0.000	0.000	0	25.32	0.000	0.000	0.000	0.000	0
28	35.90	0.000	0.000	0.000	0.000	0	12.00	0.000	0.000	0.000	0.000	0	23.74	0.000	0.000	0.000	0.000	0
29	59.20	0.000	0.000	0.000	0.000	0	15.48	0.000	0.000	0.030	0.030	40						
30	75.25	0.000	0.000	0.000	0.000	0	18.34	0.000	0.000	0.000	0.000	0						
31	40.00	0.000	0.000	0.000	0.000	0	18.69	0.000	0.000	0.000	0.000	0						
Ten Daily Mean																		
Ten Daily I	63.87	0.000	0.000	0.004	0.004	22	35.09	0.000	0.000	0.005	0.005	21	24.65	0.000	0.000	0.003	0.003	4
Ten Daily II	46.71	0.000	0.000	0.006	0.006	20	20.97	0.000	0.000	0.002	0.002	6	45.73	0.000	0.000	0.007	0.007	32
Ten Daily III	58.83	0.000	0.000	0.000	0.000	0	14.17	0.000	0.000	0.006	0.006	8	24.02	0.000	0.000	0.004	0.004	9
Monthly Total						416						351						443

Annual Sediment Load (Metric Tonnes) : 10662165

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : KESINGA (EMF00K6) **Division : MD,CWC,Burla**

Local River : Tel **Sub-Division : MMSD II,CWC,Burla**

Day	Mar						Apr						May					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	23.75	0.000	0.000	0.000	0.000	0	67.00	0.000	0.000	0.000	0.000	0	35.34	0.000	0.000	0.000	0.000	0
2	20.00	0.000	0.000	0.000	0.000	0	35.65	0.000	0.000	0.040	0.040	123	30.41	0.000	0.000	0.000	0.000	0
3	23.75	0.000	0.000	0.000	0.000	0	32.20	0.000	0.000	0.000	0.000	0	27.96	0.000	0.000	0.000	0.000	0
4	20.00	0.000	0.000	0.000	0.000	0	27.99	0.000	0.000	0.000	0.000	0	34.18	0.000	0.000	0.000	0.000	0
5	15.21	0.000	0.000	0.030	0.030	39	19.35	0.000	0.000	0.000	0.000	0	33.51	0.000	0.000	0.000	0.000	0
6	15.87	0.000	0.000	0.000	0.000	0	22.35	0.000	0.000	0.000	0.000	0	34.00	0.000	0.000	0.000	0.000	0
7	13.14	0.000	0.000	0.000	0.000	0	19.80	0.000	0.000	0.000	0.000	0	39.52	0.000	0.000	0.050	0.050	171
8	14.10	0.000	0.000	0.000	0.000	0	18.00	0.000	0.000	0.000	0.000	0	36.63	0.000	0.000	0.000	0.000	0
9	26.83	0.000	0.000	0.000	0.000	0	17.62	0.000	0.000	0.030	0.030	46	35.82	0.000	0.000	0.000	0.000	0
10	21.62	0.000	0.000	0.000	0.000	0	21.42	0.000	0.000	0.000	0.000	0	32.76	0.000	0.000	0.000	0.000	0
11	20.00	0.000	0.000	0.000	0.000	0	21.24	0.000	0.000	0.000	0.000	0	30.85	0.000	0.000	0.000	0.000	0
12	31.60	0.000	0.000	0.045	0.045	123	30.50	0.000	0.000	0.000	0.000	0	103.3	0.000	0.000	0.000	0.000	0
13	22.82	0.000	0.000	0.000	0.000	0	34.43	0.000	0.000	0.000	0.000	0	130.0	0.000	0.000	0.000	0.000	0
14	22.55	0.000	0.000	0.000	0.000	0	27.00	0.000	0.000	0.000	0.000	0	113.7	0.000	0.000	0.060	0.060	589
15	23.22	0.000	0.000	0.000	0.000	0	25.00	0.000	0.000	0.000	0.000	0	107.8	0.000	0.000	0.000	0.000	0
16	19.31	0.000	0.000	0.000	0.000	0	22.32	0.000	0.000	0.030	0.030	58	37.12	0.000	0.000	0.000	0.000	0
17	19.71	0.000	0.000	0.000	0.000	0	21.40	0.000	0.000	0.000	0.000	0	147.0	0.000	0.000	0.000	0.000	0
18	19.00	0.000	0.000	0.000	0.000	0	18.87	0.000	0.000	0.000	0.000	0	131.5	0.000	0.000	0.000	0.000	0
19	22.14	0.000	0.000	0.040	0.040	77	35.18	0.000	0.000	0.000	0.000	0	146.9	0.000	0.000	0.000	0.000	0
20	19.76	0.000	0.000	0.000	0.000	0	20.74	0.000	0.000	0.000	0.000	0	146.0	0.000	0.000	0.000	0.000	0
21	19.14	0.000	0.000	0.000	0.000	0	30.83	0.000	0.000	0.000	0.000	0	185.8	0.000	0.000	0.070	0.070	1124
22	18.27	0.000	0.000	0.000	0.000	0	34.00	0.000	0.000	0.000	0.000	0	36.55	0.000	0.000	0.000	0.000	0
23	17.60	0.000	0.000	0.000	0.000	0	33.01	0.000	0.000	0.040	0.040	114	142.4	0.000	0.000	0.000	0.000	0
24	19.47	0.000	0.000	0.000	0.000	0	28.93	0.000	0.000	0.000	0.000	0	142.1	0.000	0.000	0.000	0.000	0
25	20.00	0.000	0.000	0.000	0.000	0	31.88	0.000	0.000	0.000	0.000	0	151.8	0.000	0.000	0.000	0.000	0
26	30.47	0.000	0.000	0.045	0.045	118	37.31	0.000	0.000	0.000	0.000	0	156.8	0.000	0.000	0.000	0.000	0
27	24.50	0.000	0.000	0.000	0.000	0	34.43	0.000	0.000	0.000	0.000	0	130.0	0.000	0.000	0.000	0.000	0
28	21.77	0.000	0.000	0.000	0.000	0	35.20	0.000	0.000	0.000	0.000	0	163.1	0.000	0.000	0.050	0.050	705
29	21.00	0.000	0.000	0.000	0.000	0	29.00	0.000	0.000	0.000	0.000	0	141.9	0.000	0.000	0.000	0.000	0
30	19.00	0.000	0.000	0.000	0.000	0	29.00	0.000	0.000	0.000	0.000	0	137.7	0.000	0.000	0.000	0.000	0
31	17.62	0.000	0.000	0.000	0.000	0							127.9	0.000	0.000	0.000	0.000	0
Ten Daily Mean																		
Ten Daily I	19.43	0.000	0.000	0.003	0.003	4	28.14	0.000	0.000	0.007	0.007	17	34.01	0.000	0.000	0.005	0.005	17
Ten Daily II	22.01	0.000	0.000	0.009	0.009	20	25.67	0.000	0.000	0.003	0.003	6	109.4	0.000	0.000	0.006	0.006	59
Ten Daily III	20.80	0.000	0.000	0.004	0.004	11	32.36	0.000	0.000	0.004	0.004	11	137.8	0.000	0.000	0.011	0.011	166
Monthly																		
Total						357						341						2589

Annual Sediment Load (Metric Tonnes) : 10662165

Annual Sediment Load for period : 2007-2018

Station Name : KESINGA (EMF00K6) **Division : MD,CWC,Burla**

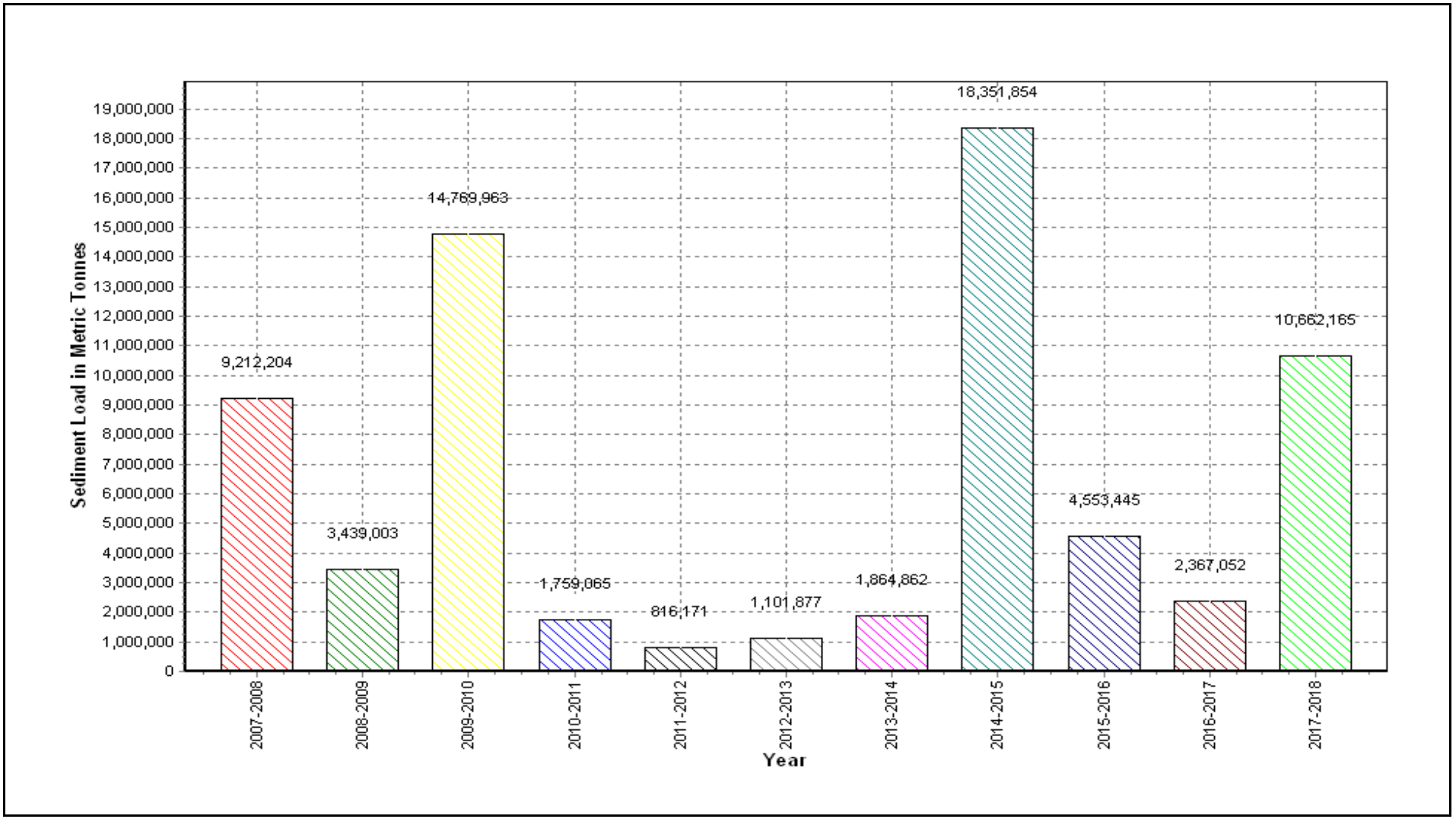
Local River : Tel **Sub-Division : MMSD II,CWC,Burla**

Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)
2007-2008	9149768	62436	9212204	12388
2008-2009	3435170	3833	3439003	10213
2009-2010	14769963	0	14769963	6330
2010-2011	1740879	18185	1759065	7364
2011-2012	814286	1885	816171	4687
2012-2013	1089262	12615	1101877	6443
2013-2014	1785660	79203	1864862	10690
2014-2015	18343818	8036	18351854	10411
2015-2016	4549630	3815	4553445	5766
2016-2017	2361901	5151	2367052	5754
2017-2018	3647182	4496	3651678	6827

Annual Sediment Load for the period: 2007-2018

Station Name : KESINGA (EMF00K6)
Local River : Tel

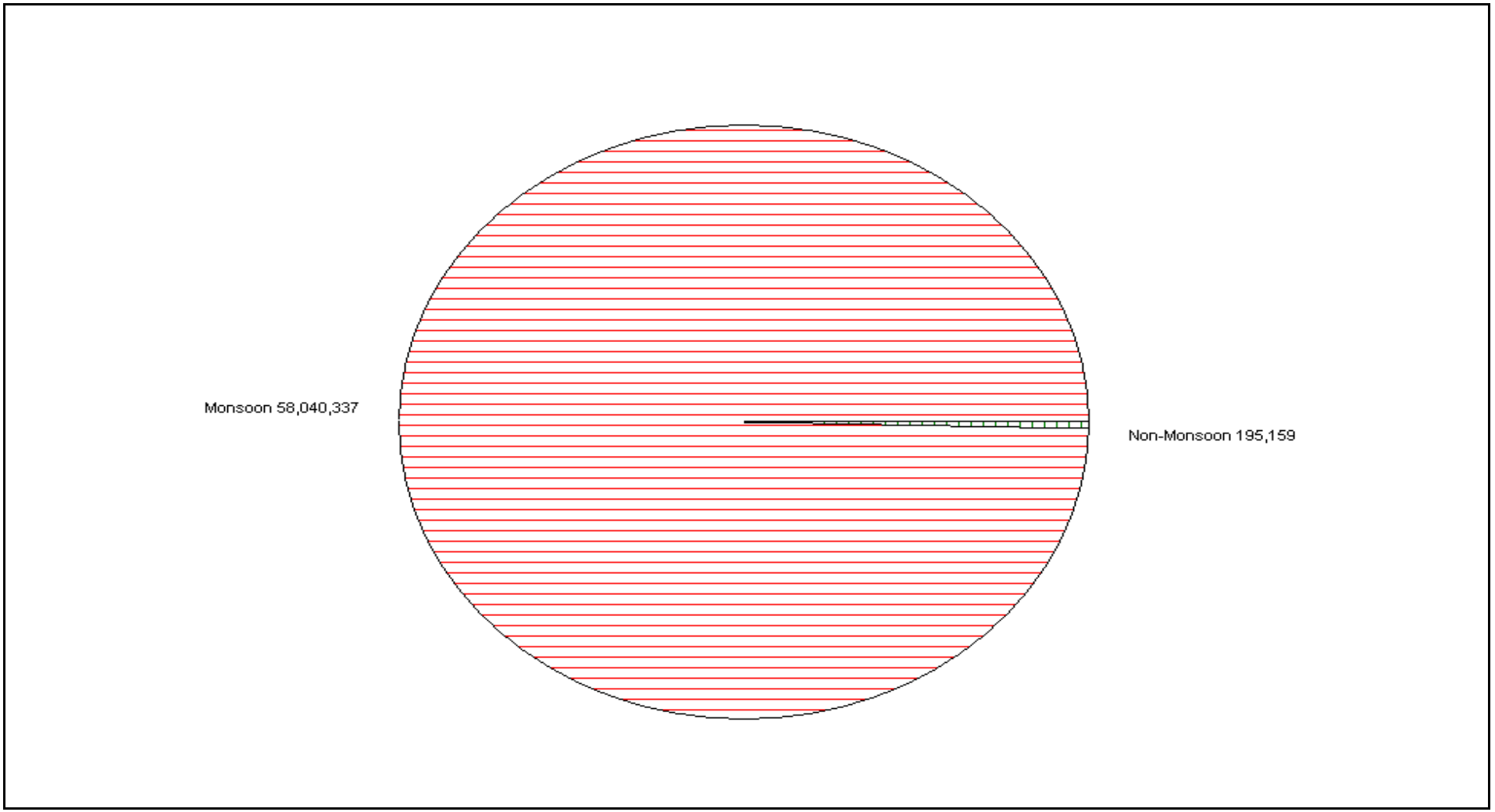
Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla



Seasonal Sediment Load for the period : 2007-2017

Station Name : KESINGA (EMF00K6)
Local River : Tel

Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla



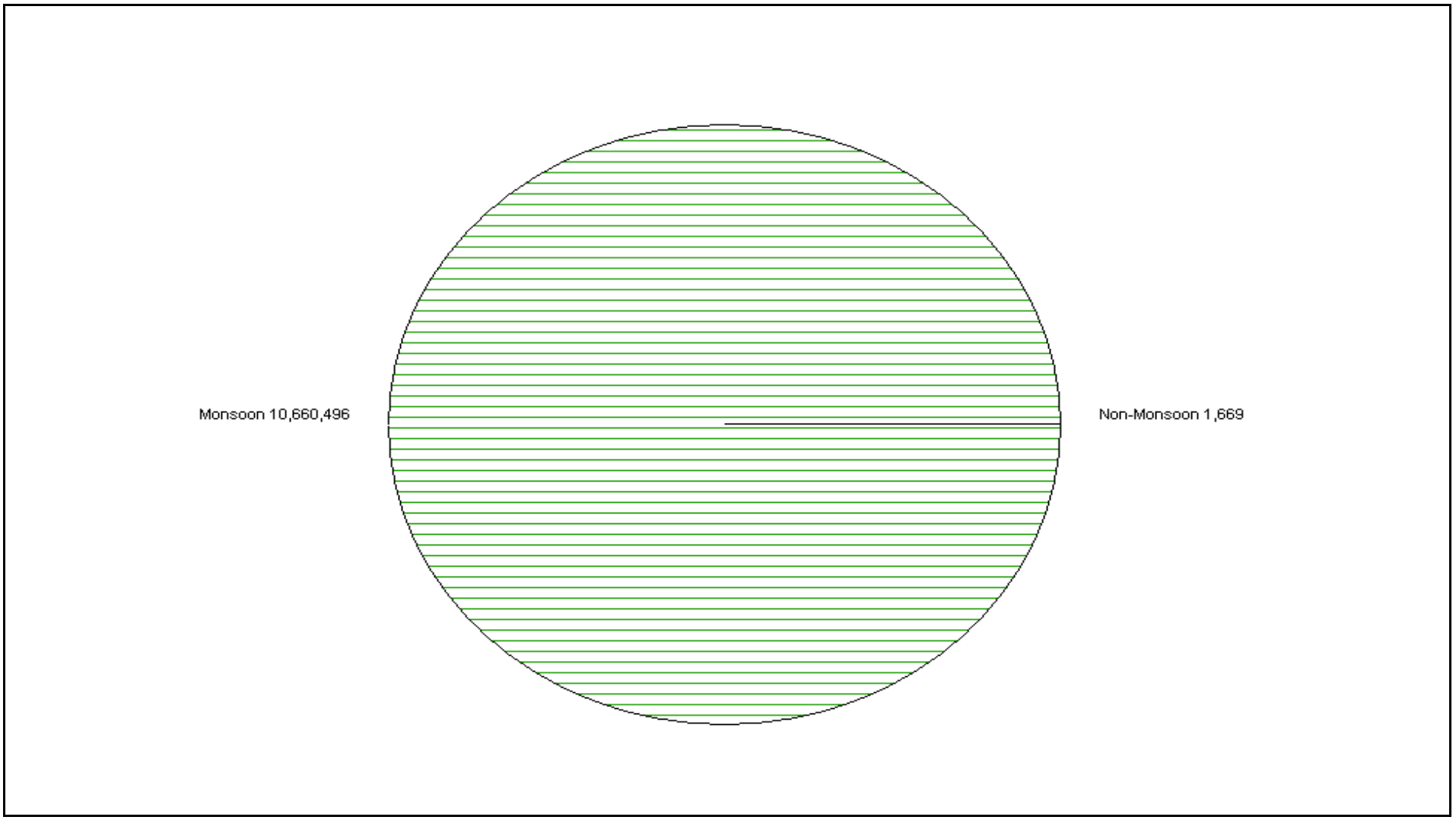
Seasonal Sediment Load for the Year: 2017-2018

Station Name : KESINGA (EMF00K6)

Local River : Tel

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla



SECTION-III

Water Quality Datasheet for the period : 2017-2018

Station Name : KESINGA (EMF00K6) | **Division : MD,CWC,Burla**

Local River : Tel | **River Water Analysis** | **Sub-Division : MMSD II,CWC,Burla**

S.No	Parameters	01/06/2017	01/07/2017	01/08/2017	01/09/2017	04/10/2017	01/11/2017	01/12/2017	01/01/2018	01/02/2018	01/03/2018	02/04/2018	01/05/2018
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)	94.51	263.5	329.3	613.0	406.4	99.99	82.51	55.19	18.05	23.75	35.65	35.34
2	Colour_Cod (-)	Light Brown	Light Brown	Brown	Light Brown	Light Brown	Clear	Clear	Clear	Clear	Clear	Clear	Clear
3	EC_FLD (µmho/cm)	92	145	187	191	272	262	205	210	191		164	164
4	EC_GEN (µmho/cm)	182	337	155	161	241	229	211	187	182	298	157	160
5	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free
6	pH_FLD (pH units)	7.5	7.4	7.4	6.1	7.2	7.4	7.1	6.5	7.5		5.2	6.2
7	pH_GEN (pH units)	8.4	8.1	8.2	7.9	8.3	7.3	8.4	8.3	7.9	7.7	8.1	7.9
8	Temp (deg C)	30.5	26.5	36.2	33.5	26.5	29.0	21.5	19.0	22.0	26.5	25.0	30.0
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	100	184	96	200	167	124	172	224	252	260	200	188
3	Ca (mg/L)	32	34	38	53	30	43	42	38	48	35	42	24
4	Cl (mg/L)	30.0	26.0	39.0	26.0	36.0	33.0	23.0	36.0	15.0	20.0	28.0	22.0
5	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	HCO3 (mg/L)	61	112	59	122	102	76	105	137	154	159	122	115
7	K (mg/L)	10.3	5.8	7.5	14.5	10.2	10.2	11.3	10.1	18.8	4.1	13.5	11.2
8	Mg (mg/L)	8.8	13.6	15.6	4.9	7.8	12.6	13.6	10.7	2.9	4.9	4.9	5.8
9	Na (mg/L)	27.3	12.6	23.3	23.9	31.9	31.7	29.8	24.3	24.4	16.8	34.8	30.3
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)	1.2	0.7	0.9	0.9	0.9	1.3	1.5	0.9	0.6	1.1	0.9	0.9
2	DO (mg/L)	7.3	5.6	5.7	5.4	6.9	7.7	7.3	7.1	4.4	6.9	5.8	6.8
3	DO_SAT% (%)	97	69	83	75	85	100	82	77	50	85	70	90
4	FCol-MPN (MPN/100mL)	90	90	60	70	60	90	90		90	40	90	90
5	Tcol-MPN (MPN/100mL)	140	170	90	90	240	210	170		140	110	70	170
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)	80	84	96	132	76	108	104	96	120	88	104	60
2	HAR_Total (mgCaCO3/L)	117	141	161	153	109	161	161	141	132	108	124	84
3	Na% (%)	31	16	23	23	36	29	27	26	25	24	35	40
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.2
5	SAR (-)	1.1	0.5	0.8	0.8	1.3	1.1	1.0	0.9	0.9	0.7	1.4	1.4
	PESTICIDES												

Water Quality Summary for the period : 2017-2018

Station Name : KESINGA (EMF00K6) **Division : MD,CWC,Burla**

Local River : Tel **Sub-Division : MMSD II,CWC,Burla**

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	365	3396	9.241	216.5
2	EC_FLD (µmho/cm)	11	272	92	189
3	EC_GEN (µmho/cm)	12	337	155	208
4	pH_FLD (pH units)	11	7.5	5.2	6.9
5	pH_GEN (pH units)	12	8.4	7.3	8
6	Temp (deg C)	12	36.2	19.0	27.2
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	12	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	12	260	96	181
3	Ca (mg/L)	12	53	24	38
4	Cl (mg/L)	12	39.0	15.0	27.8
5	CO3 (mg/L)	12	0.0	0.0	0
6	HCO3 (mg/L)	12	159	59	110
7	K (mg/L)	12	18.8	4.1	10.6
8	Mg (mg/L)	12	15.6	2.9	8.8
9	Na (mg/L)	12	34.8	12.6	25.9
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	12	1.5	0.6	1
2	DO (mg/L)	12	7.7	4.4	6.4
3	DO_SAT% (%)	12	100	50	80
4	FCol-MPN (MPN/100mL)	11	90	40	78
5	Tcol-MPN (MPN/100mL)	11	240	70	145
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	12	132	60	96
2	HAR_Total (mgCaCO3/L)	12	161	84	133
3	Na% (%)	12	40	16	28
4	RSC (-)	12	0.4	0.0	0.1
5	SAR (-)	12	1.4	0.5	1
	PESTICIDES				

Water Quality Seasonal Average for the period: 2003-2018

Station Name : KESINGA (EMF00K6) **Division : MD,CWC,Burla**

Local River : Tel **River Water** **Sub-Division : MMSD II,CWC,Burla**

S.No	Parameters	Flood														
		Jun - Oct														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	PHYSICAL															
1	Q (cumec)	584.9	192.2			811.9	522.0	250.1	197.8	406.7	264.0	975.1	577.4	351.2	373.8	341.4
2	EC_FLD (µmho/cm)	174	172			153	188	300							244	177
3	EC_GEN (µmho/cm)	174	172			143	265	192	202	161	156	168	155	156	155	215
4	pH_FLD (pH units)	7.9				7.7	7.6							8.0	8.5	7.1
5	pH_GEN (pH units)	7.9				7.9	7.8	8.1	7.6	7.7	8.0	8.4	8.1	8.2	7.3	8.2
6	Temp (deg C)	28.0	30.0			30.3	30.1	27.2	29.7	29.3	28.3	27.0	28.1	29.2	30.3	30.6
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	3.6	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	166	180			103	178	138	132	109	98	182	192	181	141	149
3	B (mg/L)					0.01	0.00	0.00	0.00	0.00	0.00					
4	Ca (mg/L)	21	24			9	18	15	16	14	13	20	20	21	40	38
5	Cl (mg/L)	22.3	10.0			9.0	10.6	7.0	5.3	7.7	10.3	16.4	11.0	15.0	16.0	31.4
6	CO3 (mg/L)	0.0				0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	4.3	0.0	0.0
7	F (mg/L)	0.26				0.10	0.12	0.19	0.13	0.16	0.11					
8	Fe (mg/L)					0.1	0.0	0.0	0.0	0.0	0.0					
9	HCO3 (mg/L)	101				63	109	84	81	67	60	111	116	106	86	91
10	K (mg/L)	1.1				1.1	1.2	1.2	1.4	1.9	0.8	2.9	2.6	5.2	15.5	9.7
11	Mg (mg/L)	6.3	11.2			6.3	10.7	8.4	7.9	6.7	7.9	5.0	8.4	11.5	7.0	10.1
12	Na (mg/L)	1.5				14.2	7.7	6.3	8.2	8.3	6.2	11.1	12.2	14.7	26.7	23.8
13	NO2+NO3 (mg N/L)					0.06	0.44									
14	NO2-N (mgN/L)					0.01	0.04	0.02	0.02	0.03	0.05					
15	NO3-N (mgN/L)					0.05	0.40									
16	o-PO4-P (mg P/L)						0.014									
17	P-Tot (mgP/L)	0.035				0.010	0.021	0.013	0.037	0.015	0.057					
18	SiO2 (mg/L)					9.1	24.2	21.3	10.8	15.4	14.5					
19	SO4 (mg/L)	7.7				8.7	11.4	12.7	15.6	16.5	14.9					

Water Quality Seasonal Average for the period: 2003-2018

Station Name : KESINGA (EMF00K6) **Division : MD,CWC,Burla**

Local River : Tel **River Water** **Sub-Division : MMSD II,CWC,Burla**

S.No	Parameters	Flood														
		Jun - Oct														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.4	0.6			0.8	0.9	0.8	0.7	0.9	0.8	0.6	0.5	0.5	0.5	0.9
2	COD (mg/L)					11.7	21.3	22.7	18.7	17.0	18.7					
3	DO (mg/L)	6.3	5.1			7.5	6.2	6.7	6.2	6.9	8.0	7.1	7.5	6.9	4.3	6.2
4	DO_SAT% (%)	81	68			100	82	84	81	89	103	89	95	90	57	82
5	FCol-MPN (MPN/100mL)															74
6	Tcol-MPN (MPN/100mL)															146
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	53	61			24	46	38	40	34	31	50	49	52	99	94
2	HAR_Total (mgCaCO3/L)	79	107			50	90	73	73	62	64	71	84	100	129	136
3	Na% (%)	4				41	22	16	19	23	18	24	24	23	29	26
4	RSC (-)	0.3				0.1	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.1	0.0	0.0
5	SAR (-)	0.1				1.0	0.4	0.3	0.4	0.5	0.4	0.6	0.6	0.6	1.0	0.9
	PESTICIDES															

Water Quality Seasonal Average for the period: 2003-2018

Station Name : KESINGA (EMF00K6) **Division : MD,CWC,Burla**

Local River : Tel **River Water** **Sub-Division : MMSD II,CWC,Burla**

S.No	Parameters	Winter														
		Nov - Feb														
		2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
	PHYSICAL															
1	Q (cumec)	151.0	129.6			154.1	91.23	29.43	102.9	28.27	43.54	164.4	82.47	62.05	60.80	63.94
2	EC_FLD (µmho/cm)	184				198	187							160	246	217
3	EC_GEN (µmho/cm)	184				172	161	227	220	189	255	227	172	180	156	202
4	pH_FLD (pH units)	8.2				8.5	7.6							8.5	7.9	7.1
5	pH_GEN (pH units)	8.2				8.4	8.0	8.3	7.8	8.1	7.8	8.4	8.4	8.4	8.4	8.0
6	Temp (deg C)					20.0	23.0	22.0	24.0	21.1	19.8	21.8	21.0	24.6	25.3	22.9
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0				3.7	0.0	9.2	0.0	0.0	0.0	0.5	0.0	3.5	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	174				107	111	155	149	130	158	228	198	186	141	193
3	B (mg/L)					0.01	0.00	0.00	0.00	0.00	0.00					
4	Ca (mg/L)	25				13	13	20	16	14	20	28	25	23	58	43
5	Cl (mg/L)	12.3				12.8	12.6	8.0	17.2	13.9	20.0	16.8	15.8	13.3	35.0	26.8
6	CO3 (mg/L)	0.0				4.4	0.0	11.1	0.0	0.0	0.0	0.6	0.0	4.2	0.0	0.0
7	F (mg/L)	1.50				0.06	0.34	0.14	0.38	0.13	0.15					
8	Fe (mg/L)					0.0	0.0	0.0	0.0	0.1	0.0		0.1			
9	HCO3 (mg/L)	142				61	68	83	91	79	96	138	121	109	86	118
10	K (mg/L)					1.3	1.5	1.5	1.5	1.4	1.0	8.0	2.9	5.6	7.0	12.6
11	Mg (mg/L)	5.8				5.8	5.8	10.7	8.8	8.3	9.3	12.9	16.8	10.9	6.6	10.0
12	Na (mg/L)					18.5	7.3	7.7	15.4	7.7	13.1	19.9	18.0	17.1	18.3	27.6
13	NO2+NO3 (mg N/L)					0.11	1.03						0.16			
14	NO2-N (mgN/L)					0.01	0.01	0.02	0.07	0.02	0.04		0.04			
15	NO3-N (mgN/L)					0.10	1.02						0.12			
16	o-PO4-P (mg P/L)															
17	P-Tot (mgP/L)					0.020	0.015	0.035	0.040	0.035	0.045		0.040			
18	SiO2 (mg/L)					12.0	8.8	15.1	16.7	10.0	11.0		11.5			
19	SO4 (mg/L)	7.9				7.6	11.8	15.5	24.9	19.0	12.5		13.5			

Water Quality Seasonal Average for the period: 2003-2018

Station Name : KESINGA (EMF00K6) **Division : MD,CWC,Burla**

Local River : Tel **River Water** **Sub-Division : MMSD II,CWC,Burla**

S.No	Parameters	Winter														
		Nov - Feb														
		2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.9				0.7	0.8	0.6	0.9	1.2	0.8	0.7	1.0	1.3	0.8	1.1
2	COD (mg/L)					24.0	20.0	16.0	16.0	18.0	20.0					
3	DO (mg/L)	5.7				9.7	6.9	8.6	7.5	8.4	8.1	8.5	8.7	8.6	6.3	6.6
4	DO_SAT% (%)					102	81	98	90	94	88	96	97	103	76	77
5	FCol-MPN (MPN/100mL)															90
6	Tcol-MPN (MPN/100mL)															173
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	63				33	32	49	39	36	50	70	63	58	144	107
2	HAR_Total (mgCaCO3/L)	87				57	56	94	75	71	89	124	133	104	172	149
3	Na% (%)					41	21	15	28	19	21	24	21	26	18	27
4	RSC (-)	0.2				0.0	0.1	0.0	0.0	0.0	0.2	0.2	0.0	0.1	0.0	0.0
5	SAR (-)					1.1	0.4	0.3	0.8	0.4	0.6	0.8	0.7	0.7	0.6	1.0
	PESTICIDES															

Water Quality Seasonal Average for the period: 2003-2018

Station Name : KESINGA (EMF00K6) **Division : MD,CWC,Burla**

Local River : Tel **River Water** **Sub-Division : MMSD II,CWC,Burla**

S.No	Parameters	Summer														
		Mar - May														
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	PHYSICAL															
1	Q (cumec)	66.86	59.31			43.70	54.89	51.54	58.82	17.13	70.80	134.5	38.86	24.56	56.71	31.58
2	EC_FLD (µmho/cm)	198					225								173	164
3	EC_GEN (µmho/cm)	198				158	192	166	467	196	153	148	177	176	165	205
4	pH_FLD (pH units)	8.2					8.2							8.0	8.5	5.7
5	pH_GEN (pH units)	8.2				8.7	8.2	7.9	7.1	7.7	8.6	8.2	8.6	8.3	7.7	7.9
6	Temp (deg C)						29.4	29.0	28.0	24.0	29.3	26.7	27.0	27.5	26.8	27.2
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0				16.6	0.0	0.0	0.0	0.0	3.0	0.0	8.6	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	191				89	115	102	389	135	180	180	225	197	198	216
3	B (mg/L)					0.01	0.00	0.00	0.00	0.00	0.00					
4	Ca (mg/L)	14				14	6	12	40	15	18	24	27	29	41	34
5	Cl (mg/L)	13.0				15.7	8.2	3.2	16.3	6.6	11.5	11.7	13.7	20.3	46.0	23.3
6	CO3 (mg/L)	0.0				20.0	0.0	0.0	0.0	0.0	3.6	0.0	10.4	0.0	0.0	0.0
7	F (mg/L)					0.09	0.16	0.12	0.10	0.14	0.11					
8	Fe (mg/L)						0.0	0.0	0.1	0.1	0.1		0.1			
9	HCO3 (mg/L)	117				34	70	62	237	83	106	110	127	120	120	132
10	K (mg/L)					2.2	2.2	1.4	1.2	1.0	5.1	2.0	4.4	14.4	8.3	9.6
11	Mg (mg/L)	4.3				6.8	3.9	7.8	28.7	10.7	6.8	15.9	12.0	12.6	10.0	5.2
12	Na (mg/L)					13.0	6.3	7.8	12.7	7.1	26.2	11.5	17.1	34.7	21.8	27.3
13	NO2+NO3 (mg N/L)						1.61						0.18			
14	NO2-N (mgN/L)						0.01	0.01	0.60	0.10	0.05		0.07			
15	NO3-N (mgN/L)						1.60						0.12			
16	o-PO4-P (mg P/L)															
17	P-Tot (mgP/L)					0.020	0.010	0.020	0.120	0.070	0.075		0.053			
18	SiO2 (mg/L)					13.2	15.4	9.0	56.0	11.2	11.5		11.0			
19	SO4 (mg/L)	5.6				18.0	18.4	12.0	56.0	12.8	11.0		11.7			

Water Quality Seasonal Average for the period: 2003-2018

Station Name : KESINGA (EMF00K6) **Division : MD,CWC,Burla**

Local River : Tel **River Water** **Sub-Division : MMSD II,CWC,Burla**

S.No	Parameters	Summer														
		Mar - May														
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.7				0.6	0.4	0.8	1.8	1.0	0.5	0.3	0.4	2.9	1.4	1.0
2	COD (mg/L)					16.0	20.0	20.0	24.0	16.0	14.0					
3	DO (mg/L)	6.3				9.6	6.8	6.8	6.8	7.8	6.7	7.0	7.0	6.6	7.5	6.5
4	DO_SAT% (%)						88	88	87	93	87	86	87	83	93	82
5	FCol-MPN (MPN/100mL)															73
6	Tcol-MPN (MPN/100mL)															117
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	35				34	16	30	100	38	46	59	68	73	103	84
2	HAR_Total (mgCaCO3/L)	52				62	32	63	220	83	74	125	118	126	145	106
3	Na% (%)					30	28	21	11	16	35	18	22	33	23	33
4	RSC (-)	0.9				0.0	0.5	0.0	0.0	0.0	0.4	0.0	0.1	0.1	0.0	0.2
5	SAR (-)					0.7	0.5	0.4	0.4	0.3	1.3	0.5	0.7	1.4	0.8	1.2
	PESTICIDES															

SITE KANTAMAL

HISTORY SHEET

Water Year : 2017-2018

Site	**: KANTAMAL**		**Code**	**: EMF00C3**	
State	: Orissa		District	Boudh	
Basin	: Mahanadi		Independent River	: Mahanadi	
Tributary	: Tel		Sub Tributary	:	
Sub-Sub Tributary	:		Local River	: Tel	
Division	: MD,CWC,Burla		Sub-Division	: MMSD II,CWC,Burla	
Drainage Area	: 19600 Sq. Km.		Bank	:	
Latitude	: 20°39'00"		Longitude	: 83°43'55"	
Zero of Gauge (m)	: 118 (m.s.l)		08/08/1971	- 08/08/2025	

	Opening Date	Closing Date
Gauge	: 08/08/1971	
Discharge	: 26/08/1971	
Sediment	: 22/07/1976	
Water Quality	: 01/01/1972	

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

	Maximum			Minimum		
Year	**Q (cumecs)**	**WL (m)**	**Date**	**Q (cumecs)**	**WL (m)**	**Date**
1972-1973	7117	108.120	06/07/1972	0.100	101.790	17/06/1972
1973-1974	12862	109.088	09/07/1973	0.100	102.020	11/05/1974
1974-1975	2700	107.230	18/08/1974	0.050	119.575	08/05/1975
1975-1976	4700	126.030	14/08/1975	0.046	119.435	14/05/1976
1976-1977	11380	129.135	03/08/1976	0.098	119.295	16/04/1977
1977-1978	15374	130.505	14/09/1977	0.470	118.910	31/05/1978
1978-1979	12000	129.090	14/08/1978	0.060	119.310	30/05/1979
1979-1980	4210	126.360	09/07/1979	0.012	119.290	12/06/1979
1980-1981	12960	129.400	19/09/1980	0.852	119.370	30/05/1981
1981-1982	8852	128.365	09/08/1981	0.840	119.345	01/06/1981
1982-1983	7900	131.415	30/08/1982	0.100	118.945	15/04/1983
1983-1984	2131	123.700	08/08/1983	0.300	119.330	05/04/1984
1984-1985	3400	127.050	02/08/1984	0.010	119.615	26/04/1985
1985-1986	9611	128.465	08/08/1985	0.200	119.090	20/04/1986
1986-1987	5099	126.105	26/06/1986	0.010	119.755	20/04/1987
1987-1988	3231	124.880	05/09/1987	0.028	119.740	23/04/1988
1988-1989	1180	123.450	24/09/1988	0.210	119.555	15/02/1989
1989-1990	2257	124.280	28/08/1989	0.473	119.710	28/04/1990
1990-1991	13633	130.480	23/08/1990	3.091	119.500	29/05/1991
1991-1992	10560	129.145	30/07/1991	1.457	119.665	21/05/1992
1992-1993	16263	130.280	28/07/1992	0.192	119.160	25/05/1993

Q : Observed / Computed Discharge WL : Corresponding Water Level(m.s.l)

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

	Maximum			Minimum		
Year	**Q (cumecs)**	**WL (m)**	**Date**	**Q (cumecs)**	**WL (m)**	**Date**
1993-1994	5400	126.630	15/08/1993	0.286	119.620	30/05/1994
1994-1995	11659	129.470	05/09/1994	0.274	119.620	04/06/1994
1995-1996	8692	128.260	02/09/1995	0.900	119.560	23/05/1996
1996-1997	1891	123.773	03/08/1996	0.286	119.100	02/04/1997
1997-1998	11982	129.760	22/08/1997	0.100	119.040	08/06/1997
1998-1999	891.5	122.860	03/07/1998	0.253	119.055	23/03/1999
1999-2000	1974	123.680	02/09/1999	2.180	119.190	10/06/1999
2000-2001	3425	125.140	19/07/2000	39.78	120.150	08/05/2001
2001-2002	12770	129.860	08/07/2001	13.31	120.225	21/05/2002
2002-2003	2900	123.950	25/08/2002	7.505	120.020	28/01/2003
2003-2004	12915	130.110	29/08/2003	39.90	120.300	10/06/2003
2004-2005	9008	129.400	16/06/2004	25.13	120.040	31/03/2005
2005-2006	11030	130.010	14/09/2005	33.64	120.245	10/06/2005
2006-2007	17500	131.730	05/07/2006	29.60	119.775	01/02/2007
2007-2008	12857	130.300	08/08/2007	20.70	119.820	28/05/2008
2008-2009	20000	132.700	19/09/2008	15.00	119.060	31/05/2009
2009-2010	11798	129.035	20/07/2009	15.28	119.190	20/06/2009
2010-2011	10944	128.790	07/08/2010	24.18	119.770	23/03/2011
2011-2012	3268	125.130	07/09/2011	3.523	119.500	21/04/2012
2012-2013	3466	125.325	03/08/2012	14.75	119.735	16/06/2012
2013-2014	7260	127.160	01/08/2013	33.00	119.960	26/01/2014
2014-2015	7778	128.060	05/08/2014	32.08	119.980	04/04/2015
2015-2016	6594	128.120	17/09/2015	8.581	119.640	21/01/2016
2016-2017	2488	124.000	05/09/2016	15.27	119.560	16/01/2017

Q : Observed / Computed Discharge WL : Corresponding Water Level(m.s.l)

Stage-Dischage Data for the period 2017 - 2018

Station Name : KANTAMAL (EMF00C3) **Division : MD,CWC,Burla**

Local River : Tel **Sub-Division : MMSD II,CWC,Burla**

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	120.200	85.93	120.595	367.6	121.160	358.1	122.000	664.1	121.710	600.0 *	120.580	172.8
2	120.150	83.67 *	120.720	394.3 *	121.250	389.1	121.870	618.2 *	121.450	460.0 *	120.560	168.1
3	120.310	90.97 *	120.745	399.6	121.350	421.1	121.970	653.5 *	121.440	451.2	120.510	157.1
4	120.150	83.67 *	120.555	247.9	121.400	435.9	121.655	541.4	121.490	466.4	120.480	151.9 *
5	120.170	84.58	120.470	211.0	121.300	403.1	121.420	451.2	121.405	438.3	120.460	148.4 *
6	120.160	82.20	120.825	309.7	121.430	439.8 *	121.195	331.4	121.595	508.0	120.450	147.7
7	120.200	89.34	120.660	255.3	121.420	438.6	121.145	26.73	121.825	461.4	120.460	148.7
8	120.260	99.51	120.510	199.5	121.815	559.0	121.120	336.0	121.770	625.0 *	120.460	146.7
9	120.080	63.83	120.420	153.2 *	121.540	479.6	121.100	317.3	122.235	851.9	120.440	142.3
10	120.020	55.14	120.440	163.5	121.550	482.7	121.110	321.3 *	121.915	635.3	120.470	150.1
11	120.140	75.69 *	120.490	170.2	121.610	505.9	121.325	405.9	122.270	864.3	120.460	148.8
12	120.185	82.82	120.550	186.8	121.200	398.9	121.280	391.8	122.125	819.1	120.450	144.8 *
13	120.180	82.41	121.050	306.4	121.290	435.0 *	121.060	318.8	121.850	650.5	120.450	144.8
14	120.150	76.78	120.925	282.1	121.180	390.7	121.400	451.8	121.570	509.5	120.470	148.7
15	119.930	64.60	120.810	251.0	121.760	552.2 *	121.480	470.4	121.380	400.0 *	120.420	139.0
16	120.000	75.93	120.620	210.0 *	121.700	535.3	122.075	684.4	121.460	443.0	120.420	140.3
17	120.205	103.8	124.075	2453	121.700	534.1	121.960	642.7 *	121.180	363.7	120.420	137.6
18	120.300	117.9 *	125.265	2927	121.980	629.6	121.850	602.6	121.060	333.0	120.420	136.6
19	120.345	124.4	125.005	3001	122.120	696.3	122.340	885.6	120.960	300.0 *	120.420	136.6 *
20	120.565	156.1	127.180	4982	122.900	1129 *	122.555	1044	120.870	268.0	120.550	160.4
21	120.450	135.7	124.140	2490	122.580	945.6	124.400	2894	121.615	289.0	120.530	156.3
22	120.380	114.3	122.525	1013	121.970	646.3	123.590	2077	121.620	500.0 *	120.500	148.8
23	120.400	117.5	121.700	602.2 *	121.740	657.5	122.520	1017	121.465	168.3	120.460	139.9
24	121.840	1071	121.310	408.1	121.560	550.8	121.920	682.4 *	121.210	354.4	120.200	105.6
25	121.720	897.3 *	121.150	361.1	121.510	522.2	121.560	481.5	121.070	296.8	120.180	101.2
26	121.060	590.1 *	120.770	237.2	121.730	623.2	121.370	424.6	120.980	271.5	120.180	100.8 *
27	120.965	614.0	120.720	225.7	121.670	615.6 *	121.380	427.8	120.905	257.7	120.180	100.3
28	120.605	418.7	121.630	554.8	122.090	669.4	121.185	372.9	120.780	226.9	120.160	95.91
29	121.110	625.7	121.565	536.9	123.895	2419	121.290	405.1 *	120.800	227.0 *	120.140	91.80
30	120.815	470.2	121.320	435.6 *	124.115	2546	121.520	475.8 *	120.740	210.5	120.140	91.76
31			121.100	346.4	122.640	1060			120.640	185.6		
Ten-Daily Mean												
I Ten-Daily	120.170	81.88	120.594	270.2	121.422	440.7	121.458	426.1	121.684	549.7	120.487	153.4
II Ten-Daily	120.200	96.04	122.597	1477	121.744	580.7	121.733	589.8	121.472	495.1	120.448	143.8
III Ten-Daily	120.934	505.4	121.630	655.6	122.318	1023	122.074	925.8	121.075	271.6	120.267	113.2
Monthly												
Min.	119.930	55.14	120.420	153.2	121.160	358.1	121.060	26.73	120.640	168.3	120.140	91.76
Max.	121.840	1071	127.180	4982	124.115	2546	124.400	2894	122.270	864.3	120.580	172.8
Mean	120.435	227.8	121.608	796.2	121.844	692.6	121.755	647.2	121.400	433.4	120.401	136.8

Annual Runoff in MCM = 8499 Annual Runoff in mm = 434

Peak Observed Discharge = 4982 cumecs on 20/07/2017 Corres. Water Level :127.18 m

Lowest Observed Discharge = 17.44 cumecs on 30/01/2018 Corres. Water Level :119.65 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Dischage Data for the period 2017 - 2018

Station Name : KANTAMAL (EMF00C3) **Division : MD,CWC,Burla**

Local River : Tel **Sub-Division : MMSD II,CWC,Burla**

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	120.290	122.5	120.020	61.61	119.740	22.92	120.040	58.68	119.860	33.16 *	119.870	41.84
2	120.270	118.7 *	120.020	61.41	119.730	22.30	120.020	56.41 *	120.020	62.04	119.870	41.41
3	120.270	118.7 *	120.040	64.61	119.730	22.50	120.020	56.42	120.000	59.19	119.840	36.38
4	120.040	67.53	120.040	64.04	119.730	22.50 *	120.020	56.41 *	119.990	57.43	119.840	35.58
5	120.040	67.73	120.000	56.61	119.750	23.90	120.000	54.31	119.980	56.13	119.860	37.93
6	120.020	65.15	119.990	55.05	119.750	23.97	119.780	22.17	119.720	21.43	119.860	37.94 *
7	120.020	65.03	119.920	48.49 *	119.730	22.67	119.780	21.84	119.700	20.31	119.880	40.53
8	120.020	65.47	119.900	46.62	119.730	22.65	119.760	20.84	119.700	20.31 *	119.880	40.61
9	120.040	68.36	119.900	46.20	119.720	22.11	119.760	20.68	119.680	19.05	119.860	38.06
10	120.040	68.35 *	119.920	48.29	119.720	21.93	119.780	23.48	119.680	19.34	119.900	43.51
11	120.060	65.94	119.920	48.47	119.720	21.93 *	119.820	26.19 *	119.660	17.93	119.920	46.03
12	120.060	65.79	119.900	45.69	120.060	67.02	119.800	24.83	119.680	18.70	119.920	45.88
13	120.060	65.39	119.690	27.54	120.040	63.99	119.780	23.41	119.720	20.31	119.920	45.88 *
14	120.040	62.41	119.700	28.40 *	120.040	63.73	119.780	23.29	119.720	20.21	120.010	60.32
15	120.040	62.36	119.700	28.38	120.020	60.90	119.940	44.58	119.720	20.21 *	120.030	62.25
16	120.040	62.36	119.700	28.15	120.020	59.86	119.920	41.53	119.760	28.02	120.030	61.98
17	120.040	68.00 *	119.690	27.31	120.040	61.65	119.900	39.26	119.740	26.64	119.980	55.53
18	120.020	59.09	119.710	28.81	120.020	59.33 *	119.900	39.26 *	119.780	29.89	119.960	52.67
19	120.020	58.03	119.680	18.88	120.010	57.74	119.920	42.82	119.800	31.46	119.980	55.25
20	120.040	60.83	119.680	19.08	120.010	58.18	119.900	40.08	119.800	30.95	119.980	55.27 *
21	120.040	60.73	119.680	19.09 *	120.010	59.05	119.900	40.25	119.780	29.35	120.280	97.68
22	120.020	58.00	119.660	18.29	119.890	34.12	119.880	37.26	119.780	29.30 *	120.280	96.81
23	120.020	57.59	119.660	18.09	119.890	33.78	119.880	37.24	119.930	47.51	120.280	96.14
24	120.020	60.44 *	119.660	18.31	119.880	33.05	119.860	35.28	119.950	50.61	120.100	67.00
25	120.020	60.44 *	119.650	17.67	119.880	33.07 *	119.860	35.06 *	119.920	46.13	120.120	70.75
26	120.020	61.15	119.650	17.67 *	119.840	29.85	119.960	44.40	119.930	46.88	120.140	74.39
27	120.020	61.38	119.650	17.65	119.950	41.96	119.940	42.45	119.930	46.10	120.200	81.98 *
28	120.040	63.99	119.650	17.56 *	120.040	59.69	119.920	40.04	119.960	50.84	120.300	98.95
29	120.040	64.56	119.650	17.45			119.900	37.39 *	119.980	52.92 *	120.300	97.65
30	120.020	61.64	119.650	17.44			119.880	35.27 *	119.950	48.96 *	120.280	91.25
31	120.020	61.64 *	119.740	23.06			119.860	33.14			120.300	94.59
Ten-Daily Mean												
I Ten-Daily	120.105	82.75	119.975	55.29	119.733	22.74	119.896	39.12	119.833	36.84	119.866	39.38
II Ten-Daily	120.042	63.02	119.737	30.07	119.998	57.43	119.866	34.53	119.738	24.43	119.973	54.11
III Ten-Daily	120.025	61.05	119.664	18.39	119.923	40.57	119.895	37.98	119.911	44.86	120.235	87.93
Monthly												
Min.	120.020	57.59	119.650	17.44	119.720	21.93	119.760	20.68	119.660	17.93	119.840	35.58
Max.	120.290	122.5	120.040	64.61	120.060	67.02	120.040	58.68	120.020	62.04	120.300	98.95
Mean	120.056	68.68	119.788	34.06	119.882	40.23	119.886	37.23	119.827	35.38	120.031	61.36

Peak Computed Discharge = 1129 cumecs on 20/08/2017 **Corres. Water Level :122.9 m**

Lowest Computed Discharge = 17.56 cumecs on 28/01/2018 **Corres. Water Level :119.65 m**

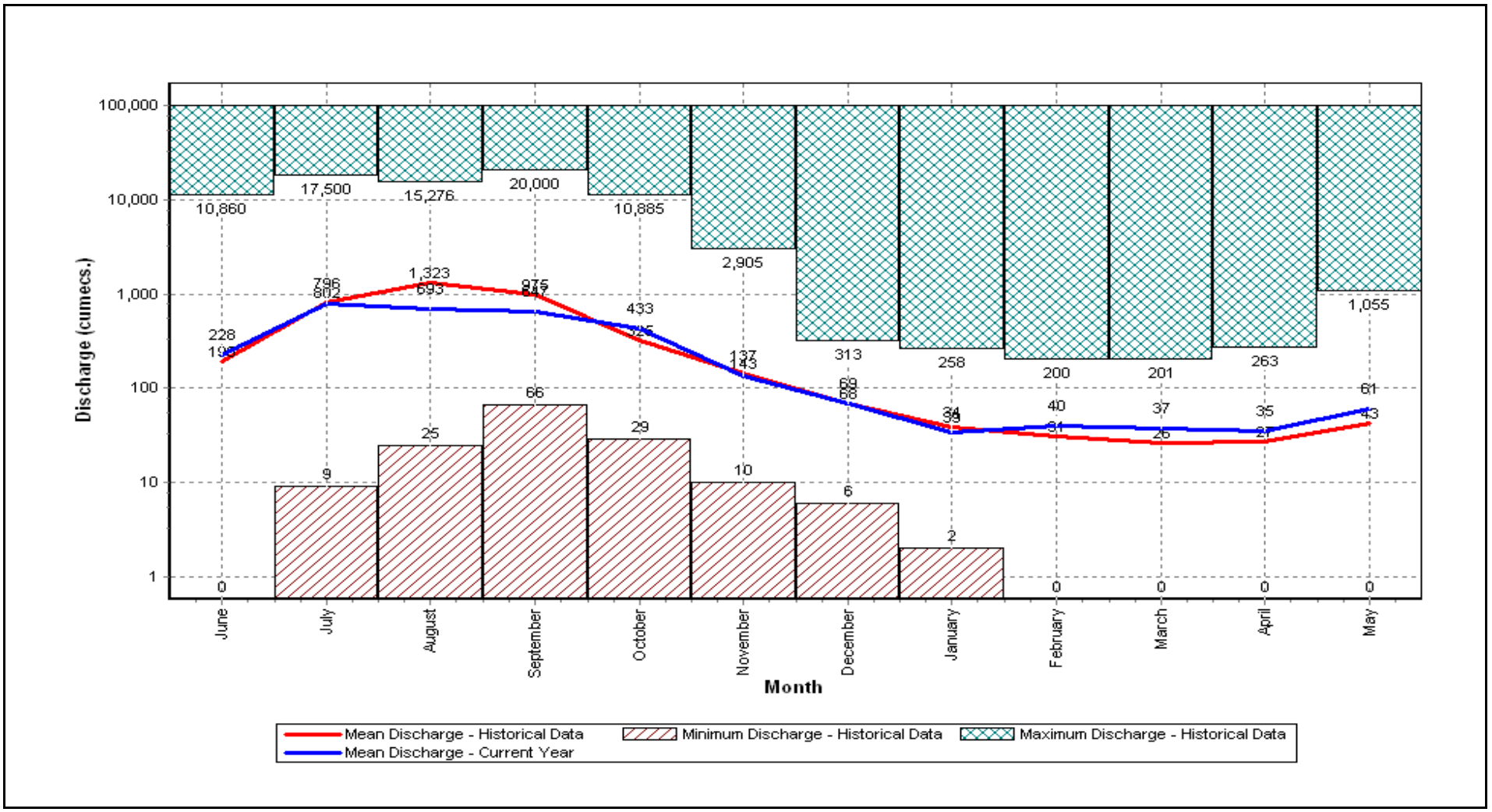
Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2017-2018

Station Name : KANTAMAL (EMF00C3) | **Data considered : 1972-2018** | **Division : MD,CWC,Burla**

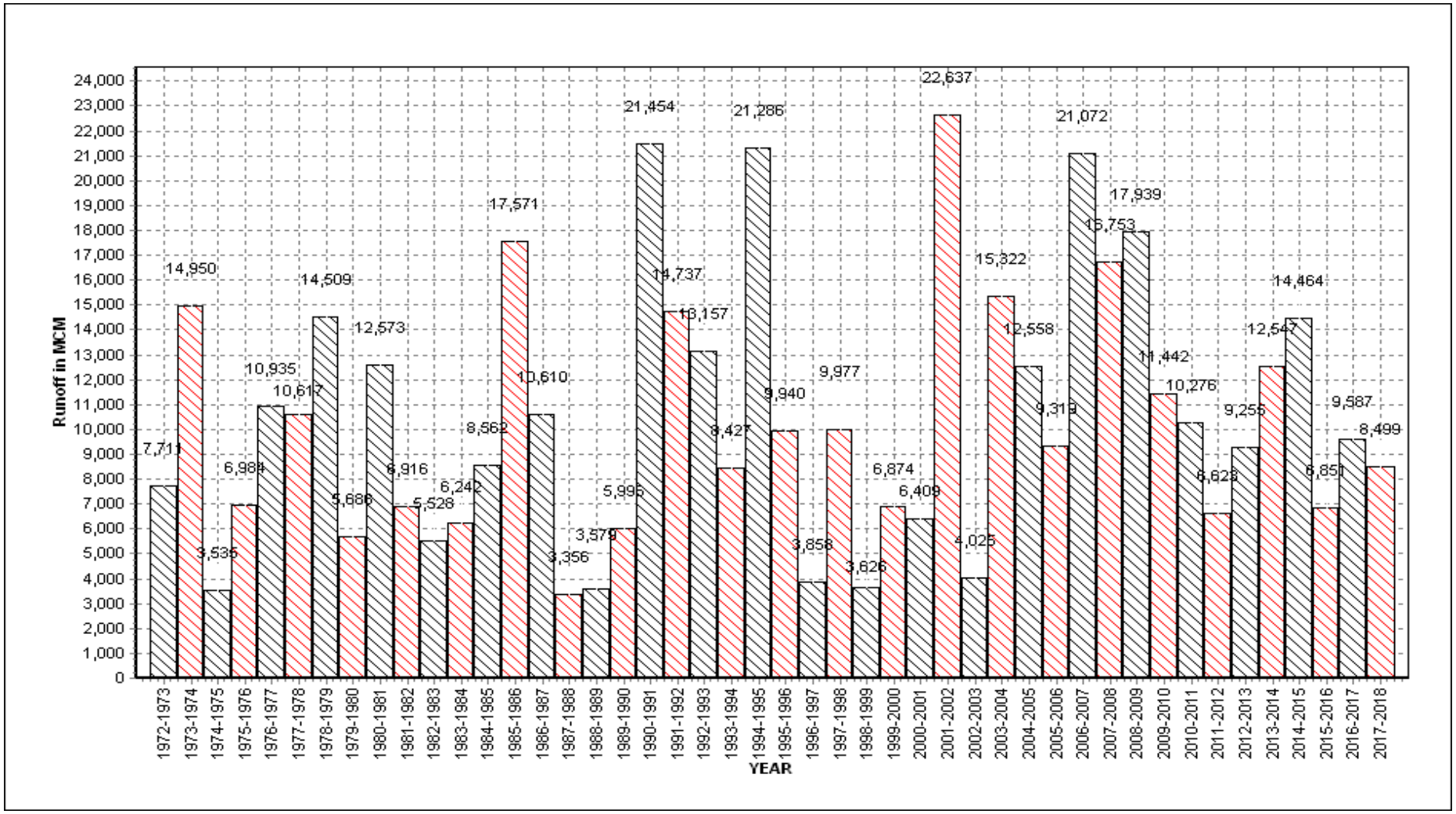
Local River : Tel | **Sub-Division : MMSD II,CWC,Burla**



Annual Runoff Values for the period: 1972 - 2018

Station Name : KANTAMAL (EMF00C3) **Division : MD,CWC,Burla**

Local River : Tel **Sub-Division : MMSD II,CWC,Burla**



Note: Missing values have not been considered while arriving at Annual Runoff

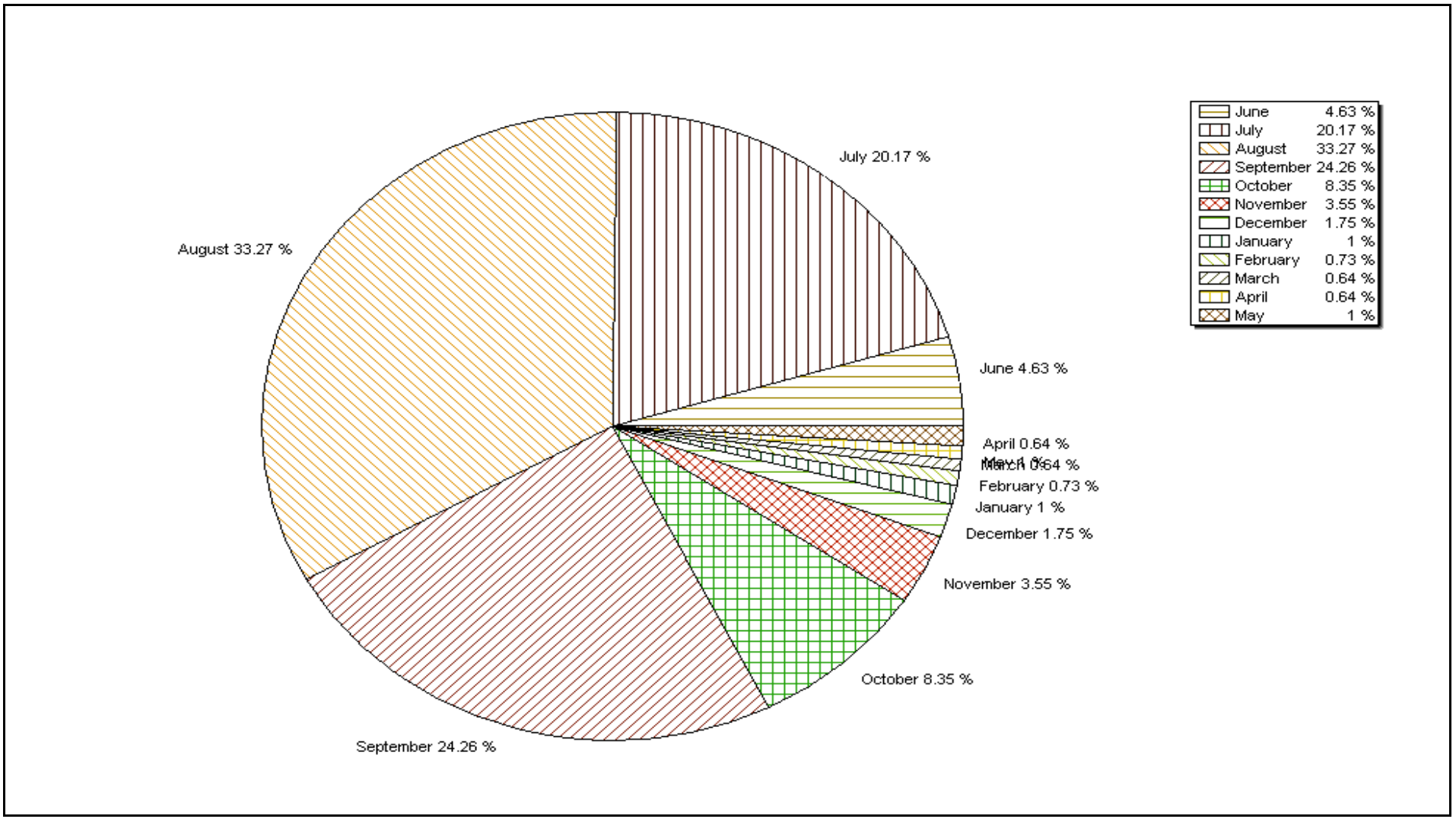
Monthly Average Runoff based on period : 1972-2017

Station Name : KANTAMAL (EMF00C3)

Local River : Tel

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla



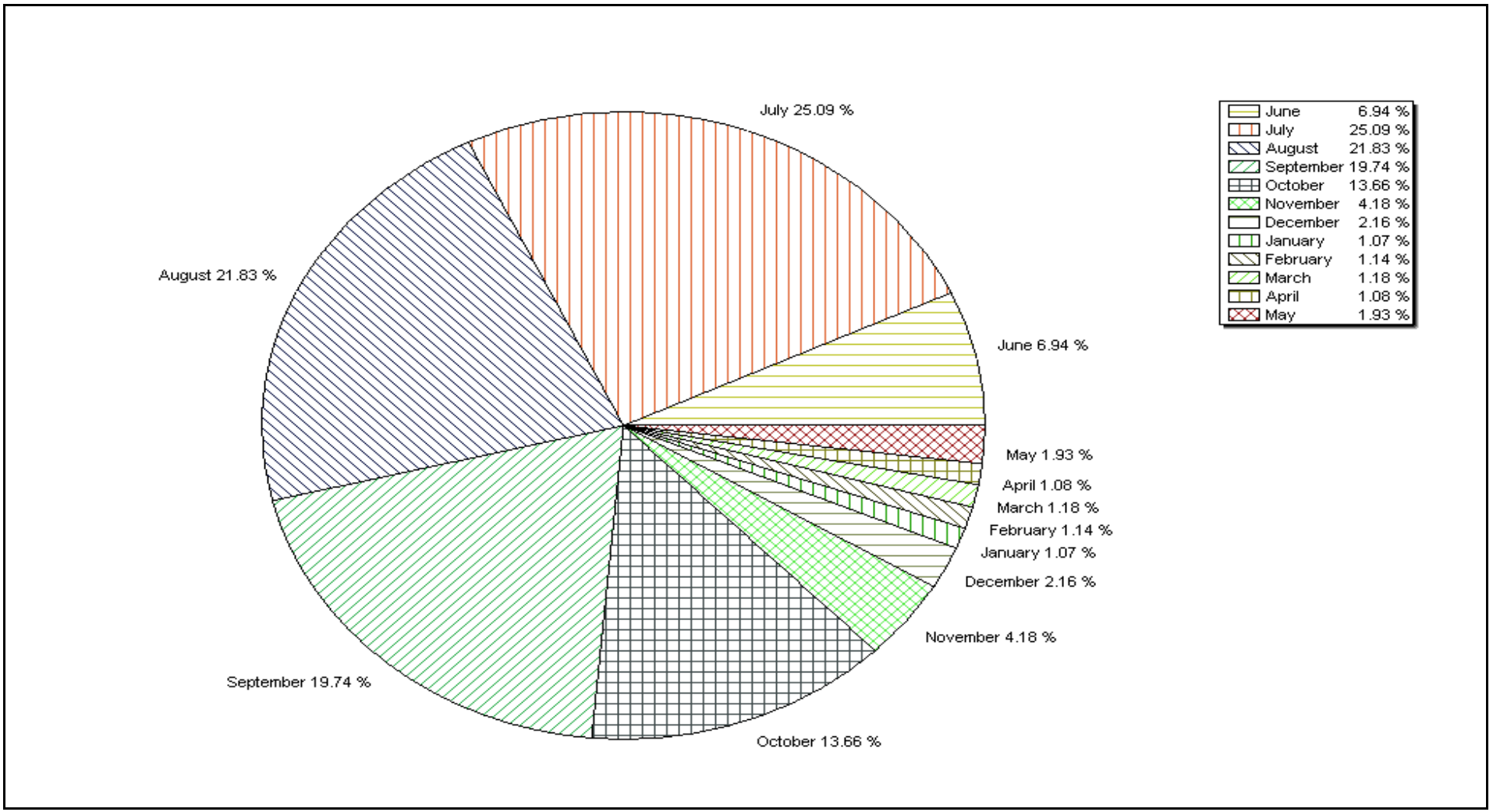
Monthly Runoff for the Year : 2017-2018

Station Name : KANTAMAL (EMF00C3)

Local River : Tel

Division : MD,CWC,Burla

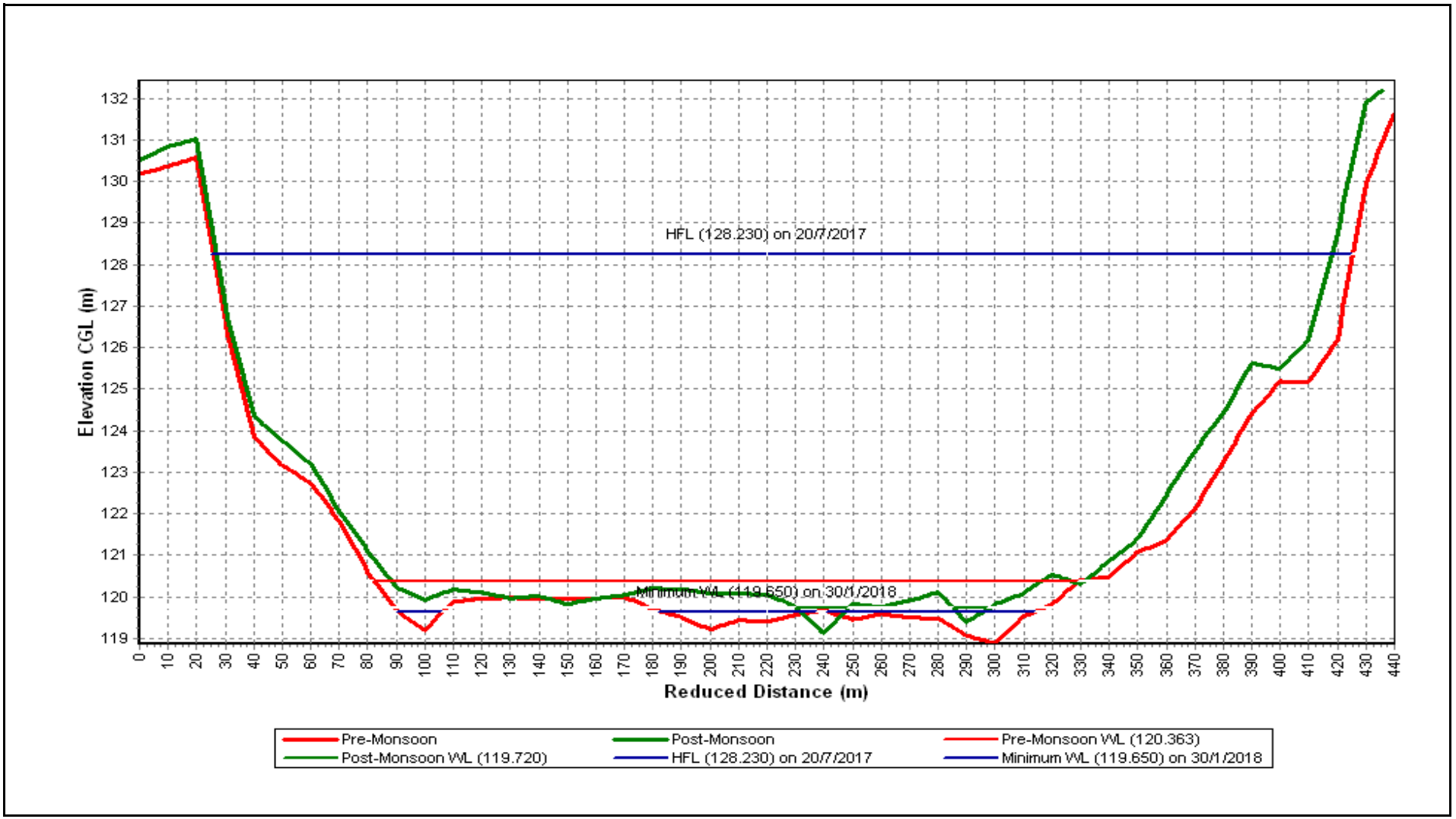
Sub-Division : MMSD II,CWC,Burla



Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2017-2018

Station Name : KANTAMAL (EMF00C3) **Division : MD,CWC,Burla**

Local River : Tel **Sub-Division : MMSD II,CWC,Burla**



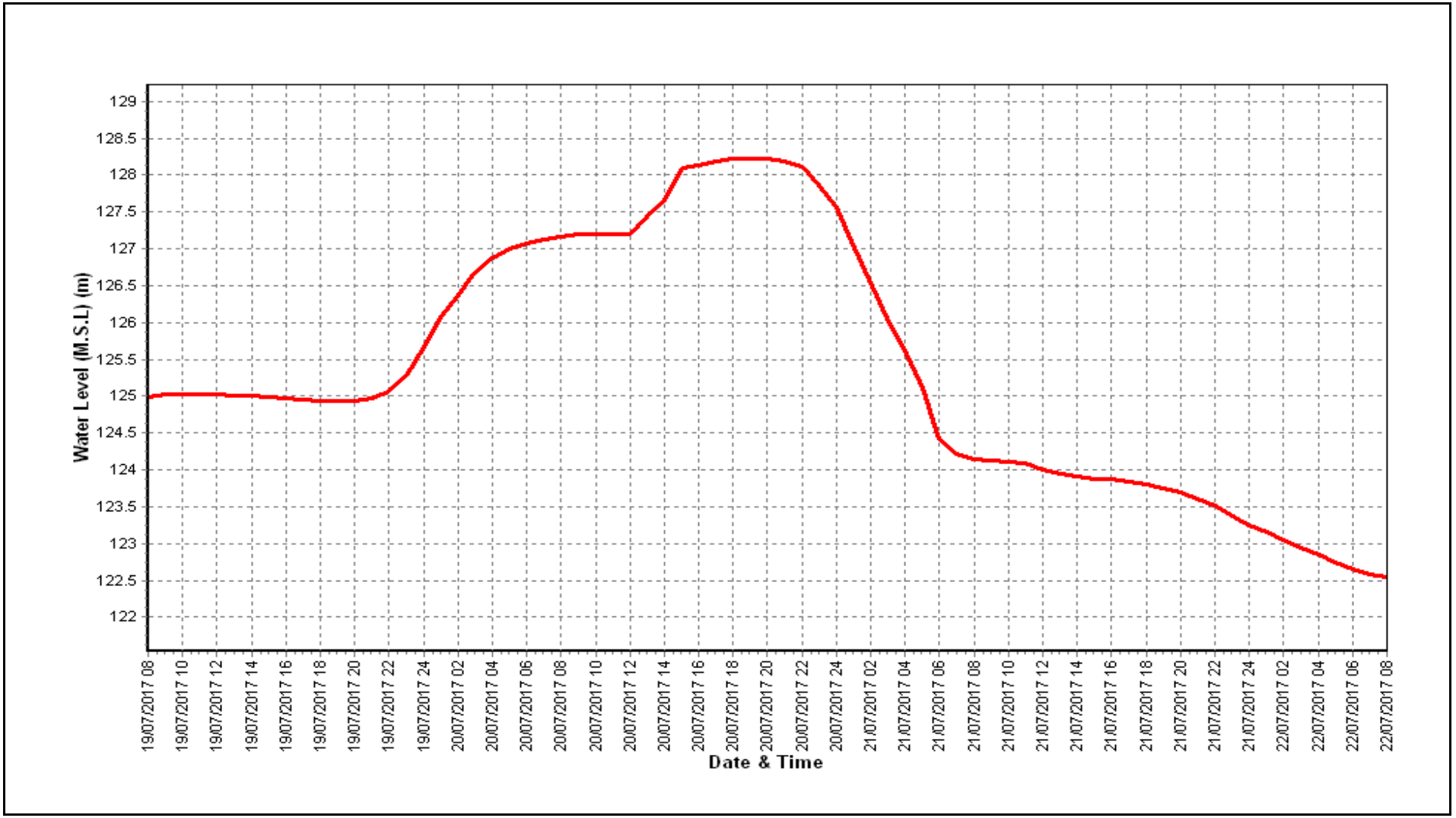
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2017-2018

Station Name : KANTAMAL (EMF00C3)

Local River : Tel

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla



Time Span: 72 Hrs

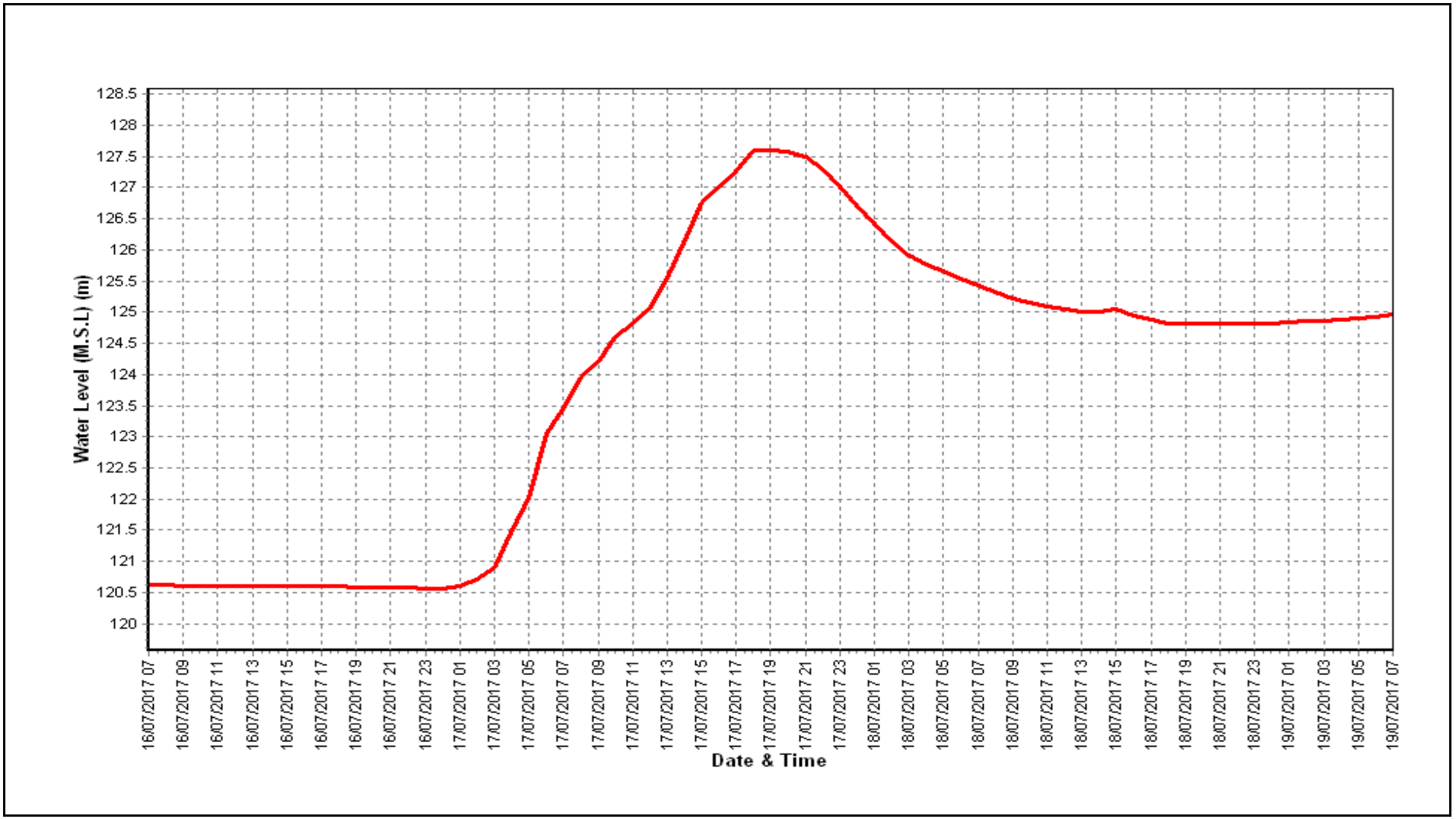
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2017-2018

Station Name : KANTAMAL (EMF00C3)

Local River : Tel

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla



Time Span: 72 Hrs

Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2017-2018

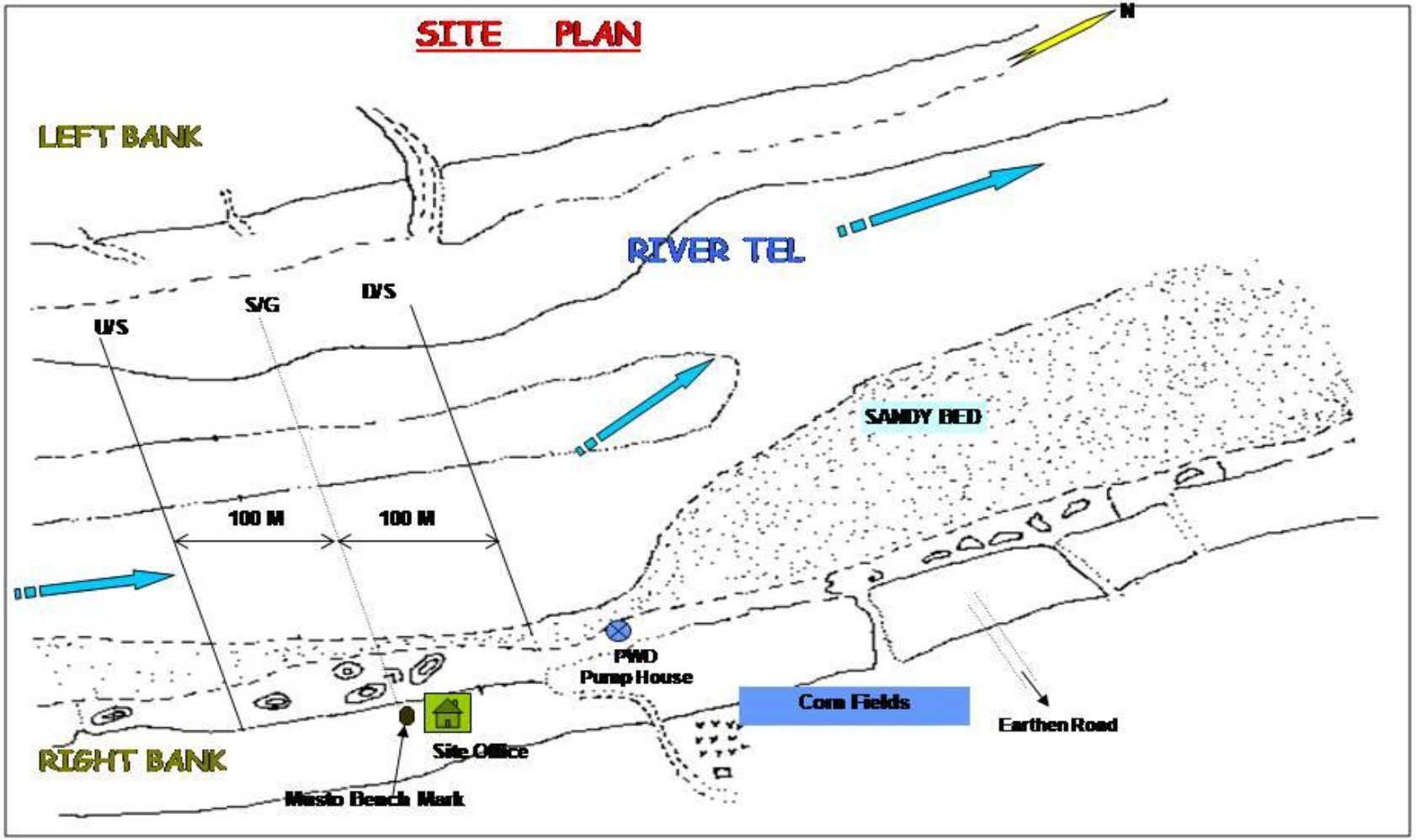
Station Name : KANTAMAL (EMF00C3) **Division : MD,CWC,Burla**

Local River : Tel **Sub-Division : MMSD II,CWC,Burla**

Time Span: 72 Hrs

CENTRAL WATER COMMISSION, MAHANADI DIVISION, BURLA

Site : KANTAMAL Code : EMF00C3 Sub-Division :MMSD-II CWC Burla



SECTION-II

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : KANTAMAL (EMF00C3) **Division : MD,CWC,Burla**

Local River : Tel **Sub-Division : MMSD II,CWC,Burla**

Day	Jun						Jul						Aug					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	85.93	0.000	0.000	0.000	0.000	0	367.6	0.000	0.000	0.000	0.000	0	358.1	0.000	0.000	0.250	0.250	7734
2	83.67	0.000	0.000	0.000	0.000	0	394.3	0.000	0.000	0.000	0.000	0	389.1	0.000	0.000	0.375	0.375	12606
3	90.97	0.000	0.000	0.000	0.000	0	399.6	0.000	0.000	0.000	0.000	0	421.1	0.000	0.000	0.361	0.361	13139
4	83.67	0.000	0.000	0.000	0.000	0	247.9	0.000	0.000	0.000	0.000	0	435.9	0.000	0.000	0.338	0.338	12722
5	84.58	0.000	0.000	0.000	0.000	0	211.0	0.000	0.000	0.000	0.000	0	403.1	0.000	0.000	0.322	0.322	11223
6	82.20	0.000	0.000	0.000	0.000	0	309.7	0.000	0.000	0.000	0.000	0	439.8	0.000	0.000	0.000	0.000	0
7	89.34	0.000	0.000	0.000	0.000	0	255.3	0.000	0.000	0.000	0.000	0	438.6	0.000	0.000	0.270	0.270	10244
8	99.51	0.000	0.000	0.000	0.000	0	199.5	0.000	0.000	0.000	0.000	0	559.0	0.000	0.000	0.231	0.231	11172
9	63.83	0.000	0.000	0.000	0.000	0	153.2	0.000	0.000	0.000	0.000	0	479.6	0.000	0.000	0.258	0.258	10704
10	55.14	0.000	0.000	0.000	0.000	0	163.5	0.000	0.000	0.000	0.000	0	482.7	0.000	0.000	0.386	0.386	16110
11	75.69	0.000	0.000	0.000	0.000	0	170.2	0.000	0.000	0.138	0.138	2023	505.9	0.000	0.000	0.308	0.308	13476
12	82.82	0.000	0.000	0.000	0.000	0	186.8	0.000	0.000	0.131	0.131	2119	398.9	0.000	0.000	0.239	0.239	8233
13	82.41	0.000	0.000	0.000	0.000	0	306.4	0.000	0.000	0.380	0.380	10061	435.0	0.000	0.000	0.000	0.000	0
14	76.78	0.000	0.000	0.000	0.000	0	282.1	0.000	0.000	0.083	0.083	2030	390.7	0.000	0.000	0.263	0.263	8884
15	64.60	0.000	0.000	0.000	0.000	0	251.0	0.000	0.000	0.073	0.073	1572	552.2	0.000	0.000	0.000	0.000	0
16	75.93	0.000	0.000	0.000	0.000	0	210.0	0.000	0.000	0.000	0.000	0	535.3	0.000	0.000	0.308	0.308	14260
17	103.8	0.000	0.000	0.000	0.000	0	2453	0.000	0.000	0.130	0.130	27548	534.1	0.000	0.000	0.412	0.412	19020
18	117.9	0.000	0.000	0.000	0.000	0	2927	0.000	0.000	0.325	0.325	82185	629.6	0.000	0.000	0.555	0.555	30192
19	124.4	0.000	0.000	0.000	0.000	0	3001	0.000	0.000	0.748	0.748	193829	696.3	0.000	0.000	0.480	0.480	28875
20	156.1	0.000	0.000	0.000	0.000	0	4982	0.000	0.000	1.770	1.770	761825	1129	0.000	0.000	0.000	0.000	0
21	135.7	0.000	0.000	0.000	0.000	0	2490	0.000	0.000	0.190	0.190	40883	945.6	0.000	0.000	0.525	0.525	42894
22	114.3	0.000	0.000	0.000	0.000	0	1013	0.000	0.000	0.130	0.130	11375	646.3	0.000	0.000	0.443	0.443	24710
23	117.5	0.000	0.000	0.000	0.000	0	602.2	0.000	0.000	0.000	0.000	0	657.5	0.000	0.000	0.236	0.236	13411
24	1071	0.000	0.000	0.000	0.000	0	408.1	0.000	0.000	0.094	0.094	3307	550.8	0.000	0.000	0.205	0.205	9775
25	897.3	0.000	0.000	0.000	0.000	0	361.1	0.000	0.000	0.095	0.095	2964	522.2	0.000	0.000	0.251	0.251	11306
26	590.1	0.000	0.000	0.000	0.000	0	237.2	0.000	0.000	0.230	0.230	4714	623.2	0.000	0.000	0.422	0.422	22699
27	614.0	0.000	0.000	0.000	0.000	0	225.7	0.000	0.000	0.313	0.313	6094	615.6	0.000	0.000	0.000	0.000	0
28	418.7	0.000	0.000	0.000	0.000	0	554.8	0.000	0.000	0.350	0.350	16778	669.4	0.000	0.000	0.430	0.430	24870
29	625.7	0.000	0.000	0.000	0.000	0	536.9	0.000	0.000	0.300	0.300	13915	2419	0.000	0.000	0.705	0.705	147344
30	470.2	0.000	0.000	0.000	0.000	0	435.6	0.000	0.000	0.000	0.000	0	2546	0.000	0.000	0.498	0.498	109441
31							346.4	0.000	0.000	0.293	0.293	8754	1060	0.000	0.000	0.111	0.111	10195
Ten Daily Mean																		
Ten Daily I	81.88	0.000	0.000	0.000	0.000	0	270.2	0.000	0.000	0.000	0.000	0	440.7	0.000	0.000	0.279	0.279	10565
Ten Daily II	96.04	0.000	0.000	0.000	0.000	0	1477	0.000	0.000	0.378	0.378	108319	580.7	0.000	0.000	0.257	0.257	12294
Ten Daily III	505.4	0.000	0.000	0.000	0.000	0	655.6	0.000	0.000	0.181	0.181	9890	1023	0.000	0.000	0.348	0.348	37877
Monthly Total						0						1191977						645242

Annual Sediment Load (Metric Tonnes) : 2271343

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : KANTAMAL (EMF00C3) **Division : MD,CWC,Burla**

Local River : Tel **Sub-Division : MMSD II,CWC,Burla**

Day	Sep						Oct						Nov					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	664.1	0.000	0.000	0.215	0.215	12337	600.0	0.000	0.000	0.000	0.000	0	172.8	0.000	0.000	0.000	0.000	0
2	618.2	0.000	0.000	0.000	0.000	0	460.0	0.000	0.000	0.000	0.000	0	168.1	0.000	0.000	0.000	0.000	0
3	653.5	0.000	0.000	0.000	0.000	0	451.2	0.000	0.000	0.171	0.171	6682	157.1	0.000	0.000	0.000	0.000	0
4	541.4	0.000	0.000	0.165	0.165	7732	466.4	0.000	0.000	0.164	0.164	6600	151.9	0.000	0.000	0.000	0.000	0
5	451.2	0.000	0.000	0.066	0.066	2573	438.3	0.000	0.000	0.138	0.138	5207	148.4	0.000	0.000	0.000	0.000	0
6	331.4	0.000	0.000	0.168	0.168	4813	508.0	0.000	0.000	0.157	0.157	6904	147.7	0.000	0.000	0.067	0.067	853
7	26.73	0.000	0.000	0.060	0.060	139	461.4	0.000	0.000	0.258	0.258	10266	148.7	0.000	0.000	0.000	0.000	0
8	336.0	0.000	0.000	0.138	0.138	4000	625.0	0.000	0.000	0.000	0.000	0	146.7	0.000	0.000	0.000	0.000	0
9	317.3	0.000	0.000	0.138	0.138	3789	851.9	0.000	0.000	0.285	0.285	20978	142.3	0.000	0.000	0.000	0.000	0
10	321.3	0.000	0.000	0.000	0.000	0	635.3	0.000	0.000	0.173	0.173	9468	150.1	0.000	0.000	0.000	0.000	0
11	405.9	0.000	0.000	0.151	0.151	5306	864.3	0.000	0.000	0.175	0.175	13068	148.8	0.000	0.000	0.000	0.000	0
12	391.8	0.000	0.000	0.220	0.220	7458	819.1	0.000	0.000	0.178	0.178	12561	144.8	0.000	0.000	0.000	0.000	0
13	318.8	0.000	0.000	0.175	0.175	4820	650.5	0.000	0.000	0.226	0.226	12718	144.8	0.000	0.000	0.064	0.064	800
14	451.8	0.000	0.000	0.157	0.157	6125	509.5	0.000	0.000	0.181	0.181	7960	148.7	0.000	0.000	0.000	0.000	0
15	470.4	0.000	0.000	0.182	0.182	7414	400.0	0.000	0.000	0.000	0.000	0	139.0	0.000	0.000	0.000	0.000	0
16	684.4	0.000	0.000	0.376	0.376	22253	443.0	0.000	0.000	0.000	0.000	0	140.3	0.000	0.000	0.000	0.000	0
17	642.7	0.000	0.000	0.000	0.000	0	363.7	0.000	0.000	0.110	0.110	3441	137.6	0.000	0.000	0.000	0.000	0
18	602.6	0.000	0.000	0.193	0.193	10023	333.0	0.000	0.000	0.072	0.072	2071	136.6	0.000	0.000	0.000	0.000	0
19	885.6	0.000	0.000	0.245	0.245	18747	300.0	0.000	0.000	0.044	0.044	1135	136.6	0.000	0.000	0.000	0.000	0
20	1044	0.000	0.000	0.278	0.278	25027	268.0	0.000	0.000	0.000	0.000	0	160.4	0.000	0.000	0.061	0.061	848
21	2894	0.000	0.000	0.350	0.350	87506	289.0	0.000	0.000	0.048	0.048	1196	156.3	0.000	0.000	0.000	0.000	0
22	2077	0.000	0.000	0.156	0.156	28043	500.0	0.000	0.000	0.000	0.000	0	148.8	0.000	0.000	0.000	0.000	0
23	1017	0.000	0.000	0.203	0.203	17796	168.3	0.000	0.000	0.176	0.176	2563	139.9	0.000	0.000	0.000	0.000	0
24	682.4	0.000	0.000	0.000	0.000	0	354.4	0.000	0.000	0.105	0.105	3218	105.6	0.000	0.000	0.000	0.000	0
25	481.5	0.000	0.000	0.195	0.195	8112	296.8	0.000	0.000	0.069	0.069	1772	101.2	0.000	0.000	0.000	0.000	0
26	424.6	0.000	0.000	0.109	0.109	4006	271.5	0.000	0.000	0.068	0.068	1600	100.8	0.000	0.000	0.000	0.000	0
27	427.8	0.000	0.000	0.140	0.140	5164	257.7	0.000	0.000	0.084	0.084	1877	100.3	0.000	0.000	0.057	0.057	492
28	372.9	0.000	0.000	0.028	0.028	915	226.9	0.000	0.000	0.097	0.097	1894	95.91	0.000	0.000	0.000	0.000	0
29	405.1	0.000	0.000	0.000	0.000	0	227.0	0.000	0.000	0.000	0.000	0	91.80	0.000	0.000	0.000	0.000	0
30	475.8	0.000	0.000	0.000	0.000	0	210.5	0.000	0.000	0.094	0.094	1717	91.76	0.000	0.000	0.000	0.000	0
31							185.6	0.000	0.000	0.087	0.087	1387						
Ten Daily Mean																		
Ten Daily I	426.1	0.000	0.000	0.095	0.095	3538	549.7	0.000	0.000	0.135	0.135	6611	153.4	0.000	0.000	0.007	0.007	85
Ten Daily II	589.8	0.000	0.000	0.198	0.198	10717	495.1	0.000	0.000	0.123	0.123	6619	143.8	0.000	0.000	0.013	0.013	165
Ten Daily III	925.8	0.000	0.000	0.118	0.118	15154	271.6	0.000	0.000	0.075	0.075	1566	113.2	0.000	0.000	0.006	0.006	49
Monthly Total						294097						136283						2993

Annual Sediment Load (Metric Tonnes) : 2271343

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : KANTAMAL (EMF00C3) **Division : MD,CWC,Burla**

Local River : Tel **Sub-Division : MMSD II,CWC,Burla**

Day	Dec						Jan						Feb					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	122.5	0.000	0.000	0.000	0.000	0	61.61	0.000	0.000	0.012	0.012	63	22.92	0.000	0.000	0.000	0.000	0
2	118.7	0.000	0.000	0.000	0.000	0	61.41	0.000	0.000	0.000	0.000	0	22.30	0.000	0.000	0.000	0.000	0
3	118.7	0.000	0.000	0.000	0.000	0	64.61	0.000	0.000	0.000	0.000	0	22.50	0.000	0.000	0.000	0.000	0
4	67.53	0.000	0.000	0.023	0.023	131	64.04	0.000	0.000	0.000	0.000	0	22.50	0.000	0.000	0.000	0.000	0
5	67.73	0.000	0.000	0.000	0.000	0	56.61	0.000	0.000	0.000	0.000	0	23.90	0.000	0.000	0.010	0.010	20
6	65.15	0.000	0.000	0.000	0.000	0	55.05	0.000	0.000	0.000	0.000	0	23.97	0.000	0.000	0.000	0.000	0
7	65.03	0.000	0.000	0.000	0.000	0	48.49	0.000	0.000	0.000	0.000	0	22.67	0.000	0.000	0.000	0.000	0
8	65.47	0.000	0.000	0.000	0.000	0	46.62	0.000	0.000	0.012	0.012	47	22.65	0.000	0.000	0.000	0.000	0
9	68.36	0.000	0.000	0.000	0.000	0	46.20	0.000	0.000	0.000	0.000	0	22.11	0.000	0.000	0.000	0.000	0
10	68.35	0.000	0.000	0.000	0.000	0	48.29	0.000	0.000	0.000	0.000	0	21.93	0.000	0.000	0.000	0.000	0
11	65.94	0.000	0.000	0.020	0.020	112	48.47	0.000	0.000	0.000	0.000	0	21.93	0.000	0.000	0.000	0.000	0
12	65.79	0.000	0.000	0.000	0.000	0	45.69	0.000	0.000	0.000	0.000	0	67.02	0.000	0.000	0.018	0.018	104
13	65.39	0.000	0.000	0.000	0.000	0	27.54	0.000	0.000	0.000	0.000	0	63.99	0.000	0.000	0.000	0.000	0
14	62.41	0.000	0.000	0.000	0.000	0	28.40	0.000	0.000	0.000	0.000	0	63.73	0.000	0.000	0.000	0.000	0
15	62.36	0.000	0.000	0.000	0.000	0	28.38	0.000	0.000	0.011	0.011	27	60.90	0.000	0.000	0.000	0.000	0
16	62.36	0.000	0.000	0.000	0.000	0	28.15	0.000	0.000	0.000	0.000	0	59.86	0.000	0.000	0.000	0.000	0
17	68.00	0.000	0.000	0.000	0.000	0	27.31	0.000	0.000	0.000	0.000	0	61.65	0.000	0.000	0.000	0.000	0
18	59.09	0.000	0.000	0.013	0.013	64	28.81	0.000	0.000	0.000	0.000	0	59.33	0.000	0.000	0.000	0.000	0
19	58.03	0.000	0.000	0.000	0.000	0	18.88	0.000	0.000	0.000	0.000	0	57.74	0.000	0.000	0.012	0.012	60
20	60.83	0.000	0.000	0.000	0.000	0	19.08	0.000	0.000	0.000	0.000	0	58.18	0.000	0.000	0.000	0.000	0
21	60.73	0.000	0.000	0.000	0.000	0	19.09	0.000	0.000	0.000	0.000	0	59.05	0.000	0.000	0.000	0.000	0
22	58.00	0.000	0.000	0.000	0.000	0	18.29	0.000	0.000	0.011	0.011	17	34.12	0.000	0.000	0.000	0.000	0
23	57.59	0.000	0.000	0.000	0.000	0	18.09	0.000	0.000	0.000	0.000	0	33.78	0.000	0.000	0.000	0.000	0
24	60.44	0.000	0.000	0.000	0.000	0	18.31	0.000	0.000	0.000	0.000	0	33.05	0.000	0.000	0.000	0.000	0
25	60.44	0.000	0.000	0.000	0.000	0	17.67	0.000	0.000	0.000	0.000	0	33.07	0.000	0.000	0.000	0.000	0
26	61.15	0.000	0.000	0.012	0.012	64	17.67	0.000	0.000	0.000	0.000	0	29.85	0.000	0.000	0.010	0.010	25
27	61.38	0.000	0.000	0.000	0.000	0	17.65	0.000	0.000	0.000	0.000	0	41.96	0.000	0.000	0.000	0.000	0
28	63.99	0.000	0.000	0.000	0.000	0	17.56	0.000	0.000	0.000	0.000	0	59.69	0.000	0.000	0.000	0.000	0
29	64.56	0.000	0.000	0.000	0.000	0	17.45	0.000	0.000	0.010	0.010	15						
30	61.64	0.000	0.000	0.000	0.000	0	17.44	0.000	0.000	0.000	0.000	0						
31	61.64	0.000	0.000	0.000	0.000	0	23.06	0.000	0.000	0.000	0.000	0						
Ten Daily Mean																		
Ten Daily I	82.75	0.000	0.000	0.002	0.002	13	55.29	0.000	0.000	0.002	0.002	11	22.74	0.000	0.000	0.001	0.001	2
Ten Daily II	63.02	0.000	0.000	0.003	0.003	18	30.07	0.000	0.000	0.001	0.001	3	57.43	0.000	0.000	0.003	0.003	16
Ten Daily III	61.05	0.000	0.000	0.001	0.001	6	18.39	0.000	0.000	0.002	0.002	3	40.57	0.000	0.000	0.001	0.001	3
Monthly Total						372						169						209

Annual Sediment Load (Metric Tonnes) : 2271343

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : KANTAMAL (EMF00C3) **Division : MD,CWC,Burla**

Local River : Tel **Sub-Division : MMSD II,CWC,Burla**

Day	Mar						Apr						May					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	58.68	0.000	0.000	0.000	0.000	0	33.16	0.000	0.000	0.000	0.000	0	41.84	0.000	0.000	0.000	0.000	0
2	56.41	0.000	0.000	0.000	0.000	0	62.04	0.000	0.000	0.000	0.000	0	41.41	0.000	0.000	0.000	0.000	0
3	56.42	0.000	0.000	0.000	0.000	0	59.19	0.000	0.000	0.000	0.000	0	36.38	0.000	0.000	0.000	0.000	0
4	56.41	0.000	0.000	0.000	0.000	0	57.43	0.000	0.000	0.000	0.000	0	35.58	0.000	0.000	0.000	0.000	0
5	54.31	0.000	0.000	0.000	0.000	0	56.13	0.000	0.000	0.000	0.000	0	37.93	0.000	0.000	0.000	0.000	0
6	22.17	0.000	0.000	0.000	0.000	0	21.43	0.000	0.000	0.000	0.000	0	37.94	0.000	0.000	0.000	0.000	0
7	21.84	0.000	0.000	0.000	0.000	0	20.31	0.000	0.000	0.000	0.000	0	40.53	0.000	0.000	0.000	0.000	0
8	20.84	0.000	0.000	0.000	0.000	0	20.31	0.000	0.000	0.000	0.000	0	40.61	0.000	0.000	0.000	0.000	0
9	20.68	0.000	0.000	0.000	0.000	0	19.05	0.000	0.000	0.000	0.000	0	38.06	0.000	0.000	0.000	0.000	0
10	23.48	0.000	0.000	0.000	0.000	0	19.34	0.000	0.000	0.000	0.000	0	43.51	0.000	0.000	0.000	0.000	0
11	26.19	0.000	0.000	0.000	0.000	0	17.93	0.000	0.000	0.000	0.000	0	46.03	0.000	0.000	0.000	0.000	0
12	24.83	0.000	0.000	0.000	0.000	0	18.70	0.000	0.000	0.000	0.000	0	45.88	0.000	0.000	0.000	0.000	0
13	23.41	0.000	0.000	0.000	0.000	0	20.31	0.000	0.000	0.000	0.000	0	45.88	0.000	0.000	0.000	0.000	0
14	23.29	0.000	0.000	0.000	0.000	0	20.21	0.000	0.000	0.000	0.000	0	60.32	0.000	0.000	0.000	0.000	0
15	44.58	0.000	0.000	0.000	0.000	0	20.21	0.000	0.000	0.000	0.000	0	62.25	0.000	0.000	0.000	0.000	0
16	41.53	0.000	0.000	0.000	0.000	0	28.02	0.000	0.000	0.000	0.000	0	61.98	0.000	0.000	0.000	0.000	0
17	39.26	0.000	0.000	0.000	0.000	0	26.64	0.000	0.000	0.000	0.000	0	55.53	0.000	0.000	0.000	0.000	0
18	39.26	0.000	0.000	0.000	0.000	0	29.89	0.000	0.000	0.000	0.000	0	52.67	0.000	0.000	0.000	0.000	0
19	42.82	0.000	0.000	0.000	0.000	0	31.46	0.000	0.000	0.000	0.000	0	55.25	0.000	0.000	0.000	0.000	0
20	40.08	0.000	0.000	0.000	0.000	0	30.95	0.000	0.000	0.000	0.000	0	55.27	0.000	0.000	0.000	0.000	0
21	40.25	0.000	0.000	0.000	0.000	0	29.35	0.000	0.000	0.000	0.000	0	97.68	0.000	0.000	0.000	0.000	0
22	37.26	0.000	0.000	0.000	0.000	0	29.30	0.000	0.000	0.000	0.000	0	96.81	0.000	0.000	0.000	0.000	0
23	37.24	0.000	0.000	0.000	0.000	0	47.51	0.000	0.000	0.000	0.000	0	96.14	0.000	0.000	0.000	0.000	0
24	35.28	0.000	0.000	0.000	0.000	0	50.61	0.000	0.000	0.000	0.000	0	67.00	0.000	0.000	0.000	0.000	0
25	35.06	0.000	0.000	0.000	0.000	0	46.13	0.000	0.000	0.000	0.000	0	70.75	0.000	0.000	0.000	0.000	0
26	44.40	0.000	0.000	0.000	0.000	0	46.88	0.000	0.000	0.000	0.000	0	74.39	0.000	0.000	0.000	0.000	0
27	42.45	0.000	0.000	0.000	0.000	0	46.10	0.000	0.000	0.000	0.000	0	81.98	0.000	0.000	0.000	0.000	0
28	40.04	0.000	0.000	0.000	0.000	0	50.84	0.000	0.000	0.000	0.000	0	98.95	0.000	0.000	0.000	0.000	0
29	37.39	0.000	0.000	0.000	0.000	0	52.92	0.000	0.000	0.000	0.000	0	97.65	0.000	0.000	0.000	0.000	0
30	35.27	0.000	0.000	0.000	0.000	0	48.96	0.000	0.000	0.000	0.000	0	91.25	0.000	0.000	0.000	0.000	0
31	33.14	0.000	0.000	0.000	0.000	0							94.59	0.000	0.000	0.000	0.000	0
Ten Daily Mean																		
Ten Daily I	39.12	0.000	0.000	0.000	0.000	0	36.84	0.000	0.000	0.000	0.000	0	39.38	0.000	0.000	0.000	0.000	0
Ten Daily II	34.53	0.000	0.000	0.000	0.000	0	24.43	0.000	0.000	0.000	0.000	0	54.11	0.000	0.000	0.000	0.000	0
Ten Daily III	37.98	0.000	0.000	0.000	0.000	0	44.86	0.000	0.000	0.000	0.000	0	87.93	0.000	0.000	0.000	0.000	0
Monthly																		
Total						0						0						0

Annual Sediment Load (Metric Tonnes) : 2271343

Annual Sediment Load for period : 1977-2018

Station Name : KANTAMAL (EMF00C3) **Division : MD,CWC,Burla**

Local River : Tel **Sub-Division : MMSD II,CWC,Burla**

Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)
1977-1978	7688659	2616	7691274	10617
1978-1979	10680564	552	10681116	14509
1979-1980	3646665	16	3646681	5686
1980-1981	9359525	3334	9362859	12573
1981-1982	6317537	2345	6319882	6916
1982-1983	5535619	5322	5540942	5528
1983-1984	4809949	3039	4812988	6242
1984-1985	7112051	2355	7114406	8562
1985-1986	15726715	7359	15734074	17571
1986-1987	7400785	3827	7404613	10610
1987-1988	2287331	2659	2289990	3356
1988-1989	2316294	0	2316294	3579
1989-1990	4209577	15711	4225288	5996
1990-1991	16675696	1535	16677230	21454
1991-1992	9831491	226	9831717	14737
1992-1993	14327597	504	14328101	13157
1993-1994	8856944	568	8857512	8427
1994-1995	19045780	6625	19052405	21286
1995-1996	7973723	614	7974338	9940
1996-1997	2139275	1858	2141132	3858
1997-1998	7806928	9872	7816800	9977
1998-1999	1032385	2160	1034545	3626
1999-2000	3214193	4711	3218905	6874
2000-2001	2364610	96656	2461266	6409
2001-2002	18660295	18065	18678360	22637
2002-2003	1972036	3511	1975546	4025
2003-2004	7471829	9552	7481382	15322
2004-2005	9015856	51526	9067382	12558
2005-2006	5515776	59459	5575235	9319
2006-2007	14585765	4860	14590625	21072
2007-2008	6186226	20937	6207163	16753
2008-2009	9083310	0	9083310	17939
2009-2010	0	0	0	11442
2010-2011	1615614	6985	1622599	10276
2011-2012	5577823	115	5577938	6623
2012-2013	9593904	16489	9610393	9255
2013-2014	22634481	7393	22641874	12547
2014-2015	9013038	22035	9035074	14464
2015-2016	1098654	9172	1107827	6851
2016-2017	2118412	2740	2121152	9587
2017-2018	2270592	750	2271343	8499

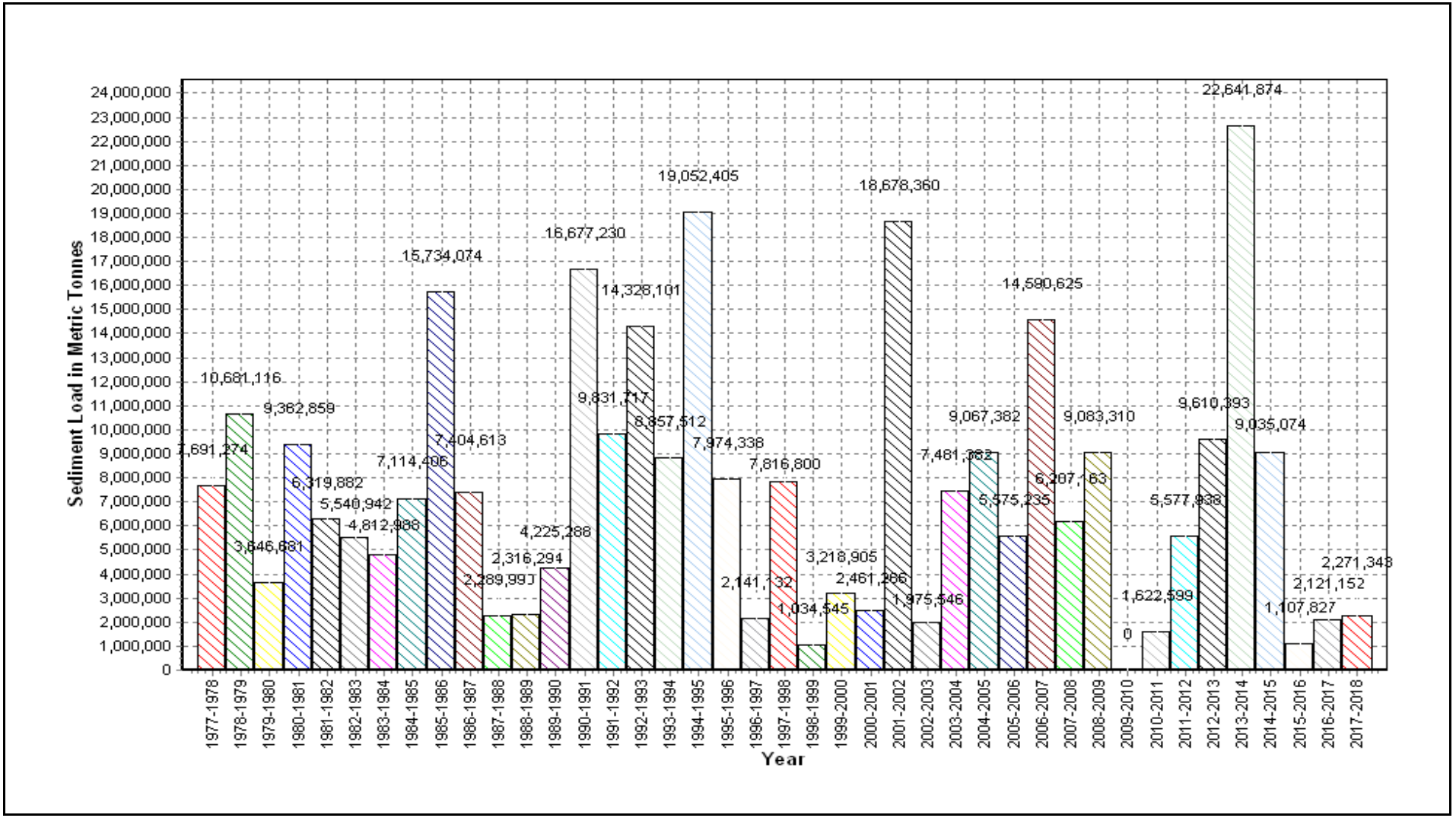
Annual Sediment Load for the period: 1977-2018

Station Name : KANTAMAL (EMF00C3)

Local River : Tel

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla



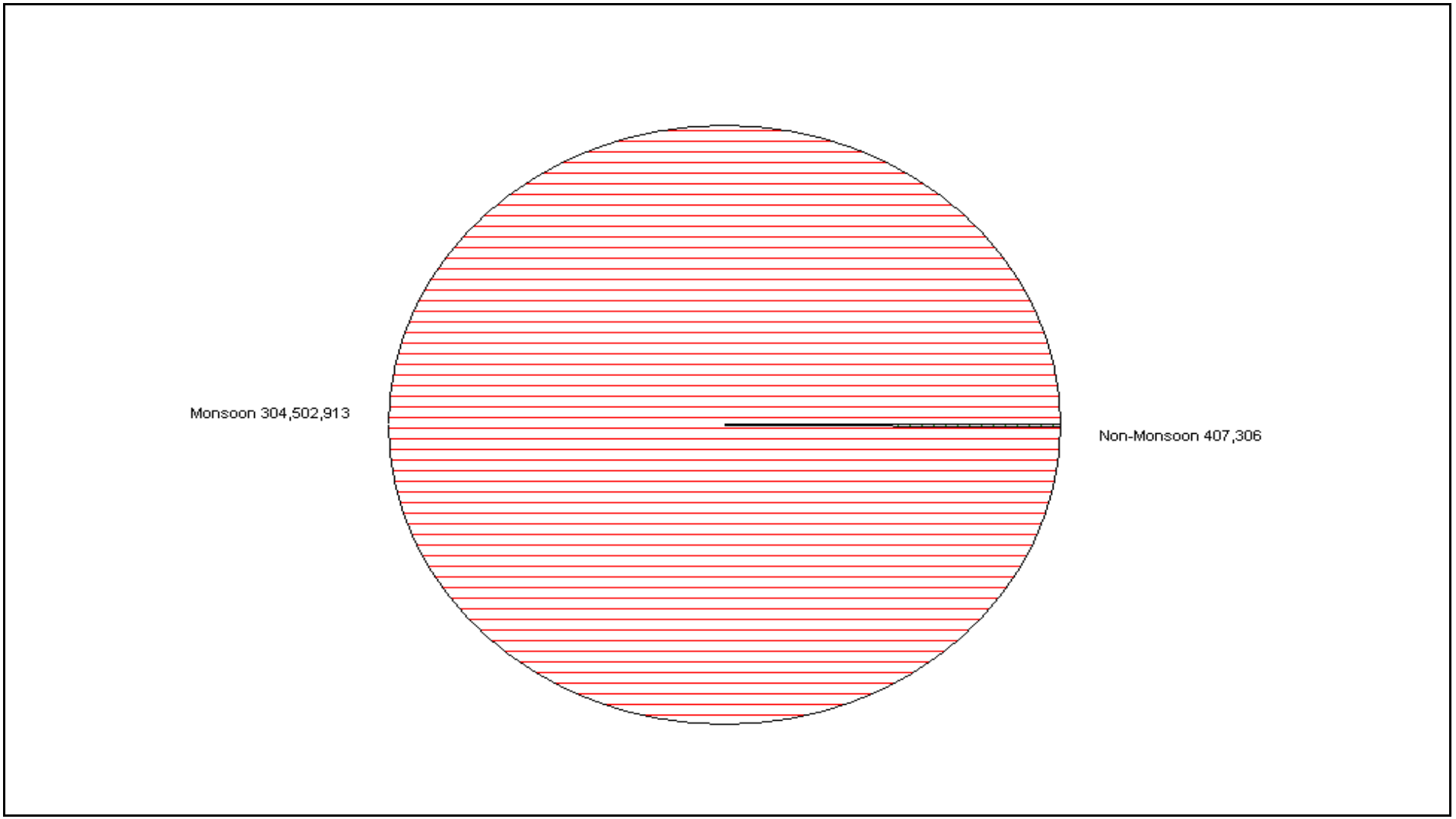
Seasonal Sediment Load for the period : 1977-2017

Station Name : KANTAMAL (EMF00C3)

Local River : Tel

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla



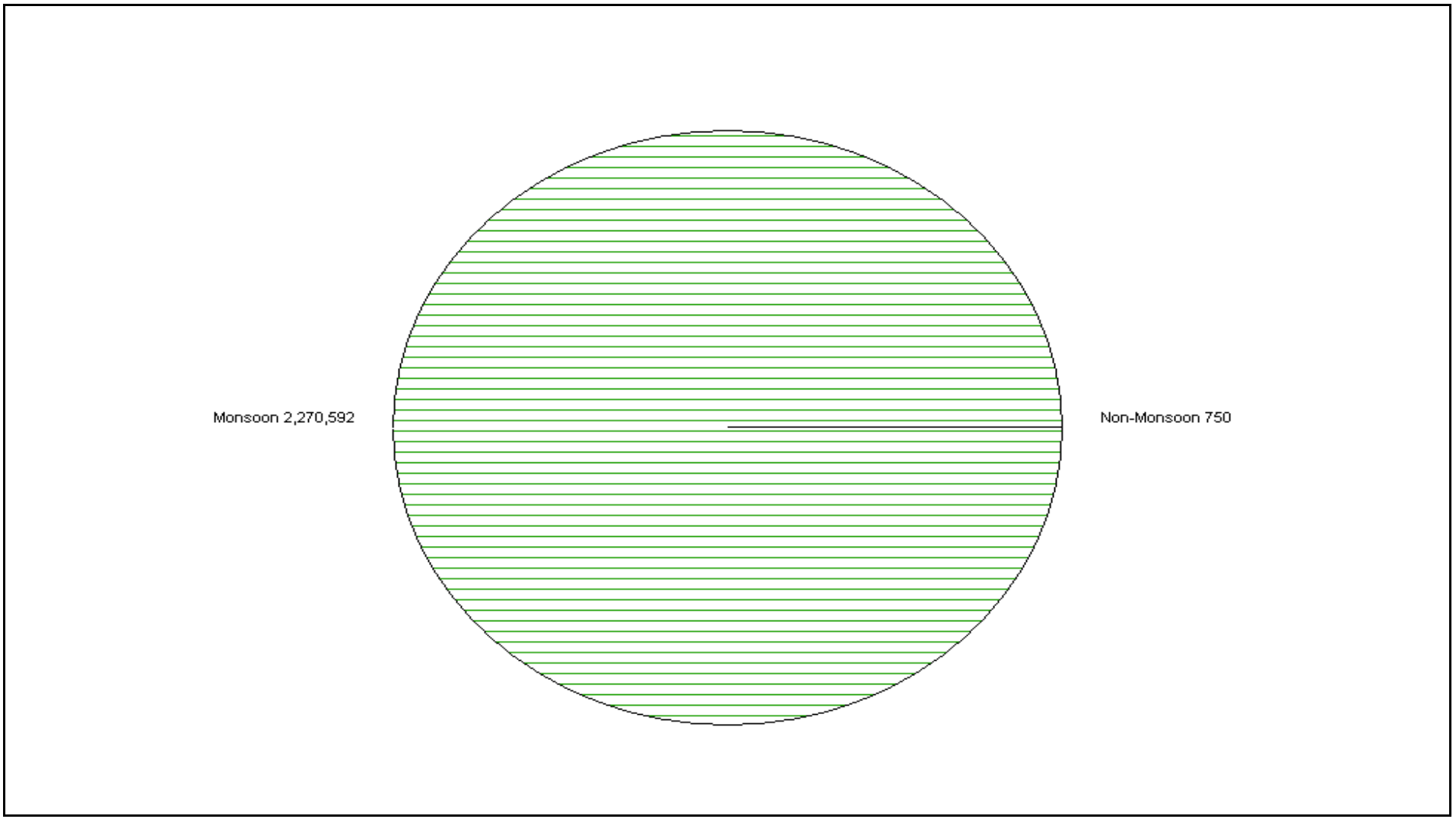
Seasonal Sediment Load for the Year: 2017-2018

Station Name : KANTAMAL (EMF00C3)

Local River : Tel

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla



SECTION-III

Water Quality Datasheet for the period : 2017-2018

Station Name : KANTAMAL (EMF00C3) | **Division : MD,CWC,Burla**

Local River : Tel | **River Water Analysis** | **Sub-Division : MMSD II,CWC,Burla**

S.No	Parameters	01/06/2017	01/07/2017	01/08/2017	01/09/2017	04/10/2017	01/11/2017	01/12/2017	01/01/2018	01/02/2018	01/03/2018	02/04/2018	01/05/2018
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)	85.93	367.6	358.1	664.1	466.4	172.8	122.5	61.61	22.92	58.68	62.04	41.84
2	Colour_Cod (-)	Clear	Light Brown	Light Brown	Light Brown	Light Brown	Clear	Clear	Clear	Clear	Clear	Clear	Clear
3	EC_FLD (µmho/cm)	184	123	155	153	165	171	177	180	172	197	120	149
4	EC_GEN (µmho/cm)	93	121	154	150	199	185	192	148	188	219	145	145
5	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free
6	pH_FLD (pH units)	7.9	7.4	6.7	7.3	7.7	7.3	7.4	7.8	7.7	7.9	8.3	8.5
7	pH_GEN (pH units)	8.1	7.9	7.7	8.3	8.1	8.3	8.4	8.2	8.2	7.6	8.0	7.9
8	Temp (deg C)	34.0	27.0	28.0	30.0	30.0	28.0	22.8	23.0	20.5	27.0	27.0	29.5
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	116	136	164	144	168	168	192	176	276	276	180	172
3	Ca (mg/L)	35	55	37	64	77	45	56	32	50	38	46	22
4	Cl (mg/L)	27.0	36.0	22.0	26.0	26.0	42.0	21.0	18.0	16.0	30.0	20.0	20.0
5	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	HCO3 (mg/L)	71	83	100	88	103	103	117	107	168	168	110	105
7	K (mg/L)	7.2	5.3	7.3	12.2	12.0	8.7	8.8	7.2	14.2	4.3	12.2	7.3
8	Mg (mg/L)	8.8	7.8	20.4	6.8	2.9	8.8	1.9	18.5	1.9	11.7	1.9	11.7
9	Na (mg/L)	10.1	11.8	15.5	18.8	21.4	27.7	23.7	21.6	23.0	18.8	20.3	19.3
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)	0.8	1.1	0.8	0.9	0.5	0.5	0.6	0.9	0.5	0.7	1.0	0.7
2	DO (mg/L)	6.3	6.7	5.4	5.0	6.2	6.4	6.5	6.9	6.8	6.1	6.2	6.4
3	DO_SAT% (%)	89	84	69	66	82	82	74	80	75	77	78	83
4	FCol-MPN (MPN/100mL)	40	70	70	40	90	70	60		70	40	120	90
5	Tcol-MPN (MPN/100mL)	90	90	90	70	210	120	90		110	70	60	140
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)	88	136	92	160	192	112	140	80	124	96	116	56
2	HAR_Total (mgCaCO3/L)	125	169	177	189	205	149	148	157	132	145	124	105
3	Na% (%)	14	13	15	17	18	27	24	22	25	21	24	27
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
5	SAR (-)	0.4	0.4	0.5	0.6	0.7	1.0	0.8	0.8	0.9	0.7	0.8	0.8
	PESTICIDES												

Water Quality Summary for the period : 2017-2018

Station Name : KANTAMAL (EMF00C3) **Division : MD,CWC,Burla**

Local River : Tel **Sub-Division : MMSD II,CWC,Burla**

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	365	4982	17.44	269.5
2	EC_FLD (µmho/cm)	12	197	120	162
3	EC_GEN (µmho/cm)	12	219	93	162
4	pH_FLD (pH units)	12	8.5	6.7	7.6
5	pH_GEN (pH units)	12	8.4	7.6	8.1
6	Temp (deg C)	12	34.0	20.5	27.2
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	12	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	12	276	116	181
3	Ca (mg/L)	12	77	22	46
4	Cl (mg/L)	12	42.0	16.0	25.3
5	CO3 (mg/L)	12	0.0	0.0	0
6	HCO3 (mg/L)	12	168	71	110
7	K (mg/L)	12	14.2	4.3	8.9
8	Mg (mg/L)	12	20.4	1.9	8.6
9	Na (mg/L)	12	27.7	10.1	19.3
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	12	1.1	0.5	0.8
2	DO (mg/L)	12	6.9	5.0	6.2
3	DO_SAT% (%)	12	89	66	78
4	FCol-MPN (MPN/100mL)	11	120	40	69
5	Tcol-MPN (MPN/100mL)	11	210	60	104
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	12	192	56	116
2	HAR_Total (mgCaCO3/L)	12	205	105	152
3	Na% (%)	12	27	13	21
4	RSC (-)	12	0.1	0.0	0
5	SAR (-)	12	1.0	0.4	0.7
	PESTICIDES				

Water Quality Seasonal Average for the period: 2003-2018

Station Name : KANTAMAL (EMF00C3) **Division : MD,CWC,Burla**

Local River : Tel **River Water** **Sub-Division : MMSD II,CWC,Burla**

S.No	Parameters	Flood														
		Jun - Oct														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	PHYSICAL															
1	Q (cumec)	942.7	333.6	462.5	2348	1536	838.4	427.6	228.0	645.2	377.0	1814	820.3	401.4	453.2	388.4
2	EC_FLD (µmho/cm)	161	145	159	144	122							70		321	156
3	EC_GEN (µmho/cm)	161	145	159	144	147	201	159	145	129	135	134	124	145	117	143
4	pH_FLD (pH units)	7.9		7.7	7.5	8.0	8.3	7.7	7.2	7.9	8.1	7.6	7.4	7.2	7.8	7.4
5	pH_GEN (pH units)	7.9		7.8	7.5	7.9	7.8	8.0	7.7	7.6	7.8	8.1	8.0	8.2	7.8	8.0
6	Temp (deg C)	28.0	30.0	29.4	26.5	30.0	28.6	29.2	30.4	30.0	29.4	28.9	28.3	29.2	29.8	29.8
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	4.8	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	156	151	92		86	66	115	100	92	100	146	145	158	144	146
3	B (mg/L)			0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00					
4	Ca (mg/L)	17	14	11		10	17	13	11	11	13	16	17	20	34	54
5	Cl (mg/L)	49.5		23.4		5.1	6.7	5.4	3.2	5.2	11.3	15.8	11.4	14.0	20.0	27.4
6	CO3 (mg/L)	0.0		0.0	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	5.8	0.0	0.0
7	F (mg/L)	0.22		0.20		0.08	0.10	0.10	0.35	0.16	0.14					
8	Fe (mg/L)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
9	HCO3 (mg/L)	95		56		52	40	68	61	56	61	89	88	90	88	89
10	K (mg/L)			3.6		1.1	0.9	1.4	1.5	1.7	1.3	3.5	2.8	4.9	11.0	8.8
11	Mg (mg/L)	4.5	9.1	3.2		5.9	7.5	6.9	5.7	6.6	7.3	5.8	5.6	9.1	9.1	9.3
12	Na (mg/L)			13.0		12.9	4.3	4.6	7.1	5.7	6.1	10.0	17.0	15.7	24.7	15.5
13	NO2+NO3 (mg N/L)			0.06	0.05	0.07	0.31									
14	NO2-N (mgN/L)			0.01	0.00	0.01	0.04	0.02	0.01	0.02	0.04					
15	NO3-N (mgN/L)			0.05	0.04	0.06	0.27									
16	o-PO4-P (mg P/L)						0.024									
17	P-Tot (mgP/L)			0.003	0.027	0.010	0.019	0.016	0.010	0.032	0.056					
18	SiO2 (mg/L)			5.7		8.6	17.9	14.6	11.0	16.6	15.4					
19	SO4 (mg/L)	9.5		13.8		8.7	9.1	16.0	13.4	16.6	15.8					

Water Quality Seasonal Average for the period: 2003-2018

Station Name : KANTAMAL (EMF00C3) **Division : MD,CWC,Burla**

Local River : Tel **River Water** **Sub-Division : MMSD II,CWC,Burla**

S.No	Parameters	Flood														
		Jun - Oct														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	1.2	0.7	0.6	0.5	0.6	0.6	0.9	0.9	1.2	0.9	0.6	0.2	0.6	0.9	0.8
2	COD (mg/L)				25.8	11.2	14.4	16.0	16.8	16.8	16.0					
3	DO (mg/L)	3.5	4.4	6.2	6.0	6.8	6.6	6.6	6.1	6.1	7.0	6.7	6.1	6.6	6.1	5.9
4	DO_SAT% (%)	72	58	81	75	90	85	86	81	80	90	86	78	86	80	78
5	FCol-MPN (MPN/100mL)															62
6	Tcol-MPN (MPN/100mL)															110
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	44	35	27		25	43	32	28	27	32	40	43	49	86	134
2	HAR_Total (mgCaCO3/L)	62	73	40		49	74	60	51	54	63	64	66	87	124	173
3	Na% (%)			38		36	14	14	22	18	17	23	35	27	28	15
4	RSC (-)	0.3		0.1		0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.1	0.1	0.0	0.0
5	SAR (-)			1.0		0.8	0.2	0.3	0.4	0.3	0.3	0.6	0.9	0.7	1.0	0.5
	PESTICIDES															

Water Quality Seasonal Average for the period: 2003-2018

Station Name : KANTAMAL (EMF00C3) | **Division : MD,CWC,Burla**

Local River : Tel | **River Water** | **Sub-Division : MMSD II,CWC,Burla**

S.No	Parameters	Winter														
		Nov - Feb														
		2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
	PHYSICAL															
1	Q (cumec)	240.9	198.6	122.7	135.4	162.5	103.1	69.25	133.3	46.84	80.26	236.1	138.9	53.83	93.79	94.95
2	EC_FLD (µmho/cm)	147		152	157							57			165	175
3	EC_GEN (µmho/cm)	147		152	157	214	150	204	240	181	213	193	151	163	212	178
4	pH_FLD (pH units)	8.1		7.7	8.0		8.2	8.0	7.8	8.0	8.4	7.7	7.4	8.3	7.4	7.5
5	pH_GEN (pH units)	8.1		7.7	8.0	8.1	8.3	8.1	7.8	8.2	8.0	8.4	8.5	8.4	8.3	8.3
6	Temp (deg C)			24.7	24.3	21.3	22.9	23.0	23.0	23.6	22.3	21.9	20.9	23.1	25.0	23.6
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0		0.0	0.0	1.8	6.4	0.0	0.0	1.7	0.0	0.0	0.0	1.5	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	134		104		82	107	151	167	125	192	341	230	169	137	203
3	B (mg/L)			0.03		0.01	0.00	0.00	0.01	0.00	0.00					
4	Ca (mg/L)	20		14		13	11	16	17	13	23	30	25	27	48	46
5	Cl (mg/L)	64.3		23.5		18.7	16.9	6.0	13.9	10.5	15.2	15.3	16.5	11.5	35.3	24.3
6	CO3 (mg/L)	0.0		0.0	0.0	2.2	7.8	0.0	0.0	2.0	0.0	0.0	0.0	1.8	0.0	0.0
7	F (mg/L)	0.54		0.14		0.09	0.10	0.13	0.11	0.14	0.20					
8	Fe (mg/L)			0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0		0.1			
9	HCO3 (mg/L)	104		63		48	57	92	102	74	117	208	140	101	84	124
10	K (mg/L)			4.8		1.7	0.9	1.3	1.4	1.5	0.8	8.4	3.3	5.3	8.9	9.7
11	Mg (mg/L)	10.5		6.1		11.4	5.3	9.1	10.1	7.6	10.5	9.9	14.3	10.5	10.5	7.8
12	Na (mg/L)			12.2		16.2	7.2	6.0	8.4	10.3	20.1	19.1	11.8	18.7	22.2	24.0
13	NO2+NO3 (mg N/L)			0.05	0.02	0.10	0.29						0.14			
14	NO2-N (mgN/L)			0.00	0.00	0.01	0.01	0.01	0.02	0.02	0.03		0.03			
15	NO3-N (mgN/L)			0.05	0.02	0.09	0.29						0.11			
16	o-PO4-P (mg P/L)															
17	P-Tot (mgP/L)			0.054	0.338	0.022	0.015	0.017	0.027	0.042	0.052		0.060			
18	SiO2 (mg/L)			22.7		19.3	12.4	13.0	12.3	13.8	18.4		16.5			
19	SO4 (mg/L)	12.9		9.6		13.0	14.6	16.0	24.2	20.8	20.8		18.6			

Water Quality Seasonal Average for the period: 2003-2018

Station Name : KANTAMAL (EMF00C3) | **Division : MD,CWC,Burla**

Local River : Tel | **River Water** | **Sub-Division : MMSD II,CWC,Burla**

S.No	Parameters	Winter														
		Nov - Feb														
		2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.5		0.6	0.5	0.7	1.6	0.8	0.6	0.5	1.1	0.6	0.4	0.4	0.6	0.6
2	COD (mg/L)				22.3	17.5	16.0	19.0	19.0	20.0	20.0					
3	DO (mg/L)	5.7		8.1	8.1	8.5	8.1	7.8	8.0	8.1	8.8	8.4	8.5	7.8	7.0	6.7
4	DO_SAT% (%)			97	96	95	94	91	94	95	100	96	95	90	85	78
5	FCol-MPN (MPN/100mL)															67
6	Tcol-MPN (MPN/100mL)															107
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	51		34		33	27	41	44	34	57	76	62	67	119	114
2	HAR_Total (mgCaCO3/L)	94		60		80	50	78	86	65	101	118	122	111	163	147
3	Na% (%)			29		34	24	14	17	25	27	24	17	26	22	25
4	RSC (-)	0.2		0.0		0.0	0.2	0.0	0.0	0.1	0.2	1.4	0.2	0.1	0.0	0.0
5	SAR (-)			0.7		0.9	0.5	0.3	0.4	0.6	0.9	0.8	0.5	0.8	0.8	0.9
	PESTICIDES															

Water Quality Seasonal Average for the period: 2003-2018

Station Name : KANTAMAL (EMF00C3) | **Division : MD,CWC,Burla**

Local River : Tel | **River Water** | **Sub-Division : MMSD II,CWC,Burla**

S.No	Parameters	Summer														
		Mar - May														
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	PHYSICAL															
1	Q (cumec)	87.72	61.29	83.89	48.93	45.98	56.75	75.24	75.98	15.31	60.49	94.19	54.08	23.50	50.26	54.19
2	EC_FLD (µmho/cm)	201	175	148	199							83			207	155
3	EC_GEN (µmho/cm)	201	175	148	199	156	156	183	320	210	202	153	168	181	173	170
4	pH_FLD (pH units)	7.7	8.1	8.0	8.4	8.3	8.2	7.8	7.6	7.6	8.2	8.2	7.3	8.9	7.9	8.2
5	pH_GEN (pH units)	7.8	8.1	8.0	8.4	8.2	8.2	8.3	7.6	7.5	8.6	8.4	8.4	8.4	8.0	7.8
6	Temp (deg C)		30.5	33.0	32.0	24.8	26.2	28.8	26.9	28.9	28.4	29.8	26.5	28.0	30.7	27.8
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	2.5	3.1	8.6	0.0	0.0	0.7	0.0	4.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	188	120	111		120	110	135	310	151	225	163	200	239	200	209
3	B (mg/L)			0.02		0.01	0.00	0.00	0.00	0.00	0.00					
4	Ca (mg/L)	13	15	11		13	11	14	27	17	28	23	26	25	40	36
5	Cl (mg/L)	9.0	52.0	11.5		12.5	6.3	11.1	16.6	14.6	38.3	15.7	17.3	18.7	41.3	23.3
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	3.0	3.7	10.3	0.0	0.0	0.8	0.0	4.8	0.0	0.0	0.0
7	F (mg/L)		0.71	0.07		0.08	0.13	0.15	0.25	0.17	0.19					
8	Fe (mg/L)			0.0	0.0	0.1	0.0	0.0	0.2	0.1	0.1		0.1			
9	HCO3 (mg/L)	114	73	68		70	63	72	189	92	137	99	117	146	122	128
10	K (mg/L)		5.2	1.2		1.3	1.6	2.3	1.9	1.4	3.5	2.9	4.1	12.3	8.8	7.9
11	Mg (mg/L)	3.7	5.1	5.6		6.0	5.8	8.6	16.8	9.5	9.7	11.0	14.9	10.5	8.4	8.4
12	Na (mg/L)		9.2	8.2		13.7	4.7	15.6	12.1	8.5	35.7	25.8	17.2	35.6	22.3	19.5
13	NO2+NO3 (mg N/L)		0.07	0.03	0.08	0.30	1.09						0.17			
14	NO2-N (mgN/L)			0.00	0.00	0.02	0.02	0.01	0.42	0.10	0.07		0.05			
15	NO3-N (mgN/L)			0.02	0.08	0.28	1.07						0.12			
16	o-PO4-P (mg P/L)															
17	P-Tot (mgP/L)		0.015	0.021	0.030	0.017	0.013	0.023	0.080	0.060	0.050		0.060			
18	SiO2 (mg/L)			11.0		13.4	26.9	9.8	21.3	16.5	16.2		12.2			
19	SO4 (mg/L)	2.0	6.1	3.6		9.1	13.6	14.0	34.7	17.8	19.3		17.0			

Water Quality Seasonal Average for the period: 2003-2018

Station Name : KANTAMAL (EMF00C3) **Division : MD,CWC,Burla**

Local River : Tel **River Water** **Sub-Division : MMSD II,CWC,Burla**

S.No	Parameters	Summer														
		Mar - May														
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	1.2	0.7	0.9	0.9	0.6	0.6	1.0	1.7	0.7	0.4	0.5	0.5	0.9	1.2	0.8
2	COD (mg/L)				21.2	17.3	21.3	20.0	20.0	18.7	18.7					
3	DO (mg/L)	7.9	8.0	6.3	7.9	6.7	7.0	6.2	7.1	7.1	6.7	7.8	6.9	6.7	6.8	6.2
4	DO_SAT% (%)		102	88	108	80	86	80	89	92	86	101	85	85	91	79
5	FCol-MPN (MPN/100mL)															83
6	Tcol-MPN (MPN/100mL)															90
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	34	37	28		33	27	36	67	41	69	57	65	62	99	90
2	HAR_Total (mgCaCO3/L)	49	58	51		58	51	72	137	81	110	103	127	106	134	125
3	Na% (%)		24	26		34	16	27	19	18	40	34	21	37	25	24
4	RSC (-)	0.9	0.1	0.1		0.2	0.2	0.1	0.5	0.0	0.3	0.0	0.0	0.3	0.0	0.0
5	SAR (-)		0.5	0.5		0.8	0.3	0.8	0.5	0.4	1.6	1.2	0.7	1.5	0.8	0.8
	PESTICIDES															

LOWER MAHANADI SUB-BASIN

SITE TIKARPARA

HISTORY SHEET

Water Year : 2017-2018

Site	**:**	**TIKARPARA**	**Code**	**:**	**EM000G5**
State	:	Orissa	District		Angul
Basin	:	Mahanadi	Independent River	:	Mahanadi
Tributary	:	-	Sub Tributary	:	
Sub-Sub Tributary	:		Local River	:	Mahanadi
Division	:	MD,CWC,Burla	Sub-Division	:	LMSD,CWC,Bhubaneswar
Drainage Area	:	124450 Sq. Km.	Bank	:	Left
Latitude	:	20°38'00"	Longitude	:	84°37'08"
Zero of Gauge (m)	:	50 (m.s.l)	19/02/1971	-	31/12/2020
		Opening Date	Closing Date		
Gauge	:	19/02/1971			
Discharge	:	28/05/1972			
Sediment	:	01/06/1973			
Water Quality	:	01/12/1972			

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

	Maximum			Minimum		
Year	**Q (cumecs)**	**WL (m)**	**Date**	**Q (cumecs)**	**WL (m)**	**Date**
1972-1973	16660	64.515	13/09/1972	107.7	53.360	24/05/1973
1973-1974	23949	69.150	27/09/1973	82.46	54.075	02/06/1973
1974-1975	17400	66.825	19/08/1974	51.81	53.905	21/05/1975
1975-1976	22735	68.118	23/08/1975	56.90	53.955	03/06/1975
1976-1977	26324	69.480	14/08/1976	65.00	54.060	08/12/1976
1977-1978	28693	69.480	14/09/1977	100.0	54.145	05/06/1977
1978-1979	30863	69.390	29/08/1978	173.9	54.420	30/05/1979
1979-1980	14257	65.643	09/08/1979	26.98	53.590	31/12/1979
1980-1981	33800	72.150	21/09/1980	24.42	53.560	11/06/1980
1981-1982	15100	65.550	10/08/1981	159.3	54.698	17/06/1981
1982-1983	31050	73.000	30/08/1982	77.65	54.910	28/12/1982
1983-1984	30042	69.030	08/09/1983	51.41	54.550	09/06/1983
1984-1985	24727	68.860	17/08/1984	80.46	54.350	22/05/1985
1985-1986	23921	69.250	07/08/1985	72.40	54.320	03/06/1985
1986-1987	27030	69.730	29/06/1986	179.0	54.745	13/06/1986
1987-1988	10241	63.800	23/07/1987	132.8	54.420	29/06/1987
1988-1989	9593	63.895	09/08/1988	22.74	53.610	22/12/1988
1989-1990	6536	62.015	18/08/1989	189.2	54.490	09/06/1989
1990-1991	20068	68.013	05/09/1990	236.5	54.500	01/06/1990
1991-1992	30500	71.830	14/08/1991	154.3	54.750	01/05/1992
1992-1993	31500	72.470	29/07/1992	177.5	55.060	06/06/1992
1993-1994	20435	68.095	20/08/1993	221.1	54.630	06/05/1994

Q : Observed / Computed Discharge WL : Corresponding Water Level(m.s.l)

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

	Maximum			Minimum		
Year	**Q (cumecs)**	**WL (m)**	**Date**	**Q (cumecs)**	**WL (m)**	**Date**
1994-1995	31500	72.170	13/07/1994	202.1	54.450	08/06/1994
1995-1996	23121	70.540	24/07/1995	144.0	54.640	31/05/1996
1996-1997	11930	64.540	22/08/1996	121.8	54.620	01/06/1996
1997-1998	23000	69.630	05/08/1997	225.0	54.620	08/06/1997
1998-1999	25000	68.200	13/09/1998	208.3	54.400	01/04/1999
1999-2000	13249	66.710	10/08/1999	230.9	54.750	17/06/1999
2000-2001	4775	60.260	01/09/2000	149.3	54.120	04/05/2001
2001-2002	26700	73.200	19/07/2001	198.6	54.300	02/06/2001
2002-2003	12306	65.500	13/09/2002	156.4	54.550	01/03/2003
2003-2004	25062	73.070	29/08/2003	128.6	54.180	15/06/2003
2004-2005	17744	67.560	12/08/2004	163.4	54.540	13/01/2005
2005-2006	19000	68.950	31/07/2005	142.8	54.620	28/06/2005
2006-2007	29000	72.900	31/08/2006	200.0	54.650	06/05/2007
2007-2008	15789	66.690	24/09/2007	291.1	55.000	09/06/2007
2008-2009	20565	69.765	18/09/2008	271.0	54.380	30/05/2009
2009-2010	17750	68.250	22/07/2009	146.7	54.150	16/01/2010
2010-2011	13575	65.660	20/09/2010	234.3	54.390	19/06/2010
2011-2012	30400	74.570	10/09/2011	198.6	54.440	13/03/2012
2012-2013	11766	65.640	07/08/2012	170.2	54.230	07/01/2013
2013-2014	18895	66.960	01/08/2013	122.4	54.060	30/01/2014
2014-2015	20000	68.900	06/09/2014	190.0	54.470	05/04/2015
2015-2016	12086	63.720	18/09/2015	83.98	53.750	08/01/2016
2016-2017	12760	63.790	11/08/2016	54.76	54.760	26/06/2016

Q : Observed / Computed Discharge WL : Corresponding Water Level(m.s.l)

Stage-Dischage Data for the period 2017 - 2018

Station Name : TIKARPARA (EM000G5) **Division : MD,CWC,Burla**

Local River : Mahanadi **Sub-Division : LMSD,CWC,Bhubaneswar**

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	54.280	217.4	56.085	992.2	57.625	2258	57.625	2307	56.920	1750 *	54.930	598.6
2	54.420	275.6	56.290	1180 *	57.110	1952	57.100	1850 *	57.040	1800 *	54.860	458.2
3	54.500	299.5	56.090	1100	56.690	1564	57.140	1900 *	57.755	2513	54.780	444.4
4	54.770	409.5 *	56.120	1185	56.785	1626	57.285	2021	58.160	3063	54.700	443.0 *
5	54.880	453.3	56.090	1121	56.590	1454	57.070	2029	57.250	2073	54.680	401.0 *
6	54.980	498.3	56.120	1164	56.600	1350 *	56.790	1761	57.445	2269	54.680	401.7
7	55.040	525.8	56.120	1148	57.100	1867	56.685	1647	56.850	1693	54.670	391.3
8	55.020	513.7	56.105	1106	57.160	1964	56.780	1881	57.210	2000 *	54.670	389.5
9	55.070	556.1	56.030	1050 *	57.320	2247	56.555	1554	57.465	2319	54.580	346.8
10	55.010	505.1	56.070	1137	57.140	1878	56.410	1275 *	57.240	2147	54.610	359.6
11	54.990	514.3 *	56.385	1470	56.720	1651	56.320	1407	57.155	2000	54.725	428.6
12	55.050	523.5	56.715	1577	56.735	1729	56.030	1227	57.520	2377	54.830	468.0 *
13	55.020	521.0	56.300	1257	56.450	1300 *	56.180	1272	57.135	1939	54.800	464.2
14	55.050	544.1 *	56.195	1219	56.395	1412	56.010	1223	57.925	2724	54.820	468.4
15	55.070	559.1 *	56.395	1353	56.590	1325 *	56.095	1249	56.940	1750 *	54.740	446.2
16	55.310	694.7 *	56.550	1400 *	56.850	1750	56.505	1385	56.790	1663	54.790	458.3
17	55.230	646.4 *	56.435	1356	56.830	1726	56.750	1600 *	56.830	1836	54.730	420.3
18	55.180	627.7 *	58.080	4224	56.875	1800	56.890	1655	56.355	1449	54.780	446.0
19	55.180	609.0 *	59.760	5125	58.125	3054	56.825	1622	56.120	1300 *	54.770	445.9 *
20	55.100	552.8	59.720	4955	57.710	2250 *	57.865	2603	55.990	1271	54.760	438.3
21	55.355	743.7 *	61.390	8007	57.710	2341	57.795	2489	56.410	1520	54.790	456.7
22	55.385	768.1 *	58.850	3548	57.445	2153	59.005	3700	57.300	2200 *	54.800	462.7
23	55.200	623.5 *	57.560	2200 *	56.895	1753	58.455	3196	57.000	1951	54.670	416.7
24	55.420	786.4 *	56.980	1828	56.410	1368	57.490	2300 *	56.360	1439	54.560	331.2
25	55.620	850.0 *	57.525	2513	56.615	1511	57.065	1986	55.860	1183	54.510	314.3
26	56.390	1250 *	61.000	7337	56.390	1340	56.695	1671	55.665	1088	54.460	312.0 *
27	56.070	1146 *	61.050	6830	56.860	1680 *	57.100	2139	55.560	969.3	54.330	241.8
28	55.525	809.7 *	58.655	3366	56.980	1731	57.340	2459	55.825	1077	54.240	221.0
29	55.510	811.5 *	60.325	5721	57.205	1969	57.130	2100 *	55.460	800.0 *	54.240	218.1
30	55.635	859.7 *	61.430	7200 *	58.185	3158	56.515	1382	55.140	684.4	54.200	214.2
31			58.850	3464	58.555	3412			55.080	671.7		
Ten-Daily Mean												
I Ten-Daily	54.797	425.4	56.112	1118	57.012	1816	56.944	1823	57.334	2163	54.716	423.4
II Ten-Daily	55.118	579.3	57.254	2394	56.928	1800	56.547	1524	56.876	1831	54.774	448.4
III Ten-Daily	55.611	864.9	59.420	4729	57.205	2038	57.459	2342	55.969	1235	54.480	318.9
Monthly												
Min.	54.280	217.4	56.030	992.2	56.390	1300	56.010	1223	55.080	671.7	54.200	214.2
Max.	56.390	1250	61.430	8007	58.555	3412	59.005	3700	58.160	3063	54.930	598.6
Mean	55.175	623.2	57.654	2811	57.053	1890	56.983	1896	56.702	1726	54.657	396.9

Annual Runoff in MCM = 27963 Annual Runoff in mm = 225

Peak Observed Discharge = 8007 cumecs on 21/07/2017 Corres. Water Level :61.39 m

Lowest Observed Discharge = 115.9 cumecs on 08/02/2018 Corres. Water Level :53.91 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Dischage Data for the period 2017 - 2018

Station Name : TIKARPARA (EM000G5) **Division : MD,CWC,Burla**

Local River : Mahanadi **Sub-Division : LMSD,CWC,Bhubaneswar**

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	54.180	212.2	54.130	184.5	54.090	178.5	54.050	163.9	54.190	187.5 *	54.330	237.4
2	54.200	218.5 *	54.120	172.8	54.090	175.4	54.060	165.0 *	54.220	224.0	54.330	238.5
3	54.260	220.5 *	54.150	189.2	54.090	167.8	54.100	168.8	54.260	229.8	54.340	252.1
4	54.220	219.1	54.230	220.8	54.090	167.7 *	54.100	170.0 *	54.260	226.8	54.440	288.0
5	54.100	190.4	54.190	201.3	54.060	159.4	54.090	175.4	54.140	183.1	54.435	274.9
6	54.010	161.7	54.130	177.5	54.020	151.6	53.970	136.9	54.170	203.7	54.280	235.0 *
7	53.980	142.5	54.100	170.0 *	53.990	143.4	53.980	156.2	54.300	241.5	54.170	192.6
8	54.020	155.6	54.030	162.3	53.910	115.9	54.150	200.4	54.300	245.0 *	54.190	198.4
9	54.040	158.2	54.050	163.8	54.040	155.4	54.140	188.2	54.290	237.6	54.290	233.3
10	54.080	180.0 *	54.020	155.7	54.120	179.6	54.110	175.5	54.290	228.2	54.360	260.9
11	54.110	168.9	54.090	171.7	54.200	240.0 *	54.130	175.0 *	54.250	211.8	54.360	250.5
12	54.010	154.8	54.090	172.8	54.340	275.4	54.100	176.6	54.210	216.8	54.280	224.4
13	53.990	146.3	54.020	154.3	54.390	286.9	54.110	180.9	54.250	221.8	54.300	240.0 *
14	54.020	146.7	54.020	150.0 *	54.350	271.3	54.130	193.2	54.300	247.3	54.320	233.7
15	54.020	151.8	54.025	163.9	54.250	246.9	54.160	207.6	54.280	235.0 *	54.290	226.3
16	54.060	158.9	54.130	197.2	54.230	240.3	54.180	201.3	54.220	212.7	54.395	271.4
17	54.040	160.1 *	54.120	191.3	54.170	210.8	54.190	207.4	54.280	234.1	54.440	281.5
18	54.040	160.1	54.070	166.7	54.150	198.6 *	54.240	210.0 *	54.290	227.4	54.390	268.1
19	54.060	166.6	54.045	162.9	54.120	194.1	54.370	275.8	54.260	218.1	54.370	258.8
20	54.050	164.8	54.000	143.8	54.150	198.7	54.430	285.0	54.330	234.8	54.350	250.0 *
21	54.010	154.4	53.990	140.0 *	54.090	177.9	54.400	281.2	54.200	194.8	54.400	268.6
22	53.970	147.6	53.990	138.5	54.100	178.0	54.280	237.2	54.170	175.0 *	54.440	288.7
23	53.950	129.3	54.050	159.6	54.150	198.7	54.230	218.1	54.320	250.7	54.580	292.3
24	53.970	130.0 *	54.060	162.5	54.080	173.3	54.240	219.1	54.260	216.5	54.490	276.3
25	54.080	167.5 *	54.020	156.7	54.120	194.0 *	54.240	215.0 *	54.280	253.4	54.520	307.9
26	54.060	167.3	54.020	156.0 *	54.080	178.3	54.240	218.1	54.290	232.1	54.460	280.0
27	54.040	157.8	54.040	160.7	54.130	199.4	54.160	195.6	54.260	220.3	54.470	300.0 *
28	54.010	140.0	54.040	158.0 *	54.130	198.0	54.200	210.9	54.240	209.4	54.520	326.4
29	54.050	162.0	54.060	175.0			54.200	200.0 *	54.280	235.0 *	54.480	275.4
30	54.100	169.7	54.030	165.1			54.190	190.0 *	54.320	250.0 *	54.650	338.2
31	54.120	170.0 *	54.010	162.6			54.190	206.8			54.620	351.0
Ten-Daily Mean												
I Ten-Daily	54.109	185.9	54.115	179.8	54.050	159.5	54.075	170.0	54.242	220.7	54.317	241.1
II Ten-Daily	54.040	157.9	54.061	167.5	54.235	236.3	54.204	211.3	54.267	226.0	54.349	250.5
III Ten-Daily	54.033	154.1	54.028	157.7	54.110	187.2	54.234	217.5	54.262	223.7	54.512	300.5
Monthly												
Min.	53.950	129.3	53.990	138.5	53.910	115.9	53.970	136.9	54.140	175.0	54.170	192.6
Max.	54.260	220.5	54.230	220.8	54.390	286.9	54.430	285.0	54.330	253.4	54.650	351.0
Mean	54.060	165.6	54.067	168	54.133	194.8	54.173	200.2	54.257	223.5	54.396	265.2

Peak Computed Discharge = 7200 cumecs on 30/07/2017 **Corres. Water Level :61.43 m**

Lowest Computed Discharge = 130.0 cumecs on 24/12/2017 **Corres. Water Level :53.97 m**

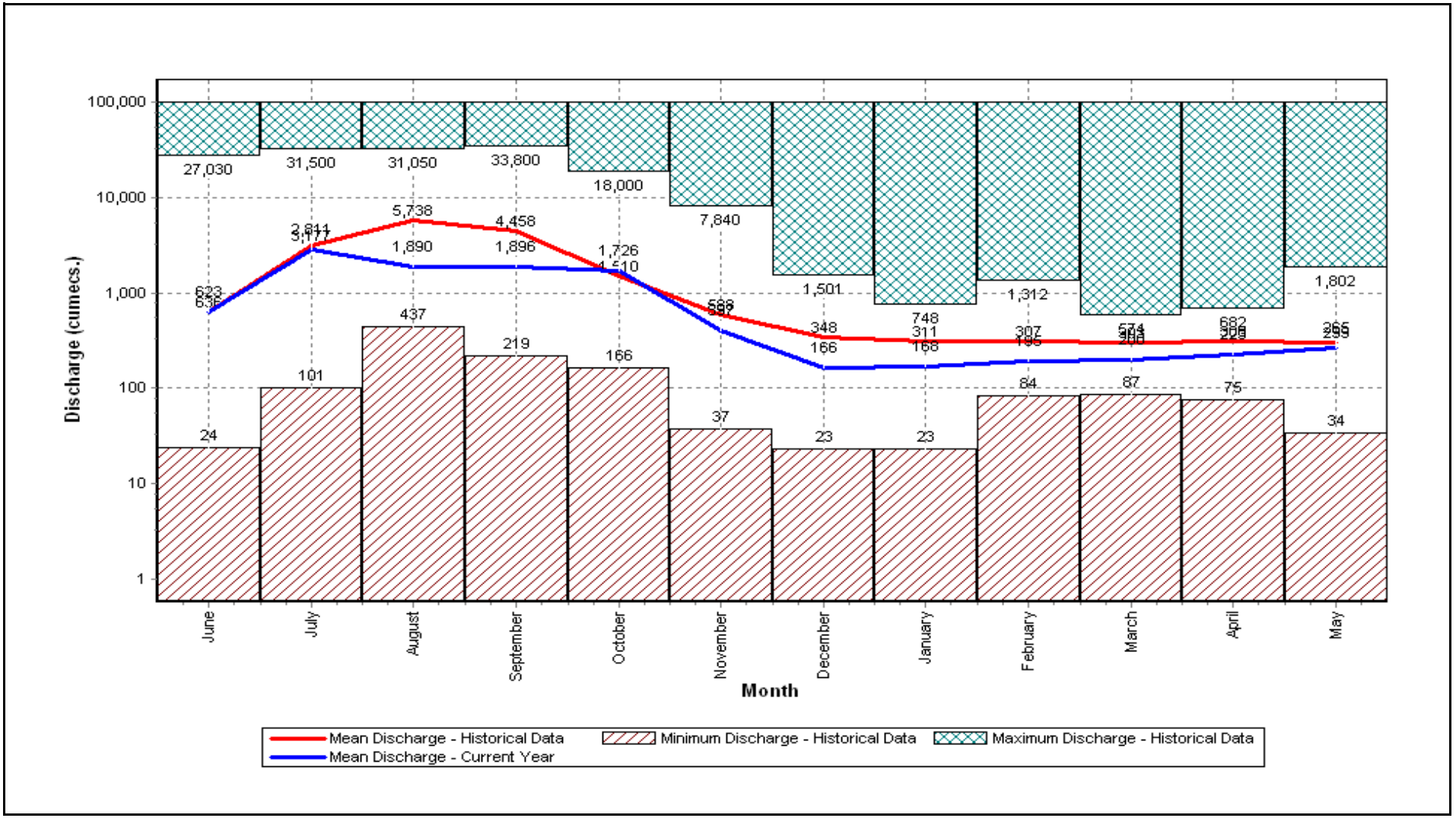
Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2017-2018

Station Name : TIKARPARA (EM000G5) | **Data considered : 1972-2018** | **Division : MD,CWC,Burla**

Local River : Mahanadi | **Sub-Division : LMSD,CWC,Bhubaneswar**



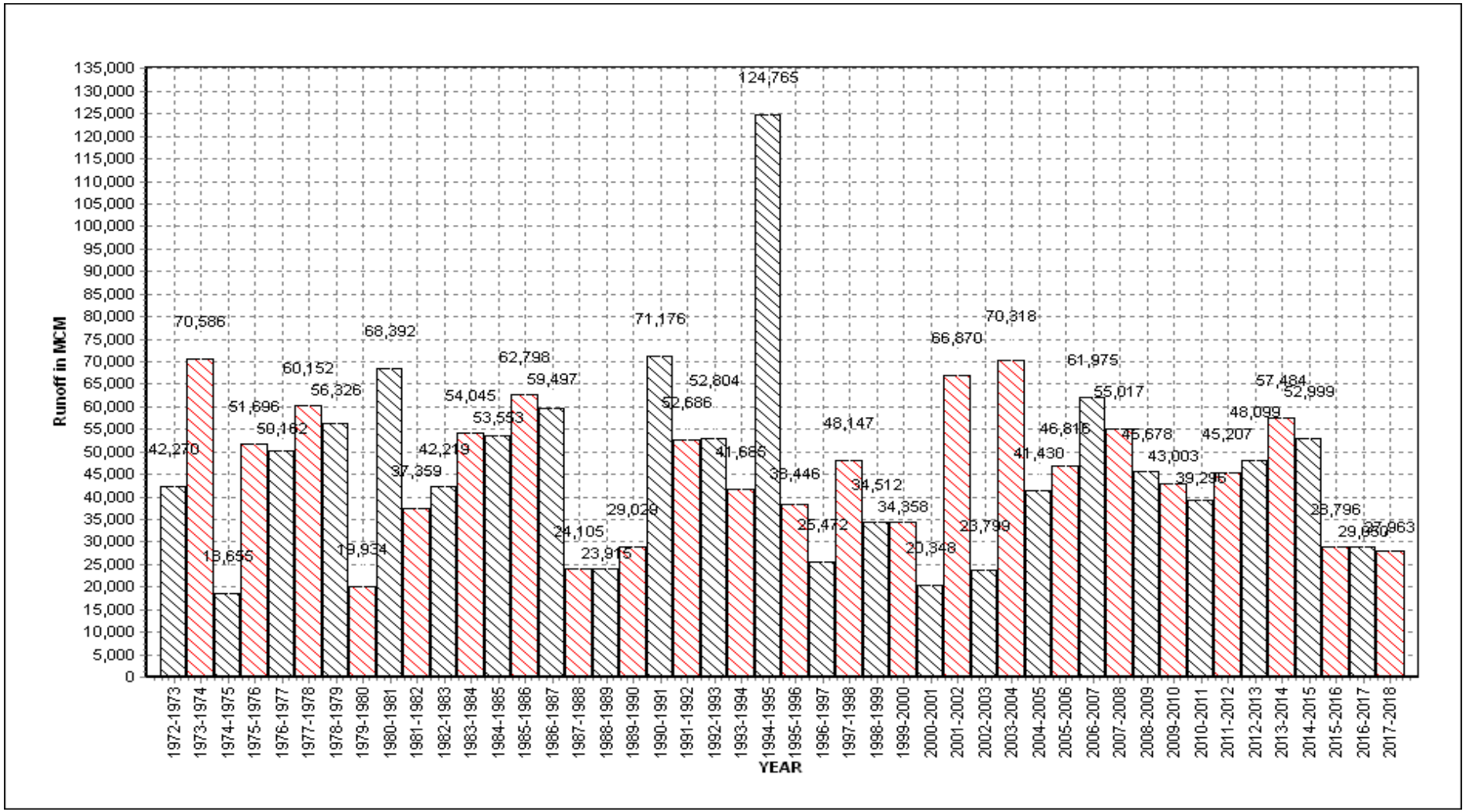
Annual Runoff Values for the period: 1972 - 2018

Station Name : TIKARPARA (EM000G5)

Division : MD,CWC,Burla

Local River : Mahanadi

Sub-Division : LMSD,CWC,Bhubaneswar

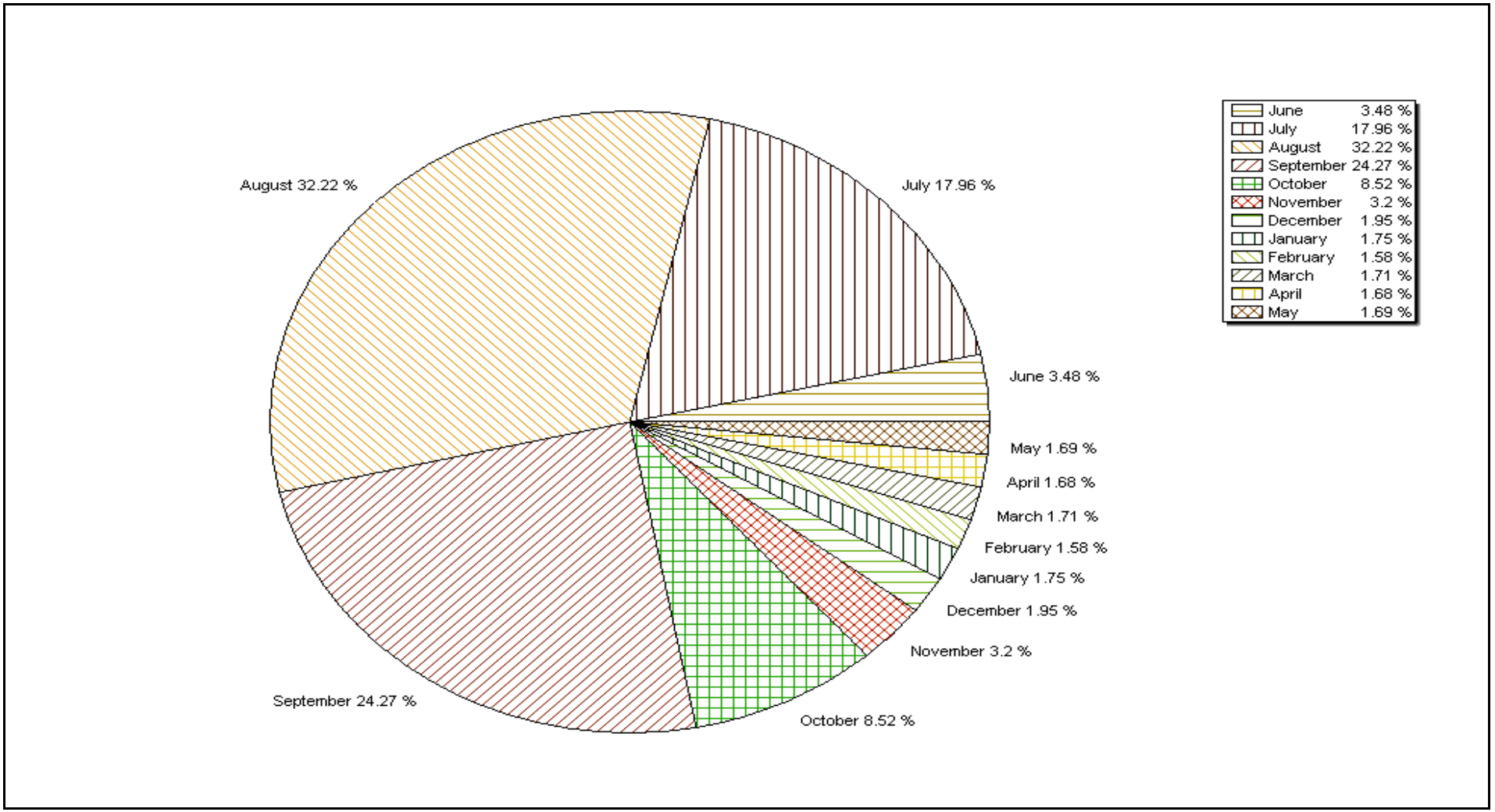


Note: Missing values have not been considered while arriving at Annual Runoff

Monthly Average Runoff based on period : 1972-2017

Station Name : TIKARPARA (EM000G5)
Local River : Mahanadi

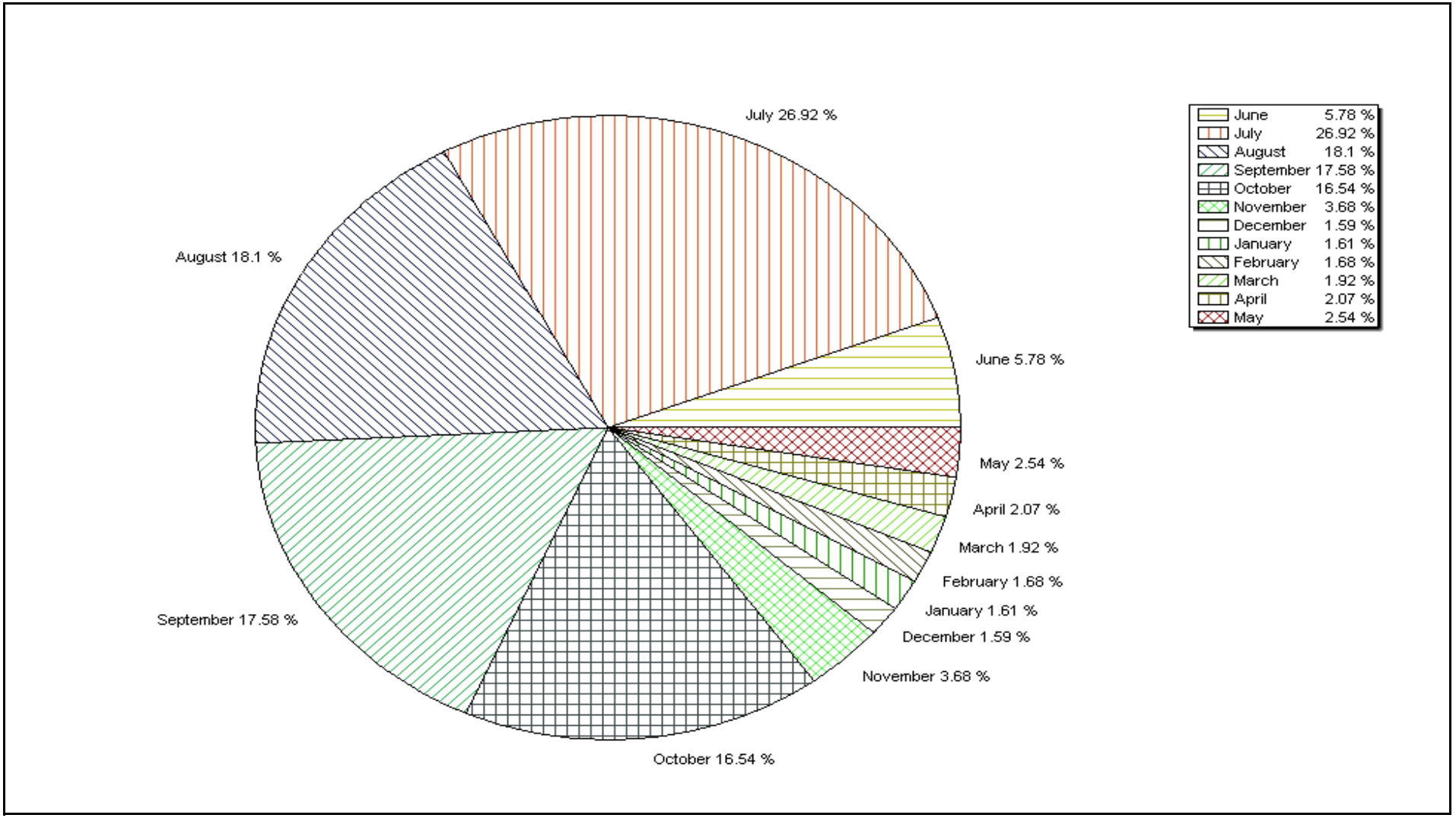
Division : MD,CWC,Burla
Sub-Division : LMSD,CWC,Bhubaneswar



Monthly Runoff for the Year : 2017-2018

Station Name : TIKARPARA (EM000G5)
Local River : Mahanadi

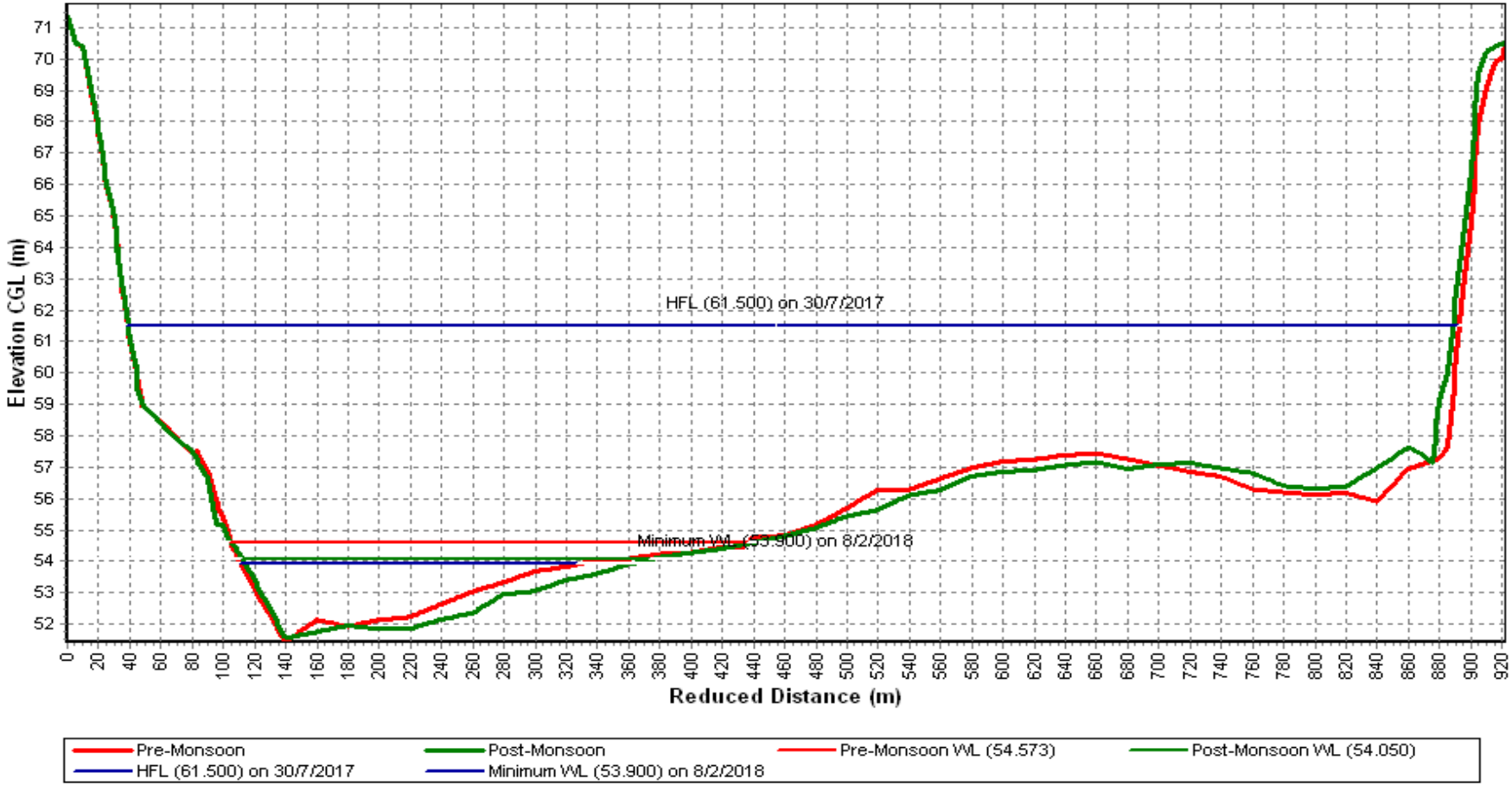
Division : MD,CWC,Burla
Sub-Division : LMSD,CWC,Bhubaneswar



Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2017-2018

Station Name : TIKARPARA (EM000G5)
Local River : Mahanadi

Division : MD,CWC,Burla
Sub-Division : LMSD,CWC,Bhubaneswar



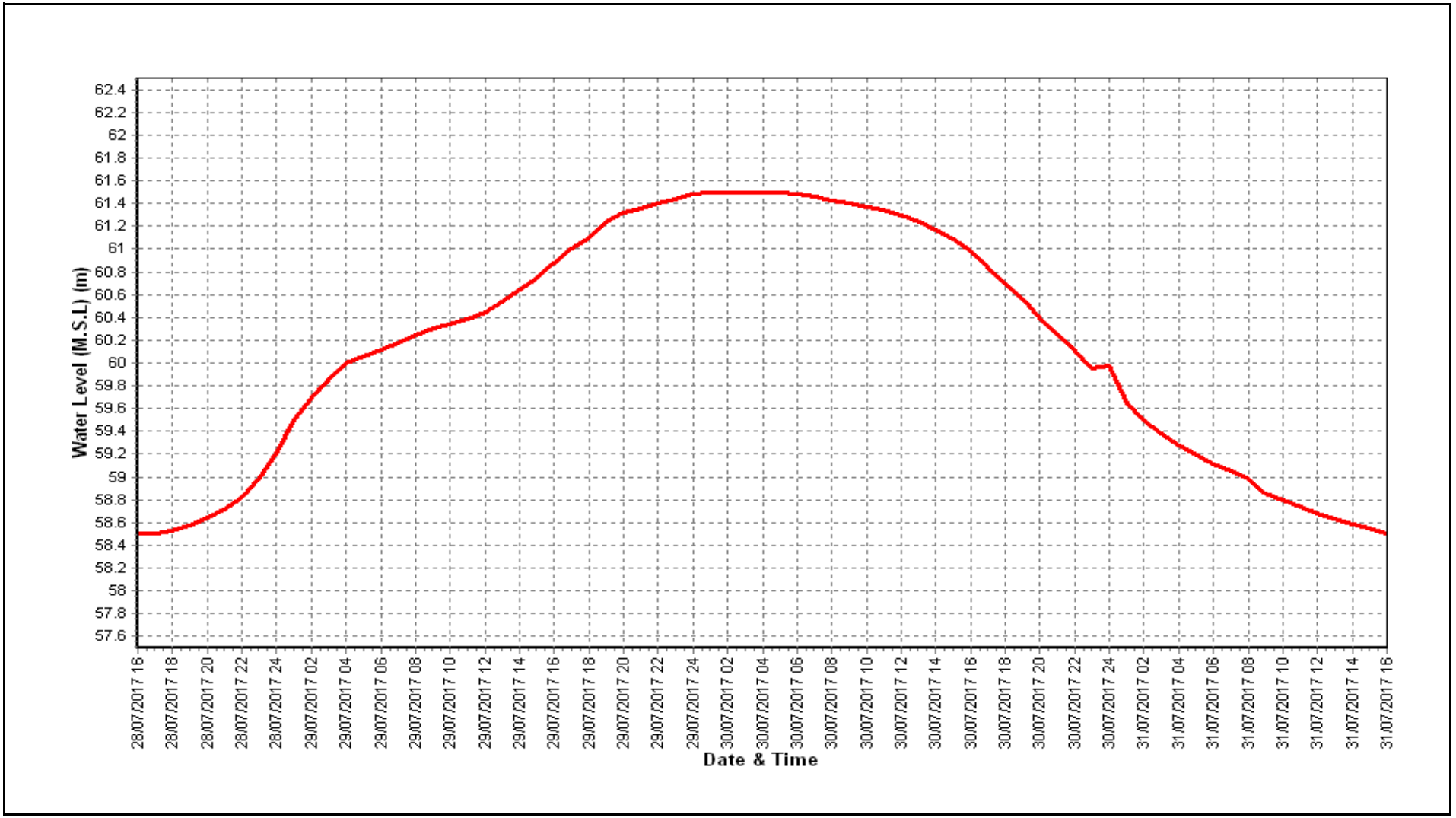
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2017-2018

Station Name : TIKARPARA (EM000G5)

Local River : Mahanadi

Division : MD,CWC,Burla

Sub-Division : LMSD,CWC,Bhubaneswar

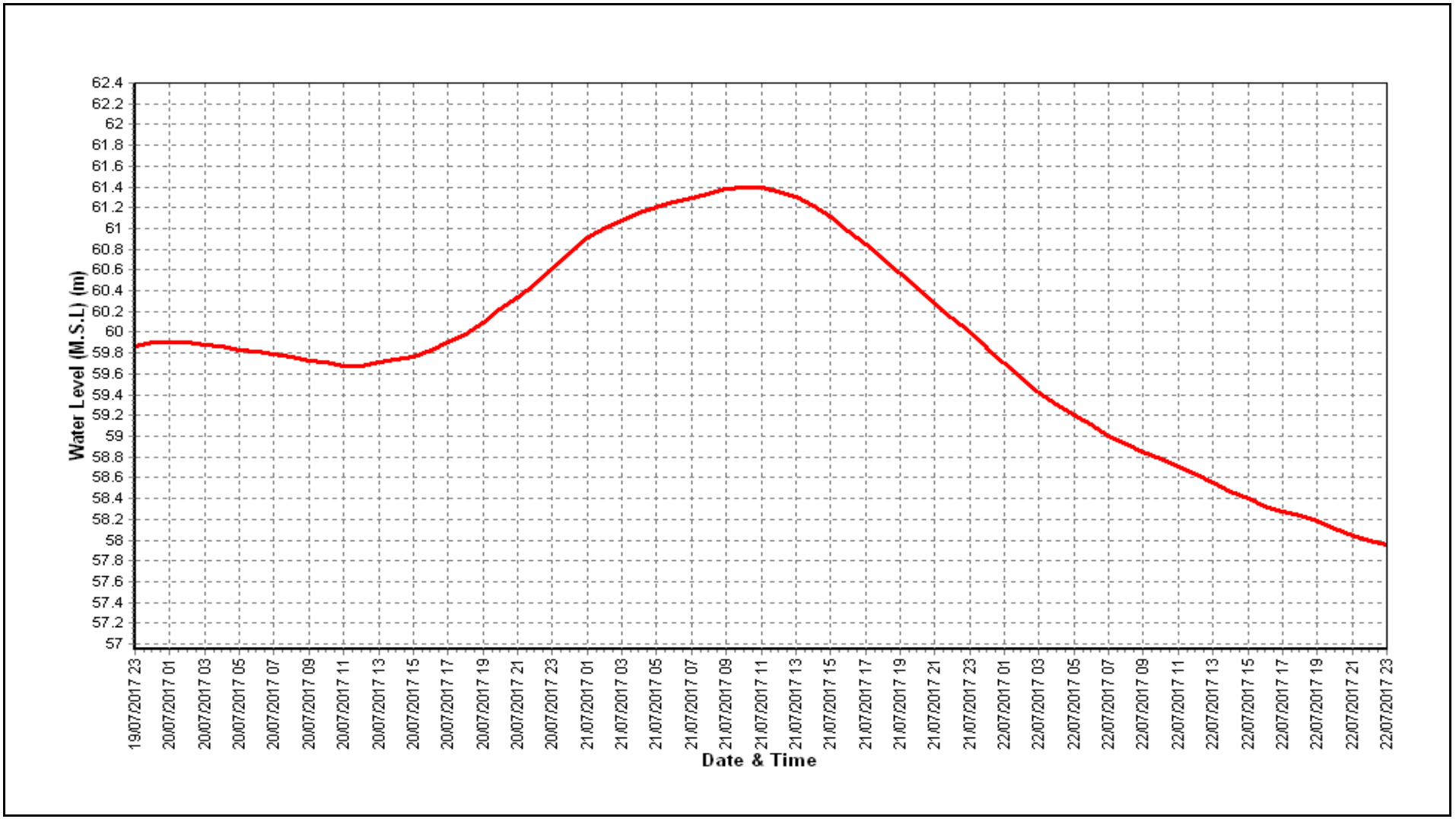


Time Span: 72 Hrs

Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2017-2018

Station Name : TIKARPARA (EM000G5) **Division : MD,CWC,Burla**

Local River : Mahanadi **Sub-Division : LMSD,CWC,Bhubaneswar**

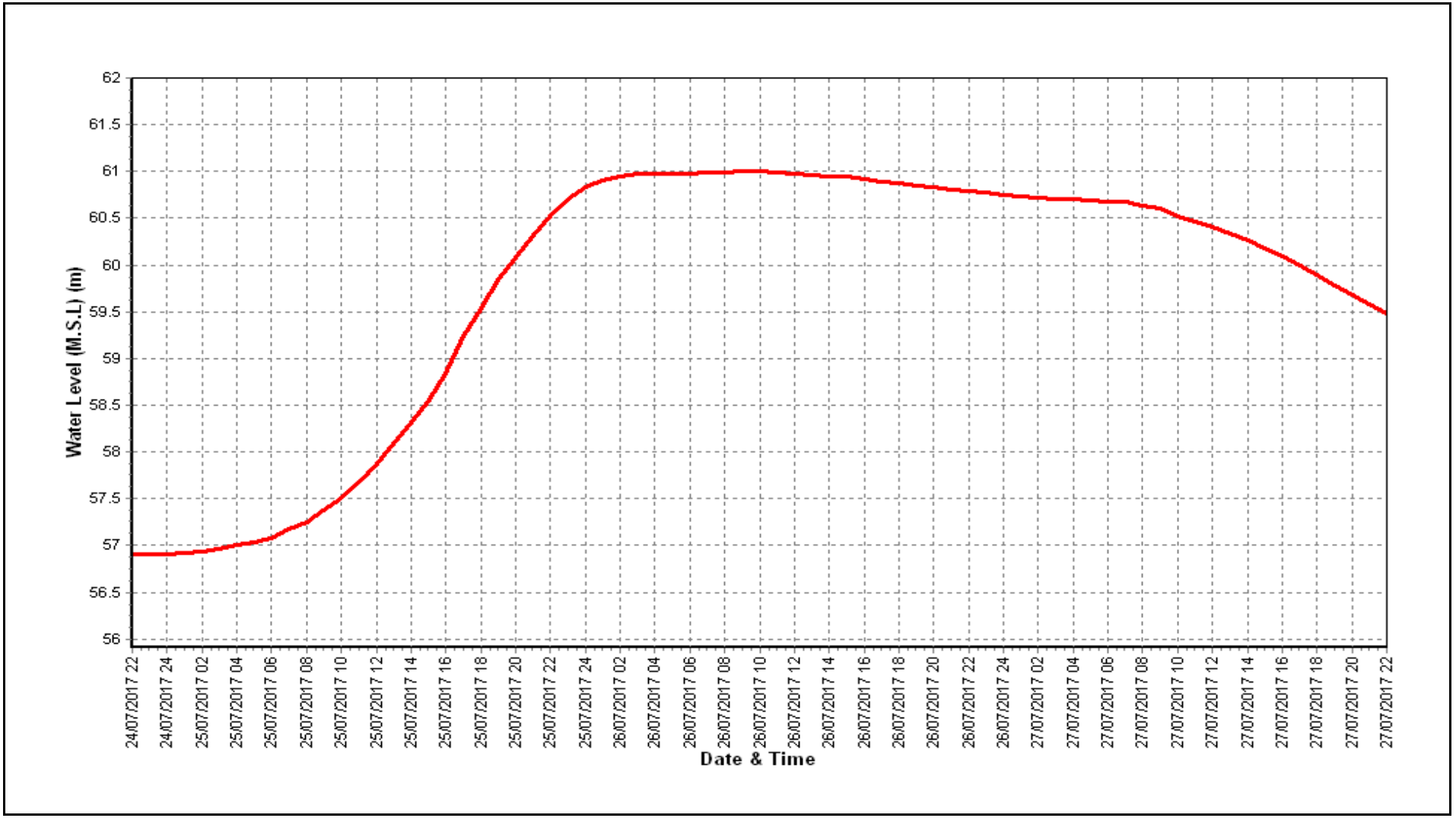


Time Span: 72 Hrs

Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2017-2018

Station Name : TIKARPARA (EM000G5) **Division : MD,CWC,Burla**

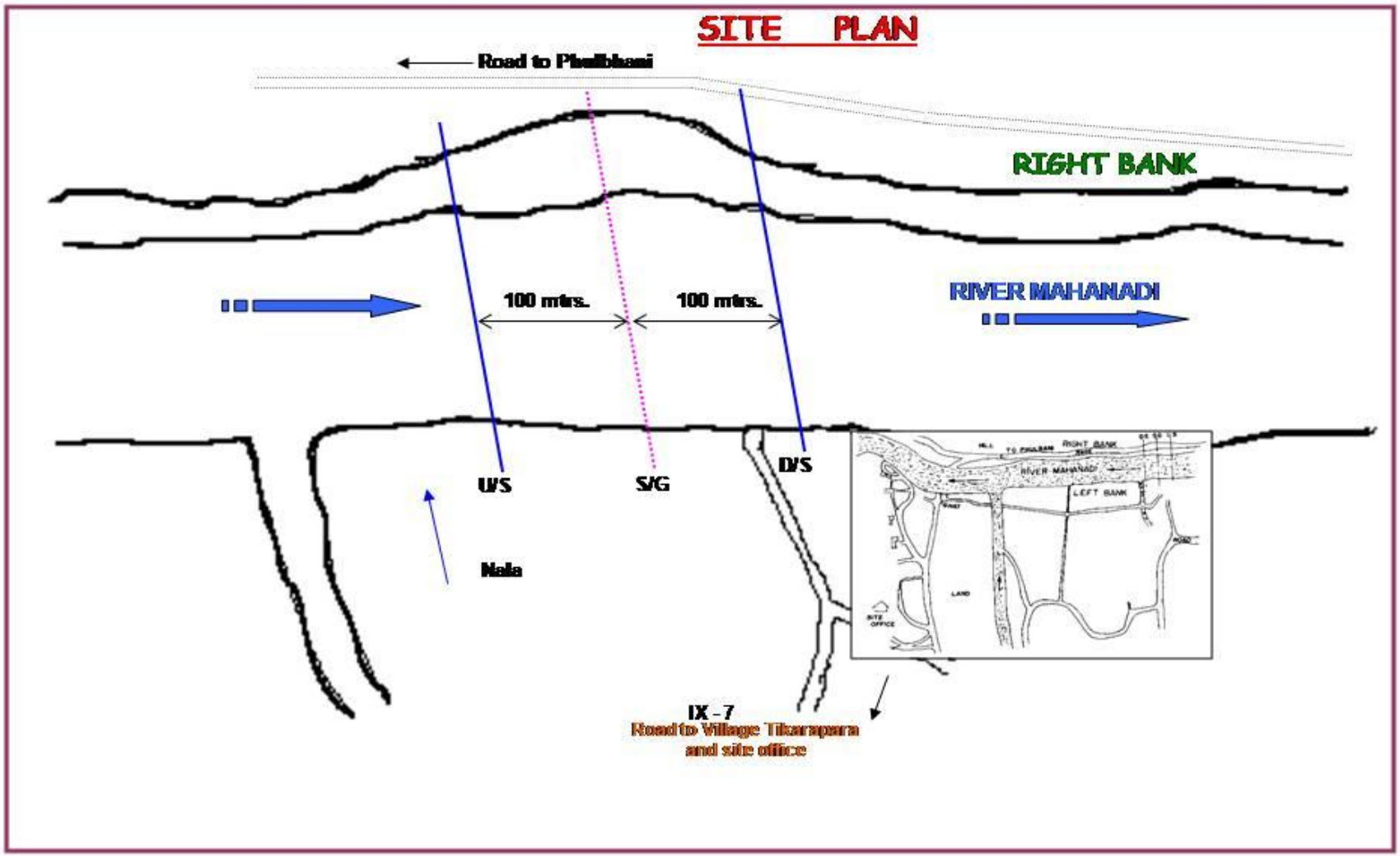
Local River : Mahanadi **Sub-Division : LMSD,CWC,Bhubaneswar**



Time Span: 72 Hrs

CENTRAL WATER COMMISSION, MAHANADI DIVISION, BURLA

Site : TIKARAPARA | Code : EM000G5 | Plate No : 1



SECTION-II

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : TIKARPARA (EM000G5) **Division : MD,CWC,Burla**

Local River : Mahanadi **Sub-Division : LMSD,CWC,Bhubaneswar**

Day	Jun						Jul						Aug					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	217.4	0.000	0.000	0.041	0.041	770	992.2	0.000	0.000	0.060	0.060	5143	2258	0.000	0.000	0.184	0.184	35903
2	275.6	0.000	0.000	0.041	0.041	976	1180	0.000	0.000	0.000	0.000	0	1952	0.000	0.000	0.108	0.108	18218
3	299.5	0.000	0.000	0.040	0.040	1035	1100	0.000	0.000	0.064	0.064	6080	1564	0.000	0.000	0.142	0.142	19189
4	409.5	0.000	0.000	0.000	0.000	0	1185	0.000	0.000	0.067	0.067	6860	1626	0.000	0.000	0.120	0.120	16863
5	453.3	0.000	0.000	0.039	0.039	1528	1121	0.000	0.000	0.087	0.087	8428	1454	0.000	0.000	0.151	0.151	18972
6	498.3	0.000	0.000	0.040	0.040	1722	1164	0.000	0.000	0.066	0.066	6640	1350	0.000	0.000	0.000	0.000	0
7	525.8	0.000	0.000	0.039	0.039	1772	1148	0.000	0.000	0.081	0.081	8033	1867	0.000	0.000	0.135	0.135	21771
8	513.7	0.000	0.000	0.039	0.039	1731	1106	0.000	0.000	0.071	0.071	6783	1964	0.000	0.000	0.144	0.144	24435
9	556.1	0.000	0.000	0.040	0.040	1922	1050	0.000	0.000	0.000	0.000	0	2247	0.000	0.000	0.186	0.186	36106
10	505.1	0.000	0.000	0.042	0.042	1833	1137	0.000	0.000	0.092	0.092	9041	1878	0.000	0.000	0.157	0.157	25469
11	514.3	0.000	0.000	0.000	0.000	0	1470	0.000	0.000	0.084	0.084	10671	1651	0.000	0.000	1.199	1.199	171050
12	523.5	0.000	0.000	0.400	0.400	18091	1577	0.000	0.000	0.082	0.082	11171	1729	0.000	0.000	0.152	0.152	22706
13	521.0	0.000	0.000	0.042	0.042	1890	1257	0.000	0.000	0.092	0.092	9992	1300	0.000	0.000	0.000	0.000	0
14	544.1	0.000	0.000	0.041	0.041	1927	1219	0.000	0.000	0.072	0.072	7582	1412	0.000	0.000	0.171	0.171	20856
15	559.1	0.000	0.000	0.041	0.041	1981	1353	0.000	0.000	0.153	0.153	17887	1325	0.000	0.000	0.000	0.000	0
16	694.7	0.000	0.000	0.046	0.046	2761	1400	0.000	0.000	0.000	0.000	0	1750	0.000	0.000	0.128	0.128	19350
17	646.4	0.000	0.000	0.049	0.049	2737	1356	0.000	0.000	0.129	0.129	15119	1726	0.000	0.000	0.109	0.109	16256
18	627.7	0.000	0.000	0.000	0.000	0	4224	0.000	0.008	0.311	0.319	116411	1800	0.000	0.000	0.107	0.107	16642
19	609.0	0.000	0.000	0.047	0.047	2473	5125	0.000	0.015	0.893	0.908	402050	3054	0.000	0.000	0.230	0.230	60699
20	552.8	0.000	0.000	0.058	0.058	2770	4955	0.000	0.038	0.855	0.893	382270	2250	0.000	0.000	0.000	0.000	0
21	743.7	0.000	0.000	0.048	0.048	3084	8007	0.000	0.000	6.779	6.779	4689513	2341	0.000	0.000	0.147	0.147	29729
22	768.1	0.000	0.000	0.054	0.054	3584	3548	0.000	0.000	0.741	0.741	227169	2153	0.000	0.000	0.249	0.249	46325
23	623.5	0.000	0.000	0.054	0.054	2909	2200	0.000	0.000	0.000	0.000	0	1753	0.000	0.000	0.206	0.206	31207
24	786.4	0.000	0.000	0.054	0.054	3669	1828	0.000	0.000	0.496	0.496	78341	1368	0.000	0.000	0.157	0.157	18552
25	850.0	0.000	0.000	0.000	0.000	0	2513	0.000	0.000	0.247	0.247	53636	1511	0.000	0.000	0.191	0.191	24936
26	1250	0.000	0.000	0.000	0.000	0	7337	0.000	0.000	0.455	0.455	288432	1340	0.000	0.000	0.155	0.155	17951
27	1146	0.000	0.000	0.064	0.064	6337	6830	0.000	0.000	0.107	0.107	63139	1680	0.000	0.000	0.000	0.000	0
28	809.7	0.000	0.000	0.080	0.080	5597	3366	0.000	0.000	0.060	0.060	17448	1731	0.000	0.000	0.226	0.226	33804
29	811.5	0.000	0.000	0.081	0.081	5679	5721	0.000	0.000	0.445	0.445	219963	1969	0.000	0.000	0.137	0.137	23309
30	859.7	0.000	0.000	0.085	0.085	6314	7200	0.000	0.000	0.000	0.000	0	3158	0.000	0.000	0.242	0.242	66029
31							3464	0.000	0.000	0.741	0.741	221786	3412	0.000	0.000	0.260	0.260	76650
Ten Daily Mean																		
Ten Daily I	425.4	0.000	0.000	0.040	0.040	1476	1118	0.000	0.000	0.074	0.074	7126	1816	0.000	0.000	0.147	0.147	24103
Ten Daily II	579.3	0.000	0.000	0.091	0.091	4329	2394	0.000	0.007	0.297	0.304	108128	1800	0.000	0.000	0.299	0.299	46794
Ten Daily III	864.9	0.000	0.000	0.065	0.065	4647	4729	0.000	0.000	1.119	1.119	651047	2038	0.000	0.000	0.197	0.197	36849
Monthly																		
Total						85091						6889587						912979

Annual Sediment Load (Metric Tonnes) : 8768864

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : TIKARPARA (EM000G5) **Division : MD,CWC,Burla**

Local River : Mahanadi **Sub-Division : LMSD,CWC,Bhubaneswar**

Day	Sep						Oct						Nov					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	2307	0.000	0.000	0.277	0.277	55214	1750	0.000	0.000	0.000	0.000	0	598.6	0.000	0.000	0.000	0.000	0
2	1850	0.000	0.000	0.000	0.000	0	1800	0.000	0.000	0.000	0.000	0	458.2	0.000	0.000	0.000	0.000	0
3	1900	0.000	0.000	0.000	0.000	0	2513	0.000	0.000	0.088	0.088	19105	444.4	0.000	0.000	0.000	0.000	0
4	2021	0.000	0.000	0.107	0.107	18685	3063	0.000	0.000	0.083	0.083	21968	443.0	0.000	0.000	0.000	0.000	0
5	2029	0.000	0.000	0.078	0.078	13673	2073	0.000	0.000	0.087	0.087	15584	401.0	0.000	0.000	0.000	0.000	0
6	1761	0.000	0.000	0.099	0.099	15062	2269	0.000	0.000	0.062	0.062	12154	401.7	0.000	0.000	0.032	0.032	1111
7	1647	0.000	0.000	0.102	0.102	14516	1693	0.000	0.000	0.039	0.039	5704	391.3	0.000	0.000	0.000	0.000	0
8	1881	0.000	0.000	0.073	0.073	11865	2000	0.000	0.000	0.000	0.000	0	389.5	0.000	0.000	0.000	0.000	0
9	1554	0.000	0.000	0.101	0.101	13564	2319	0.000	0.000	0.066	0.066	13225	346.8	0.000	0.000	0.000	0.000	0
10	1275	0.000	0.000	0.000	0.000	0	2147	0.000	0.000	0.120	0.120	22255	359.6	0.000	0.000	0.000	0.000	0
11	1407	0.000	0.000	0.084	0.084	10213	2000	0.000	0.000	0.071	0.071	12269	428.6	0.000	0.000	0.000	0.000	0
12	1227	0.000	0.000	0.065	0.065	6891	2377	0.000	0.000	0.052	0.052	10679	468.0	0.000	0.000	0.000	0.000	0
13	1272	0.000	0.000	0.074	0.074	8135	1939	0.000	0.000	0.098	0.098	16414	464.2	0.000	0.000	0.042	0.042	1685
14	1223	0.000	0.000	0.067	0.067	7079	2724	0.000	0.000	0.047	0.047	11061	468.4	0.000	0.000	0.000	0.000	0
15	1249	0.000	0.000	0.073	0.073	7878	1750	0.000	0.000	0.000	0.000	0	446.2	0.000	0.000	0.000	0.000	0
16	1385	0.000	0.000	0.094	0.094	11248	1663	0.000	0.000	0.080	0.080	11493	458.3	0.000	0.000	0.000	0.000	0
17	1600	0.000	0.000	0.000	0.000	0	1836	0.000	0.000	0.057	0.057	9040	420.3	0.000	0.000	0.000	0.000	0
18	1655	0.000	0.000	0.188	0.188	26884	1449	0.000	0.000	0.064	0.064	8015	446.0	0.000	0.000	0.000	0.000	0
19	1622	0.000	0.000	0.189	0.189	26494	1300	0.000	0.000	0.000	0.000	0	445.9	0.000	0.000	0.000	0.000	0
20	2603	0.000	0.000	0.326	0.326	73330	1271	0.000	0.000	0.074	0.074	8126	438.3	0.000	0.000	0.042	0.042	1590
21	2489	0.000	0.000	0.084	0.084	18064	1520	0.000	0.000	0.191	0.191	25077	456.7	0.000	0.000	0.000	0.000	0
22	3700	0.000	0.000	0.180	0.180	57547	2200	0.000	0.000	0.000	0.000	0	462.7	0.000	0.000	0.000	0.000	0
23	3196	0.000	0.000	0.273	0.273	75383	1951	0.000	0.000	0.171	0.171	28819	416.7	0.000	0.000	0.000	0.000	0
24	2300	0.000	0.000	0.000	0.000	0	1439	0.000	0.000	0.118	0.118	14673	331.2	0.000	0.000	0.000	0.000	0
25	1986	0.000	0.000	0.100	0.100	17162	1183	0.000	0.000	0.075	0.075	7665	314.3	0.000	0.000	0.000	0.000	0
26	1671	0.000	0.000	0.111	0.111	16023	1088	0.000	0.000	0.049	0.049	4605	312.0	0.000	0.000	0.000	0.000	0
27	2139	0.000	0.000	0.111	0.111	20515	969.3	0.000	0.000	0.078	0.078	6532	241.8	0.000	0.000	0.039	0.039	815
28	2459	0.000	0.000	0.131	0.131	27831	1077	0.000	0.000	0.051	0.051	4747	221.0	0.000	0.000	0.000	0.000	0
29	2100	0.000	0.000	0.000	0.000	0	800.0	0.000	0.000	0.000	0.000	0	218.1	0.000	0.000	0.000	0.000	0
30	1382	0.000	0.000	0.110	0.110	13135	684.4	0.000	0.000	0.057	0.057	3371	214.2	0.000	0.000	0.000	0.000	0
31							671.7	0.000	0.000	0.064	0.064	3714						
Ten Daily Mean																		
Ten Daily I	1823	0.000	0.000	0.120	0.120	20368	2163	0.000	0.000	0.078	0.078	15714	423.4	0.000	0.000	0.003	0.003	111
Ten Daily II	1524	0.000	0.000	0.129	0.129	19795	1831	0.000	0.000	0.068	0.068	10887	448.4	0.000	0.000	0.008	0.008	328
Ten Daily III	2342	0.000	0.000	0.138	0.138	30708	1235	0.000	0.000	0.095	0.095	11022	318.9	0.000	0.000	0.004	0.004	81
Monthly																		
Total						566392						296294						5201

Annual Sediment Load (Metric Tonnes) : 8768864

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : TIKARPARA (EM000G5) **Division : MD,CWC,Burla**

Local River : Mahanadi **Sub-Division : LMSD,CWC,Bhubaneswar**

Day	Dec						Jan						Feb					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	212.2	0.000	0.000	0.000	0.000	0	184.5	0.000	0.000	0.039	0.039	622	178.5	0.000	0.000	0.000	0.000	0
2	218.5	0.000	0.000	0.000	0.000	0	172.8	0.000	0.000	0.000	0.000	0	175.4	0.000	0.000	0.000	0.000	0
3	220.5	0.000	0.000	0.000	0.000	0	189.2	0.000	0.000	0.000	0.000	0	167.8	0.000	0.000	0.000	0.000	0
4	219.1	0.000	0.000	0.028	0.028	530	220.8	0.000	0.000	0.000	0.000	0	167.7	0.000	0.000	0.000	0.000	0
5	190.4	0.000	0.000	0.000	0.000	0	201.3	0.000	0.000	0.000	0.000	0	159.4	0.000	0.000	0.023	0.023	317
6	161.7	0.000	0.000	0.000	0.000	0	177.5	0.000	0.000	0.000	0.000	0	151.6	0.000	0.000	0.000	0.000	0
7	142.5	0.000	0.000	0.000	0.000	0	170.0	0.000	0.000	0.000	0.000	0	143.4	0.000	0.000	0.000	0.000	0
8	155.6	0.000	0.000	0.000	0.000	0	162.3	0.000	0.000	0.036	0.036	505	115.9	0.000	0.000	0.000	0.000	0
9	158.2	0.000	0.000	0.000	0.000	0	163.8	0.000	0.000	0.000	0.000	0	155.4	0.000	0.000	0.000	0.000	0
10	180.0	0.000	0.000	0.000	0.000	0	155.7	0.000	0.000	0.000	0.000	0	179.6	0.000	0.000	0.000	0.000	0
11	168.9	0.000	0.000	0.032	0.032	467	171.7	0.000	0.000	0.000	0.000	0	240.0	0.000	0.000	0.000	0.000	0
12	154.8	0.000	0.000	0.000	0.000	0	172.8	0.000	0.000	0.000	0.000	0	275.4	0.000	0.000	0.039	0.039	928
13	146.3	0.000	0.000	0.000	0.000	0	154.3	0.000	0.000	0.000	0.000	0	286.9	0.000	0.000	0.000	0.000	0
14	146.7	0.000	0.000	0.000	0.000	0	150.0	0.000	0.000	0.000	0.000	0	271.3	0.000	0.000	0.000	0.000	0
15	151.8	0.000	0.000	0.000	0.000	0	163.9	0.000	0.000	0.036	0.036	510	246.9	0.000	0.000	0.000	0.000	0
16	158.9	0.000	0.000	0.000	0.000	0	197.2	0.000	0.000	0.000	0.000	0	240.3	0.000	0.000	0.000	0.000	0
17	160.1	0.000	0.000	0.000	0.000	0	191.3	0.000	0.000	0.000	0.000	0	210.8	0.000	0.000	0.000	0.000	0
18	160.1	0.000	0.000	0.030	0.030	415	166.7	0.000	0.000	0.000	0.000	0	198.6	0.000	0.000	0.000	0.000	0
19	166.6	0.000	0.000	0.000	0.000	0	162.9	0.000	0.000	0.000	0.000	0	194.1	0.000	0.000	0.024	0.024	402
20	164.8	0.000	0.000	0.000	0.000	0	143.8	0.000	0.000	0.000	0.000	0	198.7	0.000	0.000	0.000	0.000	0
21	154.4	0.000	0.000	0.000	0.000	0	140.0	0.000	0.000	0.000	0.000	0	177.9	0.000	0.000	0.000	0.000	0
22	147.6	0.000	0.000	0.000	0.000	0	138.5	0.000	0.000	0.036	0.036	431	178.0	0.000	0.000	0.000	0.000	0
23	129.3	0.000	0.000	0.000	0.000	0	159.6	0.000	0.000	0.000	0.000	0	198.7	0.000	0.000	0.000	0.000	0
24	130.0	0.000	0.000	0.000	0.000	0	162.5	0.000	0.000	0.000	0.000	0	173.3	0.000	0.000	0.000	0.000	0
25	167.5	0.000	0.000	0.000	0.000	0	156.7	0.000	0.000	0.000	0.000	0	194.0	0.000	0.000	0.000	0.000	0
26	167.3	0.000	0.000	0.000	0.000	0	156.0	0.000	0.000	0.000	0.000	0	178.3	0.000	0.000	0.030	0.030	462
27	157.8	0.000	0.000	0.000	0.000	0	160.7	0.000	0.000	0.000	0.000	0	199.4	0.000	0.000	0.000	0.000	0
28	140.0	0.000	0.000	0.000	0.000	0	158.0	0.000	0.000	0.000	0.000	0	198.0	0.000	0.000	0.000	0.000	0
29	162.0	0.000	0.000	0.000	0.000	0	175.0	0.000	0.000	0.028	0.028	423						
30	169.7	0.000	0.000	0.000	0.000	0	165.1	0.000	0.000	0.000	0.000	0						
31	170.0	0.000	0.000	0.000	0.000	0	162.6	0.000	0.000	0.000	0.000	0						
Ten Daily Mean																		
Ten Daily I	185.9	0.000	0.000	0.003	0.003	53	179.8	0.000	0.000	0.008	0.008	113	159.5	0.000	0.000	0.002	0.002	32
Ten Daily II	157.9	0.000	0.000	0.006	0.006	88	167.5	0.000	0.000	0.004	0.004	51	236.3	0.000	0.000	0.006	0.006	133
Ten Daily III	154.1	0.000	0.000	0.000	0.000	0	157.7	0.000	0.000	0.006	0.006	78	187.2	0.000	0.000	0.004	0.004	58
Monthly																		
Total						1412						2490						2109

Annual Sediment Load (Metric Tonnes) : 8768864

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : TIKARPARA (EM000G5) **Division : MD,CWC,Burla**

Local River : Mahanadi **Sub-Division : LMSD,CWC,Bhubaneswar**

Day	Mar						Apr						May					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	163.9	0.000	0.000	0.000	0.000	0	187.5	0.000	0.000	0.000	0.000	0	237.4	0.000	0.000	0.000	0.000	0
2	165.0	0.000	0.000	0.000	0.000	0	224.0	0.000	0.000	0.026	0.026	503	238.5	0.000	0.000	0.000	0.000	0
3	168.8	0.000	0.000	0.000	0.000	0	229.8	0.000	0.000	0.000	0.000	0	252.1	0.000	0.000	0.000	0.000	0
4	170.0	0.000	0.000	0.000	0.000	0	226.8	0.000	0.000	0.000	0.000	0	288.0	0.000	0.000	0.000	0.000	0
5	175.4	0.000	0.000	0.030	0.030	455	183.1	0.000	0.000	0.000	0.000	0	274.9	0.000	0.000	0.000	0.000	0
6	136.9	0.000	0.000	0.000	0.000	0	203.7	0.000	0.000	0.000	0.000	0	235.0	0.000	0.000	0.000	0.000	0
7	156.2	0.000	0.000	0.000	0.000	0	241.5	0.000	0.000	0.000	0.000	0	192.6	0.000	0.000	0.029	0.029	483
8	200.4	0.000	0.000	0.000	0.000	0	245.0	0.000	0.000	0.000	0.000	0	198.4	0.000	0.000	0.000	0.000	0
9	188.2	0.000	0.000	0.000	0.000	0	237.6	0.000	0.000	0.027	0.027	554	233.3	0.000	0.000	0.000	0.000	0
10	175.5	0.000	0.000	0.000	0.000	0	228.2	0.000	0.000	0.000	0.000	0	260.9	0.000	0.000	0.000	0.000	0
11	175.0	0.000	0.000	0.000	0.000	0	211.8	0.000	0.000	0.000	0.000	0	250.5	0.000	0.000	0.000	0.000	0
12	176.6	0.000	0.000	0.029	0.029	442	216.8	0.000	0.000	0.000	0.000	0	224.4	0.000	0.000	0.000	0.000	0
13	180.9	0.000	0.000	0.000	0.000	0	221.8	0.000	0.000	0.000	0.000	0	240.0	0.000	0.000	0.000	0.000	0
14	193.2	0.000	0.000	0.000	0.000	0	247.3	0.000	0.000	0.000	0.000	0	233.7	0.000	0.000	0.036	0.036	727
15	207.6	0.000	0.000	0.000	0.000	0	235.0	0.000	0.000	0.000	0.000	0	226.3	0.000	0.000	0.000	0.000	0
16	201.3	0.000	0.000	0.000	0.000	0	212.7	0.000	0.000	0.029	0.029	533	271.4	0.000	0.000	0.000	0.000	0
17	207.4	0.000	0.000	0.000	0.000	0	234.1	0.000	0.000	0.000	0.000	0	281.5	0.000	0.000	0.000	0.000	0
18	210.0	0.000	0.000	0.000	0.000	0	227.4	0.000	0.000	0.000	0.000	0	268.1	0.000	0.000	0.000	0.000	0
19	275.8	0.000	0.000	0.028	0.028	667	218.1	0.000	0.000	0.000	0.000	0	258.8	0.000	0.000	0.000	0.000	0
20	285.0	0.000	0.000	0.000	0.000	0	234.8	0.000	0.000	0.000	0.000	0	250.0	0.000	0.000	0.000	0.000	0
21	281.2	0.000	0.000	0.000	0.000	0	194.8	0.000	0.000	0.000	0.000	0	268.6	0.000	0.000	0.036	0.036	835
22	237.2	0.000	0.000	0.000	0.000	0	175.0	0.000	0.000	0.000	0.000	0	288.7	0.000	0.000	0.000	0.000	0
23	218.1	0.000	0.000	0.000	0.000	0	250.7	0.000	0.000	0.027	0.027	585	292.3	0.000	0.000	0.000	0.000	0
24	219.1	0.000	0.000	0.000	0.000	0	216.5	0.000	0.000	0.000	0.000	0	276.3	0.000	0.000	0.000	0.000	0
25	215.0	0.000	0.000	0.000	0.000	0	253.4	0.000	0.000	0.000	0.000	0	307.9	0.000	0.000	0.000	0.000	0
26	218.1	0.000	0.000	0.030	0.030	565	232.1	0.000	0.000	0.000	0.000	0	280.0	0.000	0.000	0.000	0.000	0
27	195.6	0.000	0.000	0.000	0.000	0	220.3	0.000	0.000	0.000	0.000	0	300.0	0.000	0.000	0.000	0.000	0
28	210.9	0.000	0.000	0.000	0.000	0	209.4	0.000	0.000	0.000	0.000	0	326.4	0.000	0.000	0.034	0.034	959
29	200.0	0.000	0.000	0.000	0.000	0	235.0	0.000	0.000	0.000	0.000	0	275.4	0.000	0.000	0.000	0.000	0
30	190.0	0.000	0.000	0.000	0.000	0	250.0	0.000	0.000	0.000	0.000	0	338.2	0.000	0.000	0.000	0.000	0
31	206.8	0.000	0.000	0.000	0.000	0							351.0	0.000	0.000	0.000	0.000	0
Ten Daily Mean																		
Ten Daily I	170.0	0.000	0.000	0.003	0.003	45	220.7	0.000	0.000	0.027	0.027	529	241.1	0.000	0.000	0.029	0.029	483
Ten Daily II	211.3	0.000	0.000	0.006	0.006	111	226.0	0.000	0.000	0.029	0.029	533	250.5	0.000	0.000	0.036	0.036	727
Ten Daily III	217.5	0.000	0.000	0.003	0.003	51	223.7	0.000	0.000	0.027	0.027	585	300.5	0.000	0.000	0.035	0.035	897
Monthly																		
Total						2130						2175						3004

Annual Sediment Load (Metric Tonnes) : 8768864

Annual Sediment Load for period : 1973-2018

Station Name : TIKARPARA (EM000G5) **Division : MD,CWC,Burla**

Local River : Mahanadi **Sub-Division : LMSD,CWC,Bhubaneswar**

Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)
1973-1974	24222873	84752	24307625	70586
1974-1975	10324047	17140	10341187	18655
1975-1976	39350017	38003	39388020	51696
1976-1977	21706303	95217	21801520	50150
1977-1978	30137685	55339	30193024	60152
1978-1979	44332450	108477	44440927	56326
1979-1980	14536343	110290	14646633	19934
1980-1981	44034457	52560	44087017	68392
1981-1982	18936230	67130	19003360	37359
1982-1983	42140504	51764	42192268	42219
1983-1984	22358581	71670	22430252	54045
1984-1985	13102320	51441	13153760	53553
1985-1986	22150587	40903	22191489	62798
1986-1987	23609194	9219	23618412	59497
1987-1988	5824883	37083	5861966	24105
1988-1989	7701291	123159	7824450	23915
1989-1990	6007311	51713	6059024	29029
1990-1991	17849485	100787	17950271	71176
1991-1992	20361794	59253	20421047	52686
1992-1993	18327294	146087	18473381	52804
1993-1994	10241883	469433	10711316	41685
1994-1995	49549782	715707	50265488	124765
1995-1996	12183397	702758	12886155	38446
1996-1997	5773141	511289	6284430	25472
1997-1998	10270975	734027	11005002	48147
1998-1999	6241357	576601	6817958	34512
1999-2000	3557297	559680	4116977	34358
2000-2001	2742903	47490	2790393	20348
2001-2002	15224146	191861	15416007	66870
2002-2003	2051185	119557	2170742	23799
2003-2004	17666184	294509	17960693	70318
2004-2005	7734910	184116	7919025	41430
2005-2006	11569825	96730	11666554	46816
2006-2007	15982868	127895	16110763	61944
2007-2008	9500059	240455	9740514	55017
2008-2009	8363999	364298	8728296	45678
2009-2010	22751	21201	43952	43003
2010-2011	5711187	60487	5771674	39296
2011-2012	5818319	52040	5870358	45207
2012-2013	7468865	12106	7480971	48067
2013-2014	7526057	49475	7575532	57449
2014-2015	5706682	21899	5728581	52999
2015-2016	2957126	15090	2972216	28796
2016-2017	2847707	15584	2863290	29050
2017-2018	8755543	13320	8768864	27963

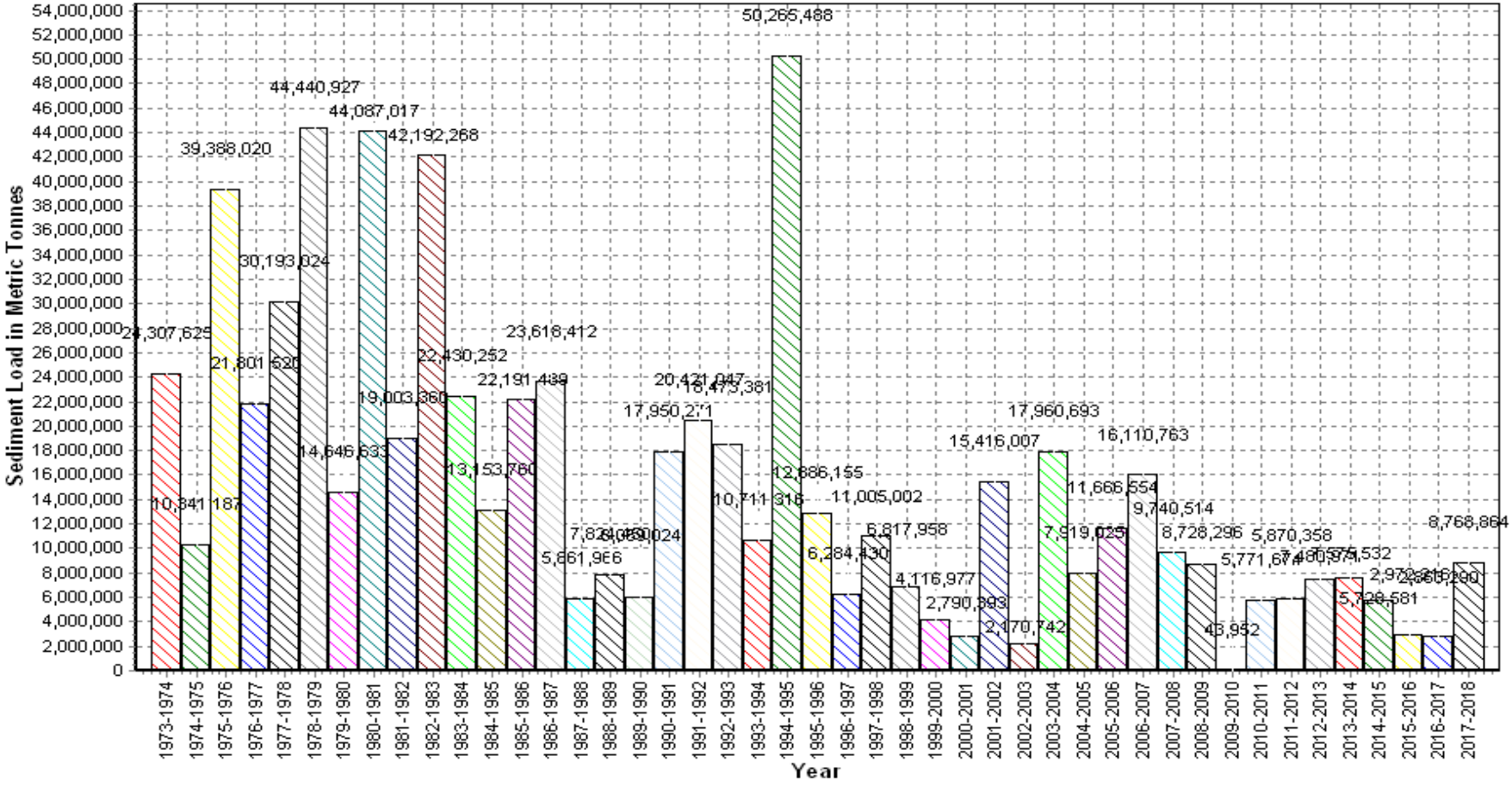
Annual Sediment Load for the period: 1973-2018

Station Name : TIKARPARA (EM000G5)

Local River : Mahanadi

Division : MD,CWC,Burla

Sub-Division : LMSD,CWC,Bhubaneswar



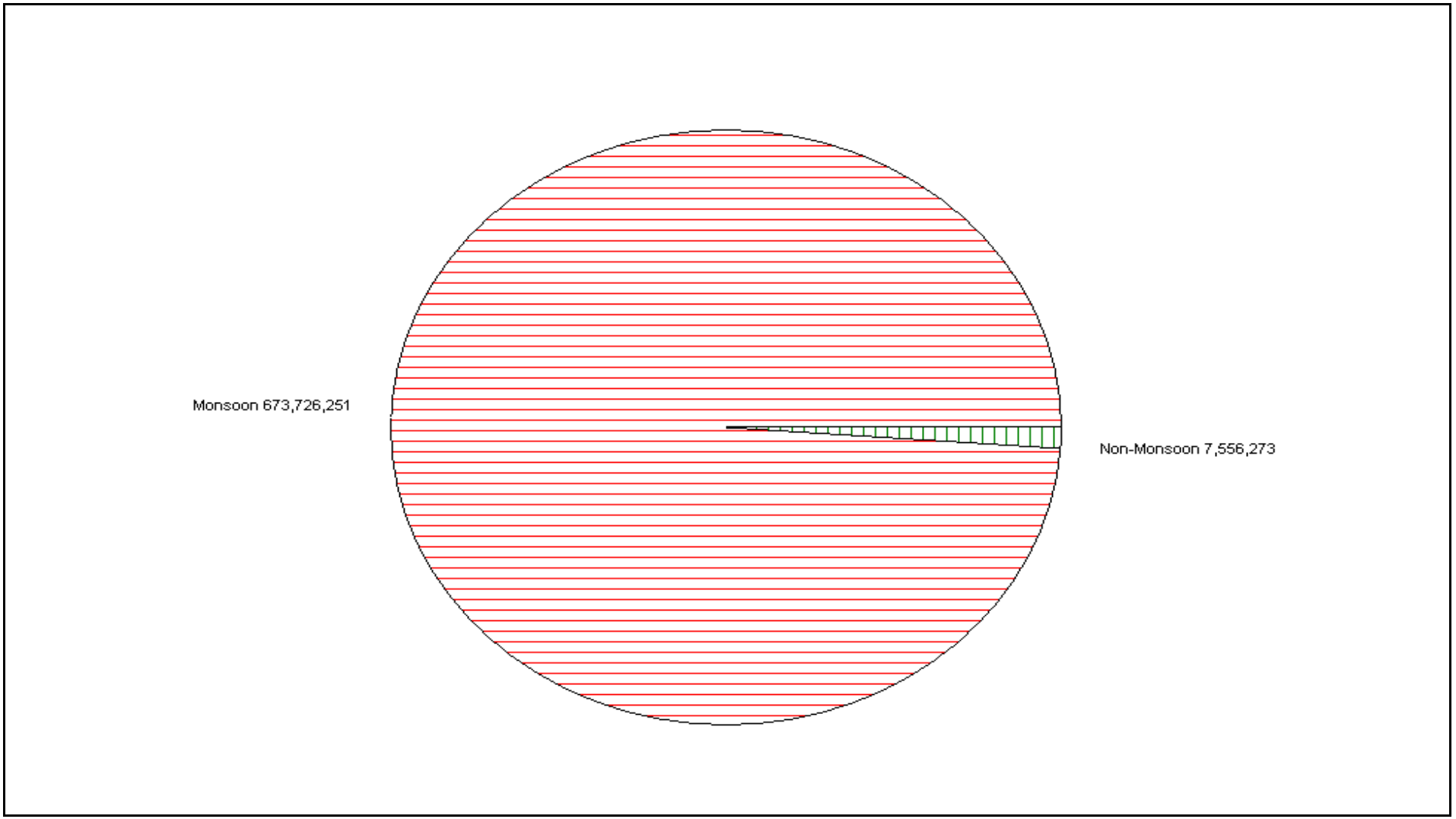
Seasonal Sediment Load for the period : 1973-2017

Station Name : TIKARPARA (EM000G5)

Local River : Mahanadi

Division : MD,CWC,Burla

Sub-Division : LMSD,CWC,Bhubaneswar



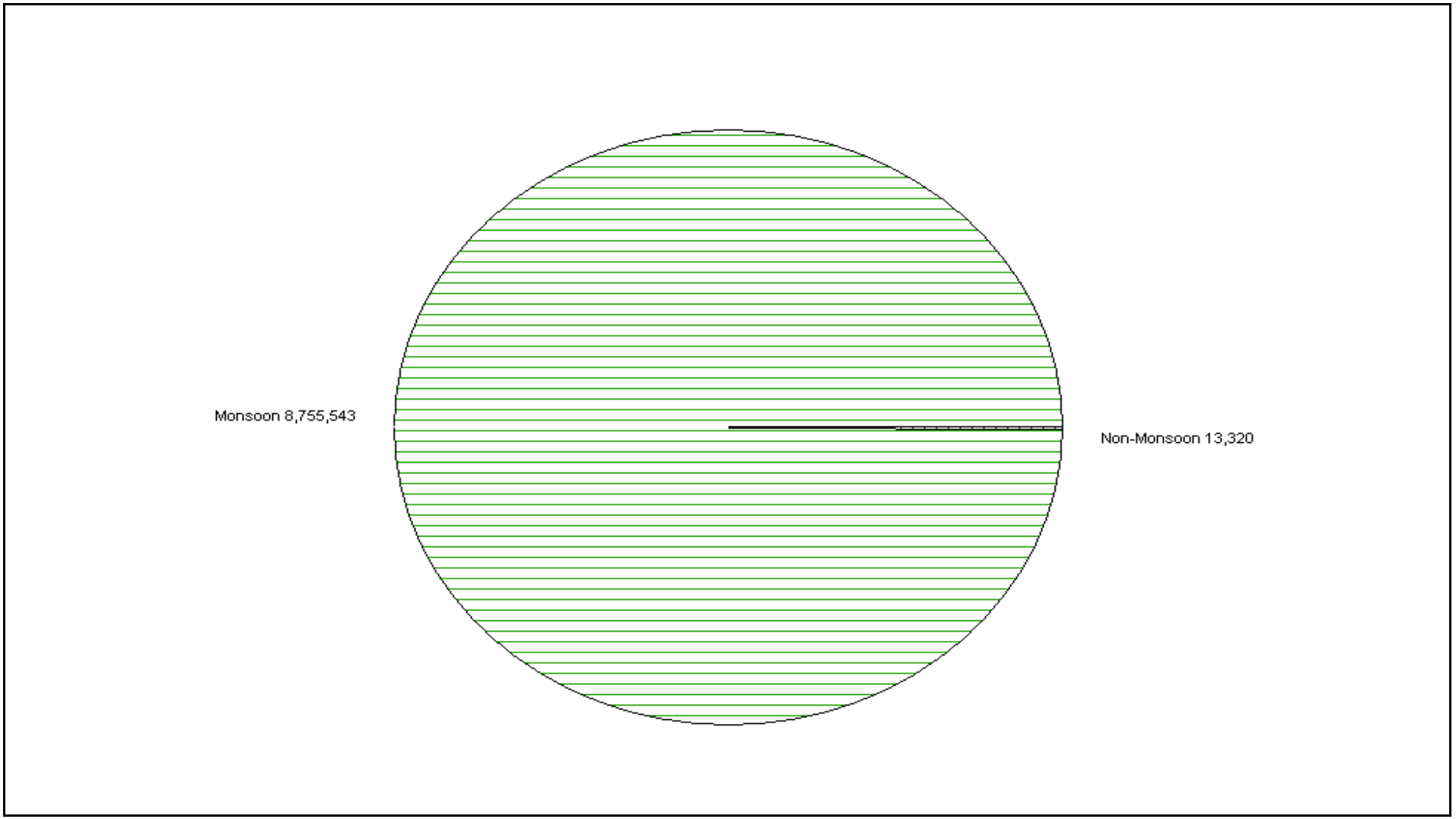
Seasonal Sediment Load for the Year: 2017-2018

Station Name : TIKARPARA (EM000G5)

Local River : Mahanadi

Division : MD,CWC,Burla

Sub-Division : LMSD,CWC,Bhubaneswar



SECTION-III

Water Quality Datasheet for the period : 2017-2018

Station Name : TIKARPARA (EM000G5) **Division : MD,CWC,Burla**

Local River : Mahanadi **River Water Analysis** **Sub-Division : LMSD,CWC,Bhubaneswar**

S.No	Parameters	01/06/2017	01/07/2017	01/08/2017	01/09/2017	03/10/2017	01/11/2017	01/12/2017	01/01/2018	01/02/2018	01/03/2018	02/04/2018	01/05/2018
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)	217.4	992.2	2258	2307	2513	598.6	212.2	184.5	178.5	163.9	224.0	237.4
2	Colour_Cod (-)	Clear	Light Brown	Light Brown	Light Brown	Light Brown	Clear	Clear	Clear	Clear	Clear	Clear	Clear
3	EC_FLD (µmho/cm)	198	248	189	199	175	241	220	188	237	261	488	235
4	EC_GEN (µmho/cm)	190	240	184	193	178	236	215	185	242	258	482	230
5	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free
6	pH_FLD (pH units)	8.2	8.0	7.7	7.6	7.4	7.7	7.9	7.8	7.9	7.9	8.0	7.9
7	pH_GEN (pH units)	8.3	7.9	7.6	7.7	7.5	7.6	7.8	7.7	8.0	7.8	7.9	7.9
8	Temp (deg C)	31.0	28.5	30.0	29.0	28.5	25.0	22.0	22.0	22.5	25.5	27.0	29.5
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	99	79	60	65	79	92	83	88	79	42	83	88
3	B (mg/L)	0.03	0.02	0.03	0.02	0.01	0.02	0.02	0.02	0.03	0.03	0.02	0.03
4	Ca (mg/L)	34	35	34	35	26	37	38	29	31	33	31	21
5	Cl (mg/L)	15.1	15.1	15.1	11.3	10.4	12.1	12.1	10.4	12.1	13.8	12.1	17.3
6	CO3 (mg/L)	9.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
8	Fe (mg/L)	0.4	0.5	0.4	0.4	0.5	0.5	0.5	0.4	0.4	0.3	0.5	0.6
9	HCO3 (mg/L)	101	96	73	79	96	113	101	107	96	51	101	107
10	K (mg/L)	1.7	2.4	2.2	2.6	2.9	3.2	3.6	3.8	0.9	1.2	1.4	1.8
11	Mg (mg/L)	12.6	13.6	10.7	11.7	11.9	11.9	15.1	9.5	11.9	16.7	12.7	8.7
12	Na (mg/L)	6.2	7.0	5.3	5.9	6.3	6.8	6.1	6.5	9.0	10.1	11.5	8.4
13	NO2+NO3 (mg N/L)	1.22	1.19	1.20	1.12	1.19	1.15	1.18	1.22	1.16	1.19	1.22	1.25
14	NO2-N (mgN/L)	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	NO3-N (mgN/L)	1.21	1.18	1.19	1.12	1.19	1.15	1.18	1.22	1.16	1.19	1.22	1.25
16	P-Tot (mgP/L)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
17	SiO2 (mg/L)	7.5	8.0	7.8	8.8	6.0	9.9	7.5	8.5	9.5	7.5	8.7	9.0
18	SO4 (mg/L)	11.6	14.9	15.3	6.0	7.0	7.1	7.4	7.6	7.6	34.3	24.8	35.5

Water Quality Datasheet for the period : 2017-2018

Station Name : TIKARPARA (EM000G5) **Division : MD,CWC,Burla**

Local River : Mahanadi **River Water Analysis** **Sub-Division : LMSD,CWC,Bhubaneswar**

S.No	Parameters	01/06/2017	01/07/2017	01/08/2017	01/09/2017	03/10/2017	01/11/2017	01/12/2017	01/01/2018	01/02/2018	01/03/2018	02/04/2018	01/05/2018
		A	A	A	A	A	A	A	A	A	A	A	A
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)	1.6	0.6	0.6	0.6	0.4	0.4	0.2	0.2	0.6	0.2	1.0	0.4
2	DO (mg/L)	7.0	6.2	6.4	6.2	6.0	6.0	6.8	6.0	6.2	3.8	2.2	5.6
3	DO_SAT% (%)	94	79	84	80	76	72	77	68	71	46	27	72
4	FCol-MPN (MPN/100mL)	130	40	140	80	60	70	60	80	90	90	80	90
5	Tcol-MPN (MPN/100mL)	210	130	330	230	140	170	130	210	230	210	220	260
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)	84	88	84	88	65	92	95	72	78	82	78	52
2	HAR_Total (mgCaCO3/L)	137	145	129	137	115	141	158	112	128	151	131	89
3	Na% (%)	9	9	8	8	10	9	8	11	13	13	16	17
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.2	0.3	0.2	0.2	0.3	0.2	0.2	0.3	0.3	0.4	0.4	0.4
	PESTICIDES												

Water Quality Summary for the period : 2017-2018

Station Name : TIKARPARA (EM000G5) **Division : MD,CWC,Burla**

Local River : Mahanadi **Sub-Division : LMSD,CWC,Bhubaneswar**

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	365	8007	115.9	886.7
2	EC_FLD (µmho/cm)	12	488	175	240
3	EC_GEN (µmho/cm)	12	482	178	236
4	pH_FLD (pH units)	12	8.2	7.4	7.8
5	pH_GEN (pH units)	12	8.3	7.5	7.8
6	Temp (deg C)	12	31.0	22.0	26.7
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	12	8.0	0.0	0.7
2	ALK-TOT (mgCaCO3/L)	12	99	42	78
3	B (mg/L)	12	0.03	0.01	0.02
4	Ca (mg/L)	12	38	21	32
5	Cl (mg/L)	12	17.3	10.4	13.1
6	CO3 (mg/L)	12	9.6	0.0	0.8
7	F (mg/L)	12	0.05	0.05	0.05
8	Fe (mg/L)	12	0.6	0.3	0.4
9	HCO3 (mg/L)	12	113	51	93
10	K (mg/L)	12	3.8	0.9	2.3
11	Mg (mg/L)	12	16.7	8.7	12.3
12	Na (mg/L)	12	11.5	5.3	7.4
13	NO2+NO3 (mg N/L)	12	1.25	1.12	1.19
14	NO2-N (mgN/L)	12	0.01	0.00	0
15	NO3-N (mgN/L)	12	1.25	1.12	1.19
16	P-Tot (mgP/L)	12	0.001	0.001	0.001
17	SiO2 (mg/L)	12	9.9	6.0	8.2
18	SO4 (mg/L)	12	35.5	6.0	14.9
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	12	1.6	0.2	0.6
2	DO (mg/L)	12	7.0	2.2	5.7
3	DO_SAT% (%)	12	94	27	71
4	FCol-MPN (MPN/100mL)	12	140	40	84
5	Tcol-MPN (MPN/100mL)	12	330	130	206
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	12	95	52	80
2	HAR_Total (mgCaCO3/L)	12	158	89	131
3	Na% (%)	12	17	8	11
4	RSC (-)	12	0.0	0.0	0
5	SAR (-)	12	0.4	0.2	0.3
	PESTICIDES				

Water Quality Seasonal Average for the period: 2003-2018

Station Name : TIKARPARA (EM000G5) | **Division : MD,CWC,Burla**

Local River : Mahanadi | **River Water** | **Sub-Division : LMSD,CWC,Bhubaneswar**

S.No	Parameters	Flood														
		Jun - Oct														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	PHYSICAL															
1	Q (cumec)	5240	1866	2942	6134	4002	3592	1782	2436	2181	1945	6289	4306	1411	1006	1658
2	EC_FLD (µmho/cm)	153	152	164	162	155	171	173	198	188	182	162	183	339	181	202
3	EC_GEN (µmho/cm)	153	152	165	157	154	171	173	198	188	182	162	183	333	184	197
4	pH_FLD (pH units)	7.4	7.9	7.8	7.9	7.9	7.7	7.9	7.9	8.3	7.8	7.7	7.8	7.3	7.8	7.8
5	pH_GEN (pH units)	7.4	7.9	7.8	7.9	7.9	7.7	7.9	7.9	8.3	7.8	7.7	7.8	7.5	7.9	7.8
6	TDS (mg/L)							117	127							
7	Temp (deg C)	29.3	29.3	28.7	28.2	29.0	29.5	28.6	29.7	29.4	28.7	25.0	28.3	30.3	29.8	29.4
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)					0.0	0.0	2.4	6.4	13.5	0.0		0.0	0.0	0.0	1.6
2	ALK-TOT (mgCaCO3/L)					45	59	51	66	90	93		72	70	65	76
3	B (mg/L)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.02	0.01	0.02
4	Ca (mg/L)	16	15	19	19	14	17	17	21	18	21	23	18	20	43	33
5	Cl (mg/L)	11.4	9.8	12.4	11.5	14.4	10.6	9.3	11.9	12.8	17.5	24.3	15.6	12.1	29.8	13.4
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	0.0	2.9	7.7	16.3	0.0	0.0	0.0	0.0	0.0	1.9
7	F (mg/L)	0.00	0.19	0.00	0.00	0.00	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
8	Fe (mg/L)	0.2	0.1	0.1	0.2	0.2	0.3	0.1	0.1	0.0	2.7	0.0	0.3	0.4	0.4	0.4
9	HCO3 (mg/L)	66	69	70	73	55	68	57	65	77	110	65	88	86	79	89
10	K (mg/L)	1.6	1.9	2.2	2.2	2.1	2.3	1.9	2.5	2.1	4.4	1.5	2.1	3.0	7.3	2.4
11	Mg (mg/L)	3.2	4.9	2.9	4.6	5.1	6.4	5.4	7.0	7.2	7.0	6.2	6.6	11.9	18.5	12.1
12	Na (mg/L)	8.1	6.6	8.3	7.3	9.8	7.0	5.9	7.2	7.4	10.0	12.4	7.4	7.0	22.8	6.1
13	NO2+NO3 (mg N/L)	0.21	0.88	0.34	0.74	1.73	0.37	1.00	0.52	0.39	1.07	0.95	1.03	1.02	0.91	1.19
14	NO2-N (mgN/L)	0.00	0.00	0.01	0.02	0.01	0.00	0.00	0.00	0.07	0.00	0.00	0.01	0.02	0.02	0.01
15	NO3-N (mgN/L)	0.21	0.88	0.32	0.72	1.73	0.37	1.00	0.52	0.32	1.07	0.95	1.02	1.00	0.90	1.18
16	o-PO4-P (mg P/L)		0.000	0.017	0.008	0.000		0.014								
17	P-Tot (mgP/L)	0.001	0.001	0.001	0.009	0.001	0.002	0.002	0.001	0.010	0.001	0.001	0.001	0.005	0.010	0.001
18	SiO2 (mg/L)	10.0	15.3	18.6	11.7	9.5	10.1	8.6	8.0	15.6	21.2	10.2	9.4	7.6	6.2	7.6
19	SO4 (mg/L)	1.1	4.2	1.7	6.2	7.0	9.4	10.7	12.1	9.4	45.6	18.4	15.4	10.3	11.2	10.9

Water Quality Seasonal Average for the period: 2003-2018

Station Name : TIKARPARA (EM000G5) | **Division : MD,CWC,Burla**

Local River : Mahanadi | **River Water** | **Sub-Division : LMSD,CWC,Bhubaneswar**

S.No	Parameters	Flood														
		Jun - Oct														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.7	0.6	0.7	0.9	0.9	0.9	1.3	1.1	1.2	0.7	0.8	0.4	0.9	1.2	0.8
2	DO (mg/L)	6.2	7.0	6.6	6.9	7.1	6.4	7.1	7.1	6.4	6.3	6.3	6.3	6.1	7.8	6.3
3	DO_SAT% (%)	81	90	85	88	92	84	92	93	83	81	77	81	80	103	83
4	FCol-MPN (MPN/100mL)					20	10	9	205		11					90
5	Tcol-MPN (MPN/100mL)					29	12	17	230		21					208
	TRACE & TOXIC															
1	Al (mg/L)			2.70		0.00										
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	41	38	48	47	36	42	43	51	44	54	57	44	50	107	82
2	HAR_Total (mgCaCO3/L)	54	57	60	66	57	68	66	80	74	83	83	71	99	184	132
3	Na% (%)	24	19	24	19	28	18	16	16	17	19	24	18	13	20	9
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.0	0.1	0.0	0.0	0.0
5	SAR (-)	0.5	0.4	0.5	0.4	0.6	0.4	0.3	0.4	0.4	0.5	0.6	0.4	0.3	0.7	0.2
	PESTICIDES															

Water Quality Seasonal Average for the period: 2003-2018

Station Name : TIKARPARA (EM000G5) | **Division : MD,CWC,Burla**

Local River : Mahanadi | **River Water** | **Sub-Division : LMSD,CWC,Bhubaneswar**

S.No	Parameters	Winter														
		Nov - Feb														
		2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
	PHYSICAL															
1	Q (cumec)	751.5	491.6	559.6	571.0	859.1	741.8	406.4	448.2	491.1	312.7	1063	421.7	228.3	266.1	293.4
2	EC_FLD (µmho/cm)	173	165	196	240	154	168	205	231	169	210	188	253	475	367	222
3	EC_GEN (µmho/cm)	173	165	191	236	153	168	205	231	169	210	188	253	475	369	220
4	pH_FLD (pH units)	7.6	7.9	8.1	8.1	8.0	7.9	7.8	7.9	7.8	7.2	8.2	7.9	7.5	8.1	7.8
5	pH_GEN (pH units)	7.6	7.9	8.1	8.1	8.0	8.0	7.8	7.9	7.8	7.2	8.2	7.9	7.8	8.1	7.8
6	TDS (mg/L)							133	151							
7	Temp (deg C)	23.6	22.0	21.8	22.5	21.8	23.0	22.3	24.8	23.1	23.0	23.4	24.4	24.0	21.8	22.9
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)					0.0	0.0	0.0	0.0	4.6	0.0		0.0	11.5	0.0	0.0
2	ALK-TOT (mgCaCO3/L)					55	48	69	82	79	71		69	105	59	85
3	B (mg/L)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.01	0.02
4	Ca (mg/L)	20	17	22	28	11	15	18	20	20	18	19	20	19	58	34
5	Cl (mg/L)	10.6	9.6	12.5	13.9	12.6	12.7	14.6	13.2	10.4	21.8	19.5	13.3	14.6	39.5	11.7
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.5	0.0	0.0	0.0	13.9	0.0	0.0
7	F (mg/L)	0.00	0.28	0.00	0.11	0.00	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
8	Fe (mg/L)	0.0	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.0	2.4	0.1	0.4	0.4	0.4	0.5
9	HCO3 (mg/L)	80	82	100	110	68	58	84	104	96	86	98	86	100	72	104
10	K (mg/L)	1.6	1.7	2.3	2.0	2.4	1.7	1.7	2.0	1.7	4.0	1.3	1.8	2.0	23.6	2.9
11	Mg (mg/L)	4.6	6.8	5.7	5.8	7.3	5.1	8.0	10.2	3.6	7.8	3.7	5.3	12.1	24.8	12.1
12	Na (mg/L)	8.1	6.6	8.8	9.9	7.5	8.1	10.0	8.8	7.0	10.8	10.2	6.7	6.2	56.3	7.1
13	NO2+NO3 (mg N/L)	0.81	0.40	0.48	0.58	0.27	0.31	0.34	0.92	0.41	0.99	0.81	1.22	1.10	1.18	1.18
14	NO2-N (mgN/L)	0.02	0.00	0.03	0.02	0.04	0.00	0.00	0.08	0.07	0.00	0.00	0.01	0.00	0.00	0.00
15	NO3-N (mgN/L)	0.78	0.40	0.45	0.56	0.23	0.31	0.34	0.84	0.34	0.99	0.81	1.21	1.09	1.18	1.18
16	o-PO4-P (mg P/L)			0.000	0.021	0.000		0.017								
17	P-Tot (mgP/L)	0.001	0.001	0.001	0.007	0.001	0.002	0.001	0.001	0.010	0.001	0.001	0.001	0.010	0.010	0.001
18	SiO2 (mg/L)	7.9	16.1	23.4	12.7	10.1	9.5	8.9	8.1	16.0	23.8	9.8	9.4	5.5	6.3	8.8
19	SO4 (mg/L)	2.4	4.1	2.2	1.9	5.7	8.1	11.3	8.2	4.4	15.6	19.7	13.1	5.5	8.0	7.4

Water Quality Seasonal Average for the period: 2003-2018

Station Name : TIKARPARA (EM000G5) | **Division : MD,CWC,Burla**

Local River : Mahanadi | **River Water** | **Sub-Division : LMSD,CWC,Bhubaneswar**

S.No	Parameters	Winter														
		Nov - Feb														
		2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.5	0.9	0.7	0.8	0.8	1.3	1.3	1.0	1.5	0.3	0.5	0.2	0.9	1.0	0.4
2	DO (mg/L)	8.0	7.7	8.4	7.3	7.3	8.3	7.7	7.8	7.3	7.5	7.6	8.3	8.1	8.6	6.2
3	DO_SAT% (%)	94	87	95	84	82	96	88	93	84	87	90	100	96	97	72
4	FCol-MPN (MPN/100mL)					7	7	12	34		16				65	75
5	Tcol-MPN (MPN/100mL)					9	8	16	230		25				120	185
	TRACE & TOXIC															
1	Al (mg/L)															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	50	42	56	70	29	38	45	49	51	46	49	51	48	144	84
2	HAR_Total (mgCaCO3/L)	69	61	80	94	59	59	78	92	66	78	64	73	99	248	135
3	Na% (%)	21	17	19	19	21	23	21	17	18	22	26	16	11	31	10
4	RSC (-)	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.3	0.0	0.3	0.0	0.4	0.0	0.0
5	SAR (-)	0.4	0.3	0.4	0.5	0.4	0.5	0.5	0.4	0.4	0.5	0.6	0.3	0.3	1.6	0.3
	PESTICIDES															

Water Quality Seasonal Average for the period: 2003-2018

Station Name : TIKARPARA (EM000G5) | **Division : MD,CWC,Burla**

Local River : Mahanadi | **River Water** | **Sub-Division : LMSD,CWC,Bhubaneswar**

S.No	Parameters	Summer														
		Mar - May														
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	PHYSICAL															
1	Q (cumec)	436.4	313.1	313.7	220.9	498.7	405.1	268.6	381.5	261.8	399.4	364.8	268.5	231.9	243.6	208.5
2	EC_FLD (µmho/cm)	348	217	208	215	213	243	194	297	220	233	203	293	367	244	328
3	EC_GEN (µmho/cm)	348	209	205	215	213	243	194	297	220	233	203	293	369	249	323
4	pH_FLD (pH units)	7.3	8.0	8.2	8.1	8.1	8.1	8.0	8.4	8.0	7.9	7.9	7.9	8.0	7.7	7.9
5	pH_GEN (pH units)	7.3	8.1	8.3	8.1	8.2	8.1	8.0	7.9	8.0	7.8	7.9	7.9	8.2	7.8	7.9
6	TDS (mg/L)							130	195							
7	Temp (deg C)	26.0	26.2	27.5	29.5	26.2	29.0	27.7	26.7	27.7	27.7	28.1	28.2	28.4	26.7	27.3
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)				0.0		0.0	0.0	14.6	0.0	0.0		0.0	23.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)				162		76	66	106	86	76		83	120	91	71
3	B (mg/L)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.02	0.03
4	Ca (mg/L)	37	20	26	27	19	23	18	31	28	22	18	24	38	55	28
5	Cl (mg/L)	19.7	13.6	11.9	10.9	18.2	14.9	14.2	17.0	16.3	23.7	17.5	13.9	15.7	13.2	14.4
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.8	0.0	0.0	0.0	0.0	27.7	0.0	0.0
7	F (mg/L)	0.00	0.13	0.00	0.14	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
8	Fe (mg/L)	0.1	0.1	0.2	0.3	0.2	0.3	0.2	0.1	0.0	2.8	0.1	0.4	0.4	0.5	0.5
9	HCO3 (mg/L)	167	97	107	113	82	93	81	108	105	100	76	99	90	111	86
10	K (mg/L)	2.2	1.6	2.3	3.0	1.3	1.9	1.7	2.2	2.1	2.6	1.0	2.1	1.2	14.6	1.5
11	Mg (mg/L)	12.6	7.3	5.2	6.8	7.0	8.4	8.1	11.0	3.2	8.9	4.2	4.5	15.2	21.7	12.7
12	Na (mg/L)	14.5	9.0	8.9	8.0	12.5	10.1	8.2	9.6	8.6	9.5	9.9	11.1	5.3	79.6	10.0
13	NO2+NO3 (mg N/L)	0.53	0.57	0.77	0.54	0.83	1.06	0.68	1.17	0.41	0.90	0.69	0.97	0.96	1.09	1.22
14	NO2-N (mgN/L)	0.01	0.00	0.05	0.01	0.03	0.00	0.00	0.37	0.07	0.00	0.00	0.00	0.00	0.02	0.00
15	NO3-N (mgN/L)	0.51	0.57	0.73	0.53	0.80	1.06	0.68	0.80	0.35	0.90	0.69	0.97	0.96	1.07	1.22
16	o-PO4-P (mg P/L)		0.000	0.028	0.000			0.003								
17	P-Tot (mgP/L)	0.001	0.001	0.014	0.001	0.050	0.002	0.001	0.001	0.010	0.001	0.001	0.001	0.010	0.010	0.001
18	SiO2 (mg/L)	14.3	14.9	20.2	15.4	8.7	10.5	8.8	11.7	16.3	21.7	14.4	10.0	5.3	8.0	8.4
19	SO4 (mg/L)	3.9	2.1	2.0	4.3	10.4	11.2	6.5	4.1	5.3	20.2	16.7	13.7	9.6	8.7	31.5

Water Quality Seasonal Average for the period: 2003-2018

Station Name : TIKARPARA (EM000G5) | **Division : MD,CWC,Burla**

Local River : Mahanadi | **River Water** | **Sub-Division : LMSD,CWC,Bhubaneswar**

S.No	Parameters	Summer														
		Mar - May														
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.7	0.6	0.8	0.8	0.8	1.2	1.1	1.3	1.5	1.1	0.3	0.8	0.9	0.9	0.5
2	DO (mg/L)	7.6	6.9	7.7	6.2	6.9	7.4	7.5	7.3	6.7	6.2	6.6	5.8	6.7	6.2	3.8
3	DO_SAT% (%)	93	84	96	80	85	96	95	91	84	79	84	75	85	76	48
4	FCol-MPN (MPN/100mL)				9	4	8	10	8		13				93	87
5	Tcol-MPN (MPN/100mL)				350	4	10	13	10		16				207	230
	TRACE & TOXIC															
1	Al (mg/L)															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	93	49	64	68	48	57	45	76	69	55	45	60	96	138	71
2	HAR_Total (mgCaCO3/L)	146	78	86	96	77	93	79	122	83	92	62	78	160	228	124
3	Na% (%)	18	19	18	15	26	19	18	14	18	18	25	24	6	42	15
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.0
5	SAR (-)	0.5	0.4	0.4	0.4	0.6	0.5	0.4	0.4	0.4	0.4	0.5	0.6	0.2	2.3	0.4
	PESTICIDES															

SITE BOUDH

HISTORY SHEET

Water Year : 2017-2018

Site	**:**	**BOUDH**	**Code**	**:**	**BOUDH**
State	:	Orissa	District		Angul
Basin	:	Mahanadi	Independent River	:	Mahanadi
Tributary	:		Sub Tributary	:	
Sub-Sub Tributary	:		Local River	:	
Division	:	MD,CWC,Burla	Sub-Division	:	MMSD II,CWC,Burla
Drainage Area	:	Sq. Km.	Bank	:	Left
Latitude	:	20°51'56"	Longitude	:	84°18'48"
Zero of Gauge (m)	:	74 (m.s.l)	31/03/2015		
		Opening Date	Closing Date		
Gauge	:	31/03/2015			
Discharge	:	31/03/2015			
Sediment	:				
Water Quality	:				

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

	Maximum			Minimum		
Year	**Q (cumecs)**	**WL (m)**	**Date**	**Q (cumecs)**	**WL (m)**	**Date**
2015-2016	15080	85.220	18/09/2015	0.000	79.460	05/06/2015
2016-2017	13674	85.060	08/08/2016	133.8	80.650	26/12/2016

Q : Observed / Computed Discharge WL : Corresponding Water Level(m.s.l)

Stage-Dischage Data for the period 2017 - 2018

Station Name : BOUDH (BOUDH) **Division : MD,CWC,Burla**

Local River : **Sub-Division : MMSD II,CWC,Burla**

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	80.840	312.4	81.735	1107	82.150	2001	82.190	2306	82.040	2025 *	81.130	525.5
2	80.855	327.6	81.680	1070 *	81.940	1615	81.990	1607 *	82.020	1963 *	81.095	506.4
3	81.060	471.1	81.635	1041	81.955	1571	82.130	2097 *	82.405	2563	81.010	453.7
4	81.100	490.1 *	81.655	1066	81.885	1581	82.130	2097	82.515	2688	81.080	490.4 *
5	81.135	513.6	81.655	1071	81.890	1585	82.005	1883	82.300	2212	81.070	485.1 *
6	81.155	547.9	81.660	1082	81.910	1617 *	81.885	1604	81.975	1770	81.060	452.2
7	81.155	541.7	81.625	1049	82.130	1956	81.925	1793	81.950	1664	81.060	416.5
8	81.180	571.0	81.575	1010	82.265	2281	81.875	1599	82.440	2327 *	81.010	409.2
9	81.145	499.8	81.560	989.8 *	82.235	2181	81.785	1229	82.075	1864	81.030	428.3
10	81.085	481.2	81.660	1117	81.930	1662	81.820	1251 *	82.140	2036	81.085	473.5
11	81.160	568.1 *	81.965	1816	81.940	1679	81.620	1121	82.500	2800	81.150	500.3
12	81.125	527.1	81.805	1501	81.860	1550	81.675	1171	82.165	2094	81.150	500.2 *
13	81.150	542.1	81.590	1072	81.730	1325 *	81.595	1093	82.210	2040	81.140	473.6
14	81.150	546.2	81.685	1138	81.855	1565	81.585	1073	82.275	2345	81.090	468.4
15	81.145	525.9	81.825	1647	81.920	1721 *	81.760	1150	81.920	1762 *	81.110	495.5
16	81.285	584.8	81.790	1453 *	82.010	1857	81.905	1656	82.010	1912	81.060	473.2
17	81.240	570.3	81.745	1258	81.950	1756	82.030	1753 *	81.785	1402	81.110	500.7
18	81.250	575.5 *	83.855	6681	82.350	2471	81.840	1596	81.685	1052	81.080	462.3
19	81.175	536.4	83.385	5540	82.575	2984	82.050	1794	81.590	1071 *	81.070	460.2 *
20	81.215	562.8	83.590	6052	82.300	2505 *	82.385	2496	81.685	1080	81.125	470.9
21	81.265	598.0	83.845	6870	82.425	2723	82.750	3165	82.005	1969	81.140	479.9
22	81.250	588.8	82.610	2897	82.190	2278	83.140	4007	82.190	2200 *	81.060	459.2
23	81.290	616.7	82.260	2277 *	81.805	1489	82.500	2641	81.875	1679	80.980	312.5
24	81.480	762.8	81.970	1804	81.770	1327	82.170	2106 *	81.595	985.5	80.940	298.0
25	81.770	860.5 *	83.565	5979	81.755	1276	81.955	1762	81.510	852.4	80.900	281.7
26	81.630	813.3 *	83.920	6793	81.810	1376	81.825	1651	81.450	766.6	80.870	262.7 *
27	81.290	698.5	83.445	5363	82.050	1934 *	82.545	2810	81.570	1022	80.795	211.2
28	81.330	739.6	81.865	3733	81.950	1718	82.065	2032	81.515	962.8	80.795	212.6
29	81.390	785.8	84.080	9805	82.280	2411	81.880	1701 *	81.280	600.0 *	80.780	203.5
30	81.720	1099	83.890	7925 *	82.975	4337	81.900	1800 *	81.210	540.4	80.790	213.7
31			82.685	2841	82.560	3127			81.195	535.0		
Ten-Daily Mean												
I Ten-Daily	81.071	475.7	81.644	1060	82.029	1805	81.974	1747	82.186	2111	81.063	464.1
II Ten-Daily	81.189	553.9	82.324	2816	82.049	1941	81.844	1490	81.982	1756	81.109	480.5
III Ten-Daily	81.442	756.3	83.103	5117	82.143	2182	82.273	2367	81.581	1101	80.905	293.5
Monthly												
Min.	80.840	312.4	81.560	989.8	81.730	1276	81.585	1073	81.195	535.0	80.780	203.5
Max.	81.770	1099	84.080	9805	82.975	4337	83.140	4007	82.515	2800	81.150	525.5
Mean	81.234	595.3	82.381	3066	82.076	1983	82.030	1868	81.906	1638	81.026	412.7

Annual Runoff in MCM = 28360 Annual Runoff in mm =

Peak Observed Discharge = 9805 cumecs on 29/07/2017 Corres. Water Level :84.08 m

Lowest Observed Discharge = 112.8 cumecs on 07/02/2018 Corres. Water Level :80.42 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Dischage Data for the period 2017 - 2018

Station Name : BOUDH (BOUDH) **Division : MD,CWC,Burla**

Local River : **Sub-Division : MMSD II,CWC,Burla**

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	80.790	217.5	80.490	143.7	80.520	170.5	80.540	165.8	80.620	191.7 *	80.720	223.8
2	80.680	202.2 *	80.545	179.3	80.520	167.0	80.580	185.0 *	80.670	217.8	80.640	195.4
3	80.620	193.9 *	80.590	197.2	80.520	161.7	80.640	213.8	80.680	220.4	80.800	279.8
4	80.610	192.6	80.560	185.3	80.500	152.8 *	80.590	199.7 *	80.540	162.6	80.770	261.7
5	80.570	136.4	80.490	140.6	80.470	137.7	80.440	140.8	80.590	187.5	80.610	194.3
6	80.570	130.0	80.480	137.4	80.470	139.5	80.500	153.5	80.690	224.7	80.590	189.2 *
7	80.590	149.7	80.480	137.4 *	80.420	112.8	80.620	196.1	80.700	228.8	80.560	182.5
8	80.610	173.1	80.500	140.4	80.570	169.4	80.580	172.9	80.690	223.3 *	80.670	230.7
9	80.600	165.6	80.490	138.6	80.570	174.6	80.580	175.8	80.680	217.4	80.710	240.1
10	80.560	145.0 *	80.550	157.0	80.620	200.0	80.620	198.3	80.640	202.0	80.700	225.0
11	80.530	129.7	80.550	158.5	80.680	218.0 *	80.620	198.4 *	80.600	190.1	80.600	199.5
12	80.500	117.1	80.550	159.1	80.790	250.5	80.610	186.5	80.680	228.3	80.680	220.7
13	80.520	130.9	80.500	130.6	80.740	225.5	80.620	192.5	80.700	237.4	80.660	213.2 *
14	80.530	137.3	80.480	121.3 *	80.670	210.3	80.600	171.8	80.670	225.6	80.640	201.6
15	80.530	140.6	80.595	181.8	80.670	212.7	80.630	193.6	80.680	232.3 *	80.730	258.7
16	80.540	154.1	80.580	177.1	80.590	187.8	80.640	202.5	80.680	232.0	80.750	266.4
17	80.530	156.1 *	80.520	158.7	80.530	175.4	80.670	218.9	80.670	208.9	80.730	234.5
18	80.540	158.1	80.540	163.0	80.530	174.6 *	80.820	287.6 *	80.690	227.8	80.690	219.0
19	80.500	139.2	80.480	138.1	80.530	173.1	80.820	287.6	80.700	236.3	80.650	206.3
20	80.480	131.8	80.480	136.7	80.530	165.4	80.800	266.1	80.650	204.3	80.650	206.2 *
21	80.460	118.2	80.480	139.1 *	80.520	156.2	80.660	221.8	80.520	180.2	80.730	237.2
22	80.460	115.9	80.490	142.4	80.620	192.9	80.650	198.0	80.540	181.3 *	80.790	310.2
23	80.510	148.9	80.500	157.6	80.520	179.5	80.670	223.1	80.600	203.7	80.770	298.3
24	80.500	145.5 *	80.510	160.7	80.520	179.8	80.610	165.2	80.710	242.0	80.820	324.9
25	80.500	145.5 *	80.500	149.5	80.520	179.7 *	80.590	176.4 *	80.660	222.9	80.760	274.6
26	80.470	139.6	80.510	162.9 *	80.620	202.9	80.580	170.2	80.610	204.2	80.800	314.5
27	80.450	124.1	80.520	172.1	80.600	182.6	80.650	196.2	80.580	195.5	80.780	270.6 *
28	80.475	140.8	80.500	145.2 *	80.510	160.0	80.650	194.3	80.740	233.5	80.760	226.9
29	80.490	147.4	80.500	145.2			80.630	187.1 *	80.740	233.5 *	80.920	347.8
30	80.510	148.2	80.510	157.4			80.610	179.9 *	80.730	228.5 *	80.920	353.2
31	80.500	147.2 *	80.540	181.8			80.570	165.5			80.870	324.7
Ten-Daily Mean												
I Ten-Daily	80.620	170.6	80.518	155.7	80.518	158.6	80.569	180.2	80.650	207.6	80.677	222.3
II Ten-Daily	80.520	139.5	80.527	152.5	80.626	199.3	80.683	220.6	80.672	222.3	80.678	222.6
III Ten-Daily	80.484	138.3	80.505	155.8	80.554	179.2	80.625	188.9	80.643	212.5	80.811	298.4
Monthly												
Min.	80.450	115.9	80.480	121.3	80.420	112.8	80.440	140.8	80.520	162.6	80.560	182.5
Max.	80.790	217.5	80.595	197.2	80.790	250.5	80.820	287.6	80.740	242.0	80.920	353.2
Mean	80.540	149.1	80.516	154.7	80.567	179	80.625	196.3	80.655	214.1	80.725	249.4

Peak Computed Discharge = 7925 cumecs on 30/07/2017 Corres. Water Level :83.89 m

Lowest Computed Discharge = 121.3 cumecs on 14/01/2018 Corres. Water Level :80.48 m

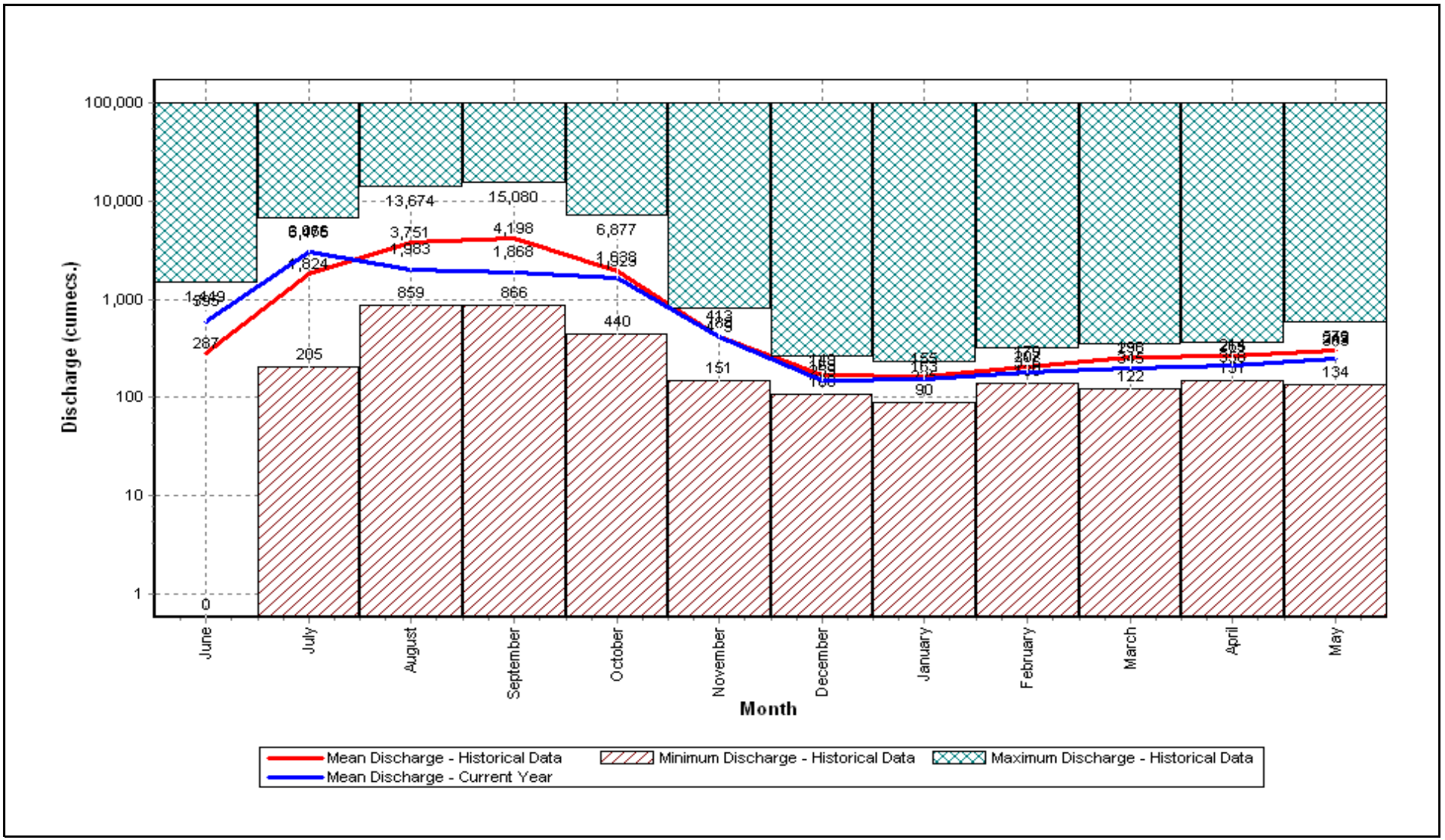
Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2017-2018

Station Name : BOUDH (BOUDH) | **Data considered : 2015-2018** | **Division : MD,CWC,Burla**

Local River : | **Sub-Division : MMSD II,CWC,Burla**



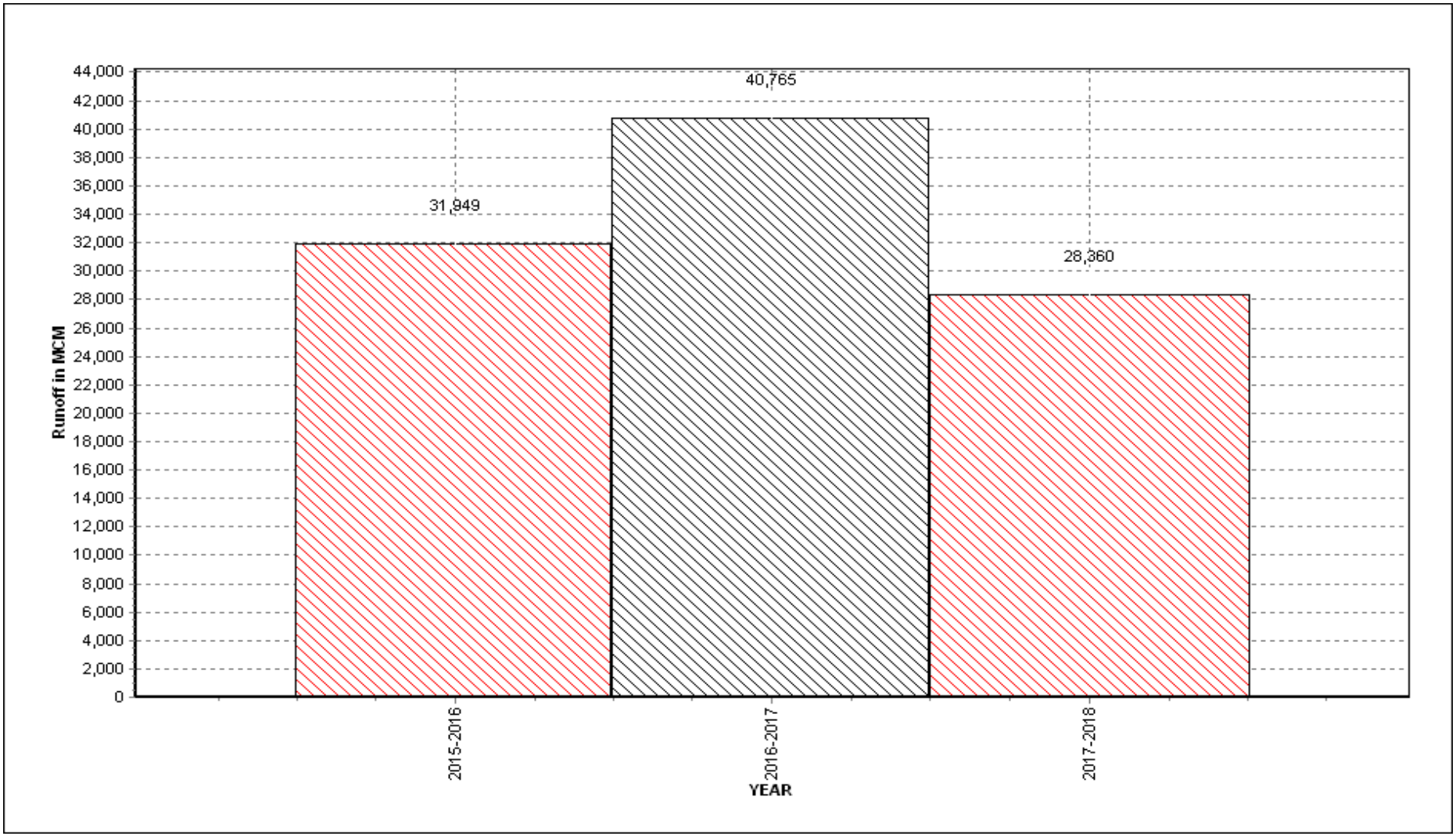
Annual Runoff Values for the period: 2015 - 2018

Station Name : BOUDH (BOUDH)

Local River :

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla



Note: Missing values have not been considered while arriving at Annual Runoff

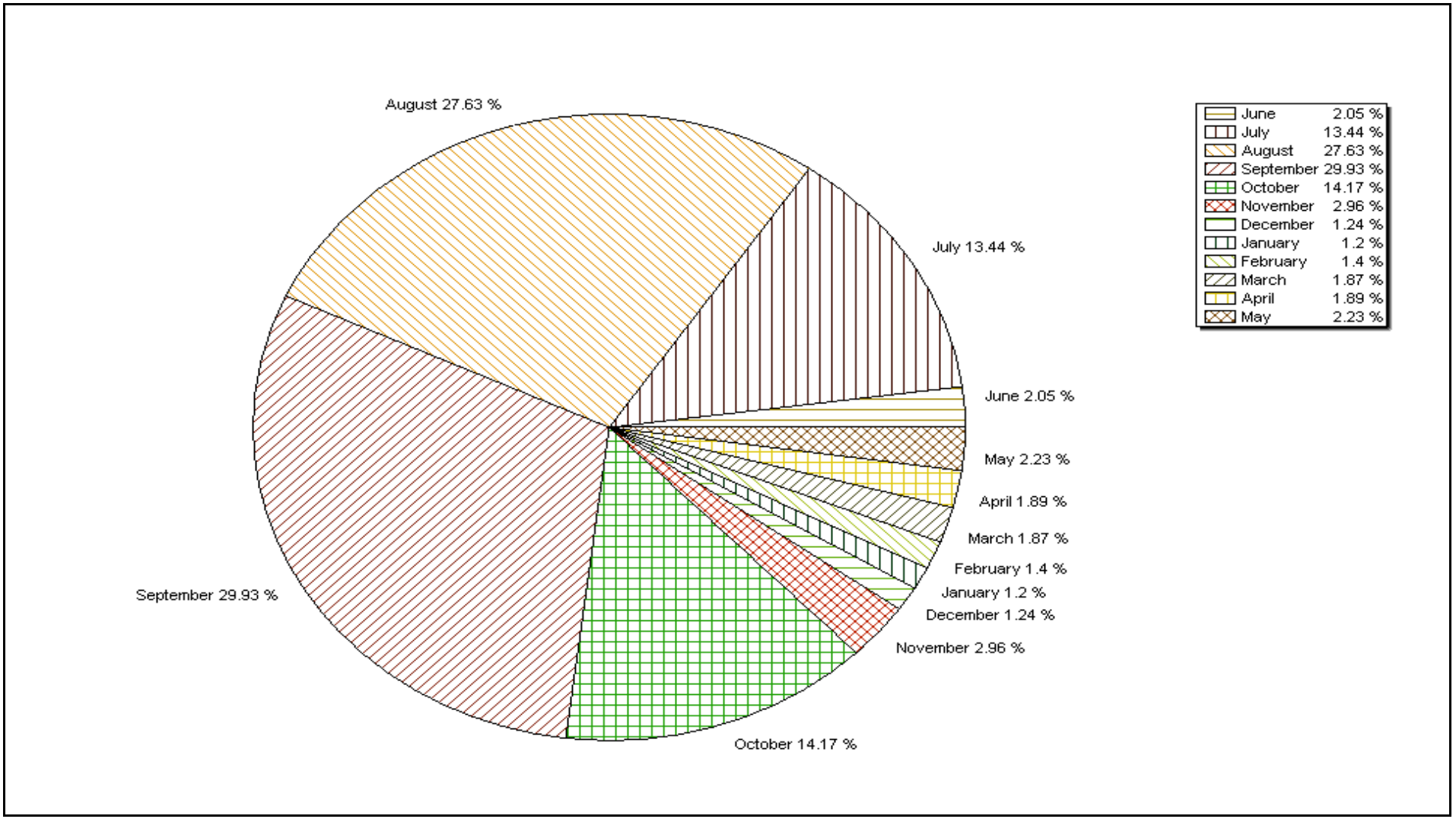
Monthly Average Runoff based on period : 2015-2017

Station Name : BOUDH (BOUDH)

Local River :

Division : MD,CWC,Burla

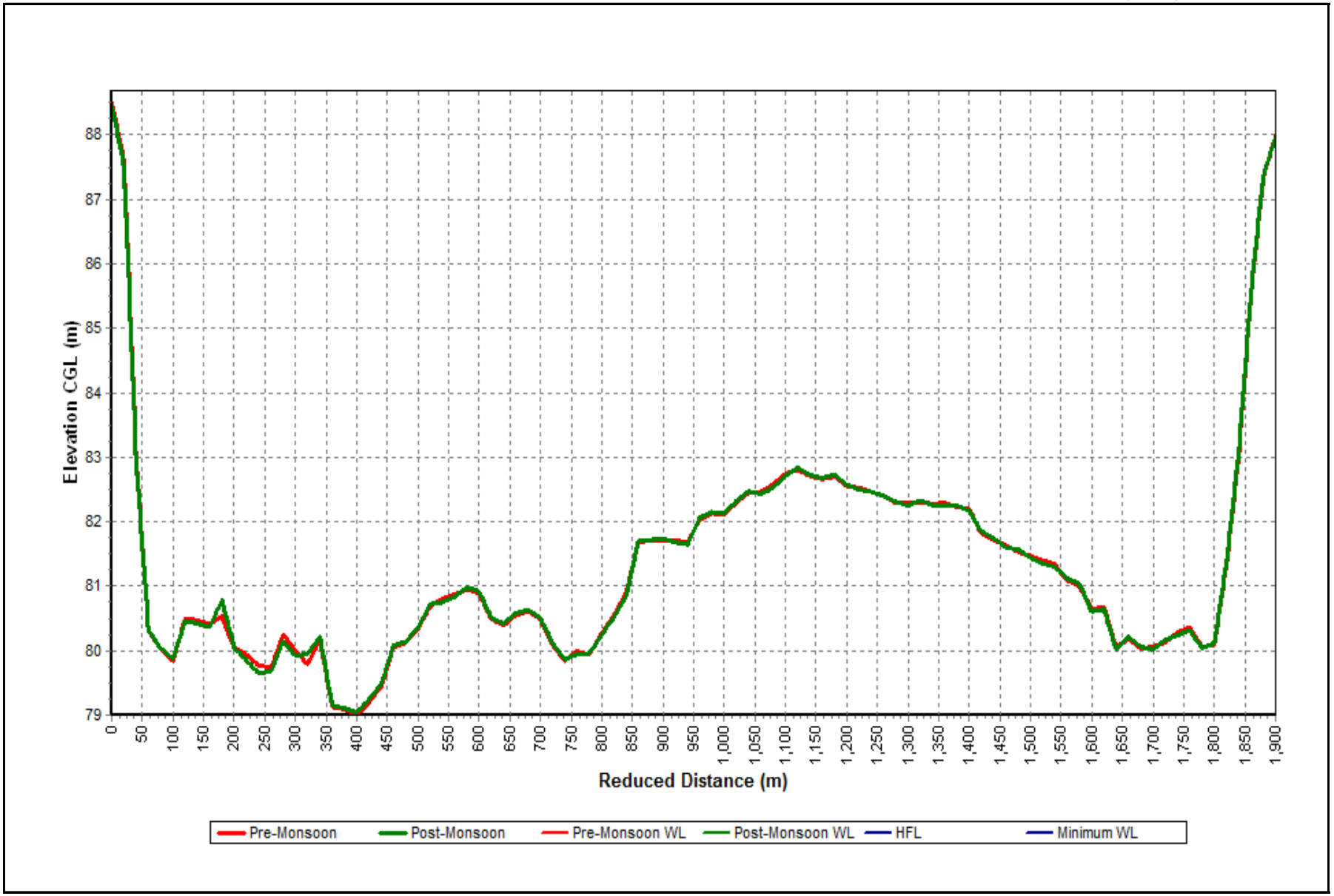
Sub-Division : MMSD II,CWC,Burla



Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2017-2018

Station Name : Boudh | **Division : MD,CWC,Burla**

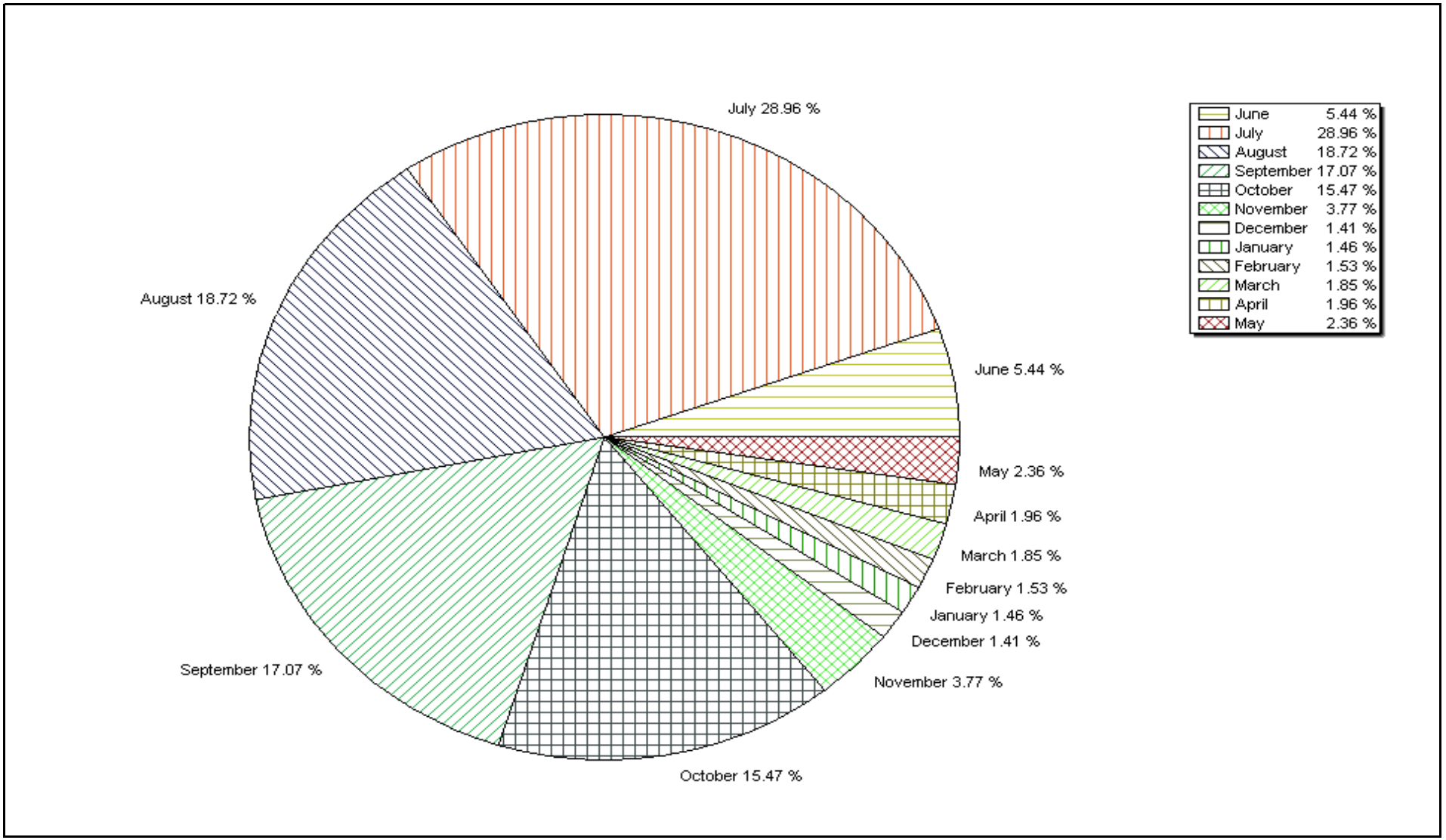
Local River : Mahanadi | **Sub-Division: MMSD II,CWC, Burla**



Monthly Runoff for the Year : 2017-2018

Station Name : BOUDH (BOUDH)
Local River :

Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla



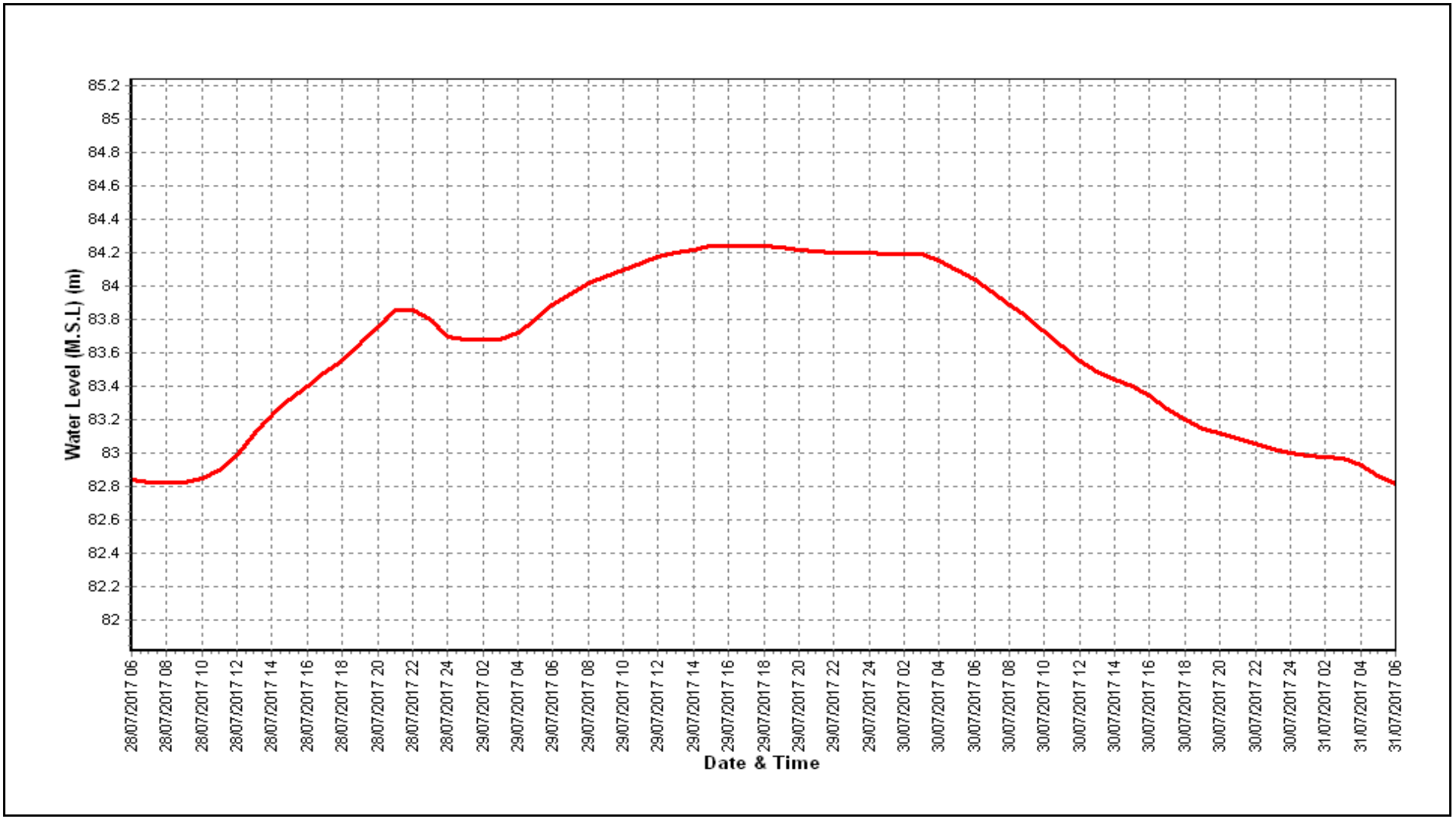
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2017-2018

Station Name : BOUDH (BOUDH)

Local River :

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla



Time Span: 72 Hrs

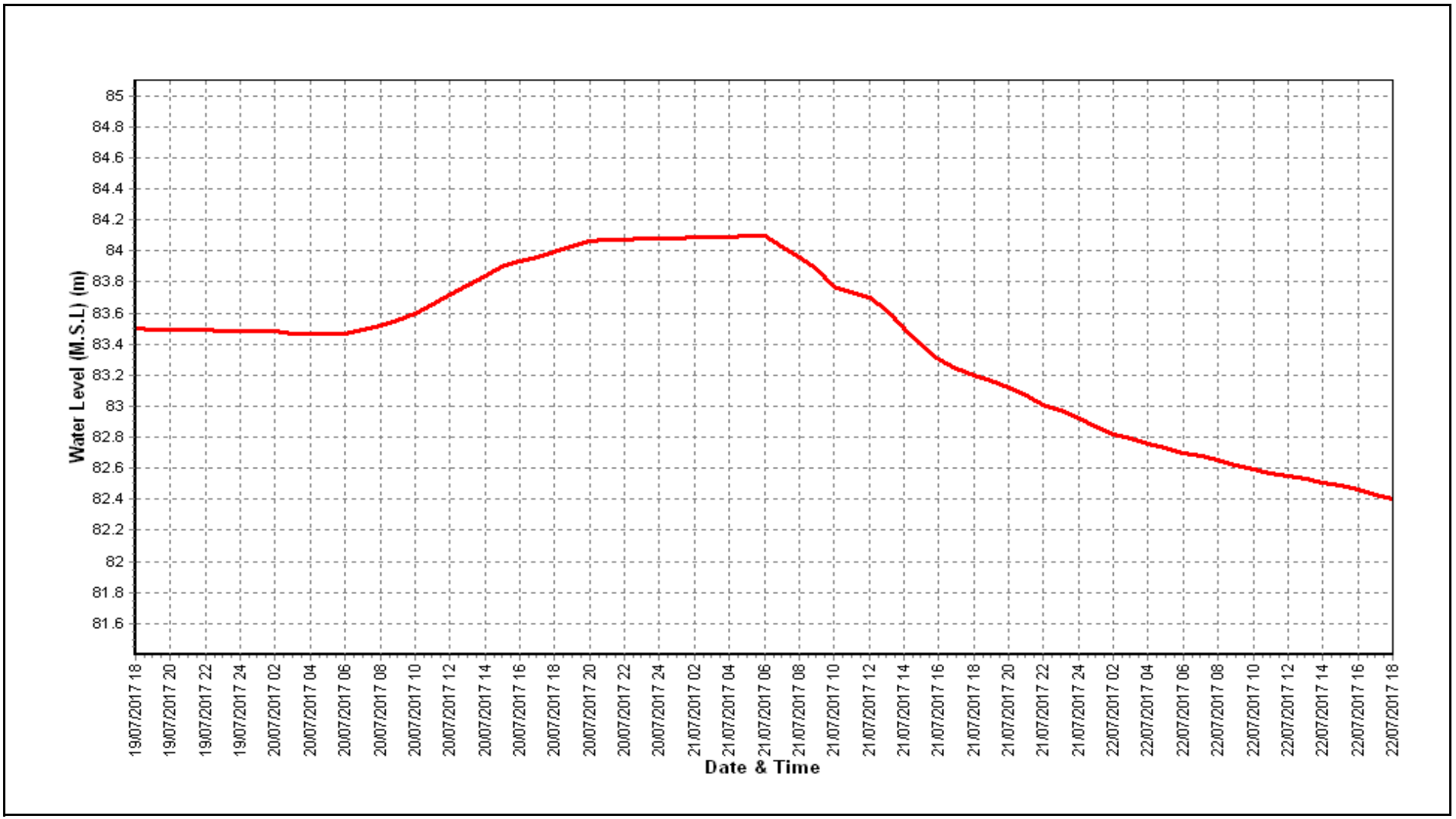
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2017-2018

Station Name : BOUDH (BOUDH)

Local River :

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla

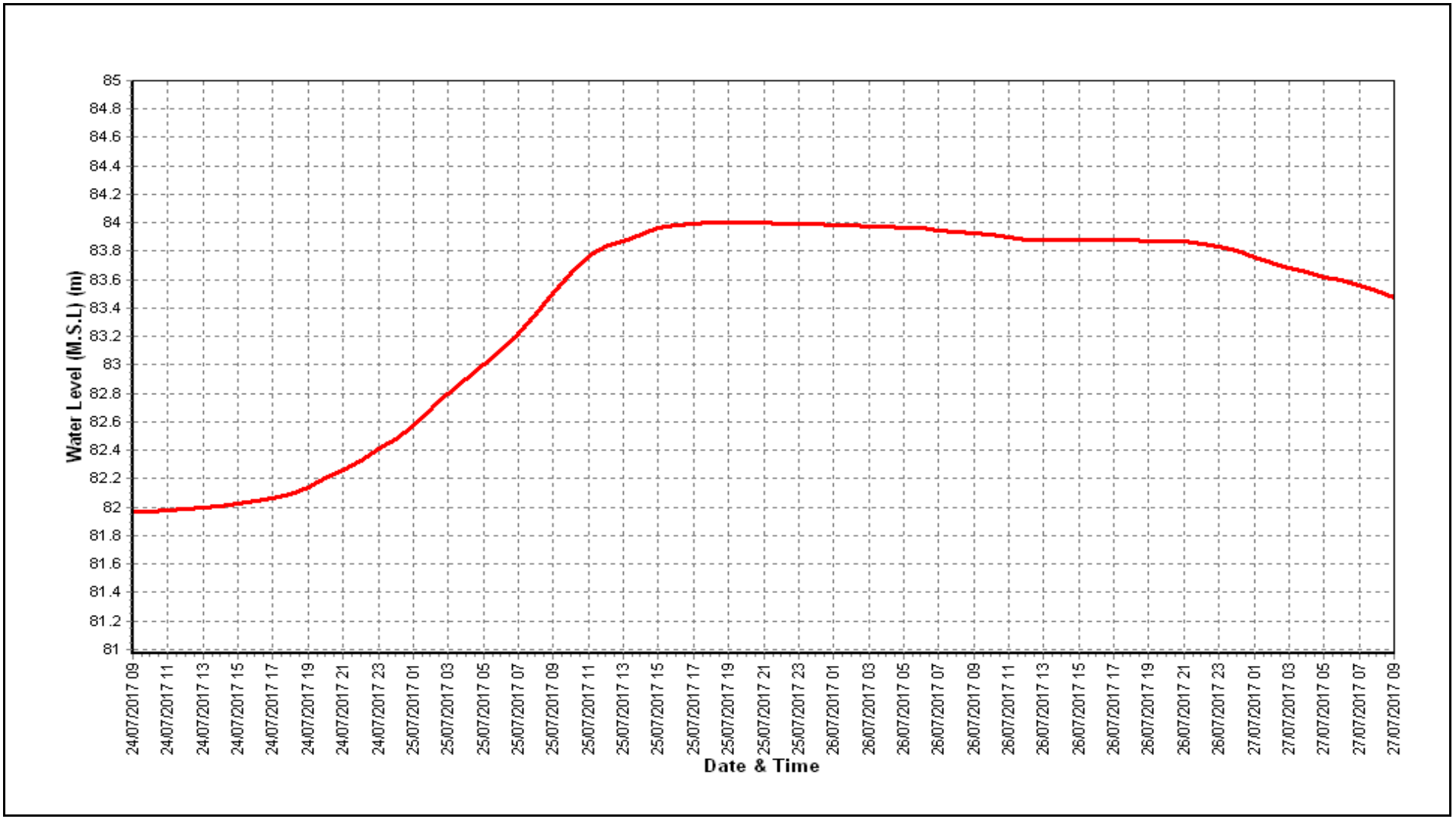


Time Span: 72 Hrs

Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2017-2018

Station Name : BOUDH (BOUDH) **Division : MD,CWC,Burla**

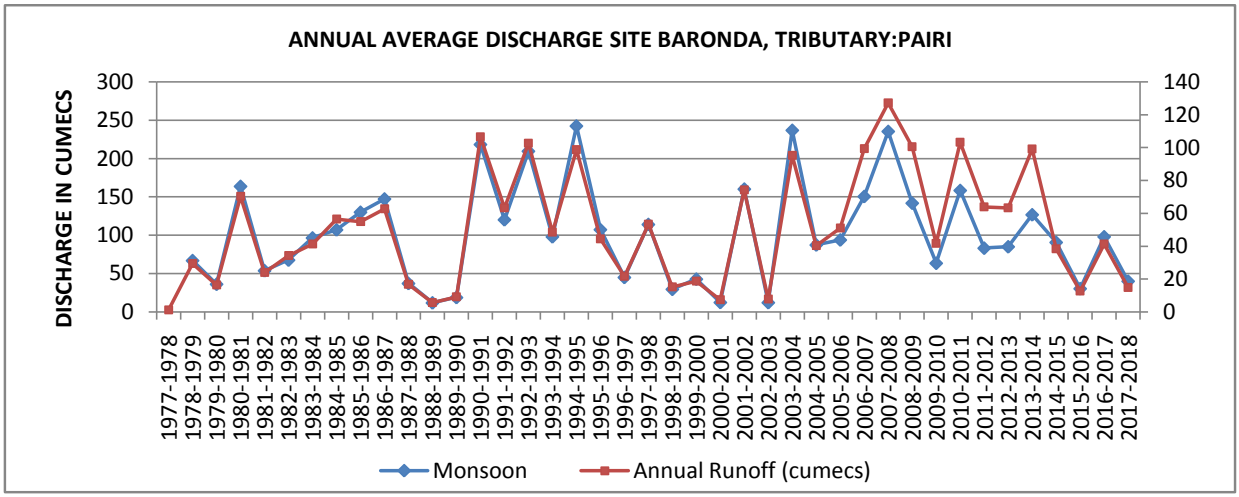
Local River : **Sub-Division : MMSD II,CWC,Burla**

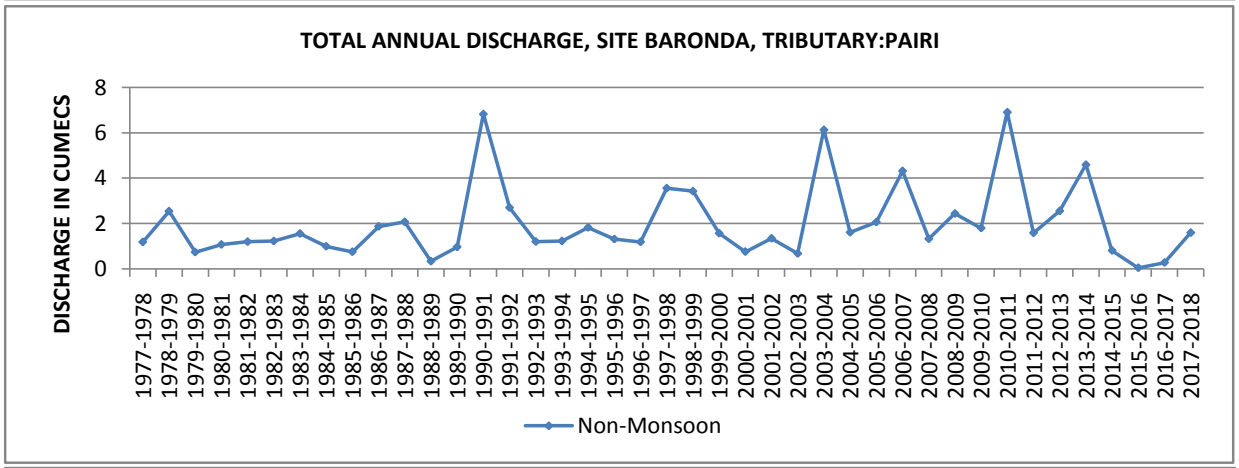


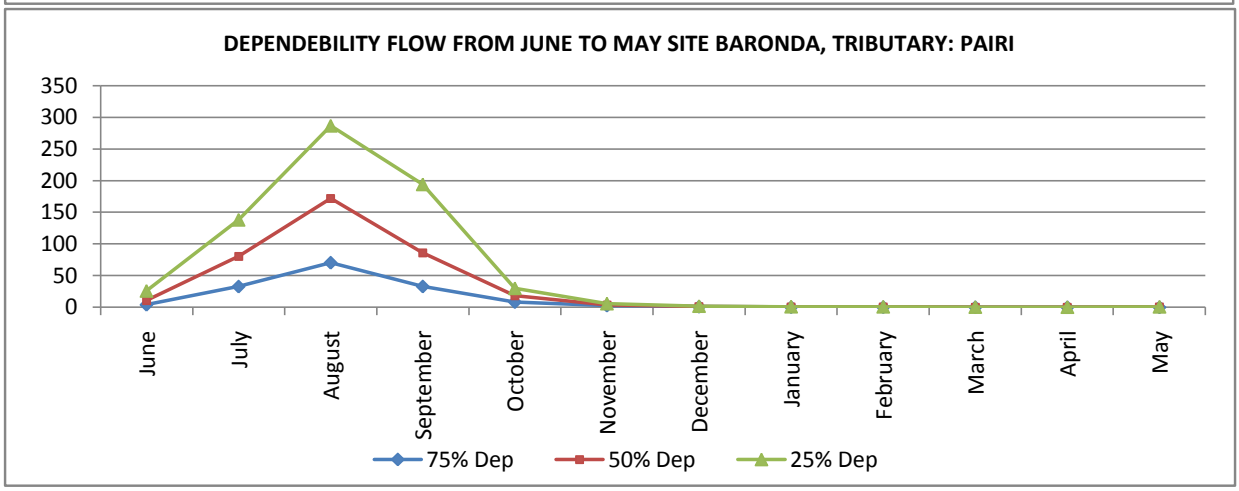
Time Span: 72 Hrs

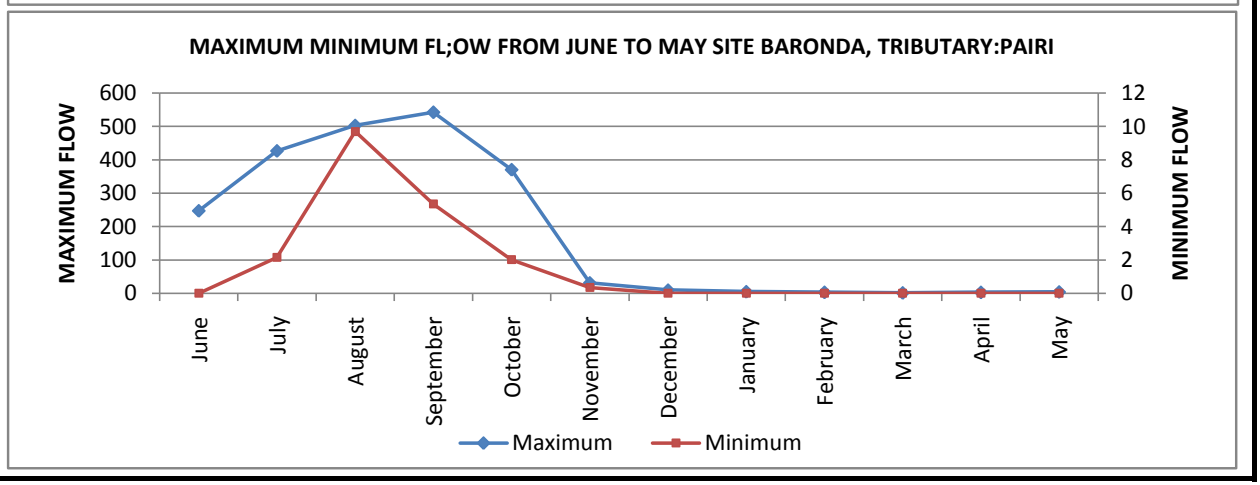
YEAR WISE TREND ANALYSIS

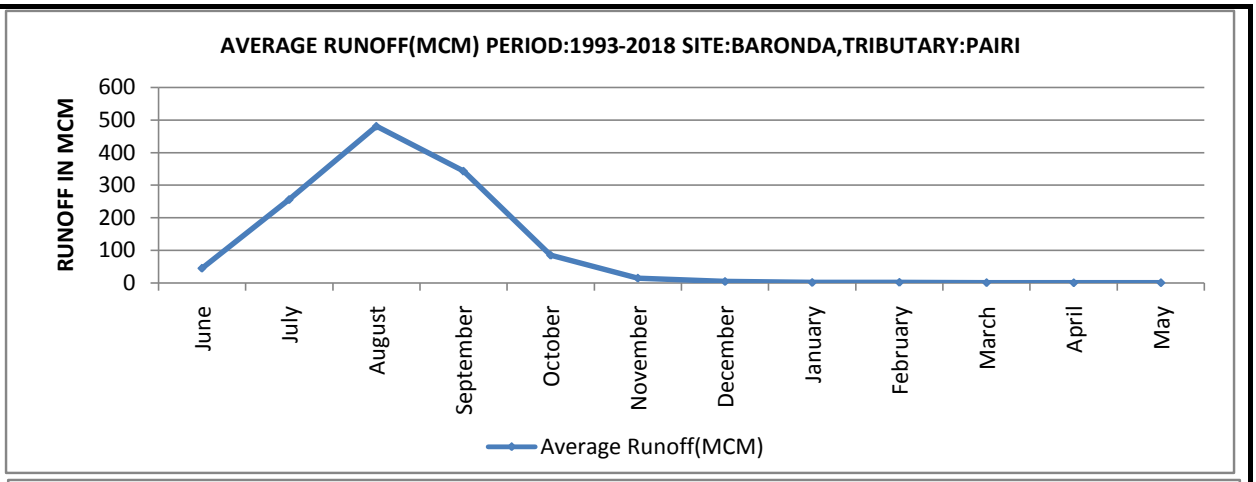
YEAR WISE TREND OF SITE BARONDA

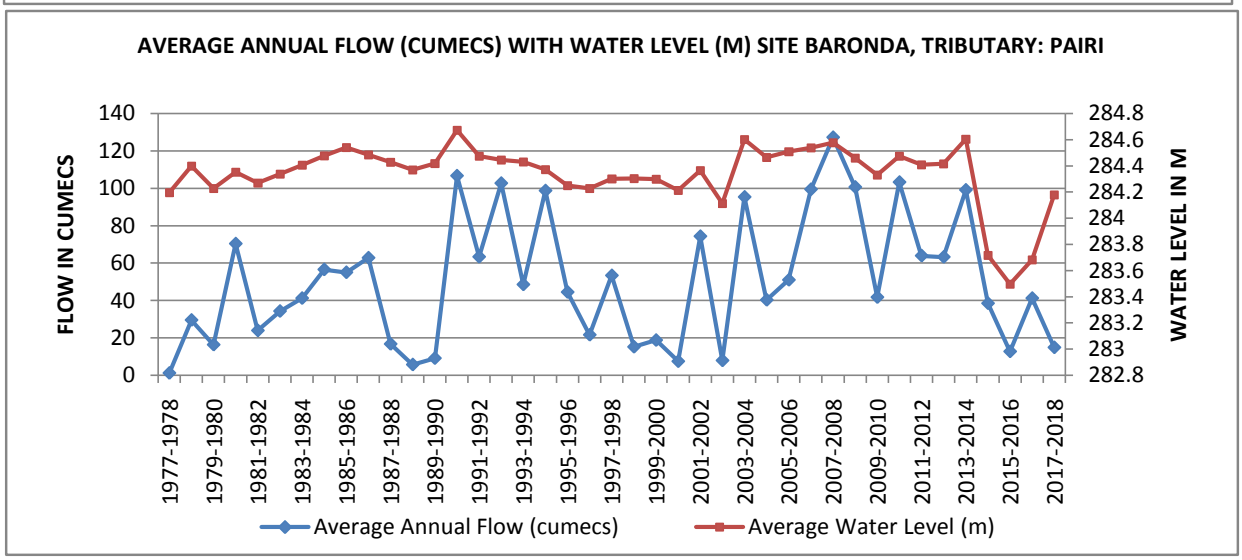


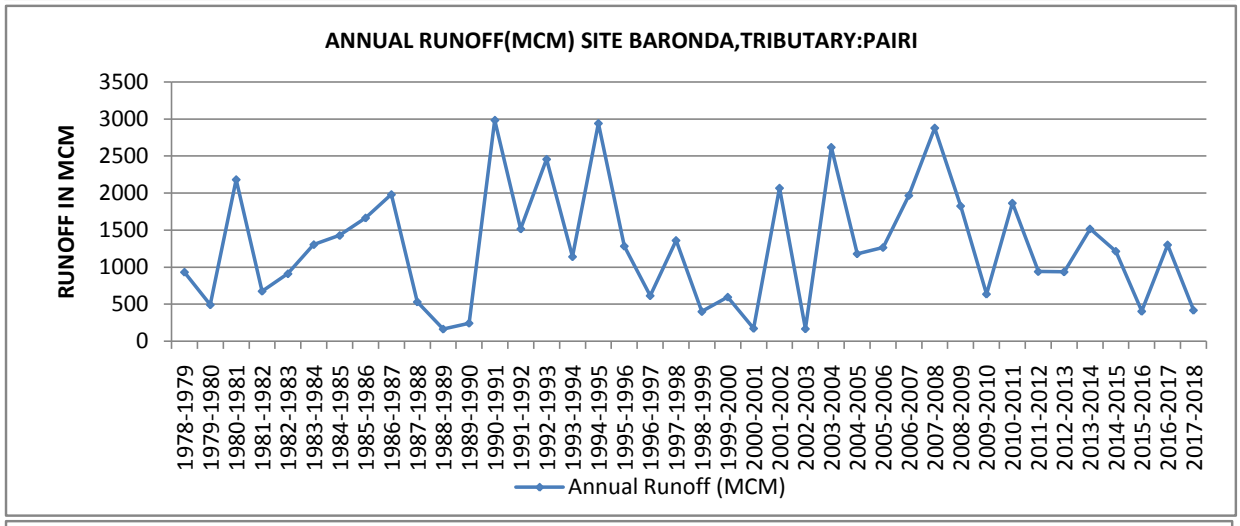


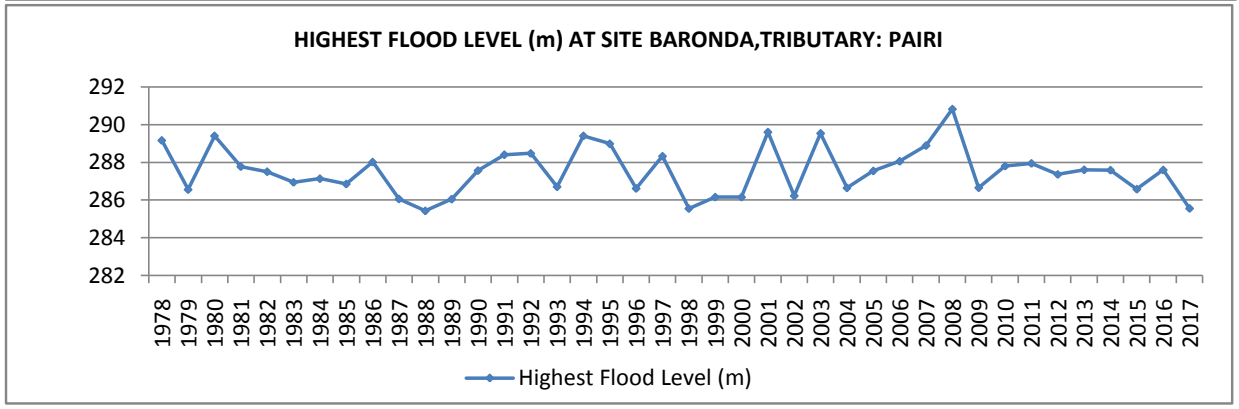


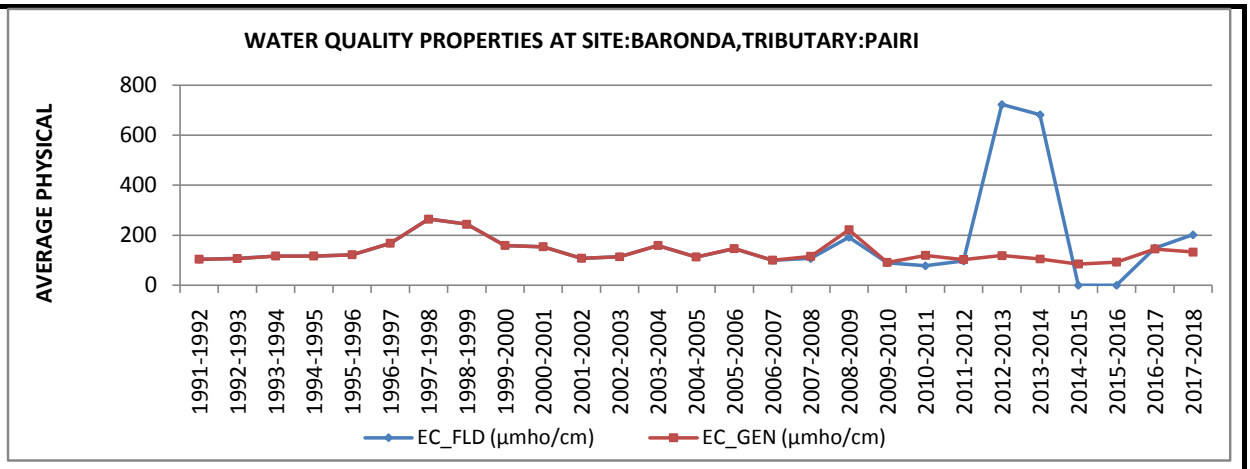


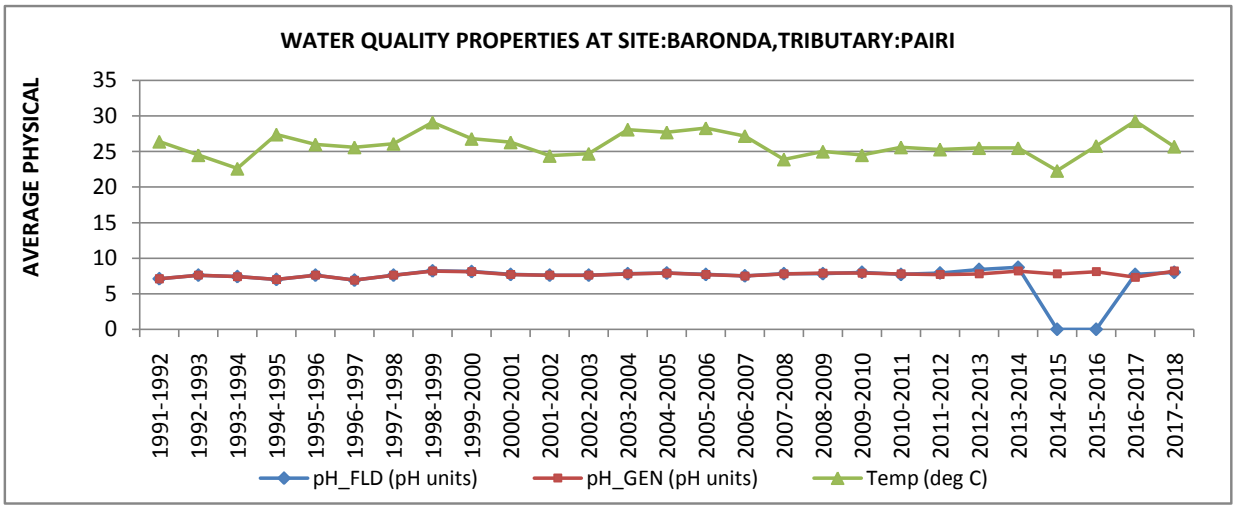

AVERAGE RUNOFF(MCM) PERIOD:1993-2018 SITE:BARONDA,TRIBUTARY:PAIRI
RUNOFF IN MCM
600
500
400
300
200
100
0
June
July
August
September
October
November
December
January
February
March
April
May
Average Runoff(MCM)

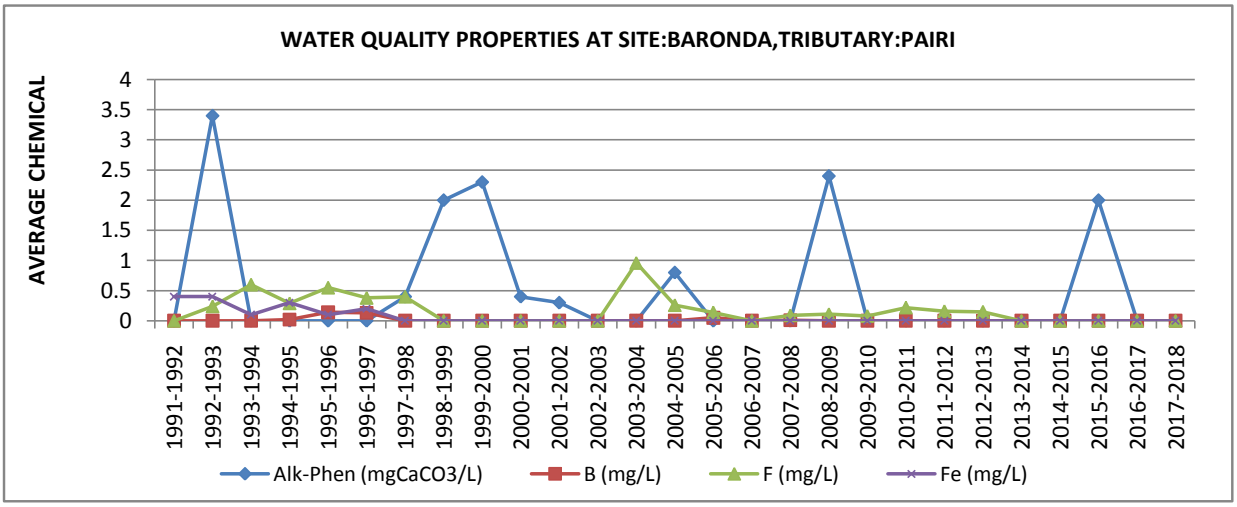

AVERAGE ANNUAL FLOW (CUMECS) WITH WATER LEVEL (M) SITE BARONDA, TRIBUTARY: PAIRI
FLOW IN CUMECS
140
120
100
80
60
40
20
0
WATER LEVEL IN M
284.8
284.6
284.4
284.2
284
283.8
283.6
283.4
283.2
283
282.8
1977-1978
1979-1980
1981-1982
1983-1984
1985-1986
1987-1988
1989-1990
1991-1992
1993-1994
1995-1996
1997-1998
1999-2000
2001-2002
2003-2004
2005-2006
2007-2008
2009-2010
2011-2012
2013-2014
2015-2016
2017-2018
Average Annual Flow (cumecs)
Average Water Level (m)

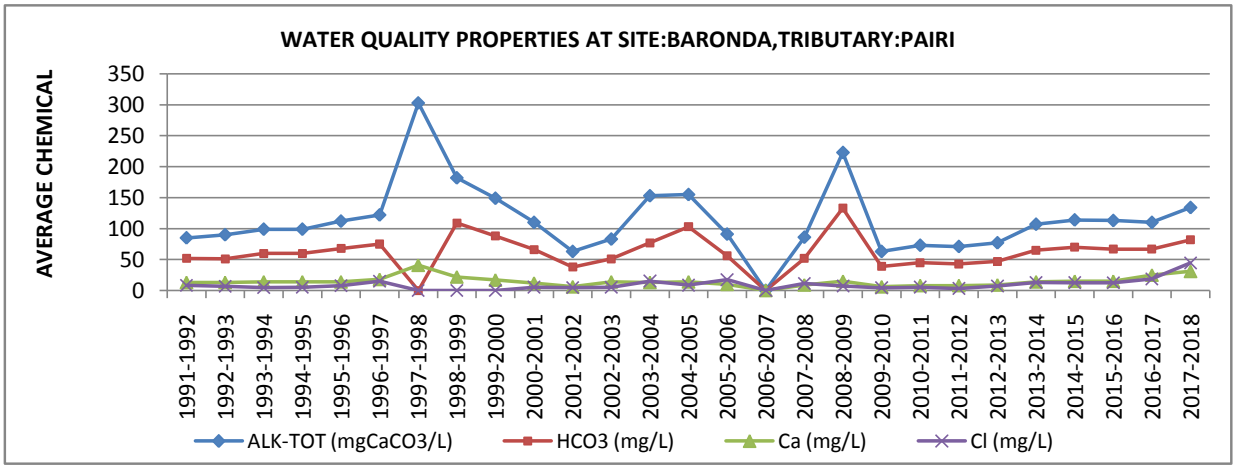

ANNUAL RUNOFF(MCM) SITE BARONDA,TRIBUTARY:PAIRI
RUNOFF IN MCM
3500
3000
2500
2000
1500
1000
500
0
1978-1979
1979-1980
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Annual Runoff (MCM)

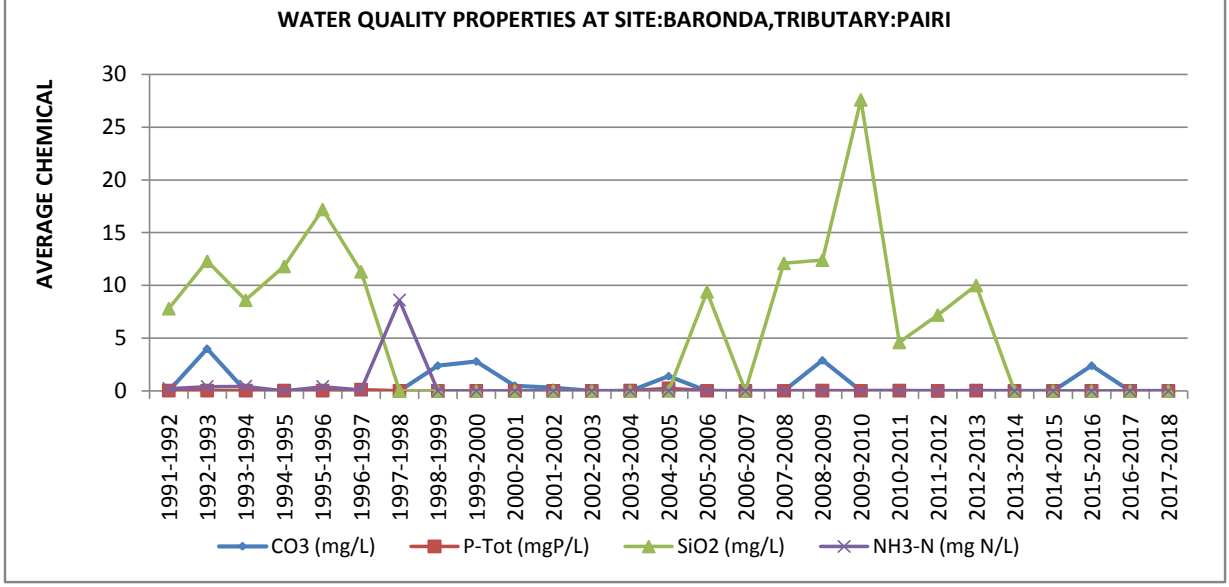

HIGHEST FLOOD LEVEL (m) AT SITE BARONDA,TRIBUTARY: PAIRI
292
290
288
286
284
282
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
Highest Flood Level (m)

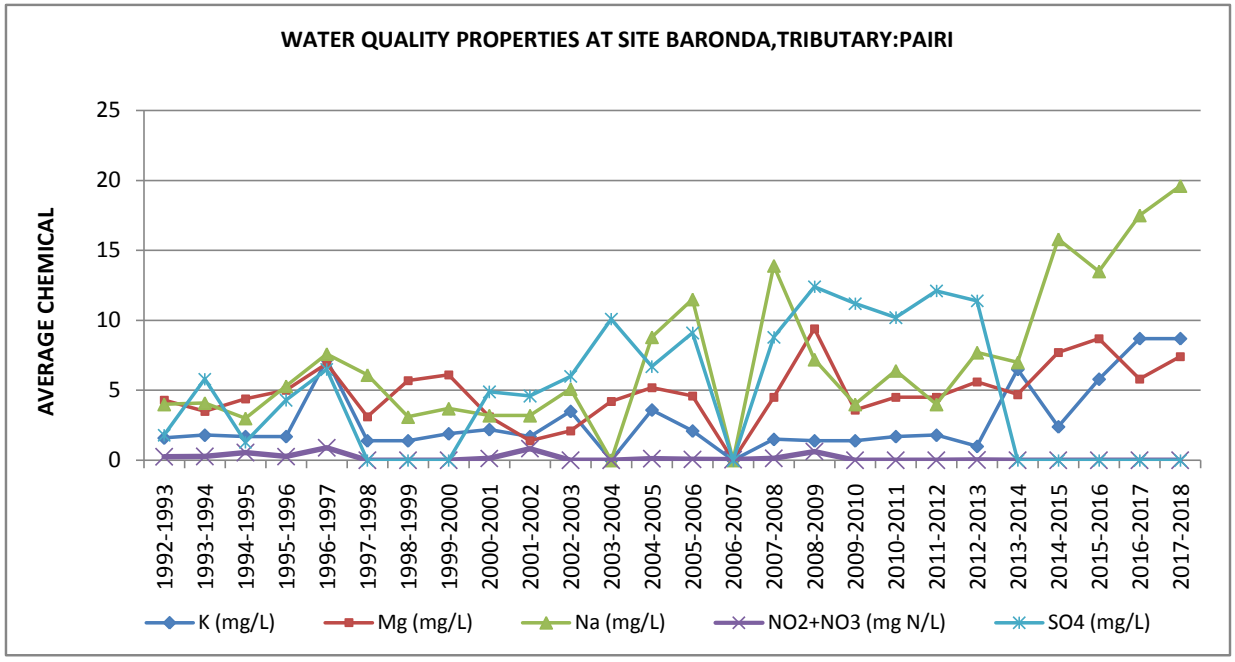

WATER QUALITY PROPERTIES AT SITE:BARONDA,TRIBUTARY:PAIRI
AVERAGE PHYSICAL
800
600
400
200
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
EC_FLD (µmho/cm)
EC_GEN (µmho/cm)

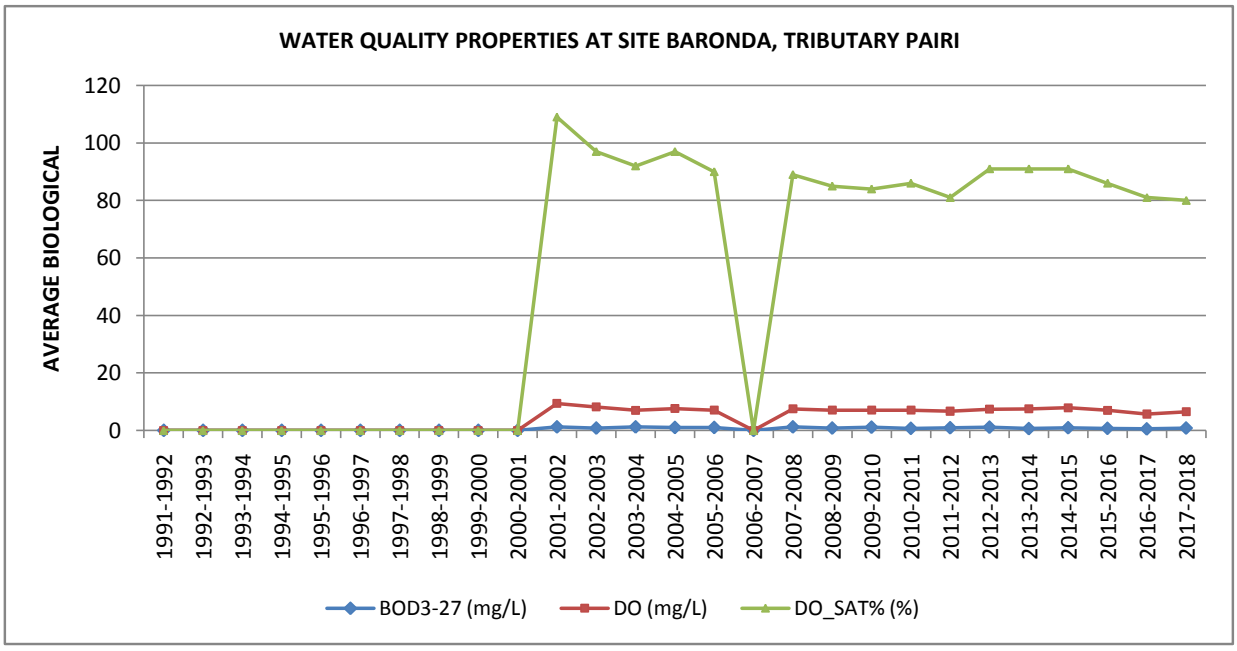

WATER QUALITY PROPERTIES AT SITE:BARONDA,TRIBUTARY:PAIRI
AVERAGE PHYSICAL
35
30
25
20
15
10
5
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
pH_FLD (pH units)
pH_GEN (pH units)
Temp (deg C)

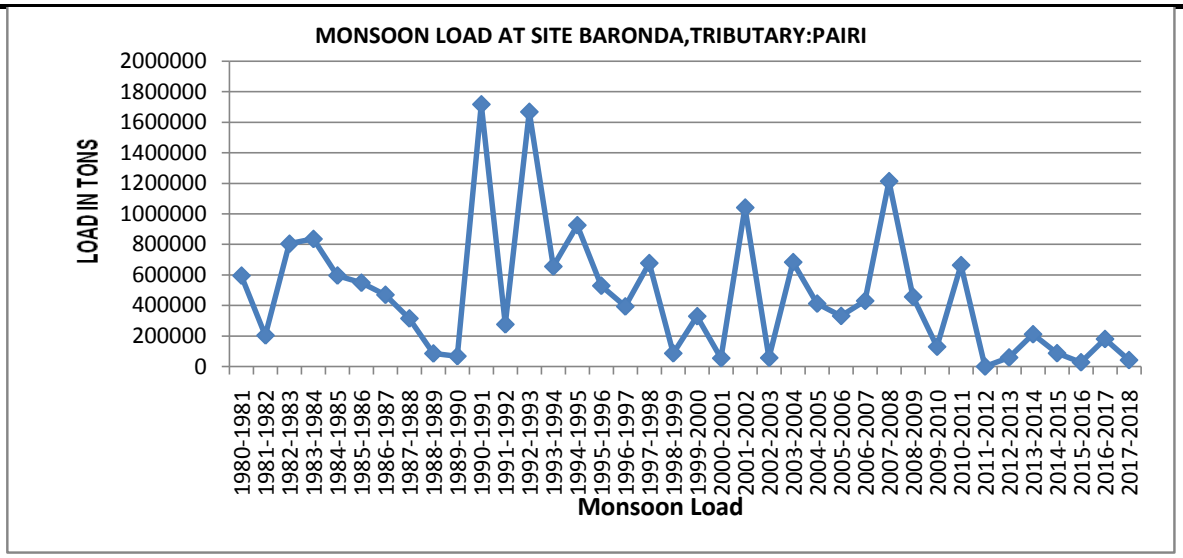

WATER QUALITY PROPERTIES AT SITE:BARONDA,TRIBUTARY:PAIRI
AVERAGE CHEMICAL
4
3.5
3
2.5
2
1.5
1
0.5
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Alk-Phen (mgCaCO3/L)
B (mg/L)
F (mg/L)
Fe (mg/L)

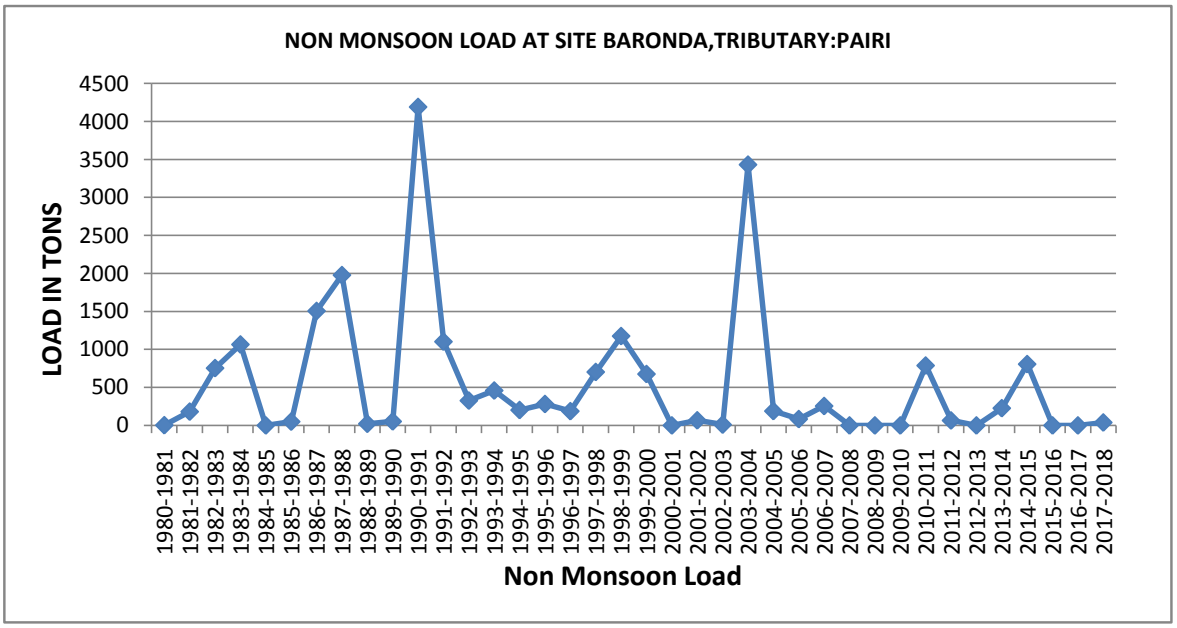

WATER QUALITY PROPERTIES AT SITE:BARONDA,TRIBUTARY:PAIRI
AVERAGE CHEMICAL
350
300
250
200
150
100
50
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
ALK-TOT (mgCaCO3/L)
HCO3 (mg/L)
Ca (mg/L)
Cl (mg/L)

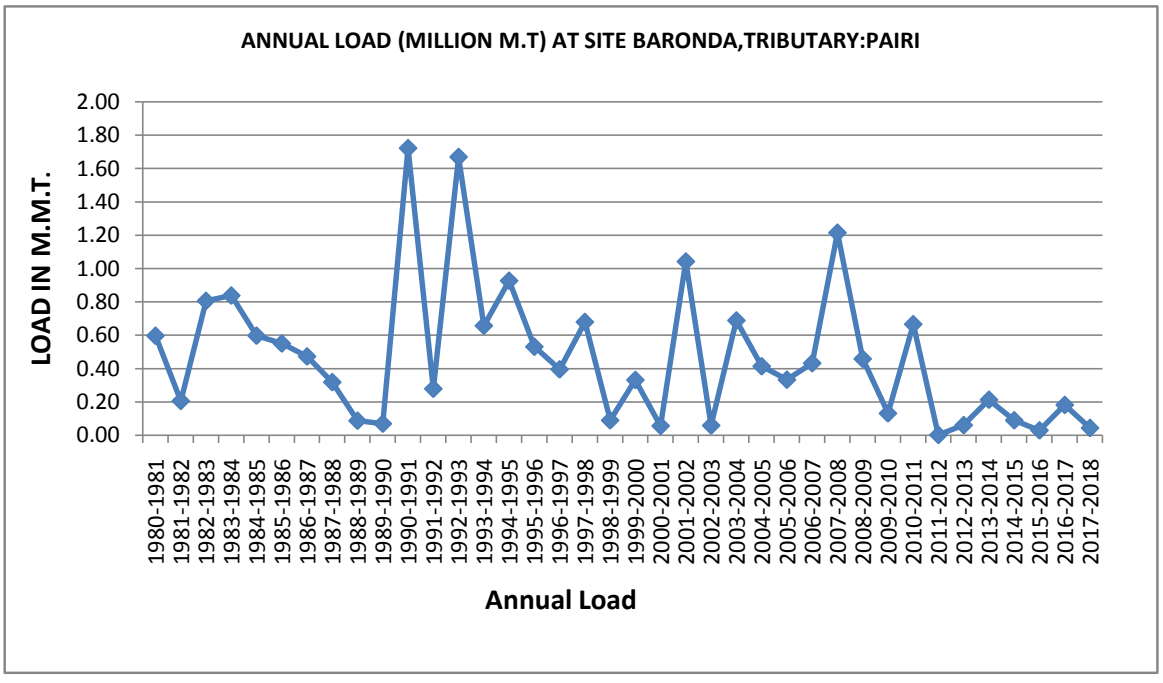

WATER QUALITY PROPERTIES AT SITE:BARONDA,TRIBUTARY:PAIRI
AVERAGE CHEMICAL
30
25
20
15
10
5
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
CO3 (mg/L)
P-Tot (mgP/L)
SiO2 (mg/L)
NH3-N (mg N/L)


WATER QUALITY PROPERTIES AT SITE BARONDA,TRIBUTARY:PAIRI
AVERAGE CHEMICAL
25
20
15
10
5
0
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
K (mg/L)
Mg (mg/L)
Na (mg/L)
NO2+NO3 (mg N/L)
SO4 (mg/L)

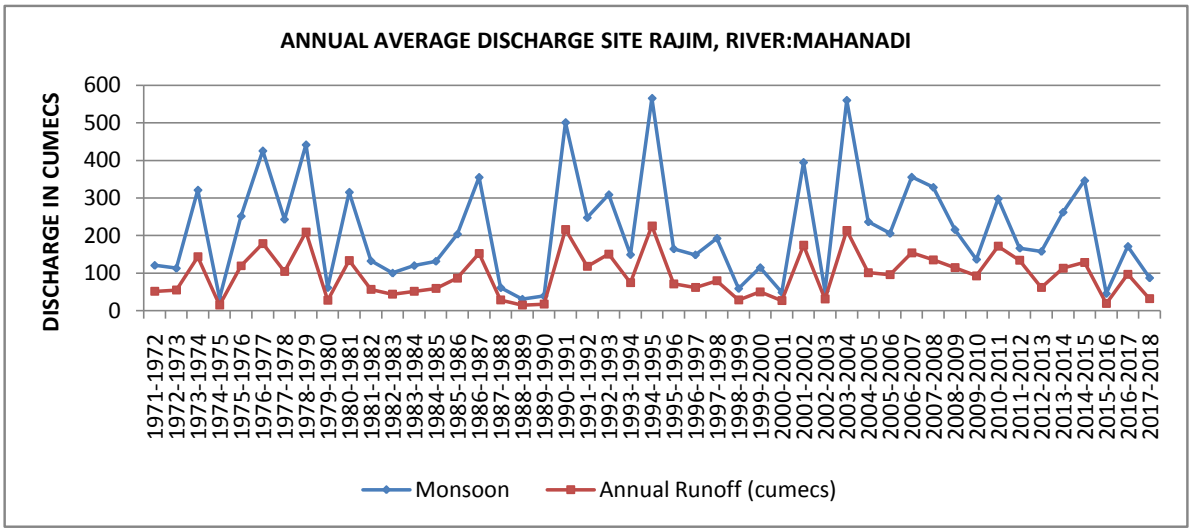

WATER QUALITY PROPERTIES AT SITE BARONDA, TRIBUTARY PAIRI
AVERAGE BIOLOGICAL
120
100
80
60
40
20
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
BOD3-27 (mg/L)
DO (mg/L)
DO_SAT% (%)

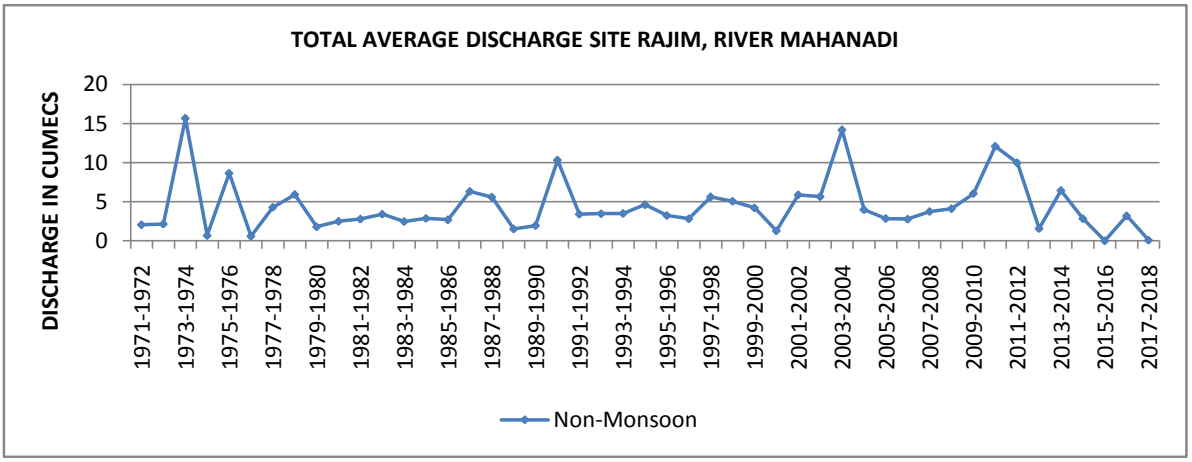

MONSOON LOAD AT SITE BARONDA,TRIBUTARY:PAIRI
LOAD IN TONS
2000000
1800000
1600000
1400000
1200000
1000000
800000
600000
400000
200000
0
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Monsoon Load

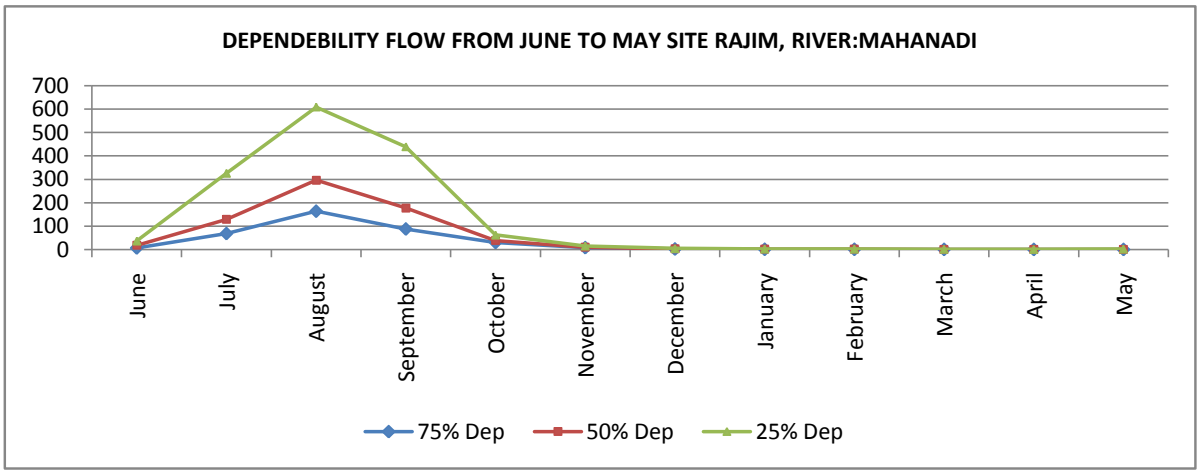

NON MONSOON LOAD AT SITE BARONDA,TRIBUTARY:PAIRI
LOAD IN TONS
4500
4000
3500
3000
2500
2000
1500
1000
500
0
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Non Monsoon Load

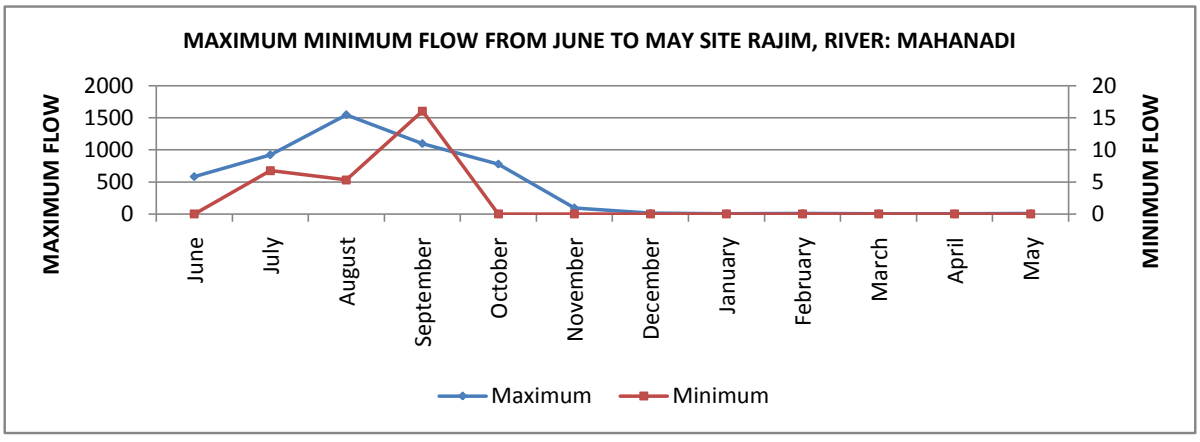

ANNUAL LOAD (MILLION M.T) AT SITE BARONDA,TRIBUTARY:PAIRI
LOAD IN M.M.T.
2.00
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Annual Load

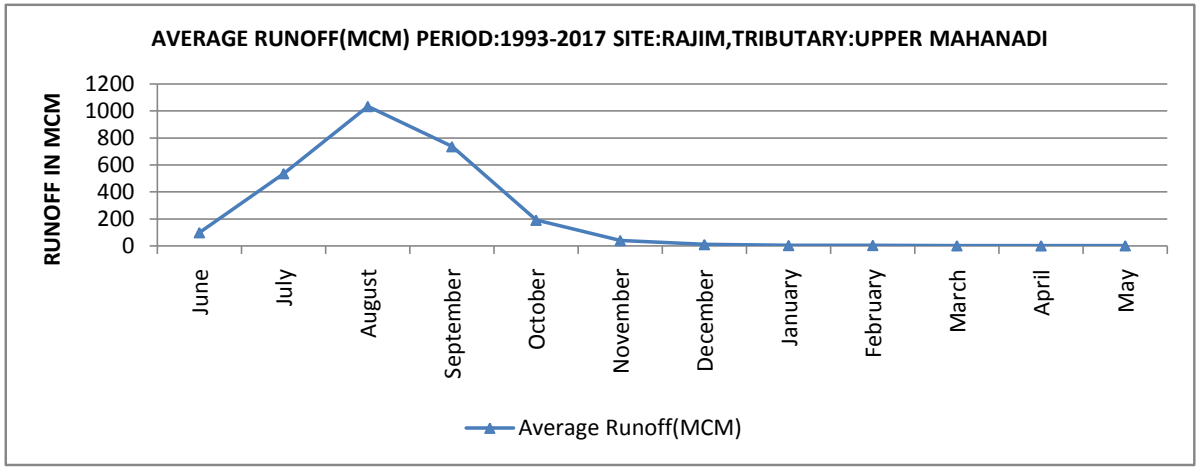
YEAR WISE TREND OF SITE RAJIM

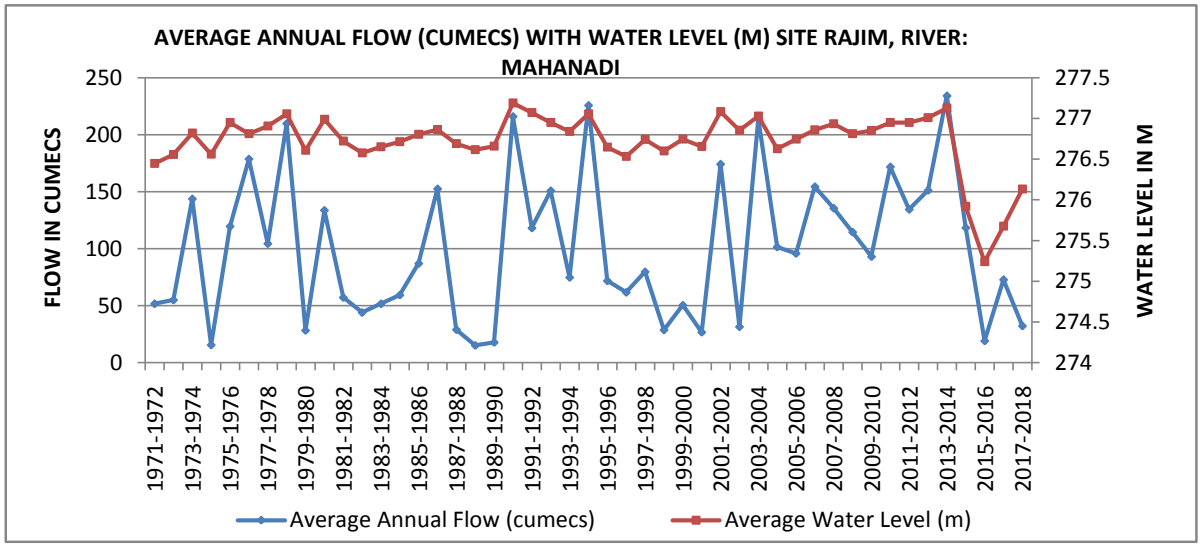


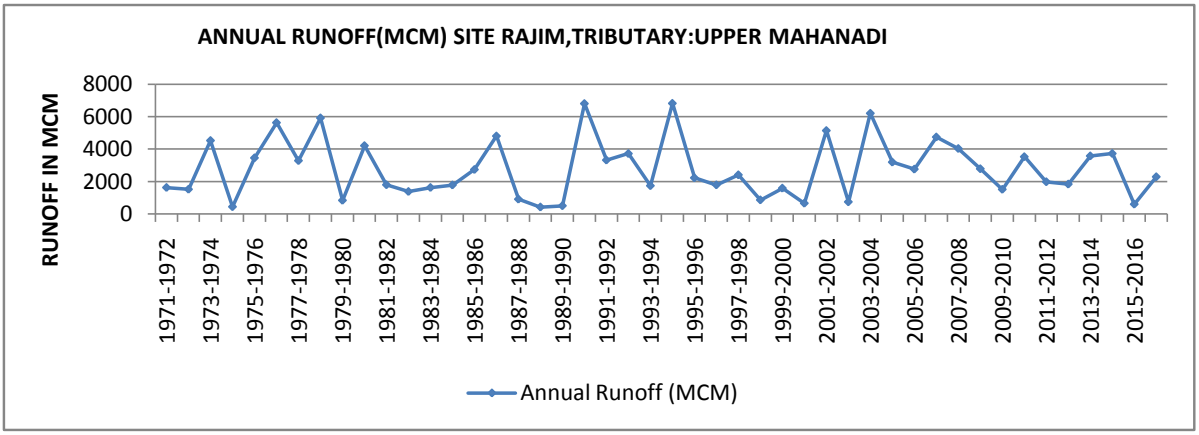


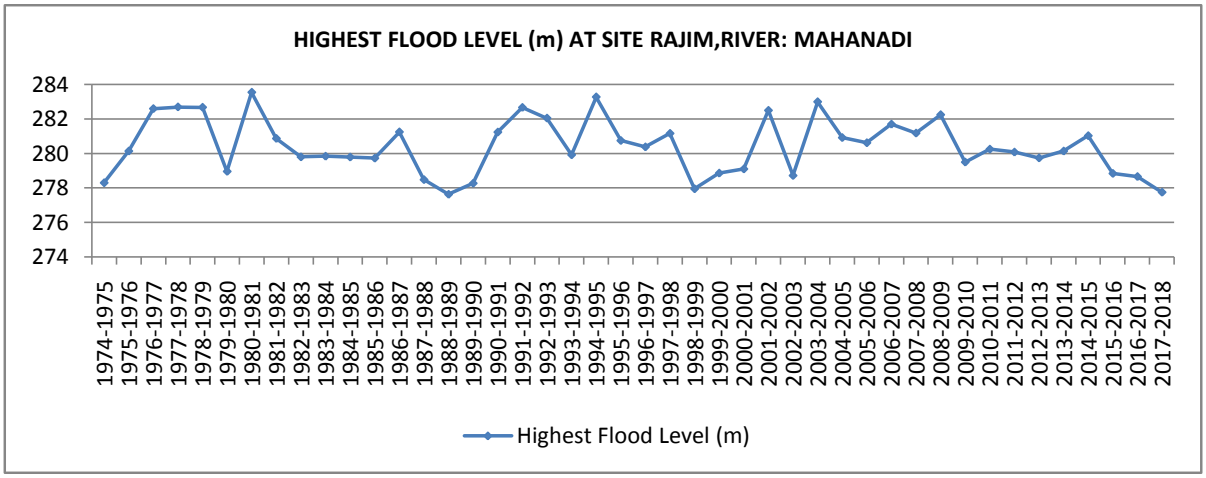


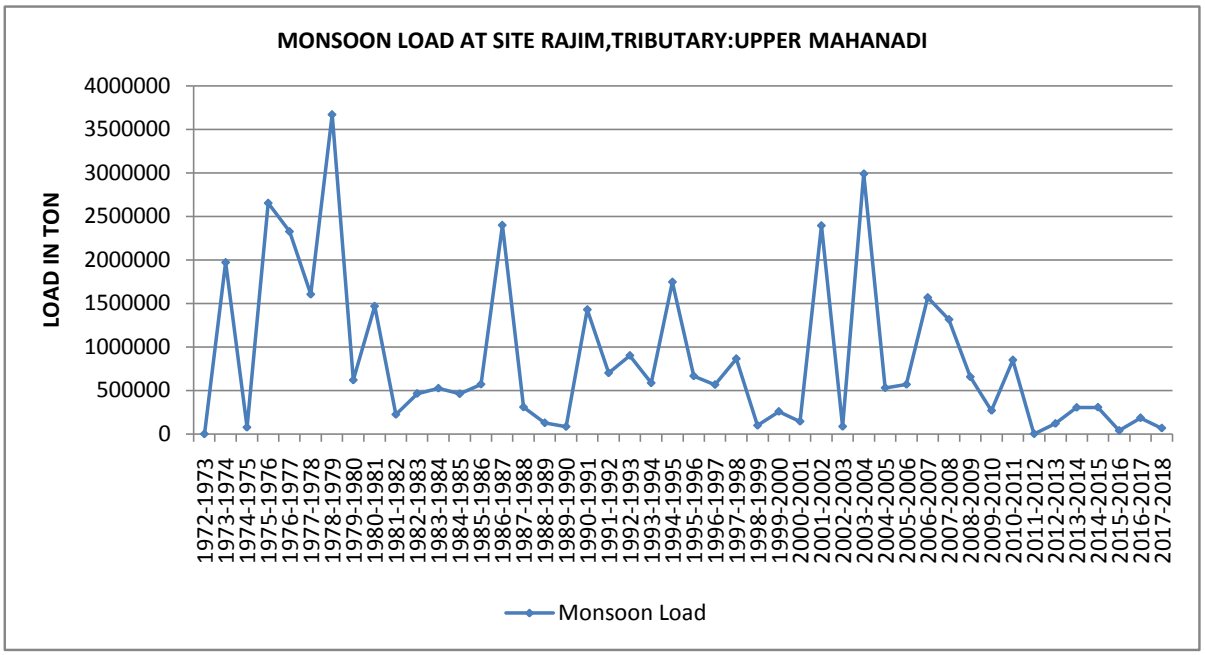


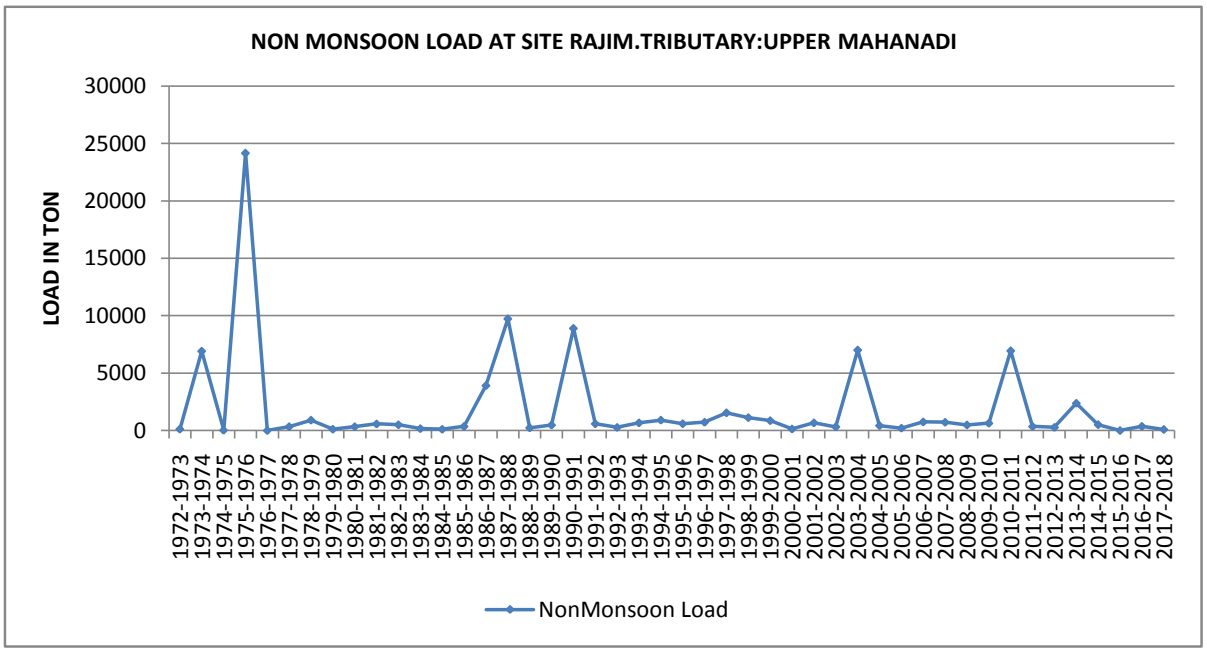

AVERAGE RUNOFF(MCM) PERIOD:1993-2017 SITE:RAJIM,TRIBUTARY:UPPER MAHANADI
RUNOFF IN MCM
1200
1000
800
600
400
200
0
June
July
August
September
October
November
December
January
February
March
April
May
Average Runoff(MCM)

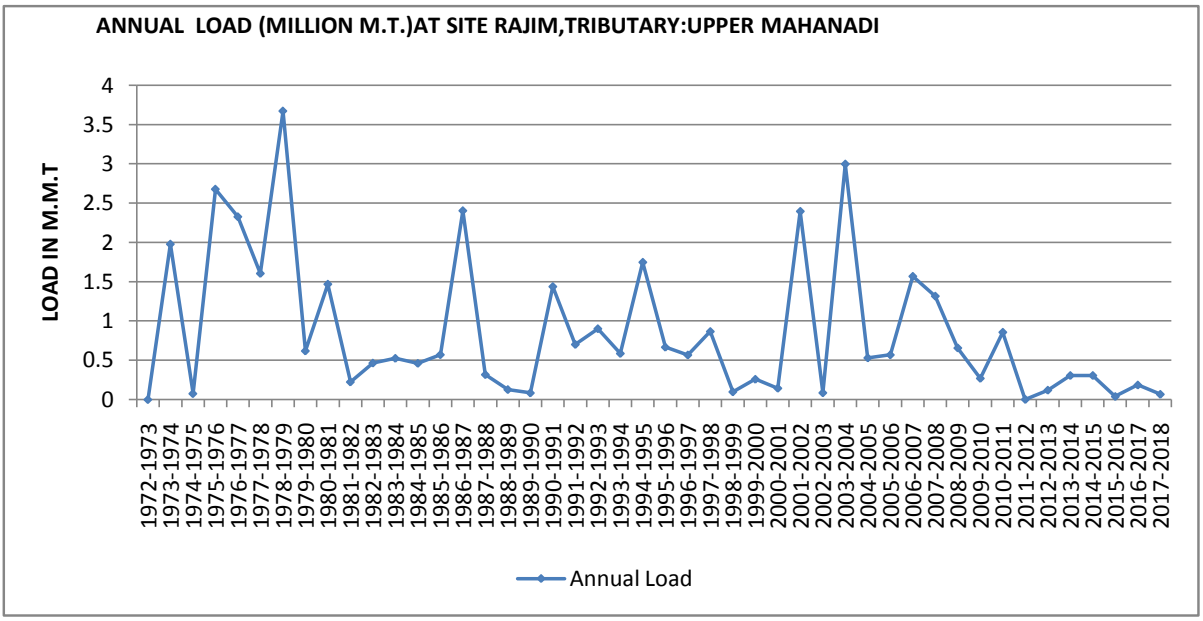

AVERAGE ANNUAL FLOW (CUMECS) WITH WATER LEVEL (M) SITE RAJIM, RIVER: MAHANADI
FLOW IN CUMECS
WATER LEVEL IN M
250
200
150
100
50
0
277.5
277
276.5
276
275.5
275
274.5
274
1971-1972
1973-1974
1975-1976
1977-1978
1979-1980
1981-1982
1983-1984
1985-1986
1987-1988
1989-1990
1991-1992
1993-1994
1995-1996
1997-1998
1999-2000
2001-2002
2003-2004
2005-2006
2007-2008
2009-2010
2011-2012
2013-2014
2015-2016
2017-2018
Average Annual Flow (cumecs)
Average Water Level (m)

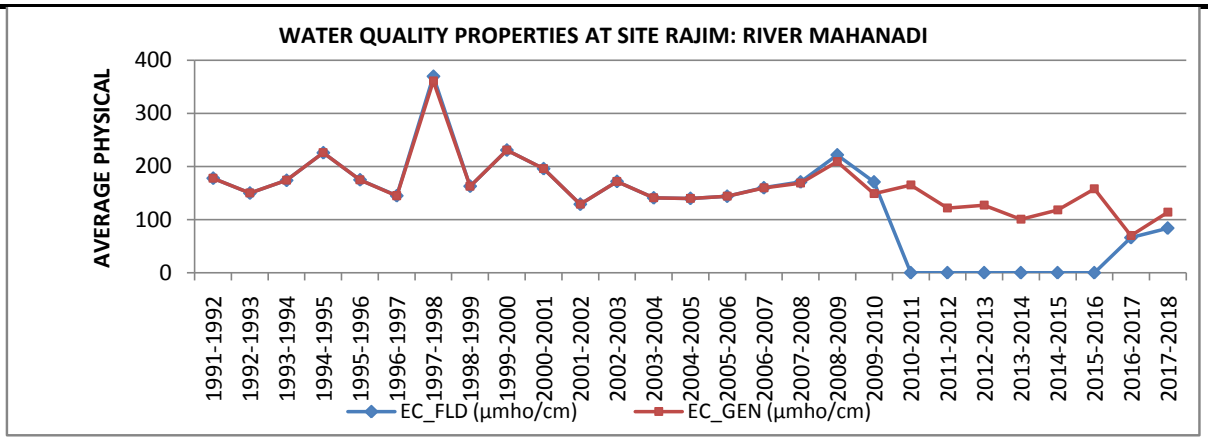

ANNUAL RUNOFF(MCM) SITE RAJIM,TRIBUTARY:UPPER MAHANADI
RUNOFF IN MCM
8000
6000
4000
2000
0
1971-1972
1973-1974
1975-1976
1977-1978
1979-1980
1981-1982
1983-1984
1985-1986
1987-1988
1989-1990
1991-1992
1993-1994
1995-1996
1997-1998
1999-2000
2001-2002
2003-2004
2005-2006
2007-2008
2009-2010
2011-2012
2013-2014
2015-2016
Annual Runoff (MCM)

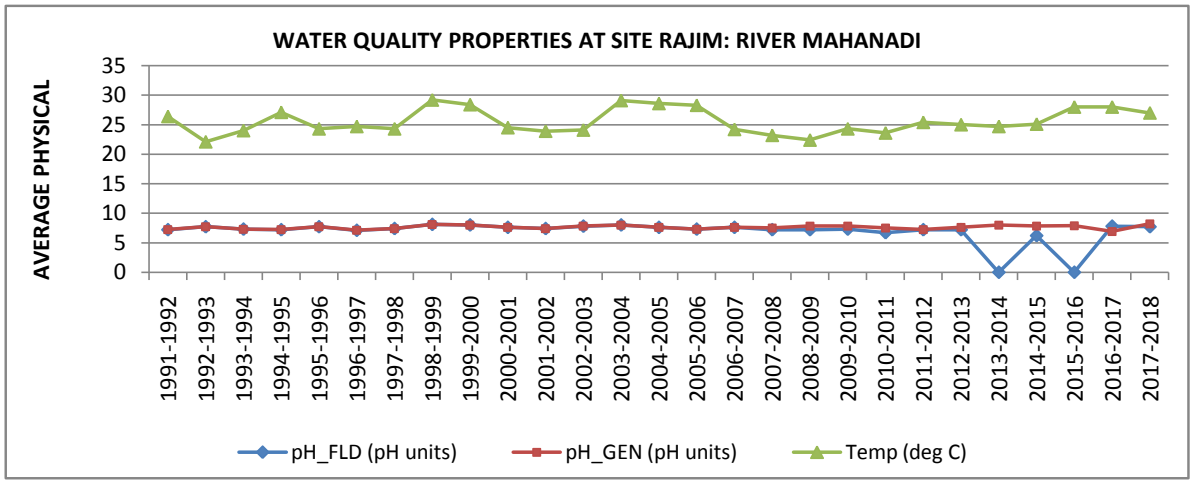

HIGHEST FLOOD LEVEL (m) AT SITE RAJIM,RIVER: MAHANADI
284
282
280
278
276
274
1974-1975
1975-1976
1976-1977
1977-1978
1978-1979
1979-1980
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Highest Flood Level (m)

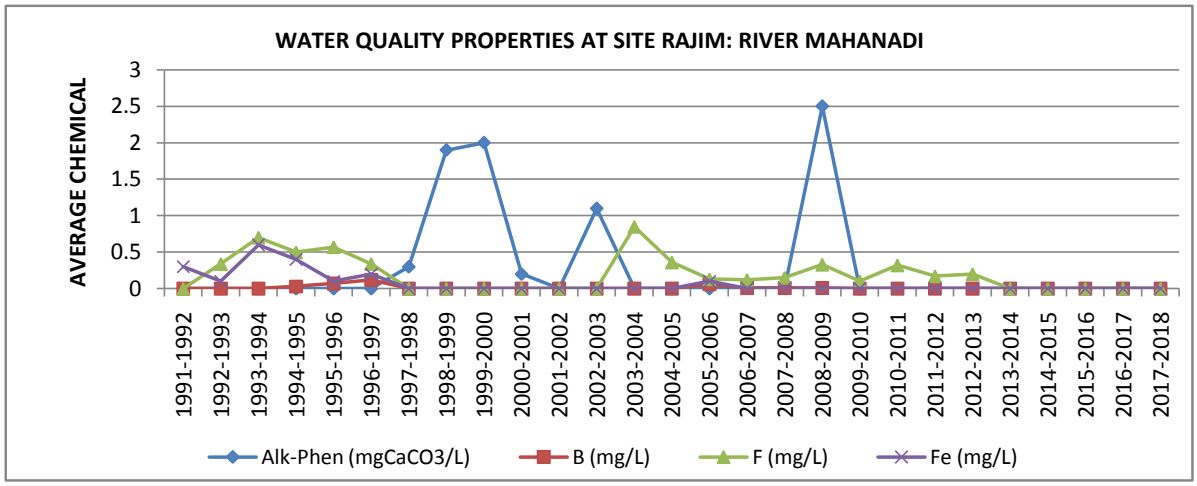

MONSOON LOAD AT SITE RAJIM,TRIBUTARY:UPPER MAHANADI
LOAD IN TON
4000000
3500000
3000000
2500000
2000000
1500000
1000000
500000
0
1972-1973
1973-1974
1974-1975
1975-1976
1976-1977
1977-1978
1978-1979
1979-1980
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Monsoon Load

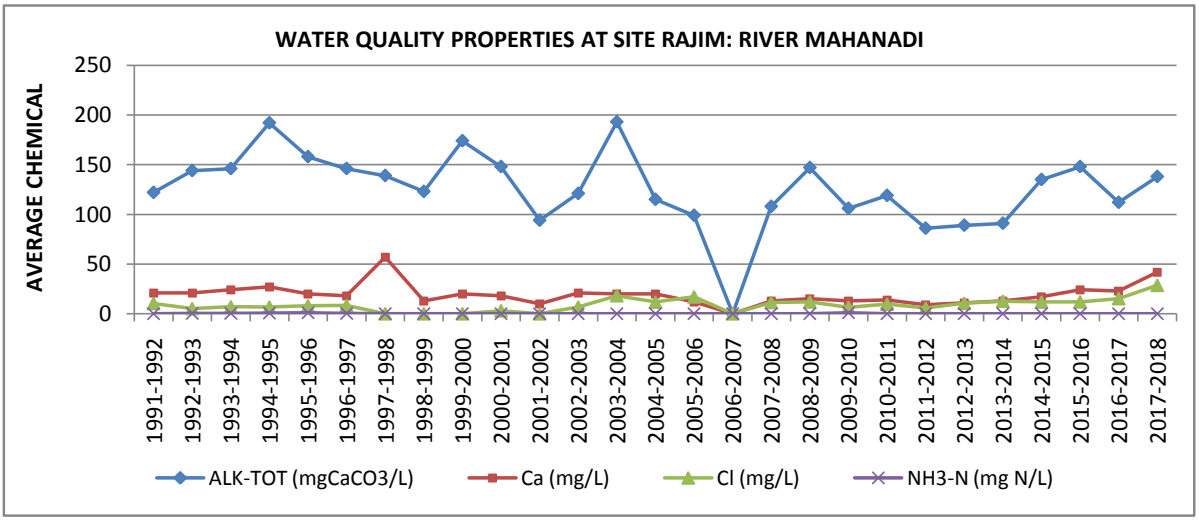

NON MONSOON LOAD AT SITE RAJIM.TRIBUTARY:UPPER MAHANADI
LOAD IN TON
30000
25000
20000
15000
10000
5000
0
1972-1973
1973-1974
1974-1975
1975-1976
1976-1977
1977-1978
1978-1979
1979-1980
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
NonMonsoon Load

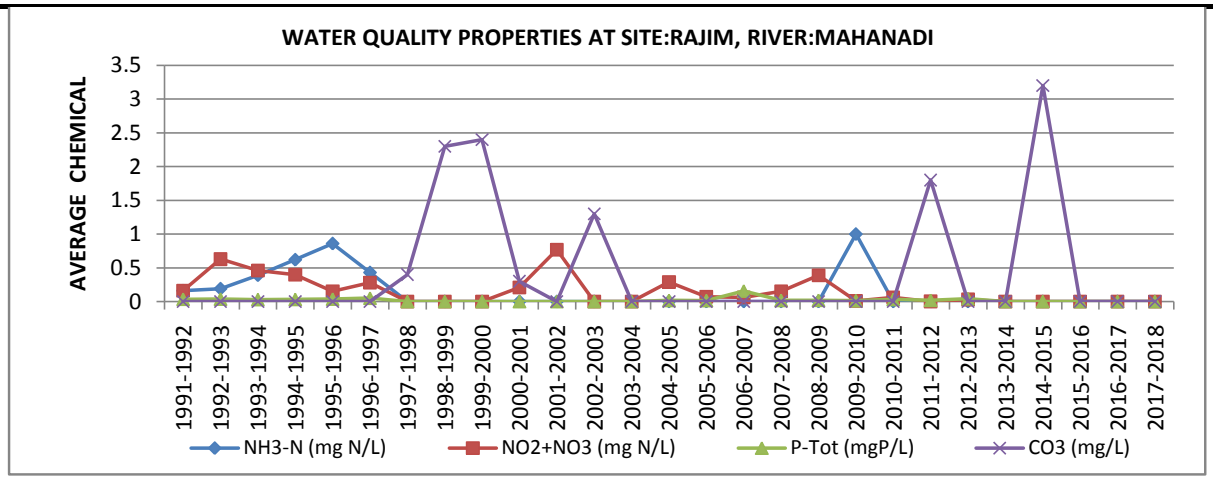

ANNUAL LOAD (MILLION M.T.)AT SITE RAJIM,TRIBUTARY:UPPER MAHANADI
LOAD IN M.M.T
4
3.5
3
2.5
2
1.5
1
0.5
0
1972-1973
1973-1974
1974-1975
1975-1976
1976-1977
1977-1978
1978-1979
1979-1980
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Annual Load

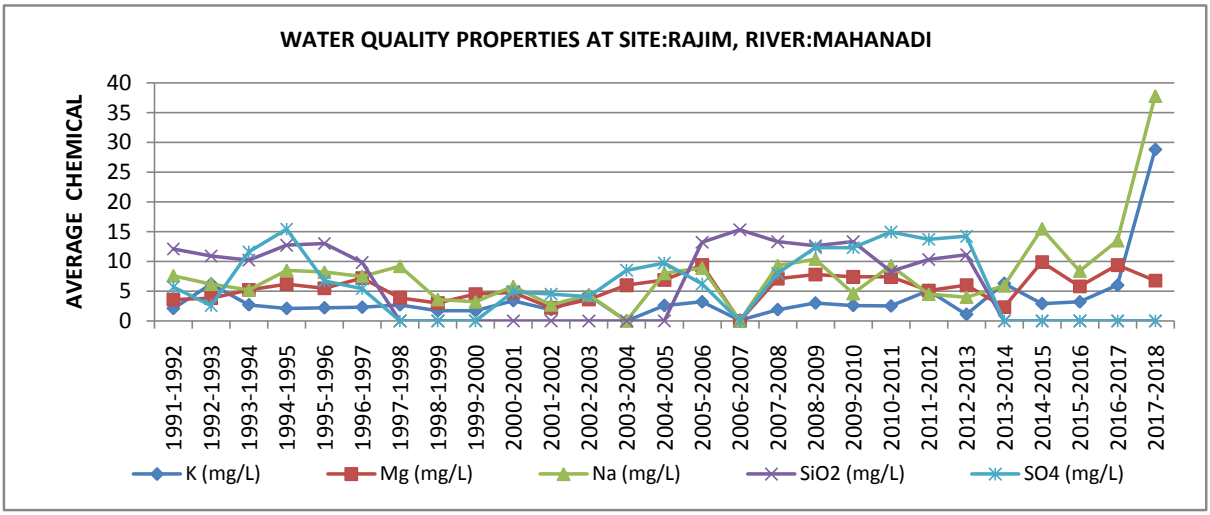

WATER QUALITY PROPERTIES AT SITE RAJIM: RIVER MAHANADI
AVERAGE PHYSICAL
400
300
200
100
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
EC_FLD (µmho/cm)
EC_GEN (µmho/cm)

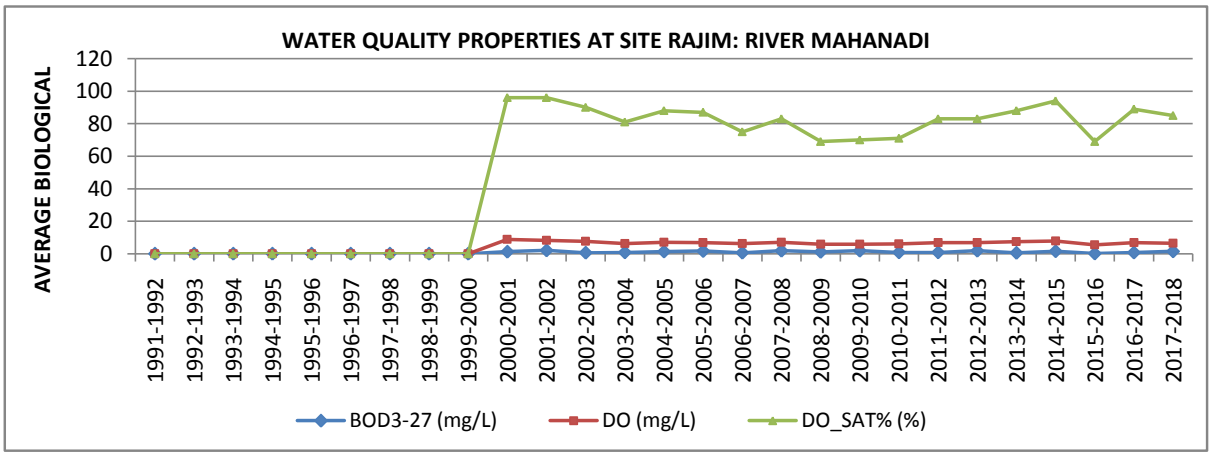

WATER QUALITY PROPERTIES AT SITE RAJIM: RIVER MAHANADI
AVERAGE PHYSICAL
35
30
25
20
15
10
5
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
pH_FLD (pH units)
pH_GEN (pH units)
Temp (deg C)

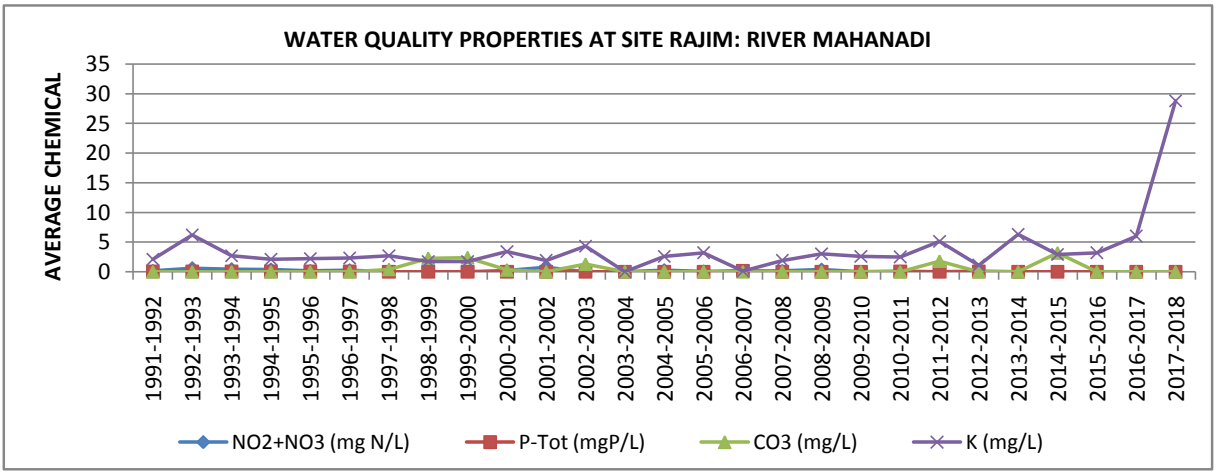

WATER QUALITY PROPERTIES AT SITE RAJIM: RIVER MAHANADI
AVERAGE CHEMICAL
3
2.5
2
1.5
1
0.5
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Alk-Phen (mgCaCO3/L)
B (mg/L)
F (mg/L)
Fe (mg/L)


WATER QUALITY PROPERTIES AT SITE RAJIM: RIVER MAHANADI
AVERAGE CHEMICAL
250
200
150
100
50
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
ALK-TOT (mgCaCO3/L)
Ca (mg/L)
Cl (mg/L)
NH3-N (mg N/L)

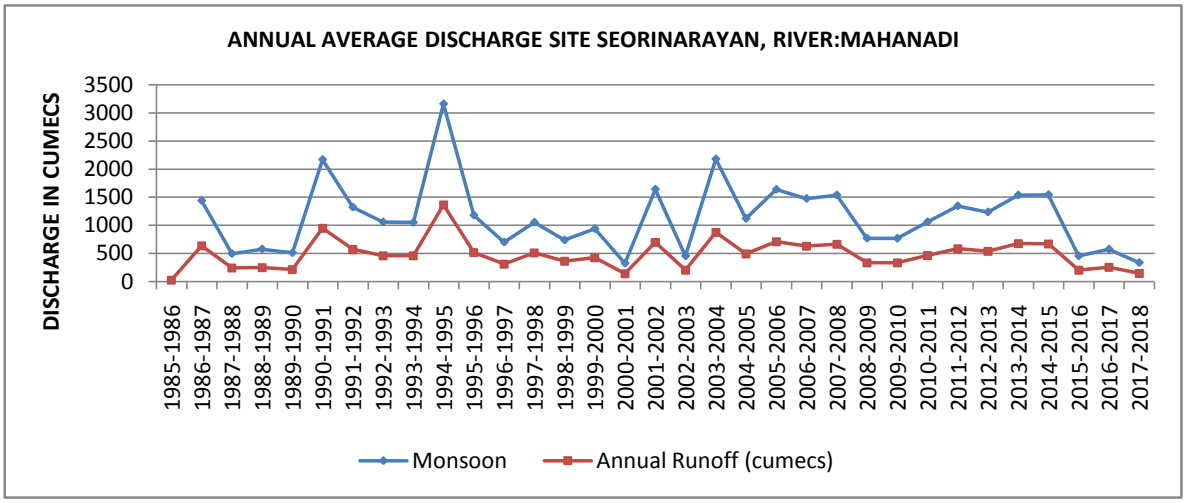

WATER QUALITY PROPERTIES AT SITE:RAJIM, RIVER:MAHANADI
AVERAGE CHEMICAL
3.5
3
2.5
2
1.5
1
0.5
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
NH3-N (mg N/L)
NO2+NO3 (mg N/L)
P-Tot (mgP/L)
CO3 (mg/L)

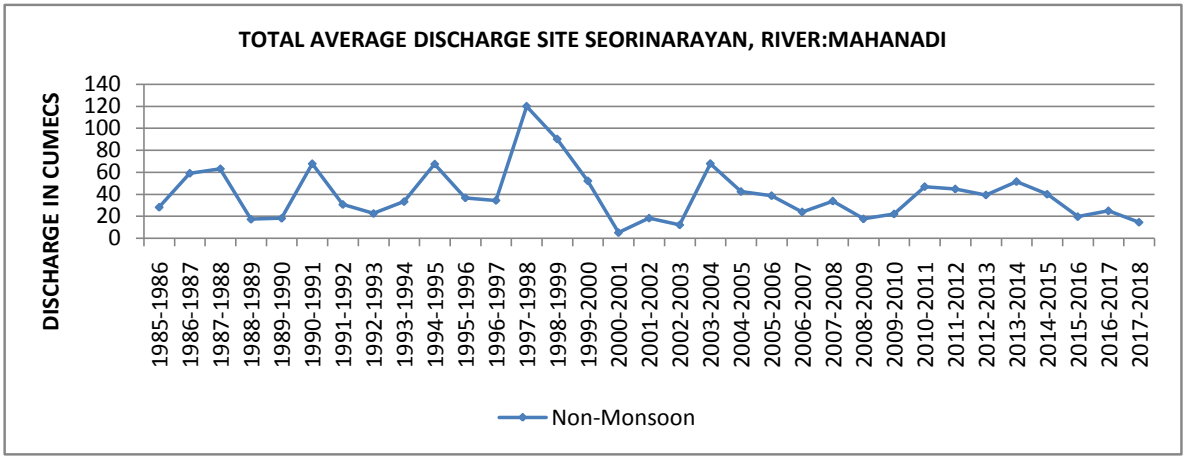

WATER QUALITY PROPERTIES AT SITE:RAJIM, RIVER:MAHANADI
AVERAGE CHEMICAL
40
35
30
25
20
15
10
5
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
K (mg/L)
Mg (mg/L)
Na (mg/L)
SiO2 (mg/L)
SO4 (mg/L)

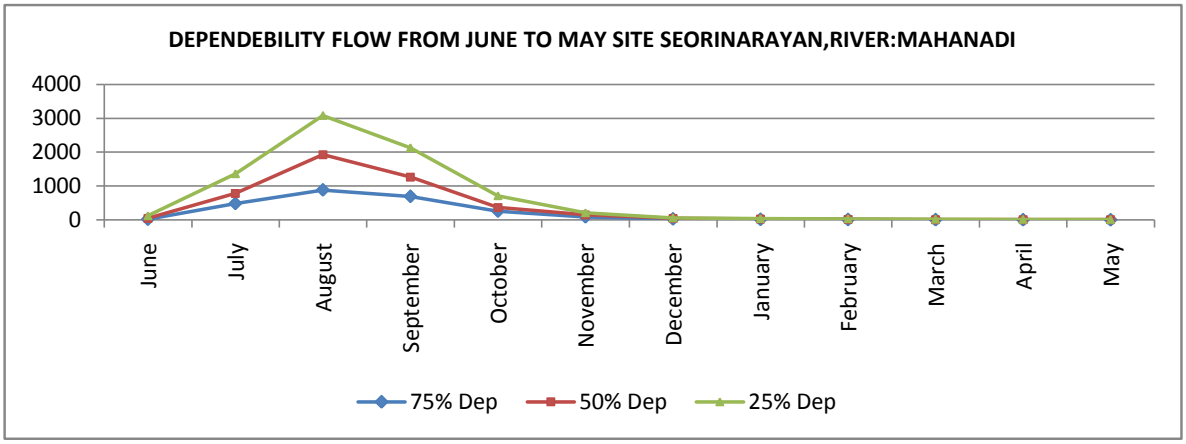

WATER QUALITY PROPERTIES AT SITE RAJIM: RIVER MAHANADI
AVERAGE BIOLOGICAL
120
100
80
60
40
20
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
BOD3-27 (mg/L)
DO (mg/L)
DO_SAT% (%)

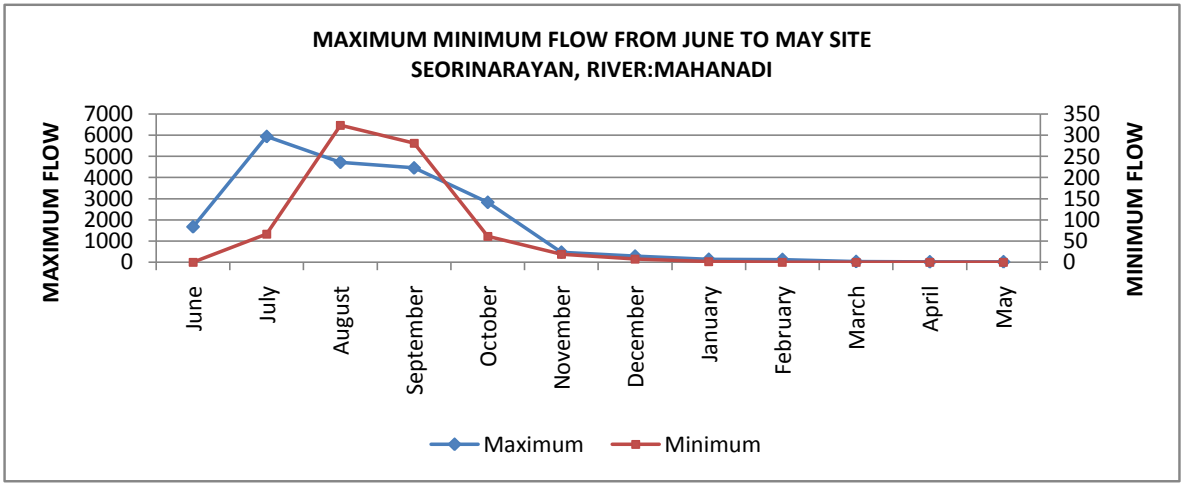

WATER QUALITY PROPERTIES AT SITE RAJIM: RIVER MAHANADI
AVERAGE CHEMICAL
35
30
25
20
15
10
5
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
NO2+NO3 (mg N/L)
P-Tot (mgP/L)
CO3 (mg/L)
K (mg/L)

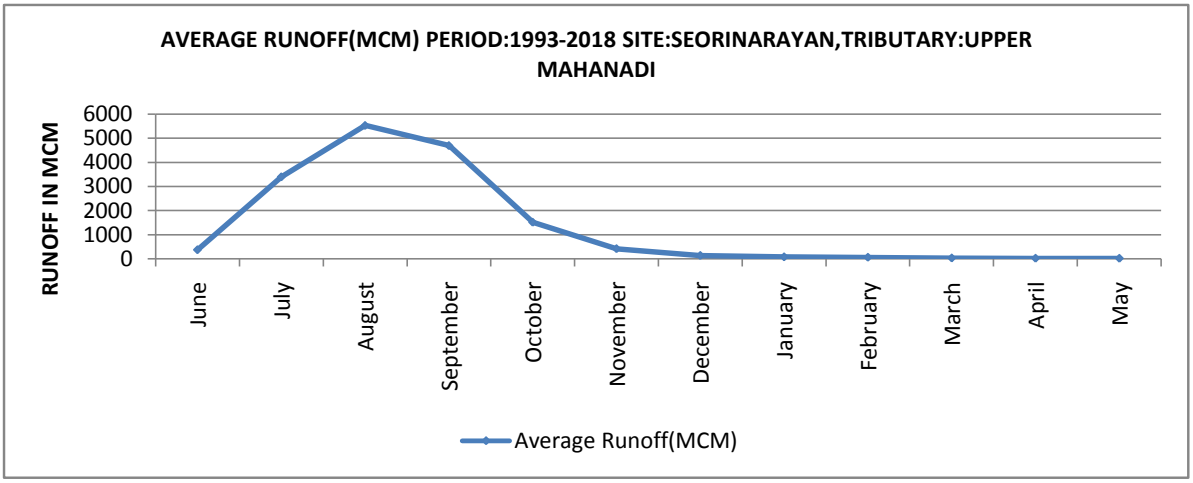
YEAR WISE TREND OF SITE SEORINARAYAN

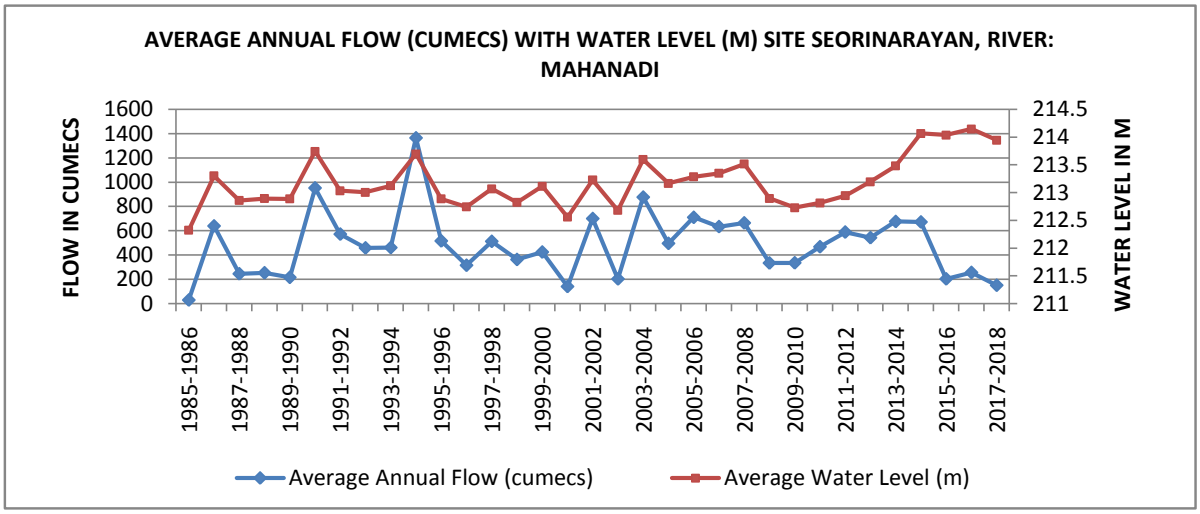


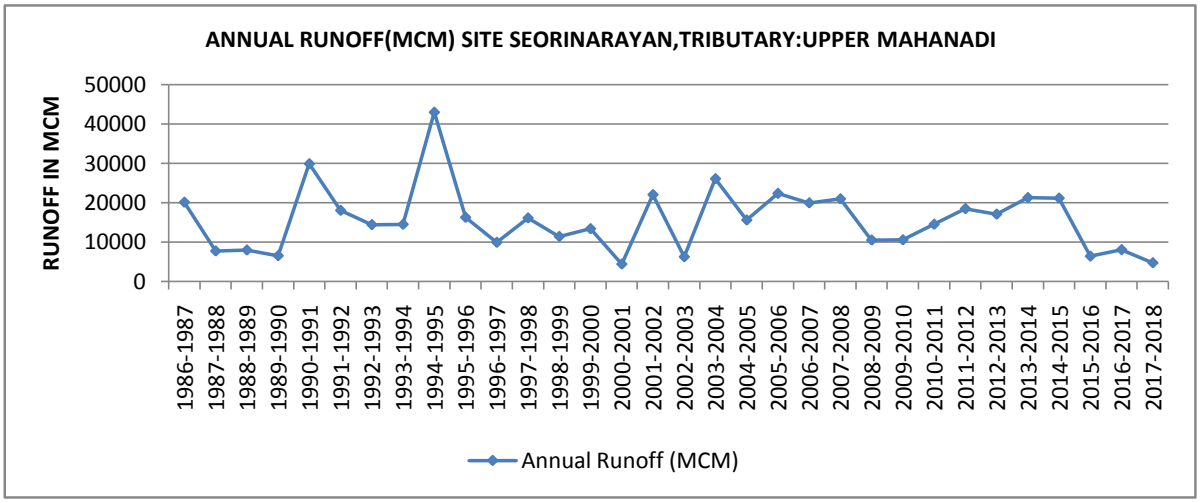


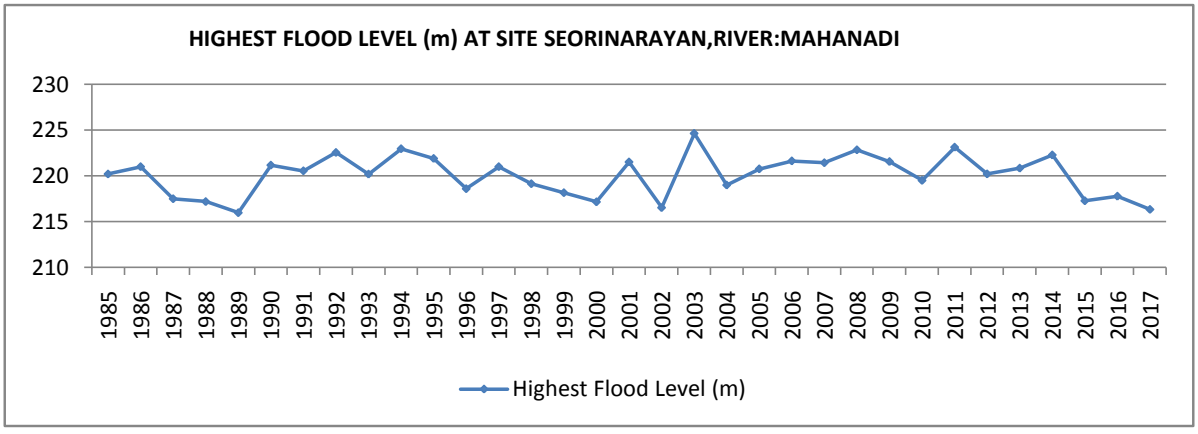


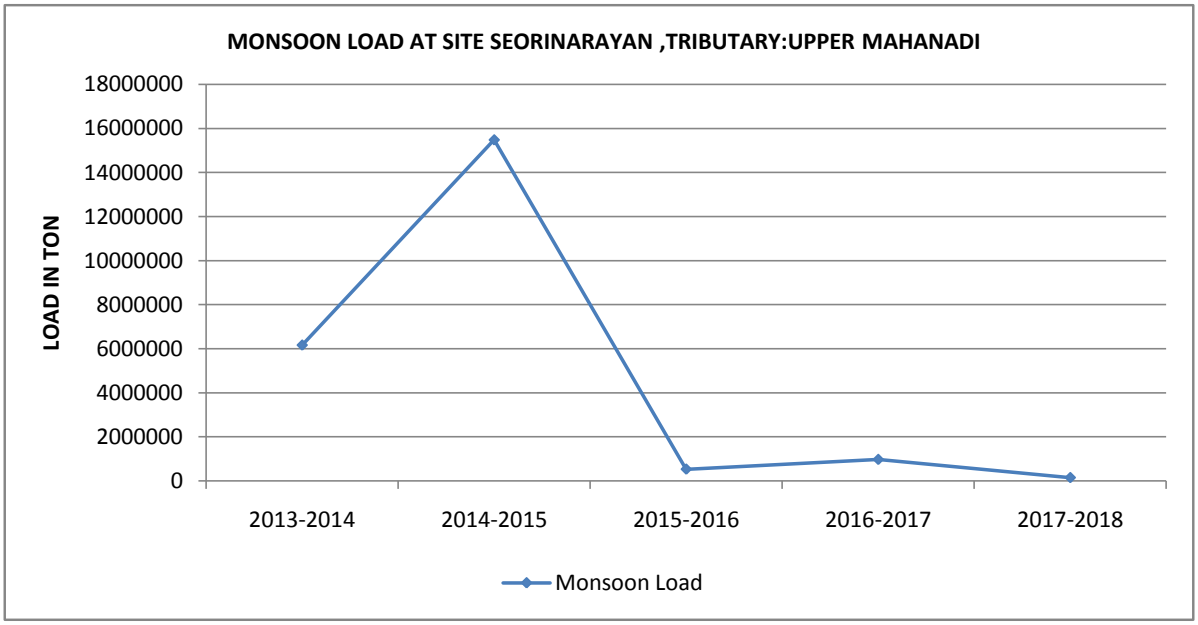


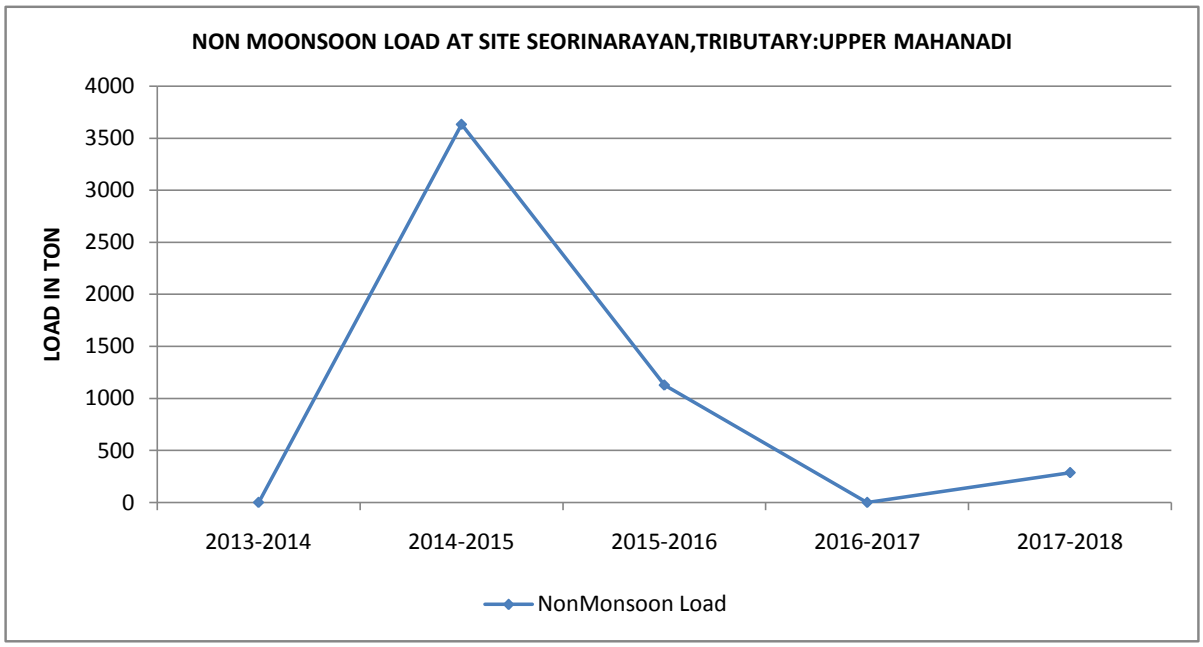

AVERAGE RUNOFF(MCM) PERIOD:1993-2018 SITE:SEORINARAYAN,TRIBUTARY:UPPER MAHANADI
RUNOFF IN MCM
6000
5000
4000
3000
2000
1000
0
June
July
August
September
October
November
December
January
February
March
April
May
Average Runoff(MCM)

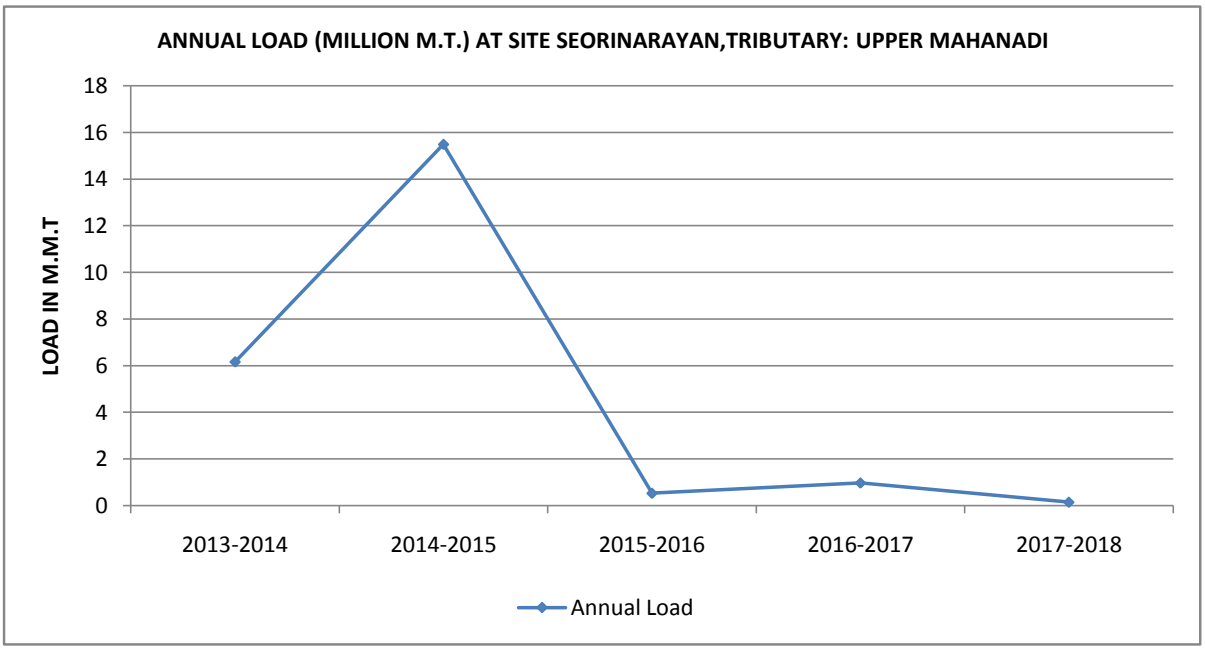

AVERAGE ANNUAL FLOW (CUMECS) WITH WATER LEVEL (M) SITE SEORINARAYAN, RIVER: MAHANADI
FLOW IN CUMECS
1600
1400
1200
1000
800
600
400
200
0
WATER LEVEL IN M
214.5
214
213.5
213
212.5
212
211.5
211
1985-1986
1987-1988
1989-1990
1991-1992
1993-1994
1995-1996
1997-1998
1999-2000
2001-2002
2003-2004
2005-2006
2007-2008
2009-2010
2011-2012
2013-2014
2015-2016
2017-2018
Average Annual Flow (cumecs)
Average Water Level (m)


ANNUAL RUNOFF(MCM) SITE SEORINARAYAN,TRIBUTARY:UPPER MAHANADI
RUNOFF IN MCM
50000
40000
30000
20000
10000
0
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Annual Runoff (MCM)

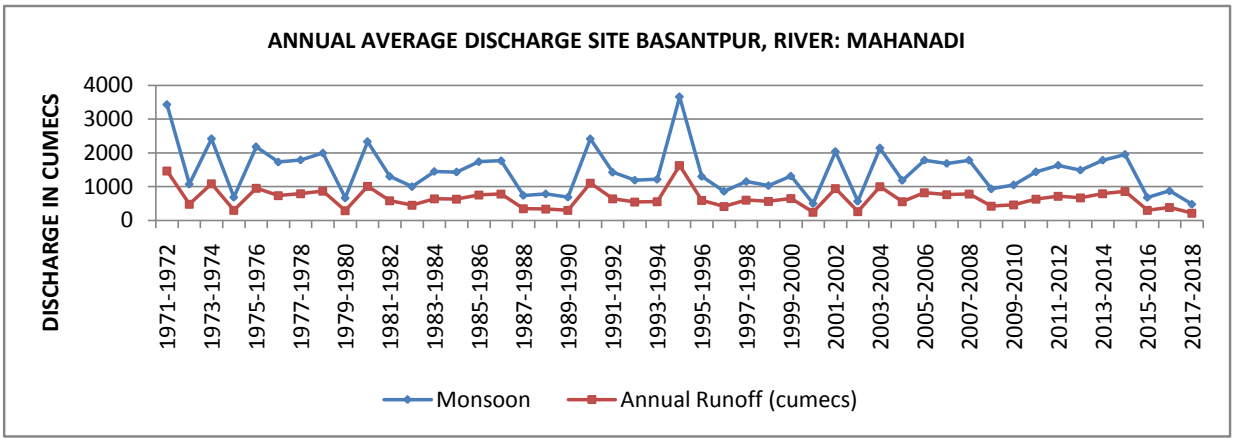

HIGHEST FLOOD LEVEL (m) AT SITE SEORINARAYAN,RIVER:MAHANADI
230
225
220
215
210
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
Highest Flood Level (m)

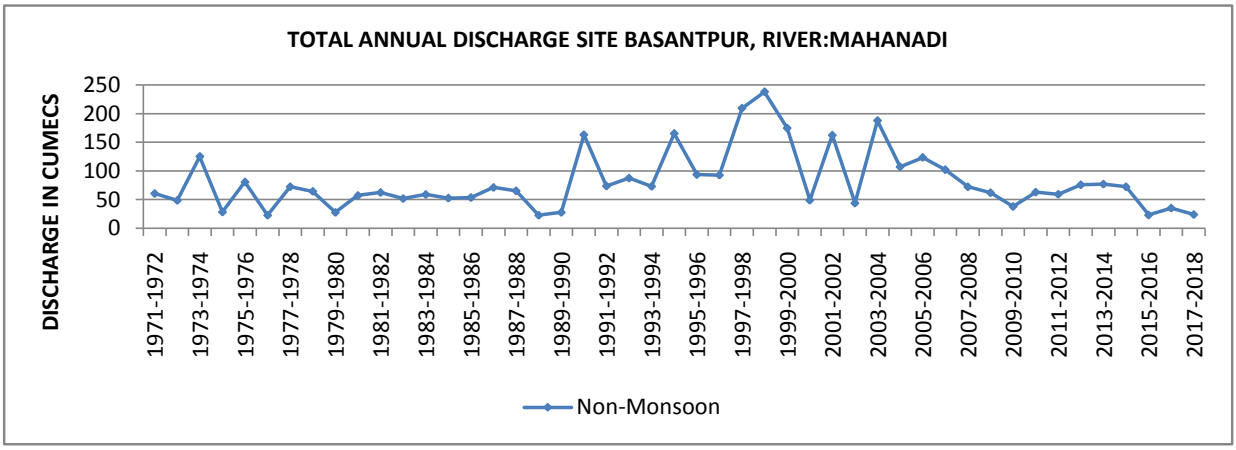

MONSOON LOAD AT SITE SEORINARAYAN ,TRIBUTARY:UPPER MAHANADI
LOAD IN TON
18000000
16000000
14000000
12000000
10000000
8000000
6000000
4000000
2000000
0
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Monsoon Load

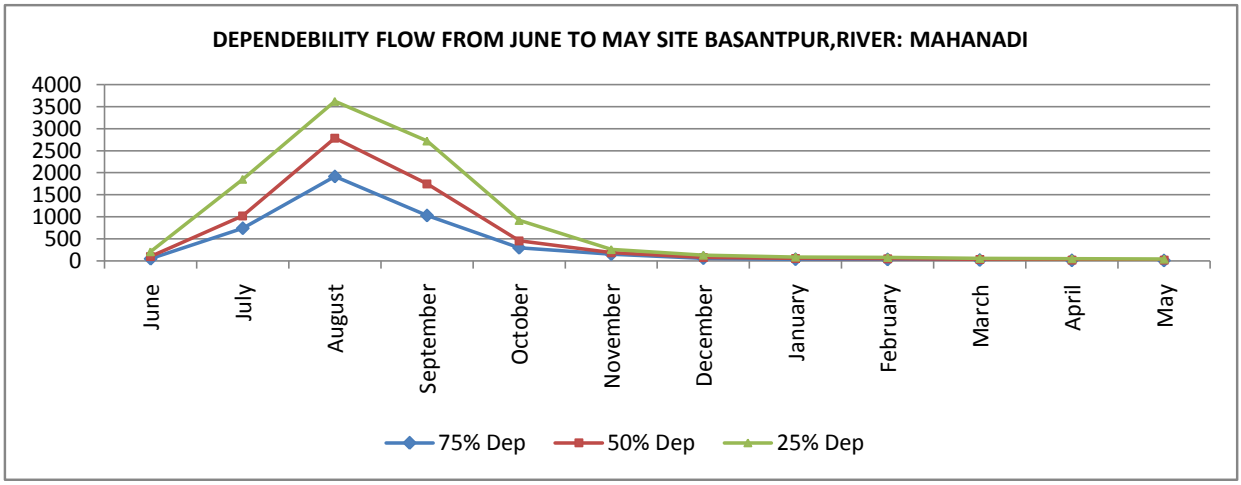

NON MOONSOON LOAD AT SITE SEORINARAYAN,TRIBUTARY:UPPER MAHANADI
LOAD IN TON
4000
3500
3000
2500
2000
1500
1000
500
0
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
NonMonsoon Load

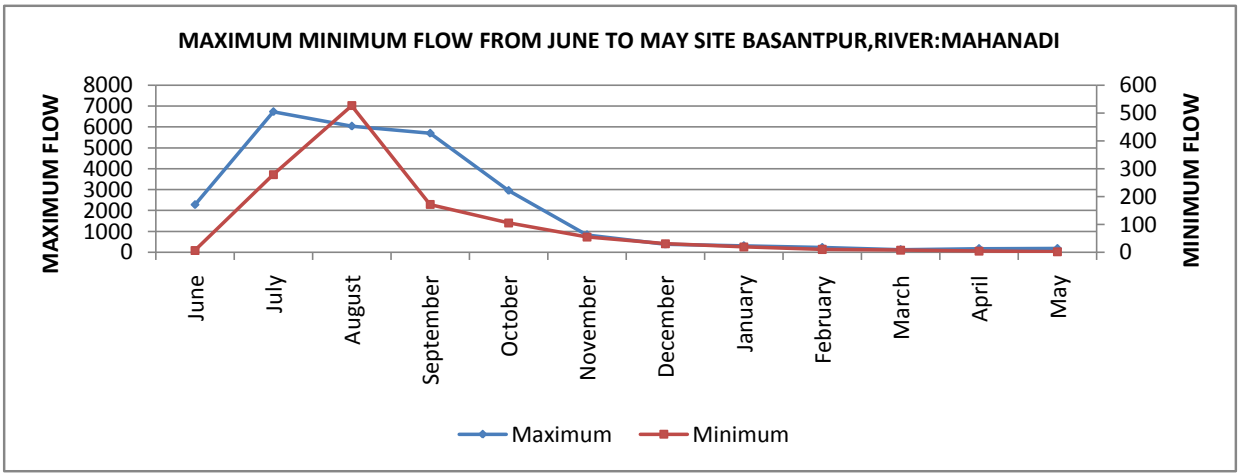

ANNUAL LOAD (MILLION M.T.) AT SITE SEORINARAYAN,TRIBUTARY: UPPER MAHANADI
LOAD IN M.M.T
18
16
14
12
10
8
6
4
2
0
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Annual Load

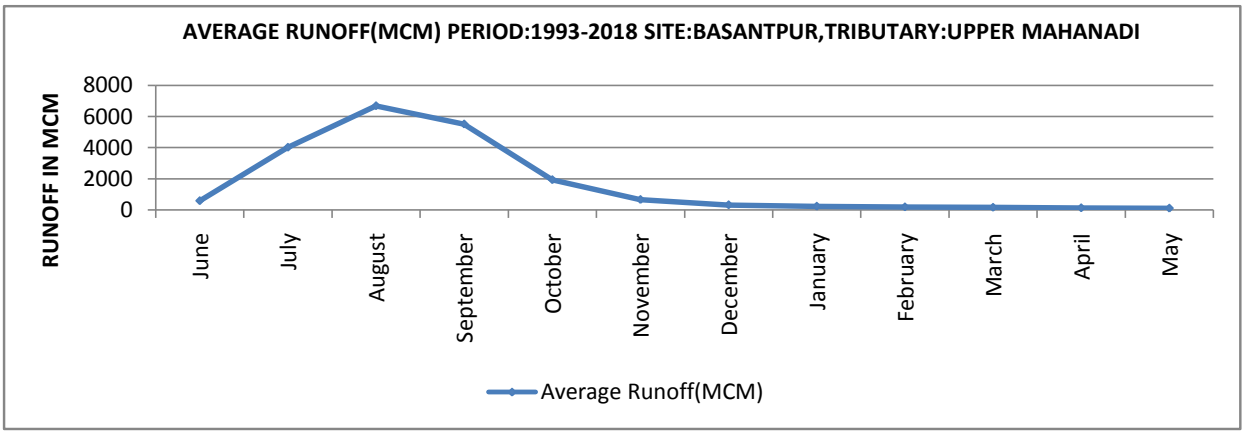
YEAR WISE TREND OF SITE BASANTPUR

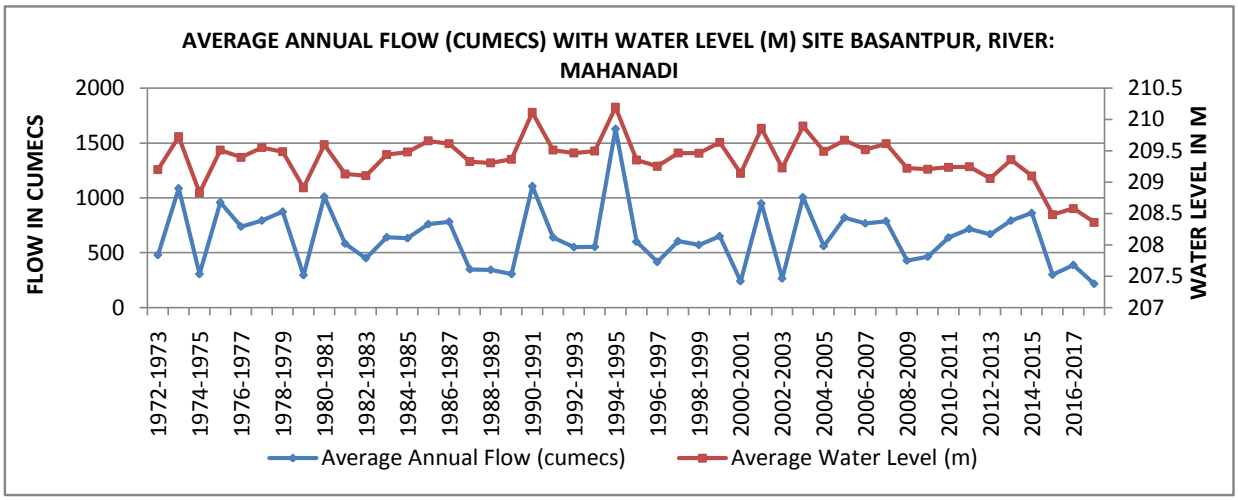


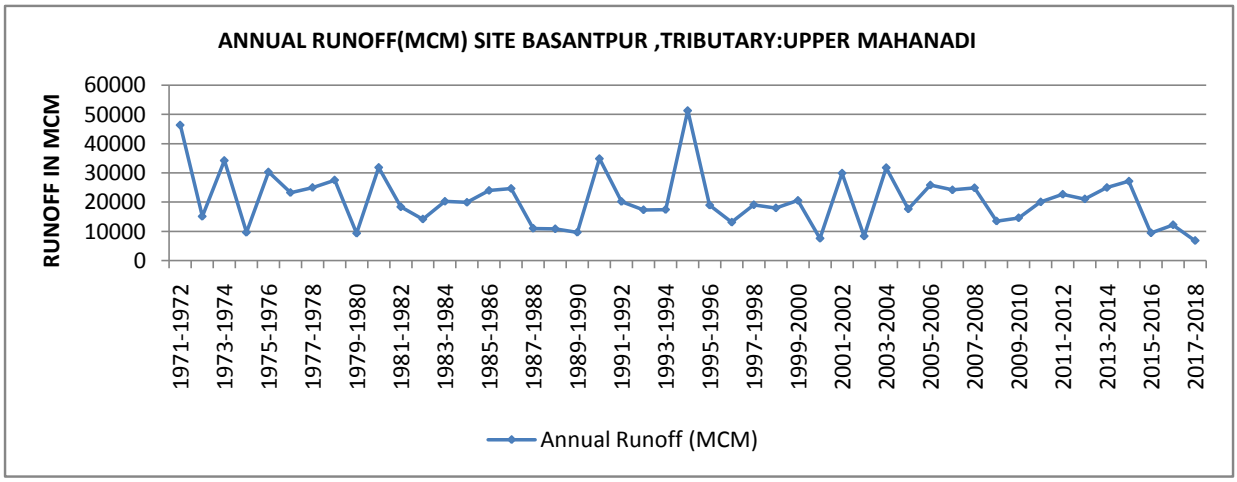


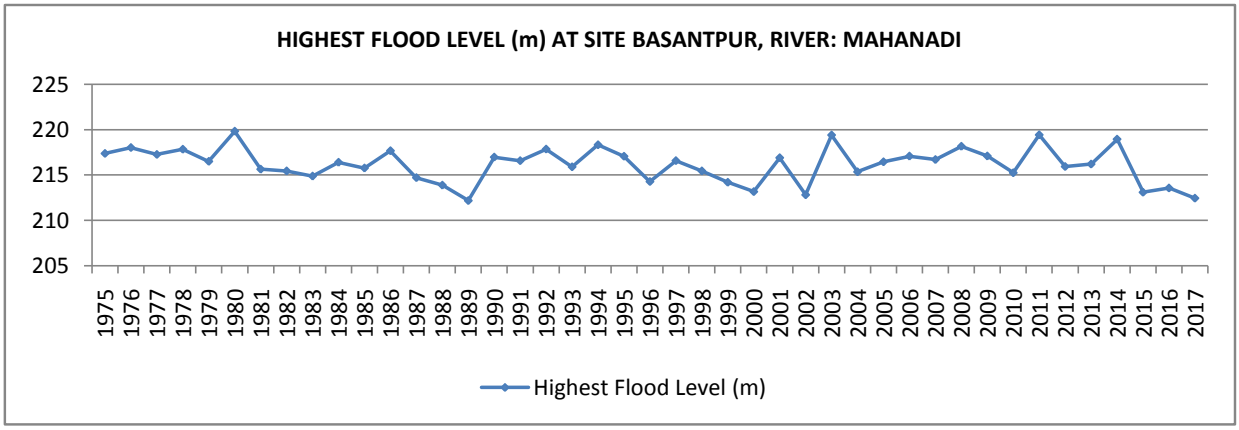


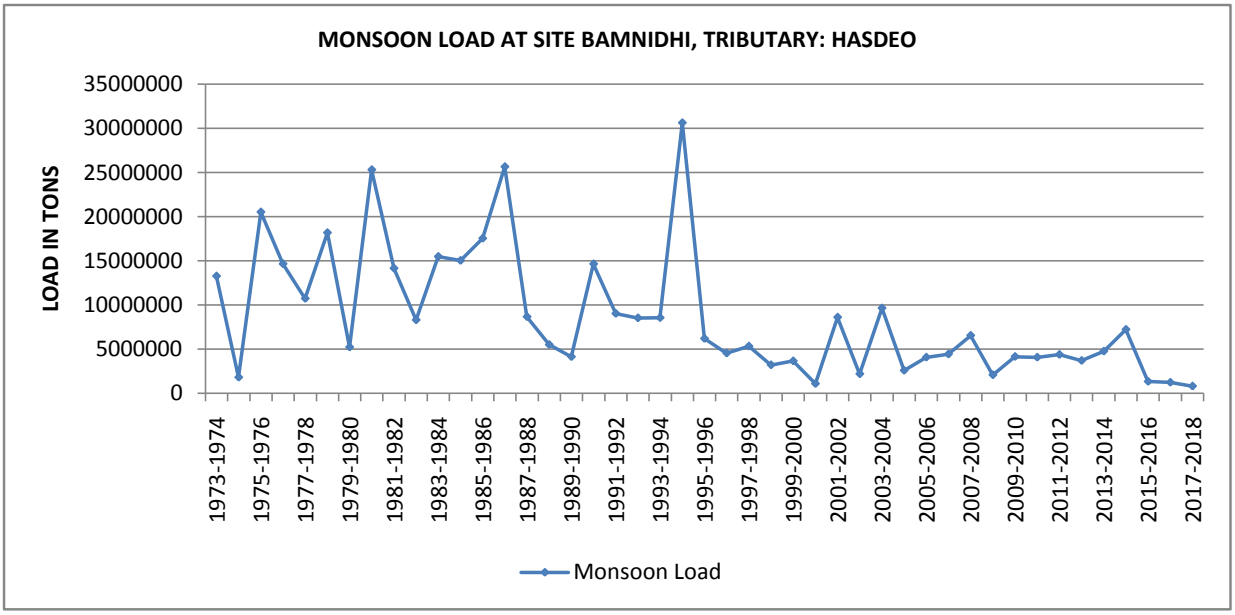


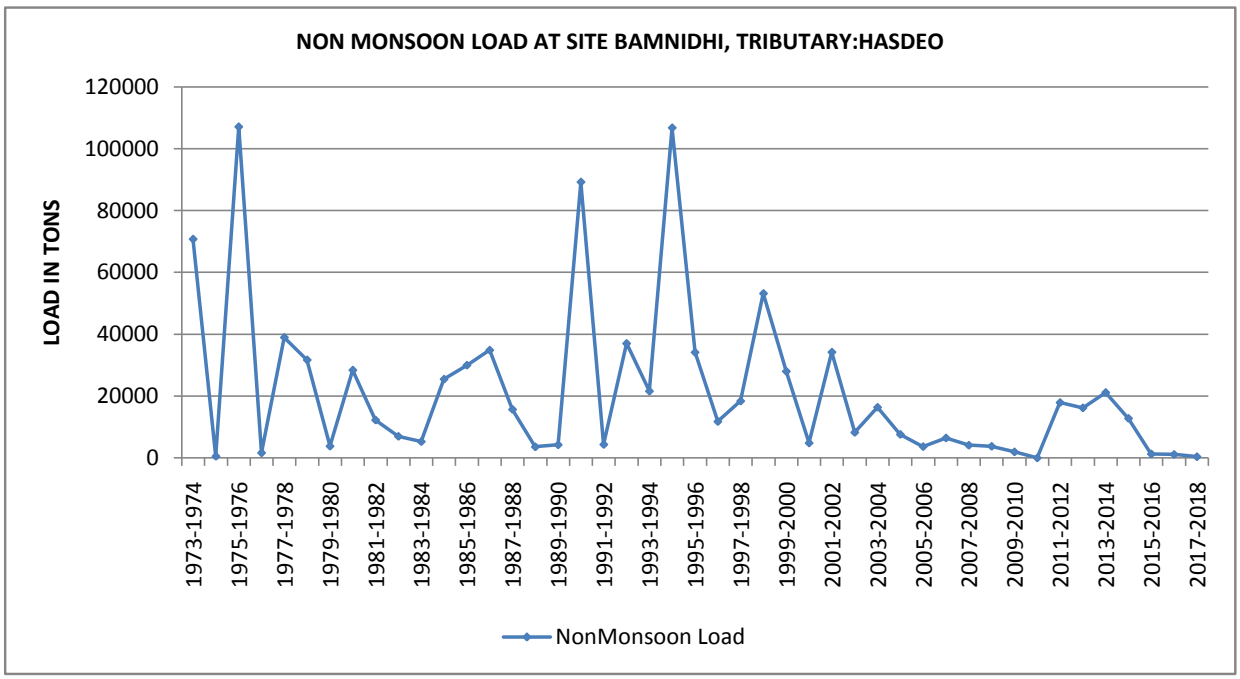

AVERAGE RUNOFF(MCM) PERIOD:1993-2018 SITE:BASANTPUR,TRIBUTARY:UPPER MAHANADI
RUNOFF IN MCM
8000
6000
4000
2000
0
June
July
August
September
October
November
December
January
February
March
April
May
Average Runoff(MCM)

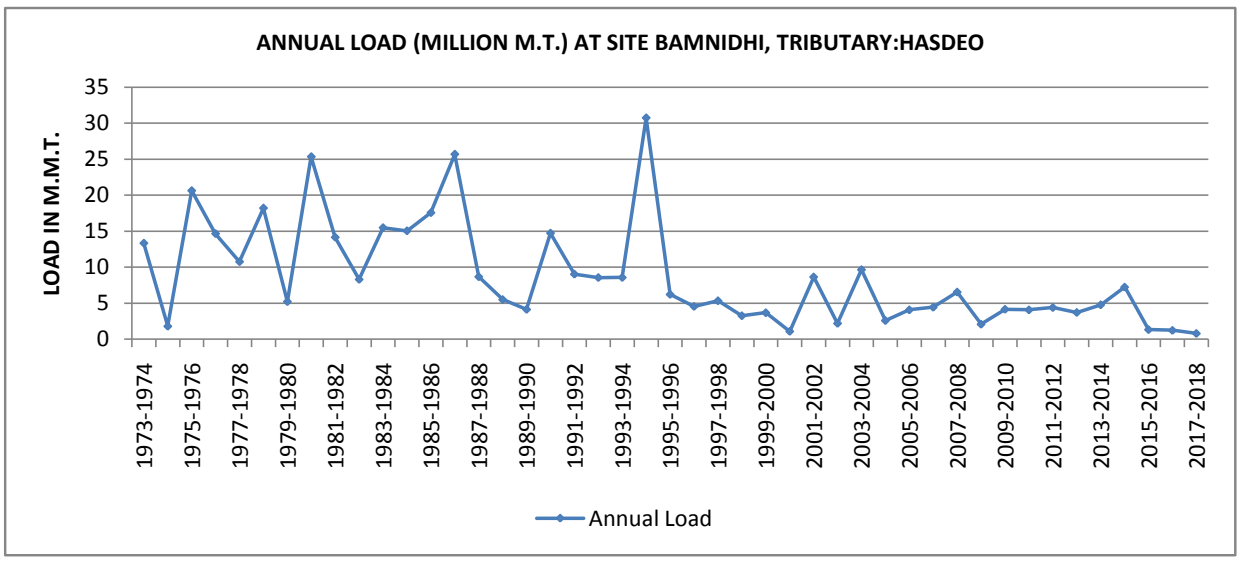

AVERAGE ANNUAL FLOW (CUMECS) WITH WATER LEVEL (M) SITE BASANTPUR, RIVER: MAHANADI
FLOW IN CUMECS
2000
1500
1000
500
0
WATER LEVEL IN M
210.5
210
209.5
209
208.5
208
207.5
207
1972-1973
1974-1975
1976-1977
1978-1979
1980-1981
1982-1983
1984-1985
1986-1987
1988-1989
1990-1991
1992-1993
1994-1995
1996-1997
1998-1999
2000-2001
2002-2003
2004-2005
2006-2007
2008-2009
2010-2011
2012-2013
2014-2015
2016-2017
Average Annual Flow (cumecs)
Average Water Level (m)

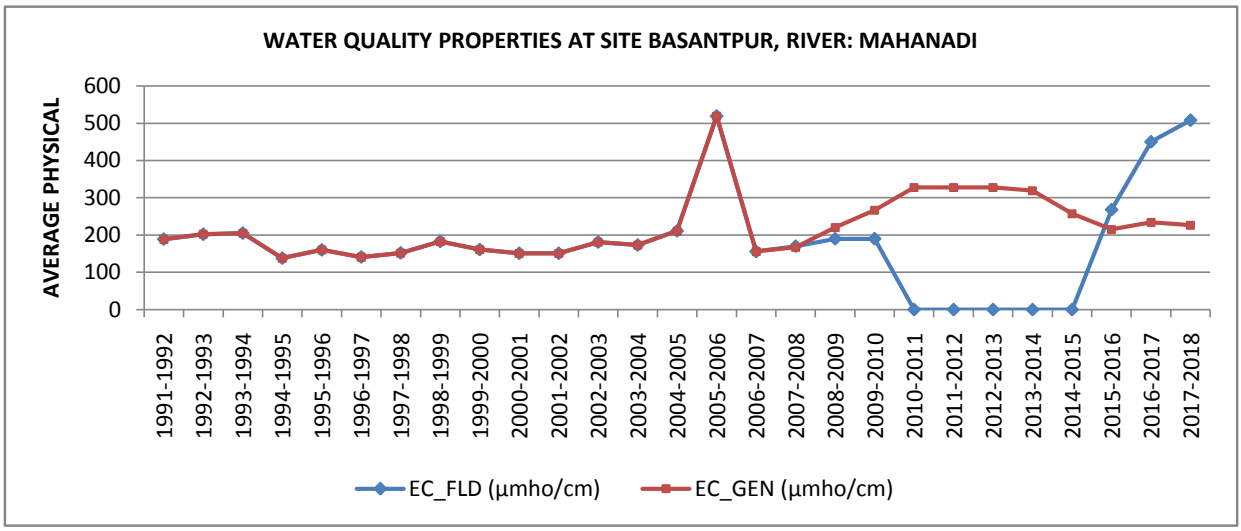

ANNUAL RUNOFF(MCM) SITE BASANTPUR ,TRIBUTARY:UPPER MAHANADI
RUNOFF IN MCM
60000
50000
40000
30000
20000
10000
0
1971-1972
1973-1974
1975-1976
1977-1978
1979-1980
1981-1982
1983-1984
1985-1986
1987-1988
1989-1990
1991-1992
1993-1994
1995-1996
1997-1998
1999-2000
2001-2002
2003-2004
2005-2006
2007-2008
2009-2010
2011-2012
2013-2014
2015-2016
2017-2018
Annual Runoff (MCM)

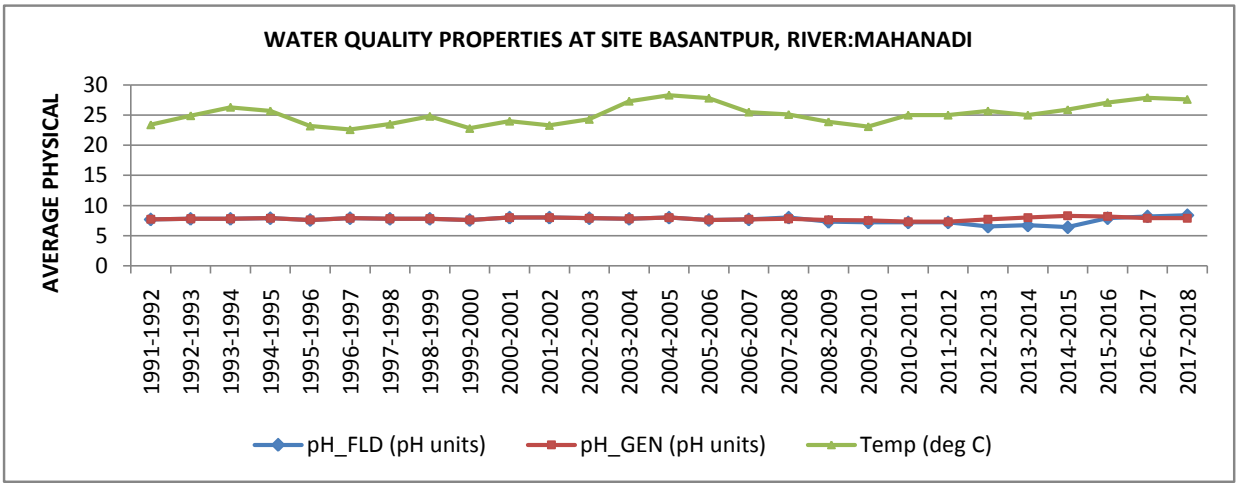

HIGHEST FLOOD LEVEL (m) AT SITE BASANTPUR, RIVER: MAHANADI
225
220
215
210
205
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
Highest Flood Level (m)

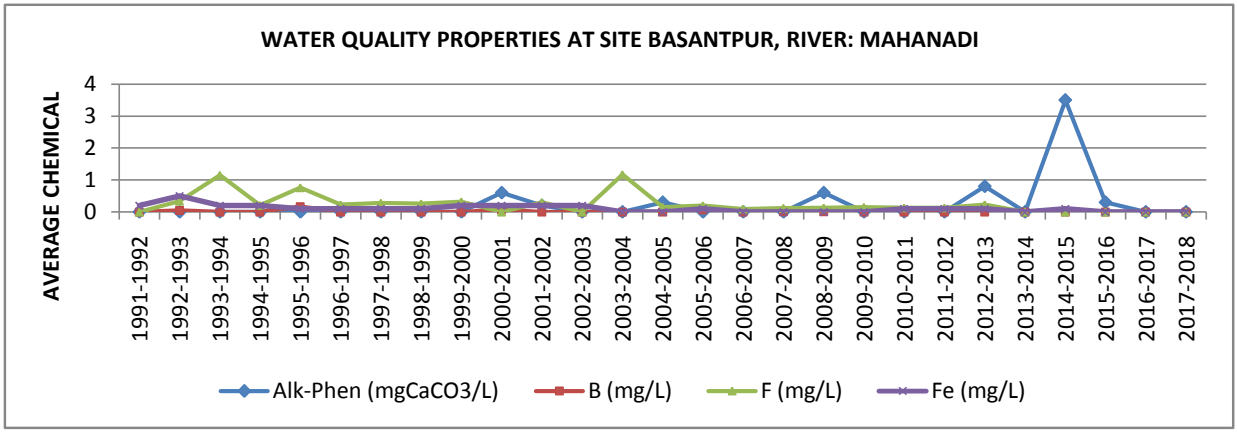

MONSOON LOAD AT SITE BAMNIDHI, TRIBUTARY: HASDEO
LOAD IN TONS
35000000
30000000
25000000
20000000
15000000
10000000
5000000
0
1973-1974
1975-1976
1977-1978
1979-1980
1981-1982
1983-1984
1985-1986
1987-1988
1989-1990
1991-1992
1993-1994
1995-1996
1997-1998
1999-2000
2001-2002
2003-2004
2005-2006
2007-2008
2009-2010
2011-2012
2013-2014
2015-2016
2017-2018
Monsoon Load

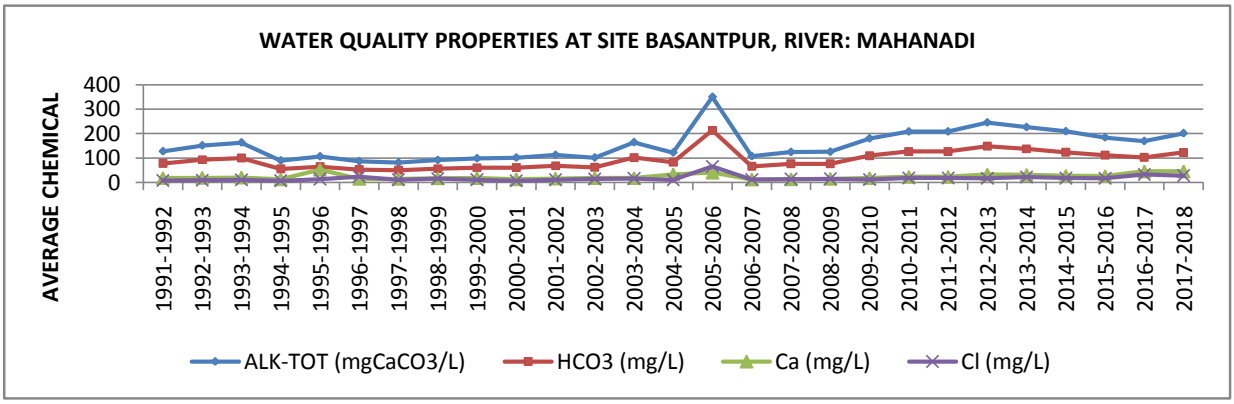

NON MONSOON LOAD AT SITE BAMNIDHI, TRIBUTARY:HASDEO
LOAD IN TONS
120000
100000
80000
60000
40000
20000
0
1973-1974
1975-1976
1977-1978
1979-1980
1981-1982
1983-1984
1985-1986
1987-1988
1989-1990
1991-1992
1993-1994
1995-1996
1997-1998
1999-2000
2001-2002
2003-2004
2005-2006
2007-2008
2009-2010
2011-2012
2013-2014
2015-2016
2017-2018
NonMonsoon Load

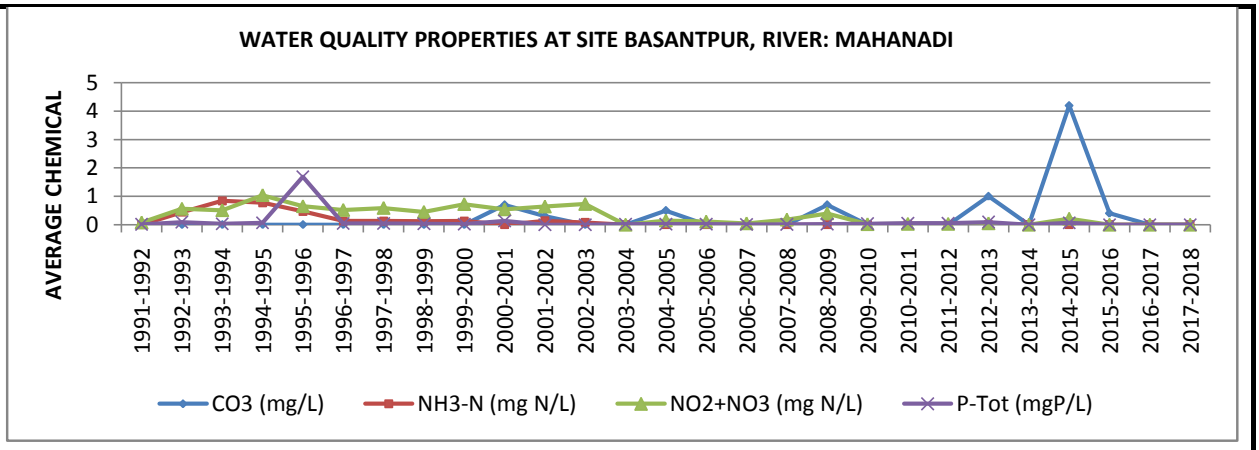

ANNUAL LOAD (MILLION M.T.) AT SITE BAMNIDHI, TRIBUTARY:HASDEO
LOAD IN M.M.T.
35
30
25
20
15
10
5
0
1973-1974
1975-1976
1977-1978
1979-1980
1981-1982
1983-1984
1985-1986
1987-1988
1989-1990
1991-1992
1993-1994
1995-1996
1997-1998
1999-2000
2001-2002
2003-2004
2005-2006
2007-2008
2009-2010
2011-2012
2013-2014
2015-2016
2017-2018
Annual Load

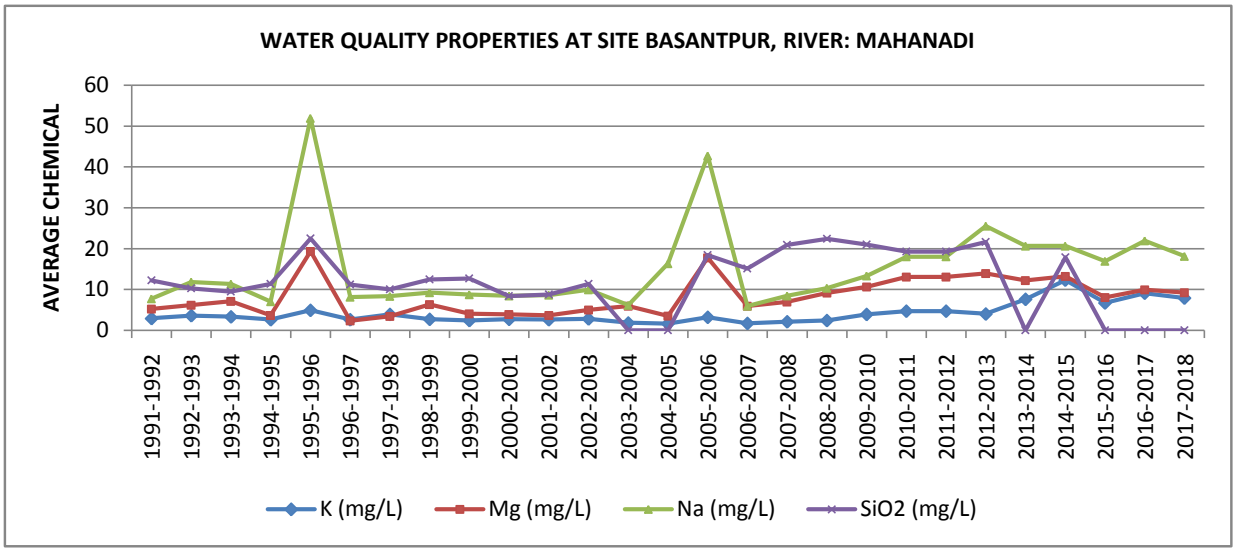

WATER QUALITY PROPERTIES AT SITE BASANTPUR, RIVER: MAHANADI
AVERAGE PHYSICAL
600
500
400
300
200
100
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
EC_FLD (µmho/cm)
EC_GEN (µmho/cm)

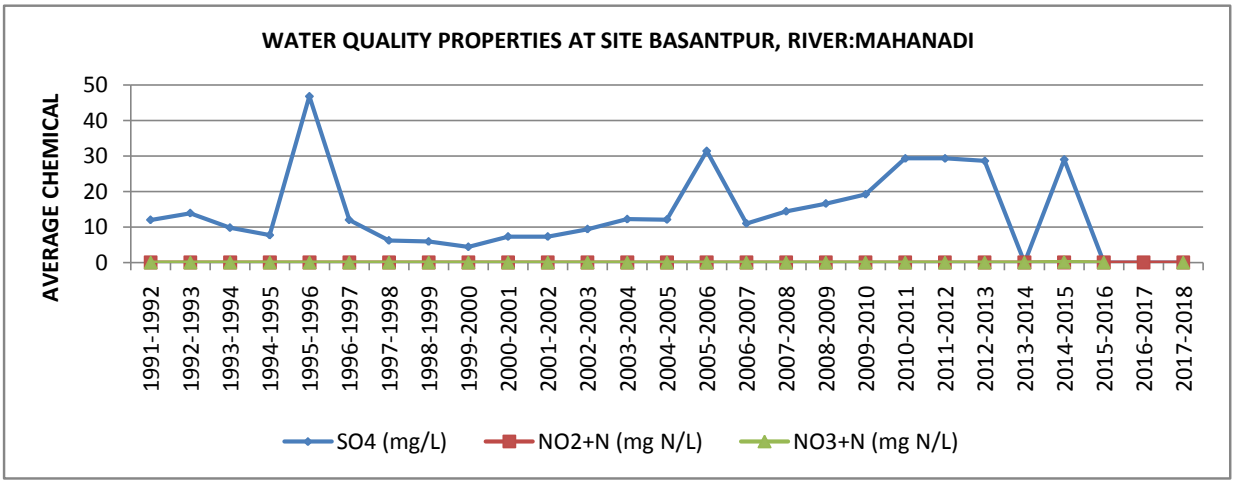

WATER QUALITY PROPERTIES AT SITE BASANTPUR, RIVER:MAHANADI
AVERAGE PHYSICAL
30
25
20
15
10
5
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
pH_FLD (pH units)
pH_GEN (pH units)
Temp (deg C)

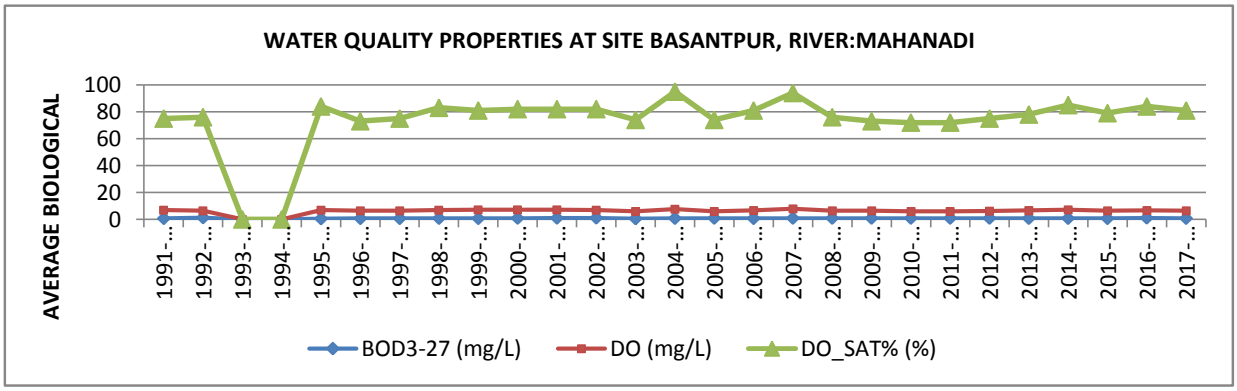

WATER QUALITY PROPERTIES AT SITE BASANTPUR, RIVER: MAHANADI
AVERAGE CHEMICAL
4
3
2
1
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Alk-Phen (mgCaCO3/L)
B (mg/L)
F (mg/L)
Fe (mg/L)


WATER QUALITY PROPERTIES AT SITE BASANTPUR, RIVER: MAHANADI
AVERAGE CHEMICAL
400
300
200
100
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
ALK-TOT (mgCaCO3/L)
HCO3 (mg/L)
Ca (mg/L)
Cl (mg/L)

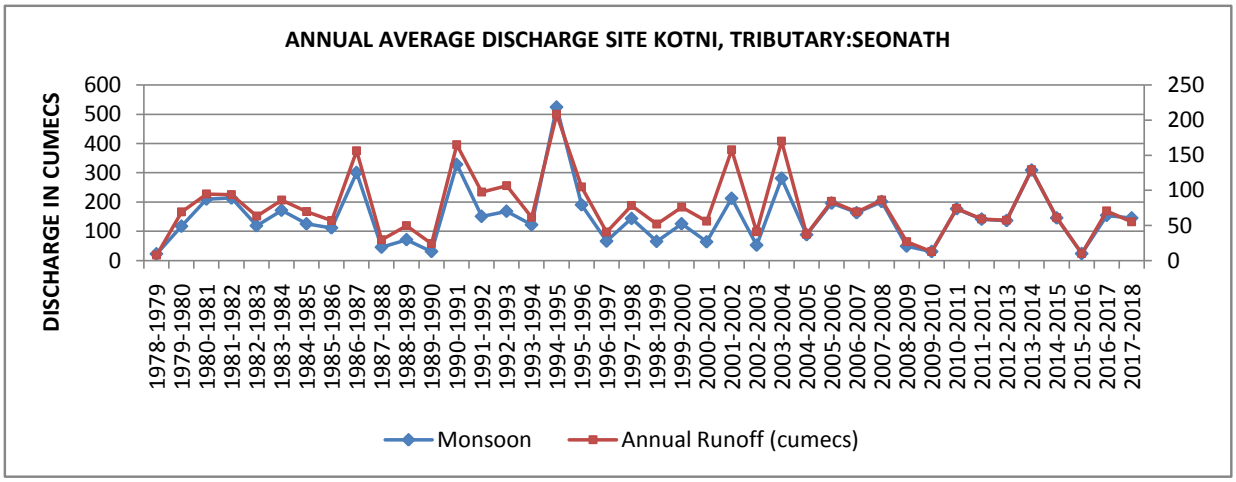

WATER QUALITY PROPERTIES AT SITE BASANTPUR, RIVER: MAHANADI
AVERAGE CHEMICAL
0
1
2
3
4
5
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
CO3 (mg/L)
NH3-N (mg N/L)
NO2+NO3 (mg N/L)
P-Tot (mgP/L)

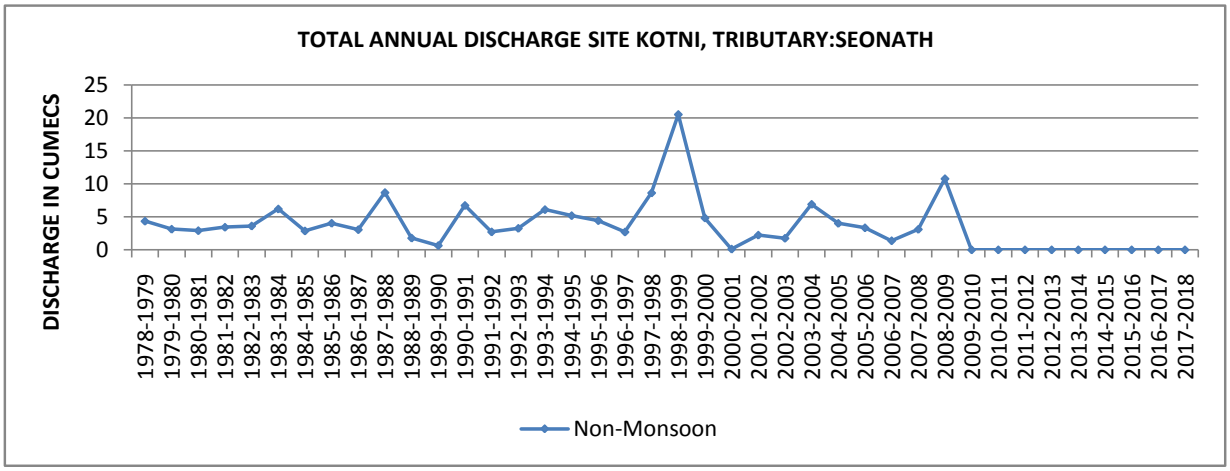

WATER QUALITY PROPERTIES AT SITE BASANTPUR, RIVER: MAHANADI
AVERAGE CHEMICAL
0
10
20
30
40
50
60
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
K (mg/L)
Mg (mg/L)
Na (mg/L)
SiO2 (mg/L)

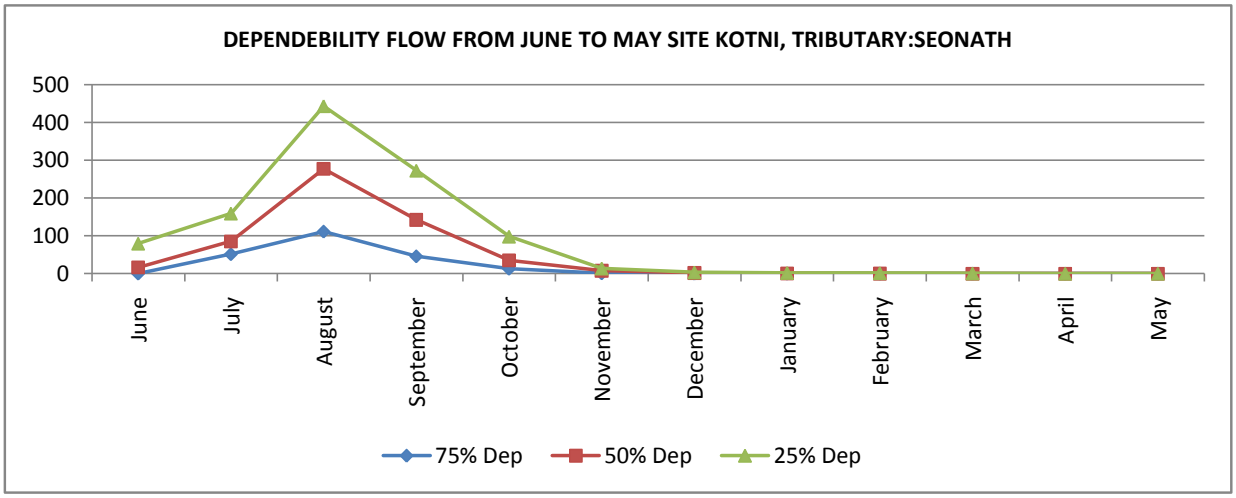

WATER QUALITY PROPERTIES AT SITE BASANTPUR, RIVER:MAHANADI
AVERAGE CHEMICAL
0
10
20
30
40
50
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
SO4 (mg/L)
NO2+N (mg N/L)
NO3+N (mg N/L)

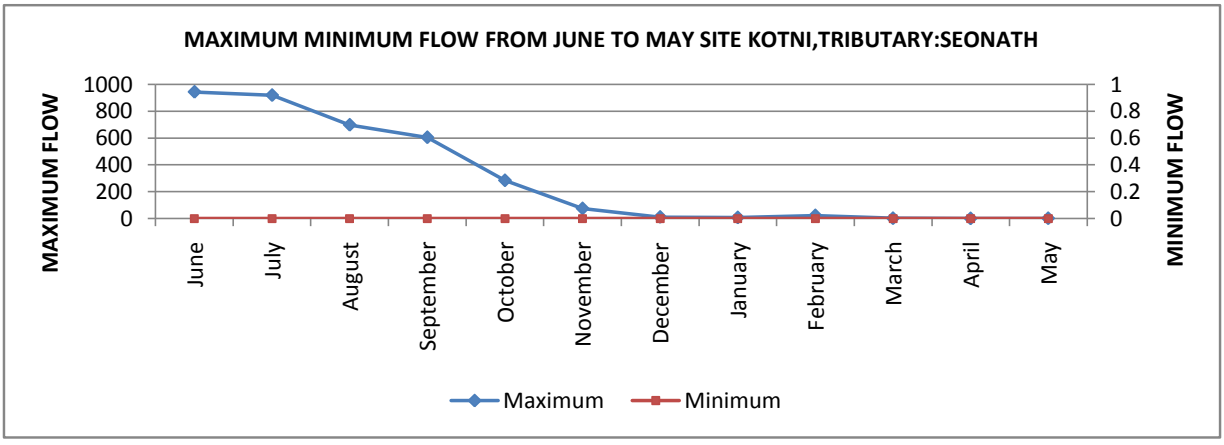

WATER QUALITY PROPERTIES AT SITE BASANTPUR, RIVER:MAHANADI
AVERAGE BIOLOGICAL
0
20
40
60
80
100
1991-...
1992-...
1993-...
1994-...
1995-...
1996-...
1997-...
1998-...
1999-...
2000-...
2001-...
2002-...
2003-...
2004-...
2005-...
2006-...
2007-...
2008-...
2009-...
2010-...
2011-...
2012-...
2013-...
2014-...
2015-...
2016-...
2017-...
BOD3-27 (mg/L)
DO (mg/L)
DO_SAT% (%)

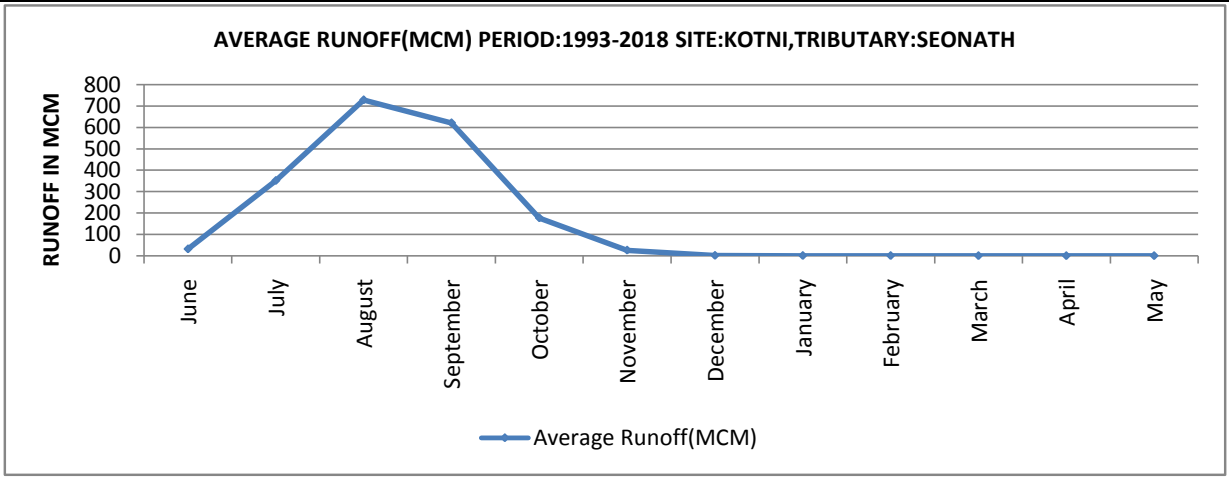
YEAR WISE TREND OF SITE KOTNI

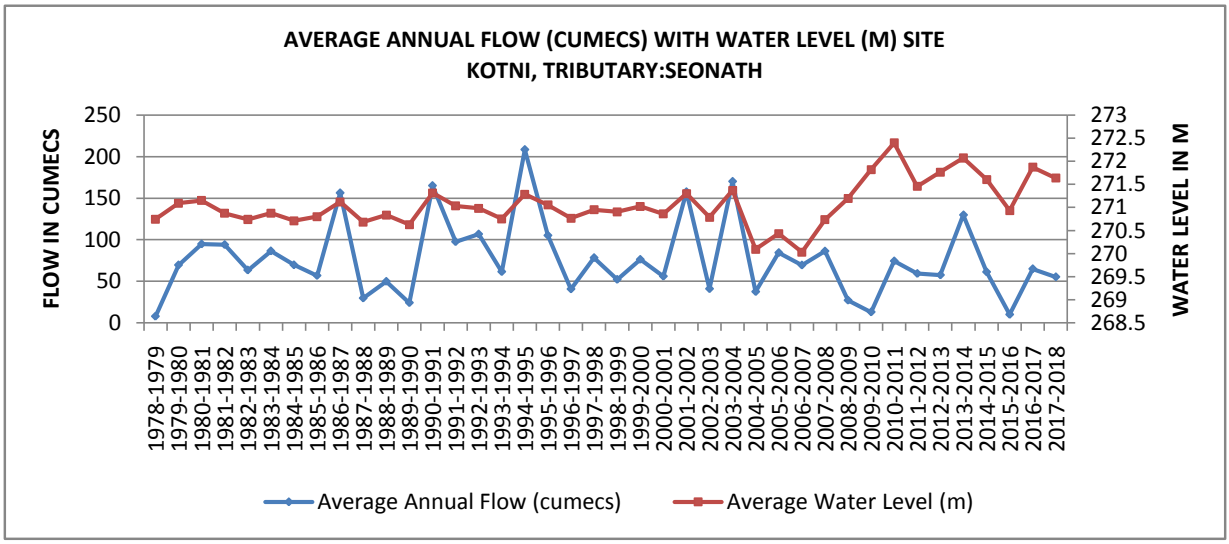


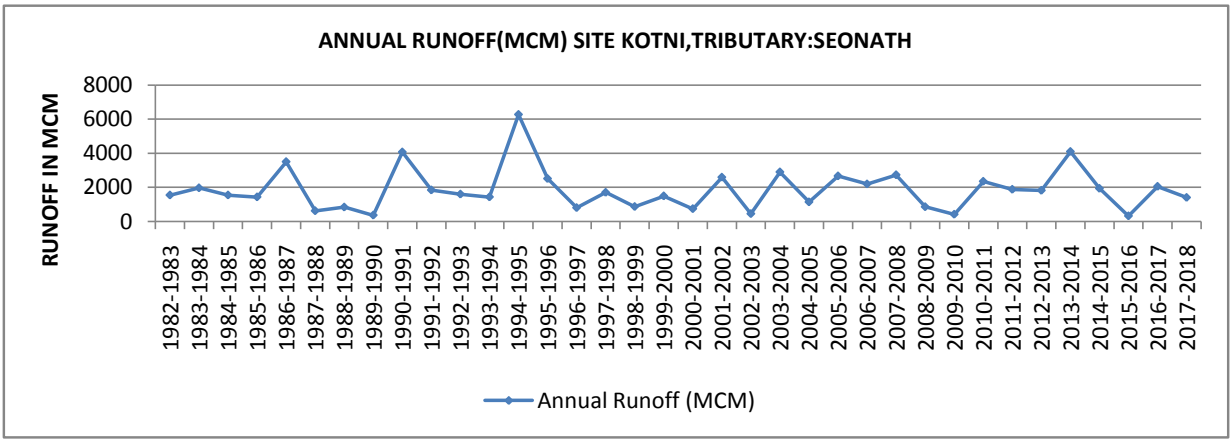


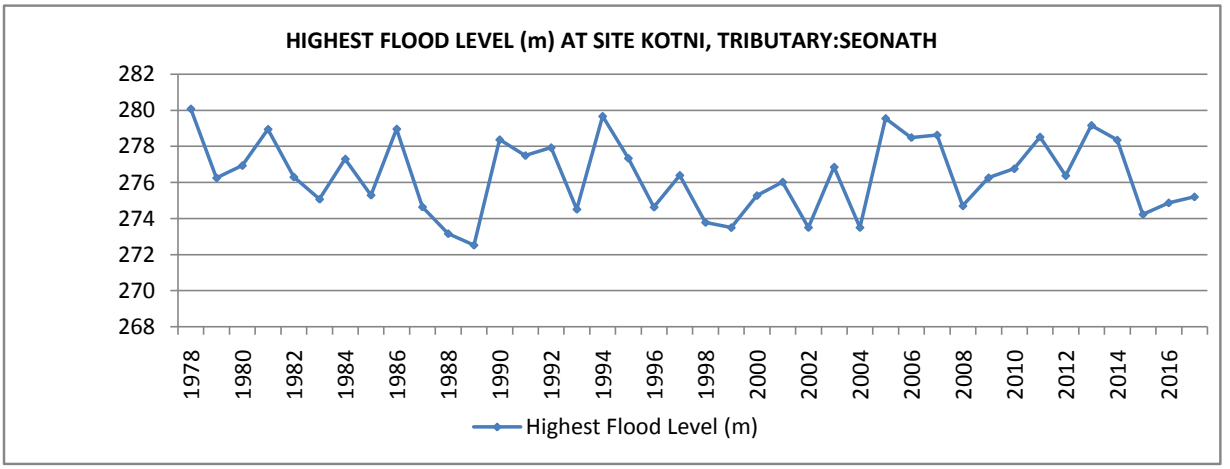




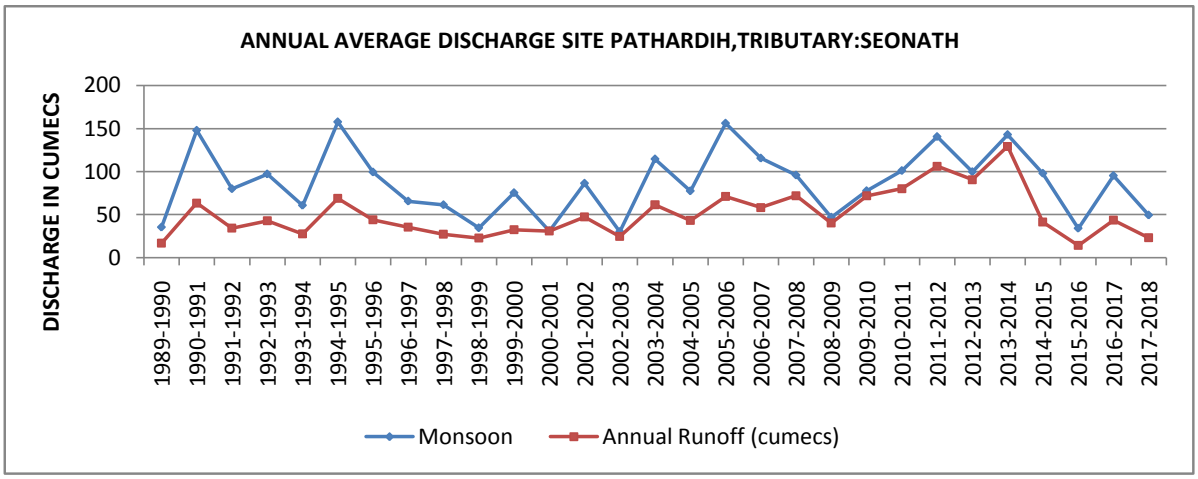

AVERAGE RUNOFF(MCM) PERIOD:1993-2018 SITE:KOTNI,TRIBUTARY:SEONATH
RUNOFF IN MCM
800
700
600
500
400
300
200
100
0
June
July
August
September
October
November
December
January
February
March
April
May
Average Runoff(MCM)

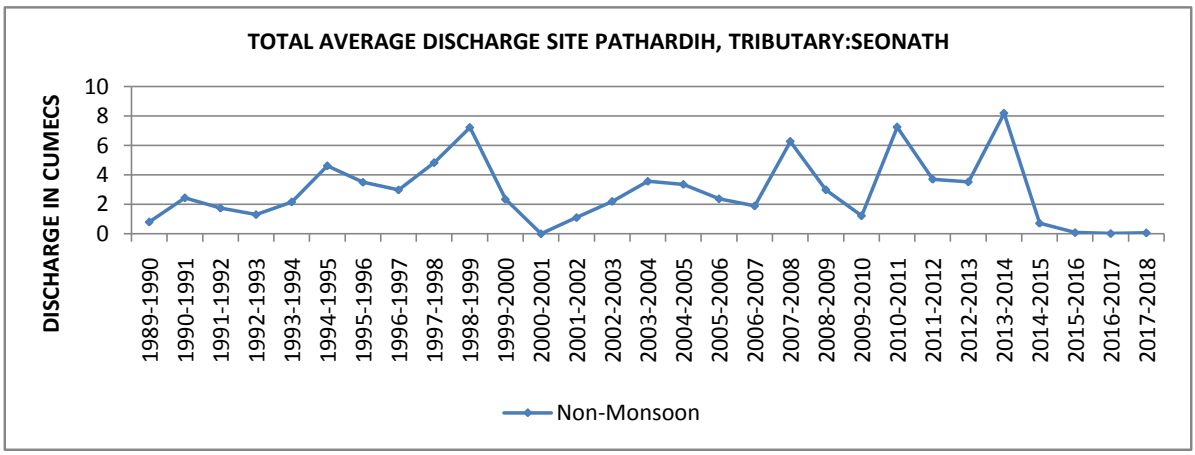

AVERAGE ANNUAL FLOW (CUMECS) WITH WATER LEVEL (M) SITE
KOTNI, TRIBUTARY:SEONATH
FLOW IN CUMECS
250
200
150
100
50
0
WATER LEVEL IN M
273
272.5
272
271.5
271
270.5
270
269.5
269
268.5
1978-1979
1979-1980
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Average Annual Flow (cumecs)
Average Water Level (m)

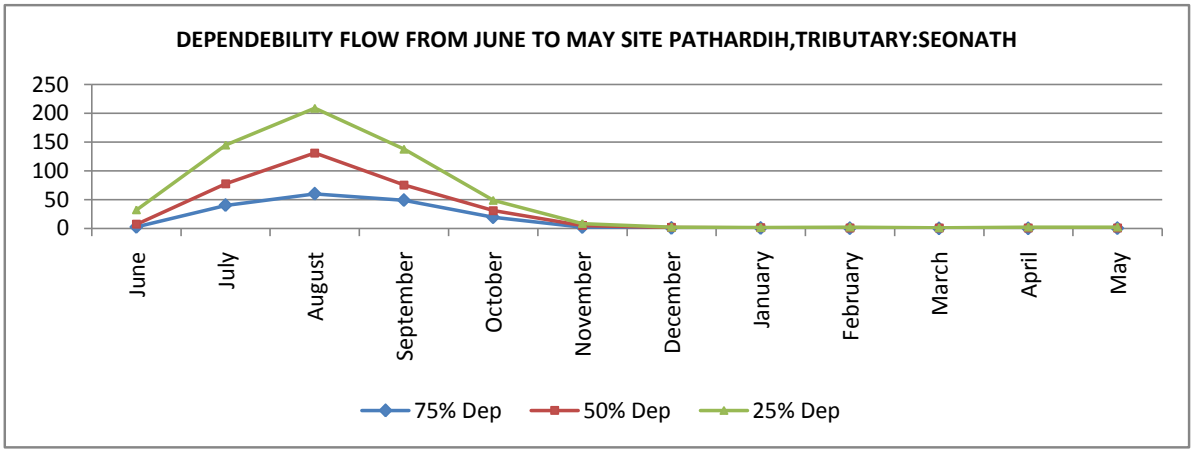

ANNUAL RUNOFF(MCM) SITE KOTNI,TRIBUTARY:SEONATH
RUNOFF IN MCM
8000
6000
4000
2000
0
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Annual Runoff (MCM)

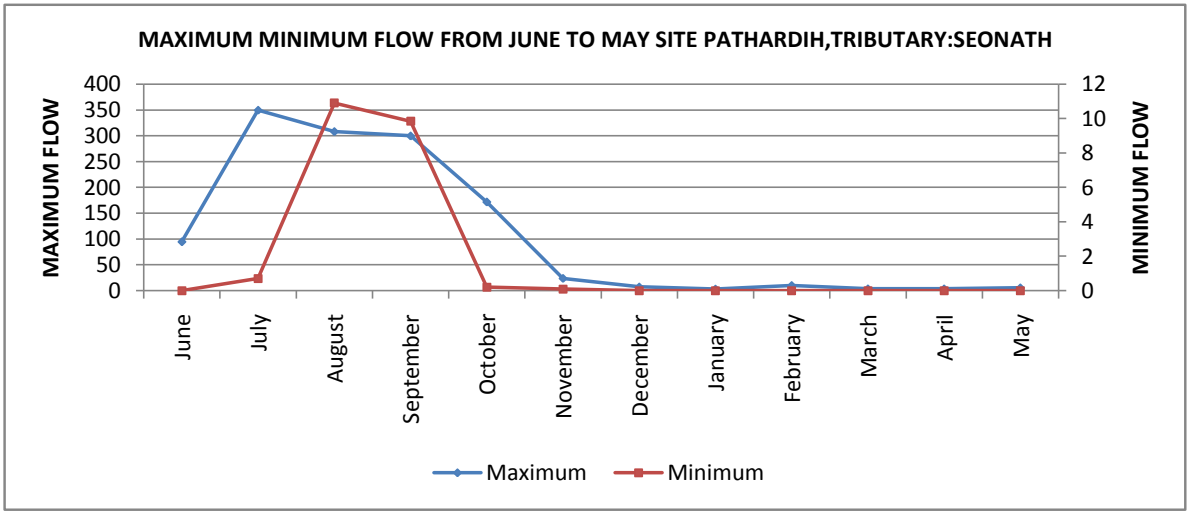

HIGHEST FLOOD LEVEL (m) AT SITE KOTNI, TRIBUTARY:SEONATH
282
280
278
276
274
272
270
268
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
2010
2012
2014
2016
Highest Flood Level (m)

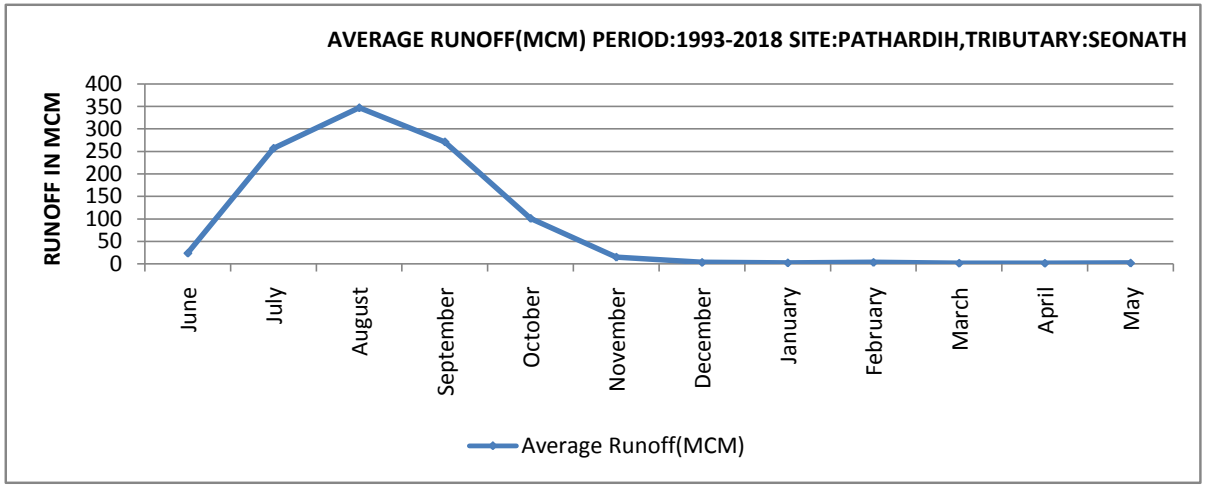
YEAR WISE TREND OF SITE PATHARDIH

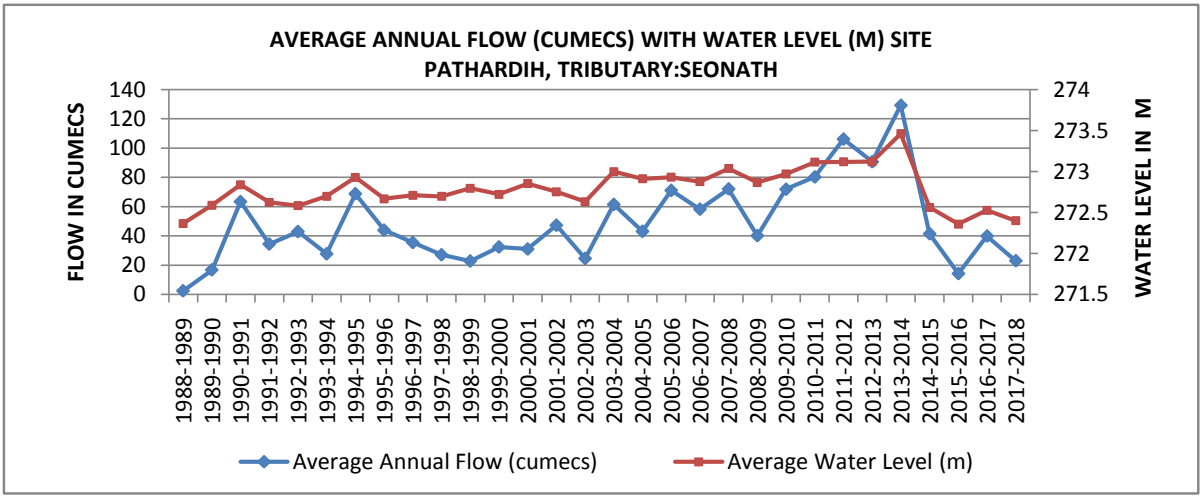


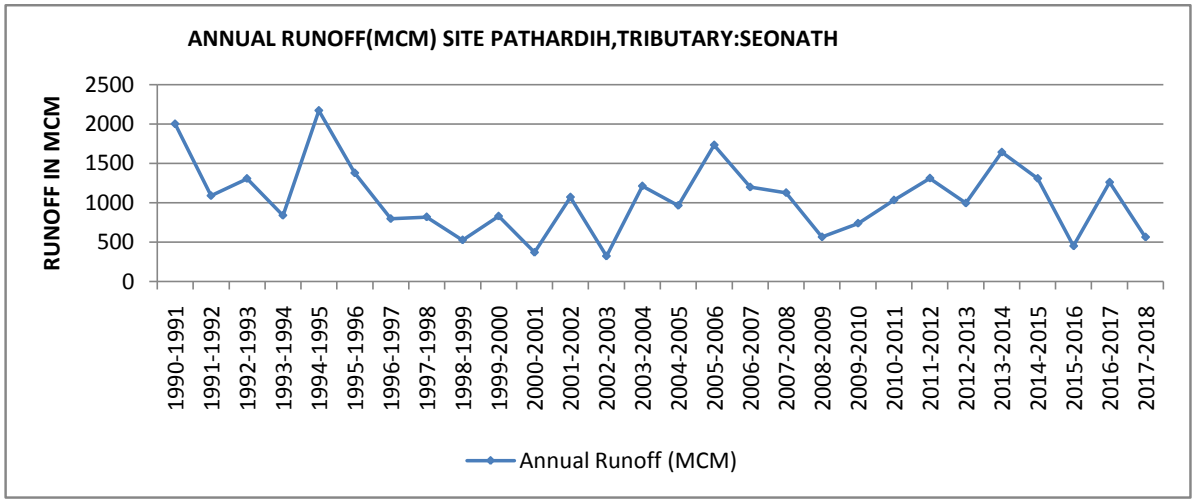


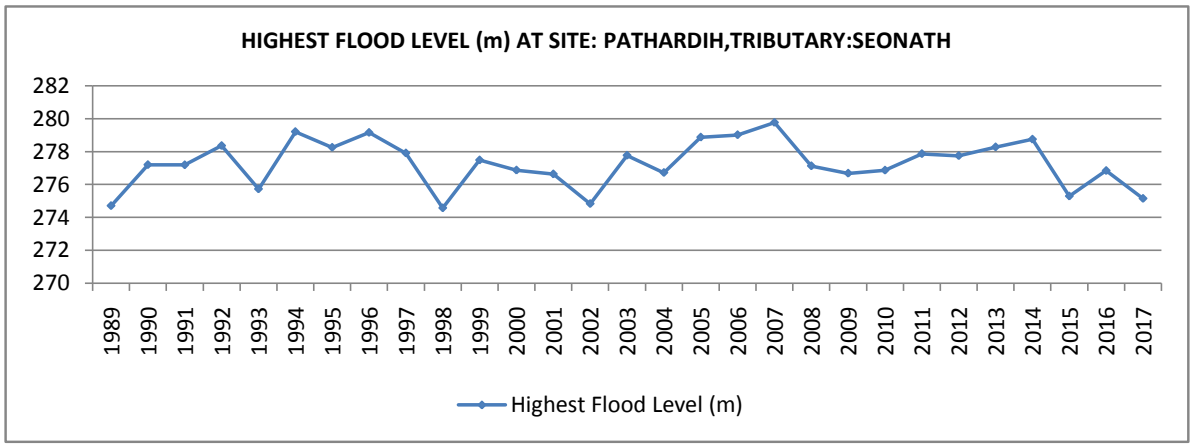


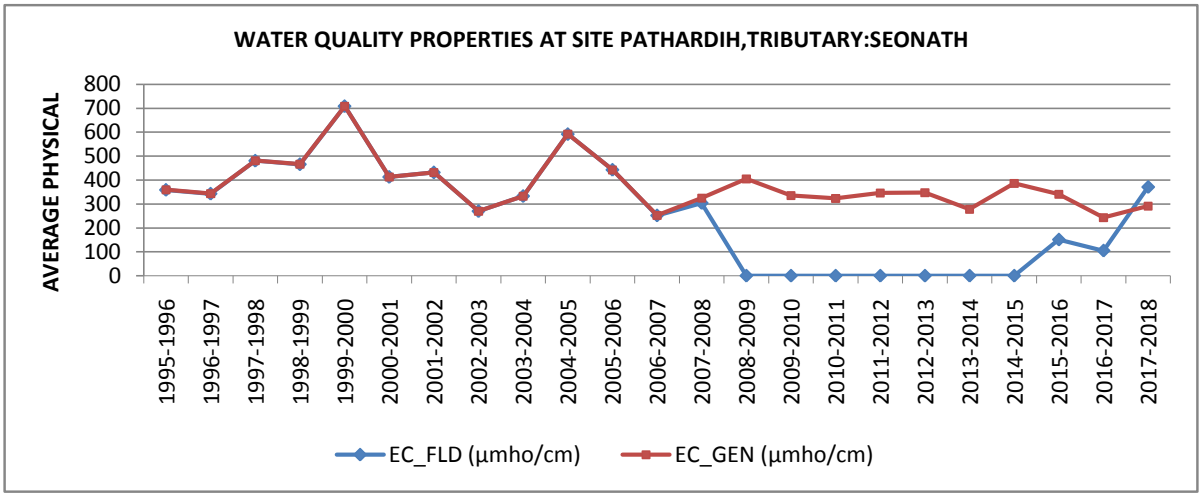


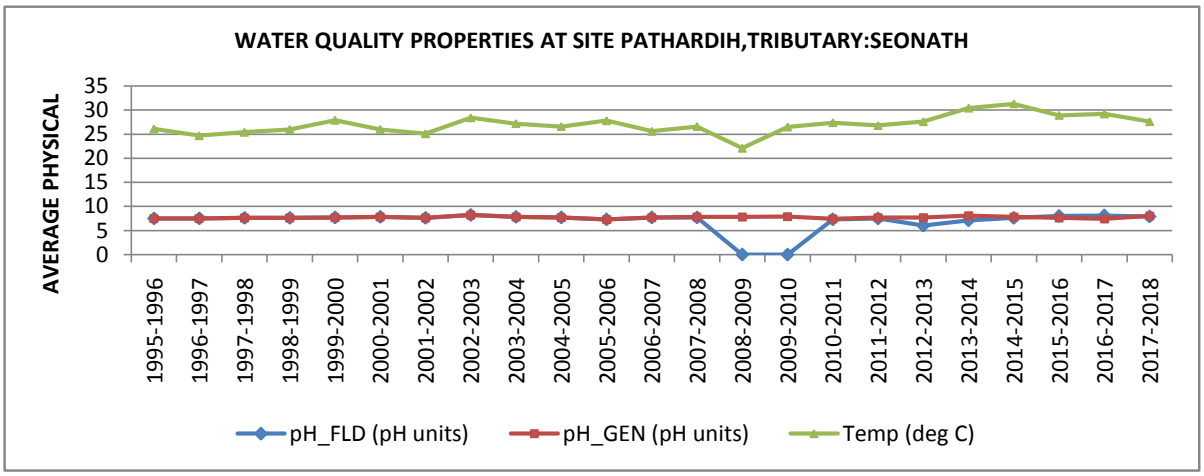

AVERAGE RUNOFF(MCM) PERIOD:1993-2018 SITE:PATHARDIH,TRIBUTARY:SEONATH
RUNOFF IN MCM
400
350
300
250
200
150
100
50
0
June
July
August
September
October
November
December
January
February
March
April
May
Average Runoff(MCM)

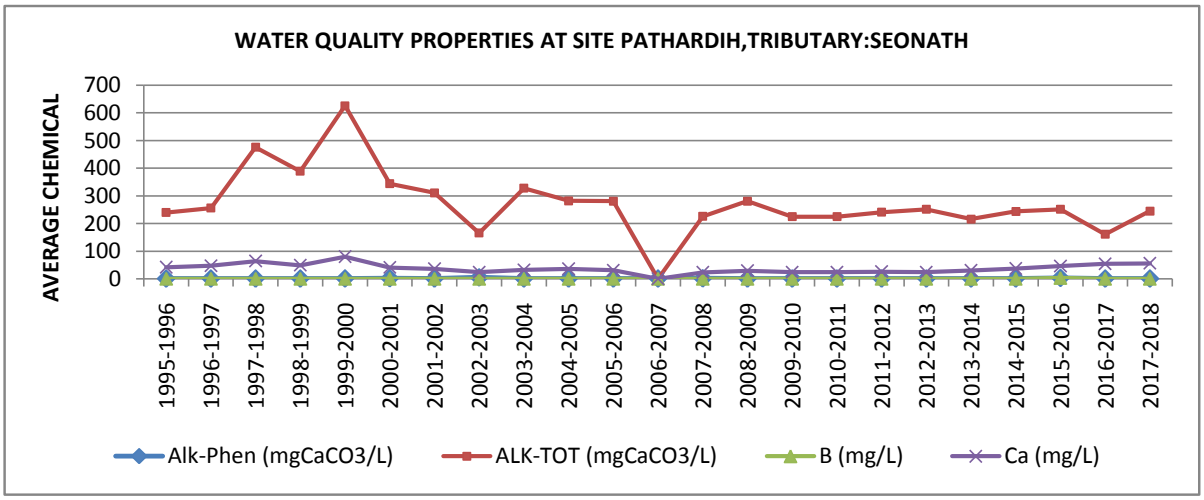

AVERAGE ANNUAL FLOW (CUMECS) WITH WATER LEVEL (M) SITE PATHARDIH, TRIBUTARY:SEONATH
FLOW IN CUMECS
WATER LEVEL IN M
140
120
100
80
60
40
20
0
274
273.5
273
272.5
272
271.5
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Average Annual Flow (cumecs)
Average Water Level (m)

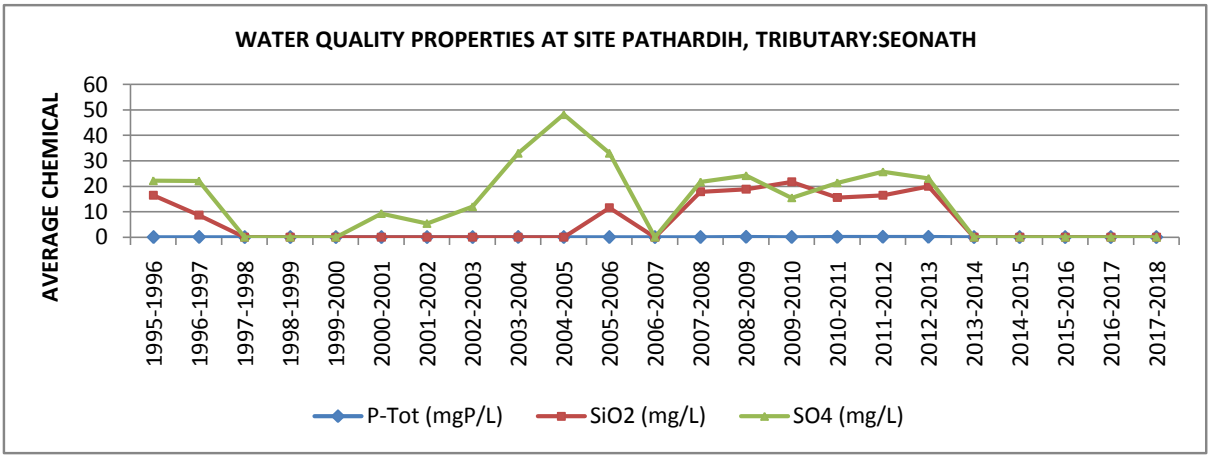

ANNUAL RUNOFF(MCM) SITE PATHARDIH,TRIBUTARY:SEONATH
RUNOFF IN MCM
2500
2000
1500
1000
500
0
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Annual Runoff (MCM)

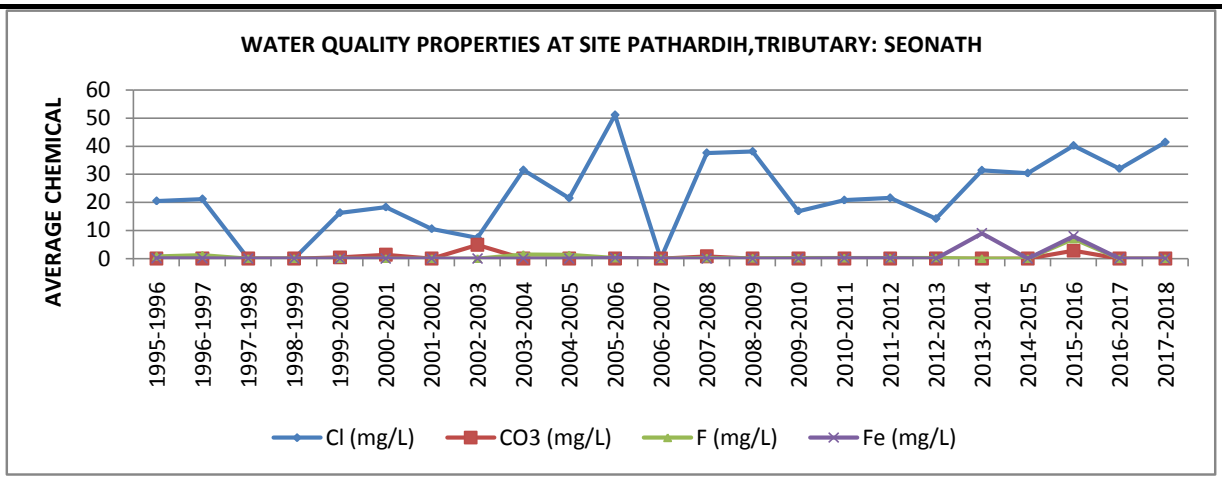

HIGHEST FLOOD LEVEL (m) AT SITE: PATHARDIH,TRIBUTARY:SEONATH
282
280
278
276
274
272
270
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
Highest Flood Level (m)

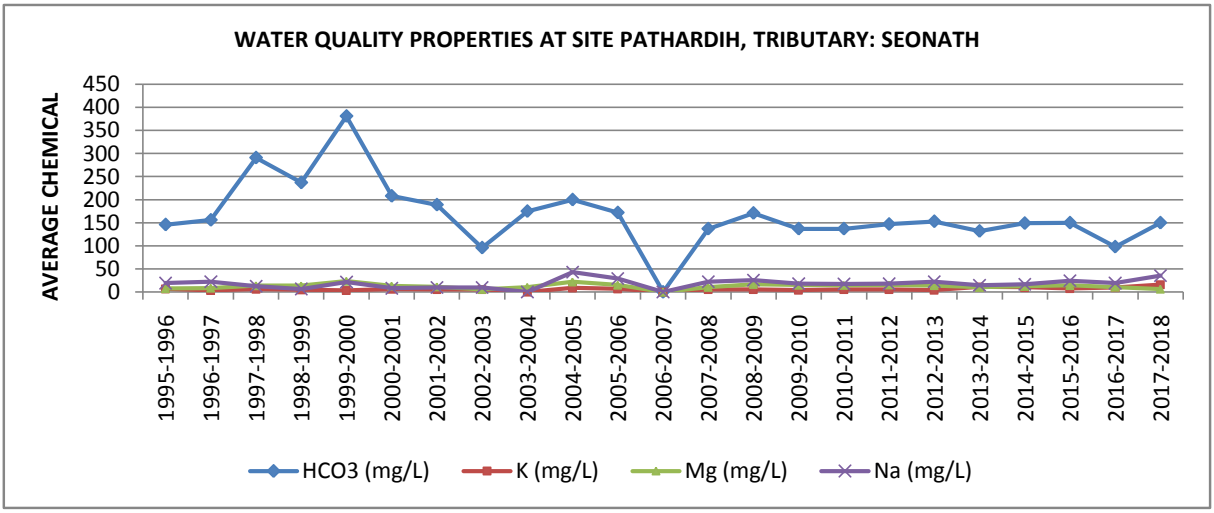

WATER QUALITY PROPERTIES AT SITE PATHARDIH,TRIBUTARY:SEONATH
AVERAGE PHYSICAL
800
700
600
500
400
300
200
100
0
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
EC_FLD (µmho/cm)
EC_GEN (µmho/cm)

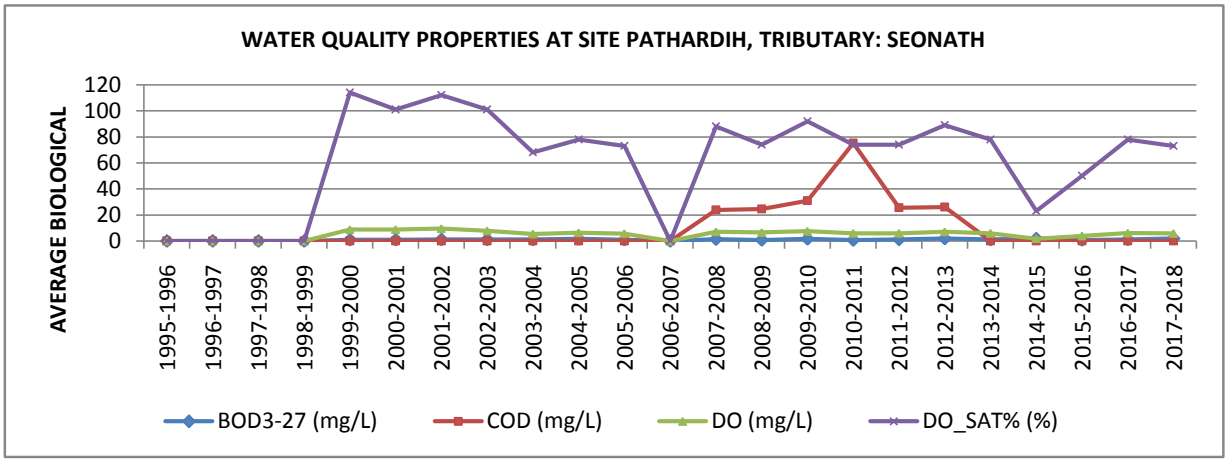

WATER QUALITY PROPERTIES AT SITE PATHARDIH,TRIBUTARY:SEONATH
AVERAGE PHYSICAL
35
30
25
20
15
10
5
0
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
pH_FLD (pH units)
pH_GEN (pH units)
Temp (deg C)

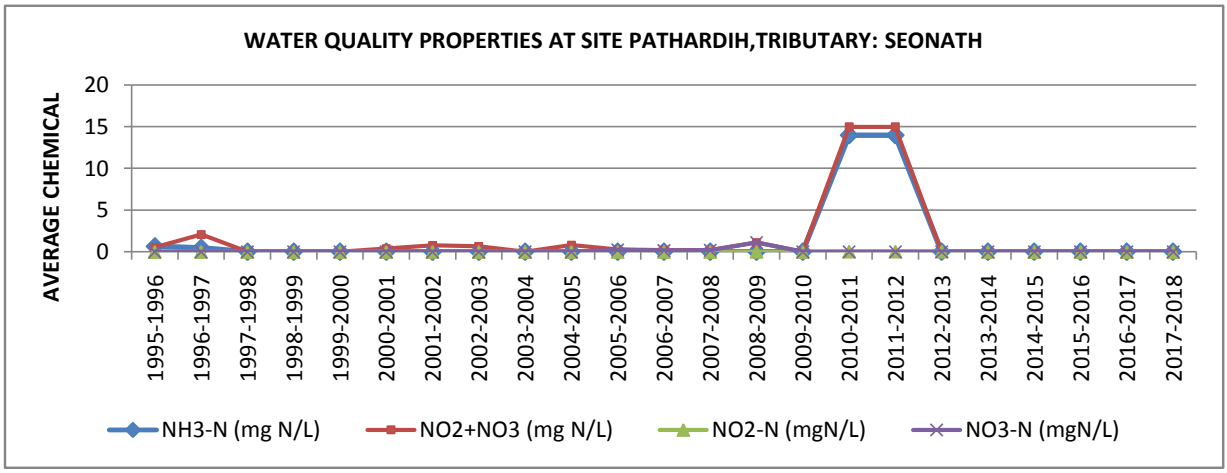

WATER QUALITY PROPERTIES AT SITE PATHARDIH,TRIBUTARY:SEONATH
AVERAGE CHEMICAL
700
600
500
400
300
200
100
0
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Alk-Phen (mgCaCO3/L)
ALK-TOT (mgCaCO3/L)
B (mg/L)
Ca (mg/L)


WATER QUALITY PROPERTIES AT SITE PATHARDIH, TRIBUTARY:SEONATH
AVERAGE CHEMICAL
60
50
40
30
20
10
0
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
P-Tot (mgP/L)
SiO2 (mg/L)
SO4 (mg/L)

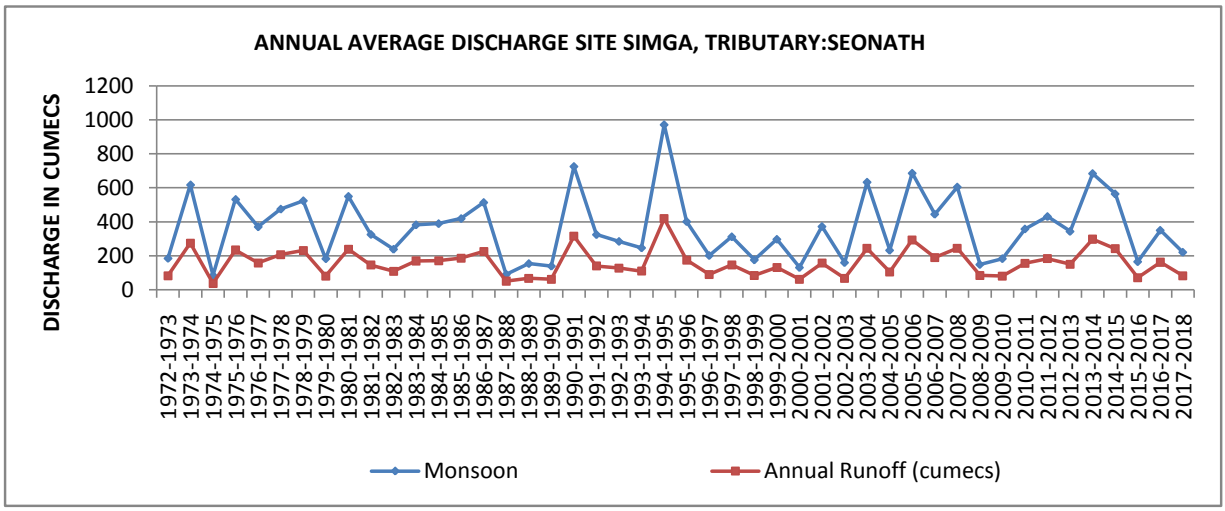

WATER QUALITY PROPERTIES AT SITE PATHARDIH,TRIBUTARY: SEONATH
AVERAGE CHEMICAL
60
50
40
30
20
10
0
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Cl (mg/L)
CO3 (mg/L)
F (mg/L)
Fe (mg/L)

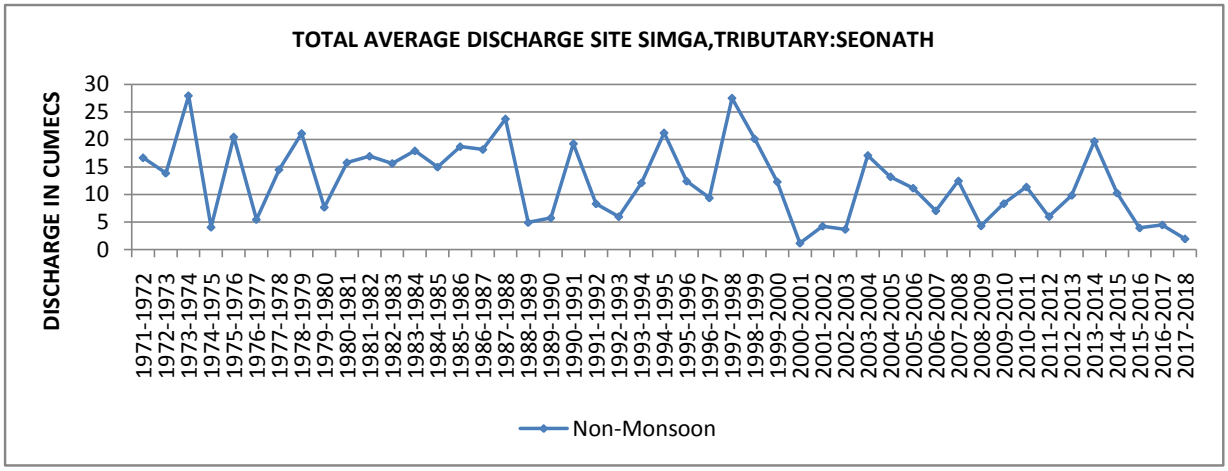

WATER QUALITY PROPERTIES AT SITE PATHARDIH, TRIBUTARY: SEONATH
AVERAGE CHEMICAL
450
400
350
300
250
200
150
100
50
0
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
HCO3 (mg/L)
K (mg/L)
Mg (mg/L)
Na (mg/L)

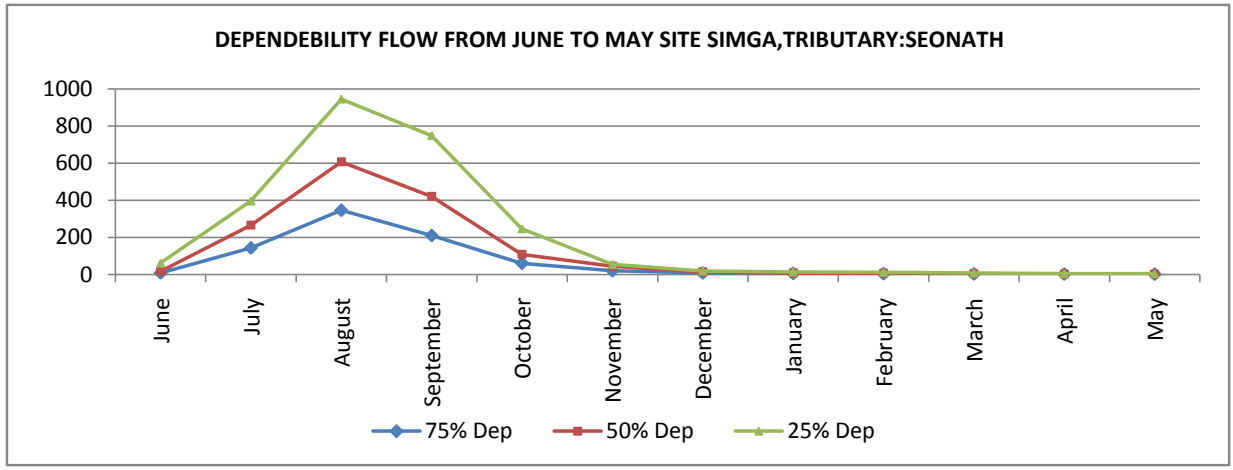

WATER QUALITY PROPERTIES AT SITE PATHARDIH, TRIBUTARY: SEONATH
AVERAGE BIOLOGICAL
120
100
80
60
40
20
0
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
BOD3-27 (mg/L)
COD (mg/L)
DO (mg/L)
DO_SAT% (%)

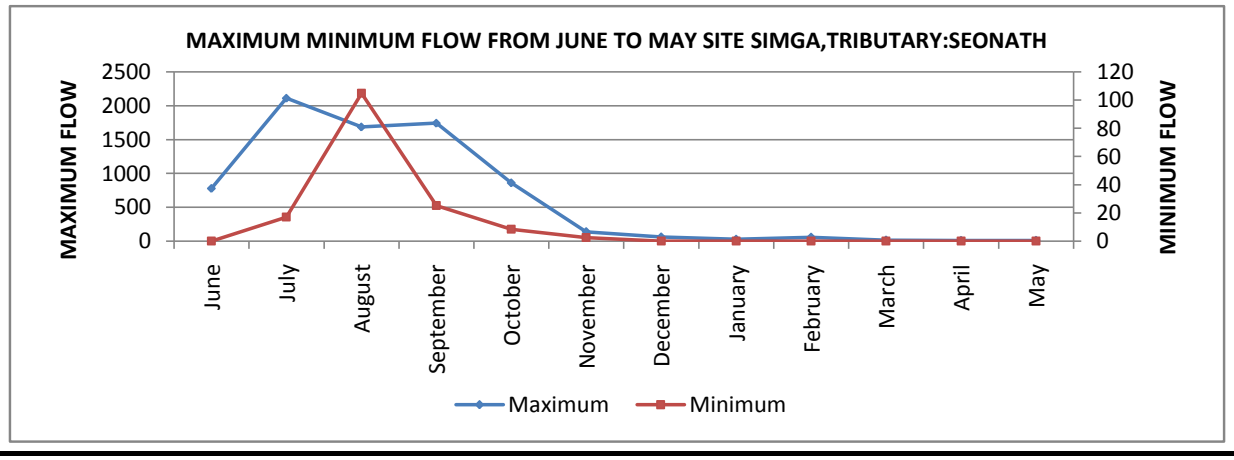

WATER QUALITY PROPERTIES AT SITE PATHARDIH,TRIBUTARY: SEONATH
AVERAGE CHEMICAL
20
15
10
5
0
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
NH3-N (mg N/L)
NO2+NO3 (mg N/L)
NO2-N (mgN/L)
NO3-N (mgN/L)

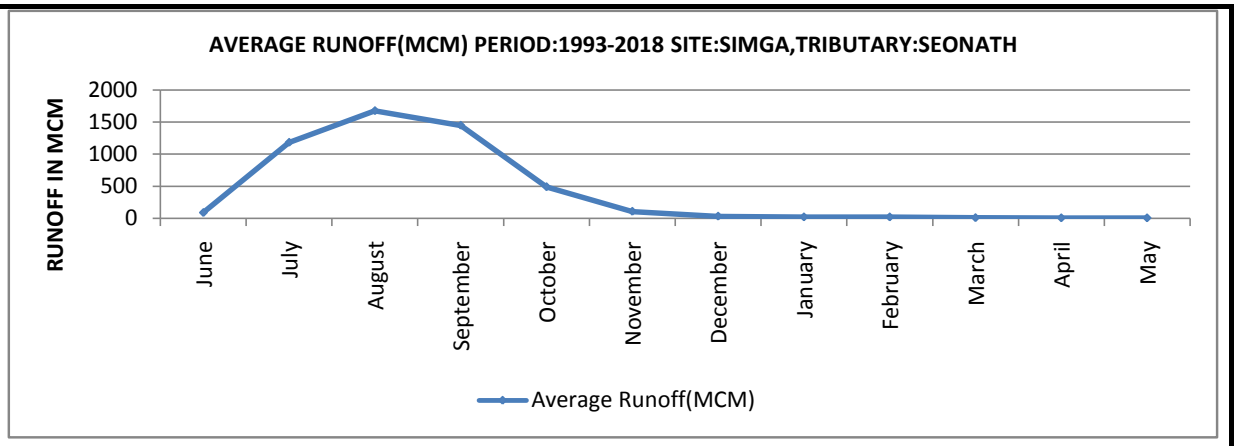
YEAR WISE TREND OF SITE SIMGA

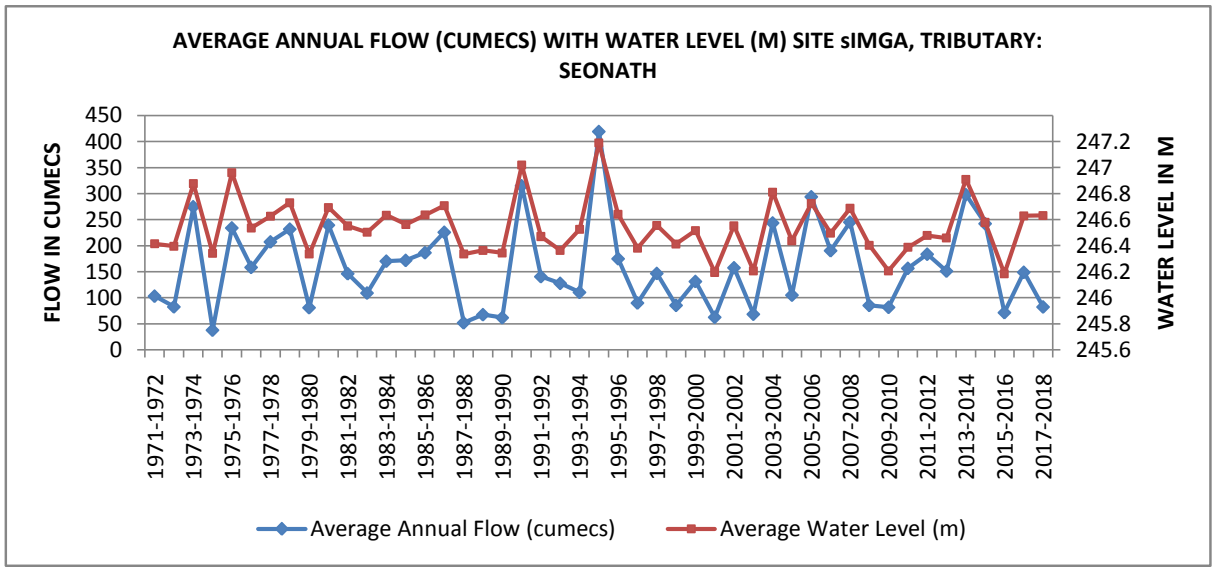


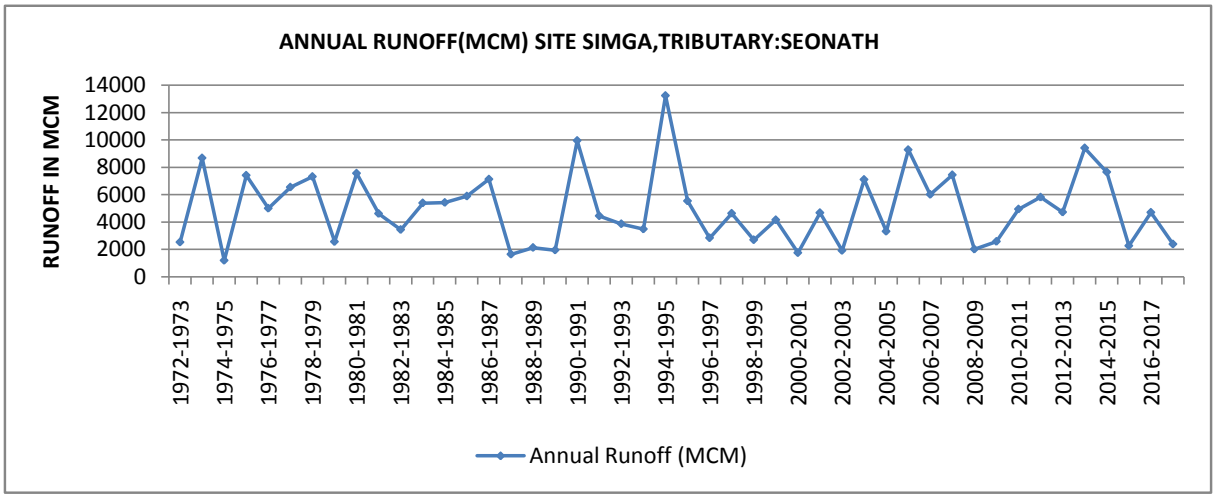


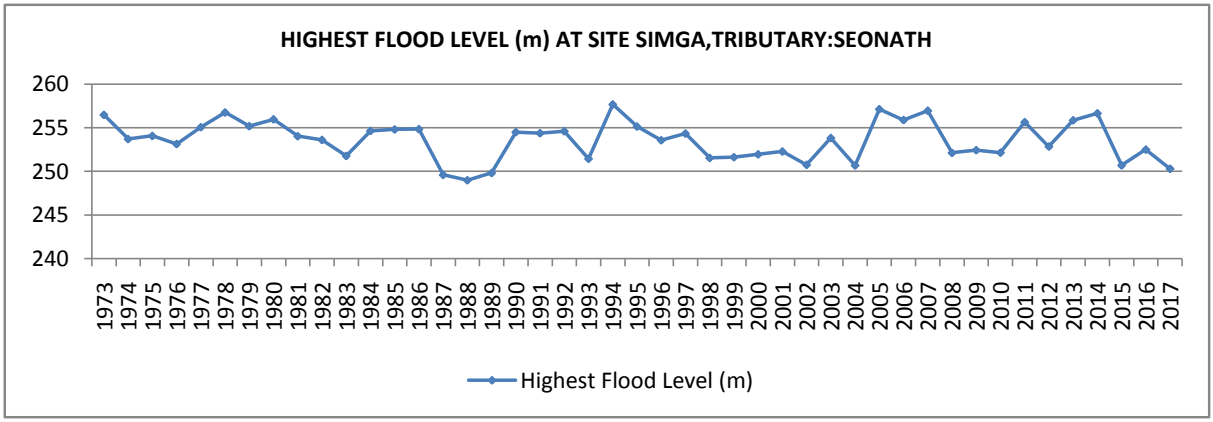


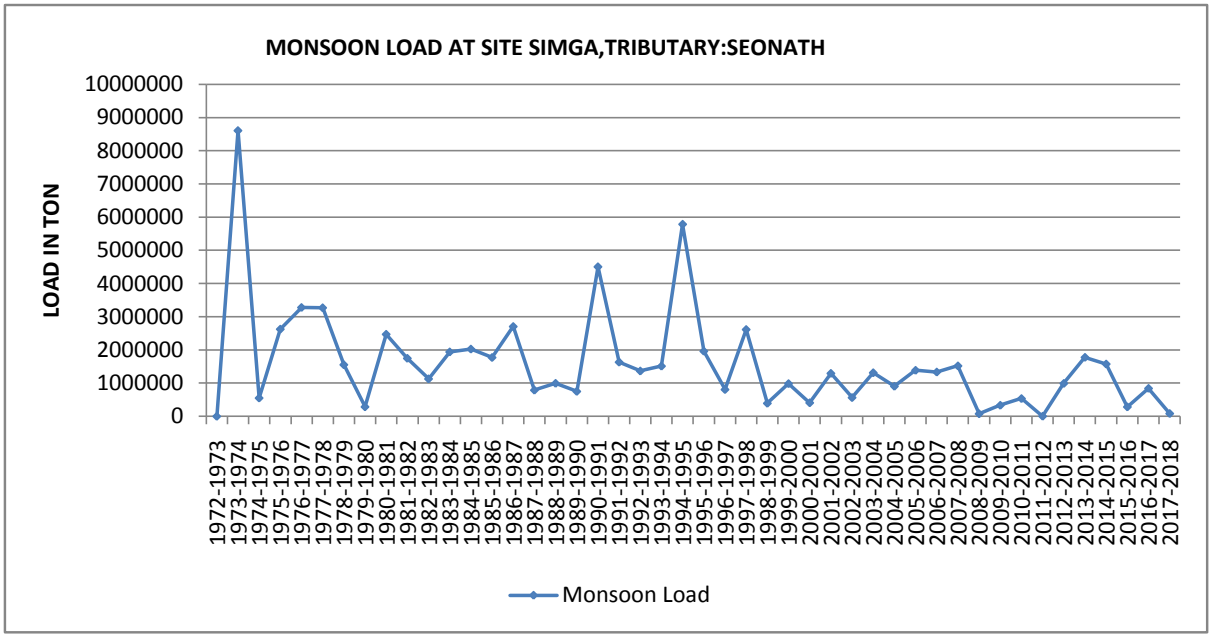


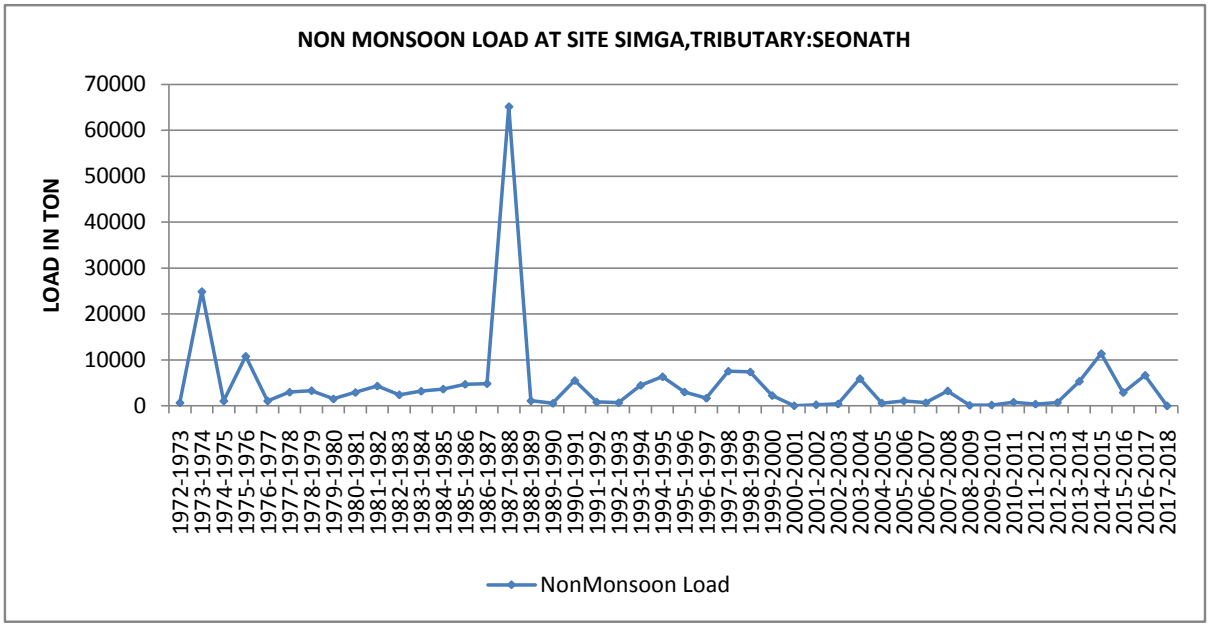

AVERAGE RUNOFF(MCM) PERIOD:1993-2018 SITE:SIMGA,TRIBUTARY:SEONATH
RUNOFF IN MCM
2000
1500
1000
500
0
June
July
August
September
October
November
December
January
February
March
April
May
Average Runoff(MCM)

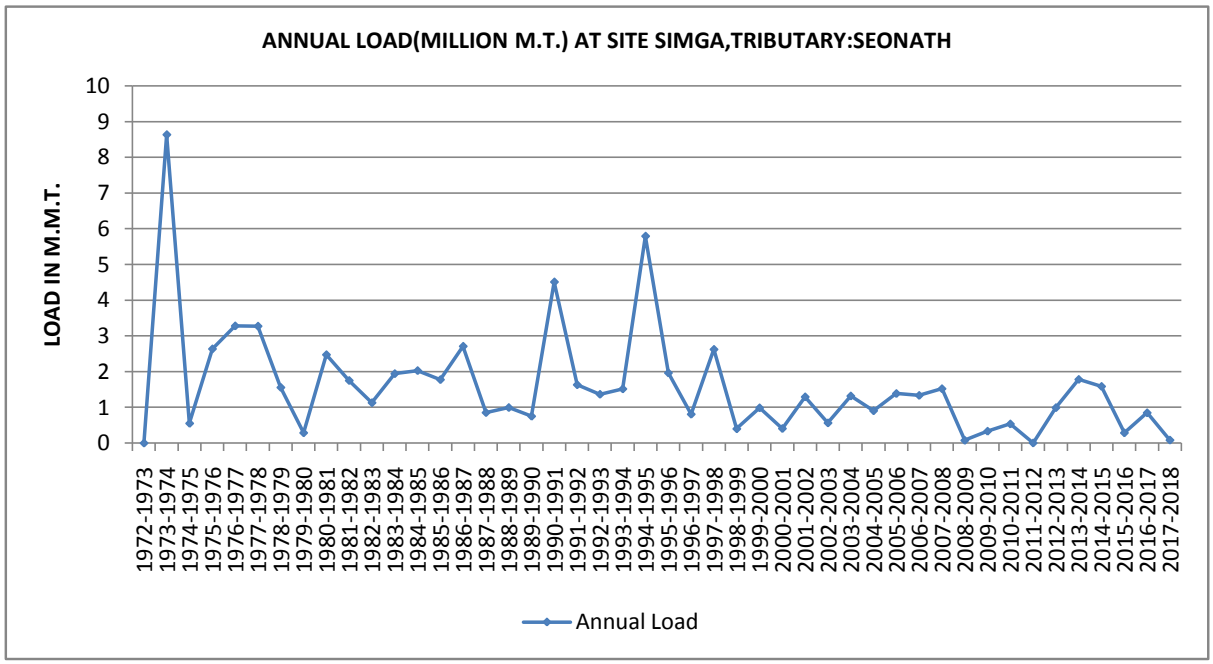

AVERAGE ANNUAL FLOW (CUMECS) WITH WATER LEVEL (M) SITE sIMGA, TRIBUTARY: SEONATH
FLOW IN CUMECS
450
400
350
300
250
200
150
100
50
0
WATER LEVEL IN M
247.2
247
246.8
246.6
246.4
246.2
246
245.8
245.6
1971-1972
1973-1974
1975-1976
1977-1978
1979-1980
1981-1982
1983-1984
1985-1986
1987-1988
1989-1990
1991-1992
1993-1994
1995-1996
1997-1998
1999-2000
2001-2002
2003-2004
2005-2006
2007-2008
2009-2010
2011-2012
2013-2014
2015-2016
2017-2018
Average Annual Flow (cumecs)
Average Water Level (m)

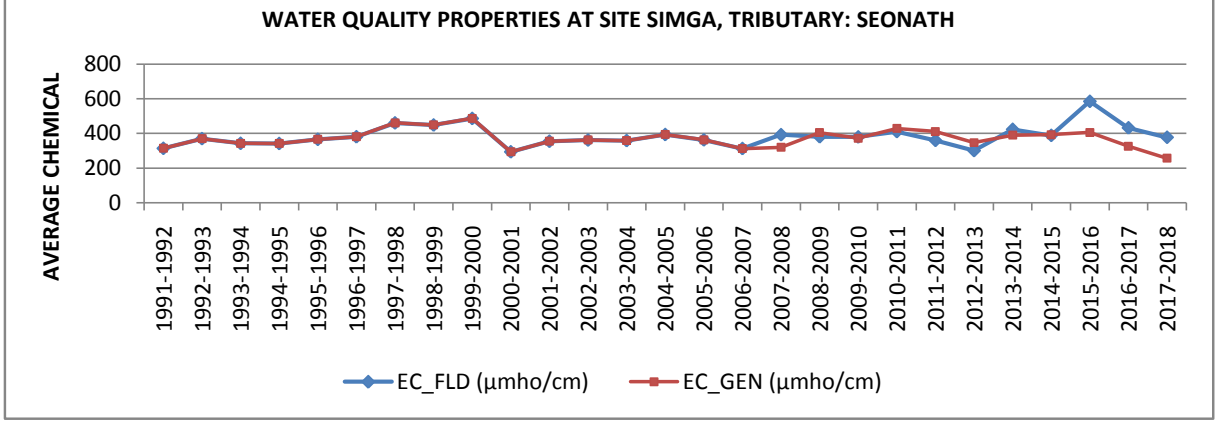

ANNUAL RUNOFF(MCM) SITE SIMGA,TRIBUTARY:SEONATH
RUNOFF IN MCM
14000
12000
10000
8000
6000
4000
2000
0
1972-1973
1974-1975
1976-1977
1978-1979
1980-1981
1982-1983
1984-1985
1986-1987
1988-1989
1990-1991
1992-1993
1994-1995
1996-1997
1998-1999
2000-2001
2002-2003
2004-2005
2006-2007
2008-2009
2010-2011
2012-2013
2014-2015
2016-2017
Annual Runoff (MCM)

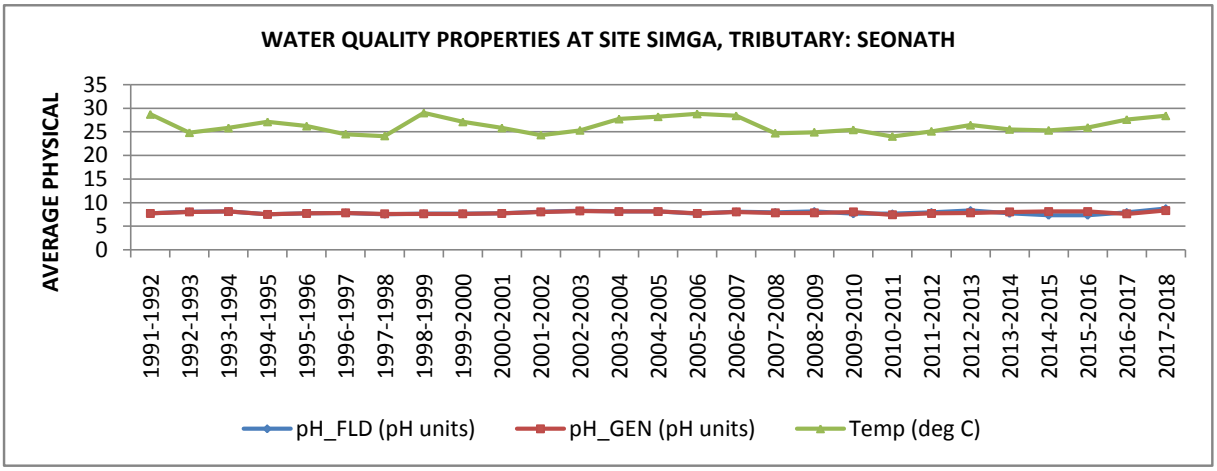

HIGHEST FLOOD LEVEL (m) AT SITE SIMGA,TRIBUTARY:SEONATH
260
255
250
245
240
1973
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
Highest Flood Level (m)

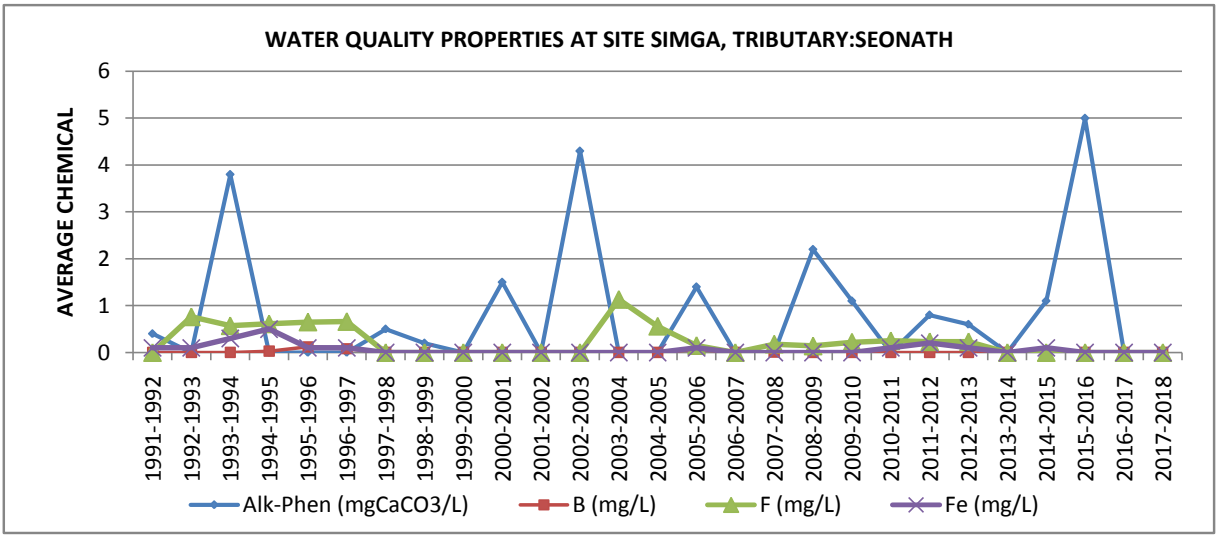

MONSOON LOAD AT SITE SIMGA,TRIBUTARY:SEONATH
LOAD IN TON
10000000
9000000
8000000
7000000
6000000
5000000
4000000
3000000
2000000
1000000
0
1972-1973
1973-1974
1974-1975
1975-1976
1976-1977
1977-1978
1978-1979
1979-1980
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Monsoon Load

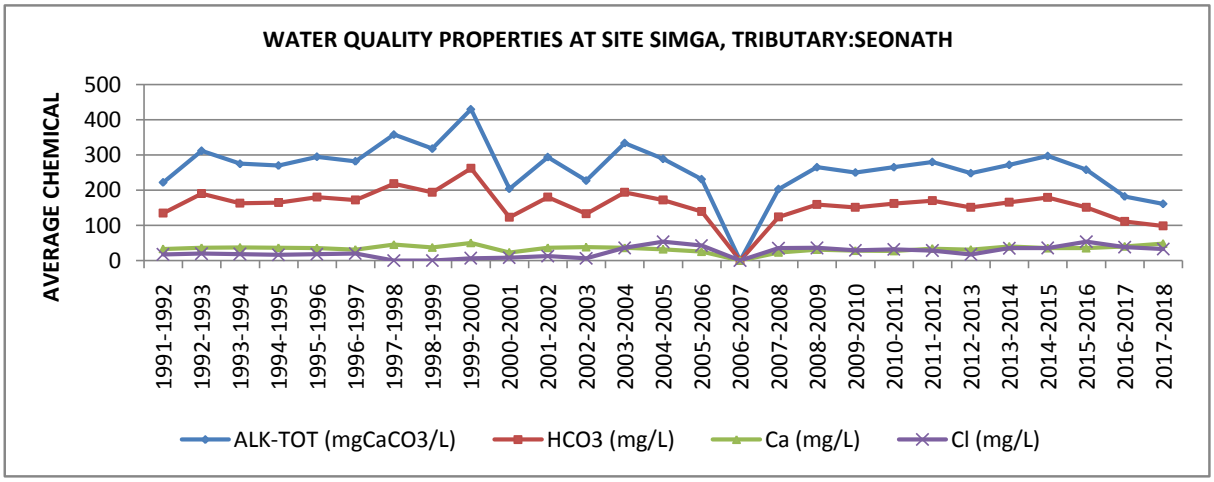

NON MONSOON LOAD AT SITE SIMGA,TRIBUTARY:SEONATH
LOAD IN TON
70000
60000
50000
40000
30000
20000
10000
0
1972-1973
1973-1974
1974-1975
1975-1976
1976-1977
1977-1978
1978-1979
1979-1980
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
NonMonsoon Load

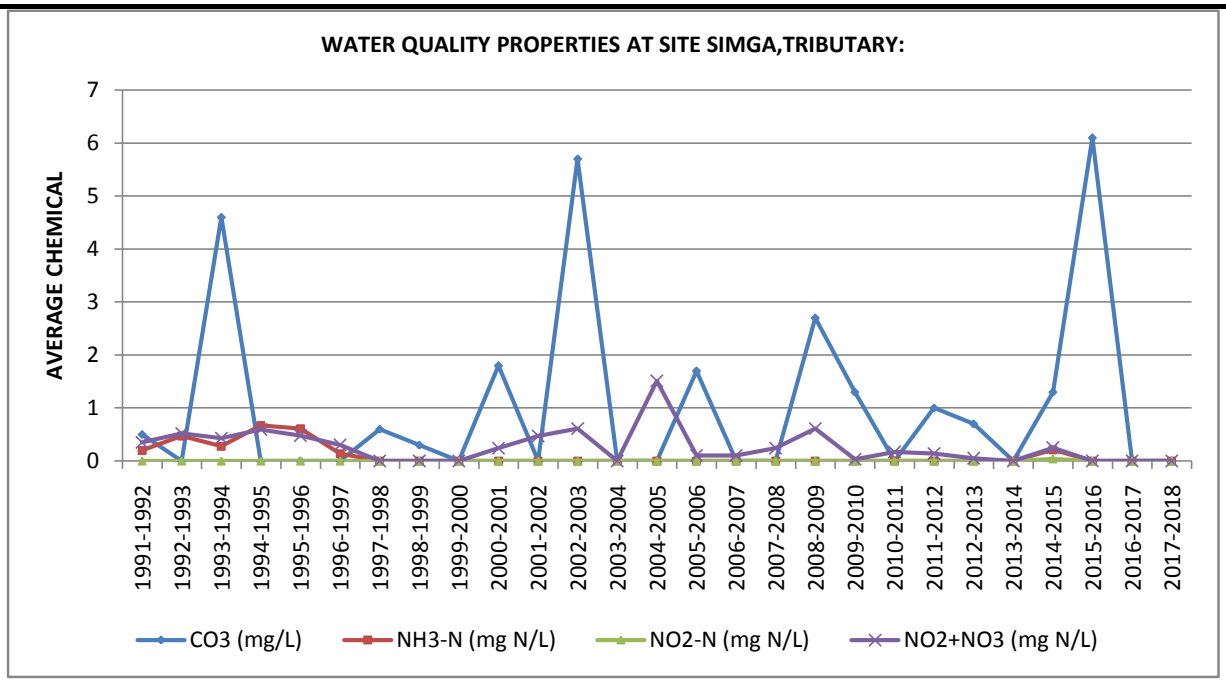

ANNUAL LOAD(MILLION M.T.) AT SITE SIMGA,TRIBUTARY:SEONATH
LOAD IN M.M.T.
10
9
8
7
6
5
4
3
2
1
0
1972-1973
1973-1974
1974-1975
1975-1976
1976-1977
1977-1978
1978-1979
1979-1980
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Annual Load

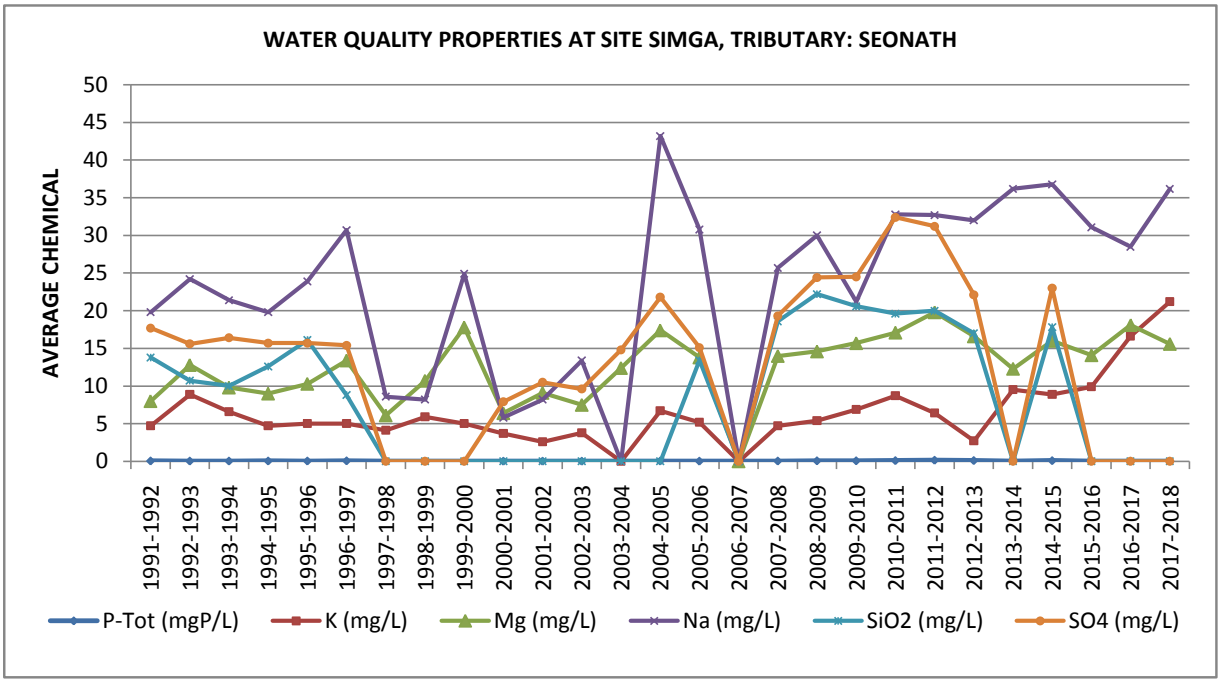

WATER QUALITY PROPERTIES AT SITE SIMGA, TRIBUTARY: SEONATH
AVERAGE CHEMICAL
800
600
400
200
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
EC_FLD (µmho/cm)
EC_GEN (µmho/cm)

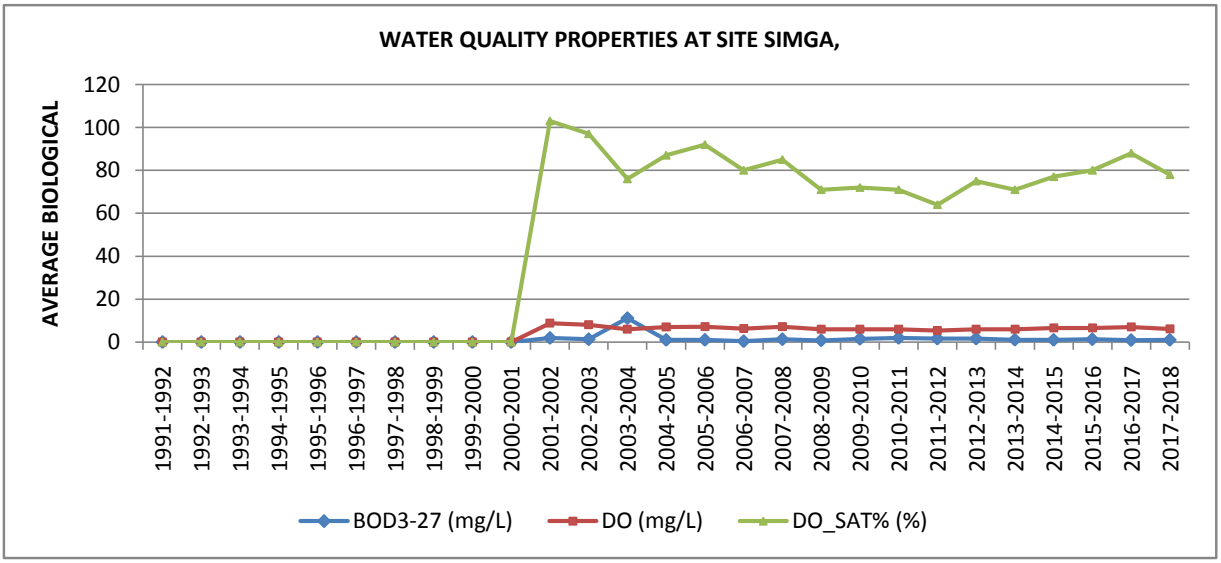

WATER QUALITY PROPERTIES AT SITE SIMGA, TRIBUTARY: SEONATH
AVERAGE PHYSICAL
35
30
25
20
15
10
5
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
pH_FLD (pH units)
pH_GEN (pH units)
Temp (deg C)


WATER QUALITY PROPERTIES AT SITE SIMGA, TRIBUTARY:SEONATH
AVERAGE CHEMICAL
6
5
4
3
2
1
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Alk-Phen (mgCaCO3/L)
B (mg/L)
F (mg/L)
Fe (mg/L)

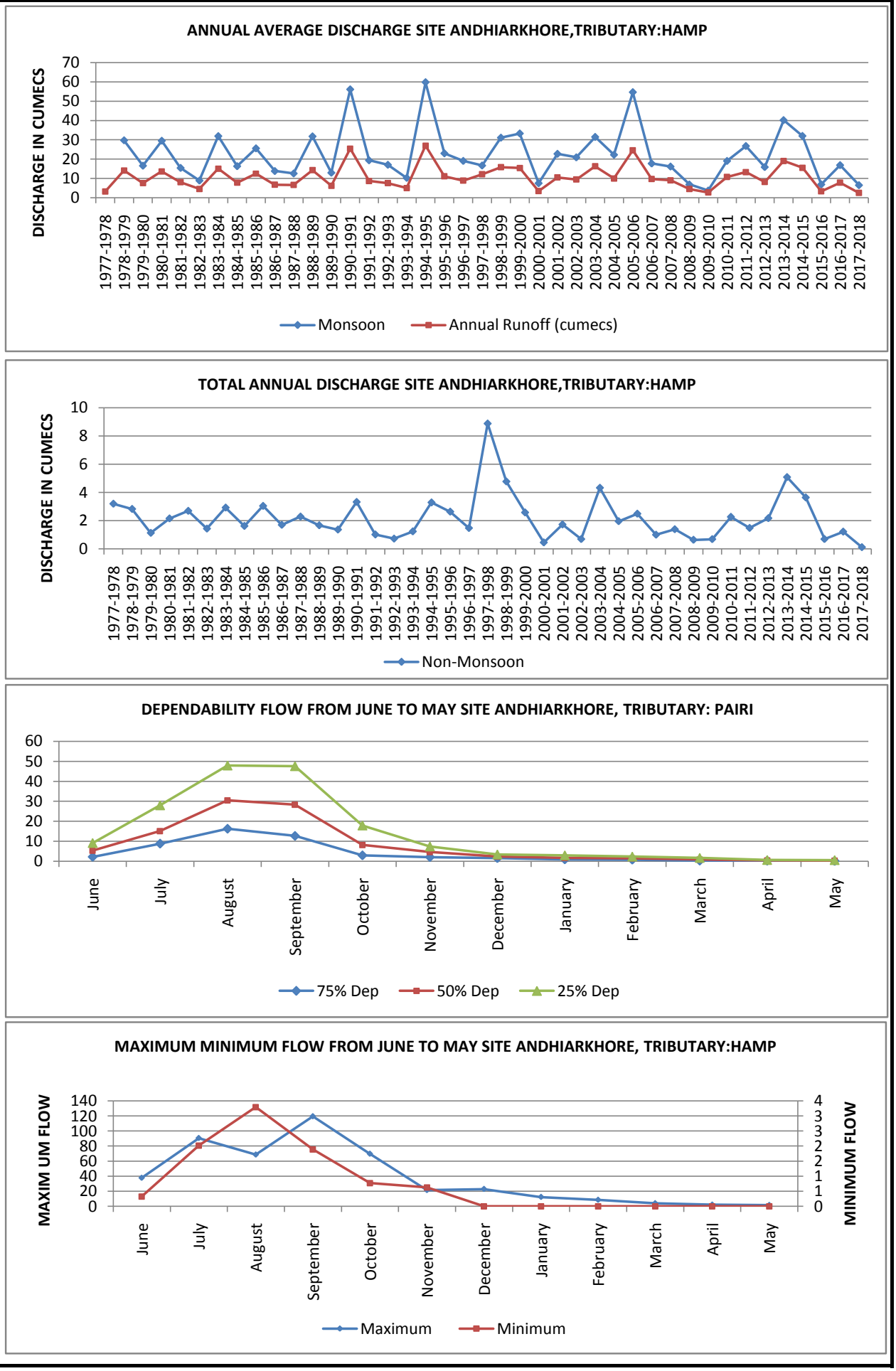

WATER QUALITY PROPERTIES AT SITE SIMGA, TRIBUTARY:SEONATH
AVERAGE CHEMICAL
500
400
300
200
100
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
ALK-TOT (mgCaCO3/L)
HCO3 (mg/L)
Ca (mg/L)
Cl (mg/L)

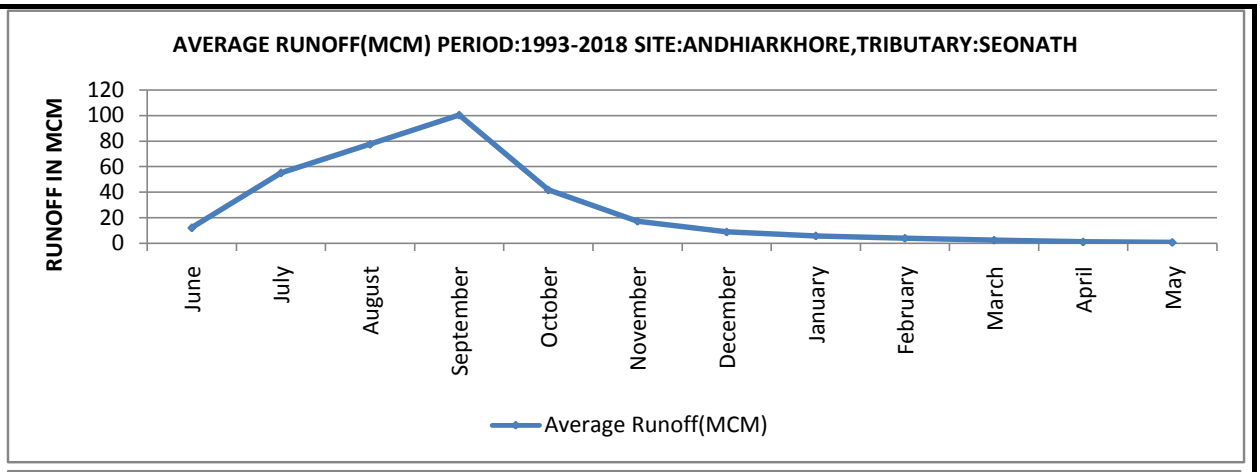

WATER QUALITY PROPERTIES AT SITE SIMGA,TRIBUTARY:
AVERAGE CHEMICAL
0
1
2
3
4
5
6
7
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
CO3 (mg/L)
NH3-N (mg N/L)
NO2-N (mg N/L)
NO2+NO3 (mg N/L)

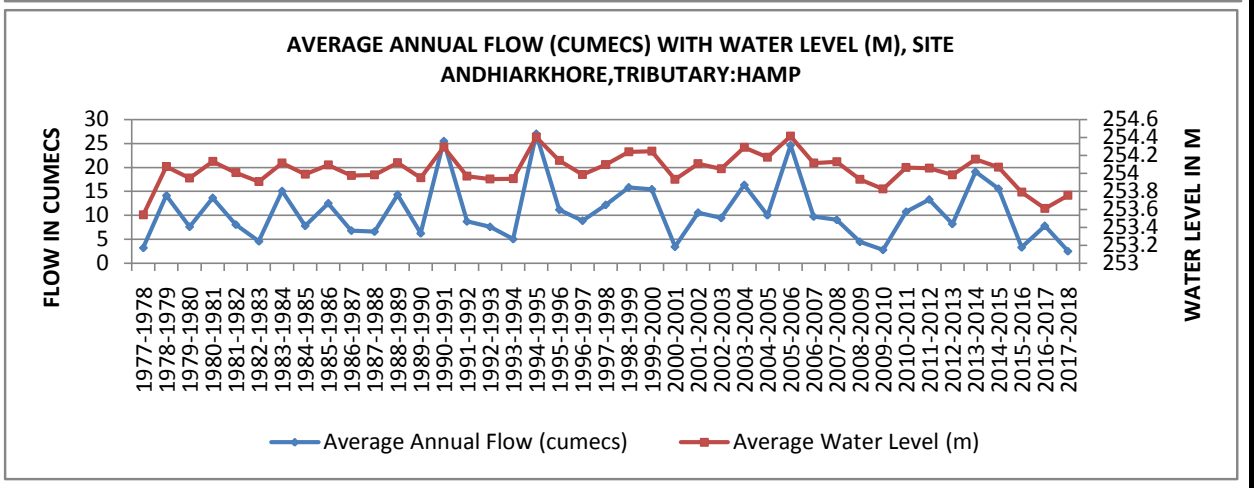

WATER QUALITY PROPERTIES AT SITE SIMGA, TRIBUTARY: SEONATH
AVERAGE CHEMICAL
0
5
10
15
20
25
30
35
40
45
50
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
P-Tot (mgP/L)
K (mg/L)
Mg (mg/L)
Na (mg/L)
SiO2 (mg/L)
SO4 (mg/L)

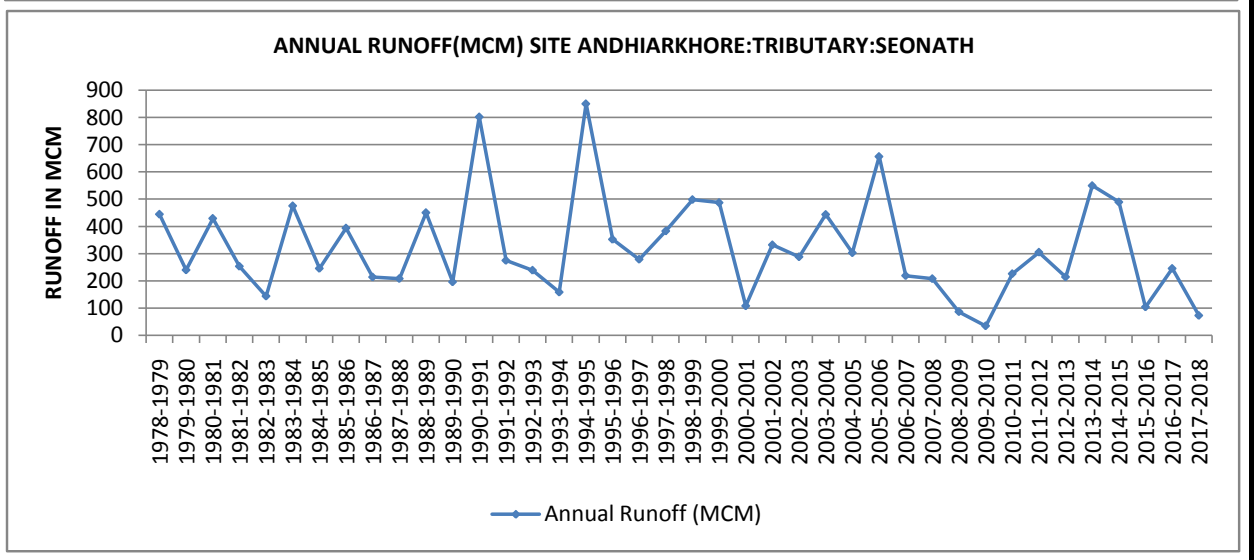

WATER QUALITY PROPERTIES AT SITE SIMGA,
AVERAGE BIOLOGICAL
0
20
40
60
80
100
120
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
BOD3-27 (mg/L)
DO (mg/L)
DO_SAT% (%)

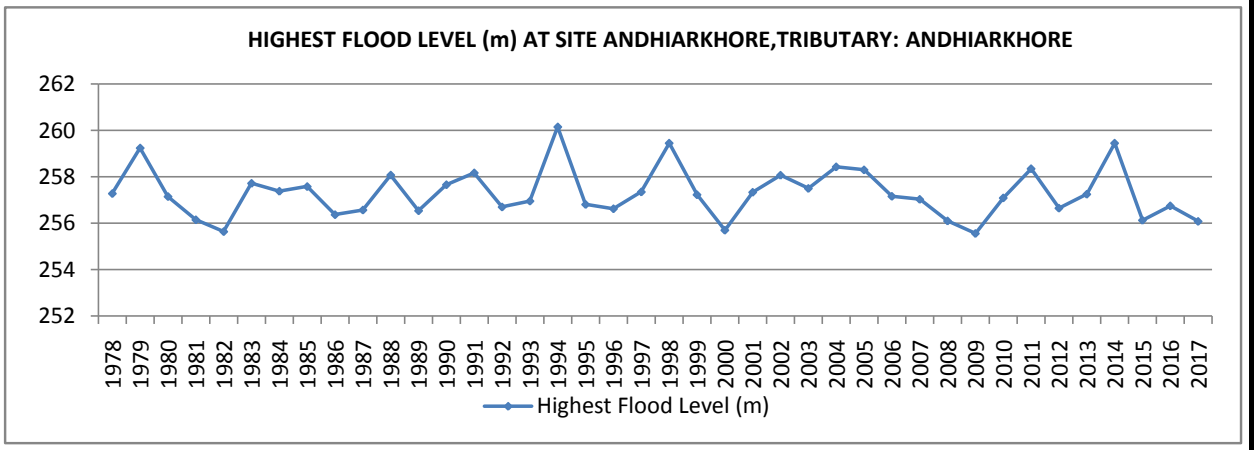
YEAR WISE TREND OF SITE ANDHIARKHORE

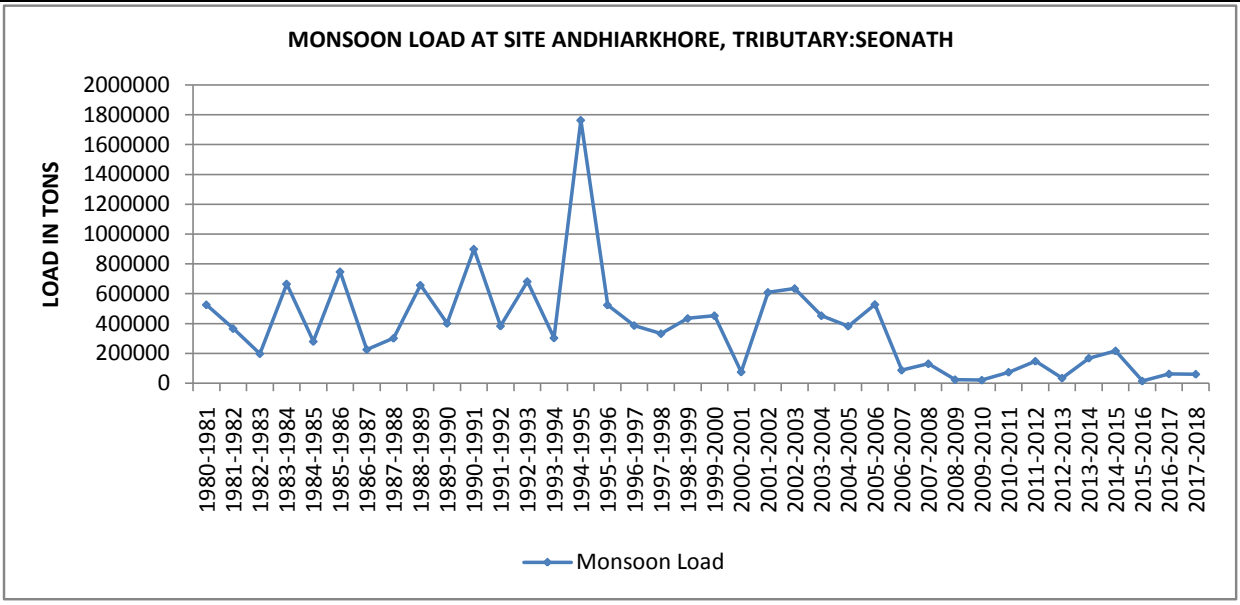


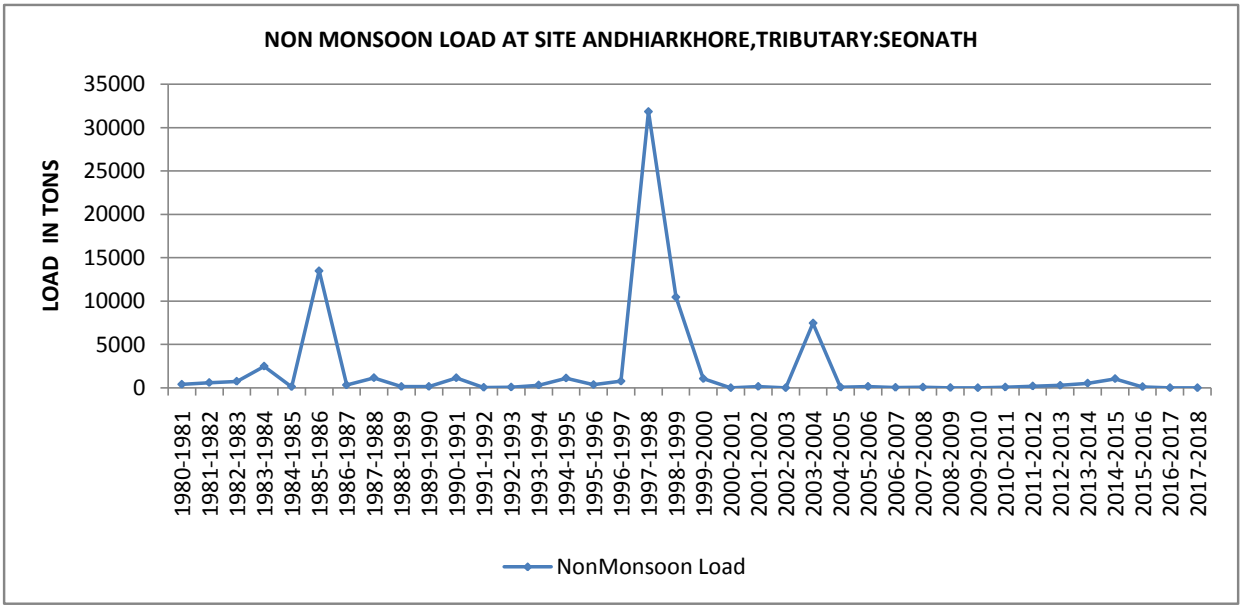

AVERAGE RUNOFF(MCM) PERIOD:1993-2018 SITE:ANDHIARKHORE,TRIBUTARY:SEONATH
RUNOFF IN MCM
120
100
80
60
40
20
0
June
July
August
September
October
November
December
January
February
March
April
May
Average Runoff(MCM)

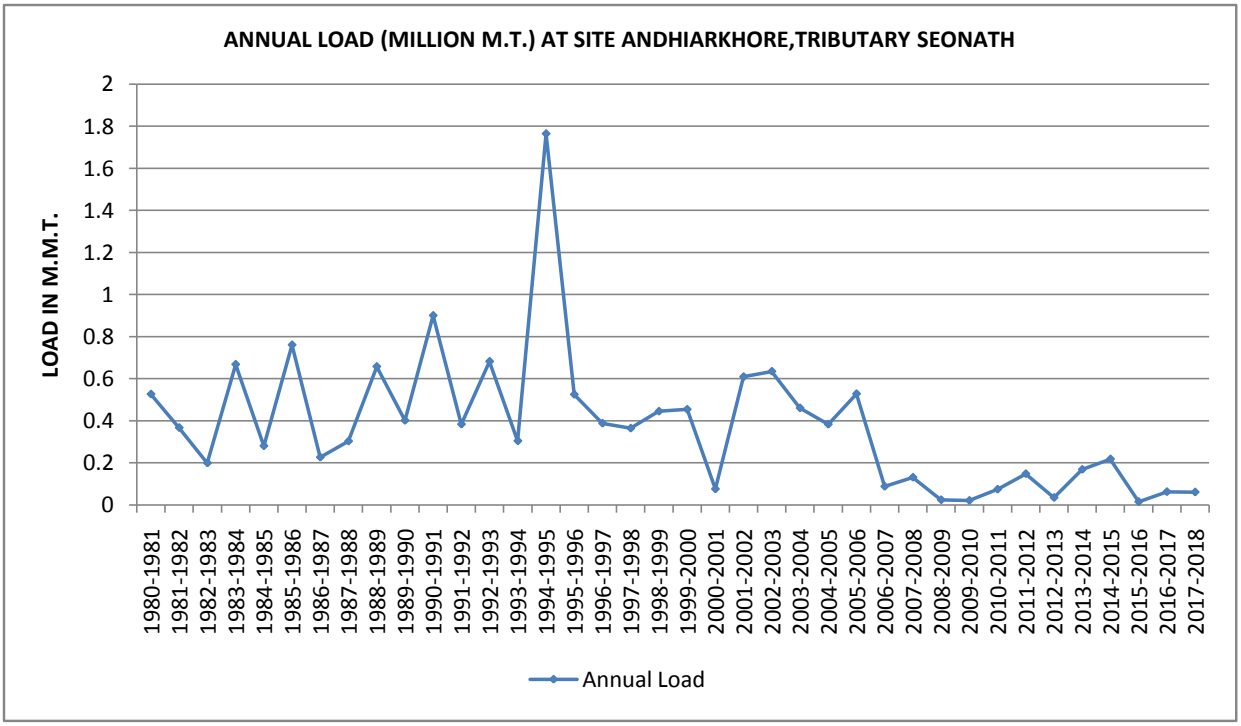

AVERAGE ANNUAL FLOW (CUMECS) WITH WATER LEVEL (M), SITE ANDHIARKHORE,TRIBUTARY:HAMP
FLOW IN CUMECS
30
25
20
15
10
5
0
254.6
254.4
254.2
254
253.8
253.6
253.4
253.2
253
WATER LEVEL IN M
1977-1978
1978-1979
1979-1980
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Average Annual Flow (cumecs)
Average Water Level (m)


ANNUAL RUNOFF(MCM) SITE ANDHIARKHORE:TRIBUTARY:SEONATH
RUNOFF IN MCM
900
800
700
600
500
400
300
200
100
0
1978-1979
1979-1980
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Annual Runoff (MCM)


HIGHEST FLOOD LEVEL (m) AT SITE ANDHIARKHORE,TRIBUTARY: ANDHIARKHORE
262
260
258
256
254
252
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
Highest Flood Level (m)


MONSOON LOAD AT SITE ANDHIARKHORE, TRIBUTARY:SEONATH
LOAD IN TONS
2000000
1800000
1600000
1400000
1200000
1000000
800000
600000
400000
200000
0
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Monsoon Load


NON MONSOON LOAD AT SITE ANDHIARKHORE,TRIBUTARY:SEONATH
LOAD IN TONS
35000
30000
25000
20000
15000
10000
5000
0
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
NonMonsoon Load


ANNUAL LOAD (MILLION M.T.) AT SITE ANDHIARKHORE,TRIBUTARY SEONATH
LOAD IN M.M.T.
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
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1997-1998
1998-1999
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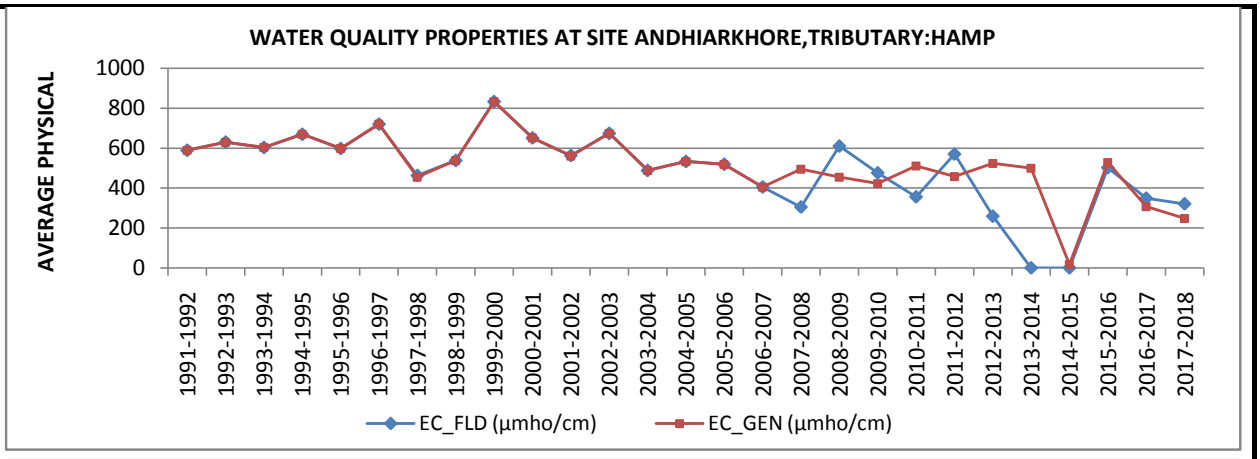
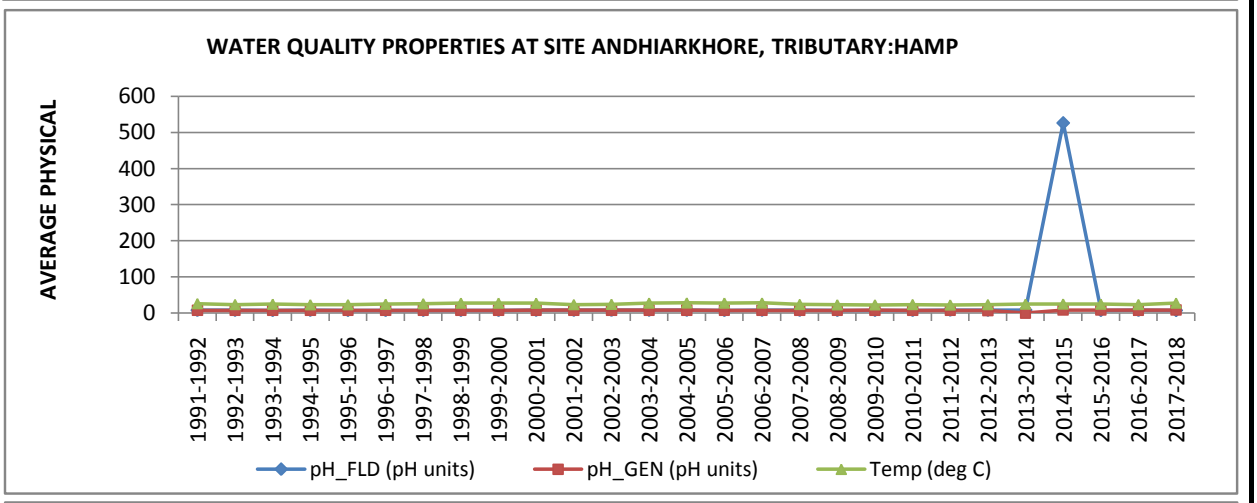
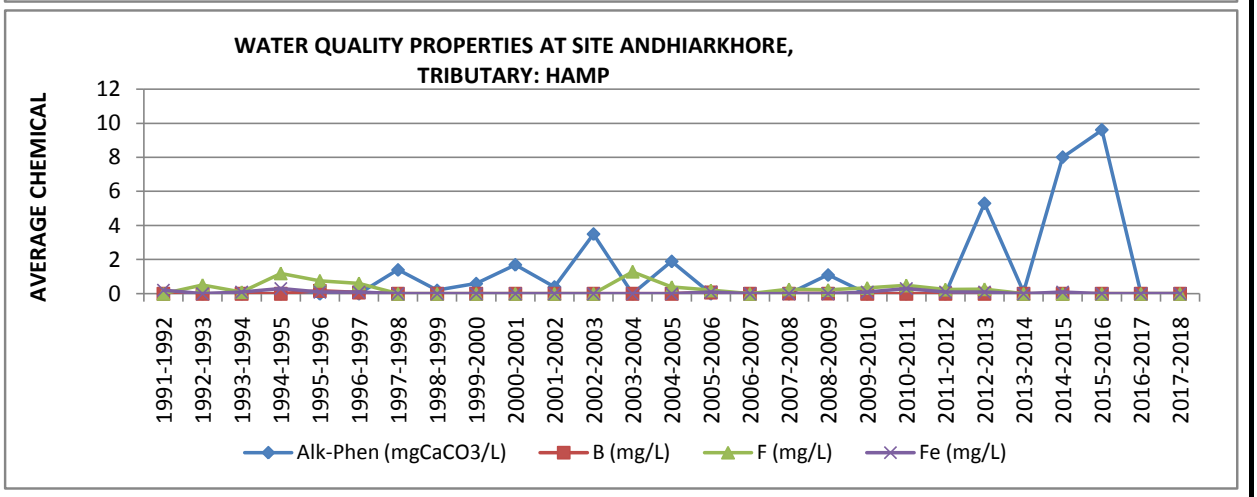
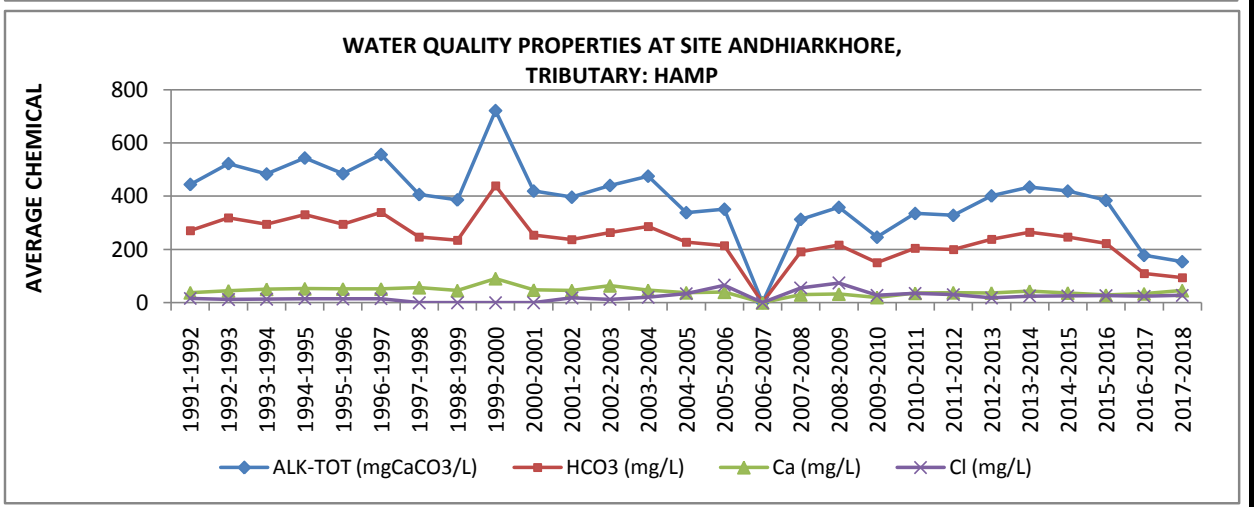
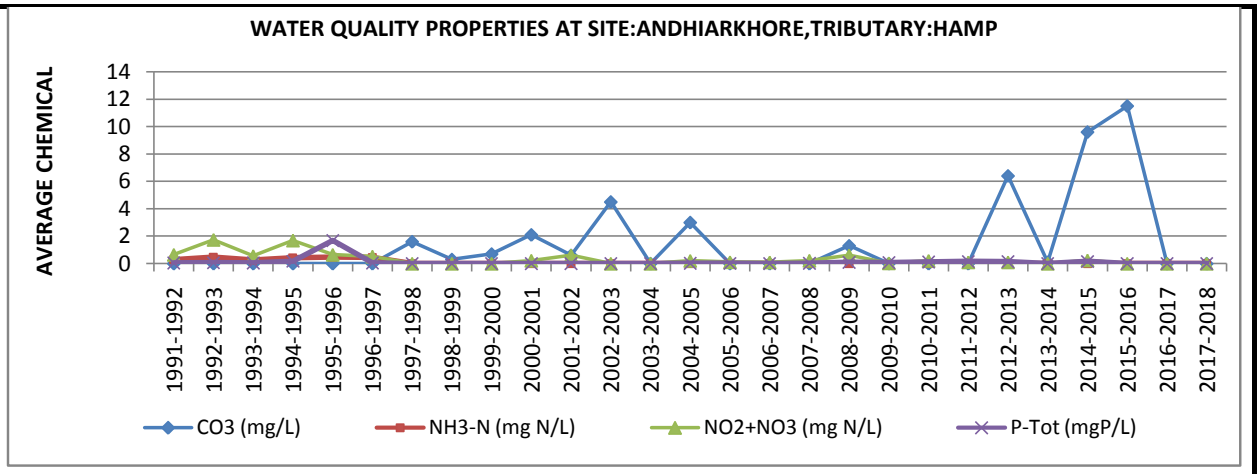
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Annual Load

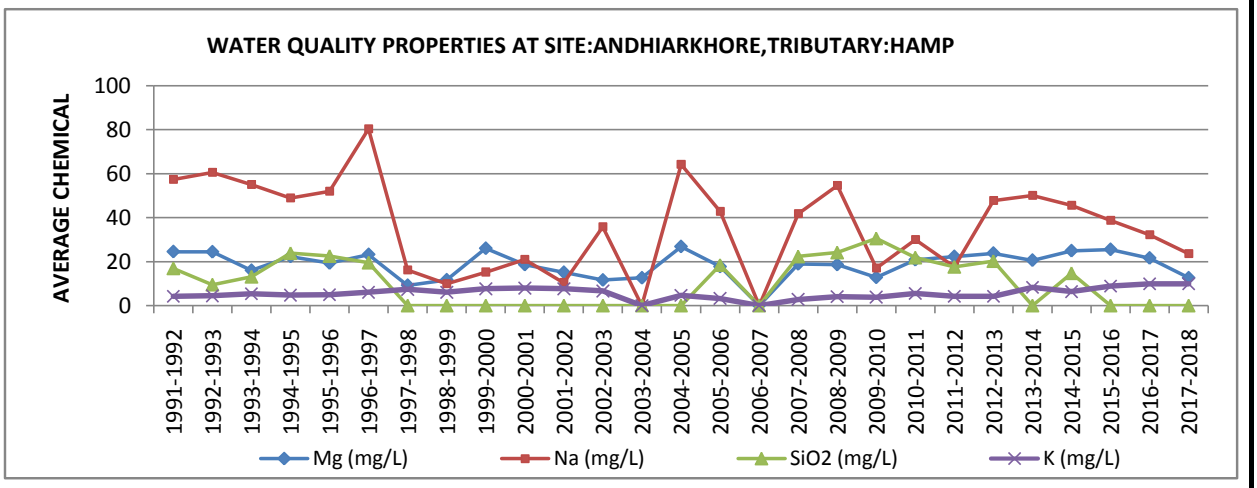

WATER QUALITY PROPERTIES AT SITE ANDHIARKHORE,TRIBUTARY:HAMP
AVERAGE PHYSICAL
1000
800
600
400
200
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
EC_FLD (µmho/cm)
EC_GEN (µmho/cm)

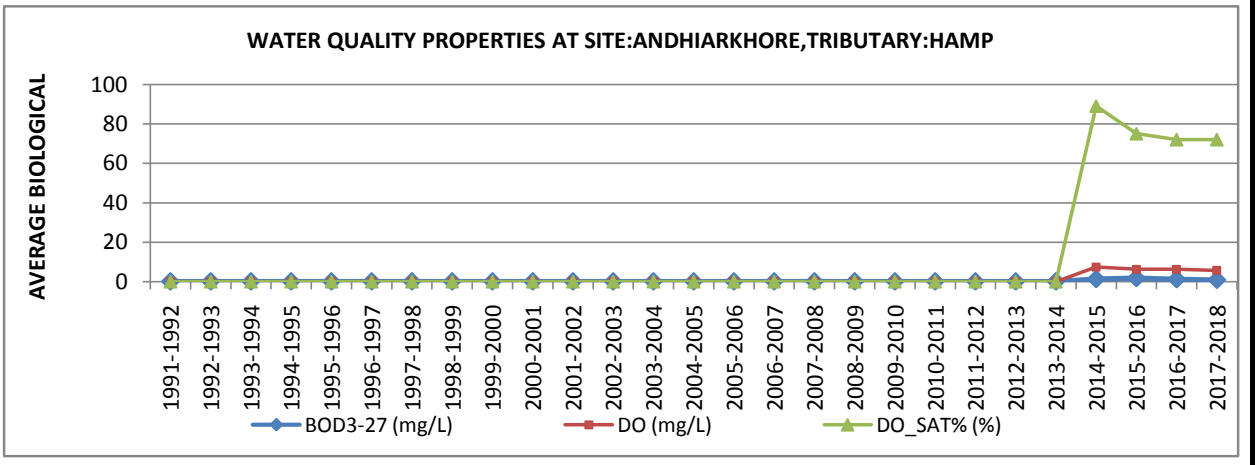

WATER QUALITY PROPERTIES AT SITE ANDHIARKHORE, TRIBUTARY:HAMP
AVERAGE PHYSICAL
600
500
400
300
200
100
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
pH_FLD (pH units)
pH_GEN (pH units)
Temp (deg C)

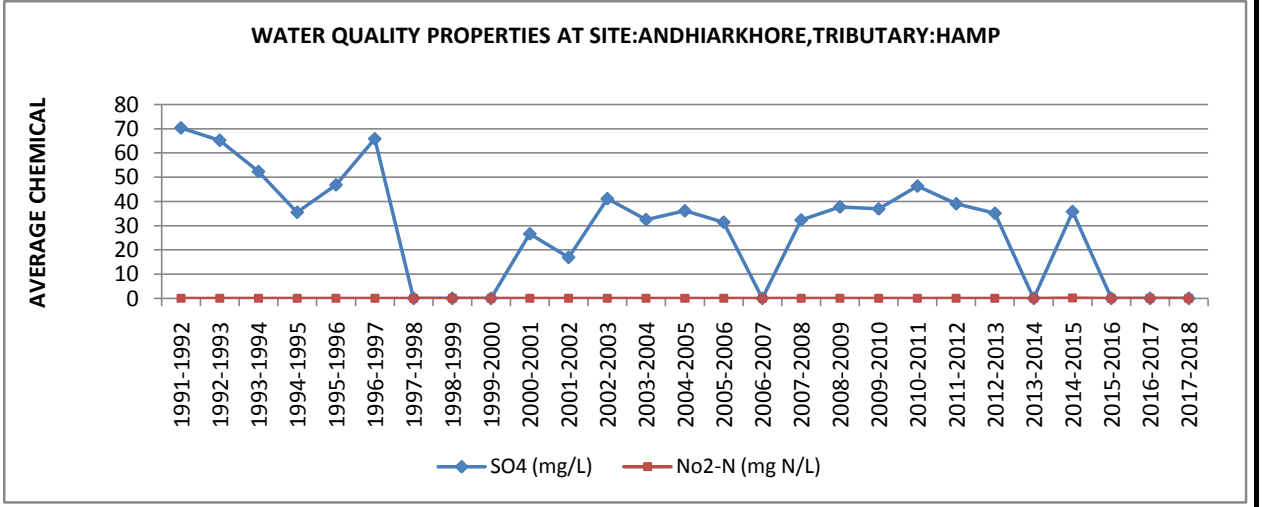

WATER QUALITY PROPERTIES AT SITE ANDHIARKHORE,
TRIBUTARY: HAMP
AVERAGE CHEMICAL
12
10
8
6
4
2
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Alk-Phen (mgCaCO3/L)
B (mg/L)
F (mg/L)
Fe (mg/L)


WATER QUALITY PROPERTIES AT SITE ANDHIARKHORE,
TRIBUTARY: HAMP
AVERAGE CHEMICAL
800
600
400
200
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
ALK-TOT (mgCaCO3/L)
HCO3 (mg/L)
Ca (mg/L)
Cl (mg/L)

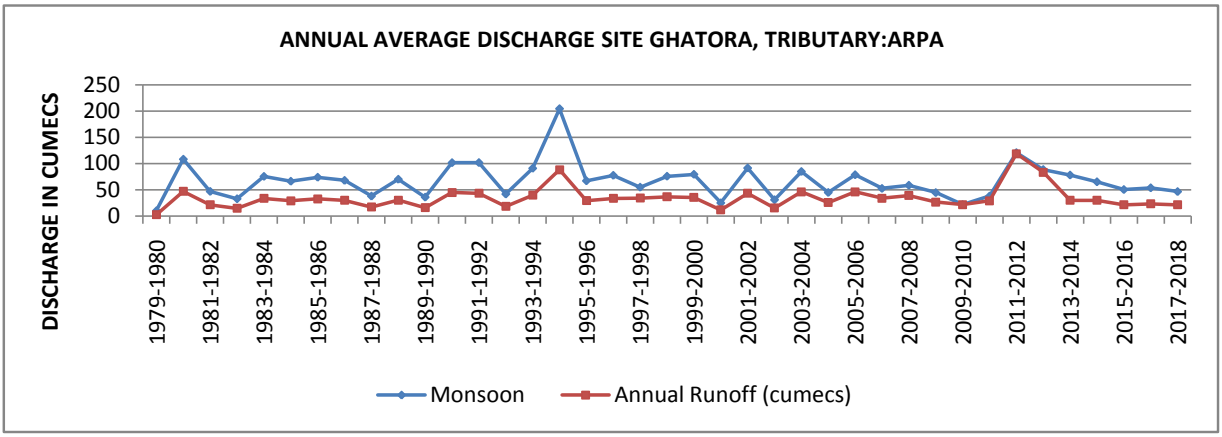

WATER QUALITY PROPERTIES AT SITE:ANDHIARKHORE,TRIBUTARY:HAMP
AVERAGE CHEMICAL
14
12
10
8
6
4
2
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
CO3 (mg/L)
NH3-N (mg N/L)
NO2+NO3 (mg N/L)
P-Tot (mgP/L)

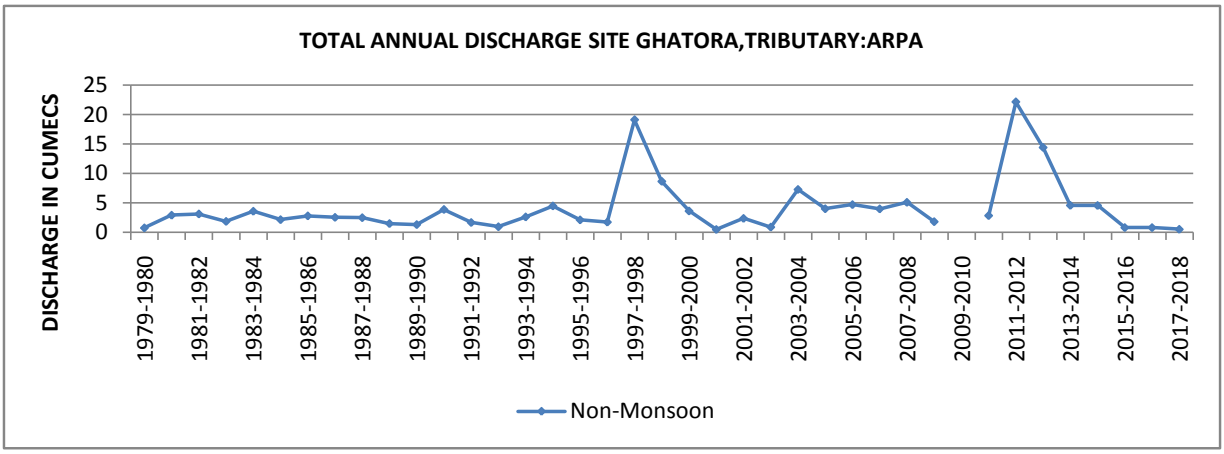

WATER QUALITY PROPERTIES AT SITE:ANDHIARKHORE,TRIBUTARY:HAMP
AVERAGE CHEMICAL
100
80
60
40
20
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Mg (mg/L)
Na (mg/L)
SiO2 (mg/L)
K (mg/L)

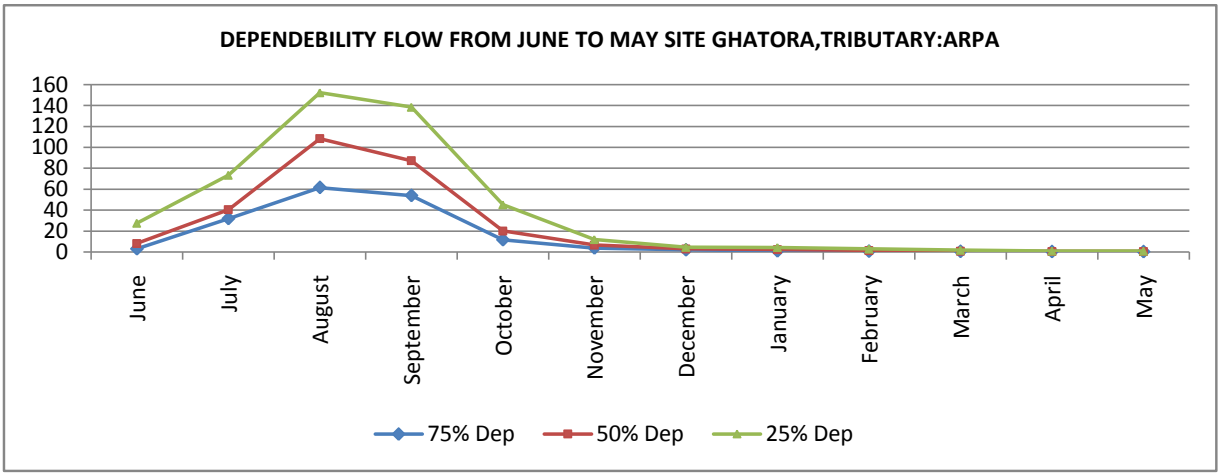

WATER QUALITY PROPERTIES AT SITE:ANDHIARKHORE,TRIBUTARY:HAMP
AVERAGE BIOLOGICAL
100
80
60
40
20
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
BOD3-27 (mg/L)
DO (mg/L)
DO_SAT% (%)

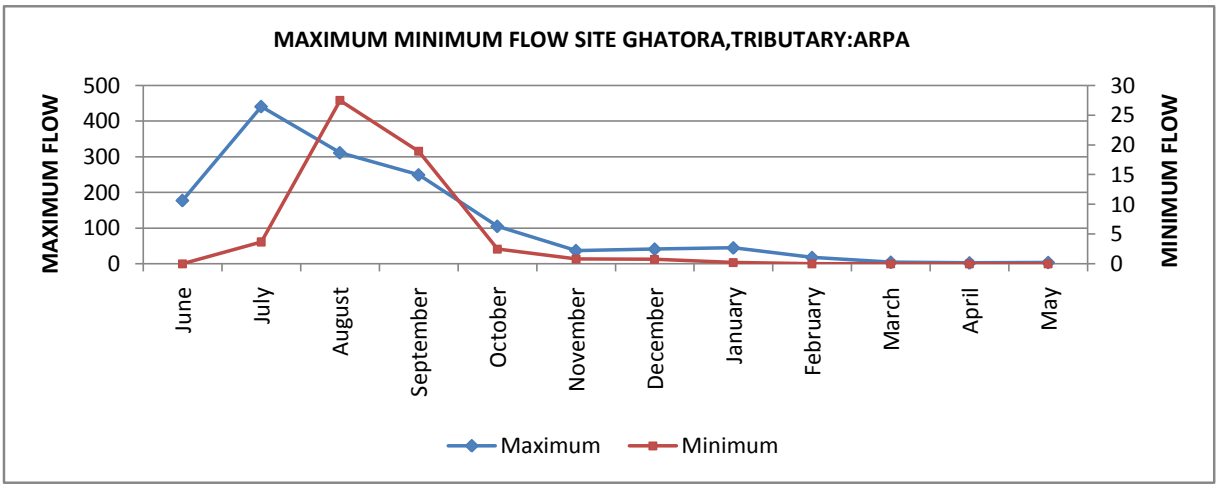

WATER QUALITY PROPERTIES AT SITE:ANDHIARKHORE,TRIBUTARY:HAMP
AVERAGE CHEMICAL
80
70
60
50
40
30
20
10
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
SO4 (mg/L)
No2-N (mg N/L)

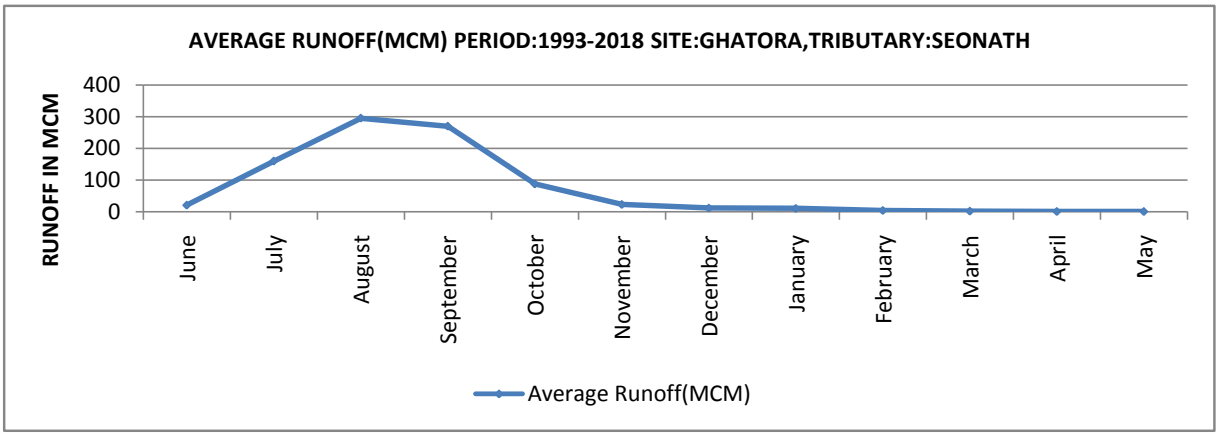
YEAR WISE TREND OF SITE GHATORA

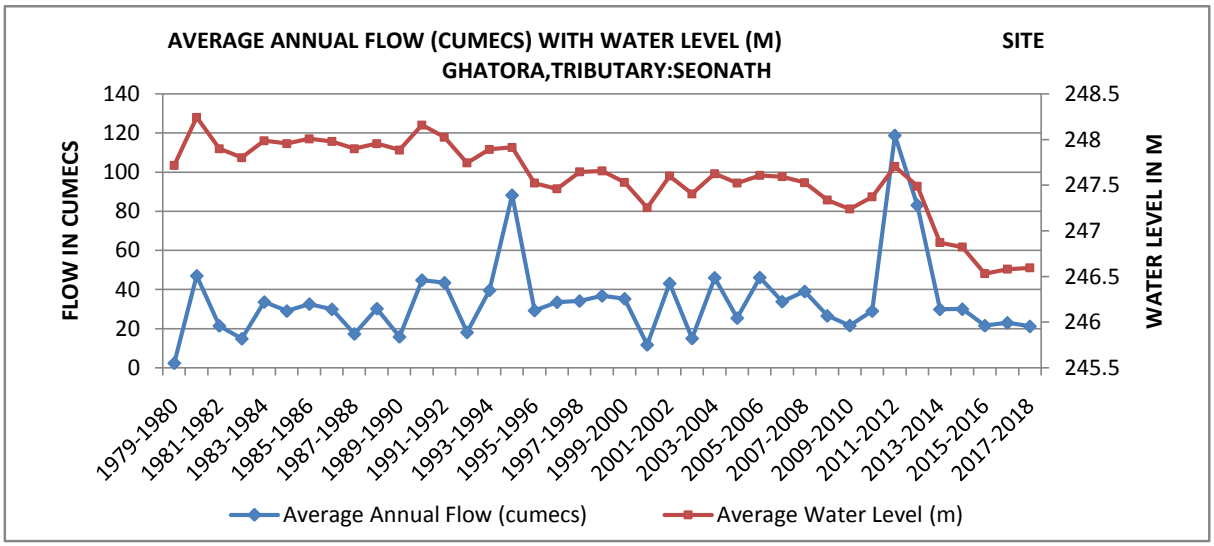


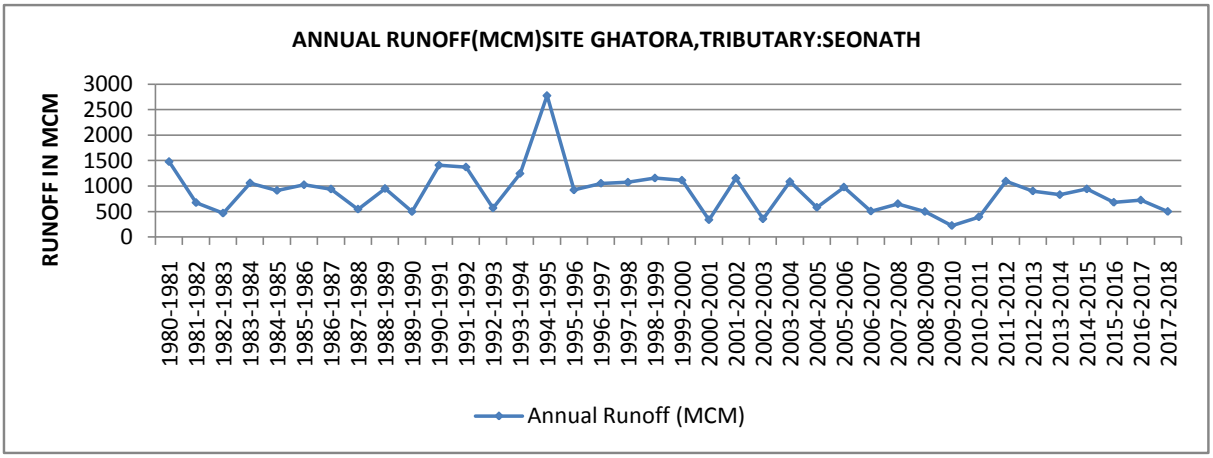







AVERAGE RUNOFF(MCM) PERIOD:1993-2018 SITE:GHATORA,TRIBUTARY:SEONATH
RUNOFF IN MCM
400
300
200
100
0
June
July
August
September
October
November
December
January
February
March
April
May
Average Runoff(MCM)


AVERAGE ANNUAL FLOW (CUMECS) WITH WATER LEVEL (M) SITE
GHATORA,TRIBUTARY:SEONATH
FLOW IN CUMECS
WATER LEVEL IN M
140
120
100
80
60
40
20
0
248.5
248
247.5
247
246.5
246
245.5
1979-1980
1981-1982
1983-1984
1985-1986
1987-1988
1989-1990
1991-1992
1993-1994
1995-1996
1997-1998
1999-2000
2001-2002
2003-2004
2005-2006
2007-2008
2009-2010
2011-2012
2013-2014
2015-2016
2017-2018
Average Annual Flow (cumecs)
Average Water Level (m)


ANNUAL RUNOFF(MCM)SITE GHATORA,TRIBUTARY:SEONATH
RUNOFF IN MCM
3000
2500
2000
1500
1000
500
0
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
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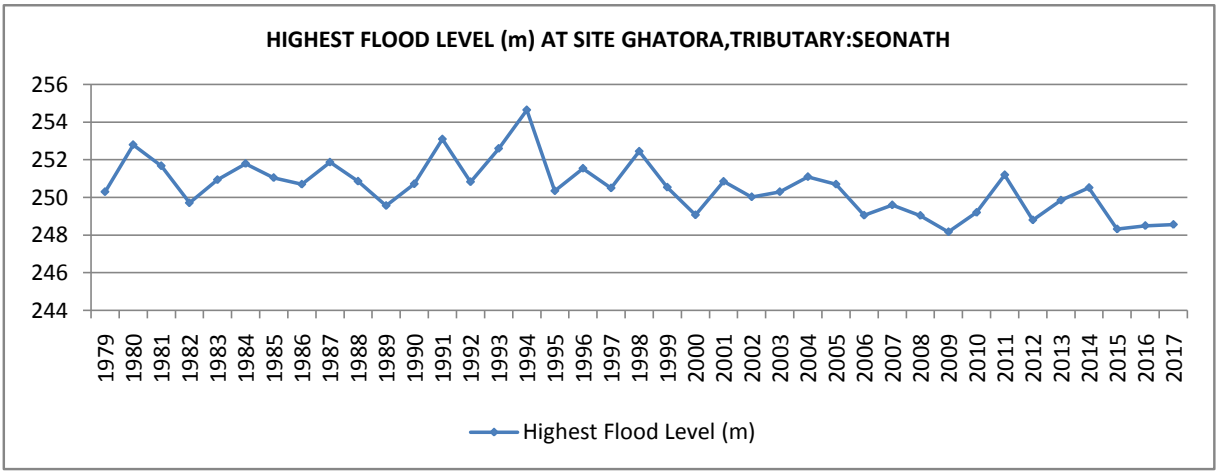
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Annual Runoff (MCM)


HIGHEST FLOOD LEVEL (m) AT SITE GHATORA,TRIBUTARY:SEONATH
256
254
252
250
248
246
244
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
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1996
1997
1998
1999
2000
2001
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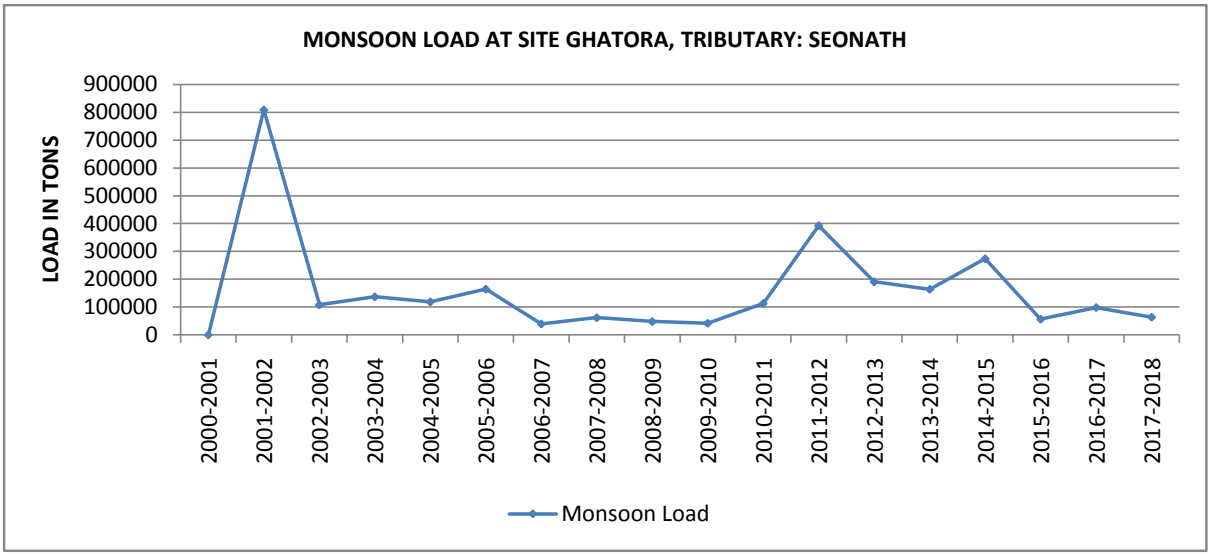
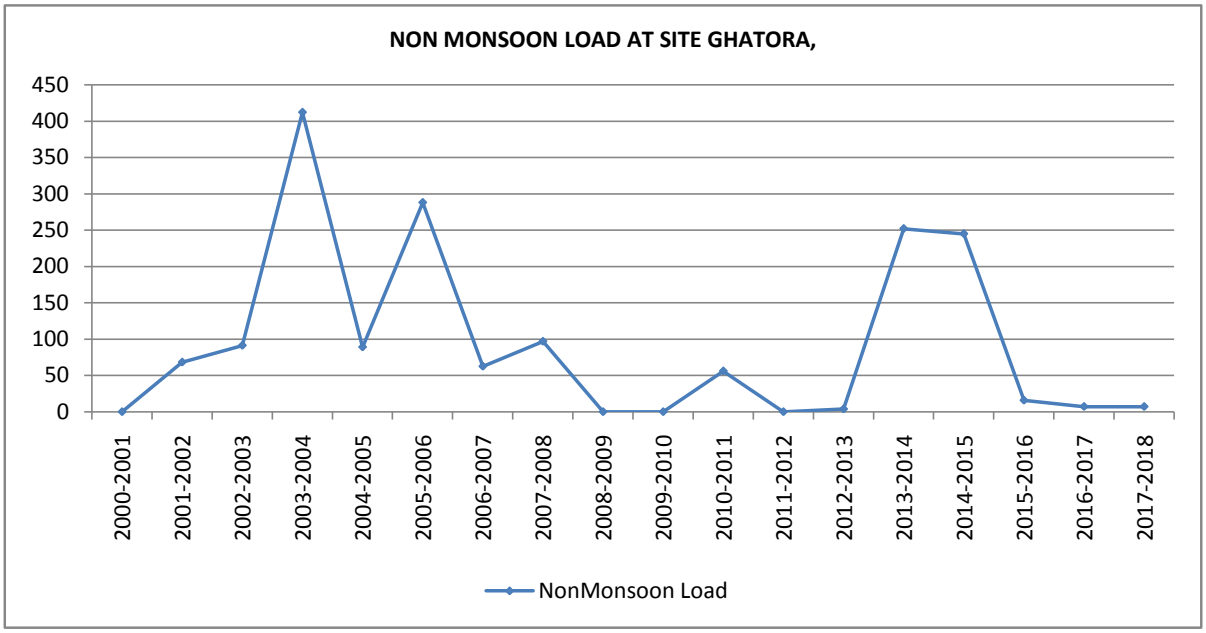
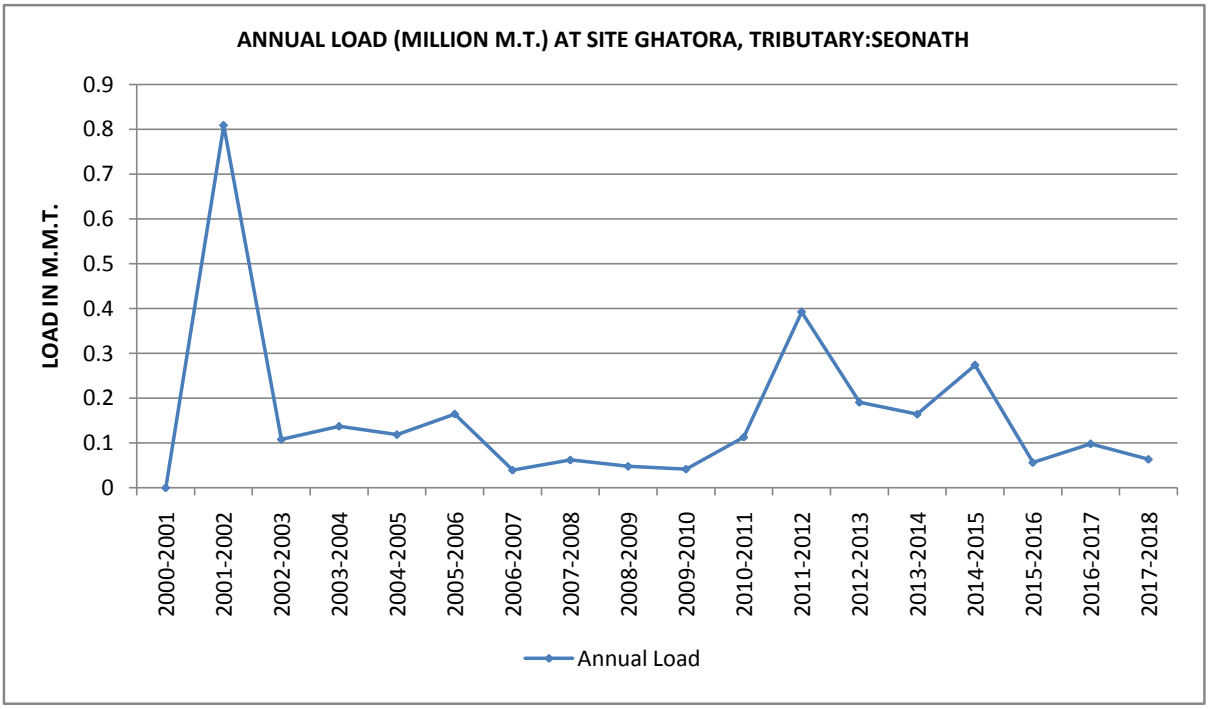
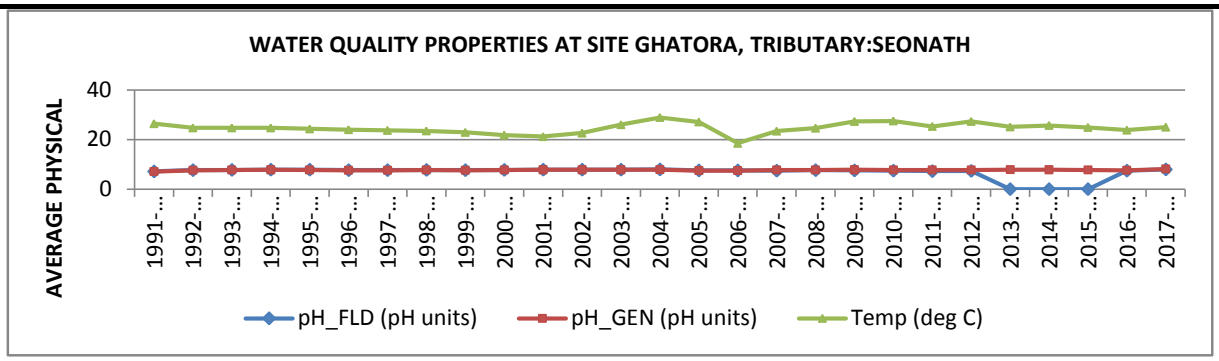
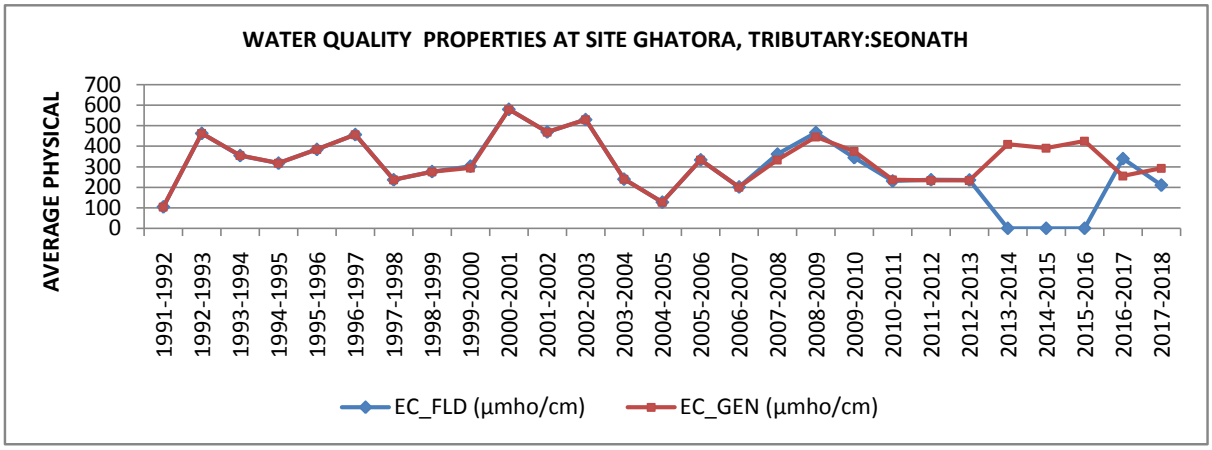
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
Highest Flood Level (m)

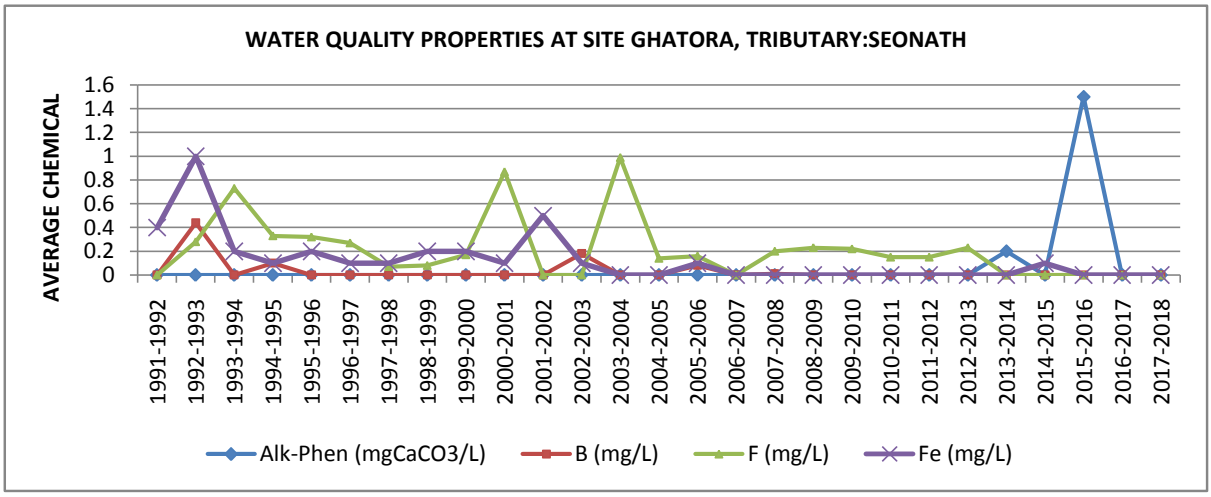

MONSOON LOAD AT SITE GHATORA, TRIBUTARY: SEONATH
LOAD IN TONS
900000
800000
700000
600000
500000
400000
300000
200000
100000
0
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Monsoon Load

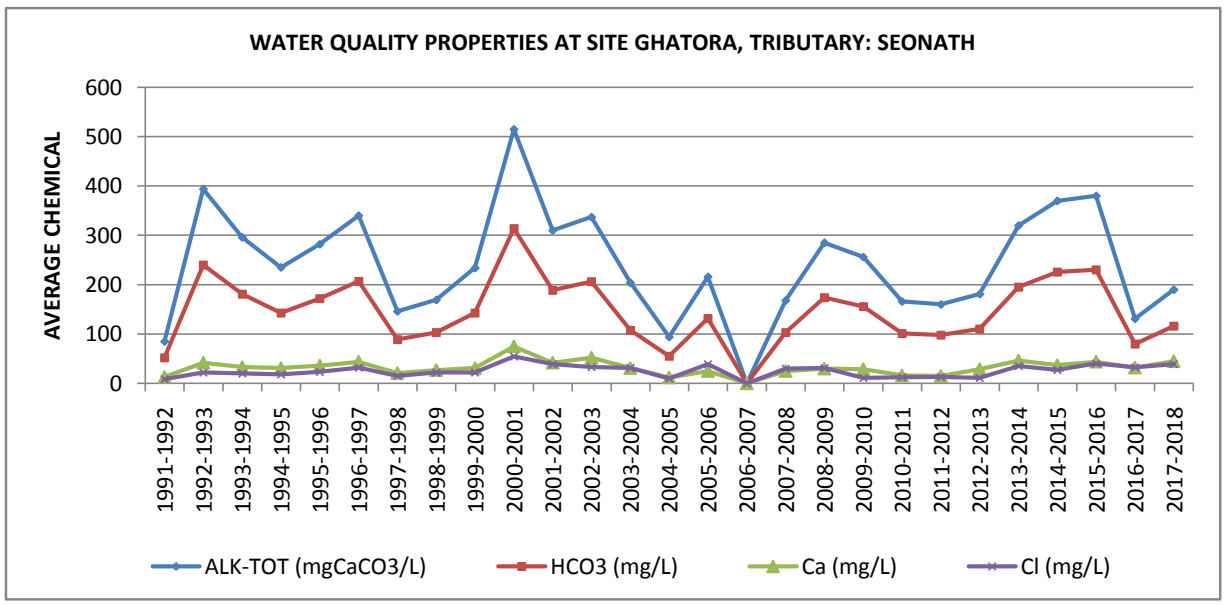

NON MONSOON LOAD AT SITE GHATORA,
450
400
350
300
250
200
150
100
50
0
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
NonMonsoon Load

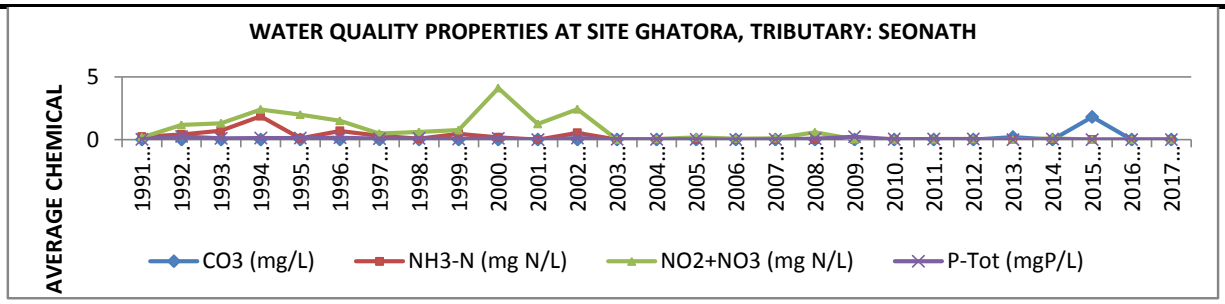

ANNUAL LOAD (MILLION M.T.) AT SITE GHATORA, TRIBUTARY:SEONATH
LOAD IN M.M.T.
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Annual Load

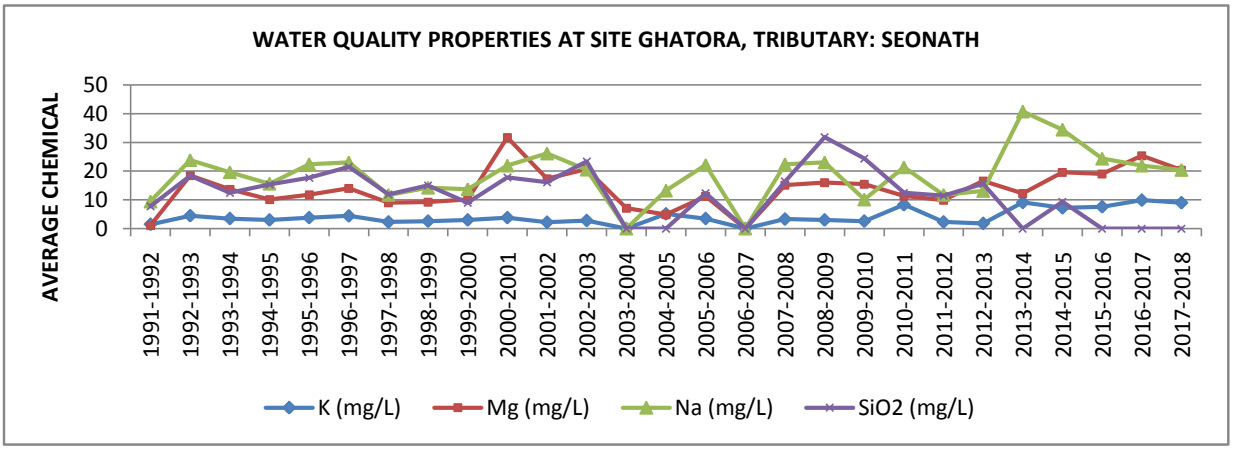

WATER QUALITY PROPERTIES AT SITE GHATORA, TRIBUTARY:SEONATH
AVERAGE PHYSICAL
40
20
0
1991-...
1992-...
1993-...
1994-...
1995-...
1996-...
1997-...
1998-...
1999-...
2000-...
2001-...
2002-...
2003-...
2004-...
2005-...
2006-...
2007-...
2008-...
2009-...
2010-...
2011-...
2012-...
2013-...
2014-...
2015-...
2016-...
2017-...
pH_FLD (pH units)
pH_GEN (pH units)
Temp (deg C)

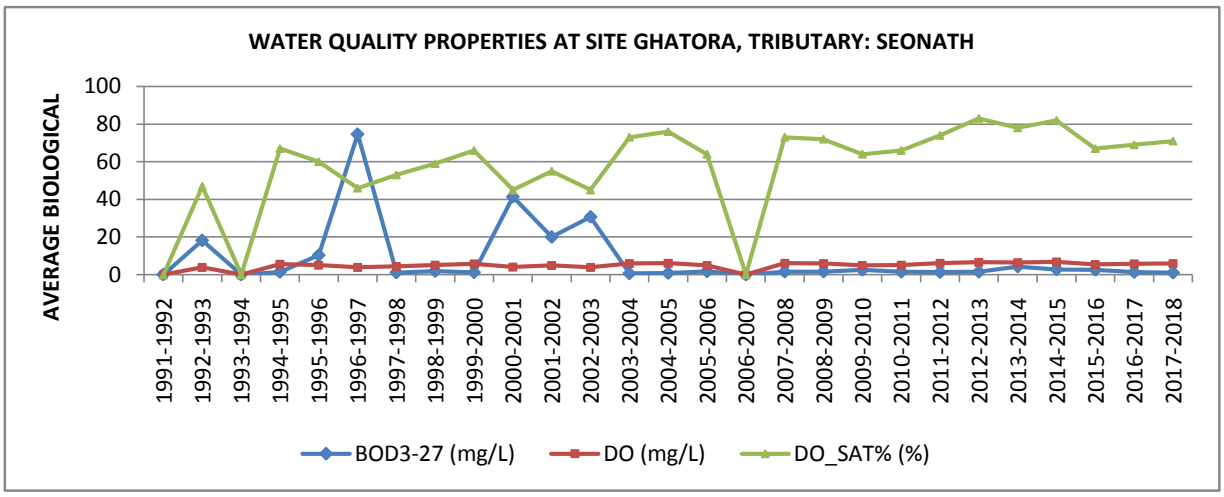

WATER QUALITY PROPERTIES AT SITE GHATORA, TRIBUTARY:SEONATH
AVERAGE PHYSICAL
700
600
500
400
300
200
100
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
EC_FLD (µmho/cm)
EC_GEN (µmho/cm)

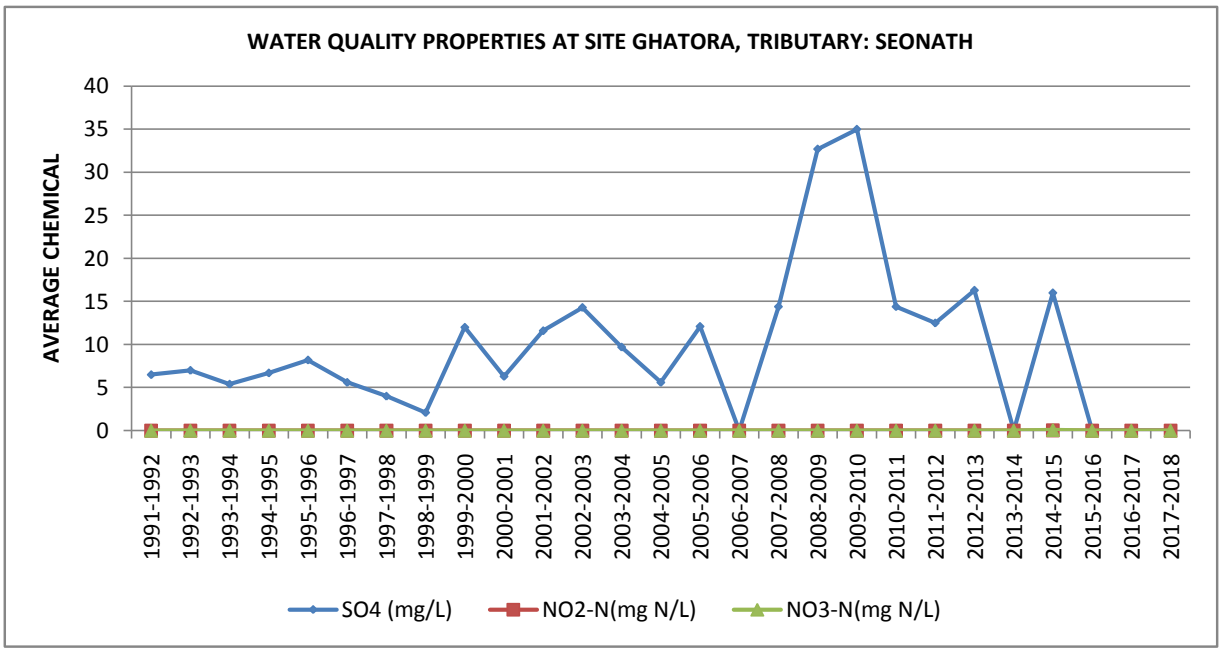

WATER QUALITY PROPERTIES AT SITE GHATORA, TRIBUTARY:SEONATH
AVERAGE CHEMICAL
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Alk-Phen (mgCaCO3/L)
B (mg/L)
F (mg/L)
Fe (mg/L)


WATER QUALITY PROPERTIES AT SITE GHATORA, TRIBUTARY: SEONATH
AVERAGE CHEMICAL
600
500
400
300
200
100
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
ALK-TOT (mgCaCO3/L)
HCO3 (mg/L)
Ca (mg/L)
Cl (mg/L)

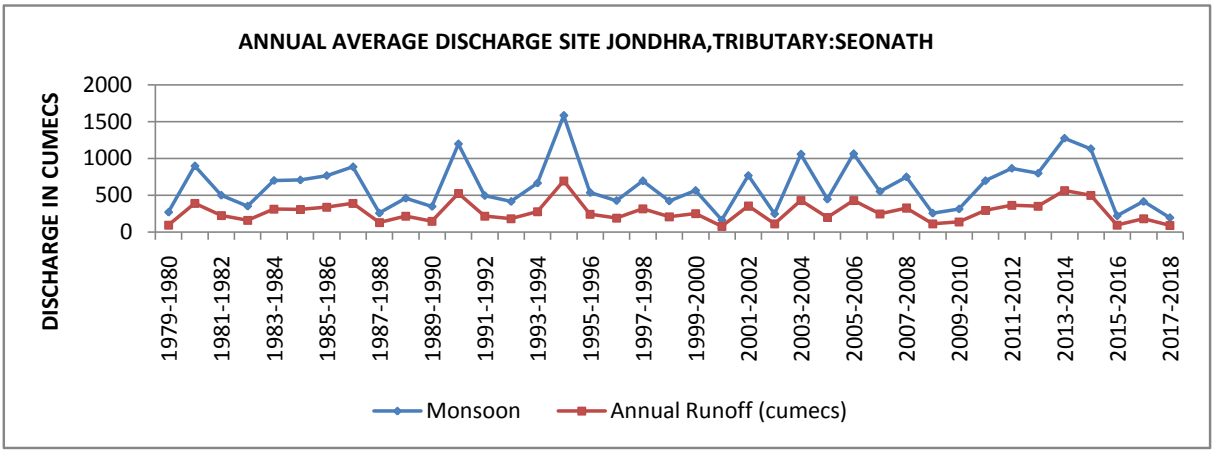

WATER QUALITY PROPERTIES AT SITE GHATORA, TRIBUTARY: SEONATH
AVERAGE CHEMICAL
5
0
1991...
1992...
1993...
1994...
1995...
1996...
1997...
1998...
1999...
2000...
2001...
2002...
2003...
2004...
2005...
2006...
2007...
2008...
2009...
2010...
2011...
2012...
2013...
2014...
2015...
2016...
2017...
CO3 (mg/L)
NH3-N (mg N/L)
NO2+NO3 (mg N/L)
P-Tot (mgP/L)

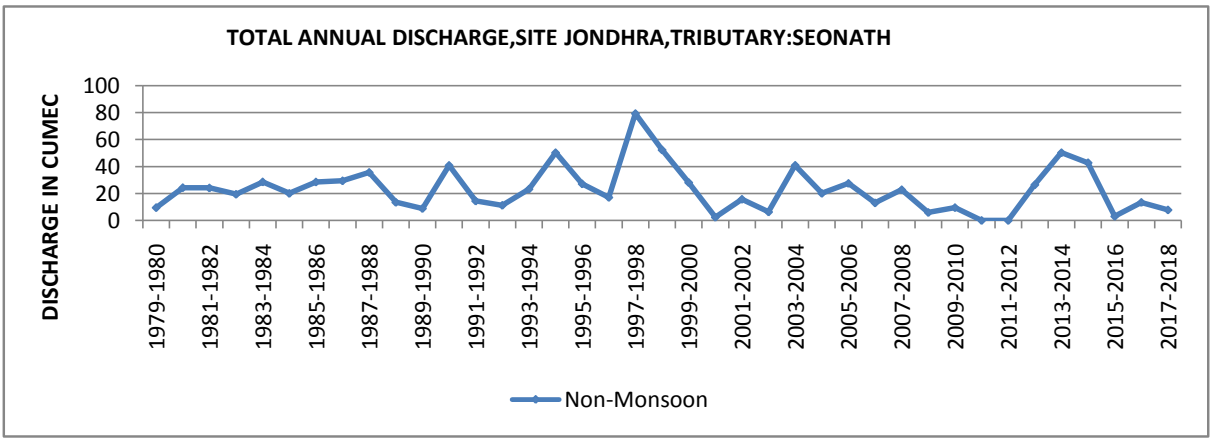

WATER QUALITY PROPERTIES AT SITE GHATORA, TRIBUTARY: SEONATH
AVERAGE CHEMICAL
50
40
30
20
10
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
K (mg/L)
Mg (mg/L)
Na (mg/L)
SiO2 (mg/L)

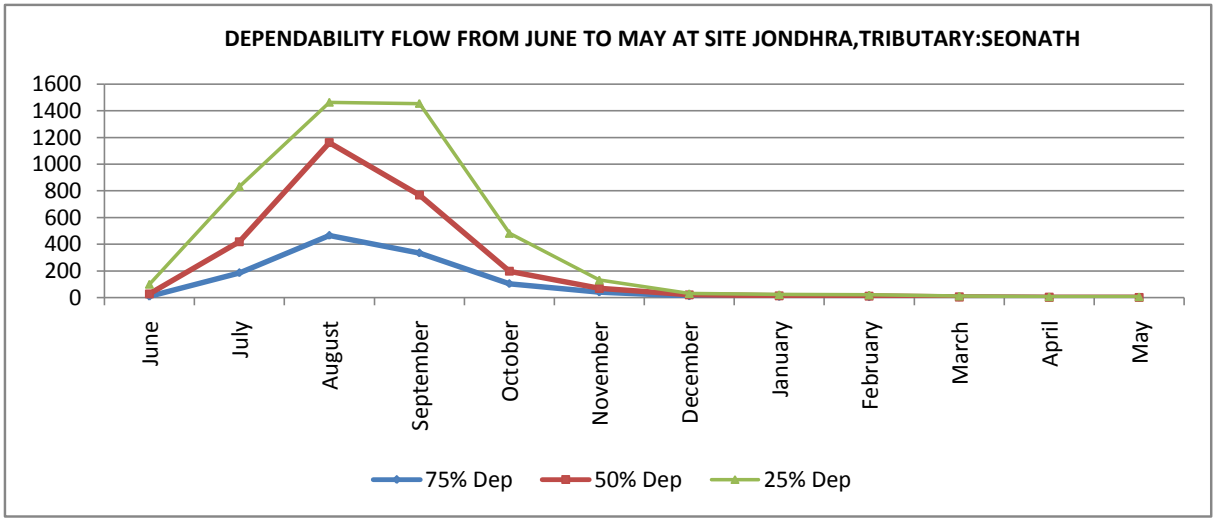

WATER QUALITY PROPERTIES AT SITE GHATORA, TRIBUTARY: SEONATH
AVERAGE BIOLOGICAL
100
80
60
40
20
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
BOD3-27 (mg/L)
DO (mg/L)
DO_SAT% (%)

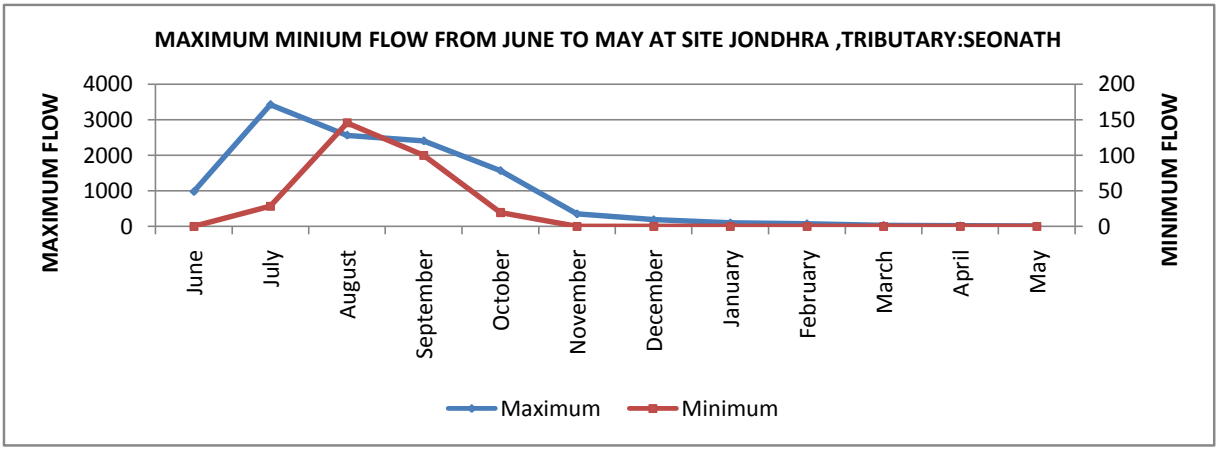

WATER QUALITY PROPERTIES AT SITE GHATORA, TRIBUTARY: SEONATH
AVERAGE CHEMICAL
40
35
30
25
20
15
10
5
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
SO4 (mg/L)
NO2-N(mg N/L)
NO3-N(mg N/L)

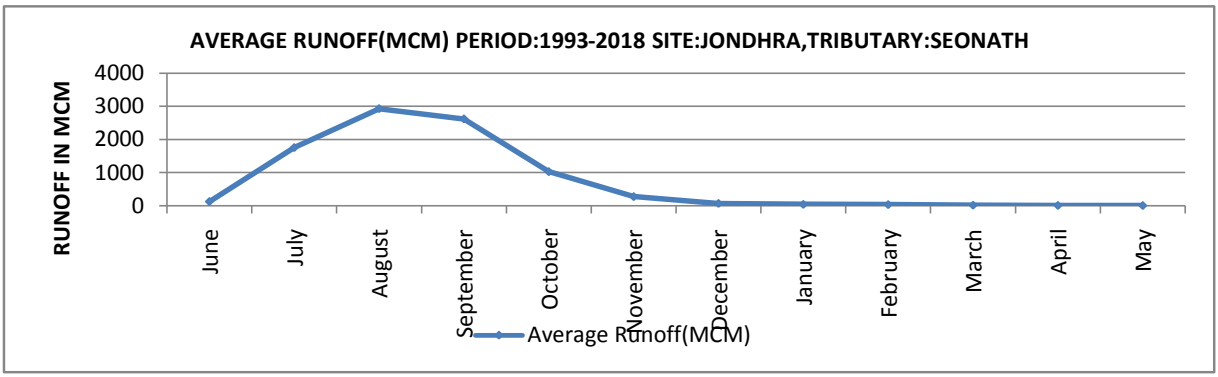
YEAR WISE TREND OF SITE JONDHRA

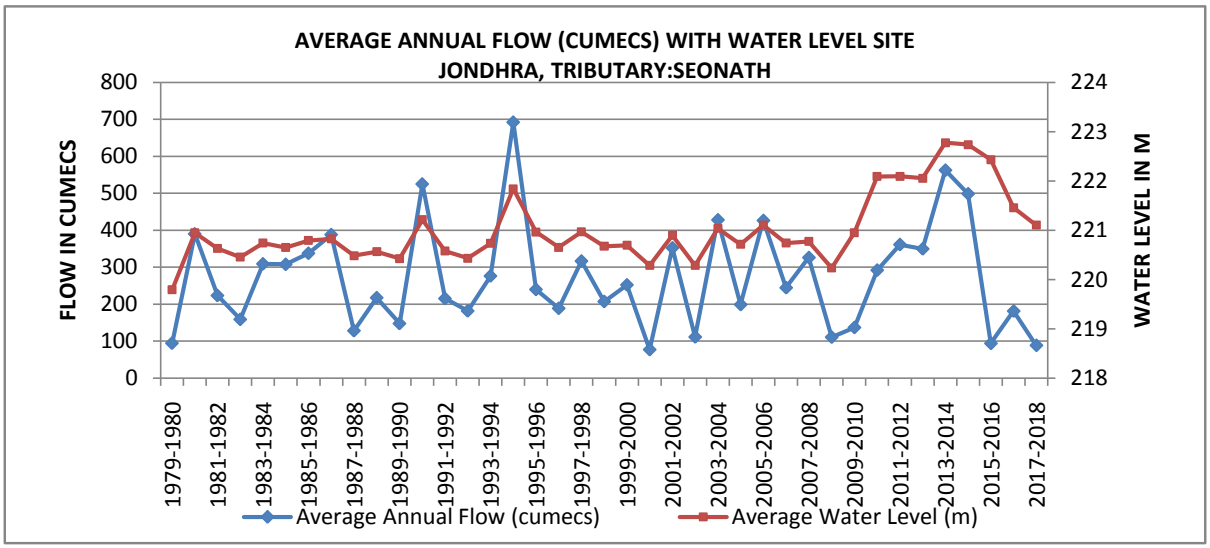


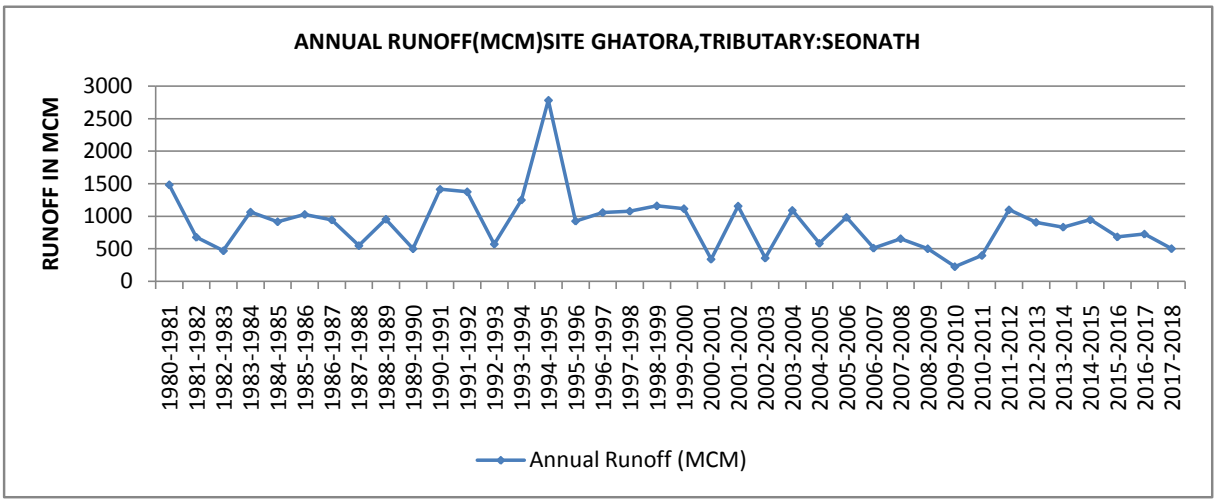


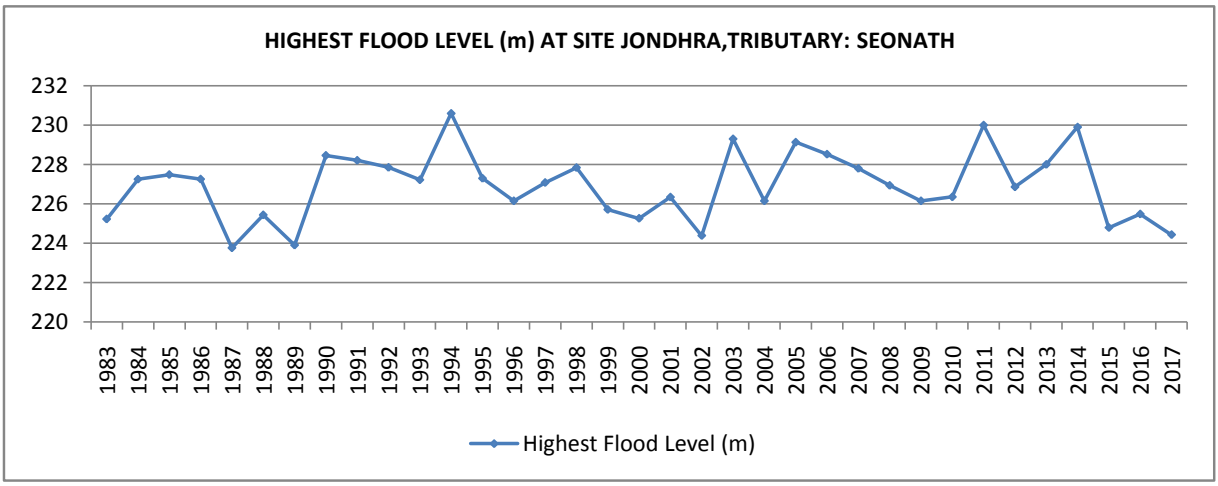


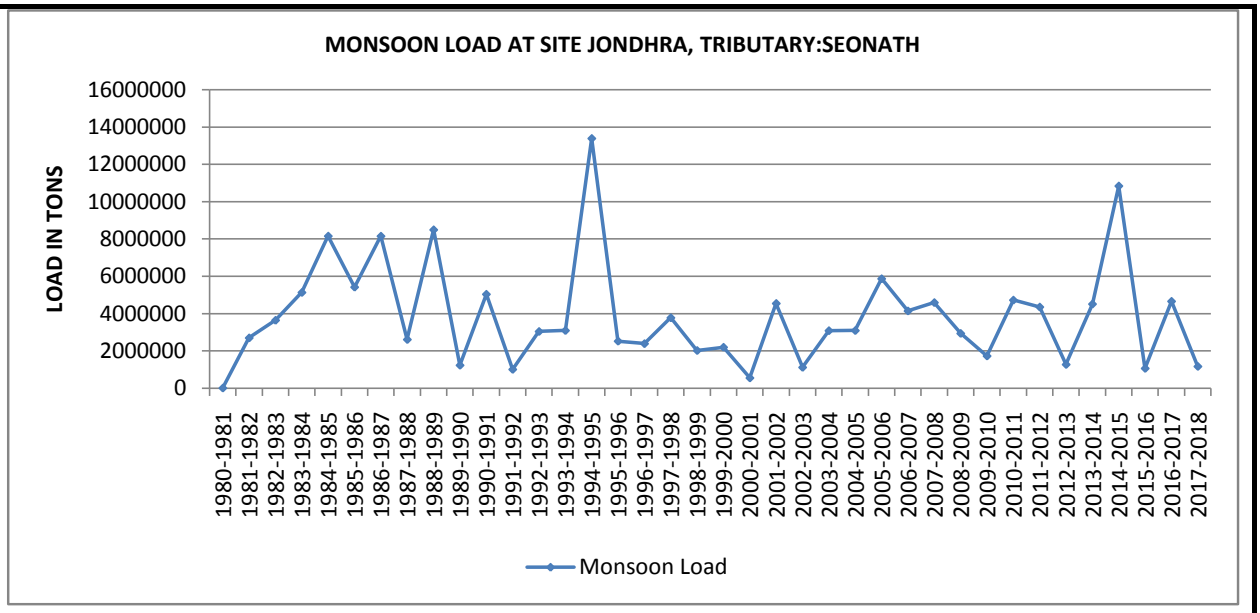


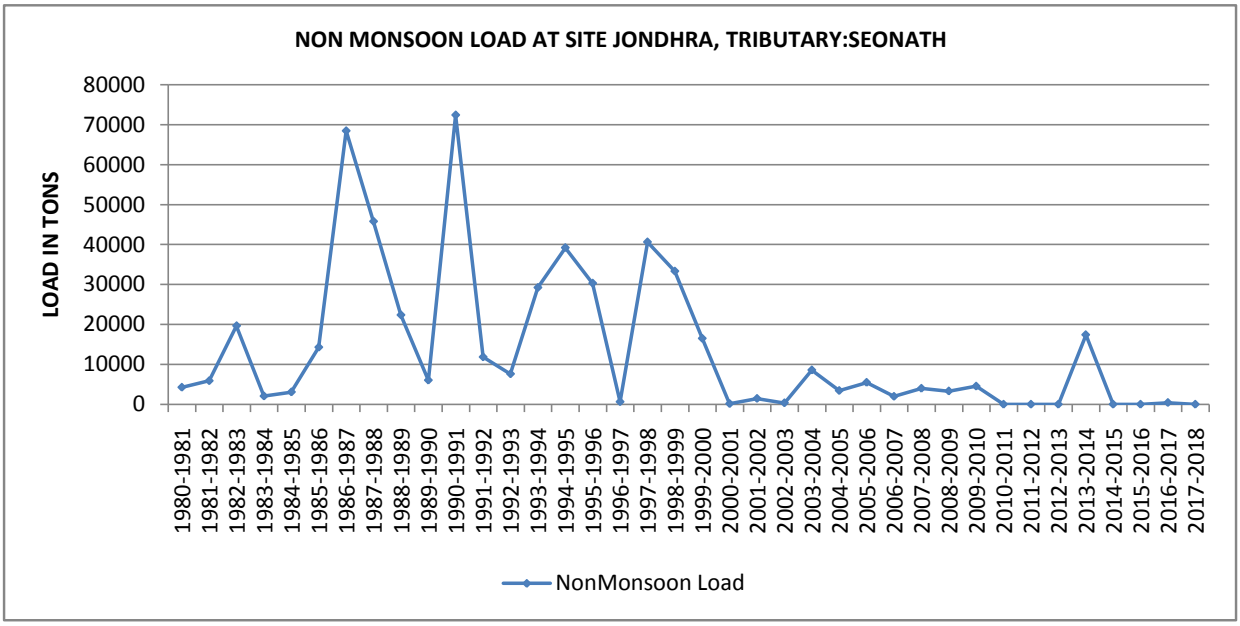

AVERAGE RUNOFF(MCM) PERIOD:1993-2018 SITE:JONDHRA,TRIBUTARY:SEONATH
RUNOFF IN MCM
4000
3000
2000
1000
0
June
July
August
September
October
November
December
January
February
March
April
May
Average Runoff(MCM)

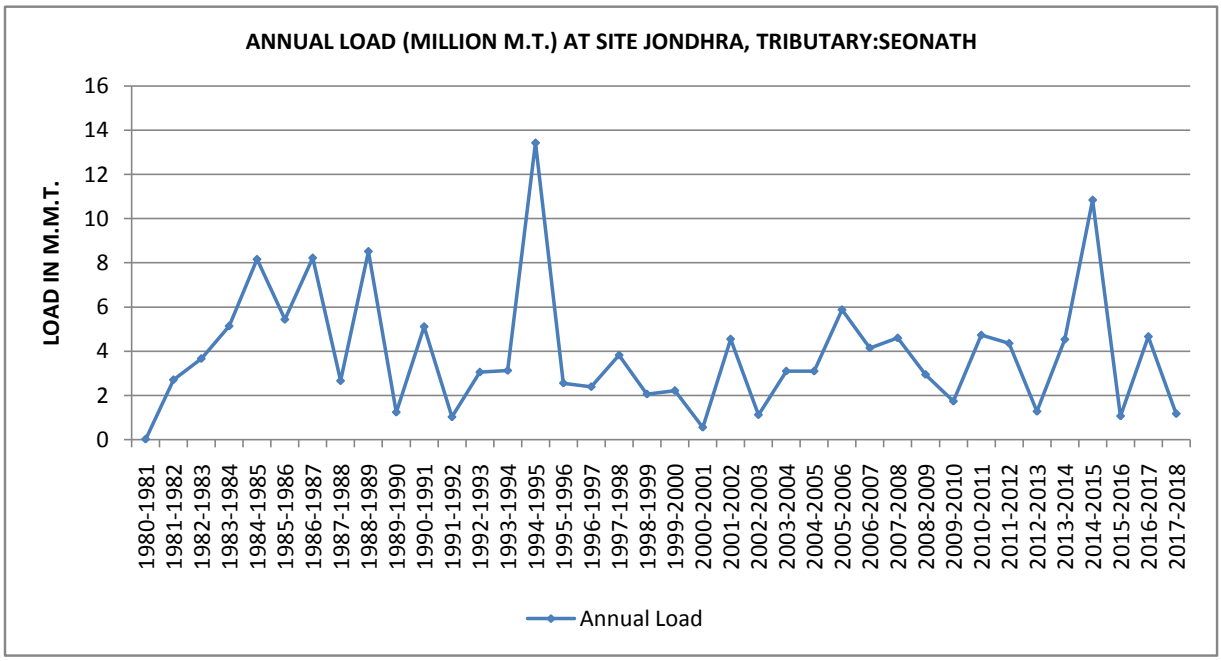

AVERAGE ANNUAL FLOW (CUMECS) WITH WATER LEVEL SITE JONDHRA, TRIBUTARY:SEONATH
FLOW IN CUMECS
WATER LEVEL IN M
800
700
600
500
400
300
200
100
0
224
223
222
221
220
219
218
1979-1980
1981-1982
1983-1984
1985-1986
1987-1988
1989-1990
1991-1992
1993-1994
1995-1996
1997-1998
1999-2000
2001-2002
2003-2004
2005-2006
2007-2008
2009-2010
2011-2012
2013-2014
2015-2016
2017-2018
Average Annual Flow (cumecs)
Average Water Level (m)

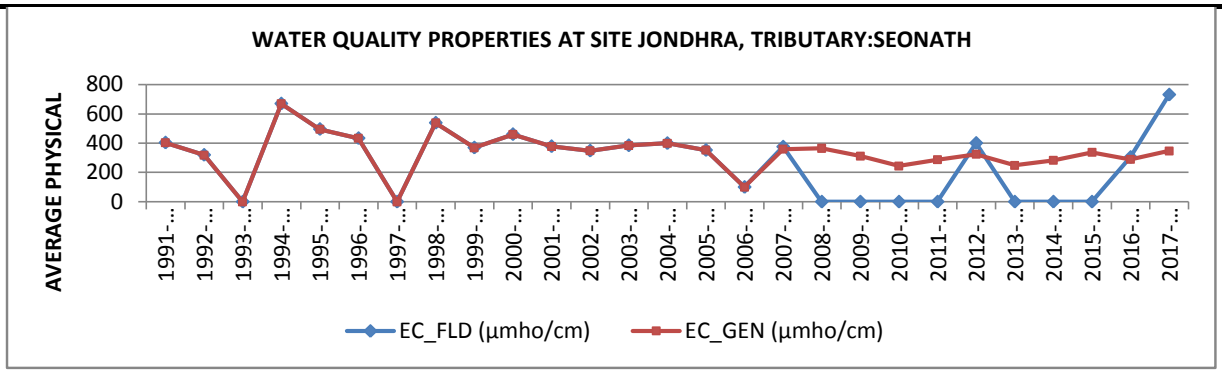

ANNUAL RUNOFF(MCM)SITE GHATORA,TRIBUTARY:SEONATH
RUNOFF IN MCM
3000
2500
2000
1500
1000
500
0
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Annual Runoff (MCM)

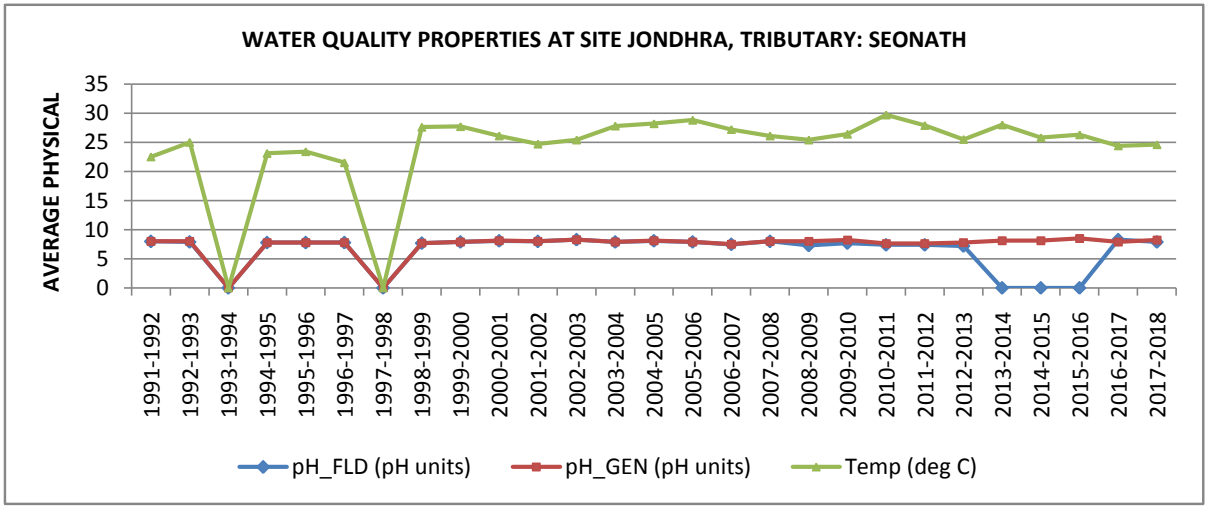

HIGHEST FLOOD LEVEL (m) AT SITE JONDHRA,TRIBUTARY: SEONATH
232
230
228
226
224
222
220
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
Highest Flood Level (m)

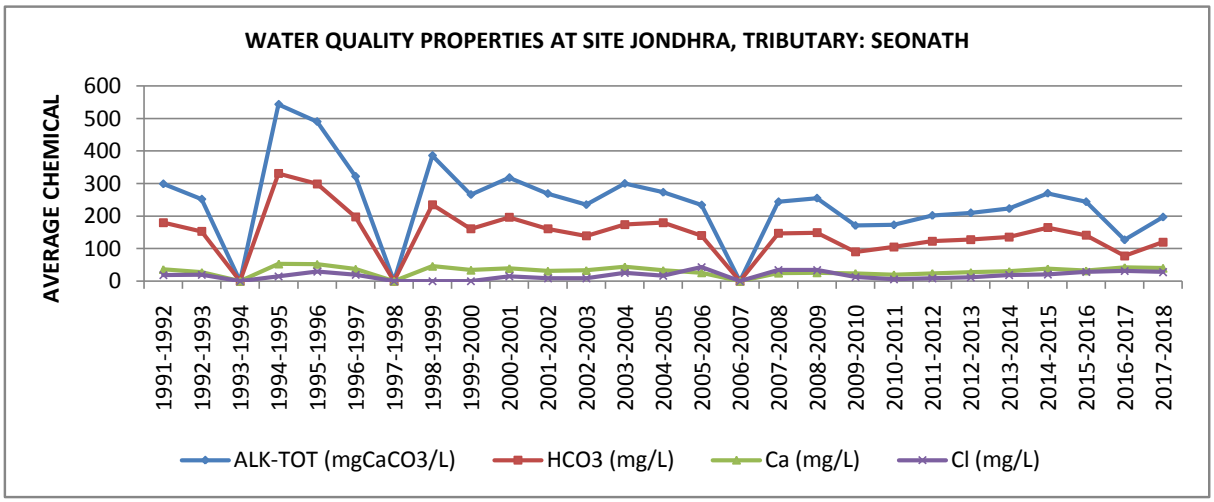

MONSOON LOAD AT SITE JONDHRA, TRIBUTARY:SEONATH
LOAD IN TONS
16000000
14000000
12000000
10000000
8000000
6000000
4000000
2000000
0
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Monsoon Load

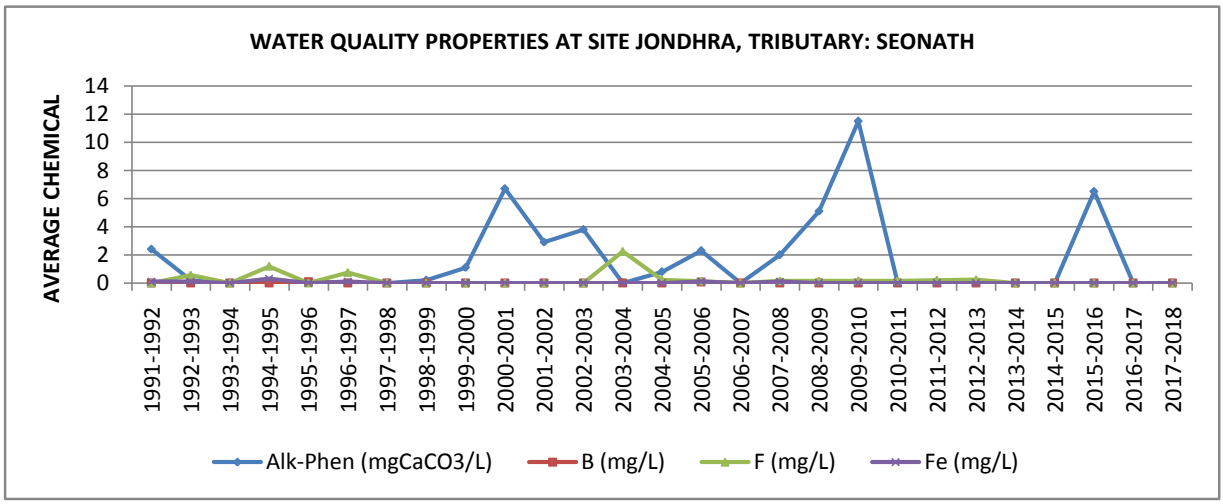

NON MONSOON LOAD AT SITE JONDHRA, TRIBUTARY:SEONATH
LOAD IN TONS
80000
70000
60000
50000
40000
30000
20000
10000
0
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
NonMonsoon Load


ANNUAL LOAD (MILLION M.T.) AT SITE JONDHRA, TRIBUTARY:SEONATH
LOAD IN M.M.T.
16
14
12
10
8
6
4
2
0
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Annual Load


WATER QUALITY PROPERTIES AT SITE JONDHRA, TRIBUTARY:SEONATH
AVERAGE PHYSICAL
800
600
400
200
0
1991-...
1992-...
1993-...
1994-...
1995-...
1996-...
1997-...
1998-...
1999-...
2000-...
2001-...
2002-...
2003-...
2004-...
2005-...
2006-...
2007-...
2008-...
2009-...
2010-...
2011-...
2012-...
2013-...
2014-...
2015-...
2016-...
2017-...
EC_FLD (µmho/cm)
EC_GEN (µmho/cm)


WATER QUALITY PROPERTIES AT SITE JONDHRA, TRIBUTARY: SEONATH
AVERAGE PHYSICAL
35
30
25
20
15
10
5
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
pH_FLD (pH units)
pH_GEN (pH units)
Temp (deg C)


WATER QUALITY PROPERTIES AT SITE JONDHRA, TRIBUTARY: SEONATH
AVERAGE CHEMICAL
600
500
400
300
200
100
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
ALK-TOT (mgCaCO3/L)
HCO3 (mg/L)
Ca (mg/L)
Cl (mg/L)


WATER QUALITY PROPERTIES AT SITE JONDHRA, TRIBUTARY: SEONATH
AVERAGE CHEMICAL
14
12
10
8
6
4
2
0
1991-1992
1992-1993
1993-1994
1994-1995
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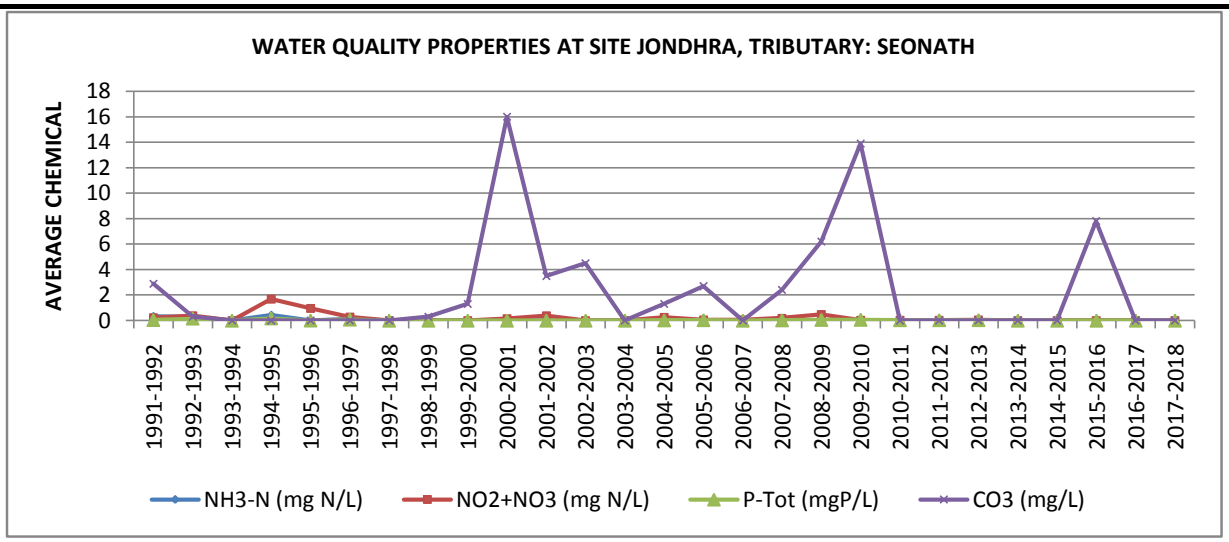
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Alk-Phen (mgCaCO3/L)
B (mg/L)
F (mg/L)
Fe (mg/L)


WATER QUALITY PROPERTIES AT SITE JONDHRA, TRIBUTARY: SEONATH
AVERAGE CHEMICAL
18
16
14
12
10
8
6
4
2
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
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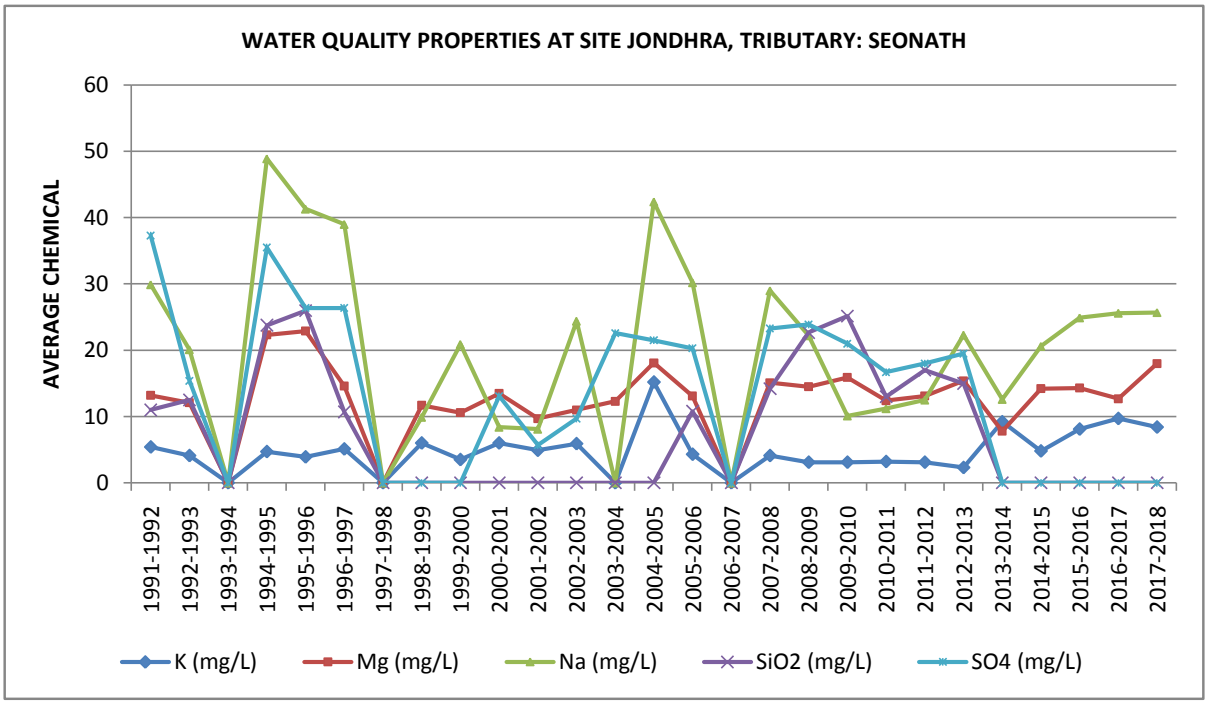
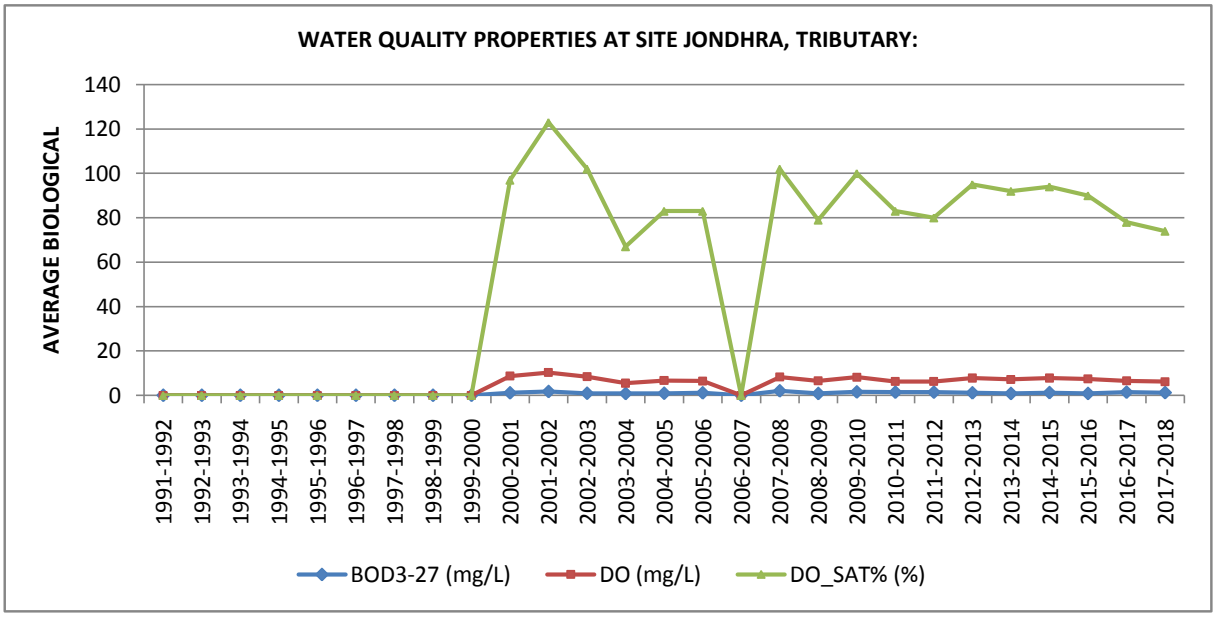
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
NH3-N (mg N/L)
NO2+NO3 (mg N/L)
P-Tot (mgP/L)
CO3 (mg/L)


WATER QUALITY PROPERTIES AT SITE JONDHRA, TRIBUTARY: SEONATH
AVERAGE CHEMICAL
60
50
40
30
20
10
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
K (mg/L)
Mg (mg/L)
Na (mg/L)
SiO2 (mg/L)
SO4 (mg/L)


WATER QUALITY PROPERTIES AT SITE JONDHRA, TRIBUTARY:
AVERAGE BIOLOGICAL
140
120
100
80
60
40
20
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
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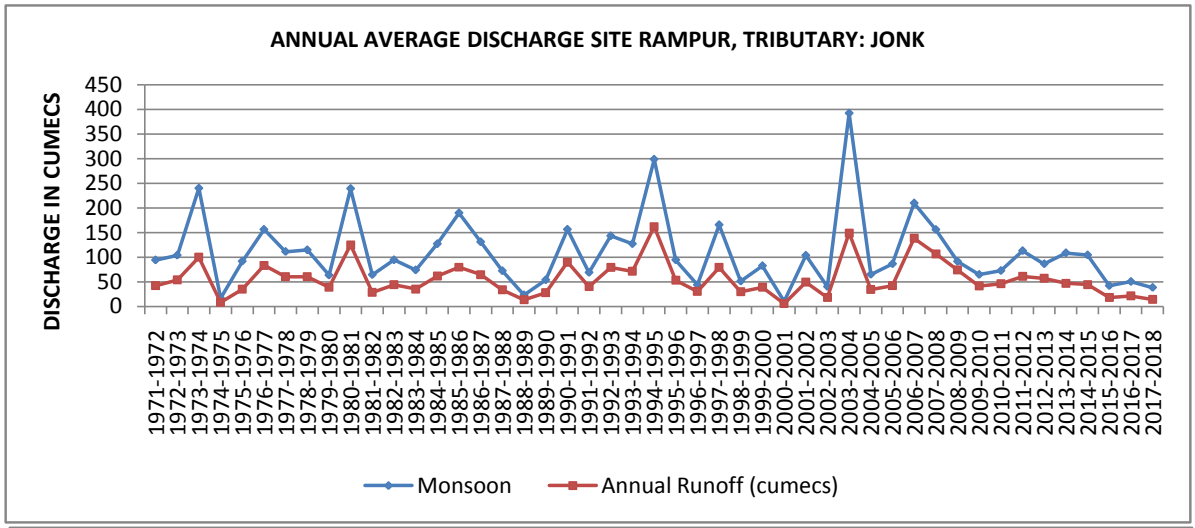
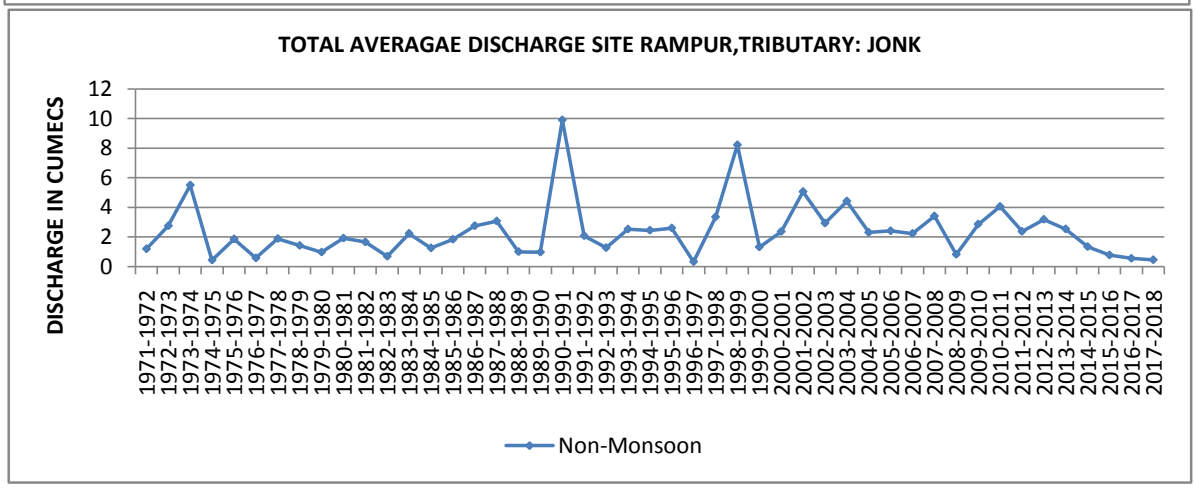
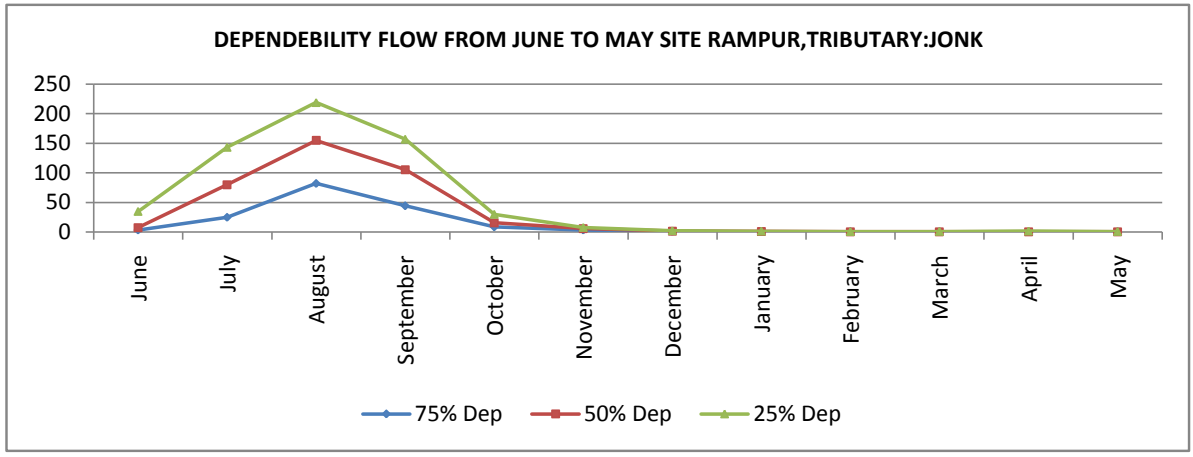
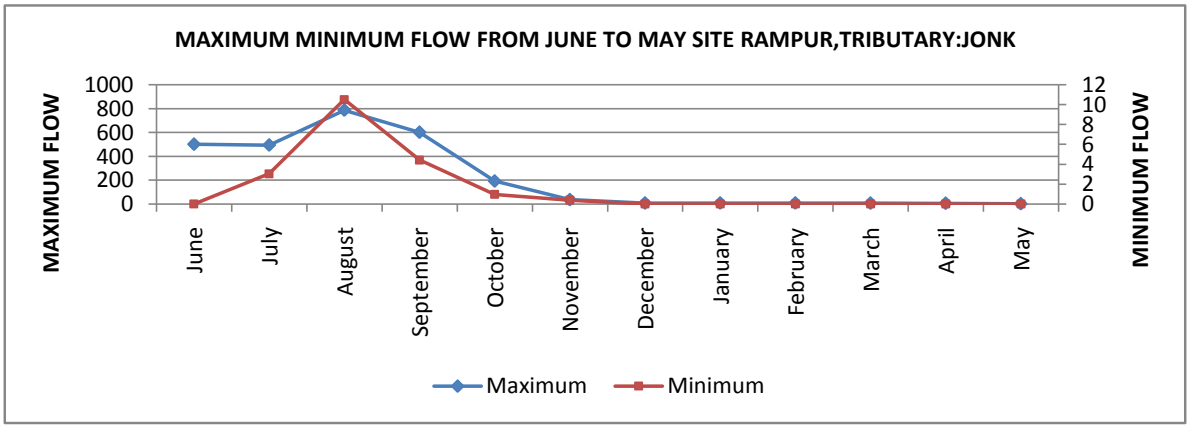
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
BOD3-27 (mg/L)
DO (mg/L)
DO_SAT% (%)

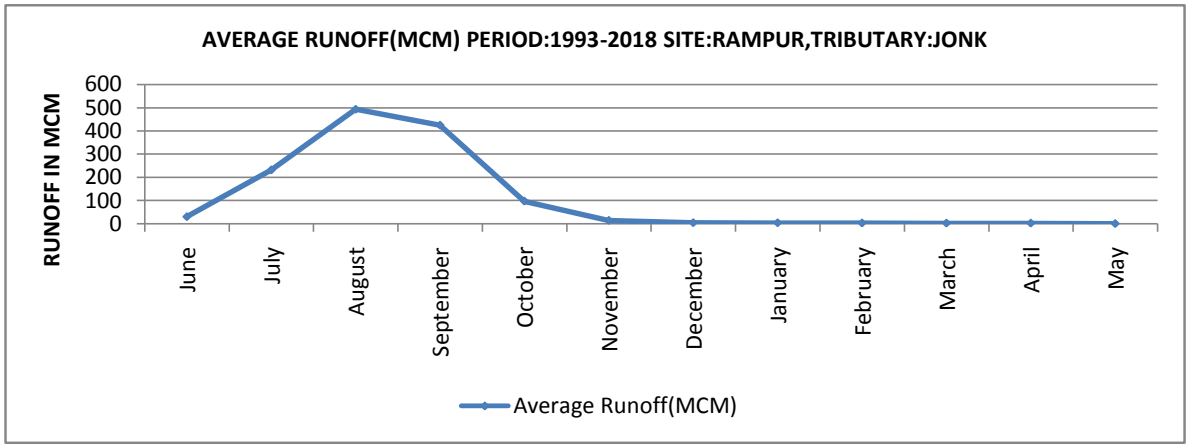
YEAR WISE TREND OF SITE RAMPUR

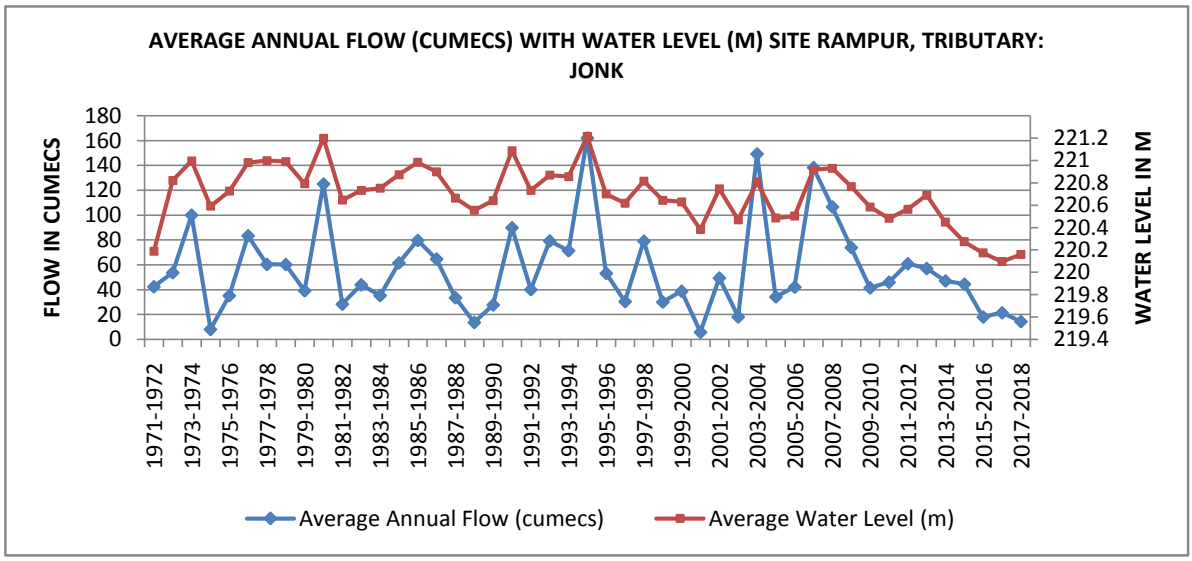


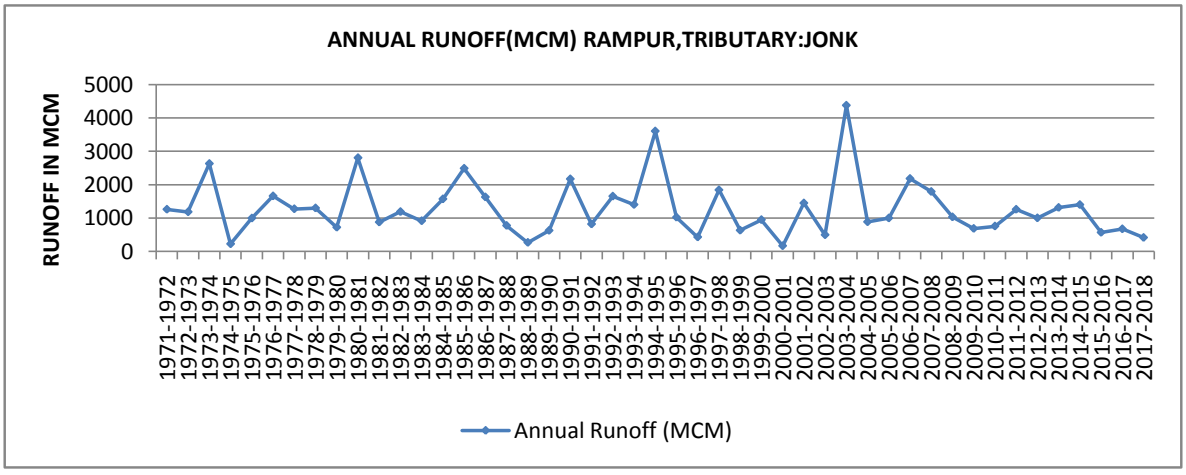







AVERAGE RUNOFF(MCM) PERIOD:1993-2018 SITE:RAMPUR,TRIBUTARY:JONK
RUNOFF IN MCM
600
500
400
300
200
100
0
June
July
August
September
October
November
December
January
February
March
April
May
Average Runoff(MCM)


AVERAGE ANNUAL FLOW (CUMECS) WITH WATER LEVEL (M) SITE RAMPUR, TRIBUTARY: JONK
FLOW IN CUMECS
180
160
140
120
100
80
60
40
20
0
WATER LEVEL IN M
221.2
221
220.8
220.6
220.4
220.2
220
219.8
219.6
219.4
1971-1972
1973-1974
1975-1976
1977-1978
1979-1980
1981-1982
1983-1984
1985-1986
1987-1988
1989-1990
1991-1992
1993-1994
1995-1996
1997-1998
1999-2000
2001-2002
2003-2004
2005-2006
2007-2008
2009-2010
2011-2012
2013-2014
2015-2016
2017-2018
Average Annual Flow (cumecs)
Average Water Level (m)


ANNUAL RUNOFF(MCM) RAMPUR,TRIBUTARY:JONK
RUNOFF IN MCM
5000
4000
3000
2000
1000
0
1971-1972
1972-1973
1973-1974
1974-1975
1975-1976
1976-1977
1977-1978
1978-1979
1979-1980
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
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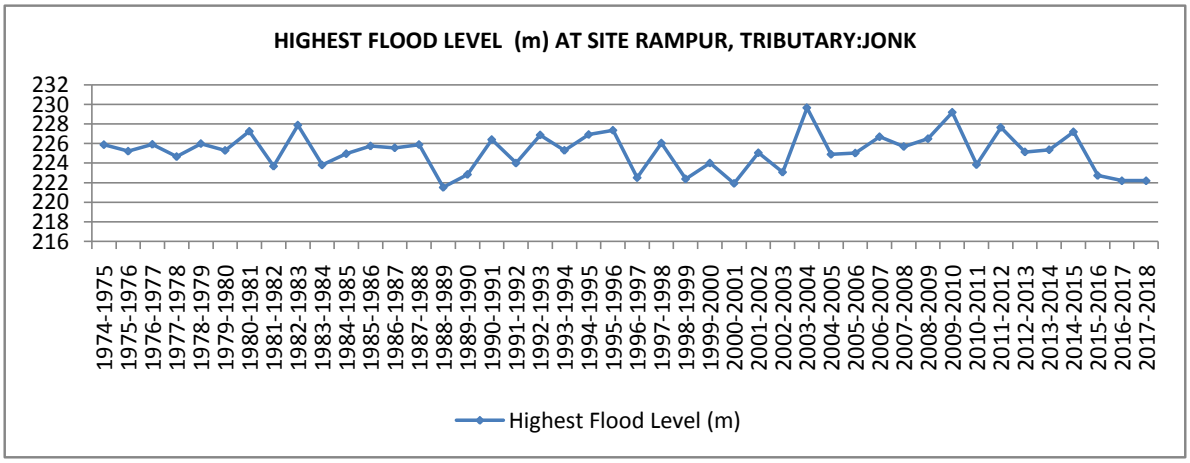
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Annual Runoff (MCM)


HIGHEST FLOOD LEVEL (m) AT SITE RAMPUR, TRIBUTARY:JONK
232
230
228
226
224
222
220
218
216
1974-1975
1975-1976
1976-1977
1977-1978
1978-1979
1979-1980
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
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2005-2006
2006-2007
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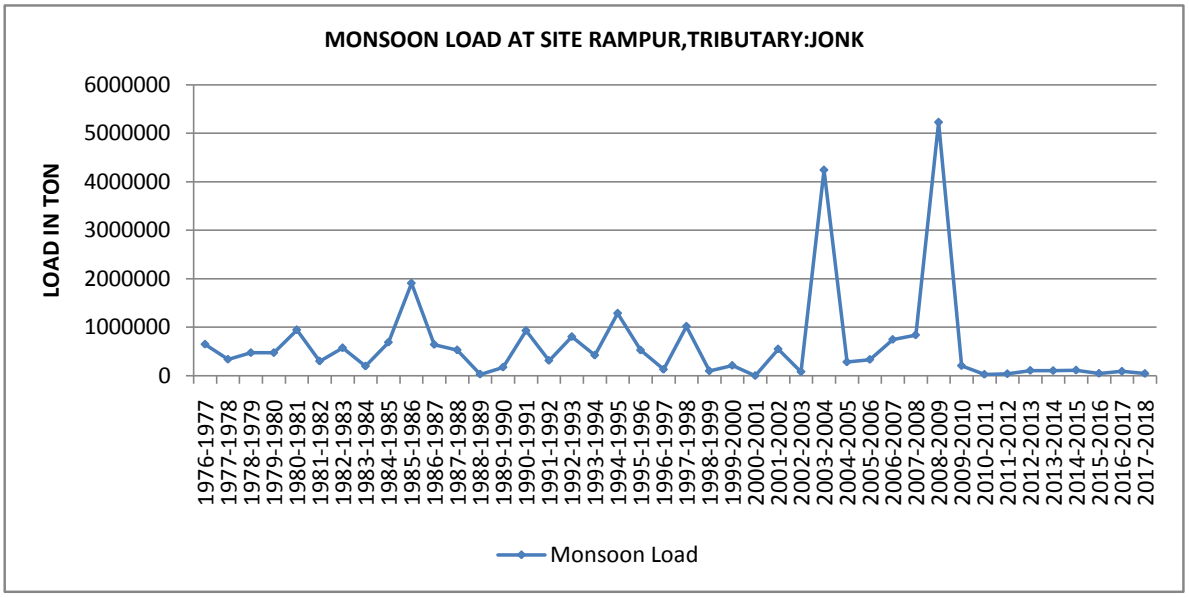
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Highest Flood Level (m)


MONSOON LOAD AT SITE RAMPUR,TRIBUTARY:JONK
LOAD IN TON
6000000
5000000
4000000
3000000
2000000
1000000
0
1976-1977
1977-1978
1978-1979
1979-1980
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
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1993-1994
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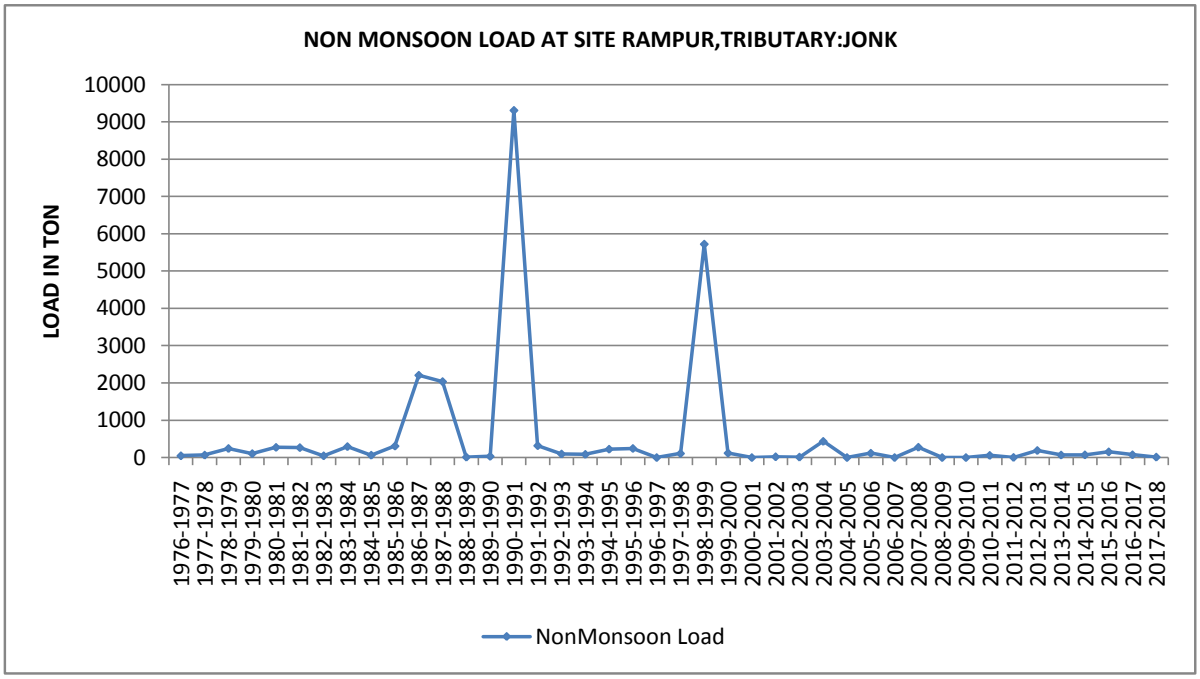
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Monsoon Load


NON MONSOON LOAD AT SITE RAMPUR,TRIBUTARY:JONK
LOAD IN TON
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
1976-1977
1977-1978
1978-1979
1979-1980
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
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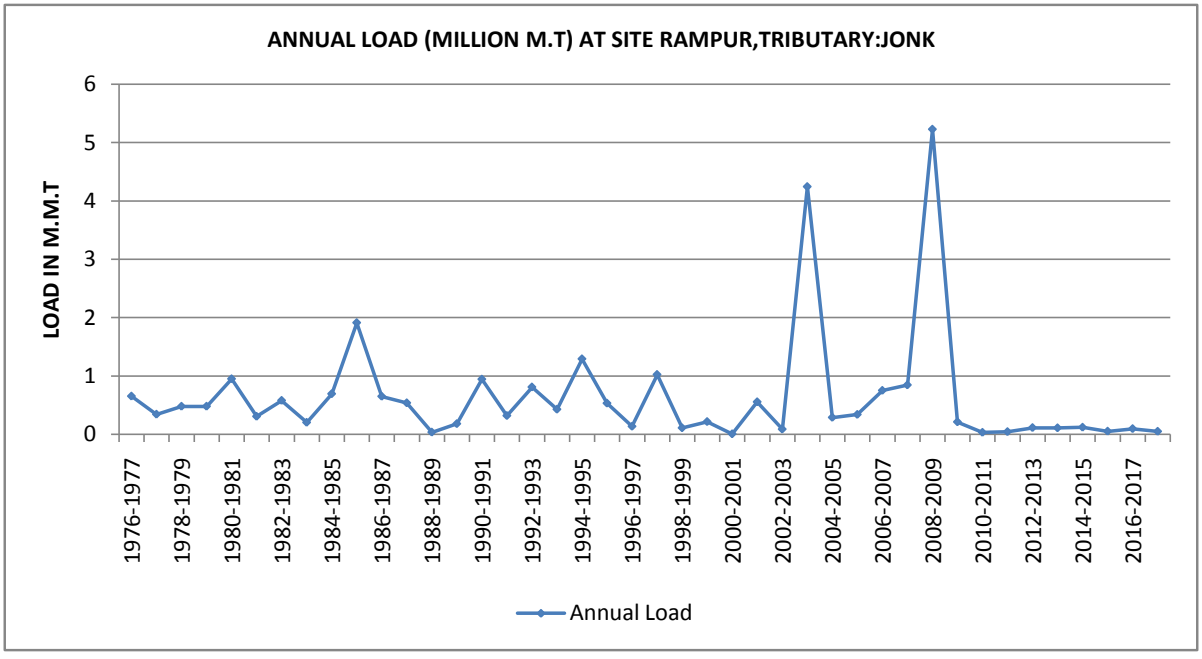
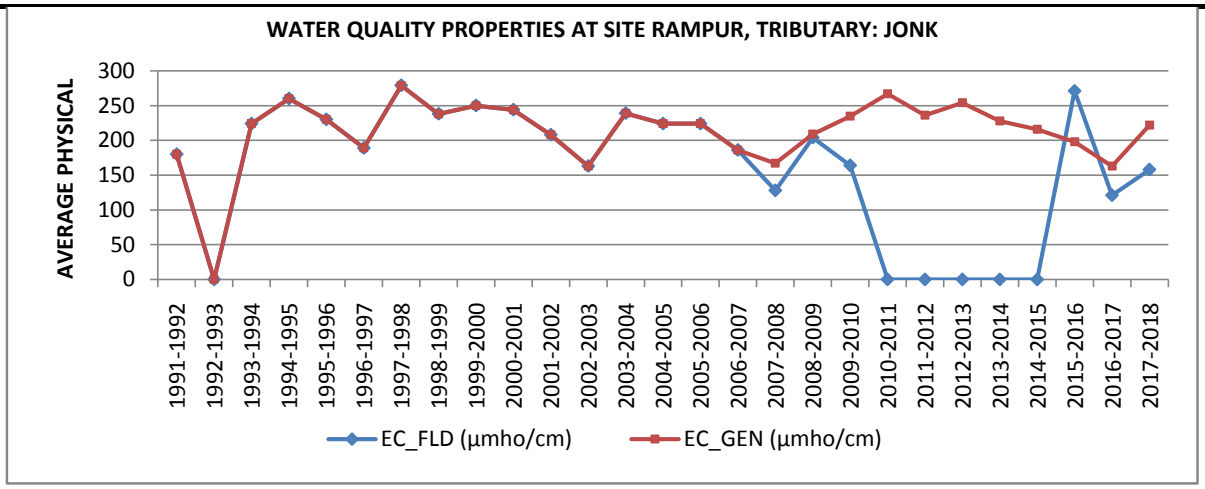
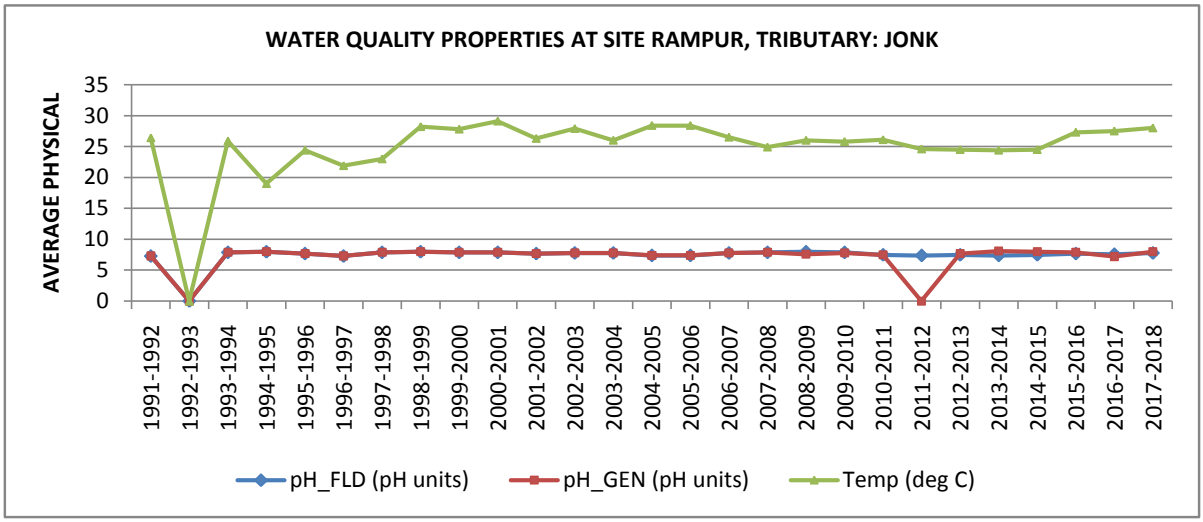
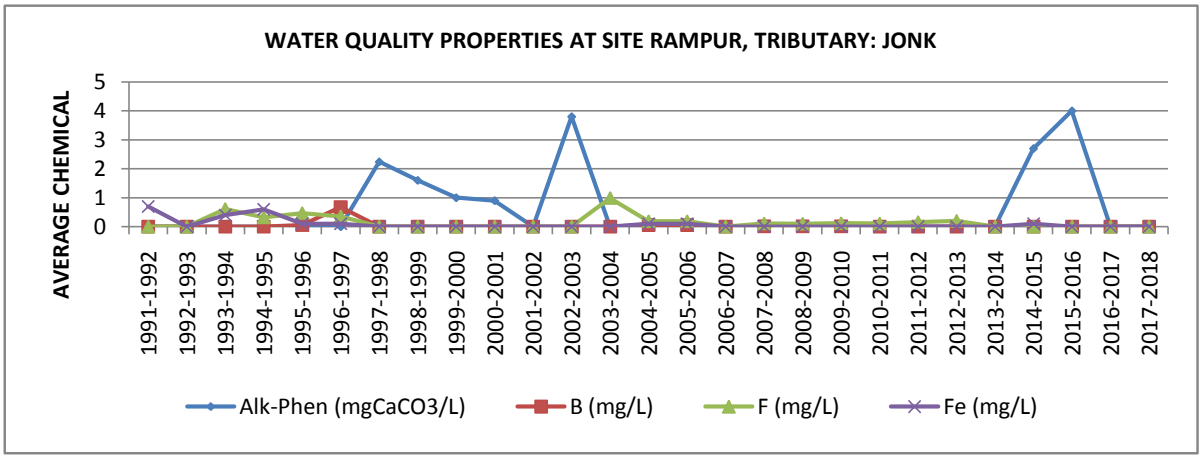
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
NonMonsoon Load


ANNUAL LOAD (MILLION M.T) AT SITE RAMPUR,TRIBUTARY:JONK
LOAD IN M.M.T
6
5
4
3
2
1
0
1976-1977
1978-1979
1980-1981
1982-1983
1984-1985
1986-1987
1988-1989
1990-1991
1992-1993
1994-1995
1996-1997
1998-1999
2000-2001
2002-2003
2004-2005
2006-2007
2008-2009
2010-2011
2012-2013
2014-2015
2016-2017
Annual Load


WATER QUALITY PROPERTIES AT SITE RAMPUR, TRIBUTARY: JONK
AVERAGE PHYSICAL
300
250
200
150
100
50
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
EC_FLD (µmho/cm)
EC_GEN (µmho/cm)


WATER QUALITY PROPERTIES AT SITE RAMPUR, TRIBUTARY: JONK
AVERAGE PHYSICAL
35
30
25
20
15
10
5
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
pH_FLD (pH units)
pH_GEN (pH units)
Temp (deg C)


WATER QUALITY PROPERTIES AT SITE RAMPUR, TRIBUTARY: JONK
AVERAGE CHEMICAL
5
4
3
2
1
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
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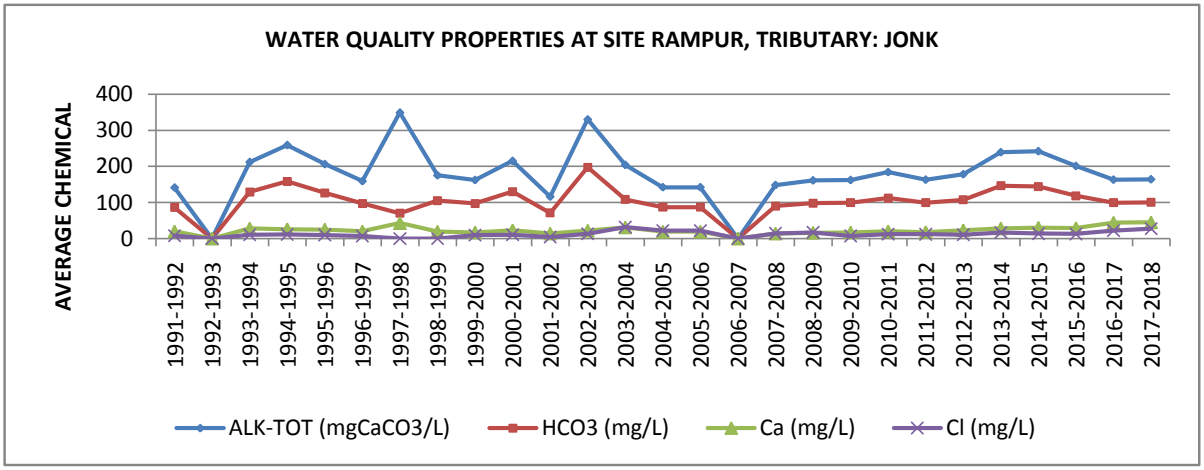
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Alk-Phen (mgCaCO3/L)
B (mg/L)
F (mg/L)
Fe (mg/L)


WATER QUALITY PROPERTIES AT SITE RAMPUR, TRIBUTARY: JONK
AVERAGE CHEMICAL
400
300
200
100
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
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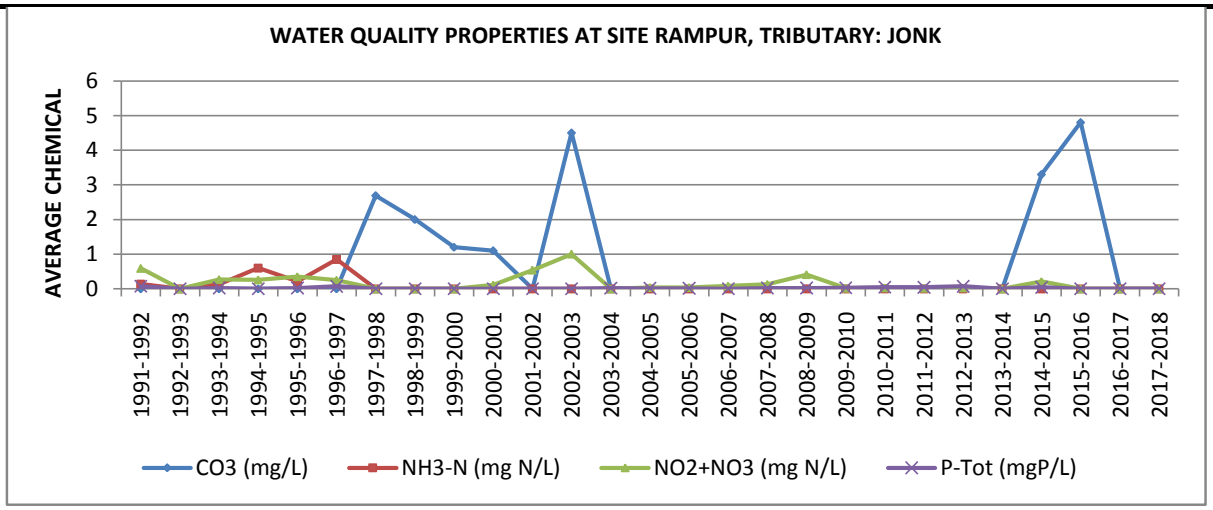
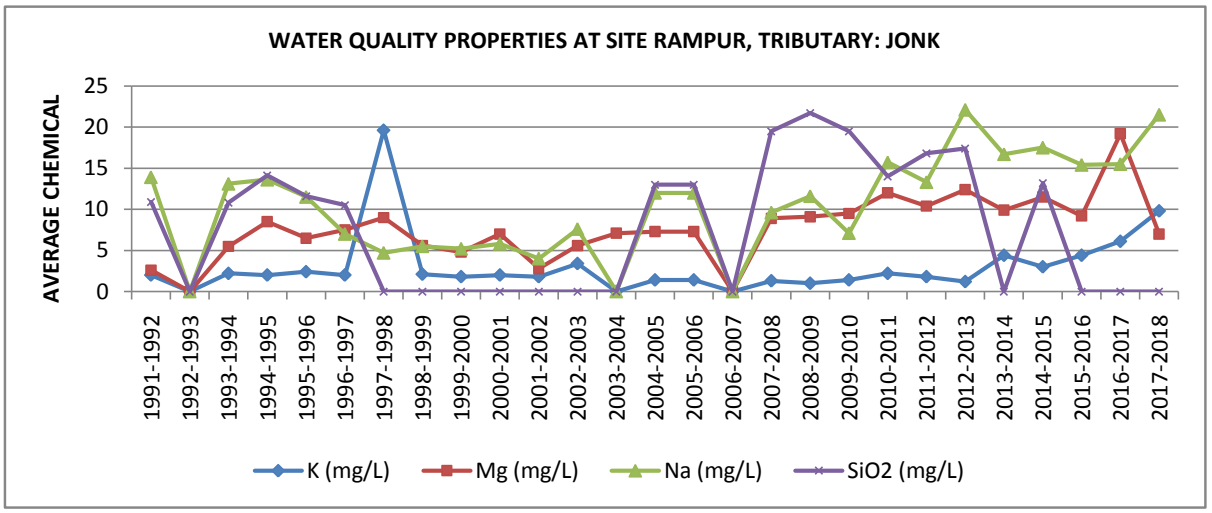
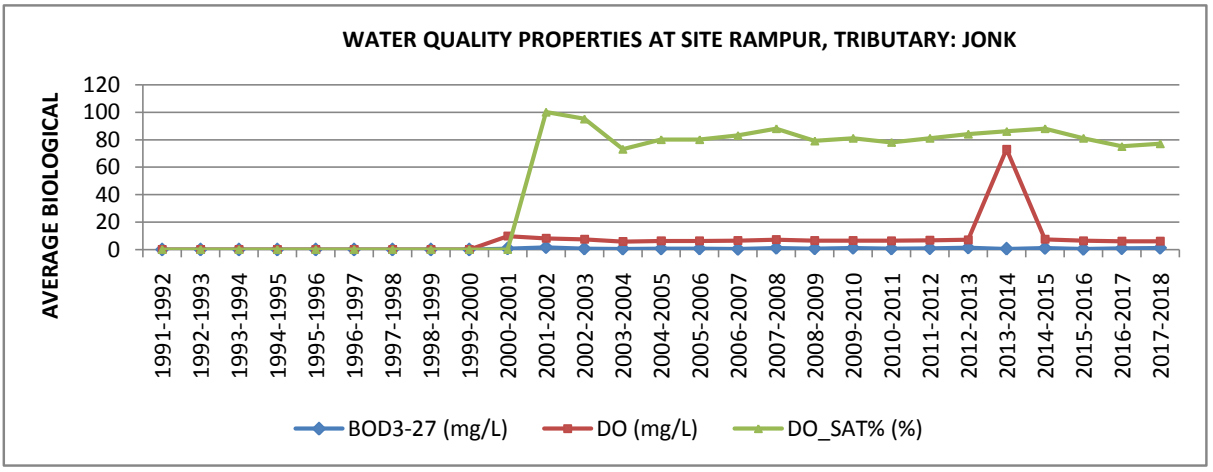
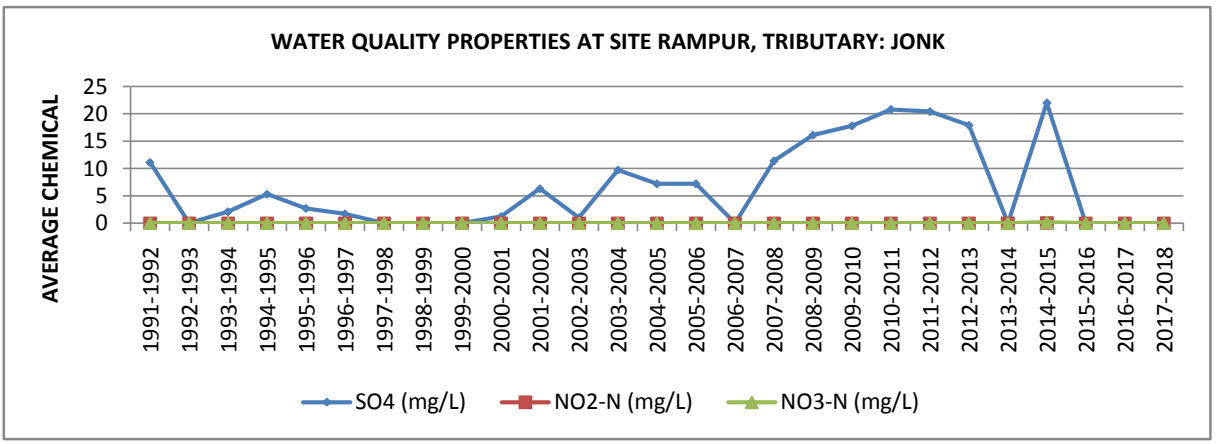
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
ALK-TOT (mgCaCO3/L)
HCO3 (mg/L)
Ca (mg/L)
Cl (mg/L)


WATER QUALITY PROPERTIES AT SITE RAMPUR, TRIBUTARY: JONK
AVERAGE CHEMICAL
0
1
2
3
4
5
6
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
CO3 (mg/L)
NH3-N (mg N/L)
NO2+NO3 (mg N/L)
P-Tot (mgP/L)


WATER QUALITY PROPERTIES AT SITE RAMPUR, TRIBUTARY: JONK
AVERAGE CHEMICAL
0
5
10
15
20
25
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
K (mg/L)
Mg (mg/L)
Na (mg/L)
SiO2 (mg/L)


WATER QUALITY PROPERTIES AT SITE RAMPUR, TRIBUTARY: JONK
AVERAGE BIOLOGICAL
0
20
40
60
80
100
120
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
BOD3-27 (mg/L)
DO (mg/L)
DO_SAT% (%)


WATER QUALITY PROPERTIES AT SITE RAMPUR, TRIBUTARY: JONK
AVERAGE CHEMICAL
0
5
10
15
20
25
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
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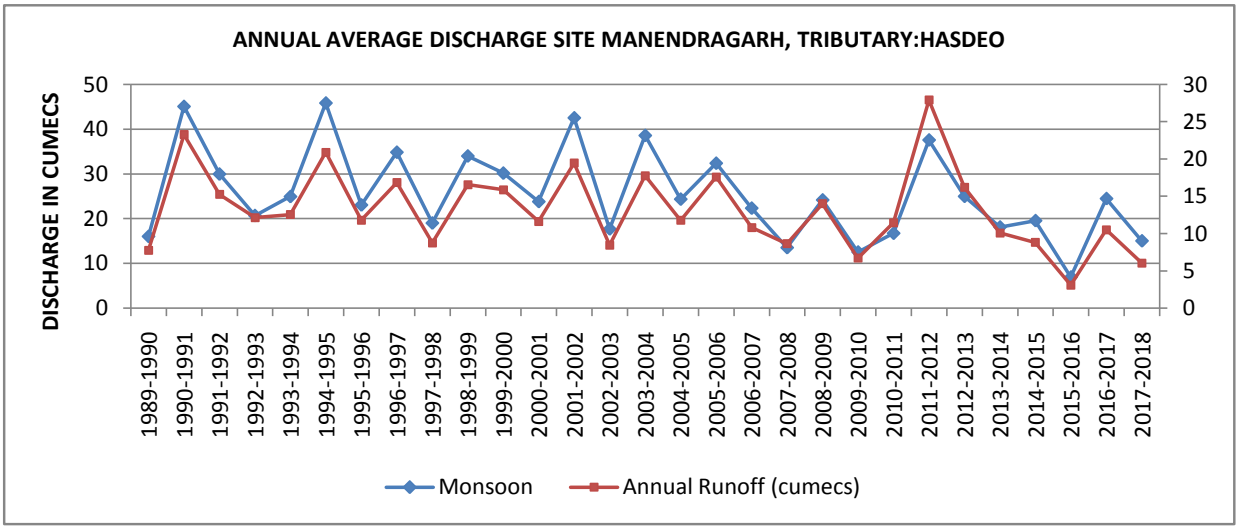
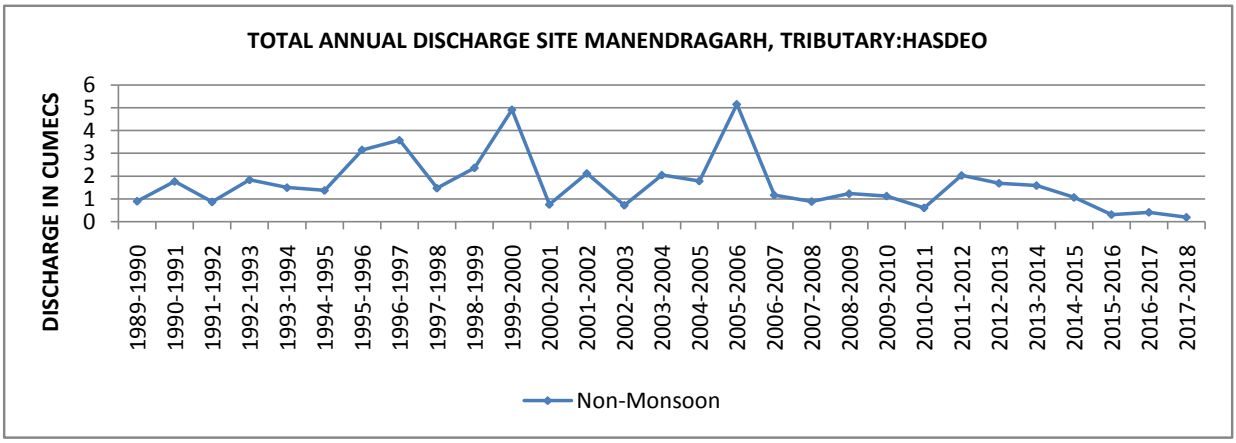
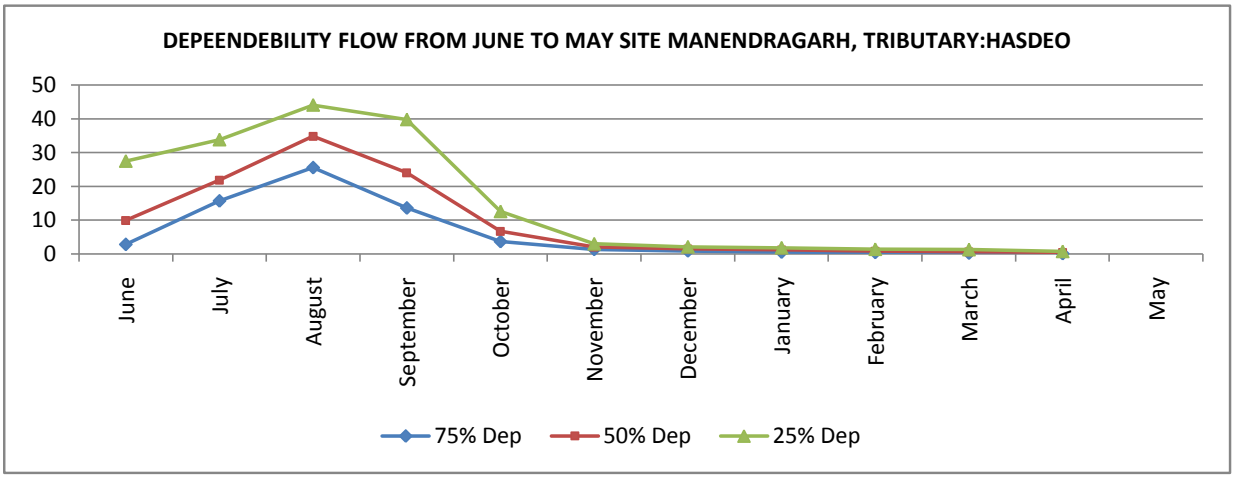
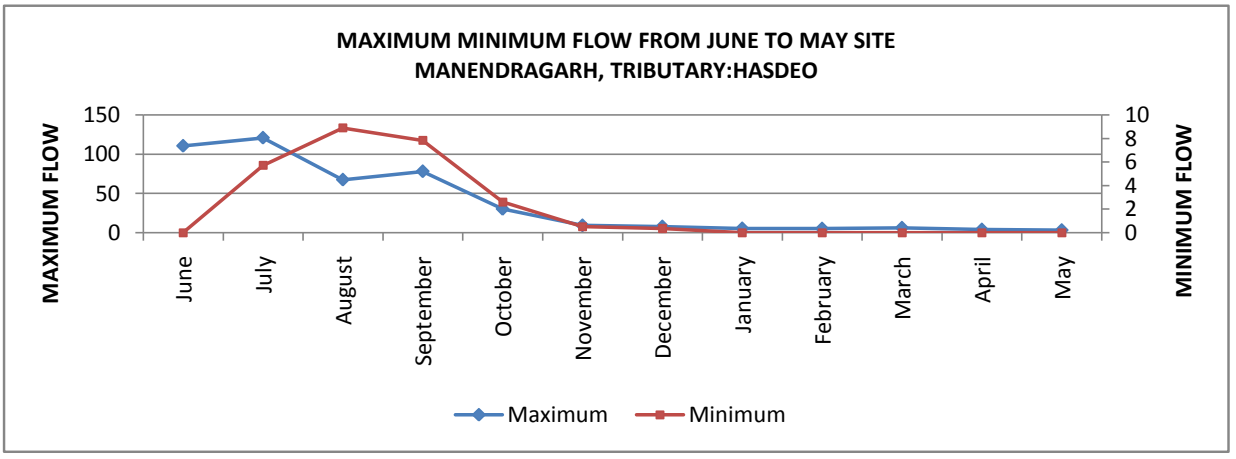
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
SO4 (mg/L)
NO2-N (mg/L)
NO3-N (mg/L)

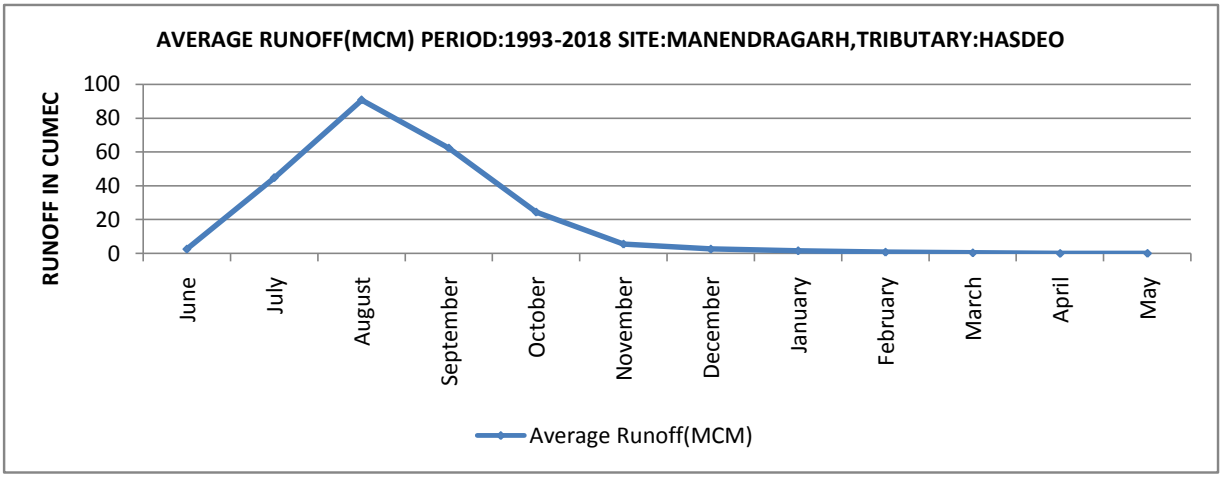
YEAR WISE TREND OF SITE MANENDRAGARH

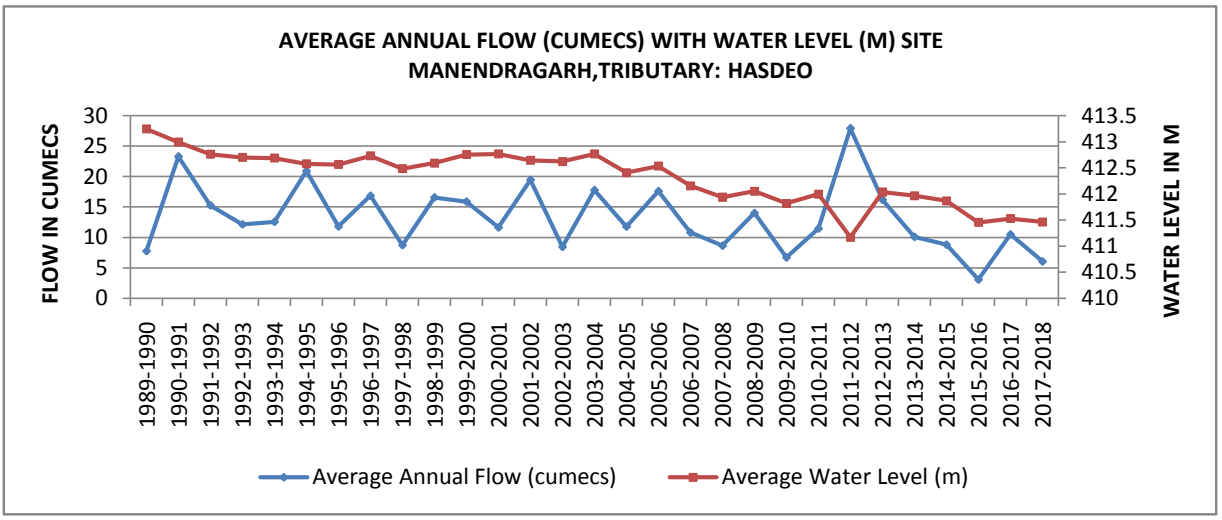


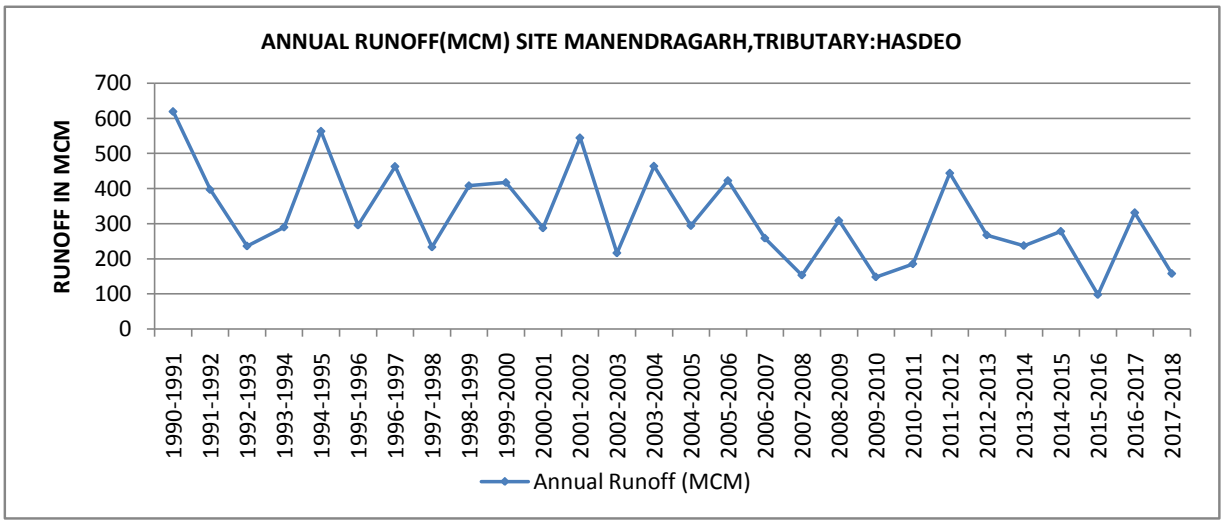


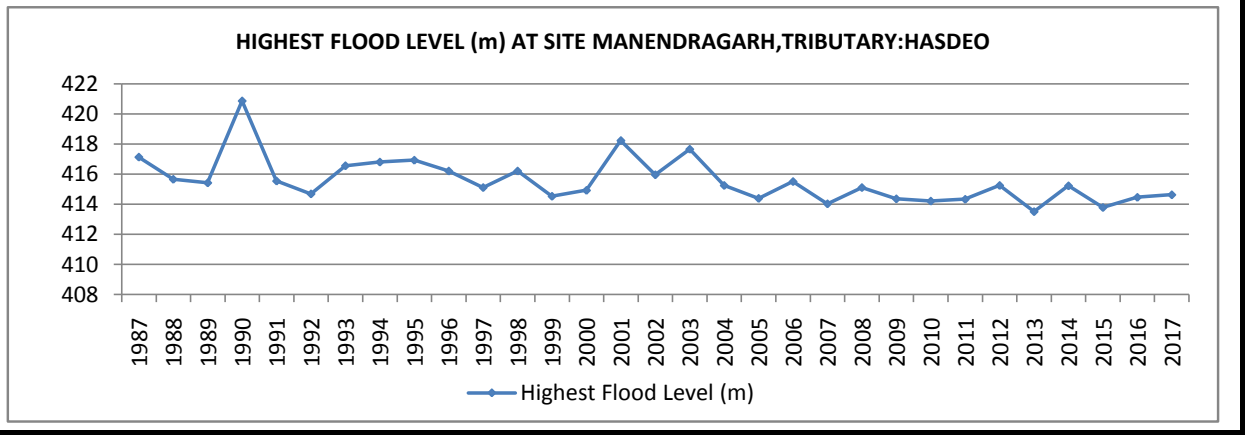


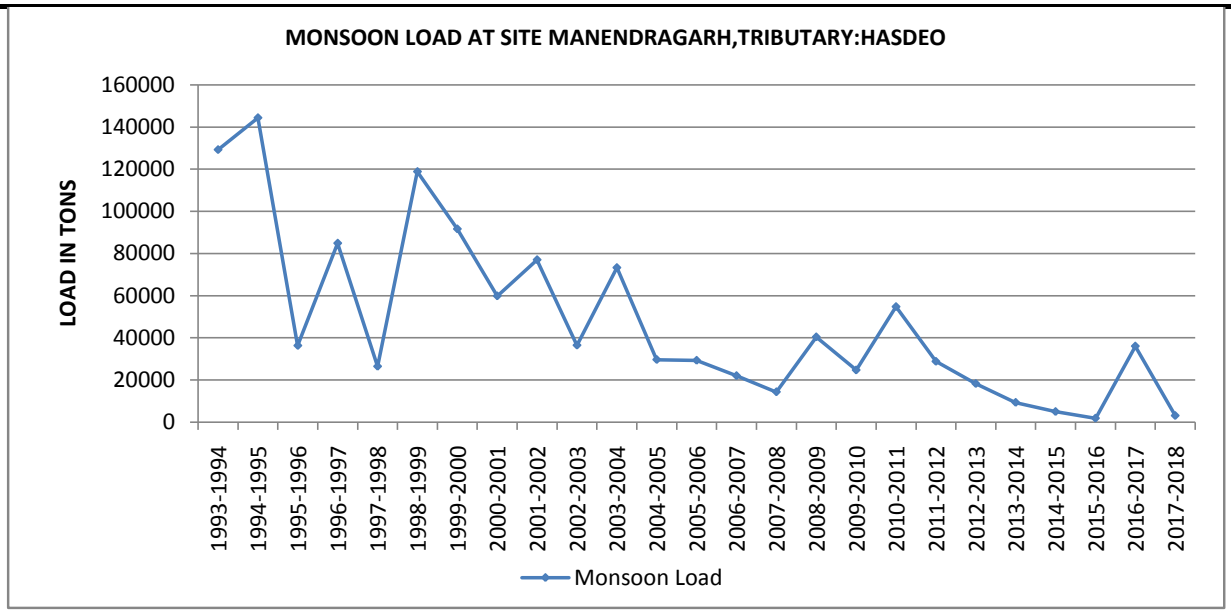


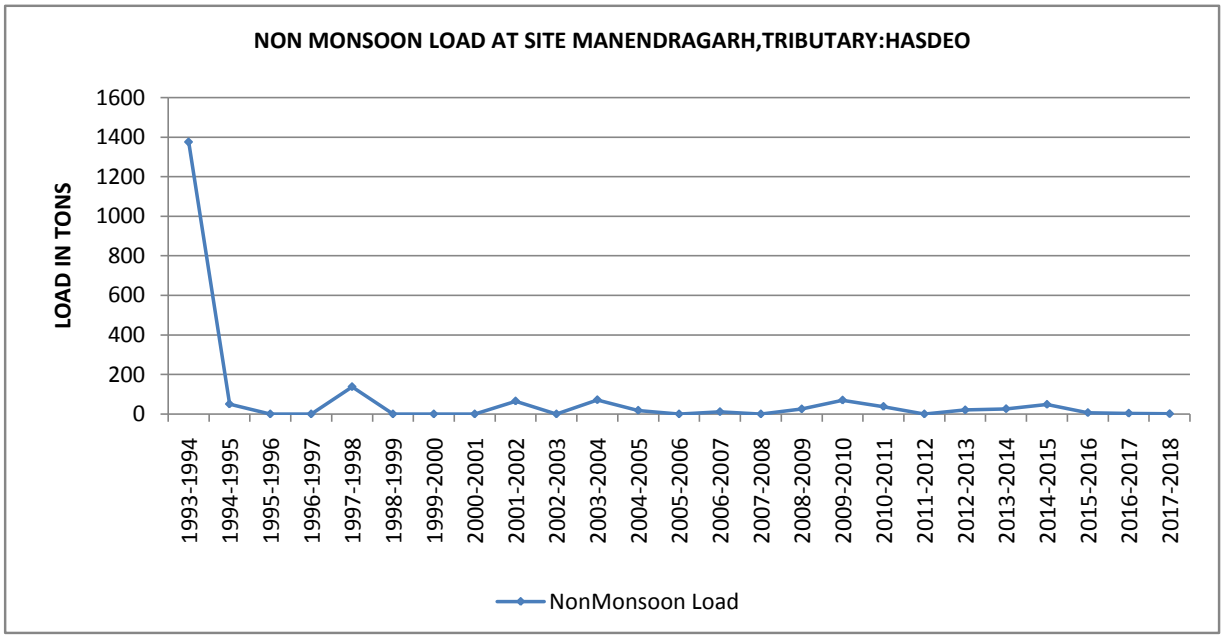

AVERAGE RUNOFF(MCM) PERIOD:1993-2018 SITE:MANENDRAGARH,TRIBUTARY:HASDEO
RUNOFF IN CUMEC
100
80
60
40
20
0
June
July
August
September
October
November
December
January
February
March
April
May
Average Runoff(MCM)

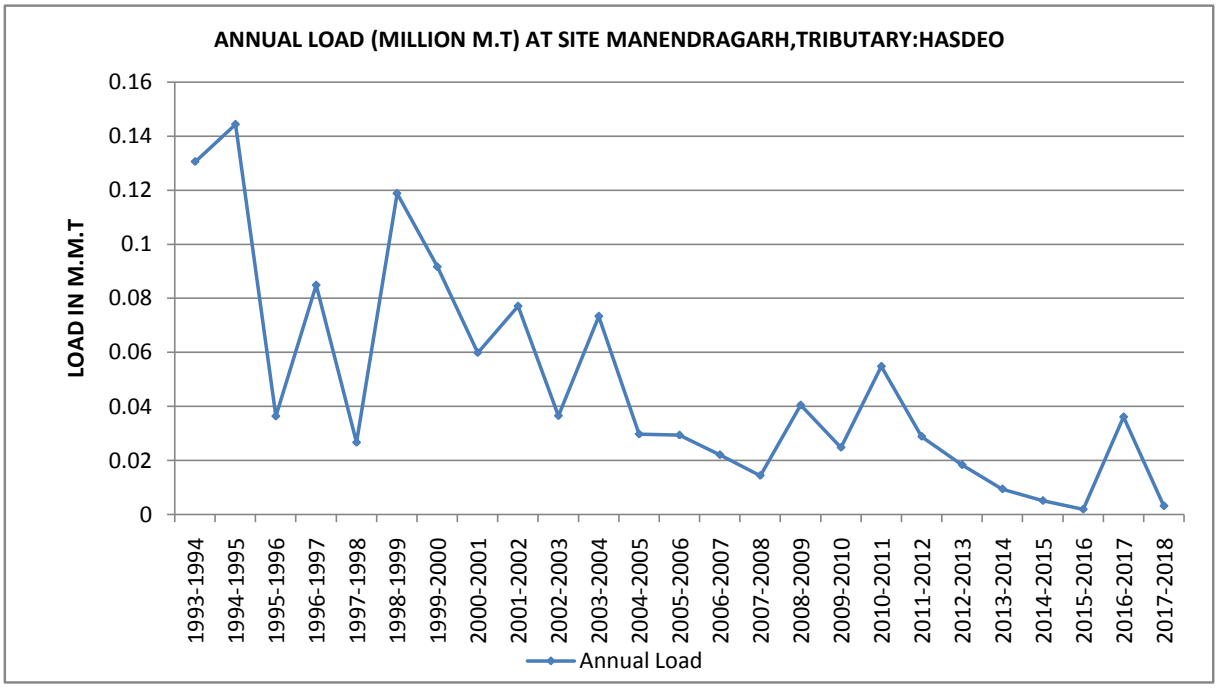

AVERAGE ANNUAL FLOW (CUMECS) WITH WATER LEVEL (M) SITE MANENDRAGARH,TRIBUTARY: HASDEO
FLOW IN CUMECS
30
25
20
15
10
5
0
WATER LEVEL IN M
413.5
413
412.5
412
411.5
411
410.5
410
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Average Annual Flow (cumecs)
Average Water Level (m)

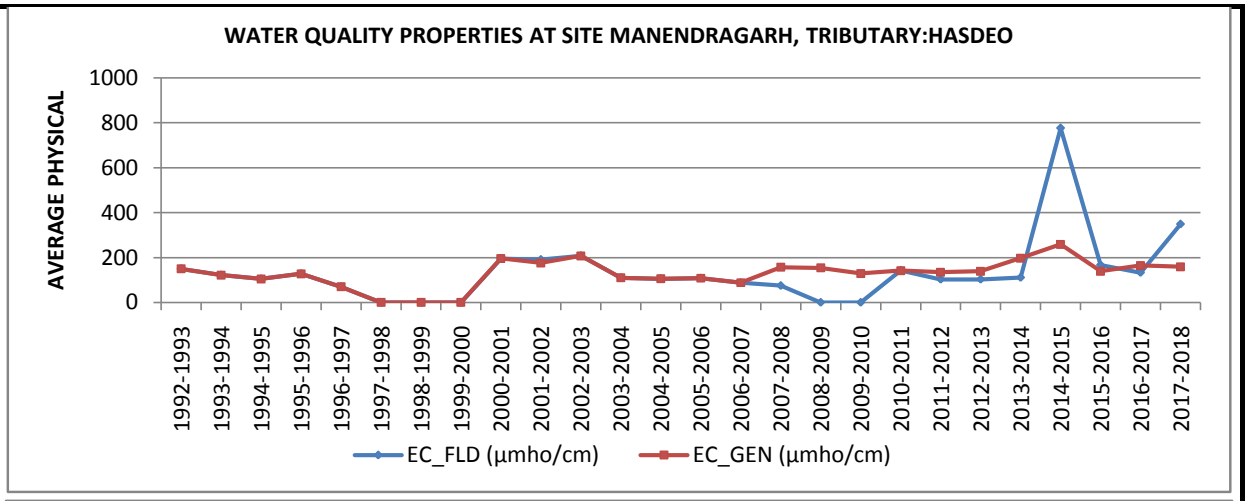

ANNUAL RUNOFF(MCM) SITE MANENDRAGARH,TRIBUTARY:HASDEO
RUNOFF IN MCM
700
600
500
400
300
200
100
0
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Annual Runoff (MCM)

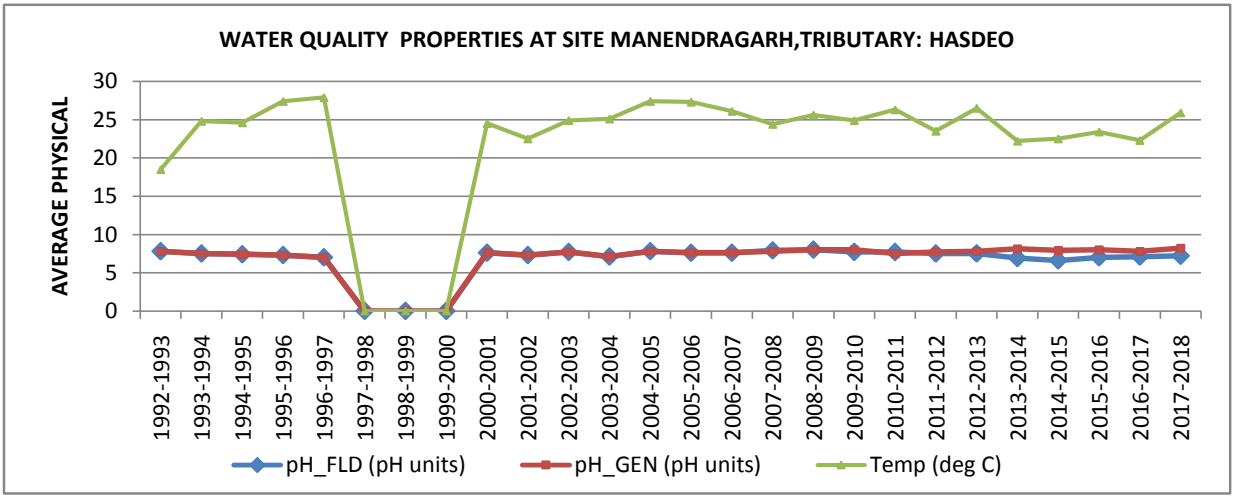

HIGHEST FLOOD LEVEL (m) AT SITE MANENDRAGARH,TRIBUTARY:HASDEO
422
420
418
416
414
412
410
408
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
Highest Flood Level (m)

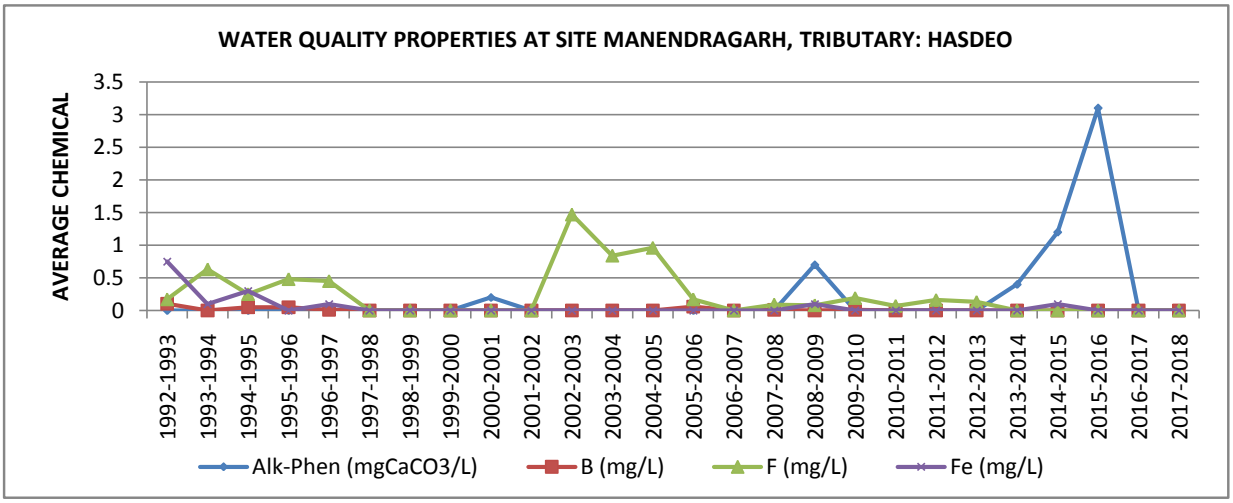

MONSOON LOAD AT SITE MANENDRAGARH,TRIBUTARY:HASDEO
LOAD IN TONS
160000
140000
120000
100000
80000
60000
40000
20000
0
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Monsoon Load

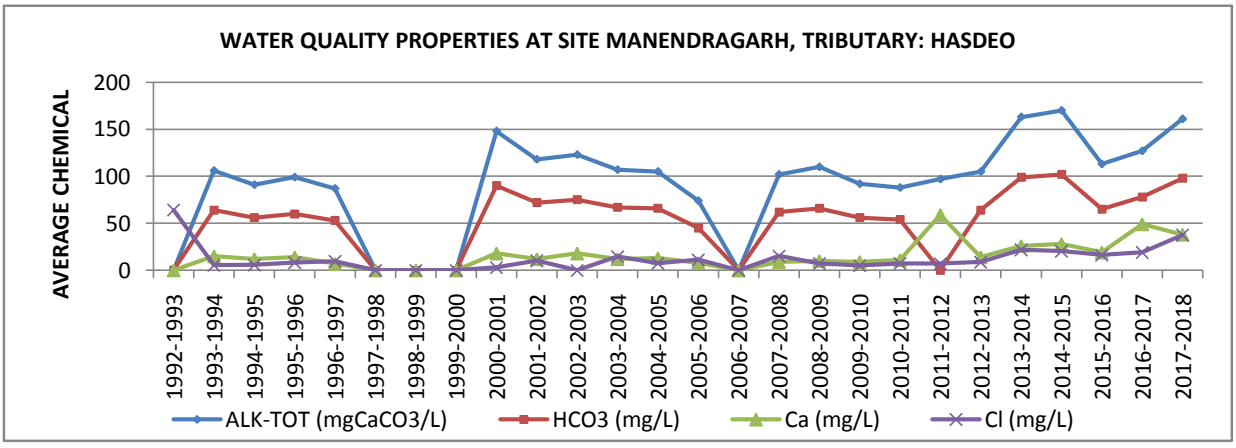

NON MONSOON LOAD AT SITE MANENDRAGARH,TRIBUTARY:HASDEO
LOAD IN TONS
1600
1400
1200
1000
800
600
400
200
0
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
NonMonsoon Load

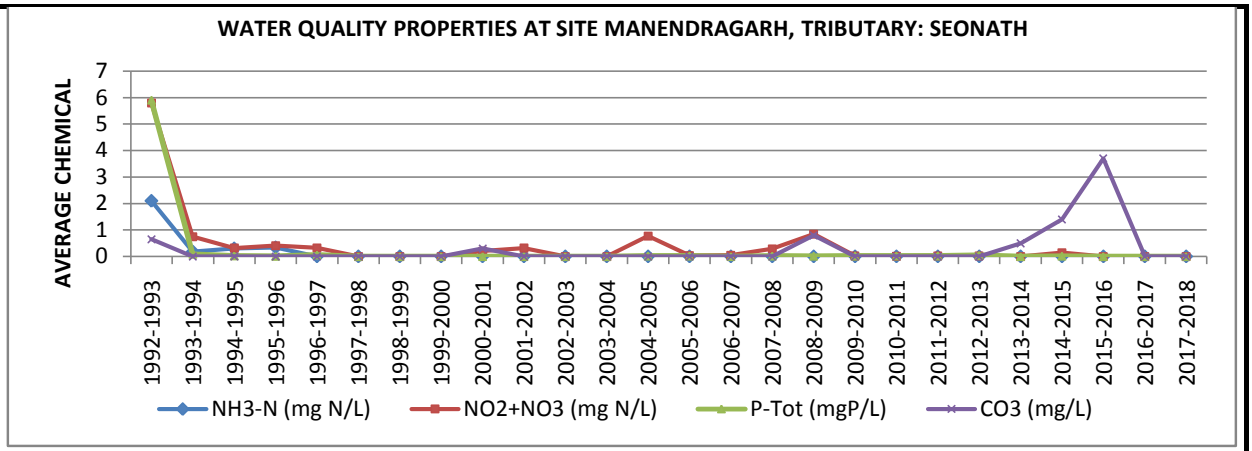

ANNUAL LOAD (MILLION M.T) AT SITE MANENDRAGARH,TRIBUTARY:HASDEO
LOAD IN M.M.T
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Annual Load

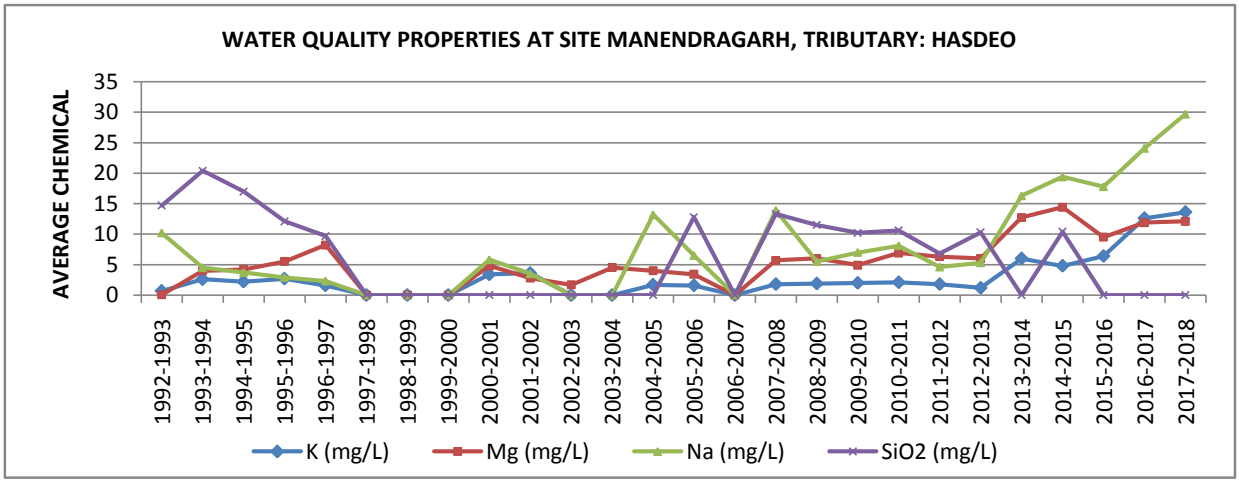

WATER QUALITY PROPERTIES AT SITE MANENDRAGARH, TRIBUTARY:HASDEO
AVERAGE PHYSICAL
1000
800
600
400
200
0
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
EC_FLD (µmho/cm)
EC_GEN (µmho/cm)

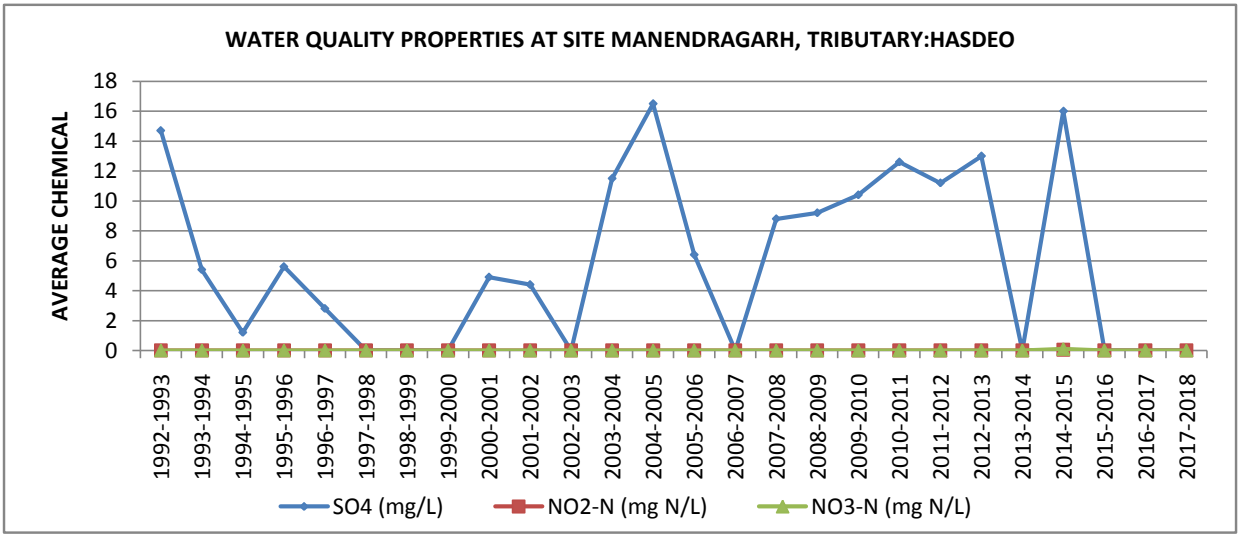

WATER QUALITY PROPERTIES AT SITE MANENDRAGARH,TRIBUTARY: HASDEO
AVERAGE PHYSICAL
30
25
20
15
10
5
0
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
pH_FLD (pH units)
pH_GEN (pH units)
Temp (deg C)

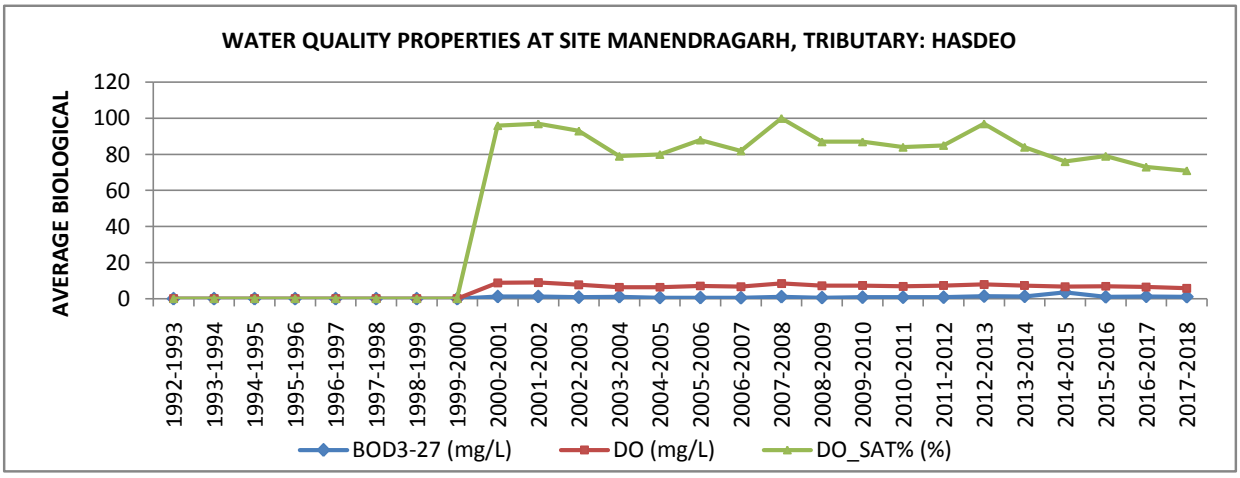

WATER QUALITY PROPERTIES AT SITE MANENDRAGARH, TRIBUTARY: HASDEO
AVERAGE CHEMICAL
3.5
3
2.5
2
1.5
1
0.5
0
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Alk-Phen (mgCaCO3/L)
B (mg/L)
F (mg/L)
Fe (mg/L)


WATER QUALITY PROPERTIES AT SITE MANENDRAGARH, TRIBUTARY: HASDEO
AVERAGE CHEMICAL
200
150
100
50
0
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
ALK-TOT (mgCaCO3/L)
HCO3 (mg/L)
Ca (mg/L)
Cl (mg/L)

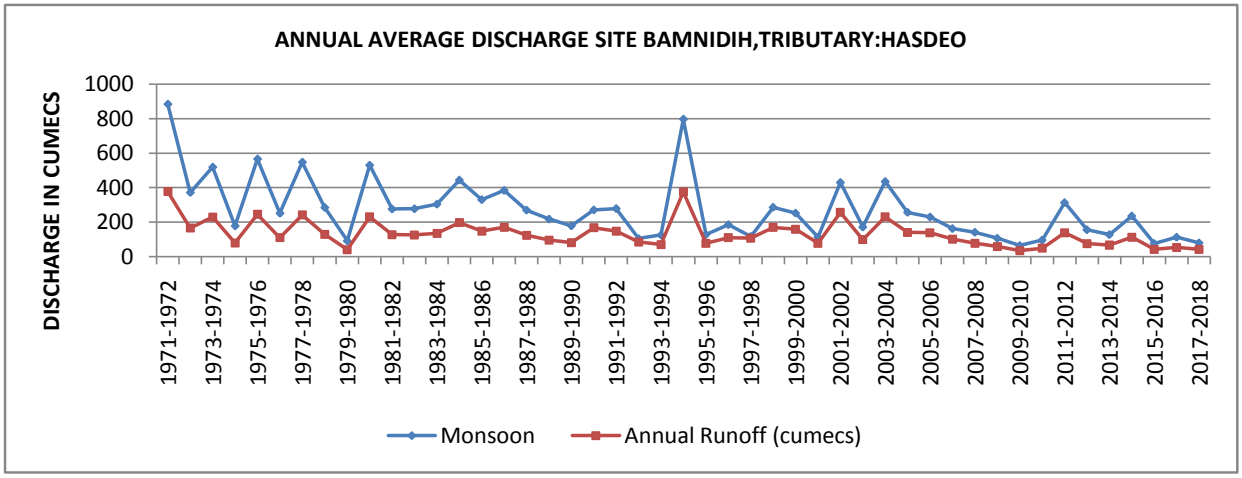

WATER QUALITY PROPERTIES AT SITE MANENDRAGARH, TRIBUTARY: SEONATH
AVERAGE CHEMICAL
0
1
2
3
4
5
6
7
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
NH3-N (mg N/L)
NO2+NO3 (mg N/L)
P-Tot (mgP/L)
CO3 (mg/L)

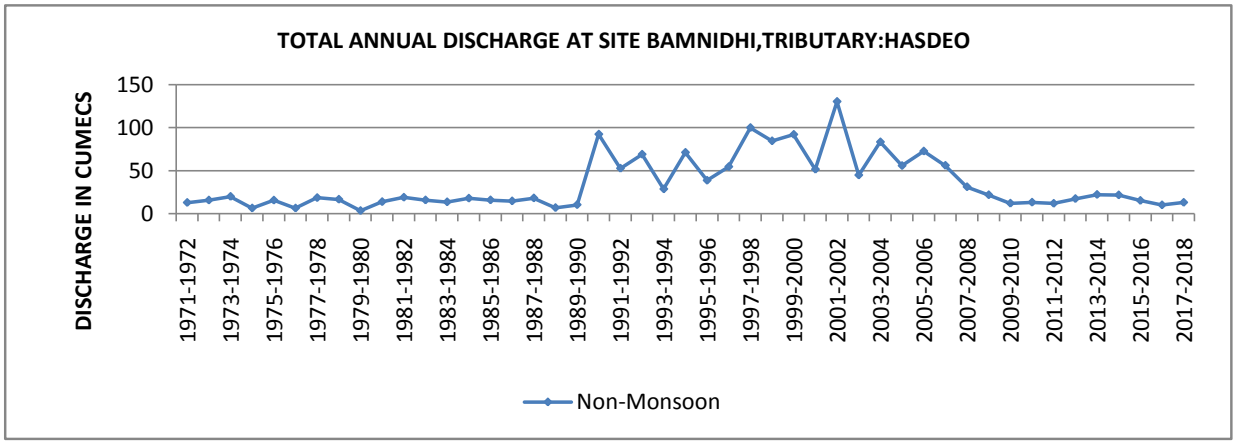

WATER QUALITY PROPERTIES AT SITE MANENDRAGARH, TRIBUTARY: HASDEO
AVERAGE CHEMICAL
0
5
10
15
20
25
30
35
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
K (mg/L)
Mg (mg/L)
Na (mg/L)
SiO2 (mg/L)

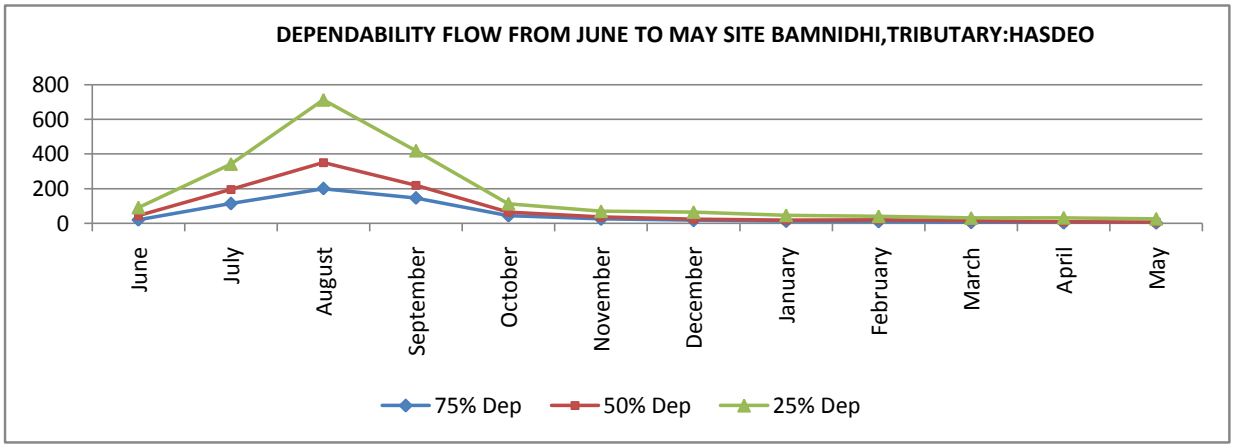

WATER QUALITY PROPERTIES AT SITE MANENDRAGARH, TRIBUTARY:HASDEO
AVERAGE CHEMICAL
0
2
4
6
8
10
12
14
16
18
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
SO4 (mg/L)
NO2-N (mg N/L)
NO3-N (mg N/L)

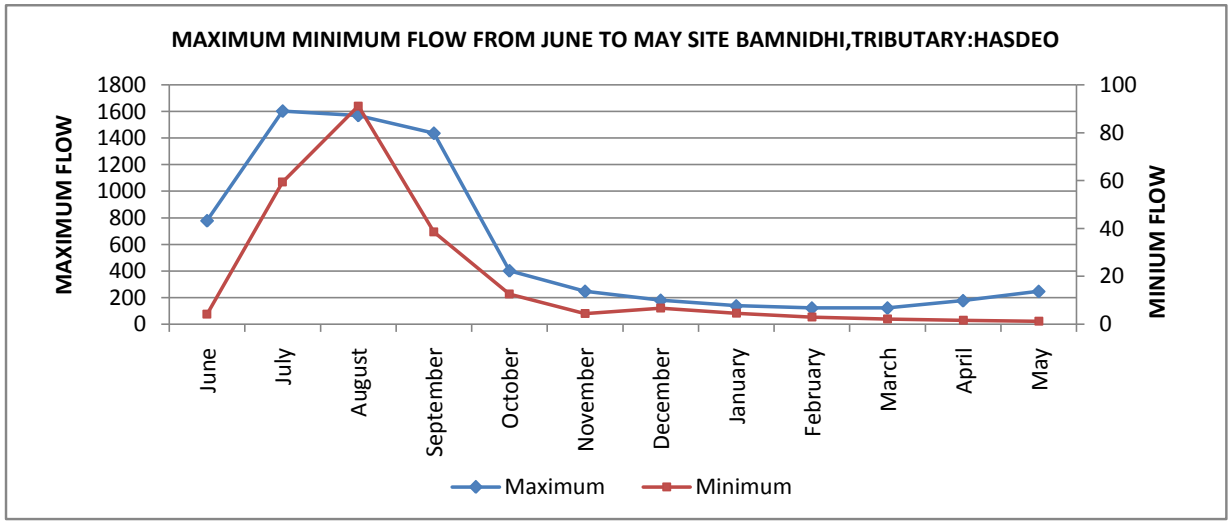

WATER QUALITY PROPERTIES AT SITE MANENDRAGARH, TRIBUTARY: HASDEO
AVERAGE BIOLOGICAL
0
20
40
60
80
100
120
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
BOD3-27 (mg/L)
DO (mg/L)
DO_SAT% (%)

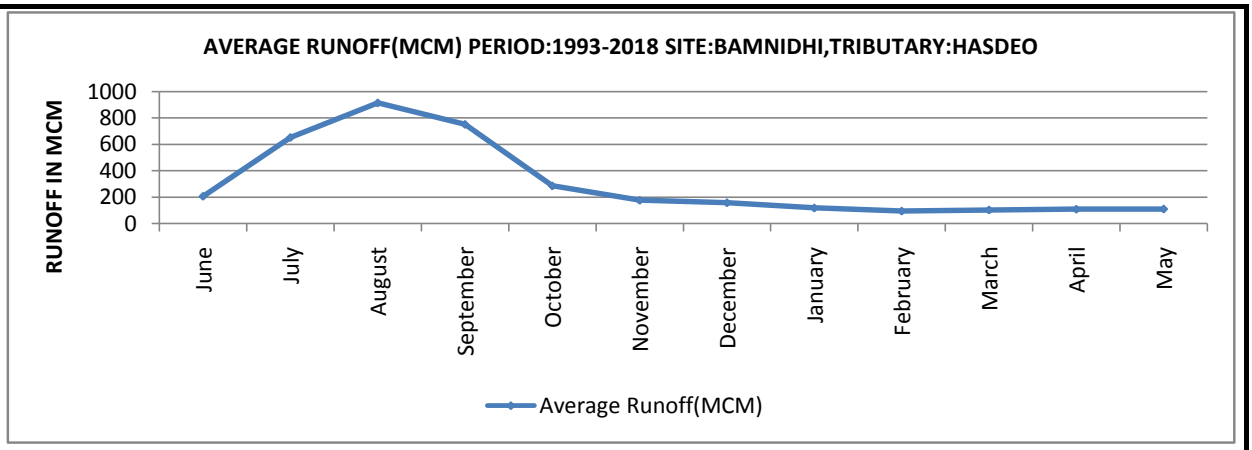
YEAR WISE TREND OF SITE BAMINDIH

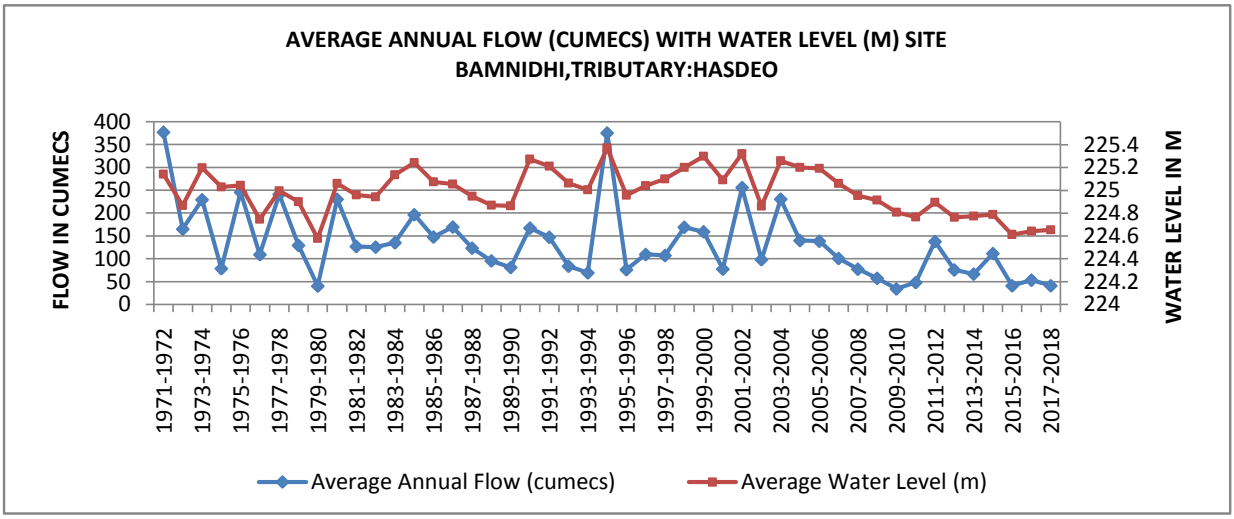


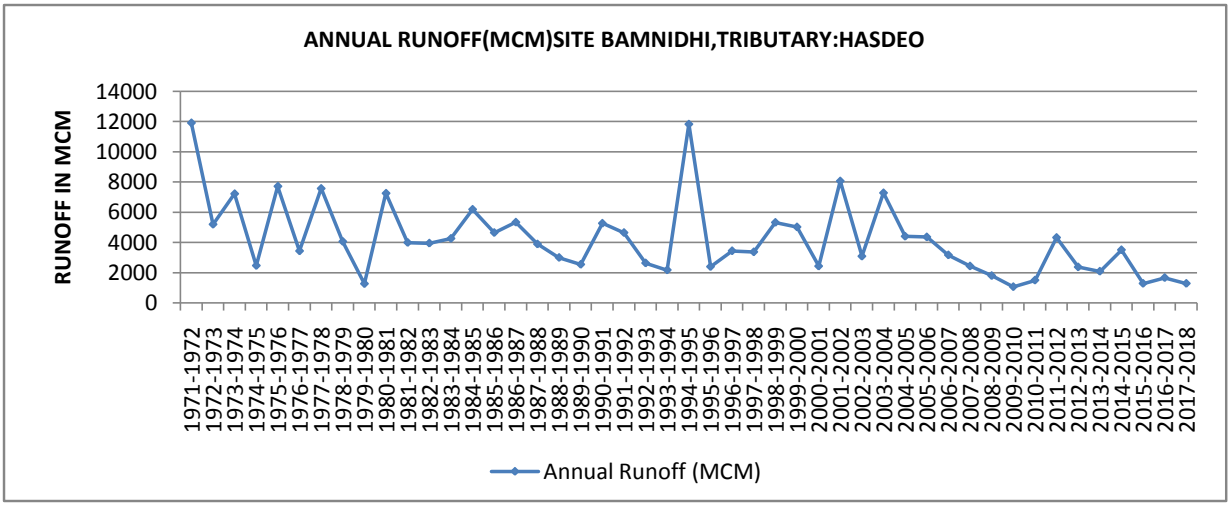


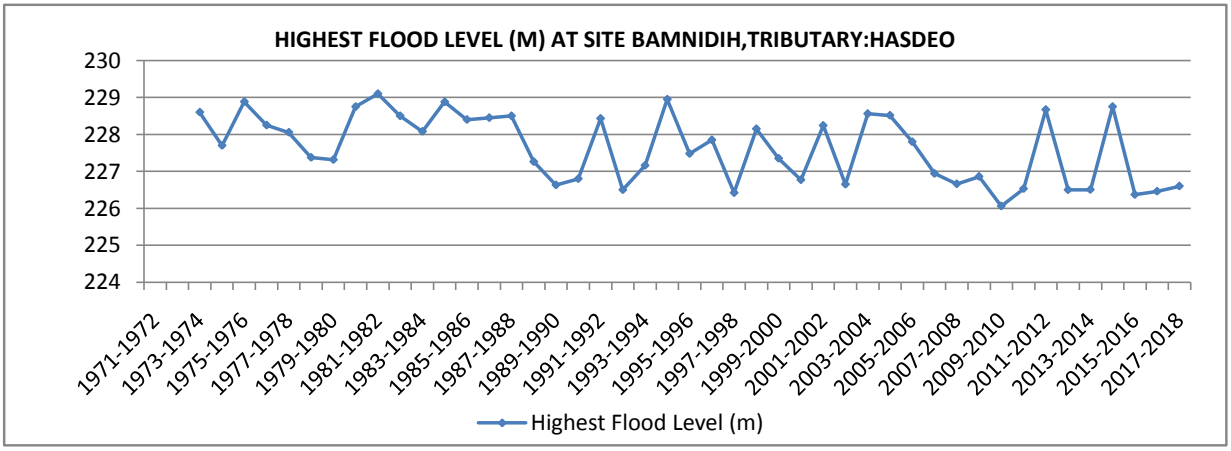


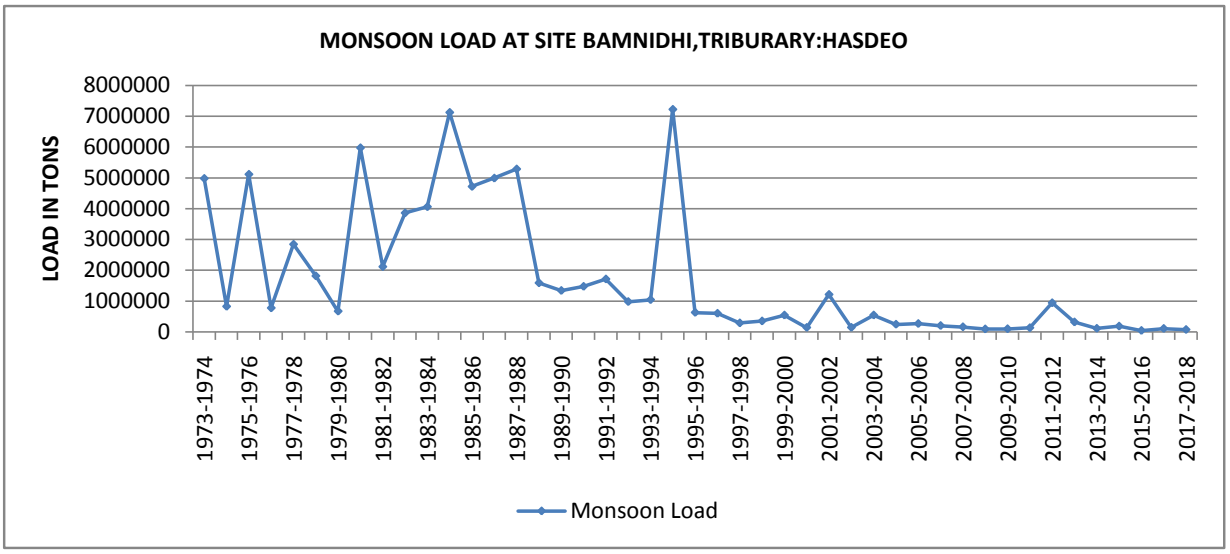


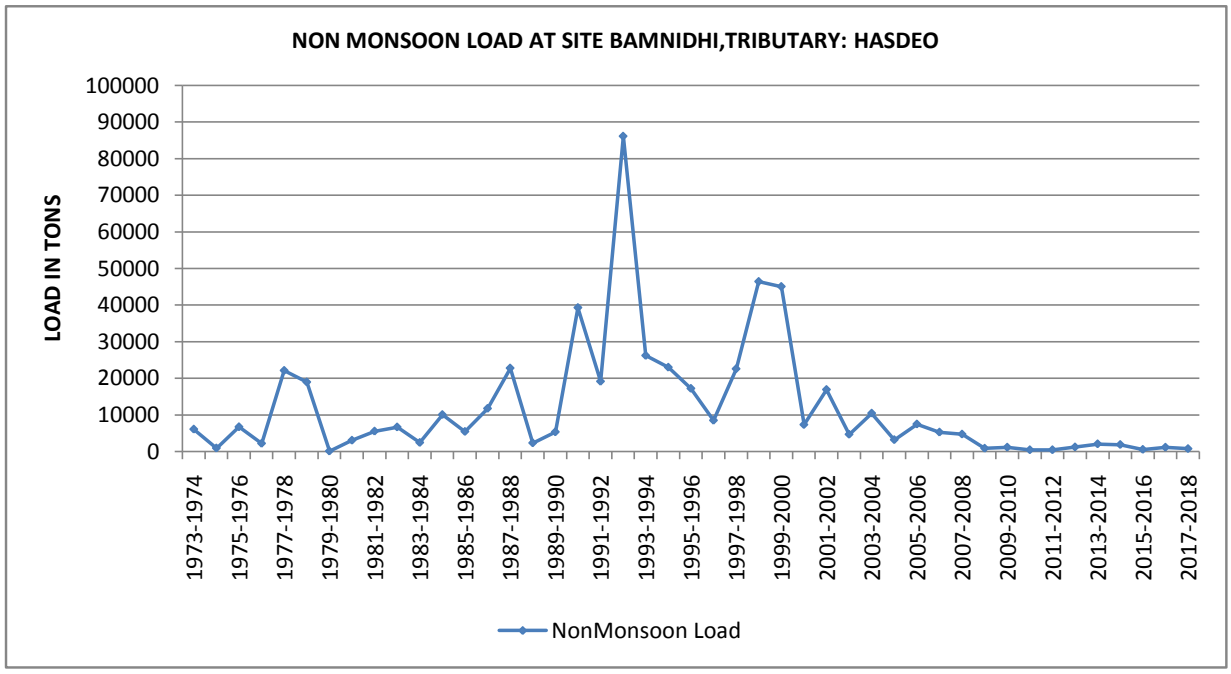

AVERAGE RUNOFF(MCM) PERIOD:1993-2018 SITE:BAMNIDHI,TRIBUTARY:HASDEO
RUNOFF IN MCM
1000
800
600
400
200
0
June
July
August
September
October
November
December
January
February
March
April
May
Average Runoff(MCM)

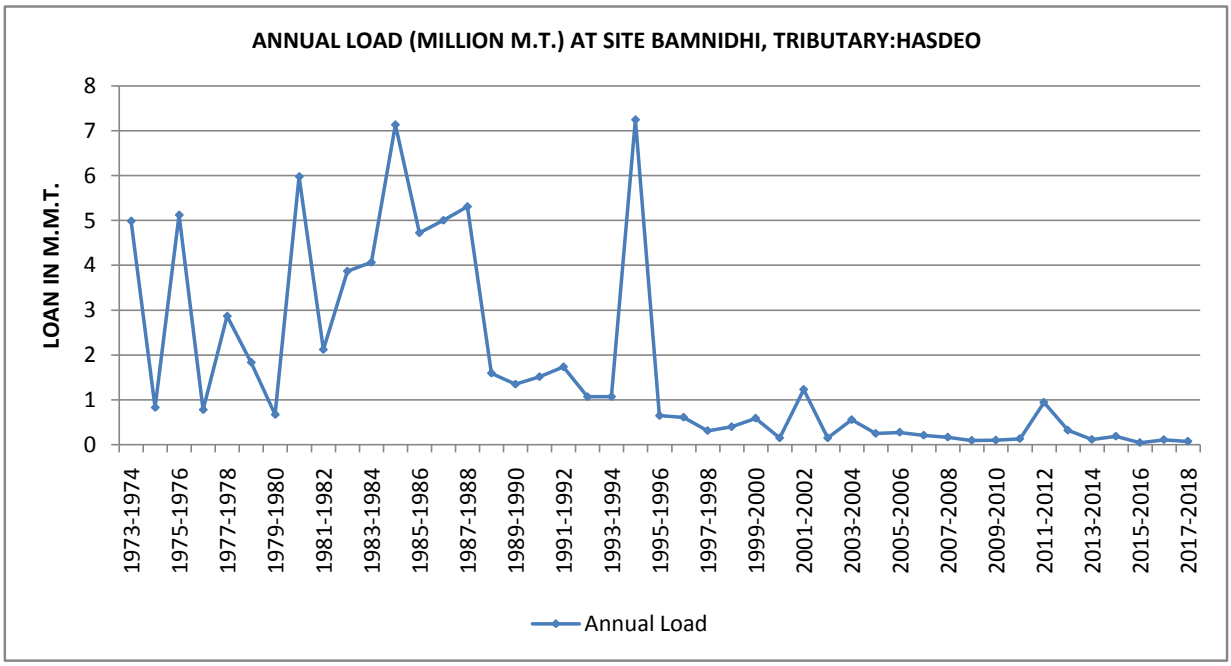

AVERAGE ANNUAL FLOW (CUMECS) WITH WATER LEVEL (M) SITE BAMNIDHI,TRIBUTARY:HASDEO
FLOW IN CUMECS
400
350
300
250
200
150
100
50
0
WATER LEVEL IN M
225.4
225.2
225
224.8
224.6
224.4
224.2
224
1971-1972
1973-1974
1975-1976
1977-1978
1979-1980
1981-1982
1983-1984
1985-1986
1987-1988
1989-1990
1991-1992
1993-1994
1995-1996
1997-1998
1999-2000
2001-2002
2003-2004
2005-2006
2007-2008
2009-2010
2011-2012
2013-2014
2015-2016
2017-2018
Average Annual Flow (cumecs)
Average Water Level (m)

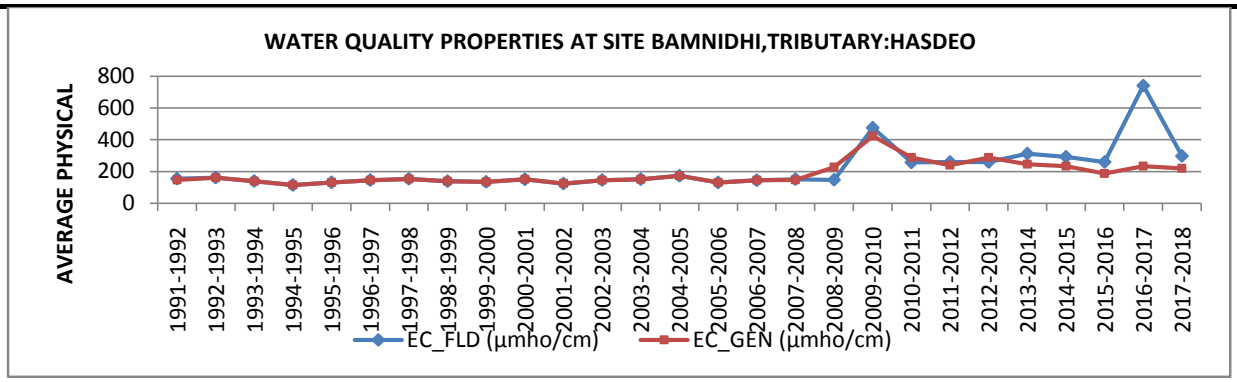

ANNUAL RUNOFF(MCM)SITE BAMNIDHI,TRIBUTARY:HASDEO
RUNOFF IN MCM
14000
12000
10000
8000
6000
4000
2000
0
1971-1972
1972-1973
1973-1974
1974-1975
1975-1976
1976-1977
1977-1978
1978-1979
1979-1980
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Annual Runoff (MCM)

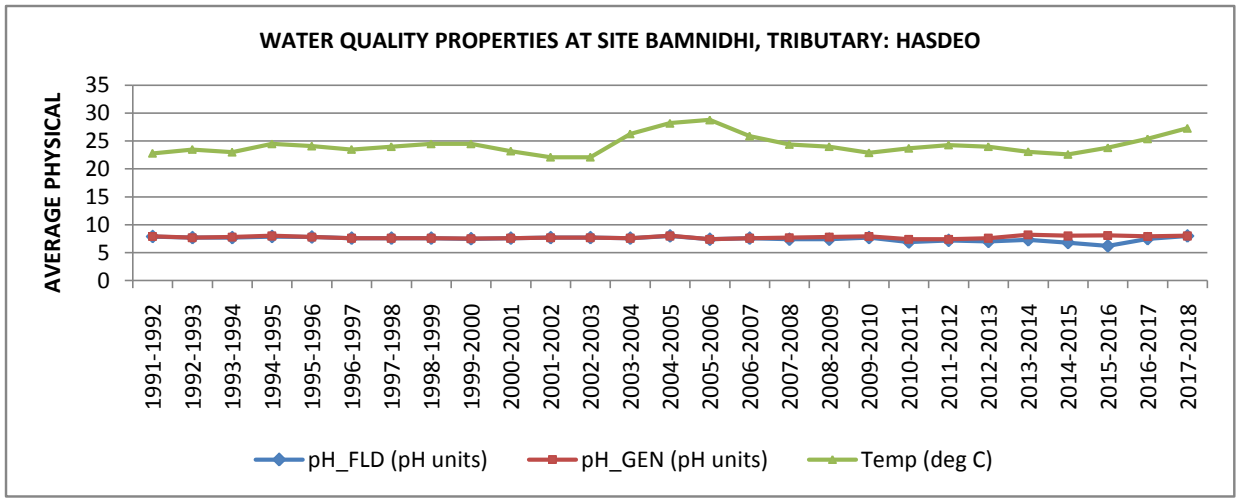

HIGHEST FLOOD LEVEL (M) AT SITE BAMNIDIH,TRIBUTARY:HASDEO
230
229
228
227
226
225
224
1971-1972
1973-1974
1975-1976
1977-1978
1979-1980
1981-1982
1983-1984
1985-1986
1987-1988
1989-1990
1991-1992
1993-1994
1995-1996
1997-1998
1999-2000
2001-2002
2003-2004
2005-2006
2007-2008
2009-2010
2011-2012
2013-2014
2015-2016
2017-2018
Highest Flood Level (m)


MONSOON LOAD AT SITE BAMNIDHI,TRIBURARY:HASDEO
LOAD IN TONS
8000000
7000000
6000000
5000000
4000000
3000000
2000000
1000000
0
1973-1974
1975-1976
1977-1978
1979-1980
1981-1982
1983-1984
1985-1986
1987-1988
1989-1990
1991-1992
1993-1994
1995-1996
1997-1998
1999-2000
2001-2002
2003-2004
2005-2006
2007-2008
2009-2010
2011-2012
2013-2014
2015-2016
2017-2018
Monsoon Load


NON MONSOON LOAD AT SITE BAMNIDHI,TRIBUTARY: HASDEO
LOAD IN TONS
100000
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
1973-1974
1975-1976
1977-1978
1979-1980
1981-1982
1983-1984
1985-1986
1987-1988
1989-1990
1991-1992
1993-1994
1995-1996
1997-1998
1999-2000
2001-2002
2003-2004
2005-2006
2007-2008
2009-2010
2011-2012
2013-2014
2015-2016
2017-2018
NonMonsoon Load


ANNUAL LOAD (MILLION M.T.) AT SITE BAMNIDHI, TRIBUTARY:HASDEO
LOAN IN M.M.T.
8
7
6
5
4
3
2
1
0
1973-1974
1975-1976
1977-1978
1979-1980
1981-1982
1983-1984
1985-1986
1987-1988
1989-1990
1991-1992
1993-1994
1995-1996
1997-1998
1999-2000
2001-2002
2003-2004
2005-2006
2007-2008
2009-2010
2011-2012
2013-2014
2015-2016
2017-2018
Annual Load


WATER QUALITY PROPERTIES AT SITE BAMNIDHI,TRIBUTARY:HASDEO
AVERAGE PHYSICAL
800
600
400
200
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
EC_FLD (µmho/cm)
EC_GEN (µmho/cm)


WATER QUALITY PROPERTIES AT SITE BAMNIDHI, TRIBUTARY: HASDEO
AVERAGE PHYSICAL
35
30
25
20
15
10
5
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
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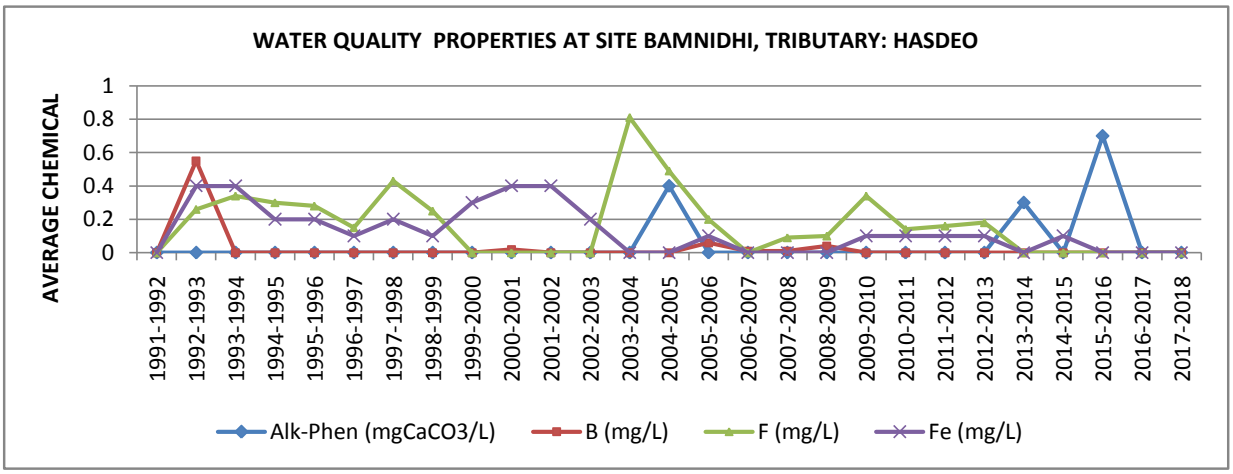
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
pH_FLD (pH units)
pH_GEN (pH units)
Temp (deg C)


WATER QUALITY PROPERTIES AT SITE BAMNIDHI, TRIBUTARY: HASDEO
AVERAGE CHEMICAL
1
0.8
0.6
0.4
0.2
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
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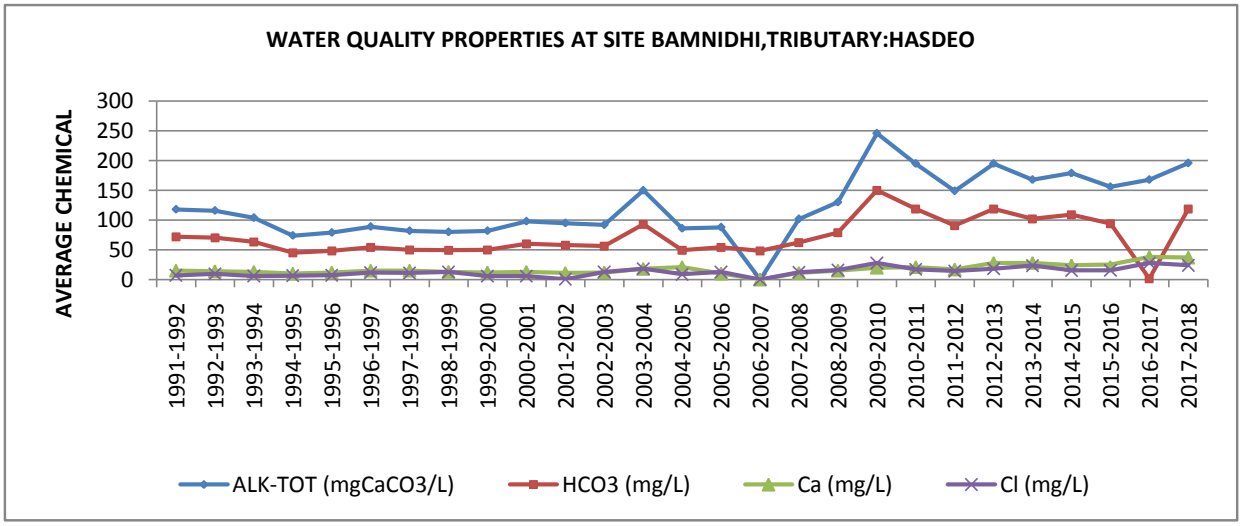
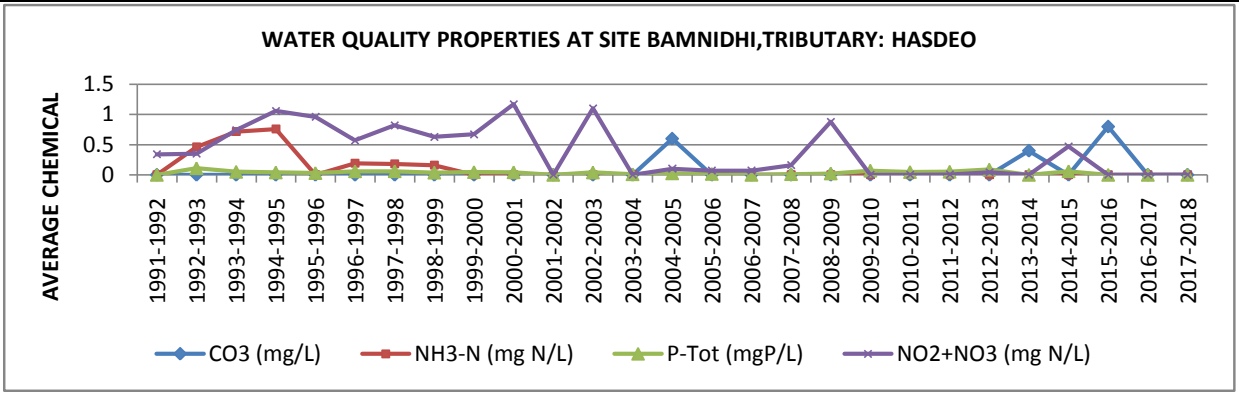
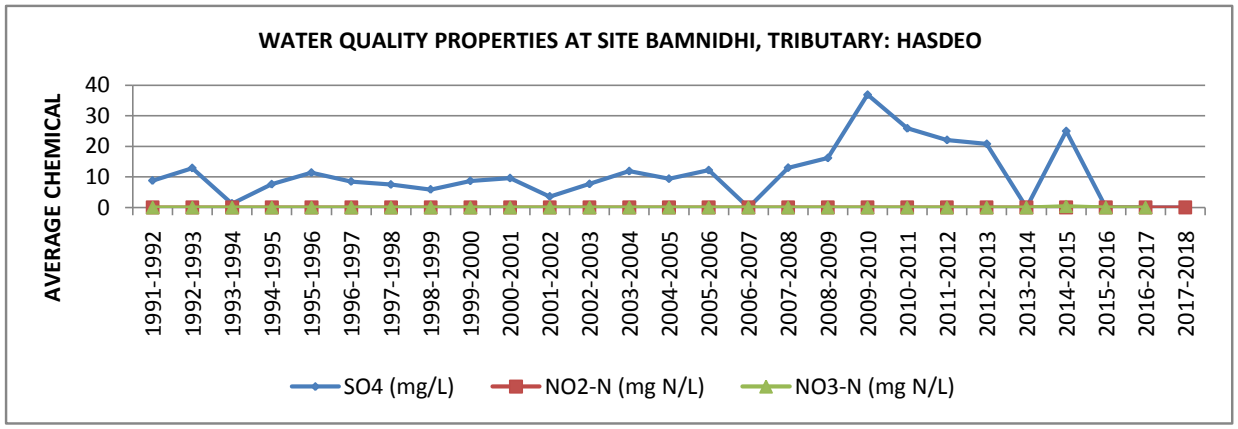
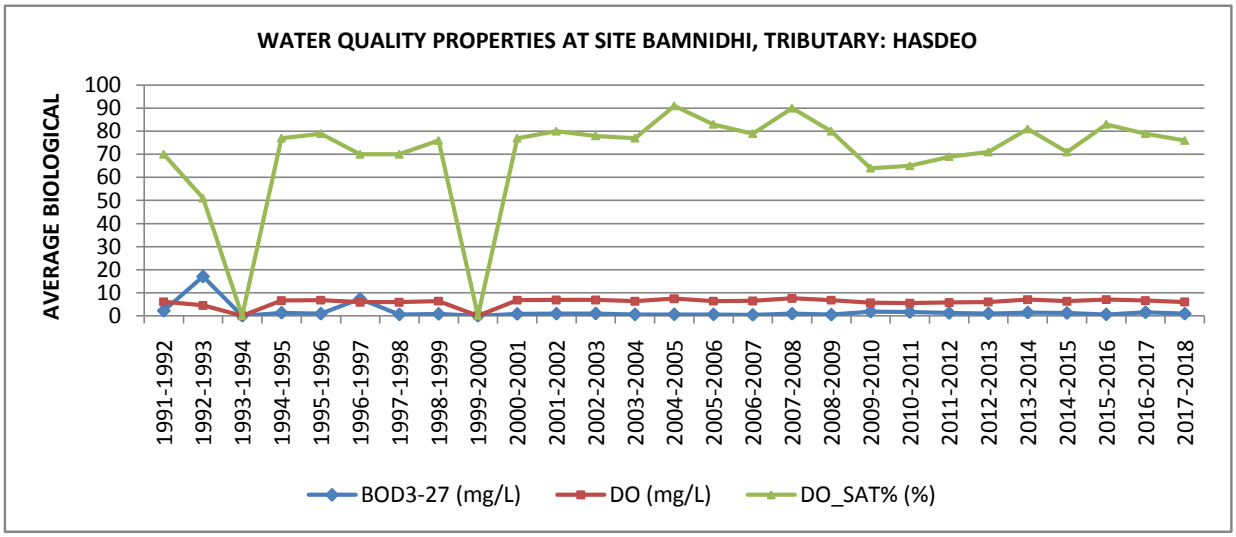
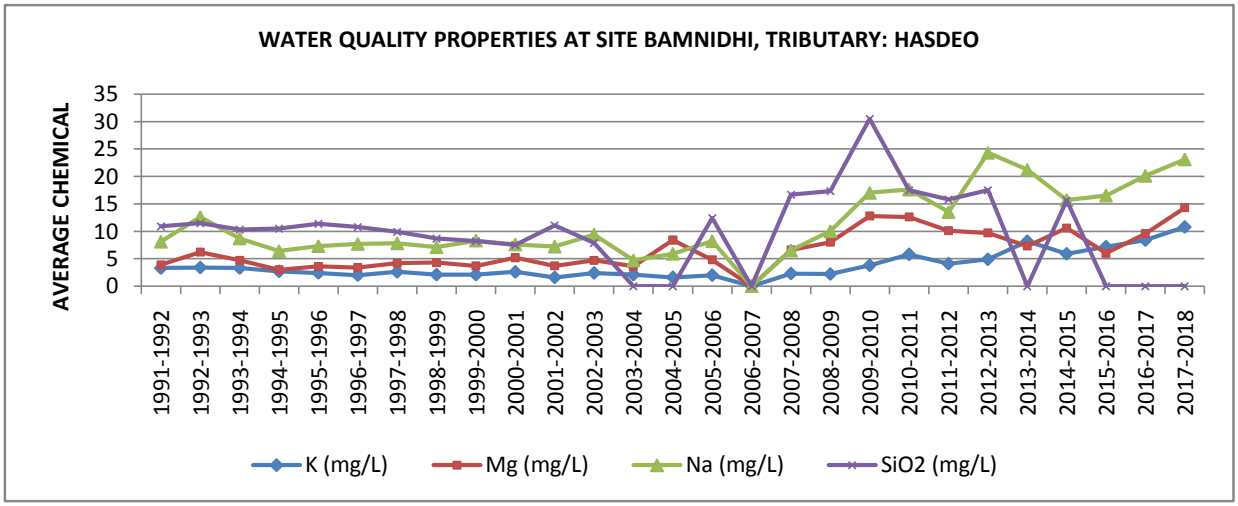
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Alk-Phen (mgCaCO3/L)
B (mg/L)
F (mg/L)
Fe (mg/L)


WATER QUALITY PROPERTIES AT SITE BAMNIDHI,TRIBUTARY:HASDEO
AVERAGE CHEMICAL
300
250
200
150
100
50
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
ALK-TOT (mgCaCO3/L)
HCO3 (mg/L)
Ca (mg/L)
Cl (mg/L)

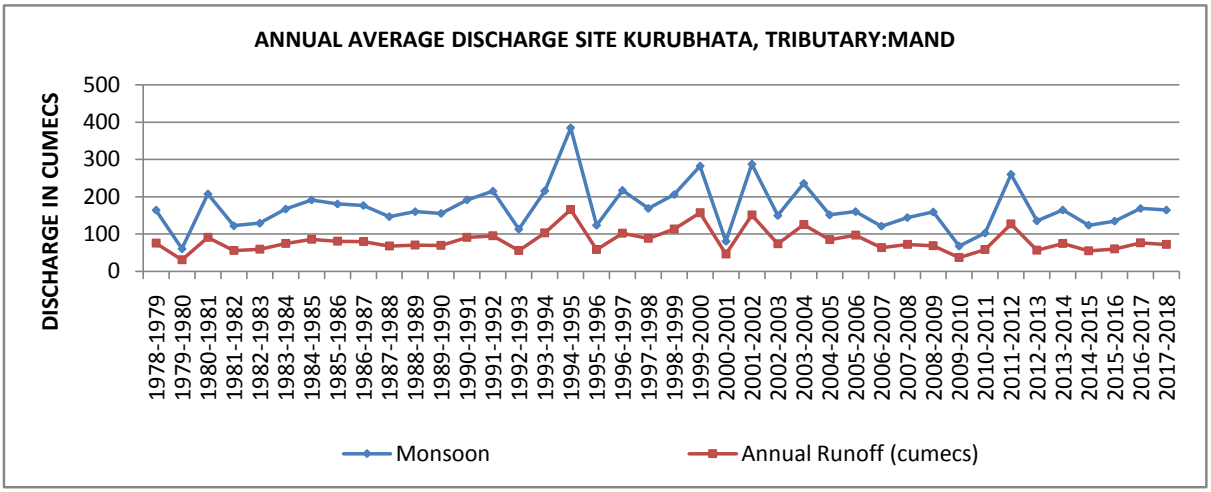

WATER QUALITY PROPERTIES AT SITE BAMNIDHI,TRIBUTARY: HASDEO
AVERAGE CHEMICAL
1.5
1
0.5
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
CO3 (mg/L)
NH3-N (mg N/L)
P-Tot (mgP/L)
NO2+NO3 (mg N/L)

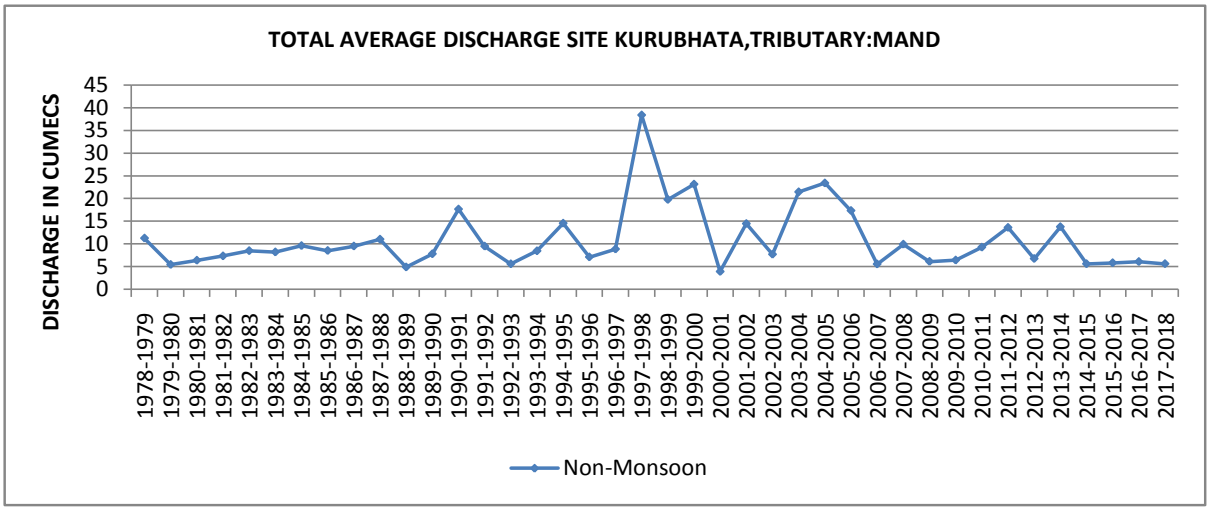

WATER QUALITY PROPERTIES AT SITE BAMNIDHI, TRIBUTARY: HASDEO
AVERAGE CHEMICAL
40
30
20
10
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
SO4 (mg/L)
NO2-N (mg N/L)
NO3-N (mg N/L)

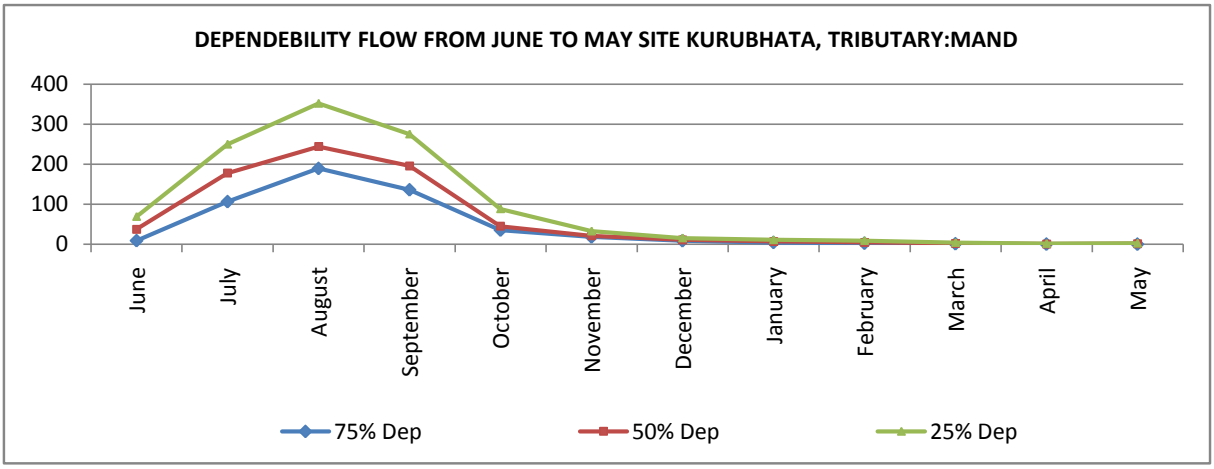

WATER QUALITY PROPERTIES AT SITE BAMNIDHI, TRIBUTARY: HASDEO
AVERAGE BIOLOGICAL
100
90
80
70
60
50
40
30
20
10
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
BOD3-27 (mg/L)
DO (mg/L)
DO_SAT% (%)

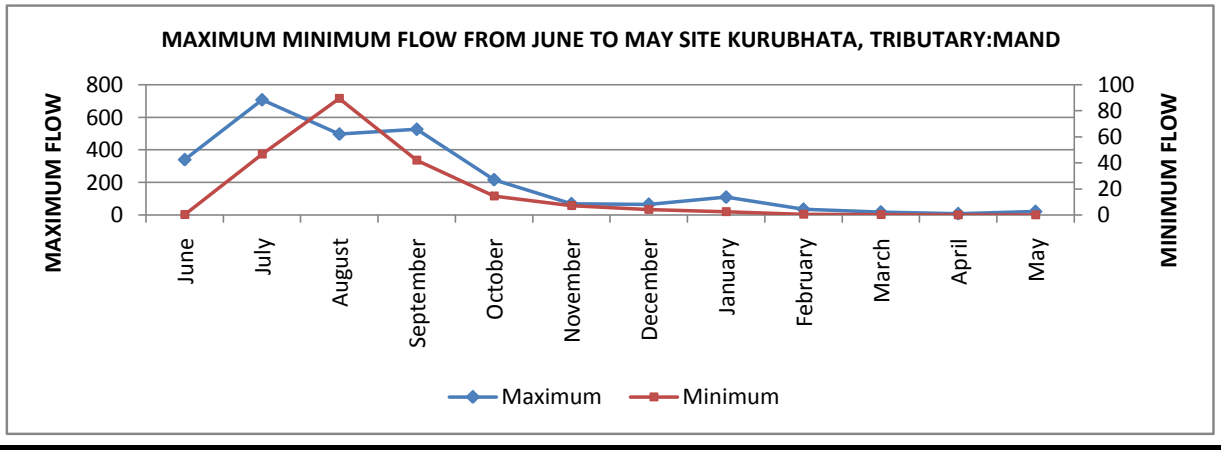

WATER QUALITY PROPERTIES AT SITE BAMNIDHI, TRIBUTARY: HASDEO
AVERAGE CHEMICAL
35
30
25
20
15
10
5
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
K (mg/L)
Mg (mg/L)
Na (mg/L)
SiO2 (mg/L)

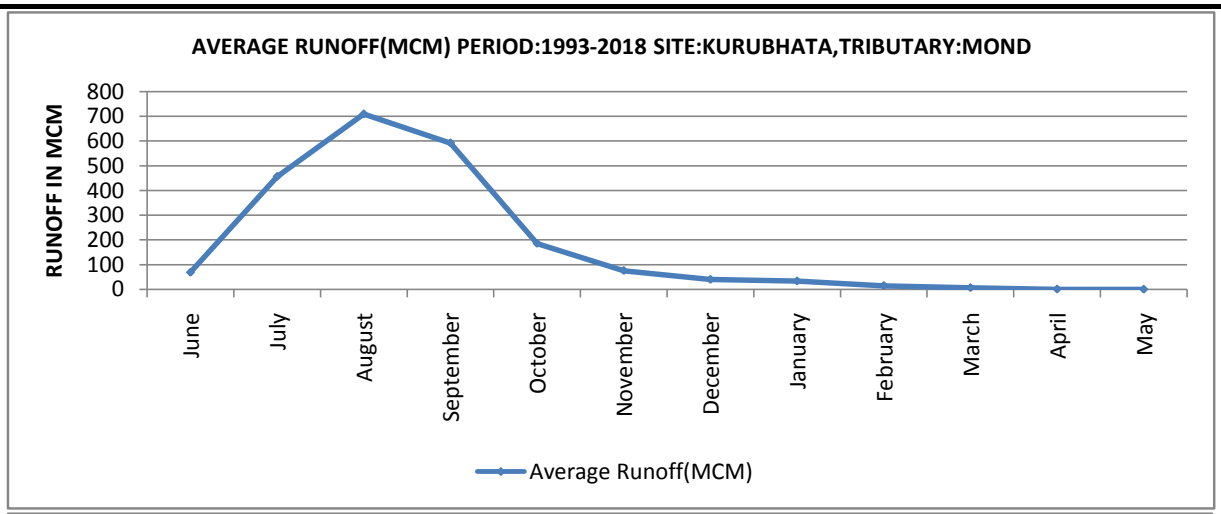
YEAR WISE TREND OF SITE KURUBHATA

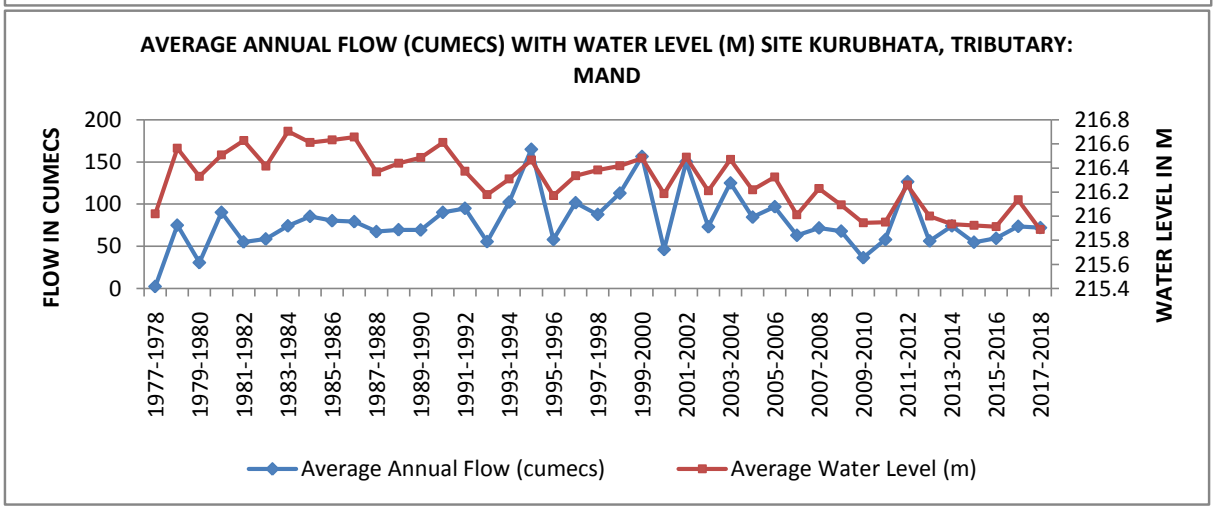


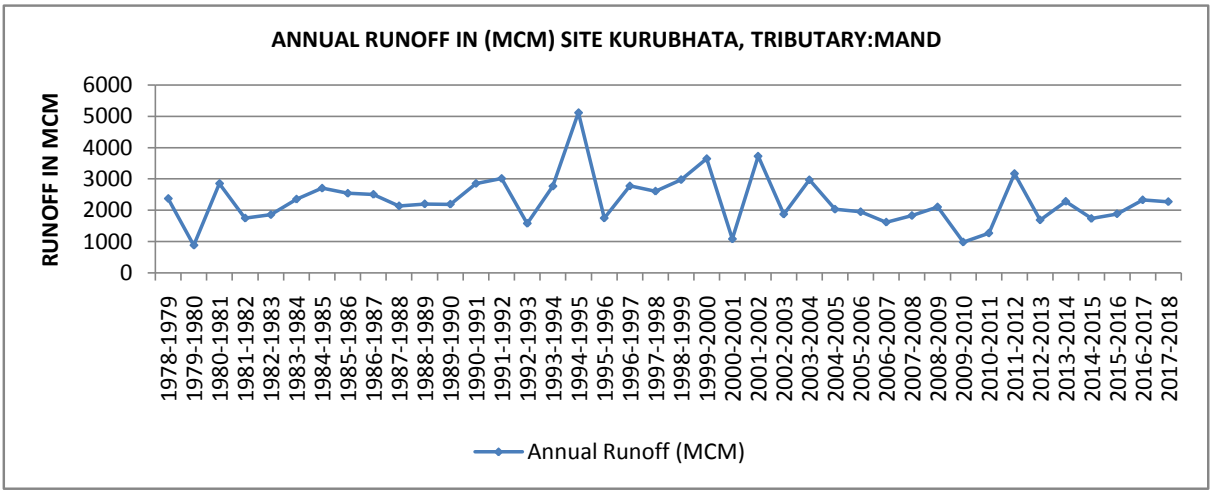







AVERAGE RUNOFF(MCM) PERIOD:1993-2018 SITE:KURUBHATA,TRIBUTARY:MOND
RUNOFF IN MCM
800
700
600
500
400
300
200
100
0
June
July
August
September
October
November
December
January
February
March
April
May
Average Runoff(MCM)


AVERAGE ANNUAL FLOW (CUMECS) WITH WATER LEVEL (M) SITE KURUBHATA, TRIBUTARY: MAND
FLOW IN CUMECS
200
150
100
50
0
WATER LEVEL IN M
216.8
216.6
216.4
216.2
216
215.8
215.6
215.4
1977-1978
1979-1980
1981-1982
1983-1984
1985-1986
1987-1988
1989-1990
1991-1992
1993-1994
1995-1996
1997-1998
1999-2000
2001-2002
2003-2004
2005-2006
2007-2008
2009-2010
2011-2012
2013-2014
2015-2016
2017-2018
Average Annual Flow (cumecs)
Average Water Level (m)


ANNUAL RUNOFF IN (MCM) SITE KURUBHATA, TRIBUTARY:MAND
RUNOFF IN MCM
6000
5000
4000
3000
2000
1000
0
1978-1979
1979-1980
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
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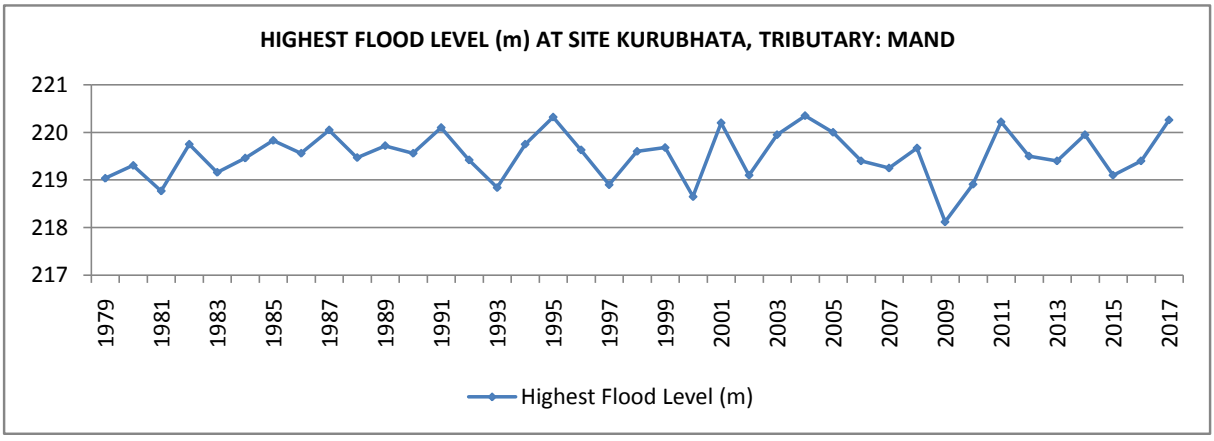
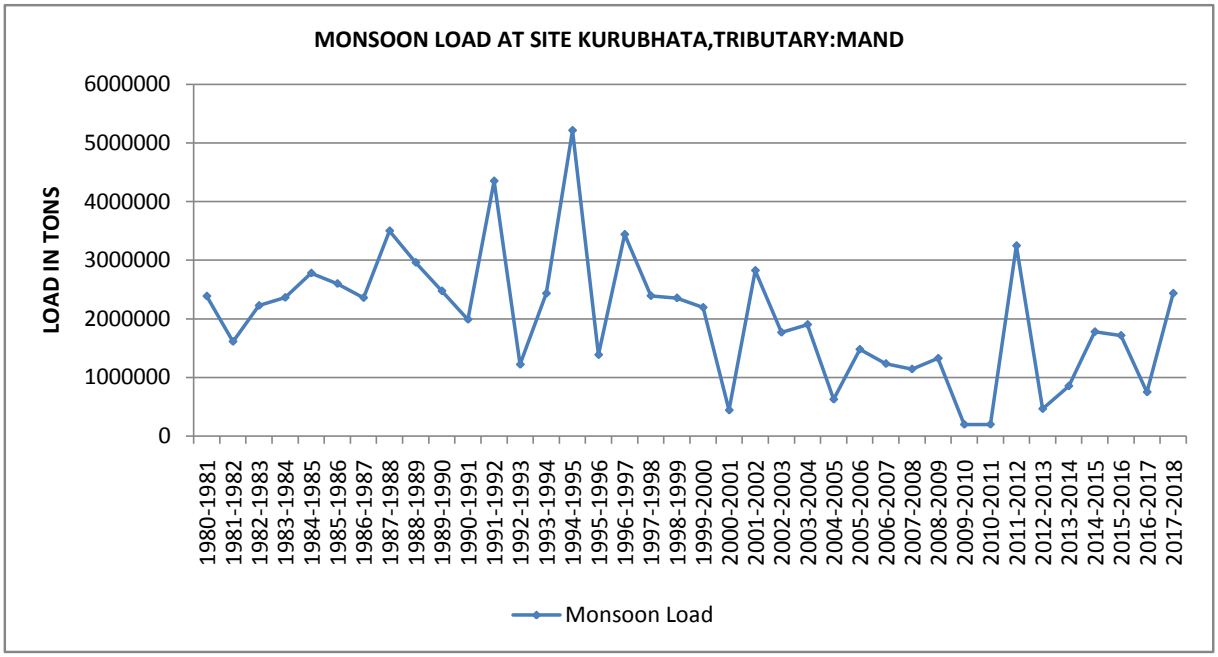
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Annual Runoff (MCM)


HIGHEST FLOOD LEVEL (m) AT SITE KURUBHATA, TRIBUTARY: MAND
221
220
219
218
217
1979
1981
1983
1985
1987
1989
1991
1993
1995
1997
1999
2001
2003
2005
2007
2009
2011
2013
2015
2017
Highest Flood Level (m)


MONSOON LOAD AT SITE KURUBHATA,TRIBUTARY:MAND
LOAD IN TONS
6000000
5000000
4000000
3000000
2000000
1000000
0
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
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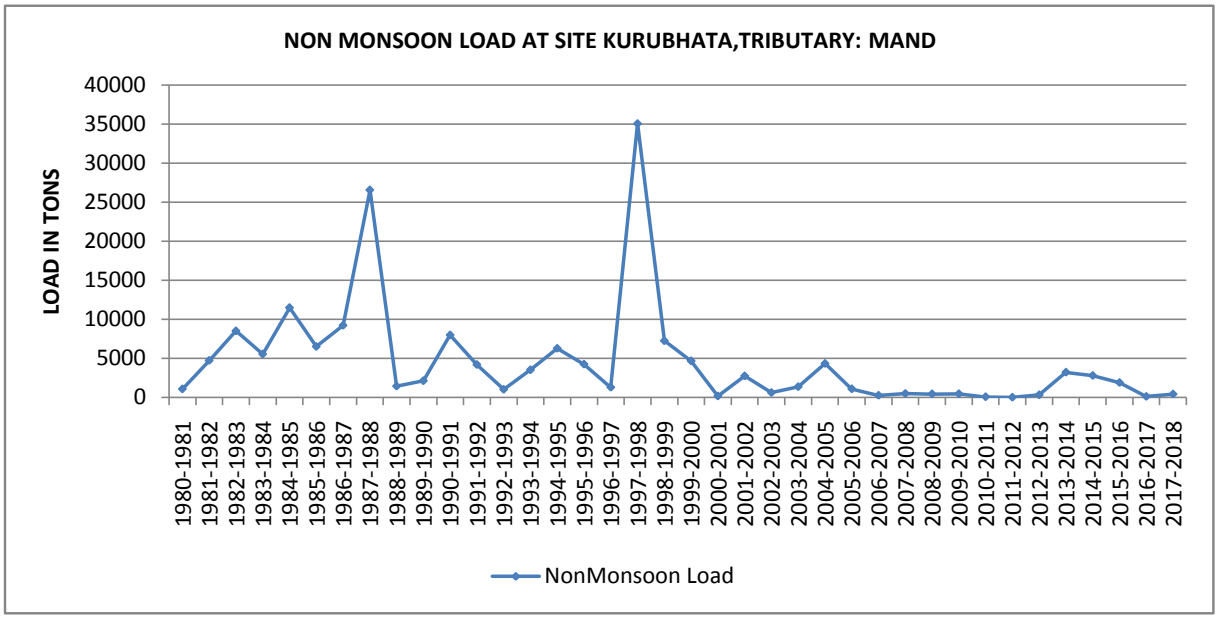
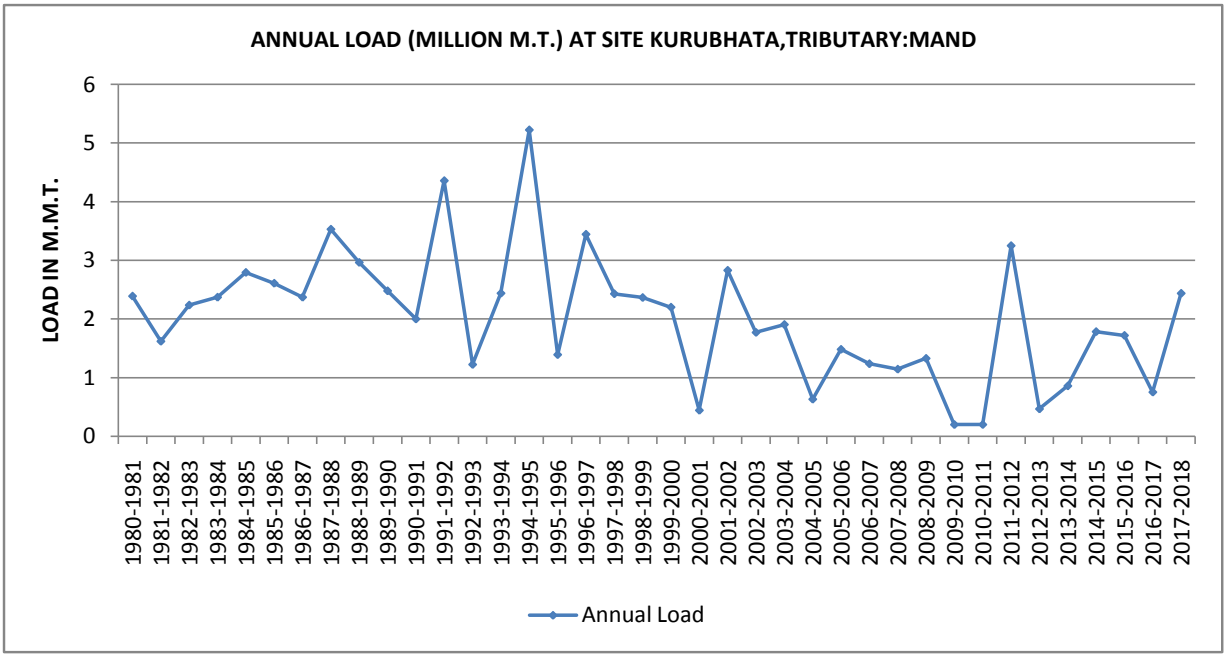
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Monsoon Load


NON MONSOON LOAD AT SITE KURUBHATA,TRIBUTARY: MAND
LOAD IN TONS
40000
35000
30000
25000
20000
15000
10000
5000
0
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
NonMonsoon Load


ANNUAL LOAD (MILLION M.T.) AT SITE KURUBHATA,TRIBUTARY:MAND
LOAD IN M.M.T.
6
5
4
3
2
1
0
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
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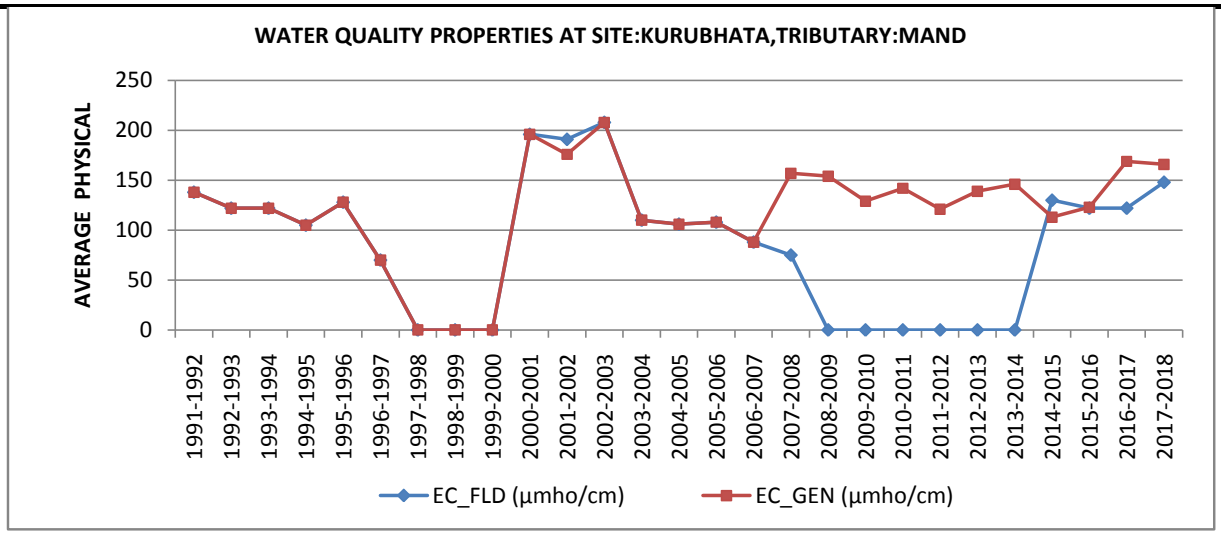
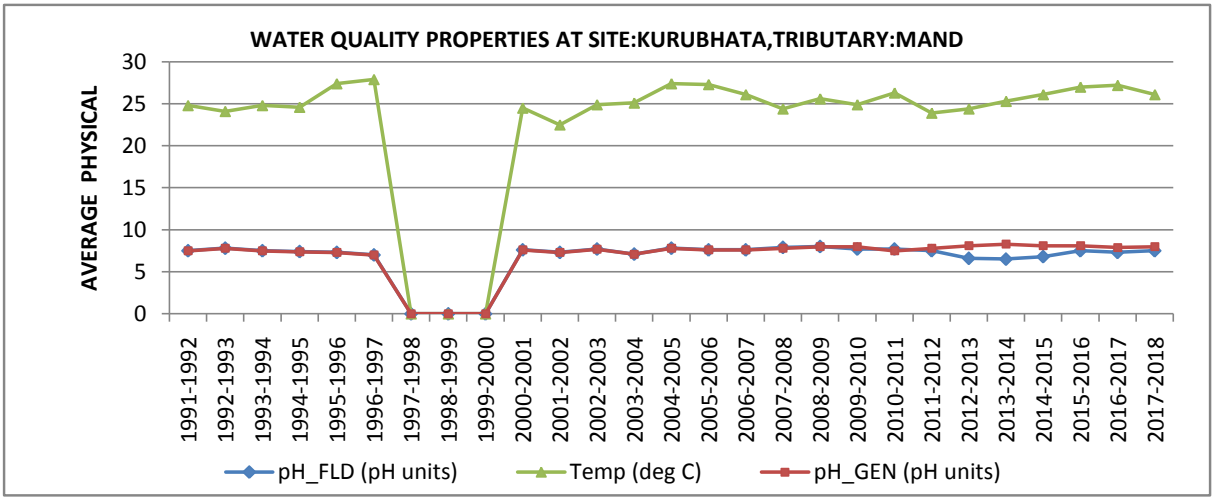
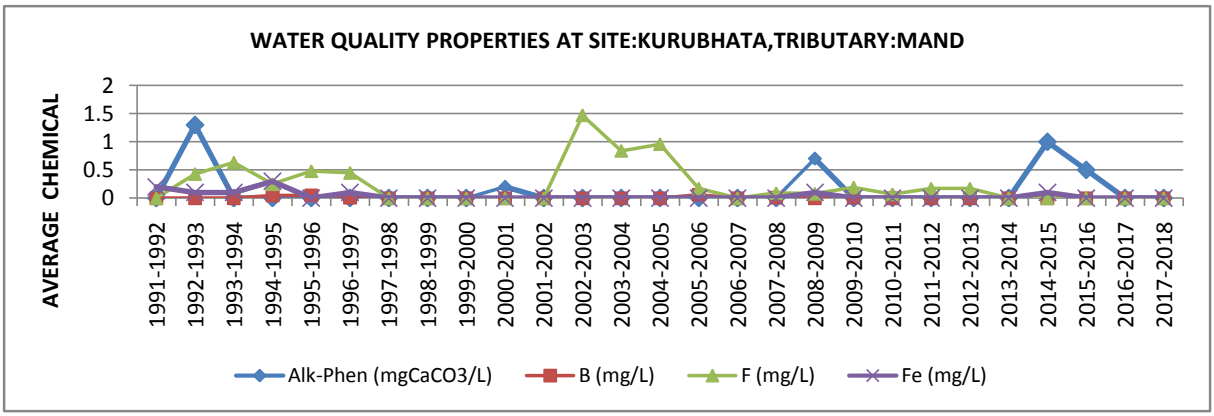
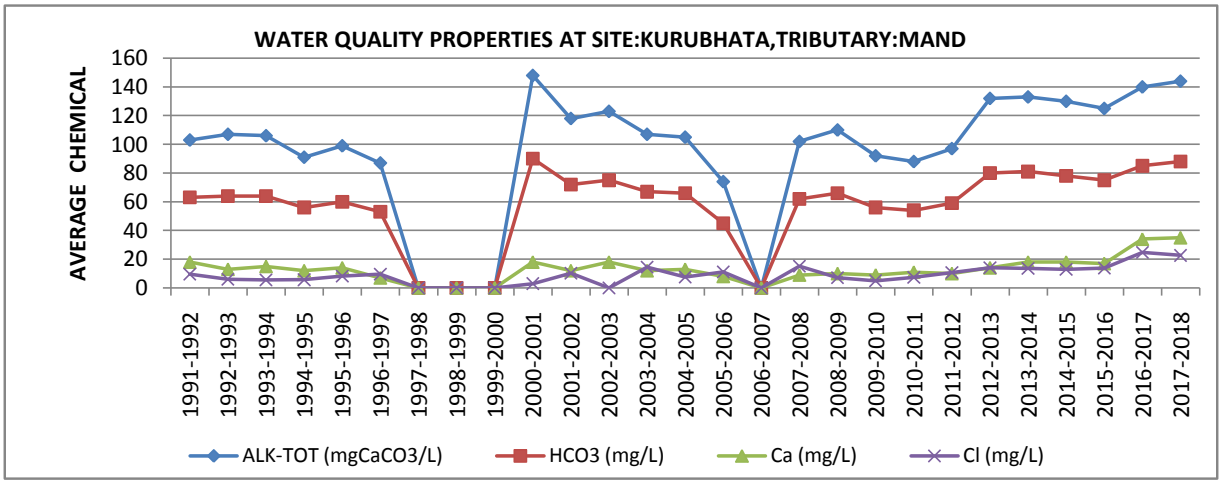
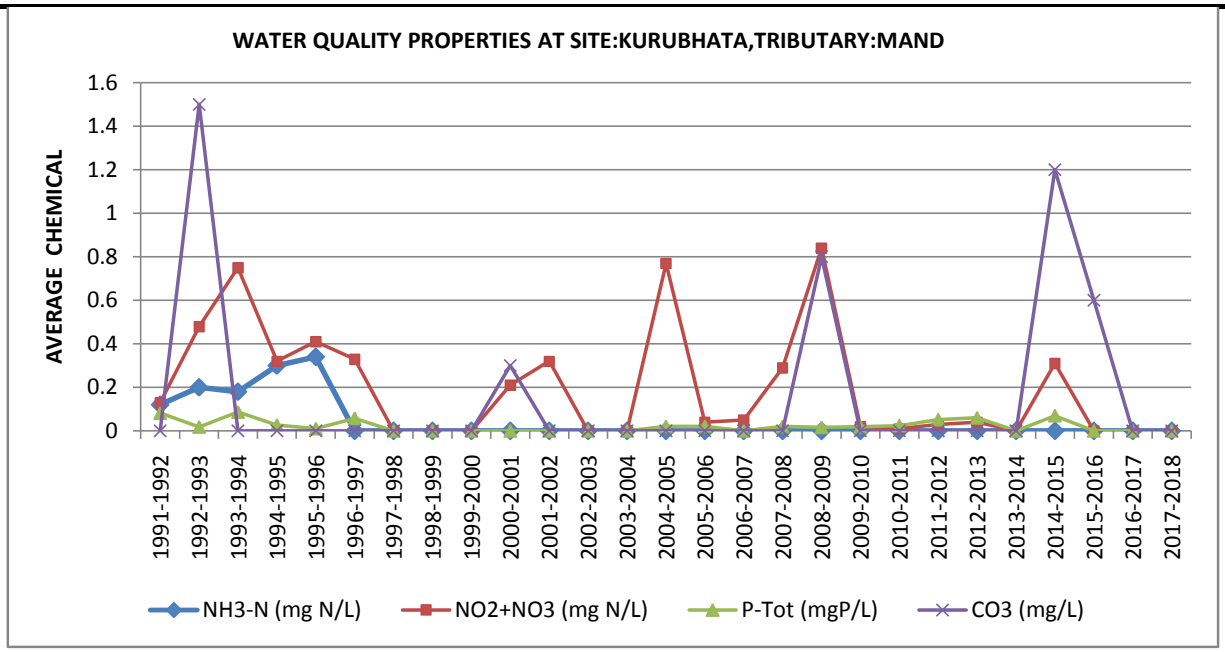
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Annual Load

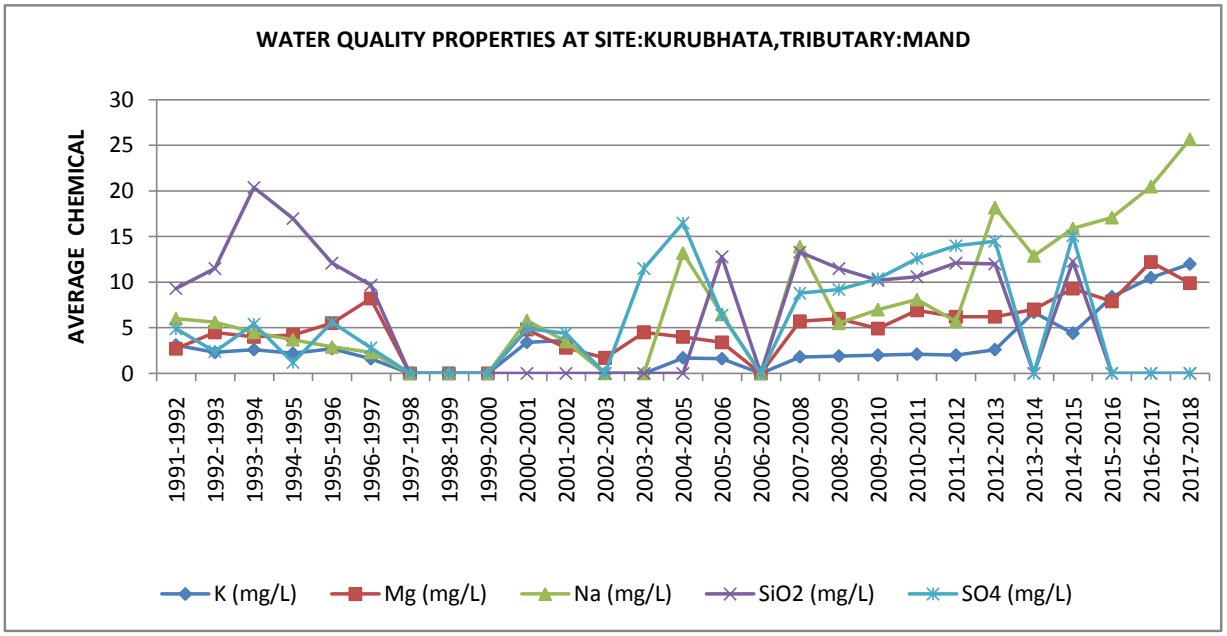

WATER QUALITY PROPERTIES AT SITE:KURUBHATA,TRIBUTARY:MAND
AVERAGE PHYSICAL
250
200
150
100
50
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
EC_FLD (µmho/cm)
EC_GEN (µmho/cm)

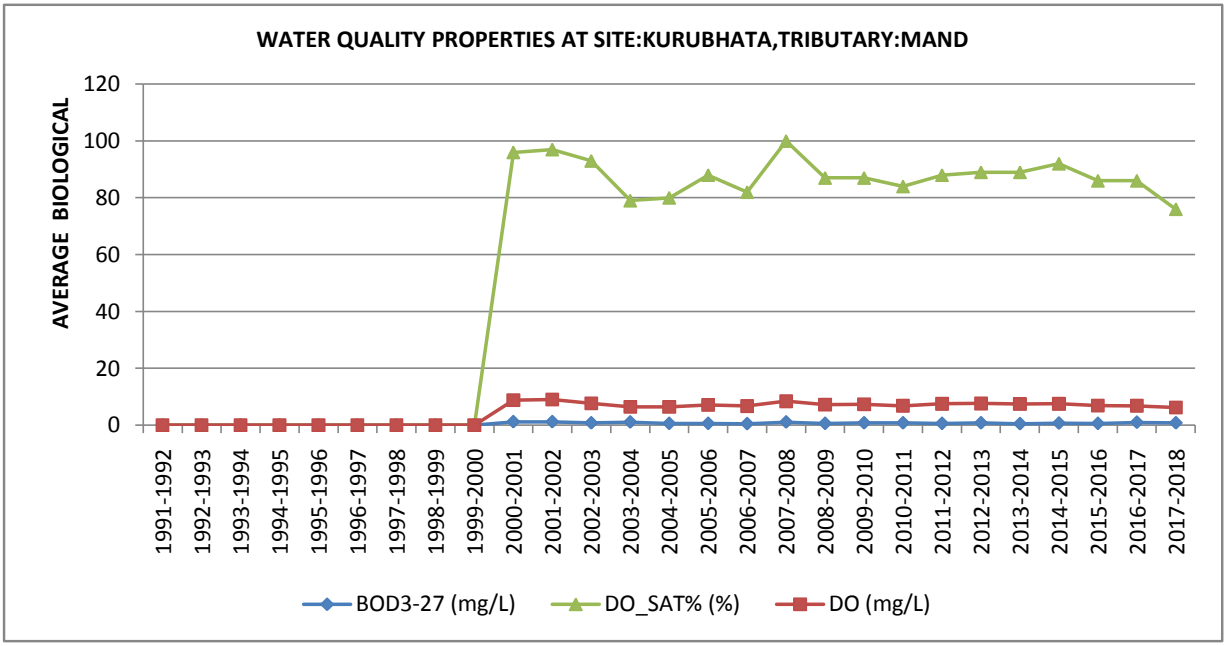

WATER QUALITY PROPERTIES AT SITE:KURUBHATA,TRIBUTARY:MAND
AVERAGE PHYSICAL
30
25
20
15
10
5
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
pH_FLD (pH units)
Temp (deg C)
pH_GEN (pH units)


WATER QUALITY PROPERTIES AT SITE:KURUBHATA,TRIBUTARY:MAND
AVERAGE CHEMICAL
2
1.5
1
0.5
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Alk-Phen (mgCaCO3/L)
B (mg/L)
F (mg/L)
Fe (mg/L)

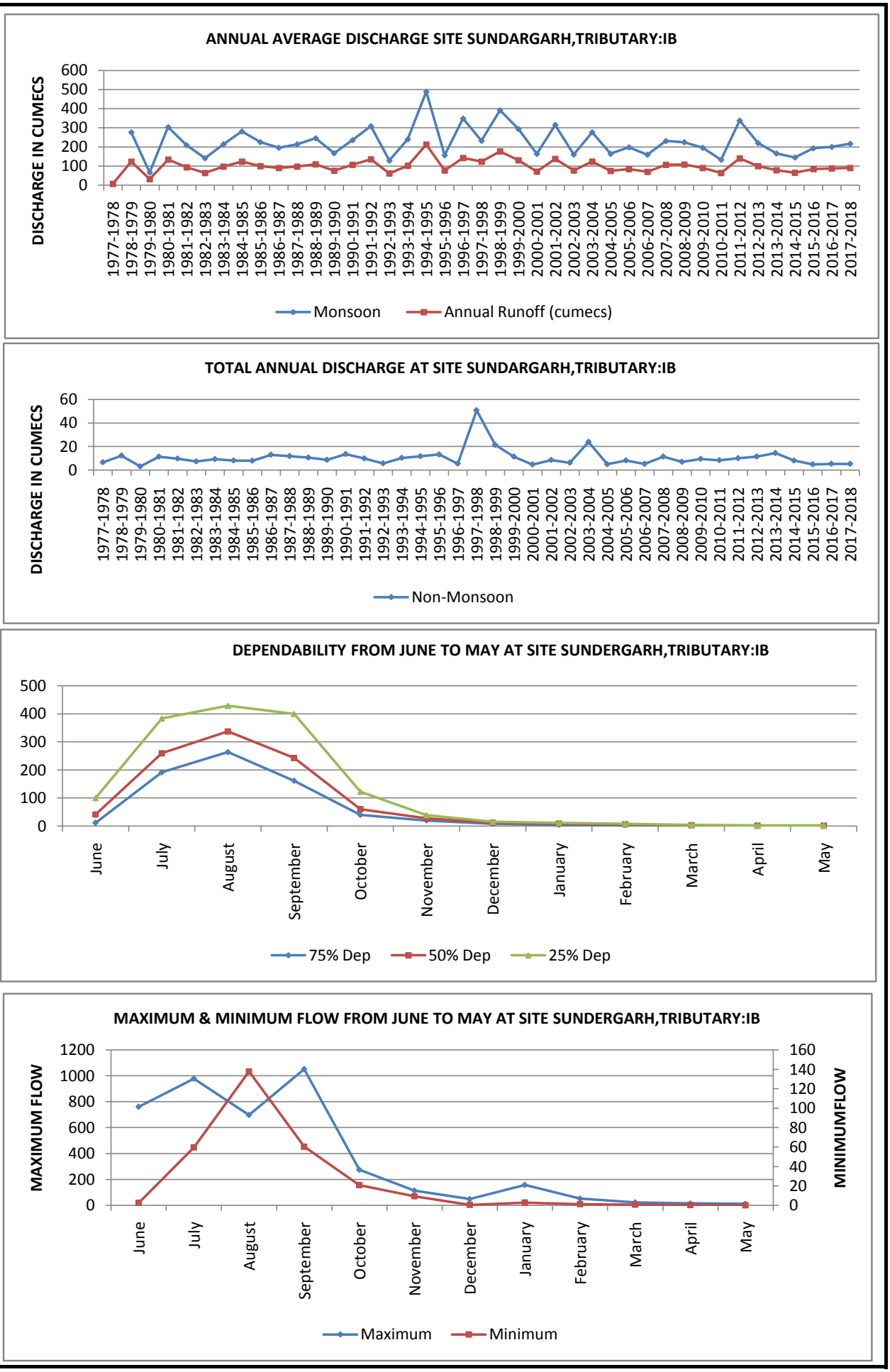

WATER QUALITY PROPERTIES AT SITE:KURUBHATA,TRIBUTARY:MAND
AVERAGE CHEMICAL
160
140
120
100
80
60
40
20
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
ALK-TOT (mgCaCO3/L)
HCO3 (mg/L)
Ca (mg/L)
Cl (mg/L)

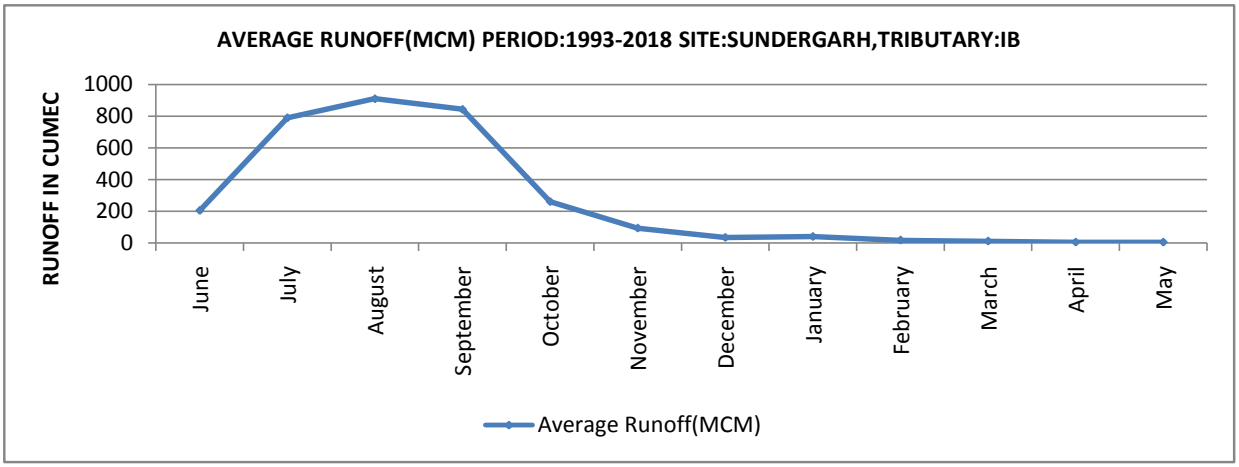

WATER QUALITY PROPERTIES AT SITE:KURUBHATA,TRIBUTARY:MAND
AVERAGE CHEMICAL
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
NH3-N (mg N/L)
NO2+NO3 (mg N/L)
P-Tot (mgP/L)
CO3 (mg/L)

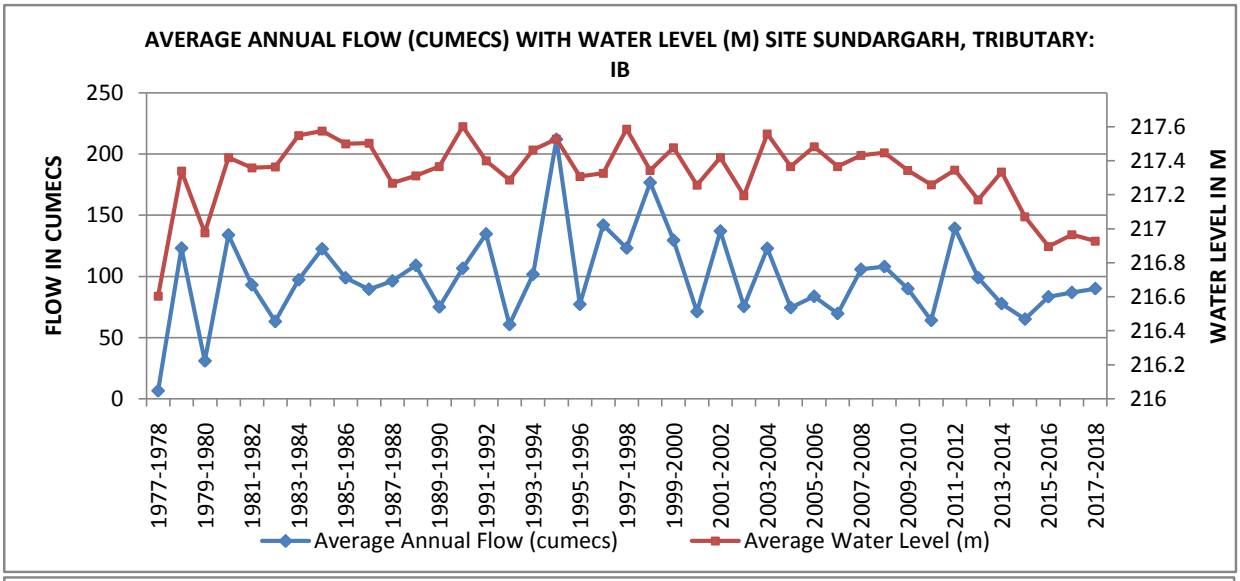

WATER QUALITY PROPERTIES AT SITE:KURUBHATA,TRIBUTARY:MAND
AVERAGE CHEMICAL
30
25
20
15
10
5
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
K (mg/L)
Mg (mg/L)
Na (mg/L)
SiO2 (mg/L)
SO4 (mg/L)

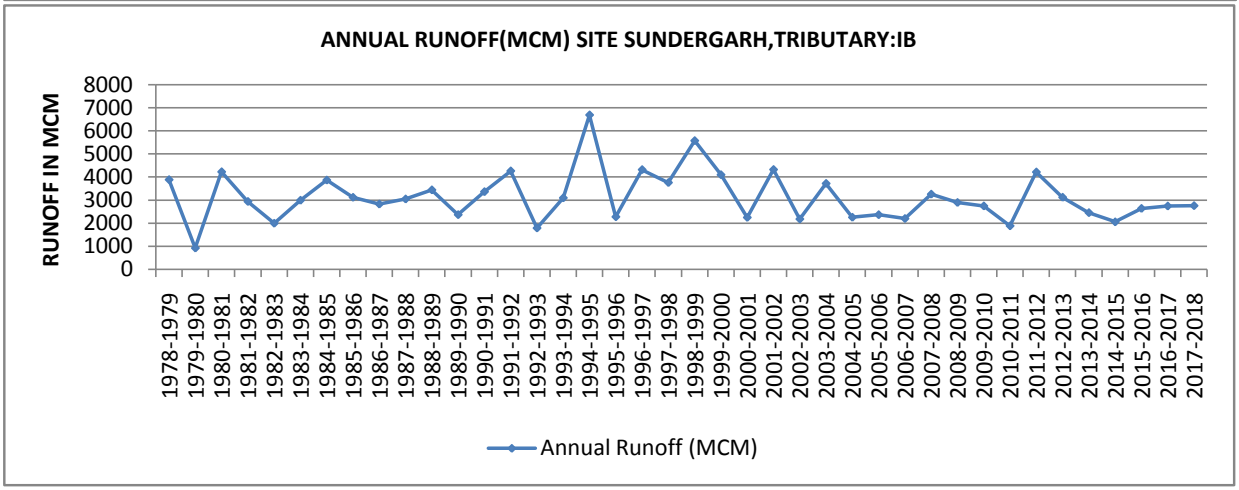

WATER QUALITY PROPERTIES AT SITE:KURUBHATA,TRIBUTARY:MAND
AVERAGE BIOLOGICAL
120
100
80
60
40
20
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
BOD3-27 (mg/L)
DO_SAT% (%)
DO (mg/L)

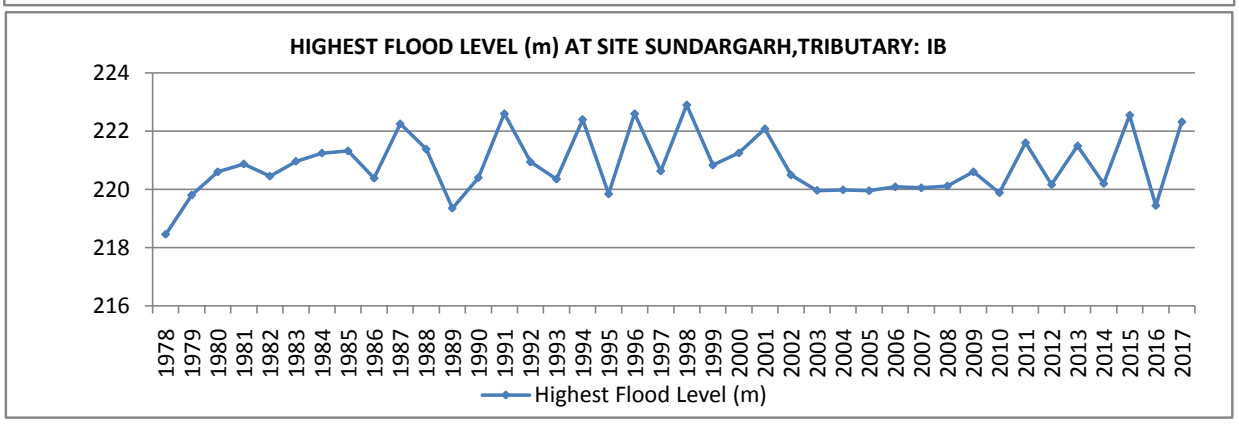
YEAR WISE TREND OF SITE SUNDERGARH

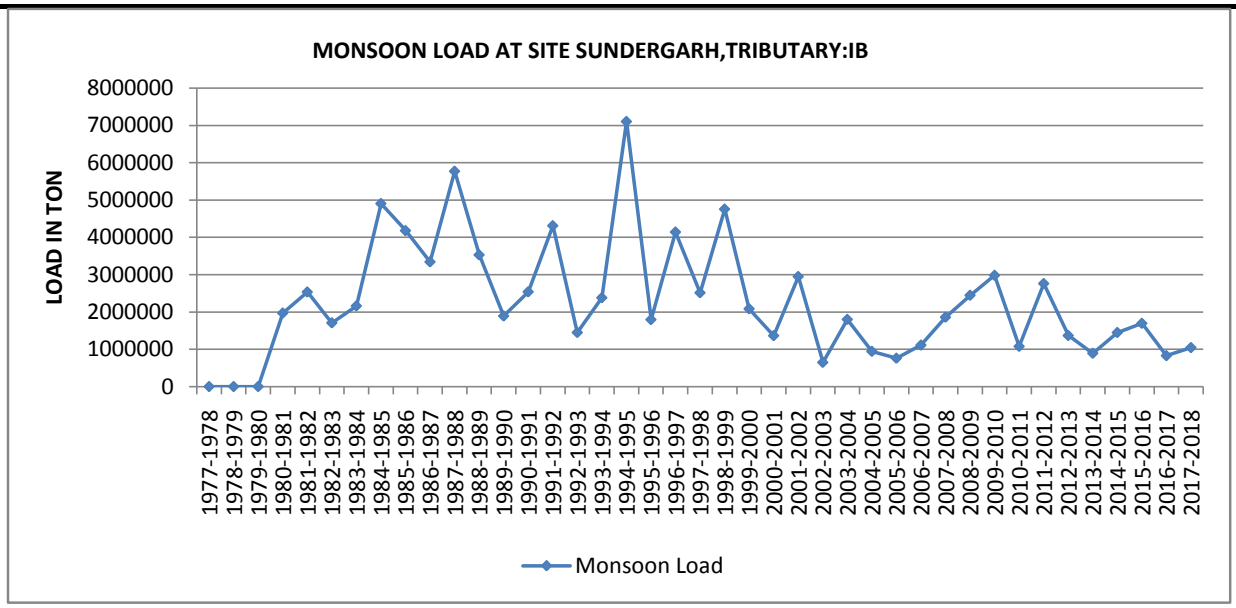


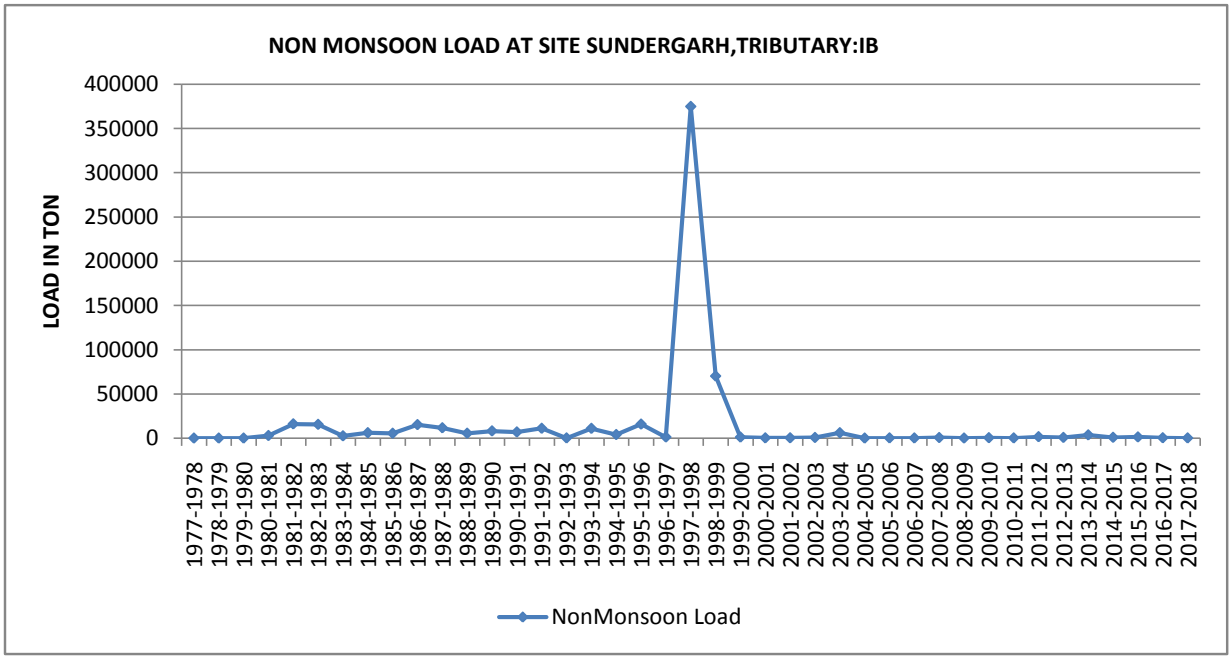

AVERAGE RUNOFF(MCM) PERIOD:1993-2018 SITE:SUNDERGARH,TRIBUTARY:IB
RUNOFF IN CUMEC
1000
800
600
400
200
0
June
July
August
September
October
November
December
January
February
March
April
May
Average Runoff(MCM)

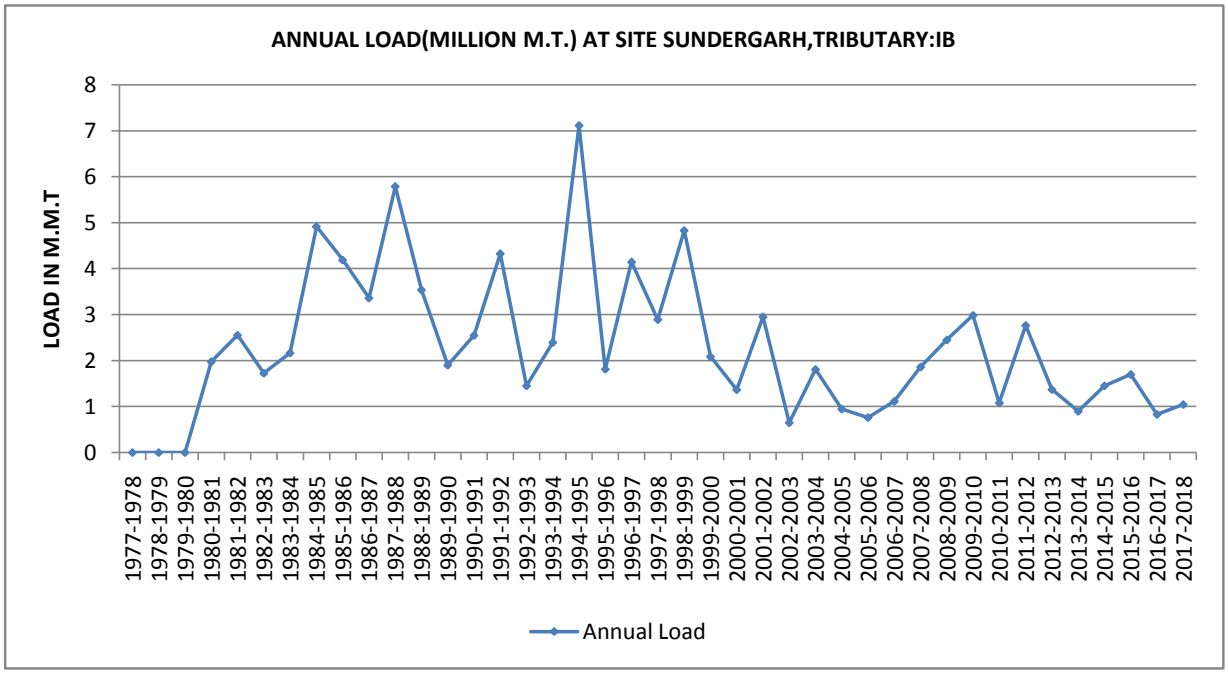

AVERAGE ANNUAL FLOW (CUMECS) WITH WATER LEVEL (M) SITE SUNDARGARH, TRIBUTARY: IB
FLOW IN CUMECS
250
200
150
100
50
0
WATER LEVEL IN M
217.6
217.4
217.2
217
216.8
216.6
216.4
216.2
216
1977-1978
1979-1980
1981-1982
1983-1984
1985-1986
1987-1988
1989-1990
1991-1992
1993-1994
1995-1996
1997-1998
1999-2000
2001-2002
2003-2004
2005-2006
2007-2008
2009-2010
2011-2012
2013-2014
2015-2016
2017-2018
Average Annual Flow (cumecs)
Average Water Level (m)

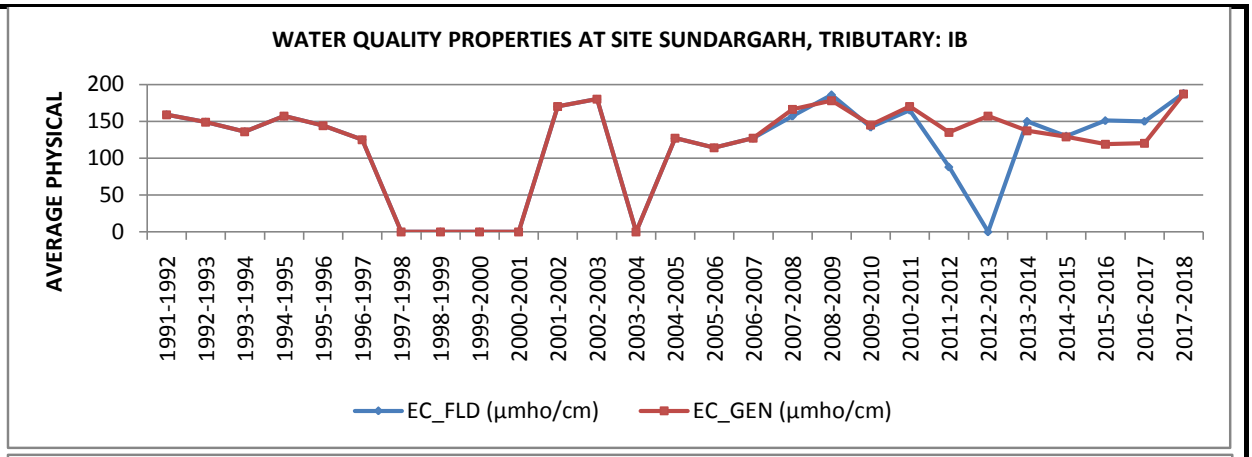

ANNUAL RUNOFF(MCM) SITE SUNDERGARH,TRIBUTARY:IB
RUNOFF IN MCM
8000
7000
6000
5000
4000
3000
2000
1000
0
1978-1979
1979-1980
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Annual Runoff (MCM)

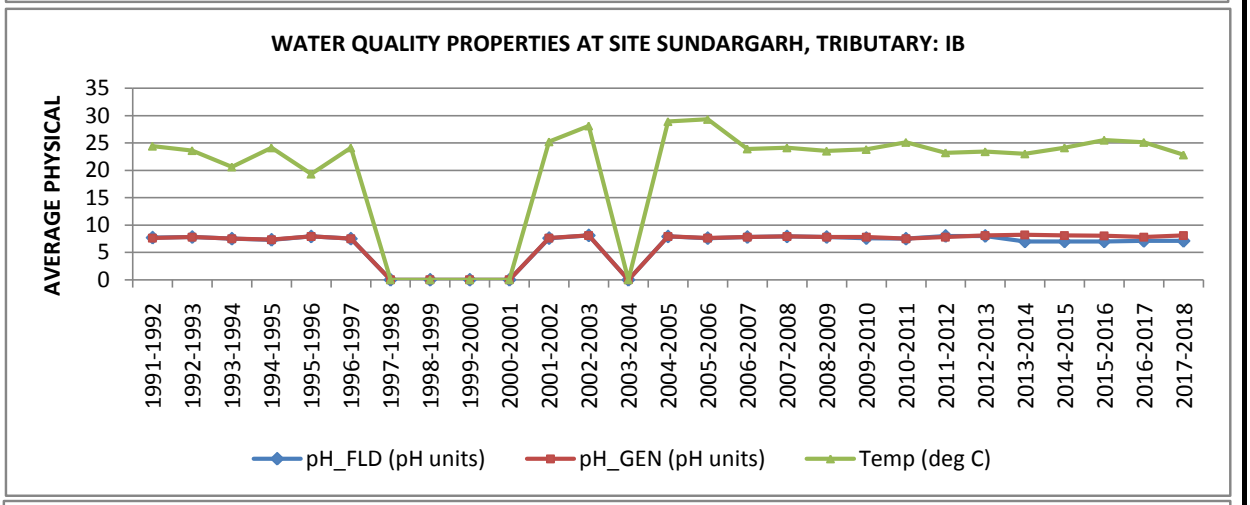

HIGHEST FLOOD LEVEL (m) AT SITE SUNDARGARH,TRIBUTARY: IB
224
222
220
218
216
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
Highest Flood Level (m)

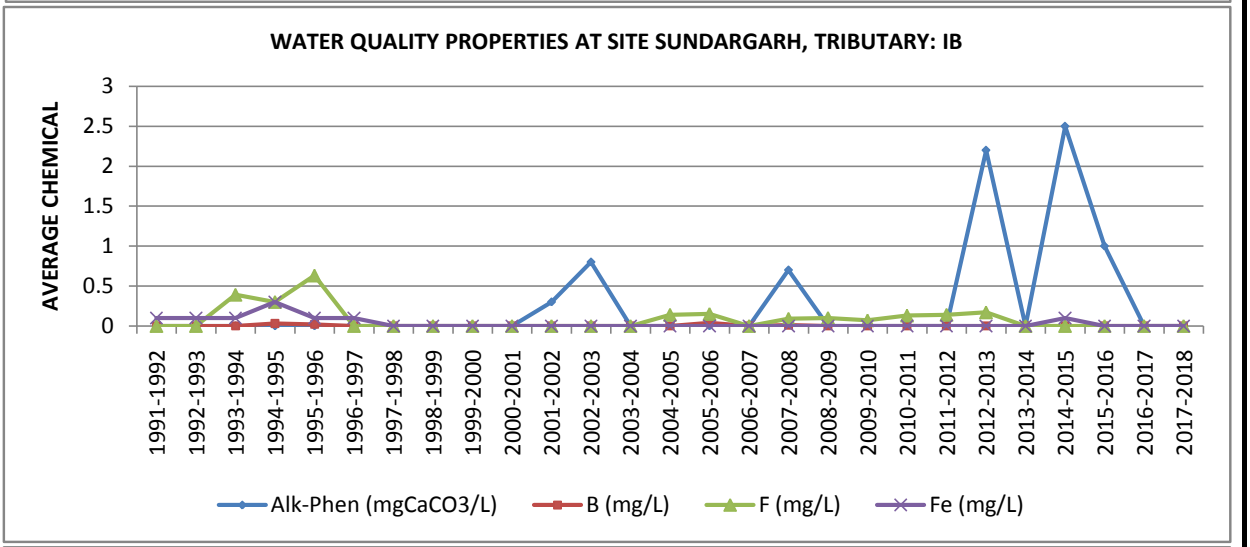

MONSOON LOAD AT SITE SUNDERGARH,TRIBUTARY:IB
LOAD IN TON
8000000
7000000
6000000
5000000
4000000
3000000
2000000
1000000
0
1977-1978
1978-1979
1979-1980
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Monsoon Load

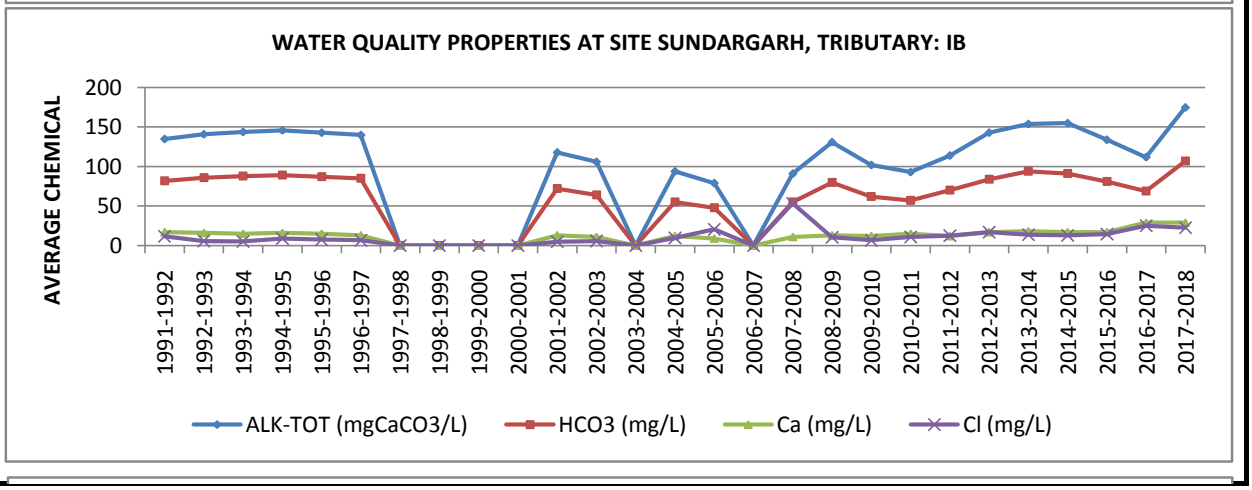

NON MONSOON LOAD AT SITE SUNDERGARH,TRIBUTARY:IB
LOAD IN TON
400000
350000
300000
250000
200000
150000
100000
50000
0
1977-1978
1978-1979
1979-1980
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
NonMonsoon Load

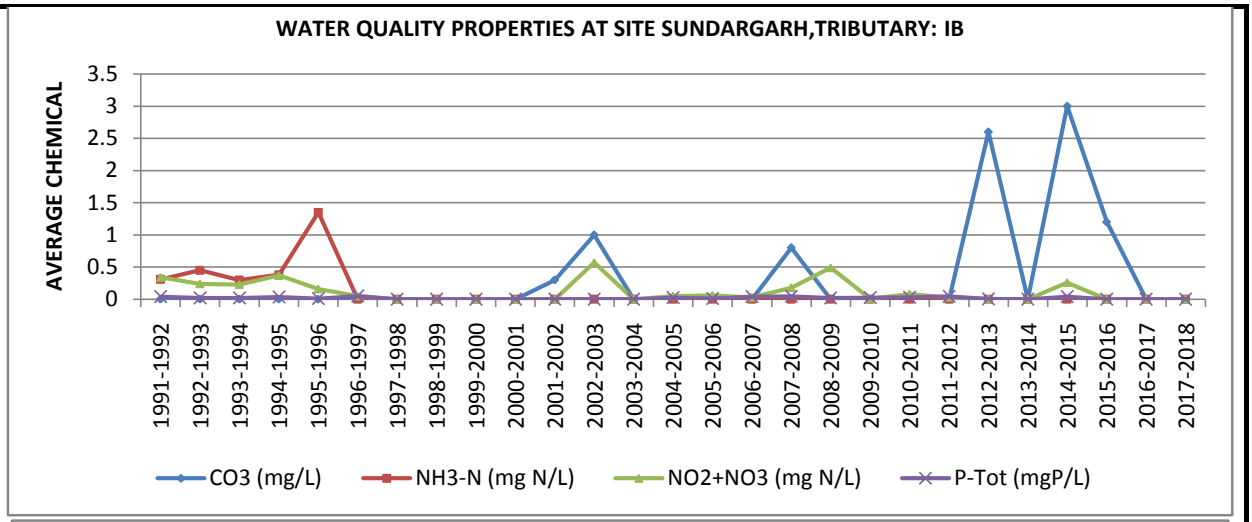

ANNUAL LOAD(MILLION M.T.) AT SITE SUNDERGARH,TRIBUTARY:IB
LOAD IN M.M.T
8
7
6
5
4
3
2
1
0
1977-1978
1978-1979
1979-1980
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Annual Load

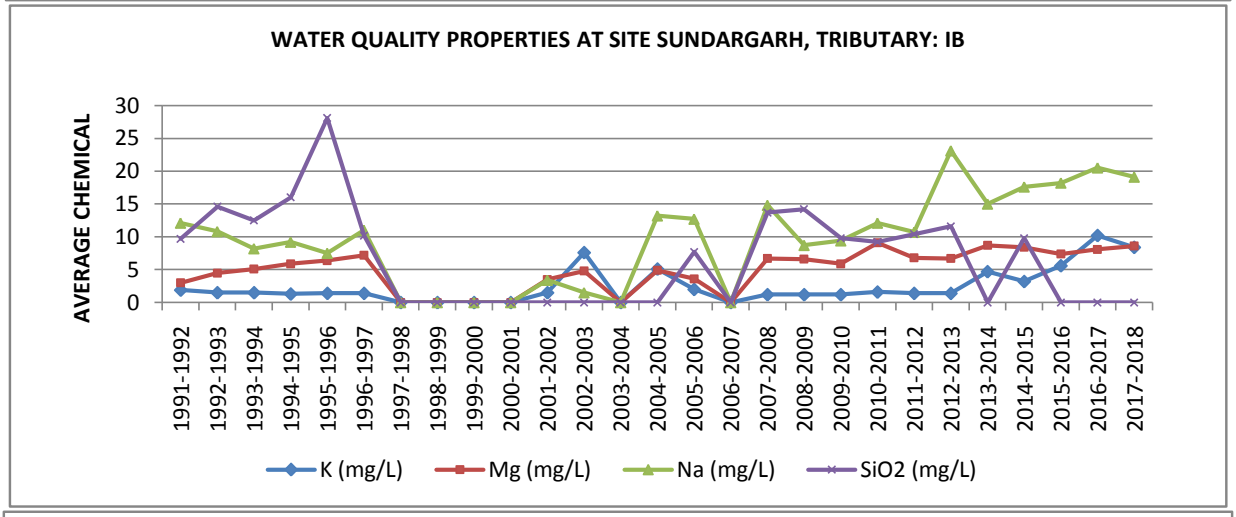

WATER QUALITY PROPERTIES AT SITE SUNDARGARH, TRIBUTARY: IB
AVERAGE PHYSICAL
200
150
100
50
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
EC_FLD (µmho/cm)
EC_GEN (µmho/cm)

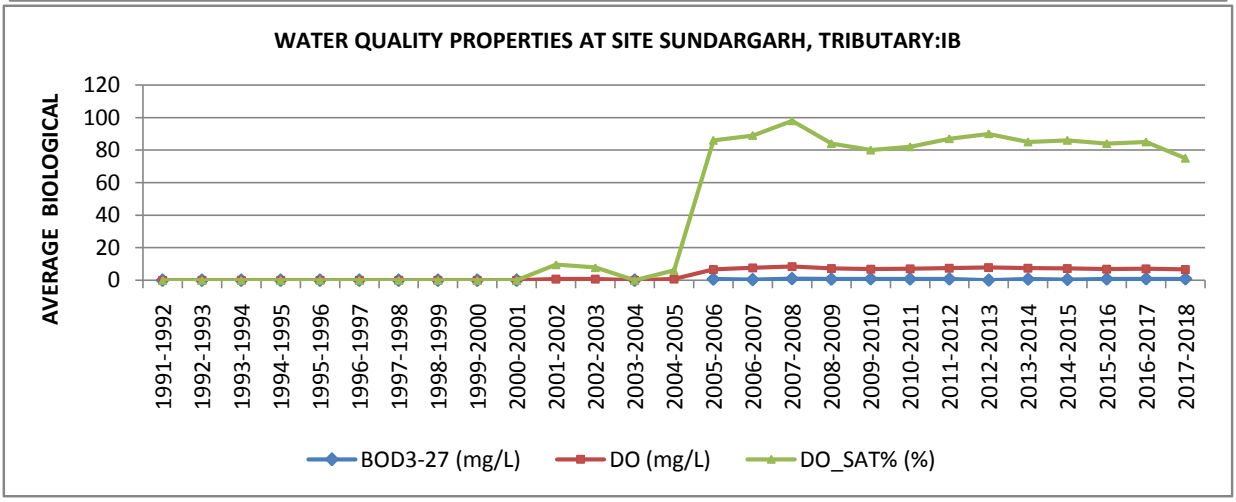

WATER QUALITY PROPERTIES AT SITE SUNDARGARH, TRIBUTARY: IB
AVERAGE PHYSICAL
35
30
25
20
15
10
5
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
pH_FLD (pH units)
pH_GEN (pH units)
Temp (deg C)

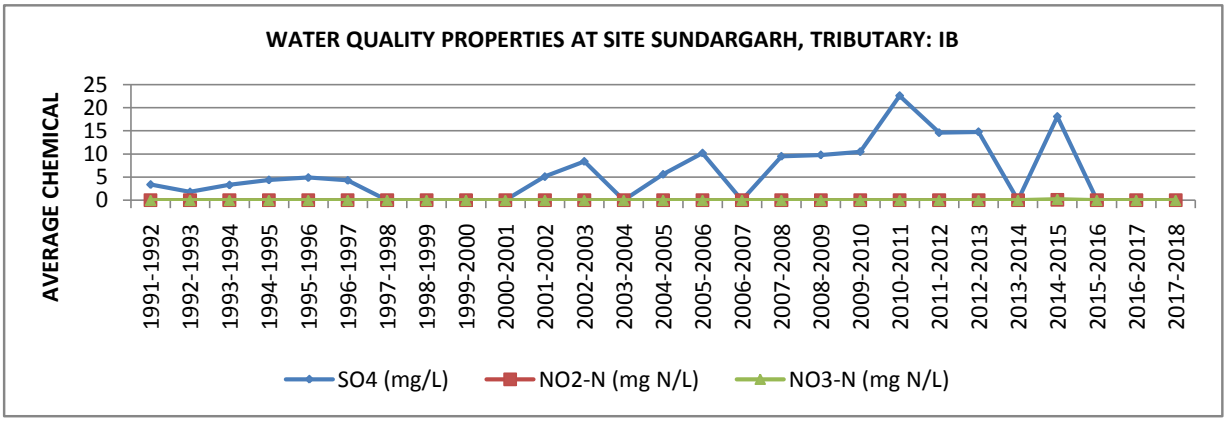

WATER QUALITY PROPERTIES AT SITE SUNDARGARH, TRIBUTARY: IB
AVERAGE CHEMICAL
3
2.5
2
1.5
1
0.5
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Alk-Phen (mgCaCO3/L)
B (mg/L)
F (mg/L)
Fe (mg/L)


WATER QUALITY PROPERTIES AT SITE SUNDARGARH, TRIBUTARY: IB
AVERAGE CHEMICAL
200
150
100
50
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
ALK-TOT (mgCaCO3/L)
HCO3 (mg/L)
Ca (mg/L)
Cl (mg/L)

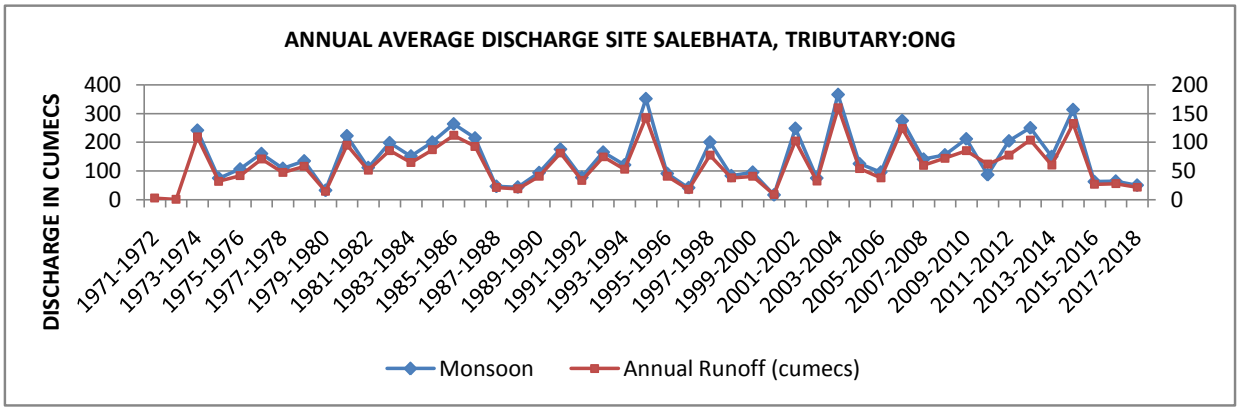

WATER QUALITY PROPERTIES AT SITE SUNDARGARH,TRIBUTARY: IB
AVERAGE CHEMICAL
3.5
3
2.5
2
1.5
1
0.5
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
CO3 (mg/L)
NH3-N (mg N/L)
NO2+NO3 (mg N/L)
P-Tot (mgP/L)

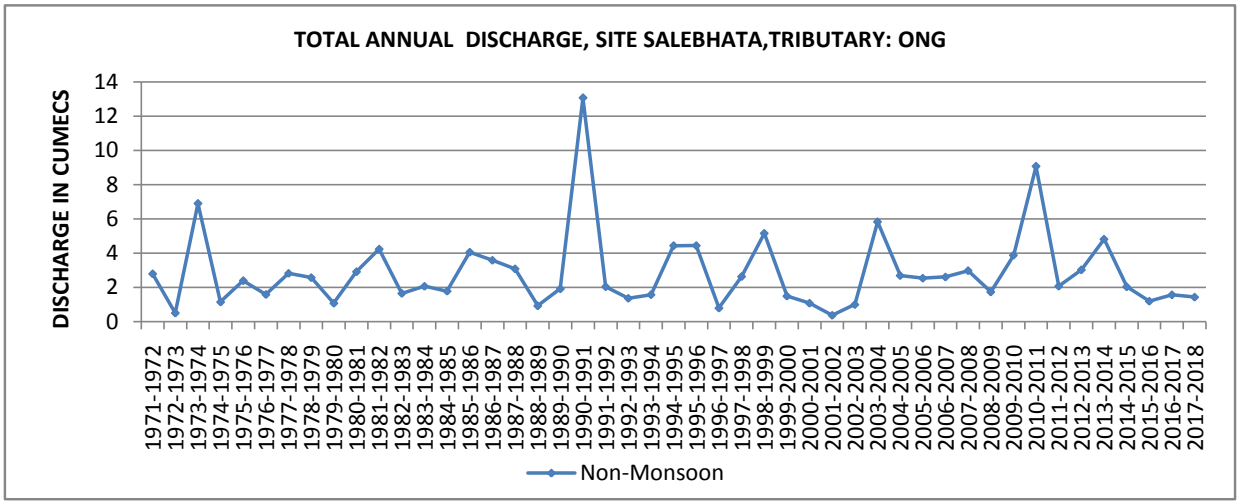

WATER QUALITY PROPERTIES AT SITE SUNDARGARH, TRIBUTARY: IB
AVERAGE CHEMICAL
30
25
20
15
10
5
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
K (mg/L)
Mg (mg/L)
Na (mg/L)
SiO2 (mg/L)

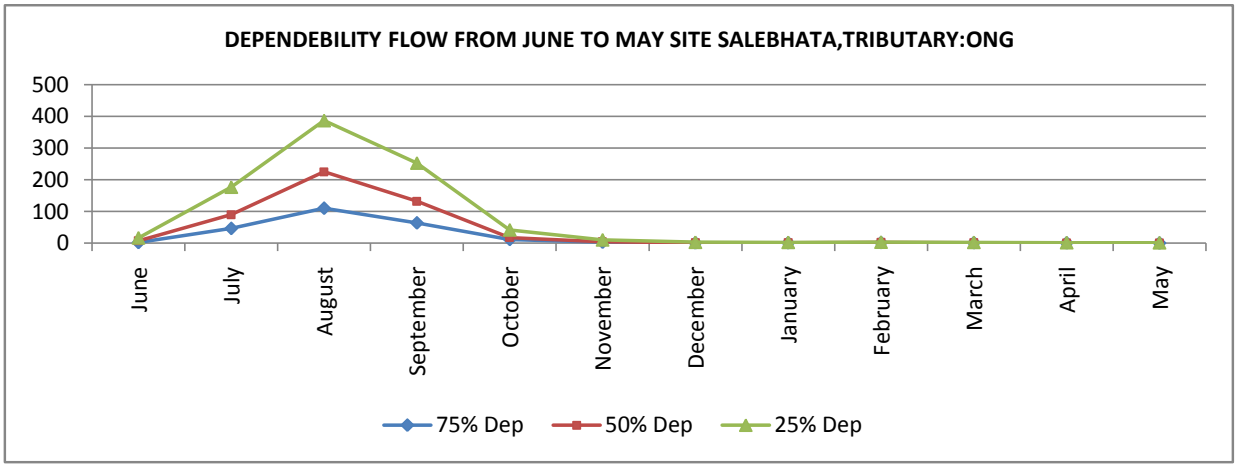

WATER QUALITY PROPERTIES AT SITE SUNDARGARH, TRIBUTARY:IB
AVERAGE BIOLOGICAL
120
100
80
60
40
20
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
BOD3-27 (mg/L)
DO (mg/L)
DO_SAT% (%)

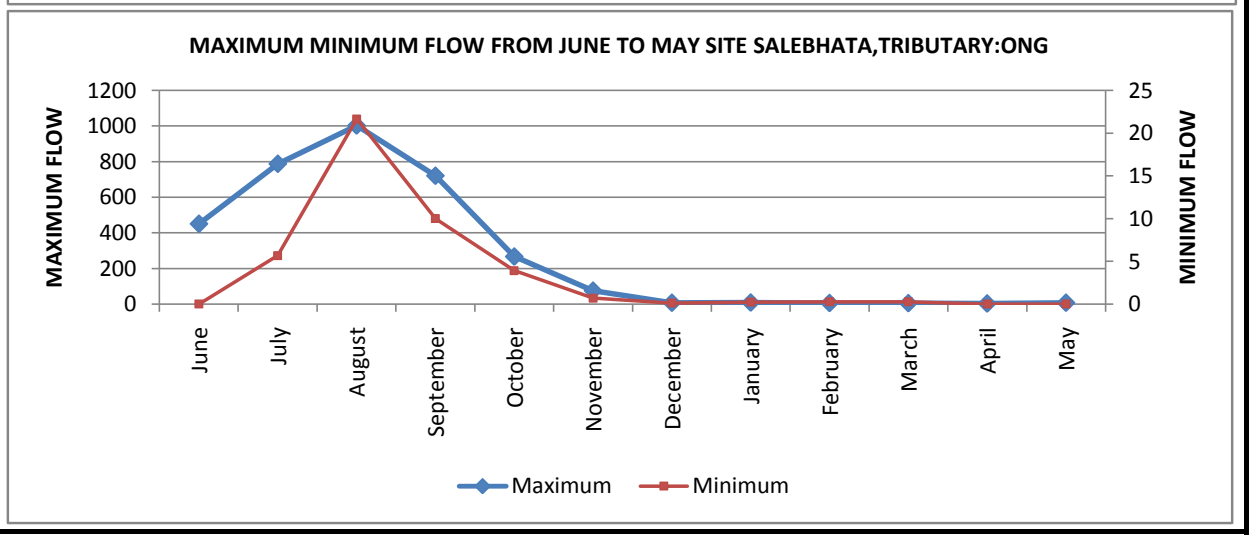

WATER QUALITY PROPERTIES AT SITE SUNDARGARH, TRIBUTARY: IB
AVERAGE CHEMICAL
25
20
15
10
5
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
SO4 (mg/L)
NO2-N (mg N/L)
NO3-N (mg N/L)

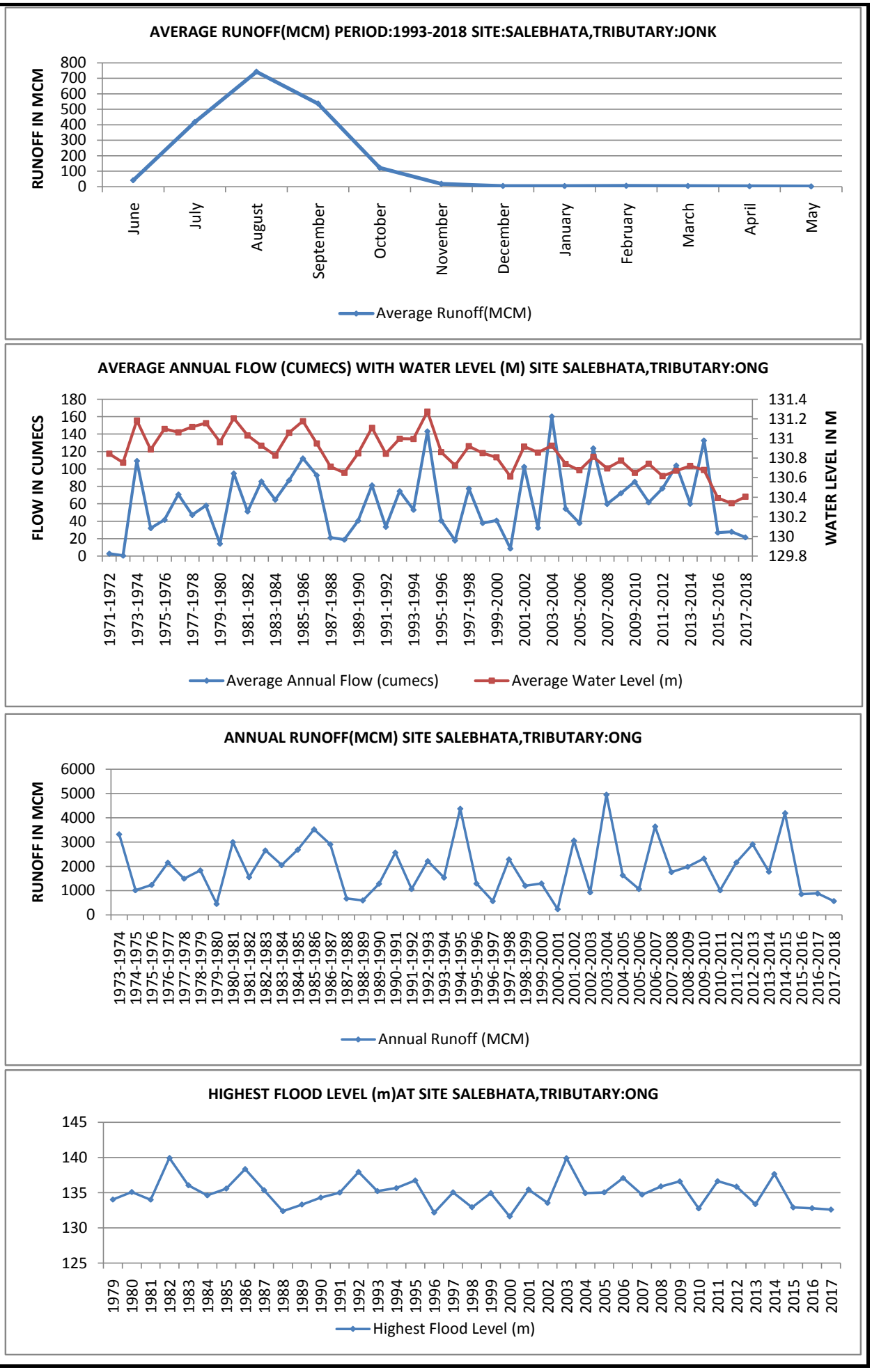
YEAR WISE TREND OF SITE SALEBHATA

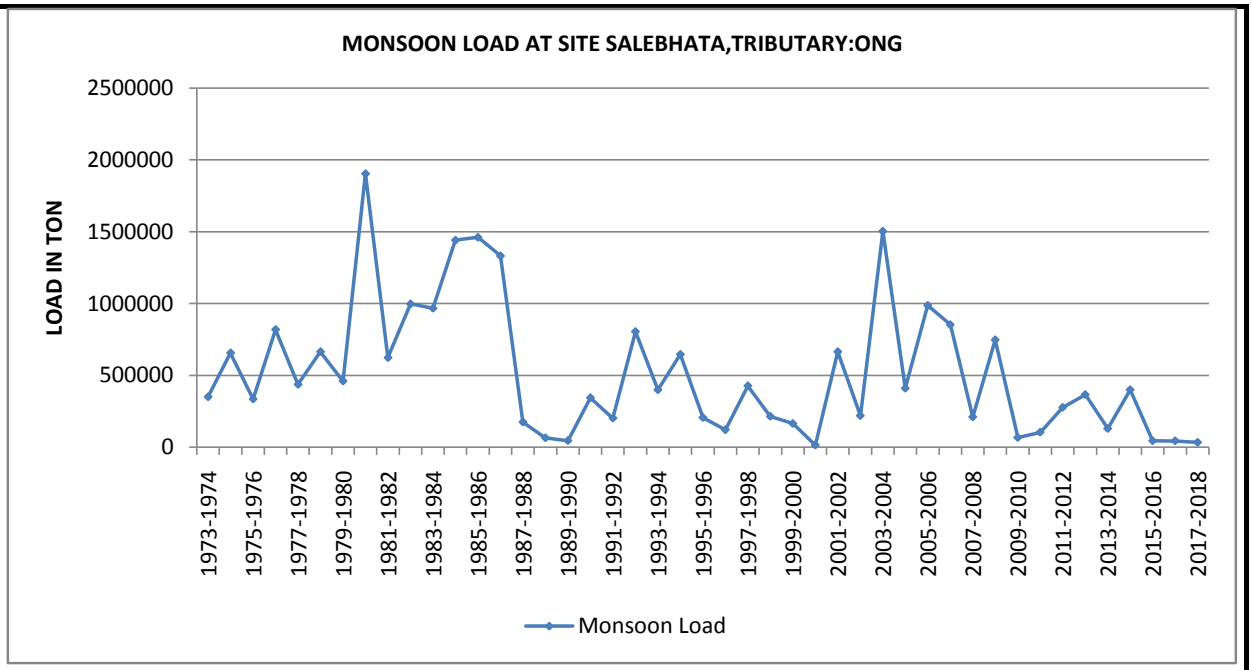


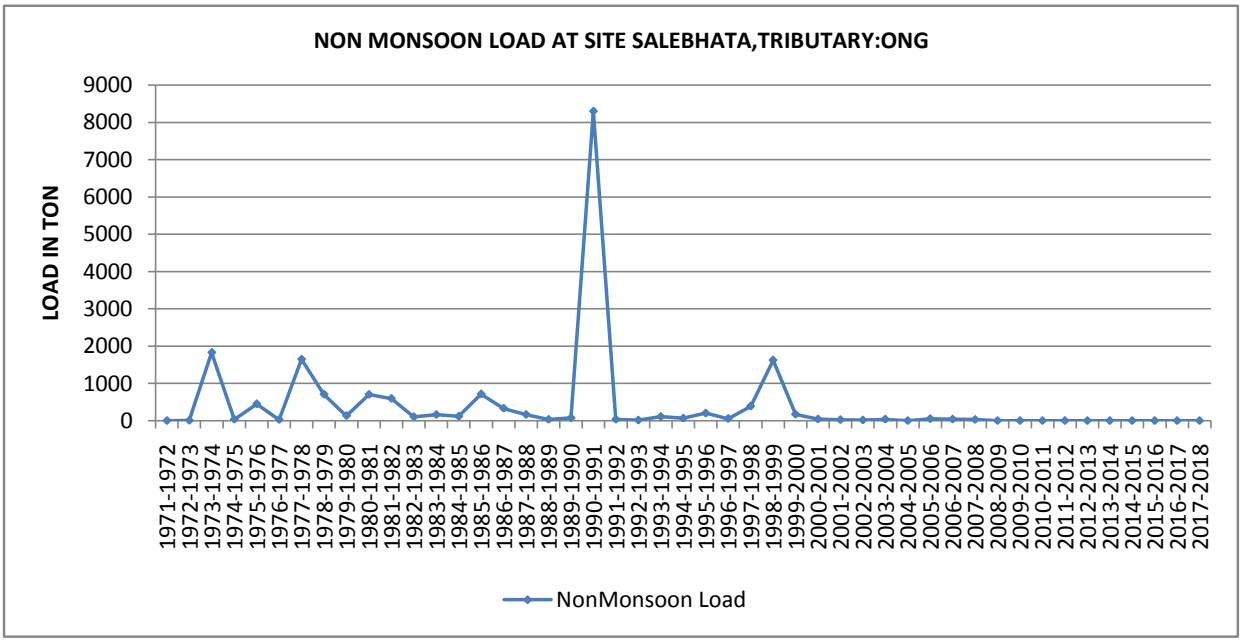


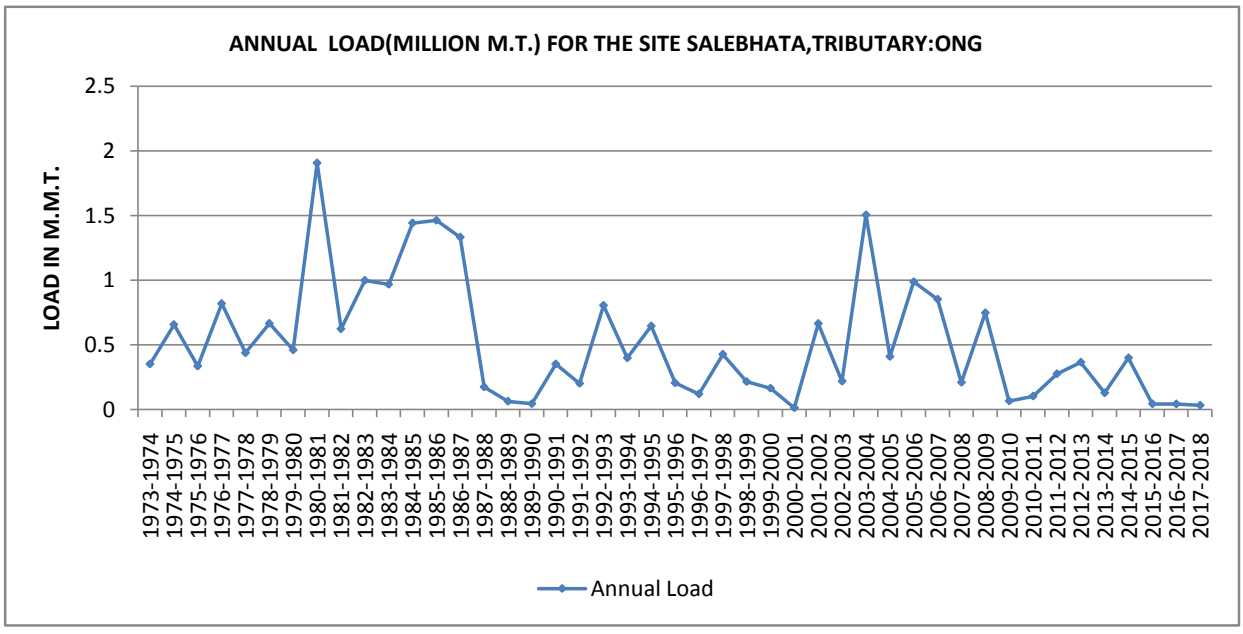





AVERAGE RUNOFF(MCM) PERIOD:1993-2018 SITE:SALEBHATA,TRIBUTARY:JONK
RUNOFF IN MCM
800
700
600
500
400
300
200
100
0
June
July
August
September
October
November
December
January
February
March
April
May
Average Runoff(MCM)
AVERAGE ANNUAL FLOW (CUMECS) WITH WATER LEVEL (M) SITE SALEBHATA,TRIBUTARY:ONG
FLOW IN CUMECS
180
160
140
120
100
80
60
40
20
0
WATER LEVEL IN M
131.4
131.2
131
130.8
130.6
130.4
130.2
130
129.8
1971-1972
1973-1974
1975-1976
1977-1978
1979-1980
1981-1982
1983-1984
1985-1986
1987-1988
1989-1990
1991-1992
1993-1994
1995-1996
1997-1998
1999-2000
2001-2002
2003-2004
2005-2006
2007-2008
2009-2010
2011-2012
2013-2014
2015-2016
2017-2018
Average Annual Flow (cumecs)
Average Water Level (m)
ANNUAL RUNOFF(MCM) SITE SALEBHATA,TRIBUTARY:ONG
RUNOFF IN MCM
6000
5000
4000
3000
2000
1000
0
1973-1974
1974-1975
1975-1976
1976-1977
1977-1978
1978-1979
1979-1980
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Annual Runoff (MCM)
HIGHEST FLOOD LEVEL (m)AT SITE SALEBHATA,TRIBUTARY:ONG
145
140
135
130
125
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
Highest Flood Level (m)


MONSOON LOAD AT SITE SALEBHATA,TRIBUTARY:ONG
LOAD IN TON
2500000
2000000
1500000
1000000
500000
0
1973-1974
1975-1976
1977-1978
1979-1980
1981-1982
1983-1984
1985-1986
1987-1988
1989-1990
1991-1992
1993-1994
1995-1996
1997-1998
1999-2000
2001-2002
2003-2004
2005-2006
2007-2008
2009-2010
2011-2012
2013-2014
2015-2016
2017-2018
Monsoon Load


NON MONSOON LOAD AT SITE SALEBHATA,TRIBUTARY:ONG
LOAD IN TON
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
1971-1972
1972-1973
1973-1974
1974-1975
1975-1976
1976-1977
1977-1978
1978-1979
1979-1980
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
NonMonsoon Load


ANNUAL LOAD(MILLION M.T.) FOR THE SITE SALEBHATA,TRIBUTARY:ONG
LOAD IN M.M.T.
2.5
2
1.5
1
0.5
0
1973-1974
1974-1975
1975-1976
1976-1977
1977-1978
1978-1979
1979-1980
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
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1990-1991
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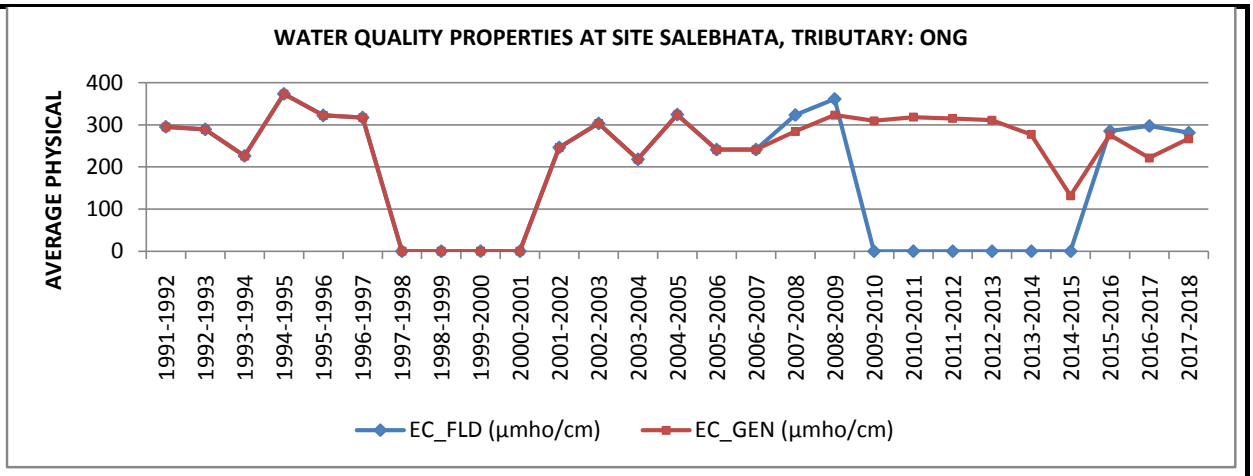
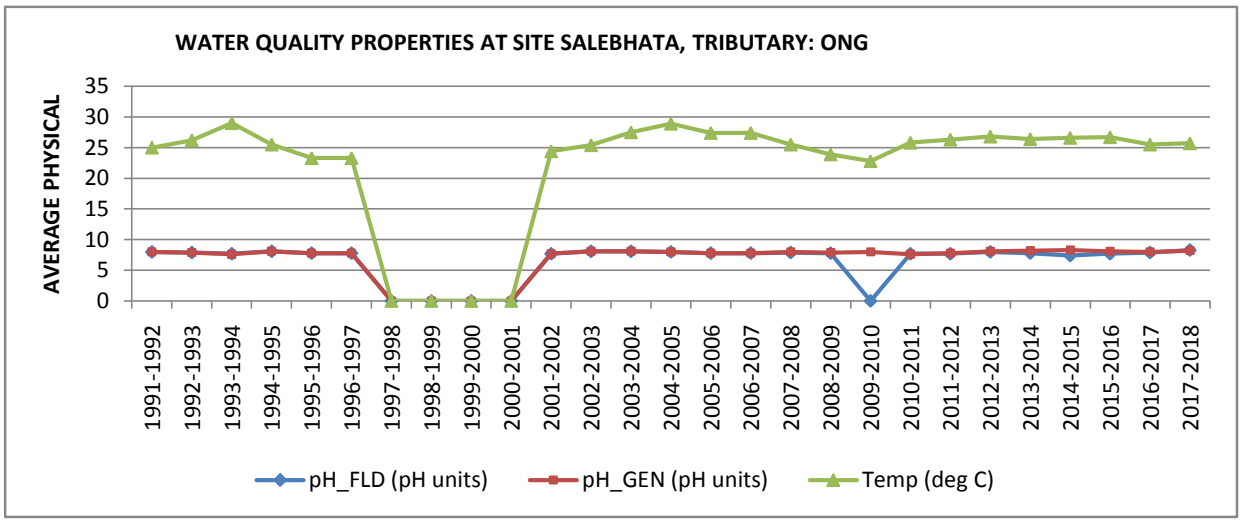
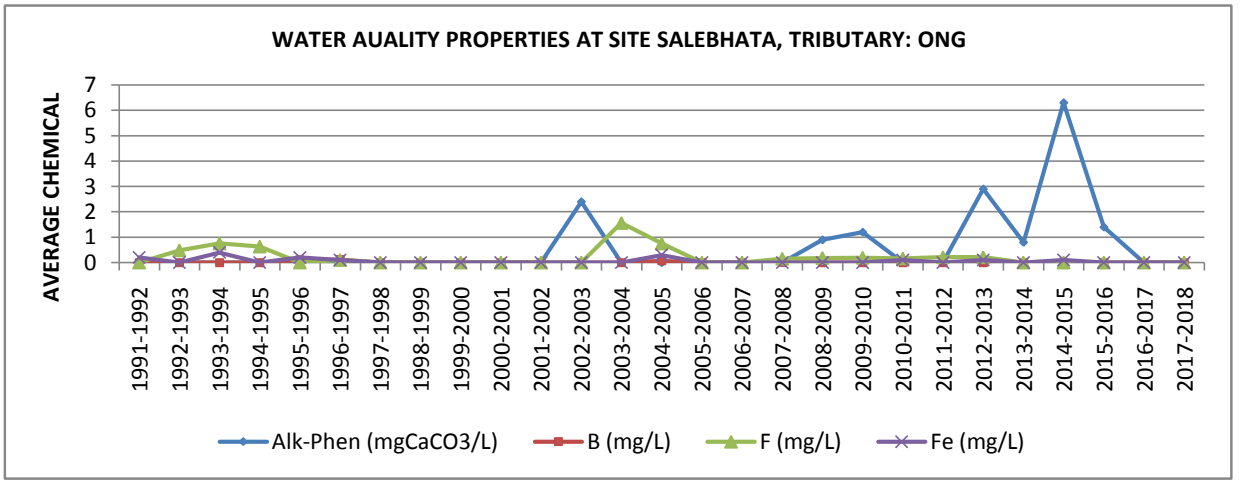
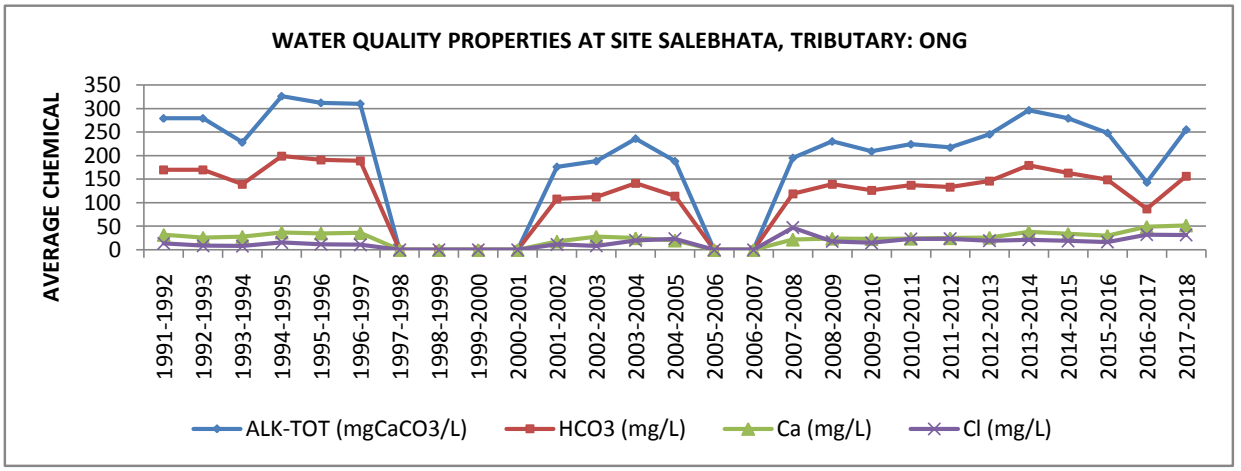
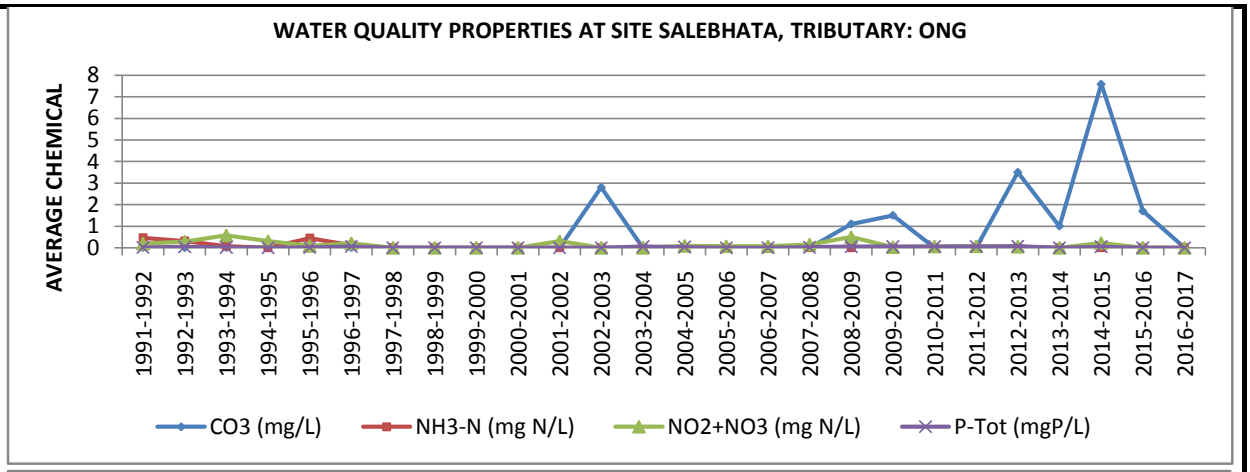
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Annual Load

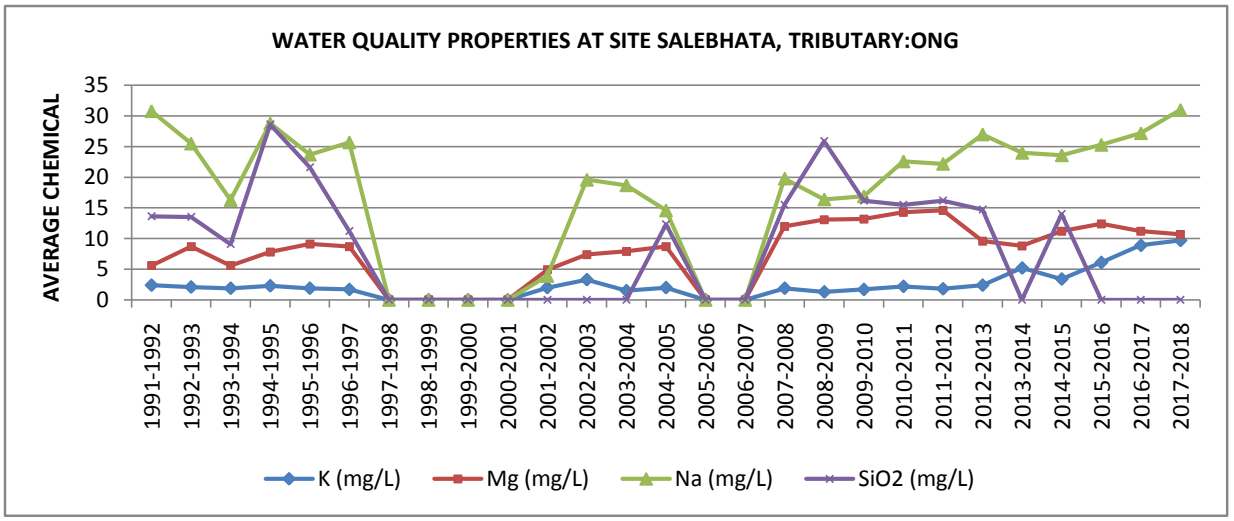

WATER QUALITY PROPERTIES AT SITE SALEBHATA, TRIBUTARY: ONG
AVERAGE PHYSICAL
400
300
200
100
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
EC_FLD (µmho/cm)
EC_GEN (µmho/cm)

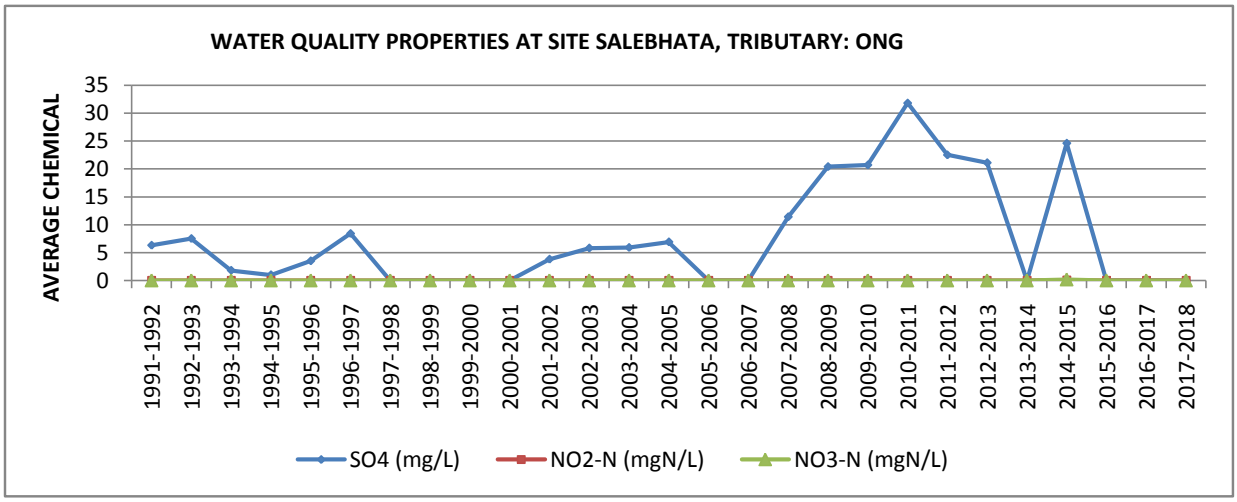

WATER QUALITY PROPERTIES AT SITE SALEBHATA, TRIBUTARY: ONG
AVERAGE PHYSICAL
35
30
25
20
15
10
5
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
pH_FLD (pH units)
pH_GEN (pH units)
Temp (deg C)

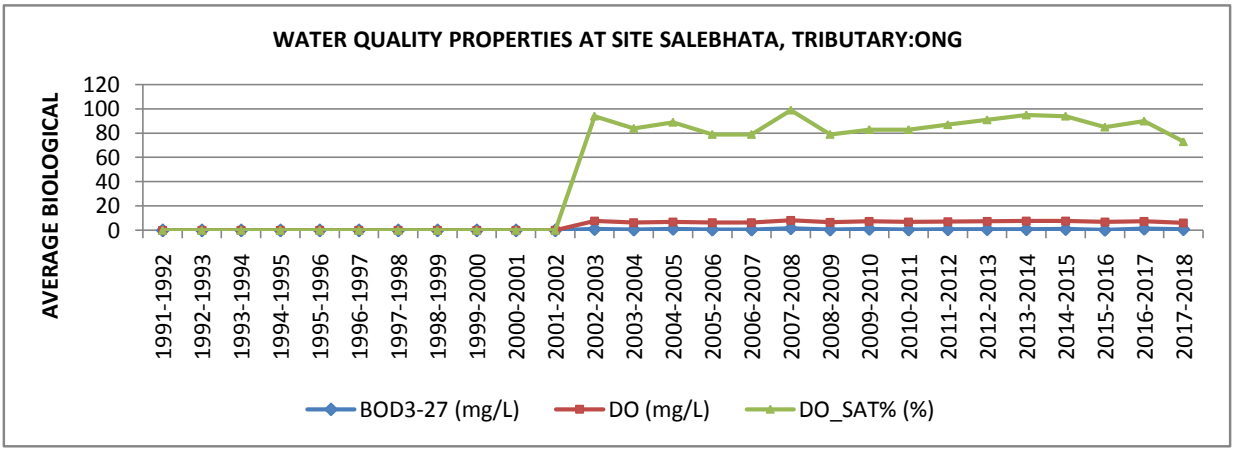

WATER AUALITY PROPERTIES AT SITE SALEBHATA, TRIBUTARY: ONG
AVERAGE CHEMICAL
7
6
5
4
3
2
1
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Alk-Phen (mgCaCO3/L)
B (mg/L)
F (mg/L)
Fe (mg/L)


WATER QUALITY PROPERTIES AT SITE SALEBHATA, TRIBUTARY: ONG
AVERAGE CHEMICAL
350
300
250
200
150
100
50
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
ALK-TOT (mgCaCO3/L)
HCO3 (mg/L)
Ca (mg/L)
Cl (mg/L)

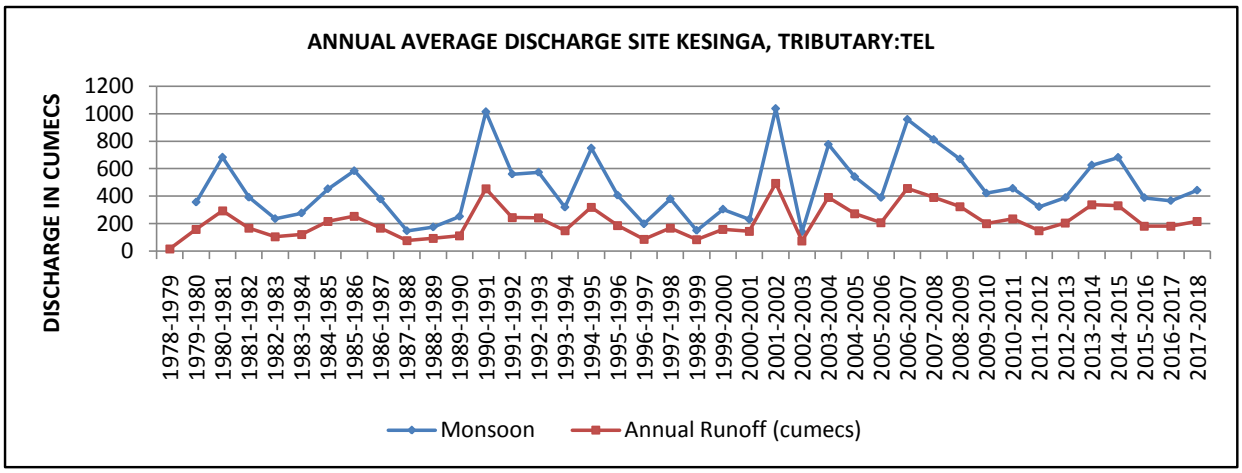

WATER QUALITY PROPERTIES AT SITE SALEBHATA, TRIBUTARY: ONG
AVERAGE CHEMICAL
0
1
2
3
4
5
6
7
8
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
CO3 (mg/L)
NH3-N (mg N/L)
NO2+NO3 (mg N/L)
P-Tot (mgP/L)

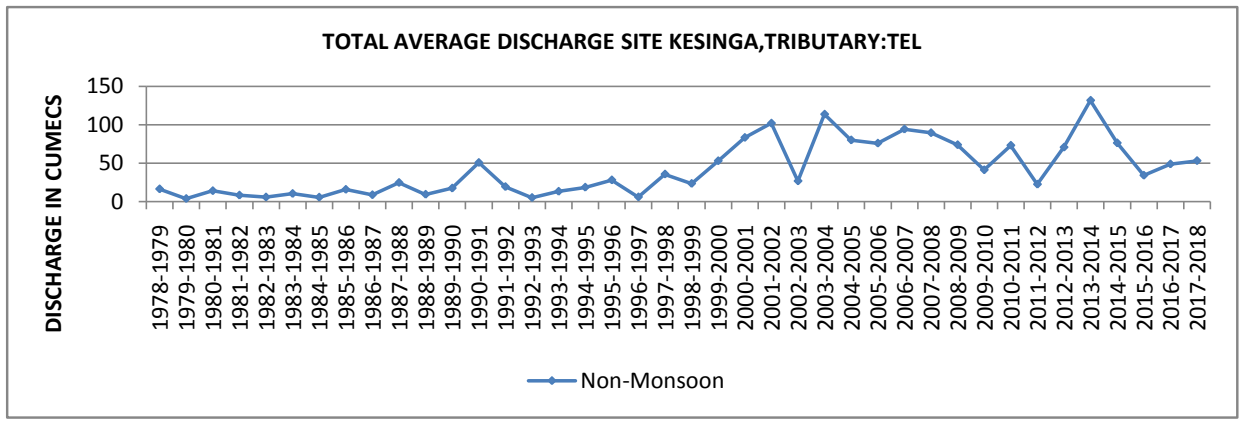

WATER QUALITY PROPERTIES AT SITE SALEBHATA, TRIBUTARY:ONG
AVERAGE CHEMICAL
0
5
10
15
20
25
30
35
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
K (mg/L)
Mg (mg/L)
Na (mg/L)
SiO2 (mg/L)

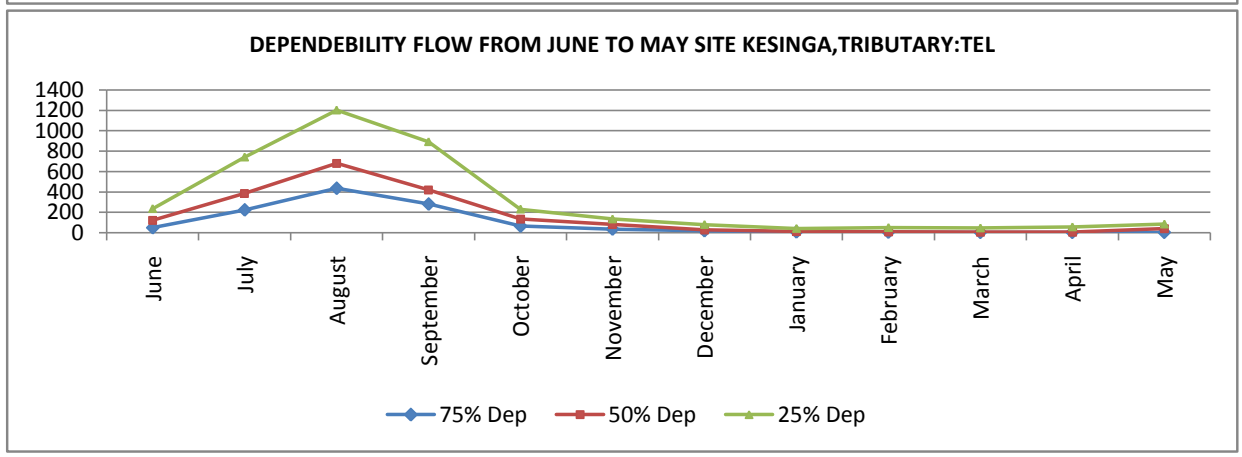

WATER QUALITY PROPERTIES AT SITE SALEBHATA, TRIBUTARY: ONG
AVERAGE CHEMICAL
0
5
10
15
20
25
30
35
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
SO4 (mg/L)
NO2-N (mgN/L)
NO3-N (mgN/L)

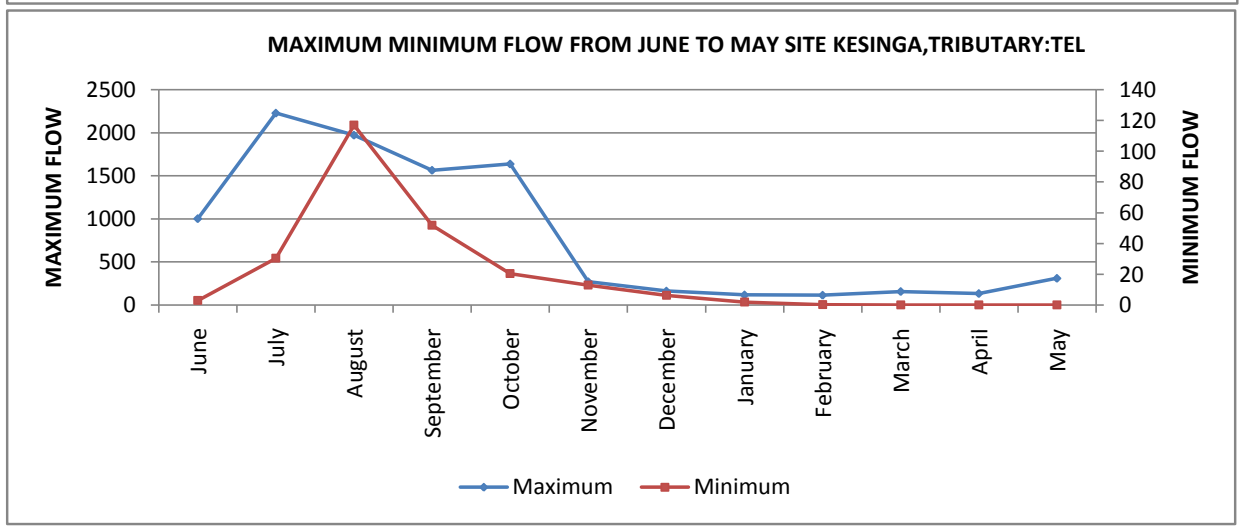

WATER QUALITY PROPERTIES AT SITE SALEBHATA, TRIBUTARY:ONG
AVERAGE BIOLOGICAL
0
20
40
60
80
100
120
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
BOD3-27 (mg/L)
DO (mg/L)
DO_SAT% (%)

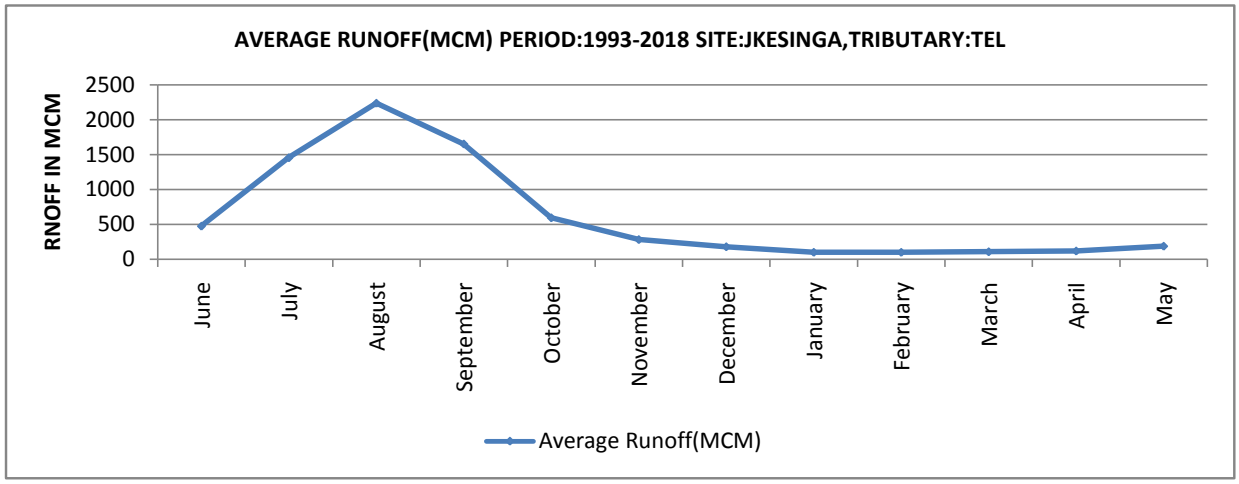
YEAR WISE TREND OF SITE KESINGA

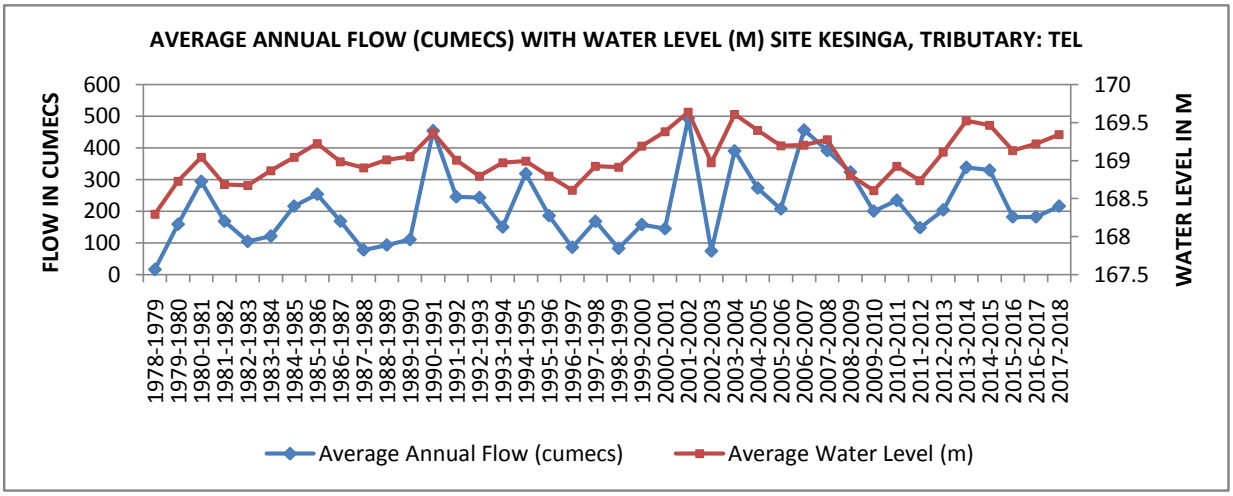


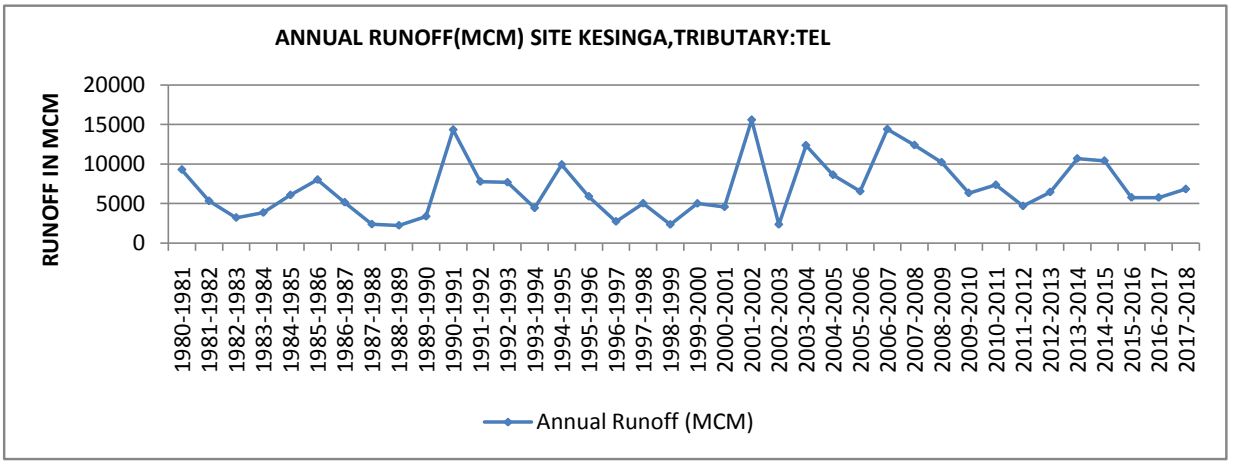


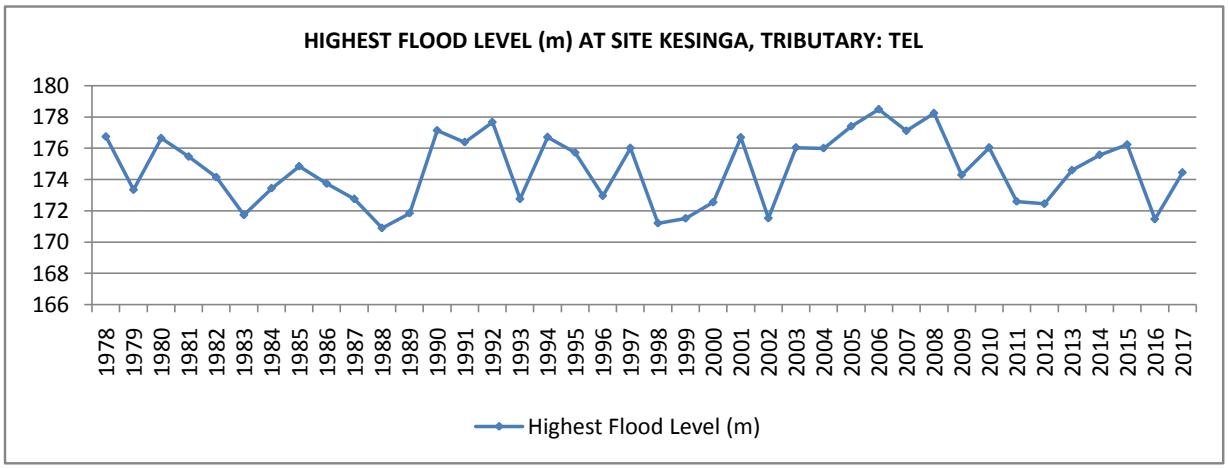


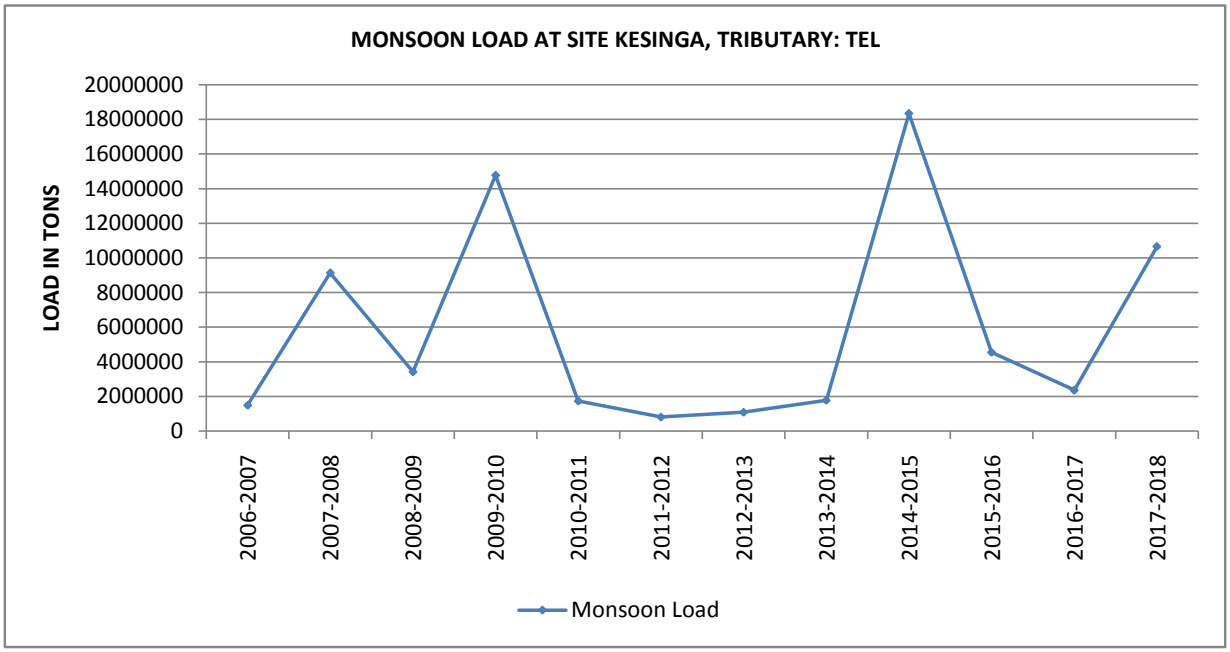


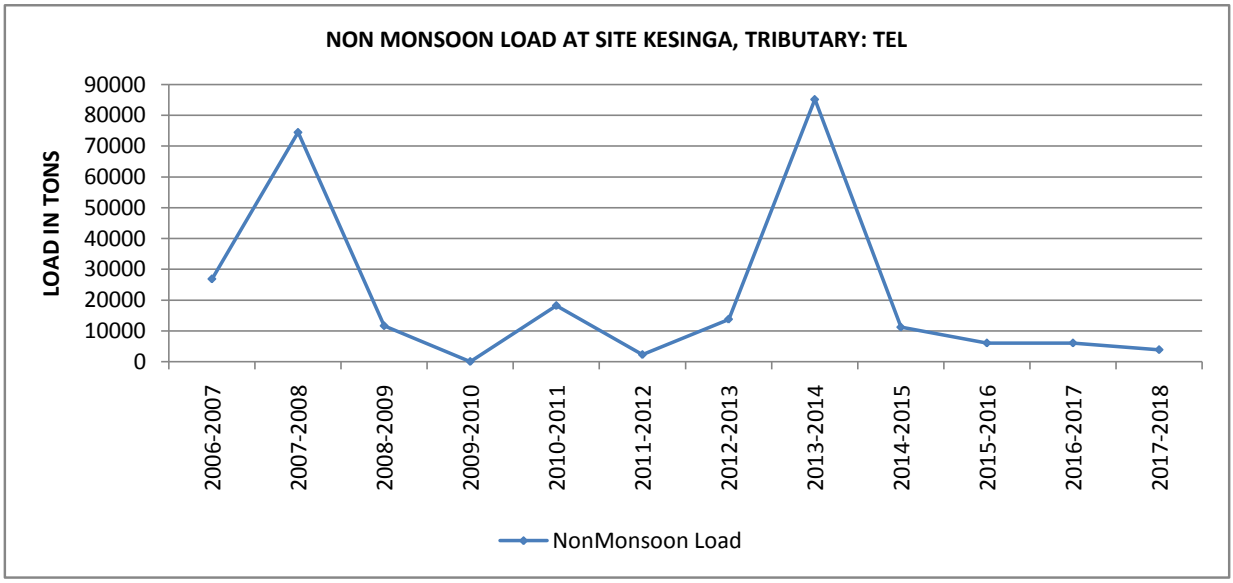

AVERAGE RUNOFF(MCM) PERIOD:1993-2018 SITE:JKESINGA,TRIBUTARY:TEL
RNOFF IN MCM
2500
2000
1500
1000
500
0
June
July
August
September
October
November
December
January
February
March
April
May
Average Runoff(MCM)

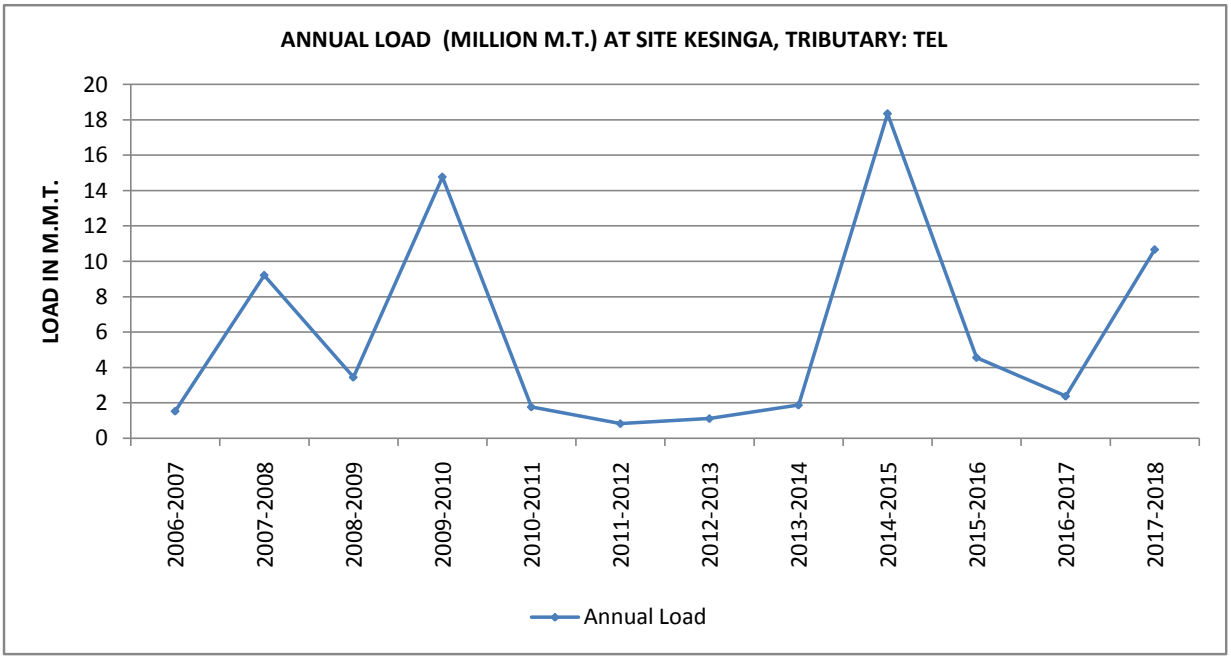

AVERAGE ANNUAL FLOW (CUMECS) WITH WATER LEVEL (M) SITE KESINGA, TRIBUTARY: TEL
FLOW IN CUMECS
600
500
400
300
200
100
0
WATER LEVEL IN M
170
169.5
169
168.5
168
167.5
1978-1979
1979-1980
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Average Annual Flow (cumecs)
Average Water Level (m)

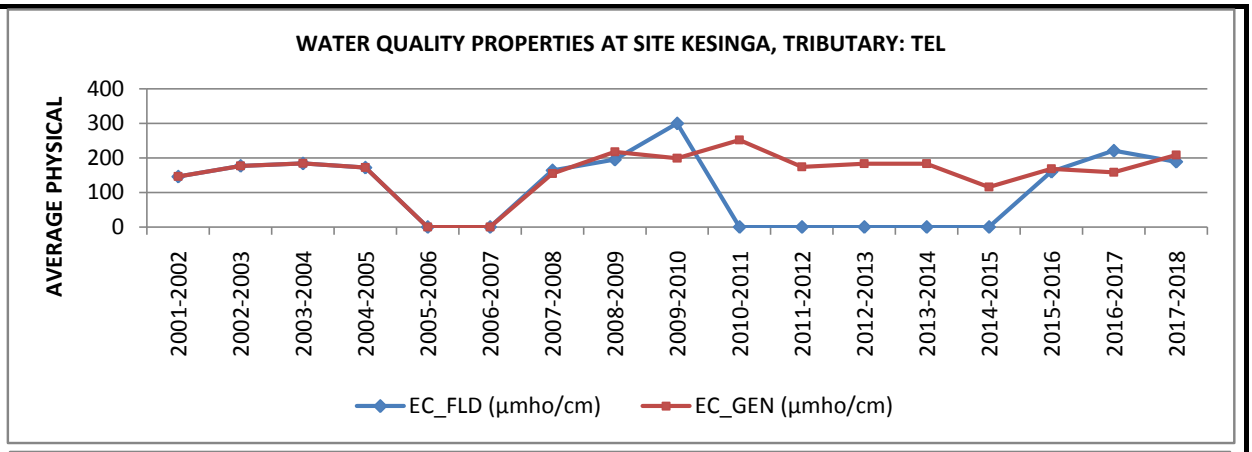

ANNUAL RUNOFF(MCM) SITE KESINGA,TRIBUTARY:TEL
RUNOFF IN MCM
20000
15000
10000
5000
0
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Annual Runoff (MCM)

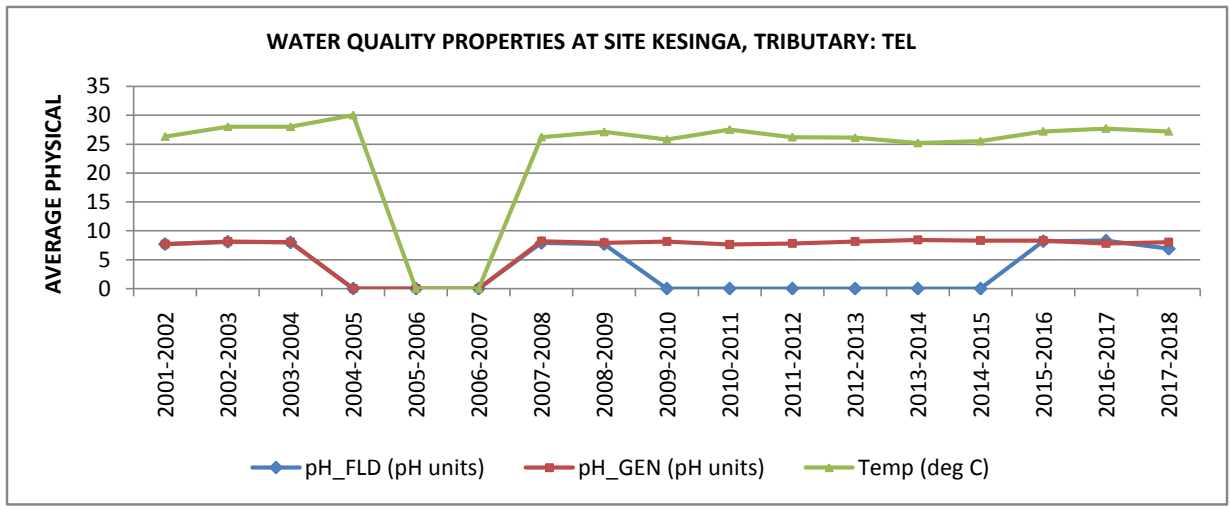

HIGHEST FLOOD LEVEL (m) AT SITE KESINGA, TRIBUTARY: TEL
180
178
176
174
172
170
168
166
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
Highest Flood Level (m)

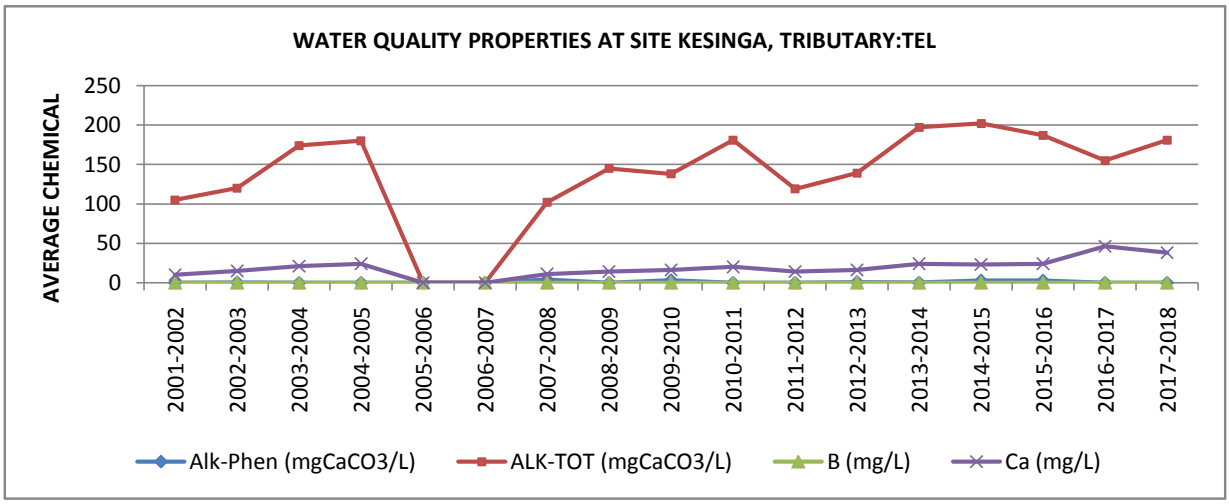

MONSOON LOAD AT SITE KESINGA, TRIBUTARY: TEL
LOAD IN TONS
20000000
18000000
16000000
14000000
12000000
10000000
8000000
6000000
4000000
2000000
0
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Monsoon Load

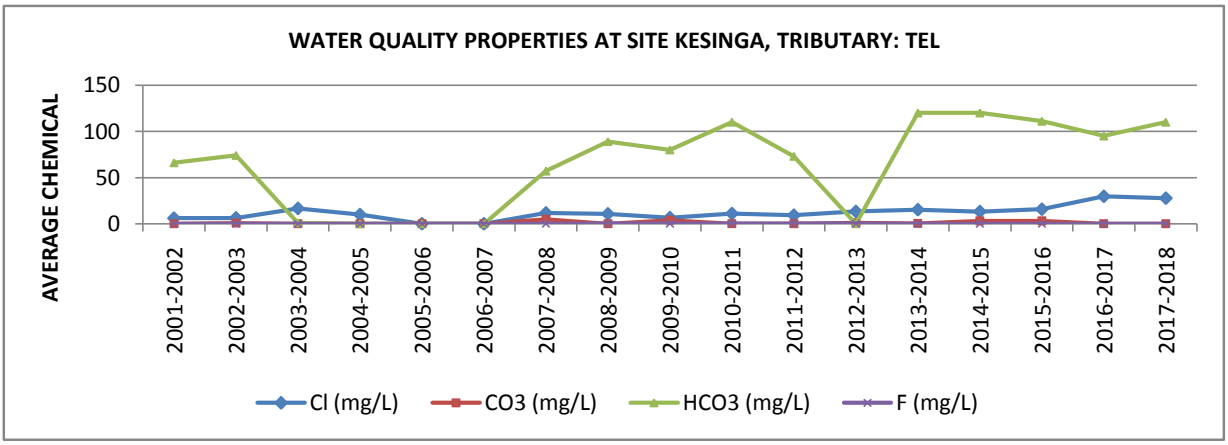

NON MONSOON LOAD AT SITE KESINGA, TRIBUTARY: TEL
LOAD IN TONS
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
NonMonsoon Load

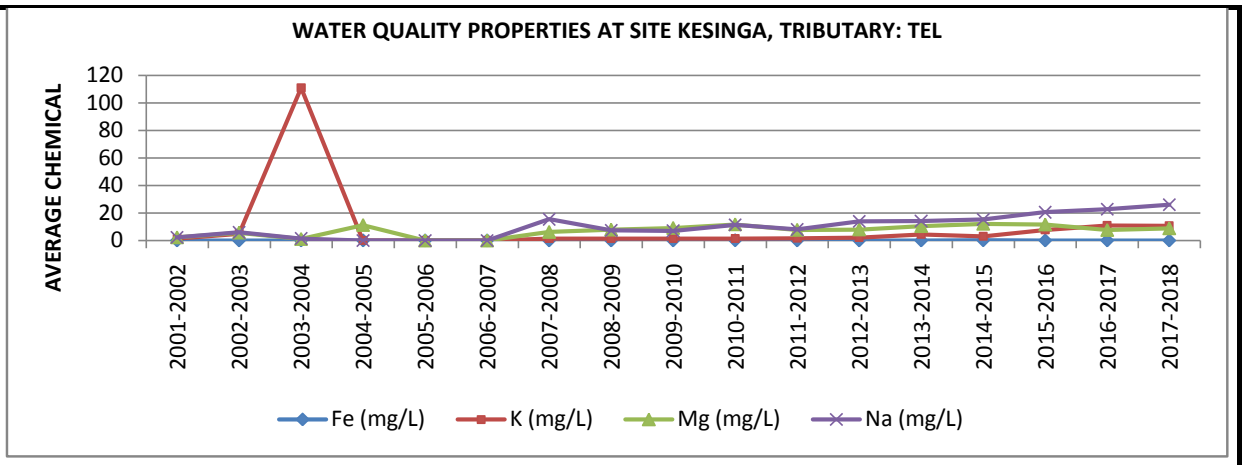

ANNUAL LOAD (MILLION M.T.) AT SITE KESINGA, TRIBUTARY: TEL
LOAD IN M.M.T.
20
18
16
14
12
10
8
6
4
2
0
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Annual Load

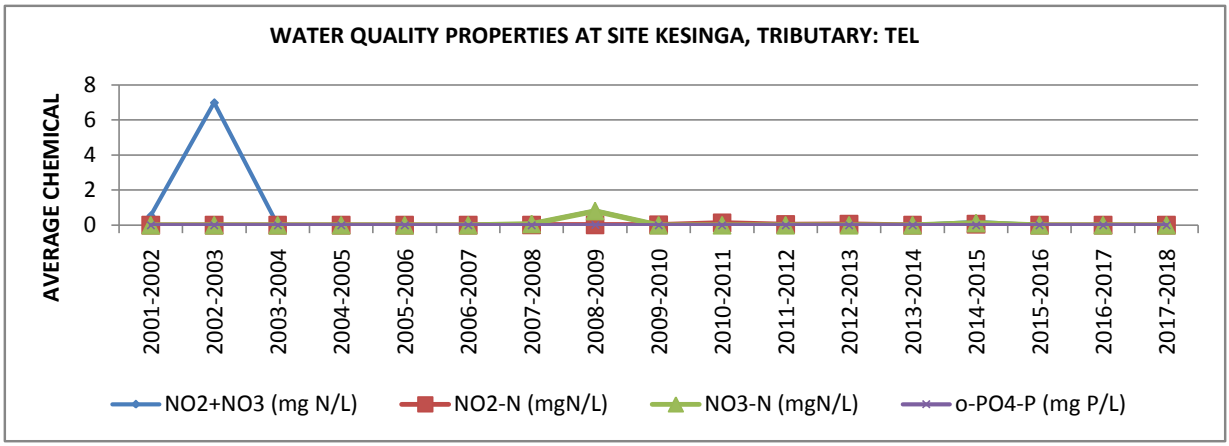

WATER QUALITY PROPERTIES AT SITE KESINGA, TRIBUTARY: TEL
AVERAGE PHYSICAL
400
300
200
100
0
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
EC_FLD (µmho/cm)
EC_GEN (µmho/cm)

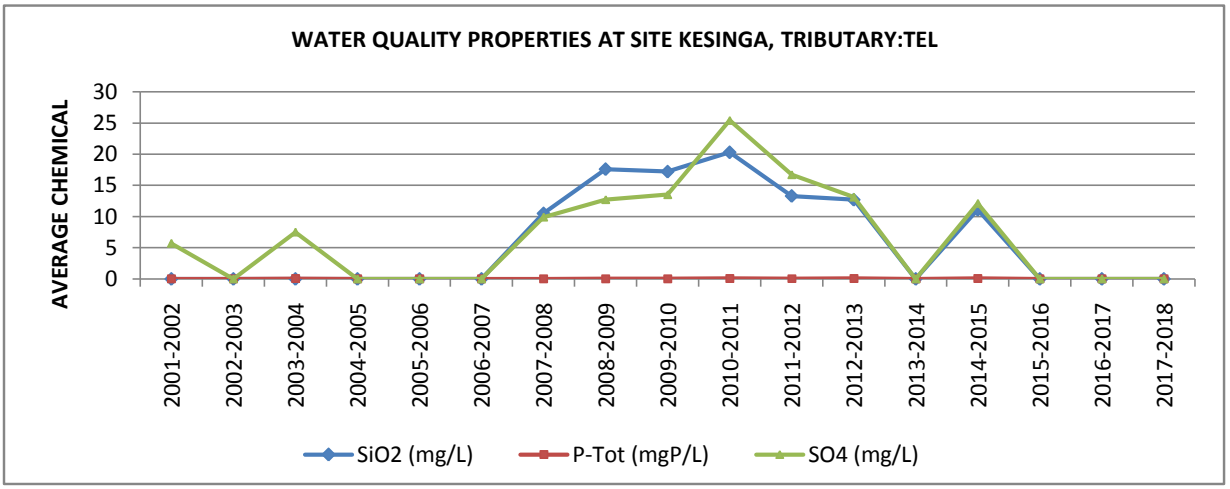

WATER QUALITY PROPERTIES AT SITE KESINGA, TRIBUTARY: TEL
AVERAGE PHYSICAL
35
30
25
20
15
10
5
0
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
pH_FLD (pH units)
pH_GEN (pH units)
Temp (deg C)

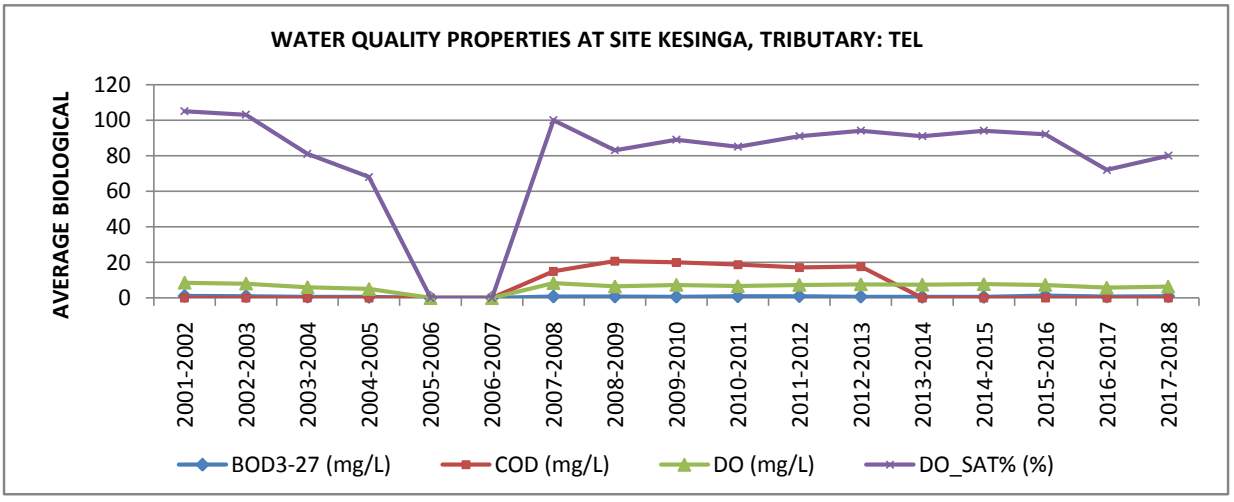

WATER QUALITY PROPERTIES AT SITE KESINGA, TRIBUTARY:TEL
AVERAGE CHEMICAL
250
200
150
100
50
0
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Alk-Phen (mgCaCO3/L)
ALK-TOT (mgCaCO3/L)
B (mg/L)
Ca (mg/L)


WATER QUALITY PROPERTIES AT SITE KESINGA, TRIBUTARY: TEL
AVERAGE CHEMICAL
150
100
50
0
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Cl (mg/L)
CO3 (mg/L)
HCO3 (mg/L)
F (mg/L)

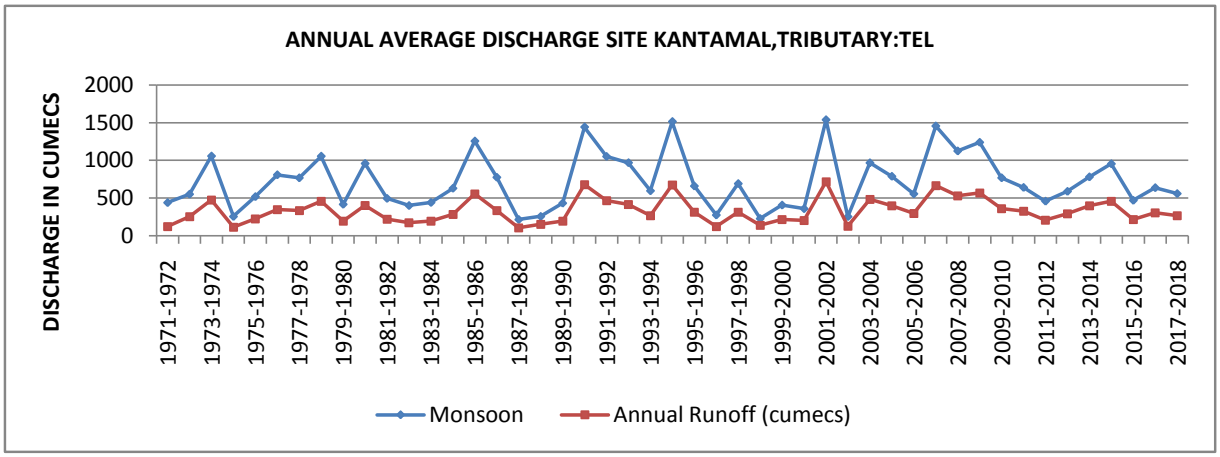

WATER QUALITY PROPERTIES AT SITE KESINGA, TRIBUTARY: TEL
AVERAGE CHEMICAL
120
100
80
60
40
20
0
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Fe (mg/L)
K (mg/L)
Mg (mg/L)
Na (mg/L)

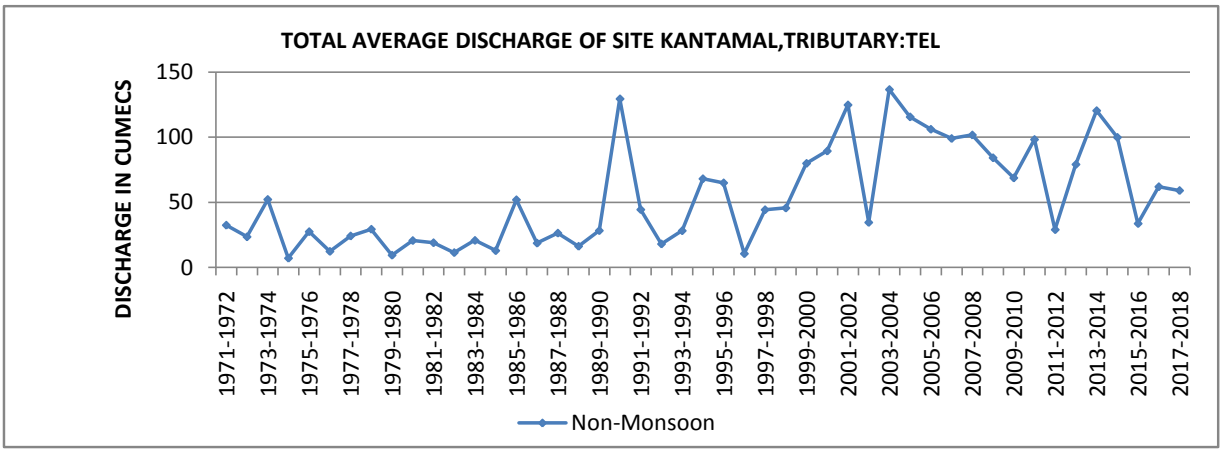

WATER QUALITY PROPERTIES AT SITE KESINGA, TRIBUTARY: TEL
AVERAGE CHEMICAL
8
6
4
2
0
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
NO2+NO3 (mg N/L)
NO2-N (mgN/L)
NO3-N (mgN/L)
o-PO4-P (mg P/L)

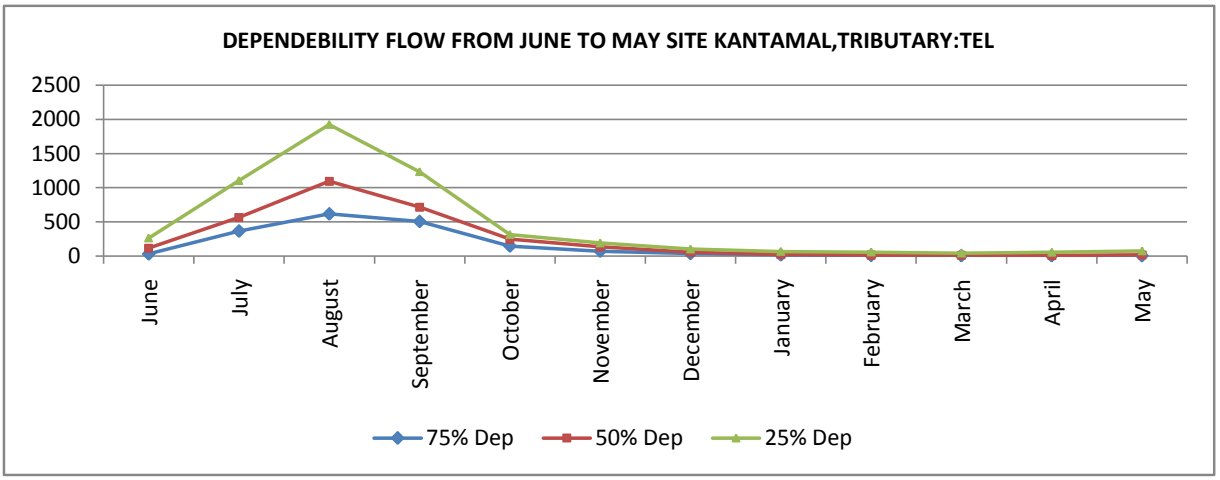

WATER QUALITY PROPERTIES AT SITE KESINGA, TRIBUTARY:TEL
AVERAGE CHEMICAL
30
25
20
15
10
5
0
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
SiO2 (mg/L)
P-Tot (mgP/L)
SO4 (mg/L)

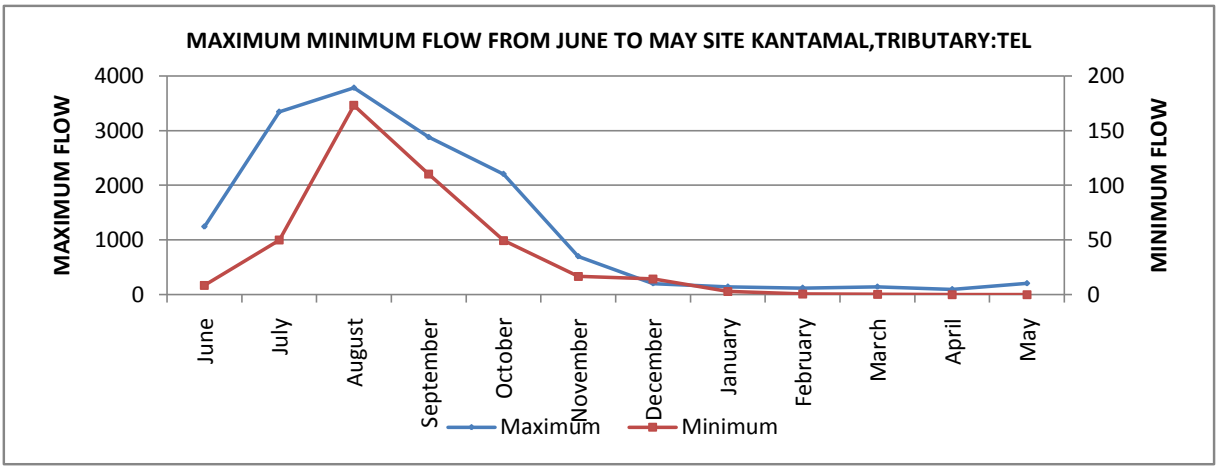

WATER QUALITY PROPERTIES AT SITE KESINGA, TRIBUTARY: TEL
AVERAGE BIOLOGICAL
120
100
80
60
40
20
0
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
BOD3-27 (mg/L)
COD (mg/L)
DO (mg/L)
DO_SAT% (%)

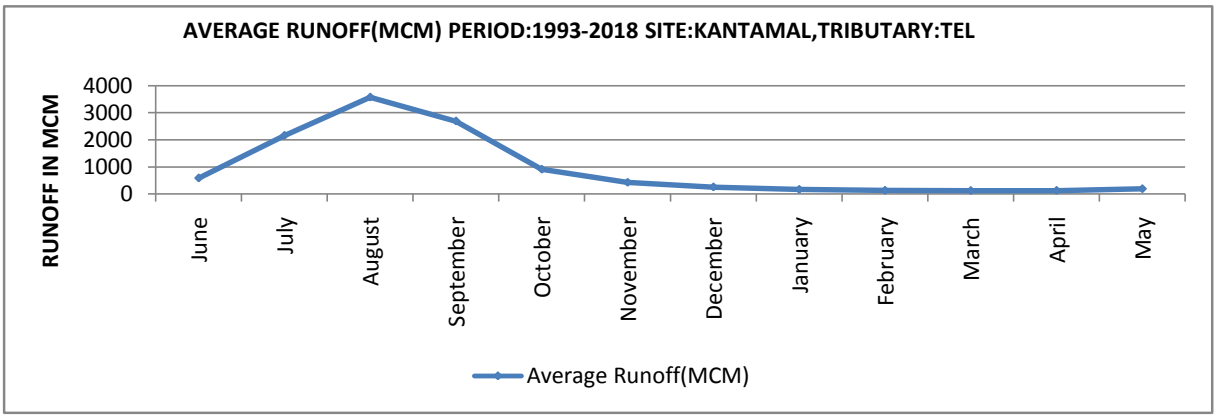
YEAR WISE TREND OF SITE KANTAMAL

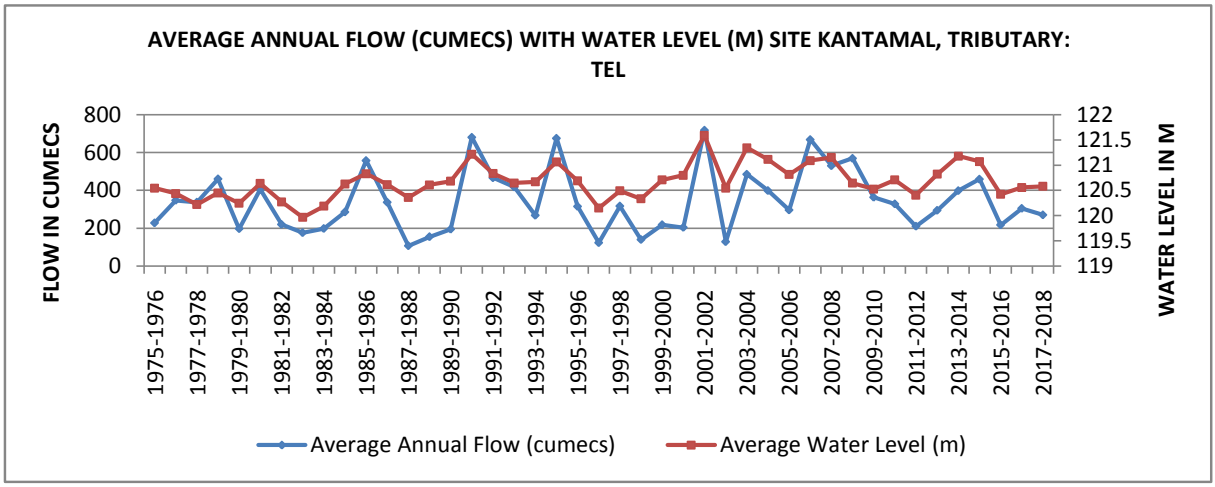


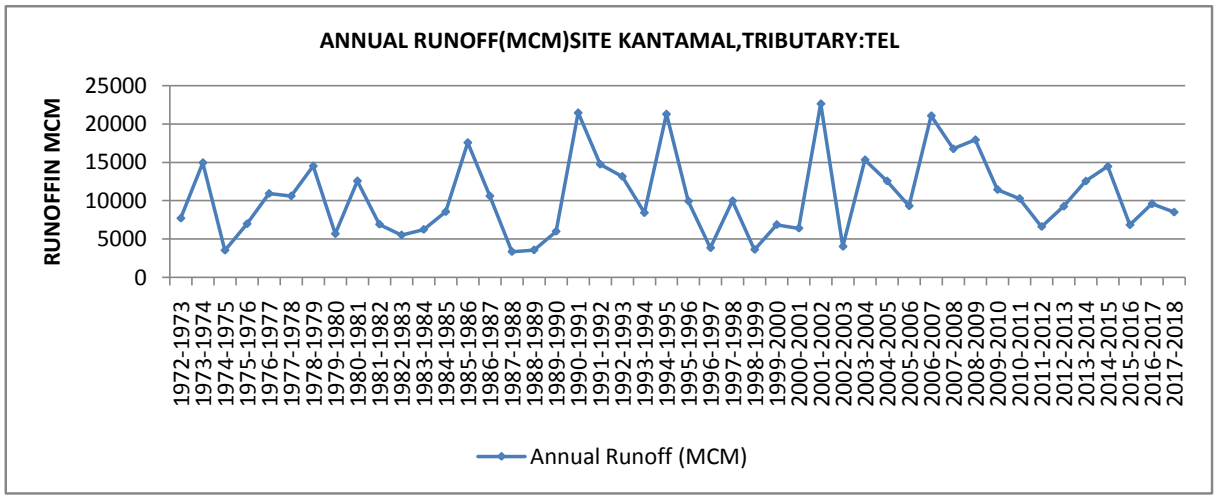


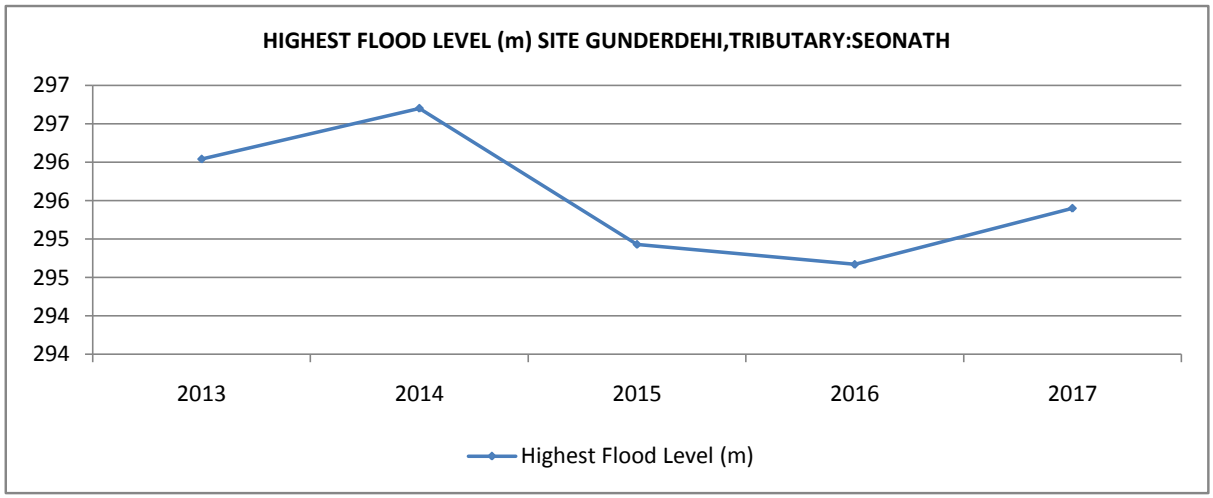


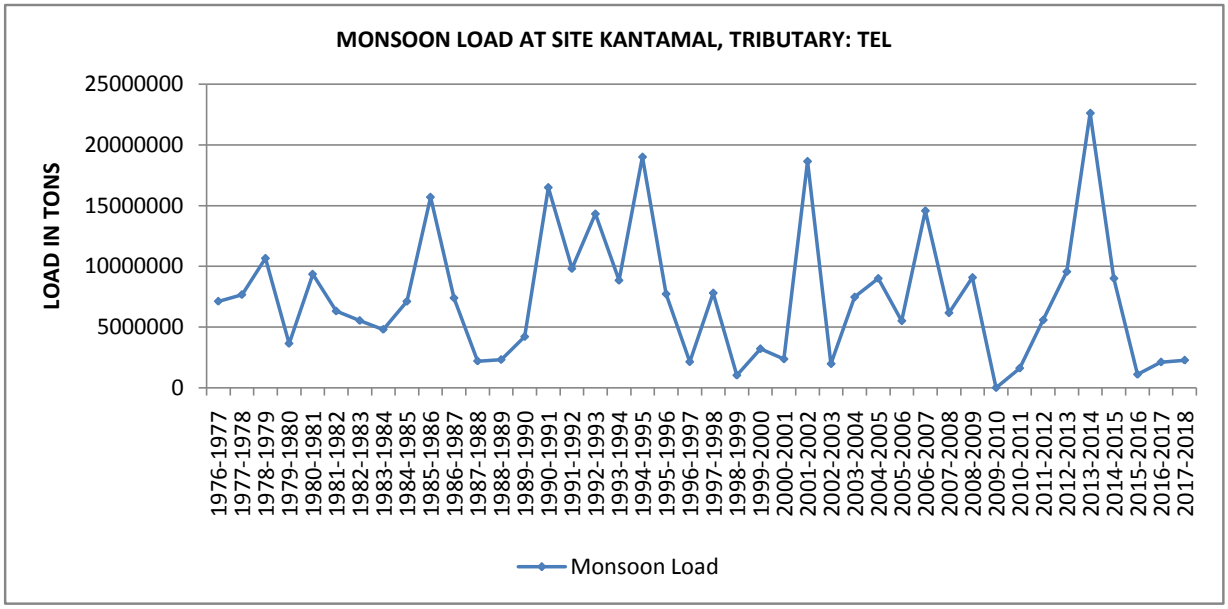


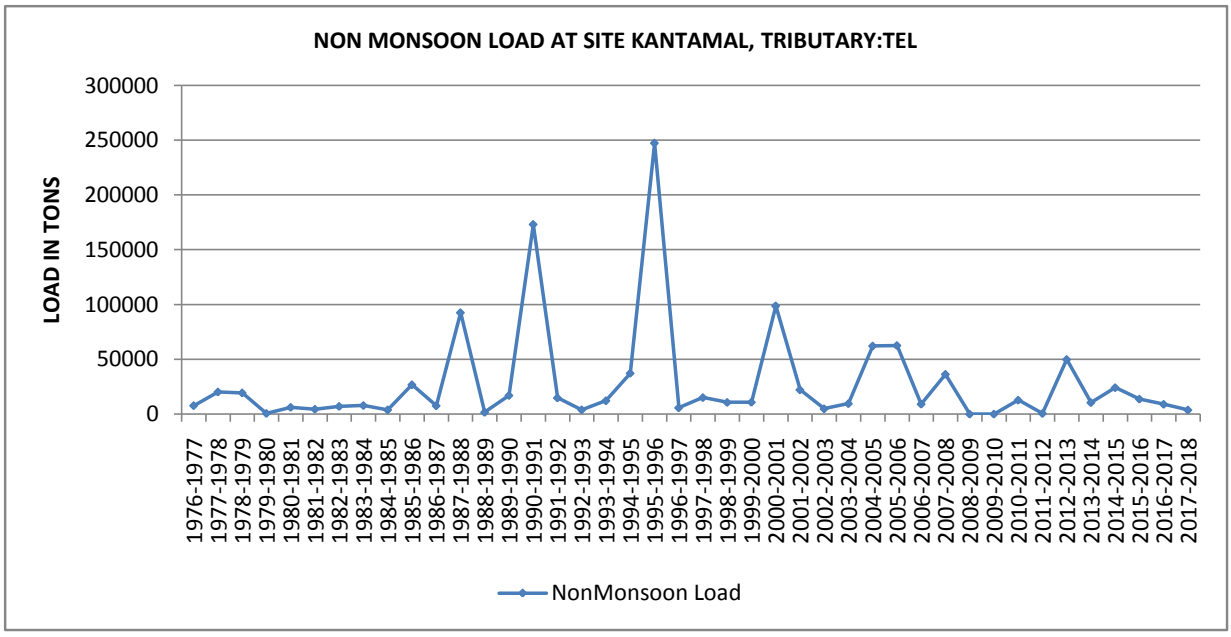

AVERAGE RUNOFF(MCM) PERIOD:1993-2018 SITE:KANTAMAL,TRIBUTARY:TEL
RUNOFF IN MCM
4000
3000
2000
1000
0
June
July
August
September
October
November
December
January
February
March
April
May
Average Runoff(MCM)

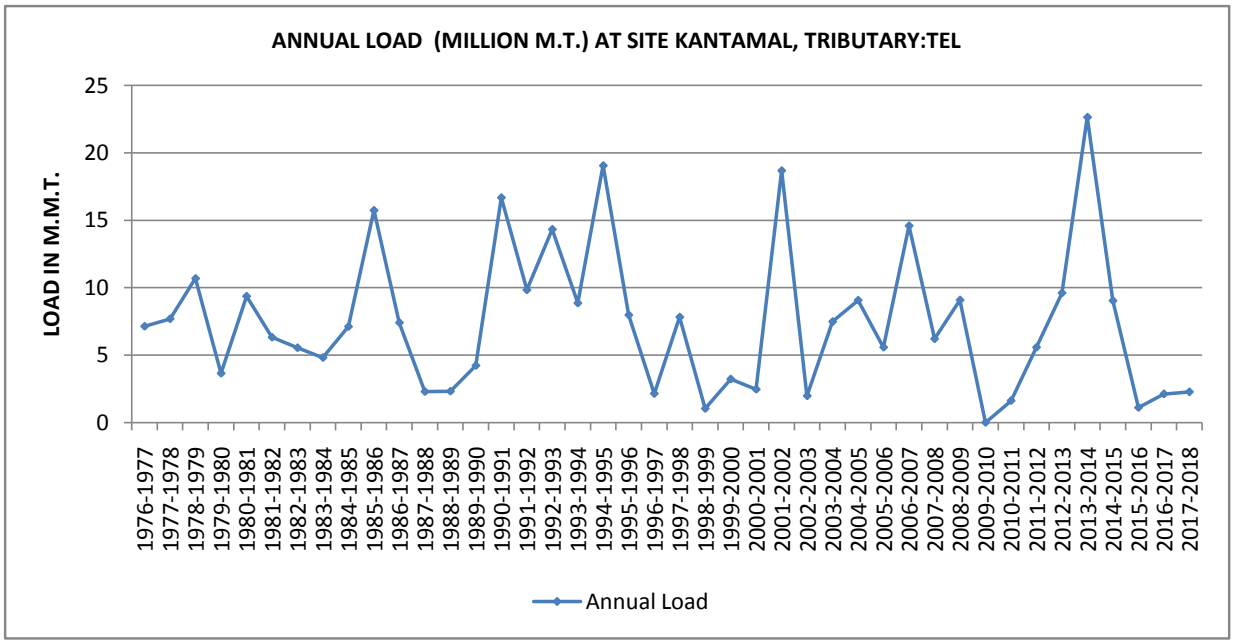

AVERAGE ANNUAL FLOW (CUMECS) WITH WATER LEVEL (M) SITE KANTAMAL, TRIBUTARY: TEL
FLOW IN CUMECS
800
600
400
200
0
122
121.5
121
120.5
120
119.5
119
WATER LEVEL IN M
1975-1976
1977-1978
1979-1980
1981-1982
1983-1984
1985-1986
1987-1988
1989-1990
1991-1992
1993-1994
1995-1996
1997-1998
1999-2000
2001-2002
2003-2004
2005-2006
2007-2008
2009-2010
2011-2012
2013-2014
2015-2016
2017-2018
Average Annual Flow (cumecs)
Average Water Level (m)

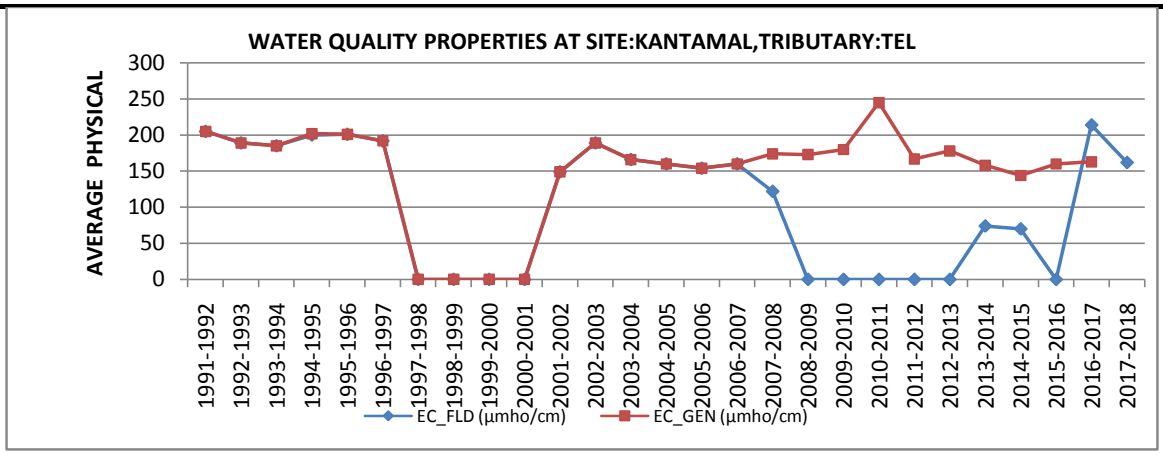

ANNUAL RUNOFF(MCM)SITE KANTAMAL,TRIBUTARY:TEL
RUNOFFIN MCM
25000
20000
15000
10000
5000
0
1972-1973
1973-1974
1974-1975
1975-1976
1976-1977
1977-1978
1978-1979
1979-1980
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Annual Runoff (MCM)

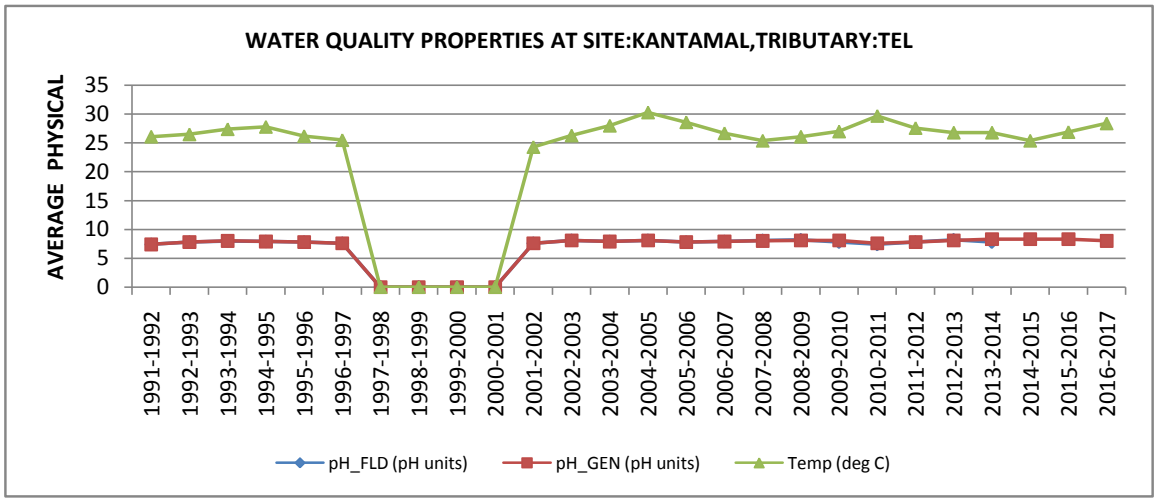

HIGHEST FLOOD LEVEL (m) SITE GUNDERDEHI,TRIBUTARY:SEONATH
297
297
296
296
295
295
294
294
2013
2014
2015
2016
2017
Highest Flood Level (m)

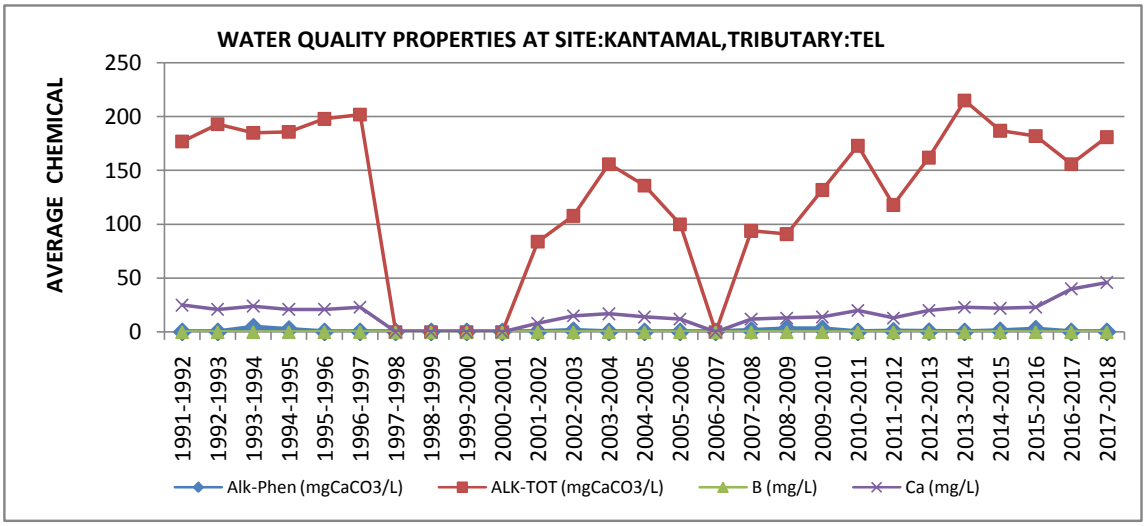

MONSOON LOAD AT SITE KANTAMAL, TRIBUTARY: TEL
LOAD IN TONS
25000000
20000000
15000000
10000000
5000000
0
1976-1977
1977-1978
1978-1979
1979-1980
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Monsoon Load

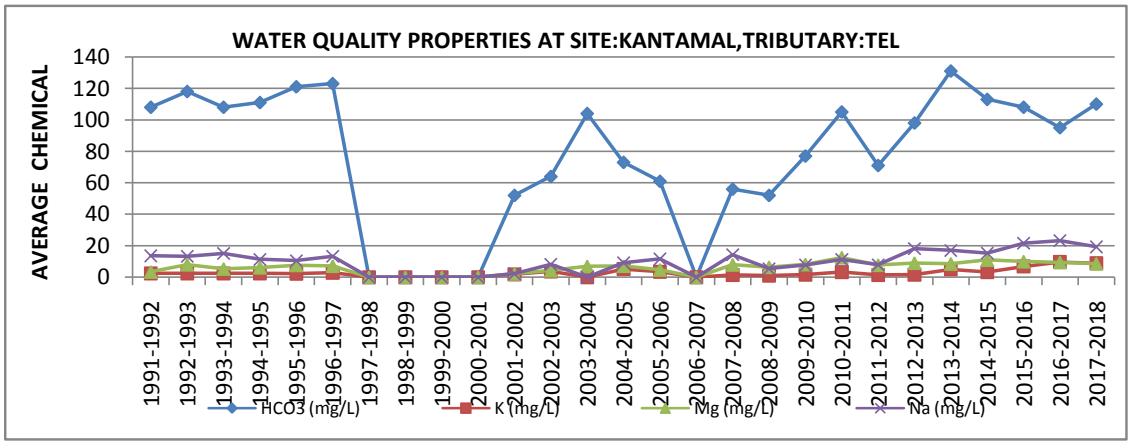

NON MONSOON LOAD AT SITE KANTAMAL, TRIBUTARY:TEL
LOAD IN TONS
300000
250000
200000
150000
100000
50000
0
1976-1977
1977-1978
1978-1979
1979-1980
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
NonMonsoon Load

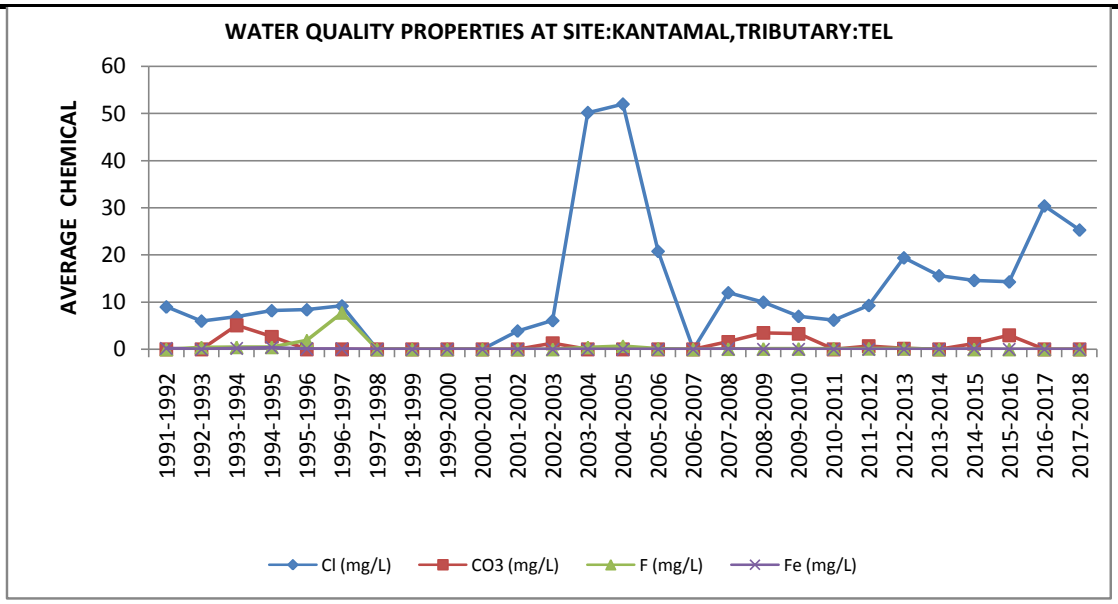

ANNUAL LOAD (MILLION M.T.) AT SITE KANTAMAL, TRIBUTARY:TEL
LOAD IN M.M.T.
25
20
15
10
5
0
1976-1977
1977-1978
1978-1979
1979-1980
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Annual Load

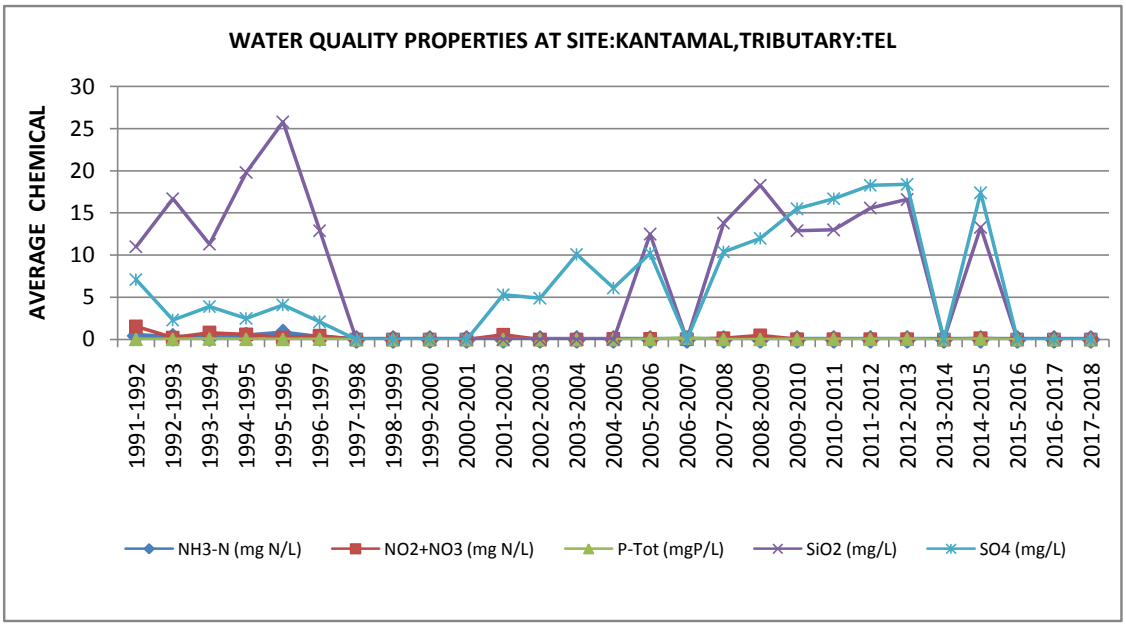

WATER QUALITY PROPERTIES AT SITE:KANTAMAL,TRIBUTARY:TEL
AVERAGE PHYSICAL
300
250
200
150
100
50
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
EC_FLD (µmho/cm)
EC_GEN (µmho/cm)

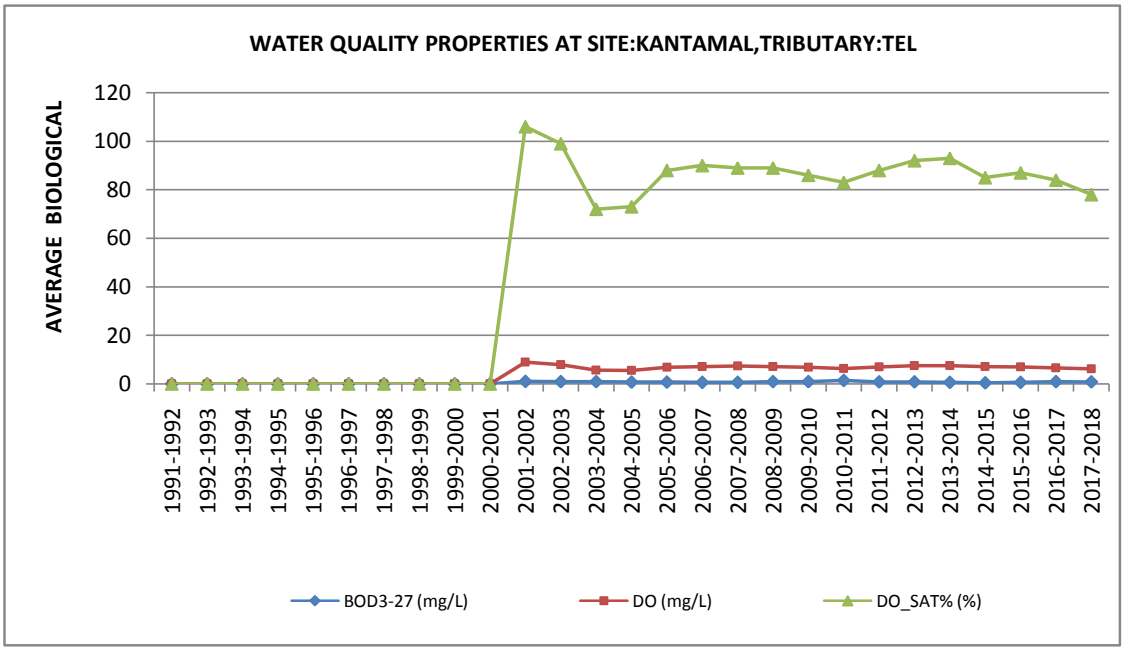

WATER QUALITY PROPERTIES AT SITE:KANTAMAL,TRIBUTARY:TEL
AVERAGE PHYSICAL
35
30
25
20
15
10
5
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
pH_FLD (pH units)
pH_GEN (pH units)
Temp (deg C)


WATER QUALITY PROPERTIES AT SITE:KANTAMAL,TRIBUTARY:TEL
AVERAGE CHEMICAL
250
200
150
100
50
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Alk-Phen (mgCaCO3/L)
ALK-TOT (mgCaCO3/L)
B (mg/L)
Ca (mg/L)

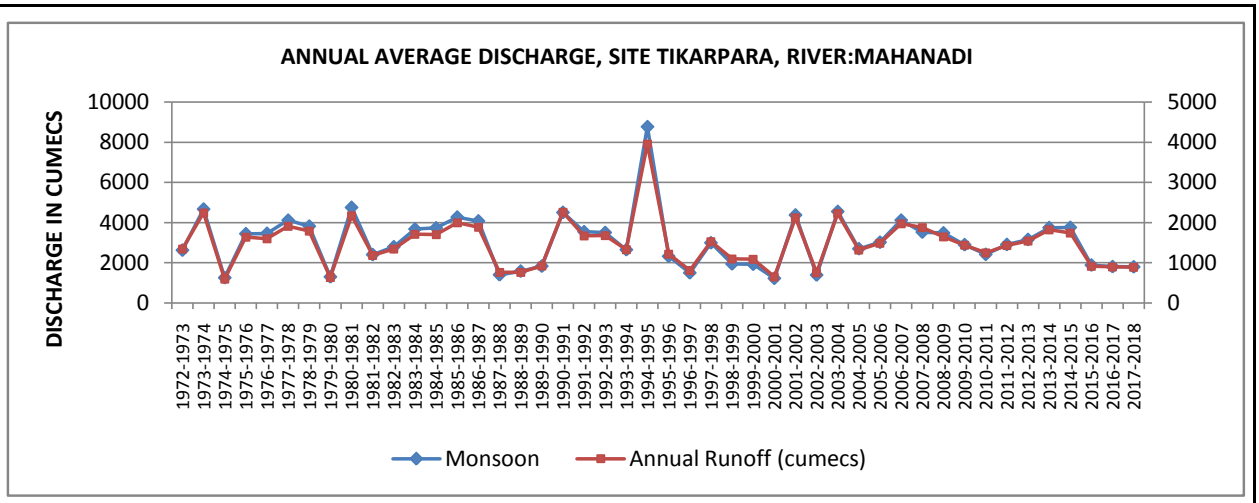

WATER QUALITY PROPERTIES AT SITE:KANTAMAL,TRIBUTARY:TEL
AVERAGE CHEMICAL
140
120
100
80
60
40
20
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
HCO3 (mg/L)
K (mg/L)
Mg (mg/L)
Na (mg/L)

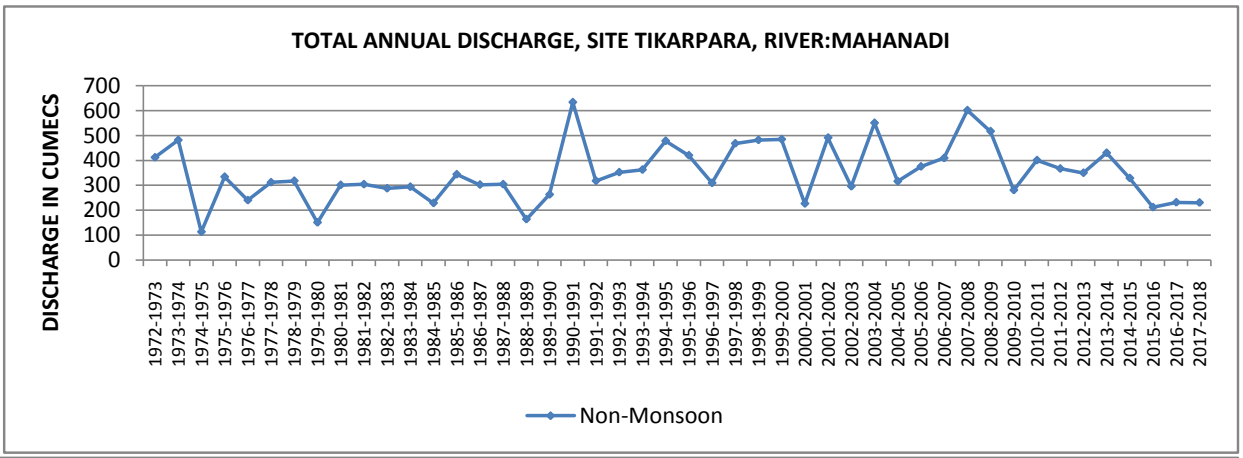

WATER QUALITY PROPERTIES AT SITE:KANTAMAL,TRIBUTARY:TEL
AVERAGE CHEMICAL
60
50
40
30
20
10
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Cl (mg/L)
CO3 (mg/L)
F (mg/L)
Fe (mg/L)

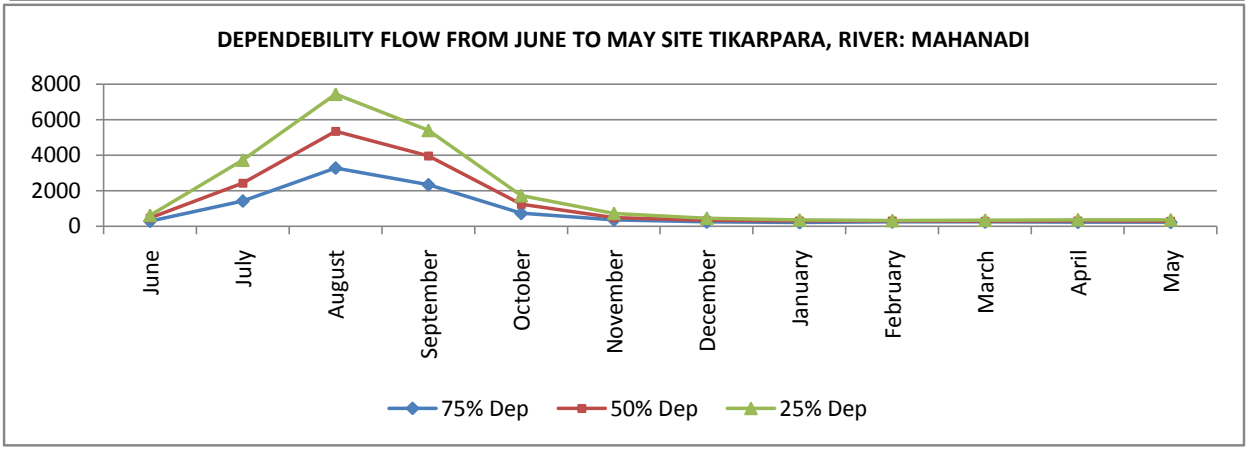

WATER QUALITY PROPERTIES AT SITE:KANTAMAL,TRIBUTARY:TEL
AVERAGE CHEMICAL
30
25
20
15
10
5
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
NH3-N (mg N/L)
NO2+NO3 (mg N/L)
P-Tot (mgP/L)
SiO2 (mg/L)
SO4 (mg/L)

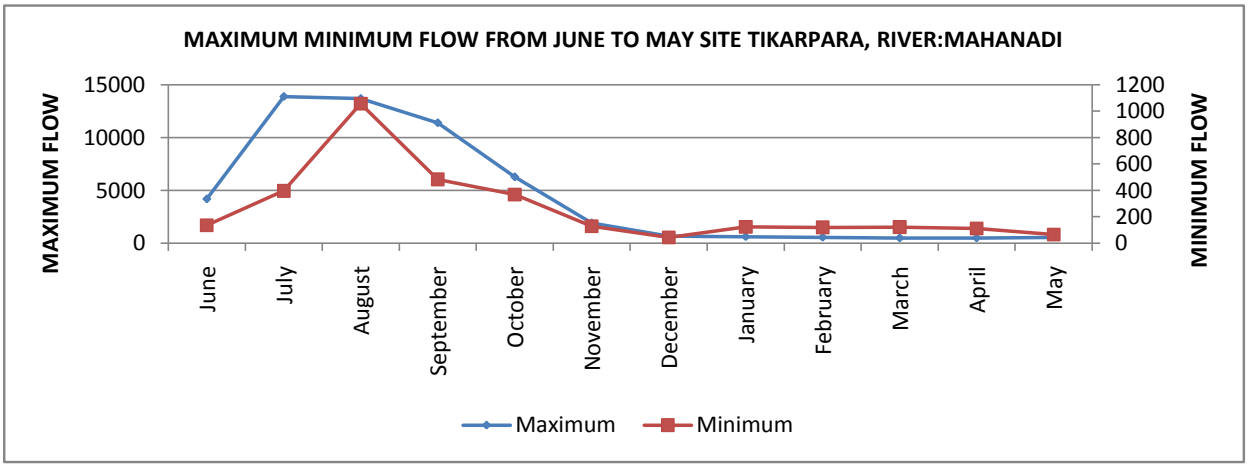

WATER QUALITY PROPERTIES AT SITE:KANTAMAL,TRIBUTARY:TEL
AVERAGE BIOLOGICAL
120
100
80
60
40
20
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
BOD3-27 (mg/L)
DO (mg/L)
DO_SAT% (%)

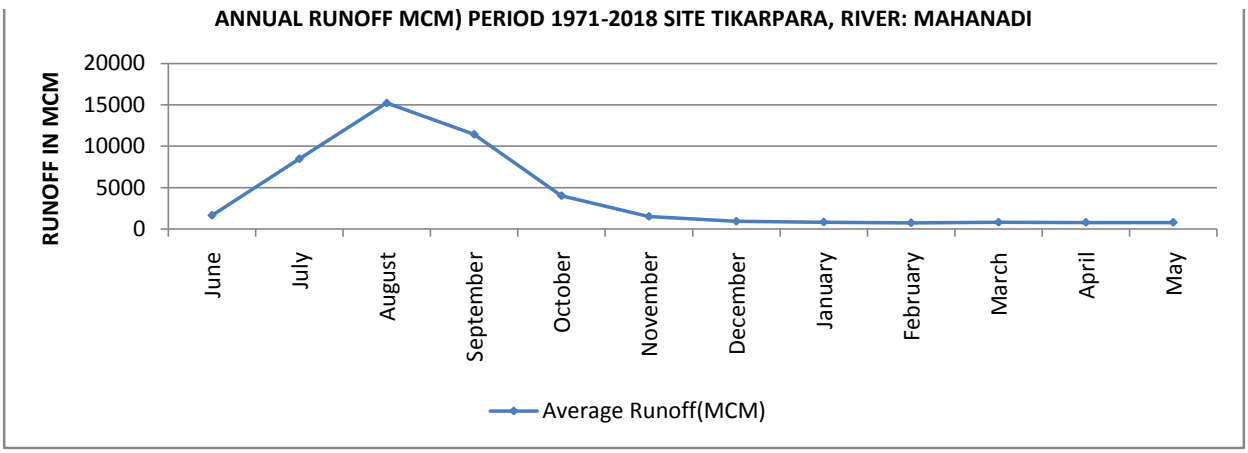
YEAR WISE TREND OF SITE TIKARAPARA

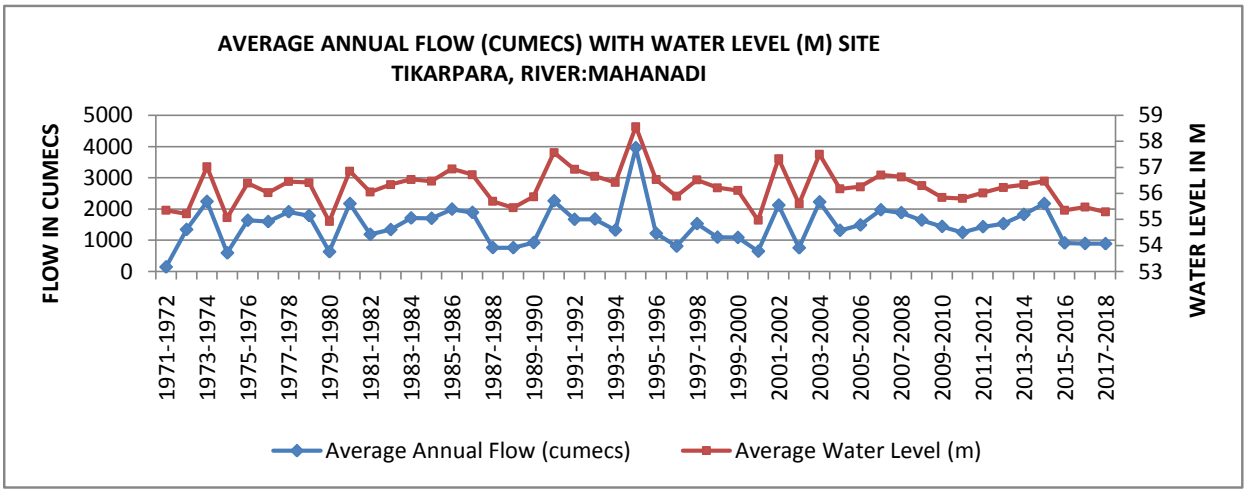


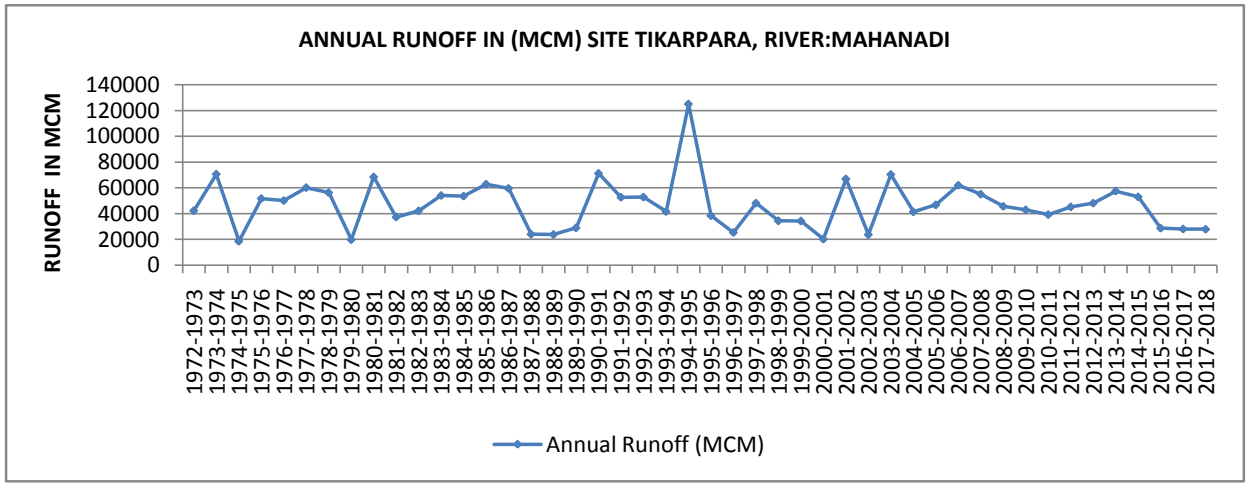


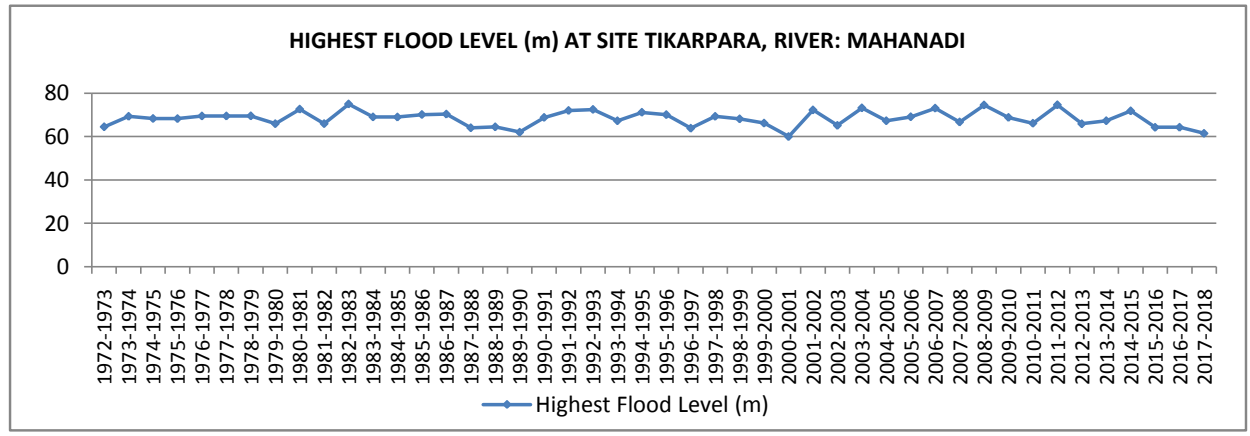




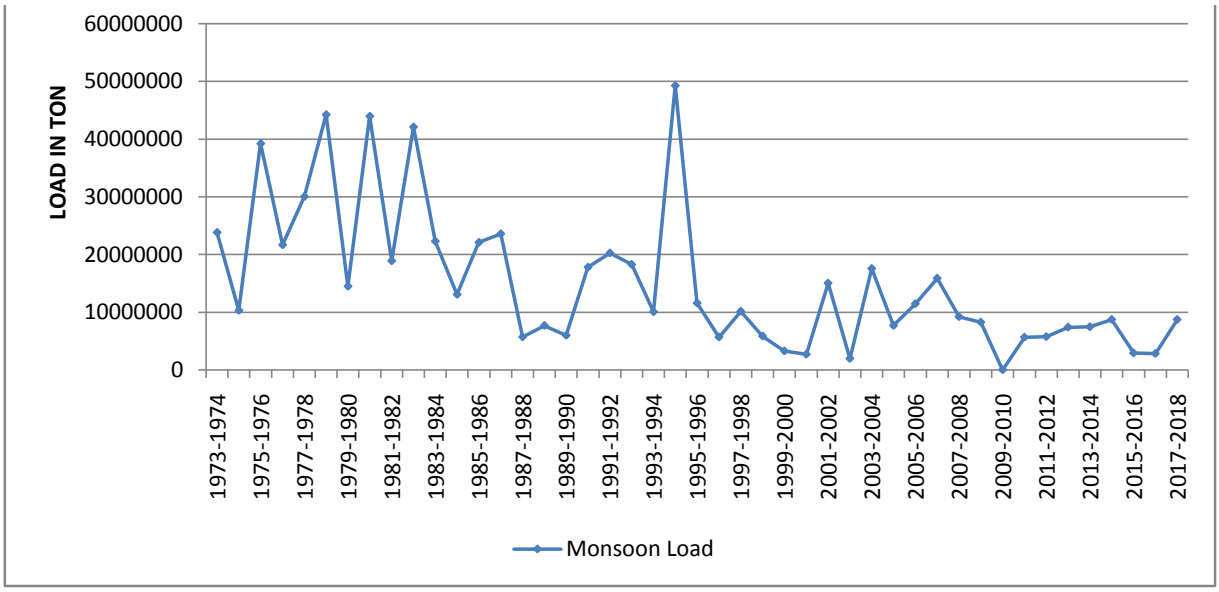


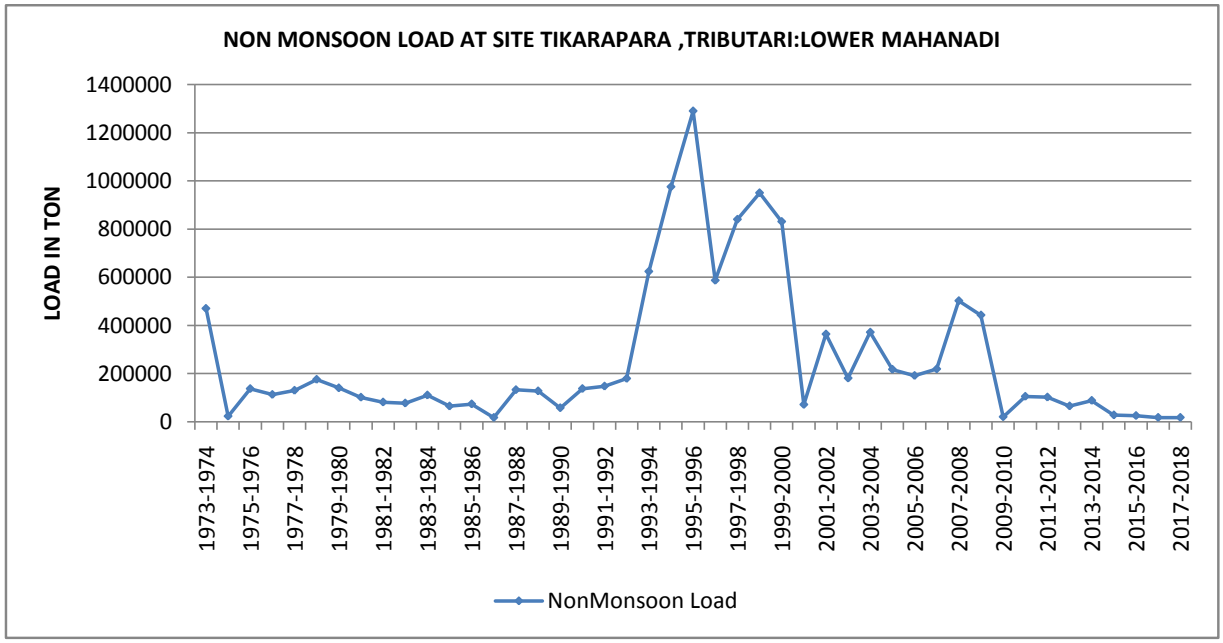


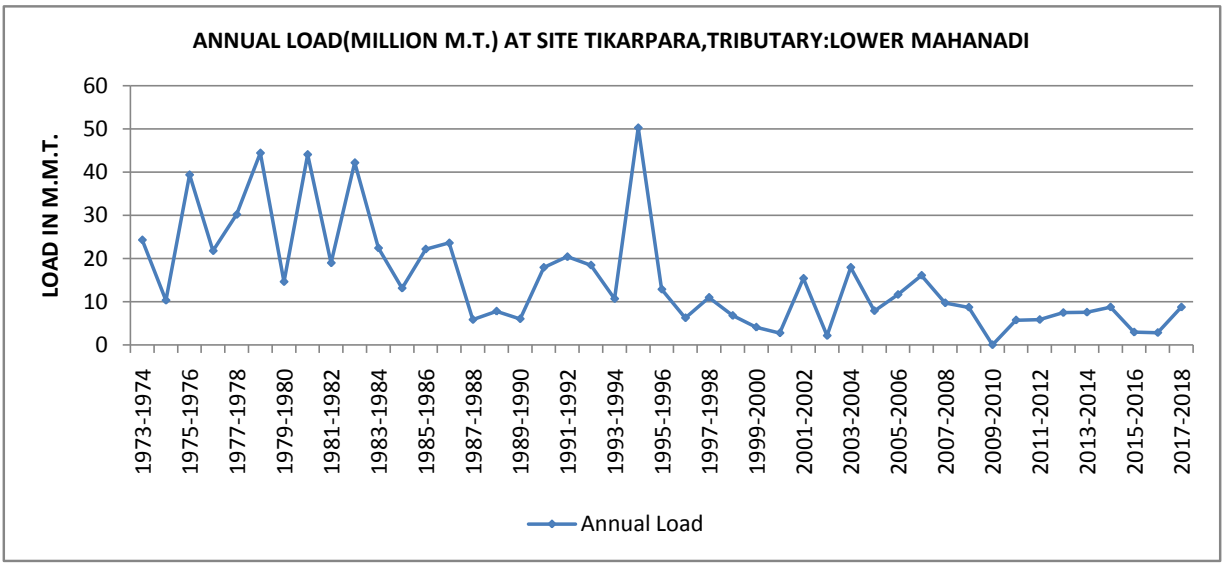




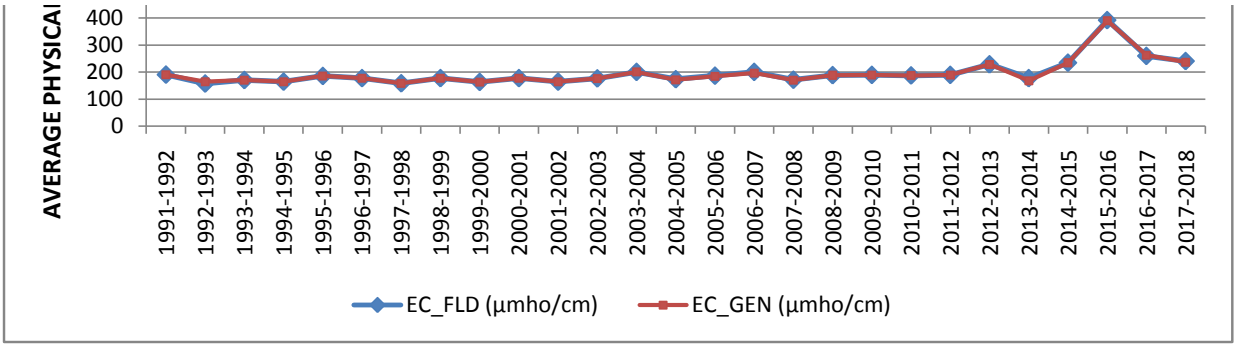
MONSOON LOAD AT SITE TIKARAPARA,TRIBUTARY:LOWER MAHANADI

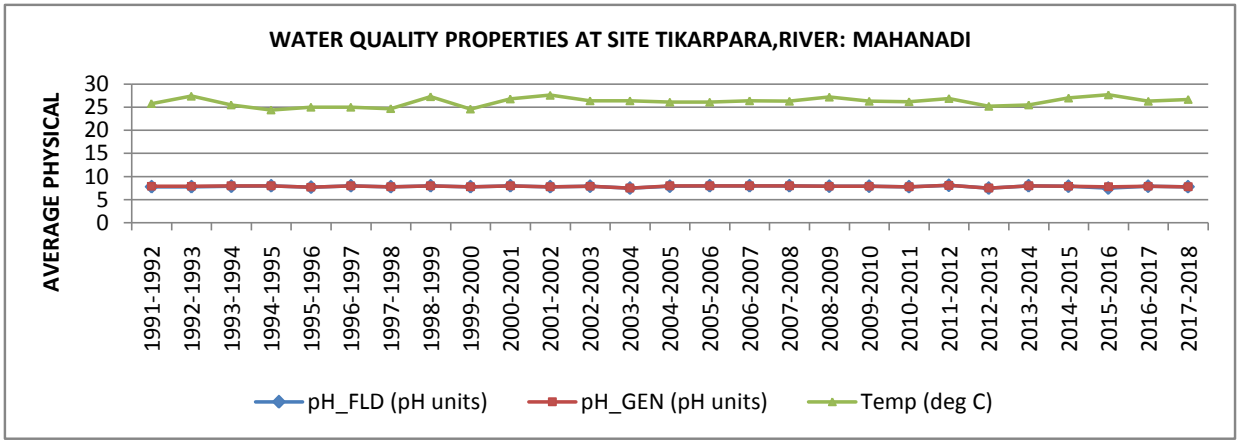

60000000
50000000
40000000
30000000
20000000
10000000
0
LOAD IN TON
1973-1974
1975-1976
1977-1978
1979-1980
1981-1982
1983-1984
1985-1986
1987-1988
1989-1990
1991-1992
1993-1994
1995-1996
1997-1998
1999-2000
2001-2002
2003-2004
2005-2006
2007-2008
2009-2010
2011-2012
2013-2014
2015-2016
2017-2018
Monsoon Load

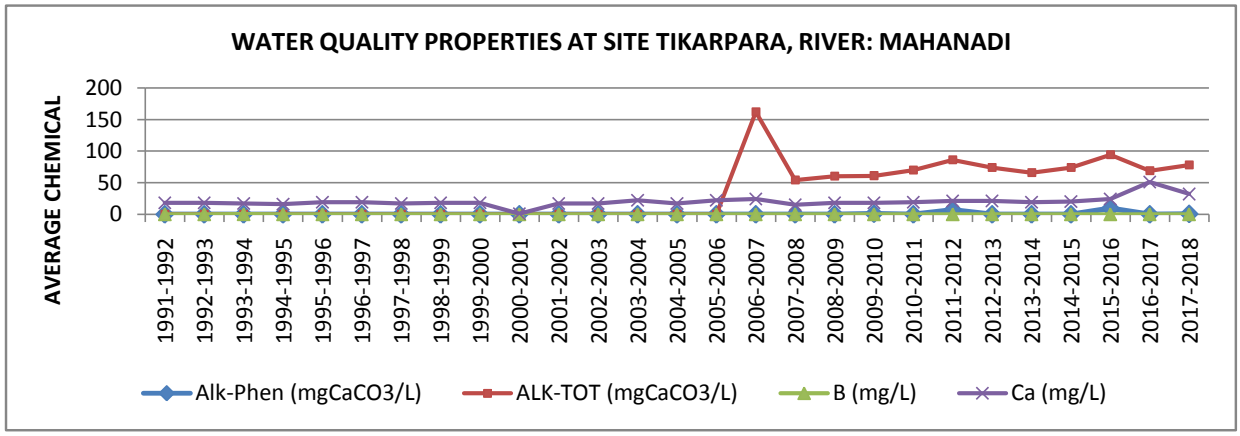

NON MONSOON LOAD AT SITE TIKARAPARA ,TRIBUTARI:LOWER MAHANADI
1400000
1200000
1000000
800000
600000
400000
200000
0
LOAD IN TON
1973-1974
1975-1976
1977-1978
1979-1980
1981-1982
1983-1984
1985-1986
1987-1988
1989-1990
1991-1992
1993-1994
1995-1996
1997-1998
1999-2000
2001-2002
2003-2004
2005-2006
2007-2008
2009-2010
2011-2012
2013-2014
2015-2016
2017-2018
NonMonsoon Load

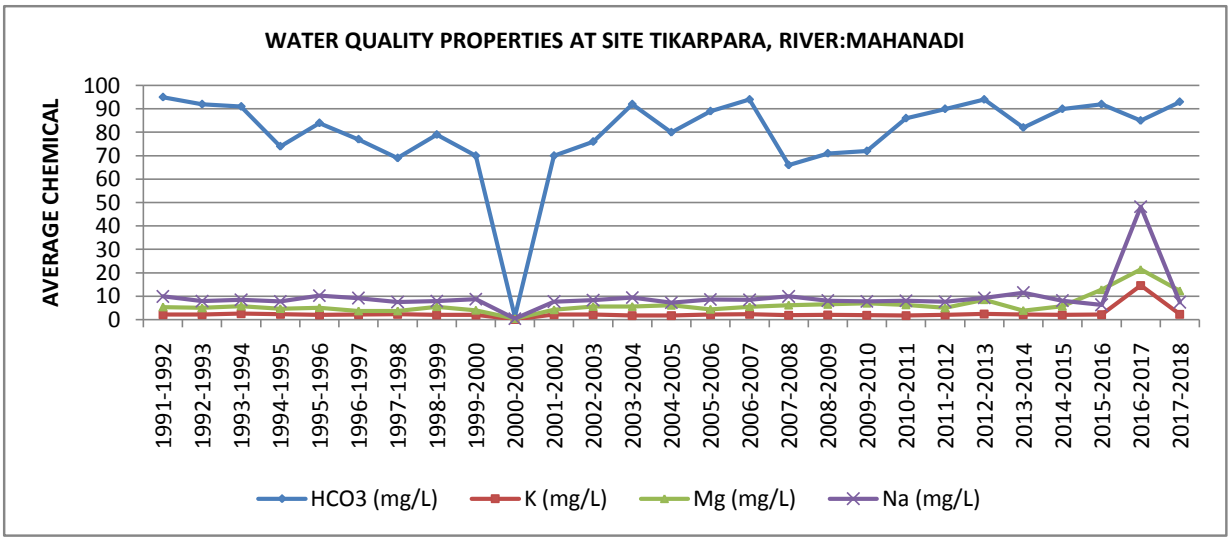

ANNUAL LOAD(MILLION M.T.) AT SITE TIKARPARA,TRIBUTARY:LOWER MAHANADI
60
50
40
30
20
10
0
LOAD IN M.M.T.
1973-1974
1975-1976
1977-1978
1979-1980
1981-1982
1983-1984
1985-1986
1987-1988
1989-1990
1991-1992
1993-1994
1995-1996
1997-1998
1999-2000
2001-2002
2003-2004
2005-2006
2007-2008
2009-2010
2011-2012
2013-2014
2015-2016
2017-2018
Annual Load

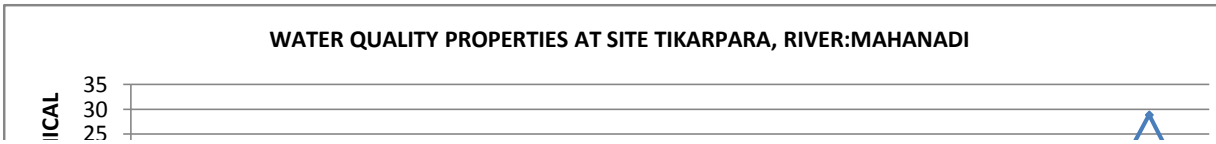
WATER QUALITY PROPERTIES AT SITE TIKARPARA, RIVER: MAHANADI
500

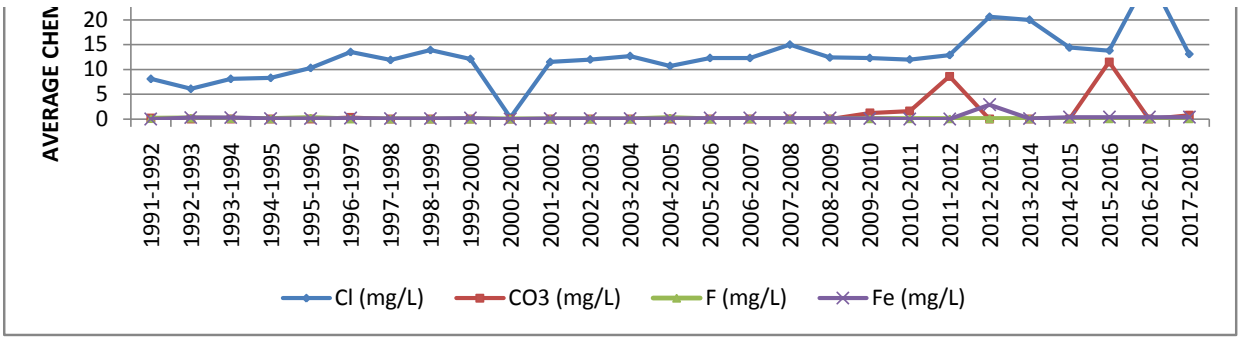

AVERAGE PHYSICAL
400
300
200
100
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
EC_FLD (µmho/cm)
EC_GEN (µmho/cm)

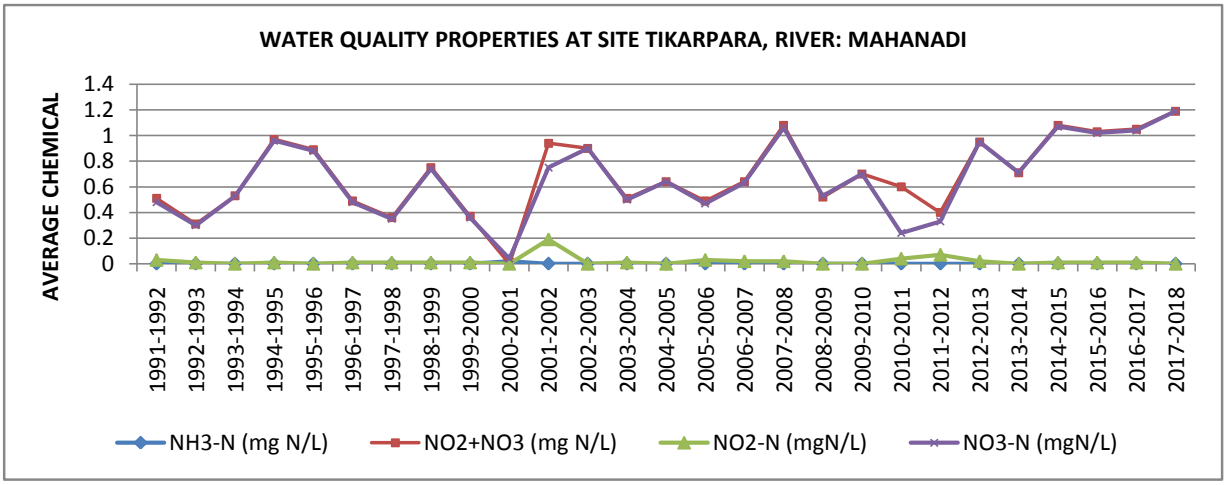

WATER QUALITY PROPERTIES AT SITE TIKARPARA,RIVER: MAHANADI
AVERAGE PHYSICAL
30
25
20
15
10
5
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
pH_FLD (pH units)
pH_GEN (pH units)
Temp (deg C)

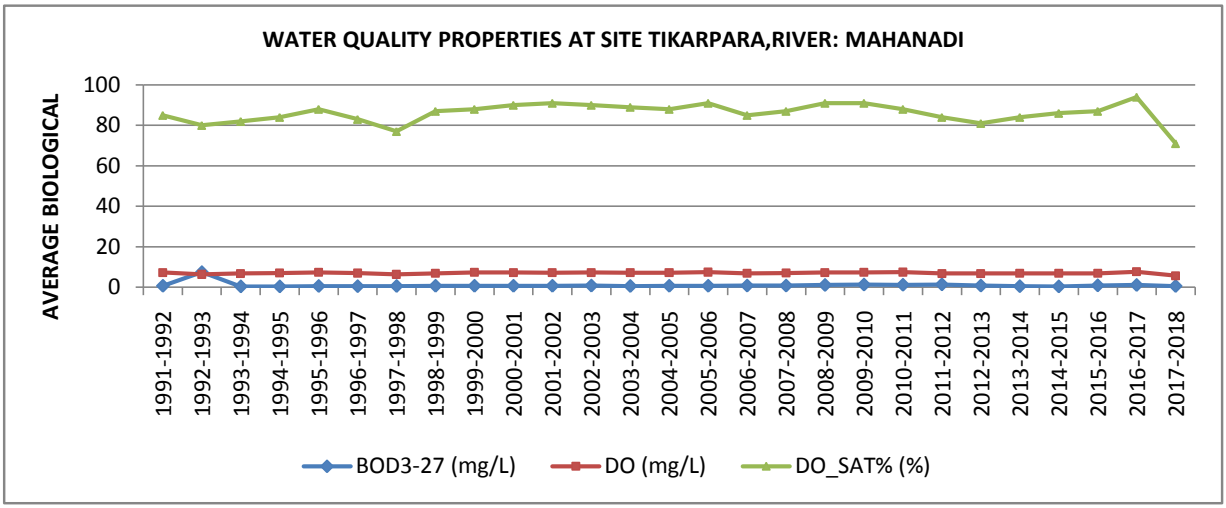

WATER QUALITY PROPERTIES AT SITE TIKARPARA, RIVER: MAHANADI
AVERAGE CHEMICAL
200
150
100
50
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Alk-Phen (mgCaCO3/L)
ALK-TOT (mgCaCO3/L)
B (mg/L)
Ca (mg/L)

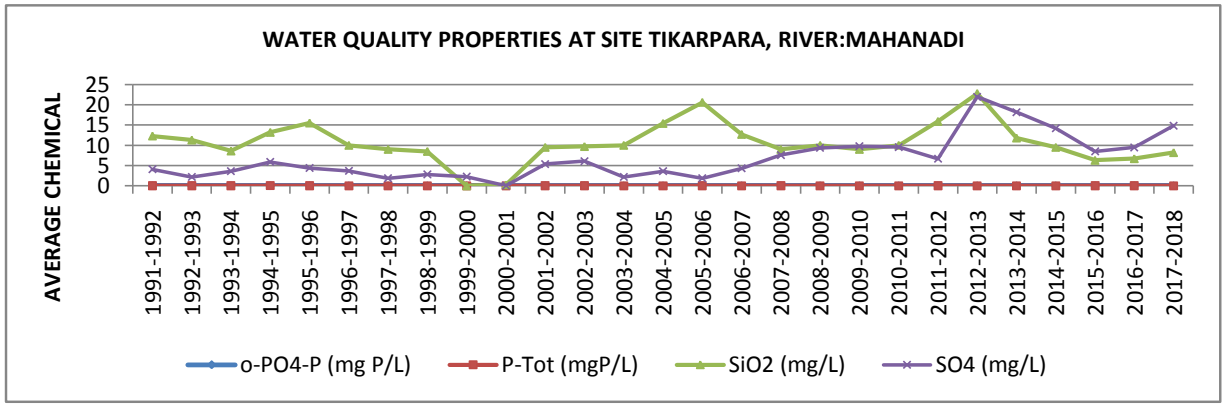

WATER QUALITY PROPERTIES AT SITE TIKARPARA, RIVER:MAHANADI
AVERAGE CHEMICAL
100
90
80
70
60
50
40
30
20
10
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
HCO3 (mg/L)
K (mg/L)
Mg (mg/L)
Na (mg/L)


WATER QUALITY PROPERTIES AT SITE TIKARPARA, RIVER:MAHANADI
35
30
25


AVERAGE CHEM
20
15
10
5
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Cl (mg/L)
CO3 (mg/L)
F (mg/L)
Fe (mg/L)


WATER QUALITY PROPERTIES AT SITE TIKARPARA, RIVER: MAHANADI
AVERAGE CHEMICAL
1.4
1.2
1
0.8
0.6
0.4
0.2
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
NH3-N (mg N/L)
NO2+NO3 (mg N/L)
NO2-N (mgN/L)
NO3-N (mgN/L)


WATER QUALITY PROPERTIES AT SITE TIKARPARA,RIVER: MAHANADI
AVERAGE BIOLOGICAL
100
80
60
40
20
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
BOD3-27 (mg/L)
DO (mg/L)
DO_SAT% (%)


WATER QUALITY PROPERTIES AT SITE TIKARPARA, RIVER:MAHANADI
AVERAGE CHEMICAL
25
20
15
10
5
0
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
o-PO4-P (mg P/L)
P-Tot (mgP/L)
SiO2 (mg/L)
SO4 (mg/L)

ABSTRACT OF WATER QUALITY ANALYSIS

MAHANADI RIVER

BOD3-27 (mg/L)

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2007-08 to 2017-18			One Year		
	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average
RAJIM	2.7	0.4	1.1	2.5	0.4	1.1	2.0	0.7	1.4
BASANTPUR	1.8	0.3	0.8	2.0	0.3	0.9	1.4	0.5	0.8
TIKARAPARA	4.2	0.4	1.0	1.6	0.5	0.9	1.6	0.2	0.6

Parameter-DO (mg/L)

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2007-08 to 2017-18			One Year		
	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average
RAJIM	8.3	5.1	6.9	8.0	5.0	6.6	7.0	5.9	6.5
BASANTPUR	8.3	5.0	6.8	8.1	4.8	6.6	7.5	5.2	6.4
TIKARAPARA	8.7	5.6	7.1	9.0	5.8	7.1	7.00	6.00	6.30

Parameter -- FLUORIDE

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2007-08 to 2017-18			One Year		
	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average
RAJIM	0.65	0.12	0.34	0.48	0.08	0.21	0.00	0.00	0.00
BASANTPUR	0.44	0.14	0.29	0.32	0.18	0.23	0.00	0.00	0.00
TIKARAPARA	0.16	0.02	0.05	0.05	0.04	0.04	0.05	0.05	0.05

Parameter -- Fe

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2007-08 to 2017-18			One Year		
	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average
RAJIM	0.32	0.12	0.17	0.10	0.00	0.02	0.10	0.00	0.00
BASANTPUR	0.42	0.09	0.19	0.13	0.01	0.06	0.10	0.10	0.10
TIKARAPARA	0.65	0.14	0.31	0.85	0.24	0.70	0.50	0.30	0.40

Parameter -- EC

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2007-08 to 2017-18			One Year		
	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average
RAJIM	282	90	165	219	89	137	121	109	114
BASANTPUR	322	129	209	376	155	260	347	164	226
TIKARAPARA	276	126	191	309	133	212	240	178	205

Parameter -- So4

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2007-08 to 2017-18			One Year		
	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average
RAJIM	19.6	3.4	8.7	23.1	6.3	12.6	23.1	6.3	12.6
BASANTPUR	24.4	6.5	13.7	34.2	14.4	23.6	0.0	0.0	0.0
TIKARAPARA	11.2	2.5	6.6	15.9	4.8	11.6	15.3	6.0	9.9

CHLORIDE

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2007-08 to 2017-18			One Year		
	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average
RAJIM	20.5	6.0	10.7	22.1	7.3	12.4	36.0	24.0	28.7
BASANTPUR	25.7	7.8	15.3	31.4	9.4	19.3	40.0	16.0	28.5
TIKARAPARA	19.7	7.7	12.4	24.5	8.7	14.6	15.1	10.4	13.0

Mg (mg/l)

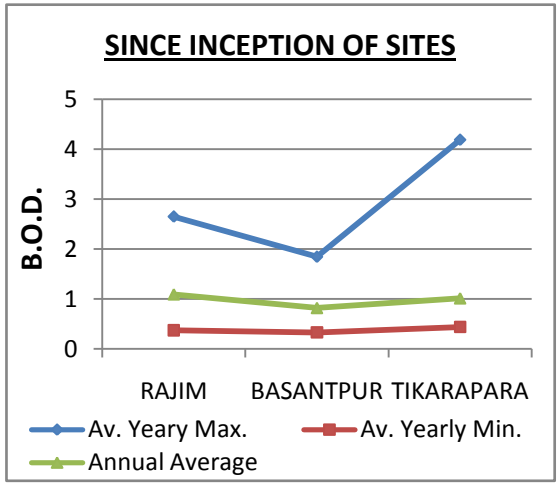
SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2007-08 to 2017-18			One Year		
	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average
RAJIM	9.8	2.2	5.4	11.8	3.0	6.8	14.6	1.9	6.8
BASANTPUR	14.1	2.9	7.3	20.1	4.2	10.8	18.5	1.9	9.2
TIKARAPARA	12.4	3.9	7.1	17.1	6.4	10.2	15.1	10.7	12.5

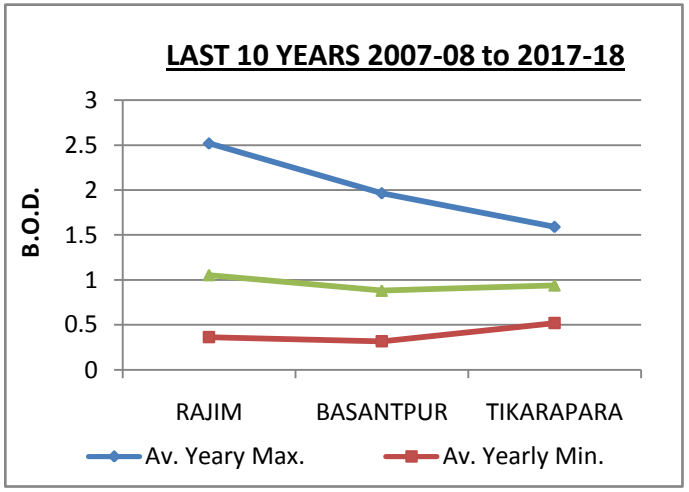
HAR_Ca (mgCaCO3/L)

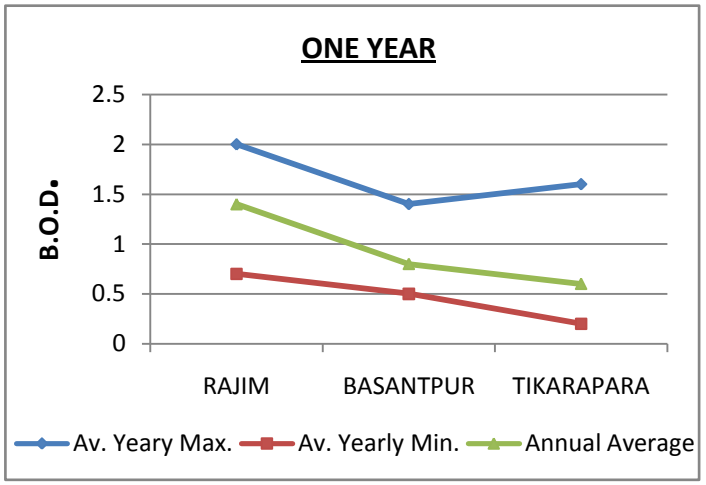
SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2007-08 to 2017-18			One Year		
	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average
RAJIM	78.4	25.6	49.0	64.7	25.1	44.0	144.0	56.0	104.0
BASANTPUR	80.7	31.2	52.4	94.91	43.00	67.73	152.0	68.0	112.0
TIKARAPARA	79.1	32.4	50.7	88.7	38.5	55.5	95.0	65.0	85.0

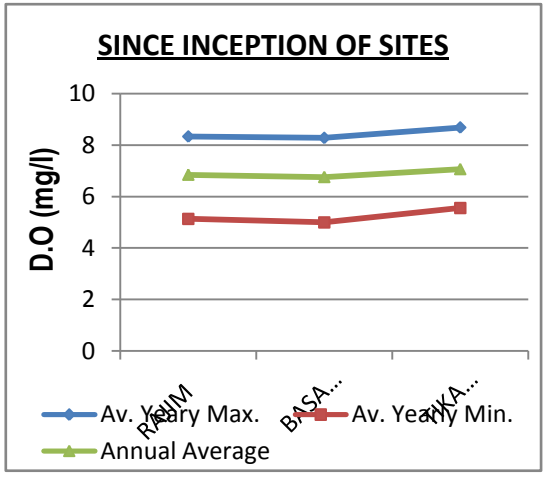
HAR_Total (mgCaCO3/L)

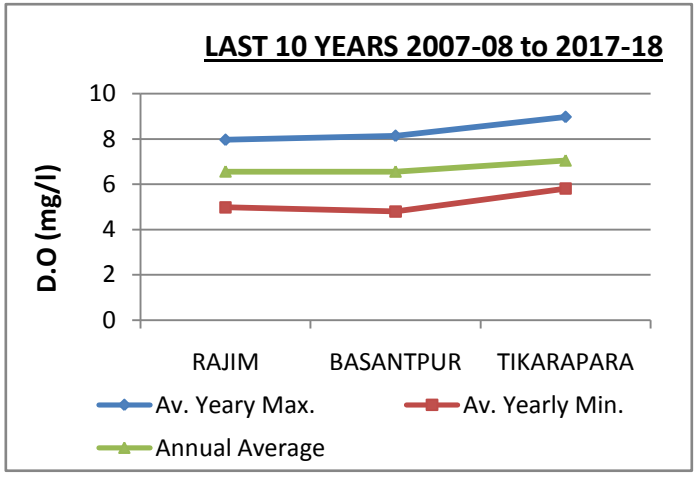
SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2007-08 to 2017-18			One Year		
	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average
RAJIM	113.1	43.1	71.7	106	49	72	152.0	117.0	133.0
BASANTPUR	129.7	52.5	82.6	164	75	113	197.0	109.0	150.0
TIKARAPARA	127.4	57.3	86.1	169	79	113	158.0	115.0	137.0

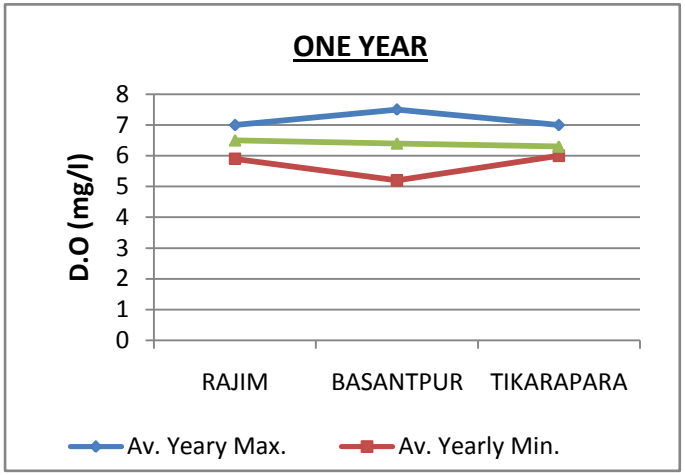

SINCE INCEPTION OF SITES
B.O.D.
5
4
3
2
1
0
RAJIM
BASANTPUR
TIKARAPARA
Av. Yeary Max.
Av. Yearly Min.
Annual Average

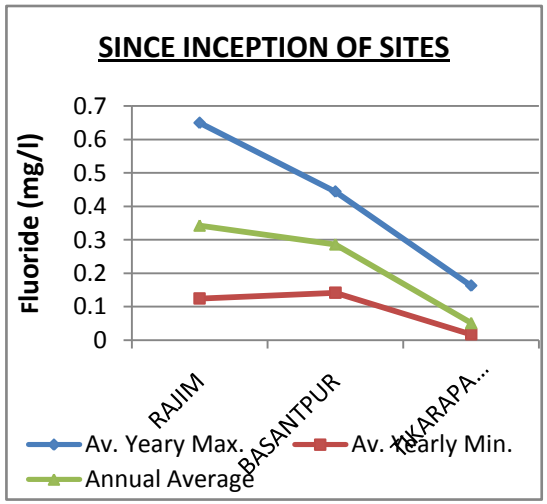

LAST 10 YEARS 2007-08 to 2017-18
B.O.D.
3
2.5
2
1.5
1
0.5
0
RAJIM
BASANTPUR
TIKARAPARA
Av. Yeary Max.
Av. Yearly Min.

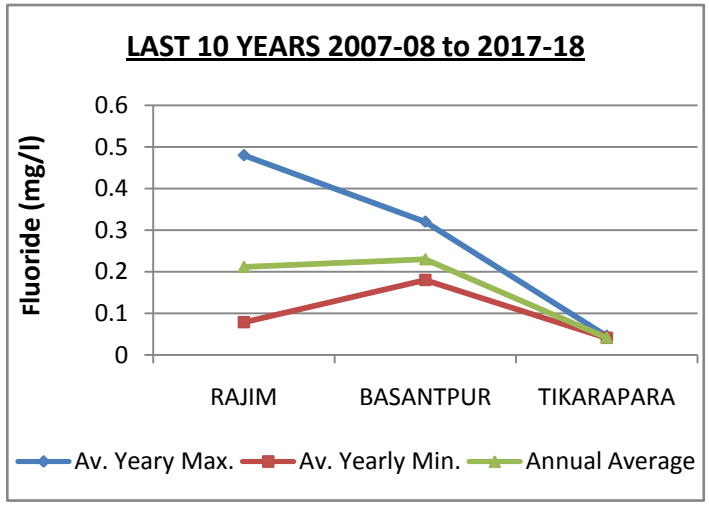

ONE YEAR
B.O.D.
2.5
2
1.5
1
0.5
0
RAJIM
BASANTPUR
TIKARAPARA
Av. Yeary Max.
Av. Yearly Min.
Annual Average

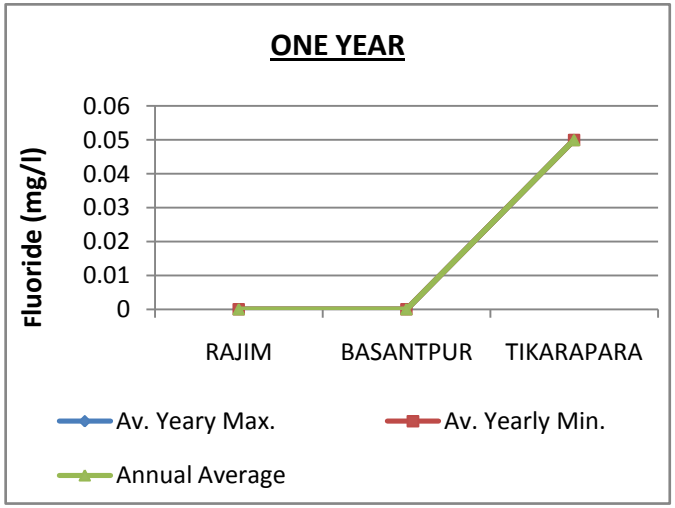

SINCE INCEPTION OF SITES
D.O (mg/l)
10
8
6
4
2
0
RAJIM
BASA...
TIKA...
Av. Yeary Max.
Av. Yearly Min.
Annual Average

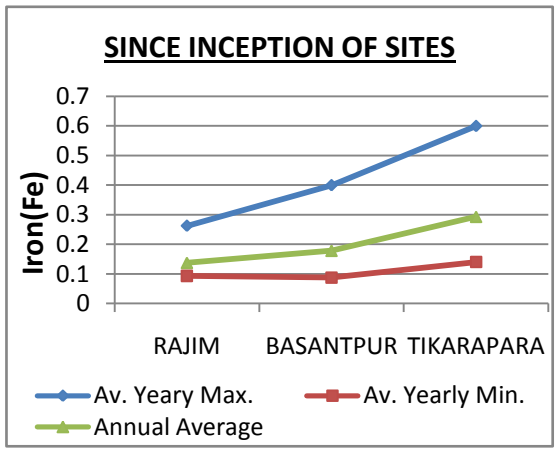

LAST 10 YEARS 2007-08 to 2017-18
D.O (mg/l)
10
8
6
4
2
0
RAJIM
BASANTPUR
TIKARAPARA
Av. Yeary Max.
Av. Yearly Min.
Annual Average

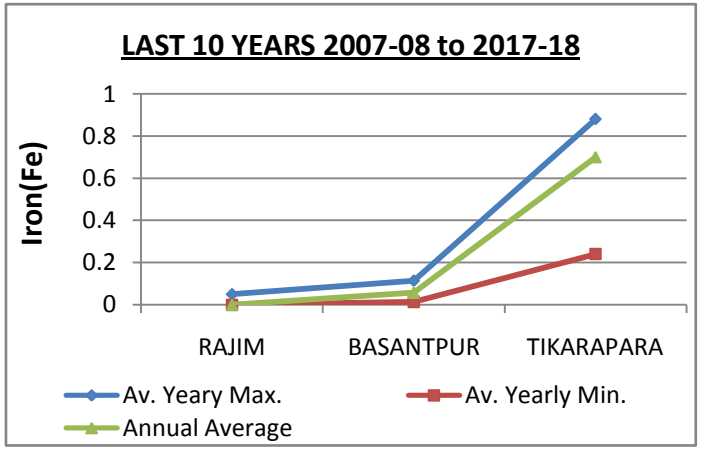

ONE YEAR
D.O (mg/l)
8
7
6
5
4
3
2
1
0
RAJIM
BASANTPUR
TIKARAPARA
Av. Yeary Max.
Av. Yearly Min.

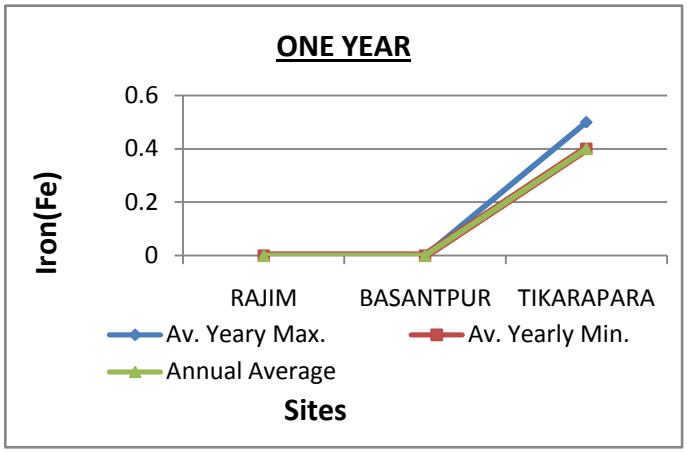

SINCE INCEPTION OF SITES
Fluoride (mg/l)
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
RAJIM
BASANTPUR
TIKARAPA...
Av. Yeary Max.
Av. Yearly Min.
Annual Average

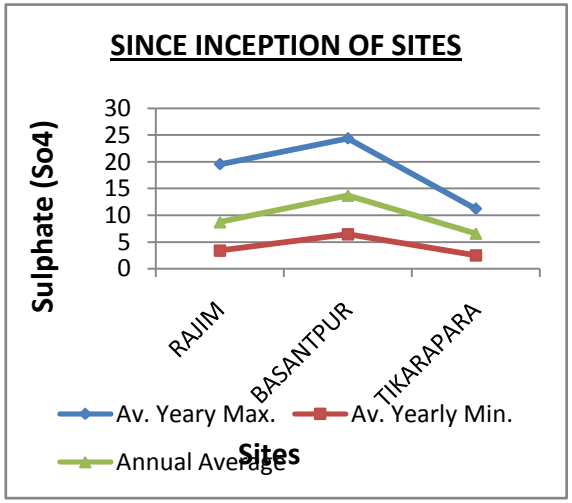

LAST 10 YEARS 2007-08 to 2017-18
Fluoride (mg/l)
0.6
0.5
0.4
0.3
0.2
0.1
0
RAJIM
BASANTPUR
TIKARAPARA
Av. Yeary Max.
Av. Yearly Min.
Annual Average

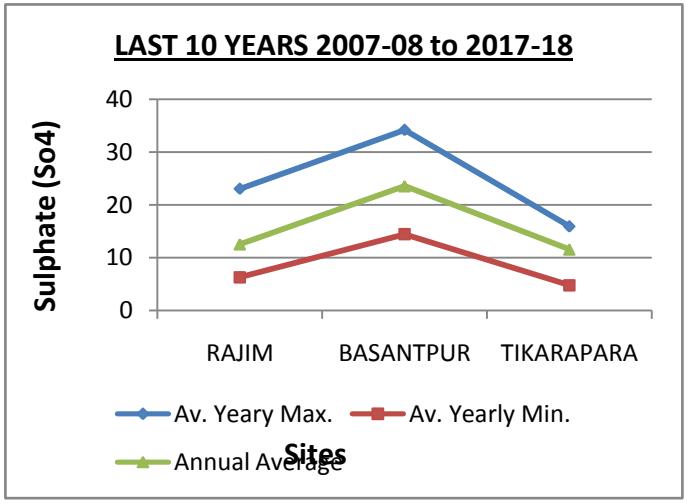

ONE YEAR
Fluoride (mg/l)
0.06
0.05
0.04
0.03
0.02
0.01
0
RAJIM
BASANTPUR
TIKARAPARA
Av. Yeary Max.
Av. Yearly Min.
Annual Average

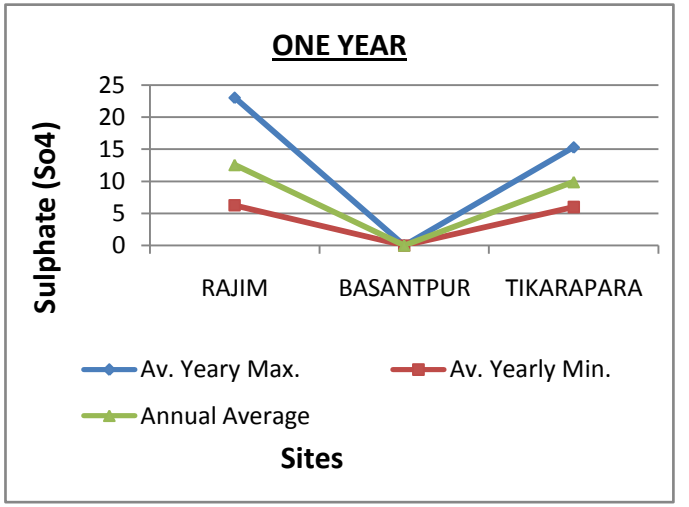

SINCE INCEPTION OF SITES
Iron(Fe)
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
RAJIM
BASANTPUR
TIKARAPARA
Av. Yeary Max.
Av. Yearly Min.
Annual Average

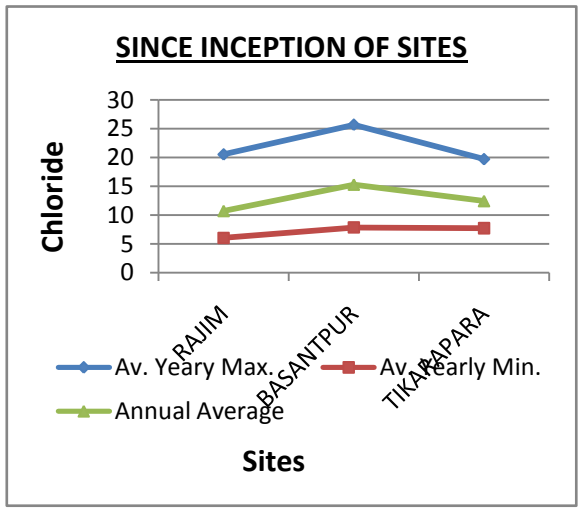

LAST 10 YEARS 2007-08 to 2017-18
Iron(Fe)
1
0.8
0.6
0.4
0.2
0
RAJIM
BASANTPUR
TIKARAPARA
Av. Yeary Max.
Av. Yearly Min.
Annual Average

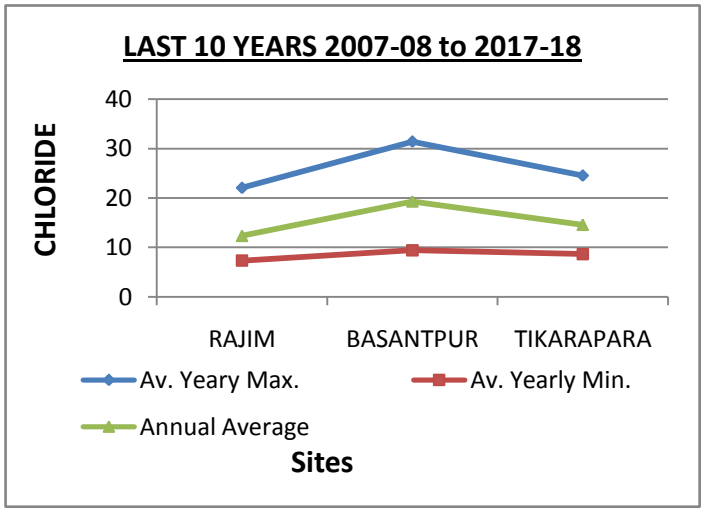

ONE YEAR
Iron(Fe)
0.6
0.4
0.2
0
RAJIM
BASANTPUR
TIKARAPARA
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

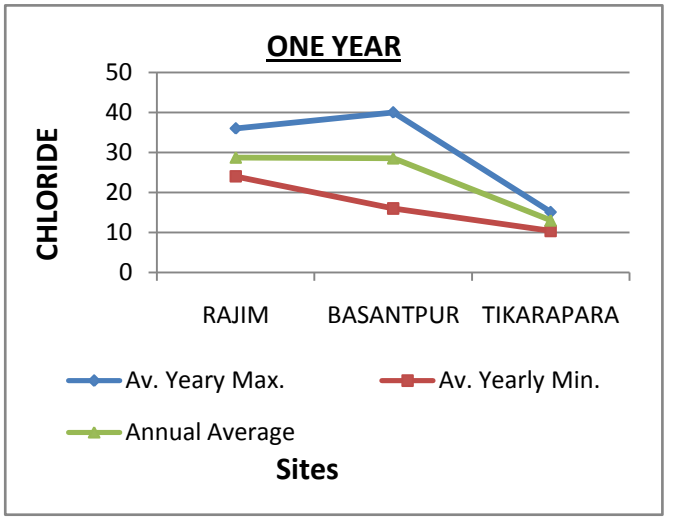

SINCE INCEPTION OF SITES
Sulphate (So4)
30
25
20
15
10
5
0
RAJIM
BASANTPUR
TIKARAPARA
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

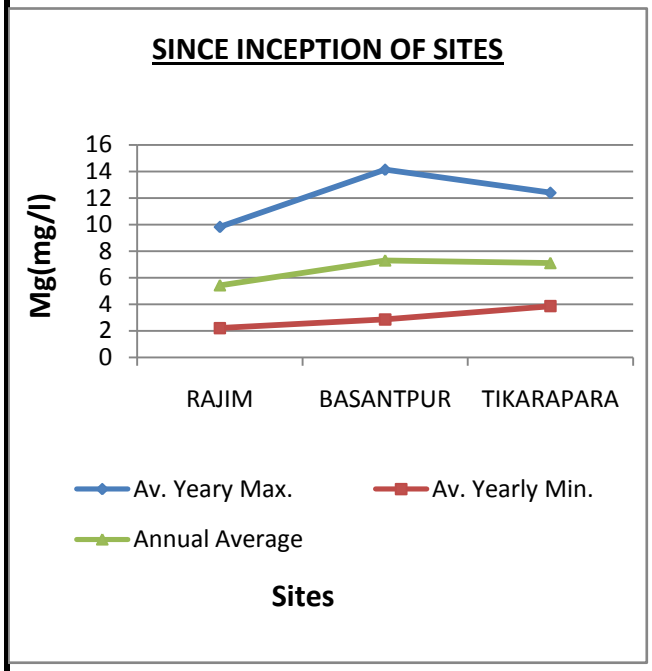

LAST 10 YEARS 2007-08 to 2017-18
Sulphate (So4)
40
30
20
10
0
RAJIM
BASANTPUR
TIKARAPARA
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

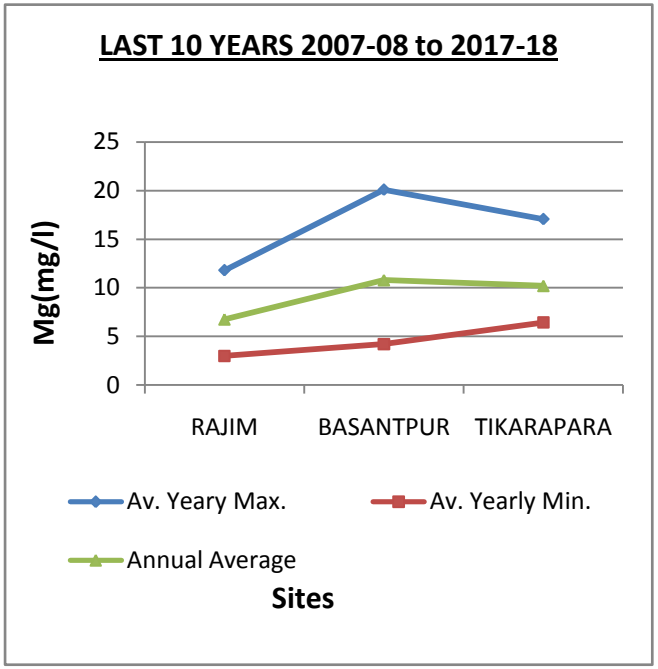

ONE YEAR
Sulphate (So4)
25
20
15
10
5
0
RAJIM
BASANTPUR
TIKARAPARA
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

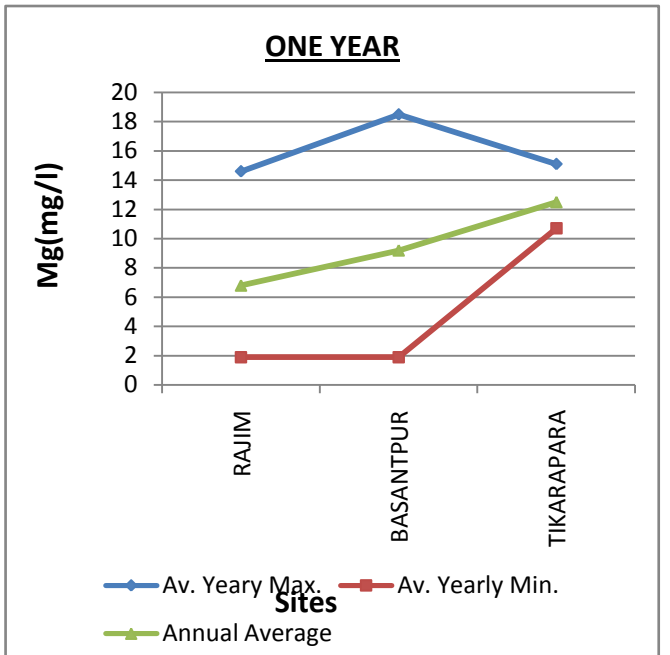

SINCE INCEPTION OF SITES
Chloride
30
25
20
15
10
5
0
RAJIM
BASANTPUR
TIKARAPARA
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

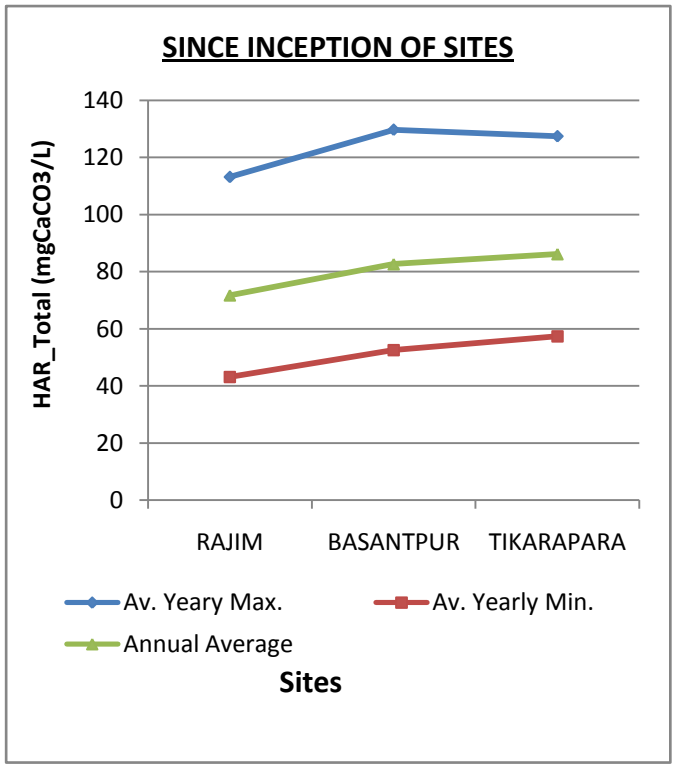

LAST 10 YEARS 2007-08 to 2017-18
CHLORIDE
40
30
20
10
0
RAJIM
BASANTPUR
TIKARAPARA
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

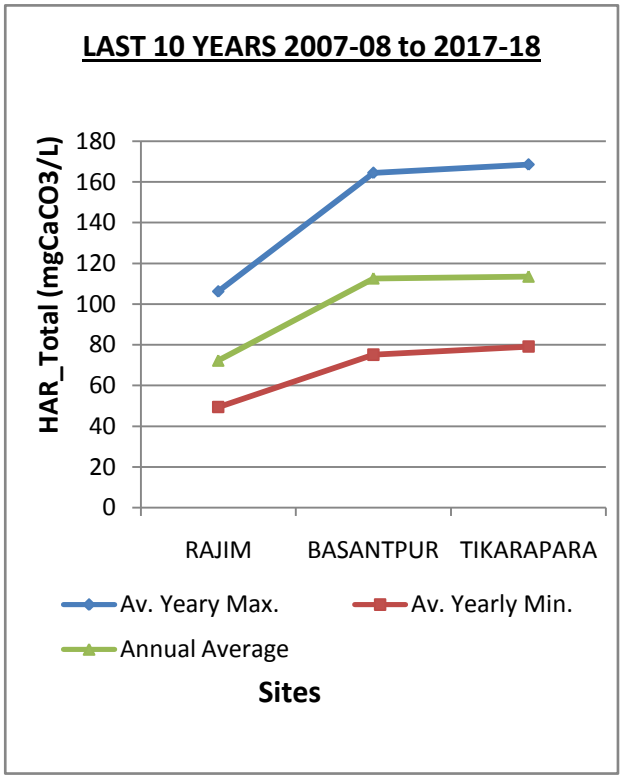

ONE YEAR
CHLORIDE
50
40
30
20
10
0
RAJIM
BASANTPUR
TIKARAPARA
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

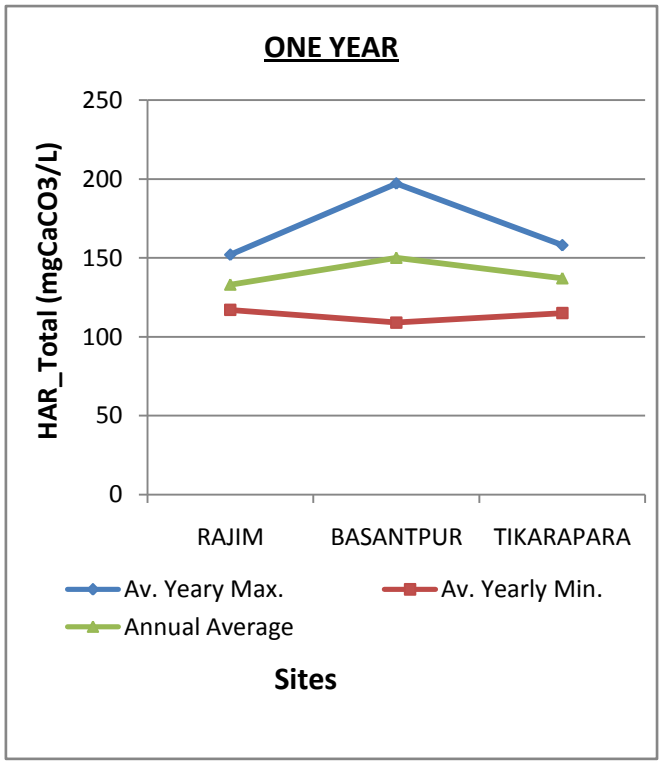

SINCE INCEPTION OF SITES
Mg(mg/l)
16
14
12
10
8
6
4
2
0
RAJIM
BASANTPUR
TIKARAPARA
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites


LAST 10 YEARS 2007-08 to 2017-18
Mg(mg/l)
25
20
15
10
5
0
RAJIM
BASANTPUR
TIKARAPARA
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites


ONE YEAR
Mg(mg/l)
20
18
16
14
12
10
8
6
4
2
0
RAJIM
BASANTPUR
TIKARAPARA
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites


SINCE INCEPTION OF SITES
HAR_Total (mgCaCO3/L)
140
120
100
80
60
40
20
0
RAJIM
BASANTPUR
TIKARAPARA
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites


LAST 10 YEARS 2007-08 to 2017-18
HAR_Total (mgCaCO3/L)
180
160
140
120
100
80
60
40
20
0
RAJIM
BASANTPUR
TIKARAPARA
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites


ONE YEAR
HAR_Total (mgCaCO3/L)
250
200
150
100
50
0
RAJIM
BASANTPUR
TIKARAPARA
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

SEONATH RIVER

BOD3-27 (mg/L)

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2007-08 to 2017-18			One Year		
	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average
Simga	3.9	6.0	1.8	2.6	0.4	1.3	1.4	0.7	1.0
Jondhra	2.7	0.5	1.2	3.1	0.5	1.2	2.9	0.6	1.2

Parameter-DO (mg/L)

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2007-08 to 2017-18			One Year		
	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average
Simga	9.4	4.8	5.8	2.6	0.4	1.3	1.4	0.7	1.0
Jondhra	9.5	5.1	7.3	9.1	4.8	7.1	2.9	0.6	1.2

Parameter -- FLUORIDE

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2007-08 to 2017-18			One Year		
	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average
Simga	1.40	44.51	13.20	0.43	0.09	0.21	0.00	0.00	0.00
Jondhra	0.76	0.12	0.40	0.30	0.09	0.18	0.00	0.00	0.00

Parameter --EC

SITE NAME (From U/S to D/S)	**Since inception of sites**			Last 10 years 2007-08 to 2017-18			**One Year**		
	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average
Simga	530	187	361	566	206	369	313	221	257
Jondhra	538	211	372	436	189	309	710	201	347

Parameter --Fe

SITE NAME (From U/S to D/S)	**Since inception of sites**			Last 10 years 2007-08 to 2017-18			**One Year**		
	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average
Simga	1.01	0.49	0.53	0.23	0.01	0.07	0.00	0.00	0.00
Jondhra	0.26	0.07	0.13	0.14	0.00	0.01	0.00	0.00	0.00

Parameter --CHLORIDE

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2007-08 to 2017-18			One Year		
	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average
Simga	52.0	10.8	26.8	63.8	13.7	33.8	41.0	25.0	32.8
Jondhra	38.8	8.8	21.4	34.0	9.6	21.4	33.0	20.0	27.8

Parameter - Mg (mg/l)

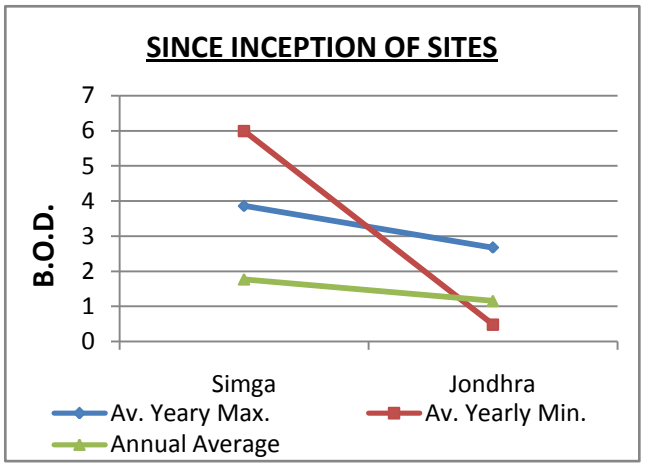
SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2007-08 to 2017-18			One Year		
	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average
Simga	22.6	5.0	12.1	27.5	5.8	15.8	35.0	1.9	15.6
Jondhra	22.9	6.4	13.7	24.8	7.0	13.9	46.7	1.9	18.0

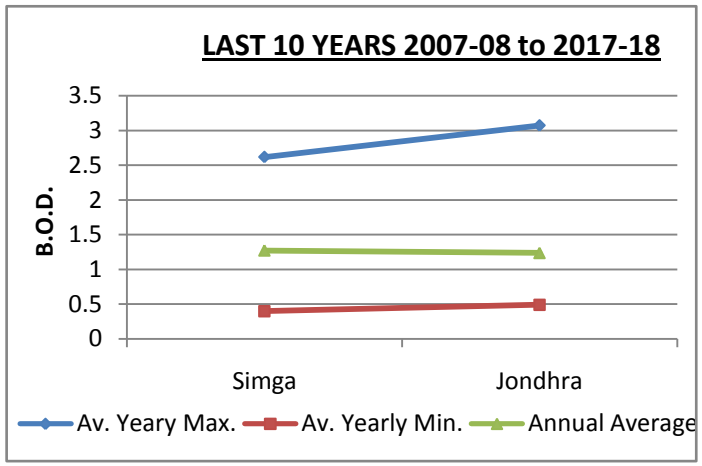
Parameter - Sulphate (So4)

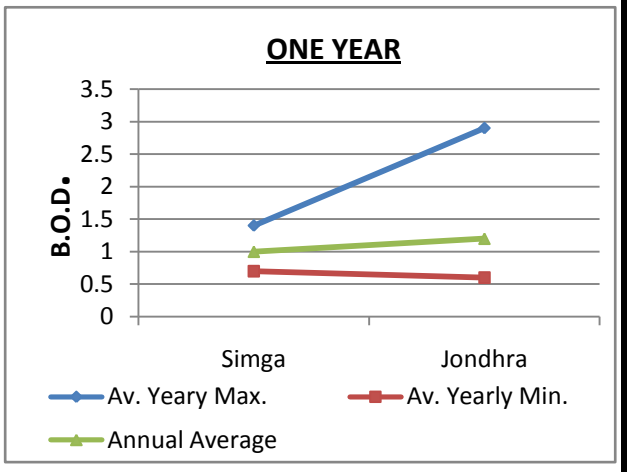
SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2007-08 to 2017-18			One Year		
	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average
Simga	30.6	13.9	17.4	40.0	14.0	25.3	0.0	0.0	0.0
Jondhra	33.3	8.7	20.0	29.9	12.9	20.3	0.0	0.0	0.0

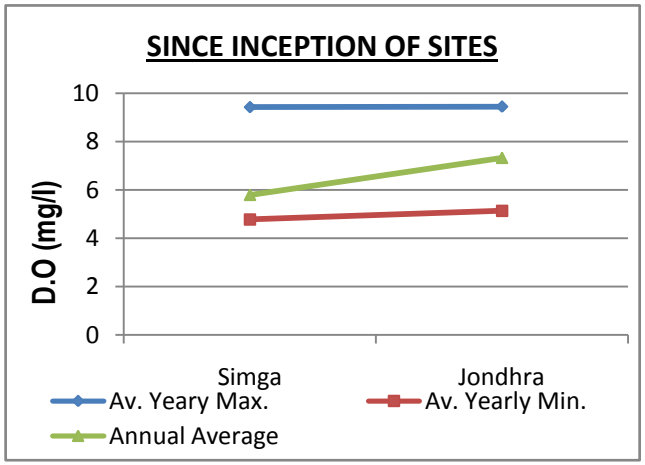
HAR_Total (mgCaCO3/L)

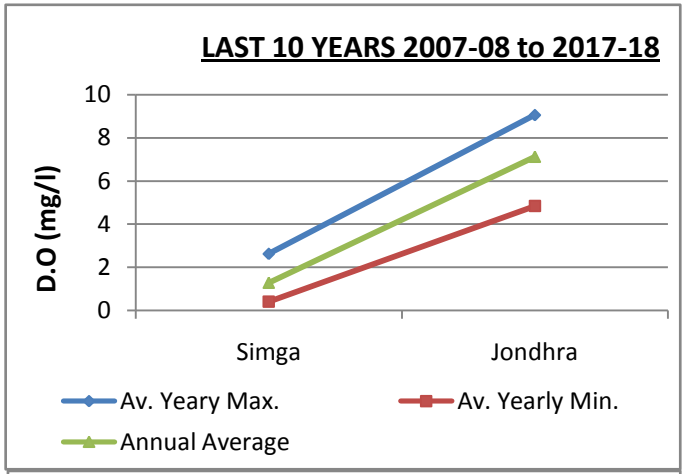
SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2007-08 to 2017-18			One Year		
	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average
Simga	193.6	88.2	133.3	222.8	88.5	150.6	266.0	141.0	185.0
Jondhra	211.6	86.0	140.9	192.6	85.7	132.2	271.0	128.0	174.0

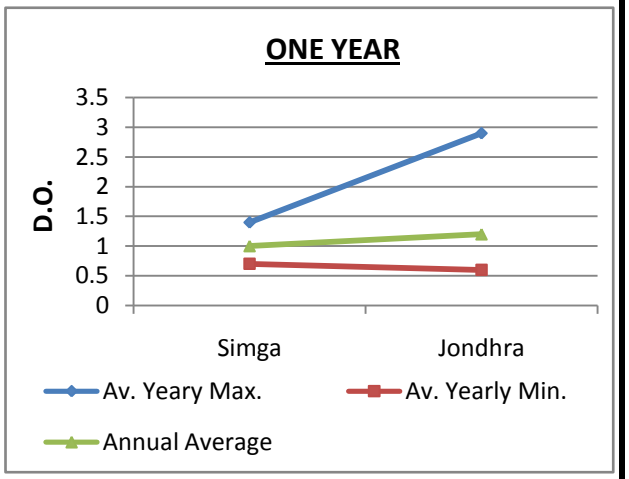

SINCE INCEPTION OF SITES
B.O.D.
7
6
5
4
3
2
1
0
Simga
Jondhra
Av. Yeary Max.
Av. Yearly Min.
Annual Average

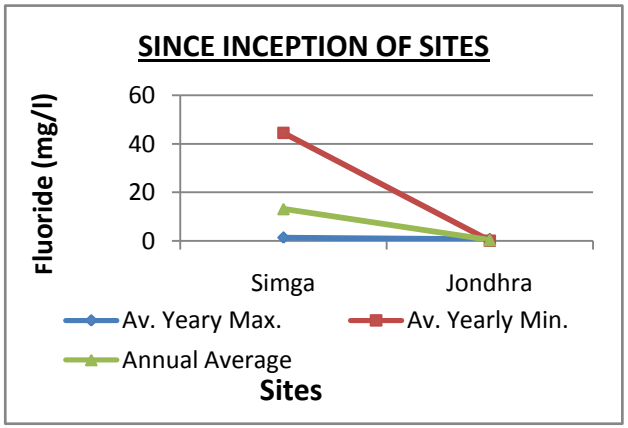

LAST 10 YEARS 2007-08 to 2017-18
B.O.D.
3.5
3
2.5
2
1.5
1
0.5
0
Simga
Jondhra
Av. Yeary Max.
Av. Yearly Min.
Annual Average

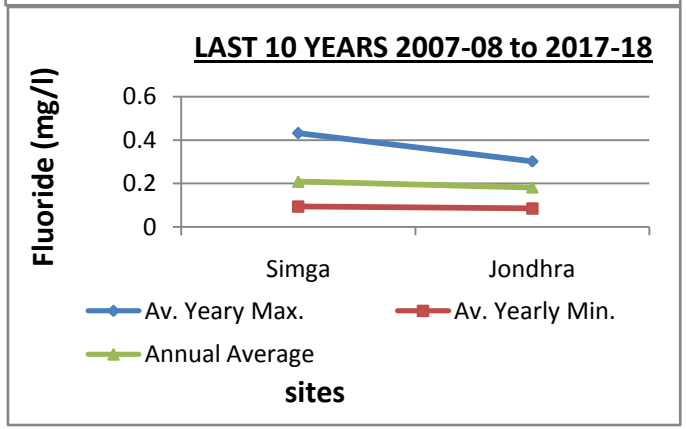

ONE YEAR
B.O.D.
3.5
3
2.5
2
1.5
1
0.5
0
Simga
Jondhra
Av. Yeary Max.
Av. Yearly Min.
Annual Average

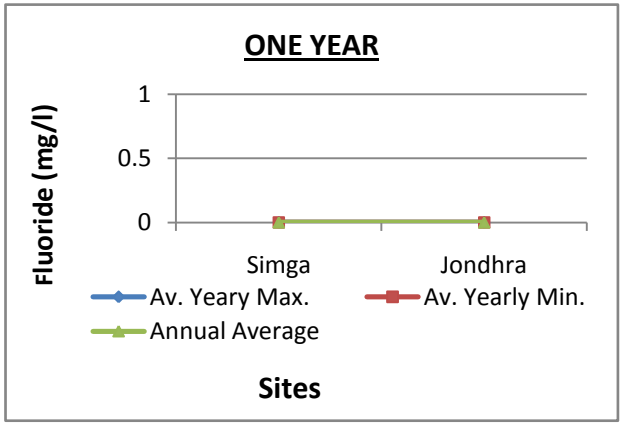

SINCE INCEPTION OF SITES
D.O (mg/l)
10
8
6
4
2
0
Simga
Jondhra
Av. Yeary Max.
Av. Yearly Min.
Annual Average

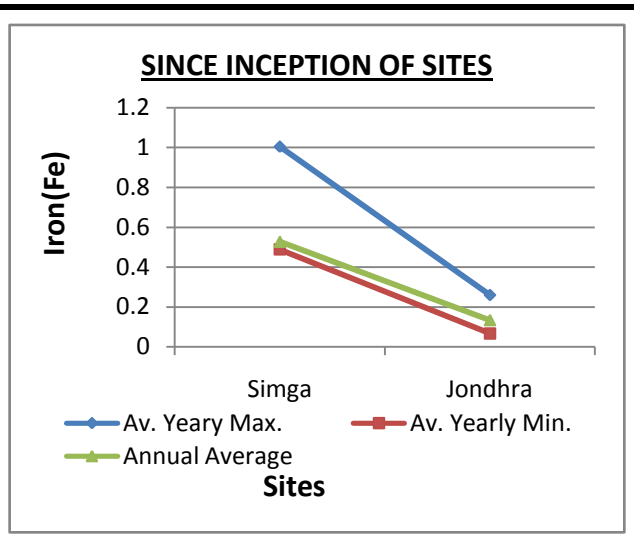

LAST 10 YEARS 2007-08 to 2017-18
D.O (mg/l)
10
8
6
4
2
0
Simga
Jondhra
Av. Yeary Max.
Av. Yearly Min.
Annual Average

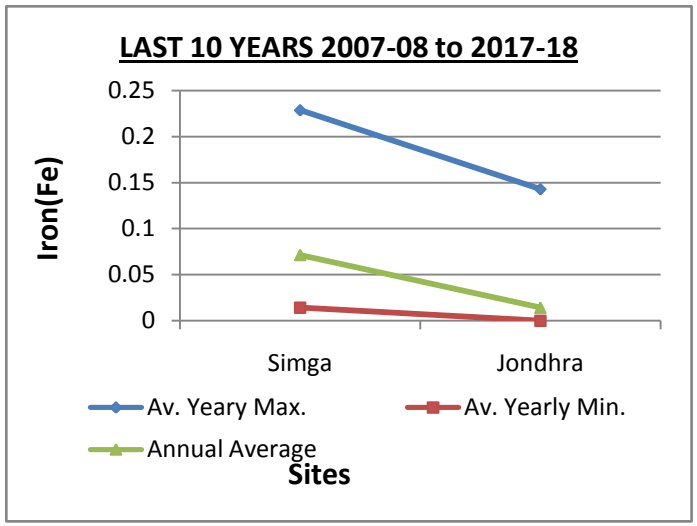

ONE YEAR
D.O.
3.5
3
2.5
2
1.5
1
0.5
0
Simga
Jondhra
Av. Yeary Max.
Av. Yearly Min.
Annual Average

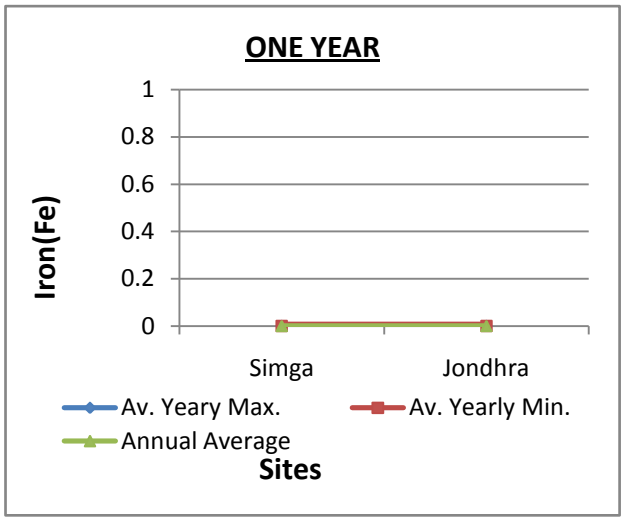

SINCE INCEPTION OF SITES
Fluoride (mg/l)
60
40
20
0
Simga
Jondhra
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

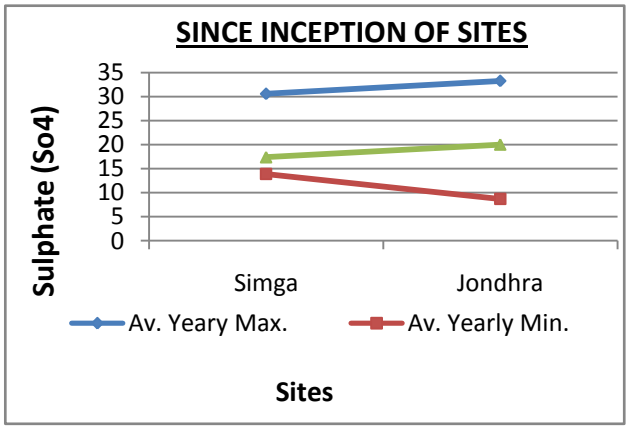

LAST 10 YEARS 2007-08 to 2017-18
Fluoride (mg/l)
0.6
0.4
0.2
0
Simga
Jondhra
Av. Yeary Max.
Av. Yearly Min.
Annual Average
sites

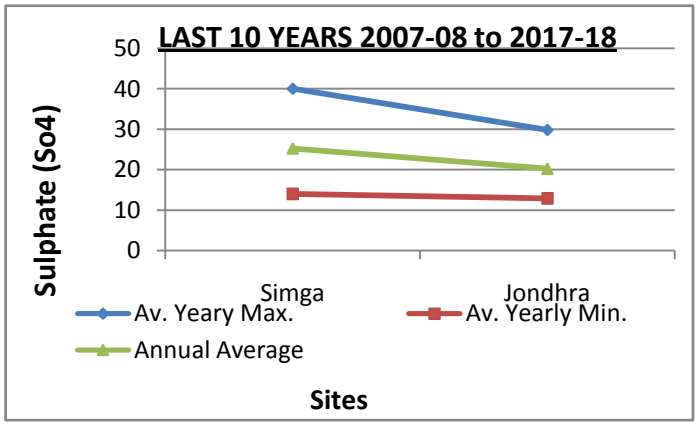

ONE YEAR
Fluoride (mg/l)
1
0.5
0
Simga
Jondhra
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

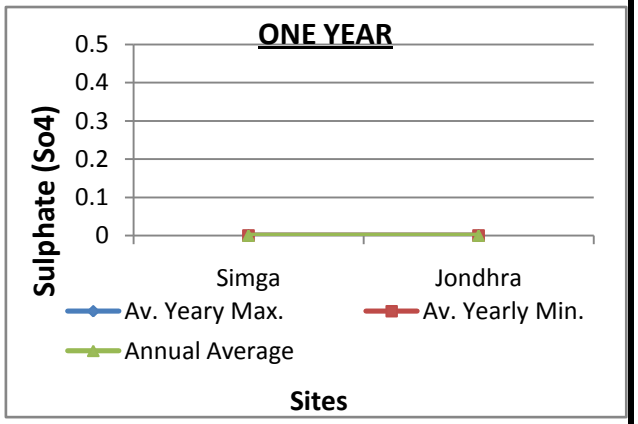

SINCE INCEPTION OF SITES
Iron(Fe)
1.2
1
0.8
0.6
0.4
0.2
0
Simga
Jondhra
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

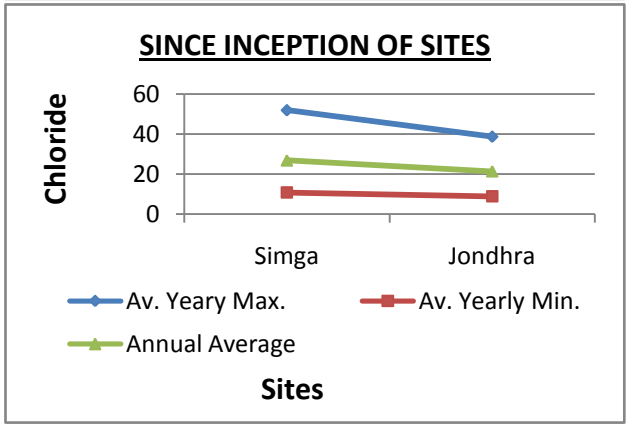

LAST 10 YEARS 2007-08 to 2017-18
Iron(Fe)
0.25
0.2
0.15
0.1
0.05
0
Simga
Jondhra
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

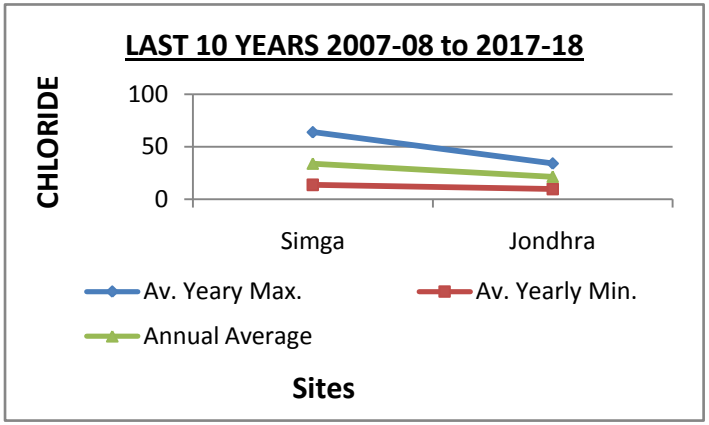

ONE YEAR
Iron(Fe)
1
0.8
0.6
0.4
0.2
0
Simga
Jondhra
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

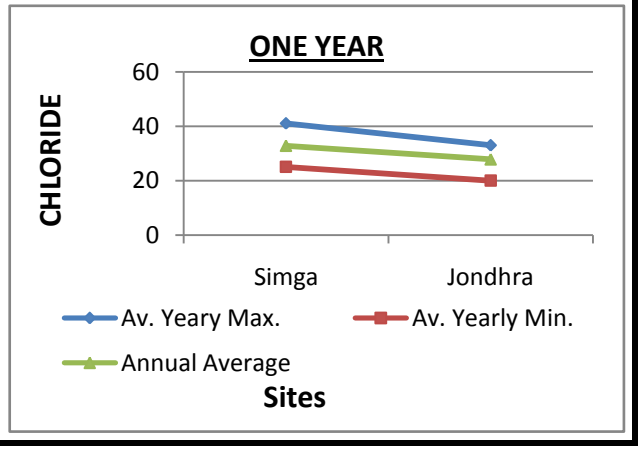

SINCE INCEPTION OF SITES
Sulphate (So4)
35
30
25
20
15
10
5
0
Simga
Jondhra
Av. Yeary Max.
Av. Yearly Min.
Sites

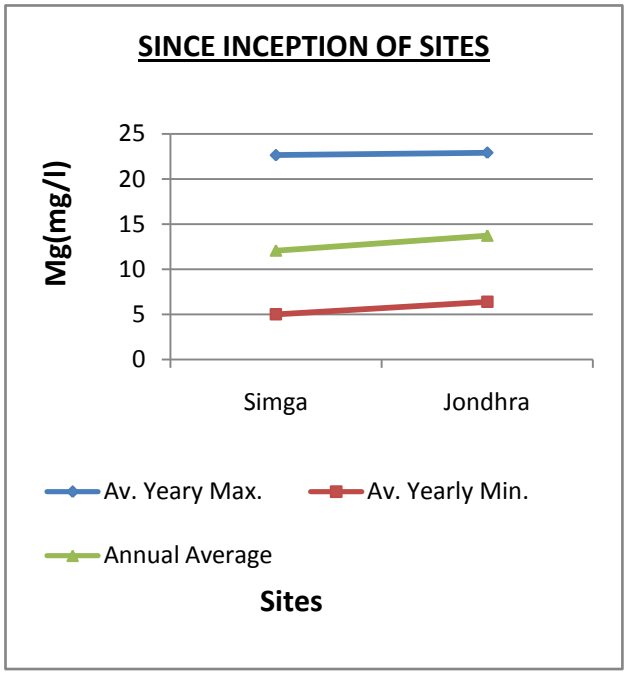

LAST 10 YEARS 2007-08 to 2017-18
Sulphate (So4)
50
40
30
20
10
0
Simga
Jondhra
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

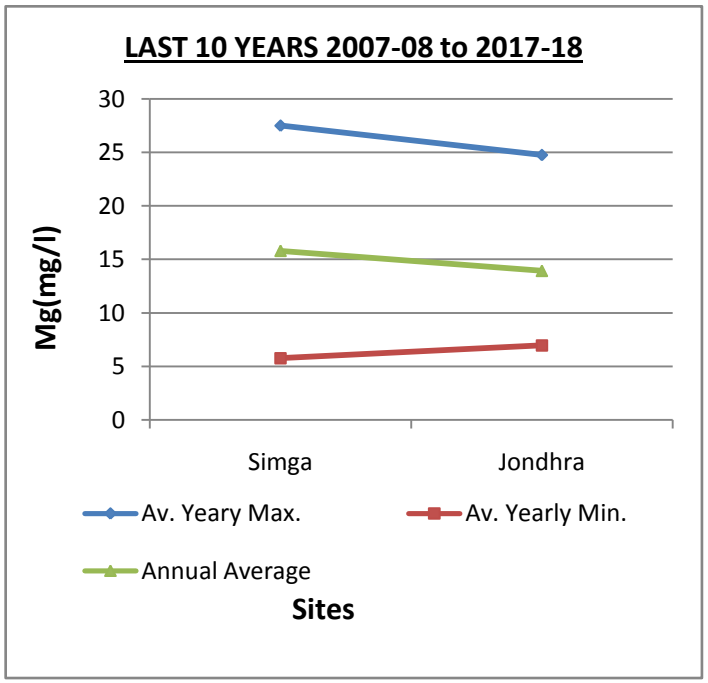

ONE YEAR
Sulphate (So4)
0.5
0.4
0.3
0.2
0.1
0
Simga
Jondhra
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

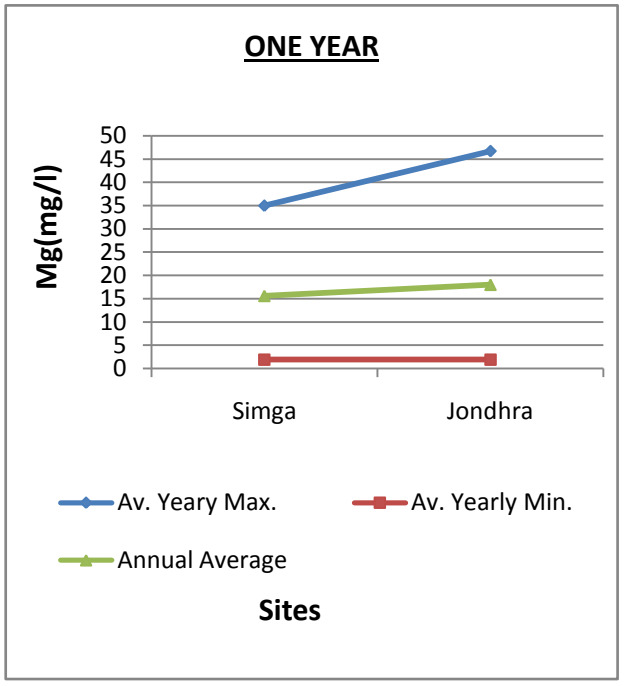

SINCE INCEPTION OF SITES
Chloride
60
40
20
0
Simga
Jondhra
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

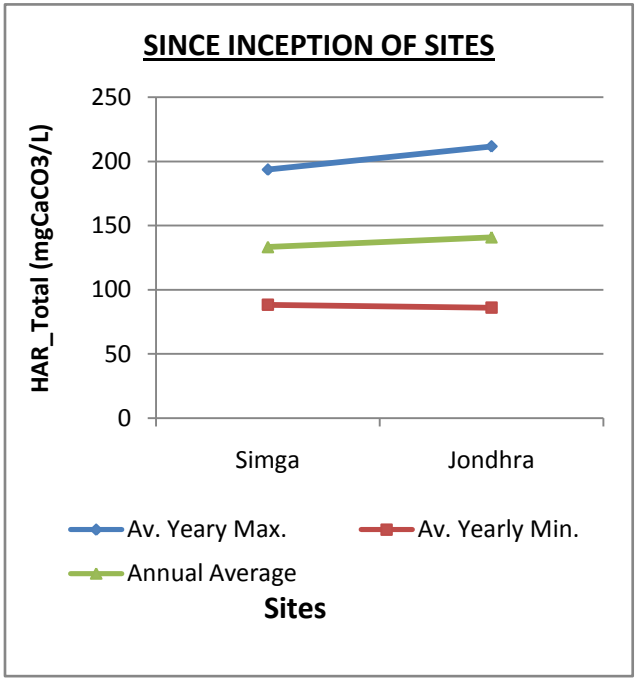

LAST 10 YEARS 2007-08 to 2017-18
CHLORIDE
100
50
0
Simga
Jondhra
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

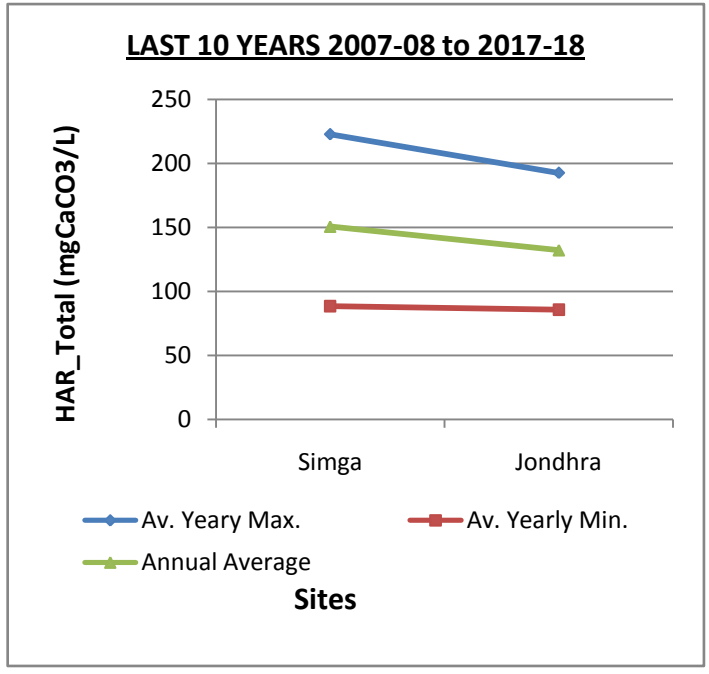

ONE YEAR
CHLORIDE
60
40
20
0
Simga
Jondhra
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

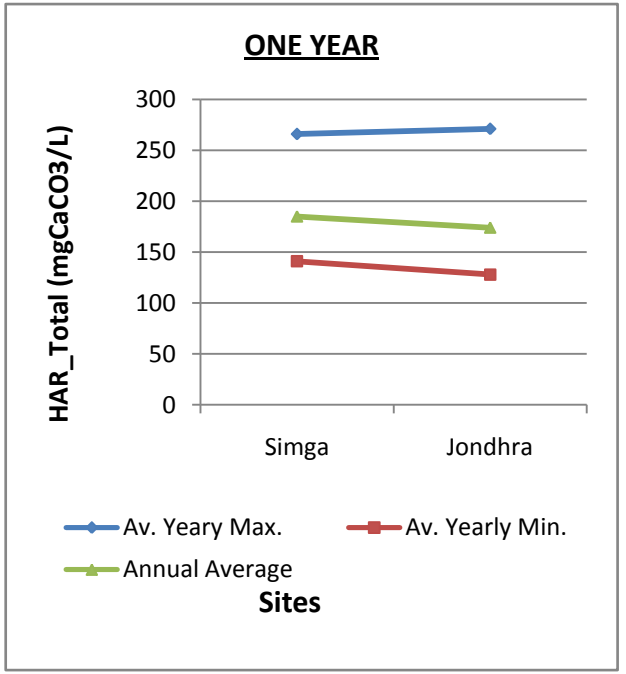

SINCE INCEPTION OF SITES
Mg(mg/l)
25
20
15
10
5
0
Simga
Jondhra
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites


LAST 10 YEARS 2007-08 to 2017-18
Mg(mg/l)
30
25
20
15
10
5
0
Simga
Jondhra
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites


ONE YEAR
Mg(mg/l)
50
45
40
35
30
25
20
15
10
5
0
Simga
Jondhra
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites


SINCE INCEPTION OF SITES
HAR_Total (mgCaCO3/L)
250
200
150
100
50
0
Simga
Jondhra
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites


LAST 10 YEARS 2007-08 to 2017-18
HAR_Total (mgCaCO3/L)
250
200
150
100
50
0
Simga
Jondhra
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites


ONE YEAR
HAR_Total (mgCaCO3/L)
300
250
200
150
100
50
0
Simga
Jondhra
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

RIVER HASDEO

Parameter - BOD3-27 (mg/L)

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2007-08 to 2017-18			One Year		
	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average
Manendragarh	3.1	0.5	1.2	3.7	0.5	1.3	2.5	0.4	1.1
Bamnidih	9.0	0.3	1.8	4.2	0.2	1.1	1.3	0.4	0.9

Parameter-DO (mg/L)

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2007-08 to 2017-18			One Year		
	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average
Manendragarh	9.0	5.6	7.3	8.6	5.2	7.0	8.0	3.4	5.8
Bamnidih	8.3	4.2	6.5	8.3	4.1	6.5	7.2	4.8	6.0

Parameter -- FLUORIDE

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2007-08 to 2017-18			One Year		
	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average
Manendragarh	0.52	0.13	0.29	0.18	0.07	0.12	0.00	0.00	0.00
Bamnidih	0.48	0.13	0.26	0.24	0.07	0.13	0.00	0.00	0.00

Parameter --EC

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2007-08 to 2017-18			One Year		
	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average
Manendragarh	279.3	92.8	167.3	292.0	96.6	167.2	213.0	108.0	159.0
Bamnidih	297.1	115.2	179.2	420.1	138.7	231.0	347.0	144.0	219.0

Parameter --CHLORIDE

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2007-08 to 2017-18			One Year		
	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average
Manendragarh	20.6	6.0	11.6	27.9	8.2	15.0	90.0	18.0	37.5
Bamnidih	22.9	6.4	12.4	33.6	8.4	17.6	40.0	14.0	23.8

Parameter - Fe

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2007-08 to 2017-18			One Year		
	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average
Manendragarh	0.13	0.07	0.09	0.02	0.02	0.02	0.00	0.00	0.00
Bamnidih	0.58	0.08	0.24	0.10	0.03	0.06	0.00	0.00	0.00

Parameter-Mg (mg/l)

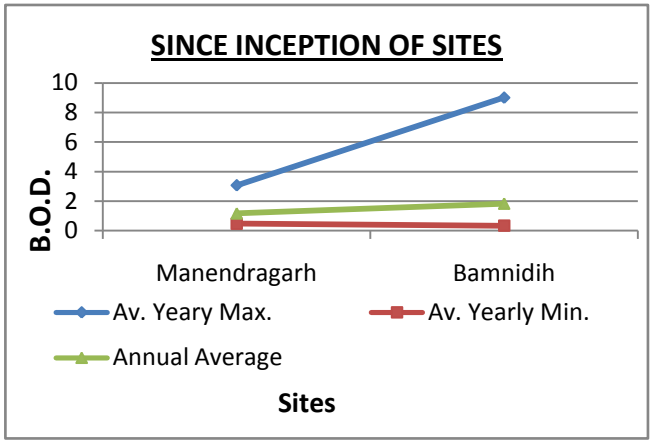
SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2007-08 to 2017-18			One Year		
	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average
Manendragarh	12.4	2.9	7.1	16.1	4.8	9.3	20.1	3.9	12.1
Bamnidih	11.3	2.8	6.4	16.0	4.1	9.5	25.3	2.9	14.3

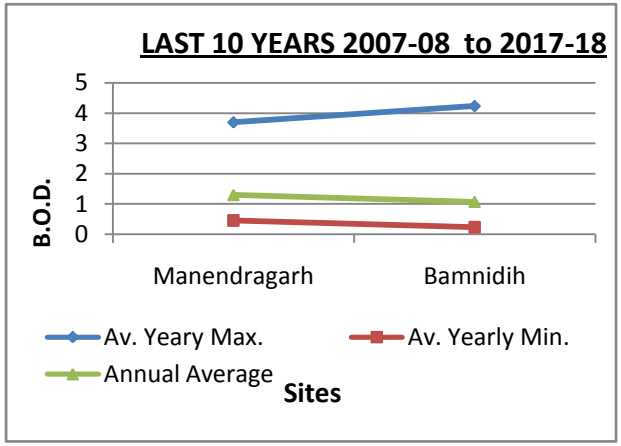
Parameter-Sulphate

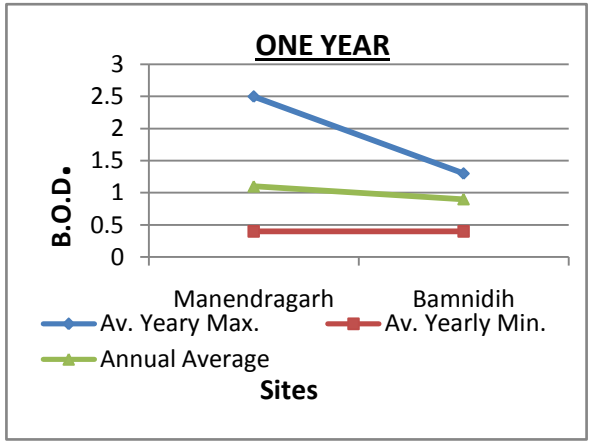
SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2007-08 to 2017-18			One Year		
	Av. Yeary Max.	**Av. Yearly Min.**	**Annual Average**	**Av. Yeary Max.**	**Av. Yearly Min.**	**Annual Average**	**Av. Yeary Max.**	**Av. Yearly Min.**	**Annual Average**
Manendragarh	24.3	6.2	14.6	28.7	8.3	15.7	0.0	0.0	0.0
Bamnidih	21.2	5.3	12.1	32.0	11.1	20.0	0.0	0.0	0.0

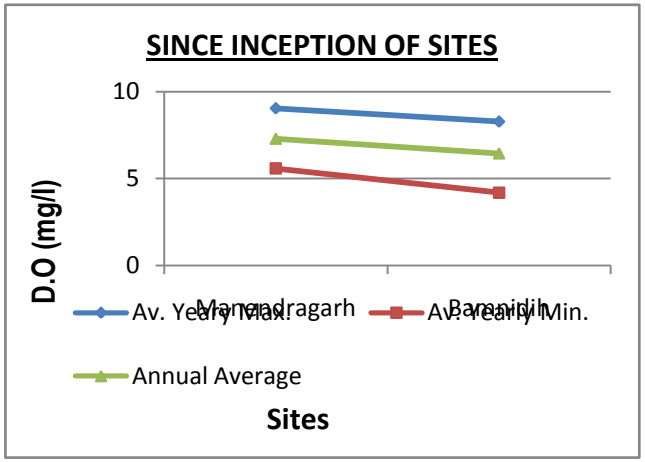
HAR_Total (mgCaCO3/L)

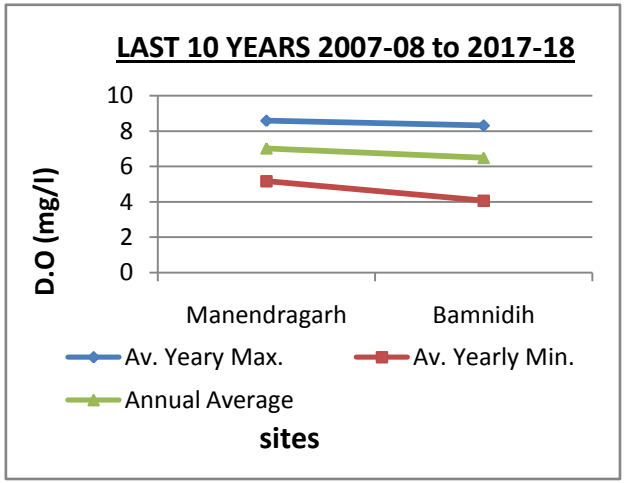
SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2007-08 to 2017-18			One Year		
	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average
Manendragarh	121.5	44.3	77.4	151.9	58.1	93.8	176.0	108.0	145.0
Bamnidih	105.1	47.0	70.4	144.7	68.0	98.5	242.0	117.0	151.0

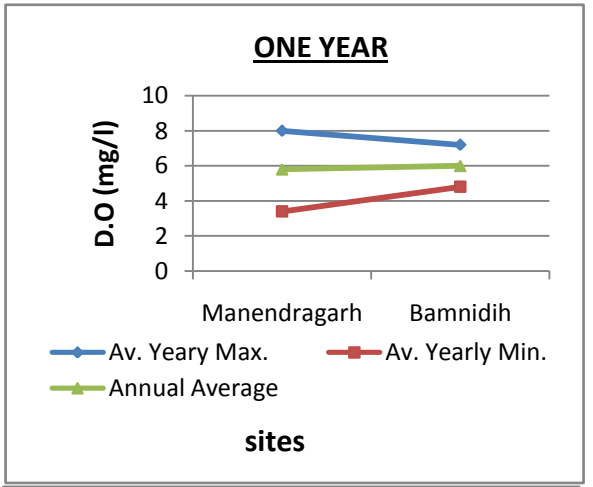

SINCE INCEPTION OF SITES
B.O.D.
10
8
6
4
2
0
Manendragarh
Bamnidih
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

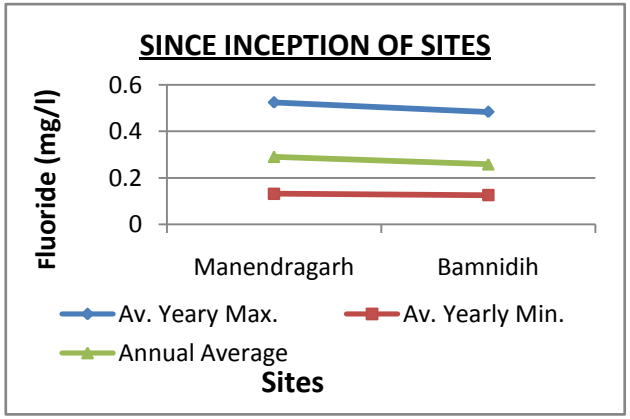

LAST 10 YEARS 2007-08 to 2017-18
B.O.D.
5
4
3
2
1
0
Manendragarh
Bamnidih
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

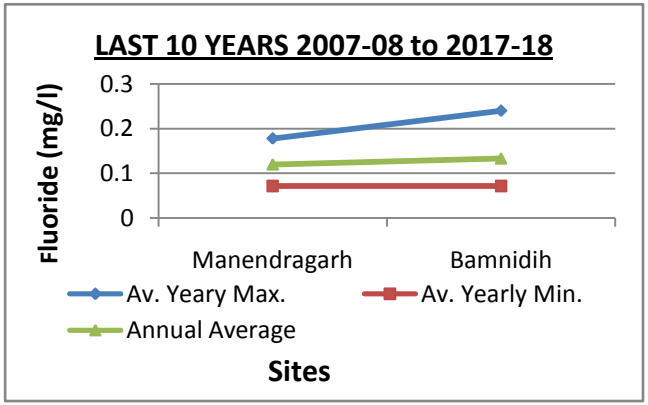

ONE YEAR
B.O.D.
3
2.5
2
1.5
1
0.5
0
Manendragarh
Bamnidih
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

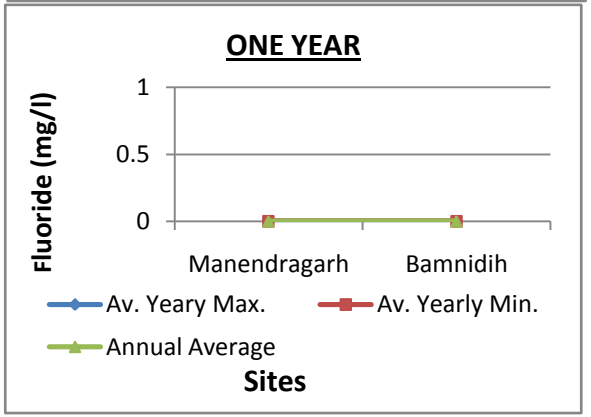

SINCE INCEPTION OF SITES
D.O (mg/l)
10
5
0
Manendragarh
Bamnidih
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

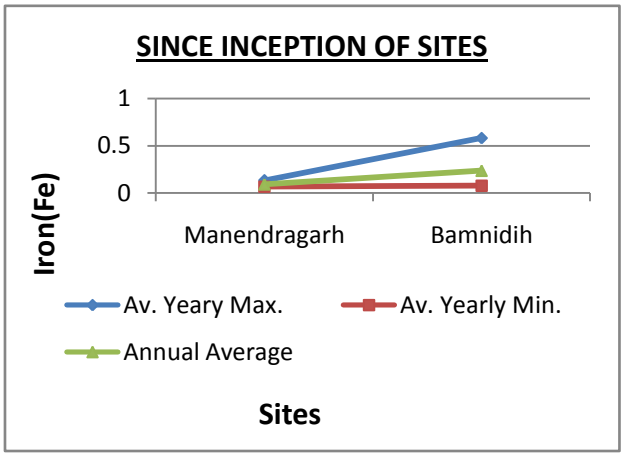

LAST 10 YEARS 2007-08 to 2017-18
D.O (mg/l)
10
8
6
4
2
0
Manendragarh
Bamnidih
Av. Yeary Max.
Av. Yearly Min.
Annual Average
sites

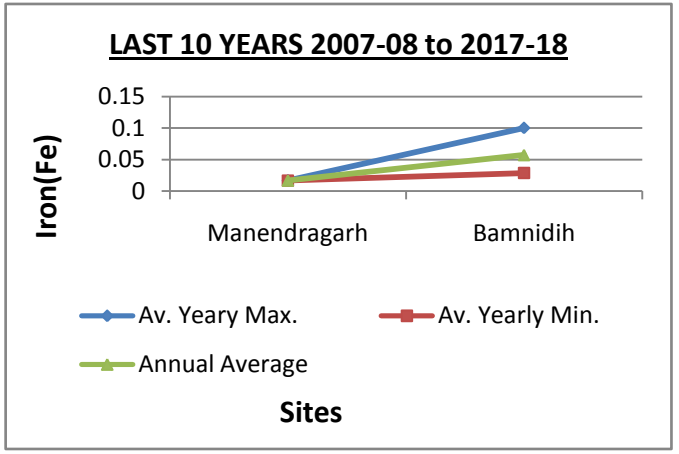

ONE YEAR
D.O (mg/l)
10
8
6
4
2
0
Manendragarh
Bamnidih
Av. Yeary Max.
Av. Yearly Min.
Annual Average
sites

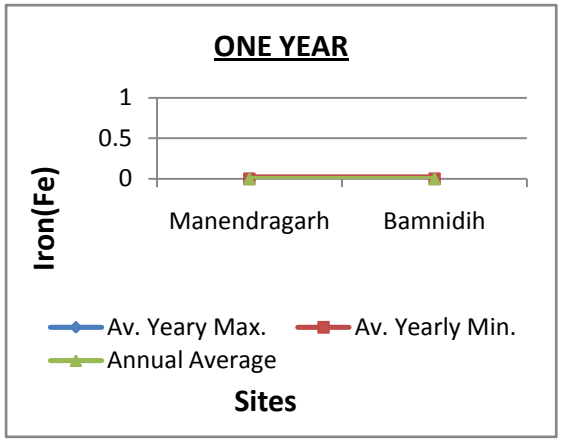

SINCE INCEPTION OF SITES
Fluoride (mg/l)
0.6
0.4
0.2
0
Manendragarh
Bamnidih
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

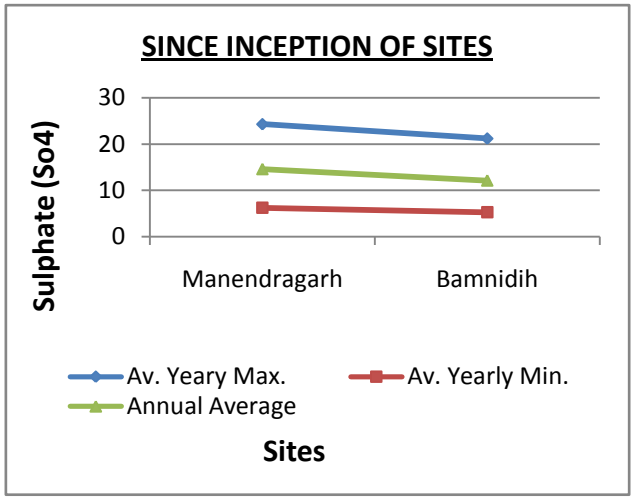

LAST 10 YEARS 2007-08 to 2017-18
Fluoride (mg/l)
0.3
0.2
0.1
0
Manendragarh
Bamnidih
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

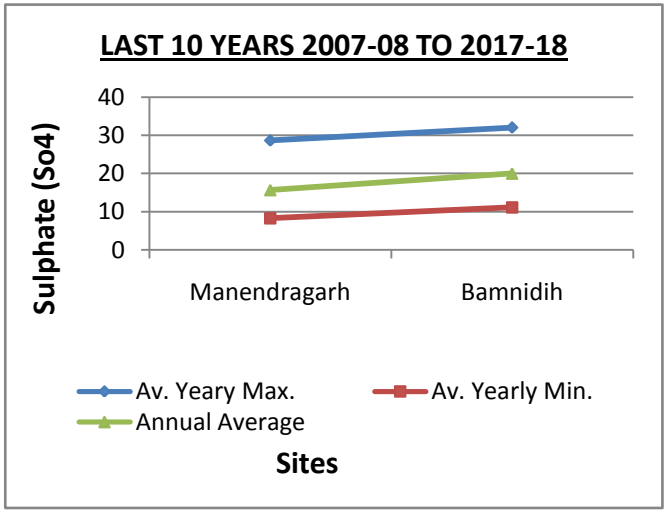

ONE YEAR
Fluoride (mg/l)
1
0.5
0
Manendragarh
Bamnidih
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

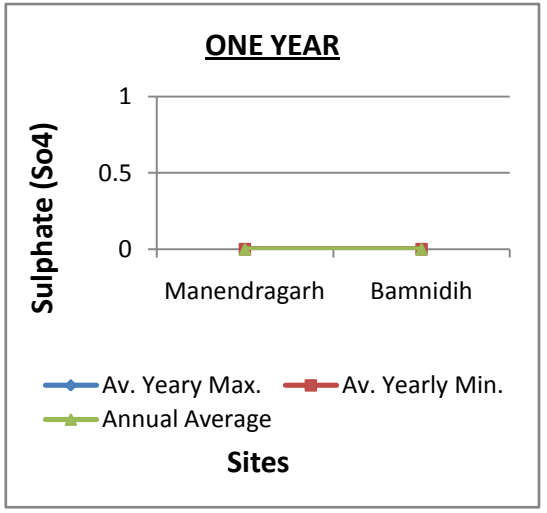

SINCE INCEPTION OF SITES
Iron(Fe)
1
0.5
0
Manendragarh
Bamnidih
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

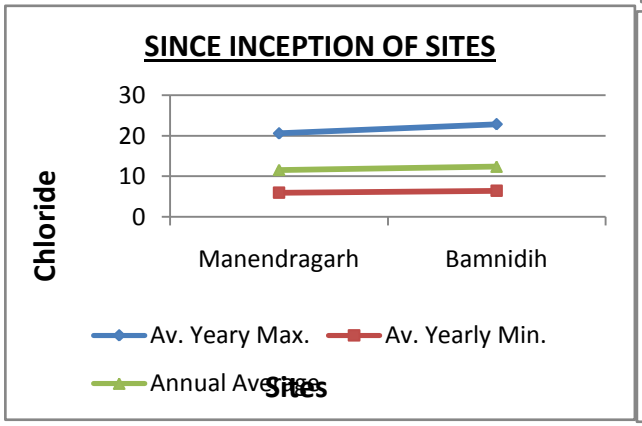

LAST 10 YEARS 2007-08 to 2017-18
Iron(Fe)
0.15
0.1
0.05
0
Manendragarh
Bamnidih
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

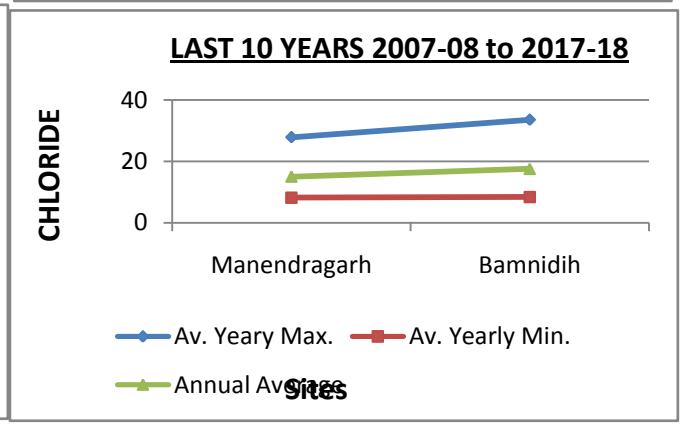

ONE YEAR
Iron(Fe)
1
0.5
0
Manendragarh
Bamnidih
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

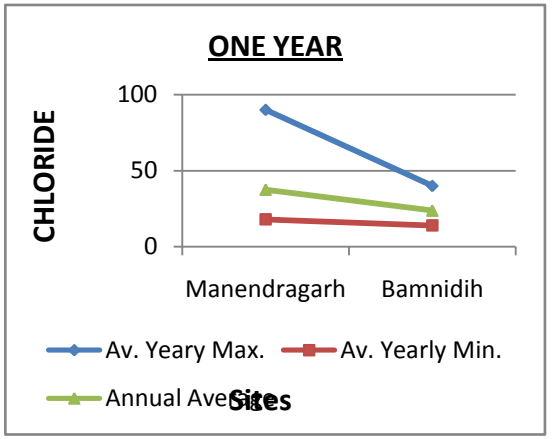

SINCE INCEPTION OF SITES
Sulphate (So4)
30
20
10
0
Manendragarh
Bamnidih
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

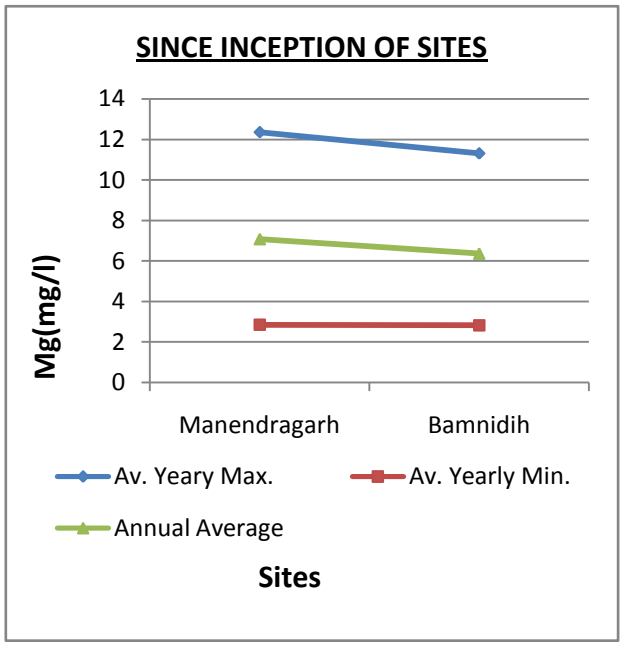

LAST 10 YEARS 2007-08 TO 2017-18
Sulphate (So4)
40
30
20
10
0
Manendragarh
Bamnidih
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

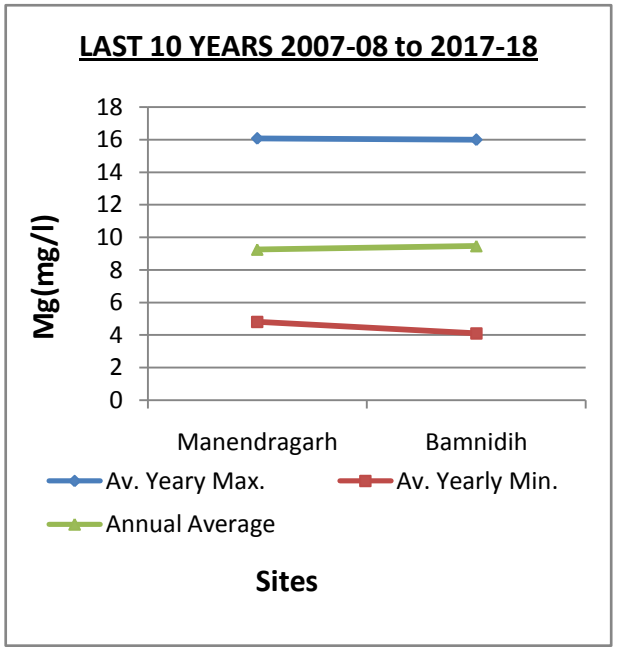

ONE YEAR
Sulphate (So4)
1
0.5
0
Manendragarh
Bamnidih
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

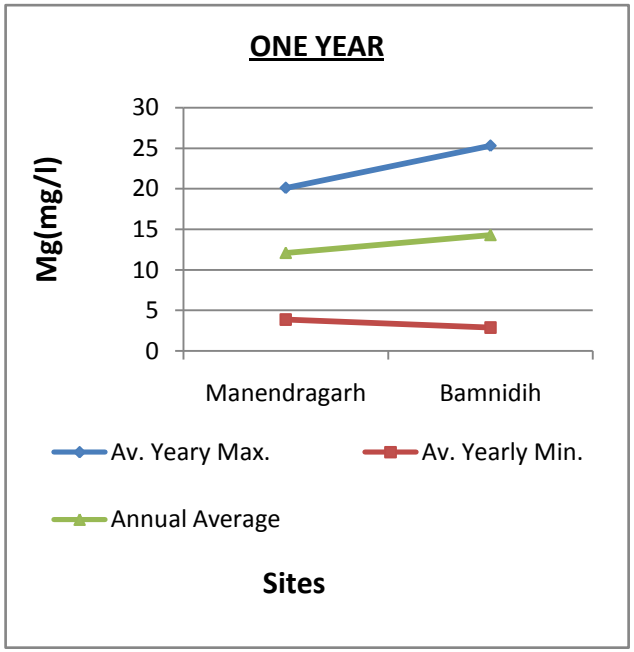

SINCE INCEPTION OF SITES
Chloride
30
20
10
0
Manendragarh
Bamnidih
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

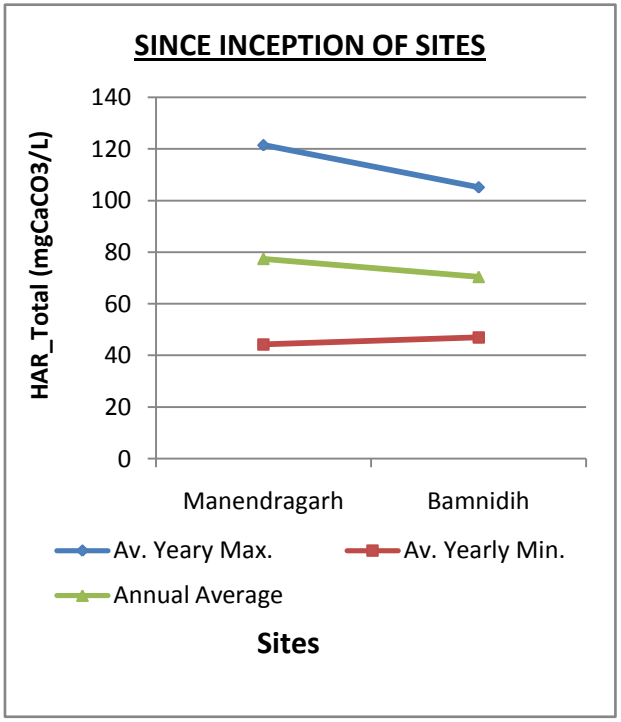

LAST 10 YEARS 2007-08 to 2017-18
CHLORIDE
40
20
0
Manendragarh
Bamnidih
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

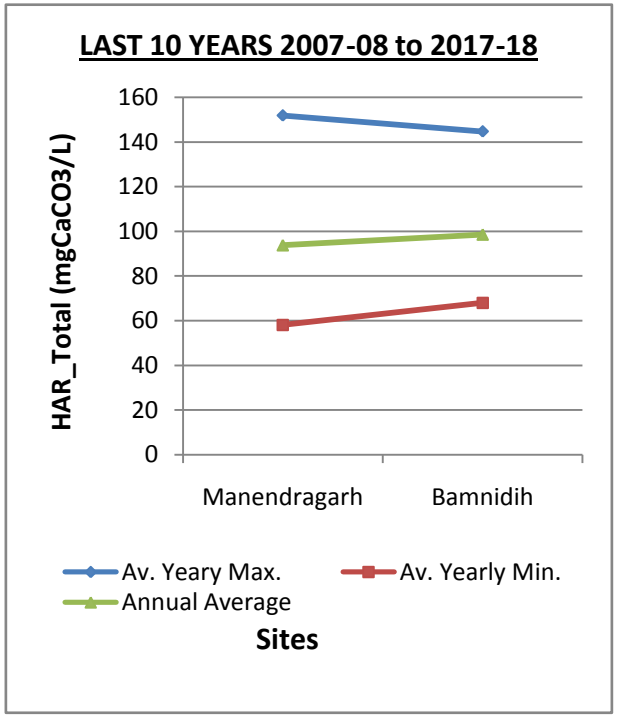

ONE YEAR
CHLORIDE
100
50
0
Manendragarh
Bamnidih
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

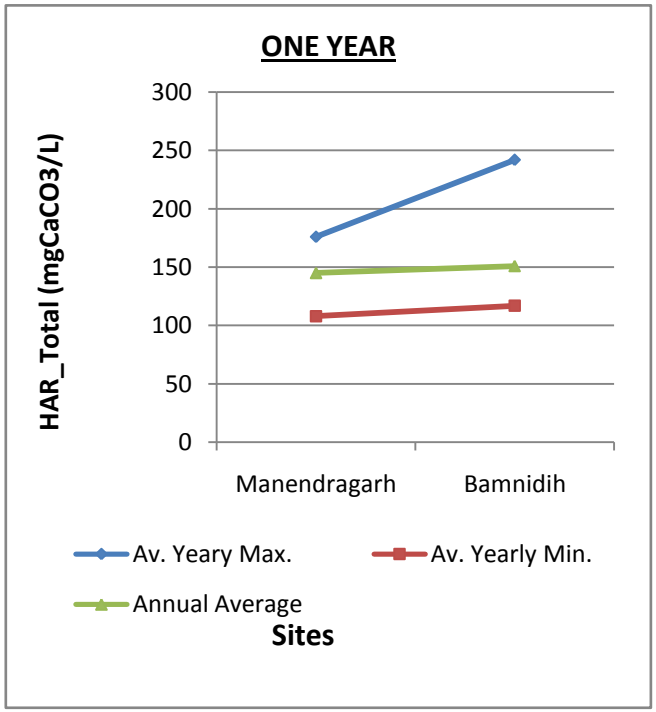

SINCE INCEPTION OF SITES
Mg(mg/l)
14
12
10
8
6
4
2
0
Manendragarh
Bamnidih
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites


LAST 10 YEARS 2007-08 to 2017-18
Mg(mg/l)
18
16
14
12
10
8
6
4
2
0
Manendragarh
Bamnidih
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites


ONE YEAR
Mg(mg/l)
30
25
20
15
10
5
0
Manendragarh
Bamnidih
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites


SINCE INCEPTION OF SITES
HAR_Total (mgCaCO3/L)
140
120
100
80
60
40
20
0
Manendragarh
Bamnidih
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites


LAST 10 YEARS 2007-08 to 2017-18
HAR_Total (mgCaCO3/L)
160
140
120
100
80
60
40
20
0
Manendragarh
Bamnidih
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites


ONE YEAR
HAR_Total (mgCaCO3/L)
300
250
200
150
100
50
0
Manendragarh
Bamnidih
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

RIVER TEL

BOD3-27 (mg/L)

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2007-08 to 2017-18			One Year		
	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average
Kesinga	5.3	1.8	3.7	6.9	2.3	4.9	1.5	0.6	1.0
Kantamal	1.5	0.4	0.8	1.8	0.3	0.8	1.1	0.5	0.8

Parameter-DO (mg/L)

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2007-08 to 2017-18			One Year		
	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average
Kesinga	14.6	8.7	12.0	17.1	9.5	13.7	7.7	4.4	6.4
Kantamal	8.8	5.3	7.0	9.0	5.2	7.0	6.9	5.0	6.2

Parameter -- FLUORIDE

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2007-08 to 2017-18			One Year		
	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average
Kesinga	2.11	0.98	1.40	2.47	1.34	1.74	0.00	0.00	0.00
Kantamal	4.71	0.16	0.88	0.32	0.07	0.15	0.00	0.00	0.00

Parameter --CHLORIDE

SITE NAME (From U/S to D/S)	**Since inception of sites**			Last 10 years 2007-08 to 2017-18			**One Year**		
	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average
Kesinga	28.6	9.2	17.5	36.6	10.8	22.4	39.0	15.0	27.8
Kantamal	34.6	5.6	15.9	36.2	5.7	15.3	42.0	16.0	25.3

Parameter --Fe

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2007-08 to 2017-18			One Year		
	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average
Kesinga	0.1	0.0	0.0	0.1	0.0	0.0	#REF!	0.0	0.0
Kantamal	0.5	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0

Parameter --EC

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2007-08 to 2017-18			One Year		
	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average
Kesinga	270.6	106.2	184.7	292.0	102.8	191.0	337.0	155.0	208.0
Kantamal	271.5	108.5	176.9	301.9	95.6	170.8	219.0	93.0	162.0

Parameter-Mg (mg/l)

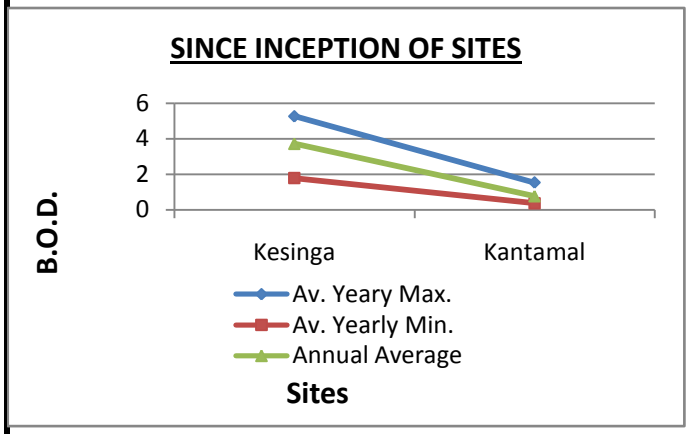
SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2007-08 to 2017-18			One Year		
	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average
Kesinga	16.0	4.0	8.8	19.4	4.3	10.0	15.6	2.9	8.8
Kantamal	13.3	2.7	7.2	18.2	3.5	8.8	20.4	1.9	8.6

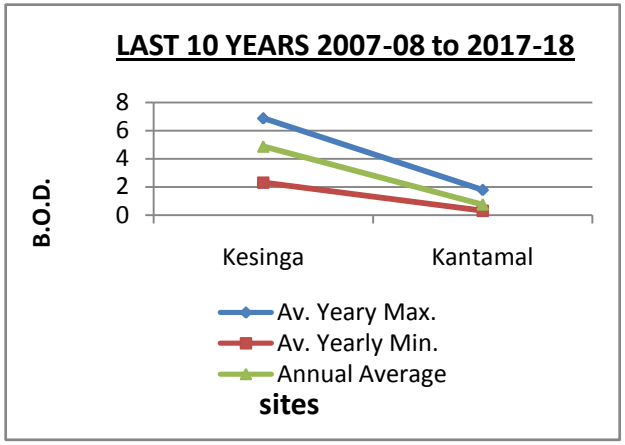
Parameter-Sulphate

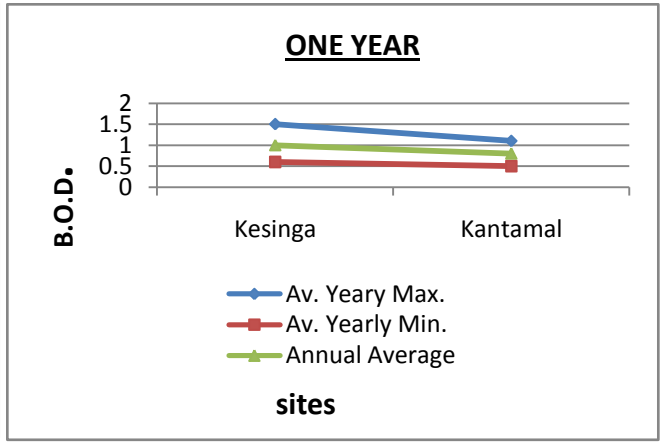
SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2007-08 to 2017-18			One Year		
	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average
Kesinga	18.6	6.6	12.0	23.9	8.5	15.1	0.0	0.0	0.0
Kantamal	17.8	4.4	10.0	28.1	8.3	16.3	0.0	0.0	0.0

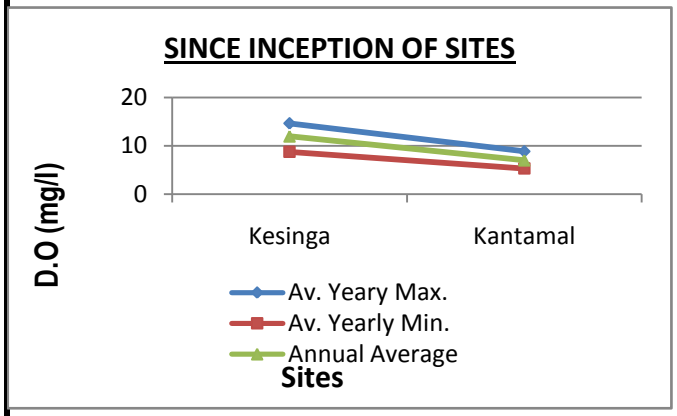
Parameter-HAR_Total (mgCaCO3/L)

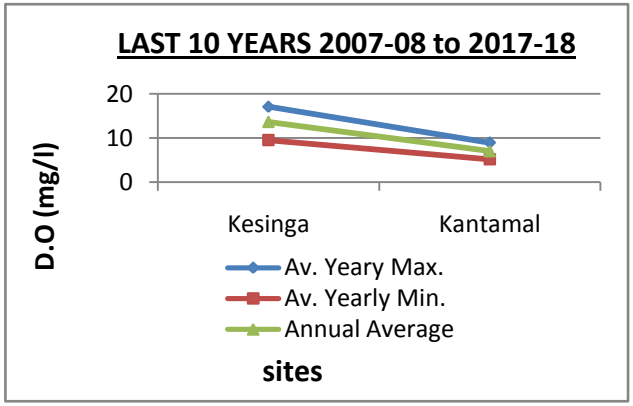
SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2007-08 to 2017-18			One Year		
	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average	Av. Yeary Max.	Av. Yearly Min.	Annual Average
Kesinga	129.2	45.5	84.8	157.2	54.2	101.2	161.0	84.0	133.0
Kantamal	121.1	46.0	79.5	156.2	53.3	91.9	205.0	105.0	152.0

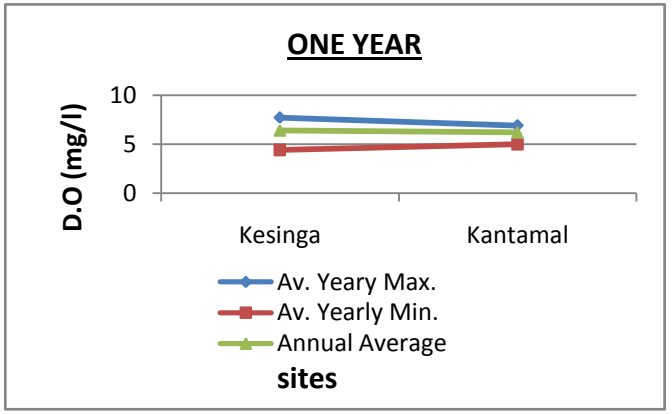

SINCE INCEPTION OF SITES
B.O.D.
6
4
2
0
Kesinga
Kantamal
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

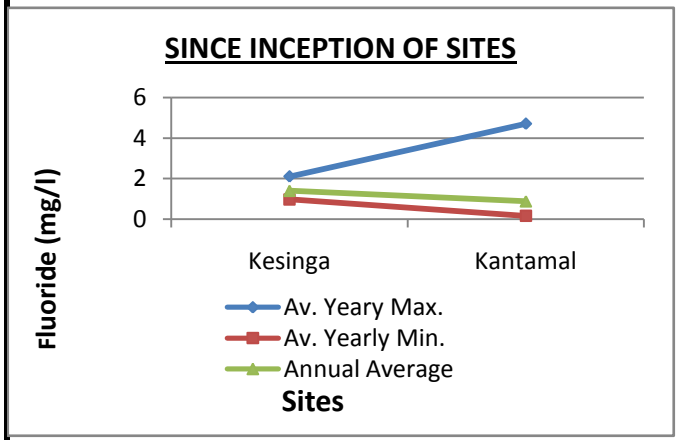

LAST 10 YEARS 2007-08 to 2017-18
B.O.D.
8
6
4
2
0
Kesinga
Kantamal
Av. Yeary Max.
Av. Yearly Min.
Annual Average
sites

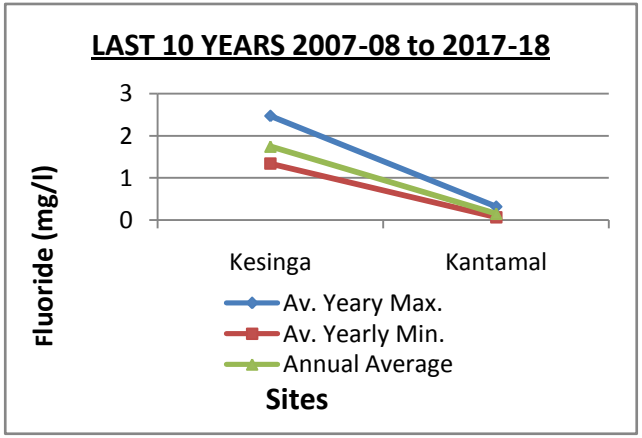

ONE YEAR
B.O.D.
2
1.5
1
0.5
0
Kesinga
Kantamal
Av. Yeary Max.
Av. Yearly Min.
Annual Average
sites

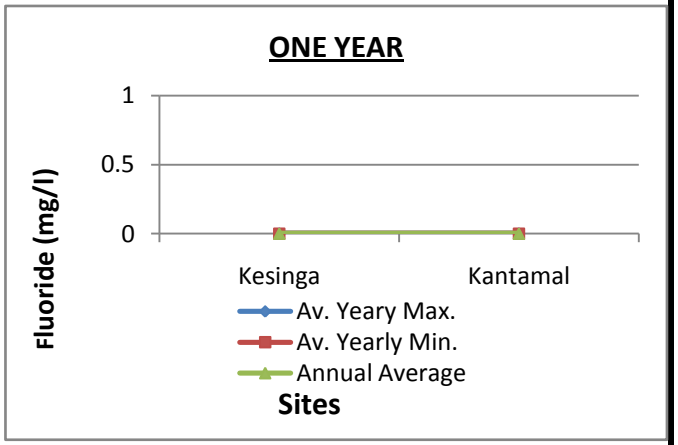

SINCE INCEPTION OF SITES
D.O (mg/l)
20
10
0
Kesinga
Kantamal
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

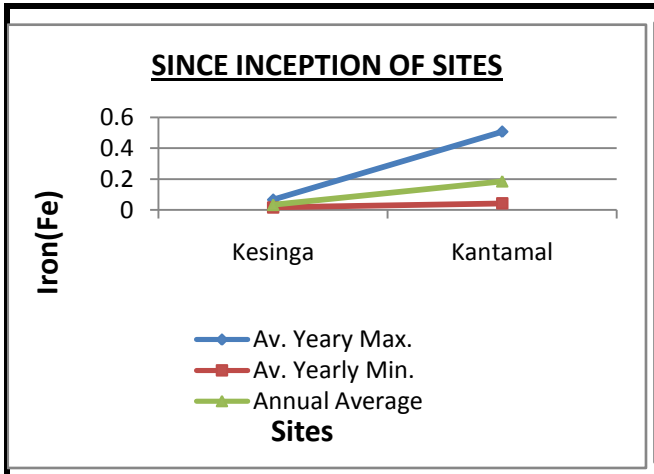

LAST 10 YEARS 2007-08 to 2017-18
D.O (mg/l)
20
10
0
Kesinga
Kantamal
Av. Yeary Max.
Av. Yearly Min.
Annual Average
sites

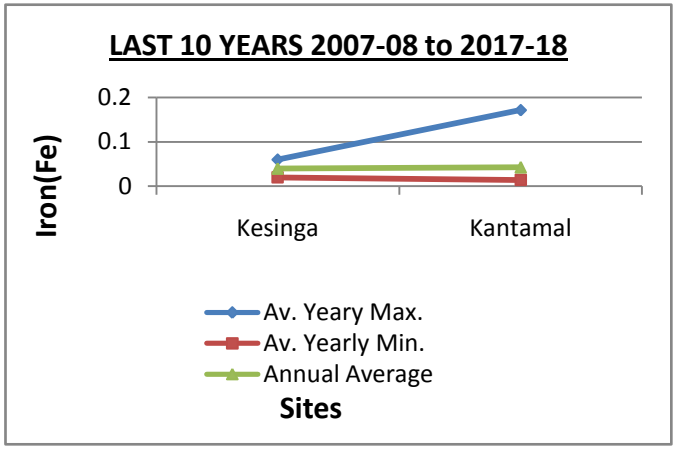

ONE YEAR
D.O (mg/l)
10
5
0
Kesinga
Kantamal
Av. Yeary Max.
Av. Yearly Min.
Annual Average
sites

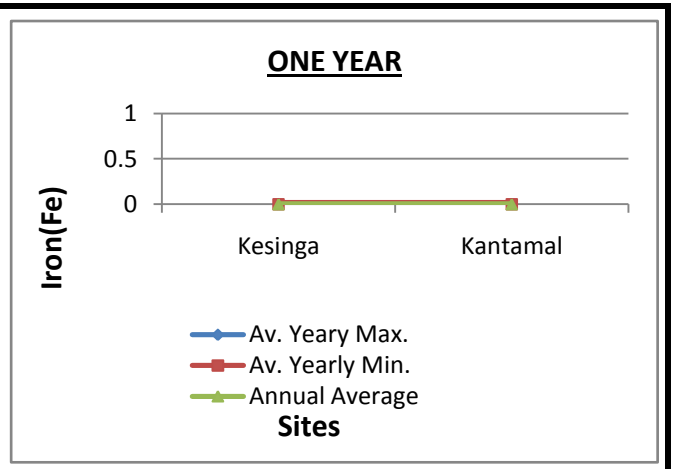

SINCE INCEPTION OF SITES
Fluoride (mg/l)
6
4
2
0
Kesinga
Kantamal
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

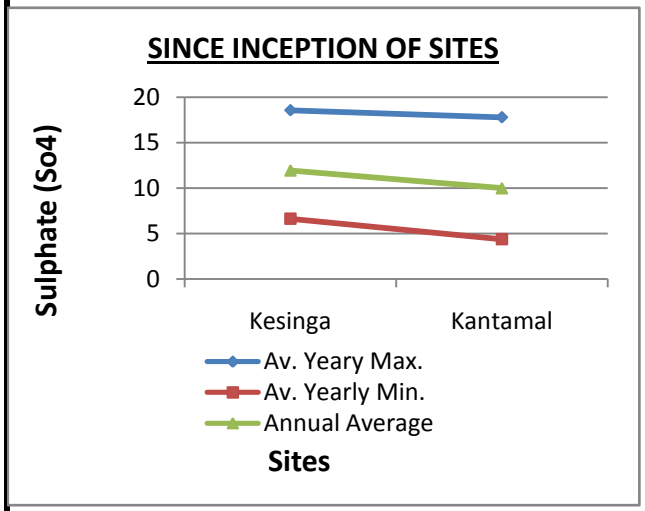

LAST 10 YEARS 2007-08 to 2017-18
Fluoride (mg/l)
3
2
1
0
Kesinga
Kantamal
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

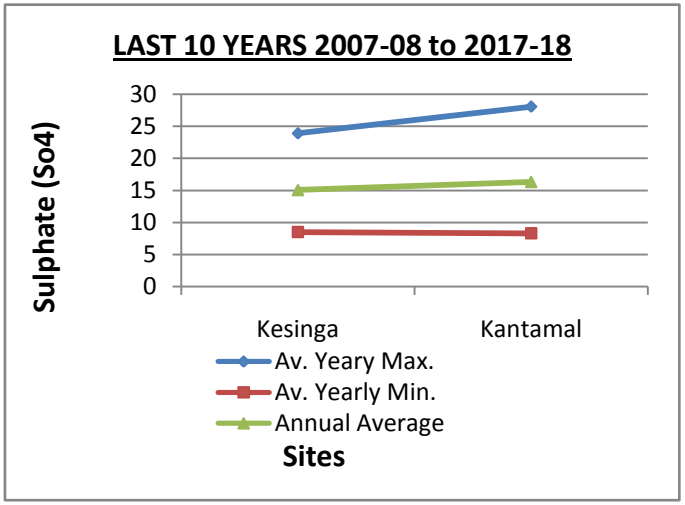

ONE YEAR
Fluoride (mg/l)
1
0.5
0
Kesinga
Kantamal
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

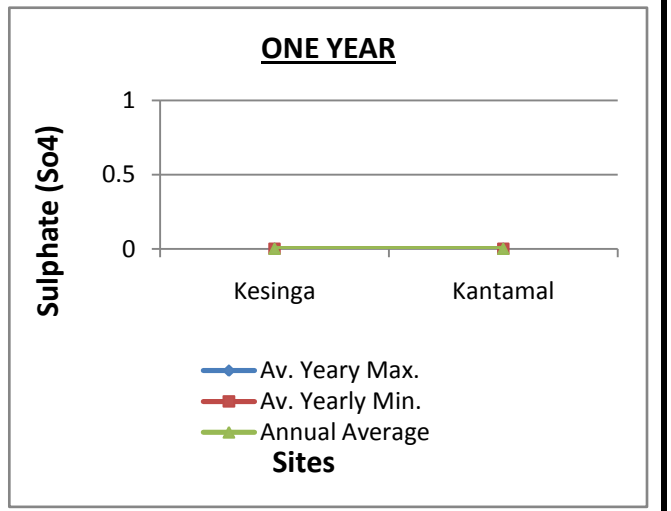

SINCE INCEPTION OF SITES
Iron(Fe)
0.6
0.4
0.2
0
Kesinga
Kantamal
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

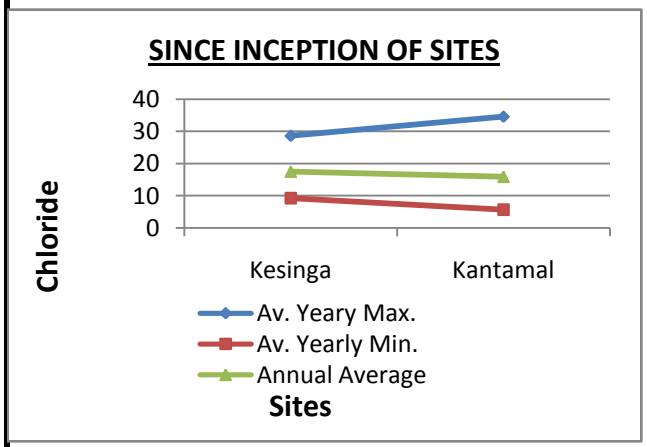

LAST 10 YEARS 2007-08 to 2017-18
Iron(Fe)
0.2
0.1
0
Kesinga
Kantamal
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

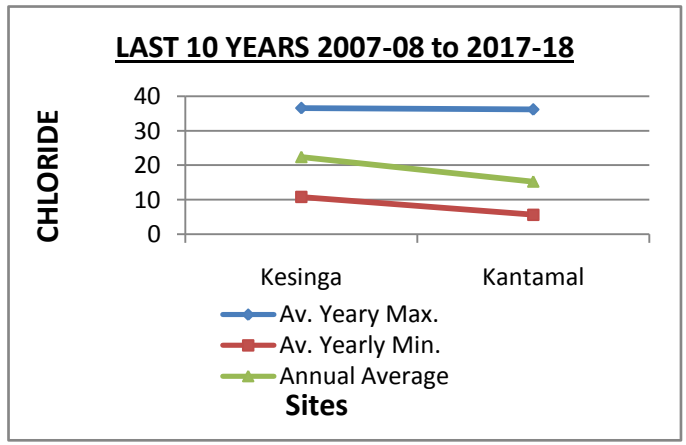

ONE YEAR
Iron(Fe)
1
0.5
0
Kesinga
Kantamal
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

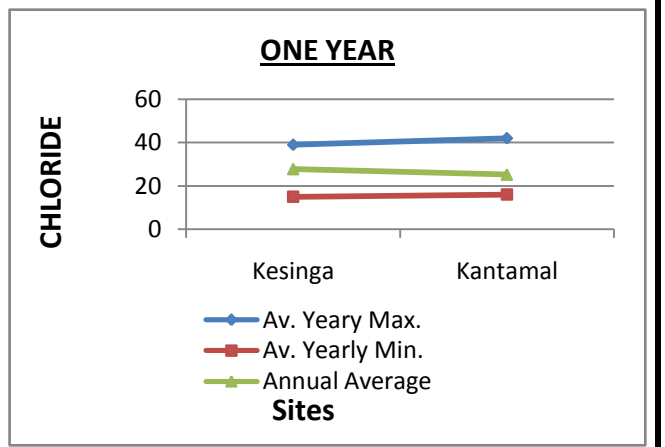

SINCE INCEPTION OF SITES
Sulphate (So4)
20
15
10
5
0
Kesinga
Kantamal
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

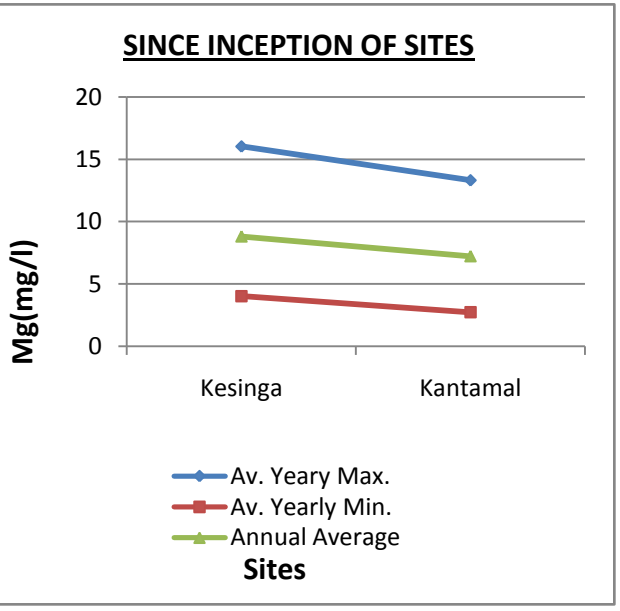

LAST 10 YEARS 2007-08 to 2017-18
Sulphate (So4)
30
25
20
15
10
5
0
Kesinga
Kantamal
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

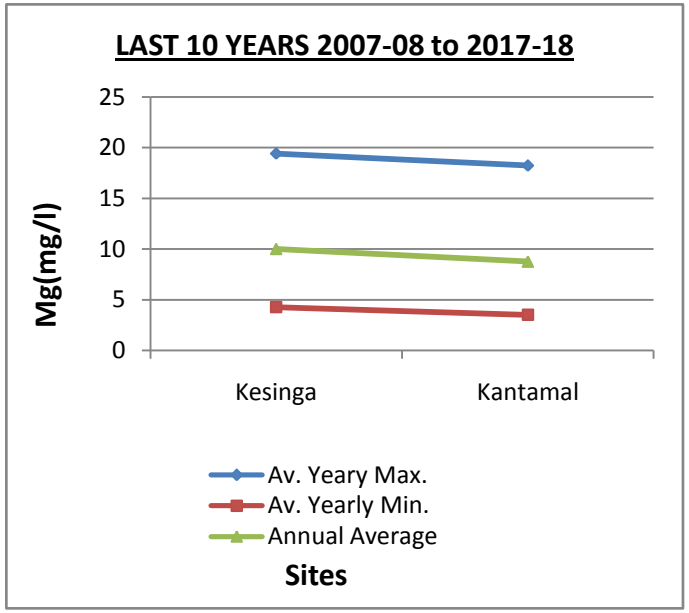

ONE YEAR
Sulphate (So4)
1
0.5
0
Kesinga
Kantamal
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

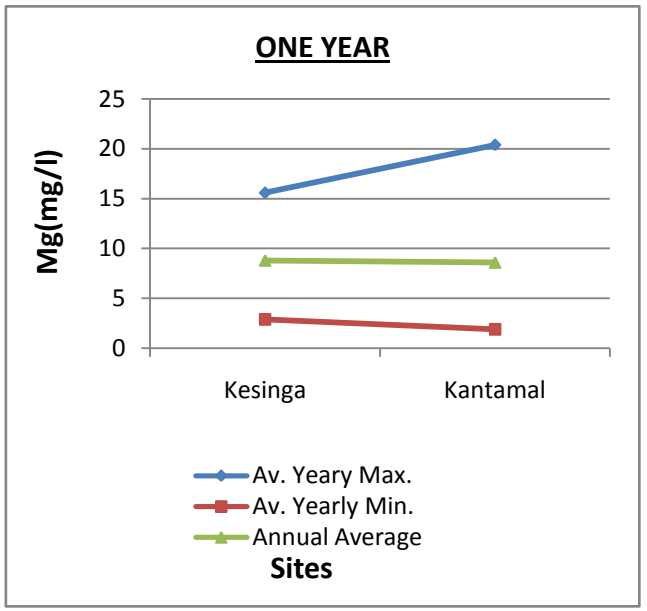

SINCE INCEPTION OF SITES
Chloride
40
30
20
10
0
Kesinga
Kantamal
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

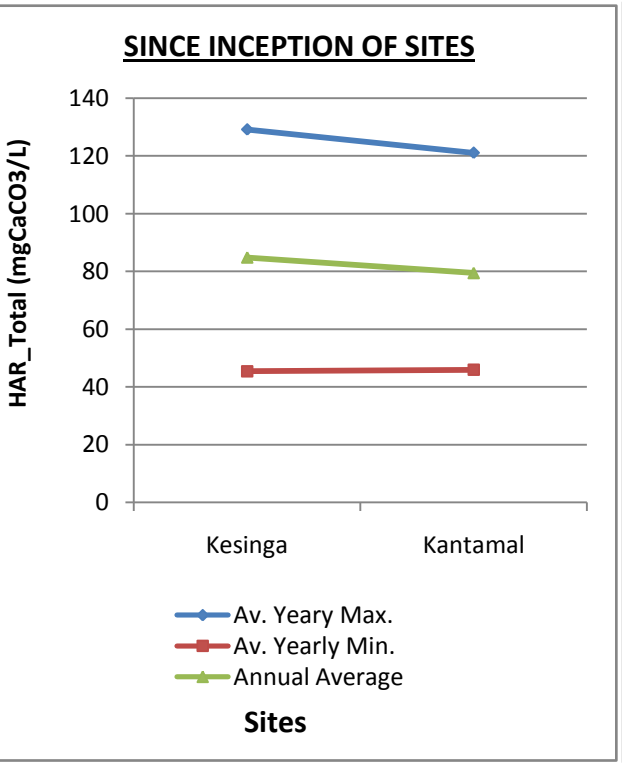

LAST 10 YEARS 2007-08 to 2017-18
CHLORIDE
40
30
20
10
0
Kesinga
Kantamal
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

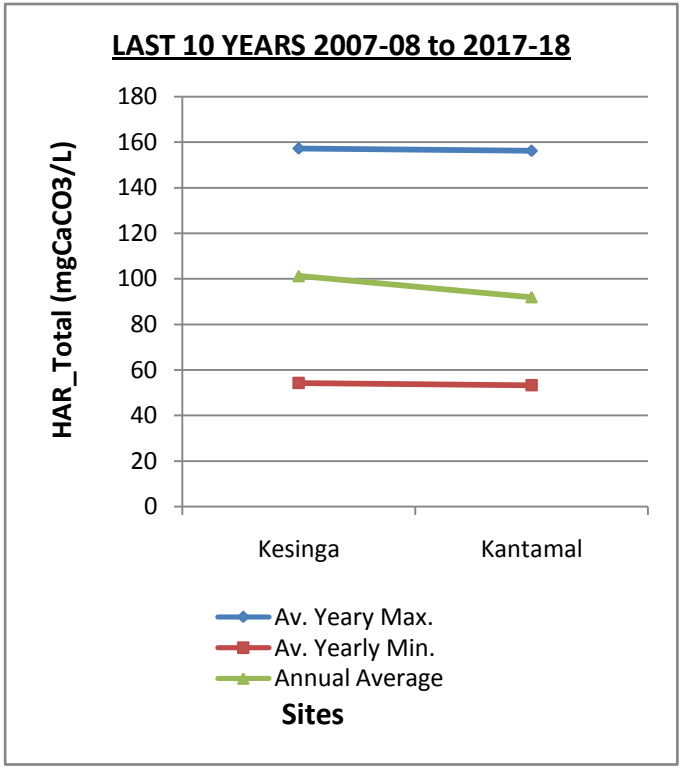

ONE YEAR
CHLORIDE
60
40
20
0
Kesinga
Kantamal
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites

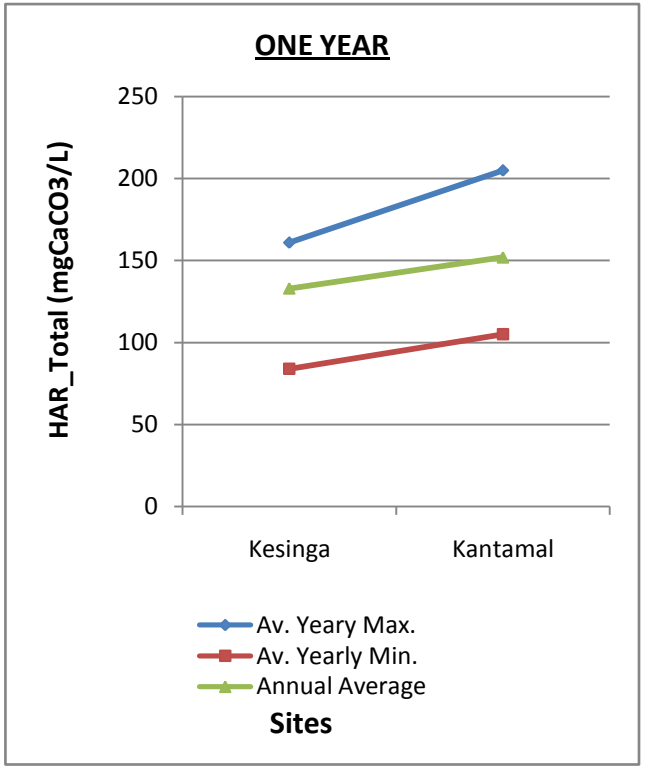

SINCE INCEPTION OF SITES
Mg(mg/l)
20
15
10
5
0
Kesinga
Kantamal
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites


LAST 10 YEARS 2007-08 to 2017-18
Mg(mg/l)
25
20
15
10
5
0
Kesinga
Kantamal
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites


ONE YEAR
Mg(mg/l)
25
20
15
10
5
0
Kesinga
Kantamal
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites


SINCE INCEPTION OF SITES
HAR_Total (mgCaCO3/L)
140
120
100
80
60
40
20
0
Kesinga
Kantamal
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites


LAST 10 YEARS 2007-08 to 2017-18
HAR_Total (mgCaCO3/L)
180
160
140
120
100
80
60
40
20
0
Kesinga
Kantamal
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites


ONE YEAR
HAR_Total (mgCaCO3/L)
250
200
150
100
50
0
Kesinga
Kantamal
Av. Yeary Max.
Av. Yearly Min.
Annual Average
Sites