खंड–2
(केवल कार्यालय उपयोग हेतु)

Volume-II
(FOR OFFICIAL USE ONLY)

सत्यमेव जयते

भारत सरकार
GOVERNMENT OF INDIA
जल संसाधन, नदी विकास और गंगा संरक्षण मंत्रालय
MINISTRY OF WATER RESOURCES, RIVER DEVELOPMENT & GANGA REJUVENATION
केन्द्रीय जल आयोग
CENTRAL WATER COMMISSION

जलवर्ष पुस्तिका
WATER YEAR BOOK
(जून 2017 - मई 2018) (June 2017-May 2018)
ब्राह्मणी बेसिन
BRAHMANI BASIN

जल विज्ञानीय प्रेक्षण परिमंडल
HYDROLOGICAL OBSERVATION CIRCLE
भुवनेश्बर (BHUBANESWAR)

September: 2018

खंड–2

Volume-II

जलवर्ष पुस्तिका

WATER YEAR BOOK

(जून 2017 से मई 2018) (June 2017 - May 2018)

ब्राह्मणी बेसिन

BRAHMANI BASIN

FOREWORD

Proper assessment, analysis and compilation of hydro-meteorological data are 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 rivulets and rivers and drain into the sea. Central Water Commission (CWC), an apex technical Organisation of Government of India for surface water resources, carries out systematic collection of hydro-meteorological data and assessment of surface water as one of its prime functions.

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

The basin encompassing the east flowing rivers in-between the Ganga and the Godavari basins viz. Subarnarekha, Burhabalang, Baitarani, Brahmani, Mahanadi, Rushikulya, Vamsadhara, Nagavali and Sarada has been identified as Mahanadi and Eastern Rivers Basin which is dealt by Mahanadi and Eastern Rivers Organisation (MERO), CWC, Bhubaneswar. Hydrological Observation Circle (HOC), Bhubaneswar under MERO carries out hydrological observation and flood forecasting activities in these 9 river basins flowing mainly through Odisha along with its neighbouring States of Jharkhand, Chattisgarh, 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 MERO. Systematic gauge and discharge observations are regularly conducted at 42 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 & processed data are stored in a database through a 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 Brahmani basin, Volume-III of Subarnarekha, Burhabalang & Baitarani basins and Volume-IV of Rushikulya, Vamsadhara, Nagavali 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-II covers hydrological, sediment and water quality data for Water Year 2017-18 of seven sites of Brahmani river basin and three effluent stations alongwith salient features and other important statistical information. Sincere effort put in by the officers and staff of ERD, CWC, Bhubaneswar namely, Smt.Dr. Shanthala Devi B.S, Extra Assistant Director,Shri Prasan Kumar Samantara, Sxcientific Assistant and S.S. Mohanty, Senior Computer of Hydromet Section under the able leadership of Shri N.C.Nanda, Executive Engineer, in collecting & processing the data and bringing out this publication is highly commendable. The guidance and encouragement of Shri A.K.Nayak, Chief Engineer, MERO, Bhubaneswar and co-operation of the officials of H.O. Circle and Chief Engineer's office are duly acknowledged.

Place: Bhubaneswar
Date: September,2018

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

LIST OF ABBREVIATIONS USED:

General:

CWC	:	Central Water Commission
H.P.	:	Hydrology Project
IMD	:	India Meteorological Department
msl	:	mean sea level
Q	:	Discharge
WL	:	Water level

Type of station:

G	:	Gauge (Water Level)
D	:	Discharge (Average discharge passing across a cross section of the river
S	:	Sediment (suspended sediment load)
Q	:	Water Quality

Units:

m	:	meter
mm	:	milli meter
km	:	kilometer
s	:	second
MCM	:	million cubic meters
MT	:	metric tonne
g	:	gramme
l	:	litre

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BRAHMANI BASIN

BRAHMANI BASIN

1. BASIN DESCRIPTION

1.1 General

Brahmani is a major inter-state east flowing river amongst the peninsular rivers in India, falling into Bay of Bengal. Brahmani basin is situated within the geographical co-ordinates of north latitude 20 °-28′- to 23°-35′ and east longitude 83°52′ to 87°03′ approximately. The basin is bounded in the north by Chhota Nagpur plateau, in the west & south by the Mahanadi basin and in the east by the Bay of Bengal. The river flows through Jharkhand, Chhattisgarh and Odisha States and drains a total area of 39,033 sq.km, before out-falling in to the Bay of Bengal. State-wise break up of drainage area is tabulated below:

Sl. No.	Name of State	Catchment Area (sq. km)	Percentage of total catchment area
1.	Jharkhand	15,769	40.4
2.	Odisha	22,364	57.3
3.	Chhattisgarh	900	2.3
	Total	39,033	100

Basin map of Brahmani river system depicting various hydrological and hydro-meteorological observation stations maintained by CWC is placed herewith. CWC is maintaining 8 stations in the basins, out of which 6 are of type GDSQ, 1 of GQ and balance 1 of G (Seasonal) type. In addition, water quality is also observed at 3 sampling stations in this basin. However, this report contains data of seven sites (6 GDSQ and 1 GQ type) which are operated round the year along with the water quality of 3 sampling stations.

1.2 River System

River Brahmani, known as South Koel river in the upper reaches, originates near Nagri village in Ranchi district of Jharkhand, at an elevation of about 600 m. The total length of the river is about 799 km. Principal tributaries of this river are Sankh, Tikra and Karo. The catchment area details are tabulated below:

Name of Stream	River/Tributary	Length (km)	Catchment area (sq.km)	Percentage of total catchment area
Brahmani	Main stream	799	26,831	68.7
Karo	Left Tributary	112	2,741	7.0
Sankh	Right Tributary	196	6,933	17.8
Tikra	Right Tributary	101	2,528	6.5
		Total	**39,033**	**100.0**

1.3 Climatic Characteristics

The climate of the basin is tropical, with fairly hot summers and moderately cold winters. This basin is influenced by south-west monsoon from June to October, in addition to some occasional down-pours in the lower reaches due to the cyclonic depressions in the Bay of Bengal. The average annual rainfall of this basin is 1460 mm. The maximum temperature varies from 38 to 43° C and the minimum temperature ranges between 10 to 15° C.

1.4 Geology

The soils in this basin can be grouped as red and yellow, mixed red and black soils, red sandy soils, laterite, red loamy, coastal alluvium, saline and forest. The basin is rich in mineral resources. Coal, Iron ore, Copper, Bauxite, Chromite, Limestone, Manganese, Dolomites, Lead, Fire-clay and China clay are the main mineral resources of this basin.

1.5 Water storage/Diversion Structures

Details of water storage/ diversion structures in the Brahmani basin are as below:

Sl. No	Name of Project	River	Status of the project
1.	Rengali Multipurpose Dam	Brahmani	Existing
2.	Samal Barrage	Brahmani	Existing
3.	Gohira	Gohira	Under construction
4.	Aunil	Aunil	Under construction
5.	Nandini Reservoir	Nandini	Under construction
6.	Kans Reservoir	Kans	Existing
7.	Upper Sankh Reservoir	Sankh	Existing
8.	Chargaon Reservoir	Kodari	Existing
9.	Pitamahal	Pitamahal	Existing
10.	Tikra WRO Project	Tikranarli	Under construction
11.	Derjang	Derjang	Existing
12.	Ramiala	Ramiala	Existing
13.	Samakhoi	Samakhoi	Under Construction
14.	Dadaraghati	Dagachira	Existing
15.	Jaipur Reservoir	Saphi	Existing
16.	Gorkho Reservoir	South Koel	Existing
17.	Baski Reservoir	South Koel	Existing
18.	Karanjholi	Bhangi	Existing
19.	Matukdihi	Marda	Existing
20.	Sankh Irrigation	Tributary of Sankh	Existing
21.	Ramarekha Reservoir	Tributary of Sankh	Existing
22.	Mandira	Brahmani	Existing

2 STREAM FLOW DATA

2.1 Observation Methodology

Discharge Observation Methods: Area-velocity method is generally adopted for measuring discharge at sites. Cup type current meter is used to measure the velocity of the flow and the depth is measured by using sounding rod for depths upto 3 m and by log line beyond 3 m. Discharge by area velocity method is being observed once in a day starting at 0800 Hrs. at all the sites except on Sundays and holidays. Besides, silt and water quality observation are also being carried out at the CWC sites as per the table below.

Computation of flows 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 years' 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.	Code No.	Station Name	Type	Data available	
				From	To
1.	EBI00L3	Tilga	GDSQ	G-27.04.78 D-15.06.79 S-21.07.80 Q-01.06.80	Continuing -do- -do- -do-

2.	EBJ00D5	Jaraikela	GDSQ	G-23.07.71 D-29.12.71 S- 01.06.75 Q-01.09.75	Continuing -do- 04-09-2002 Continuing
3.	EB000H6	Panposh	GDSQ	G-22.07.72 D-21.06.96 S- 01.08.96 Q-01.11.96	Continuing -do- -do- -do-
4.	EB000W3	Gomlai	GDSQ	G-29.08.77 D-21.01.79 S- 17.07.80 Q-01.06.80	Continuing -do- -do- -do-
5.	EB000G6	Jenapur	GDSQ	G-09.07.77 D-20.07.79 S- 09.07.80 Q-01.03.80	Continuing -do- -do- -do-
6.	EBA00I3	Altuma	GDSQ	G-09.07.77 D-20.07.79 S- 19.08.13 Q-01.06.13	Continuing -do- -do- -do-
7.	-	Talcher	GQ	G-16.08.85 D-16.08.85 S- 16.08.85 Q-16.08.85	Continuing 31-05-96 31-05-96 Continuing
9.	-	Nandira	Q	Q-01.11.90	Continuing
10.	-	Kamalang	Q	Q-01.11.90	Continuing
11.	-	RSP Nala	Q	Q-01.11.90	Continuing

2.3 Explanatory Notes of Water Year Book

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

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

ii) Discharge is given in cubic meters per second.

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

iv) The zero R.L. of gauge is a datum level fixed for 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 millimeters over the catchment, equivalent to annual runoff volume calculated at the discharge measurement station. It is computed using the relation:

$$\text{Runoff (mm)} = \frac{\text{Annual runoff (Mm}^3\text{) x 1000}}{\text{Catchment area (km}^2\text{)}}$$

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 (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 base. The first column is identifier of either an integral river basin or, for the sake of convenience, a region having 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, fourth 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 site stated above:

i. History Sheet: Site Name, State, District, River Basin, Tributary, Sub-Tributary, Catchment Area, Latitude / Longitude, Opening / Closing date 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 discharges.
v. Histogram showing Annual Run off volume since beginning of observation.
vi. Pie-Charts showing monthly mean run off (as percentage of Annual Run off) historical for the current year.
vii. Plot of Pre and Post Monsoon Cross-section of the rivers for current year.
viii. Water Level hydrograph for 3(three) major flood events of current year.

4. SEDIMENT DATA (For Sediment Observation sites)

The frequency of 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 depth, using Punjab type bottle sampler, from all the verticals along the hydrological observation sections where velocity is observed for computation of discharge. The collected samples from all the segments are combined in 3 to 7 groups having compartments or groups of equal or nearly equal discharges 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 after sieving through filter paper. Grade wise concentration is

derived gravimetrically as per standard procedure. The following parameters are derived and recorded:

- 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 & Seasonal sediment load and the corresponding volume of inflow for all the years 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 for trend stations and once in two month for base stations (on 1st working day), 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 the pre-rinsed and cleaned one-litre capacity polythene bottle having double stopper (inside and out side) facility. Sampling bottle is filled to its full capacity without entrapping air bubbles inside.

After sampling, the collected samples are sent to the Water Quality Laboratory (Level-II) based at Bhubaneswar (under the Eastern Rivers Division) along with in-situ physical characteristics, for analysis. The samples received from the sites are preserved in a refrigerator in the water quality laboratories for 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 at the Level II laboratory by using standard methodology. 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 a year in the months of March and September. The results so recorded, include:

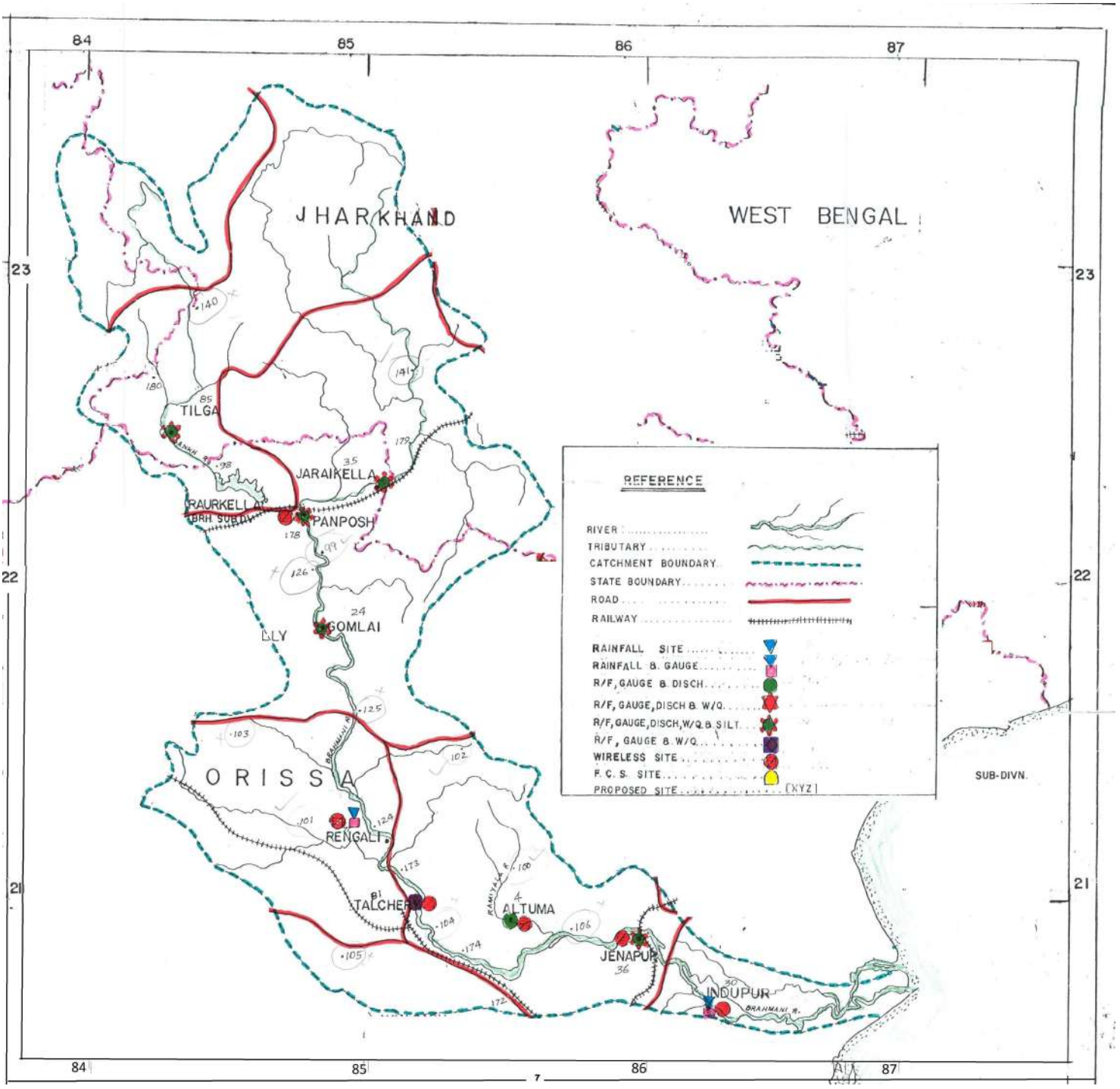
- River Water Analysis: Monthly physical, chemical & biological parameters.
- Annual Water Quality Summary: physical, chemical & biological parameters.
- Average Values over the years: Season-wise averages;
  - Average for Summer (March to June)
  - Average for Floods (July to October).
  - Average for Winter (November to February)

DETAILS OF SITES IN OPERATION UNDER BRAHMANI BASIN

Sl. No	Station Name	River/ Tributary	Type	Latitude	Longitude	Max. Water Level & Discharge upto May,2018			
						WL	Date	Q.	Date
1.	Tilga	Sankh	GDSQ	20°-.20-'00"	84°-30-'00"	379.5	23/08/11	2830	28/08/17
2.	Jaraikela	Koel	GDSQ	22°-19 '-08"	85°-06-'19"	194.07	06/08/97	12539	06/08/97
3.	Panposh	Brahmani	GDSQ	22°-16 '-19"	84°-51-'07"	181.44	24/09/11	11628	22/07/01
4.	Gomlai	Brahmani	GDSQ	21°-50 '-16"	84°-56-'33"	147.66	24/09/11	13000	27/07/17
5.	Jenapur	Brahmani	GDSQ	20°-53 '-23"	86°-06-'51"	24.78	20/08/75	10372	26/09/11
6.	Altuma	Ramiya	GDSQ	20°-55 '-48"	85°-31-'20"	51.08	05/08/97	922.30	06/08/97
7.	Talcher	Brahmani	GQ	20°-57 '-00"	85°-20-'00"	65.53	19/08/75	---	---
8.	Rengali	Brahmani	G	21°-15 '-22"	85°-02-'14"	92.25	18/08/75	---	---

In addition, Water Quality observation samples are also collected from the following locations in the basin, which are not CWC sites per-se. The data of these sites are also presented in this report:

Sl. No.	Station Name	River/tributary	Type	Co-ordinates	
				Latitude	longitude
1	Nandira	Nandira Nala	Q	20°-53 '-56"	85°-15 '-50"
2	Kanlang	Brahmani	Q	20°-52 '-16"	85°-17 '-52"
3	RSP Nalla	RSP Nala	Q	22°-17 '-18"	84°-49 '-05"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JHARKHAND
WEST BENGAL
ORISSA
TILGA
JARAIKELLA
RAURKELLA
BRH SUB DIV
PANPOSH
GOMLAI
RENGALI
TALCHER
ALTUMA
JENAPUR
INDUPUR
BRAHMANI R.
SUB-DIVN.
REFERENCE
RIVER
TRIBUTARY
CATCHMENT BOUNDARY
STATE BOUNDARY
ROAD
RAILWAY
RAINFALL SITE
RAINFALL & GAUGE
R/F, GAUGE & DISCH
R/F, GAUGE, DISCH & W/Q
R/F, GAUGE, DISCH, W/Q & SILT
R/F, GAUGE & W/Q
WIRELESS SITE
F.C.S. SITE
PROPOSED SITE (XYZ)

HISTORY SHEET

Water Year : 2017-2018

Site	:	**TILGA**	**Code**	:	**EBI00L3**
State	:	Jharkhand	District		Simdega
Basin	:	Brahmani-Baitarani	Independent River	:	Brahmani
Tributary	:	Sankh	Sub Tributary	:	
Sub-Sub Tributary	:		Local River	:	Sankh
Division	:	E.E., Bhubaneswar	Sub-Division	:	Rourkela.
Drainage Area	:	3160 Sq. Km.	Bank	:	Left
Latitude	:	22°20'00"	Longitude	:	84°30'00"
Zero of Gauge (m)	:	372 (m.s.l)	4/14/1978	-	3/31/2028
		Opening Date	Closing Date		
Gauge	:	4/27/1978			
Discharge	:	6/15/1979			
Sediment	:	7/21/1980			
Water Quality	:	6/1/1980			

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	2004	377.400	7/12/1980	0.231	373.480	5/22/1981
1981-1982	579.6	375.830	7/27/1981	0.000	373.595	5/11/1982
1982-1983	654.4	376.100	8/22/1982	0.050	373.625	6/3/1982
1983-1984	660.6	375.990	9/19/1983	0.000	373.375	5/18/1984
1984-1985	967.7	376.700	9/4/1984	0.000	373.450	5/3/1985
1985-1986	561.4	376.130	7/11/1985	0.000	373.730	5/7/1986
1986-1987	1162	376.640	7/27/1986	0.000	373.640	4/23/1987
1987-1988	2830	378.625	8/28/1987	0.200	373.675	6/1/1987
1988-1989	989.7	377.050	6/28/1988	0.000	373.500	4/25/1989
1989-1990	696.6	376.400	6/22/1989	0.000	373.500	4/21/1990
1990-1991	628.8	376.205	7/21/1990	0.000	373.500	5/15/1991
1991-1992	1600	378.035	7/23/1991	0.000	373.645	6/2/1991
1992-1993	429.2	375.670	7/22/1992	0.000	373.420	5/17/1993
1993-1994	632.3	375.995	9/27/1993	0.020	373.420	5/13/1994
1994-1995	2504	377.808	6/29/1994	0.435	373.525	6/3/1994
1995-1996	1153	376.920	9/18/1995	0.276	373.490	5/18/1996
1996-1997	1428	377.620	7/26/1996	0.000	373.510	5/18/1997
1997-1998	2083	377.735	8/6/1997	0.000	373.460	6/10/1997
1998-1999	1536	377.495	9/10/1998	0.000	373.480	5/5/1999
1999-2000	1300	376.760	8/8/1999	0.407	373.535	5/8/2000
2000-2001	459.3	375.585	7/31/2000	0.000	373.530	5/4/2001
2001-2002	1500	376.840	7/22/2001	0.000	373.445	5/12/2002

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	662.3	376.203	6/24/2002	0.000	373.550	5/6/2003
2003-2004	1350	377.500	#########	0.000	373.450	4/21/2004
2004-2005	1211	377.078	8/14/2004	0.000	373.565	4/29/2005
2005-2006	932.6	376.595	6/30/2005	0.000	373.700	5/3/2006
2006-2007	891.7	376.310	7/31/2006	0.000	373.645	4/13/2007
2007-2008	703.8	376.095	9/27/2007	0.000	373.640	5/1/2008
2008-2009	786.4	376.383	7/7/2008	0.000	373.645	5/2/2009
2009-2010	773.4	376.300	7/28/2009	0.000	373.770	3/14/2010
2010-2011	341.1	375.575	9/17/2010	0.000	373.735	6/11/2010
2011-2012	1500	377.460	9/24/2011	0.491	373.325	5/31/2012
2012-2013	962.8	376.860	8/4/2012	0.321	373.305	6/7/2012
2013-2014	1650	378.030	#########	1.330	373.570	5/25/2014
2014-2015	949.2	376.175	8/4/2014	0.000	373.910	7/15/2014
2015-2016	1078	376.510	7/23/2015	0.000	374.990	9/1/2015
2016-2017	551.7	376.700	8/12/2016	0.034	373.390	4/26/2017

Stage-Discharge Data for the period 2017 - 2018

Station Name : TILGA (EBI00L3) **Division : E.E., Bhubaneswar**

Local River : Sankh **Sub-Division : Rourkela.**

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	373.600	1.914	375.425	231.5	374.695	195.1	374.485	131.9	374.810	171.4 *	373.850	18.94
2	373.450	1.011	374.750		374.695	199.4	374.335		374.720	152.3 *	373.780	16.36
3	373.455	0.981	375.110	191.1	374.570	184.6	374.620		374.730	154.4	373.780	15.93
4	373.525	4.300 *	374.928	184.2	374.385	159.6	374.265	73.22	374.500	116.8	373.780	15.93 *
5	373.498	4.278	374.935	175.3	376.720	573.9	374.133	61.68	374.350	92.37	373.770	15.92 *
6	373.480	3.653	374.435	115.8	375.810		374.140	58.45	374.303	88.34	373.760	17.27
7	373.485	3.048	374.188	87.76	377.080	618.2	374.365	149.9	374.343	92.30	373.740	16.67
8	373.475	1.425	374.143	58.49	375.310	261.7	374.360	101.5	374.220	73.06 *	373.740	13.01
9	373.465	1.293	374.470		374.873	207.7	374.523	119.5	374.465	111.3	373.740	13.94
10	373.455	1.140	374.570	128.3	375.150	262.0	374.535		374.343	86.55	373.730	12.28
11	373.520	4.500 *	374.573	127.1	374.635	185.3	374.515	119.3	374.213	76.09	373.720	12.46
12	373.495	4.789	374.410	103.2	374.675	169.6	374.448	107.0	374.143	62.14	373.720	12.30 *
13	373.480	4.227	374.440	117.3	374.930		374.440	111.8	374.100	56.99	373.720	12.14
14	373.630	2.911	375.083	234.0	375.055	248.5	374.560	127.1	374.175	64.64	373.720	11.86
15	373.690	7.776	374.863	182.4	374.940		374.278	73.96	374.090	59.43 *	373.710	12.60
16	373.625	2.876	374.725		375.180	282.7	374.880	182.1	374.025	55.47	373.720	12.30
17	373.630	2.285	374.558	91.06	375.825	361.0	374.470		374.000	48.93	373.730	13.00
18	373.825	11.00 *	374.538	86.27	375.603	331.0	374.435	104.9	373.955	35.52	373.750	14.65
19	373.775	10.23	374.358	80.20	374.870	209.7	374.678	162.1	373.950	34.31 *	373.750	14.45 *
20	374.195	41.26	374.435	74.07	374.590		375.650	303.3	373.940	34.68	373.740	14.32
21	374.885	159.5	375.435	170.7	374.485	107.4	375.085	209.2	373.975	35.16	373.720	13.41
22	374.700	130.5	375.360	179.0	374.293	104.9	374.745	157.5	373.980	33.44 *	373.700	13.09
23	374.483	112.2	375.280		374.340	109.6	374.575	124.9	373.980	33.43	373.700	12.99
24	374.170	46.22	376.360	475.0	374.708	169.9	374.410		373.940	33.62	373.690	12.48
25	374.335	46.50 *	376.040	445.6	374.615	158.3	374.290	80.92	373.930	36.10	373.690	10.77
26	374.230	46.30 *	375.830	335.9	375.305	237.7	374.270	74.17	373.920	34.60	373.690	10.80 *
27	373.945	38.33	378.830	1118	374.600		374.190	59.56	373.910	35.87	373.680	12.24
28	374.265	65.72	375.950	370.0	374.478	113.2	374.270	56.73	373.900	25.51	373.670	11.45
29	374.690	68.70	375.005	200.1	374.305	88.09	374.720		373.890	24.06 *	373.660	10.17
30	374.265	114.1	374.550		374.275	85.26	375.005		373.870	21.85	373.650	8.344
31			374.500	160.7	374.195	78.12			373.860	16.66		
Ten-Daily Mean												
I Ten-Daily	373.489	2.304	374.695	146.6	375.329	295.8	374.376	99.45	374.478	113.9	373.767	15.63
II Ten-Daily	373.686	9.185	374.598	121.7	375.030	255.4	374.635	143.5	374.059	52.82	373.728	13.01
III Ten-Daily	374.397	82.81	375.740	383.9	374.509	125.2	374.556	109.0	373.923	30.03	373.685	11.58
Monthly												
Min.	373.450	0.981	374.142	58.49	374.195	78.12	374.133	56.73	373.860	16.66	373.650	8.344
Max.	374.885	159.5	378.830	1118	377.080	618.2	375.650	303.3	374.810	171.4	373.850	18.94
Mean	373.857	31.43	375.035	220.1	374.942	219.3	374.522	119.6	374.146	64.43	373.727	13.4

Annual Runoff in MCM = 1576 Annual Runoff in mm = 499

Peak Observed Discharge = 1118 cumecs on 27-Jul-17 Corres. Water Level :378.83 m

Lowest Observed Discharge = 0.680 cumecs on 28-Apr-18 Corres. Water Level :373.46 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-Discharge Data for the period 2017 - 2018

Station Name : TILGA (EBI00L3) **Division : E.E., Bhubaneswar**

Local River : Sankh **Sub-Division : Rourkela.**

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	373.650	7.869	373.630	7.107	373.570	3.843	373.570	2.245	373.465	0.760 *	373.475	0.918
2	373.650	7.868 *	373.630	8.026	373.570	3.831	373.560	2.200 *	373.485	1.048	373.780	13.68
3	373.650	7.865 *	373.620	9.464	373.570	3.556	373.535	2.123	373.485	1.075	373.665	7.583
4	373.650	8.339	373.620	9.264	373.570	3.600 *	373.520	1.790 *	373.620	4.779	373.590	4.844
5	373.650	7.330	373.620	8.972	373.570	3.772	373.520	1.778	373.555	2.600	373.570	4.027
6	373.650	8.216	373.615	7.828	373.580	3.648	373.530	1.943	373.535	2.352	373.550	3.050 *
7	373.660	7.213	373.615	7.820 *	373.570	3.547	373.535	2.087	373.520	1.890	373.540	2.569
8	373.660	8.567	373.620	7.300	373.560	2.912	373.535	1.883	373.520	1.890 *	373.535	1.797
9	373.660	9.938	373.620	6.489	373.555	3.514	373.540	1.843	373.545	2.598	373.540	1.579
10	373.650	9.895 *	373.600	6.389	373.555	2.900	373.550	1.746	373.665	6.415	373.520	1.203
11	373.635	8.778	373.595	6.662	373.560	3.120 *	373.550	1.750 *	373.615	4.772	373.510	1.138
12	373.640	8.357	373.595	5.611	373.565	3.546	373.530	1.737	373.610	4.630	373.500	1.049
13	373.640	8.641	373.600	5.407	373.570	3.745	373.545	1.918	373.615	5.495	373.480	0.910 *
14	373.640	9.074	373.600	5.390 *	373.580	5.146	373.545	1.926	373.615	5.490 *	373.480	0.900
15	373.630	9.283	373.605	4.214	373.595	5.389	373.530	1.836	373.580	3.550 *	373.460	0.756
16	373.650	7.880	373.610	4.045	373.600	5.291	373.530	1.763	373.575	3.270	373.490	1.115
17	373.645	7.682 *	373.620	4.255	373.610	5.611	373.530	1.653	373.545	2.235	373.480	0.879
18	373.650	7.303	373.620	4.495	373.590	5.060 *	373.525	1.690 *	373.555	1.970	373.520	1.393
19	373.645	6.685	373.610	4.017	373.585	4.363	373.515	1.772	373.595	3.322	373.530	1.742
20	373.645	6.981	373.605	4.758	373.580	3.149	373.510	1.580	373.570	2.130	373.535	1.980 *
21	373.645	6.644	373.605	4.750 *	373.570	2.902	373.500	1.326	373.530	1.692	373.520	1.922
22	373.650	7.514	373.585	4.131	373.575	2.864	373.485	1.088	373.530	1.690 *	373.525	2.002
23	373.650	8.454	373.580	4.470	373.575	2.487	373.480	1.033	373.510	1.167	373.630	6.465
24	373.650	8.451 *	373.570	4.716	373.565	2.469	373.480	1.127	373.500	1.032	373.565	3.631
25	373.645	5.752 *	373.570	5.305	373.570	2.500 *	373.480	1.120 *	373.465	0.973	373.550	2.671
26	373.645	5.590	373.570	5.300 *	373.585	2.800	373.485	1.067	373.465	0.687	373.540	1.820
27	373.640	6.214	373.570	4.143	373.580	2.829	373.480	0.870	373.455	0.735	373.540	1.820 *
28	373.630	6.977	373.570	4.140 *	373.580	2.793	373.475	0.926	373.460	0.680	373.530	1.404
29	373.630	6.905	373.580	4.393			373.470	1.050 *	373.465	0.820 *	373.525	1.611
30	373.625	6.615	373.575	4.042			373.465	1.180 *	373.465	0.830 *	373.540	3.703
31	373.625	6.612 *	373.570	3.993			373.465	1.184			373.570	5.540
Ten-Daily Mean												
I Ten-Daily	373.653	8.310	373.619	7.866	373.567	3.512	373.539	1.964	373.539	2.541	373.577	4.125
II Ten-Daily	373.642	8.066	373.606	4.885	373.584	4.442	373.531	1.762	373.587	3.686	373.498	1.186
III Ten-Daily	373.640	6.884	373.577	4.489	373.575	2.706	373.479	1.088	373.485	1.031	373.549	2.963
Monthly												
Min.	373.625	5.590	373.570	3.993	373.555	2.469	373.465	0.870	373.455	0.680	373.460	0.756
Max.	373.660	9.938	373.630	9.464	373.610	5.611	373.570	2.245	373.665	6.415	373.780	13.68
Mean	373.645	7.726	373.600	5.706	373.575	3.614	373.515	1.588	373.537	2.419	373.541	2.765

Peak Computed Discharge = 171.4 cumecs on 01-Oct-17 Corres. Water Level :374.81 m

Lowest Computed Discharge = 0.760 cumecs on 01-Apr-18 Corres. Water Level :373.465 m

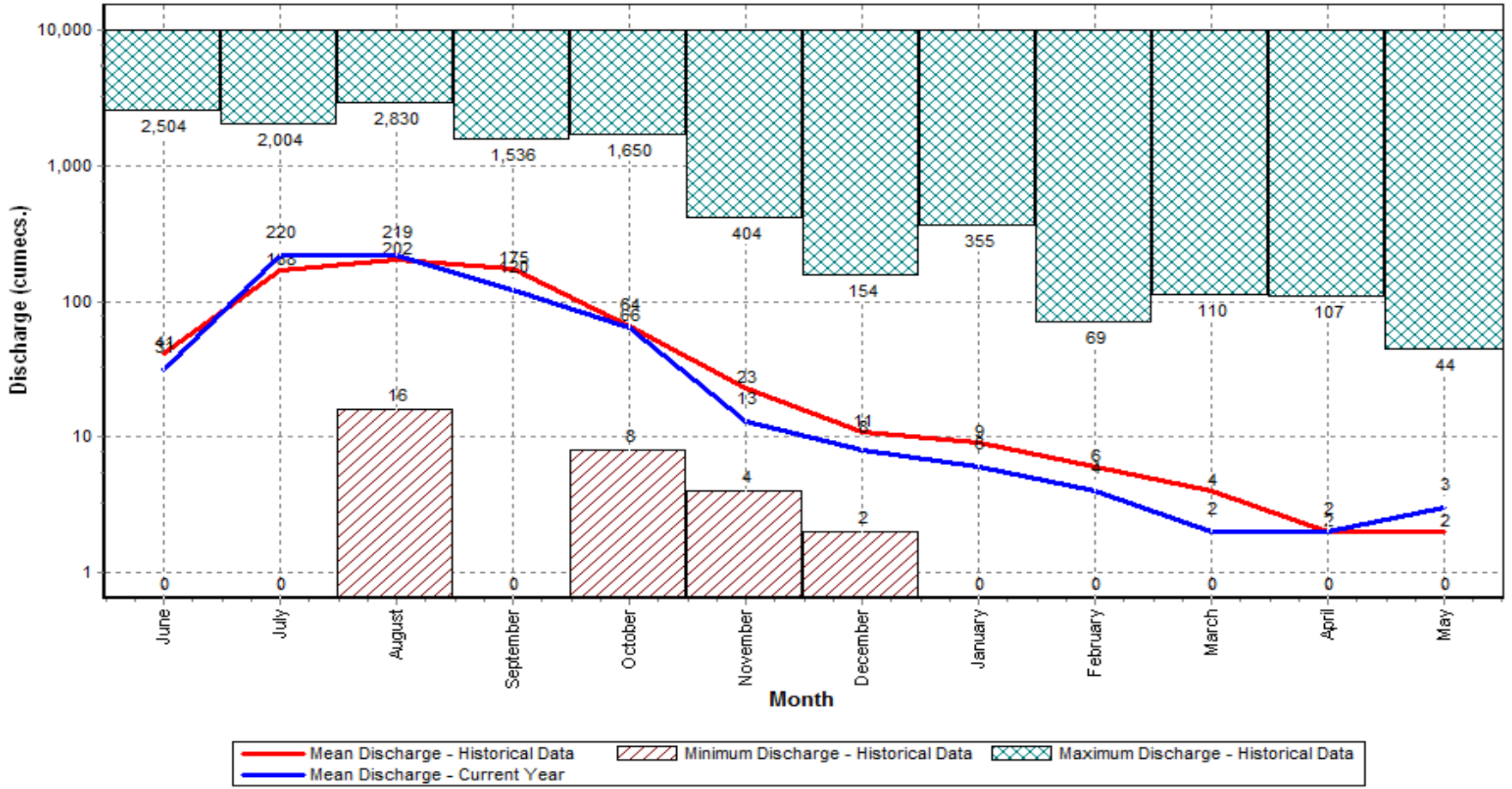
Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2017-2018

Station Name : TILGA (EBI00L3) **Data considered : 1980-2018** **Division : E.E., Bhubaneswar**

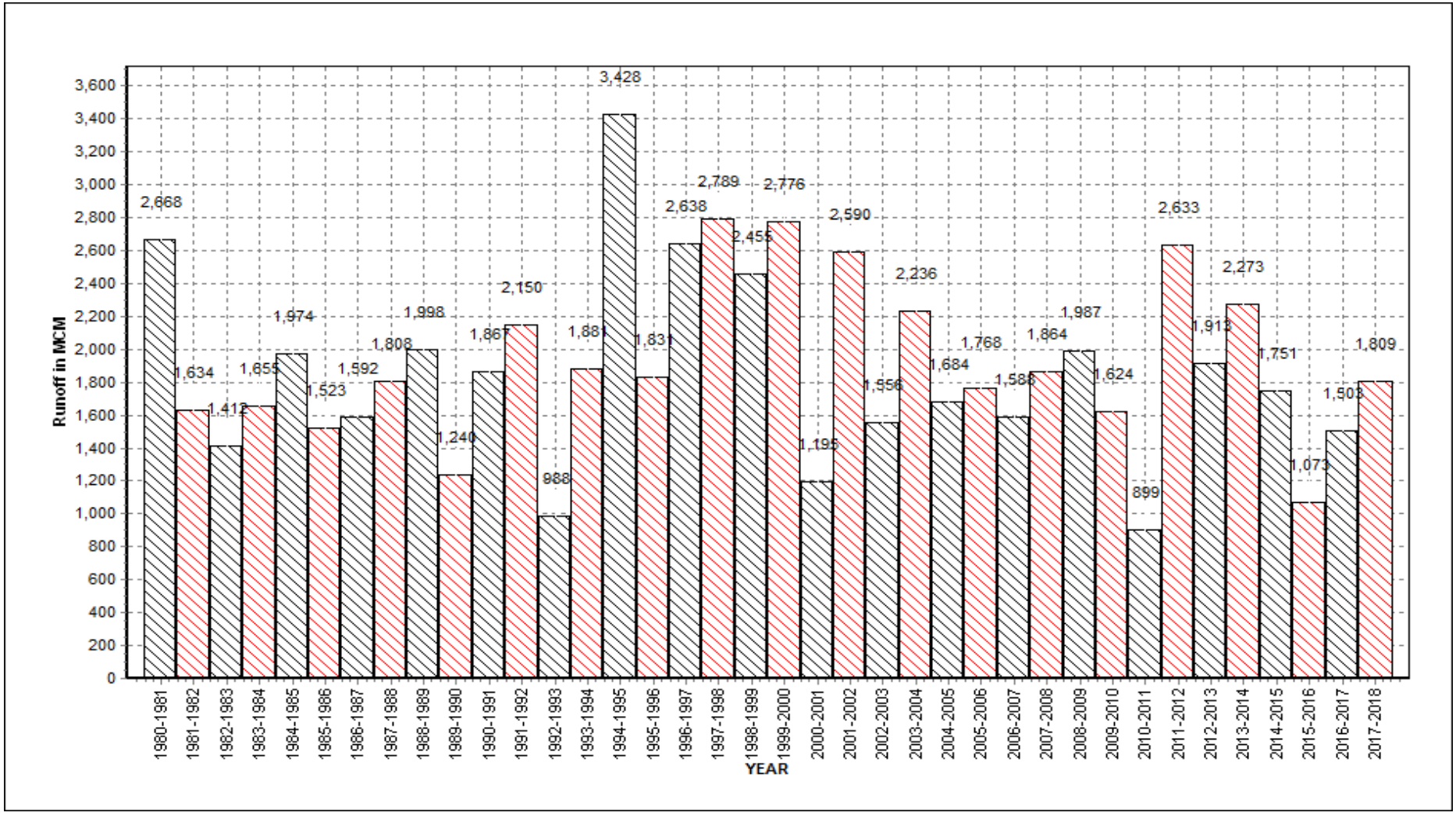
Local River : Sankh **Sub-Division : Rourkela.**



Annual Runoff Values for the period: 1980 - 2018

Station Name : TILGA (EBI00L3) **Division : E.E., Bhubaneswar**

Local River : Sankh **Sub-Division : Rourkela.**

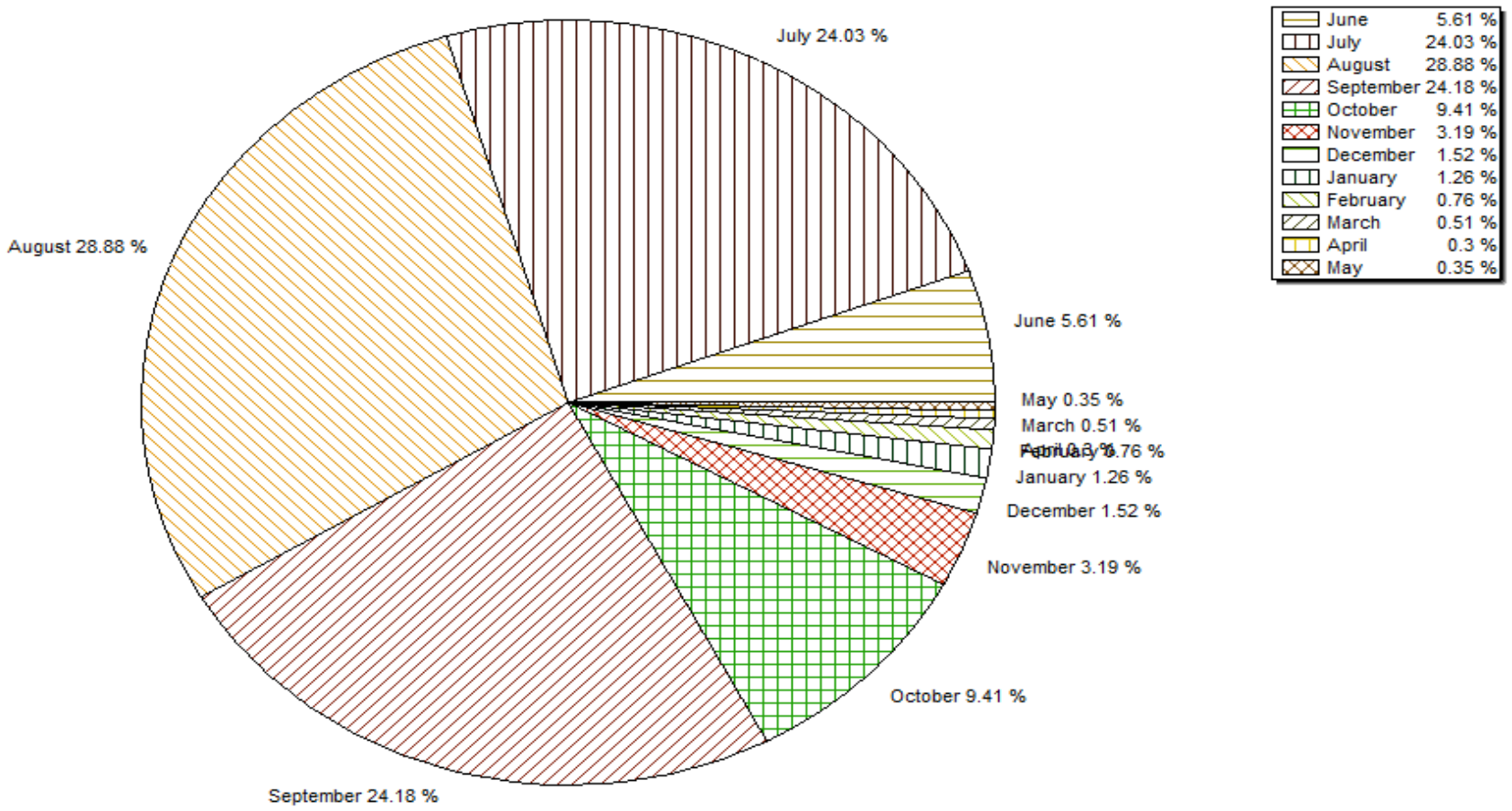


Note: Missing values have not been considered while arriving at Annual Runoff

Monthly Average Runoff based on period : 1980-2017

Station Name : TILGA (EBI00L3) **Division : E.E., Bhubaneswar**

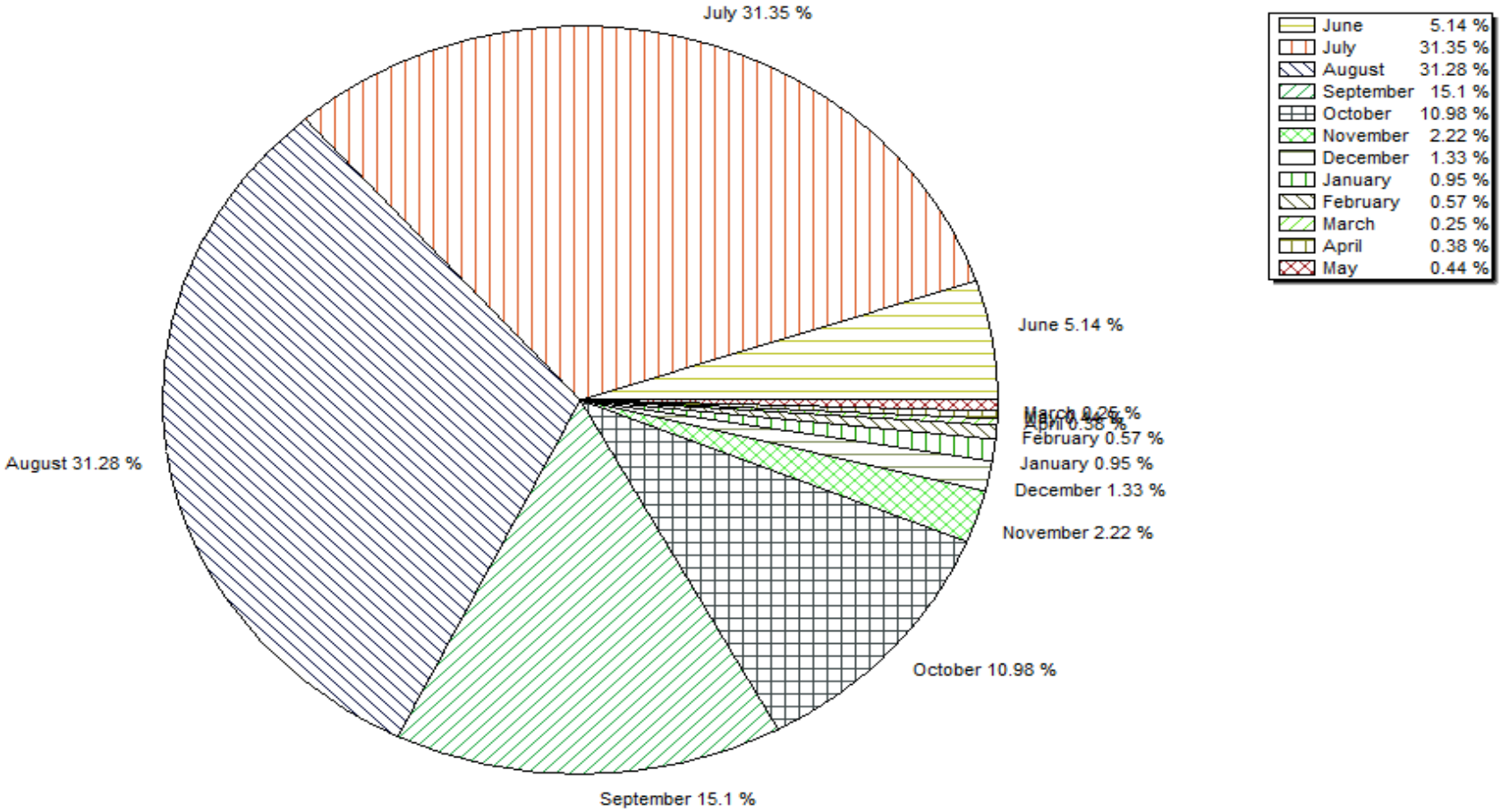
Local River : Sankh **Sub-Division : Rourkela.**



Monthly Runoff for the Year : 2017-2018

Station Name : TILGA (EBI00L3) **Division : E.E., Bhubaneswar**

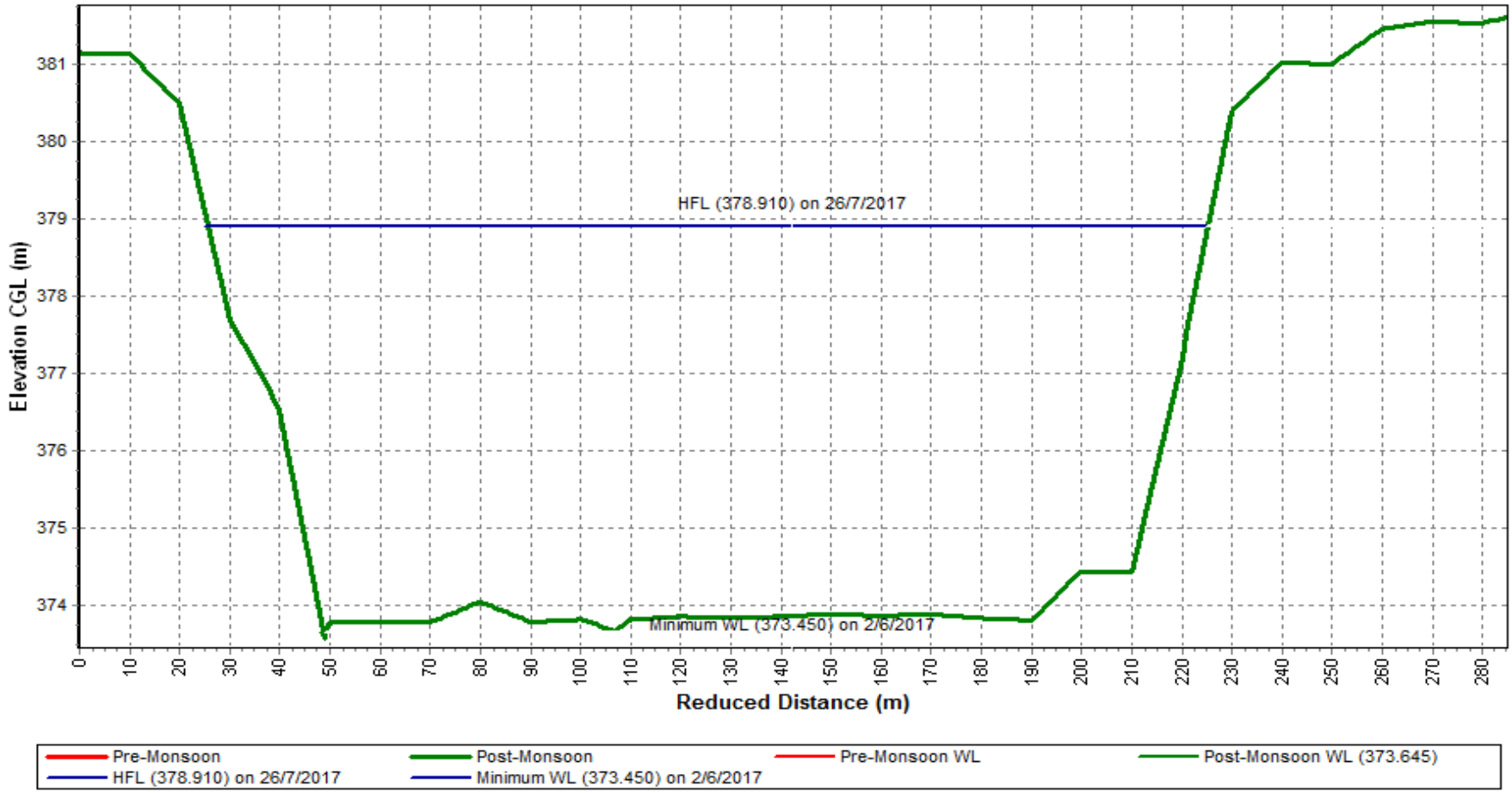
Local River : Sankh **Sub-Division : Rourkela.**



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

Station Name : TILGA (EBI00L3) **Division : E.E., Bhubaneswar**

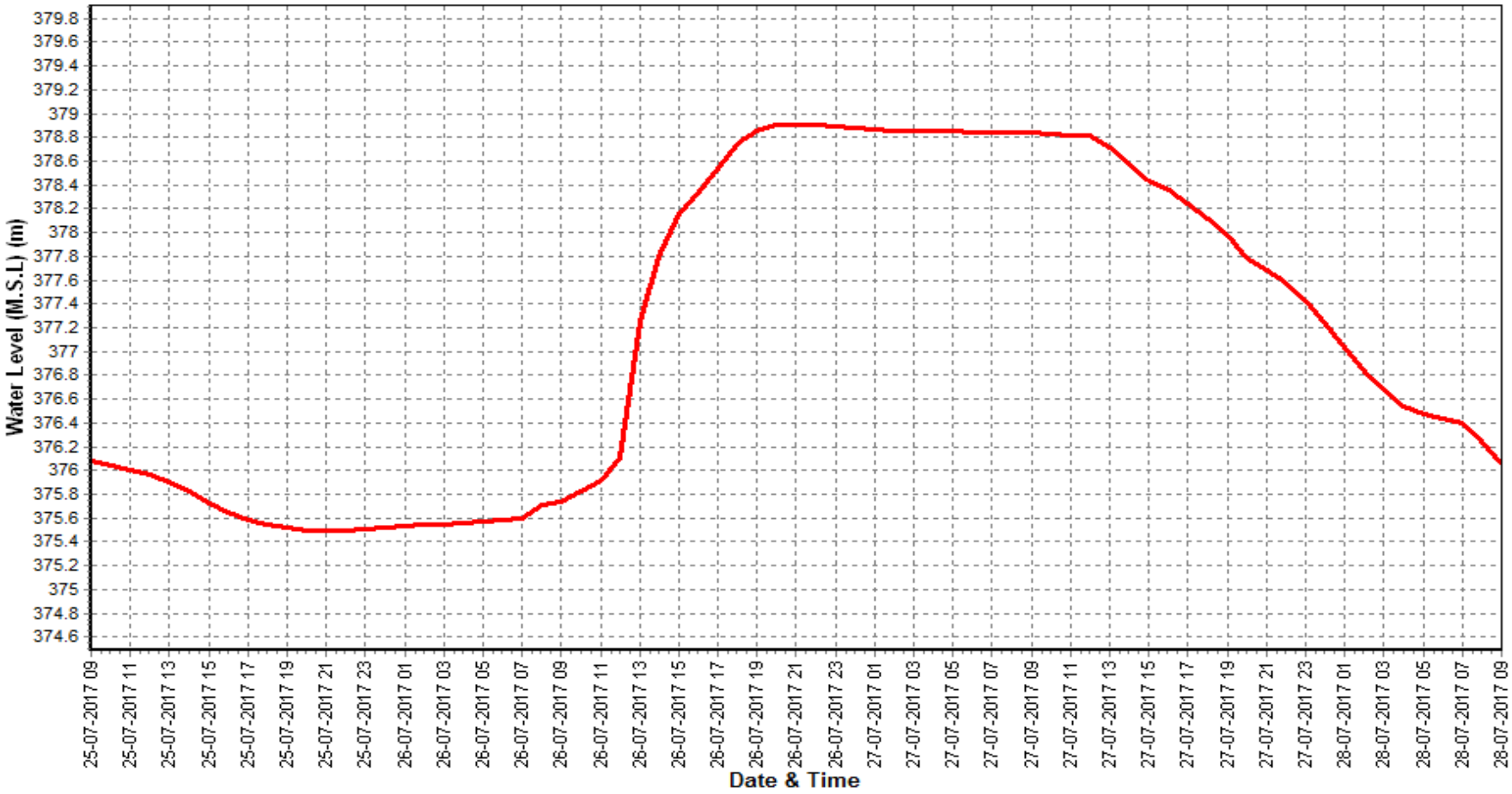
Local River : Sankh **Sub-Division : Rourkela.**



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

Station Name : TILGA (EBI00L3) **Division : E.E., Bhubaneswar**

Local River : Sankh **Sub-Division : Rourkela.**

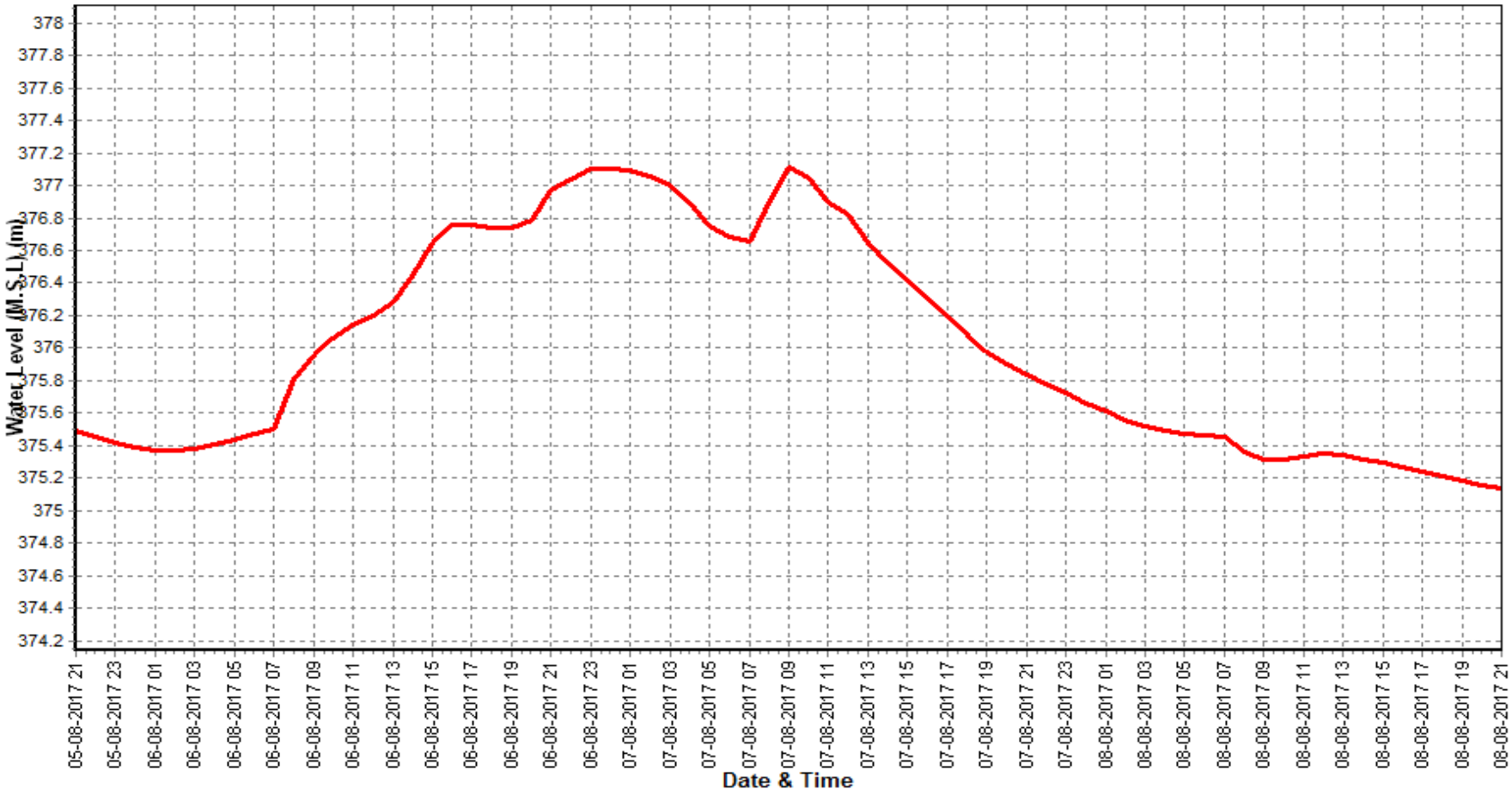


Time Span: 72 Hrs

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

Station Name : TILGA (EBI00L3) **Division : E.E., Bhubaneswar**

Local River : Sankh **Sub-Division : Rourkela.**

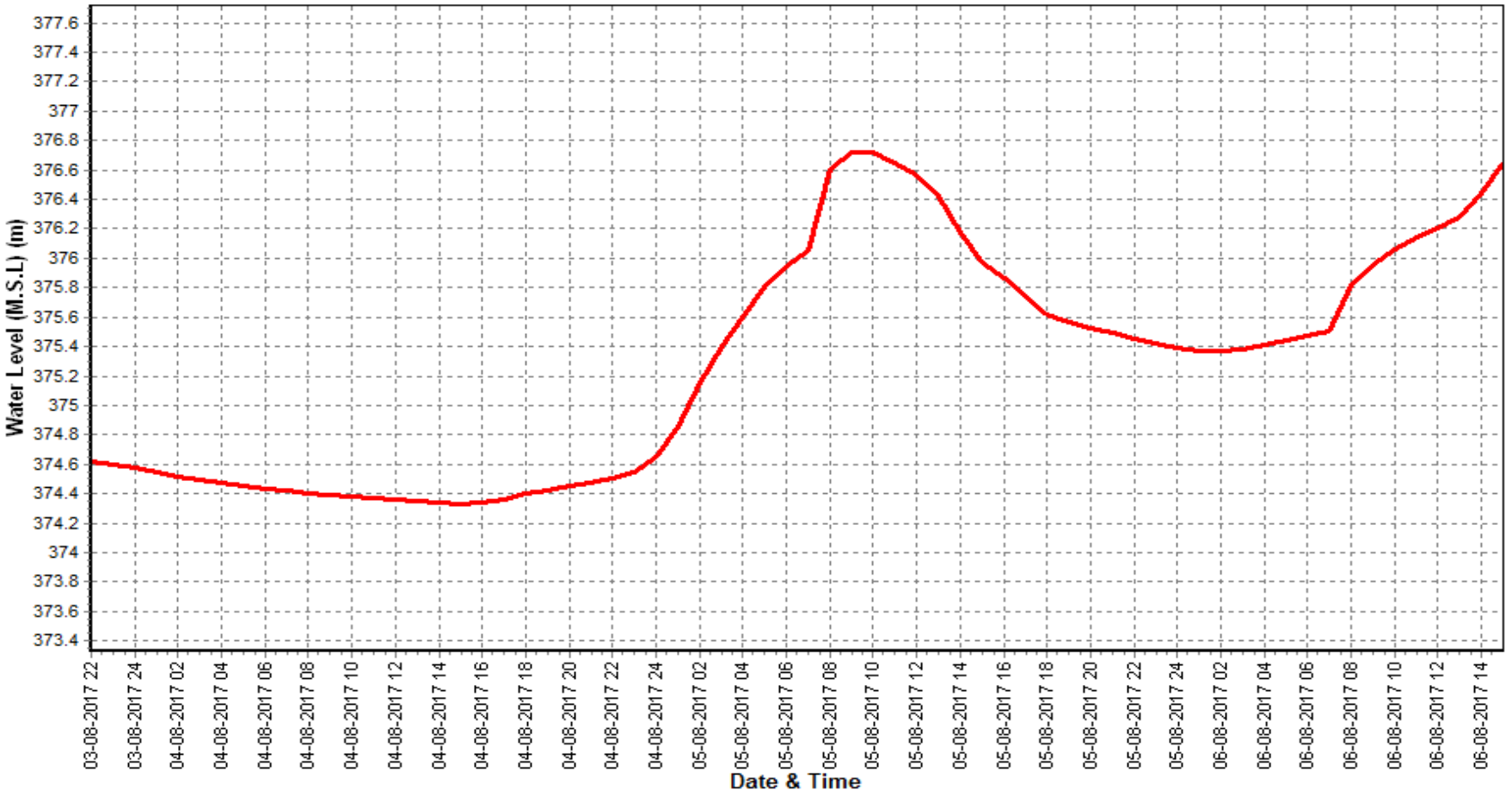


Time Span: 72 Hrs

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

Station Name : TILGA (EBI00L3) **Division : E.E., Bhubaneswar**

Local River : Sankh **Sub-Division : Rourkela.**



Time Span: 72 Hrs

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : TILGA (EBI00L3) **Division : E.E., Bhubaneswar**

Local River : Sankh **Sub-Division : Rourkela.**

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	1.914	0.000	0.000	0.000	0.000	0	231.5	0.008	0.117	3.242	3.367	67354	195.1	0.012	0.017	0.593	0.622	10484
2	1.011	0.000	0.000	0.000	0.000	0							199.4	0.007	0.029	0.604	0.640	11024
3	0.981	0.000	0.000	0.000	0.000	0	191.1	0.015	0.057	1.061	1.133	18703	184.6	0.002	0.017	0.591	0.610	9730
4	4.300	0.000	0.000	0.000	0.000	0	184.2	0.026	0.019	0.664	0.709	11286	159.6	0.002	0.019	0.470	0.491	6772
5	4.278	0.000	0.000	0.000	0.000	0	175.3	0.016	0.033	0.610	0.659	9983	573.9	0.008	0.112	1.298	1.418	70314
6	3.653	0.000	0.000	0.000	0.000	0	115.8	0.003	0.014	0.428	0.445	4451					0.000	
7	3.048	0.000	0.000	0.000	0.000	0	87.76	0.001	0.004	0.237	0.242	1835	618.2	0.019	0.071	0.815	0.905	48338
8	1.425	0.000	0.000	0.000	0.000	0	58.49	0.010	0.001	0.211	0.222	1122	261.7	0.005	0.028	0.343	0.376	8502
9	1.293	0.000	0.000	0.000	0.000	0							207.7	0.003	0.014	0.253	0.270	4844
10	1.140	0.000	0.000	0.000	0.000	0	128.3	0.006	0.031	0.618	0.655	7259	262.0	0.012	0.035	0.391	0.438	9913
11	4.500	0.000	0.000	0.000	0.000	0	127.1	0.000	0.002	0.589	0.591	6493	185.3	0.002	0.008	0.191	0.201	3219
12	4.789	0.000	0.000	0.000	0.000	0	103.2	0.013	0.004	0.597	0.614	5475	169.6	0.002	0.013	0.239	0.254	3723
13	4.227	0.000	0.000	0.000	0.000	0	117.3	0.007	0.015	0.455	0.477	4835					0.000	
14	2.911	0.000	0.000	0.000	0.000	0	234.0	0.019	0.039	1.820	1.878	37962	248.5	0.002	0.017	0.370	0.389	8351
15	7.776	0.000	0.000	0.000	0.000	0	182.4	0.007	0.041	0.835	0.883	13919					0.000	
16	2.876	0.000	0.000	0.000	0.000	0							282.7	0.017	0.031	0.481	0.529	12919
17	2.285	0.000	0.000	0.000	0.000	0	91.06	0.001	0.011	0.470	0.482	3792	361.0	0.001	0.015	0.350	0.366	11417
18	11.00	0.000	0.000	0.000	0.000	0	86.27	0.014	0.020	0.464	0.498	3712	331.0	0.007	0.012	0.384	0.403	11525
19	10.23	0.001	0.003	0.318	0.322	285	80.20	0.002	0.017	0.614	0.633	4386	209.7	0.003	0.011	0.175	0.189	3425
20	41.26	0.007	0.011	1.458	1.476	5262	74.07	0.008	0.241	0.584	0.833	5331					0.000	
21	159.5	0.016	0.073	1.173	1.262	17396	170.7	0.003	0.056	0.801	0.860	12683	107.4	0.001	0.007	0.148	0.156	1448
22	130.5	0.012	0.012	0.784	0.808	9113	179.0	0.019	0.050	0.618	0.687	10627	104.9	0.002	0.002	0.079	0.083	753
23	112.2	0.024	0.018	1.257	1.299	12593							109.6	0.002	0.006	0.129	0.137	1297
24	46.22	0.012	0.002	0.505	0.519	2073	475.0	0.007	0.042	1.432	1.481	60785	169.9	0.002	0.016	0.261	0.279	4094
25	46.50	0.022	0.015	1.136	1.173	4713	445.6	0.010	0.018	0.866	0.894	34416	158.3	0.002	0.010	0.313	0.325	4446
26	46.30	0.018	0.012	0.866	0.896	3584	335.9	0.008	0.027	0.537	0.572	16600	237.7	0.003	0.060	0.699	0.762	15648
27	38.33	0.009	0.001	0.332	0.342	1133	1118	0.005	0.182	1.320	1.507	145558					0.000	
28	65.72	0.117	0.195	1.784	2.096	11901	370.0	0.005	0.077	0.669	0.751	24008	113.2	0.001	0.008	0.260	0.269	2631
29	68.70	0.066	0.112	0.795	0.973	5775	200.1	0.015	0.034	0.334	0.383	6623	88.09	0.001	0.002	0.179	0.182	1385
30	114.1	0.008	0.025	0.196	0.229	2257							85.26	0.001	0.006	0.081	0.088	648
31							160.7	0.003	0.005	0.392	0.400	5555	78.12	0.013	0.006	0.101	0.120	810
Ten Daily Mean																		
Ten Daily I	2.304	0.000	0.000	0.000	0.000	0	146.6	0.011	0.035	0.884	0.929	15249	295.8	0.008	0.038	0.595	0.577	19991
Ten Daily II	9.185	0.001	0.001	0.178	0.180	555	121.7	0.008	0.043	0.714	0.765	9545	255.4	0.005	0.015	0.313	0.233	7797
Ten Daily III	82.81	0.030	0.047	0.883	0.960	7054	383.9	0.008	0.055	0.774	0.837	35206	125.2	0.003	0.012	0.225	0.218	3316
Monthly Total						76084						524755						267661

Annual Sediment Load (Metric Tonnes) : 969196

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : TILGA (EBI00L3) **Division : E.E., Bhubaneswar**

Local River : Sankh **Sub-Division : Rourkela.**

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	131.9	0.001	0.002	0.266	0.269	3065	171.4	0.005	0.006	0.350	0.361	5347	18.94	0.000	0.001	0.037	0.038	62
2					0.000		152.3	0.005	0.006	0.300	0.311	4087	16.36	0.000	0.000	0.030	0.030	42
3					0.000		154.4	0.004	0.007	0.280	0.291	3883	15.93	0.000	0.000	0.120	0.120	165
4	73.22	0.001	0.003	0.117	0.121	766	116.8	0.002	0.013	0.145	0.160	1614	15.93	0.000	0.000	0.120	0.120	165
5	61.68	0.001	0.001	0.081	0.083	442	92.37	0.013	0.005	0.134	0.152	1213	15.92	0.000	0.000	0.045	0.045	62
6	58.45	0.002	0.004	0.110	0.116	586	88.34	0.008	0.012	0.091	0.111	847	17.27	0.000	0.000	0.031	0.031	46
7	149.9	0.004	0.006	0.222	0.232	3004	92.30	0.003	0.008	0.125	0.136	1085	16.67	0.000	0.000	0.007	0.007	10
8	101.5	0.001	0.009	0.196	0.206	1807	73.06	0.003	0.008	0.200	0.211	1332	13.01	0.000	0.000	0.014	0.014	16
9	119.5	0.019	0.013	0.326	0.358	3696	111.3	0.004	0.009	0.203	0.216	2078	13.94	0.000	0.000	0.013	0.013	16
10					0.000		86.55	0.003	0.006	0.163	0.172	1286	12.28	0.000	0.000	0.002	0.002	2
11	119.3	0.002	0.009	0.299	0.310	3196	76.09	0.005	0.006	0.080	0.091	598	12.46	0.000	0.000	0.010	0.010	11
12	107.0	0.003	0.008	0.157	0.168	1554	62.14	0.006	0.006	0.073	0.085	456	12.30	0.000	0.000	0.026	0.026	28
13	111.8	0.002	0.007	0.243	0.252	2434	56.99	0.006	0.004	0.065	0.075	369	12.14	0.000	0.000	0.026	0.026	27
14	127.1	0.002	0.018	0.273	0.293	3217	64.64	0.003	0.007	0.188	0.198	1106	11.86	0.000	0.000	0.006	0.006	6
15	73.96	0.003	0.003	0.148	0.154	984	59.43	0.003	0.006	0.160	0.169	868	12.60	0.000	0.000	0.031	0.031	34
16	182.1	0.005	0.012	0.418	0.435	6843	55.47	0.003	0.005	0.100	0.108	518	12.30	0.000	0.000	0.005	0.005	5
17					0.000		48.93	0.008	0.008	0.160	0.176	744	13.00	0.000	0.000	0.023	0.023	26
18	104.9	0.015	0.003	0.178	0.196	1776	35.52	0.005	0.005	0.038	0.048	147	14.65	0.000	0.000	0.016	0.016	20
19	162.1	0.006	0.004	0.385	0.395	5531	34.31	0.005	0.005	0.036	0.046	136	14.45	0.000	0.000	0.016	0.016	20
20	303.3	0.010	0.012	0.745	0.767	20103	34.68	0.015	0.005	0.055	0.075	225	14.32	0.000	0.000	0.014	0.014	17
21	209.2	0.002	0.017	0.210	0.229	4139	35.16	0.012	0.029	0.045	0.086	261	13.41	0.000	0.000	0.004	0.004	5
22	157.5	0.003	0.008	0.133	0.144	1960	33.44	0.033	0.028	0.025	0.086	248	13.09	0.000	0.000	0.017	0.017	19
23	124.9	0.003	0.003	0.153	0.159	1716	33.43	0.033	0.028	0.025	0.086	248	12.99	0.000	0.000	0.011	0.011	12
24					0.000		33.62	0.003	0.015	0.035	0.053	154	12.48	0.000	0.000	0.013	0.013	14
25	80.92	0.008	0.005	0.065	0.078	545	36.10	0.003	0.003	0.058	0.064	200	10.77	0.000	0.000	0.017	0.017	16
26	74.17	0.007	0.004	0.113	0.124	795	34.60	0.000	0.002	0.011	0.013	39	10.80	0.000	0.000	0.015	0.015	14
27	59.56	0.016	0.011	0.048	0.075	386	35.87	0.004	0.001	0.029	0.034	105	12.24	0.000	0.000	0.010	0.010	11
28	56.73	0.008	0.020	0.159	0.187	917	25.51	0.001	0.001	0.008	0.010	22	11.45	0.000	0.000	0.017	0.017	17
29					0.000		24.06	0.001	0.001	0.015	0.017	35	10.17	0.000	0.000	0.027	0.027	24
30					0.000		21.85	0.002	0.001	0.015	0.018	34	8.344	0.000	0.000	0.013	0.013	9
31							16.66	0.001	0.000	0.045	0.046	66						
Ten Daily Mean																		
Ten Daily I	99.45	0.004	0.005	0.188	0.139	1909	113.9	0.005	0.008	0.199	0.212	2277	15.63	0.000	0.000	0.042	0.042	59
Ten Daily II	143.5	0.005	0.008	0.316	0.297	5071	52.82	0.006	0.006	0.096	0.107	517	13.01	0.000	0.000	0.017	0.017	19
Ten Daily III	109.0	0.007	0.010	0.126	0.100	1494	30.03	0.008	0.010	0.028	0.047	129	11.58	0.000	0.000	0.014	0.014	14
Monthly Total						69461						29353						922

Annual Sediment Load (Metric Tonnes) : 969196

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : TILGA (EBI00L3) **Division : E.E., Bhubaneswar**

Local River : Sankh **Sub-Division : Rourkela.**

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	7.869	0.000	0.000	0.027	0.027	18	7.107	0.000	0.000	0.028	0.028	17	3.843	0.000	0.000	0.000	0.000	0
2	7.868	0.000	0.000	0.027	0.027	18	8.026	0.000	0.000	0.014	0.014	10	3.831	0.000	0.000	0.000	0.000	0
3	7.865	0.000	0.000	0.010	0.010	7	9.464	0.000	0.000	0.012	0.012	10	3.556	0.000	0.000	0.000	0.000	0
4	8.339	0.000	0.000	0.010	0.010	7	9.264	0.000	0.000	0.012	0.012	10	3.600	0.000	0.000	0.000	0.000	0
5	7.330	0.000	0.000	0.017	0.017	11	8.972	0.000	0.000	0.012	0.012	9	3.772	0.000	0.000	0.000	0.000	0
6	8.216	0.000	0.000	0.023	0.023	16	7.828	0.000	0.000	0.015	0.015	10	3.648	0.000	0.000	0.000	0.000	0
7	7.213	0.000	0.000	0.031	0.031	19	7.820	0.000	0.000	0.015	0.015	10	3.547	0.000	0.000	0.000	0.000	0
8	8.567	0.000	0.000	0.016	0.016	12	7.300	0.000	0.000	0.013	0.013	8	2.912	0.000	0.000	0.000	0.000	0
9	9.938	0.000	0.000	0.021	0.021	18	6.489	0.000	0.000	0.019	0.019	11	3.514	0.000	0.000	0.000	0.000	0
10	9.895	0.000	0.000	0.021	0.021	18	6.389	0.000	0.000	0.014	0.014	8	2.900	0.000	0.000	0.000	0.000	0
11	8.778	0.000	0.000	0.021	0.021	16	6.662	0.000	0.000	0.027	0.027	16	3.120	0.000	0.000	0.000	0.000	0
12	8.357	0.000	0.000	0.012	0.012	9	5.611	0.000	0.000	0.021	0.021	10	3.546	0.000	0.000	0.000	0.000	0
13	8.641	0.000	0.000	0.021	0.021	16	5.407	0.000	0.000	0.000	0.000	0	3.745	0.000	0.000	0.000	0.000	0
14	9.074	0.000	0.000	0.017	0.017	13	5.390	0.000	0.000	0.000	0.000	0	5.146	0.000	0.000	0.000	0.000	0
15	9.283	0.000	0.000	0.021	0.021	17	4.214	0.000	0.000	0.000	0.000	0	5.389	0.000	0.000	0.000	0.000	0
16	7.880	0.000	0.000	0.014	0.014	10	4.045	0.000	0.000	0.000	0.000	0	5.291	0.000	0.000	0.000	0.000	0
17	7.682	0.000	0.000	0.012	0.012	8	4.255	0.000	0.000	0.000	0.000	0	5.611	0.000	0.000	0.000	0.000	0
18	7.303	0.000	0.000	0.010	0.010	6	4.495	0.000	0.000	0.000	0.000	0	5.060	0.000	0.000	0.000	0.000	0
19	6.685	0.000	0.000	0.017	0.017	10	4.017	0.000	0.000	0.000	0.000	0	4.363	0.000	0.000	0.000	0.000	0
20	6.981	0.000	0.000	0.036	0.036	22	4.758	0.000	0.000	0.000	0.000	0	3.149	0.000	0.000	0.000	0.000	0
21	6.644	0.000	0.000	0.011	0.011	6	4.750	0.000	0.000	0.000	0.000	0	2.902	0.000	0.000	0.000	0.000	0
22	7.514	0.000	0.000	0.019	0.019	12	4.131	0.000	0.000	0.000	0.000	0	2.864	0.000	0.000	0.000	0.000	0
23	8.454	0.000	0.000	0.017	0.017	12	4.470	0.000	0.000	0.000	0.000	0	2.487	0.000	0.000	0.000	0.000	0
24	8.451	0.000	0.000	0.016	0.016	12	4.716	0.000	0.000	0.000	0.000	0	2.469	0.000	0.000	0.000	0.000	0
25	5.752	0.000	0.000	0.002	0.002	1	5.305	0.000	0.000	0.000	0.000	0	2.500	0.000	0.000	0.000	0.000	0
26	5.590	0.000	0.000	0.002	0.002	1	5.300	0.000	0.000	0.000	0.000	0	2.800	0.000	0.000	0.000	0.000	0
27	6.214	0.000	0.000	0.006	0.006	3	4.143	0.000	0.000	0.000	0.000	0	2.829	0.000	0.000	0.000	0.000	0
28	6.977	0.000	0.000	0.004	0.004	2	4.140	0.000	0.000	0.000	0.000	0	2.793	0.000	0.000	0.000	0.000	0
29	6.905	0.000	0.000	0.028	0.028	17	4.393	0.000	0.000	0.000	0.000	0						
30	6.615	0.000	0.000	0.023	0.023	13	4.042	0.000	0.000	0.000	0.000	0						
31	6.612	0.000	0.000	0.022	0.022	13	3.993	0.000	0.000	0.000	0.000	0						
Ten Daily Mean																		
Ten Daily I	8.310	0.000	0.000	0.020	0.020	14	7.866	0.000	0.000	0.015	0.015	10	3.512	0.000	0.000	0.000	0.000	0
Ten Daily II	8.066	0.000	0.000	0.018	0.018	13	4.885	0.000	0.000	0.005	0.005	3	4.442	0.000	0.000	0.000	0.000	0
Ten Daily III	6.884	0.000	0.000	0.014	0.014	8	4.489	0.000	0.000	0.000	0.000	0	2.706	0.000	0.000	0.000	0.000	0
Monthly																		
Total						363						128						0

Annual Sediment Load (Metric Tonnes) : 969196

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : TILGA (EBI00L3) **Division : E.E., Bhubaneswar**

Local River : Sankh **Sub-Division : Rourkela.**

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	2.245	0.000	0.000	0.000	0.000	0	0.760	0.000	0.000	0.000	0.000	0	0.918	0.000	0.000	0.165	0.165	13
2	2.200	0.000	0.000	0.000	0.000	0	1.048	0.000	0.000	0.000	0.000	0	13.68	0.000	0.000	0.165	0.165	195
3	2.123	0.000	0.000	0.000	0.000	0	1.075	0.000	0.000	0.000	0.000	0	7.583	0.000	0.000	0.165	0.165	108
4	1.790	0.000	0.000	0.000	0.000	0	4.779	0.000	0.000	0.000	0.000	0	4.844	0.000	0.000	0.165	0.165	69
5	1.778	0.000	0.000	0.000	0.000	0	2.600	0.000	0.000	0.000	0.000	0	4.027	0.000	0.000	0.165	0.165	57
6	1.943	0.000	0.000	0.000	0.000	0	2.352	0.000	0.000	0.000	0.000	0	3.050	0.000	0.000	0.100	0.100	26
7	2.087	0.000	0.000	0.000	0.000	0	1.890	0.000	0.000	0.000	0.000	0	2.569	0.000	0.000	0.000	0.000	0
8	1.883	0.000	0.000	0.000	0.000	0	1.890	0.000	0.000	0.000	0.000	0	1.797	0.000	0.000	0.000	0.000	0
9	1.843	0.000	0.000	0.000	0.000	0	2.598	0.000	0.000	0.000	0.000	0	1.579	0.000	0.000	0.000	0.000	0
10	1.746	0.000	0.000	0.000	0.000	0	6.415	0.000	0.000	0.000	0.000	0	1.203	0.000	0.000	0.000	0.000	0
11	1.750	0.000	0.000	0.000	0.000	0	4.772	0.000	0.000	0.000	0.000	0	1.138	0.000	0.000	0.000	0.000	0
12	1.737	0.000	0.000	0.000	0.000	0	4.630	0.000	0.000	0.000	0.000	0	1.049	0.000	0.000	0.000	0.000	0
13	1.918	0.000	0.000	0.000	0.000	0	5.495	0.000	0.000	0.000	0.000	0	0.910	0.000	0.000	0.000	0.000	0
14	1.926	0.000	0.000	0.000	0.000	0	5.490	0.000	0.000	0.000	0.000	0	0.900	0.000	0.000	0.000	0.000	0
15	1.836	0.000	0.000	0.000	0.000	0	3.550	0.000	0.000	0.000	0.000	0	0.756	0.000	0.000	0.000	0.000	0
16	1.763	0.000	0.000	0.000	0.000	0	3.270	0.000	0.000	0.000	0.000	0	1.115	0.000	0.000	0.000	0.000	0
17	1.653	0.000	0.000	0.000	0.000	0	2.235	0.000	0.000	0.000	0.000	0	0.879	0.000	0.000	0.000	0.000	0
18	1.690	0.000	0.000	0.000	0.000	0	1.970	0.000	0.000	0.000	0.000	0	1.393	0.000	0.000	0.000	0.000	0
19	1.772	0.000	0.000	0.000	0.000	0	3.322	0.000	0.000	0.000	0.000	0	1.742	0.000	0.000	0.000	0.000	0
20	1.580	0.000	0.000	0.000	0.000	0	2.130	0.000	0.000	0.000	0.000	0	1.980	0.000	0.000	0.000	0.000	0
21	1.326	0.000	0.000	0.000	0.000	0	1.692	0.000	0.000	0.000	0.000	0	1.922	0.000	0.000	0.000	0.000	0
22	1.088	0.000	0.000	0.000	0.000	0	1.690	0.000	0.000	0.000	0.000	0	2.002	0.000	0.000	0.000	0.000	0
23	1.033	0.000	0.000	0.000	0.000	0	1.167	0.000	0.000	0.000	0.000	0	6.465	0.000	0.000	0.000	0.000	0
24	1.127	0.000	0.000	0.000	0.000	0	1.032	0.000	0.000	0.000	0.000	0	3.631	0.000	0.000	0.000	0.000	0
25	1.120	0.000	0.000	0.000	0.000	0	0.973	0.000	0.000	0.000	0.000	0	2.671	0.000	0.000	0.000	0.000	0
26	1.067	0.000	0.000	0.000	0.000	0	0.687	0.000	0.000	0.000	0.000	0	1.820	0.000	0.000	0.000	0.000	0
27	0.870	0.000	0.000	0.000	0.000	0	0.735	0.000	0.000	0.000	0.000	0	1.820	0.000	0.000	0.000	0.000	0
28	0.926	0.000	0.000	0.000	0.000	0	0.680	0.000	0.000	0.000	0.000	0	1.404	0.000	0.000	0.000	0.000	0
29	1.050	0.000	0.000	0.000	0.000	0	0.820	0.000	0.000	0.000	0.000	0	1.611	0.000	0.000	0.000	0.000	0
30	1.180	0.000	0.000	0.000	0.000	0	0.830	0.000	0.000	0.000	0.000	0	3.703	0.000	0.000	0.000	0.000	0
31	1.184	0.000	0.000	0.000	0.000	0							5.540	0.000	0.000	0.000	0.000	0
Ten Daily Mean																		
Ten Daily I	1.964	0.000	0.000	0.000	0.000	0	2.541	0.000	0.000	0.000	0.000	0	4.125	0.000	0.000	0.093	0.093	47
Ten Daily II	1.762	0.000	0.000	0.000	0.000	0	3.686	0.000	0.000	0.000	0.000	0	1.186	0.000	0.000	0.000	0.000	0
Ten Daily III	1.088	0.000	0.000	0.000	0.000	0	1.031	0.000	0.000	0.000	0.000	0	2.963	0.000	0.000	0.000	0.000	0
Monthly																		
Total						0						0						469

Annual Sediment Load (Metric Tonnes) : 969196

Annual Sediment Load for period : 1987-2018

Station Name : TILGA (EBI00L3) **Division : E.E., Bhubaneswar**

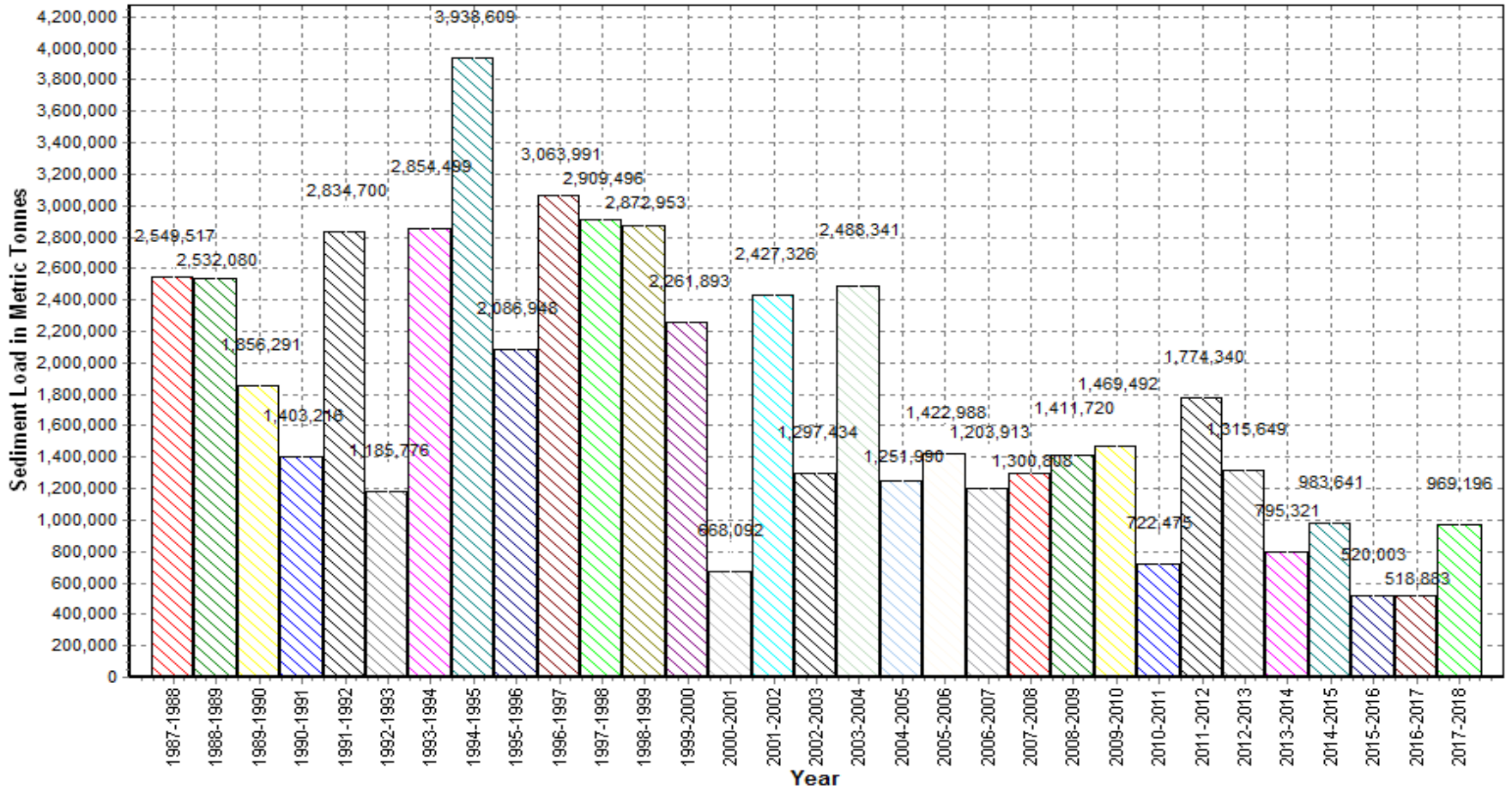
Local River : Sankh **Sub-Division : Rourkela.**

Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)
1987-1988	2547446	2071	2549517	1808
1988-1989	2531017	1063	2532080	1998
1989-1990	1842714	13578	1856291	1240
1990-1991	1387808	15408	1403216	1867
1991-1992	2742881	91819	2834700	2150
1992-1993	1184174	1602	1185776	988
1993-1994	2852461	2038	2854499	1881
1994-1995	3912141	26468	3938609	3428
1995-1996	2054374	32574	2086948	1831
1996-1997	3063393	598	3063991	2638
1997-1998	2801400	108096	2909496	2789
1998-1999	2868272	4682	2872953	2455
1999-2000	2260030	1864	2261893	2776
2000-2001	667129	963	668092	1195
2001-2002	2426912	414	2427326	2590
2002-2003	1297120	314	1297434	1556
2003-2004	2462651	25690	2488341	2236
2004-2005	1248959	3031	1251990	1684
2005-2006	1420741	2248	1422988	1768
2006-2007	1203294	619	1203913	1588
2007-2008	1300660	148	1300808	1864
2008-2009	1411720	0	1411720	1987
2009-2010	1469309	183	1469492	1624
2010-2011	721353	1122	722475	899
2011-2012	1759072	15268	1774340	2633
2012-2013	1314262	1387	1315649	1913
2013-2014	785923	9398	795321	2273
2014-2015	982814	827	983641	1751
2015-2016	515947	4056	520003	1073
2016-2017	518840	43	518883	1503
2017-2018	968235	961	969196	1576

Annual Sediment Load for the period: 1987-2018

Station Name : TILGA (EBI00L3) **Division : E.E., Bhubaneswar**

Local River : Sankh **Sub-Division : Rourkela.**



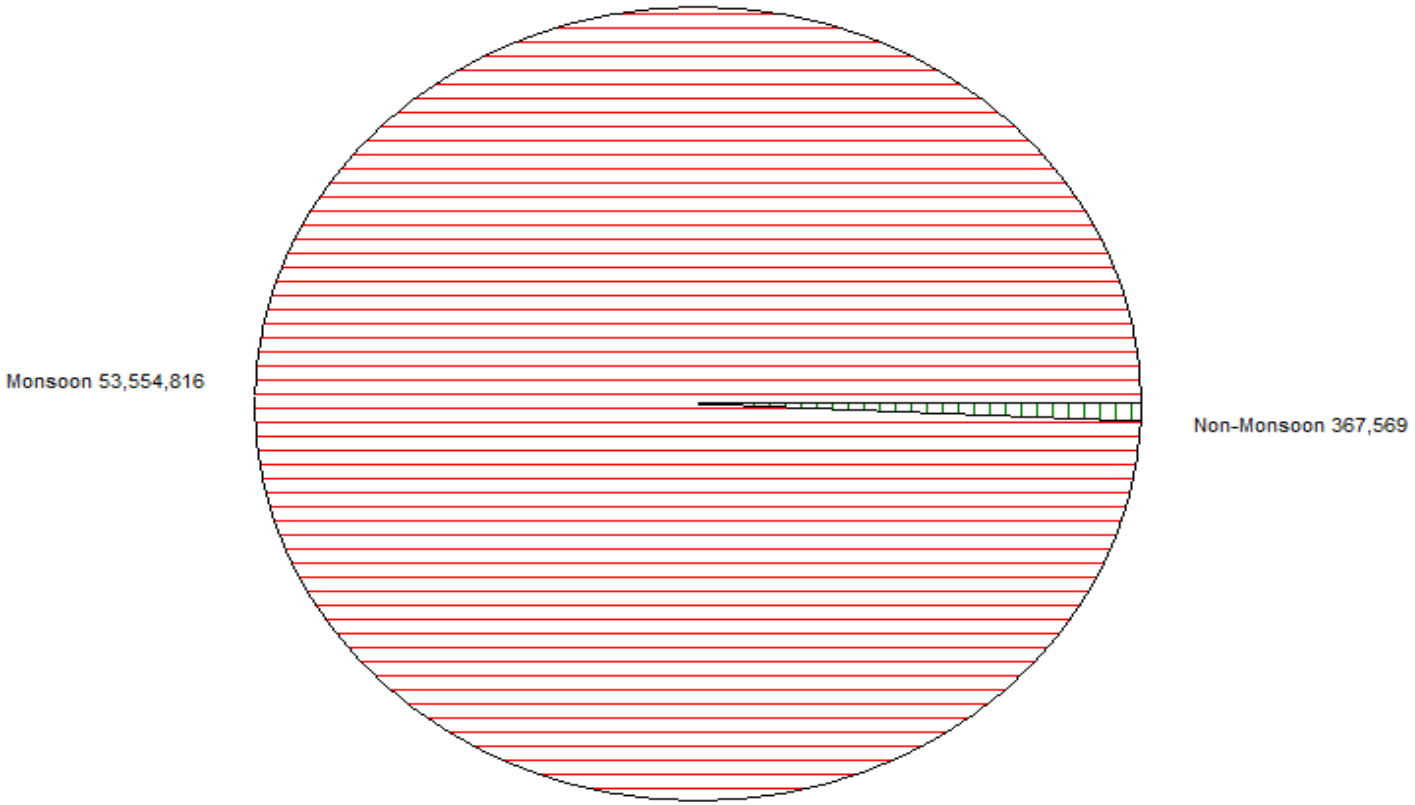
Seasonal Sediment Load for the period : 1987-2017

Station Name : TILGA (EBI00L3)

Local River : Sankh

Division : E.E., Bhubaneswar

Sub-Division : Rourkela.



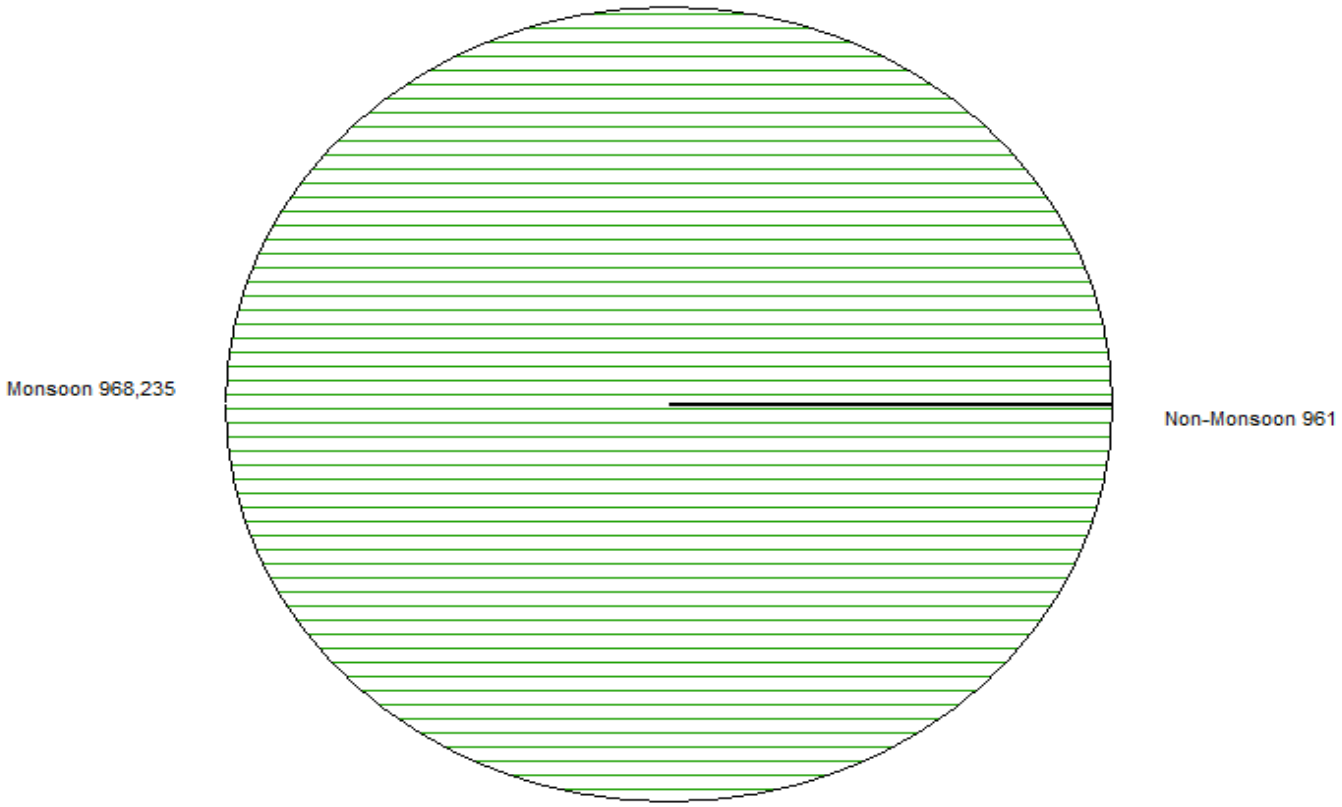
Seasonal Sediment Load for the Year: 2017-2018

Station Name : TILGA (EBI00L3)

Local River : Sankh

Division : E.E., Bhubaneswar

Sub-Division : Rourkela.



Water Quality Datasheet for the period : 2017-2018

Station Name : TILGA (EBI00L3) **Division : E.E., Bhubaneswar**

Local River : Sankh **River Water Analysis** **Sub-Division : A.E, Rourkela.**

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
		B	B	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)												
2	Colour_Cod (-)	Clear	Light Brown	Light Brown	Light Brown	Light Brown	Clear	Clear	Clear	Clear	Clear	Clear	Clear
3	EC_FLD (µmho/cm)	129	85	76	78	90	88	86	88	86	120	134	98
4	EC_GEN (µmho/cm)	120	78	72	70	82	85	80	80	82	123	128	91
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)	8.0	7.2	7.3	7.3	7.2	7.1	7.4	7.2	7.4	7.6	7.2	7.6
7	pH_GEN (pH units)	8.1	7.1	7.2	7.2	7.3	7.0	7.4	7.1	7.3	7.7	7.1	7.5
8	Temp (deg C)	28.0	28.0	28.0	29.5	28.0	23.0	17.0	16.0	14.0	21.0	24.0	27.0
	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)	60	28	23	37	42	46	46	51	37	51	55	56
3	B (mg/L)	0.01	0.02	0.01	0.03	0.01	0.03	0.01	0.02	0.03	0.02	0.03	0.02
4	Ca (mg/L)	34	32	34	32	8	17	17	25	18	18	21	18
5	Cl (mg/L)	35.8	28.3	11.3	11.3	6.9	10.4	8.7	10.4	12.1	13.8	13.8	12.0
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
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)	0.5	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.6
9	HCO3 (mg/L)	73	34	28	45	51	56	56	62	45	62	68	68
10	K (mg/L)	2.1	1.8	1.6	1.8	1.9	2.0	2.3	2.4	0.3	0.4	0.9	1.5
11	Mg (mg/L)	7.8	8.8	9.7	10.7	4.0	4.0	7.2	6.4	10.3	9.5	10.3	4.8
12	Na (mg/L)	5.9	2.5	2.5	2.9	3.1	3.5	3.5	3.7	3.2	3.8	4.0	6.2
13	NO2+NO3 (mg N/L)	1.28	1.19	1.25	1.20	1.18	1.15	1.25	1.18	1.22	1.25	1.23	1.26
14	NO2-N (mgN/L)	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	NO3-N (mgN/L)	1.28	1.19	1.23	1.19	1.18	1.15	1.25	1.18	1.22	1.25	1.23	1.26
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)	9.0	8.5	9.6	9.0	7.5	8.3	9.6	7.9	8.9	6.8	9.5	7.8
18	SO4 (mg/L)	2.8	4.5	4.6	9.4	16.5	16.8	17.2	17.6	17.6	8.5	11.3	10.2
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)	0.4	0.4	0.8	0.6	0.4	0.2	0.4	0.4	0.8	0.4	0.6	0.4
2	DO (mg/L)	5.6	5.8	6.6	6.6	6.6	7.0	8.3	6.4	6.8	4.4	5.4	6.2
3	DO_SAT% (%)	71	74	84	85	84	81	86	64	65	49	64	77
4	FCol-MPN (MPN/100mL)	130	70	40	60	40	60	80	90	40	70	90	110
5	Tcol-MPN (MPN/100mL)	220	170	110	130	110	170	210	220	170	220	210	260
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)	84	80	84	80	20	43	43	62	46	46	52	46
2	HAR_Total (mgCaCO3/L)	117	117	125	125	36	59	72	89	89	85	95	66
3	Na% (%)	10	4	4	5	15	11	9	8	7	9	8	17
4	RSC (-)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.3
	PESTICIDES												

Water Quality Summary for the period : 2017-2018

Station Name : TILGA (EBI00L3) **Division : E.E., Bhubaneswar**

Local River : Sankh **Sub-Division : A.E, Rourkela.**

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)				
2	EC_FLD (µmho/cm)	12	134	76	97
3	EC_GEN (µmho/cm)	12	128	70	91
4	pH_FLD (pH units)	12	8.0	7.1	7.4
5	pH_GEN (pH units)	12	8.1	7.0	7.3
6	Temp (deg C)	12	29.5	14.0	23.6
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	12	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	12	60	23	44
3	B (mg/L)	12	0.03	0.01	0.02
4	Ca (mg/L)	12	34	8	23
5	Cl (mg/L)	12	35.8	6.9	14.6
6	CO3 (mg/L)	12	0.0	0.0	0
7	F (mg/L)	12	0.05	0.05	0.05
8	Fe (mg/L)	12	0.6	0.4	0.4
9	HCO3 (mg/L)	12	73	28	54
10	K (mg/L)	12	2.4	0.3	1.6
11	Mg (mg/L)	12	10.7	4.0	7.8
12	Na (mg/L)	12	6.2	2.5	3.7
13	NO2+NO3 (mg N/L)	12	1.28	1.15	1.22
14	NO2-N (mgN/L)	12	0.01	0.00	0
15	NO3-N (mgN/L)	12	1.28	1.15	1.22
16	P-Tot (mgP/L)	12	0.001	0.001	0.001
17	SiO2 (mg/L)	12	9.6	6.8	8.5
18	SO4 (mg/L)	12	17.6	2.8	11.4
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	12	0.8	0.2	0.5
2	DO (mg/L)	12	8.3	4.4	6.3
3	DO_SAT% (%)	12	86	49	74
4	FCol-MPN (MPN/100mL)	12	130	40	73
5	Tcol-MPN (MPN/100mL)	12	260	110	183
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	12	84	20	57
2	HAR_Total (mgCaCO3/L)	12	125	36	89
3	Na% (%)	12	17	4	9
4	RSC (-)	12	0.1	0.0	0
5	SAR (-)	12	0.3	0.1	0.2
	PESTICIDES				

Water Quality Seasonal Average for the period: 2003-2018

Station Name : TILGA (EBI00L3) **Division : E.E., Bhubaneswar**

Local River : Sankh **River Water** **Sub-Division : A.E, Rourkela.**

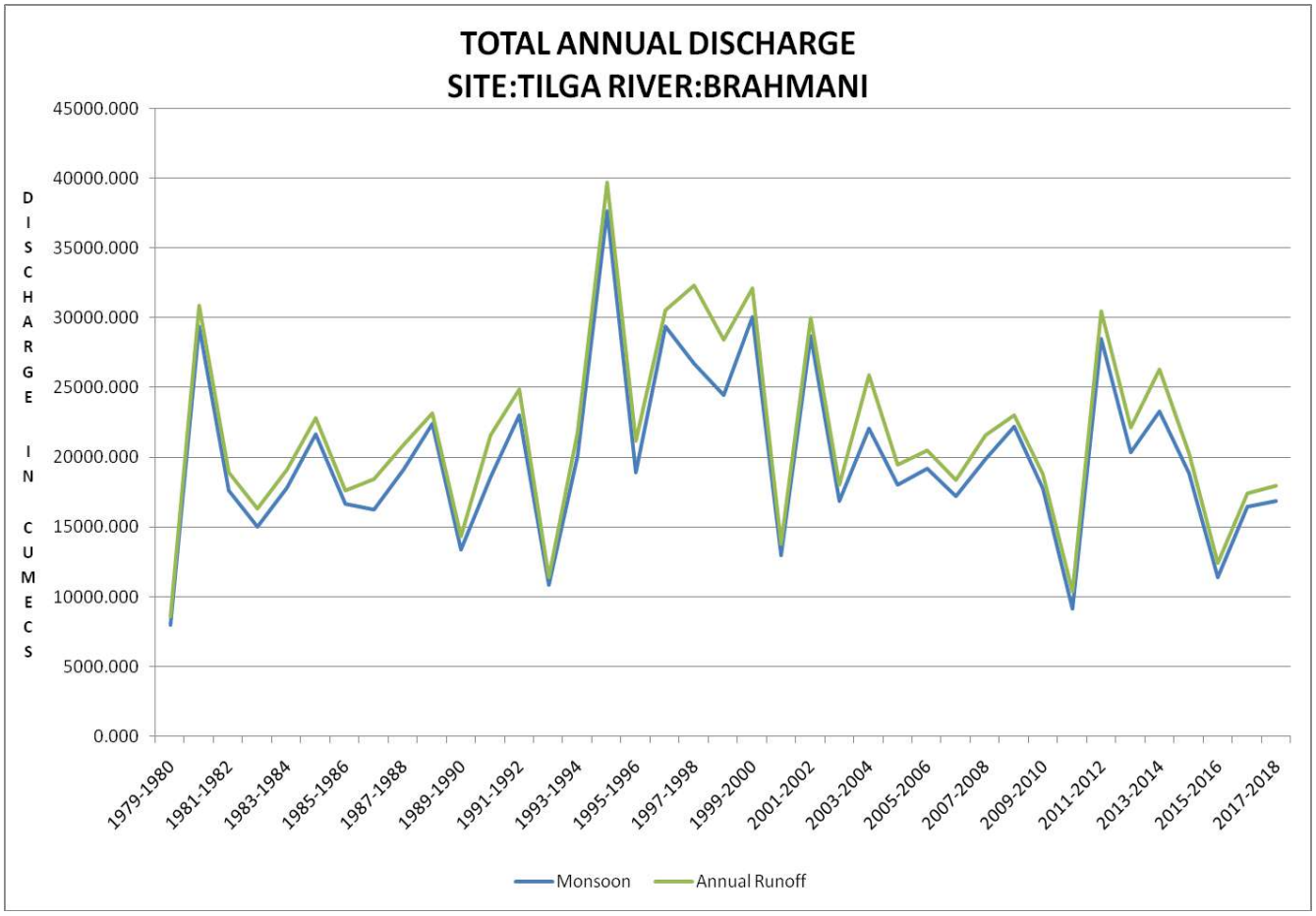
S.No	Parameters	Flood Jun - Oct															Winter Nov - Feb							
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	PHYSICAL																							
1	Q (cumec)																							
2	EC_FLD (µmho/cm)	62	86			109		137	94	102	111	56	83	160	157	92	82	84			89		99	97
3	EC_GEN (µmho/cm)	62	88			104		137	94	102	111	56	83	151	159	84	82	84			84		99	97
4	pH_FLD (pH units)	7.2	7.7			7.5		7.5	7.3	7.9	7.5	7.5	7.6	7.0	7.5	7.4	7.2	7.6			7.3		7.3	7.1
5	pH_GEN (pH units)	7.2	7.7			7.6		7.5	7.2	7.9	7.5	7.5	7.6	7.0	7.5	7.4	7.1	7.7			7.4		7.3	7.1
6	Temp (deg C)	26.2	28.1			31.0		26.0	28.2	27.8	27.8	25.8	29.2	28.2	29.7	28.3	17.5	19.0			14.8		14.5	17.8
	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)					33	11	26	30	34			46	63	59	38					29	22	32	26
3	B (mg/L)	0.00	0.00			0.00		0.00	0.02	0.01	0.00	0.00	0.00	0.01	0.02	0.02	0.00	0.00			0.00		0.00	0.00
4	Ca (mg/L)	3	8			10	13	11	7	38	9	9	15	22	17	28	7	9			9	11	7	10
5	Cl (mg/L)	8.2	11.9			9.9	8.8	11.7	8.1	14.5	14.5	12.5	11.7	13.2	8.2	18.7	8.7	7.8			10.7	5.9	11.7	8.5
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	0.0			0.0	0.0	0.0	0.0
7	F (mg/L)	0.00	0.40			0.00		0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.00	0.40			0.00		0.05	0.05
8	Fe (mg/L)		0.1			0.1		6.3	0.1	0.0	1.9	0.0	0.3	0.4	0.5	0.5		0.1			0.1		0.0	0.1
9	HCO3 (mg/L)	18	34			40	13	38	33	41	30	46	60	77	71	46	31	32			36	27	30	32
10	K (mg/L)	1.1	1.7			1.8	11.5	1.6	2.2	1.5	1.6	1.5	1.2	1.5	3.7	1.8	1.4	1.1			1.5	1.4	1.1	1.3
11	Mg (mg/L)	1.3	3.5			2.0	2.4	4.9	2.9	3.6	1.9	2.7	5.2	12.0	11.8	8.2	1.5	2.9			2.2	5.7	3.4	2.9
12	Na (mg/L)	5.5	8.2			6.8	30.1	8.0	5.1	4.1	2.8	9.0	2.9	2.5	11.5	3.4	6.1	4.9			6.2	5.6	7.2	5.3
13	NO2+NO3 (mg N/L)	0.06	0.70			0.20		0.15	0.29	0.38	0.71	0.41	0.84	0.99	1.09	1.22	0.11	0.71			0.29		0.07	0.31
14	NO2-N (mgN/L)	0.00	0.01			0.00		0.00	0.01	0.07	0.00	0.30	0.04	0.00	0.01	0.01	0.01	0.00			0.00		0.00	0.00
15	NO3-N (mgN/L)	0.06	0.69			0.20		0.14	0.28	0.31	0.71	0.39	0.80	0.98	1.08	1.21	0.11	0.71			0.29		0.07	0.31
16	P-Tot (mgP/L)		0.003			4.740		0.018	0.002	0.010	0.001	0.001	0.001	0.001	0.010	0.001		0.001			0.002		0.002	0.001
17	SiO2 (mg/L)	6.9	21.7			8.2		6.6	4.7	7.7	10.7	7.9	4.3	5.0	6.7	8.7	8.9	22.3			9.7		6.4	5.7
18	SO4 (mg/L)	0.6	6.3			2.2	12.4	13.3	5.8	6.2	15.9	14.7	4.7	3.2	4.2	7.6	0.8	2.4			1.8	2.4	4.5	6.6
	BIOLOGICAL/BACTERIOLOGICAL																							
1	BOD3-27 (mg/L)	0.8	0.8			1.1		1.0	1.3	1.1	0.9	0.2	0.3	0.5	0.4	0.5	0.7	1.0			0.8		1.0	1.2
2	DO (mg/L)	6.4	7.0			6.1		7.1	7.3	6.3	6.6	6.9	6.9	6.0	8.1	6.2	8.6	7.0			8.6		7.2	7.9
3	DO_SAT% (%)	79	90			82		87	93	80	84	85	90	77	106	79	89	75			84		71	82
4	FCol-MPN (MPN/100mL)															68								
5	Tcol-MPN (MPN/100mL)															148								
	TRACE & TOXIC																							
	CHEMICAL INDICES																							
1	HAR_Ca (mgCaCO3/L)	8	20			25	32	27	19	96	23	23	39	56	41	70	17	22			21	28	18	24
2	HAR_Total (mgCaCO3/L)	14	35			34	42	47	31	111	31	34	60	106	91	104	23	34			31	52	32	36
3	Na% (%)	45	33			29	54	26	25	17	14	35	15	5	20	8	36	27			29	18	34	24
4	RSC (-)	0.0	0.0			0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0			0.0	0.0	0.0	0.0
5	SAR (-)	0.7	0.6			0.5	2.0	0.5	0.4	0.3	0.2	0.7	0.2	0.1	0.5	0.2	0.6	0.4			0.5	0.3	0.6	0.4
	PESTICIDES																							

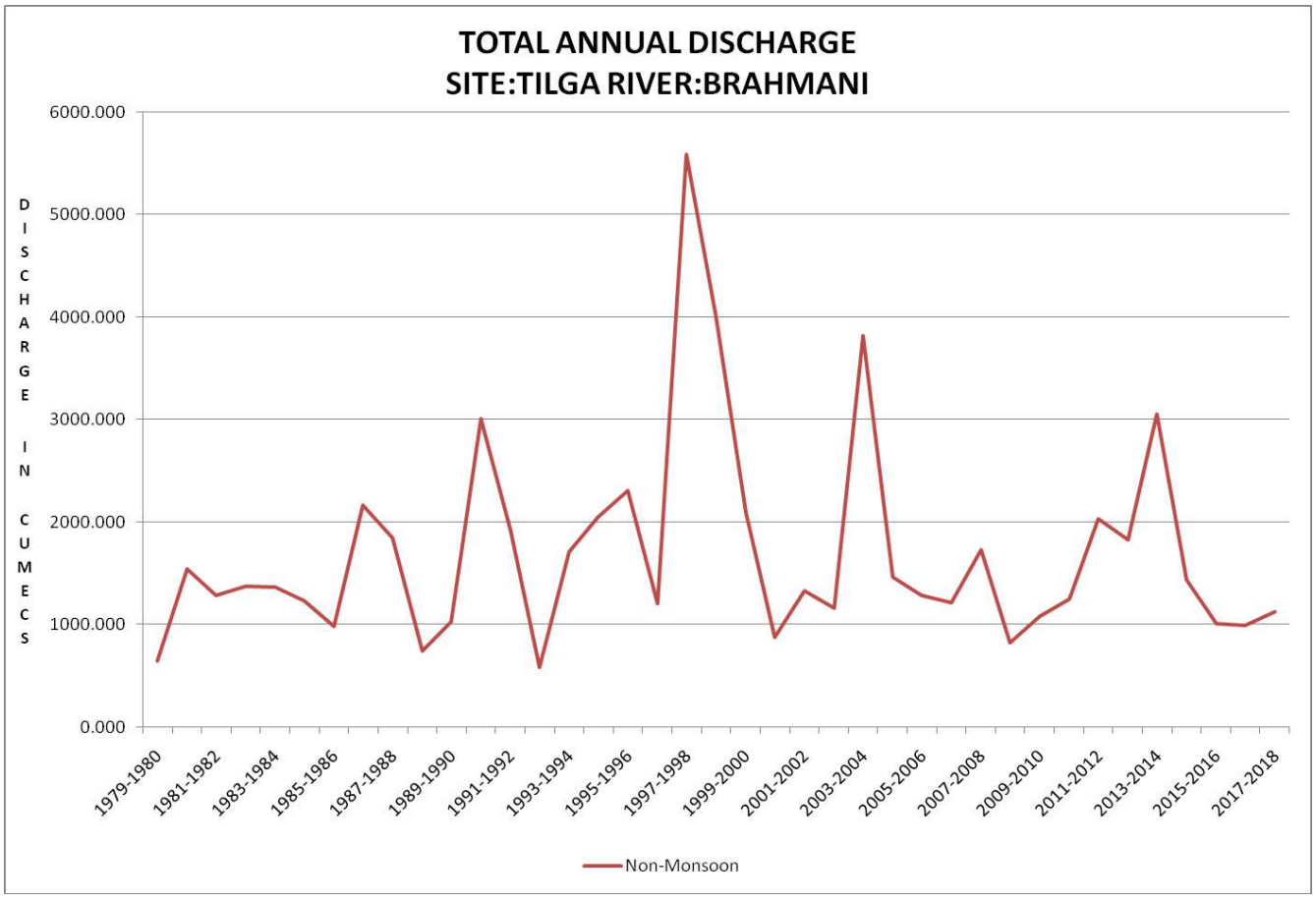
Water Quality Seasonal Average for the period: 2003-2018

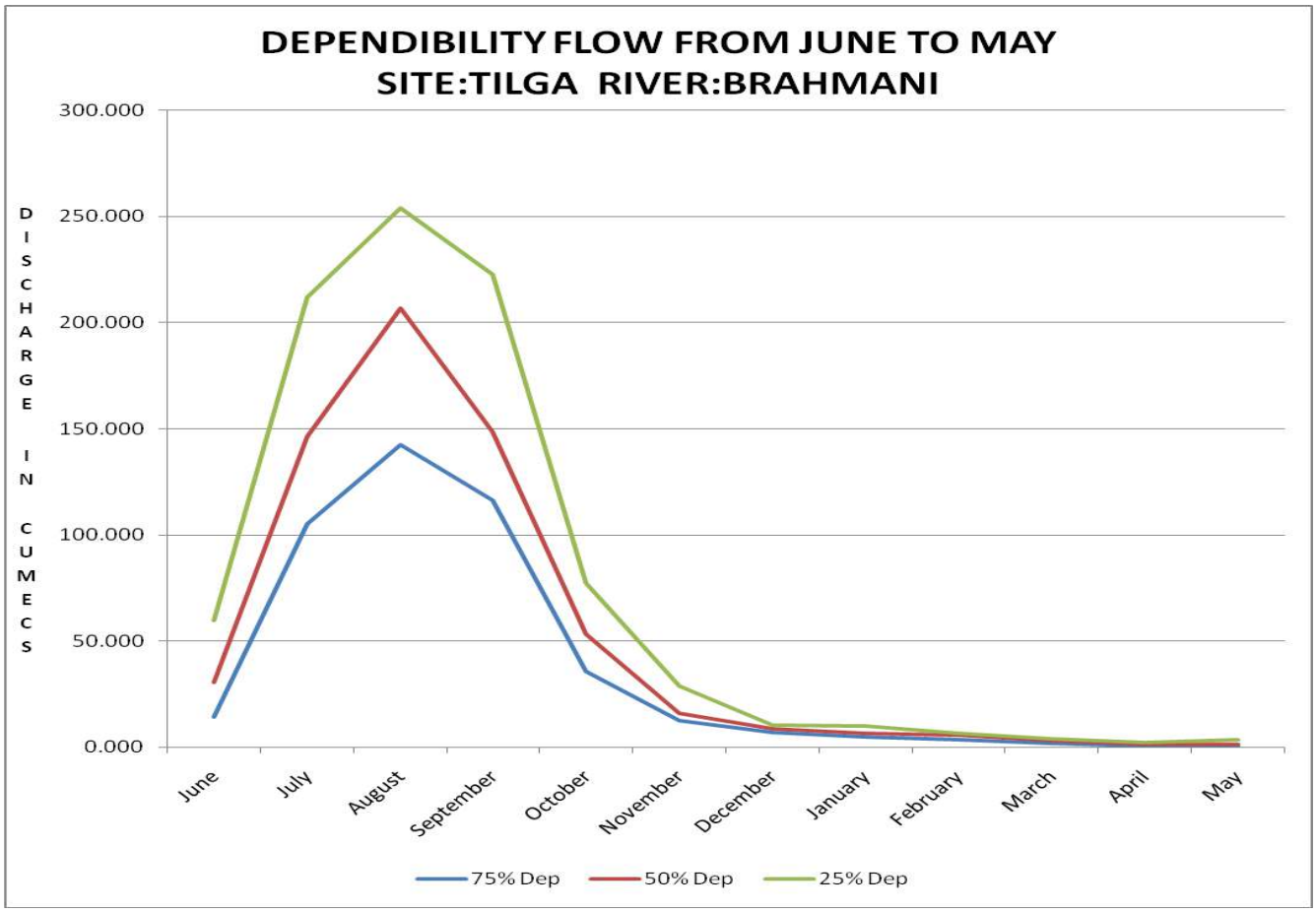
Station Name : TILGA (EBI00L3) **Division : E.E., Bhubaneswar**

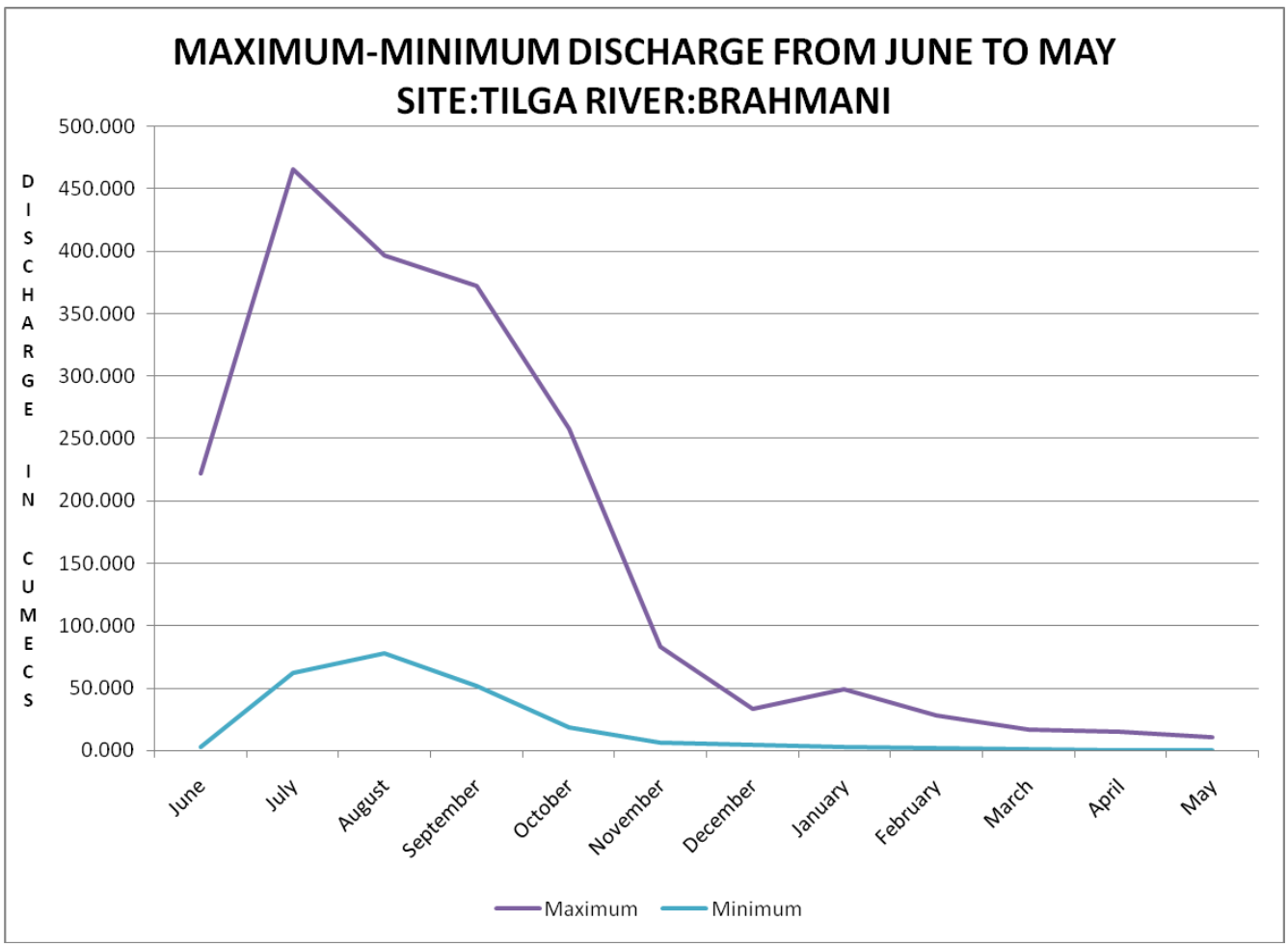
Local River : Sankh **River Water** **Sub-Division : A.E, Rourkela.**

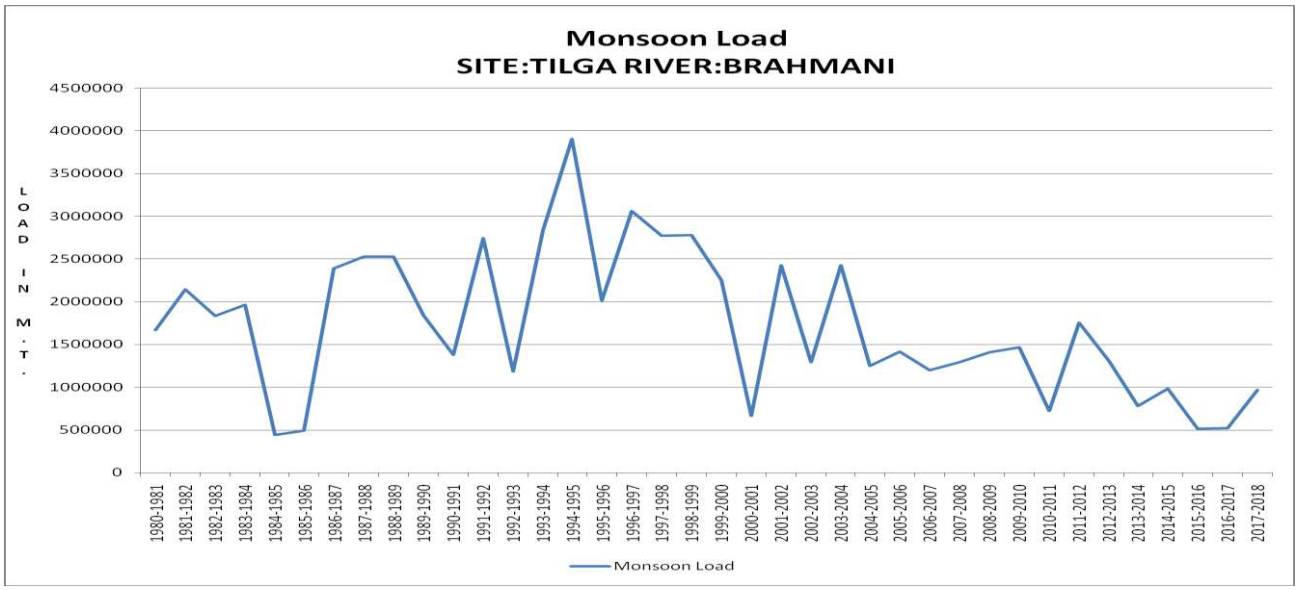
S.No	Parameters								Summer														
									Mar - May														
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	PHYSICAL																						
1	Q (cumec)																						
2	EC_FLD (µmho/cm)	90	86	76	110	187	175	87	127				92		103	158	102	115	93	154	179	142	117
3	EC_GEN (µmho/cm)	90	86	76	110	188	178	82	127				95		103	158	102	115	93	154	182	145	114
4	pH_FLD (pH units)	7.0	7.6	7.6	7.5	7.6	7.6	7.2	7.6				7.7		6.4	8.0	7.2	7.7	7.5	7.4	7.9	7.5	7.5
5	pH_GEN (pH units)	7.0	7.6	7.7	7.5	7.5	7.7	7.2	7.6				7.8		6.4	8.0	7.2	7.7	7.5	7.4	7.9	7.6	7.4
6	Temp (deg C)	16.8	15.5	17.5	18.0	20.0	20.5	17.5	24.7				22.0		23.0	24.5	24.0	23.5	24.0	25.0	23.5	22.0	24.0
	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
2	ALK-TOT (mgCaCO3/L)	39				53	55	45					31	22		59	51				55	55	54
3	B (mg/L)	0.01	0.00	0.00	0.00	0.01	0.01	0.02	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)	9	10	9	9	20	21	19	15				11	10	8	14	13	13	9	13	22	22	19
5	Cl (mg/L)	14.1	12.3	12.0	14.1	17.9	13.2	10.4	11.3				9.2	11.7	7.4	9.4	24.5	21.4	12.3	23.5	13.2	9.4	13.2
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	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	0.00				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	1.9	0.0	0.2	0.4	0.5	0.4							0.1	0.1	0.0	0.2	0.1	0.4	0.6	0.5	0.5
9	HCO3 (mg/L)	48	31	43	48	65	68	55	73				38	27	50	72	62	90	28	62	68	68	66
10	K (mg/L)	1.0	1.2	1.2	1.1	1.2	2.9	1.8	2.1				0.8	1.2	1.2	1.1	1.2	2.4	1.6	1.4	1.0	2.9	0.9
11	Mg (mg/L)	1.0	2.9	1.4	3.4	11.2	11.2	6.9	5.0				2.8	3.9	4.9	5.8	1.0	2.5	2.4	9.7	12.6	11.7	8.2
12	Na (mg/L)	4.6	5.0	2.9	3.8	5.2	27.6	3.5	7.2				6.1	6.1	4.8	5.8	4.8	16.3	12.6	4.6	8.9	39.0	4.7
13	NO2+NO3 (mg N/L)	0.45	0.70	0.36	0.92	1.08	1.18	1.20	0.08				0.29		0.13	0.55	0.36	0.84	0.50	0.69	1.28	1.20	1.25
14	NO2-N (mgN/L)	0.07	0.00	0.01	0.01	0.01	0.02	0.00	0.00				0.00		0.00	0.03	0.07	0.00	0.00	0.01	0.00	0.01	0.00
15	NO3-N (mgN/L)	0.38	0.70	0.35	0.90	1.06	1.16	1.20	0.08				0.29		0.13	0.52	0.29	0.84	0.50	0.67	1.28	1.19	1.25
16	P-Tot (mgP/L)	0.010	0.001	0.003	0.001	0.010	0.010	0.001					0.050		0.001	0.001	0.010	0.001	0.001	0.001	0.010	0.010	0.001
17	SiO2 (mg/L)	10.0	11.5	9.1	5.3	5.5	6.5	8.7	15.4				6.2		6.7	7.6	11.0	22.5	7.8	3.0	5.0	8.0	8.0
18	SO4 (mg/L)	2.1	2.2	12.4	2.1	3.1	3.0	17.3	0.8				6.3	1.4	2.6	2.0	1.6	4.0	10.6	1.6	3.2	3.2	10.0
	BIOLOGICAL/BACTERIOLOGICAL																						
1	BOD3-27 (mg/L)	2.1	0.2	0.3	0.4	1.7	0.5	0.4	0.8				1.7		0.8	1.9	1.1	1.6	0.4	0.2	0.8	1.2	0.5
2	DO (mg/L)	8.1	8.6	8.1	11.5	8.6	10.0	7.1	7.6				8.6		7.8	7.5	6.8	7.7	7.3	6.0	6.9	6.9	5.3
3	DO_SAT% (%)	83	87	84	122	95	109	74	90				98		91	89	80	90	87	72	81	79	63
4	FCol-MPN (MPN/100mL)						90	68														110	90
5	Tcol-MPN (MPN/100mL)						140	193														220	230
	TRACE & TOXIC																						
	CHEMICAL INDICES																						
1	HAR_Ca (mgCaCO3/L)	22	24	23	22	50	52	48	37				28	24	20	36	32	32	22	32	56	56	48
2	HAR_Total (mgCaCO3/L)	26	36	28	36	97	99	77	58				40	40	40	60	36	42	32	73	109	105	82
3	Na% (%)	27	22	18	17	10	36	9	25				25	24	20	17	22	44	45	12	15	44	11
4	RSC (-)	0.3	0.0	0.1	0.1	0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.3	0.6	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.4	0.4	0.2	0.3	0.2	1.2	0.2	0.5				0.4	0.4	0.3	0.3	0.3	1.1	1.0	0.2	0.4	1.7	0.2
	PESTICIDES																						

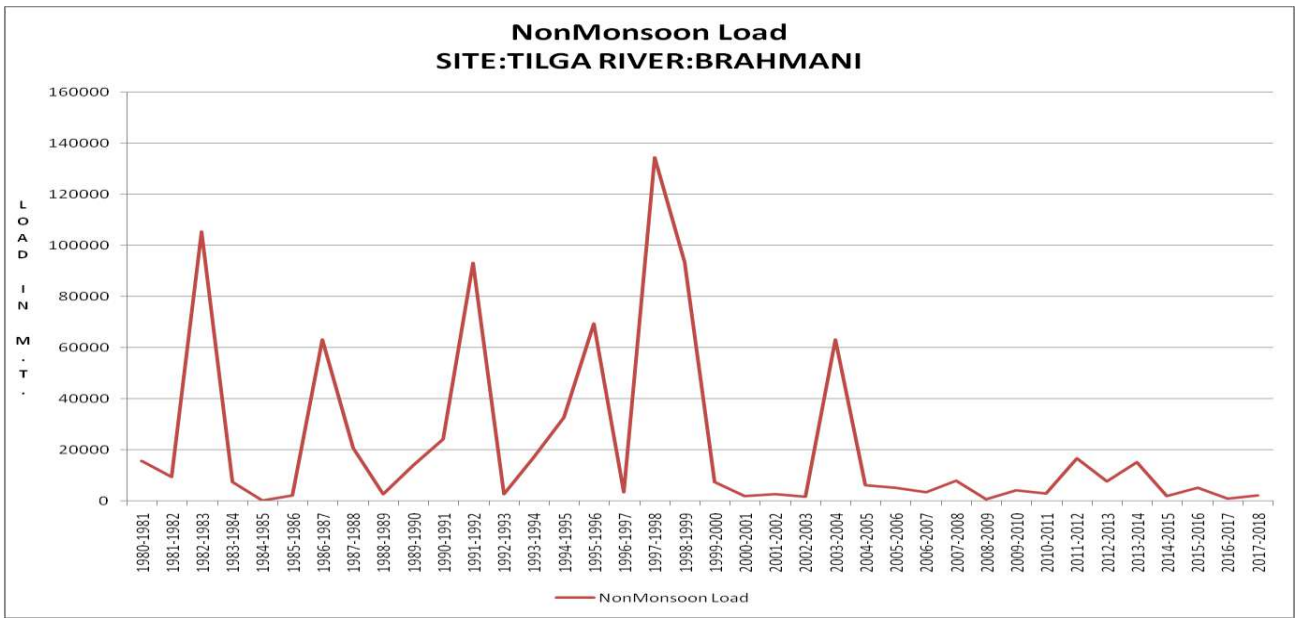

TOTAL ANNUAL DISCHARGE
SITE:TILGA RIVER:BRAHMANI
DISCHARGE IN CUMECS
45000.000
40000.000
35000.000
30000.000
25000.000
20000.000
15000.000
10000.000
5000.000
0.000
1979-1980
1981-1982
1983-1984
1985-1986
1987-1988
1989-1990
1991-1992
1993-1994
1995-1996
1997-1998
1999-2000
2001-2002
2003-2004
2005-2006
2007-2008
2009-2010
2011-2012
2013-2014
2015-2016
2017-2018
Monsoon
Annual Runoff

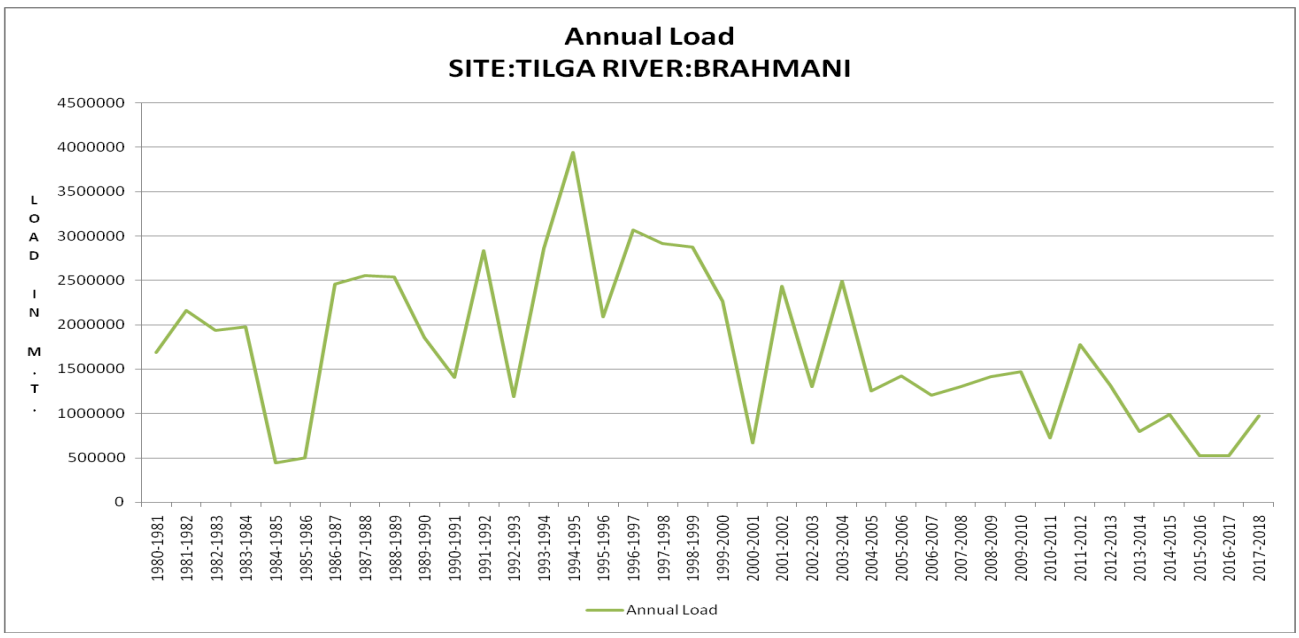

TOTAL ANNUAL DISCHARGE
SITE:TILGA RIVER:BRAHMANI
DISCHARGE IN CUMECS
6000.000
5000.000
4000.000
3000.000
2000.000
1000.000
0.000
1979-1980
1981-1982
1983-1984
1985-1986
1987-1988
1989-1990
1991-1992
1993-1994
1995-1996
1997-1998
1999-2000
2001-2002
2003-2004
2005-2006
2007-2008
2009-2010
2011-2012
2013-2014
2015-2016
2017-2018
Non-Monsoon

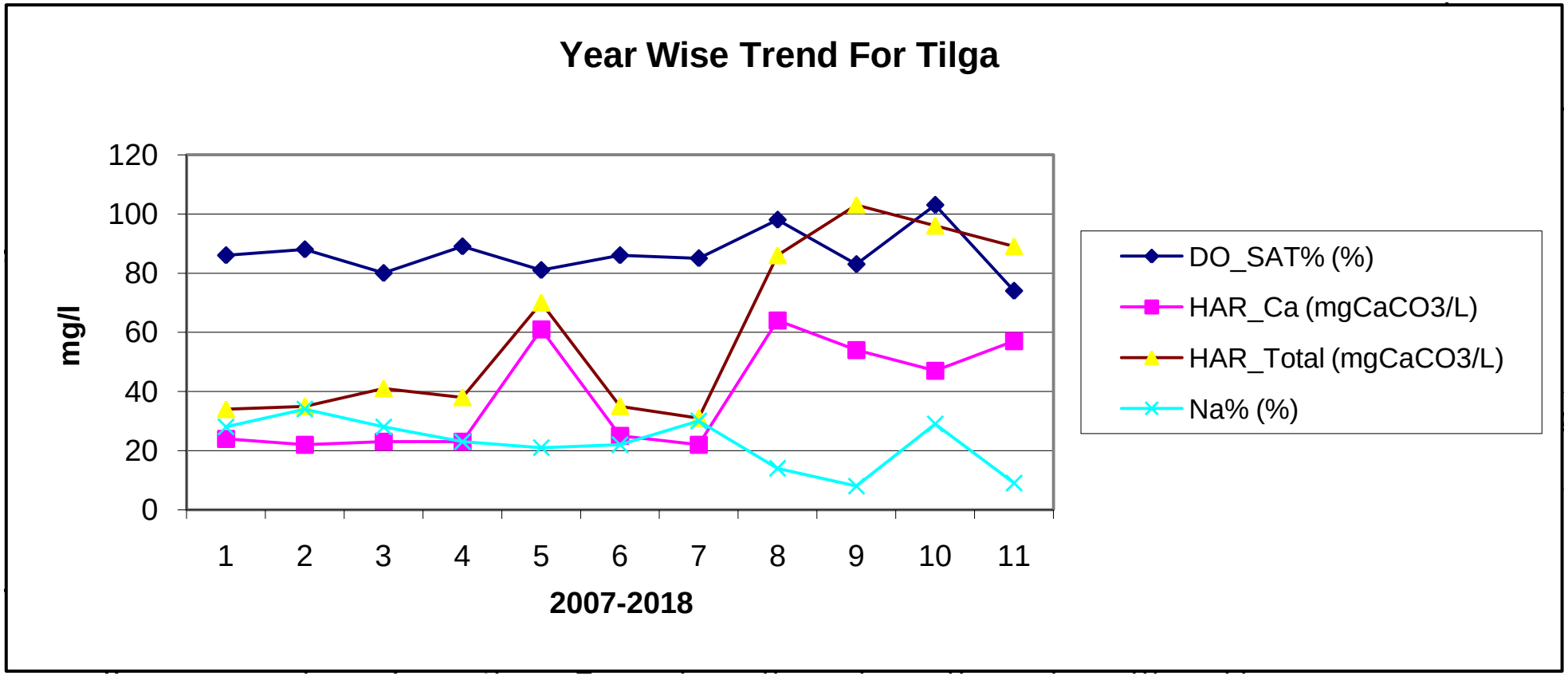

DEPENDIBILITY FLOW FROM JUNE TO MAY
SITE:TILGA RIVER:BRAHMANI
DISCHARGE IN CUMECS
300.000
250.000
200.000
150.000
100.000
50.000
0.000
June
July
August
September
October
November
December
January
February
March
April
May
75% Dep
50% Dep
25% Dep

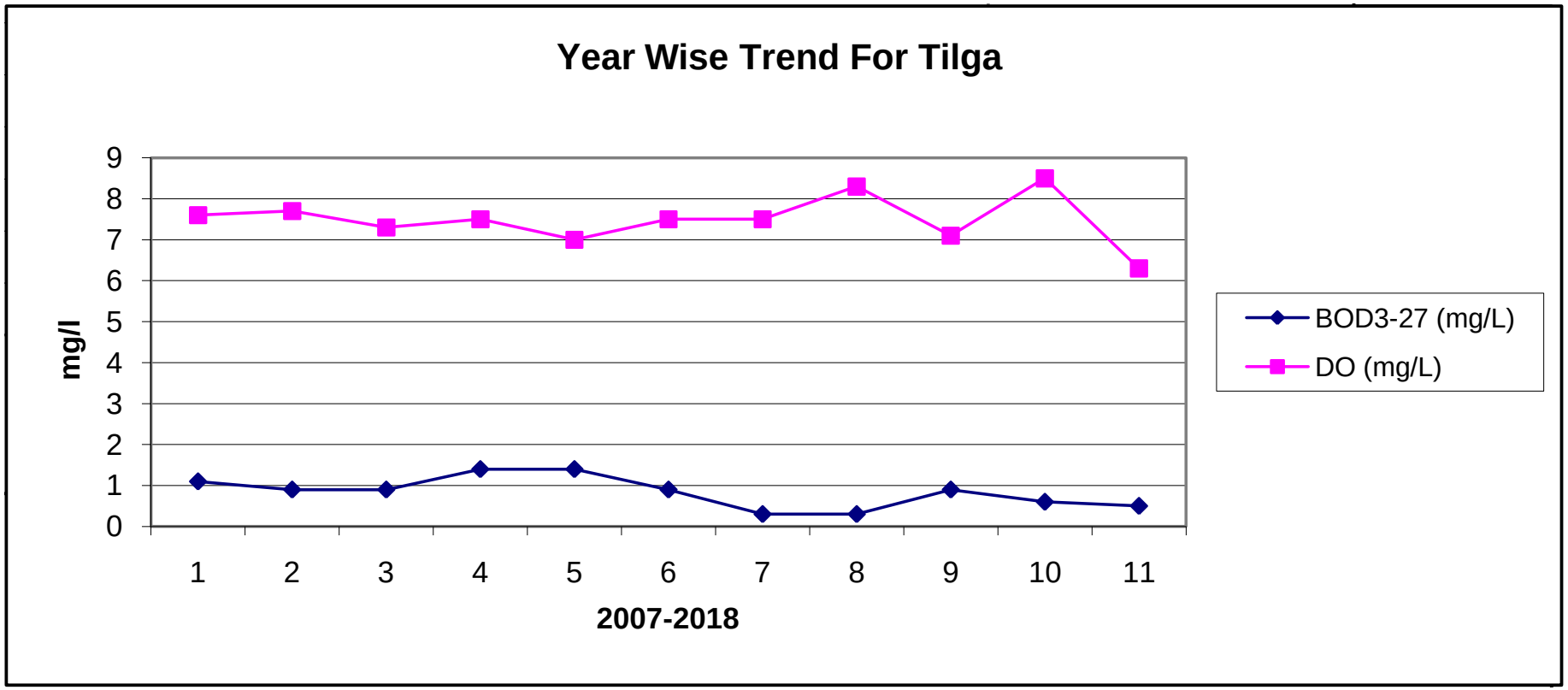

MAXIMUM-MINIMUM DISCHARGE FROM JUNE TO MAY
SITE:TILGA RIVER:BRAHMANI
DISCHARGE IN CUMECS
500.000
450.000
400.000
350.000
300.000
250.000
200.000
150.000
100.000
50.000
0.000
June
July
August
September
October
November
December
January
February
March
April
May
Maximum
Minimum

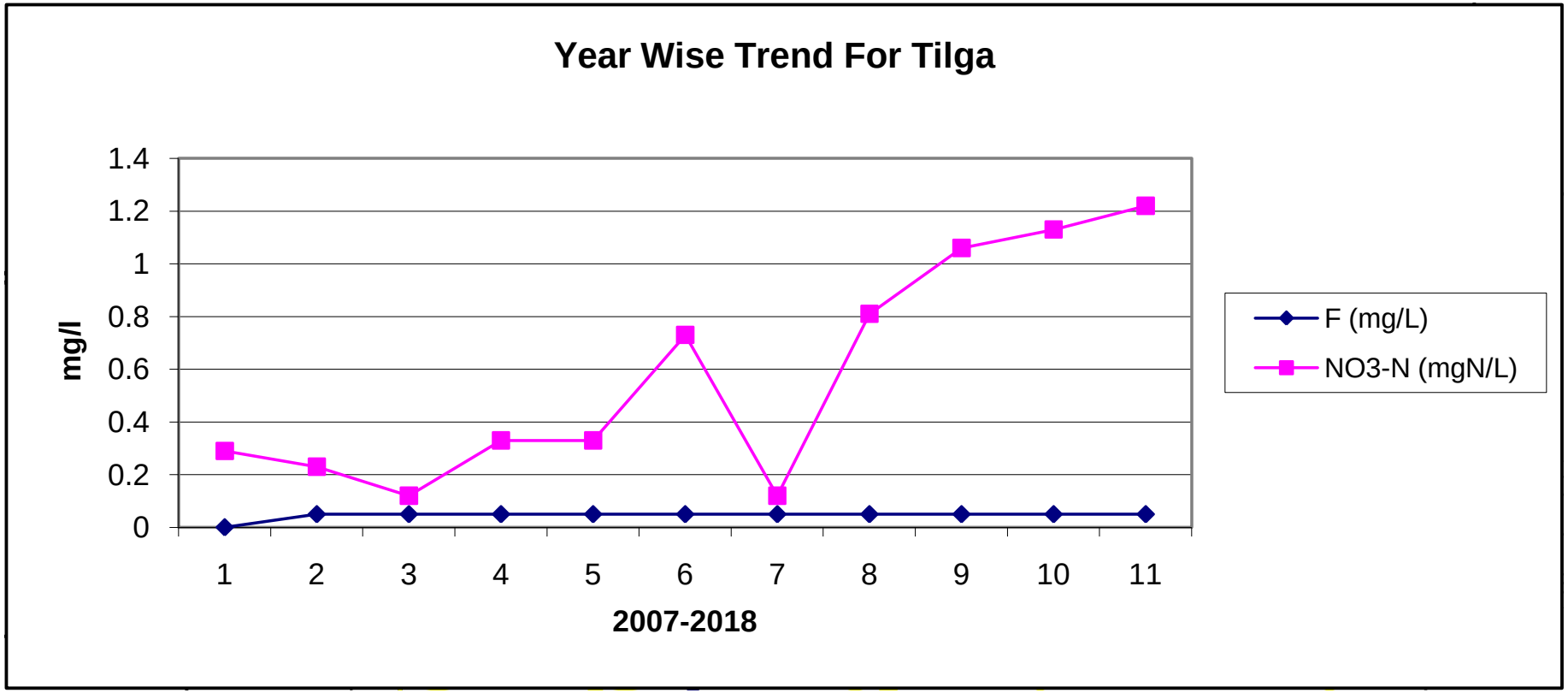

Monsoon Load
SITE:TILGA RIVER:BRAHMANI
LOAD IN M.T.
4500000
4000000
3500000
3000000
2500000
2000000
1500000
1000000
500000
0
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
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

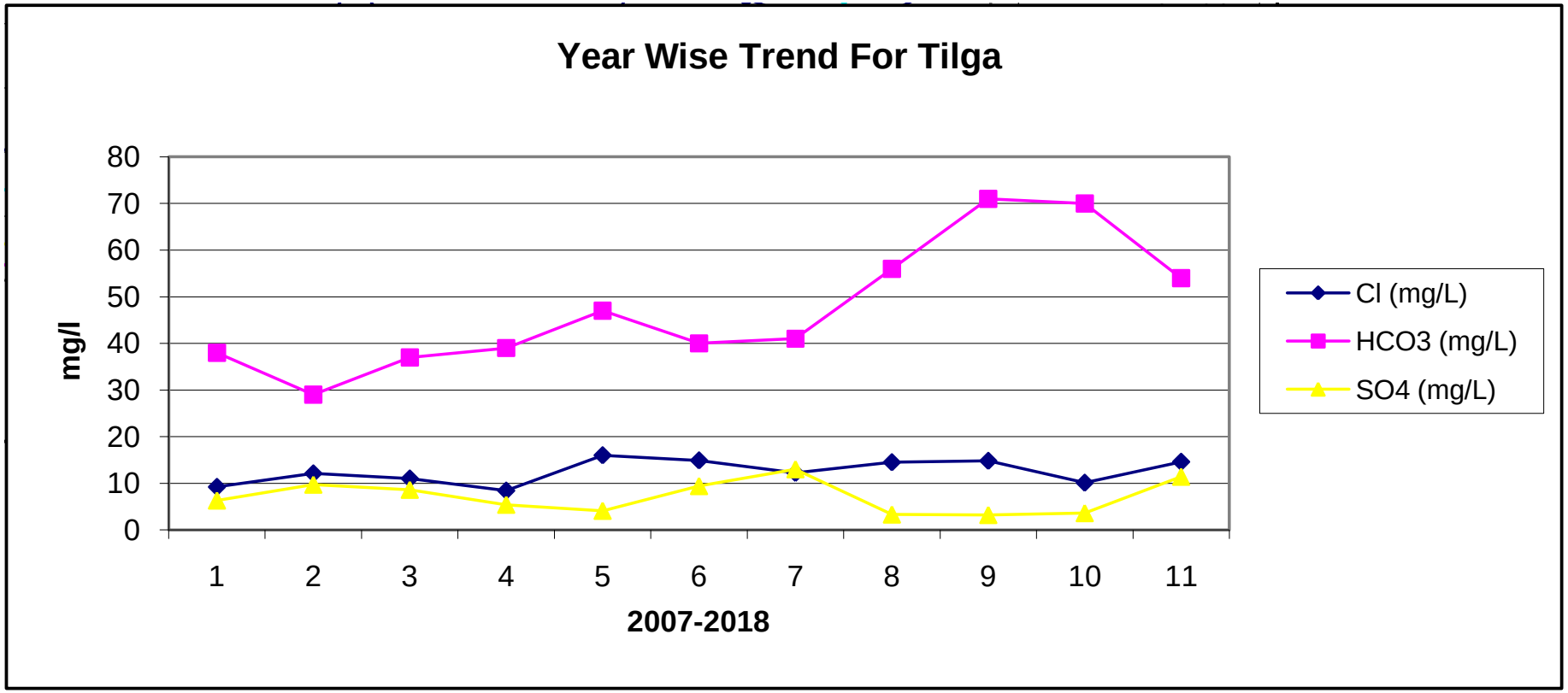

NonMonsoon Load
SITE:TILGA RIVER:BRAHMANI
LOAD IN M.T.
160000
140000
120000
100000
80000
60000
40000
20000
0
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
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

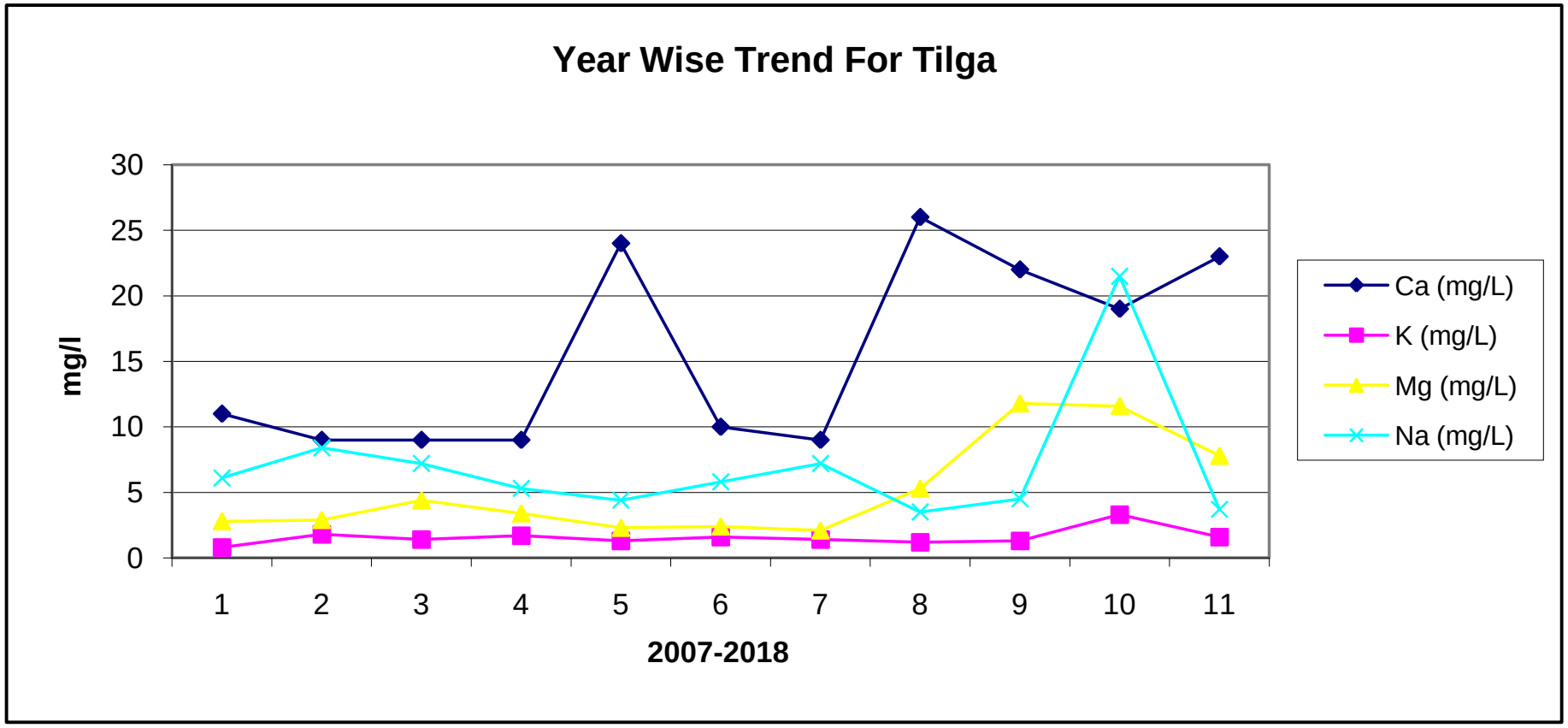

Annual Load
SITE:TILGA RIVER:BRAHMANI
LOAD IN M.T.
4500000
4000000
3500000
3000000
2500000
2000000
1500000
1000000
500000
0
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
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


Year Wise Trend For Tilga
120
100
80
60
40
20
0
mg/l
1
2
3
4
5
6
7
8
9
10
11
2007-2018
DO_SAT% (%)
HAR_Ca (mgCaCO3/L)
HAR_Total (mgCaCO3/L)
Na% (%)


Year Wise Trend For Tilga
mg/l
9
8
7
6
5
4
3
2
1
0
1
2
3
4
5
6
7
8
9
10
11
2007-2018
BOD3-27 (mg/L)
DO (mg/L)


Year Wise Trend For Tilga
1.4
1.2
1
0.8
0.6
0.4
0.2
0
mg/l
1
2
3
4
5
6
7
8
9
10
11
2007-2018
F (mg/L)
NO3-N (mgN/L)


Year Wise Trend For Tilga
mg/l
80
70
60
50
40
30
20
10
0
1
2
3
4
5
6
7
8
9
10
11
2007-2018
Cl (mg/L)
HCO3 (mg/L)
SO4 (mg/L)


Year Wise Trend For Tilga
mg/l
30
25
20
15
10
5
0
1
2
3
4
5
6
7
8
9
10
11
2007-2018
Ca (mg/L)
K (mg/L)
Mg (mg/L)
Na (mg/L)

HISTORY SHEET

Water Year : 2017-2018

Site	**: JARAIKELA**		**Code**	**: EBJ00D5**	
State	: Orissa		District	Sundergarh	
Basin	: Brahmani-Baitarani		Independent River	: Brahmani	
Tributary	: Koel		Sub Tributary	:	
Sub-Sub Tributary	:		Local River	: Koel	
Division	: E.E., Bhubaneswar		Sub-Division	: Rourkela	
Drainage Area	: 9160 Sq. Km.		Bank	: Left	
Latitude	: 22°19'08"		Longitude	: 85°06'19"	
Zero of Gauge (m)	: 182 (m.s.l) 185 (m.s.l)		7/1/1971 3/21/1975	- 3/20/1975 - 12/31/2025	
	Opening Date		Closing Date		
Gauge	: 7/23/1971				
Discharge	: 8/1/1972				
Sediment	: 6/1/1975		9/4/2002		
Water Quality	: 9/1/1975				

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	2436	192.185	9/26/1973	1.300	186.265	5/11/1974
1974-1975	3557	192.540	8/17/1974	1.000	186.055	4/26/1975
1975-1976	4130	192.405	7/18/1975	1.300	186.035	6/18/1975
1976-1977	8062	193.950	9/18/1976	1.711	185.865	4/5/1977
1977-1978	10730	193.900	8/6/1977	1.330	186.320	5/25/1978
1978-1979	5697	193.090	9/3/1978	0.730	186.230	5/30/1979
1979-1980	816.3	189.658	8/9/1979	0.410	186.260	5/10/1980
1980-1981	1372	190.135	7/11/1980	1.180	186.430	4/2/1981
1981-1982	1089	190.105	9/7/1981	0.970	186.645	5/13/1982
1982-1983	2251	191.370	8/21/1982	1.145	186.445	4/17/1983
1983-1984	1351	190.485	9/19/1983	0.604	186.615	5/30/1984
1984-1985	2611	191.810	8/27/1984	1.090	186.250	5/7/1985
1985-1986	2663	191.855	10/17/1985	2.260	186.665	4/21/1986
1986-1987	1818	190.900	7/28/1986	1.541	186.510	5/28/1987
1987-1988	3465	191.750	8/28/1987	1.000	186.265	5/29/1988
1988-1989	6422	192.975	6/28/1988	0.483	186.255	5/16/1989
1989-1990	1666	191.670	6/22/1989	2.656	186.395	6/5/1989
1990-1991	2293	191.365	7/15/1990	2.562	186.675	5/21/1991
1991-1992	2153	191.670	8/13/1991	2.200	186.465	5/24/1992
1992-1993	744.1	189.905	8/30/1992	1.318	186.445	5/18/1993
1993-1994	2202	191.770	7/13/1993	1.113	186.550	5/12/1994

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	5007	192.915	8/3/1994	2.437	186.520	4/28/1995
1995-1996	4233	193.120	9/18/1995	1.538	186.465	5/19/1996
1996-1997	4903	192.965	7/26/1996	1.824	186.405	5/31/1997
1997-1998	12539	194.010	8/6/1997	0.884	186.365	6/12/1997
1998-1999	3252	192.205	9/11/1998	1.690	186.260	5/3/1999
1999-2000	1900	191.750	10/19/1999	2.337	186.380	4/25/2000
2000-2001	3872	193.010	7/25/2000	1.863	186.320	5/5/2001
2001-2002	4288	192.455	7/21/2001	1.764	186.295	5/14/2002
2002-2003	1139	190.400	6/24/2002	1.363	186.405	5/29/2003
2003-2004	2600	192.100	10/25/2003	0.895	186.355	6/8/2003
2004-2005	4063	193.060	8/21/2004	1.431	186.380	5/28/2005
2005-2006	1262	190.415	6/30/2005	0.990	186.280	6/22/2005
2006-2007	2658	191.190	7/30/2006	2.755	186.540	5/31/2007
2007-2008	4603	193.330	8/20/2007	1.682	186.490	6/8/2007
2008-2009	1240	190.625	7/8/2008	1.710	186.545	5/6/2009
2009-2010	2366	192.025	9/8/2009	0.957	186.230	4/28/2010
2010-2011	571.1	189.475	9/16/2010	0.770	186.440	4/4/2011
2011-2012	4032	193.085	6/20/2011	1.821	186.345	5/31/2012
2012-2013	878.7	190.200	8/17/2012	1.025	186.300	6/14/2012
2013-2014	1548	191.960	10/3/2013	0.000	188.715	8/20/2013
2014-2015	957.0	190.570	8/10/2014	0.000	190.020	7/21/2014
2015-2016	461.3	188.780	7/26/2015	0.000	189.920	7/24/2015
2016-2017	722.1	192.350	8/19/2016	0.173	186.225	5/10/2017
2017-2018	1699	190.600	8/5/2017	0.000	189.480	7/29/2017

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

Stage-Discharge Data for the period 2017 - 2018

Station Name : JARAIKELA (EBJ00D5) **Division : E.E., Bhubaneswar**

Local River : Koel **Sub-Division : Rourkela**

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	186.810	6.130	187.340	57.94	189.540	312.9	188.135	130.2	188.430	142.8 *	186.990	40.07
2	186.760	5.146	187.980		189.015	226.1	188.150	125.7 *	189.100	403.7 *	186.970	35.62
3	186.730	3.358	188.650	323.5	189.725	756.8	188.170	125.8 *	189.010	232.6	186.950	43.26
4	186.720	3.559 *	188.330	224.3	189.260	469.4	188.190	137.1	188.740	182.5	186.940	42.85 *
5	186.685	3.556	187.975	137.7	190.600	1699	187.930	118.8	188.290	125.0	186.930	41.91 *
6	186.660	2.121	187.810	102.4	190.360	932.3 *	187.700	62.56	188.100	107.4	186.900	38.32
7	186.750	3.364	187.540	62.46	190.350	1110	187.645	55.44	187.935	78.71	186.900	33.90
8	186.760	3.625	187.380	64.29	189.740	808.7	187.920	77.15	187.850	130.1 *	186.870	40.68
9	186.720	3.825	187.490		189.825	805.7	187.905	79.84	187.900	87.00	186.860	38.61
10	187.100	18.41	187.530	78.03	189.030	535.4	187.950	87.64 *	188.490	135.8	186.860	36.95
11	186.920	9.890 *	187.370	53.14	188.780	441.4	187.945	86.79	188.035	99.43	186.850	35.33
12	186.830	5.718	187.340	49.81	188.320	318.6	188.375	255.3	187.790	61.81	186.840	34.22 *
13	186.790	5.217	188.130	212.1	188.980	566.4 *	188.240	204.6	187.670	107.4	186.820	32.85
14	186.760	4.402	188.340	269.3	189.600	799.2	188.070	174.9	187.590	93.24	186.800	30.36
15	186.810	6.451	188.450	310.9	189.190	610.7 *	187.950	105.1	187.590	93.21 *	186.800	26.15
16	186.790	5.394	188.970		189.700	799.0	187.960	110.0	187.470	78.57	186.810	27.52
17	186.750	5.274	188.265	235.2	189.450	692.1	188.200	160.2 *	187.395	84.52	186.810	25.21
18	187.650	37.71 *	187.840	89.49	189.460	352.7	187.920	102.2	187.340	73.22	186.810	25.74
19	187.210	21.85	187.660	118.8	189.740	463.3	189.415	574.6	187.260	70.20 *	186.820	28.25 *
20	187.000	13.88	187.355	82.64	189.230	543.2 *	189.120	379.9	187.245	74.71	186.850	41.01
21	187.340	39.95	188.190	232.5	188.790	162.8	188.835	143.4	187.450	85.73	186.860	44.92
22	187.940	56.30	188.275	176.8	188.415	120.2	188.570	226.0	187.580	129.9 *	186.850	39.74
23	187.740	88.31	190.840		188.220	209.5	188.550	288.3	187.480	95.91	186.820	35.93
24	187.470	76.53	192.075	1543	188.480	343.1	188.290	184.6 *	187.400	92.26	186.800	33.47
25	187.380	83.97 *	190.215	803.7	189.165	655.6	187.960	136.5	187.400	93.66	186.780	31.19
26	187.390	83.97 *	190.150	844.9	189.260	655.8	187.780	122.5	187.340	82.22	186.760	31.18 *
27	187.465	84.53	193.120	0.000	188.890	441.9 *	187.760	119.1	187.260	71.88	186.750	31.18
28	187.340	58.98	191.050	1635	188.310	268.0	187.655	99.77	187.200	57.27	186.740	23.97
29	187.220	40.17	189.480	0.000	188.155	176.6	187.770	125.1 *	187.110	53.97 *	186.720	22.20
30	187.245	48.06	188.800		188.590	282.7	188.500	173.6 *	187.060	52.16	186.700	20.38
31			188.840	390.5	188.290	179.0			187.020	44.60		
Ten-Daily Mean												
I Ten-Daily	186.770	5.309	187.803	131.3	189.744	765.6	187.969	100.0	188.384	162.5	186.917	39.22
II Ten-Daily	186.951	11.58	187.972	157.9	189.245	558.7	188.320	215.4	187.538	83.63	186.821	30.66
III Ten-Daily	187.453	66.08	190.094	625.1	188.597	317.7	188.167	161.9	187.300	78.14	186.778	31.42
Monthly												
Min.	186.660	2.121	187.340	0.000	188.155	120.2	187.645	55.44	187.020	44.60	186.700	20.38
Max.	187.940	88.31	193.120	1635	190.600	1699	189.415	574.6	189.100	403.7	186.990	44.92
Mean	187.058	27.66	188.670	311.5	189.176	539.9	188.152	159.1	187.727	107.1	186.839	33.77

Annual Runoff in MCM = 3125 Annual Runoff in mm = 341

Peak Observed Discharge = 1699 cumecs on 05-Aug-17 Corres. Water Level :190.6 m

Lowest Observed Discharge = 0.000 cumecs on 27-Jul-17 Corres. Water Level :193.12 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-Discharge Data for the period 2017 - 2018

Station Name : JARAIKELA (EBJ00D5) **Division : E.E., Bhubaneswar**

Local River : Koel **Sub-Division : Rourkela**

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	186.680	19.15	186.560	8.453	186.530	7.878	186.500	4.429	186.490	1.900 *	186.500	2.291
2	186.670	18.52 *	186.560	7.774	186.530	7.538	186.500	4.430 *	186.490	1.902	186.490	2.247
3	186.660	17.84 *	186.600	11.30	186.530	6.638	186.500	4.359	186.480	1.752	186.480	2.223
4	186.660	17.89	186.600	10.76	186.530	6.650 *	186.490	4.220 *	186.480	1.699	186.510	2.345
5	186.660	16.58	186.600	10.42	186.520	6.907	186.490	4.220	186.540	2.198	186.500	2.172
6	186.650	16.23	186.600	10.03	186.520	6.899	186.490	3.930	186.580	2.514	186.570	3.534 *
7	186.640	14.42	186.600	10.02 *	186.520	6.792	186.580	4.069	186.540	2.266	186.650	5.088
8	186.630	14.71	186.590	10.10	186.520	6.357	186.720	6.713	186.530	2.180 *	186.740	7.249
9	186.630	13.80	186.580	10.73	186.520	6.001	186.740	3.062	186.610	2.847	186.690	6.359
10	186.620	13.38 *	186.580	10.28	186.520	6.013	186.670	2.777	186.795	7.801	186.640	4.422
11	186.620	13.33	186.580	10.07	186.510	5.780 *	186.660	2.760 *	186.760	8.634	186.630	4.454
12	186.650	17.35	186.570	9.768	186.510	5.524	186.640	2.718	186.760	8.165	186.620	3.303
13	186.640	16.37	186.570	9.406	186.510	5.476	186.660	3.166	186.690	9.733	186.620	3.310 *
14	186.640	16.43	186.570	9.400 *	186.510	5.377	186.610	2.660	186.690	9.720 *	186.640	3.264
15	186.630	14.22	186.560	9.490	186.510	5.113	186.600	2.642	186.610	5.110 *	186.600	2.584
16	186.620	14.45	186.560	9.322	186.520	5.514	186.610	3.098	186.590	3.964	186.580	2.139
17	186.620	14.46 *	186.560	9.054	186.520	5.291	186.620	3.208	186.580	3.608	186.590	2.697
18	186.610	13.84	186.550	8.749	186.520	5.310 *	186.610	3.080 *	186.590	4.183	186.600	2.801
19	186.630	16.79	186.550	7.748	186.520	5.902	186.580	2.721	186.580	4.469	186.630	3.670
20	186.630	16.82	186.550	7.742	186.520	5.829	186.570	2.471	186.540	4.024	186.630	3.670 *
21	186.620	15.33	186.550	7.750 *	186.540	6.095	186.570	2.310	186.610	3.586	186.650	3.761
22	186.620		186.550	8.645	186.540	5.925	186.570	2.404	186.600	3.460 *	186.780	6.423
23	186.600	10.87	186.550	8.919	186.530	5.231	186.550	2.396	186.590	3.345	186.820	8.188
24	186.600	10.86 *	186.540	8.485	186.530	5.159	186.550	2.330	186.540	3.081	186.630	5.368
25	186.590	10.04 *	186.540	8.175	186.520	5.110 *	186.540	2.200 *	186.530	2.917	186.580	4.392
26	186.590	10.04	186.540	8.160 *	186.510	5.227	186.540	2.204	186.530	2.793	186.540	3.236
27	186.590	9.960	186.540	7.918	186.510	5.176	186.520	2.061	186.500	2.327	186.520	2.600 *
28	186.580	9.592	186.540	7.900 *	186.510	5.043	186.520	1.983	186.490	2.234	186.520	2.598
29	186.570	9.150	186.540	7.758			186.510	1.940 *	186.530	2.890 *	188.070	113.6
30	186.560	8.741	186.530	7.461			186.500	1.900 *	186.510	2.750 *	187.040	49.91
31	186.560	8.711 *	186.530	7.798			186.490	1.864			187.130	52.24
Ten-Daily Mean												
I Ten-Daily	186.650	16.25	186.587	9.987	186.524	6.767	186.568	4.221	186.553	2.706	186.577	3.793
II Ten-Daily	186.629	15.40	186.562	9.075	186.515	5.512	186.616	2.852	186.639	6.161	186.614	3.189
III Ten-Daily	186.589	10.33	186.541	8.088	186.524	5.371	186.533	2.145	186.543	2.938	186.844	22.94
Monthly												
Min.	186.560	8.711	186.530	7.461	186.510	5.043	186.490	1.864	186.480	1.699	186.480	2.139
Max.	186.680	19.15	186.600	11.30	186.540	7.878	186.740	6.713	186.795	9.733	188.070	113.6
Mean	186.622	14	186.563	9.019	186.521	5.92	186.571	3.043	186.579	3.935	186.684	10.39

Peak Computed Discharge = 932.3 cumecs on 06-Aug-17 Corres. Water Level :190.36 m

Lowest Computed Discharge = 1.900 cumecs on 30-Mar-18 Corres. Water Level :186.5 m

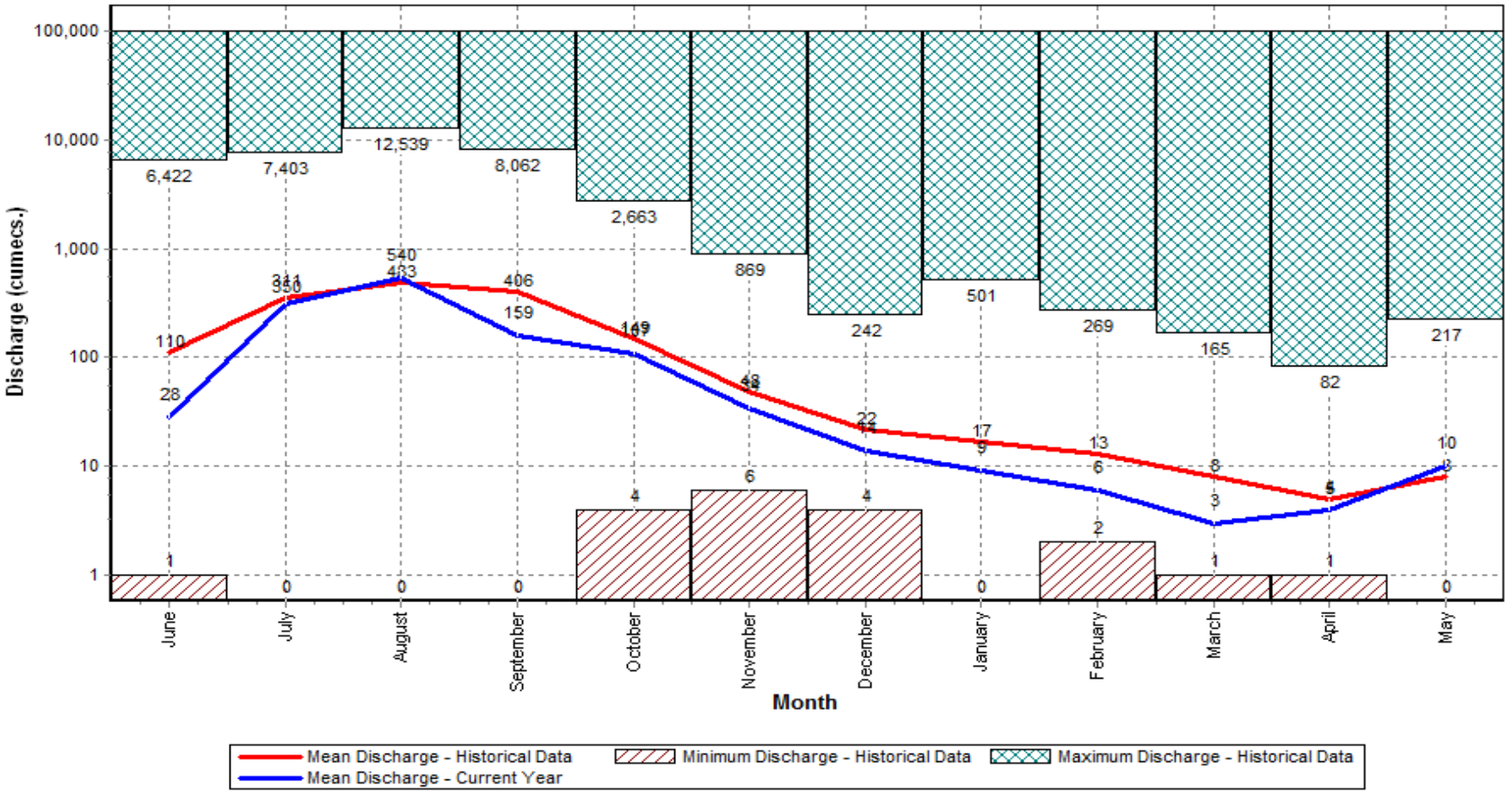
Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2017-2018

Station Name : JARAIKELA (EBJ00D5) **Data considered : 1973-2018** **Division : E.E., Bhubaneswar**

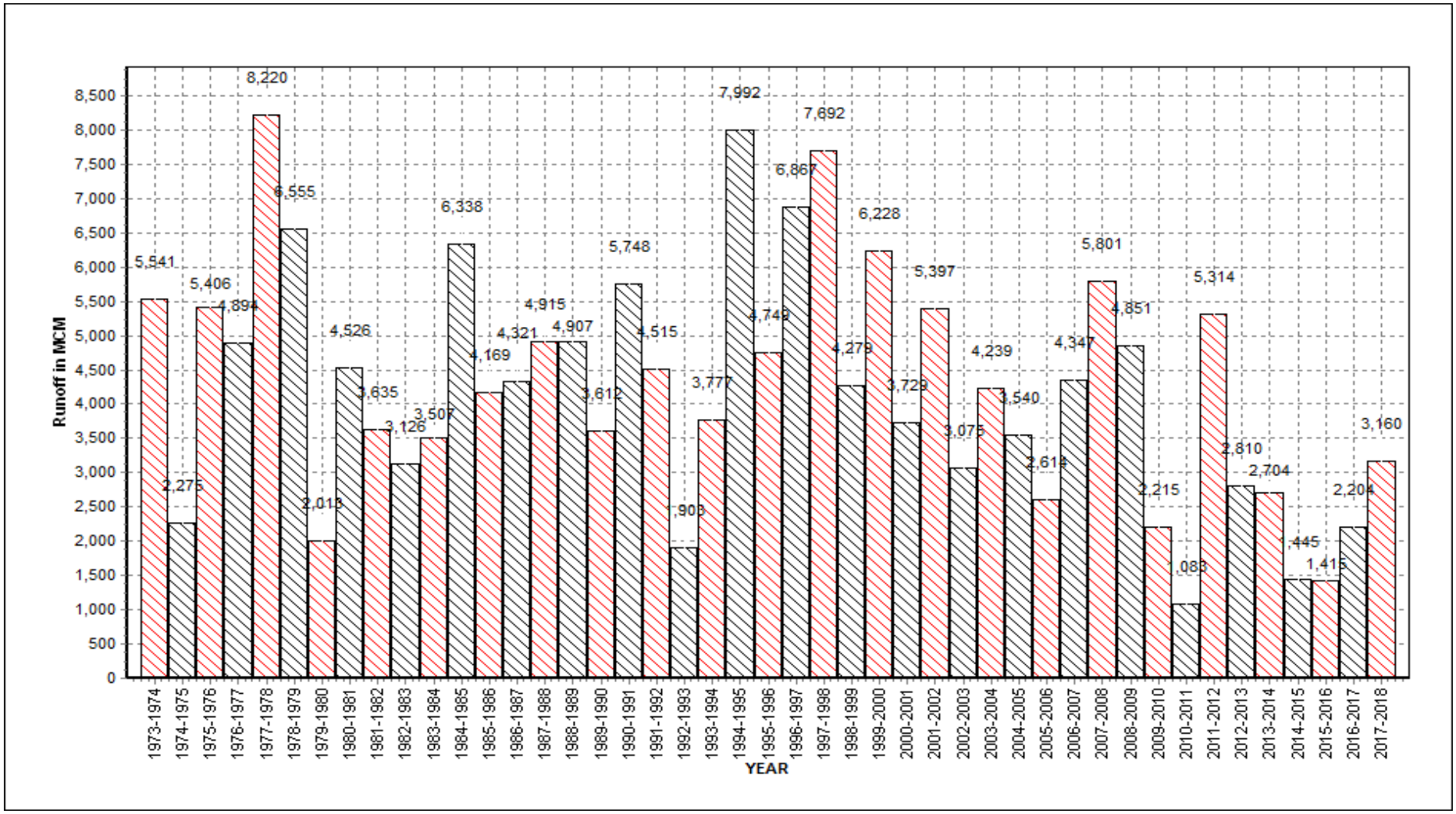
Local River : Koel **Sub-Division : Rourkela**



Annual Runoff Values for the period: 1973 - 2018

Station Name : JARAIKELA (EBJ00D5) **Division : E.E., Bhubaneswar**

Local River : Koel **Sub-Division : Rourkela**

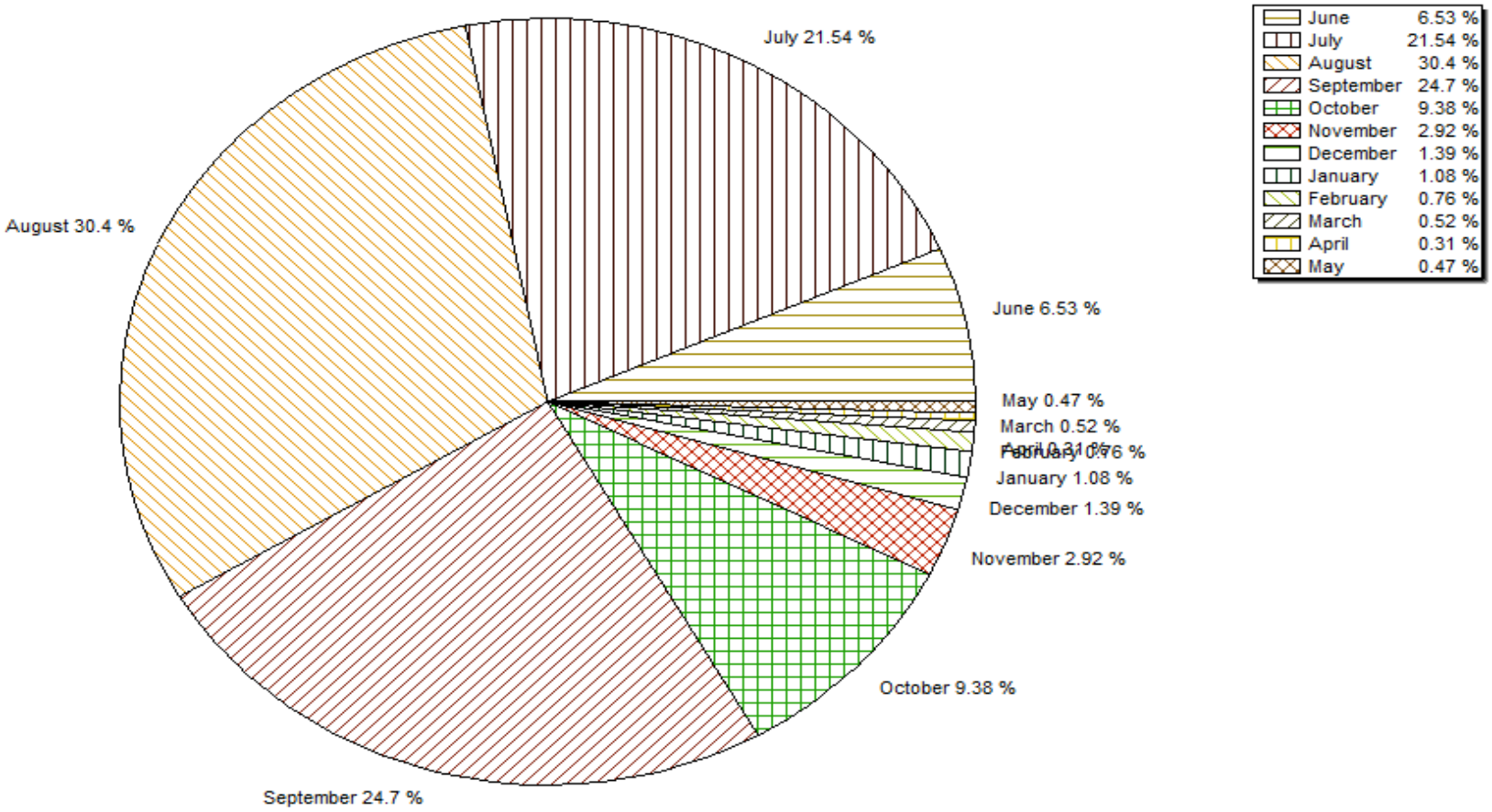


Note: Missing values have not been considered while arriving at Annual Runoff

Monthly Average Runoff based on period : 1973-2017

Station Name : JARAIKELA (EBJ00D5) **Division : E.E., Bhubaneswar**

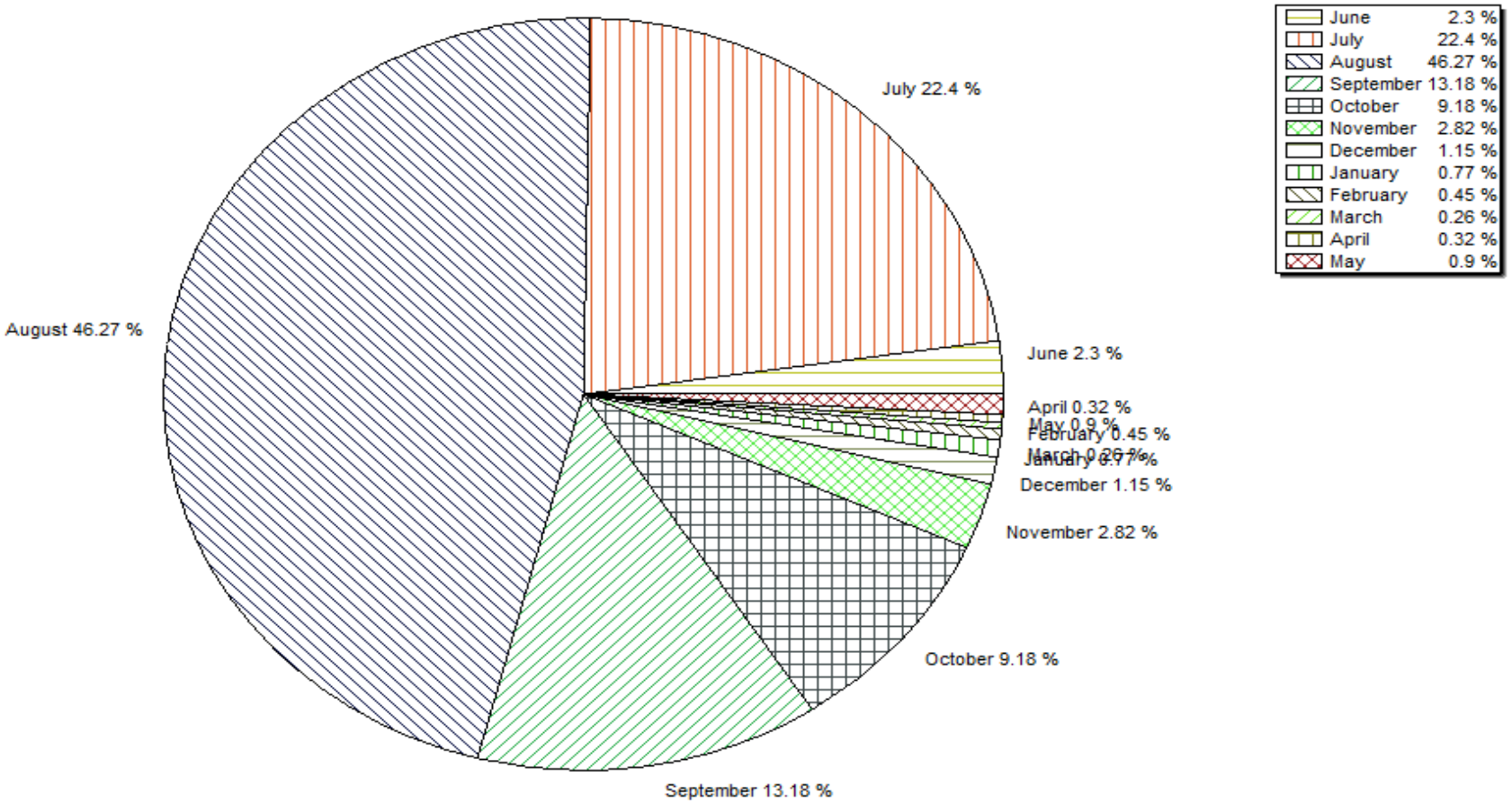
Local River : Koel **Sub-Division : Rourkela**



Monthly Runoff for the Year : 2017-2018

Station Name : JARAIKELA (EBJ00D5) **Division : E.E., Bhubaneswar**

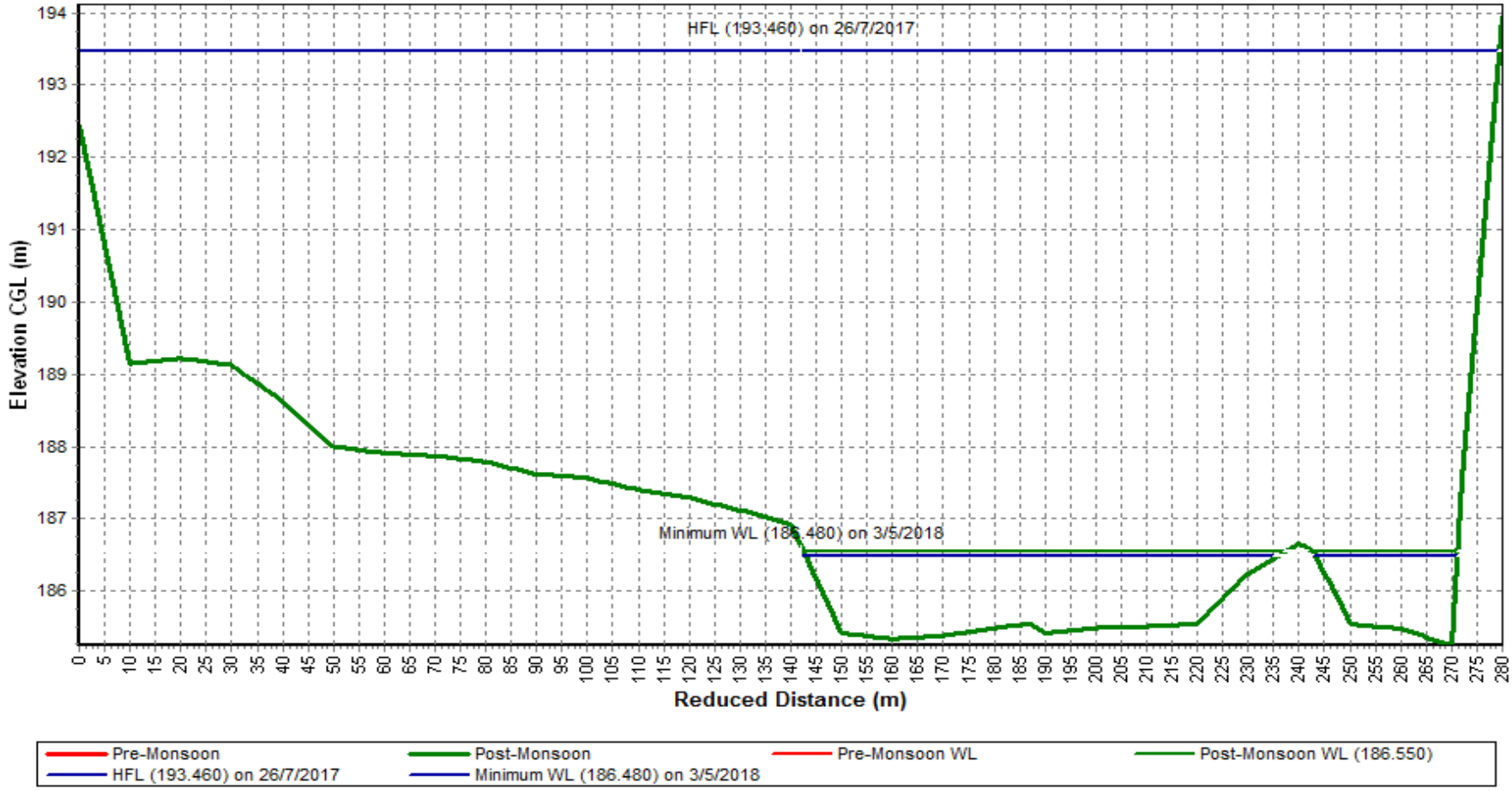
Local River : Koel **Sub-Division : Rourkela**



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

Station Name : JARAIKELA (EBJ00D5) **Division : E.E., Bhubaneswar**

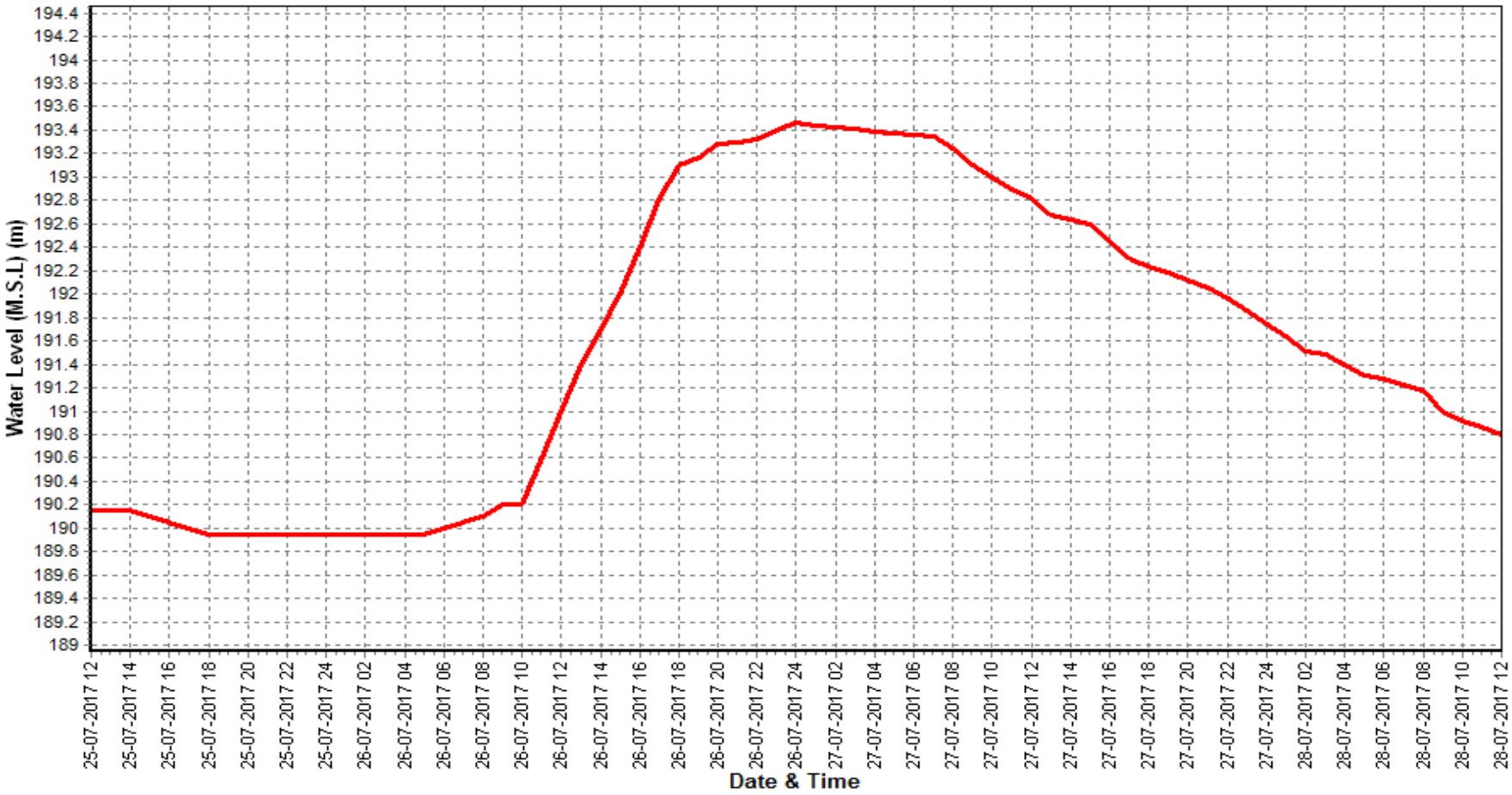
Local River : Koel **Sub-Division : Rourkela**



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

Station Name : JARAIKELA (EBJ00D5) **Division : E.E., Bhubaneswar**

Local River : Koel **Sub-Division : Rourkela**

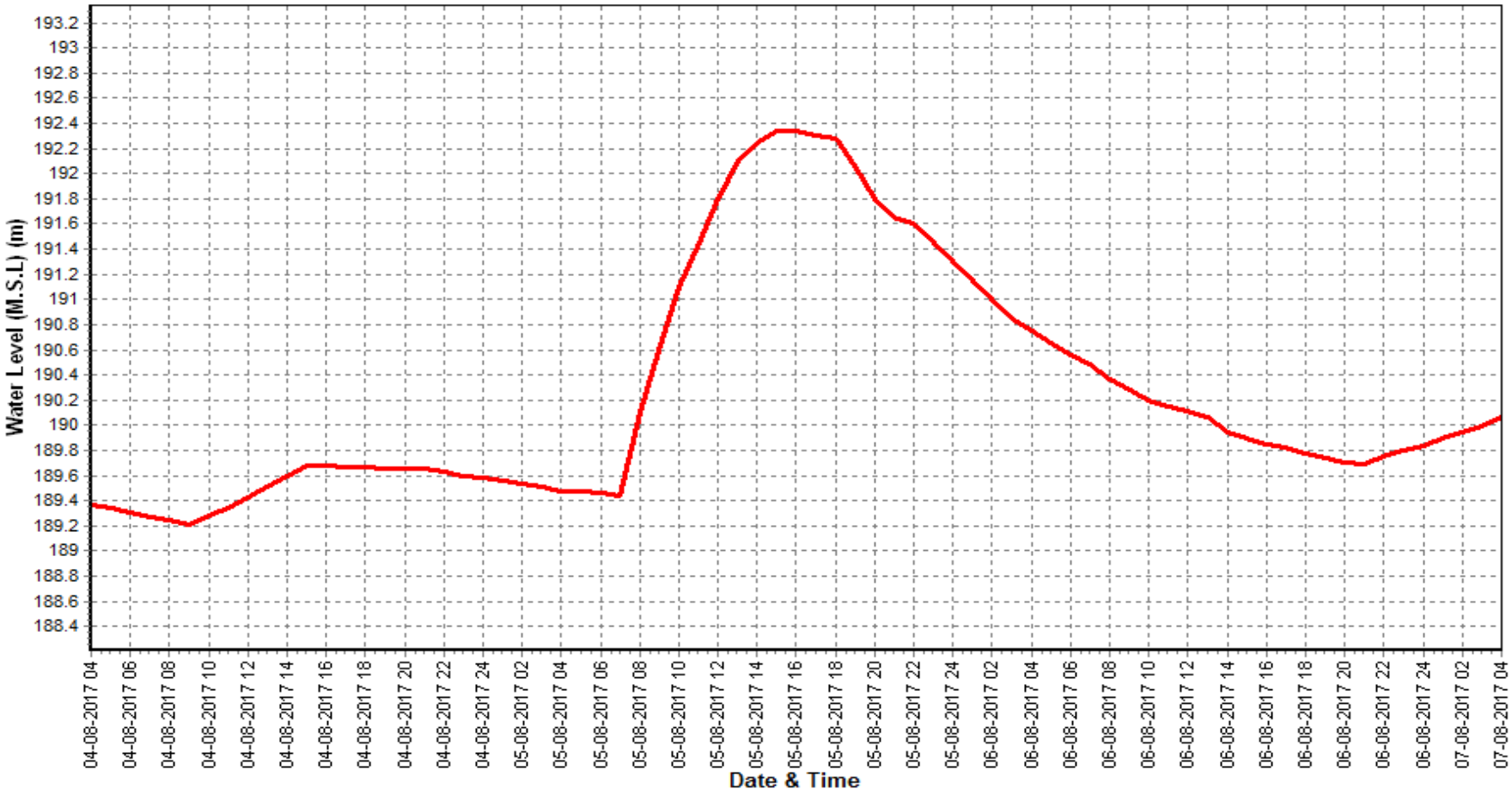


Time Span: 72 Hrs

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

Station Name : JARAIKELA (EBJ00D5) **Division : E.E., Bhubaneswar**

Local River : Koel **Sub-Division : Rourkela**

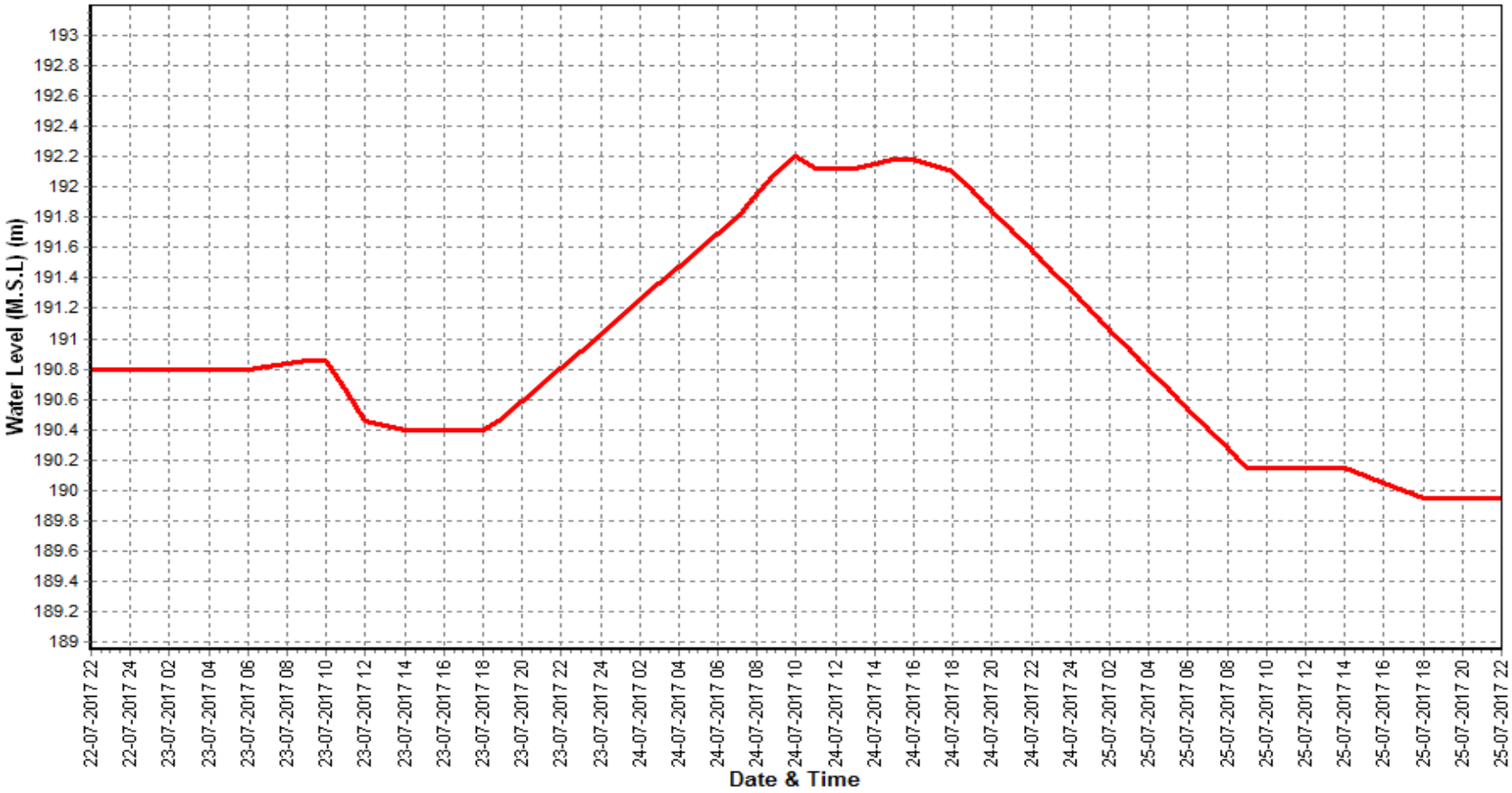


Time Span: 72 Hrs

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

Station Name : JARAIKELA (EBJ00D5) **Division : E.E., Bhubaneswar**

Local River : Koel **Sub-Division : Rourkela**



Time Span: 72 Hrs

Annual Sediment Load for period : 1987-2003

Station Name : JARAIKELA (EBJ00D5) **Division : E.E., Bhubaneswar**

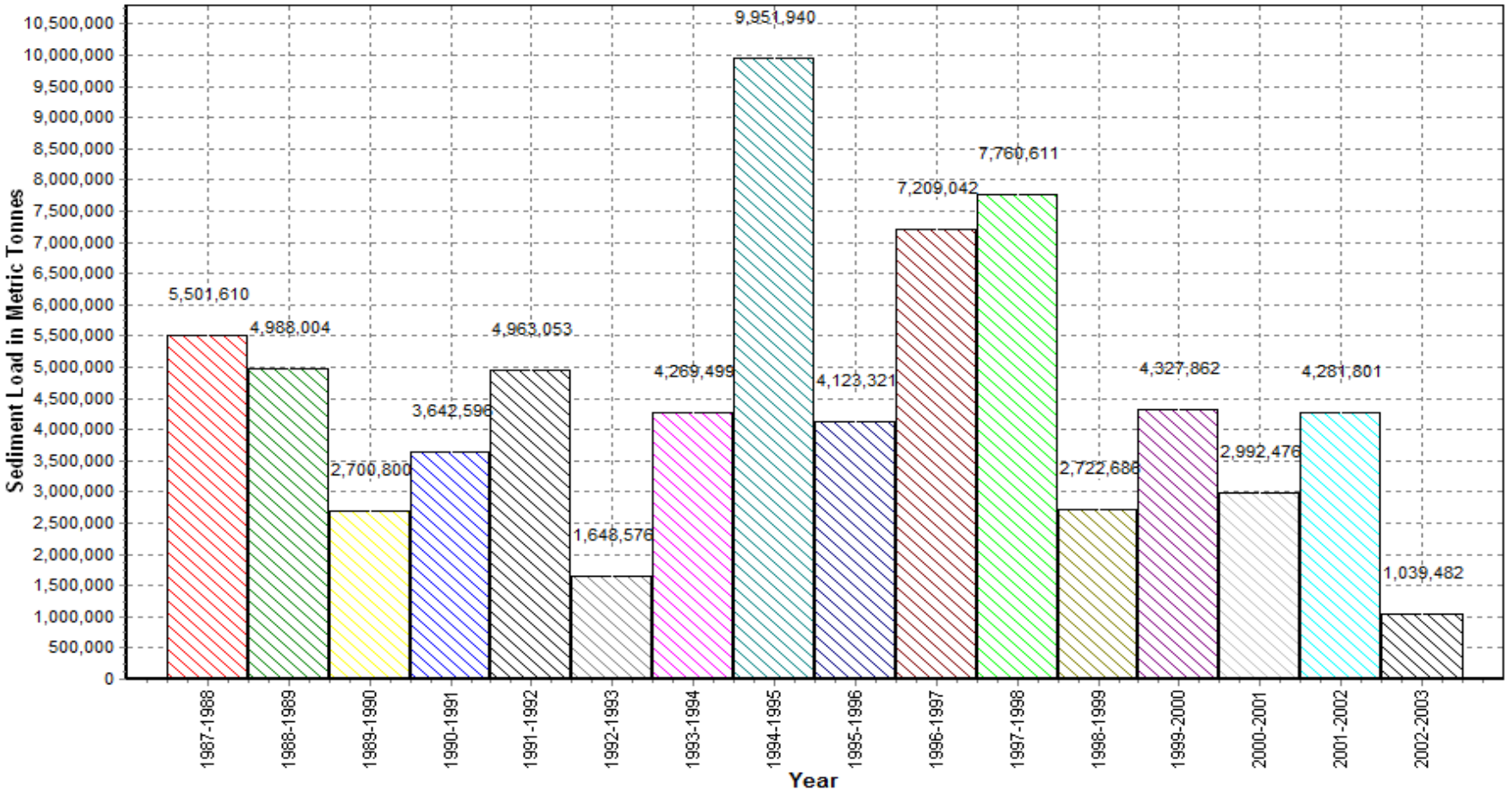
Local River : Koel **Sub-Division : Rourkela**

Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)
1987-1988	5497516	4094	5501610	4915
1988-1989	4987577	427	4988004	4907
1989-1990	2603338	97462	2700800	3612
1990-1991	3625398	17198	3642596	5748
1991-1992	4896065	66988	4963053	4515
1992-1993	1644493	4083	1648576	1903
1993-1994	4266917	2583	4269499	3777
1994-1995	9936700	15240	9951940	7992
1995-1996	4118120	5201	4123321	4749
1996-1997	7205966	3076	7209042	6867
1997-1998	7628906	131706	7760611	7692
1998-1999	2695021	27665	2722686	4279
1999-2000	4320733	7129	4327862	6228
2000-2001	2988903	3573	2992476	3729
2001-2002	4279961	1839	4281801	5397
2002-2003	1039482	0	1039482	3075

Annual Sediment Load for the period: 1987-2003

Station Name : JARAIKELA (EBJ00D5) **Division : E.E., Bhubaneswar**

Local River : Koel **Sub-Division : Rourkela**



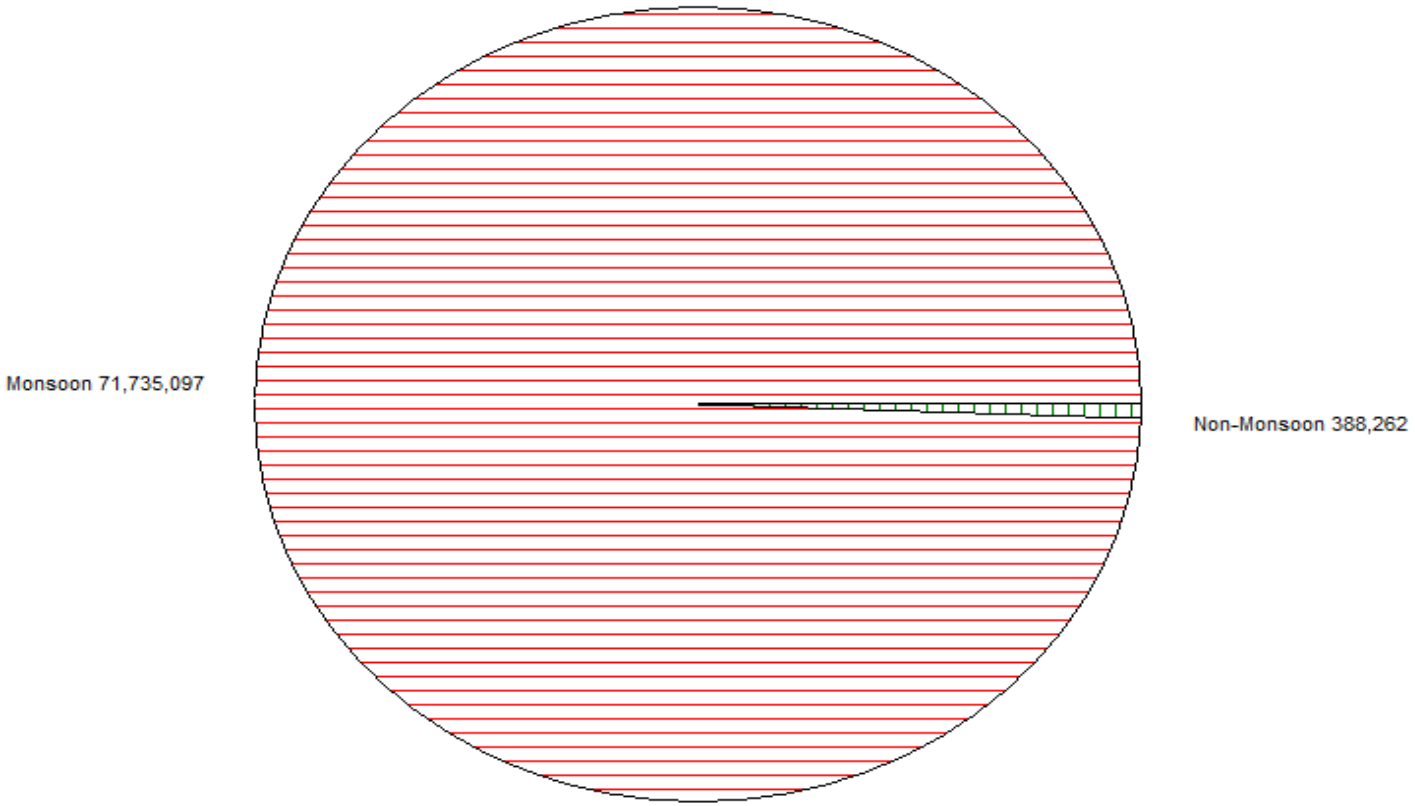
Seasonal Sediment Load for the period : 1987-2017

Station Name : JARAIKELA (EBJ00D5)

Division : E.E., Bhubaneswar

Local River : Koel

Sub-Division : Rourkela



Water Quality Datasheet for the period : 2017-2018

Station Name : JARAIKELA (EBJ00D5) **Division : E.E., Bhubaneswar**

Local River : Koel **River Water Analysis** **Sub-Division : Rourkela**

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
		B	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)												
2	Colour_Cod (-)	Clear	Light Brown	Light Brown	Light Brown	Light Brown	Clear	Clear	Clear	Clear	Clear	Clear	Clear
3	EC_FLD (µmho/cm)	191	110	120	125	191	181	169	189	210	255	260	250
4	EC_GEN (µmho/cm)	185	106	112	116	194	171	163	184	204	248	256	247
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)	7.8	7.8	7.3	7.2	7.9	7.5	7.9	7.7	7.6	8.0	8.0	7.9
7	pH_GEN (pH units)	7.9	7.7	7.2	7.1	8.0	7.5	7.9	7.6	7.7	7.9	7.9	7.8
8	Temp (deg C)	30.0	31.0	28.0	28.0	29.0	25.9	22.0	15.0	18.0	26.2	27.3	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)	102	51	28	55	46	83	74	79	88	97	106	102
3	B (mg/L)	0.01	0.01	0.03	0.01	0.01	0.02	0.01	0.02	0.03	0.02	0.03	0.02
4	Ca (mg/L)	35	20	32	34	14	26	34	35	37	34	25	25
5	Cl (mg/L)	37.7	11.3	7.5	7.5	8.7	10.4	10.4	12.1	10.4	12.1	15.6	13.8
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
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	0.4	0.4	0.5	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.5
9	HCO3 (mg/L)	124	62	34	68	56	101	90	96	107	118	130	124
10	K (mg/L)	5.1	2.4	1.9	2.0	2.6	2.7	2.9	3.0	0.4	0.4	1.0	2.2
11	Mg (mg/L)	17.5	18.5	17.5	16.5	4.8	10.3	9.5	11.2	12.7	11.9	12.7	8.7
12	Na (mg/L)	5.2	3.9	2.3	2.8	2.9	3.1	3.6	3.8	4.6	4.9	5.8	7.6
13	NO2+NO3 (mg N/L)	1.16	1.20	1.22	1.18	1.12	1.16	1.22	1.18	1.12	1.25	1.23	1.22
14	NO2-N (mgN/L)	0.03	0.01	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	NO3-N (mgN/L)	1.13	1.19	1.19	1.15	1.12	1.16	1.22	1.18	1.12	1.25	1.23	1.22
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)	8.5	7.5	8.5	9.4	7.0	7.9	6.0	9.0	8.2	7.8	6.0	6.3
18	SO4 (mg/L)	2.8	11.8	12.0	4.5	13.4	13.7	14.0	15.2	15.6	12.0	23.1	12.1
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)	5.2	0.6	0.6	0.6	0.4	0.2	0.4	0.8	0.8	0.4	0.8	0.6
2	DO (mg/L)	7.1	6.2	6.4	3.6	7.2	6.6	7.6	6.4	7.2	4.0	7.0	6.4
3	DO_SAT% (%)	94	83	81	46	93	79	86	63	76	49	87	84
4	FCol-MPN (MPN/100mL)	40	60	120	90	70	40	60	40	90	60	40	120
5	Tcol-MPN (MPN/100mL)	110	140	300	270	210	130	170	130	210	170	130	270
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)	88	51	80	84	36	65	85	88	92	85	62	62
2	HAR_Total (mgCaCO3/L)	161	128	153	153	56	108	125	135	144	135	115	98
3	Na% (%)	6	6	3	4	10	6	6	6	6	7	10	14
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
5	SAR (-)	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.3
	PESTICIDES												

Water Quality Summary for the period : 2017-2018

Station Name : JARAIKELA (EBJ00D5) **Division : E.E., Bhubaneswar**

Local River : Koel **Sub-Division : Rourkela**

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)				
2	EC_FLD (µmho/cm)	12	260	110	188
3	EC_GEN (µmho/cm)	12	256	106	182
4	pH_FLD (pH units)	12	8.0	7.2	7.7
5	pH_GEN (pH units)	12	8.0	7.1	7.7
6	Temp (deg C)	12	31.0	15.0	25.9
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	12	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	12	106	28	76
3	B (mg/L)	12	0.03	0.01	0.02
4	Ca (mg/L)	12	37	14	29
5	Cl (mg/L)	12	37.7	7.5	13.1
6	CO3 (mg/L)	12	0.0	0.0	0
7	F (mg/L)	12	0.05	0.05	0.05
8	Fe (mg/L)	12	0.5	0.4	0.4
9	HCO3 (mg/L)	12	130	34	93
10	K (mg/L)	12	5.1	0.4	2.2
11	Mg (mg/L)	12	18.5	4.8	12.7
12	Na (mg/L)	12	7.6	2.3	4.2
13	NO2+NO3 (mg N/L)	12	1.25	1.12	1.19
14	NO2-N (mgN/L)	12	0.03	0.00	0.01
15	NO3-N (mgN/L)	12	1.25	1.12	1.18
16	P-Tot (mgP/L)	12	0.001	0.001	0.001
17	SiO2 (mg/L)	12	9.4	6.0	7.7
18	SO4 (mg/L)	12	23.1	2.8	12.5
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	12	5.2	0.2	0.9
2	DO (mg/L)	12	7.6	3.6	6.3
3	DO_SAT% (%)	12	94	46	77
4	FCol-MPN (MPN/100mL)	12	120	40	69
5	Tcol-MPN (MPN/100mL)	12	300	110	187
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	12	92	36	73
2	HAR_Total (mgCaCO3/L)	12	161	56	126
3	Na% (%)	12	14	3	7
4	RSC (-)	12	0.1	0.0	0
5	SAR (-)	12	0.3	0.1	0.2
	PESTICIDES				

Water Quality Seasonal Average for the period: 2003-2018

Station Name : JARAIKELA (EBJ00D5) **Division : E.E., Bhubaneswar**

Local River : Koel **River Water** **Sub-Division : Rourkela**

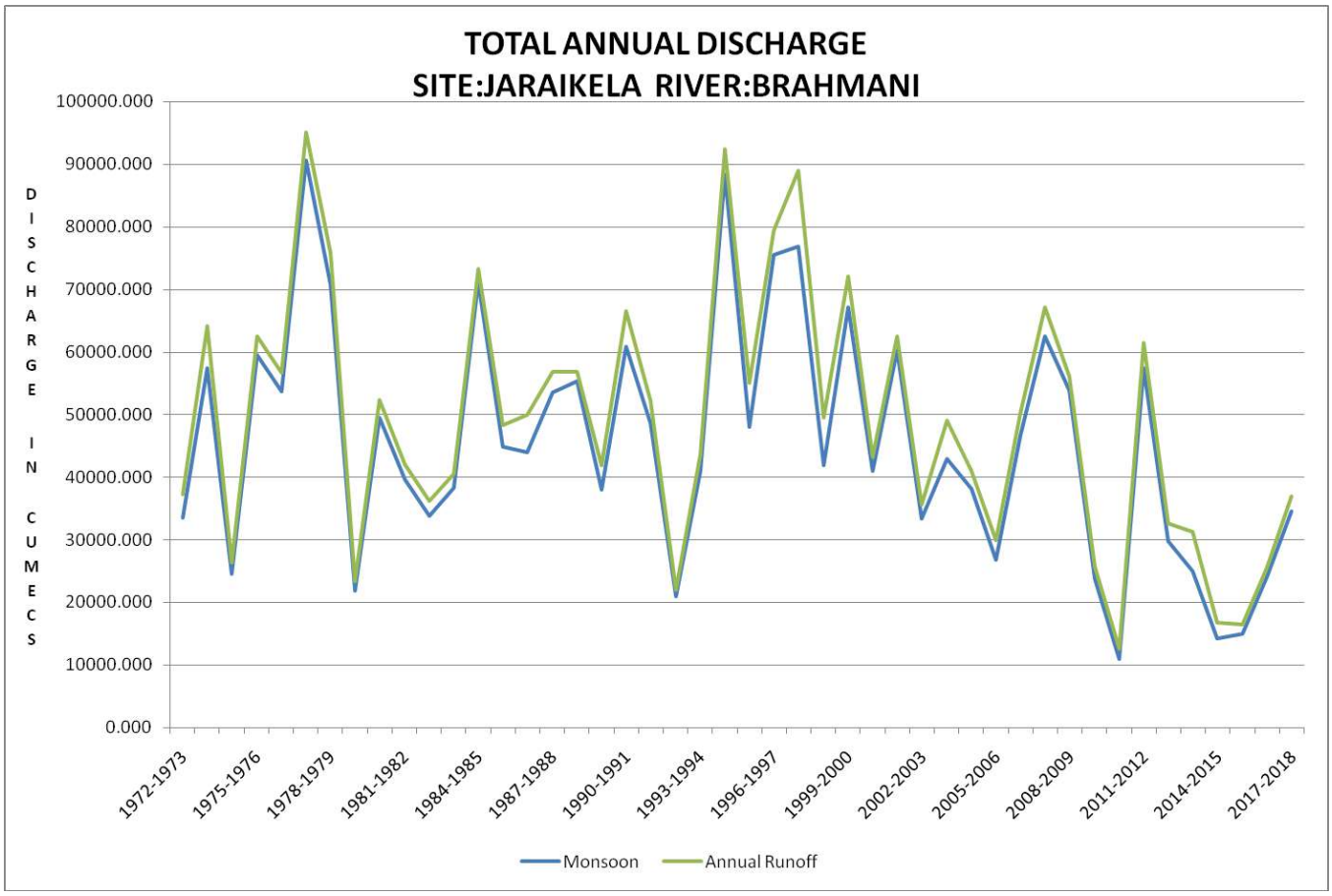
S.No	Parameters	Flood Jun - Oct															Winter Nov - Feb							
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	PHYSICAL																							
1	Q (cumec)																							
2	EC_FLD (µmho/cm)	145	135			167		186	189	159	246	140	148	244	138	147	146	167			161	245	189	202
3	EC_GEN (µmho/cm)	145	134			163		186	189	159	246	140	148	246	142	143	146	164			152	245	189	202
4	pH_FLD (pH units)	7.4	7.8			8.0		7.6	7.5	8.0	7.6	7.6	7.9	7.4	7.4	7.6	7.5	8.1			7.6	7.5	7.5	7.8
5	pH_GEN (pH units)	7.4	7.8			8.1		7.6	7.5	8.0	7.6	7.5	7.9	7.3	7.4	7.6	7.5	8.1			7.6	7.5	7.5	7.8
6	Temp (deg C)	29.4	29.7			29.8		28.7	28.7	27.7	28.0	27.7	28.8	27.4	27.7	29.2	20.8	23.0			20.8	22.5	18.3	22.3
	CHEMICAL																							
1	Alk-Phen (mgCaCO3/L)					0.0	0.0	0.0	0.0	3.1	0.0		0.0	0.0	0.0	0.0					0.0	0.0	2.0	0.0
2	ALK-TOT (mgCaCO3/L)					81	11	64	63	62	46		32	55	65	56					50	104	57	65
3	B (mg/L)	0.00	0.00			0.00		0.00	0.00	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.00	0.00			0.00	0.00	0.00	0.00
4	Ca (mg/L)	8	13			15	17	17	15	43	18	17	18	21	31	27	14	14			14	23	17	18
5	Cl (mg/L)	6.8	11.0			13.0	15.7	14.9	13.6	17.6	19.5	13.2	16.3	13.8	22.0	14.6	12.1	14.1			12.1	16.6	12.6	12.3
6	CO3 (mg/L)	0.0	0.0			0.0	0.0	0.0	0.0	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0	2.4	0.0
7	F (mg/L)	0.00	0.25			0.00		0.05	0.05	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.00	0.22			0.08	0.05	0.05	0.05
8	Fe (mg/L)	0.1	0.1			0.2		0.1	0.1	0.0	0.6	0.1	0.4	0.3	0.4	0.4		0.1			0.1	0.7	0.1	0.1
9	HCO3 (mg/L)	36	65			68	13	60	76	68	66	79	56	68	79	69	65	60			61	97	65	86
10	K (mg/L)	1.7	1.9			2.1	12.8	2.3	2.2	1.7	2.1	1.5	1.5	1.6	5.0	2.8	4.5	1.0			1.9	1.9	2.5	1.6
11	Mg (mg/L)	2.8	5.6			6.4	3.9	6.8	9.4	10.7	6.2	8.1	8.4	11.7	16.5	15.0	4.9	6.3			4.8	7.3	6.8	8.7
12	Na (mg/L)	4.2	7.4			8.0	35.6	8.9	8.0	4.0	3.9	10.1	3.6	3.6	13.2	3.4	7.2	6.3			8.8	11.2	8.2	7.5
13	NO2+NO3 (mg N/L)	1.22	0.65			0.60		0.35	0.54	0.44	1.00	0.43	0.88	0.97	1.09	1.18	0.22	1.21			0.35	0.50	0.32	0.42
14	NO2-N (mgN/L)	0.02	0.01			0.04		0.00	0.00	0.07	0.00	0.00	0.02	0.03	0.01	0.02	0.00	0.03			0.00	0.02	0.00	0.00
15	NO3-N (mgN/L)	1.19	0.64			0.57		0.35	0.54	0.37	1.00	0.43	0.85	0.93	1.07	1.16	0.22	1.18			0.35	0.48	0.32	0.42
16	P-Tot (mgP/L)		0.001			0.001		0.001	0.001	0.010	0.001	0.001	0.001	0.004	0.010	0.001		0.001			0.001	0.002	0.001	0.001
17	SiO2 (mg/L)	8.5	22.0			9.0		7.5	7.4	8.7	19.7	8.6	4.0	5.3	6.7	8.2	9.6	21.2			14.0	9.4	7.8	6.3
18	SO4 (mg/L)	1.1	3.3			3.6	6.8	13.6	6.6	7.2	14.3	10.5	3.8	13.5	5.7	8.9	1.1	2.9			7.3	11.6	9.0	6.8
	BIOLOGICAL/BACTERIOLOGICAL																							
1	BOD3-27 (mg/L)	0.9	0.8			1.0		1.0	1.2	1.1	0.7	0.6	0.8	0.9	0.7	1.5	0.6	0.6			0.9	0.9	1.4	1.1
2	DO (mg/L)	6.1	7.0			7.0		6.7	6.8	6.3	6.4	6.2	6.4	6.9	7.6	6.1	8.5	7.8			8.7	8.5	8.2	8.0
3	DO_SAT% (%)	79	92			92		87	88	80	81	78	83	87	97	79	94	91			96	98	87	91
4	FCol-MPN (MPN/100mL)															76								
5	Tcol-MPN (MPN/100mL)															206								
	TRACE & TOXIC																							
	CHEMICAL INDICES																							
1	HAR_Ca (mgCaCO3/L)	21	34			37	42	41	37	108	45	43	46	53	77	68	34	34			35	57	42	46
2	HAR_Total (mgCaCO3/L)	33	53			64	58	70	77	153	71	77	81	102	146	130	54	60			55	87	70	83
3	Na% (%)	22	22			21	51	21	19	8	10	24	9	7	16	6	21	18			25	23	19	16
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	0.0	0.1	0.0			0.0	0.0	0.0	0.0
5	SAR (-)	0.3	0.4			0.4	2.0	0.4	0.4	0.2	0.2	0.5	0.2	0.2	0.5	0.1	0.4	0.4			0.5	0.5	0.4	0.4
	PESTICIDES																							

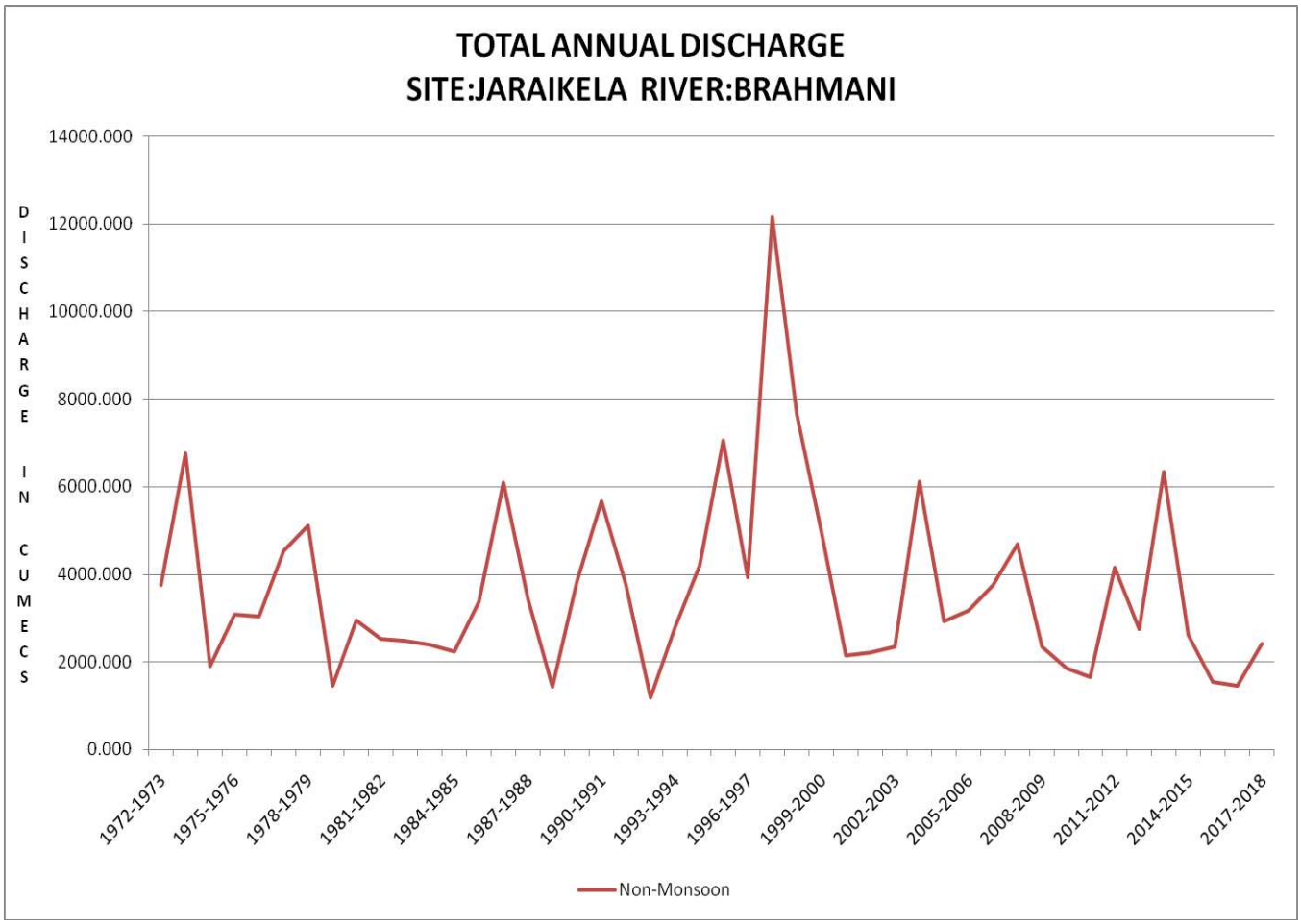
Water Quality Seasonal Average for the period: 2003-2018

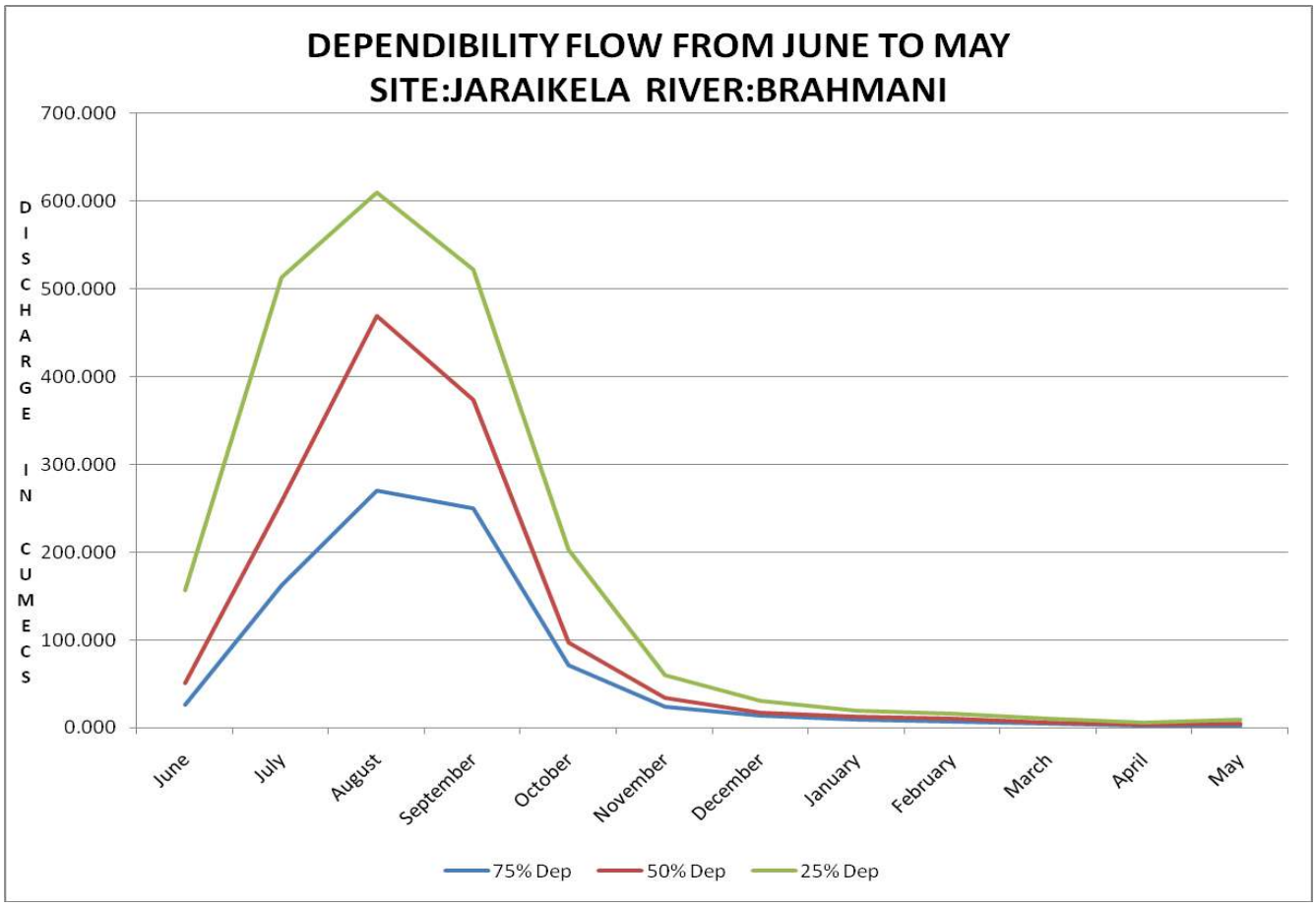
Station Name : JARAIKELA (EBJ00D5) **Division : E.E., Bhubaneswar**

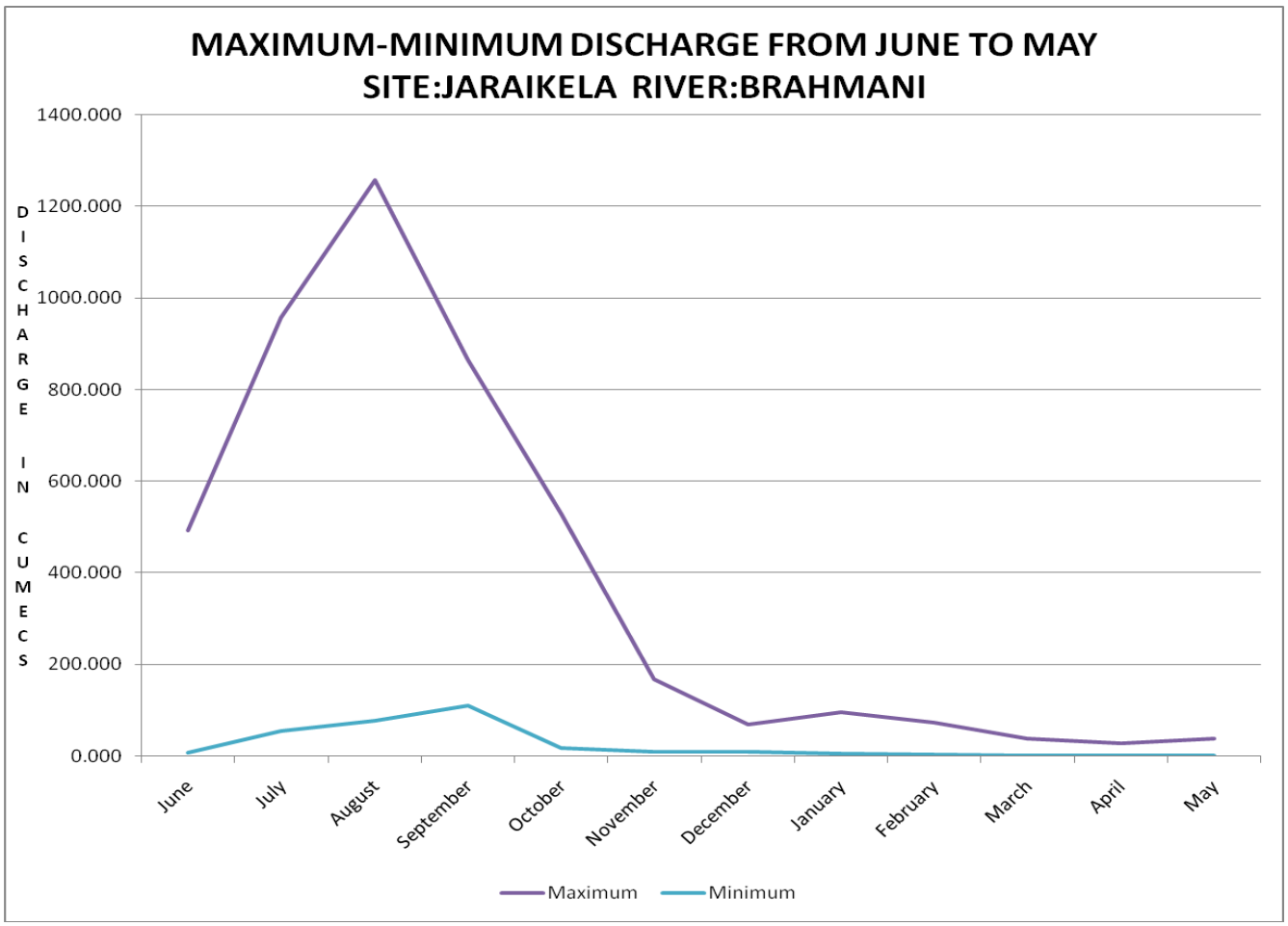
Local River : Koel **River Water** **Sub-Division : Rourkela**

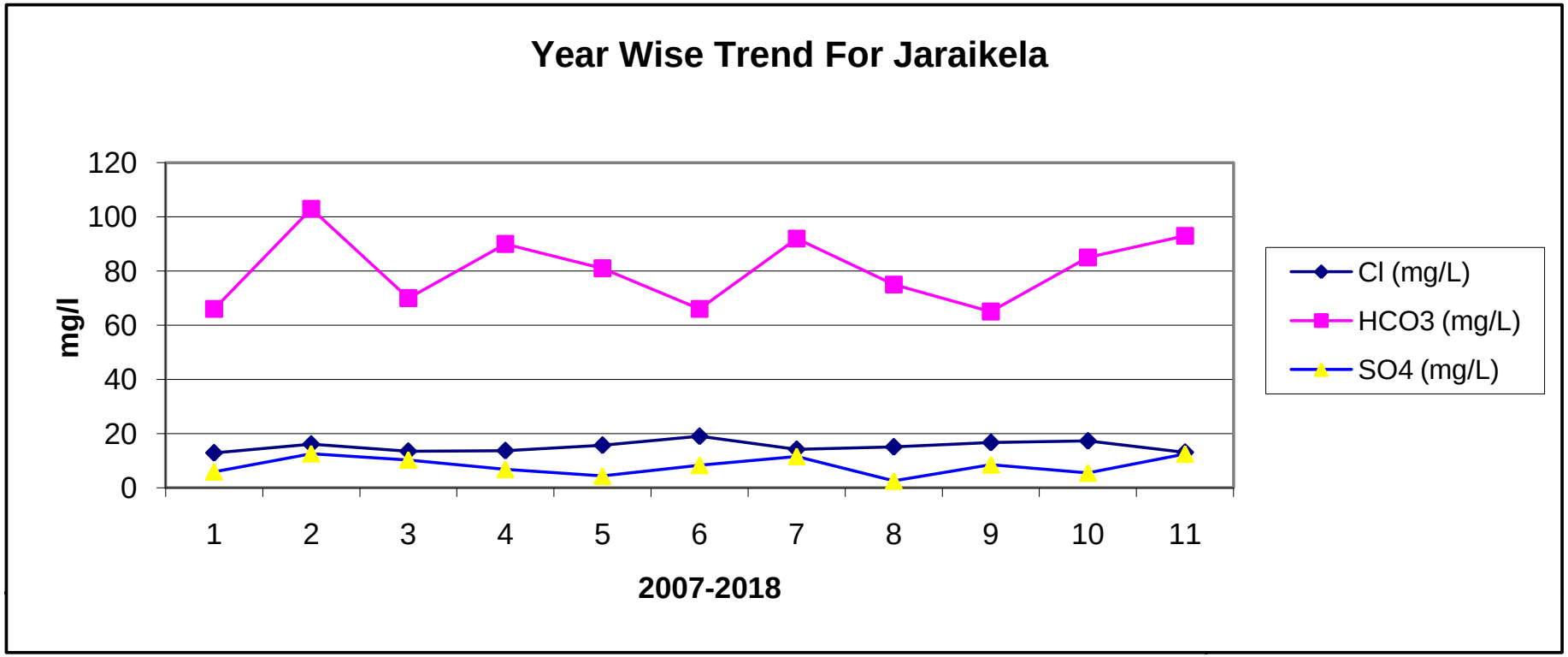
S.No	Parameters								Summer														
									Mar - May														
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	PHYSICAL																						
1	Q (cumec)																						
2	EC_FLD (µmho/cm)	159	182	150	225	377	332	187	199				182	280	220	310	210	230	194	253	340	266	255
3	EC_GEN (µmho/cm)	159	182	150	225	380	335	181	199				188	280	220	310	210	230	194	253	343	270	250
4	pH_FLD (pH units)	7.4	7.6	8.0	7.9	8.0	7.7	7.7	7.9				7.9	7.8	7.3	8.1	7.8	7.8	7.7	7.6	8.0	7.9	7.9
5	pH_GEN (pH units)	7.4	7.6	8.0	7.9	7.9	7.7	7.6	7.9				8.0	7.8	7.6	8.1	7.8	7.8	7.7	7.6	8.1	8.0	7.9
6	Temp (deg C)	19.0	18.0	18.5	20.0	22.0	18.1	20.2	27.5				26.5	26.5	19.5	23.0	24.0	26.0	25.2	26.0	34.5	34.0	27.8
	CHEMICAL																						
1	Alk-Phen (mgCaCO3/L)	0.0				11.5	0.0	0.0					0.0	0.0	0.0	0.0	0.0				13.8	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	74				72	67	81					60	90	88	112	83				83	92	102
3	B (mg/L)	0.01	0.00	0.00	0.00	0.01	0.01	0.02	0.00				0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.02	0.02
4	Ca (mg/L)	18	19	22	18	18	38	33	16				18	30	22	32	29	18	18	29	21	37	28
5	Cl (mg/L)	14.1	19.8	15.5	14.1	20.7	14.1	10.8	12.9				14.1	15.5	11.1	17.0	13.2	21.3	14.6	13.2	17.0	9.4	13.8
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	13.9	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.6	0.0	0.0
7	F (mg/L)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.00				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)	0.0	0.5	0.1	0.2	0.3	0.4	0.4					0.1	0.2	0.1	0.1	0.0	5.2	0.0	0.2	0.4	0.5	0.5
9	HCO3 (mg/L)	90	48	117	90	59	82	99	81				73	110	107	136	101	104	79	101	68	113	124
10	K (mg/L)	1.3	3.8	1.6	1.3	1.3	3.9	2.3	2.2				0.5	1.3	1.6	2.5	1.5	8.1	2.1	1.5	1.3	3.8	1.2
11	Mg (mg/L)	3.9	9.5	6.8	8.7	12.2	13.6	10.9	7.0				5.6	10.2	9.7	11.7	4.9	8.2	5.2	4.9	13.6	11.7	11.1
12	Na (mg/L)	6.7	11.1	12.0	6.7	6.7	32.5	3.8	8.8				9.9	8.1	6.4	9.4	6.9	14.2	12.1	6.3	9.0	46.1	6.1
13	NO2+NO3 (mg N/L)	0.44	0.83	0.78	0.75	1.06	1.19	1.17	0.24				0.73	0.64	0.24	0.57	0.46	9.53	0.53	0.67	0.95	1.26	1.23
14	NO2-N (mgN/L)	0.07	0.00	0.00	0.02	0.01	0.01	0.00	0.03				0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.03	0.00
15	NO3-N (mgN/L)	0.37	0.83	0.78	0.73	1.04	1.18	1.17	0.21				0.73	0.64	0.24	0.57	0.39	9.53	0.53	0.67	0.95	1.23	1.23
16	P-Tot (mgP/L)	0.010	0.001	0.001	0.001	0.010	0.010	0.001					0.060	0.002	0.001	0.001	0.010	0.001	0.001	0.001	0.010	0.010	0.001
17	SiO2 (mg/L)	11.0	18.3	10.2	4.5	5.5	7.8	7.8	8.8				7.3	9.6	9.7	9.6	10.0	18.3	10.8	6.0	5.0	9.1	6.7
18	SO4 (mg/L)	1.2	2.2	12.8	1.2	3.5	5.2	14.6	0.8				10.2	13.6	3.1	7.6	1.6	2.8	12.8	1.4	3.6	5.4	15.7
	BIOLOGICAL/BACTERIOLOGICAL																						
1	BOD3-27 (mg/L)	1.8	0.3	0.5	0.3	1.8	0.7	0.5	0.7				0.8	1.0	1.0	1.4	1.0	0.6	0.2	1.0	0.6	1.4	0.6
2	DO (mg/L)	8.0	8.3	7.0	10.8	8.7	9.4	6.9	7.4				7.5	7.5	7.2	7.1	6.8	6.6	6.9	5.8	6.3	7.8	5.8
3	DO_SAT% (%)	86	88	75	119	100	99	76	93				92	93	77	83	80	81	84	71	90	110	73
4	FCol-MPN (MPN/100mL)						250	58														90	73
5	Tcol-MPN (MPN/100mL)						335	160														140	190
	TRACE & TOXIC																						
	CHEMICAL INDICES																						
1	HAR_Ca (mgCaCO3/L)	46	48	56	46	46	94	83	39				46	76	56	80	72	46	46	72	52	92	70
2	HAR_Total (mgCaCO3/L)	62	88	84	83	97	151	128	68				69	119	97	129	92	80	67	92	109	141	116
3	Na% (%)	20	20	24	15	13	30	6	22				24	13	12	13	14	26	27	13	15	41	10
4	RSC (-)	0.3	0.0	0.4	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.4	0.5	0.6	0.3	0.3	1.2	0.1	0.5				0.5	0.3	0.3	0.4	0.3	0.7	0.6	0.3	0.4	1.7	0.3
	PESTICIDES																						

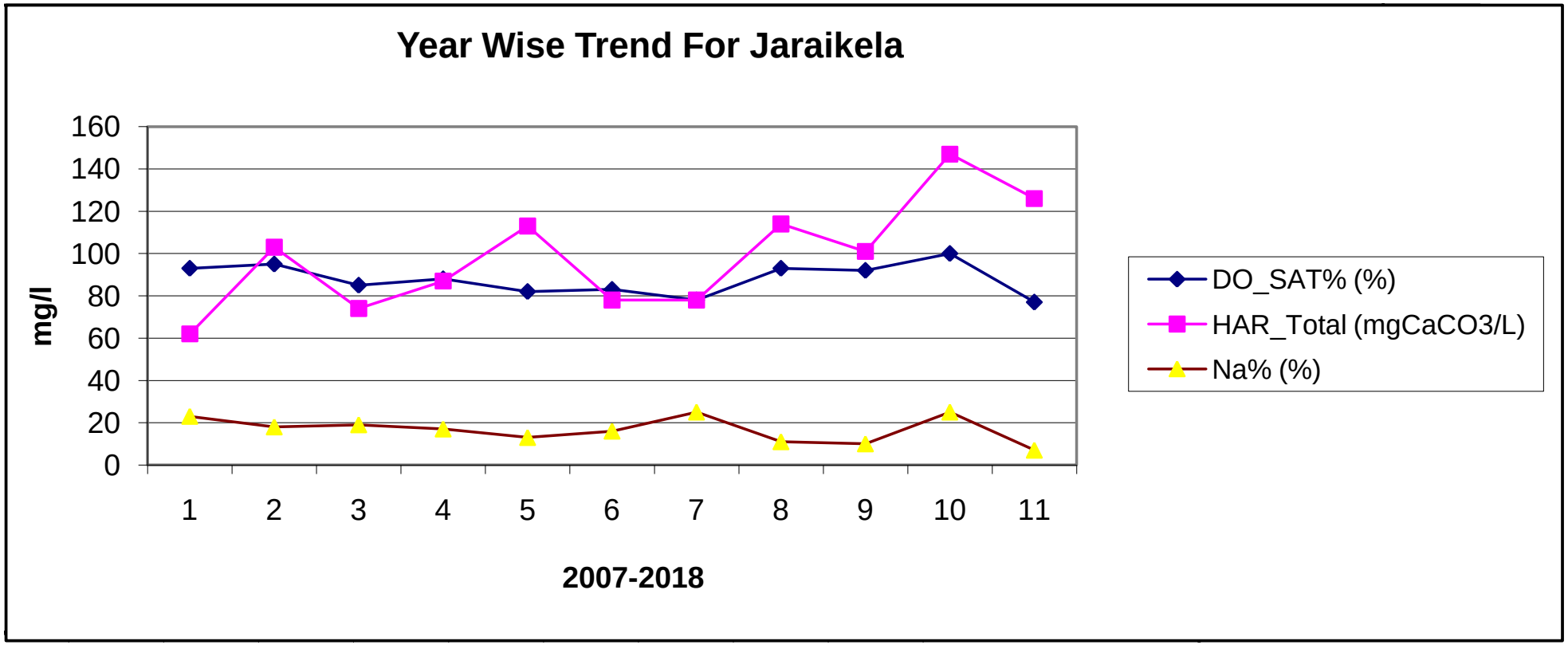

TOTAL ANNUAL DISCHARGE
SITE:JARAIKELA RIVER:BRAHMANI
DISCHARGE IN CUMECS
100000.000
90000.000
80000.000
70000.000
60000.000
50000.000
40000.000
30000.000
20000.000
10000.000
0.000
1972-1973
1975-1976
1978-1979
1981-1982
1984-1985
1987-1988
1990-1991
1993-1994
1996-1997
1999-2000
2002-2003
2005-2006
2008-2009
2011-2012
2014-2015
2017-2018
Monsoon
Annual Runoff

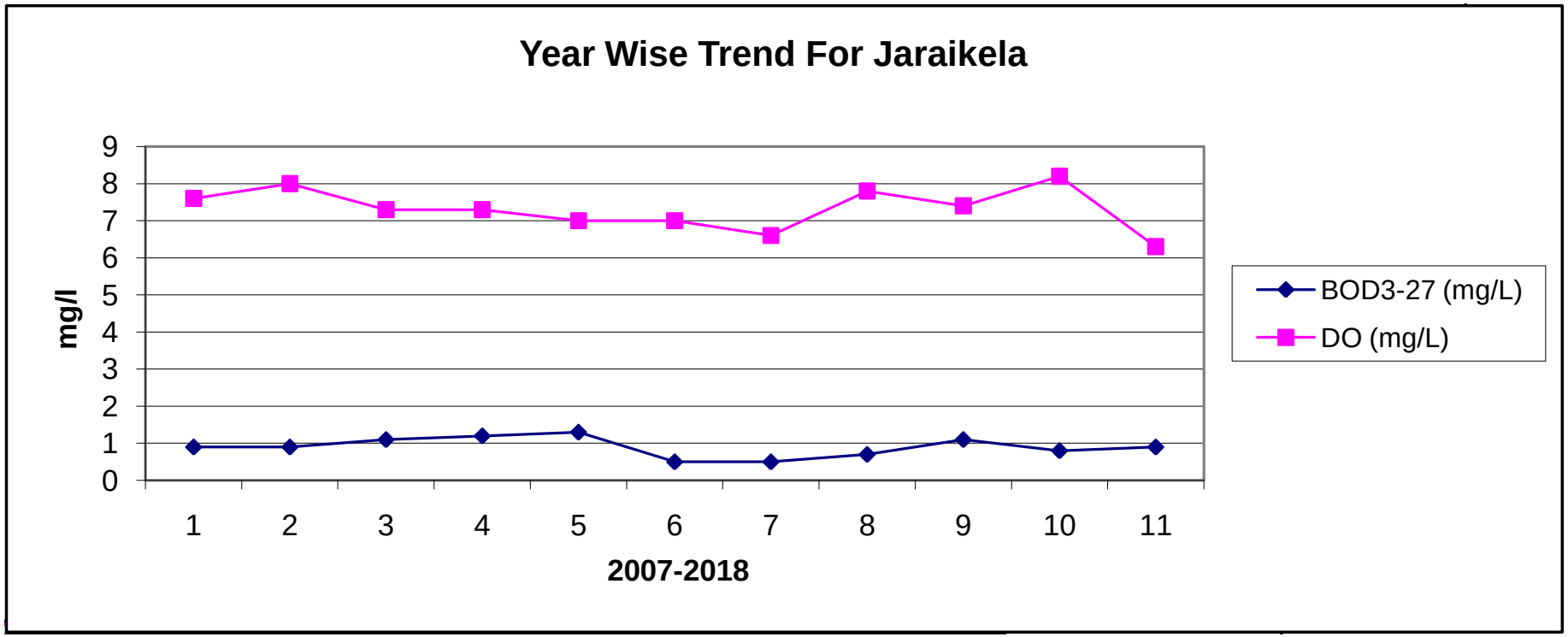

TOTAL ANNUAL DISCHARGE
SITE:JARAIKELA RIVER:BRAHMANI
DISCHARGE IN CUMECS
14000.000
12000.000
10000.000
8000.000
6000.000
4000.000
2000.000
0.000
1972-1973
1975-1976
1978-1979
1981-1982
1984-1985
1987-1988
1990-1991
1993-1994
1996-1997
1999-2000
2002-2003
2005-2006
2008-2009
2011-2012
2014-2015
2017-2018
Non-Monsoon

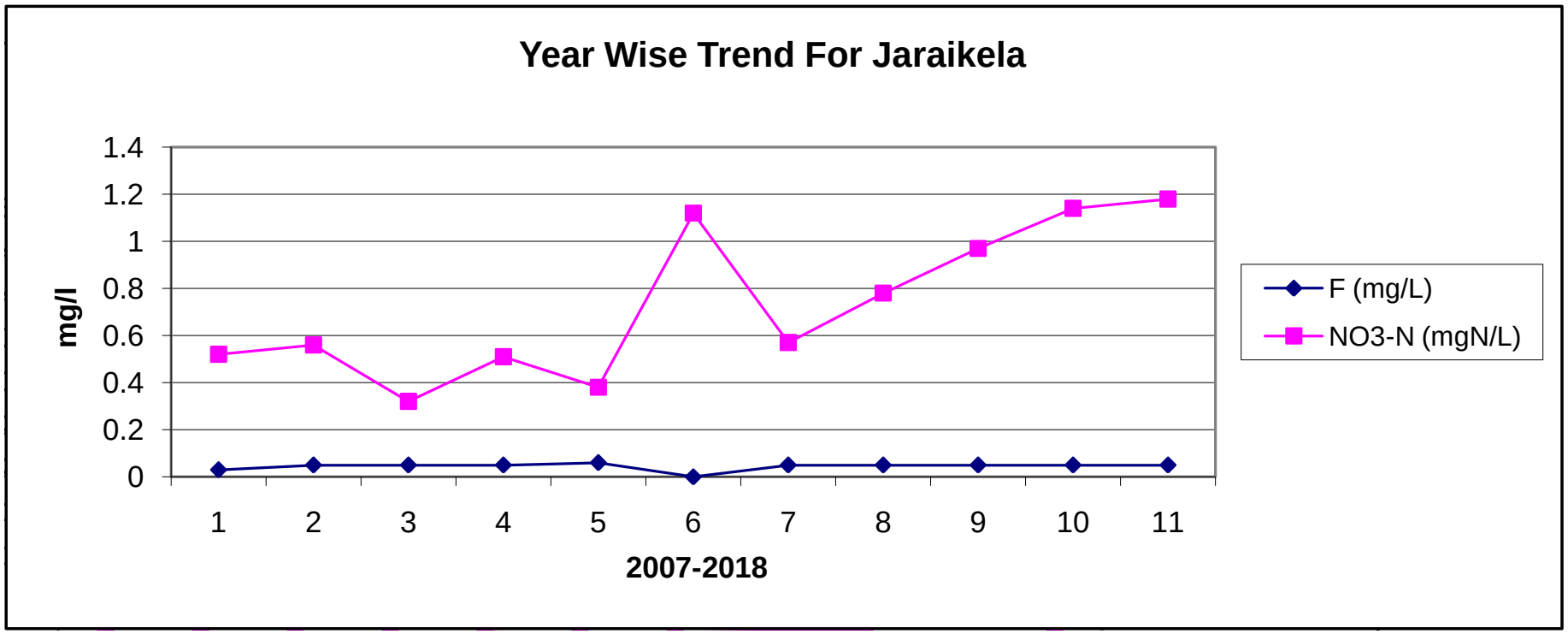

DEPENDIBILITY FLOW FROM JUNE TO MAY
SITE:JARAIKELA RIVER:BRAHMANI
DISCHARGE IN CUMECS
700.000
600.000
500.000
400.000
300.000
200.000
100.000
0.000
June
July
August
September
October
November
December
January
February
March
April
May
75% Dep
50% Dep
25% Dep

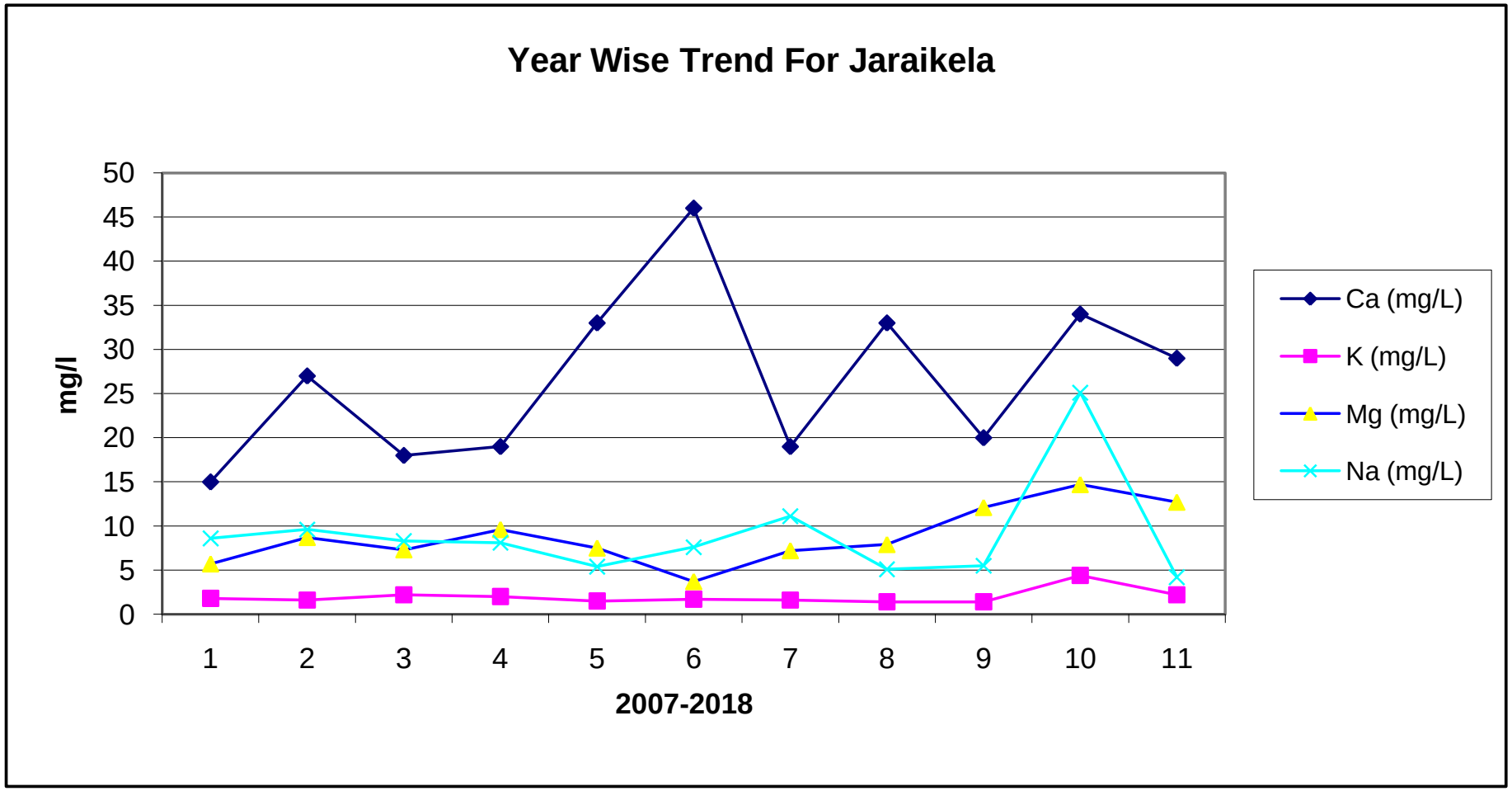

MAXIMUM-MINIMUM DISCHARGE FROM JUNE TO MAY
SITE:JARAIKELA RIVER:BRAHMANI
DISCHARGE IN CUMECS
1400.000
1200.000
1000.000
800.000
600.000
400.000
200.000
0.000
June
July
August
September
October
November
December
January
February
March
April
May
Maximum
Minimum


Year Wise Trend For Jaraikela
120
100
80
60
40
20
0
mg/l
1
2
3
4
5
6
7
8
9
10
11
2007-2018
Cl (mg/L)
HCO3 (mg/L)
SO4 (mg/L)


Year Wise Trend For Jaraikela
160
140
120
100
80
60
40
20
0
mg/l
1
2
3
4
5
6
7
8
9
10
11
2007-2018
DO_SAT% (%)
HAR_Total (mgCaCO3/L)
Na% (%)


Year Wise Trend For Jaraikela
mg/l
9
8
7
6
5
4
3
2
1
0
1
2
3
4
5
6
7
8
9
10
11
2007-2018
BOD3-27 (mg/L)
DO (mg/L)


Year Wise Trend For Jaraikela
mg/l
1.4
1.2
1
0.8
0.6
0.4
0.2
0
1
2
3
4
5
6
7
8
9
10
11
2007-2018
F (mg/L)
NO3-N (mgN/L)


Year Wise Trend For Jaraikela
mg/l
50
45
40
35
30
25
20
15
10
5
0
1
2
3
4
5
6
7
8
9
10
11
2007-2018
Ca (mg/L)
K (mg/L)
Mg (mg/L)
Na (mg/L)

HISTORY SHEET

Water Year : 2017-2018

Site	**: PANPOSH**		**Code**	**: EB000H6**	
State	: Orissa		District	Sundergarh	
Basin	: Brahmani-Baitarani		Independent River	: Brahmni	
Tributary	: Brahmni		Sub Tributary	: Brahmni	
Sub-Sub Tributary	: Brahmni		Local River	: Brahmni	
Division	: E.E., Bhubaneswar		Sub-Division	: Rourkela	
Drainage Area	: 19448 Sq. Km.		Bank	: Left	
Latitude	: 22°16'19"		Longitude	: 84°51'07"	
Zero of Gauge (m)	: 170.5 (m.s.l)		1/1/1996	- 12/31/2025	
	Opening Date		Closing Date		
Gauge	: 7/1/1972				
Discharge	: 6/21/1996				
Sediment	: 8/1/1996				
Water Quality	: 11/1/1990				

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

	Maximum			Minimum		
Year	**Q (cumecs)**	**WL (m)**	**Date**	**Q (cumecs)**	**WL (m)**	**Date**
1997-1998	9229	179.350	8/7/1997	12.30	171.140	6/3/1997
1998-1999	8815	178.620	9/11/1998	12.25	171.150	5/19/1999
1999-2000	6307	177.820	8/8/1999	8.565	171.020	4/24/2000
2000-2001	3999	176.325	7/27/2000	8.559	171.060	4/28/2001
2001-2002	11628	179.680	7/22/2001	9.718	171.100	3/27/2002
2002-2003	3066	175.515	9/13/2002	10.51	171.220	4/17/2003
2003-2004	6600	177.900	10/25/2003	11.98	171.050	5/29/2004
2004-2005	5429	177.235	9/20/2004	10.32	171.320	5/30/2005
2005-2006	3372	175.520	7/1/2005	8.010	170.985	4/18/2006
2006-2007	4701	176.800	8/23/2006	8.843	171.110	4/4/2007
2007-2008	9661	179.345	8/20/2007	9.809	171.110	6/2/2007
2008-2009	5412	176.350	7/8/2008	9.497	171.150	5/14/2009
2009-2010	4184	175.175	9/9/2009	9.179	171.270	4/21/2010
2010-2011	1279	173.575	9/18/2010	6.484	171.050	2/15/2011
2011-2012	10947	181.440	9/24/2011	10.21	171.310	4/7/2012
2012-2013	3500	175.350	8/12/2012	10.31	171.160	6/13/2012
2013-2014	5554	176.225	10/15/2013	13.93	171.180	6/1/2013
2014-2015	3852	174.910	7/22/2014	10.25	171.170	5/25/2015
2015-2016	7431	177.475	7/11/2015	9.634	171.180	5/3/2016
2016-2017	4843	176.565	8/19/2016	6.254	171.060	5/11/2017
2017-2018	8956	179.515	7/27/2017	8.285	170.700	3/9/2018

Stage-Discharge Data for the period 2017 - 2018

Station Name : PANPOSH (EB000H6) **Division : E.E., Bhubaneswar**

Local River : Brahmni **Sub-Division : Rourkela**

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	171.240	16.69	172.190	521.6	173.530	1650	172.190	743.0	172.910	795.8 *	171.170	111.2
2	171.340	20.86	172.630	802.6 *	173.460	1335	172.280	790.7 *	173.030	799.2 *	171.150	103.3
3	171.240	16.42	172.780	898.8	173.610	1601	172.460	886.0 *	172.800	779.2	171.200	120.2
4	171.280	16.60 *	172.540	742.2	173.495	1563	172.550	933.6	172.800	779.6	171.150	117.2 *
5	171.220	15.66	172.485	585.6	173.755	1708	172.330	827.4	172.595	564.8	171.140	117.0 *
6	171.200	13.97	172.205	555.5	175.700	3733 *	172.075	624.5	172.480	527.8	171.150	117.3
7	171.200	11.88	172.115	537.9	174.975	2939	172.020	296.1	172.220	474.2	171.150	111.9
8	171.260	13.67	171.900	506.0	175.310	4309	172.000	293.6	172.120	450.3 *	171.140	94.04
9	171.200	12.15	171.870	490.6 *	174.320	2594	172.150	450.1	172.140	455.1	171.130	92.71
10	171.275	14.27	172.130	437.8	173.380	1498	172.150	467.6 *	172.165	443.7	171.100	89.55
11	171.340	17.40 *	172.480	689.7	172.960	1509	172.170	463.3	172.265	497.7	171.080	49.15
12	171.370	17.40	172.100	522.5	173.060	1519	172.600	753.6	172.020	492.7	171.150	50.00 *
13	171.290	14.80	172.185	542.1	173.230	1626 *	172.610	769.7	171.900	355.3	171.090	50.43
14	171.305	15.15	172.750	873.5	173.995	2118	172.510	735.6	171.945	295.8	171.100	42.46
15	171.355	23.60	172.940	994.0	174.170	2261 *	172.340	598.9	171.930	283.0 *	171.180	49.49
16	171.340	23.93	172.580	900.0 *	173.785	1975	172.300	519.7	171.860	211.3	171.200	57.34
17	171.260	15.02	172.590	908.9	174.050	2118	172.200	780.7 *	171.820	236.4	171.160	50.17
18	171.270	15.03 *	172.365	617.4	174.935	3985	172.170	460.1	171.775	256.9	171.130	44.61
19	171.430	22.65	172.155	510.9	174.575	2826	172.850	833.4	171.350	221.2 *	171.120	44.50 *
20	171.275	15.70	171.975	497.3	173.450	1839 *	173.150	978.8	171.330	217.6	171.150	51.13
21	171.320	33.58	172.305	531.8	173.070	1467	173.660	1981	171.375	203.1	171.140	46.77
22	171.520	46.59	172.795	918.6	172.675	1110	173.195	1008	171.480	215.3 *	171.150	53.28
23	171.995	320.1	174.590	2436 *	172.520	981.8	172.895	827.6	171.510	251.1	171.150	48.33
24	171.550	101.2	176.465	4519	172.610	1124	172.510	760.8 *	171.440	189.3	171.100	46.17
25	171.600	150.0 *	175.400	4260	173.305	1653	172.155	466.6	171.390	175.9	171.160	41.71
26	172.010	400.0 *	174.610	2771	173.085	1444	172.065	464.0	171.380	164.4	171.100	41.50 *
27	172.110	464.8	179.515	8956	172.960	1450 *	172.020	456.3	171.340	142.9	171.050	41.76
28	172.095	456.9	177.140	6189	172.715	1369	172.095	484.9	171.280	127.4	171.150	40.30
29	172.155	494.9	174.345	3121	172.430	745.5	172.090	492.0 *	171.240	121.5 *	171.100	41.77
30	172.170	501.3	173.320	2212 *	172.560	964.4	172.760	498.6 *	171.250	123.8	171.050	40.91
31			172.980	1467	172.410	841.9			171.185	115.5		
Ten-Daily Mean												
I Ten-Daily	171.245	15.22	172.285	607.9	174.154	2293	172.221	631.3	172.526	607.0	171.148	107.5
II Ten-Daily	171.324	18.07	172.412	705.6	173.821	2177	172.490	689.4	171.819	306.8	171.136	48.93
III Ten-Daily	171.853	296.9	174.860	3398	172.758	1195	172.544	744.0	171.352	166.4	171.115	44.25
Monthly												
Min.	171.200	11.88	171.870	437.8	172.410	745.5	172.000	293.6	171.185	115.5	171.050	40.30
Max.	172.170	501.3	179.515	8956	175.700	4309	173.660	1981	173.030	799.2	171.200	120.2
Mean	171.474	110.1	173.240	1630	173.551	1866	172.418	688.2	171.881	353.8	171.133	66.88

Annual Runoff in MCM = 12828 Annual Runoff in mm = 660

Peak Observed Discharge = 8956 cumecs on 27-Jul-17 Corres. Water Level :179.515 m

Lowest Observed Discharge = 8.285 cumecs on 09-Mar-18 Corres. Water Level :170.7 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-Discharge Data for the period 2017 - 2018

Station Name : PANPOSH (EB000H6) **Division : E.E., Bhubaneswar**

Local River : Brahmni **Sub-Division : Rourkela**

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	171.150	41.83	171.050	25.71	171.020	18.56	171.050	12.58	170.650	8.510 *	171.000	13.76
2	171.150	41.83 *	171.050	20.17	170.900	16.51	171.000	12.50 *	170.720	8.670	171.000	13.93
3	171.050	40.35 *	171.020	20.92	171.050	17.15	170.900	13.76	170.990	14.04	171.100	15.83
4	171.150	41.87	171.010	20.08	171.100	17.41 *	170.900	13.78 *	171.080	16.83	171.150	16.43
5	171.160	41.77	171.000	18.48	171.010	16.61	170.810	15.94	170.950	13.41	171.050	14.76
6	171.080	31.41	171.010	18.80	171.050	15.20	170.900	15.36	170.850	11.34	171.050	14.75 *
7	171.100	32.88	171.010	18.85 *	171.100	17.27	171.180	17.28	170.950	13.40	170.950	12.97
8	171.150	36.35	171.030	30.58	171.140	18.26	170.750	8.849	171.100	14.23 *	170.950	12.80
9	171.050	30.08	171.020	18.97	171.100	17.44	170.700	8.285	171.110	14.74	171.000	13.84
10	171.050	29.40 *	171.010	18.11	171.140	16.83	170.740	8.578	171.140	16.79	171.080	14.31
11	171.090	30.08	171.000	17.52	171.150	17.81 *	170.730	8.410 *	171.050	15.33	171.140	15.78
12	171.030	27.79	171.010	18.08	171.100	17.60	170.760	8.970	171.280	16.52	171.110	14.97
13	171.140	31.93	171.000	17.40	171.040	16.65	170.800	15.54	171.100	14.64	171.080	14.55 *
14	171.050	30.52	171.000	17.38 *	171.100	16.97	170.830	16.18	171.140	15.20 *	171.050	14.62
15	171.100	27.91	170.980	14.40	171.150	16.96	170.820	15.79	171.090	14.40 *	171.050	14.50
16	171.150	29.50	170.970	14.16	171.150	18.07	170.840	16.07	171.100	14.46	171.000	13.01
17	171.100	28.95 *	170.960	13.42	171.160	19.49	170.850	15.86	171.150	14.94	170.940	11.51
18	171.050	26.85	170.950	12.79	171.170	20.23 *	170.890	15.89 *	171.140	14.25	170.900	10.83
19	171.090	28.88	170.930	12.38	171.160	18.87	170.850	13.16	171.080	12.76	171.000	12.10
20	171.100	29.50	170.930	12.40	171.160	18.14	170.880	13.90	171.160	14.81	171.010	13.89 *
21	171.120	29.79	170.950	12.45 *	171.170	19.81	170.820	12.13	171.150	14.30	171.190	17.36
22	171.090	28.69	171.000	14.66	171.140	18.21	170.830	12.20	171.050	12.89 *	171.020	12.00
23	171.050	24.93	171.010	14.21	171.130	16.79	170.800	10.66	171.030	11.89	171.030	11.79
24	171.030	24.11 *	171.050	13.58	171.130	17.15	170.750	10.43	171.020	10.59	171.110	13.67
25	171.010	23.41 *	171.010	13.51	171.090	16.54 *	170.750	10.42 *	171.000	10.12	171.080	12.20
26	171.010	23.39	171.010	13.49 *	171.050	12.76	170.740	9.939	170.940	9.271	171.000	10.72
27	171.150	28.86	171.000	13.28	171.050	12.49	170.800	17.29	170.900	8.977	171.050	14.60 *
28	171.010	24.22	171.000	13.21 *	171.060	12.65	171.150	17.50	170.800	12.05	171.050	14.62
29	171.050	24.73	170.970	12.26			170.850	13.15 *	170.800	12.05 *	171.150	16.19
30	171.050	24.73	170.950	11.93			170.740	10.12 *	170.850	12.06 *	171.250	37.36
31	171.050	24.73 *	171.010	13.55			170.700	8.862			171.100	16.59
Ten-Daily Mean												
I Ten-Daily	171.109	36.78	171.021	21.07	171.061	17.12	170.893	12.69	170.954	13.20	171.033	14.34
II Ten-Daily	171.090	29.19	170.973	14.99	171.134	18.08	170.825	13.98	171.129	14.73	171.028	13.58
III Ten-Daily	171.056	25.60	170.996	13.28	171.103	15.80	170.812	12.06	170.954	11.42	171.094	16.10
Monthly												
Min.	171.010	23.39	170.930	11.93	170.900	12.49	170.700	8.285	170.650	8.510	170.900	10.72
Max.	171.160	41.87	171.050	30.58	171.170	20.23	171.180	17.50	171.280	16.83	171.250	37.36
Mean	171.084	30.36	170.997	16.35	171.099	17.09	170.842	12.88	171.012	13.12	171.053	14.72

Peak Computed Discharge = 3733 cumecs on 06-Aug-17 Corres. Water Level :175.7 m

Lowest Computed Discharge = 8.410 cumecs on 11-Mar-18 Corres. Water Level :170.73 m

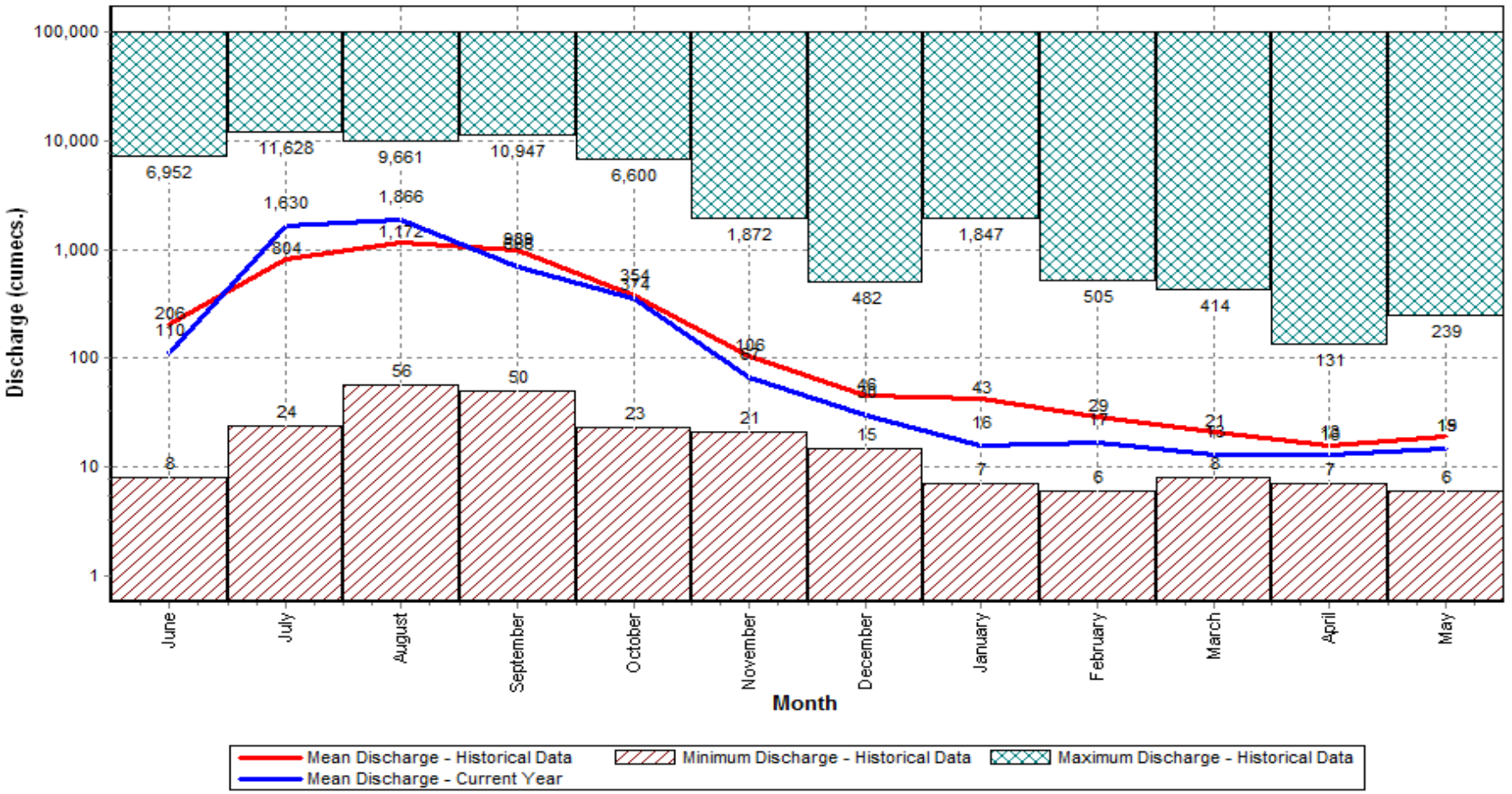
Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2017-2018

Station Name : PANPOSH (EB000H6) **Data considered : 1997-2018** **Division : E.E., Bhubaneswar**

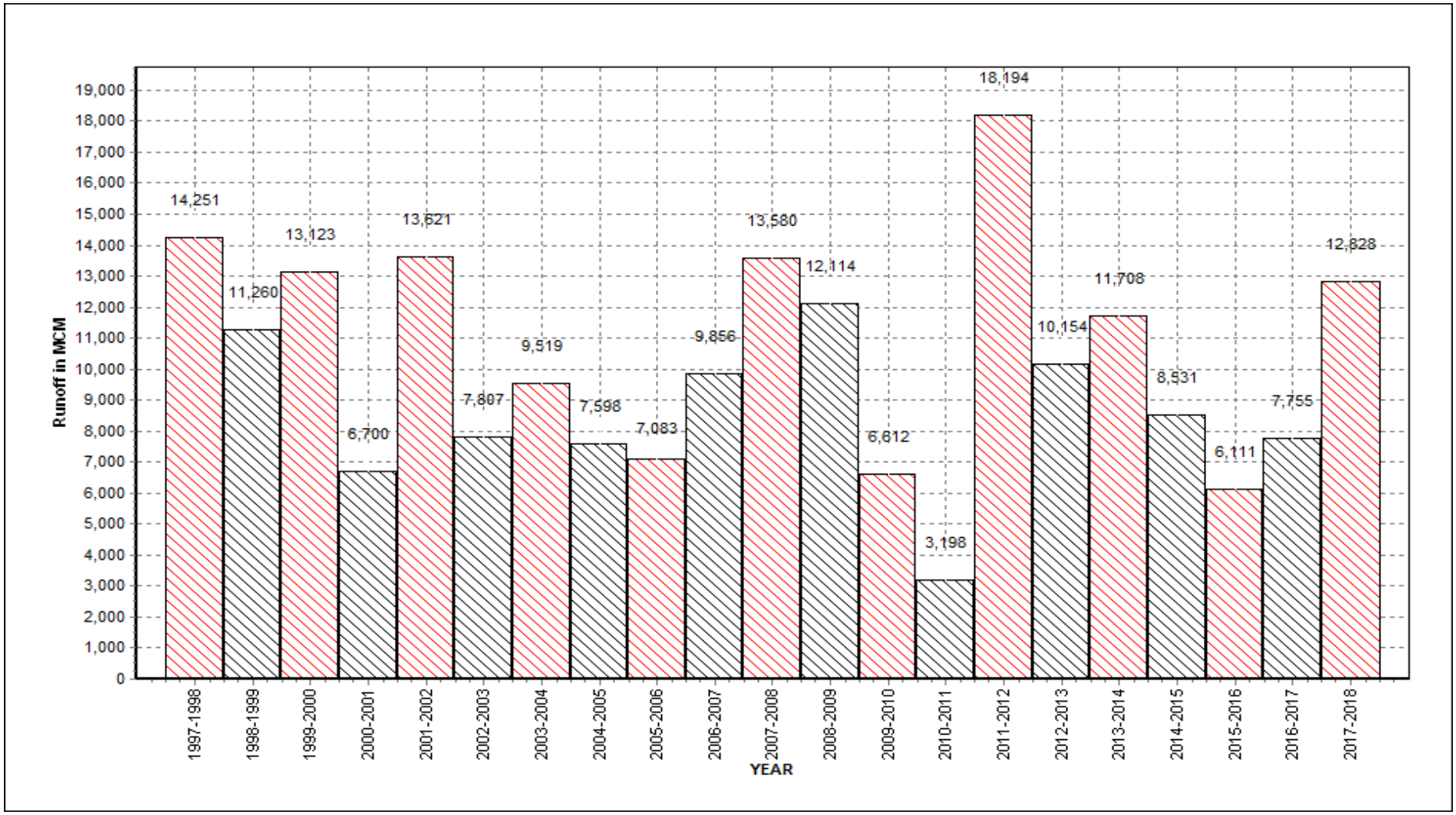
Local River : Brahmni **Sub-Division : Rourkela**



Annual Runoff Values for the period: 1997 - 2018

Station Name : PANPOSH (EB000H6) **Division : E.E., Bhubaneswar**

Local River : Brahmni **Sub-Division : Rourkela**

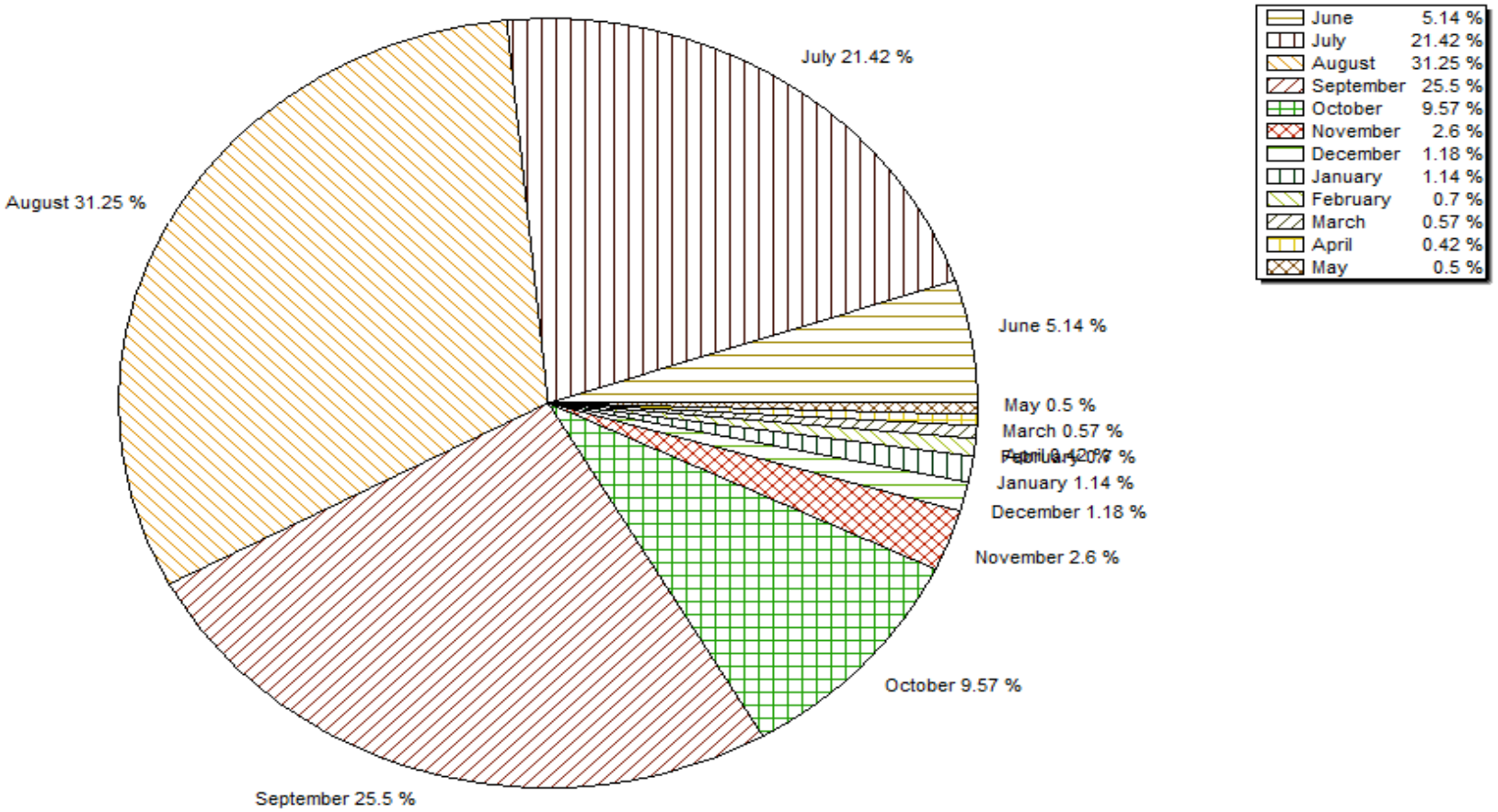


Note: Missing values have not been considered while arriving at Annual Runoff

Monthly Average Runoff based on period : 1997-2017

Station Name : PANPOSH (EB000H6) **Division : E.E., Bhubaneswar**

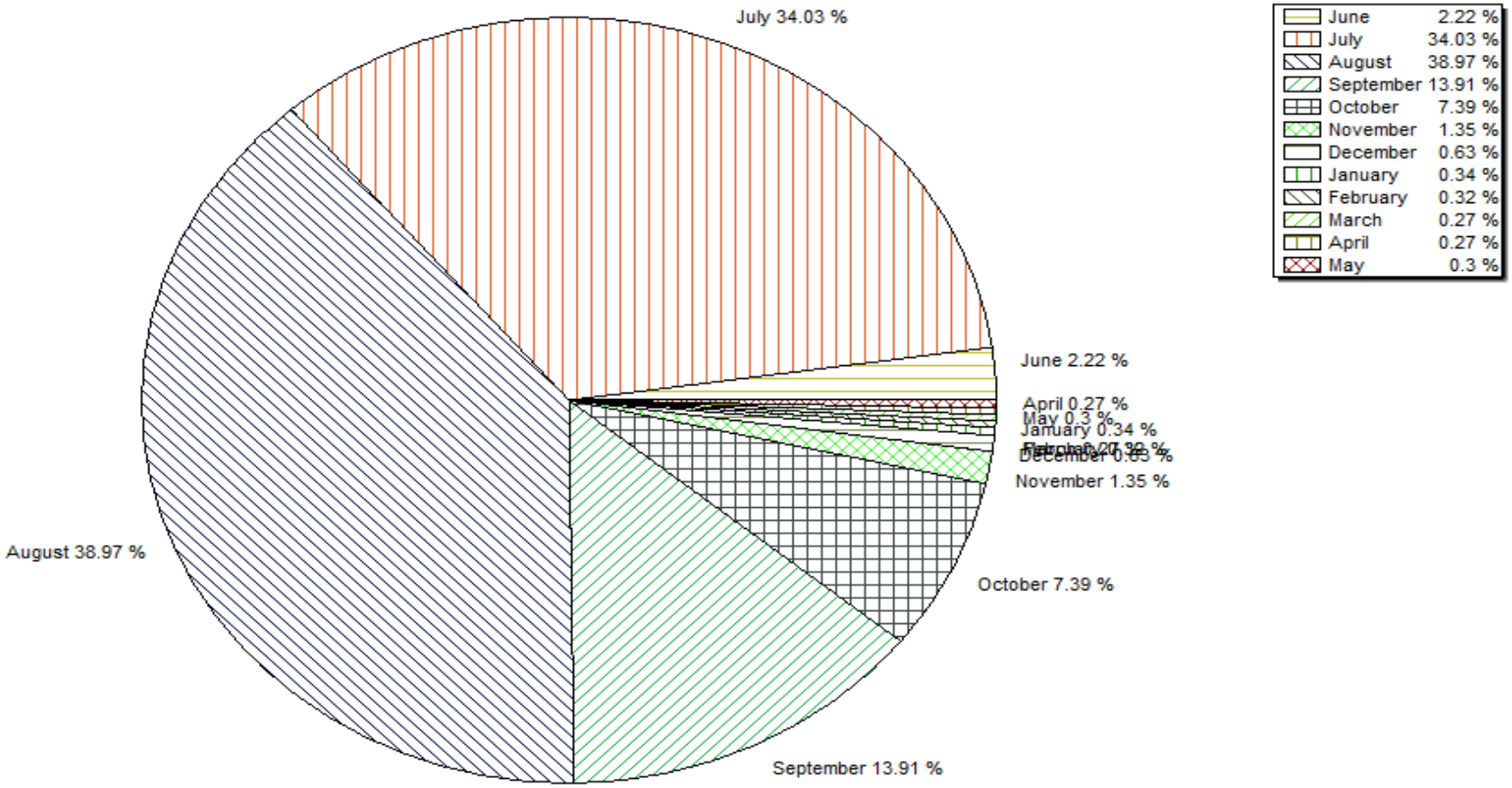
Local River : Brahmni **Sub-Division : Rourkela**



Monthly Runoff for the Year : 2017-2018

Station Name : PANPOSH (EB000H6) **Division : E.E., Bhubaneswar**

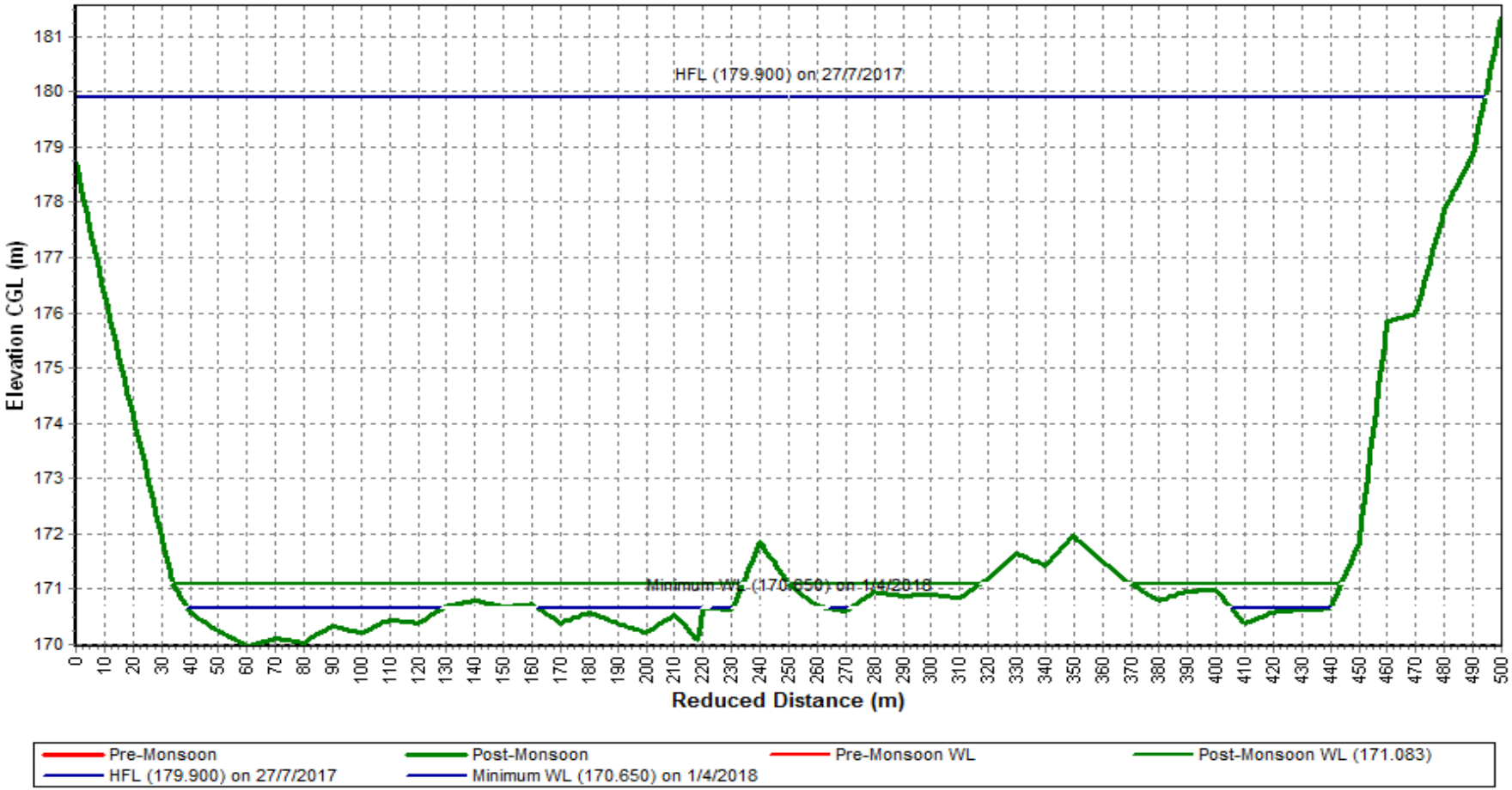
Local River : Brahmni **Sub-Division : Rourkela**



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

Station Name : PANPOSH (EB000H6) **Division : E.E., Bhubaneswar**

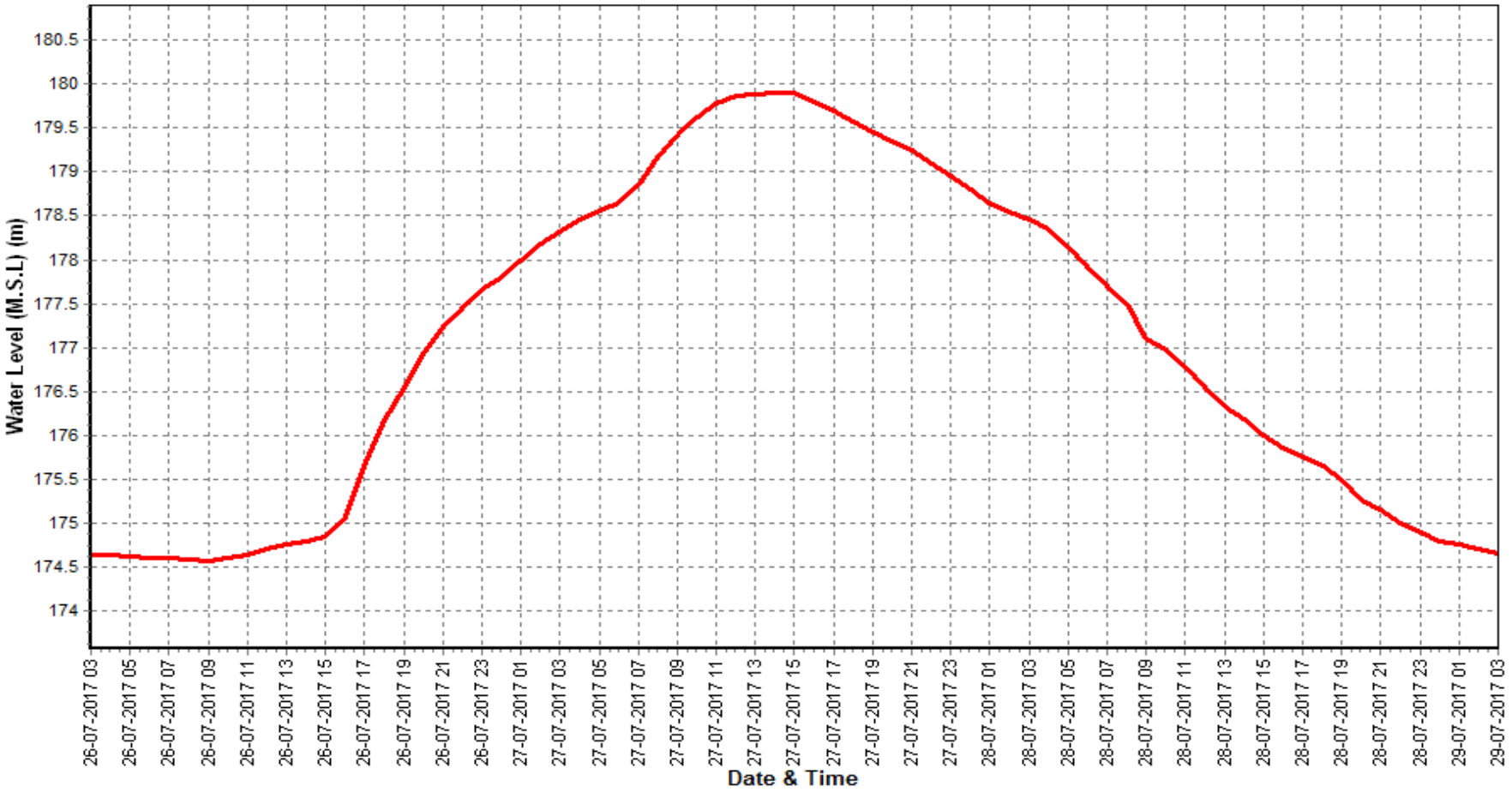
Local River : Brahmni **Sub-Division : Rourkela**



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

Station Name : PANPOSH (EB000H6) **Division : E.E., Bhubaneswar**

Local River : Brahmni **Sub-Division : Rourkela**

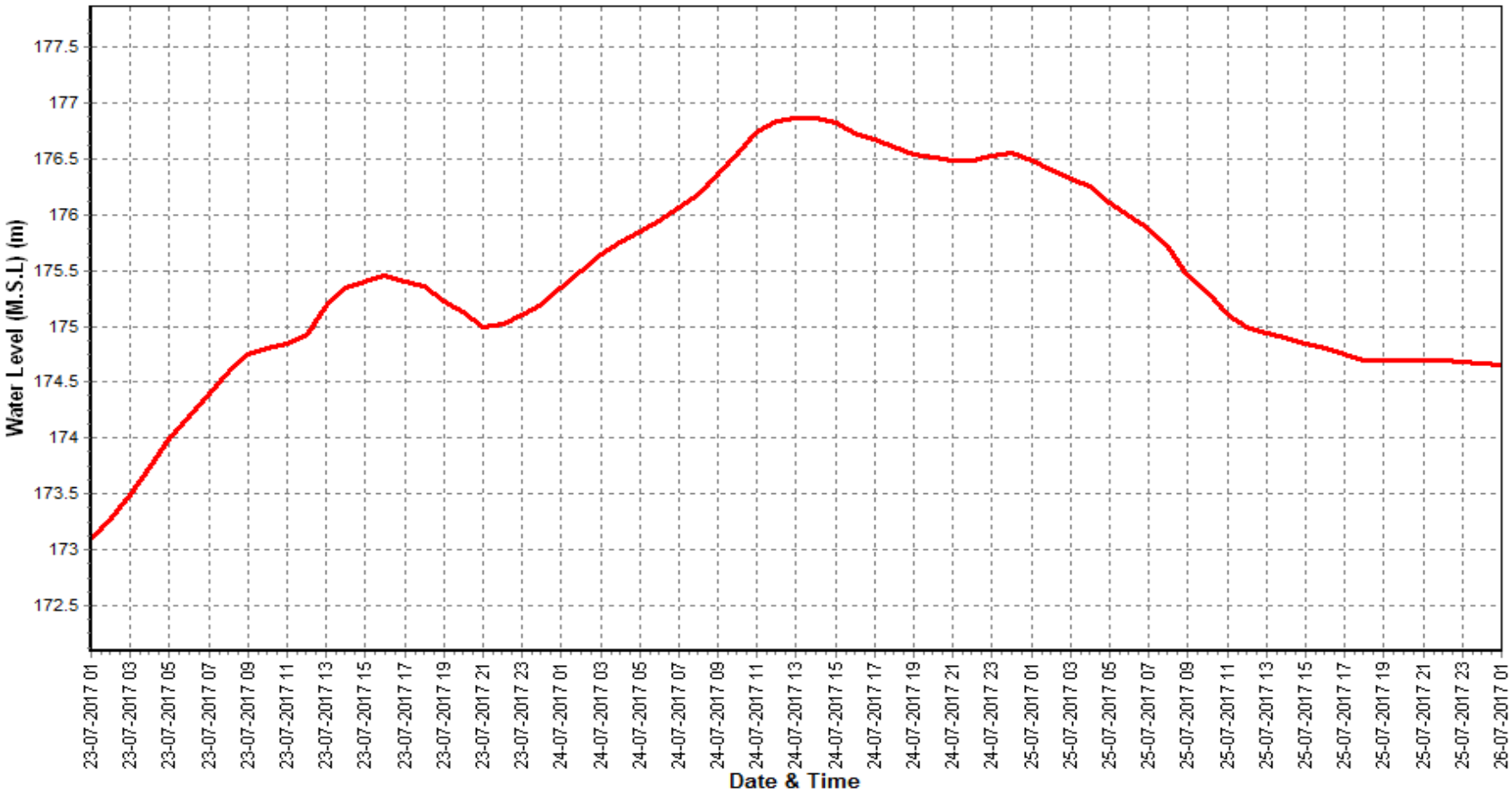


Time Span: 72 Hrs

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

Station Name : PANPOSH (EB000H6) **Division : E.E., Bhubaneswar**

Local River : Brahmni **Sub-Division : Rourkela**

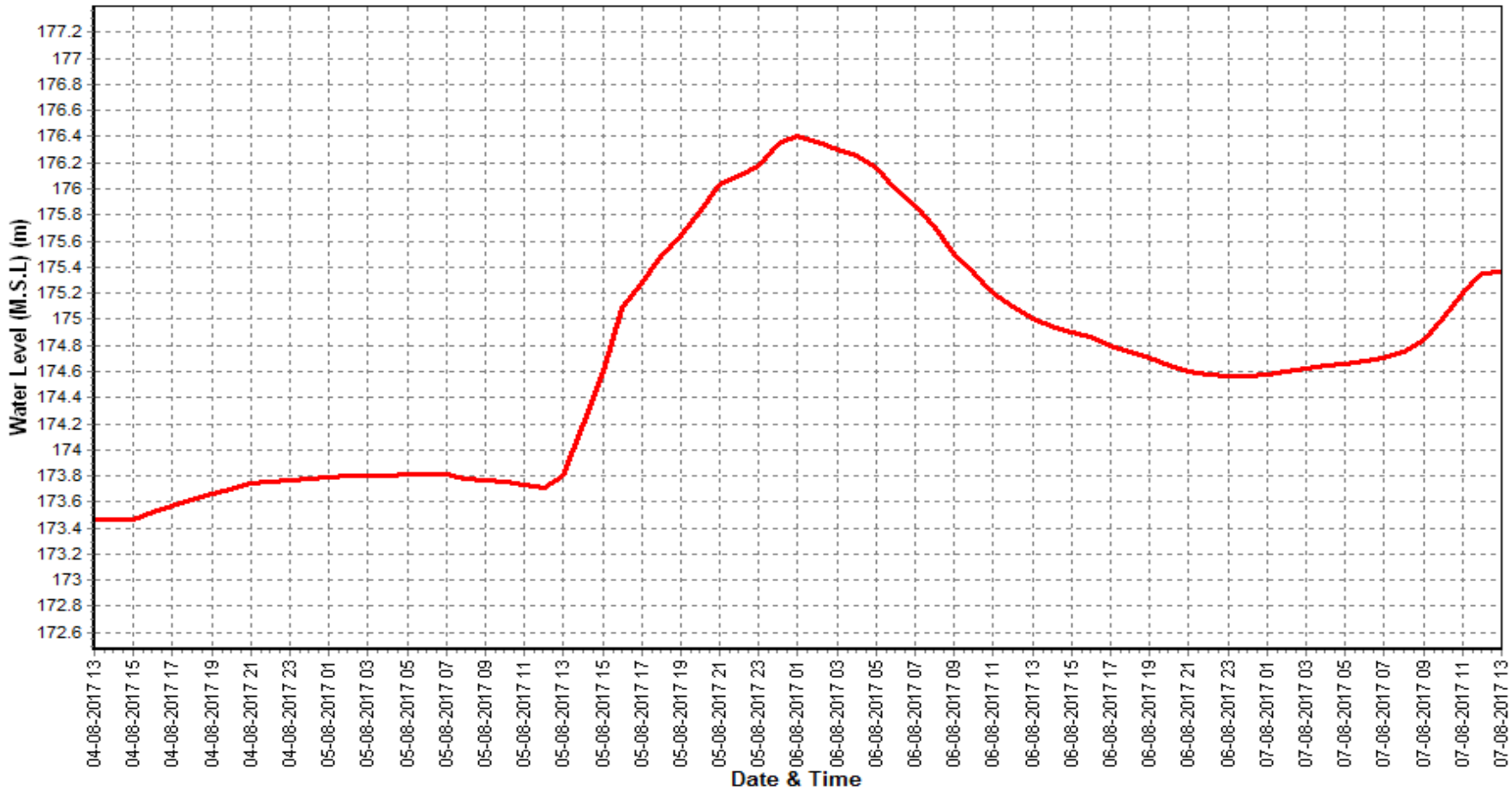


Time Span: 72 Hrs

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

Station Name : PANPOSH (EB000H6) **Division : E.E., Bhubaneswar**

Local River : Brahmni **Sub-Division : Rourkela**



Time Span: 72 Hrs

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : PANPOSH (EB000H6) **Division : E.E., Bhubaneswar**

Local River : Brahmni **Sub-Division : Rourkela**

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	16.69	0.000	0.000	0.005	0.005	7	521.6	0.029	0.025	0.413	0.468	21087	1650	0.033	0.033	0.362	0.427	60904
2	20.86	0.000	0.000	0.003	0.003	6	802.6	0.000	0.000	0.000	0.000	0	1335	0.030	0.028	0.386	0.444	51213
3	16.42	0.000	0.000	0.005	0.005	7	898.8	0.032	0.029	0.256	0.318	24656	1601	0.032	0.029	0.335	0.397	54849
4	16.60	0.000	0.000	0.006	0.006	9	742.2	0.031	0.026	0.269	0.326	20880	1563	0.032	0.030	0.389	0.451	60847
5	15.66	0.000	0.000	0.003	0.003	4	585.6	0.028	0.027	0.310	0.365	18458	1708	0.033	0.030	0.265	0.328	48416
6	13.97	0.000	0.000	0.002	0.002	3	555.5	0.032	0.028	0.368	0.428	20539	3733	0.045	0.040	0.240	0.325	104814
7	11.88	0.000	0.000	0.003	0.003	3	537.9	0.032	0.029	0.102	0.163	7580	2939	0.059	0.058	0.232	0.348	88387
8	13.67	0.000	0.000	0.004	0.004	5	506.0	0.027	0.025	0.201	0.253	11042	4309	0.031	0.028	0.287	0.346	128698
9	12.15	0.000	0.000	0.003	0.003	3	490.6	0.000	0.000	0.000	0.000	0	2594	0.031	0.029	0.357	0.417	93492
10	14.27	0.000	0.000	0.005	0.005	6	437.8	0.030	0.026	0.211	0.267	10092	1498	0.031	0.029	0.401	0.461	59654
11	17.40	0.000	0.000	0.005	0.005	8	689.7	0.028	0.025	0.340	0.393	23425	1509	0.032	0.029	0.258	0.319	41567
12	17.40	0.000	0.000	0.006	0.006	9	522.5	0.032	0.027	0.123	0.182	8198	1519	0.030	0.029	0.228	0.288	37738
13	14.80	0.000	0.000	0.008	0.008	10	542.1	0.032	0.028	0.211	0.270	12656	1626	0.030	0.290	0.180	0.500	70230
14	15.15	0.000	0.000	0.004	0.004	5	873.5	0.029	0.026	0.440	0.495	37358	2118	0.034	0.032	0.014	0.079	14528
15	23.60	0.000	0.000	0.006	0.006	13	994.0	0.033	0.029	0.478	0.540	46358	2261	0.037	0.032	0.015	0.084	16409
16	23.93	0.000	0.000	0.006	0.006	13	900.0	0.000	0.000	0.000	0.000	0	1975	0.043	0.041	0.298	0.383	65277
17	15.02	0.000	0.000	0.008	0.008	10	908.9	0.032	0.030	0.558	0.621	48736	2118	0.044	0.041	0.201	0.286	52333
18	15.03	0.000	0.000	0.008	0.008	10	617.4	0.030	0.029	0.427	0.487	25961	3985	0.135	0.122	0.611	0.868	298875
19	22.65	0.000	0.000	0.009	0.009	18	510.9	0.031	0.028	0.456	0.514	22683	2826	0.109	0.099	0.714	0.921	224880
20	15.70	0.000	0.000	0.009	0.009	12	497.3	0.030	0.029	0.357	0.415	17835	1839	0.100	0.095	0.650	0.845	134225
21	33.58	0.000	0.000	0.007	0.007	21	531.8	0.031	0.028	0.268	0.327	15037	1467	0.083	0.075	0.626	0.784	99383
22	46.59	0.000	0.000	0.012	0.012	47	918.6	0.033	0.032	0.347	0.411	32645	1110	0.029	0.025	0.105	0.160	15301
23	320.1	0.000	0.000	0.007	0.007	185	2436						981.8	0.027	0.025	0.207	0.259	21927
24	101.2	0.000	0.000	0.010	0.010	91	4519	0.030	0.029	0.136	0.195	75972	1124	0.021	0.019	0.141	0.181	17556
25	150.0	0.000	0.000	0.015	0.015	194	4260	0.045	0.041	0.495	0.581	213764	1653	0.029	0.025	0.226	0.280	39956
26	400.0	0.000	0.000	0.013	0.013	449	2771	0.043	0.040	0.351	0.433	103769	1444	0.028	0.023	0.192	0.243	30312
27	464.8	0.000	0.000	0.009	0.009	365	8956						1450	0.025	0.022	0.200	0.247	30933
28	456.9	0.000	0.000	0.020	0.020	786	6189	0.102	0.100	0.697	0.899	480529	1369	0.027	0.023	0.325	0.374	44254
29	494.9	0.031	0.025	0.029	0.085	3618	3121	0.047	0.045	0.565	0.656	176953	745.5	0.024	0.021	0.128	0.174	11176
30	501.3	0.029	0.025	0.054	0.108	4669	2212						964.4	0.021	0.018	0.215	0.254	21182
31							1467	0.057	0.055	0.350	0.461	58485	841.9	0.024	0.019	0.124	0.166	12061
Ten Daily Mean																		
Ten Daily I	15.22	0.000	0.000	0.004	0.004	5	607.9	0.024	0.021	0.213	0.259	13433	2293	0.036	0.033	0.325	0.394	75127
Ten Daily II	18.07	0.000	0.000	0.007	0.007	11	705.6	0.028	0.025	0.339	0.392	24321	2177	0.059	0.081	0.317	0.457	95606
Ten Daily III	296.9	0.006	0.005	0.018	0.029	1043	3398	0.048	0.046	0.401	0.495	144644	1195	0.031	0.027	0.226	0.284	31276
Monthly																		
Total						10585						1534699						2051379

Annual Sediment Load (Metric Tonnes) : 4627837

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : PANPOSH (EB000H6) **Division : E.E., Bhubaneswar**

Local River : Brahmni **Sub-Division : Rourkela**

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	743.0	0.022	0.021	0.093	0.136	8711	795.8	0.060	0.038	0.500	0.598	41117	111.2	0.000	0.000	0.025	0.025	240
2	790.7	0.022	0.020	0.095	0.137	9359	799.2	0.055	0.036	0.550	0.641	44262	103.3	0.000	0.000	0.008	0.008	67
3	886.0	0.023	0.022	0.100	0.145	11100	779.2	0.050	0.038	0.653	0.740	49822	120.2	0.000	0.000	0.018	0.018	182
4	933.6	0.023	0.021	0.114	0.159	12802	779.6	0.045	0.033	0.250	0.328	22060	117.2	0.000	0.000	0.017	0.017	172
5	827.4	0.022	0.020	0.116	0.159	11360	564.8	0.038	0.030	0.568	0.635	30987	117.0	0.000	0.000	0.015	0.015	152
6	624.5	0.023	0.021	0.072	0.116	6243	527.8	0.035	0.025	0.408	0.468	21319	117.3	0.000	0.000	0.030	0.030	304
7	296.1	0.023	0.021	0.136	0.180	4615	474.2	0.033	0.025	0.280	0.338	13828	111.9	0.000	0.000	0.003	0.003	24
8	293.6	0.023	0.020	0.097	0.140	3554	450.3	0.030	0.020	0.260	0.310	12061	94.04	0.000	0.000	0.015	0.015	122
9	450.1	0.025	0.021	0.170	0.216	8380	455.1	0.028	0.023	0.340	0.390	15335	92.71	0.000	0.000	0.048	0.048	381
10	467.6	0.350	0.030	0.170	0.550	22220	443.7	0.030	0.023	0.240	0.293	11213	89.55	0.000	0.000	0.023	0.023	174
11	463.3	0.055	0.045	0.435	0.535	21417	497.7	0.028	0.025	0.315	0.368	15804	49.15	0.000	0.000	0.011	0.011	46
12	753.6	0.073	0.063	0.193	0.328	21325	492.7	0.025	0.023	0.200	0.248	10536	50.00	0.000	0.000	0.011	0.011	48
13	769.7	0.073	0.060	0.233	0.365	24275	355.3	0.025	0.020	0.075	0.120	3684	50.43	0.000	0.000	0.005	0.005	24
14	735.6	0.063	0.055	0.303	0.420	26693	295.8	0.023	0.013	0.313	0.348	8880	42.46	0.000	0.000	0.008	0.008	29
15	598.9	0.073	0.063	0.413	0.548	28330	283.0	0.022	0.013	0.310	0.345	8423	49.49	0.000	0.000	0.021	0.021	89
16	519.7	0.070	0.058	0.265	0.393	17625	211.3	0.000	0.000	0.123	0.123	2237	57.34	0.000	0.000	0.003	0.003	13
17	780.7	0.070	0.055	0.265	0.390	26306	236.4	0.000	0.000	0.078	0.078	1583	50.17	0.000	0.000	0.004	0.004	17
18	460.1	0.068	0.053	0.450	0.570	22660	256.9	0.000	0.000	0.063	0.063	1387	44.61	0.000	0.000	0.003	0.003	10
19	833.4	0.073	0.068	0.513	0.653	46985	221.2	0.000	0.000	0.060	0.060	1147	44.50	0.000	0.000	0.020	0.020	77
20	978.8	0.075	0.068	0.075	0.218	18394	217.6	0.000	0.000	0.065	0.065	1222	51.13	0.000	0.000	0.034	0.034	150
21	1981	0.075	0.065	0.455	0.595	101828	203.1	0.000	0.000	0.045	0.045	790	46.77	0.000	0.000	0.012	0.012	48
22	1008	0.073	0.063	0.225	0.360	31365	215.3	0.000	0.000	0.040	0.040	744	53.28	0.000	0.000	0.012	0.012	56
23	827.6	0.065	0.060	0.215	0.340	24310	251.1	0.000	0.000	0.053	0.053	1139	48.33	0.000	0.000	0.005	0.005	23
24	760.8	0.065	0.060	0.220	0.345	22678	189.3	0.000	0.000	0.045	0.045	736	46.17	0.000	0.000	0.007	0.007	26
25	466.6	0.060	0.050	0.675	0.785	31647	175.9	0.000	0.000	0.048	0.048	722	41.71	0.000	0.000	0.009	0.009	33
26	464.0	0.053	0.045	0.243	0.340	13630	164.4	0.000	0.000	0.045	0.045	639	41.50	0.000	0.000	0.008	0.008	29
27	456.3	0.050	0.040	0.480	0.570	22471	142.9	0.000	0.000	0.023	0.023	278	41.76	0.000	0.000	0.007	0.007	24
28	484.9	0.053	0.045	0.705	0.803	33619	127.4	0.000	0.000	0.025	0.025	275	40.30	0.000	0.000	0.008	0.008	28
29	492.0	0.052	0.045	0.710	0.807	34305	121.5	0.000	0.000	0.026	0.026	268	41.77	0.000	0.000	0.007	0.007	23
30	498.6	0.052	0.050	0.700	0.802	34549	123.8	0.000	0.000	0.033	0.033	348	40.91	0.000	0.000	0.009	0.009	32
31							115.5	0.000	0.000	0.028	0.028	274						
Ten Daily Mean																		
Ten Daily I	631.3	0.056	0.022	0.116	0.194	9834	607.0	0.040	0.029	0.405	0.474	26200	107.5	0.000	0.000	0.020	0.020	182
Ten Daily II	689.4	0.069	0.059	0.314	0.442	25401	306.8	0.012	0.009	0.160	0.181	5490	48.93	0.000	0.000	0.012	0.012	50
Ten Daily III	744.0	0.060	0.052	0.463	0.575	35040	166.4	0.000	0.000	0.037	0.037	565	44.25	0.000	0.000	0.008	0.008	32
Monthly																		
Total						702758						323119						2642

Annual Sediment Load (Metric Tonnes) : 4627837

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : PANPOSH (EB000H6) **Division : E.E., Bhubaneswar**

Local River : Brahmni **Sub-Division : Rourkela**

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	41.83	0.000	0.000	0.009	0.009	33	25.71	0.000	0.000	0.010	0.010	23	18.56	0.000	0.000	0.013	0.013	21
2	41.83	0.000	0.000	0.009	0.009	33	20.17	0.000	0.000	0.010	0.010	18	16.51	0.000	0.000	0.013	0.013	18
3	40.35	0.000	0.000	0.009	0.009	31	20.92	0.000	0.000	0.010	0.010	19	17.15	0.000	0.000	0.013	0.013	19
4	41.87	0.000	0.000	0.009	0.009	33	20.08	0.000	0.000	0.010	0.010	18	17.41	0.000	0.000	0.012	0.012	18
5	41.77	0.000	0.000	0.009	0.009	33	18.48	0.000	0.000	0.010	0.010	16	16.61	0.000	0.000	0.008	0.008	11
6	31.41	0.000	0.000	0.009	0.009	25	18.80	0.000	0.000	0.010	0.010	17	15.20	0.000	0.000	0.008	0.008	10
7	32.88	0.000	0.000	0.009	0.009	26	18.85	0.000	0.000	0.010	0.010	16	17.27	0.000	0.000	0.008	0.008	12
8	36.35	0.000	0.000	0.009	0.009	29	30.58	0.000	0.000	0.006	0.006	16	18.26	0.000	0.000	0.008	0.008	12
9	30.08	0.000	0.000	0.009	0.009	24	18.97	0.000	0.000	0.006	0.006	10	17.44	0.000	0.000	0.008	0.008	12
10	29.40	0.000	0.000	0.009	0.009	23	18.11	0.000	0.000	0.006	0.006	9	16.83	0.000	0.000	0.008	0.008	11
11	30.08	0.000	0.000	0.008	0.008	20	17.52	0.000	0.000	0.006	0.006	9	17.81	0.000	0.000	0.008	0.008	12
12	27.79	0.000	0.000	0.008	0.008	19	18.08	0.000	0.000	0.006	0.006	9	17.60	0.000	0.000	0.010	0.010	16
13	31.93	0.000	0.000	0.008	0.008	22	17.40	0.000	0.000	0.006	0.006	9	16.65	0.000	0.000	0.010	0.010	15
14	30.52	0.000	0.000	0.008	0.008	21	17.38	0.000	0.000	0.006	0.006	9	16.97	0.000	0.000	0.010	0.010	15
15	27.91	0.000	0.000	0.008	0.008	19	14.40	0.000	0.000	0.008	0.008	10	16.96	0.000	0.000	0.010	0.010	15
16	29.50	0.000	0.000	0.008	0.008	20	14.16	0.000	0.000	0.008	0.008	10	18.07	0.000	0.000	0.010	0.010	16
17	28.95	0.000	0.000	0.007	0.007	18	13.42	0.000	0.000	0.008	0.008	9	19.49	0.000	0.000	0.010	0.010	18
18	26.85	0.000	0.000	0.007	0.007	17	12.79	0.000	0.000	0.008	0.008	9	20.23	0.000	0.000	0.010	0.010	17
19	28.88	0.000	0.000	0.007	0.007	18	12.38	0.000	0.000	0.008	0.008	8	18.87	0.000	0.000	0.012	0.012	20
20	29.50	0.000	0.000	0.007	0.007	19	12.40	0.000	0.000	0.008	0.008	8	18.14	0.000	0.000	0.012	0.012	19
21	29.79	0.000	0.000	0.007	0.007	19	12.45	0.000	0.000	0.007	0.007	8	19.81	0.000	0.000	0.012	0.012	21
22	28.69	0.000	0.000	0.007	0.007	18	14.66	0.000	0.000	0.007	0.007	8	18.21	0.000	0.000	0.012	0.012	20
23	24.93	0.000	0.000	0.007	0.007	16	14.21	0.000	0.000	0.007	0.007	8	16.79	0.000	0.000	0.012	0.012	18
24	24.11	0.000	0.000	0.007	0.007	15	13.58	0.000	0.000	0.007	0.007	8	17.15	0.000	0.000	0.012	0.012	18
25	23.41	0.000	0.000	0.008	0.008	16	13.51	0.000	0.000	0.007	0.007	8	16.54	0.000	0.000	0.012	0.012	17
26	23.39	0.000	0.000	0.008	0.008	16	13.49	0.000	0.000	0.006	0.006	7	12.76	0.000	0.000	0.010	0.010	11
27	28.86	0.000	0.000	0.008	0.008	20	13.28	0.000	0.000	0.007	0.007	8	12.49	0.000	0.000	0.010	0.010	11
28	24.22	0.000	0.000	0.008	0.008	17	13.21	0.000	0.000	0.006	0.006	7	12.65	0.000	0.000	0.010	0.010	11
29	24.73	0.000	0.000	0.008	0.008	17	12.26	0.000	0.000	0.013	0.013	14						
30	24.73	0.000	0.000	0.008	0.008	17	11.93	0.000	0.000	0.013	0.013	13						
31	24.73	0.000	0.000	0.008	0.008	17	13.55	0.000	0.000	0.013	0.013	15						
Ten Daily Mean																		
Ten Daily I	36.78	0.000	0.000	0.009	0.009	29	21.07	0.000	0.000	0.009	0.009	16	17.12	0.000	0.000	0.010	0.010	15
Ten Daily II	29.19	0.000	0.000	0.008	0.008	19	14.99	0.000	0.000	0.007	0.007	9	18.08	0.000	0.000	0.011	0.011	16
Ten Daily III	25.60	0.000	0.000	0.008	0.008	17	13.28	0.000	0.000	0.008	0.008	9	15.80	0.000	0.000	0.011	0.011	16
Monthly																		
Total						670						355						437

Annual Sediment Load (Metric Tonnes) : 4627837

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : PANPOSH (EB000H6) **Division : E.E., Bhubaneswar**

Local River : Brahmni **Sub-Division : Rourkela**

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	12.58	0.000	0.000	0.010	0.010	11	8.510	0.000	0.000	0.008	0.008	6	13.76	0.000	0.000	0.007	0.007	9
2	12.50	0.000	0.000	0.010	0.010	11	8.670	0.000	0.000	0.008	0.008	6	13.93	0.000	0.000	0.007	0.007	9
3	13.76	0.000	0.000	0.010	0.010	12	14.04	0.000	0.000	0.008	0.008	10	15.83	0.000	0.000	0.007	0.007	10
4	13.78	0.000	0.000	0.010	0.010	12	16.83	0.000	0.000	0.008	0.008	11	16.43	0.000	0.000	0.007	0.007	10
5	15.94	0.000	0.000	0.013	0.013	17	13.41	0.000	0.000	0.008	0.008	9	14.76	0.000	0.000	0.007	0.007	9
6	15.36	0.000	0.000	0.013	0.013	17	11.34	0.000	0.000	0.008	0.008	8	14.75	0.000	0.000	0.007	0.007	9
7	17.28	0.000	0.000	0.013	0.013	19	13.40	0.000	0.000	0.008	0.008	9	12.97	0.000	0.000	0.010	0.010	11
8	8.849	0.000	0.000	0.013	0.013	10	14.23	0.000	0.000	0.008	0.008	10	12.80	0.000	0.000	0.010	0.010	11
9	8.285	0.000	0.000	0.013	0.013	9	14.74	0.000	0.000	0.006	0.006	8	13.84	0.000	0.000	0.010	0.010	12
10	8.578	0.000	0.000	0.013	0.013	9	16.79	0.000	0.000	0.006	0.006	9	14.31	0.000	0.000	0.010	0.010	12
11	8.410	0.000	0.000	0.012	0.012	9	15.33	0.000	0.000	0.006	0.006	8	15.78	0.000	0.000	0.010	0.010	13
12	8.970	0.000	0.000	0.011	0.011	8	16.52	0.000	0.000	0.006	0.006	9	14.97	0.000	0.000	0.010	0.010	13
13	15.54	0.000	0.000	0.011	0.011	14	14.64	0.000	0.000	0.006	0.006	8	14.55	0.000	0.000	0.009	0.009	11
14	16.18	0.000	0.000	0.011	0.011	15	15.20	0.000	0.000	0.006	0.006	8	14.62	0.000	0.000	0.026	0.026	33
15	15.79	0.000	0.000	0.011	0.011	14	14.40	0.000	0.000	0.007	0.007	9	14.50	0.000	0.000	0.026	0.026	33
16	16.07	0.000	0.000	0.011	0.011	15	14.46	0.000	0.000	0.008	0.008	10	13.01	0.000	0.000	0.026	0.026	30
17	15.86	0.000	0.000	0.011	0.011	15	14.94	0.000	0.000	0.008	0.008	10	11.51	0.000	0.000	0.026	0.026	26
18	15.89	0.000	0.000	0.010	0.010	14	14.25	0.000	0.000	0.008	0.008	10	10.83	0.000	0.000	0.026	0.026	25
19	13.16	0.000	0.000	0.013	0.013	15	12.76	0.000	0.000	0.008	0.008	9	12.10	0.000	0.000	0.026	0.026	28
20	13.90	0.000	0.000	0.013	0.013	15	14.81	0.000	0.000	0.008	0.008	10	13.89	0.000	0.000	0.025	0.025	30
21	12.13	0.000	0.000	0.013	0.013	13	14.30	0.000	0.000	0.008	0.008	10	17.36	0.000	0.000	0.011	0.011	16
22	12.20	0.000	0.000	0.013	0.013	13	12.89	0.000	0.000	0.008	0.008	9	12.00	0.000	0.000	0.011	0.011	11
23	10.66	0.000	0.000	0.013	0.013	12	11.89	0.000	0.000	0.007	0.007	8	11.79	0.000	0.000	0.011	0.011	11
24	10.43	0.000	0.000	0.013	0.013	12	10.59	0.000	0.000	0.007	0.007	7	13.67	0.000	0.000	0.011	0.011	13
25	10.42	0.000	0.000	0.012	0.012	11	10.12	0.000	0.000	0.007	0.007	6	12.20	0.000	0.000	0.011	0.011	11
26	9.939	0.000	0.000	0.009	0.009	8	9.271	0.000	0.000	0.007	0.007	6	10.72	0.000	0.000	0.011	0.011	10
27	17.29	0.000	0.000	0.009	0.009	14	8.977	0.000	0.000	0.007	0.007	6	14.60	0.000	0.000	0.010	0.010	13
28	17.50	0.000	0.000	0.009	0.009	14	12.05	0.000	0.000	0.007	0.007	8	14.62	0.000	0.000	0.018	0.018	23
29	13.15	0.000	0.000	0.008	0.008	9	12.05	0.000	0.000	0.007	0.007	7	16.19	0.000	0.000	0.018	0.018	26
30	10.12	0.000	0.000	0.008	0.008	7	12.06	0.000	0.000	0.008	0.008	8	37.36	0.000	0.000	0.018	0.018	59
31	8.862	0.000	0.000	0.009	0.009	7							16.59	0.000	0.000	0.018	0.018	26
Ten Daily Mean																		
Ten Daily I	12.69	0.000	0.000	0.012	0.012	13	13.20	0.000	0.000	0.008	0.008	9	14.34	0.000	0.000	0.008	0.008	10
Ten Daily II	13.98	0.000	0.000	0.011	0.011	13	14.73	0.000	0.000	0.007	0.007	9	13.58	0.000	0.000	0.021	0.021	24
Ten Daily III	12.06	0.000	0.000	0.011	0.011	11	11.42	0.000	0.000	0.007	0.007	7	16.10	0.000	0.000	0.013	0.013	20
Monthly Total						382						250						562

Annual Sediment Load (Metric Tonnes) : 4627837

Annual Sediment Load for period : 1997-2018

Station Name : PANPOSH (EB000H6) **Division : E.E., Bhubaneswar**

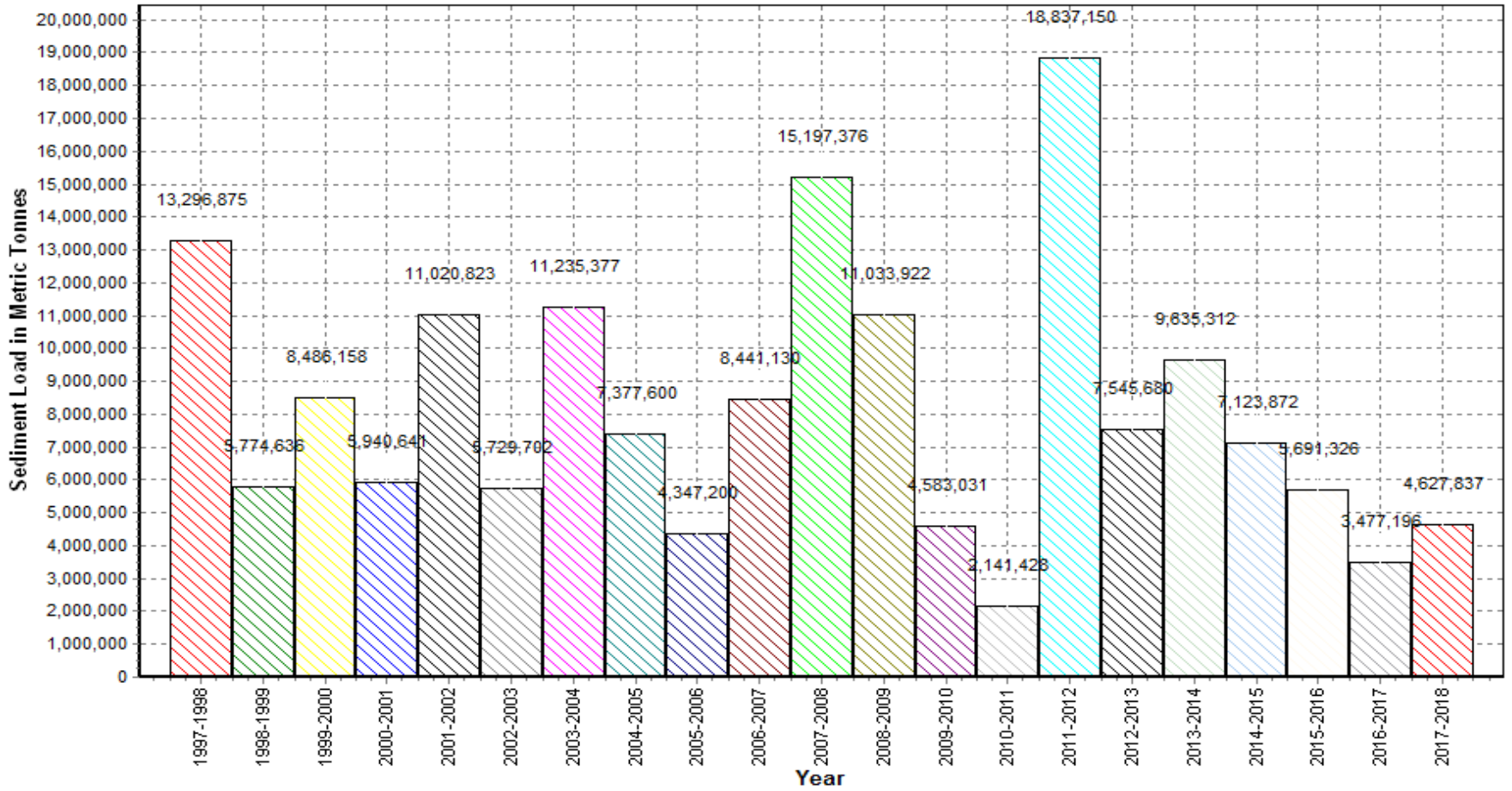
Local River : Brahmni **Sub-Division : Rourkela**

Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)
1997-1998	13082732	214143	13296875	14251
1998-1999	5740493	34142	5774636	11260
1999-2000	8468080	18078	8486158	13123
2000-2001	5933566	7075	5940641	6700
2001-2002	11015435	5388	11020823	13621
2002-2003	5722434	7268	5729702	7804
2003-2004	11211416	23962	11235377	9519
2004-2005	7359200	18401	7377600	7598
2005-2006	4310272	36928	4347200	7083
2006-2007	8427091	14039	8441130	9856
2007-2008	15178560	18817	15197376	13580
2008-2009	11014979	18943	11033922	12114
2009-2010	4573405	9626	4583031	6612
2010-2011	2130446	10981	2141428	3198
2011-2012	18822863	14287	18837150	18194
2012-2013	7530170	15510	7545680	10154
2013-2014	9597843	37469	9635312	11708
2014-2015	7116756	7116	7123872	8531
2015-2016	5683606	7720	5691326	6111
2016-2017	3336292	140904	3477196	7755
2017-2018	4625181	2657	4627837	12828

Annual Sediment Load for the period: 1997-2018

Station Name : PANPOSH (EB000H6) **Division : E.E., Bhubaneswar**

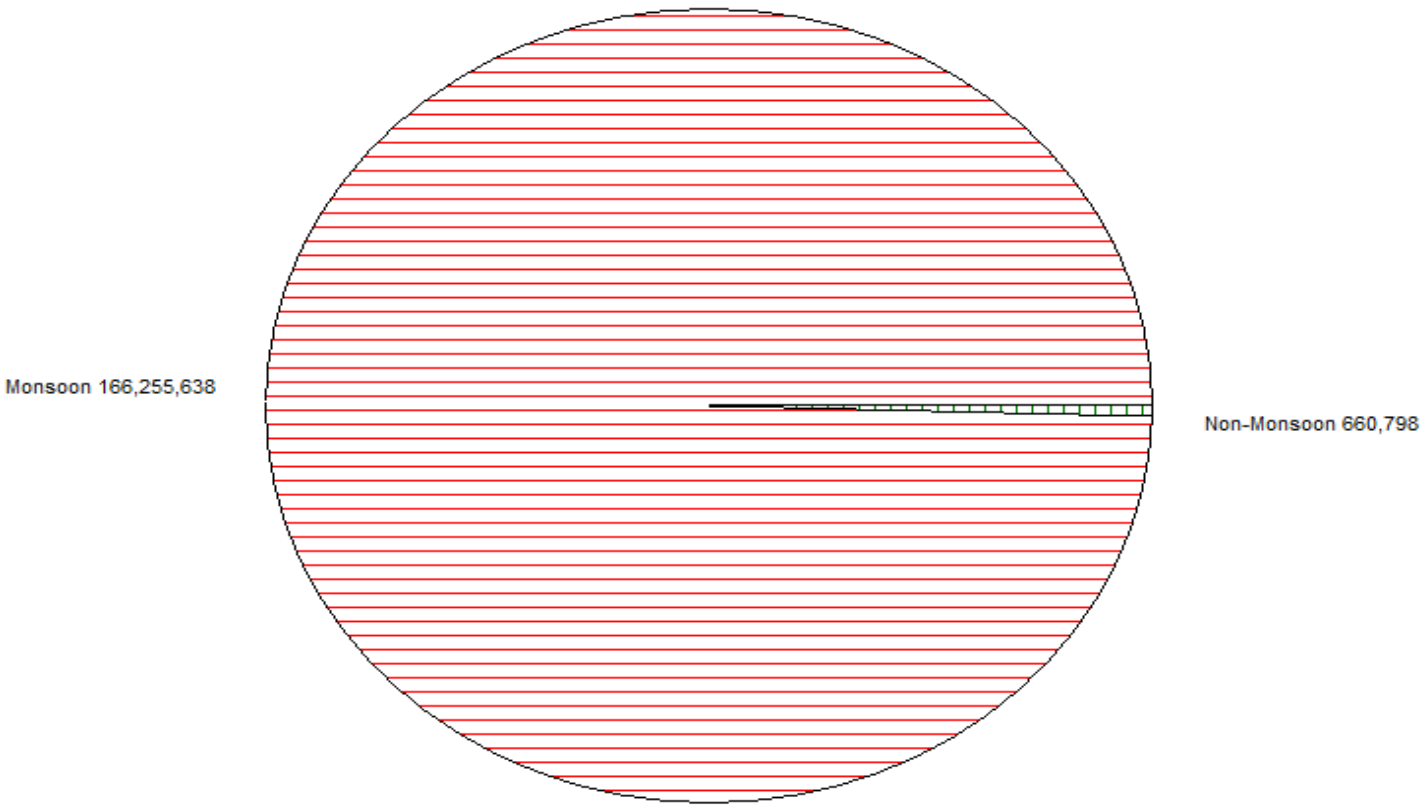
Local River : Brahmni **Sub-Division : Rourkela**



Seasonal Sediment Load for the period : 1997-2017

Station Name : PANPOSH (EB000H6)
Local River : Brahmni

Division : E.E., Bhubaneswar
Sub-Division : Rourkela



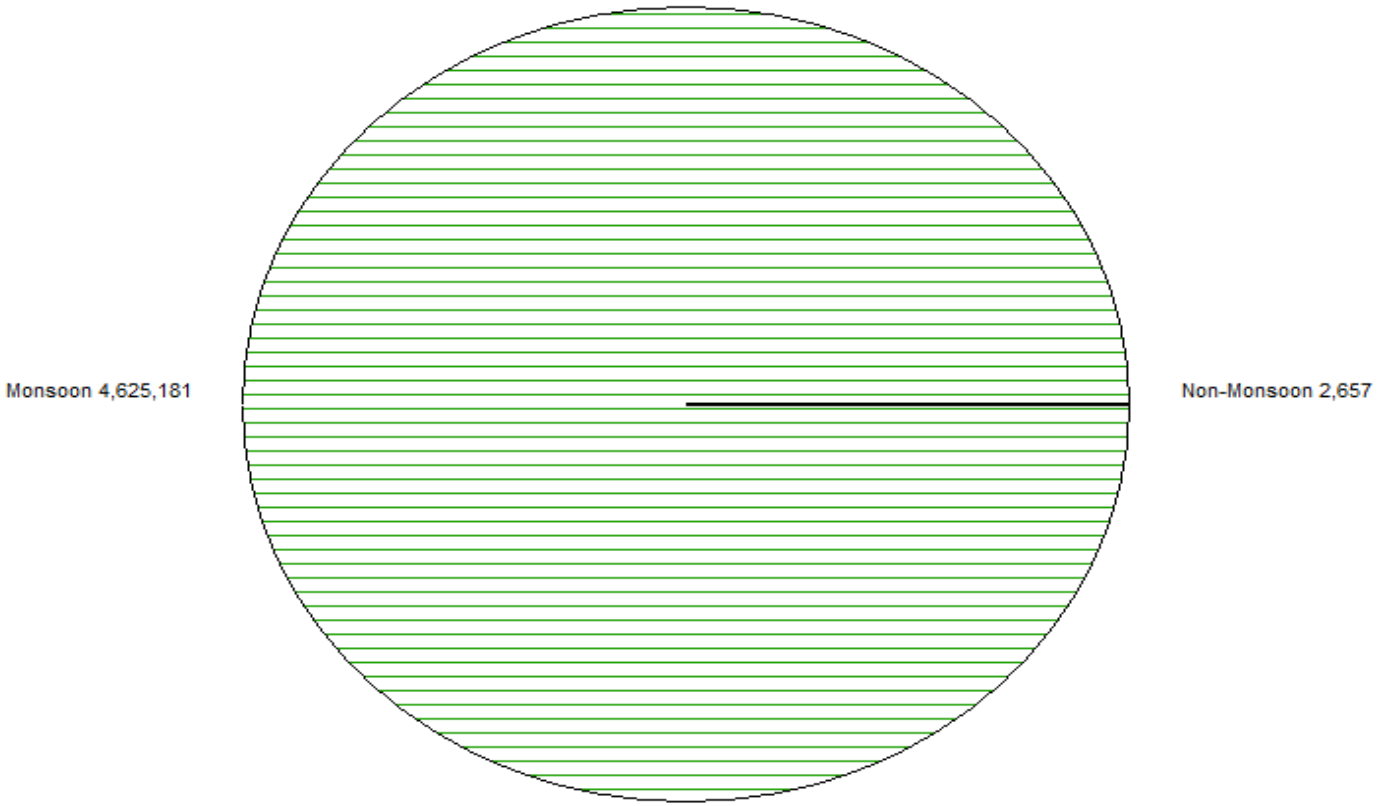
Seasonal Sediment Load for the Year: 2017-2018

Station Name : PANPOSH (EB000H6)

Division : E.E., Bhubaneswar

Local River : Brahmni

Sub-Division : Rourkela



Water Quality Datasheet for the period : 2017-2018

Station Name : PANPOSH (EB000H6) **Division : E.E., Bhubaneswar**

Local River : Brahmani **River Water Analysis** **Sub-Division : Rourkela**

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)												
2	Colour_Cod (-)	Clear	Light Brown	Light Brown	Light Brown	Light Brown	Clear	Clear	Clear	Clear	Clear	Clear	Clear
3	EC_FLD (µmho/cm)	291	132	125	129	115	218	210	228	237	336	198	236
4	EC_GEN (µmho/cm)	285	127	120	125	109	213	202	224	232	340	192	233
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	7.6	7.2	7.4	7.7	7.9	7.7	8.5	7.7	7.6	7.9	7.5
7	pH_GEN (pH units)	7.9	7.5	7.1	7.3	7.8	7.8	7.6	8.5	7.6	7.7	7.9	7.4
8	Temp (deg C)	29.0	27.5	28.0	26.0	27.0	26.0	16.0	11.0	15.0	21.0	26.0	29.0
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.9	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	115	51	42	55	46	88	88	124	97	83	111	79
3	B (mg/L)	0.02	0.02	0.01	0.03	0.01	0.02	0.02	0.01	0.03	0.02	0.01	0.03
4	Ca (mg/L)	37	35	34	35	13	29	38	38	51	33	20	25
5	Cl (mg/L)	45.3	11.3	9.4	11.3	6.9	8.7	12.1	13.8	12.1	12.1	12.1	17.3
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.2	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	0.5	0.5	0.4	0.4	0.4	0.5	0.5	0.5	0.3	0.4
9	HCO3 (mg/L)	141	62	51	68	56	107	107	113	118	101	135	96
10	K (mg/L)	4.8	2.9	2.0	2.2	2.8	2.9	3.3	3.2	0.9	1.0	1.5	2.4
11	Mg (mg/L)	27.3	16.5	17.5	18.5	5.6	7.9	15.9	11.9	11.1	11.9	10.3	7.9
12	Na (mg/L)	6.7	3.3	3.0	3.6	3.9	4.2	4.3	4.8	6.6	6.8	7.3	8.7
13	NO2+NO3 (mg N/L)	1.19	1.20	1.23	1.20	1.18	1.22	1.19	1.12	1.18	1.23	1.19	1.22
14	NO2-N (mgN/L)	0.00	0.01	0.04	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	NO3-N (mgN/L)	1.19	1.19	1.19	1.18	1.18	1.22	1.19	1.12	1.18	1.23	1.19	1.22
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	9.1	8.6	7.2	7.2	9.8	6.5	7.4	9.0	8.5	7.4	9.4
18	SO4 (mg/L)	5.2	16.7	16.8	4.4	13.2	13.2	13.4	13.7	14.0	8.6	25.5	13.2
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)	2.4	0.8	0.6	0.2	0.6	2.4	1.6	2.8	0.6	1.2	0.4	1.2
2	DO (mg/L)	4.4	6.6	6.0	5.8	6.0	6.2	6.4	7.6	6.6	3.2	6.6	5.2
3	DO_SAT% (%)	57	82	76	71	75	76	64	68	65	36	81	67
4	FCol-MPN (MPN/100mL)	170	90	60	90	60	80	90	70	110	90	90	110
5	Tcol-MPN (MPN/100mL)	220	260	210	220	210	220	230	260	270	260	220	230
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)	92	88	84	88	33	72	95	95	128	82	49	62
2	HAR_Total (mgCaCO3/L)	206	157	157	165	56	105	161	144	174	131	92	95
3	Na% (%)	6	4	4	4	13	8	5	7	8	10	15	16
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0
5	SAR (-)	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.2	0.3	0.3	0.4
	PESTICIDES												

Water Quality Summary for the period : 2017-2018

Station Name : PANPOSH (EB000H6) **Division : E.E., Bhubaneswar**

Local River : Brahmani **Sub-Division : Rourkela**

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)				
2	EC_FLD (µmho/cm)	12	336	115	205
3	EC_GEN (µmho/cm)	12	340	109	200
4	pH_FLD (pH units)	12	8.5	7.2	7.7
5	pH_GEN (pH units)	12	8.5	7.1	7.7
6	Temp (deg C)	12	29.0	11.0	23.5
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	12	15.9	0.0	1.3
2	ALK-TOT (mgCaCO3/L)	12	124	42	82
3	B (mg/L)	12	0.03	0.01	0.02
4	Ca (mg/L)	12	51	13	32
5	Cl (mg/L)	12	45.3	6.9	14.4
6	CO3 (mg/L)	12	19.2	0.0	1.6
7	F (mg/L)	12	0.05	0.05	0.05
8	Fe (mg/L)	12	0.5	0.3	0.4
9	HCO3 (mg/L)	12	141	51	96
10	K (mg/L)	12	4.8	0.9	2.5
11	Mg (mg/L)	12	27.3	5.6	13.5
12	Na (mg/L)	12	8.7	3.0	5.3
13	NO2+NO3 (mg N/L)	12	1.23	1.12	1.2
14	NO2-N (mgN/L)	12	0.04	0.00	0.01
15	NO3-N (mgN/L)	12	1.23	1.12	1.19
16	P-Tot (mgP/L)	12	0.001	0.001	0.001
17	SiO2 (mg/L)	12	9.8	6.5	8.1
18	SO4 (mg/L)	12	25.5	4.4	13.2
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	12	2.8	0.2	1.2
2	DO (mg/L)	12	7.6	3.2	5.8
3	DO_SAT% (%)	12	82	36	68
4	FCol-MPN (MPN/100mL)	12	170	60	93
5	Tcol-MPN (MPN/100mL)	12	270	210	234
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	12	128	33	81
2	HAR_Total (mgCaCO3/L)	12	206	56	137
3	Na% (%)	12	16	4	8
4	RSC (-)	12	0.4	0.0	0
5	SAR (-)	12	0.4	0.1	0.2
	PESTICIDES				

Water Quality Seasonal Average for the period: 2003-2018

Station Name : PANPOSH (EB000H6) **Division : E.E., Bhubaneswar**

Local River : Brahmani **River Water** **Sub-Division : Rourkela**

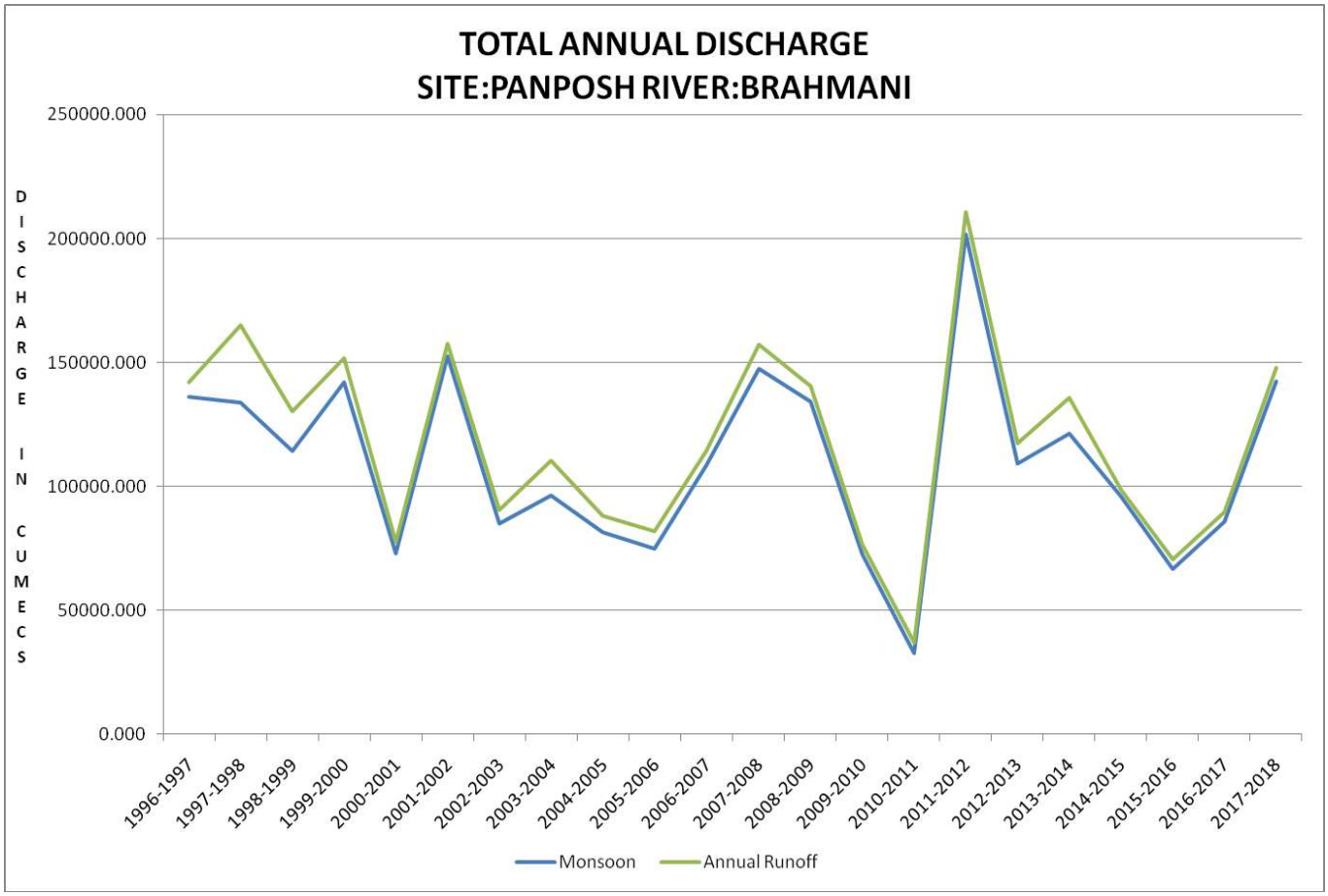
S.No	Parameters	Flood Jun - Oct															Winter Nov - Feb							
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	PHYSICAL																							
1	Q (cumec)																							
2	EC_FLD (µmho/cm)	121	154	152	147	165	149	173	171	135	159	179	172	280	135	158	204	184	223	210	186	219	202	235
3	EC_GEN (µmho/cm)	122	165	150	143	158	149	173	175	135	159	179	172	276	139	153	204	188	218	205	178	219	202	235
4	pH_FLD (pH units)	7.6	7.7	7.7	7.5	7.9	7.4	7.5	7.7	8.0	7.5	7.3	7.6	7.2	7.5	7.6	7.7	8.0	7.6	8.3	8.0	7.6	7.5	7.5
5	pH_GEN (pH units)	7.5	7.5	7.8	7.5	8.0	7.4	7.5	7.7	8.0	7.5	7.3	7.6	7.3	7.6	7.5	7.7	7.9	7.6	8.3	8.0	7.6	7.5	7.5
6	Temp (deg C)	28.8	29.2	30.2	30.8	29.0	29.0	29.8	30.7	30.2	27.6	25.8	28.2	27.8	28.4	27.5	23.2	22.5	23.0	22.8	21.8	22.3	20.3	21.8
	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)					85	46	57	64	65			49	62	70	62				71	117	66	45	71
3	B (mg/L)	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Ca (mg/L)	9	16	15	14	16	14	16	14	17	17	13	17	20	37	31	17	21	21	21	17	19	19	21
5	Cl (mg/L)	9.4	15.8	13.6	14.8	12.3	14.5	11.3	11.2	17.7	17.0	11.1	17.7	14.0	17.3	16.8	12.2	24.0	13.6	15.6	12.0	16.6	15.1	17.0
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.09	0.44	0.09	0.18	0.11	0.05	0.15	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.00	0.50	0.00	0.00	0.00	0.09	0.05	0.05
8	Fe (mg/L)		0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.9	0.0	0.3	0.3	0.4	0.4		0.1	0.1	0.1	0.2	0.1	0.1	0.1
9	HCO3 (mg/L)	41	81	54	59	69	49	61	71	74	67	77	74	76	86	76	66	102	86	81	77	80	54	100
10	K (mg/L)	1.3	2.1	2.7	2.5	2.1	2.2	2.2	2.4	1.8	1.9	1.6	1.8	2.0	6.7	2.9	1.5	1.5	2.8	2.6	2.7	1.9	1.3	2.3
11	Mg (mg/L)	3.0	7.3	4.0	4.1	4.9	4.7	6.3	7.6	4.5	3.9	4.7	4.5	10.9	14.6	17.1	3.5	8.3	7.8	4.7	4.5	8.3	8.7	9.2
12	Na (mg/L)	6.0	10.7	8.8	9.4	7.6	9.2	7.6	6.6	4.6	3.9	8.3	4.6	3.9	15.2	4.1	7.9	15.9	9.1	10.3	8.3	10.8	8.6	9.7
13	NH3-N (mg N/L)																							
14	NO2+NO3 (mg N/L)	0.34	0.22	0.52	0.27	0.39	0.45	0.36	0.34	0.36	0.71	0.98	1.23	1.08	0.95	1.20	0.40	0.12	1.82	0.85	0.28	0.39	0.46	0.49
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.01	0.04	0.00	0.00	0.00	0.07	0.00	0.00	0.08	0.02	0.03	0.02	0.00	0.00	0.01	0.02	0.00	0.00	0.00	0.08
16	NO3-N (mgN/L)	0.34	0.22	0.52	0.27	0.34	0.45	0.36	0.34	0.29	0.71	0.98	1.15	1.06	0.92	1.19	0.40	0.12	1.80	0.83	0.28	0.39	0.46	0.41
17	o-PO4-P (mg P/L)		0.000	0.000	0.004	0.000		0.000											0.000	0.026	0.000	0.093	0.002	
18	P-Tot (mgP/L)	0.001	0.001	0.001	0.005	0.001	0.001	0.002	0.001	0.010	0.001	0.001	0.001	0.001	0.010	0.001	0.001	0.001	0.001	0.027	0.001	0.025	0.001	0.001
19	SiO2 (mg/L)	8.8	21.1	23.8	9.6	14.6	8.7	7.1	9.4	11.0	14.5	11.3	5.8	5.6	6.2	7.9	11.6	20.0	19.0	15.4	11.7	9.3	8.5	4.8
20	SO4 (mg/L)	1.2	6.5	9.1	9.5	4.2	9.6	12.6	7.1	8.7	27.0	10.8	8.7	3.4	4.7	11.3	0.9	8.9	8.2	11.3	2.9	10.7	13.9	6.6
	BIOLOGICAL/BACTERIOLOGICAL																							
1	BOD3-27 (mg/L)	1.0	1.1	0.7	0.9	1.5	1.2	1.1	1.5	1.4	0.6	0.8	0.6	1.2	1.2	0.9	1.0	1.0	1.1	1.2	1.5	1.3	1.7	1.4
2	DO (mg/L)	5.8	6.0	6.2	6.5	6.6	6.9	7.0	6.8	6.5	5.8	6.4	6.2	5.5	6.8	5.7	8.2	7.4	7.8	7.1	8.0	7.4	8.5	7.4
3	DO_SAT% (%)	75	78	82	87	86	90	92	91	86	73	79	80	70	87	72	95	86	91	82	90	85	94	84
4	FCol-MPN (MPN/100mL)															94								
5	Tcol-MPN (MPN/100mL)															224								
	TRACE & TOXIC																							
1	Al (mg/L)																							
	CHEMICAL INDICES																							
1	HAR_Ca (mgCaCO3/L)	22	40	36	34	39	34	40	35	42	43	33	42	51	91	77	42	52	53	53	43	47	47	52
2	HAR_Total (mgCaCO3/L)	35	66	53	51	61	66	66	67	61	59	52	61	96	152	148	56	87	85	73	62	82	84	91
3	Na% (%)	29	25	25	27	21	29	20	17	14	12	25	14	7	17	6	24	29	18	23	22	25	18	19
4	RSC (-)	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.3	0.1	0.0	0.0	0.0	0.0	0.2	0.0	0.1	0.0	0.0	0.0	0.0
5	SAR (-)	0.5	0.6	0.5	0.6	0.4	0.6	0.4	0.4	0.3	0.2	0.5	0.3	0.2	0.5	0.2	0.5	0.8	0.4	0.6	0.5	0.6	0.4	0.4
	PESTICIDES																							

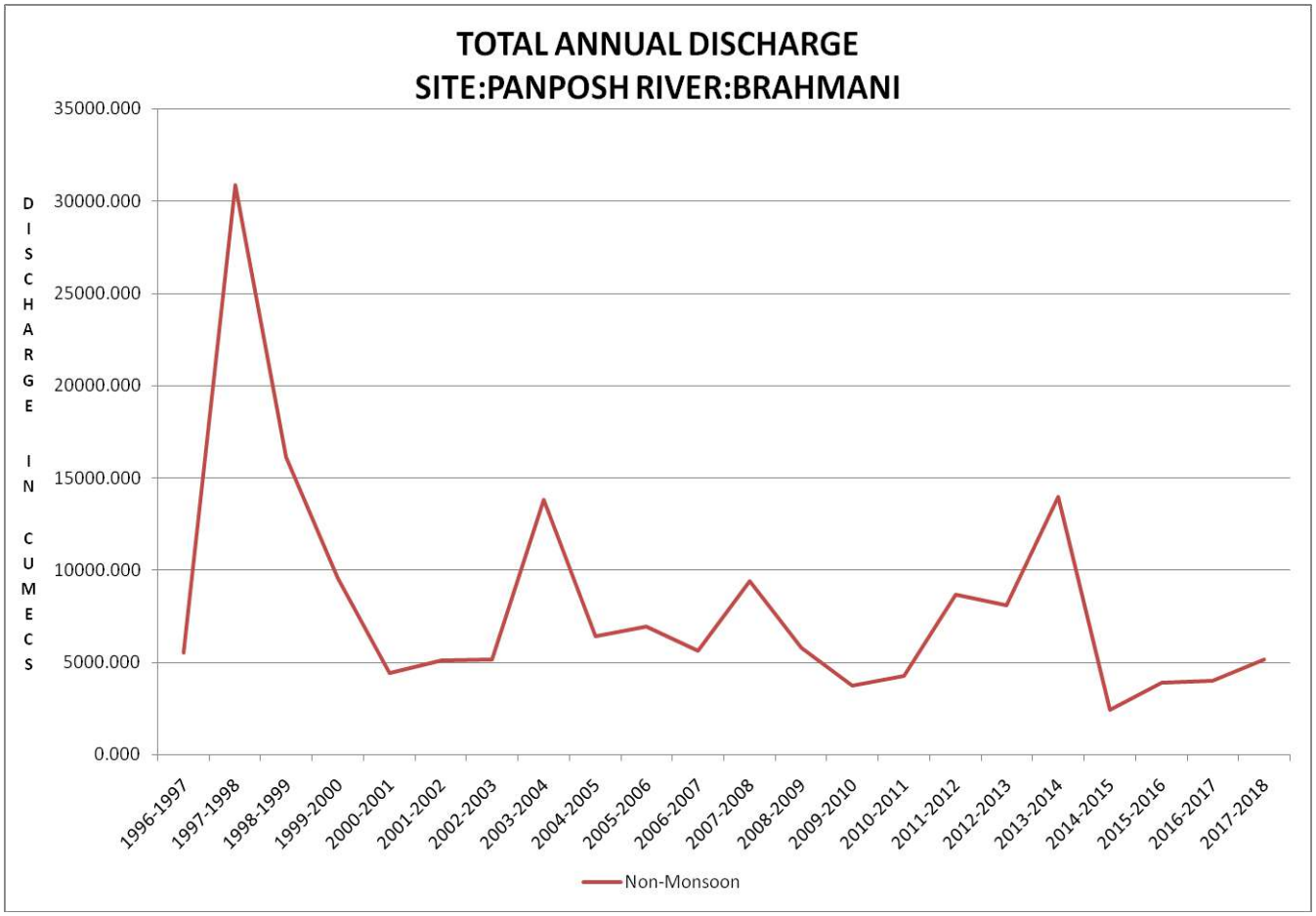
Water Quality Seasonal Average for the period: 2003-2018

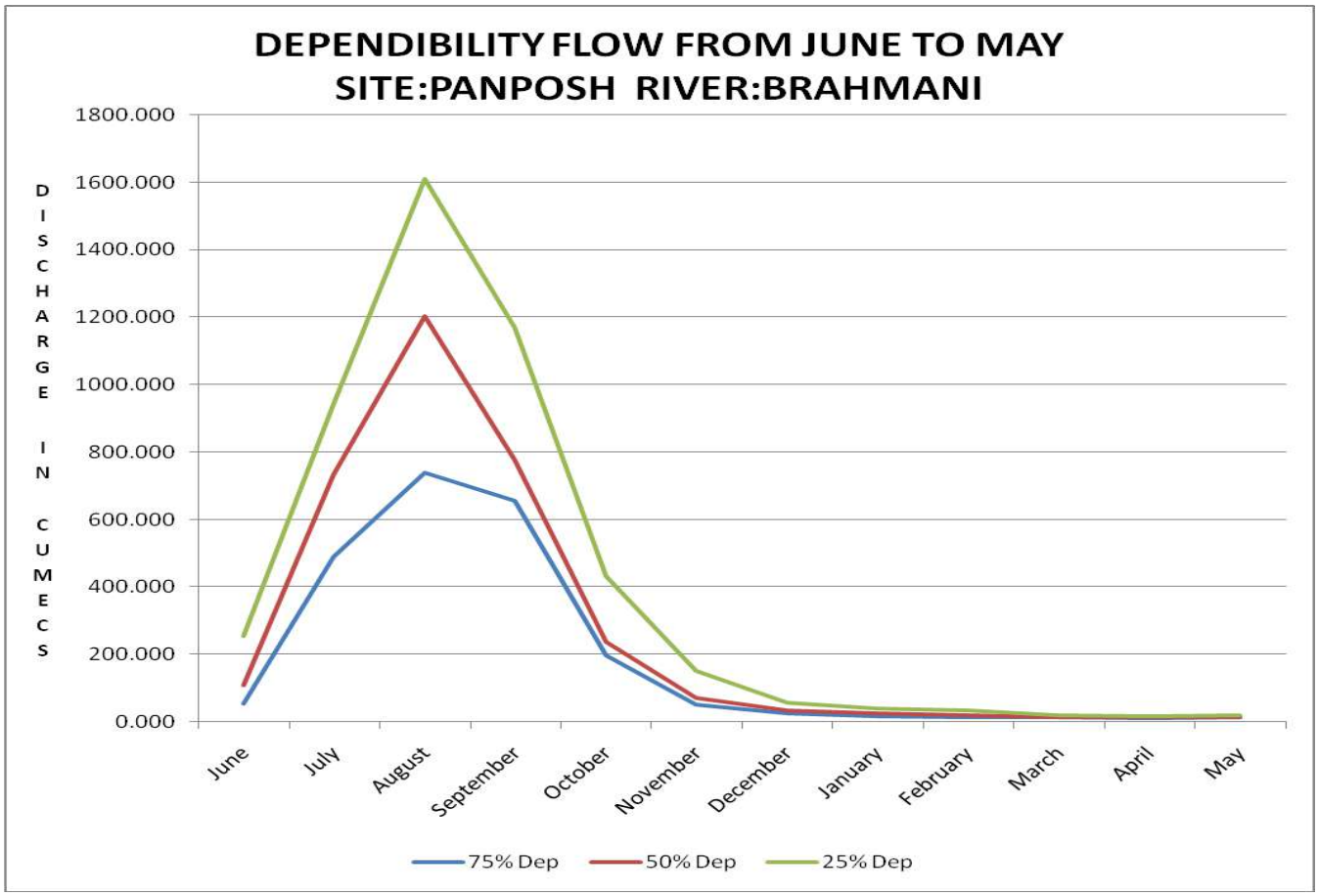
Station Name : PANPOSH (EB000H6) **Division : E.E., Bhubaneswar**

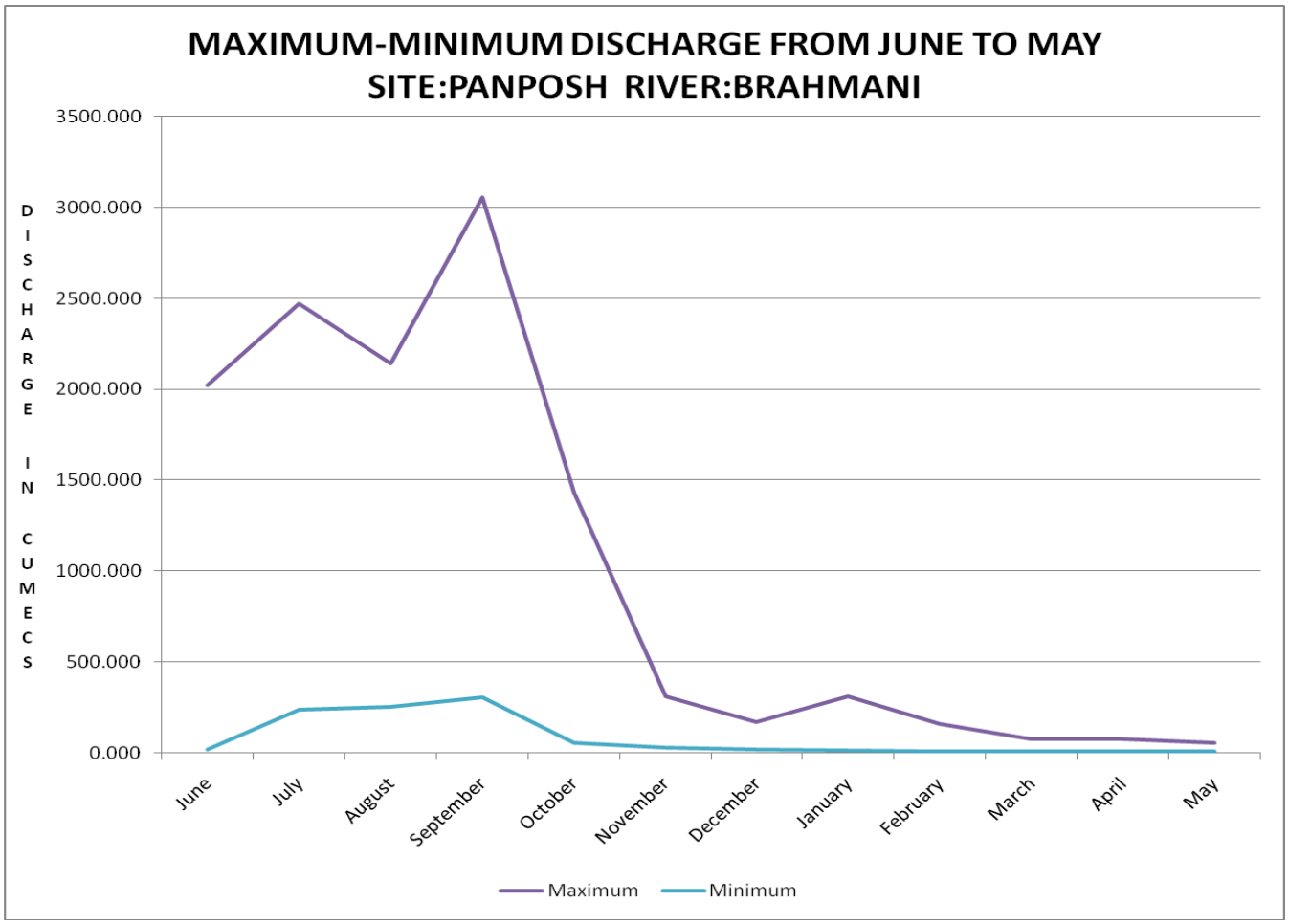
Local River : Brahmani **River Water** **Sub-Division : Rourkela**

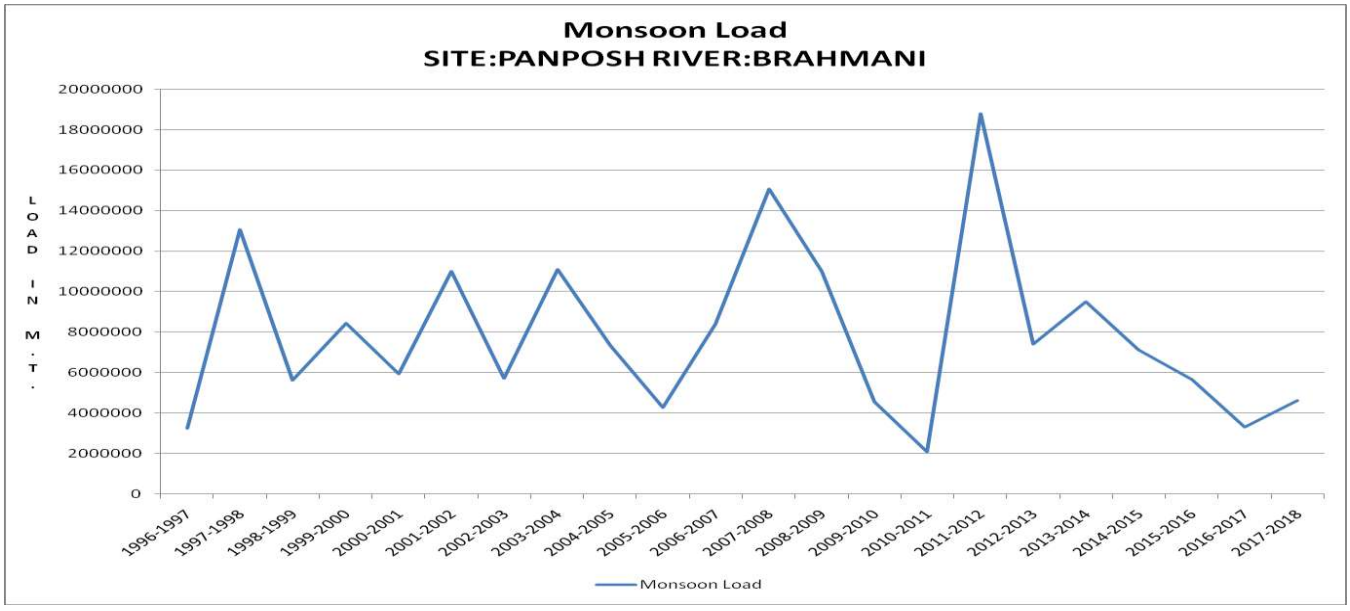
S.No	Parameters								Summer															
									Mar - May															
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	PHYSICAL																						
1	Q (cumec)																						
2	EC_FLD (µmho/cm)	183	204	165	273	433	347	223	208	259	282	243	202	229	177	250	190	225	220	291	292	193	257
3	EC_GEN (µmho/cm)	183	204	165	273	436	352	218	207	259	277	240	201	229	177	250	190	225	220	291	292	196	255
4	pH_FLD (pH units)	7.6	7.3	7.8	7.5	7.4	8.0	7.9	7.9	7.9	7.7	8.1	8.1	7.7	7.9	8.1	7.4	7.8	7.7	7.6	7.5	7.4	7.7
5	pH_GEN (pH units)	7.6	7.3	7.8	7.5	7.4	8.1	7.9	7.9	7.8	7.7	8.1	8.0	7.7	7.9	8.1	7.4	7.8	7.7	7.6	7.5	7.5	7.6
6	Temp (deg C)	22.4	19.5	19.5	20.8	20.8	21.0	17.0	28.3	28.0	28.0	27.7	26.3	27.0	26.7	26.3	32.2	23.7	25.7	27.0	26.3	23.7	25.3
	CHEMICAL																						
1	Alk-Phen (mgCaCO3/L)	0.0	0.0		0.0	0.0	0.0	4.0				0.0	0.0	0.0	0.0	3.9	0.0		0.0		0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	80	65		98	58	42	99				102	49	68	64	94	62		60		65	71	91
3	B (mg/L)	0.01	0.00	0.00	0.00	0.01	0.01	0.02	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.01	0.02
4	Ca (mg/L)	21	21	15	19	20	38	39	21	23	27	26	18	21	15	23	30	19	19	20	29	27	26
5	Cl (mg/L)	19.8	15.1	12.0	19.3	16.0	14.1	11.7	12.3	28.9	13.9	13.3	8.1	14.9	12.2	16.3	13.8	16.5	14.5	12.0	13.8	13.8	13.8
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.7	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	0.00	0.31	0.00	0.00	0.08	0.10	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
8	Fe (mg/L)	0.0	1.9	0.0	0.2	0.5	0.3	0.5		0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.0	1.9	0.0	0.3	0.5	0.5	0.4
9	HCO3 (mg/L)	97	72	63	99	70	52	111	91	103	111	124	60	75	78	105	75	94	77	53	79	86	111
10	K (mg/L)	1.5	1.7	1.9	1.4	1.6	6.5	2.6	1.9	2.3	2.3	2.6	1.4	1.6	1.5	2.6	1.7	2.0	2.2	1.3	1.4	9.6	1.6
11	Mg (mg/L)	8.0	5.1	4.5	5.3	9.2	13.1	11.7	6.6	7.8	10.5	8.2	3.2	9.4	7.8	9.7	5.2	9.1	4.7	7.7	12.0	12.0	10.1
12	Na (mg/L)	6.8	6.4	10.1	6.1	6.1	28.9	5.0	8.3	18.2	9.9	8.7	5.6	9.3	7.3	10.1	7.2	8.8	10.5	6.5	8.9	48.7	7.6
13	NH3-N (mg N/L)												0.05										
14	NO2+NO3 (mg N/L)	0.39	0.71	1.02	0.82	1.01	0.96	1.18	0.33	0.21	3.96	0.59	0.35	0.29	0.21	0.37	0.41	0.71	1.19	0.74	0.86	1.14	1.21
15	NO2-N (mgN/L)	0.07	0.00	0.00	0.01	0.03	0.02	0.00	0.07	0.00	0.02	0.10	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.33	0.71	1.02	0.80	0.98	0.95	1.18	0.25	0.21	3.94	0.49	0.35	0.29	0.21	0.37	0.34	0.71	1.19	0.74	0.85	1.13	1.21
17	o-PO4-P (mg P/L)									0.103	0.000	0.017	0.050	0.103	0.000								
18	P-Tot (mgP/L)	0.010	0.001	0.001	0.001	0.010	0.010	0.001	0.001	0.001	0.001	0.018	0.050	0.001	0.003	0.001	0.010	0.001	0.001	0.001	0.010	0.010	0.001
19	SiO2 (mg/L)	10.5	13.0	14.0	5.1	5.8	6.8	8.2	15.4	21.3	25.6	11.0	12.4	5.9	7.2	11.2	10.3	13.0	14.3	5.8	5.3	7.3	8.4
20	SO4 (mg/L)	3.0	5.5	13.7	3.1	3.0	3.5	13.6	2.8	5.6	14.5	3.4	4.7	19.7	3.8	3.1	2.3	19.3	23.6	2.1	3.0	2.9	15.8
	BIOLOGICAL/BACTERIOLOGICAL																						
1	BOD3-27 (mg/L)	2.0	0.4	0.3	0.8	1.0	1.7	1.8	1.1	0.9	0.9	1.5	1.3	1.5	1.8	1.9	1.3	0.8	0.7	1.0	0.9	2.2	0.9
2	DO (mg/L)	8.0	8.1	7.5	8.8	6.8	9.6	6.7	6.9	6.1	7.0	6.8	6.6	5.9	7.0	6.5	6.8	7.3	7.5	4.3	4.4	6.2	5.0
3	DO_SAT% (%)	92	87	81	98	76	107	68	88	77	89	87	82	75	88	81	93	85	91	54	56	72	61
4	FCol-MPN (MPN/100mL)						60	88														127	97
5	Tcol-MPN (MPN/100mL)						145	245														247	237
	TRACE & TOXIC																						
1	Al (mg/L)											3.29										0.00	
	CHEMICAL INDICES																						
1	HAR_Ca (mgCaCO3/L)	54	53	37	48	51	94	97	52	57	68	64	45	52	37	57	76	47	47	49	72	68	64
2	HAR_Total (mgCaCO3/L)	87	74	56	70	90	149	146	80	90	112	98	58	91	70	98	98	85	66	81	122	118	106
3	Na% (%)	15	19	28	16	13	26	7	18	33	17	16	17	19	18	18	15	18	26	15	14	44	14
4	RSC (-)	0.1	0.2	0.1	0.4	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
5	SAR (-)	0.3	0.4	0.6	0.3	0.3	1.0	0.2	0.4	0.9	0.4	0.4	0.3	0.4	0.4	0.4	0.3	0.4	0.6	0.3	0.4	1.9	0.3
	PESTICIDES																						

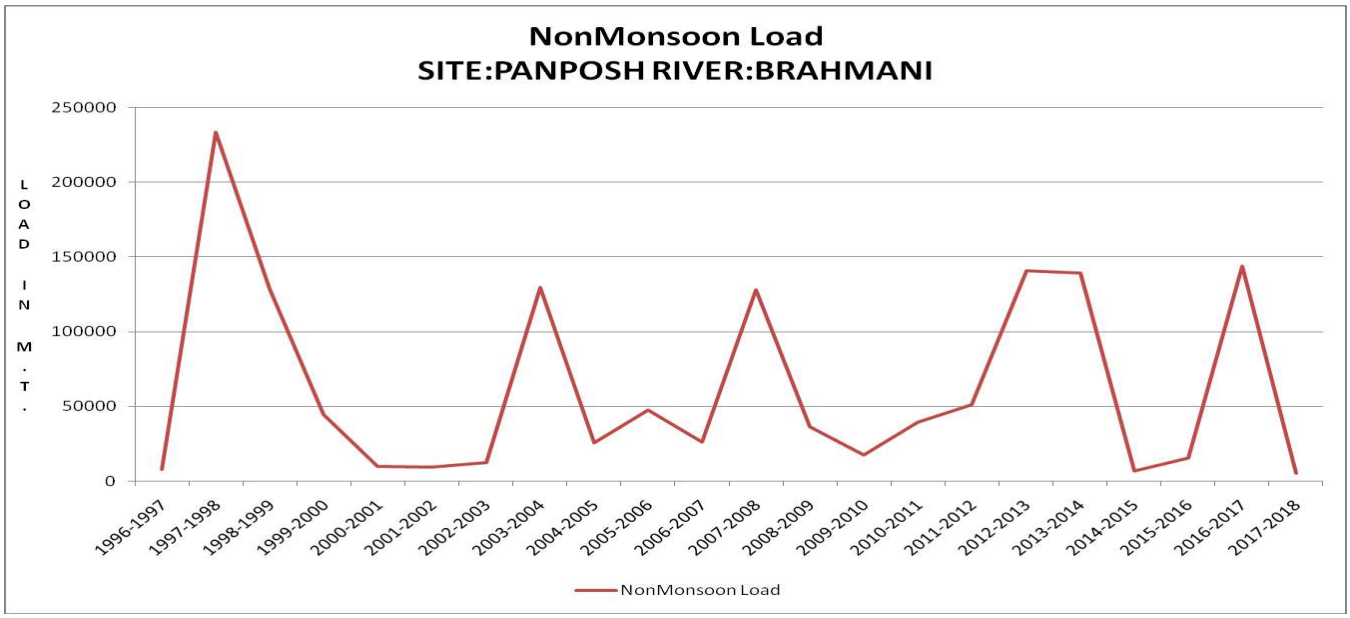

TOTAL ANNUAL DISCHARGE
SITE:PANPOSH RIVER:BRAHMANI
DISCHARGE IN CUMECS
250000.000
200000.000
150000.000
100000.000
50000.000
0.000
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Monsoon
Annual Runoff

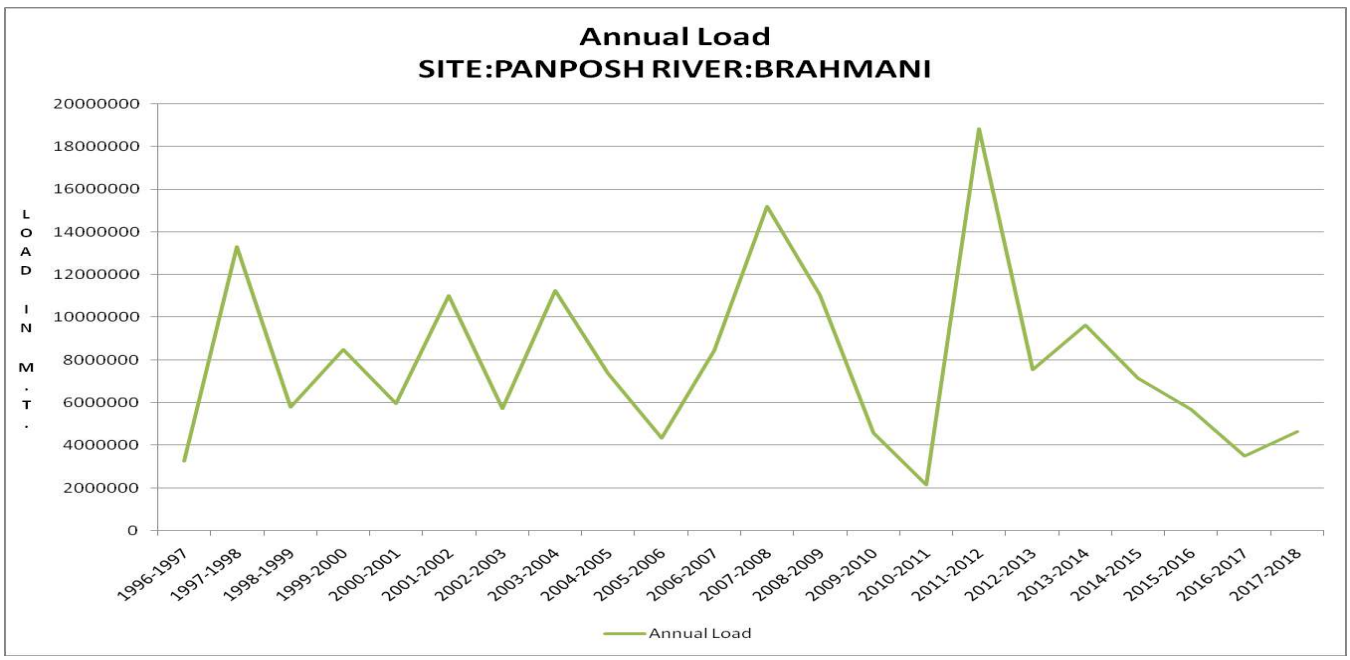

TOTAL ANNUAL DISCHARGE
SITE:PANPOSH RIVER:BRAHMANI
DISCHARGE IN CUMECS
35000.000
30000.000
25000.000
20000.000
15000.000
10000.000
5000.000
0.000
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Non-Monsoon

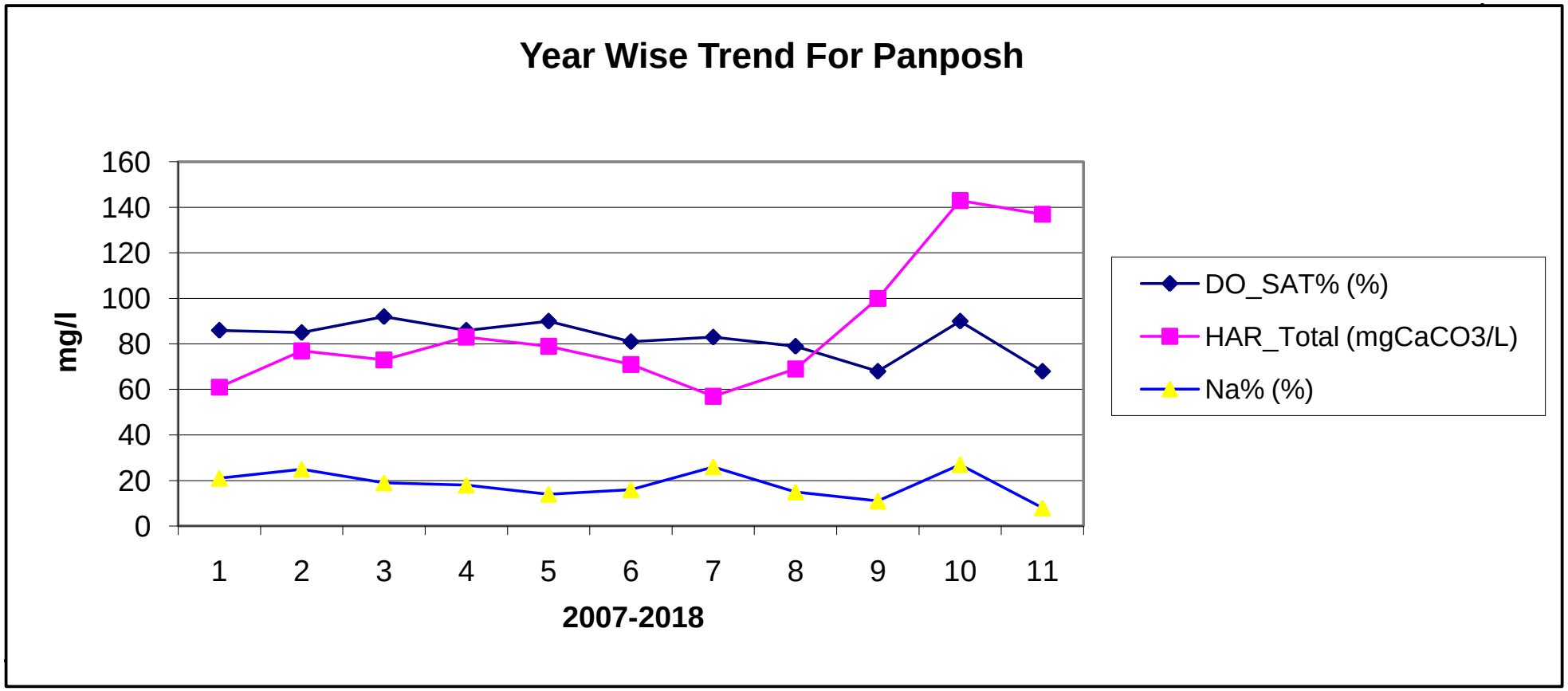

DEPENDIBILITY FLOW FROM JUNE TO MAY
SITE:PANPOSH RIVER:BRAHMANI
DISCHARGE IN CUMECS
1800.000
1600.000
1400.000
1200.000
1000.000
800.000
600.000
400.000
200.000
0.000
June
July
August
September
October
November
December
January
February
March
April
May
75% Dep
50% Dep
25% Dep

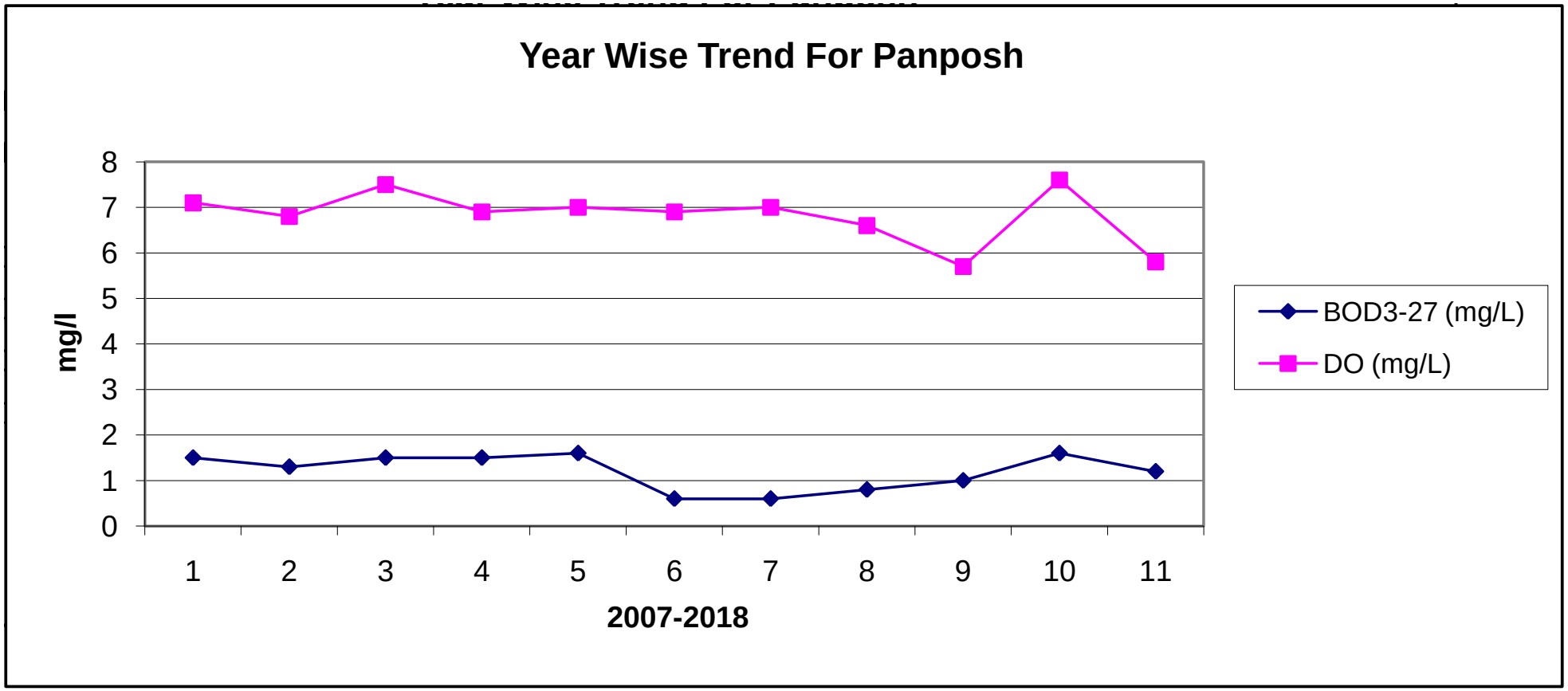

MAXIMUM-MINIMUM DISCHARGE FROM JUNE TO MAY
SITE:PANPOSH RIVER:BRAHMANI
DISCHARGE IN CUMECS
3500.000
3000.000
2500.000
2000.000
1500.000
1000.000
500.000
0.000
June
July
August
September
October
November
December
January
February
March
April
May
Maximum
Minimum

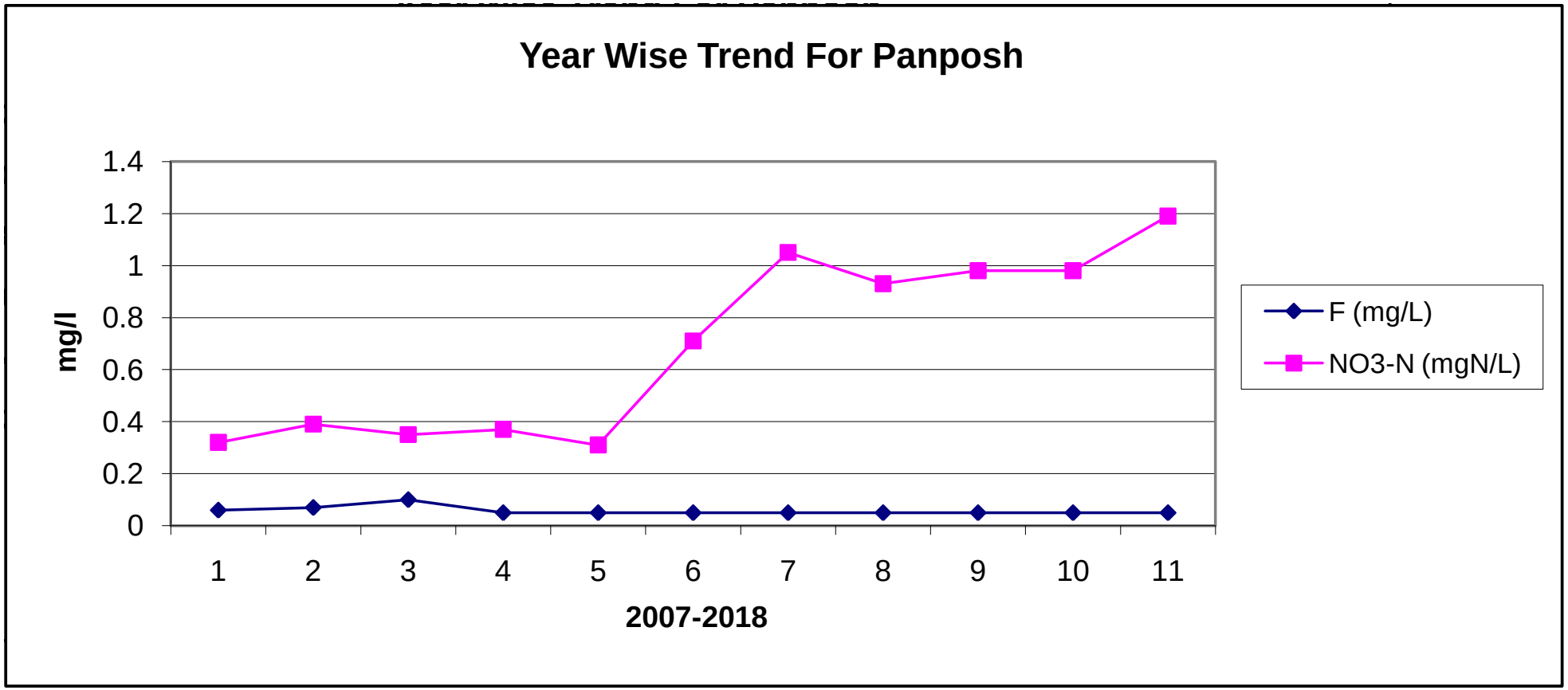

Monsoon Load
SITE:PANPOSH RIVER:BRAHMANI
LOAD IN M.T.
20000000
18000000
16000000
14000000
12000000
10000000
8000000
6000000
4000000
2000000
0
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Monsoon Load

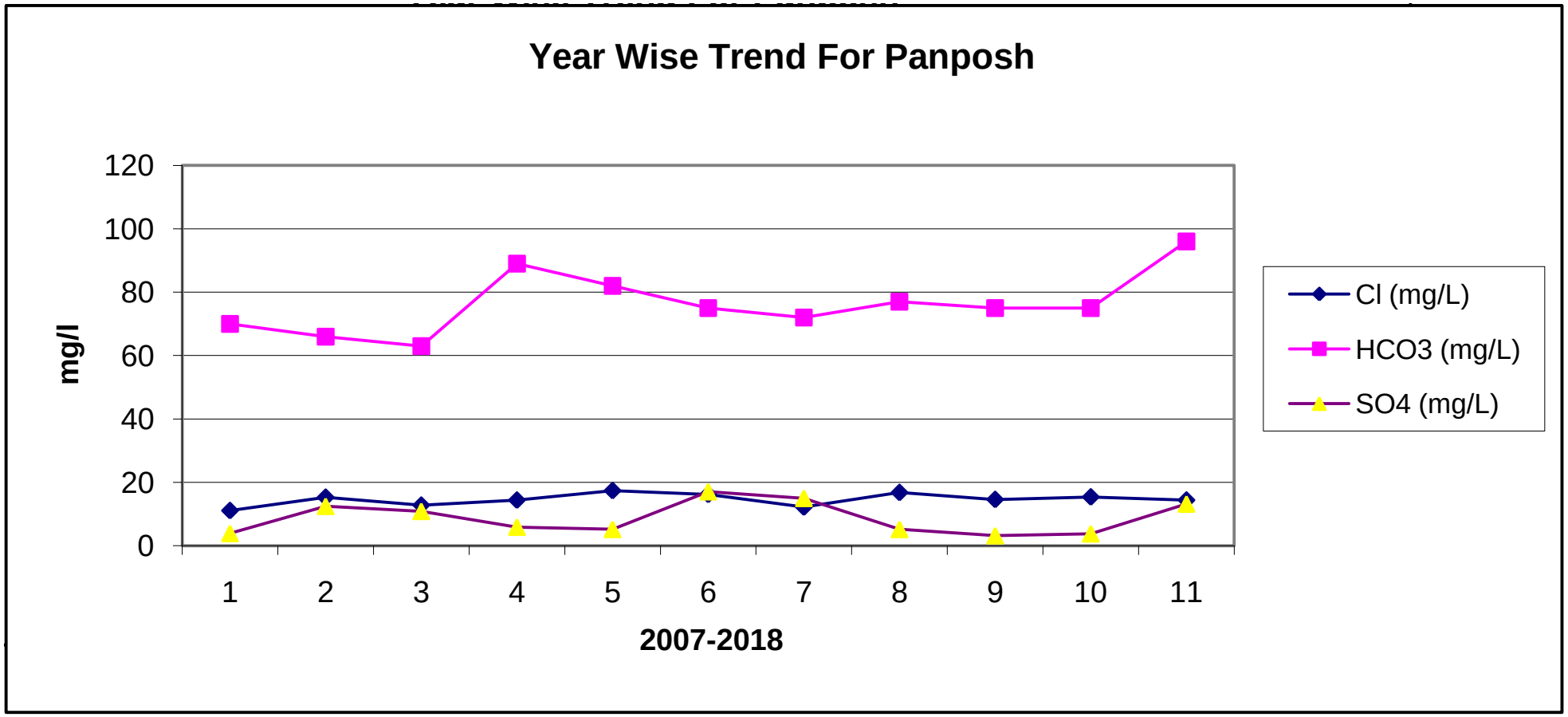

NonMonsoon Load
SITE:PANPOSH RIVER:BRAHMANI
LOAD IN M.T.
250000
200000
150000
100000
50000
0
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
NonMonsoon Load

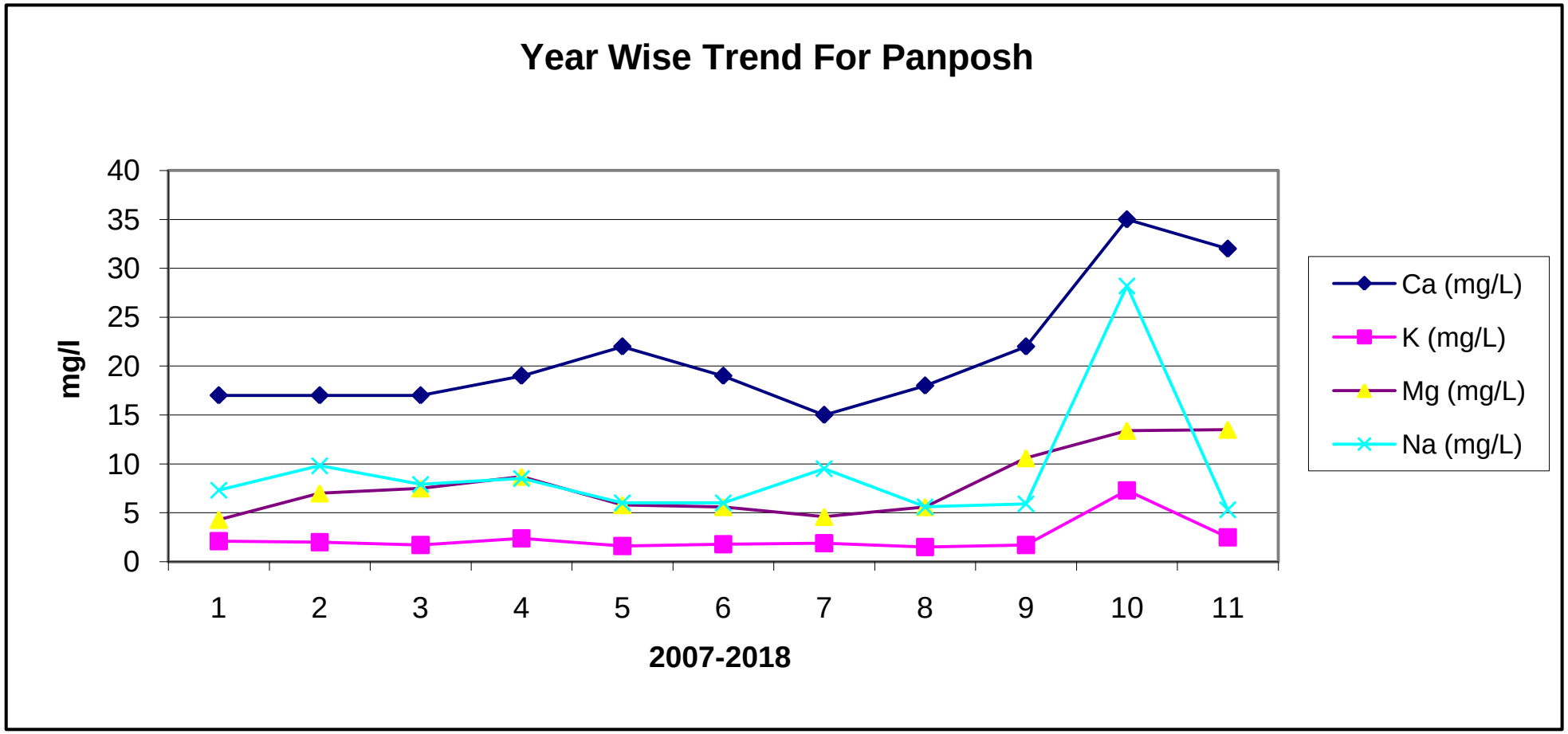

Annual Load
SITE:PANPOSH RIVER:BRAHMANI
LOAD IN M.T.
20000000
18000000
16000000
14000000
12000000
10000000
8000000
6000000
4000000
2000000
0
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
Annual Load


Year Wise Trend For Panposh
160
140
120
100
80
60
40
20
0
mg/l
1
2
3
4
5
6
7
8
9
10
11
2007-2018
DO_SAT% (%)
HAR_Total (mgCaCO3/L)
Na% (%)


Year Wise Trend For Panposh
mg/l
8
7
6
5
4
3
2
1
0
1
2
3
4
5
6
7
8
9
10
11
2007-2018
BOD3-27 (mg/L)
DO (mg/L)


Year Wise Trend For Panposh
1.4
1.2
1
0.8
0.6
0.4
0.2
0
mg/l
1
2
3
4
5
6
7
8
9
10
11
2007-2018
F (mg/L)
NO3-N (mgN/L)


Year Wise Trend For Panposh
120
100
80
60
40
20
0
mg/l
1
2
3
4
5
6
7
8
9
10
11
2007-2018
Cl (mg/L)
HCO3 (mg/L)
SO4 (mg/L)


Year Wise Trend For Panposh
mg/l
40
35
30
25
20
15
10
5
0
1
2
3
4
5
6
7
8
9
10
11
2007-2018
Ca (mg/L)
K (mg/L)
Mg (mg/L)
Na (mg/L)

HISTORY SHEET

Water Year : 2017-2018

Site	:	**Gomlai**	**Code**	:	**EB000W3**
State	:	Orissa	District		Sundergarh
Basin	:	Brahmani-Baitarani	Independent River	:	Brahmni
Tributary	:	Brahmni	Sub Tributary	:	Brahmni
Sub-Sub Tributary	:	Brahmni	Local River	:	Brahmni
Division	:	E.E., Bhubaneswar	Sub-Division	:	Rourkela
Drainage Area	:	21950 Sq. Km.	Bank	:	Left
Latitude	:	21°50'16"	Longitude	:	84°56'33"
Zero of Gauge (m)	:	135 (m.s.l)	1/1/1970	-	12/31/2025
		Opening Date	Closing Date		
Gauge	:	8/29/1977			
Discharge	:	1/21/1979			
Sediment	:	7/17/1980			
Water Quality	:	7/17/1980			

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

	Maximum			Minimum		
Year	**Q (cumecs)**	**WL (m)**	**Date**	**Q (cumecs)**	**WL (m)**	**Date**
1979-1980	1914	142.570	8/9/1979	6.337	138.450	4/28/1980
1980-1981	4555	144.010	6/20/1980	8.975	138.330	3/7/1981
1981-1982	1955	142.350	9/8/1981	1.110	138.500	5/17/1982
1982-1983	5002	144.480	8/21/1982	5.800	138.515	3/17/1983
1983-1984	4675	144.250	9/7/1983	7.100	138.535	4/23/1984
1984-1985	5570	144.830	8/14/1984	8.200	138.440	5/4/1985
1985-1986	4582	144.505	8/7/1985	9.200	138.540	3/30/1986
1986-1987	4176	143.975	7/28/1986	9.000	138.375	5/24/1987
1987-1988	10268	146.260	8/29/1987	9.800	138.540	5/27/1988
1988-1989	7766	145.500	8/4/1988	9.000	138.485	6/3/1988
1989-1990	5389	144.250	6/22/1989	10.33	138.645	4/23/1990
1990-1991	6852	145.190	7/15/1990	9.940	138.760	5/3/1991
1991-1992	5666	145.200	8/13/1991	1.350	138.765	4/11/1992
1992-1993	2279	142.030	8/19/1992	8.610	138.630	3/18/1993
1993-1994	2944	143.080	7/17/1993	8.655	138.395	5/9/1994
1994-1995	8433	146.100	7/9/1994	12.98	138.465	6/10/1994
1995-1996	4687	144.230	9/19/1995	10.45	138.620	5/20/1996
1996-1997	10652	146.390	7/26/1996	12.95	138.615	5/16/1997
1997-1998	9139	146.835	8/7/1997	12.65	138.610	6/6/1997
1998-1999	7072	145.960	9/11/1998	9.730	138.590	5/21/1999
1999-2000	6120	145.150	8/8/1999	8.669	138.695	4/27/2000
2000-2001	4506	144.380	7/27/2000	6.750	138.595	5/1/2001

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

	Maximum			Minimum		
Year	**Q (cumecs)**	**WL (m)**	**Date**	**Q (cumecs)**	**WL (m)**	**Date**
2001-2002	10074	147.000	7/23/2001	8.165	138.300	5/15/2002
2002-2003	3289	143.005	9/13/2002	8.000	138.440	4/27/2003
2003-2004	5603	144.995	#########	9.474	138.475	6/12/2003
2004-2005	3692	143.160	8/15/2004	7.000	138.545	5/29/2005
2005-2006	3221	143.635	6/29/2005	5.300	138.510	4/16/2006
2006-2007	7397	144.915	7/31/2006	7.263	138.520	4/5/2007
2007-2008	10795	147.270	8/20/2007	8.755	138.580	5/18/2008
2008-2009	7521	144.425	7/8/2008	6.402	138.735	4/15/2009
2009-2010	3013	142.910	9/9/2009	6.480	138.415	4/27/2010
2010-2011	1119	140.800	9/19/2010	4.532	138.290	3/1/2011
2011-2012	10801	146.650	9/24/2011	6.339	138.555	5/6/2012
2012-2013	3428	143.150	8/12/2012	7.770	138.540	6/2/2012
2013-2014	4443	144.250	#########	3.640	138.640	4/6/2014
2014-2015	3866	142.645	8/11/2014	8.914	138.470	3/31/2015
2015-2016	6433	144.180	8/4/2015	6.825	138.280	5/5/2016
2016-2017	5751	144.080	8/20/2016	6.859	138.330	4/1/2017
2017-2018	13000	145.375	7/27/2017	8.237	138.310	4/28/2018

Stage-Discharge Data for the period 2017 - 2018

Station Name : Gomlai (EB000W3) **Division : E.E., Bhubaneswar**

Local River : Brahmni **Sub-Division : Rourkela**

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	138.565	20.00	139.730	440.7	140.565	1147	140.170	730.8	140.640	973.9 *	138.800	95.72
2	138.580	20.06	139.810		141.100	1316	140.160	725.0 *	140.730	1055 *	138.850	92.62
3	138.530	17.70	140.220	790.6	141.165	1790	140.320	763.0 *	140.805	1123	138.810	71.43
4	138.550	17.70 *	139.995	767.6	141.305	1785	140.440	775.1	140.650	988.6	138.800	71.40 *
5	138.460	13.54	139.970	752.5	141.450	2303	140.345	748.2	140.530	884.1	138.790	70.00 *
6	138.460	12.42	139.810	679.3	143.830	3106 *	140.155	556.2	140.365	795.0	138.760	60.74
7	138.450	11.30	139.650	458.0	142.180	3952	140.010	458.9	140.280	706.5	138.750	58.49
8	138.650	25.89	139.480	380.6	142.740	4524	139.945	320.5	138.740	57.47	138.740	57.47
9	138.740	34.90	139.800		142.005	2684	139.990	361.1	140.150	658.8	138.700	56.30
10	138.600	21.88	139.630	473.3	142.440	4207	140.110	347.0 *	140.045	414.4	138.710	53.15
11	138.490	21.30 *	139.630	478.1	140.815	1314	140.130	350.9	140.240	617.5	138.730	54.99
12	138.570	21.39	139.840	713.0	140.855	1290	140.145	428.1	140.050	438.2	138.730	54.90 *
13	138.635	27.65	140.005	759.5	140.820	1297 *	140.470	740.6	139.600	306.1	138.660	53.72
14	138.720	36.06	140.150	816.8	141.030	1297	140.470	720.5	139.530	281.9	138.630	47.68
15	138.540	18.42	140.600	1126	141.950	1421 *	140.335	688.8	139.460	265.0 *	138.640	50.02
16	138.645	27.11	140.340		141.340	1334	140.230	604.1	139.435	256.4	138.640	52.30
17	138.650	27.20	140.250	878.3	141.535	1735	140.170	570.0 *	139.330	228.4	138.620	49.82
18	138.580	27.10 *	140.040	769.0	142.045	2494	140.030	436.2	139.285	201.0	138.600	48.06
19	138.490	13.50	139.750	428.8	142.190	2549	140.190	546.2	139.030	174.3 *	138.630	50.50 *
20	138.470	13.51	139.670	371.8	141.420	1361 *	141.000	1184	139.145	169.0	138.640	50.91
21	138.615	29.76	139.860	500.4	140.990	1172	141.390	1536	139.040	179.3	138.660	53.91
22	138.925	180.0	140.230	764.0	140.640	1138	141.070	1380			138.650	53.15
23	139.015	185.9	141.130		140.515	906.2	140.840	1136	139.360	238.9	138.560	57.45
24	139.400	235.2	143.750	5678	140.480	864.8	140.690	920.0 *	139.320	236.3	138.610	49.42
25	139.020	78.00 *	143.690	5536	140.565	995.8	140.185	601.2	139.200	229.7	138.735	40.72
26	139.060	100.0 *	142.955	4552	140.950	1121	140.020	420.1	139.120	200.9	138.730	40.70 *
27	139.475	256.2	145.375	13000	140.870	1080 *	140.145	532.8	139.100	197.2	138.740	44.67
28	139.640	364.9	145.005	12873	140.645	868.3	140.070	504.9	139.080	182.7	138.690	39.56
29	139.690	382.6	142.070	3978	140.370	739.1	140.020	421.0 *	139.020	164.0 *	138.670	38.49
30	139.730	401.3	141.220		140.320	762.8	140.160	540.0 *	138.925	142.3	138.680	40.28
31			140.635	1278	140.340	780.1			138.900	99.47		
Ten-Daily Mean												
I Ten-Daily	138.559	19.54	139.809	592.8	141.878	2681	140.165	578.6	140.294	765.7	138.771	68.73
II Ten-Daily	138.579	23.32	140.027	704.6	141.400	1609	140.317	626.9	139.511	293.8	138.652	51.29
III Ten-Daily	139.257	221.4	142.356	5351	140.608	947.9	140.459	799.2	139.107	187.1	138.673	45.84
Monthly												
Min.	138.450	11.30	139.480	371.8	140.320	739.1	139.945	320.5	138.740	57.47	138.560	38.49
Max.	139.730	401.3	145.375	13000	143.830	4524	141.390	1536	140.805	1123	138.850	95.72
Mean	138.798	88.09	140.784	2279	141.273	1720	140.314	668.2	139.637	415.5	138.699	55.29

Annual Runoff in MCM = 13194 Annual Runoff in mm = 601

Peak Observed Discharge = 13000 cumecs on 27-Jul-17 Corres. Water Level :145.375 m

Lowest Observed Discharge = 8.237 cumecs on 28-Apr-18 Corres. Water Level :138.31 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-Discharge Data for the period 2017 - 2018

Station Name : Gomlai (EB000W3) **Division : E.E., Bhubaneswar**

Local River : Brahmni **Sub-Division : Rourkela**

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	138.640	34.86	138.510	24.11	138.410	16.24	138.380	12.73	138.350	11.00 *	138.350	10.42
2	138.690	37.50 *	138.480	23.43	138.490	26.15	138.380	12.65 *	138.360	11.65	138.360	10.45
3	138.660	37.25 *	138.470	22.36	138.420	16.41	138.380	12.58	138.370	13.14	138.360	11.02
4	138.640	36.31	138.470	22.86	138.410	16.40 *	138.380	12.55 *	138.360	12.22	138.370	11.47
5	138.670	37.76	138.460	21.93	138.420	18.16	138.370	12.02	138.440	17.81	138.360	10.31
6	138.620	34.51	138.460	21.99	138.420	18.01	138.370	12.17	138.420	16.61	138.380	12.25 *
7	138.620	35.32	138.460	21.25 *	138.420	15.64	138.370	13.09	138.460	19.41	138.360	9.918
8	138.640	36.68	138.460	20.87	138.420	16.19	138.380	13.26	138.380	15.12 *	138.360	9.702
9	138.580	31.99	138.460	19.92	138.430	17.17	138.370	12.55	138.350	11.12	138.350	9.893
10	138.570	31.11 *	138.460	21.33	138.430	17.62	138.370	12.45	138.360	12.55	138.340	9.620
11	138.600	33.86	138.460	21.22	138.430	17.60 *	138.360	12.00 *	138.460	19.51	138.340	8.748
12	138.600	34.85	138.450	19.11	138.420	16.50	138.350	11.09	138.350	12.97	138.350	9.002
13	138.560	30.79	138.450	19.34	138.430	16.84	138.350	10.79	138.740	41.99	138.370	11.50 *
14	138.600	34.63	138.450	19.31 *	138.430	16.78	138.350	10.39	138.610	35.23 *	138.410	14.01
15	138.600	34.17	138.440	19.05	138.420	16.40	138.350	10.16	138.490	22.25 *	138.450	16.61
16	138.560	32.61	138.430	18.43	138.400	14.66	138.360	11.13	138.460	19.46	138.450	16.35
17	138.560	32.65 *	138.420	17.99	138.400	14.38	138.360	11.28	138.430	17.11	138.380	12.20
18	138.580	31.81	138.430	18.08	138.400	14.39 *	138.360	11.40 *	138.390	14.23	138.370	11.79
19	138.570	29.75	138.430	18.11	138.400	14.49	138.360	11.51	138.400	14.85	138.370	11.90
20	138.550	29.77	138.420	17.07	138.400	14.66	138.350	10.93	138.425	15.49	138.390	12.11 *
21	138.550	29.54	138.430	18.25 *	138.400	14.58	138.350	11.38	138.380	12.22	138.400	13.12
22	138.540	27.55	138.420	18.11	138.400	14.58	138.350	11.25	138.410	14.05 *	138.600	28.48
23	138.540	27.62	138.420	17.31	138.410	14.68	138.350	11.07	138.410	13.60	138.530	23.42
24	138.540	27.60 *	138.420	17.48	138.400	14.90	138.350	11.09	138.360	10.10	138.440	15.49
25	138.540	27.57 *	138.420	17.47	138.400	14.60 *	138.350	11.08 *	138.340	9.550	138.440	15.44
26	138.530	26.95	138.420	17.50 *	138.400	14.09	138.340	10.99	138.340	9.446	138.460	15.65
27	138.510	24.78	138.420	17.55	138.400	14.62	138.340	9.159	138.320	8.372	138.440	15.00 *
28	138.500	24.56	138.420	17.50 *	138.390	14.66	138.340	10.17	138.310	8.237	138.380	11.13
29	138.510	25.51	138.410	15.73			138.330	10.00 *	138.350	10.50 *	138.370	10.96
30	138.500	21.95	138.410	16.01			138.410	13.00 *	138.350	10.48 *	138.670	32.28
31	139.490	21.25 *	138.410	15.76			138.370	12.18			139.110	81.48
Ten-Daily Mean												
I Ten-Daily	138.633	35.33	138.469	22.00	138.427	17.80	138.375	12.60	138.385	14.06	138.359	10.51
II Ten-Daily	138.578	32.49	138.438	18.77	138.413	15.67	138.355	11.07	138.475	21.31	138.388	12.42
III Ten-Daily	138.614	25.90	138.418	17.15	138.400	14.59	138.353	11.03	138.357	10.66	138.531	23.86
Monthly												
Min.	138.500	21.25	138.410	15.73	138.390	14.09	138.330	9.159	138.310	8.237	138.340	8.748
Max.	139.490	37.76	138.510	24.11	138.490	26.15	138.410	13.26	138.740	41.99	139.110	81.48
Mean	138.608	31.07	138.441	19.24	138.414	16.12	138.361	11.55	138.406	15.34	138.429	15.86

Peak Computed Discharge = 3106 cumecs on 06-Aug-17 Corres. Water Level :143.83 m

Lowest Computed Discharge = 10.00 cumecs on 29-Mar-18 Corres. Water Level :138.33 m

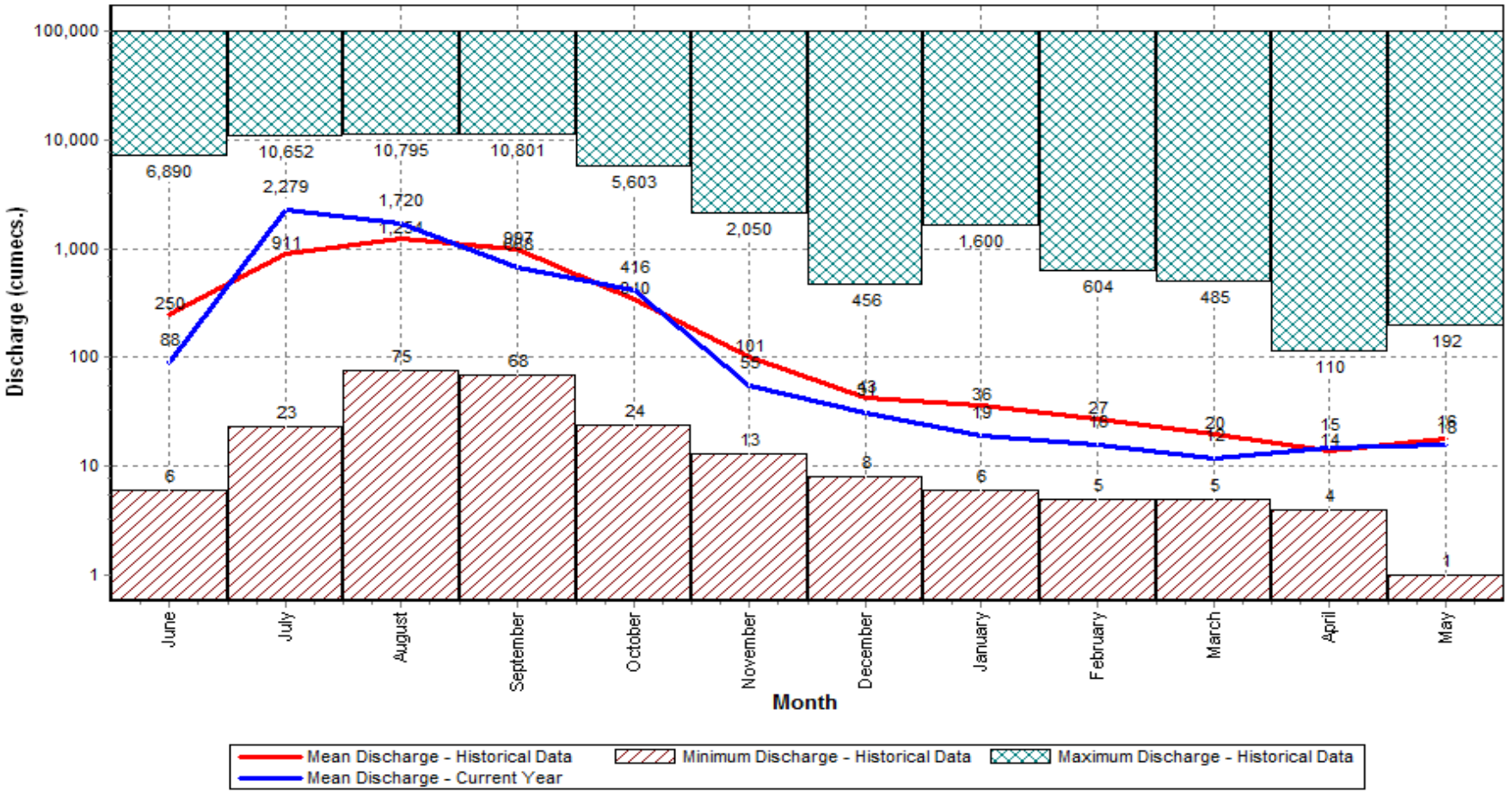
Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2017-2018

Station Name : Gomlai (EB000W3) | **Data considered : 1979-2018** | **Division : E.E., Bhubaneswar**

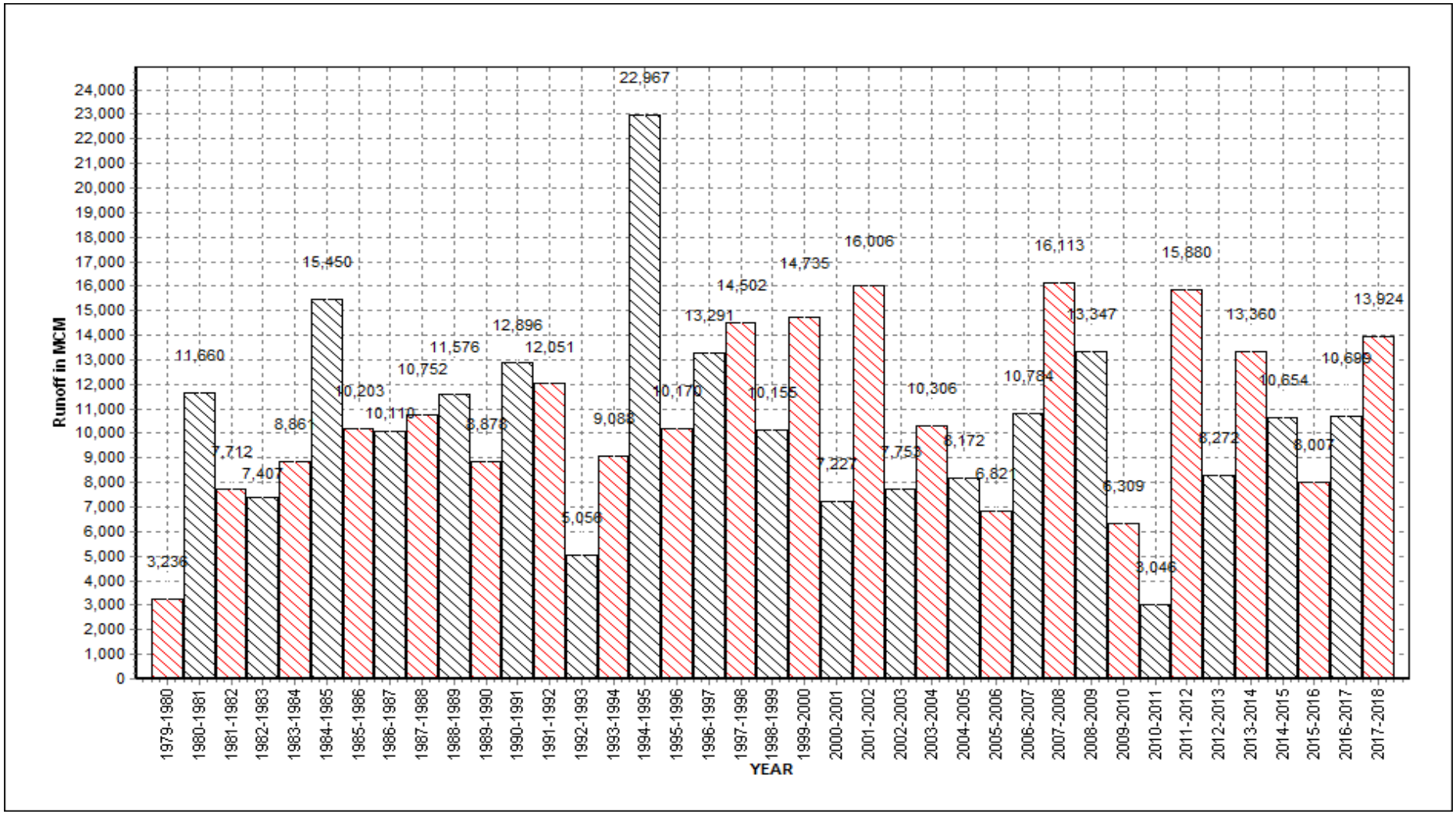
Local River : Brahmni | **Sub-Division : Rourkela**



Annual Runoff Values for the period: 1979 - 2018

Station Name : Gomlai (EB000W3) **Division : E.E., Bhubaneswar**

Local River : Brahmni **Sub-Division : Rourkela**

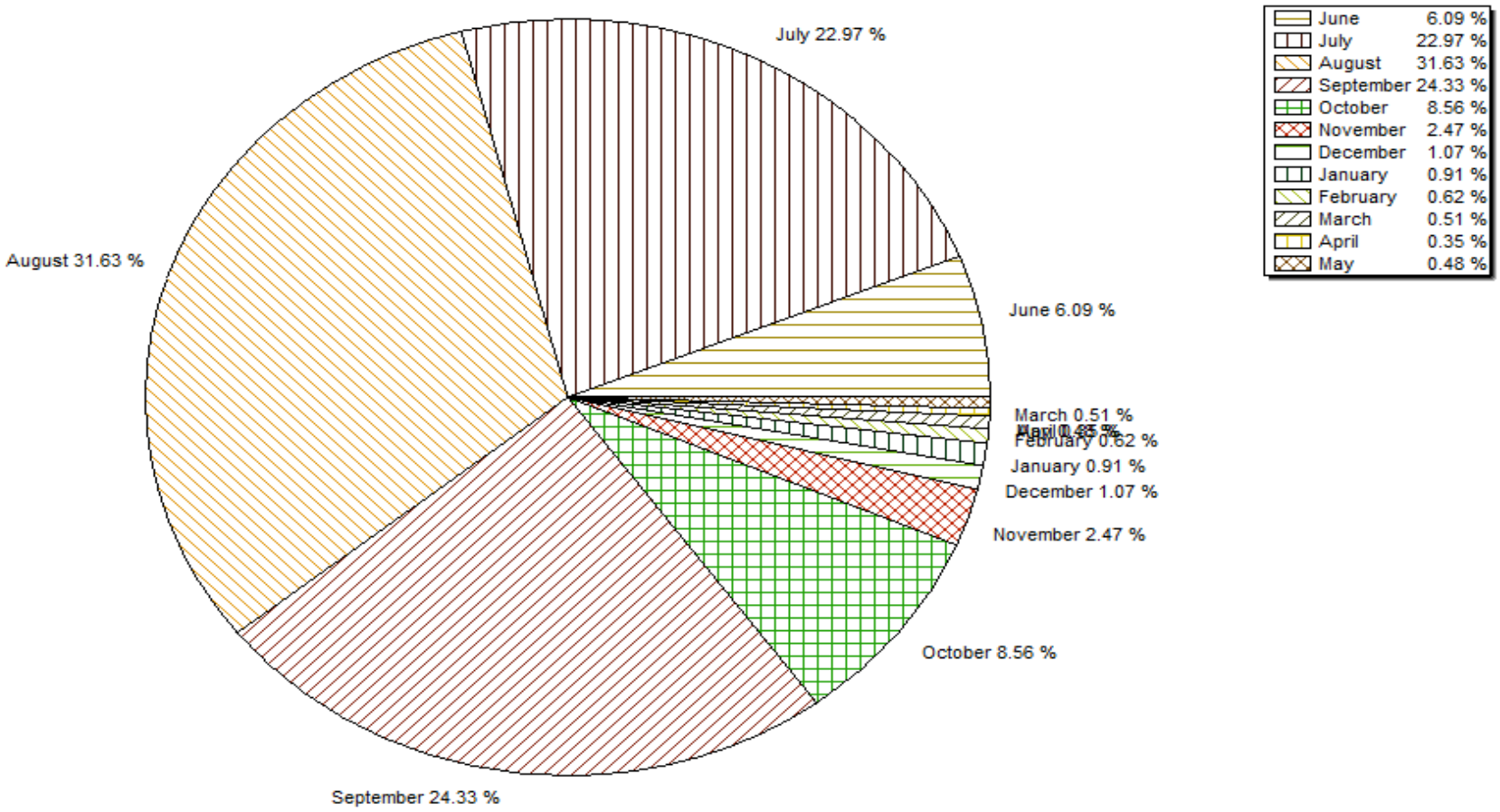


Note: Missing values have not been considered while arriving at Annual Runoff

Monthly Average Runoff based on period : 1979-2017

Station Name : Gomlai (EB000W3) **Division : E.E., Bhubaneswar**

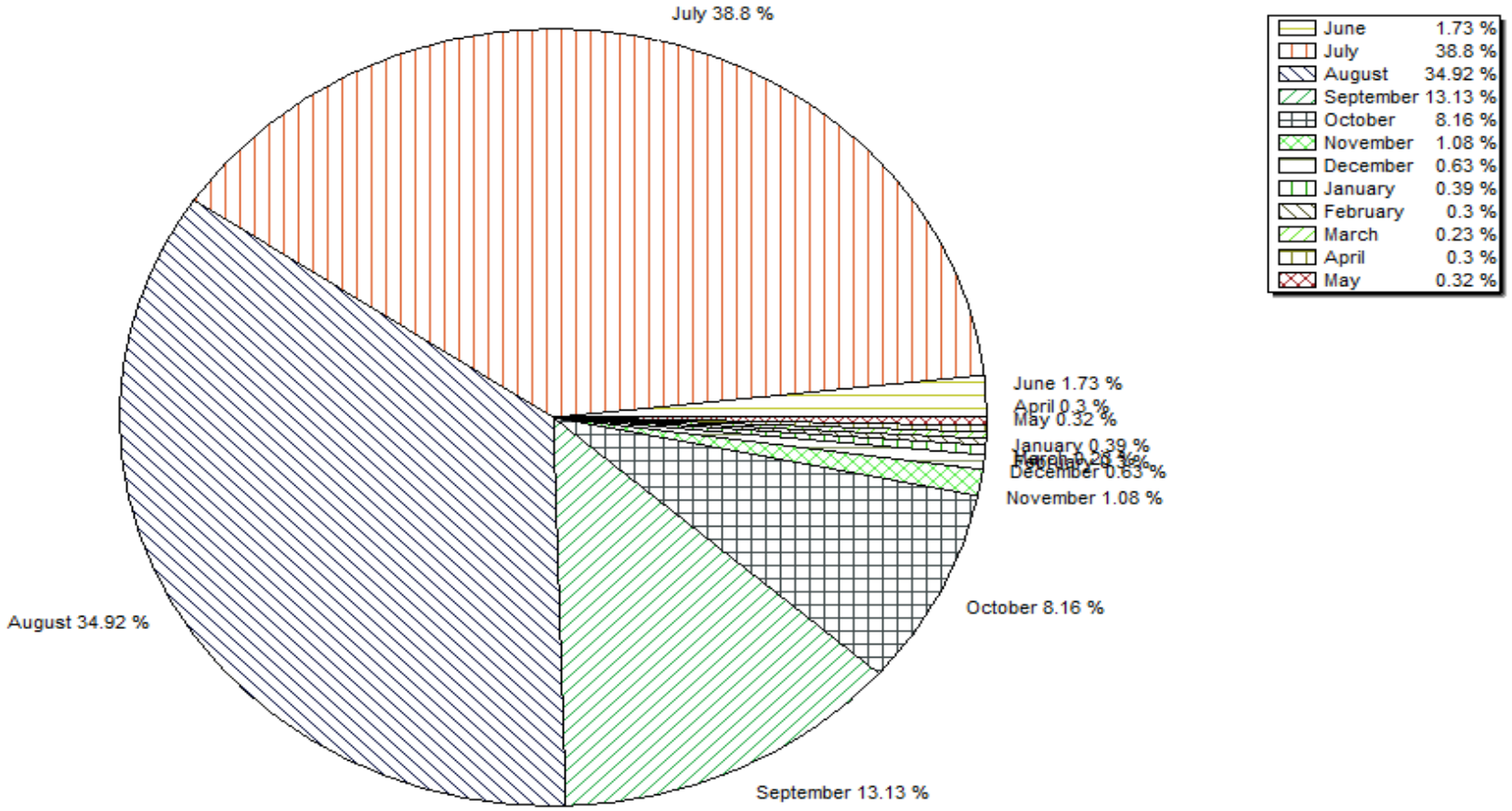
Local River : Brahmni **Sub-Division : Rourkela**



Monthly Runoff for the Year : 2017-2018

Station Name : Gomlai (EB000W3) **Division : E.E., Bhubaneswar**

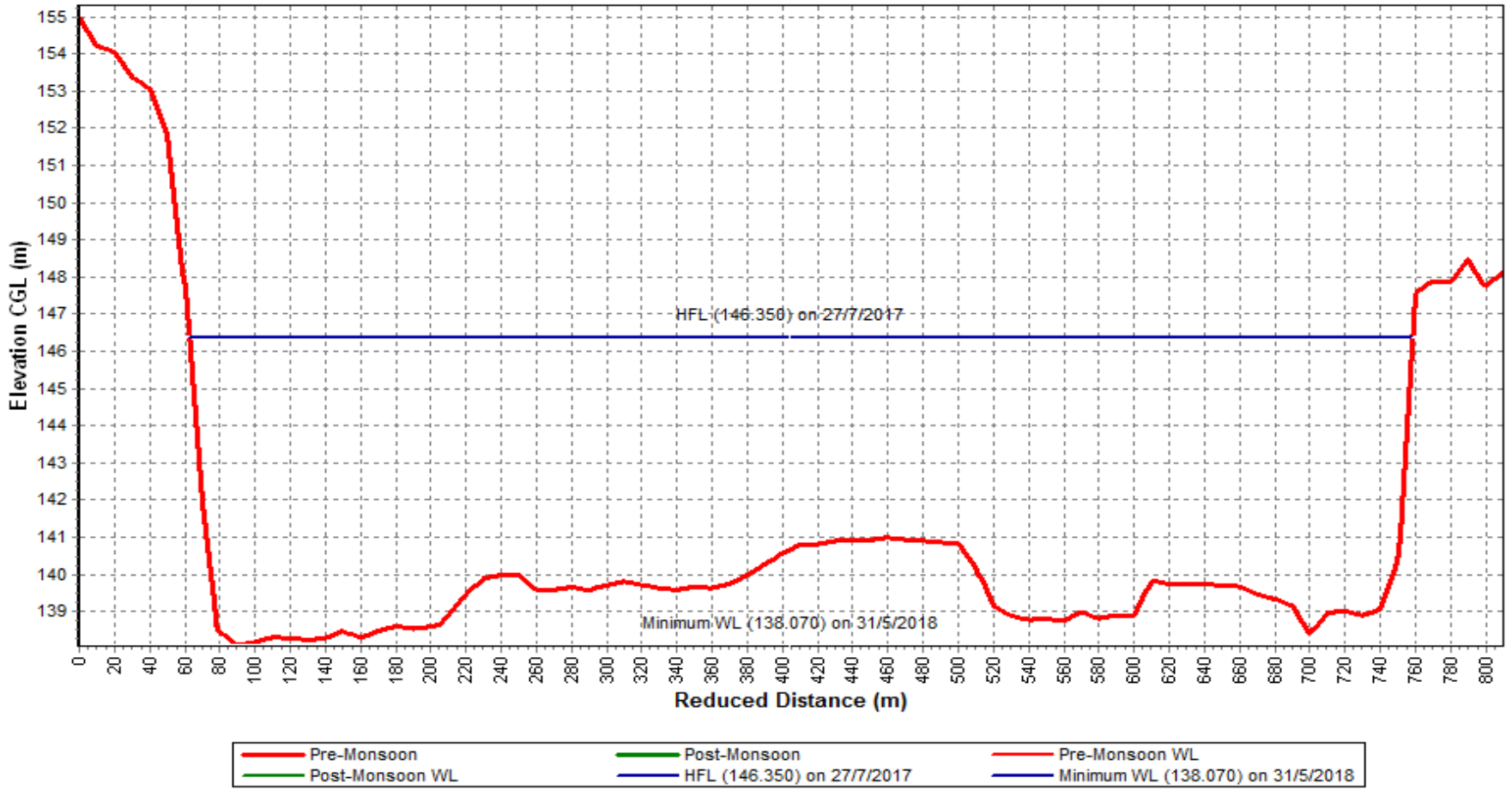
Local River : Brahmni **Sub-Division : Rourkela**



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

Station Name : Gomlai (EB000W3) **Division : E.E., Bhubaneswar**

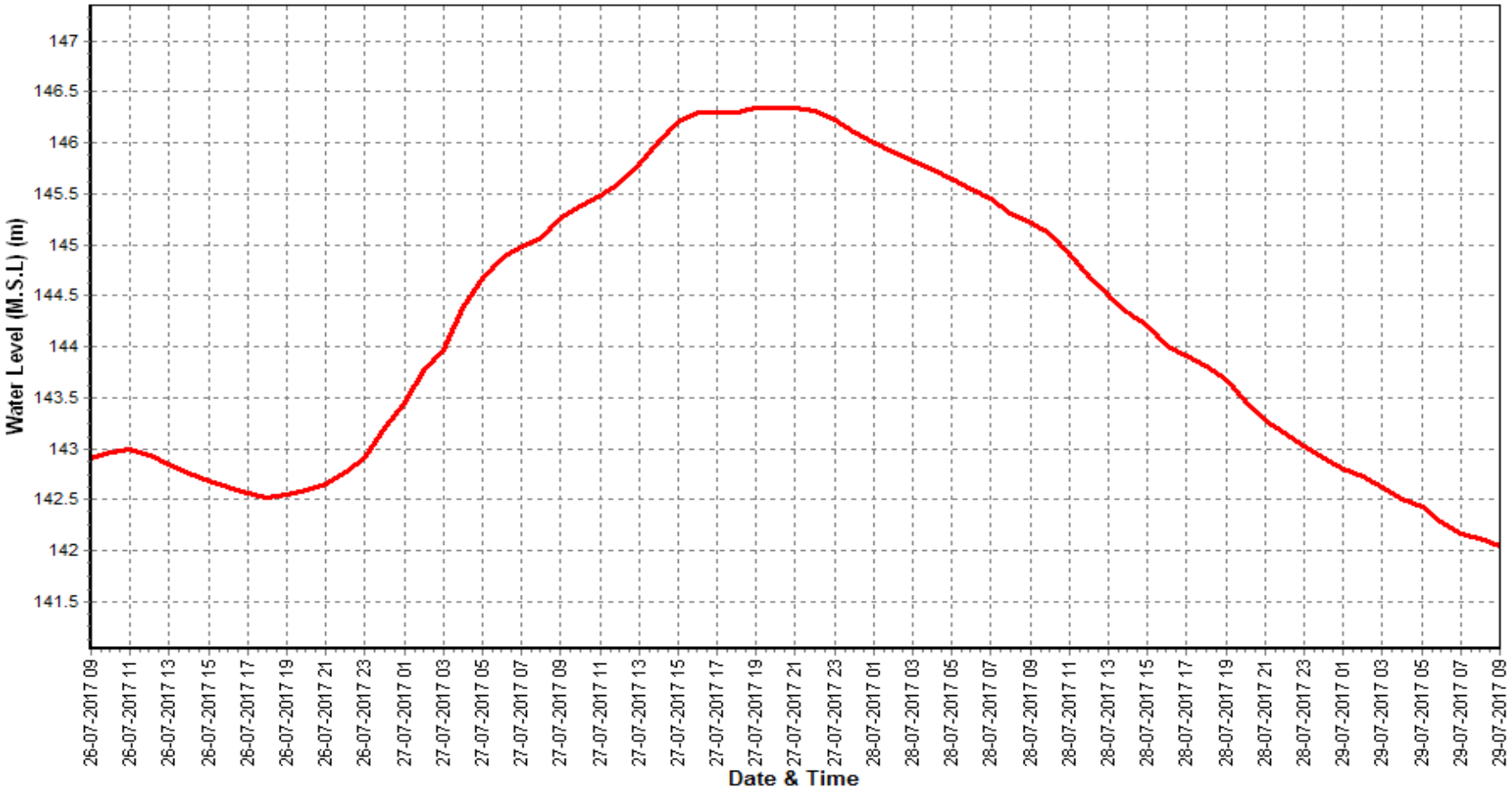
Local River : Brahmni **Sub-Division : Rourkela**



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

Station Name : Gomlai (EB000W3) **Division : E.E., Bhubaneswar**

Local River : Brahmni **Sub-Division : Rourkela**

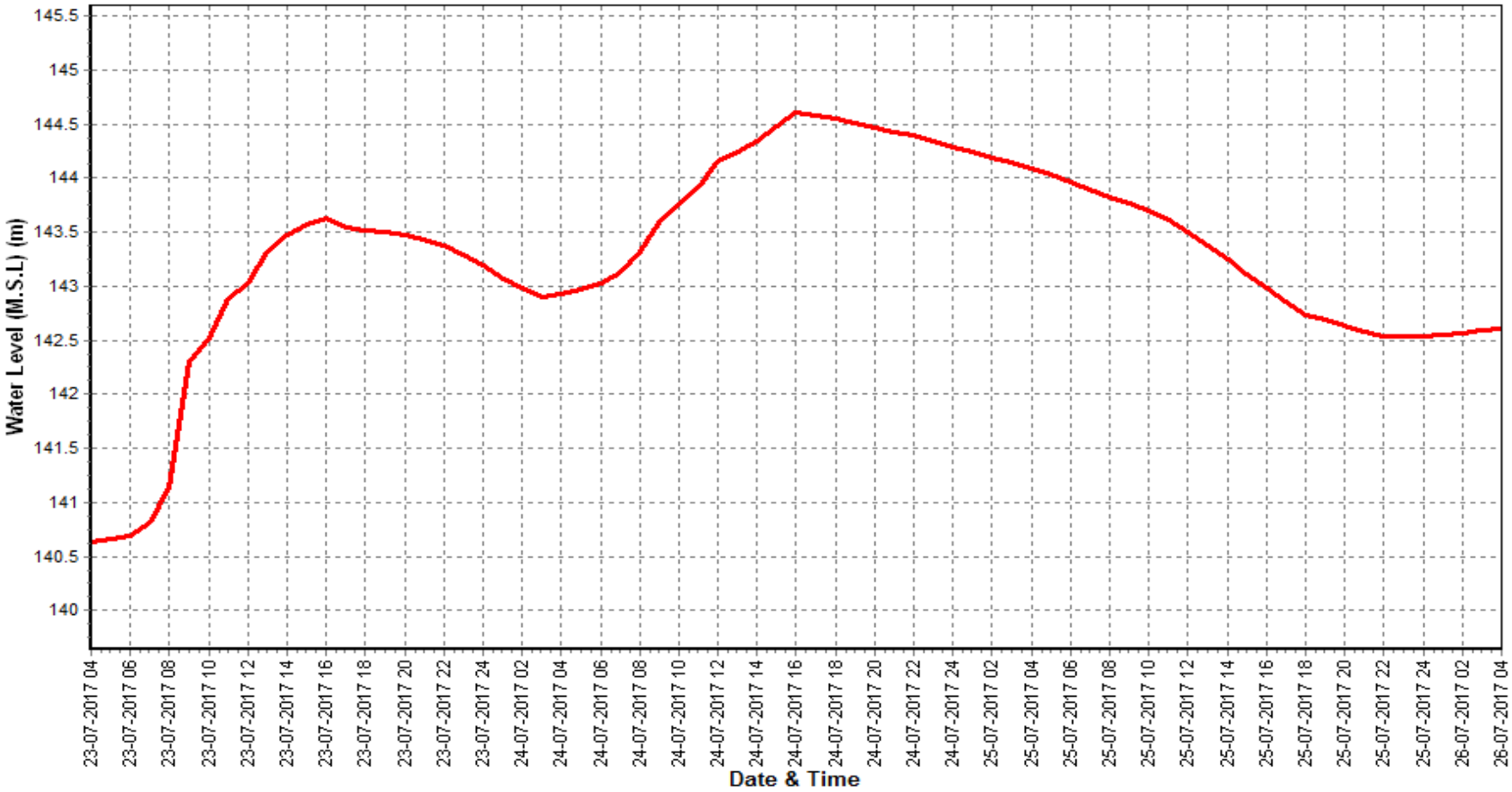


Time Span: 72 Hrs

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

Station Name : Gomlai (EB000W3) **Division : E.E., Bhubaneswar**

Local River : Brahmni **Sub-Division : Rourkela**

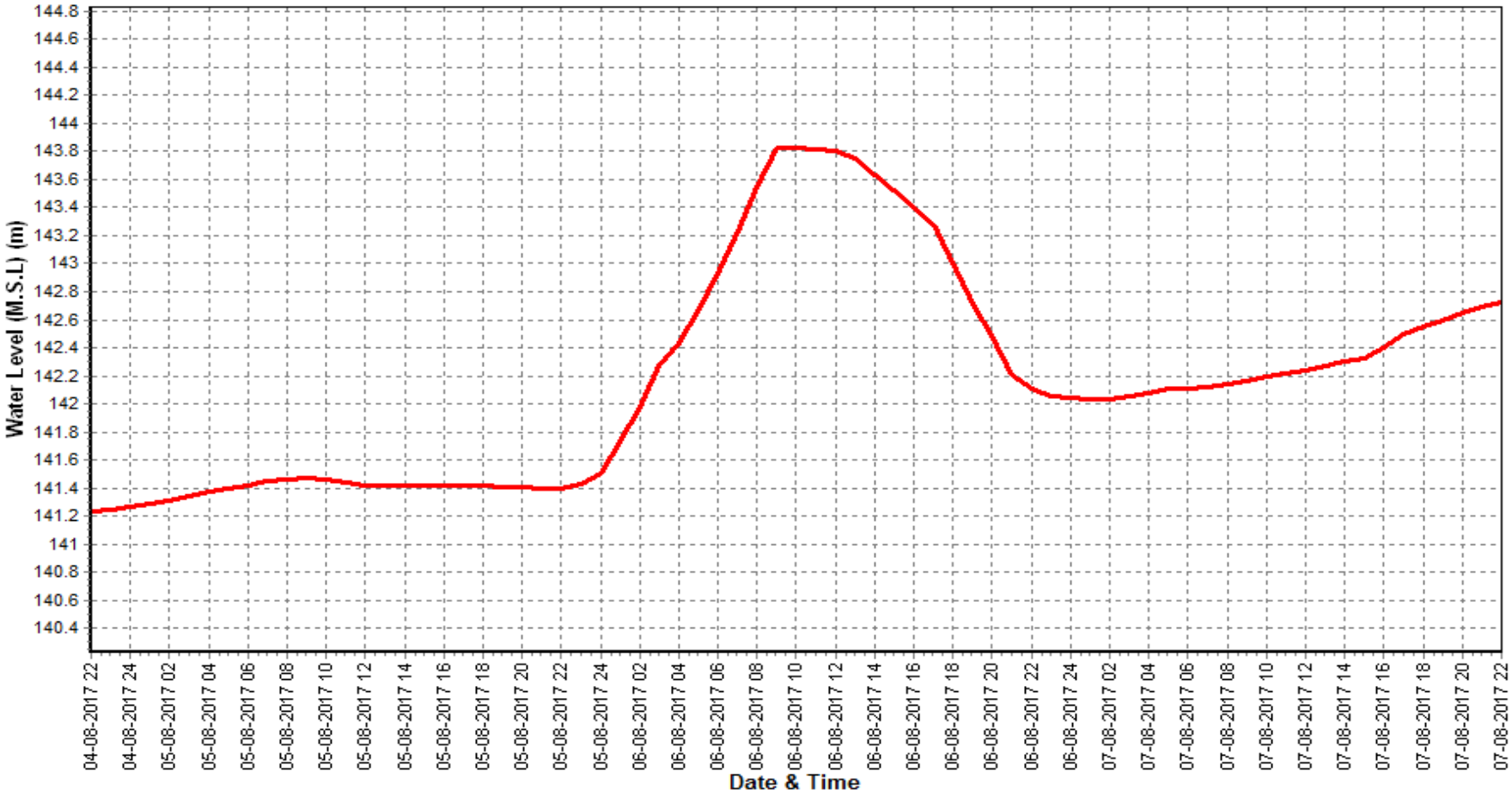


Time Span: 72 Hrs

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

Station Name : Gomlai (EB000W3) **Division : E.E., Bhubaneswar**

Local River : Brahmni **Sub-Division : Rourkela**



Time Span: 72 Hrs

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Gomlai (EB000W3) **Division : E.E., Bhubaneswar**

Local River : Brahmni **Sub-Division : Rourkela**

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	20.00	0.000	0.000	0.003	0.003	5	440.7	0.006	0.007	0.534	0.547	20829	1147	0.010	0.009	0.420	0.439	43495
2	20.06	0.000	0.000	0.004	0.004	7		0.007	0.008	0.483	0.498		1316	0.012	0.012	0.792	0.816	92775
3	17.70	0.000	0.000	0.004	0.004	6	790.6	0.011	0.011	0.527	0.549	37500	1790	0.012	0.012	0.679	0.703	108738
4	17.70	0.000	0.000	0.004	0.004	6	767.6	0.010	0.010	0.862	0.882	58492	1785	0.013	0.012	0.747	0.772	119032
5	13.54	0.000	0.000	0.005	0.005	6	752.5	0.009	0.008	0.614	0.631	41027	2303	0.013	0.012	0.555	0.580	115384
6	12.42	0.000	0.000	0.006	0.006	6	679.3	0.008	0.007	0.483	0.498	29230	3106	0.000	0.000	0.000	0.000	0
7	11.30	0.000	0.000	0.006	0.006	6	458.0	0.007	0.006	0.399	0.412	16302	3952	0.014	0.014	0.642	0.670	228792
8	25.89	0.000	0.000	0.007	0.007	16	380.6	0.006	0.007	0.309	0.322	10587	4524	0.014	0.014	0.564	0.592	231396
9	34.90	0.000	0.000	0.008	0.008	24							2684	0.014	0.014	0.419	0.447	103653
10	21.88	0.000	0.000	0.009	0.009	17	473.3	0.007	0.008	0.304	0.319	13045	4207	0.014	0.015	0.319	0.348	126478
11	21.30	0.000	0.000	0.006	0.006	11	478.1	0.008	0.007	0.330	0.345	14252	1314	0.014	0.014	0.267	0.295	33502
12	21.39	0.000	0.000	0.007	0.007	13	713.0	0.008	0.008	0.184	0.200	12320	1290	0.013	0.013	0.308	0.334	37213
13	27.65	0.000	0.000	0.007	0.007	17	759.5	0.009	0.009	0.545	0.563	36943	1297	0.000	0.000	0.000	0.000	0
14	36.06	0.000	0.000	0.008	0.008	25	816.8	0.011	0.010	0.558	0.579	40860	1297	0.014	0.014	0.248	0.276	30920
15	18.42	0.000	0.000	0.013	0.013	21	1126	0.013	0.013	0.930	0.956	92994	1421	0.000	0.000	0.000	0.000	0
16	27.11	0.000	0.000	0.011	0.011	26							1334	0.014	0.014	0.320	0.348	40107
17	27.20	0.000	0.000	0.011	0.011	26	878.3	0.011	0.011	0.897	0.919	69737	1735	0.013	0.014	0.542	0.569	85274
18	27.10	0.000	0.000	0.004	0.004	9	769.0	0.008	0.008	0.609	0.625	41524	2494	0.014	0.014	0.566	0.594	128009
19	13.50	0.000	0.000	0.020	0.020	23	428.8	0.007	0.007	0.430	0.444	16450	2549	0.014	0.014	0.428	0.456	100412
20	13.51	0.000	0.000	0.015	0.015	18	371.8	0.006	0.006	0.360	0.372	11951	1361	0.000	0.000	0.000	0.000	0
21	29.76	0.000	0.000	0.009	0.009	23	500.4	0.009	0.008	0.184	0.201	8691	1172	0.013	0.013	0.267	0.293	29659
22	180.0	0.002	0.002	0.170	0.174	2707	764.0	0.009	0.009	0.519	0.537	35447	1138	0.012	0.013	0.205	0.230	22608
23	185.9	0.003	0.002	0.180	0.185	2972							906.2	0.011	0.011	0.154	0.176	13780
24	235.2	0.002	0.002	0.213	0.217	4409	5678	0.048	0.048	1.050	1.146	562235	864.8	0.010	0.010	0.148	0.168	12553
25	78.00	0.002	0.002	0.190	0.194	1307	5536	0.045	0.044	1.795	1.884	901165	995.8	0.011	0.011	0.158	0.180	15487
26	100.0	0.020	0.020	0.200	0.240	2074	4552	0.043	0.043	0.905	0.991	389757	1121	0.013	0.014	0.349	0.376	36419
27	256.2	0.002	0.002	0.277	0.281	6221	13000	0.057	0.057	2.628	2.742	3079798	1080	0.000	0.000	0.000	0.000	0
28	364.9	0.003	0.003	0.333	0.339	10687	12873	0.054	0.054	1.352	1.460	1623850	868.3	0.013	0.013	0.282	0.308	23106
29	382.6	0.003	0.003	0.327	0.333	11009	3978	0.041	0.040	0.973	1.054	362217	739.1	0.012	0.012	0.199	0.223	14240
30	401.3	0.003	0.003	0.373	0.379	13142							762.8	0.012	0.011	0.142	0.165	10874
31							1278	0.009	0.009	0.412	0.430	47488	780.1	0.012	0.012	0.149	0.173	11661
Ten Daily Mean																		
Ten Daily I	19.54	0.000	0.000	0.006	0.006	10	592.8	0.008	0.008	0.502	0.518	28377	2681	0.012	0.011	0.514	0.537	116974
Ten Daily II	23.32	0.000	0.000	0.010	0.010	19	704.6	0.009	0.009	0.538	0.556	37448	1609	0.010	0.010	0.268	0.287	45544
Ten Daily III	221.4	0.004	0.004	0.227	0.235	5455	5351	0.035	0.035	1.091	1.161	778961	947.9	0.011	0.011	0.187	0.208	17308
Monthly																		
Total						54837						7574691						1815567

Annual Sediment Load (Metric Tonnes) : 10011491

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Gomlai (EB000W3) **Division : E.E., Bhubaneswar**

Local River : Brahmni **Sub-Division : Rourkela**

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	730.8	0.011	0.010	0.145	0.166	10482	973.9	0.012	0.012	0.300	0.324	27262	95.72	0.000	0.000	0.011	0.011	91
2	725.0	0.011	0.010	0.146	0.167	10461	1055	0.013	0.013	0.320	0.346	31545	92.62	0.000	0.000	0.009	0.009	72
3	763.0	0.012	0.012	0.180	0.204	13448	1123	0.013	0.013	0.322	0.348	33767	71.43	0.000	0.000	0.011	0.011	68
4	775.1	0.012	0.012	0.234	0.258	17278	988.6	0.012	0.012	0.266	0.290	24769	71.40	0.000	0.000	0.011	0.011	68
5	748.2	0.011	0.011	0.130	0.152	9825	884.1	0.010	0.011	0.316	0.337	25743	70.00	0.000	0.000	0.011	0.011	67
6	556.2	0.010	0.009	0.116	0.135	6488	795.0	0.010	0.010	0.143	0.163	11196	60.74	0.000	0.000	0.011	0.011	58
7	458.9	0.008	0.008	0.085	0.101	4004	706.5	0.010	0.010	0.114	0.134	8180	58.49	0.000	0.000	0.011	0.011	56
8	320.5	0.007	0.007	0.083	0.097	2686	57.47	0.010	0.010	0.110	0.130	646	57.47	0.000	0.000	0.012	0.012	60
9	361.1	0.007	0.007	0.075	0.089	2777	658.8	0.009	0.010	0.073	0.092	5237	56.30	0.000	0.000	0.012	0.012	58
10	347.0	0.007	0.008	0.108	0.123	3688	414.4	0.009	0.009	0.105	0.123	4404	53.15	0.000	0.000	0.012	0.012	55
11	350.9	0.008	0.008	0.108	0.124	3759	617.5	0.010	0.010	0.093	0.113	6029	54.99	0.000	0.000	0.011	0.011	52
12	428.1	0.008	0.008	0.140	0.156	5770	438.2	0.009	0.009	0.111	0.129	4884	54.90	0.000	0.000	0.011	0.011	52
13	740.6	0.012	0.012	0.196	0.220	14076	306.1	0.009	0.009	0.099	0.117	3094	53.72	0.000	0.000	0.017	0.017	79
14	720.5	0.011	0.012	0.129	0.152	9462	281.9	0.008	0.008	0.067	0.083	2022	47.68	0.000	0.000	0.014	0.014	58
15	688.8	0.011	0.012	0.127	0.150	8927	265.0	0.008	0.008	0.060	0.076	1740	50.02	0.000	0.000	0.017	0.017	73
16	604.1	0.011	0.011	0.108	0.130	6785	256.4	0.007	0.008	0.038	0.053	1174	52.30	0.000	0.000	0.014	0.014	63
17	570.0	0.011	0.011	0.108	0.130	6402	228.4	0.007	0.007	0.018	0.032	631	49.82	0.000	0.000	0.015	0.015	65
18	436.2	0.010	0.010	0.140	0.160	6031	201.0	0.007	0.007	0.018	0.032	556	48.06	0.000	0.000	0.011	0.011	46
19	546.2	0.011	0.011	0.118	0.140	6607	174.3	0.007	0.007	0.018	0.032	482	50.50	0.000	0.000	0.011	0.011	48
20	1184	0.014	0.014	0.570	0.598	61176	169.0	0.006	0.007	0.013	0.026	380	50.91	0.000	0.000	0.009	0.009	40
21	1536	0.015	0.015	0.408	0.438	58119	179.3	0.006	0.007	0.012	0.025	387	53.91	0.000	0.000	0.012	0.012	56
22	1380	0.011	0.011	0.224	0.246	29327		0.006	0.007	0.012	0.025		53.15	0.000	0.000	0.008	0.008	37
23	1136	0.011	0.011	0.179	0.201	19735	238.9	0.004	0.005	0.028	0.037	764	57.45	0.000	0.000	0.010	0.010	50
24	920.0	0.011	0.011	0.180	0.202	16057	236.3	0.004	0.005	0.023	0.032	653	49.42	0.000	0.000	0.011	0.011	47
25	601.2	0.009	0.010	0.100	0.119	6181	229.7	0.004	0.004	0.022	0.030	595	40.72	0.000	0.000	0.008	0.008	28
26	420.1	0.009	0.009	0.104	0.122	4428	200.9	0.003	0.003	0.025	0.031	538	40.70	0.000	0.000	0.008	0.008	28
27	532.8	0.009	0.009	0.103	0.121	5570	197.2	0.003	0.004	0.025	0.032	545	44.67	0.000	0.000	0.008	0.008	31
28	504.9	0.008	0.009	0.081	0.098	4275	182.7	0.003	0.003	0.027	0.033	521	39.56	0.000	0.000	0.010	0.010	34
29	421.0	0.008	0.008	0.100	0.116	4219	164.0	0.003	0.003	0.025	0.031	439	38.49	0.000	0.000	0.009	0.009	30
30	540.0	0.007	0.007	0.081	0.095	4432	142.3	0.000	0.000	0.011	0.011	135	40.28	0.000	0.000	0.010	0.010	35
31							99.47	0.000	0.000	0.011	0.011	95						
Ten Daily Mean																		
Ten Daily I	578.6	0.010	0.009	0.130	0.149	8114	765.7	0.011	0.011	0.207	0.229	17275	68.73	0.000	0.000	0.011	0.011	65
Ten Daily II	626.9	0.011	0.011	0.174	0.196	12899	293.8	0.008	0.008	0.054	0.069	2099	51.29	0.000	0.000	0.013	0.013	58
Ten Daily III	799.2	0.010	0.010	0.156	0.176	15234	187.1	0.003	0.004	0.020	0.027	467	45.84	0.000	0.000	0.009	0.009	38
Monthly																		
Total						362474						198412						1603

Annual Sediment Load (Metric Tonnes) : 10011491

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Gomlai (EB000W3) **Division : E.E., Bhubaneswar**

Local River : Brahmni **Sub-Division : Rourkela**

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	34.86	0.000	0.000	0.010	0.010	30	24.11	0.000	0.000	0.010	0.010	21	16.24	0.000	0.000	0.011	0.011	15
2	37.50	0.000	0.000	0.010	0.010	32	23.43	0.000	0.000	0.010	0.010	20	26.15	0.000	0.000	0.011	0.011	25
3	37.25	0.000	0.000	0.008	0.008	26	22.36	0.000	0.000	0.010	0.010	19	16.41	0.000	0.000	0.011	0.011	16
4	36.31	0.000	0.000	0.008	0.008	25	22.86	0.000	0.000	0.010	0.010	20	16.40	0.000	0.000	0.011	0.011	16
5	37.76	0.000	0.000	0.008	0.008	26	21.93	0.000	0.000	0.010	0.010	19	18.16	0.000	0.000	0.013	0.013	20
6	34.51	0.000	0.000	0.008	0.008	24	21.99	0.000	0.000	0.010	0.010	19	18.01	0.000	0.000	0.013	0.013	20
7	35.32	0.000	0.000	0.008	0.008	24	21.25	0.000	0.000	0.010	0.010	18	15.64	0.000	0.000	0.013	0.013	18
8	36.68	0.000	0.000	0.008	0.008	25	20.87	0.000	0.000	0.008	0.008	14	16.19	0.000	0.000	0.013	0.013	18
9	31.99	0.000	0.000	0.008	0.008	22	19.92	0.000	0.000	0.008	0.008	14	17.17	0.000	0.000	0.013	0.013	19
10	31.11	0.000	0.000	0.008	0.008	22	21.33	0.000	0.000	0.008	0.008	15	17.62	0.000	0.000	0.013	0.013	20
11	33.86	0.000	0.000	0.010	0.010	29	21.22	0.000	0.000	0.008	0.008	15	17.60	0.000	0.000	0.013	0.013	20
12	34.85	0.000	0.000	0.010	0.010	30	19.11	0.000	0.000	0.008	0.008	13	16.50	0.000	0.000	0.006	0.006	9
13	30.79	0.000	0.000	0.010	0.010	27	19.34	0.000	0.000	0.008	0.008	13	16.84	0.000	0.000	0.006	0.006	9
14	34.63	0.000	0.000	0.010	0.010	30	19.31	0.000	0.000	0.008	0.008	13	16.78	0.000	0.000	0.006	0.006	9
15	34.17	0.000	0.000	0.010	0.010	30	19.05	0.000	0.000	0.011	0.011	18	16.40	0.000	0.000	0.006	0.006	8
16	32.61	0.000	0.000	0.010	0.010	28	18.43	0.000	0.000	0.011	0.011	18	14.66	0.000	0.000	0.006	0.006	8
17	32.65	0.000	0.000	0.010	0.010	28	17.99	0.000	0.000	0.011	0.011	17	14.38	0.000	0.000	0.006	0.006	7
18	31.81	0.000	0.000	0.010	0.010	27	18.08	0.000	0.000	0.011	0.011	17	14.39	0.000	0.000	0.012	0.012	15
19	29.75	0.000	0.000	0.010	0.010	26	18.11	0.000	0.000	0.011	0.011	17	14.49	0.000	0.000	0.012	0.012	15
20	29.77	0.000	0.000	0.010	0.010	26	17.07	0.000	0.000	0.011	0.011	16	14.66	0.000	0.000	0.012	0.012	15
21	29.54	0.000	0.000	0.010	0.010	26	18.25	0.000	0.000	0.011	0.011	17	14.58	0.000	0.000	0.012	0.012	15
22	27.55	0.000	0.000	0.010	0.010	24	18.11	0.000	0.000	0.010	0.010	16	14.58	0.000	0.000	0.012	0.012	15
23	27.62	0.000	0.000	0.010	0.010	24	17.31	0.000	0.000	0.010	0.010	15	14.68	0.000	0.000	0.012	0.012	15
24	27.60	0.000	0.000	0.010	0.010	24	17.48	0.000	0.000	0.010	0.010	15	14.90	0.000	0.000	0.012	0.012	15
25	27.57	0.000	0.000	0.010	0.010	24	17.47	0.000	0.000	0.010	0.010	15	14.60	0.000	0.000	0.012	0.012	15
26	26.95	0.000	0.000	0.010	0.010	23	17.50	0.000	0.000	0.010	0.010	15	14.09	0.000	0.000	0.012	0.012	15
27	24.78	0.000	0.000	0.010	0.010	21	17.55	0.000	0.000	0.010	0.010	15	14.62	0.000	0.000	0.012	0.012	15
28	24.56	0.000	0.000	0.010	0.010	21	17.50	0.000	0.000	0.009	0.009	14	14.66	0.000	0.000	0.012	0.012	15
29	25.51	0.000	0.000	0.010	0.010	22	15.73	0.000	0.000	0.009	0.009	12						
30	21.95	0.000	0.000	0.010	0.010	19	16.01	0.000	0.000	0.009	0.009	12						
31	21.25	0.000	0.000	0.010	0.010	18	15.76	0.000	0.000	0.009	0.009	12						
Ten Daily Mean																		
Ten Daily I	35.33	0.000	0.000	0.008	0.008	26	22.00	0.000	0.000	0.009	0.009	18	17.80	0.000	0.000	0.012	0.012	19
Ten Daily II	32.49	0.000	0.000	0.010	0.010	28	18.77	0.000	0.000	0.010	0.010	16	15.67	0.000	0.000	0.009	0.009	11
Ten Daily III	25.90	0.000	0.000	0.010	0.010	22	17.15	0.000	0.000	0.010	0.010	14	14.59	0.000	0.000	0.012	0.012	15
Monthly Total						784						496						422

Annual Sediment Load (Metric Tonnes) : 10011491

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Gomlai (EB000W3) **Division : E.E., Bhubaneswar**

Local River : Brahmni **Sub-Division : Rourkela**

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	12.73	0.000	0.000	0.012	0.012	13	11.00	0.000	0.000	0.015	0.015	14	10.42	0.000	0.000	0.028	0.028	25
2	12.65	0.000	0.000	0.012	0.012	13	11.65	0.000	0.000	0.015	0.015	15	10.45	0.000	0.000	0.028	0.028	25
3	12.58	0.000	0.000	0.012	0.012	13	13.14	0.000	0.000	0.015	0.015	17	11.02	0.000	0.000	0.028	0.028	27
4	12.55	0.000	0.000	0.012	0.012	13	12.22	0.000	0.000	0.015	0.015	16	11.47	0.000	0.000	0.028	0.028	28
5	12.02	0.000	0.000	0.013	0.013	14	17.81	0.000	0.000	0.015	0.015	23	10.31	0.000	0.000	0.028	0.028	25
6	12.17	0.000	0.000	0.013	0.013	14	16.61	0.000	0.000	0.015	0.015	22	12.25	0.000	0.000	0.025	0.025	26
7	13.09	0.000	0.000	0.013	0.013	15	19.41	0.000	0.000	0.015	0.015	25	9.918	0.000	0.000	0.015	0.015	13
8	13.26	0.000	0.000	0.013	0.013	15	15.12	0.000	0.000	0.015	0.015	20	9.702	0.000	0.000	0.015	0.015	13
9	12.55	0.000	0.000	0.013	0.013	14	11.12	0.000	0.000	0.019	0.019	18	9.893	0.000	0.000	0.015	0.015	13
10	12.45	0.000	0.000	0.013	0.013	14	12.55	0.000	0.000	0.019	0.019	21	9.620	0.000	0.000	0.015	0.015	12
11	12.00	0.000	0.000	0.013	0.013	13	19.51	0.000	0.000	0.019	0.019	32	8.748	0.000	0.000	0.015	0.015	11
12	11.09	0.000	0.000	0.018	0.018	17	12.97	0.000	0.000	0.019	0.019	21	9.002	0.000	0.000	0.015	0.015	12
13	10.79	0.000	0.000	0.018	0.018	17	41.99	0.000	0.000	0.019	0.019	69	11.50	0.000	0.000	0.015	0.015	15
14	10.39	0.000	0.000	0.018	0.018	16	35.23	0.000	0.000	0.018	0.018	55	14.01	0.000	0.000	0.026	0.026	31
15	10.16	0.000	0.000	0.018	0.018	16	22.25	0.000	0.000	0.020	0.020	38	16.61	0.000	0.000	0.026	0.026	37
16	11.13	0.000	0.000	0.018	0.018	17	19.46	0.000	0.000	0.021	0.021	35	16.35	0.000	0.000	0.026	0.026	37
17	11.28	0.000	0.000	0.018	0.018	18	17.11	0.000	0.000	0.021	0.021	31	12.20	0.000	0.000	0.026	0.026	27
18	11.40	0.000	0.000	0.015	0.015	15	14.23	0.000	0.000	0.021	0.021	26	11.79	0.000	0.000	0.026	0.026	26
19	11.51	0.000	0.000	0.013	0.013	13	14.85	0.000	0.000	0.021	0.021	27	11.90	0.000	0.000	0.026	0.026	27
20	10.93	0.000	0.000	0.013	0.013	12	15.49	0.000	0.000	0.021	0.021	28	12.11	0.000	0.000	0.026	0.026	27
21	11.38	0.000	0.000	0.013	0.013	13	12.22	0.000	0.000	0.021	0.021	22	13.12	0.000	0.000	0.026	0.026	29
22	11.25	0.000	0.000	0.013	0.013	13	14.05	0.000	0.000	0.020	0.020	24	28.48	0.000	0.000	0.026	0.026	64
23	11.07	0.000	0.000	0.013	0.013	12	13.60	0.000	0.000	0.027	0.027	32	23.42	0.000	0.000	0.026	0.026	53
24	11.09	0.000	0.000	0.013	0.013	12	10.10	0.000	0.000	0.027	0.027	24	15.49	0.000	0.000	0.026	0.026	35
25	11.08	0.000	0.000	0.013	0.013	12	9.550	0.000	0.000	0.027	0.027	22	15.44	0.000	0.000	0.026	0.026	35
26	10.99	0.000	0.000	0.018	0.018	17	9.446	0.000	0.000	0.027	0.027	22	15.65	0.000	0.000	0.026	0.026	35
27	9.159	0.000	0.000	0.018	0.018	14	8.372	0.000	0.000	0.027	0.027	20	15.00	0.000	0.000	0.025	0.025	32
28	10.17	0.000	0.000	0.018	0.018	16	8.237	0.000	0.000	0.027	0.027	19	11.13	0.000	0.000	0.019	0.019	18
29	10.00	0.000	0.000	0.018	0.018	16	10.50	0.000	0.000	0.027	0.027	24	10.96	0.000	0.000	0.019	0.019	18
30	13.00	0.000	0.000	0.018	0.018	20	10.48	0.000	0.000	0.025	0.025	23	32.28	0.000	0.000	0.019	0.019	53
31	12.18	0.000	0.000	0.018	0.018	19							81.48	0.000	0.000	0.019	0.019	134
Ten Daily Mean																		
Ten Daily I	12.60	0.000	0.000	0.013	0.013	14	14.06	0.000	0.000	0.016	0.016	19	10.51	0.000	0.000	0.023	0.023	21
Ten Daily II	11.07	0.000	0.000	0.016	0.016	15	21.31	0.000	0.000	0.020	0.020	36	12.42	0.000	0.000	0.023	0.023	25
Ten Daily III	11.03	0.000	0.000	0.016	0.016	15	10.66	0.000	0.000	0.026	0.026	23	23.86	0.000	0.000	0.023	0.023	46
Monthly																		
Total						456						785						964

Annual Sediment Load (Metric Tonnes) : 10011491

Annual Sediment Load for period : 1981-2018

Station Name : Gomlai (EB000W3) **Division : E.E., Bhubaneswar**

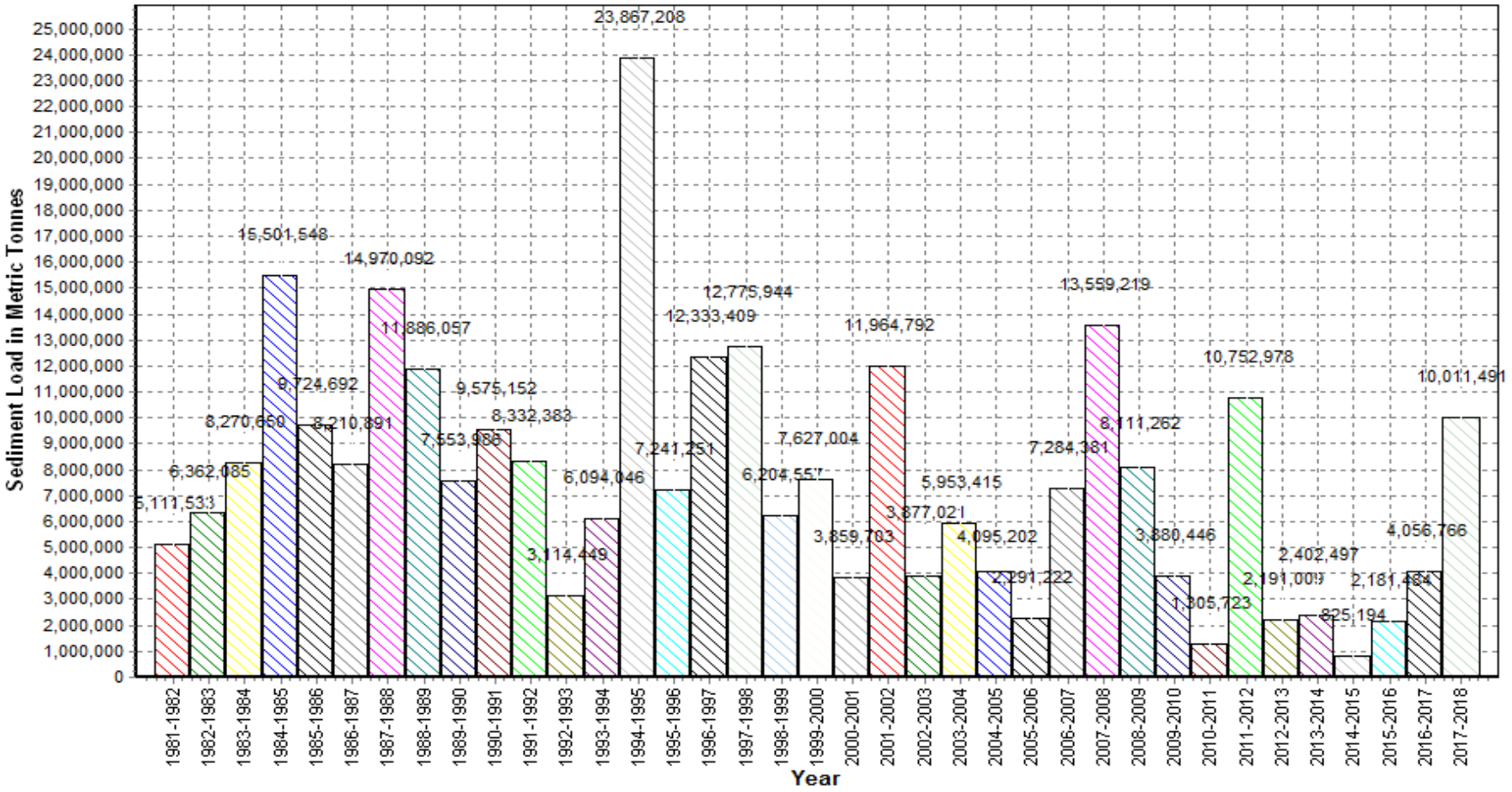
Local River : Brahmni **Sub-Division : Rourkela**

Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)
1981-1982	5097467	14066	5111533	7712
1982-1983	6285626	76459	6362085	7407
1983-1984	8267114	3536	8270650	8861
1984-1985	15497373	4175	15501548	15450
1985-1986	9721444	3247	9724692	10203
1986-1987	8191659	19232	8210891	10110
1987-1988	14950091	20001	14970092	10752
1988-1989	11882814	3243	11886057	11576
1989-1990	7459501	94485	7553986	8878
1990-1991	9542221	32930	9575152	12896
1991-1992	8299839	32544	8332383	12051
1992-1993	3109937	4512	3114449	5056
1993-1994	6086939	7107	6094046	9088
1994-1995	23858486	8722	23867208	22967
1995-1996	7222350	18901	7241251	10170
1996-1997	12327625	5784	12333409	13291
1997-1998	12371036	404909	12775944	14502
1998-1999	6184487	20071	6204557	10155
1999-2000	7614833	12171	7627004	14735
2000-2001	3855282	4421	3859703	7227
2001-2002	11960636	4156	11964792	16006
2002-2003	3871634	5386	3877021	7735
2003-2004	5947177	6237	5953415	10306
2004-2005	4089879	5322	4095202	8169
2005-2006	2279216	12006	2291222	6821
2006-2007	7278047	6334	7284381	10784
2007-2008	13552621	6599	13559219	16113
2008-2009	8104533	6729	8111262	13347
2009-2010	3876418	4028	3880446	6309
2010-2011	1301819	3904	1305723	3046
2011-2012	10747050	5928	10752978	15880
2012-2013	2184651	6358	2191009	8270
2013-2014	2399652	2844	2402497	13360
2014-2015	823808	1386	825194	10654
2015-2016	2179683	1800	2181484	8007
2016-2017	4056766	0	4056766	10699
2017-2018	10007583	3908	10011491	13194

Annual Sediment Load for the period: 1981-2018

Station Name : Gomlai (EB000W3) **Division : E.E., Bhubaneswar**

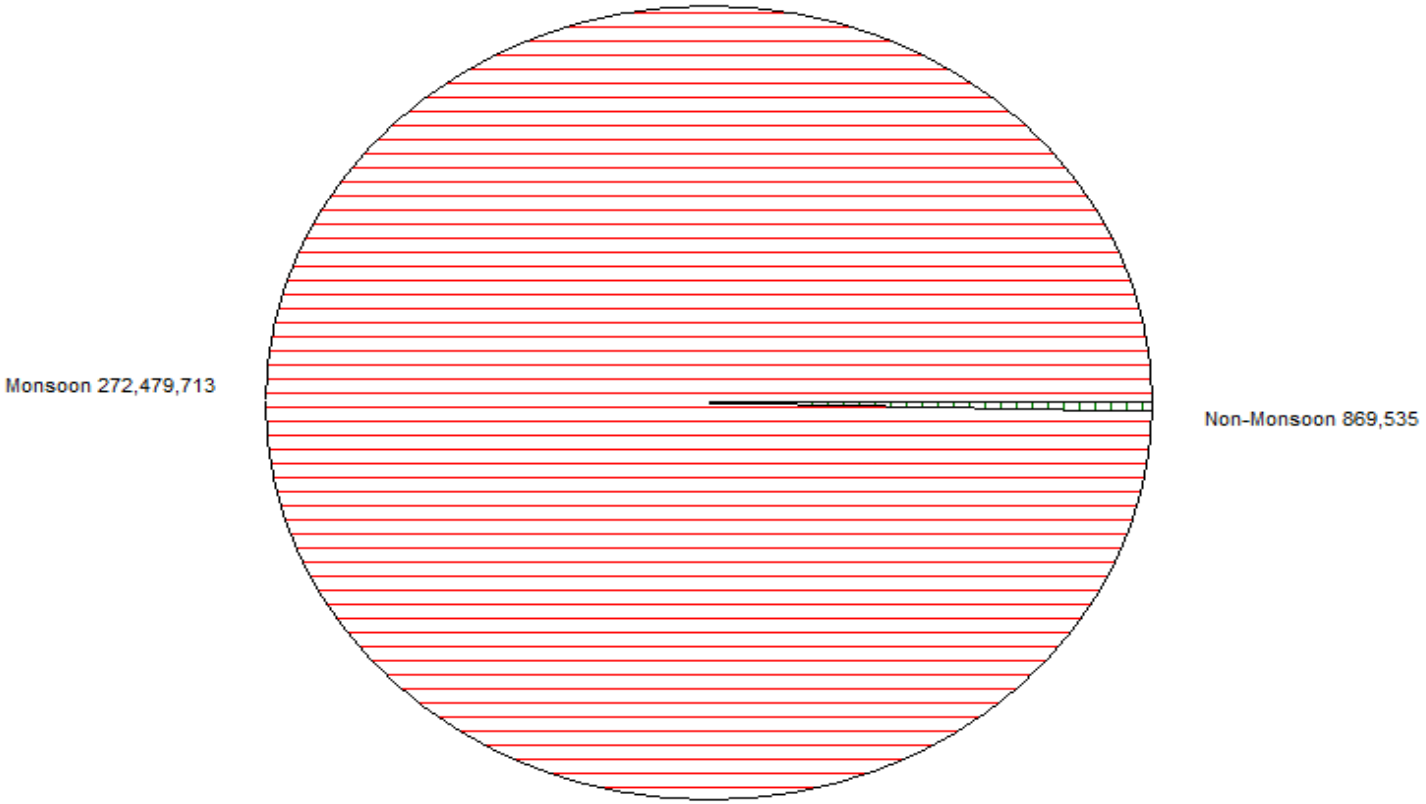
Local River : Brahmni **Sub-Division : Rourkela**



Seasonal Sediment Load for the period : 1981-2017

Station Name : Gomlai (EB000W3)
Local River : Brahmni

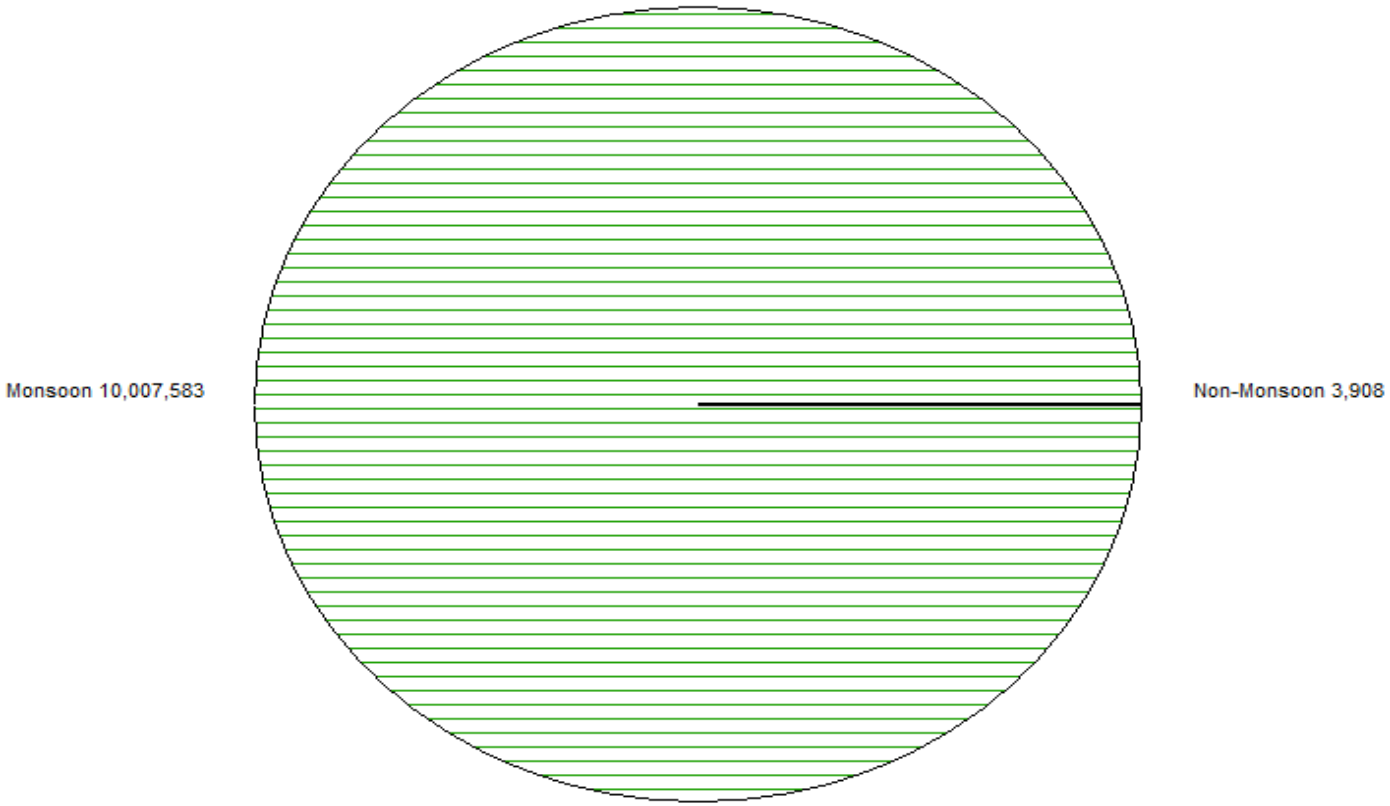
Division : E.E., Bhubaneswar
Sub-Division : Rourkela



Seasonal Sediment Load for the Year: 2017-2018

Station Name : Gomlai (EB000W3)
Local River : Brahmni

Division : E.E., Bhubaneswar
Sub-Division : Rourkela



Water Quality Datasheet for the period : 2017-2018

Station Name : GOMLAI (EB000W3) **Division : E.E., Bhubaneswar**

Local River : Brahmani **River Water Analysis** **Sub-Division : Rourkela**

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)												
2	Colour_Cod (-)	Clear	Light Brown	Light Brown	Light Brown	Light Brown	Clear	Clear	Clear	Clear	Clear	Clear	Clear
3	EC_FLD (µmho/cm)	212	128	160	160	200	239	239	280	279	322	290	285
4	EC_GEN (µmho/cm)	206	123	152	155	205	236	234	277	270	317	285	281
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)	8.0	7.5	7.5	7.1	7.9	7.7	8.2	7.7	7.8	7.8	7.4	8.0
7	pH_GEN (pH units)	8.0	7.5	7.4	7.0	8.1	7.8	8.1	7.8	7.9	7.7	7.3	8.0
8	Temp (deg C)	32.0	31.0	28.0	31.0	30.0	26.0	19.5	18.5	19.0	23.0	26.5	29.0
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	39.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	60	46	42	51	126	79	79	88	79	88	106	92
3	B (mg/L)	0.01	0.01	0.01	0.02	0.01	0.02	0.03	0.02	0.02	0.01	0.02	0.01
4	Ca (mg/L)	46	45	32	34	16	29	38	34	43	35	31	25
5	Cl (mg/L)	32.1	13.2	13.2	9.4	10.4	12.1	12.1	13.8	15.6	15.6	22.5	22.5
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	48.0	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)	1.5	0.5	0.4	0.5	0.5	0.4	0.4	0.5	0.5	0.5	0.4	0.5
9	HCO3 (mg/L)	73	56	51	62	56	96	96	107	96	107	130	113
10	K (mg/L)	3.7	2.6	1.9	2.2	2.6	2.7	2.9	3.0	1.4	1.9	2.1	4.1
11	Mg (mg/L)	15.6	16.5	14.6	15.6	6.4	7.9	12.7	11.2	14.3	11.2	12.7	10.3
12	Na (mg/L)	9.4	3.7	2.8	2.9	3.2	3.6	4.2	6.9	7.8	8.2	8.9	11.8
13	NO2+NO3 (mg N/L)	1.26	1.22	1.19	1.23	1.12	1.18	1.25	1.18	1.15	1.22	1.16	1.18
14	NO2-N (mgN/L)	0.01	0.03	0.04	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	NO3-N (mgN/L)	1.25	1.19	1.15	1.21	1.12	1.18	1.25	1.18	1.15	1.22	1.16	1.18
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)	9.5	8.5	7.2	9.3	6.0	8.4	9.2	7.2	6.8	7.5	8.7	9.6
18	SO4 (mg/L)	30.8	18.6	18.9	9.1	13.9	14.0	14.3	14.5	15.2	26.4	16.0	14.8
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)	1.8	0.8	0.6	0.6	0.8	0.2	1.4	0.6	0.6	0.6	0.6	3.2
2	DO (mg/L)	7.1	6.6	6.2	4.6	6.2	6.8	8.3	6.8	6.8	3.4	5.4	6.2
3	DO_SAT% (%)	98	88	79	62	81	83	90	71	73	39	66	80
4	FCol-MPN (MPN/100mL)	60	80	110	60	90	40	60	90	80	70	110	70
5	Tcol-MPN (MPN/100mL)	120	210	230	170	230	130	170	210	220	210	260	170
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)	116	112	80	84	39	72	95	85	108	88	78	62
2	HAR_Total (mgCaCO3/L)	181	181	141	149	66	105	148	132	167	135	131	105
3	Na% (%)	10	4	4	4	9	7	6	10	9	12	13	19
4	RSC (-)	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.3	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.5
	PESTICIDES												

Water Quality Summary for the period : 2017-2018

Station Name : GOMLAI (EB000W3) **Division : E.E., Bhubaneswar**

Local River : Brahmani **Sub-Division : Rourkela**

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)				
2	EC_FLD (µmho/cm)	12	322	128	233
3	EC_GEN (µmho/cm)	12	317	123	228
4	pH_FLD (pH units)	12	8.2	7.1	7.7
5	pH_GEN (pH units)	12	8.1	7.0	7.7
6	Temp (deg C)	12	32.0	18.5	26.1
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	12	39.8	0.0	3.3
2	ALK-TOT (mgCaCO3/L)	12	126	42	78
3	B (mg/L)	12	0.03	0.01	0.02
4	Ca (mg/L)	12	46	16	34
5	Cl (mg/L)	12	32.1	9.4	16
6	CO3 (mg/L)	12	48.0	0.0	4
7	F (mg/L)	12	0.05	0.05	0.05
8	Fe (mg/L)	12	1.5	0.4	0.6
9	HCO3 (mg/L)	12	130	51	87
10	K (mg/L)	12	4.1	1.4	2.6
11	Mg (mg/L)	12	16.5	6.4	12.4
12	Na (mg/L)	12	11.8	2.8	6.1
13	NO2+NO3 (mg N/L)	12	1.26	1.12	1.19
14	NO2-N (mgN/L)	12	0.04	0.00	0.01
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	9.6	6.0	8.2
18	SO4 (mg/L)	12	30.8	9.1	17.2
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	12	3.2	0.2	1
2	DO (mg/L)	12	8.3	3.4	6.2
3	DO_SAT% (%)	12	98	39	76
4	FCol-MPN (MPN/100mL)	12	110	40	77
5	Tcol-MPN (MPN/100mL)	12	260	120	194
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	12	116	39	85
2	HAR_Total (mgCaCO3/L)	12	181	66	137
3	Na% (%)	12	19	4	9
4	RSC (-)	12	1.2	0.0	0.1
5	SAR (-)	12	0.5	0.1	0.2
	PESTICIDES				

Water Quality Seasonal Average for the period: 2003-2018

Station Name : GOMLAI (EB000W3) **Division : E.E., Bhubaneswar**

Local River : Brahmani **River Water** **Sub-Division : Rourkela**

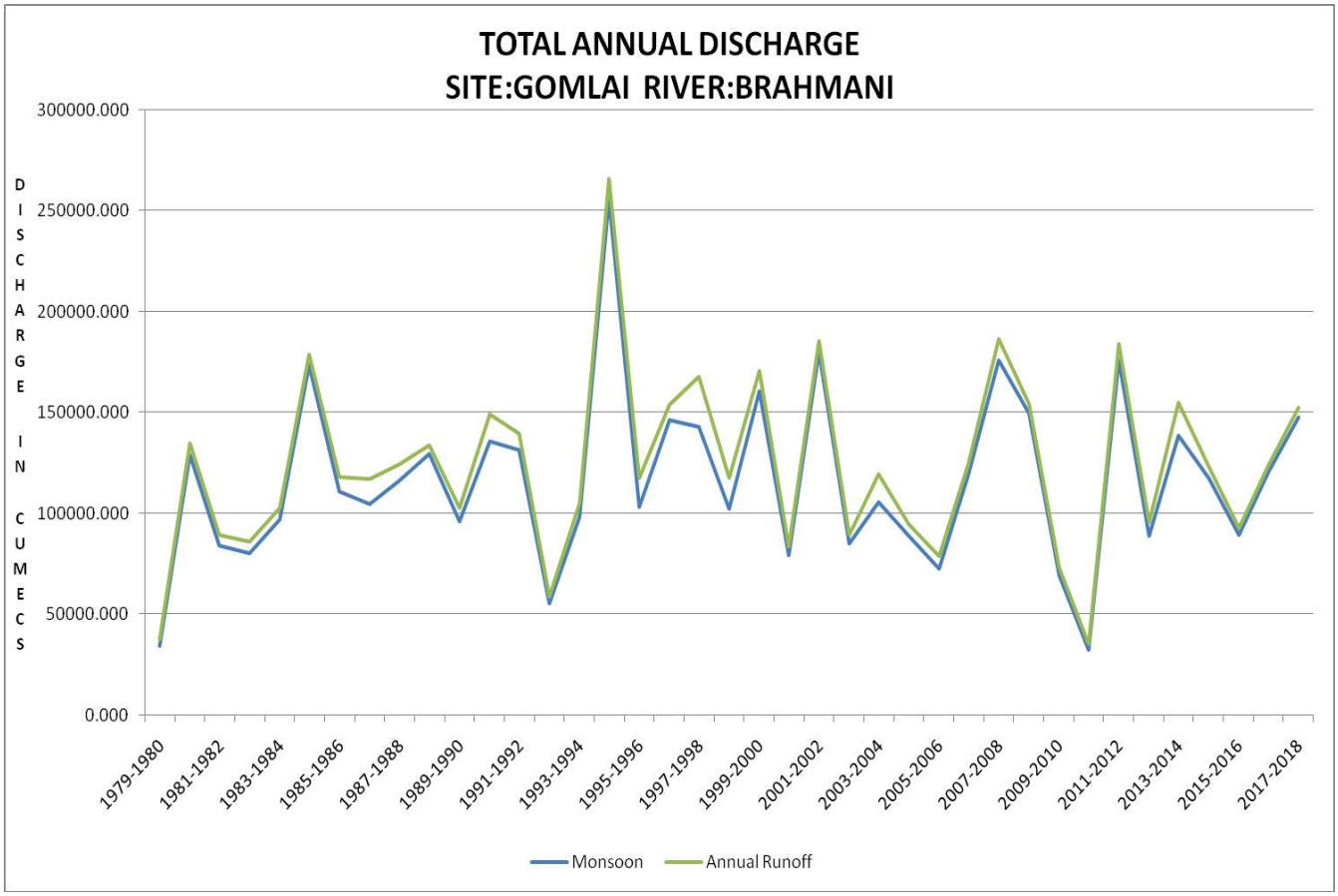
S.No	Parameters	Flood															Winter							
		Jun - Oct															Nov - Feb							
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	PHYSICAL																							
1	Q (cumec)																							
2	EC_FLD (µmho/cm)	139	181	133	232	139	142	131	147	147	150	117	172	253	192	172	157	181	180	198	188	275	192	260
3	EC_GEN (µmho/cm)	138	199	129	228	134	142	131	147	147	150	117	172	254	197	168	157	172	178	198	179	275	192	260
4	pH_FLD (pH units)	7.6	7.8	7.7	7.8	7.8	7.7	7.7	7.9	8.2	7.5	7.6	7.8	7.6	7.8	7.6	7.5	7.9	7.9	8.3	7.8	8.0	7.8	7.4
5	pH_GEN (pH units)	7.6	7.8	7.8	7.8	7.8	7.7	7.7	7.9	8.2	7.5	7.6	7.8	7.4	7.8	7.6	7.5	7.9	7.9	8.3	7.9	8.0	7.8	7.5
6	TDS (mg/L)							87	97														127	166
7	Temp (deg C)	30.6	28.6	29.4	29.1	29.6	29.2	30.6	30.4	29.3	29.9	29.2	28.8	27.6	28.5	30.4	22.3	21.6	21.3	22.6	21.3	22.6	20.6	20.8
	CHEMICAL																							
1	Alk-Phen (mgCaCO3/L)					0.0	0.0	0.0	0.0	9.1		0.0	0.0	0.0	0.0	8.0					0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)					41	36	30	32	63		63	65	56	73	65					50	89	51	68
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	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Ca (mg/L)	10	12	12	23	13	13	12	15	13	16	17	13	17	46	35	14	16	15	19	17	28	17	25
5	Cl (mg/L)	8.5	23.1	9.1	21.7	11.2	12.6	8.2	14.1	15.8	16.6	15.8	15.8	13.3	14.3	15.7	10.7	13.8	15.1	12.7	16.9	13.7	12.6	17.4
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.9	0.0	0.0	0.0	0.0	0.0	9.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.03	0.53	0.10	0.11	0.06	0.05	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.03	0.46	0.04	0.00	0.09	0.05	0.05	0.05
8	Fe (mg/L)		0.1	0.1	0.2	0.1	0.2	0.2	0.1	0.1	1.5	0.0	0.2	0.3	0.5	0.7		0.1	0.1	0.1	0.2	0.3	0.2	0.1
9	HCO3 (mg/L)	49	57	41	86	50	44	43	38	54	48	79	54	69	89	60	71	78	55	66	61	108	62	91
10	K (mg/L)	1.4	2.7	1.9	2.3	1.8	2.5	2.2	2.3	1.8	2.0	2.1	1.8	2.0	6.9	2.6	1.8	1.6	3.2	3.3	3.3	1.7	1.3	2.8
11	Mg (mg/L)	4.0	5.2	4.0	5.9	4.6	4.1	5.6	3.7	5.2	6.2	4.3	5.2	7.1	15.7	13.7	5.7	5.8	4.6	6.1	5.4	10.4	8.7	9.7
12	Na (mg/L)	5.9	14.9	5.7	13.9	7.7	7.7	5.0	8.4	6.4	4.8	10.4	6.4	5.3	15.5	4.4	7.2	8.6	10.0	8.7	11.4	9.0	7.5	10.1
13	NH3-N (mg N/L)																							
14	NO2+NO3 (mg N/L)	0.21	0.27	3.26	1.07	1.62	0.72	2.63	2.25	0.38	0.61	1.27	1.71	1.07	1.05	1.20	0.26	0.15	0.34	0.38	2.67	1.07	4.82	2.47
15	NO2-N (mgN/L)	0.00	0.00	0.04	0.02	0.03	0.00	0.00	0.00	0.07	0.00	0.00	0.01	0.01	0.01	0.02	0.00	0.00	0.04	0.03	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.21	0.27	3.22	1.05	1.59	0.72	2.63	2.25	0.31	0.61	1.27	1.70	1.06	1.04	1.18	0.26	0.15	0.30	0.35	2.67	1.07	4.82	2.47
17	o-PO4-P (mg P/L)			0.000	0.021	0.000		0.002											0.000	0.034	0.000		0.000	
18	P-Tot (mgP/L)		0.001	0.001	0.021	0.001	0.002	0.004	0.001	0.010	0.001	0.001	0.001	0.001	0.010	0.001		0.001	0.001	0.027	0.001	0.002	0.002	0.001
19	SiO2 (mg/L)	12.0	20.5	19.1	17.1	9.2	9.9	8.9	7.8	9.8	13.4	13.1	6.0	6.0	6.8	8.1	17.0	21.7	21.2	20.4	14.2	9.0	9.9	4.1
20	SO4 (mg/L)	1.7	8.7	4.5	13.9	5.5	10.6	10.9	11.3	12.7	26.9	15.0	12.7	9.4	22.5	18.3	3.3	4.0	16.4	23.6	7.2	15.9	7.6	18.3
	BIOLOGICAL/BACTERIOLOGICAL																							
1	BOD3-27 (mg/L)	0.6	0.8	0.7	0.7	1.0	1.1	1.0	1.1	1.1	0.7	0.7	0.7	1.0	0.8	0.9	0.7	1.0	0.7	0.9	0.9	1.1	1.5	1.4
2	DO (mg/L)	6.0	6.6	6.3	6.8	6.8	6.8	6.6	6.7	6.7	6.6	6.8	5.8	6.3	7.4	6.1	8.1	7.7	7.7	7.6	7.3	8.1	8.3	7.4
3	DO_SAT% (%)	80	85	82	89	89	89	88	89	87	88	89	76	80	96	82	92	87	86	87	81	94	92	83
4	FCol-MPN (MPN/100mL)														7	80								
5	Tcol-MPN (MPN/100mL)														11	192								
	TRACE & TOXIC																							
1	Al (mg/L)																			0.90				
	CHEMICAL INDICES																							
1	HAR_Ca (mgCaCO3/L)	25	30	31	57	32	32	30	38	33	39	42	31	42	115	86	36	39	38	47	41	70	43	63
2	HAR_Total (mgCaCO3/L)	41	52	47	82	51	49	54	53	55	65	59	53	72	181	144	60	62	57	73	64	114	80	104
3	Na% (%)	25	37	22	23	25	25	16	26	20	13	28	20	15	15	6	21	22	26	20	27	15	17	17
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2	0.1	0.2	0.0	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.4	0.9	0.4	0.6	0.5	0.5	0.3	0.5	0.4	0.3	0.6	0.4	0.3	0.5	0.2	0.4	0.5	0.6	0.4	0.6	0.4	0.4	0.4
	PESTICIDES																							

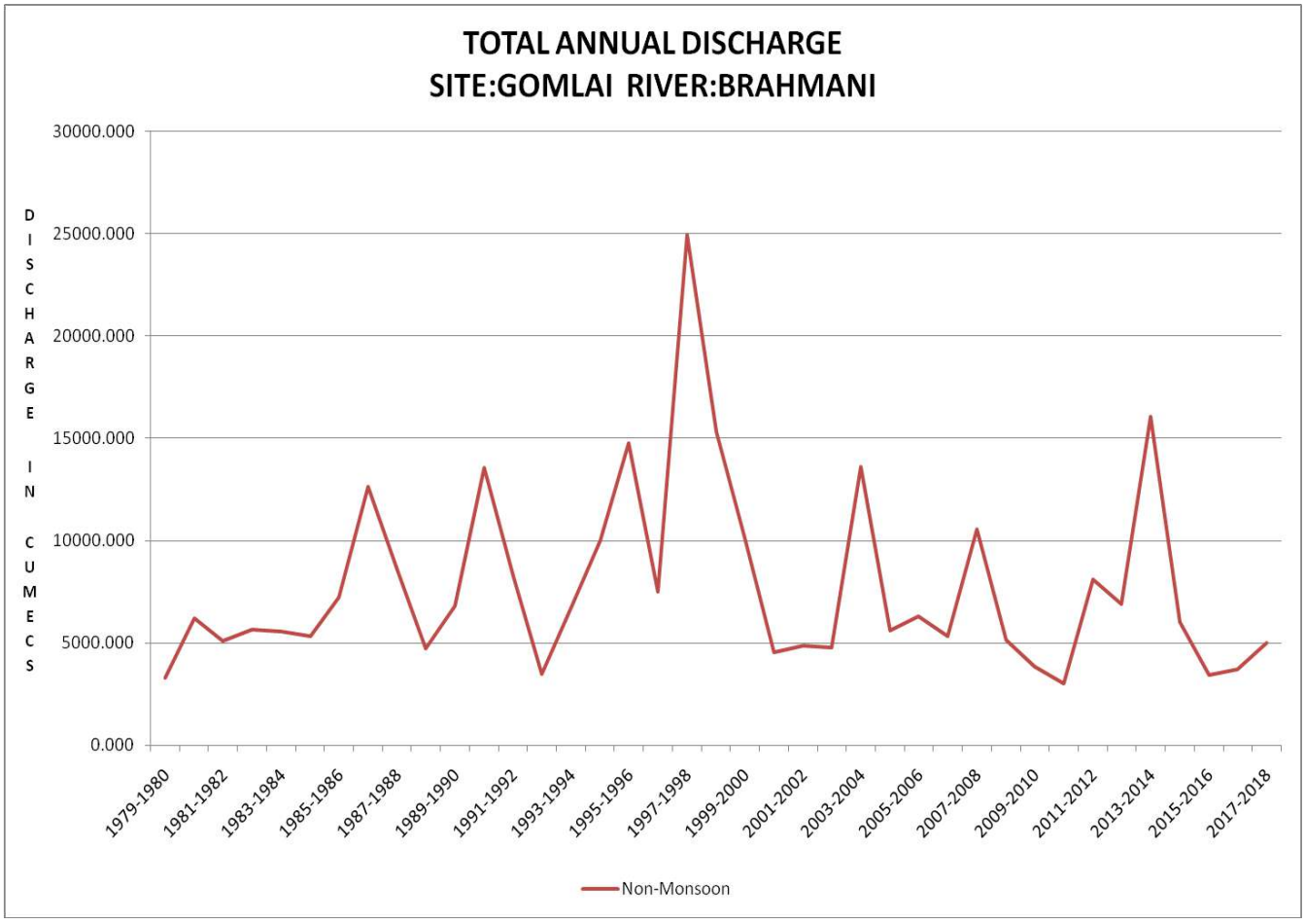
Water Quality Seasonal Average for the period: 2003-2018

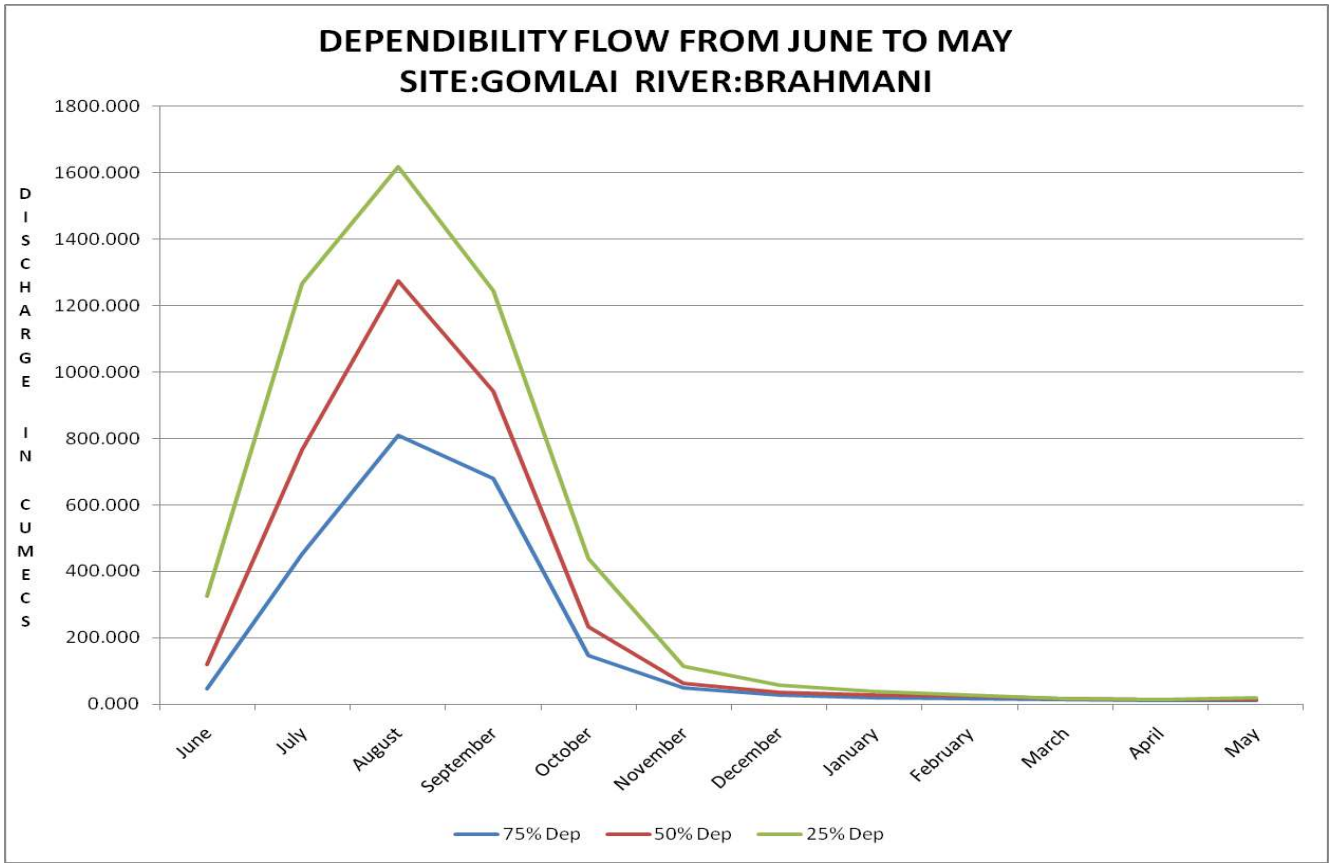
Station Name : GOMLAI (EB000W3) **Division : E.E., Bhubaneswar**

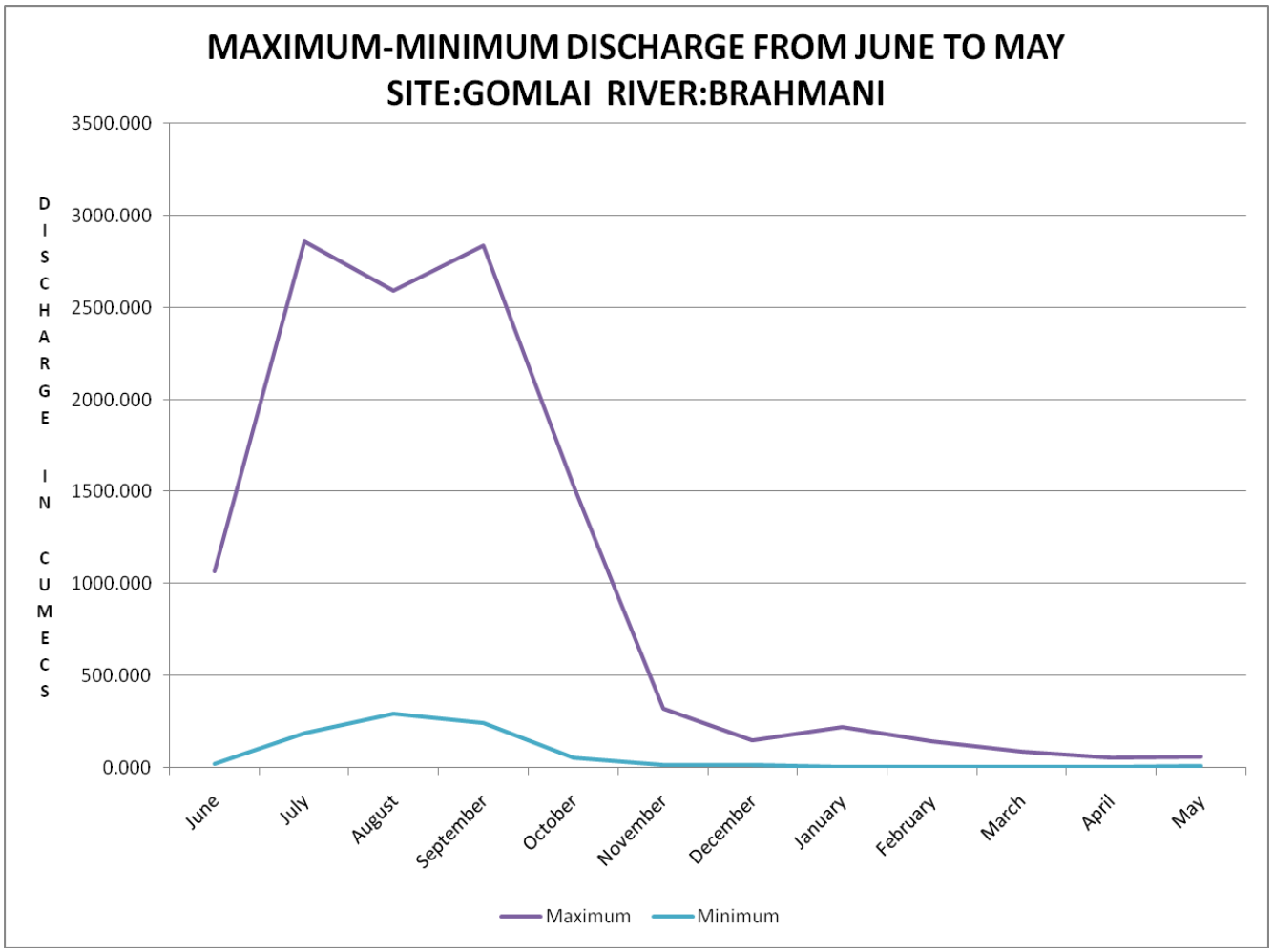
Local River : Brahmani **River Water** **Sub-Division : Rourkela**

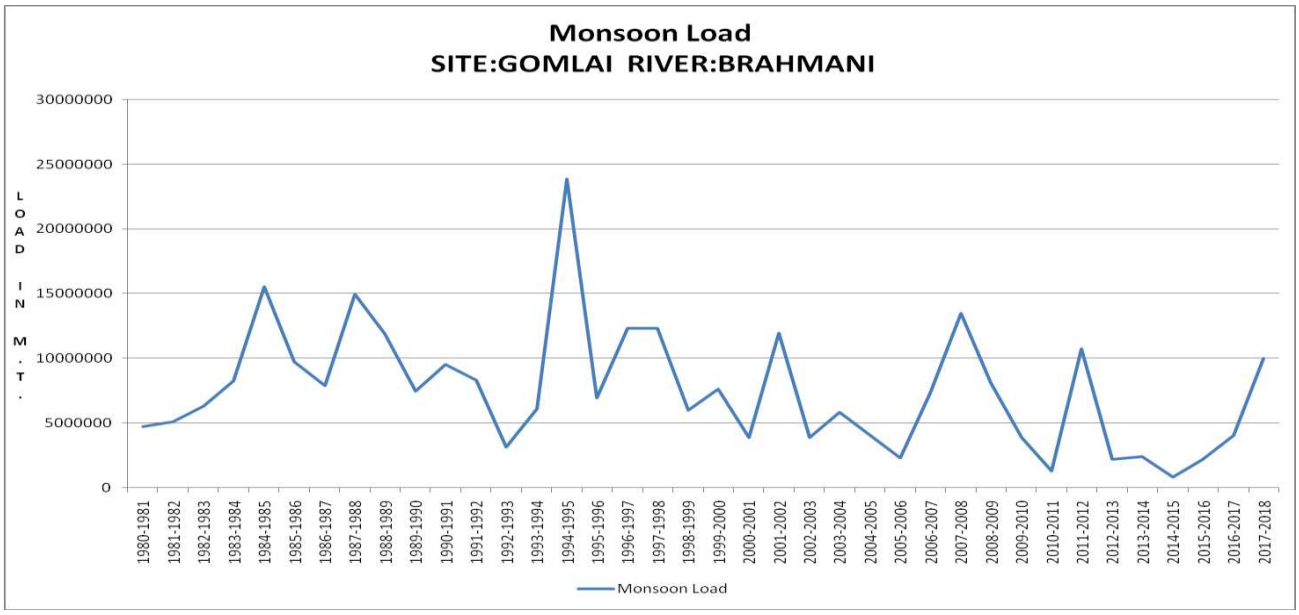
S.No	Parameters																							
									Summer															
									Mar - May															
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	PHYSICAL																							
1	Q (cumec)																							
2	EC_FLD (µmho/cm)	168	199	153	268	522	368	259	210	210	236	230	228	247	207	363	223	267	207	228	426	294	299	
3	EC_GEN (µmho/cm)	168	199	153	268	519	371	254	209	203	233	227	233	247	207	363	223	267	207	228	432	299	294	
4	pH_FLD (pH units)	7.7	7.5	8.1	7.9	7.8	7.9	7.9	7.8	7.8	7.6	8.1	8.1	8.0	7.9	8.1	7.6	7.8	7.8	7.8	7.9	7.8	7.7	
5	pH_GEN (pH units)	7.7	7.5	8.1	7.9	7.8	7.9	7.9	7.9	7.9	7.6	8.1	8.1	8.0	7.9	8.1	7.6	7.9	7.8	7.8	7.7	7.8	7.7	
6	TDS (mg/L)														140	238								
7	Temp (deg C)	21.8	22.9	21.0	19.4	20.5	19.4	20.8	27.6	25.8	26.8	25.7	26.0	27.5	23.3	24.2	29.8	27.0	26.8	25.3	25.3	25.3	26.2	
	CHEMICAL																							
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	11.5	0.0	0.0				0.0	0.0	0.0	0.0	3.9	0.0		0.0	0.0	4.6	0.0	0.0	
2	ALK-TOT (mgCaCO3/L)	55	74	68	57	83	53	81				131	79	76	49	73	68		76	65	66	60	95	
3	B (mg/L)	0.01	0.00	0.00	0.00	0.01	0.01	0.02	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	0.01	
4	Ca (mg/L)	18	20	18	15	19	37	36	18	15	23	24	24	22	17	32	23	19	19	18	34	36	31	
5	Cl (mg/L)	12.7	20.3	19.0	11.3	16.0	14.1	13.4	11.0	12.3	15.3	14.4	14.7	16.2	18.6	25.8	22.6	15.8	13.5	16.4	23.3	30.2	20.2	
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	13.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.7	0.0	0.0	0.0	0.0	5.5	0.0	0.0	
7	F (mg/L)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.00	0.34	0.06	0.08	0.05	0.05	0.03	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	
8	Fe (mg/L)	0.1	1.9	0.0	0.3	0.3	0.3	0.5		0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	1.9	0.1	0.3	0.4	0.5	0.5	
9	HCO3 (mg/L)	68	92	82	70	73	65	99	86	81	89	93	97	93	60	79	83	88	93	57	70	73	116	
10	K (mg/L)	1.7	2.1	1.8	1.6	2.4	26.4	2.5	2.5	1.8	3.0	3.0	1.4	2.7	2.6	3.7	2.4	2.7	1.4	1.7	2.8	43.7	2.7	
11	Mg (mg/L)	5.3	14.3	5.1	5.6	7.5	18.0	11.5	7.5	4.3	9.0	8.7	9.1	9.4	9.1	14.6	5.2	11.9	4.3	6.5	13.0	19.5	11.4	
12	Na (mg/L)	7.0	8.0	11.0	6.3	8.0	60.2	5.6	7.6	9.4	9.3	12.7	10.4	10.6	10.1	15.6	9.4	11.3	8.3	5.7	12.8	86.7	9.6	
13	NH3-N (mg N/L)												0.05											
14	NO2+NO3 (mg N/L)	0.41	0.70	1.45	0.93	1.01	1.01	1.19	0.32	0.23	4.02	4.95	0.57	2.07	3.21	6.01	0.42	0.71	1.48	0.70	0.89	1.23	1.19	
15	NO2-N (mgN/L)	0.07	0.00	0.00	0.02	0.02	0.01	0.00	0.06	0.01	0.06	0.04	0.00	0.00	0.00	1.75	0.07	0.00	0.01	0.00	0.01	0.01	0.00	
16	NO3-N (mgN/L)	0.34	0.70	1.45	0.91	0.98	0.99	1.19	0.26	0.22	3.96	4.91	0.57	2.07	3.21	4.26	0.35	0.71	1.47	0.70	0.88	1.21	1.19	
17	o-PO4-P (mg P/L)									0.010	0.000	0.000			0.000									
18	P-Tot (mgP/L)	0.010	0.001	0.001	0.001	0.010	0.010	0.001		0.001	0.001	0.001	0.050	0.005	0.001	0.001	0.010	0.001	0.001	0.001	0.010	0.010	0.001	
19	SiO2 (mg/L)	14.3	13.3	12.8	4.4	5.8	6.5	7.9	15.6	20.4	22.4	15.3	10.1	9.0	8.7	2.9	17.3	13.7	13.3	4.3	5.0	7.7	8.6	
20	SO4 (mg/L)	5.5	10.7	18.5	5.6	9.7	7.2	14.5	1.7	3.2	11.2	10.7	10.8	12.6	15.4	34.7	11.0	20.1	14.3	6.2	15.0	30.9	19.1	
	BIOLOGICAL/BACTERIOLOGICAL																							
1	BOD3-27 (mg/L)	1.3	0.4	0.4	1.6	1.1	1.0	0.7	0.9	0.7	0.9	1.0	1.1	1.2	1.2	1.2	1.1	0.6	1.0	0.9	0.9	0.9	1.5	
2	DO (mg/L)	7.8	7.6	7.9	9.5	7.3	8.8	7.1	7.3	6.8	7.4	7.0	6.8	7.1	7.0	6.7	6.5	6.4	7.3	6.1	6.2	7.2	5.0	
3	DO_SAT% (%)	88	88	88	102	82	94	79	93	84	91	86	83	90	82	79	84	79	90	74	76	87	62	
4	FCol-MPN (MPN/100mL)						70	68														77	83	
5	Tcol-MPN (MPN/100mL)						143	183														123	213	
	TRACE & TOXIC																							
1	Al (mg/L)																					0.00		
	CHEMICAL INDICES																							
1	HAR_Ca (mgCaCO3/L)	45	50	46	37	47	93	90	45	36	58	60	60	56	41	80	57	47	48	44	84	91	76	
2	HAR_Total (mgCaCO3/L)	67	110	67	60	78	168	138	76	54	95	96	97	95	79	141	79	97	66	71	138	172	124	
3	Na% (%)	18	14	26	18	18	37	8	17	26	17	21	19	20	21	19	20	20	22	14	17	46	14	
4	RSC (-)	0.1	0.0	0.1	0.2	0.3	0.0	0.0	0.0	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	
5	SAR (-)	0.4	0.3	0.6	0.4	0.4	2.0	0.2	0.4	0.6	0.4	0.6	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.3	0.5	2.9	0.4	
	PESTICIDES																							

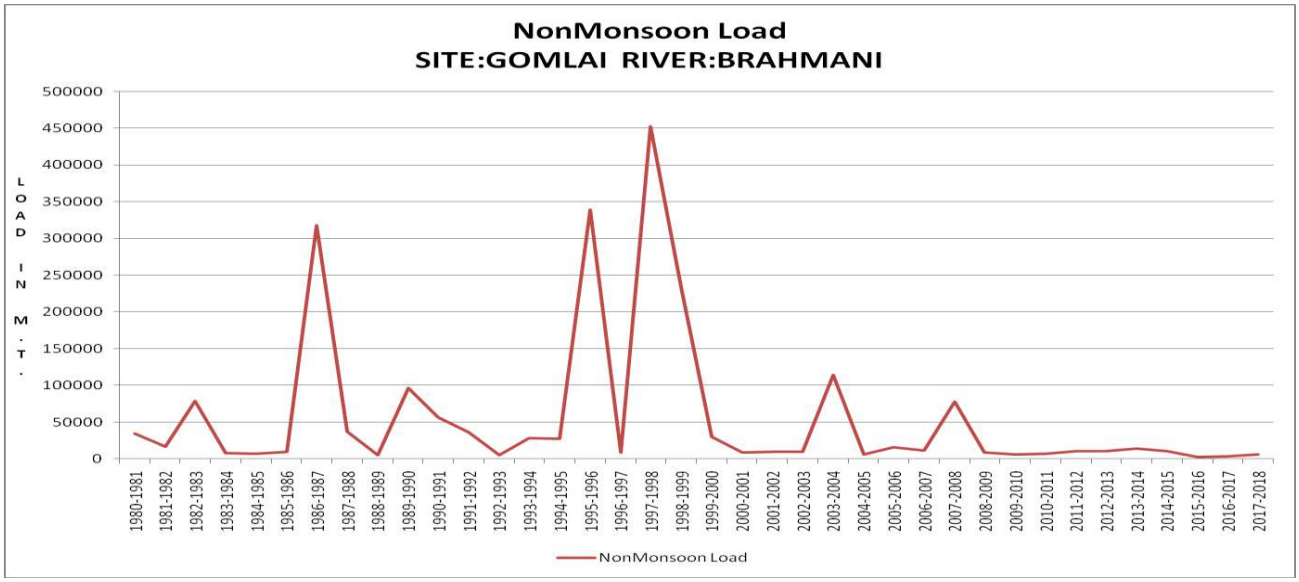

TOTAL ANNUAL DISCHARGE
SITE:GOMLAI RIVER:BRAHMANI
DISCHARGE IN CUMECS
300000.000
250000.000
200000.000
150000.000
100000.000
50000.000
0.000
1979-1980
1981-1982
1983-1984
1985-1986
1987-1988
1989-1990
1991-1992
1993-1994
1995-1996
1997-1998
1999-2000
2001-2002
2003-2004
2005-2006
2007-2008
2009-2010
2011-2012
2013-2014
2015-2016
2017-2018
Monsoon
Annual Runoff

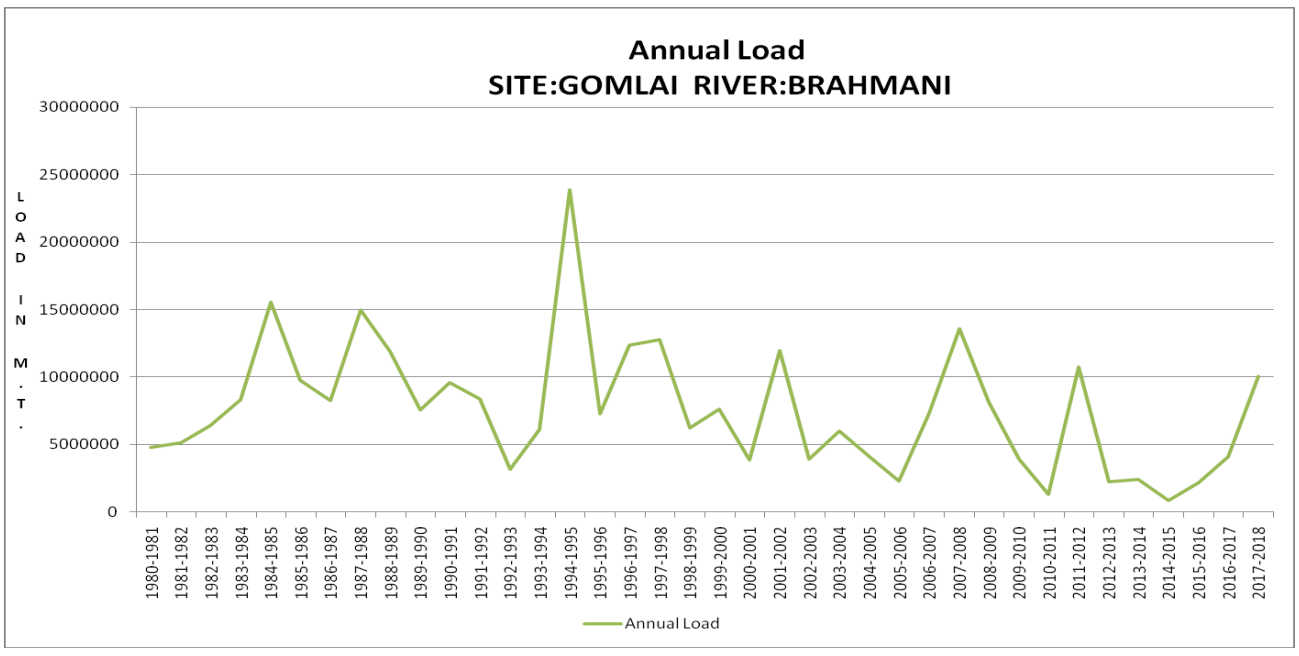

TOTAL ANNUAL DISCHARGE
SITE:GOMLAI RIVER:BRAHMANI
DISCHARGE IN CUMECS
30000.000
25000.000
20000.000
15000.000
10000.000
5000.000
0.000
1979-1980
1981-1982
1983-1984
1985-1986
1987-1988
1989-1990
1991-1992
1993-1994
1995-1996
1997-1998
1999-2000
2001-2002
2003-2004
2005-2006
2007-2008
2009-2010
2011-2012
2013-2014
2015-2016
2017-2018
Non-Monsoon

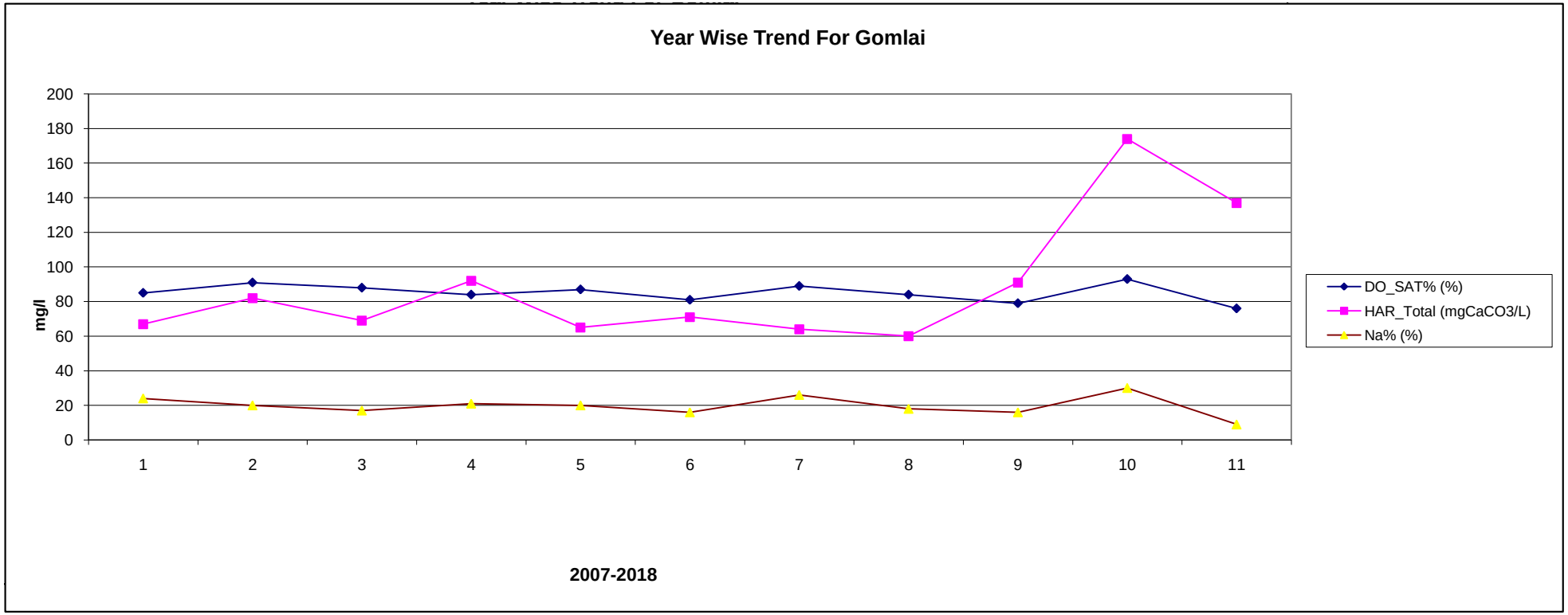

DEPENDIBILITY FLOW FROM JUNE TO MAY
SITE:GOMLAI RIVER:BRAHMANI
DISCHARGE IN CUMECS
1800.000
1600.000
1400.000
1200.000
1000.000
800.000
600.000
400.000
200.000
0.000
June
July
August
September
October
November
December
January
February
March
April
May
75% Dep
50% Dep
25% Dep

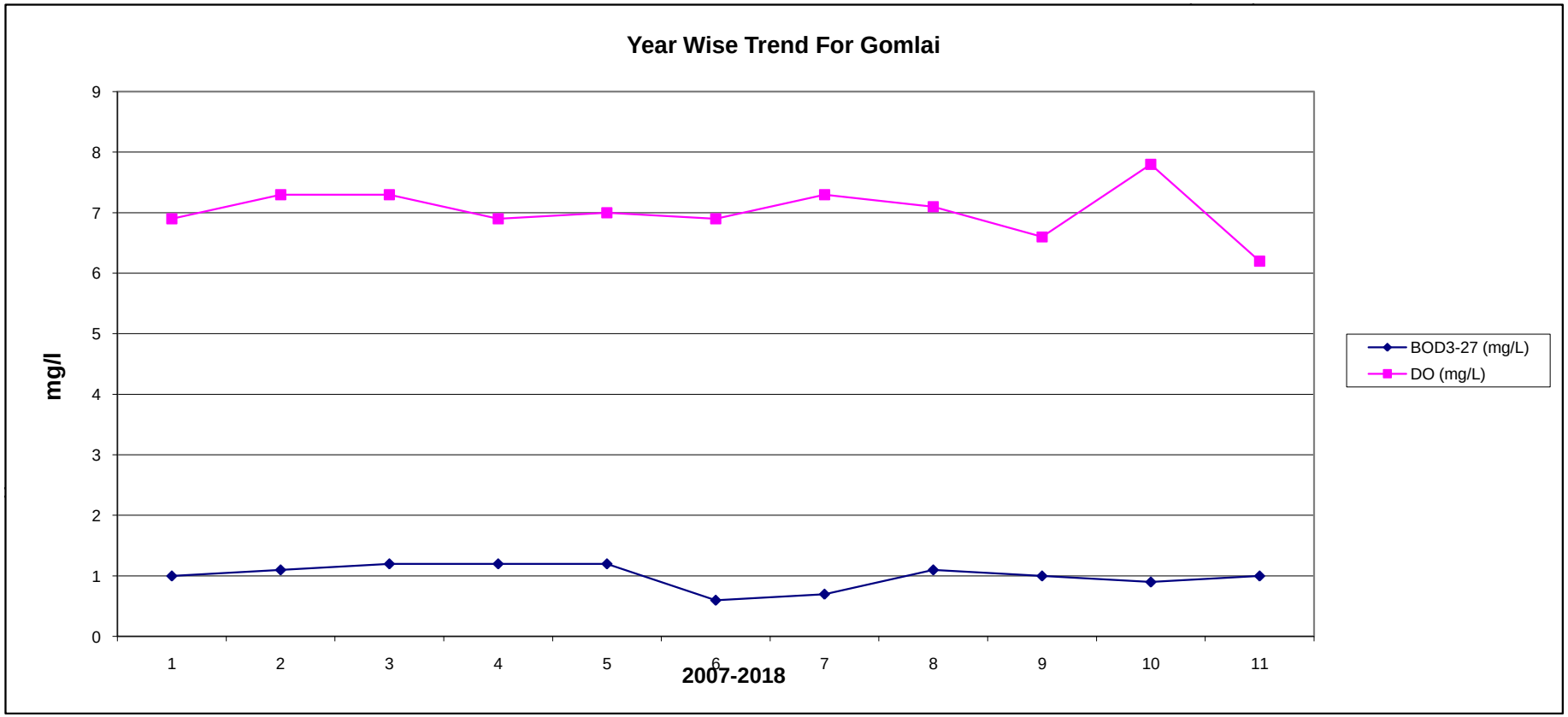

MAXIMUM-MINIMUM DISCHARGE FROM JUNE TO MAY
SITE:GOMLAI RIVER:BRAHMANI
DISCHARGE IN CUMECS
3500.000
3000.000
2500.000
2000.000
1500.000
1000.000
500.000
0.000
June
July
August
September
October
November
December
January
February
March
April
May
Maximum
Minimum

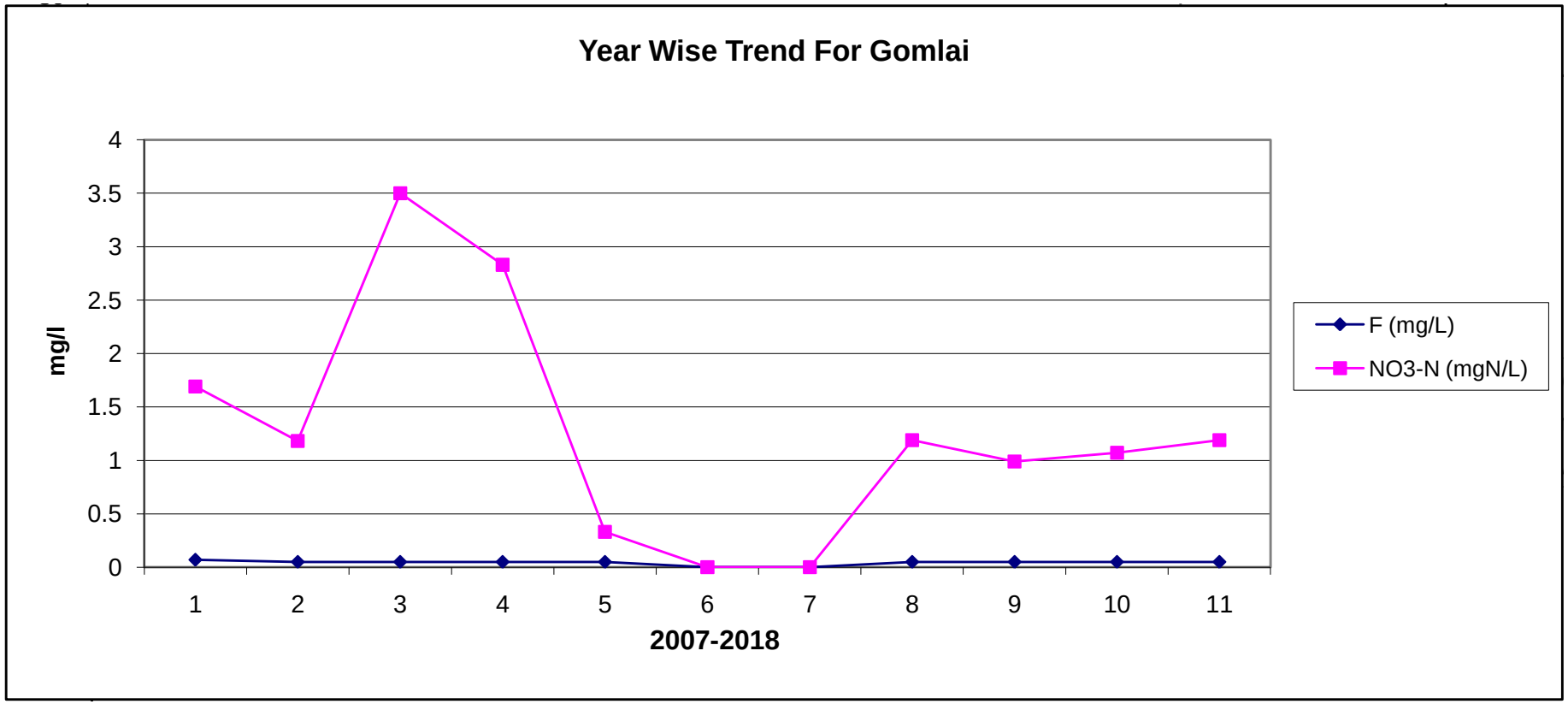

Monsoon Load
SITE:GOMLAI RIVER:BRAHMANI
LOAD IN M.T.
30000000
25000000
20000000
15000000
10000000
5000000
0
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
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

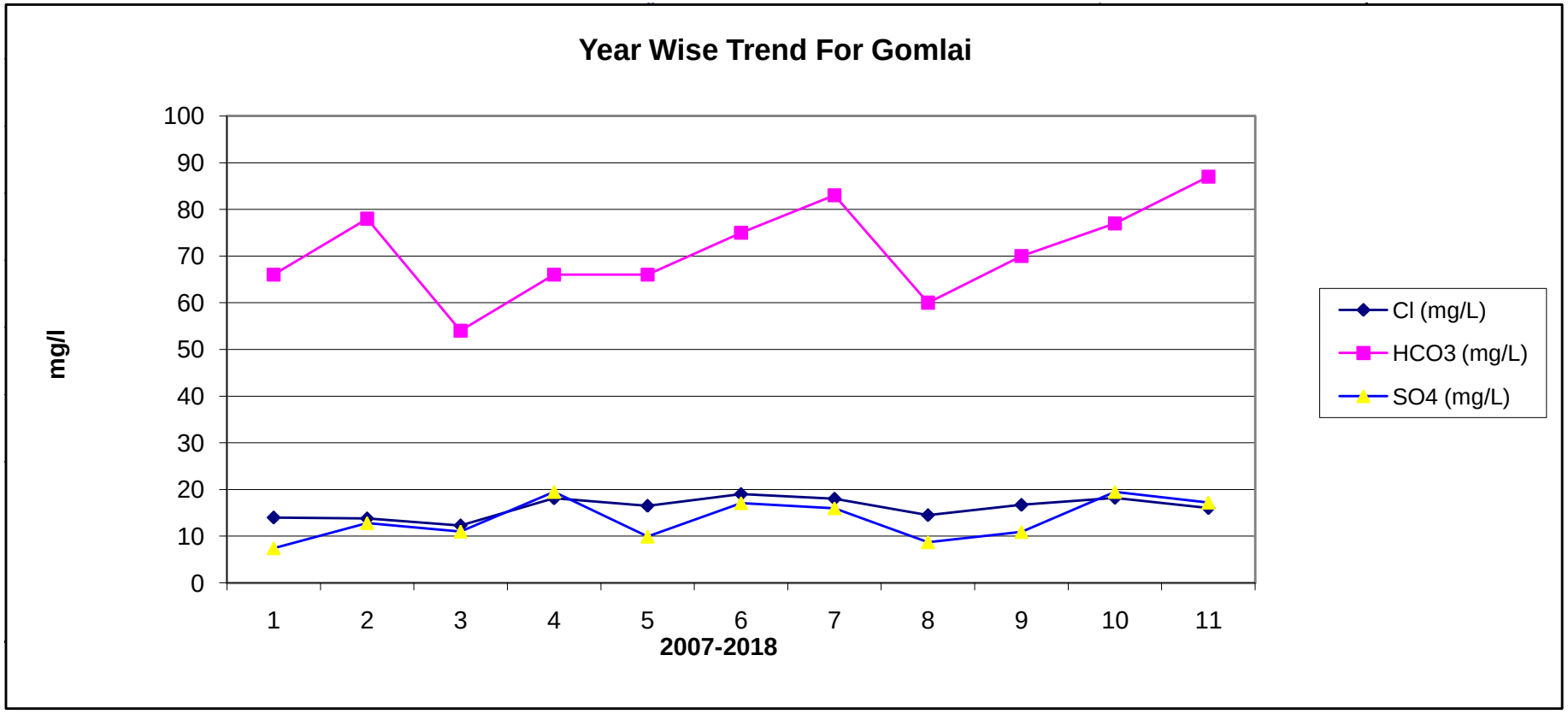

NonMonsoon Load
SITE:GOMLAI RIVER:BRAHMANI
LOAD IN M.T.
500000
450000
400000
350000
300000
250000
200000
150000
100000
50000
0
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
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

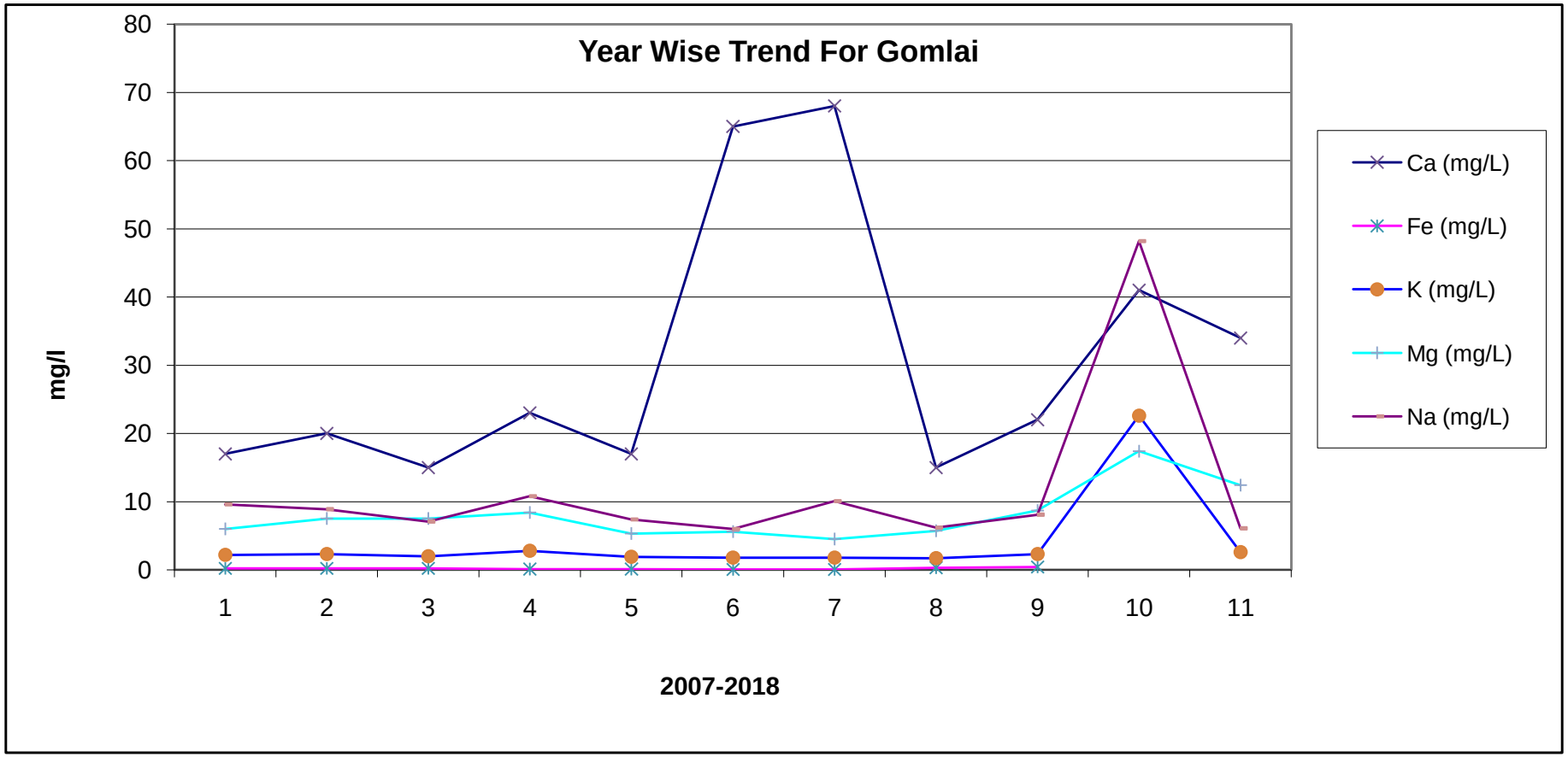

Annual Load
SITE:GOMLAI RIVER:BRAHMANI
LOAD IN M.T.
30000000
25000000
20000000
15000000
10000000
5000000
0
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
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


Year Wise Trend For Gomlai
200
180
160
140
120
100
80
60
40
20
0
mg/l
1
2
3
4
5
6
7
8
9
10
11
2007-2018
DO_SAT% (%)
HAR_Total (mgCaCO3/L)
Na% (%)


Year Wise Trend For Gomlai
mg/l
9
8
7
6
5
4
3
2
1
0
1
2
3
4
5
6
7
8
9
10
11
2007-2018
BOD3-27 (mg/L)
DO (mg/L)


Year Wise Trend For Gomlai
mg/l
4
3.5
3
2.5
2
1.5
1
0.5
0
1
2
3
4
5
6
7
8
9
10
11
2007-2018
F (mg/L)
NO3-N (mgN/L)


Year Wise Trend For Gomlai
mg/l
100
90
80
70
60
50
40
30
20
10
0
1
2
3
4
5
6
7
8
9
10
11
2007-2018
Cl (mg/L)
HCO3 (mg/L)
SO4 (mg/L)


Year Wise Trend For Gomlai
mg/l
80
70
60
50
40
30
20
10
0
1
2
3
4
5
6
7
8
9
10
11
2007-2018
Ca (mg/L)
Fe (mg/L)
K (mg/L)
Mg (mg/L)
Na (mg/L)

HISTORY SHEET

Water Year : 2017-2018

Site	:	**Jenapur**	**Code**	:	**EB000G6**
State	:	Orissa	District		Jajpur
Basin	:	Brahmani-Baitarani	Independent River	:	Brahmni
Tributary	:	Brahmni	Sub Tributary	:	Brahmni
Sub-Sub Tributary	:	Brahmni	Local River	:	Brahmni
Division	:	E.E., Bhubaneswar	Sub-Division	:	Rourkela
Drainage Area	:	33955 Sq. Km.	Bank	:	Right
Latitude	:	20°53'23"	Longitude	:	86°00'51"
Zero of Gauge (m)	:	13 (m.s.l)	1/1/1975	-	12/31/2025
		Opening Date	Closing Date		
Gauge	:	7/9/1977			
Discharge	:	7/20/1979			
Sediment	:	7/9/1980			
Water Quality	:	3/1/1980			

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	3036	21.210	9/9/1980	18.52	16.365	3/23/1981
1981-1982	2805	20.800	8/17/1981	14.96	16.745	5/21/1982
1982-1983	4660	22.210	8/23/1982	6.465	16.630	4/16/1983
1983-1984	8506	22.960	9/7/1983	5.120	16.810	5/21/1984
1984-1985	9702	23.475	8/18/1984	8.500	16.870	6/3/1984
1985-1986	7485	22.360	8/29/1985	6.995	16.870	6/14/1985
1986-1987	5057	22.200	7/23/1986	91.10	17.500	6/13/1986
1987-1988	4738	21.550	8/31/1987	82.17	17.355	5/13/1988
1988-1989	6217	22.175	8/4/1988	77.70	17.580	5/31/1989
1989-1990	4312	21.395	7/28/1989	78.90	17.490	4/5/1990
1990-1991	4595	21.673	10/15/1990	41.00	17.190	5/2/1991
1991-1992	9151	22.880	8/14/1991	45.77	17.170	4/26/1992
1992-1993	4892	21.680	7/29/1992	20.99	16.790	4/3/1993
1993-1994	3346	20.630	9/30/1993	26.75	17.080	4/23/1994
1994-1995	8952	22.860	9/19/1994	65.00	17.200	6/12/1994
1995-1996	3823	21.410	9/21/1995	82.06	17.750	1/24/1996
1996-1997	4652	21.680	6/23/1996	57.68	17.440	2/28/1997
1997-1998	7135	22.560	8/6/1997	75.60	17.860	1/14/1998
1998-1999	5173	22.040	9/14/1998	85.80	17.880	3/31/1999
1999-2000	8053	22.640	10/31/1999	110.0	17.680	5/28/2000
2000-2001	3545	21.320	7/30/2000	37.00	17.270	5/7/2001
2001-2002	10077	23.360	7/25/2001	49.62	17.570	5/30/2002

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	2002	20.220	9/9/2002	49.59	17.450	6/8/2002
2003-2004	5622	22.140	10/27/2003	61.01	17.600	4/6/2004
2004-2005	3906	21.380	8/23/2004	56.53	17.660	6/23/2004
2005-2006	10314	23.060	7/31/2005	45.00	17.540	4/23/2006
2006-2007	9804	23.110	8/24/2006	41.51	17.260	5/28/2007
2007-2008	7568	22.590	9/28/2007	40.28	17.260	3/12/2008
2008-2009	7489	22.240	9/19/2008	48.19	17.120	4/9/2009
2009-2010	6466	22.290	7/22/2009	34.55	17.060	2/5/2010
2010-2011	952.9	19.230	8/7/2010	52.00	17.300	2/20/2011
2011-2012	10372	23.730	9/26/2011	27.60	17.280	6/5/2011
2012-2013	3234	20.920	8/27/2012	23.59	19.120	#########
2013-2014	4059	21.650	10/14/2013	40.46	17.440	2/10/2014
2014-2015	7963	22.740	8/6/2014	17.56	17.560	3/8/2015
2015-2016	3916	21.130	8/6/2015	21.19	17.600	2/7/2016
2016-2017	3315	21.110	8/5/2016	26.90	18.540	5/23/2017
2017-2018	7041	22.520	7/29/2017	38.22	17.420	2/8/2018

Stage-Discharge Data for the period 2017 - 2018

Station Name : Jenapur (EB000G6) **Division : E.E., Bhubaneswar**

Local River : Brahmni **Sub-Division : Rourkela**

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	18.860	749.7	18.180	289.2	20.350	2442	18.660	596.7	18.620	499.5 *	18.080	240.3
2	18.820	710.0			18.980	845.5	18.680	535.8 *	19.040	836.4 *	18.000	190.5
3	18.690	580.6	18.660	596.4	19.000	881.1	18.820	621.8 *	18.900	806.0	17.920	153.9
4	18.500	471.6 *	18.720	624.2	19.140	927.9	19.000	819.6	18.820	756.2	17.900	153.9 *
5	17.960	302.5	18.580	512.7	19.000	862.0	18.740	630.0	18.820	751.4	17.880	150.0 *
6	18.200	368.7	18.720	626.5	19.140	893.6 *	18.760	647.0	18.650	651.8	17.780	118.8
7	18.540	505.1	18.720	620.7	19.580	1382	18.740	627.4	18.690	665.6	17.720	102.0
8	18.580	441.8	18.720	623.8	19.810	1888	18.690	592.2	18.600	491.4 *	17.740	106.9
9	18.400	333.4			20.200	2339	18.640	573.6	18.680	662.6	17.760	106.1
10	18.320	288.1	18.740	640.9	20.340	2466	18.680	530.0 *	18.720	699.7	17.780	107.9
11	18.640	500.8 *	19.140	988.5	20.420	2664	18.690	604.4	18.720	702.7	17.880	132.3
12	18.560	495.5	19.000	838.0	20.240	2382	18.800	749.3	18.720	706.5	17.900	132.3 *
13	18.780	635.9	18.800	684.9	20.140	1971 *	18.650	587.4	18.610	632.1	17.900	138.0
14	18.700	617.3	18.660	603.0	19.700	1734	18.800	756.2	18.600	602.5	17.820	116.5
15	18.700	526.7	18.660	595.1	19.800	1630 *	18.900	830.3	18.580	509.8 *	17.820	118.8
16	18.540	473.5			19.320	1224	18.650	595.2	18.640	636.5	17.860	130.4
17	18.620	515.8	18.800	496.6	19.180	1024	18.680	541.9 *	18.550	572.2	17.880	134.2
18	18.660	507.2 *	19.080	897.7	19.140	968.0	18.600	568.3	18.560	608.7	17.900	140.7
19	18.680	571.5	18.960	733.7	20.210	2351	18.940	866.5	18.580	516.3 *	17.940	180.0 *
20	18.800	706.2	18.700	455.0	20.620	2340 *	19.150	1038	18.790	777.1	18.000	287.6
21	18.735	563.3	18.680	448.4	20.440	2551	19.220	1077	19.310	1200	18.020	295.8
22	18.340	304.4	18.680	589.6	19.820	1802	18.960	879.1	19.120	898.4 *	17.940	221.0
23	19.020	804.0			18.910	778.4	18.740	660.8	18.920	856.5	17.880	149.5
24	19.100	852.1	18.840	727.1	19.020	859.4	18.740	577.9 *	18.600	607.4	17.840	164.0
25	18.220	268.0 *	19.340	1240	18.890	752.8	18.820	746.7	18.620	619.9	17.780	149.2
26	18.660	523.0 *	19.360	1239	19.000	849.0	18.740	664.6	18.640	646.5	17.760	149.0 *
27	18.080	203.3	19.440	1251	19.000	733.1 *	18.680	637.6	18.620	633.0	17.660	72.04
28	18.600	497.8	21.490	4552	18.740	633.0	18.680	619.5	18.480	487.2	17.660	73.21
29	18.620	522.2	22.520	7041	18.750	640.5	18.600	467.4 *	18.520	443.4 *	17.640	69.72
30	18.280	340.8			18.840	309.0	18.680	547.6 *	18.330	362.2	17.640	70.82
31			20.980	3622	18.720	614.8			18.220	308.5		
Ten-Daily Mean												
I Ten-Daily	18.487	475.2	18.630	566.8	19.554	1493	18.741	617.4	18.754	682.1	17.856	143.0
II Ten-Daily	18.668	555.0	18.867	699.2	19.877	1829	18.786	713.8	18.635	626.4	17.890	151.1
III Ten-Daily	18.566	487.9	19.926	2301	19.103	956.6	18.786	687.8	18.671	642.1	17.782	141.4
Monthly												
Min.	17.960	203.3	18.180	289.2	18.720	309.0	18.600	467.4	18.220	308.5	17.640	69.72
Max.	19.100	852.1	22.520	7041	20.620	2664	19.220	1077	19.310	1200	18.080	295.8
Mean	18.573	506	19.160	1213	19.498	1411	18.771	673	18.686	649.9	17.843	145.2

Annual Runoff in MCM = 14375 Annual Runoff in mm = 423

Peak Observed Discharge = 7041 cumecs on 29-Jul-17 Corres. Water Level :22.52 m

Lowest Observed Discharge = 38.22 cumecs on 08-Feb-18 Corres. Water Level :17.42 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-Discharge Data for the period 2017 - 2018

Station Name : Jenapur (EB000G6) **Division : E.E., Bhubaneswar**

Local River : Brahmni **Sub-Division : Rourkela**

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	17.640	69.45	17.540	51.05	17.640	83.10	17.540	62.78	18.320	329.9 *	17.980	247.9
2	17.640	69.49 *	17.520	47.67	17.620	79.07	17.560	66.44 *	18.060	270.0	17.820	137.7
3	17.660	73.55 *	17.500	43.35	17.620	80.47	17.620	82.39	17.940	217.3	17.620	90.06
4	17.720	96.82	17.480	41.77	17.560	75.12 *	17.620	82.38 *	17.760	107.9	17.560	75.48
5	17.740	102.2	17.460	40.71	17.480	50.57	17.540	66.34	17.640	93.57	17.660	99.09
6	17.720	87.21	17.480	42.73	17.440	40.48	17.540	67.39	17.820	123.7	17.560	74.95 *
7	17.620	68.42	17.500	43.32 *	17.440	41.72	17.540	66.83	17.880	141.8	18.220	326.2
8	17.600	63.62	17.480	41.13	17.420	38.22	17.540	66.44	17.920	150.5 *	18.420	443.3
9	17.580	60.05	17.480	42.31	17.420	39.57	17.560	70.99	17.840	129.3	18.240	328.2
10	17.560	58.32 *	17.500	45.74	17.540	56.69	17.620	83.16	17.740	110.5	18.300	371.1
11	17.580	64.91	17.500	47.36	17.800	133.1 *	17.640	83.19 *	17.700	105.8	18.300	369.9
12	17.600	63.96	17.480	43.84	17.940	208.6	17.720	94.08	17.680	101.0	18.160	288.2
13	17.600	63.57	17.480	43.53	17.920	201.0	17.780	110.7	18.100	271.0	18.380	398.2 *
14	17.600	55.72	17.500	45.25 *	17.880	182.6	17.800	118.4	18.360	395.3 *	18.180	300.8
15	17.580	55.30	17.520	50.20	17.720	92.30	17.820	121.4	18.140	279.3 *	18.320	375.0
16	17.580	54.04	17.580	55.97	17.640	83.90	17.940	216.9	18.440	443.5	18.160	294.3
17	17.600	56.85 *	17.620	65.49	17.620	81.17	17.940	219.0	18.220	319.4	18.140	280.7
18	17.680	73.90	17.640	70.36	17.520	60.25 *	18.640	423.9 *	18.080	257.0	18.280	354.7
19	17.700	80.13	17.640	71.22	17.540	61.92	17.980	233.9	18.160	287.3	18.220	319.6
20	17.700	79.29	17.540	53.91	17.620	84.99	18.020	253.1	18.080	258.2	18.240	326.2 *
21	17.580	51.57	17.520	51.92 *	17.640	95.54	18.280	365.8	18.100	263.4	18.320	377.9
22	17.540	46.72	17.520	51.17	17.640	92.46	18.300	372.3	18.600	547.3 *	18.480	486.5
23	17.520	44.61	17.520	51.52	17.620	88.98	18.300	373.8	18.180	293.8	18.160	293.1
24	17.500	42.92 *	17.500	47.88	17.600	76.44	18.220	305.6	18.180	291.6	18.660	653.4
25	17.500	42.96 *	17.480	44.11	17.600	76.49 *	18.120	245.3 *	17.960	232.1	18.460	476.3
26	17.540	46.12	17.460	42.24 *	17.620	85.25	18.840	801.1	17.920	220.5	18.740	698.2
27	17.600	55.38	17.460	42.00	17.560	63.95	18.140	288.0	18.060	252.7	18.580	575.9 *
28	17.640	64.03	17.460	42.33 *	17.520	59.36	17.960	223.3	18.120	271.8	18.920	864.0
29	17.680	81.62	17.540	54.39			18.240	312.1 *	18.100	264.5 *	18.540	536.7
30	17.660	78.21	17.600	63.03			18.340	332.3 *	18.020	242.4 *	18.260	343.3
31	17.620	69.65 *	17.640	95.13			18.540	435.4			18.500	502.7
Ten-Daily Mean												
I Ten-Daily	17.648	74.91	17.494	43.98	17.518	58.50	17.568	71.52	17.892	167.4	17.938	219.4
II Ten-Daily	17.622	64.77	17.550	54.71	17.720	119.0	17.928	187.4	18.096	271.8	18.238	330.8
III Ten-Daily	17.580	56.71	17.518	53.25	17.600	79.81	18.298	368.6	18.124	288.0	18.511	528.0
Monthly												
Min.	17.500	42.92	17.460	40.71	17.420	38.22	17.540	62.78	17.640	93.57	17.560	74.95
Max.	17.740	102.2	17.640	95.13	17.940	208.6	18.840	801.1	18.600	547.3	18.920	864.0
Mean	17.615	65.18	17.521	50.73	17.614	86.19	17.943	214.3	18.037	242.4	18.238	364.8

Peak Computed Discharge = 2340 cumecs on 20-Aug-17 **Corres. Water Level :20.62 m**

Lowest Computed Discharge = 42.24 cumecs on 26-Jan-18 **Corres. Water Level :17.46 m**

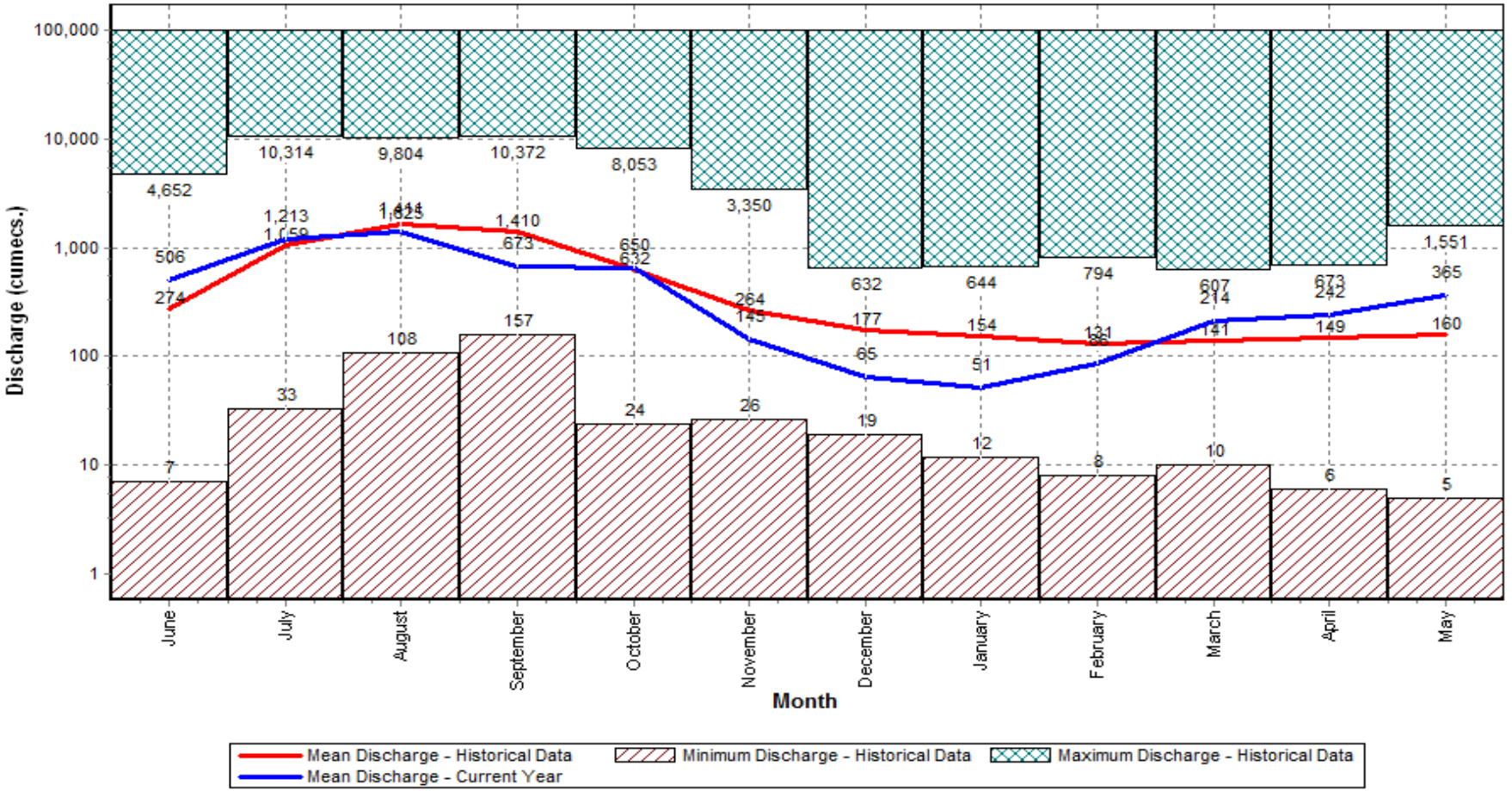
Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2017-2018

Station Name : Jenapur (EB000G6) **Data considered : 1980-2018** **Division : E.E., Bhubaneswar**

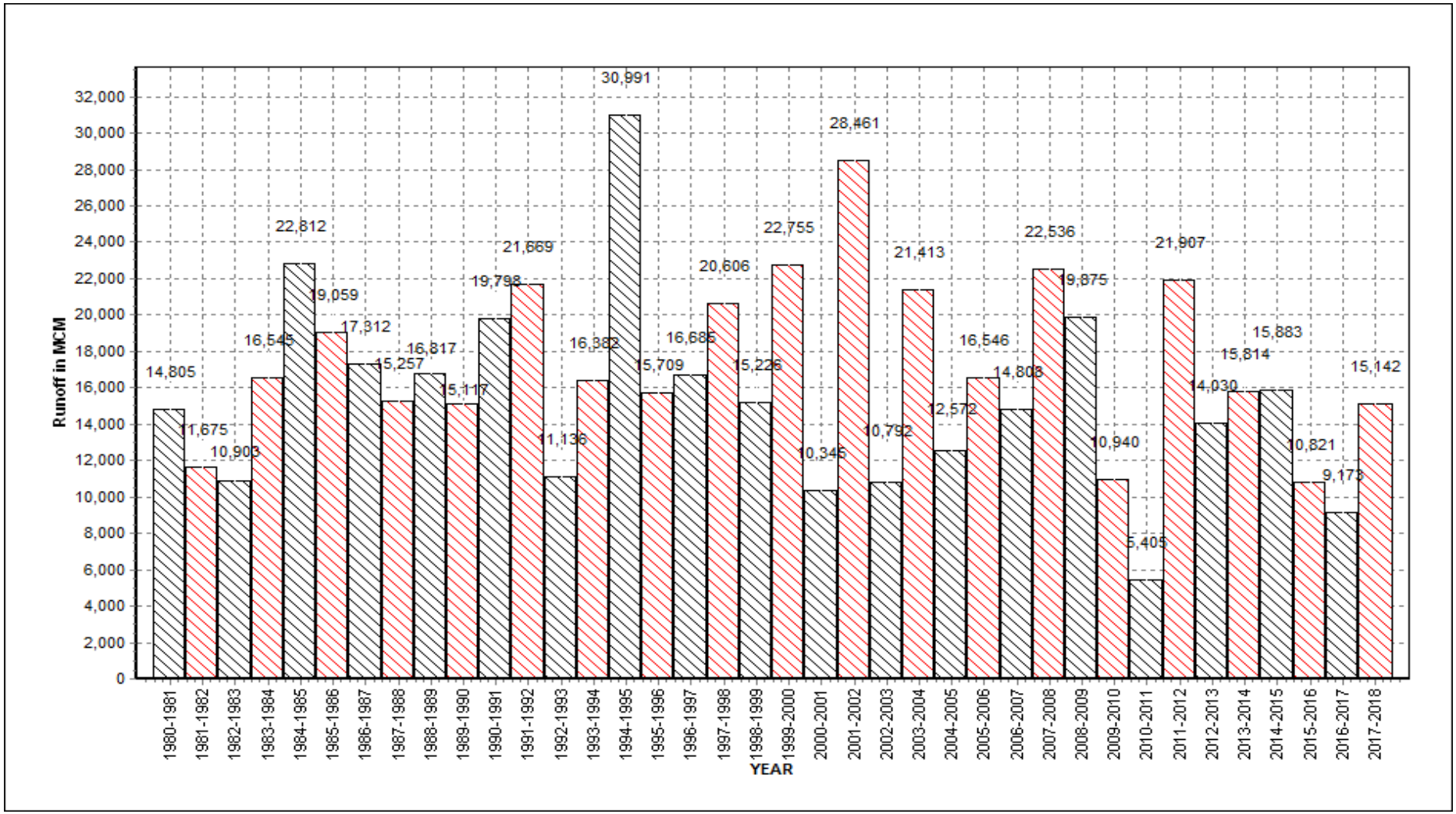
Local River : Brahmni **Sub-Division : Rourkela**



Annual Runoff Values for the period: 1980 - 2018

Station Name : Jenapur (EB000G6) **Division : E.E., Bhubaneswar**

Local River : Brahmni **Sub-Division : Rourkela**

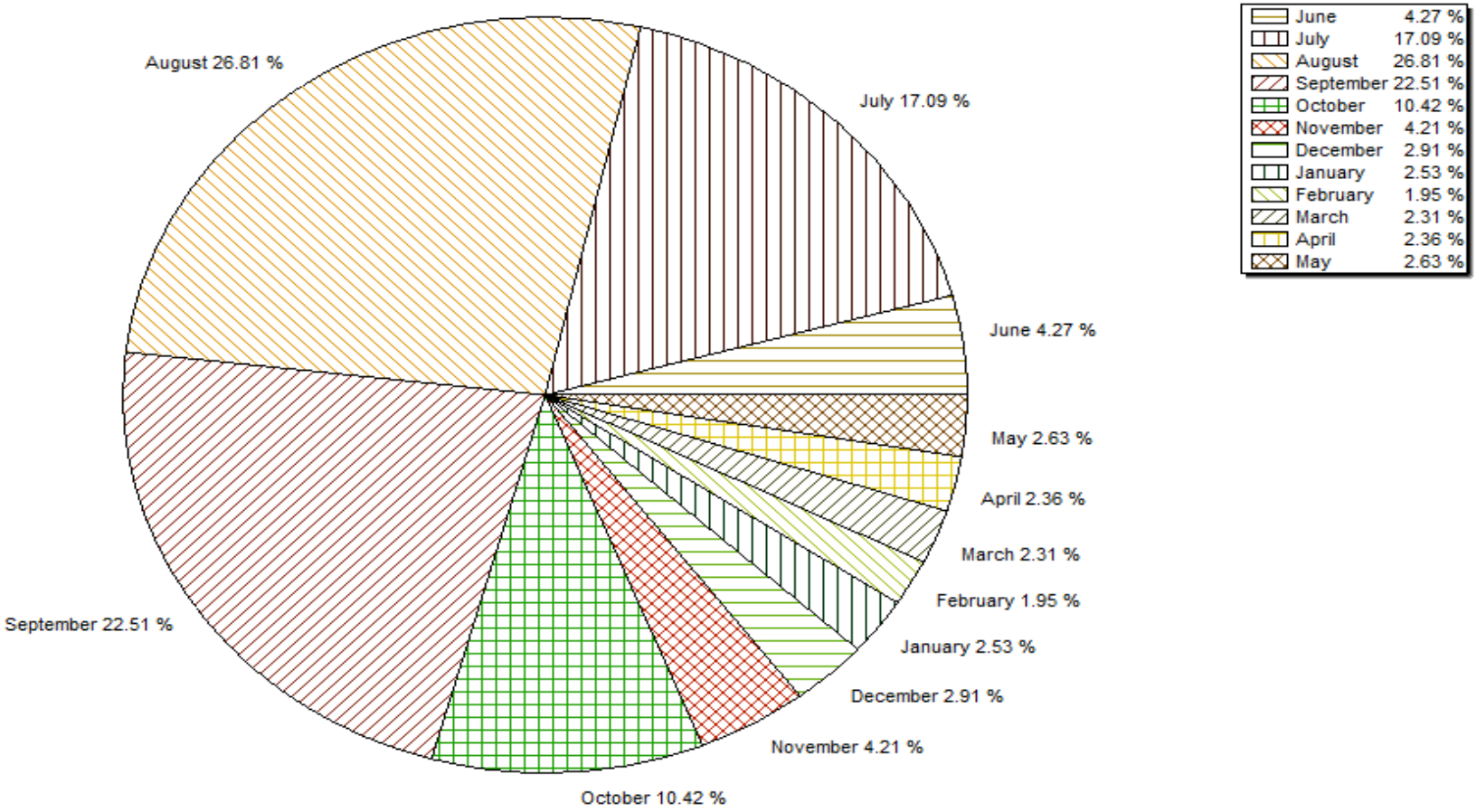


Note: Missing values have not been considered while arriving at Annual Runoff

Monthly Average Runoff based on period : 1980-2017

Station Name : Jenapur (EB000G6) **Division : E.E., Bhubaneswar**

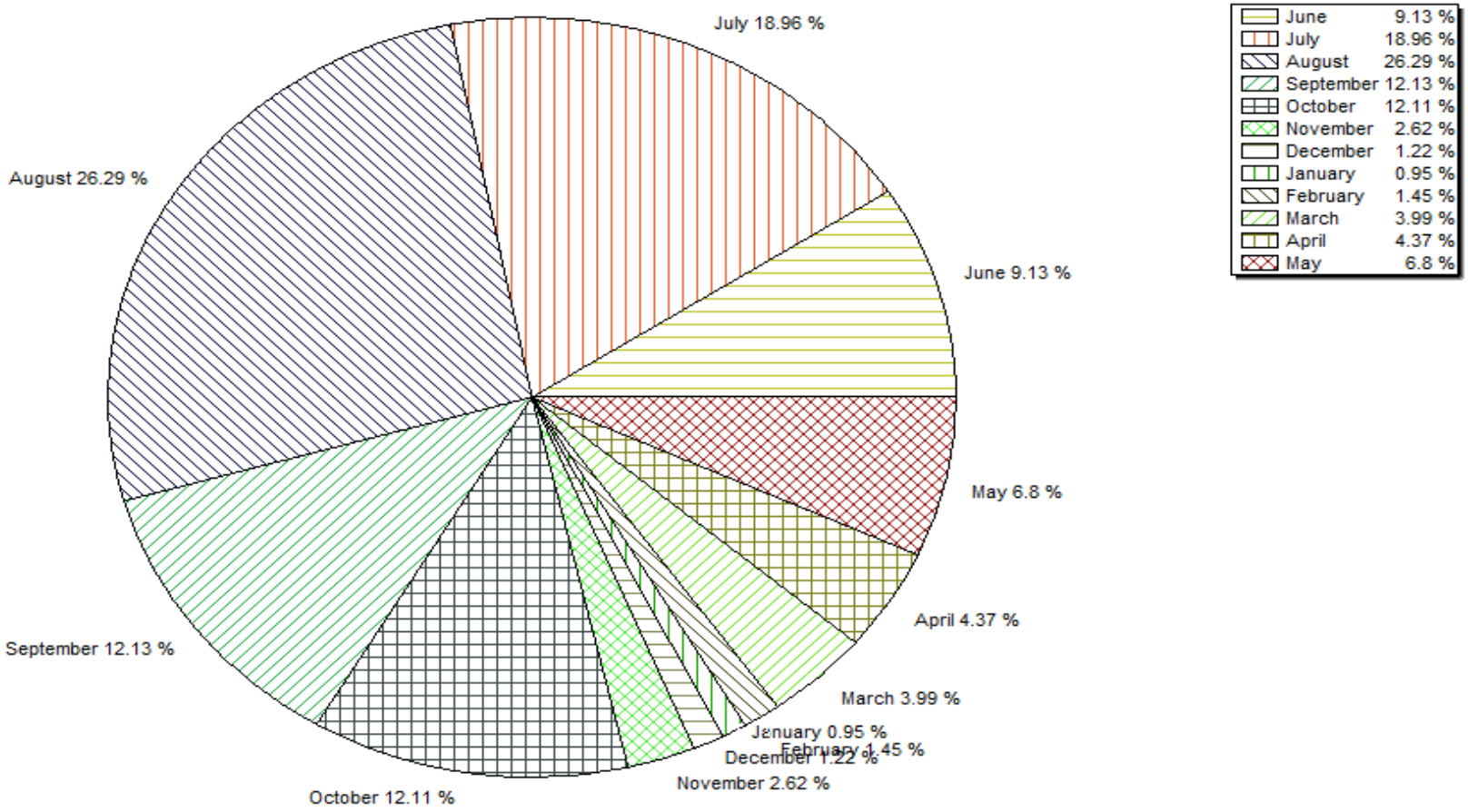
Local River : Brahmni **Sub-Division : Rourkela**



Monthly Runoff for the Year : 2017-2018

Station Name : Jenapur (EB000G6) **Division : E.E., Bhubaneswar**

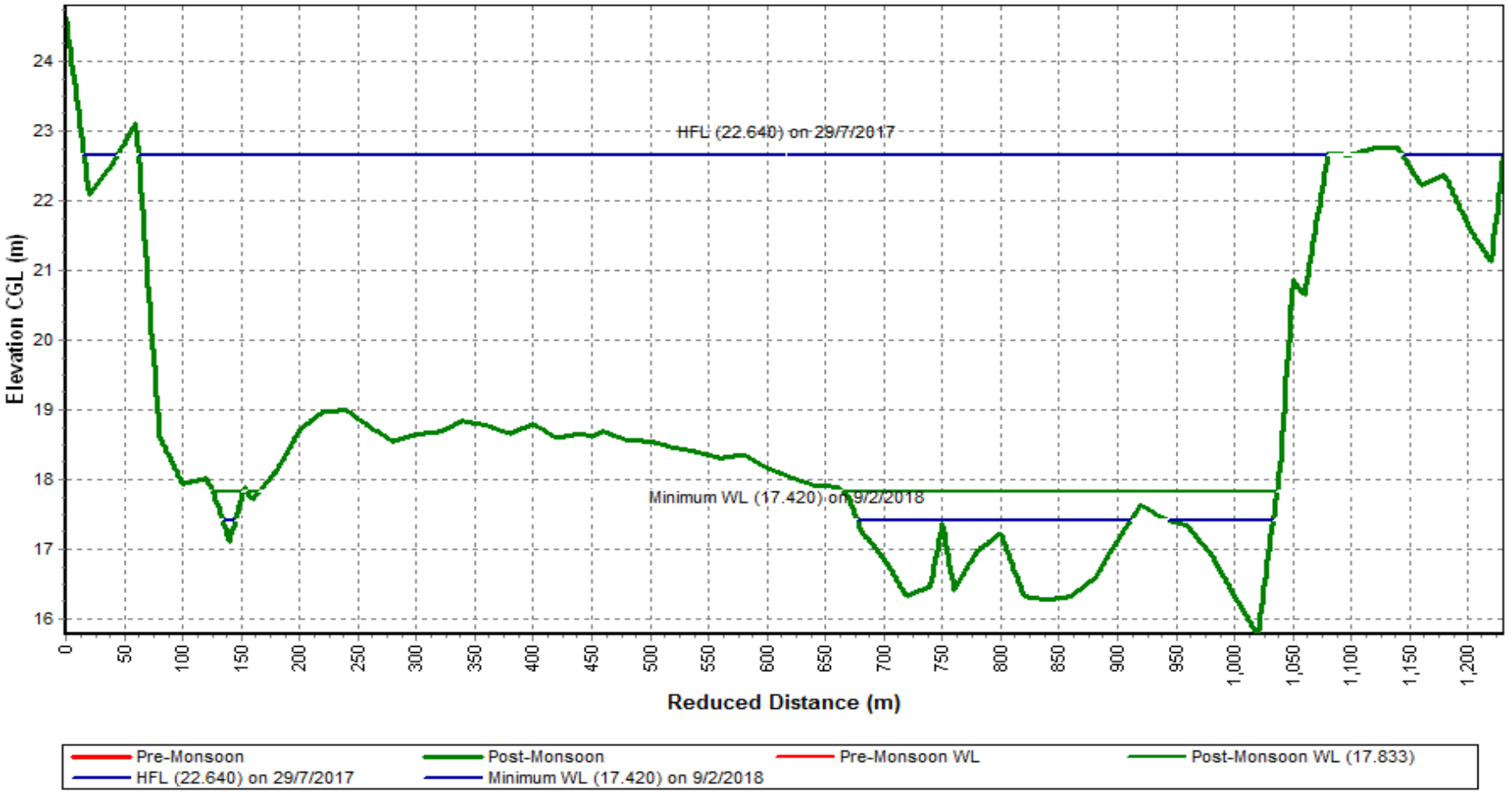
Local River : Brahmni **Sub-Division : Rourkela**



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

Station Name : Jenapur (EB000G6) **Division : E.E., Bhubaneswar**

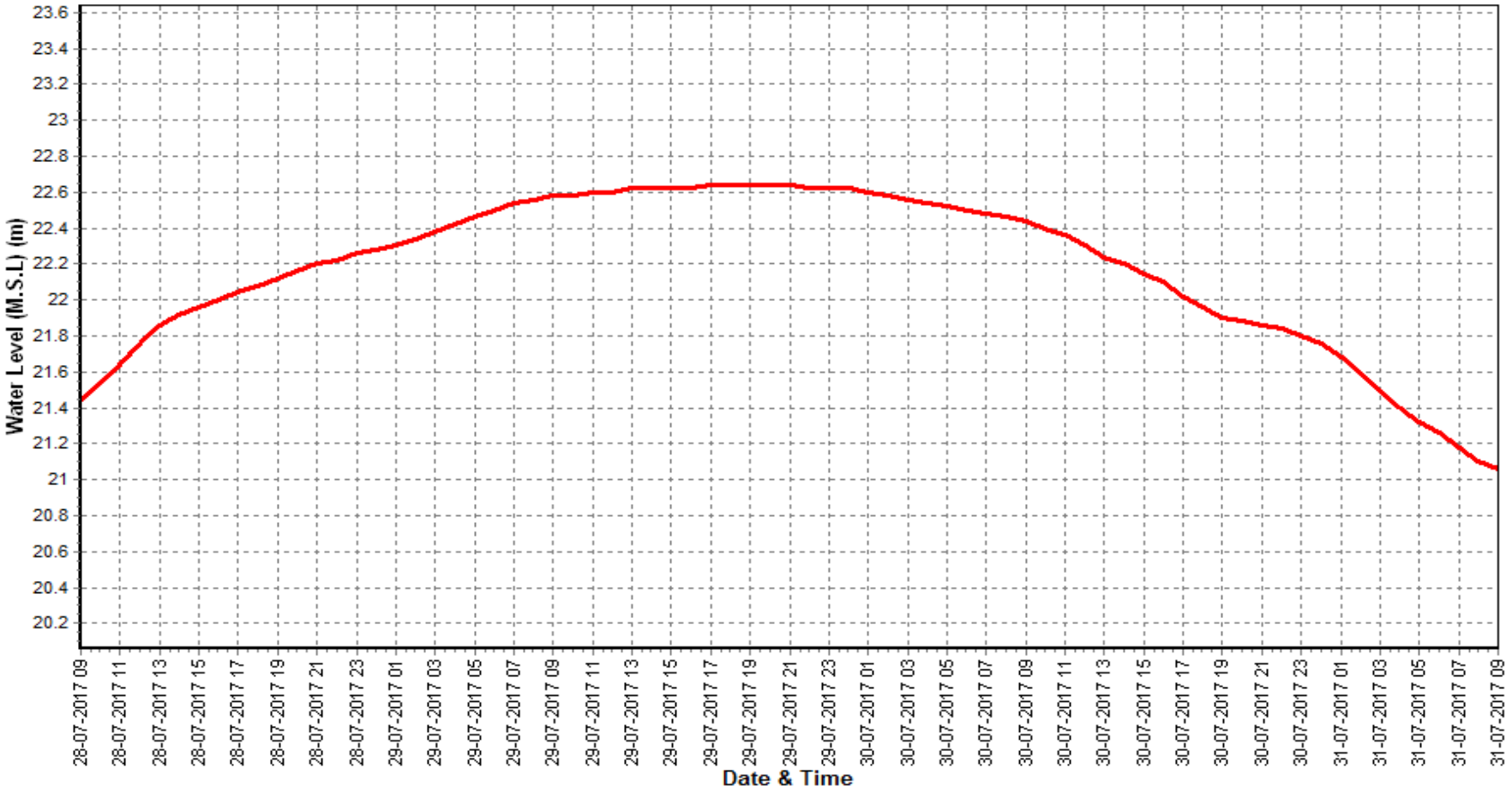
Local River : Brahmni **Sub-Division : Rourkela**



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

Station Name : Jenapur (EB000G6) **Division : E.E., Bhubaneswar**

Local River : Brahmni **Sub-Division : Rourkela**

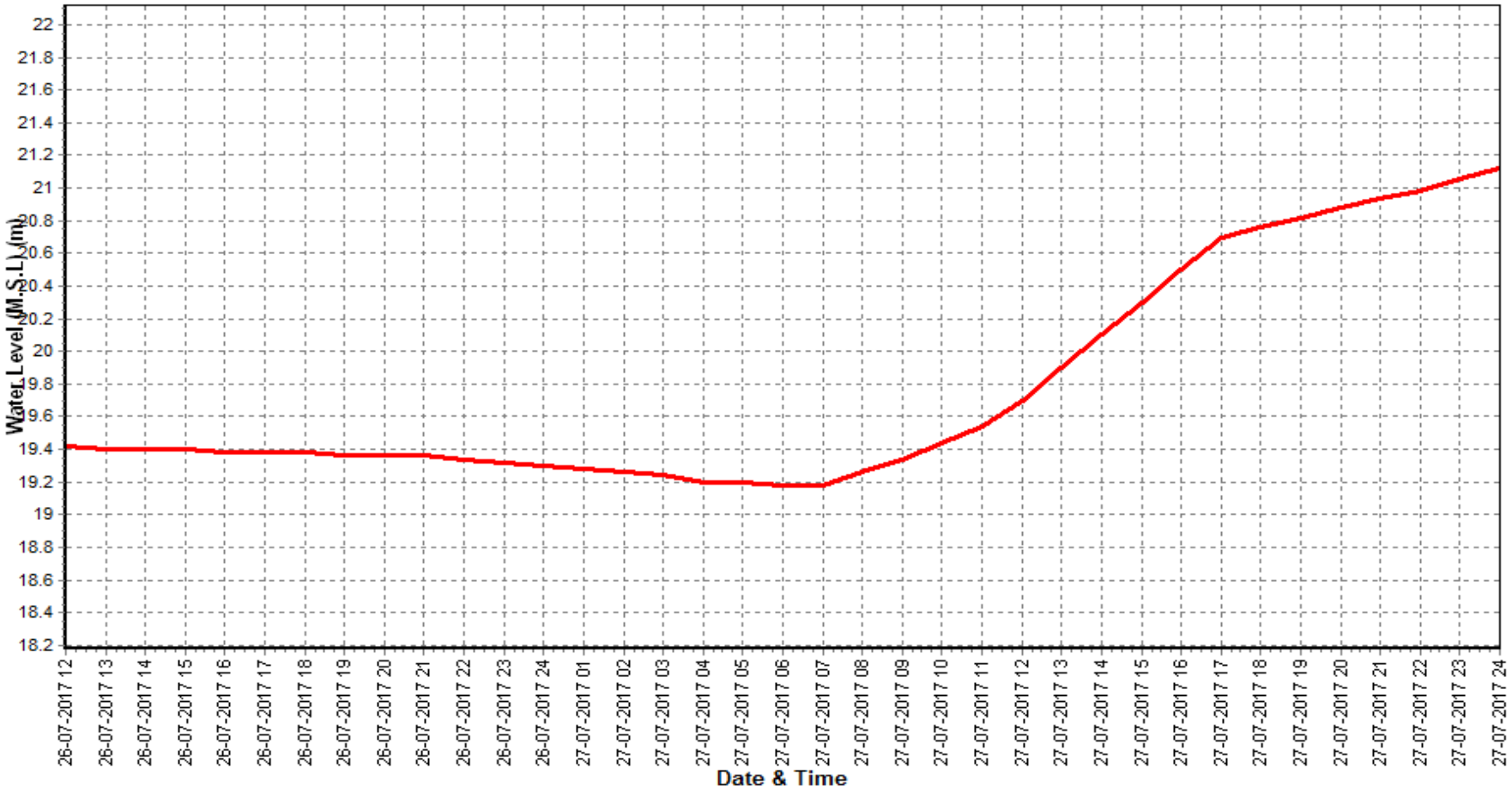


Time Span: 72 Hrs

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

Station Name : Jenapur (EB000G6) **Division : E.E., Bhubaneswar**

Local River : Brahmni **Sub-Division : Rourkela**

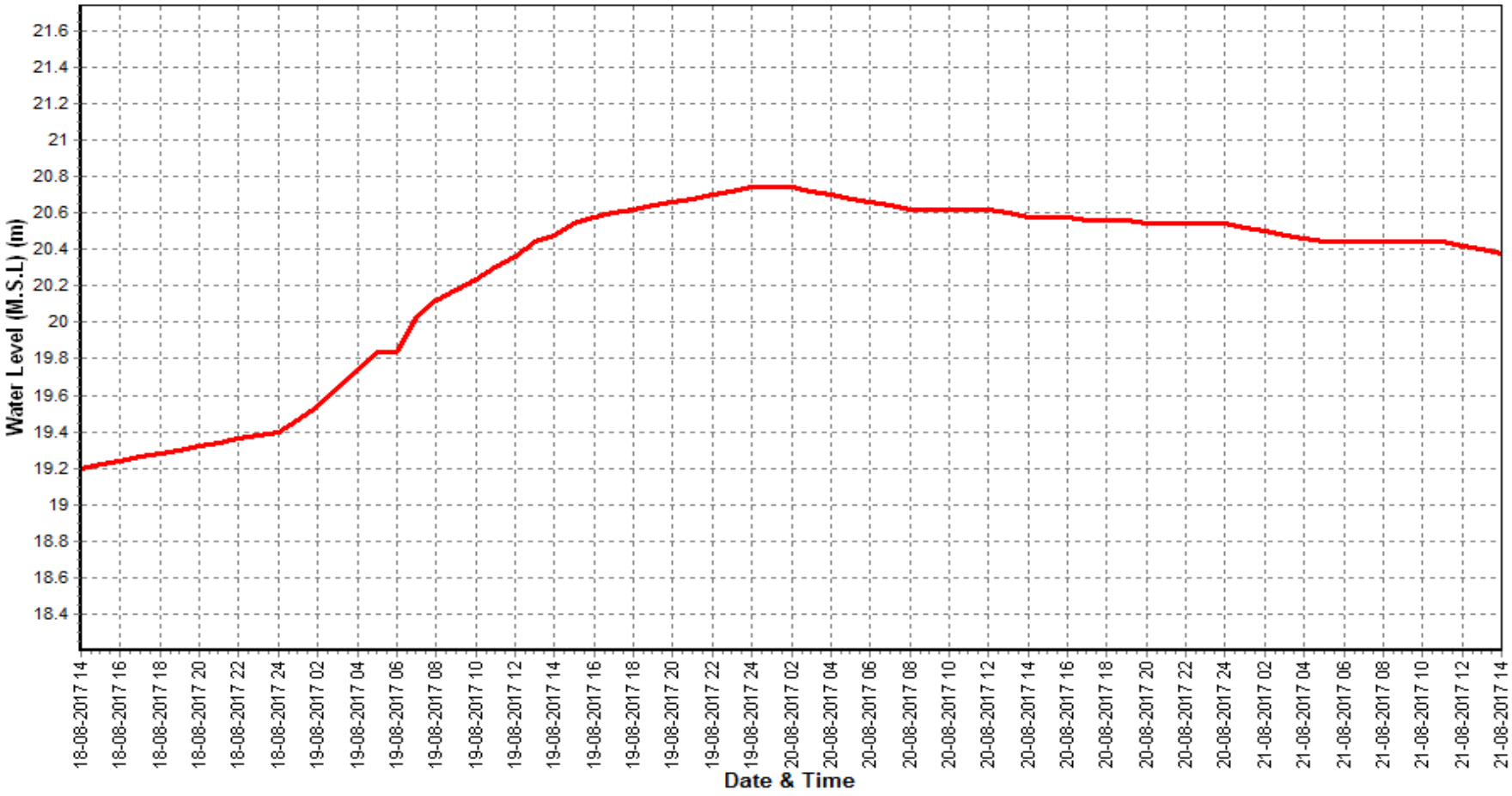


Time Span: 72 Hrs

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

Station Name : Jenapur (EB000G6) **Division : E.E., Bhubaneswar**

Local River : Brahmni **Sub-Division : Rourkela**



Time Span: 72 Hrs

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Jenapur (EB000G6) **Division : E.E., Bhubaneswar**

Local River : Brahmni **Sub-Division : Rourkela**

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	749.7	0.000	0.000	0.096	0.096	6219	289.2	0.000	0.000	0.060	0.060	1499	2442	0.000	0.000	0.325	0.325	68574
2	710.0	0.000	0.000	0.088	0.088	5398							845.5	0.000	0.000	0.366	0.366	26736
3	580.6	0.000	0.000	0.080	0.080	4013	596.4	0.000	0.000	0.073	0.073	3762	881.1	0.000	0.000	0.296	0.296	22533
4	471.6	0.000	0.000	0.075	0.075	3056	624.2	0.000	0.000	0.074	0.074	3991	927.9	0.000	0.000	0.272	0.272	21807
5	302.5	0.000	0.000	0.035	0.035	915	512.7	0.000	0.000	0.068	0.068	3012	862.0	0.000	0.000	0.285	0.285	21227
6	368.7	0.000	0.000	0.053	0.053	1689	626.5	0.000	0.000	0.073	0.073	3952	893.6	0.000	0.000	0.280	0.280	21618
7	505.1	0.000	0.000	0.059	0.059	2575	620.7	0.000	0.000	0.072	0.072	3862	1382	0.000	0.000	0.304	0.304	36299
8	441.8	0.000	0.000	0.054	0.054	2061	623.8	0.000	0.000	0.074	0.074	3989	1888	0.000	0.000	0.388	0.388	63300
9	333.4	0.000	0.000	0.043	0.043	1239							2339	0.000	0.000	0.332	0.332	67106
10	288.1	0.000	0.000	0.042	0.042	1045	640.9	0.000	0.000	0.075	0.075	4153	2466	0.000	0.000	0.384	0.384	81819
11	500.8	0.000	0.000	0.080	0.080	3461	988.5	0.000	0.000	0.082	0.082	7003	2664	0.000	0.000	0.366	0.366	84252
12	495.5	0.000	0.000	0.046	0.046	1969	838.0	0.000	0.000	0.095	0.095	6878	2382	0.000	0.000	0.340	0.340	69981
13	635.9	0.000	0.000	0.056	0.056	3077	684.9	0.000	0.000	0.065	0.065	3847	1971	0.000	0.000	0.300	0.300	51086
14	617.3	0.000	0.000	0.056	0.056	2987	603.0	0.000	0.000	0.062	0.062	3230	1734	0.000	0.000	0.330	0.330	49445
15	526.7	0.000	0.000	0.087	0.087	3959	595.1	0.000	0.000	0.065	0.065	3342	1630	0.000	0.000	0.300	0.300	42245
16	473.5	0.000	0.000	0.096	0.096	3928							1224	0.000	0.000	0.290	0.290	30664
17	515.8	0.000	0.000	0.068	0.068	3031	496.6	0.000	0.000	0.067	0.067	2875	1024	0.000	0.000	0.152	0.152	13443
18	507.2	0.000	0.000	0.070	0.070	3067	897.7	0.000	0.000	0.093	0.093	7213	968.0	0.000	0.000	0.127	0.127	10621
19	571.5	0.000	0.000	0.084	0.084	4148	733.7	0.000	0.000	0.090	0.090	5706	2351	0.000	0.000	0.220	0.220	44682
20	706.2	0.000	0.000	0.102	0.102	6223	455.0	0.000	0.000	0.065	0.065	2555	2340	0.000	0.000	0.200	0.200	40434
21	563.3	0.000	0.000	0.122	0.122	5938	448.4	0.000	0.000	0.093	0.093	3603	2551	0.000	0.000	0.184	0.184	40559
22	304.4	0.000	0.000	0.096	0.096	2524	589.6	0.000	0.000	0.087	0.087	4432	1802	0.000	0.000	0.143	0.143	22260
23	804.0	0.000	0.000	0.178	0.178	12365							778.4	0.000	0.000	0.186	0.186	12510
24	852.1	0.000	0.000	0.362	0.362	26651	727.1	0.000	0.000	0.111	0.111	6973	859.4	0.000	0.000	0.107	0.107	7945
25	268.0	0.000	0.000	0.055	0.055	1273	1240	0.000	0.000	0.443	0.443	47469	752.8	0.000	0.000	0.128	0.128	8325
26	523.0	0.000	0.000	0.070	0.070	3163	1239	0.000	0.000	0.514	0.514	55033	849.0	0.000	0.000	0.090	0.090	6602
27	203.3	0.000	0.000	0.065	0.065	1142	1251	0.000	0.000	0.536	0.536	57919	733.1	0.000	0.000	0.100	0.100	6334
28	497.8	0.000	0.000	0.065	0.065	2796	4552	0.000	0.000	0.629	0.629	247356	633.0	0.000	0.000	0.054	0.054	2954
29	522.2	0.000	0.000	0.073	0.073	3294	7041	0.000	0.000	1.064	1.064	647251	640.5	0.000	0.000	0.060	0.060	3320
30	340.8	0.000	0.000	0.063	0.063	1855							309.0	0.000	0.000	0.074	0.074	1976
31							3622	0.000	0.000	0.580	0.580	181484	614.8	0.000	0.000	0.062	0.062	3293
Ten Daily Mean																		
Ten Daily I	475.2	0.000	0.000	0.063	0.063	2821	566.8	0.000	0.000	0.071	0.071	3527	1493	0.000	0.000	0.323	0.323	43102
Ten Daily II	555.0	0.000	0.000	0.075	0.075	3585	699.2	0.000	0.000	0.076	0.076	4739	1829	0.000	0.000	0.263	0.263	43685
Ten Daily III	487.9	0.000	0.000	0.115	0.115	6100	2301	0.000	0.000	0.451	0.451	139058	956.6	0.000	0.000	0.108	0.108	10552
Monthly Total						125061						1322386						983948

Annual Sediment Load (Metric Tonnes) : 2928561

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Jenapur (EB000G6) **Division : E.E., Bhubaneswar**

Local River : Brahmni **Sub-Division : Rourkela**

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	596.7	0.000	0.000	0.069	0.069	3557	499.5	0.000	0.000	0.090	0.090	3884	240.3	0.000	0.000	0.053	0.053	1100
2	535.8	0.000	0.000	0.070	0.070	3241	836.4	0.000	0.000	0.090	0.090	6504	190.5	0.000	0.000	0.053	0.053	872
3	621.8	0.000	0.000	0.065	0.065	3492	806.0	0.000	0.000	0.093	0.093	6477	153.9	0.000	0.000	0.053	0.053	705
4	819.6	0.000	0.000	0.053	0.053	3753	756.2	0.000	0.000	0.062	0.062	4051	153.9	0.000	0.000	0.050	0.050	665
5	630.0	0.000	0.000	0.035	0.035	1905	751.4	0.000	0.000	0.045	0.045	2921	150.0	0.000	0.000	0.085	0.085	1102
6	647.0	0.000	0.000	0.067	0.067	3746	651.8	0.000	0.000	0.090	0.090	5068	118.8	0.000	0.000	0.106	0.106	1088
7	627.4	0.000	0.000	0.044	0.044	2385	665.6	0.000	0.000	0.087	0.087	5003	102.0	0.000	0.000	0.106	0.106	934
8	592.2	0.000	0.000	0.050	0.050	2558	491.4	0.000	0.000	0.080	0.080	3397	106.9	0.000	0.000	0.106	0.106	979
9	573.6	0.000	0.000	0.065	0.065	3221	662.6	0.000	0.000	0.086	0.086	4924	106.1	0.000	0.000	0.106	0.106	971
10	530.0	0.000	0.000	0.065	0.065	2977	699.7	0.000	0.000	0.078	0.078	4716	107.9	0.000	0.000	0.106	0.106	988
11	604.4	0.000	0.000	0.062	0.062	3237	702.7	0.000	0.000	0.068	0.068	4128	132.3	0.000	0.000	0.106	0.106	1212
12	749.3	0.000	0.000	0.105	0.105	6798	706.5	0.000	0.000	0.070	0.070	4273	132.3	0.000	0.000	0.100	0.100	1143
13	587.4	0.000	0.000	0.060	0.060	3045	632.1	0.000	0.000	0.059	0.059	3222	138.0	0.000	0.000	0.133	0.133	1586
14	756.2	0.000	0.000	0.045	0.045	2940	602.5	0.000	0.000	0.066	0.066	3436	116.5	0.000	0.000	0.133	0.133	1339
15	830.3	0.000	0.000	0.084	0.084	6026	509.8	0.000	0.000	0.060	0.060	2643	118.8	0.000	0.000	0.133	0.133	1365
16	595.2	0.000	0.000	0.105	0.105	5400	636.5	0.000	0.000	0.080	0.080	4399	130.4	0.000	0.000	0.133	0.133	1498
17	541.9	0.000	0.000	0.100	0.100	4682	572.2	0.000	0.000	0.062	0.062	3065	134.2	0.000	0.000	0.133	0.133	1542
18	568.3	0.000	0.000	0.081	0.081	3977	608.7	0.000	0.000	0.078	0.078	4102	140.7	0.000	0.000	0.133	0.133	1616
19	866.5	0.000	0.000	0.064	0.064	4792	516.3	0.000	0.000	0.070	0.070	3123	180.0	0.000	0.000	0.130	0.130	2022
20	1038	0.000	0.000	0.120	0.120	10765	777.1	0.000	0.000	0.109	0.109	7319	287.6	0.000	0.000	0.157	0.157	3902
21	1077	0.000	0.000	0.131	0.131	12193	1200	0.000	0.000	0.170	0.170	17630	295.8	0.000	0.000	0.157	0.157	4013
22	879.1	0.000	0.000	0.118	0.118	8963	898.4	0.000	0.000	0.100	0.100	7762	221.0	0.000	0.000	0.157	0.157	2998
23	660.8	0.000	0.000	0.066	0.066	3768	856.5	0.000	0.000	0.056	0.056	4144	149.5	0.000	0.000	0.157	0.157	2028
24	577.9	0.000	0.000	0.060	0.060	2996	607.4	0.000	0.000	0.079	0.079	4146	164.0	0.000	0.000	0.157	0.157	2224
25	746.7	0.000	0.000	0.089	0.089	5742	619.9	0.000	0.000	0.058	0.058	3106	149.2	0.000	0.000	0.157	0.157	2024
26	664.6	0.000	0.000	0.084	0.084	4823	646.5	0.000	0.000	0.063	0.063	3519	149.0	0.000	0.000	0.150	0.150	1931
27	637.6	0.000	0.000	0.079	0.079	4352	633.0	0.000	0.000	0.052	0.052	2844	72.04	0.000	0.000	0.110	0.110	685
28	619.5	0.000	0.000	0.064	0.064	3425	487.2	0.000	0.000	0.067	0.067	2820	73.21	0.000	0.000	0.110	0.110	696
29	467.4	0.000	0.000	0.065	0.065	2625	443.4	0.000	0.000	0.060	0.060	2299	69.72	0.000	0.000	0.110	0.110	663
30	547.6	0.000	0.000	0.070	0.070	3312	362.2	0.000	0.000	0.014	0.014	438	70.82	0.000	0.000	0.110	0.110	673
31							308.5	0.000	0.000	0.053	0.053	1412						
Ten Daily Mean																		
Ten Daily I	617.4	0.000	0.000	0.058	0.058	3083	682.1	0.000	0.000	0.080	0.080	4694	143.0	0.000	0.000	0.082	0.082	940
Ten Daily II	713.8	0.000	0.000	0.083	0.083	5166	626.4	0.000	0.000	0.072	0.072	3971	151.1	0.000	0.000	0.129	0.129	1722
Ten Daily III	687.8	0.000	0.000	0.083	0.083	5220	642.1	0.000	0.000	0.070	0.070	4556	141.4	0.000	0.000	0.138	0.138	1793
Monthly																		
Total						134696						136774						44563

Annual Sediment Load (Metric Tonnes) : 2928561

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Jenapur (EB000G6) **Division : E.E., Bhubaneswar**

Local River : Brahmni **Sub-Division : Rourkela**

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	69.45	0.000	0.000	0.110	0.110	660	51.05	0.000	0.000	0.060	0.060	265	83.10	0.000	0.000	0.102	0.102	732
2	69.49	0.000	0.000	0.100	0.100	600	47.67	0.000	0.000	0.060	0.060	247	79.07	0.000	0.000	0.102	0.102	697
3	73.55	0.000	0.000	0.100	0.100	635	43.35	0.000	0.000	0.060	0.060	225	80.47	0.000	0.000	0.102	0.102	709
4	96.82	0.000	0.000	0.054	0.054	452	41.77	0.000	0.000	0.060	0.060	217	75.12	0.000	0.000	0.102	0.102	662
5	102.2	0.000	0.000	0.054	0.054	477	40.71	0.000	0.000	0.060	0.060	211	50.57	0.000	0.000	0.030	0.030	131
6	87.21	0.000	0.000	0.054	0.054	407	42.73	0.000	0.000	0.060	0.060	221	40.48	0.000	0.000	0.030	0.030	105
7	68.42	0.000	0.000	0.054	0.054	319	43.32	0.000	0.000	0.060	0.060	225	41.72	0.000	0.000	0.030	0.030	108
8	63.62	0.000	0.000	0.054	0.054	297	41.13	0.000	0.000	0.022	0.022	78	38.22	0.000	0.000	0.030	0.030	99
9	60.05	0.000	0.000	0.054	0.054	280	42.31	0.000	0.000	0.022	0.022	80	39.57	0.000	0.000	0.030	0.030	103
10	58.32	0.000	0.000	0.050	0.050	252	45.74	0.000	0.000	0.022	0.022	87	56.69	0.000	0.000	0.030	0.030	147
11	64.91	0.000	0.000	0.087	0.087	488	47.36	0.000	0.000	0.022	0.022	90	133.1	0.000	0.000	0.050	0.050	575
12	63.96	0.000	0.000	0.087	0.087	481	43.84	0.000	0.000	0.022	0.022	83	208.6	0.000	0.000	0.089	0.089	1604
13	63.57	0.000	0.000	0.087	0.087	478	43.53	0.000	0.000	0.022	0.022	83	201.0	0.000	0.000	0.089	0.089	1546
14	55.72	0.000	0.000	0.087	0.087	419	45.25	0.000	0.000	0.025	0.025	98	182.6	0.000	0.000	0.089	0.089	1404
15	55.30	0.000	0.000	0.087	0.087	416	50.20	0.000	0.000	0.096	0.096	416	92.30	0.000	0.000	0.089	0.089	710
16	54.04	0.000	0.000	0.087	0.087	406	55.97	0.000	0.000	0.096	0.096	464	83.90	0.000	0.000	0.089	0.089	645
17	56.85	0.000	0.000	0.080	0.080	393	65.49	0.000	0.000	0.096	0.096	543	81.17	0.000	0.000	0.089	0.089	624
18	73.90	0.000	0.000	0.057	0.057	364	70.36	0.000	0.000	0.096	0.096	584	60.25	0.000	0.000	0.060	0.060	312
19	80.13	0.000	0.000	0.057	0.057	395	71.22	0.000	0.000	0.096	0.096	591	61.92	0.000	0.000	0.018	0.018	96
20	79.29	0.000	0.000	0.057	0.057	390	53.91	0.000	0.000	0.096	0.096	447	84.99	0.000	0.000	0.018	0.018	132
21	51.57	0.000	0.000	0.057	0.057	254	51.92	0.000	0.000	0.090	0.090	404	95.54	0.000	0.000	0.018	0.018	149
22	46.72	0.000	0.000	0.057	0.057	230	51.17	0.000	0.000	0.045	0.045	199	92.46	0.000	0.000	0.018	0.018	144
23	44.61	0.000	0.000	0.057	0.057	220	51.52	0.000	0.000	0.045	0.045	200	88.98	0.000	0.000	0.018	0.018	138
24	42.92	0.000	0.000	0.050	0.050	185	47.88	0.000	0.000	0.045	0.045	186	76.44	0.000	0.000	0.018	0.018	119
25	42.96	0.000	0.000	0.050	0.050	186	44.11	0.000	0.000	0.045	0.045	171	76.49	0.000	0.000	0.020	0.020	132
26	46.12	0.000	0.000	0.055	0.055	219	42.24	0.000	0.000	0.045	0.045	164	85.25	0.000	0.000	0.042	0.042	309
27	55.38	0.000	0.000	0.055	0.055	263	42.00	0.000	0.000	0.045	0.045	163	63.95	0.000	0.000	0.042	0.042	232
28	64.03	0.000	0.000	0.055	0.055	304	42.33	0.000	0.000	0.045	0.045	165	59.36	0.000	0.000	0.042	0.042	215
29	81.62	0.000	0.000	0.055	0.055	388	54.39	0.000	0.000	0.102	0.102	479						
30	78.21	0.000	0.000	0.055	0.055	372	63.03	0.000	0.000	0.102	0.102	555						
31	69.65	0.000	0.000	0.055	0.055	331	95.13	0.000	0.000	0.102	0.102	838						
Ten Daily Mean																		
Ten Daily I	74.91	0.000	0.000	0.068	0.068	438	43.98	0.000	0.000	0.049	0.049	186	58.50	0.000	0.000	0.059	0.059	349
Ten Daily II	64.77	0.000	0.000	0.077	0.077	423	54.71	0.000	0.000	0.067	0.067	340	119.0	0.000	0.000	0.068	0.068	765
Ten Daily III	56.71	0.000	0.000	0.055	0.055	268	53.25	0.000	0.000	0.065	0.065	321	79.81	0.000	0.000	0.027	0.027	180
Monthly Total						11560						8781						12580

Annual Sediment Load (Metric Tonnes) : 2928561

Daily Observed Sediment Datasheet for period : 2017-2018

Station Name : Jenapur (EB000G6) **Division : E.E., Bhubaneswar**

Local River : Brahmni **Sub-Division : Rourkela**

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	62.78	0.000	0.000	0.089	0.089	483	329.9	0.000	0.000	0.029	0.029	827	247.9	0.000	0.000	0.051	0.051	1092
2	66.44	0.000	0.000	0.085	0.085	488	270.0	0.000	0.000	0.029	0.029	676	137.7	0.000	0.000	0.051	0.051	607
3	82.39	0.000	0.000	0.089	0.089	634	217.3	0.000	0.000	0.029	0.029	544	90.06	0.000	0.000	0.051	0.051	397
4	82.38	0.000	0.000	0.089	0.089	633	107.9	0.000	0.000	0.029	0.029	270	75.48	0.000	0.000	0.051	0.051	333
5	66.34	0.000	0.000	0.041	0.041	235	93.57	0.000	0.000	0.029	0.029	234	99.09	0.000	0.000	0.051	0.051	437
6	67.39	0.000	0.000	0.041	0.041	239	123.7	0.000	0.000	0.029	0.029	310	74.95	0.000	0.000	0.050	0.050	324
7	66.83	0.000	0.000	0.041	0.041	237	141.8	0.000	0.000	0.029	0.029	355	326.2	0.000	0.000	0.057	0.057	1606
8	66.44	0.000	0.000	0.041	0.041	235	150.5	0.000	0.000	0.029	0.029	377	443.3	0.000	0.000	0.057	0.057	2183
9	70.99	0.000	0.000	0.041	0.041	251	129.3	0.000	0.000	0.017	0.017	190	328.2	0.000	0.000	0.057	0.057	1617
10	83.16	0.000	0.000	0.041	0.041	295	110.5	0.000	0.000	0.017	0.017	162	371.1	0.000	0.000	0.057	0.057	1828
11	83.19	0.000	0.000	0.040	0.040	288	105.8	0.000	0.000	0.017	0.017	155	369.9	0.000	0.000	0.057	0.057	1822
12	94.08	0.000	0.000	0.042	0.042	341	101.0	0.000	0.000	0.017	0.017	148	288.2	0.000	0.000	0.057	0.057	1419
13	110.7	0.000	0.000	0.042	0.042	402	271.0	0.000	0.000	0.017	0.017	398	398.2	0.000	0.000	0.058	0.058	1996
14	118.4	0.000	0.000	0.042	0.042	430	395.3	0.000	0.000	0.020	0.020	683	300.8	0.000	0.000	0.052	0.052	1351
15	121.4	0.000	0.000	0.042	0.042	440	279.3	0.000	0.000	0.026	0.026	627	375.0	0.000	0.000	0.052	0.052	1685
16	216.9	0.000	0.000	0.042	0.042	787	443.5	0.000	0.000	0.026	0.026	996	294.3	0.000	0.000	0.052	0.052	1322
17	219.0	0.000	0.000	0.042	0.042	795	319.4	0.000	0.000	0.026	0.026	718	280.7	0.000	0.000	0.052	0.052	1261
18	423.9	0.000	0.000	0.070	0.070	2564	257.0	0.000	0.000	0.026	0.026	577	354.7	0.000	0.000	0.052	0.052	1594
19	233.9	0.000	0.000	0.071	0.071	1435	287.3	0.000	0.000	0.026	0.026	645	319.6	0.000	0.000	0.052	0.052	1436
20	253.1	0.000	0.000	0.071	0.071	1553	258.2	0.000	0.000	0.026	0.026	580	326.2	0.000	0.000	0.052	0.052	1465
21	365.8	0.000	0.000	0.071	0.071	2244	263.4	0.000	0.000	0.026	0.026	592	377.9	0.000	0.000	0.093	0.093	3036
22	372.3	0.000	0.000	0.071	0.071	2284	547.3	0.000	0.000	0.030	0.030	1419	486.5	0.000	0.000	0.093	0.093	3909
23	373.8	0.000	0.000	0.071	0.071	2293	293.8	0.000	0.000	0.052	0.052	1320	293.1	0.000	0.000	0.093	0.093	2355
24	305.6	0.000	0.000	0.071	0.071	1875	291.6	0.000	0.000	0.052	0.052	1310	653.4	0.000	0.000	0.093	0.093	5250
25	245.3	0.000	0.000	0.075	0.075	1589	232.1	0.000	0.000	0.052	0.052	1043	476.3	0.000	0.000	0.093	0.093	3827
26	801.1	0.000	0.000	0.125	0.125	8652	220.5	0.000	0.000	0.052	0.052	990	698.2	0.000	0.000	0.093	0.093	5610
27	288.0	0.000	0.000	0.125	0.125	3111	252.7	0.000	0.000	0.052	0.052	1135	575.9	0.000	0.000	0.080	0.080	3981
28	223.3	0.000	0.000	0.125	0.125	2412	271.8	0.000	0.000	0.052	0.052	1221	864.0	0.000	0.000	0.128	0.128	9555
29	312.1	0.000	0.000	0.125	0.125	3371	264.5	0.000	0.000	0.052	0.052	1188	536.7	0.000	0.000	0.128	0.128	5936
30	332.3	0.000	0.000	0.125	0.125	3588	242.4	0.000	0.000	0.050	0.050	1047	343.3	0.000	0.000	0.128	0.128	3797
31	435.4	0.000	0.000	0.125	0.125	4702							502.7	0.000	0.000	0.128	0.128	5559
Ten Daily Mean																		
Ten Daily I	71.52	0.000	0.000	0.060	0.060	373	167.4	0.000	0.000	0.027	0.027	395	219.4	0.000	0.000	0.053	0.053	1042
Ten Daily II	187.4	0.000	0.000	0.050	0.050	903	271.8	0.000	0.000	0.023	0.023	553	330.8	0.000	0.000	0.054	0.054	1535
Ten Daily III	368.6	0.000	0.000	0.101	0.101	3284	288.0	0.000	0.000	0.047	0.047	1127	528.0	0.000	0.000	0.105	0.105	4801
Monthly																		
Total						48884						20741						78588

Annual Sediment Load (Metric Tonnes) : 2928561

Annual Sediment Load for period : 1981-2018

Station Name : Jenapur (EB000G6) **Division : E.E., Bhubaneswar**

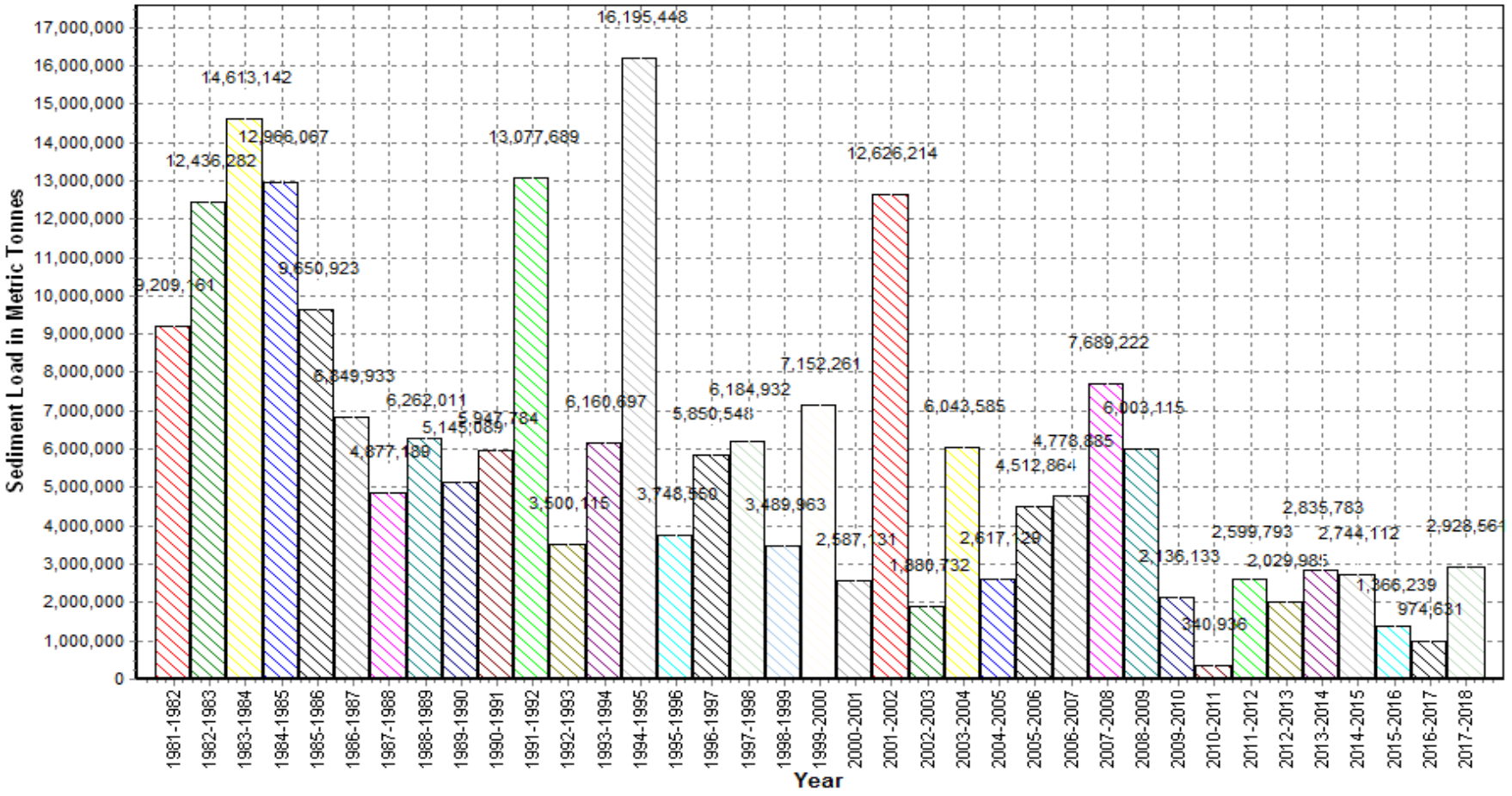
Local River : Brahmni **Sub-Division : Rourkela**

Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)
1981-1982	9166586	42575	9209161	11675
1982-1983	12422941	13341	12436282	10903
1983-1984	14604846	8296	14613142	16545
1984-1985	12924990	41078	12966067	22812
1985-1986	9577008	73915	9650923	19059
1986-1987	6728612	121321	6849933	17312
1987-1988	4663043	214147	4877189	15257
1988-1989	6234143	27868	6262011	16817
1989-1990	4940638	204451	5145089	15117
1990-1991	5819871	127913	5947784	19798
1991-1992	12933609	144081	13077689	21669
1992-1993	3450830	49285	3500115	11136
1993-1994	5934153	226545	6160697	16382
1994-1995	15355732	839715	16195448	30991
1995-1996	3591112	157438	3748550	15709
1996-1997	5684669	165879	5850548	16685
1997-1998	5957430	227503	6184932	20606
1998-1999	3422796	67168	3489963	15226
1999-2000	7101132	51129	7152261	22755
2000-2001	2493260	93872	2587131	10345
2001-2002	12566894	59321	12626214	28461
2002-2003	1868745	11986	1880732	10785
2003-2004	6004276	39309	6043585	21413
2004-2005	2576281	40848	2617129	12544
2005-2006	4466743	46121	4512864	16546
2006-2007	4726357	52528	4778885	14808
2007-2008	7670521	18701	7689222	22536
2008-2009	5978111	25004	6003115	19875
2009-2010	2120268	15864	2136133	10940
2010-2011	301296	39640	340936	5405
2011-2012	2329808	269985	2599793	21907
2012-2013	1860984	169002	2029985	14030
2013-2014	2638430	197353	2835783	15814
2014-2015	2642842	101270	2744112	15883
2015-2016	1322092	44148	1366239	10821
2016-2017	974631	0	974631	9173
2017-2018	2747428	181134	2928561	14375

Annual Sediment Load for the period: 1981-2018

Station Name : Jenapur (EB000G6) **Division : E.E., Bhubaneswar**

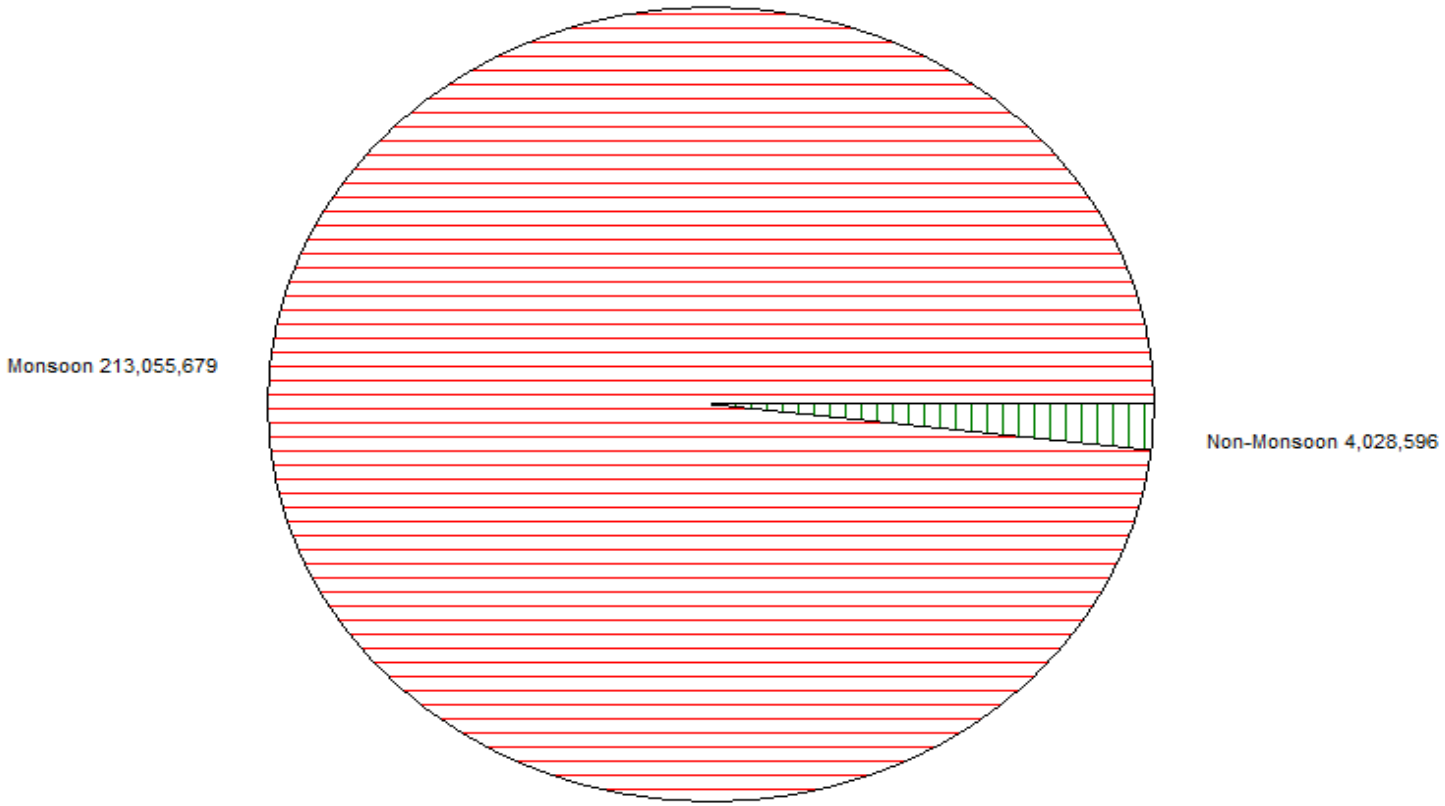
Local River : Brahmni **Sub-Division : Rourkela**



Seasonal Sediment Load for the period : 1981-2017

Station Name : Jenapur (EB000G6)
Local River : Brahmni

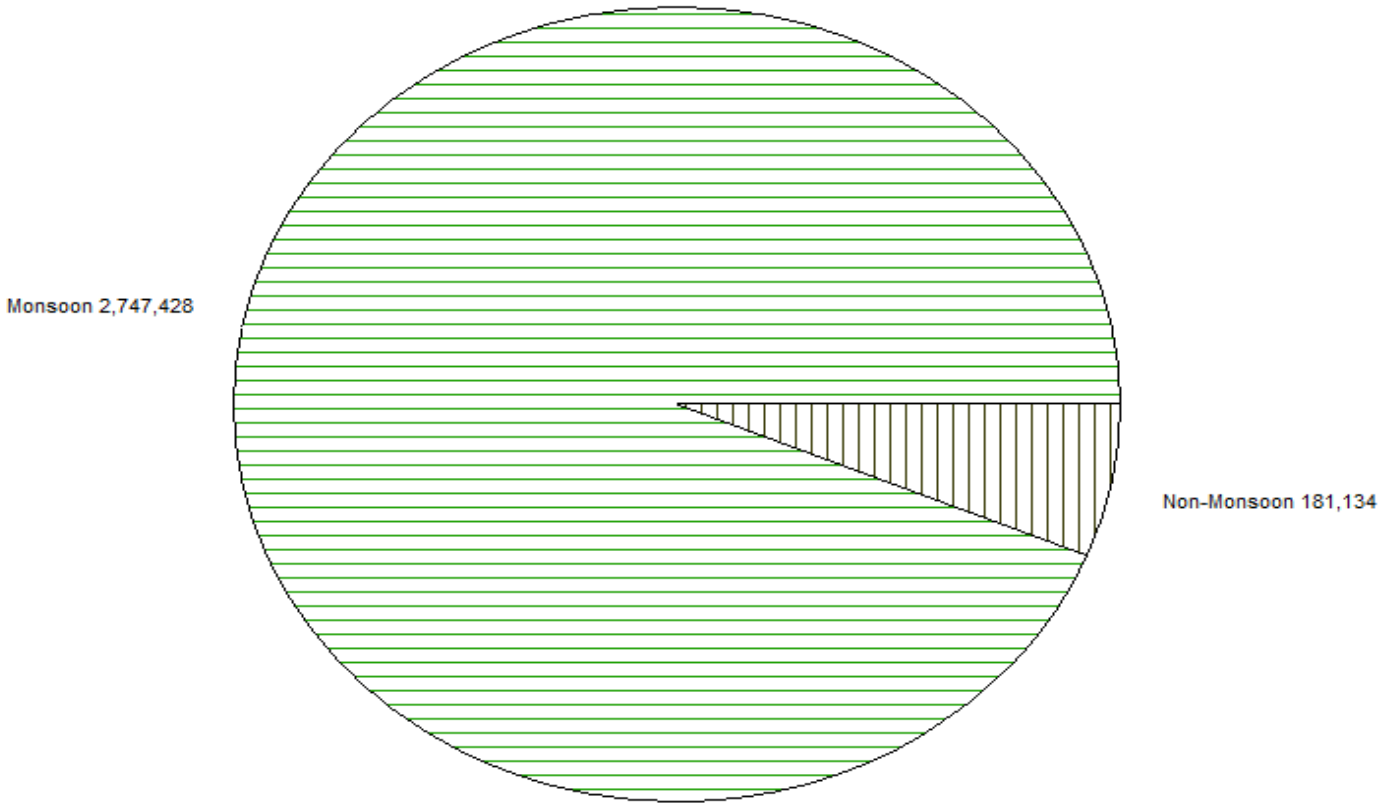
Division : E.E., Bhubaneswar
Sub-Division : Rourkela



Seasonal Sediment Load for the Year: 2017-2018

Station Name : Jenapur (EB000G6)
Local River : Brahmni

Division : E.E., Bhubaneswar
Sub-Division : Rourkela



Water Quality Datasheet for the period : 2017-2018

Station Name : JENAPUR (EB000G6) **Division : E.E., Bhubaneswar**

Local River : Brahmani **River Water Analysis** **Sub-Division : Rourkela**

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	B	A
	PHYSICAL												
1	Q (cumec)												
2	Colour_Cod (-)	Clear	Light Brown	Light Brown	Light Brown	Light Brown	Clear	Clear	Clear	Clear	Clear	Clear	Clear
3	EC_FLD (µmho/cm)	140	158	180	178	168	181	242	158	279	294	128	285
4	EC_GEN (µmho/cm)	135	149	172	171	162	177	255	154	271	287	122	281
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	7.9	7.4	7.6	8.2	7.9	7.9	7.4	7.8	7.9	7.7	7.2
7	pH_GEN (pH units)	7.9	7.9	7.3	7.5	8.1	7.8	7.9	7.4	7.7	7.9	7.6	7.1
8	Temp (deg C)	33.0	30.0	30.0	31.0	30.0	28.0	23.0	21.5	21.0	27.0	28.0	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	0.0
2	ALK-TOT (mgCaCO3/L)	65	51	32	51		69	60	69	55	60	55	55
3	B (mg/L)	0.02	0.01	0.02	0.01	0.01	0.02	0.01	0.03	0.01	0.02	0.03	0.01
4	Ca (mg/L)	51	50	48	47	25	27	33	25	30	25	27	16
5	Cl (mg/L)	18.9	13.2	9.4	9.4	12.1	10.4	12.1	15.6	10.4	12.1	10.4	13.8
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	9.6	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)	0.5	0.5	0.4	0.4	0.5	0.4	0.5	0.4	0.4	0.5	0.5	0.4
9	HCO3 (mg/L)	79	62	39	62	79	85	73	85	68	73	68	68
10	K (mg/L)	1.4	1.8	1.8	1.9	2.1	2.6	3.0	3.2	0.5	0.6	1.1	1.5
11	Mg (mg/L)	18.5	17.5	17.5	17.5	7.9	3.2	11.2	7.9	11.1	12.7	6.4	6.4
12	Na (mg/L)	1.8	4.5	2.2	3.1	3.8	4.0	4.9	5.3	3.0	3.8	4.3	5.2
13	NO2+NO3 (mg N/L)	1.20	1.22	1.19	1.22	1.12	1.18	1.22	1.19	1.21	1.18	1.22	1.19
14	NO2-N (mgN/L)	0.03	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	NO3-N (mgN/L)	1.18	1.19	1.18	1.21	1.12	1.18	1.22	1.19	1.21	1.18	1.22	1.19
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)	8.0	7.0	7.2	8.5	6.8	9.7	6.6	8.3	7.4	9.5	6.5	7.4
18	SO4 (mg/L)	55.6	12.0	12.5	13.0	9.4	9.5	9.6	9.8	23.3	16.1	48.2	21.5
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)	2.6	1.4	0.6	0.6	0.8	1.6	0.4	3.0	1.2	0.6	0.6	1.6
2	DO (mg/L)	7.6	7.6	6.4	6.0	6.0	6.2	7.4	6.4	7.0	4.2	6.4	5.6
3	DO_SAT% (%)	105	100	84	80	79	79	86	71	78	52	81	69
4	FCol-MPN (MPN/100mL)	140	90	60	40	60	40	60	70	80	60	60	40
5	Tcol-MPN (MPN/100mL)	260	220	210	170	210	120	140	170	210	140	170	130
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)	128	124	120	116	62	69	82	62	75	62	69	39
2	HAR_Total (mgCaCO3/L)	205	197	193	189	95	82	128	95	122	115	95	66
3	Na% (%)	2	5	2	3	8	9	8	10	5	7	9	14
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 (-)	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.3
	PESTICIDES												

Water Quality Summary for the period : 2017-2018

Station Name : JENAPUR (EB000G6) **Division : E.E., Bhubaneswar**

Local River : Brahmani **Sub-Division : Rourkela**

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)				
2	EC_FLD (µmho/cm)	12	294	128	199
3	EC_GEN (µmho/cm)	12	287	122	195
4	pH_FLD (pH units)	12	8.2	7.2	7.7
5	pH_GEN (pH units)	12	8.1	7.1	7.7
6	Temp (deg C)	12	33.0	21.0	27.4
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	11	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	11	69	32	57
3	B (mg/L)	12	0.03	0.01	0.02
4	Ca (mg/L)	12	51	16	34
5	Cl (mg/L)	12	18.9	9.4	12.3
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	0.5	0.4	0.5
9	HCO3 (mg/L)	12	85	39	70
10	K (mg/L)	12	3.2	0.5	1.8
11	Mg (mg/L)	12	18.5	3.2	11.5
12	Na (mg/L)	12	5.3	1.8	3.8
13	NO2+NO3 (mg N/L)	12	1.22	1.12	1.19
14	NO2-N (mgN/L)	12	0.03	0.00	0.01
15	NO3-N (mgN/L)	12	1.22	1.12	1.19
16	P-Tot (mgP/L)	12	0.001	0.001	0.001
17	SiO2 (mg/L)	12	9.7	6.5	7.7
18	SO4 (mg/L)	12	55.6	9.4	20.1
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	12	3.0	0.4	1.2
2	DO (mg/L)	12	7.6	4.2	6.4
3	DO_SAT% (%)	12	105	52	80
4	FCol-MPN (MPN/100mL)	12	140	40	67
5	Tcol-MPN (MPN/100mL)	12	260	120	179
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	12	128	39	84
2	HAR_Total (mgCaCO3/L)	12	205	66	132
3	Na% (%)	12	14	2	7
4	RSC (-)	12	0.0	0.0	0
5	SAR (-)	12	0.3	0.1	0.2
	PESTICIDES				

Water Quality Seasonal Average for the period: 2003-2018

Station Name : JENAPUR (EB000G6) **Division : E.E., Bhubaneswar**

Local River : Brahmani **River Water** **Sub-Division : Rourkela**

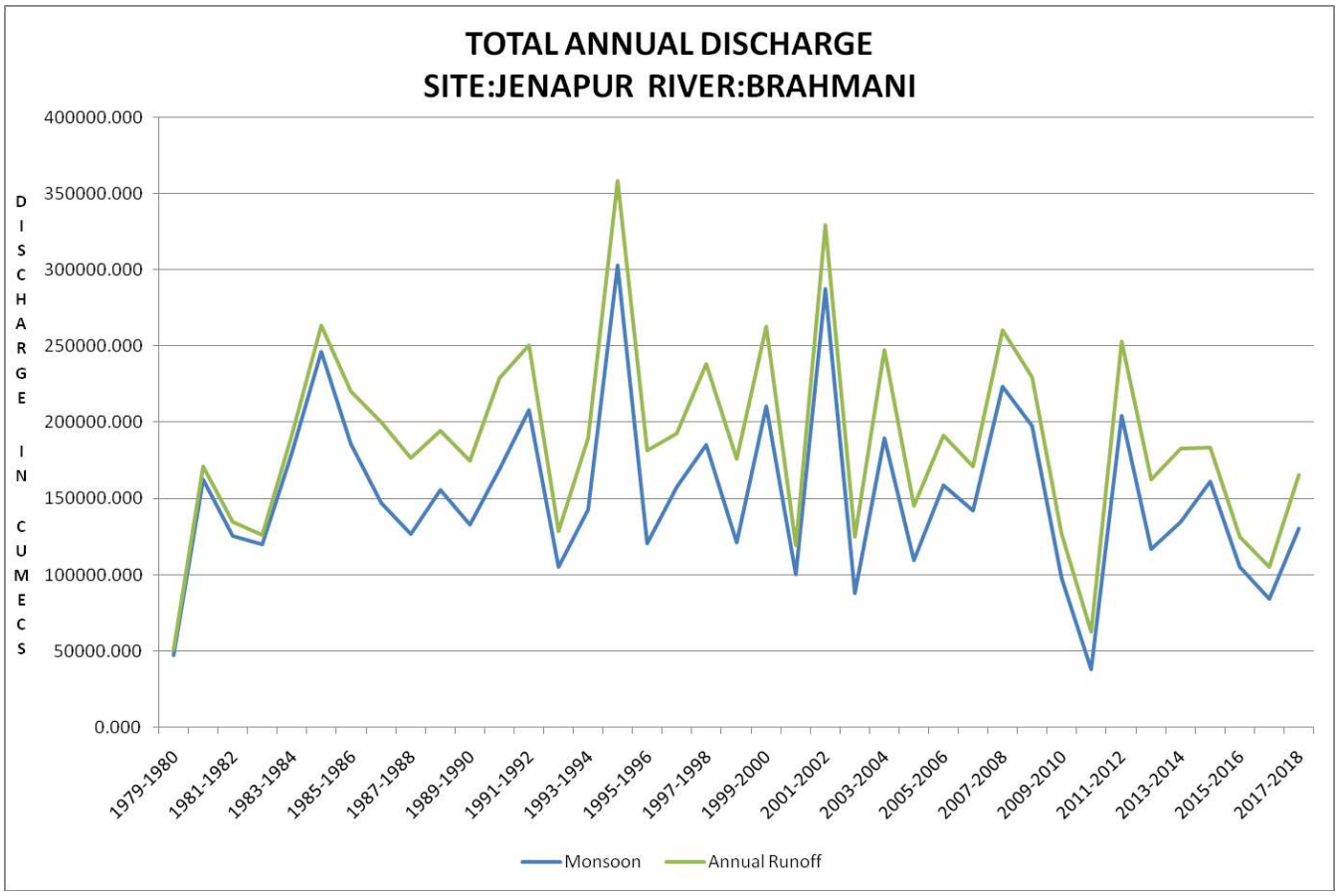
S.No	Parameters	Flood Jun - Oct															Winter Nov - Feb							
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	PHYSICAL																							
1	Q (cumec)	985.9	545.8	2102	839.8	1066	1141	446.7	271.8	681.6	617.8	852.4	923.7				471.6	181.7	174.4	114.4	357.4	154.8	101.7	82.82
2	EC_FLD (µmho/cm)	122	122	104	143	144	143	132	165	129	139	119	144	250	136	165	114	113	133	134	111	161	142	196
3	EC_GEN (µmho/cm)	122	122	103	139	139	143	132	166	129	139	119	144	247	139	158	116	118	130	129	105	160	142	196
4	pH_FLD (pH units)	7.6	7.5	7.8	7.9	7.9	7.8	7.8	8.1	8.2	7.6	7.5	7.8	7.6	7.5	7.8	7.6	7.9	7.8	8.0	8.0	7.9	7.8	7.6
5	pH_GEN (pH units)	7.6	7.5	7.9	7.9	8.0	7.8	7.7	8.1	8.2	7.6	7.5	7.8	7.5	7.6	7.7	7.6	7.8	7.9	8.0	8.1	7.9	7.8	7.6
6	Temp (deg C)	27.0	27.8	28.6	29.4	29.4	29.0	28.4	29.8	28.7	28.5	28.2	29.2	26.9	29.4	30.8	23.5	23.8	21.9	23.3	21.0	23.3	20.1	20.5
	CHEMICAL																							
1	Alk-Phen (mgCaCO3/L)				0.0	0.0	0.0	0.0	1.0	4.6	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)				59	76	31	28	49	60	44		55	65	75	50				69	34	41	38	65
3	B (mg/L)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Ca (mg/L)	11	11	12	16	14	13	11	14	15	17	16	15	24	32	44	14	12	13	13	12	15	12	17
5	Cl (mg/L)	8.9	18.6	8.5	10.7	10.4	12.9	13.2	13.4	15.5	13.2	12.5	15.5	13.2	30.6	12.6	11.2	9.0	11.1	11.2	9.2	14.2	14.6	12.3
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	5.5	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.00	0.31	0.00	0.08	0.01	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.00	0.42	0.00	0.00	0.00	0.05	0.05	0.05
8	Fe (mg/L)		1.1	0.2	0.1	0.1	0.1	0.1	0.1	0.0	1.9	0.1	0.5	0.3	0.3	0.5		0.1	0.1	0.1	0.2	0.1	0.2	0.1
9	HCO3 (mg/L)	38	48	44	58	53	43	30	57	62	51	40	62	79	91	64	46	55	50	43	42	50	42	81
10	K (mg/L)	1.1	2.1	1.2	1.8	1.7	1.7	1.7	3.3	1.5	3.6	1.3	1.5	1.7	6.4	1.8	1.3	1.5	2.1	1.7	1.3	2.6	1.4	1.6
11	Mg (mg/L)	2.6	3.9	2.4	2.9	4.0	5.1	4.9	6.6	6.0	6.2	4.4	6.0	9.5	11.9	15.8	3.3	3.9	3.6	2.4	2.6	4.9	5.6	8.3
12	Na (mg/L)	6.0	12.0	5.7	7.5	7.0	8.9	8.0	8.5	4.4	5.9	6.6	4.3	5.6	22.3	3.1	6.7	5.9	7.3	7.3	6.5	8.4	8.5	7.7
13	NH3-N (mg N/L)																							
14	NO2+NO3 (mg N/L)	1.40	1.05	1.28	1.85	1.65	1.54	1.55	1.22	0.30	0.71	0.55	1.47	1.02	0.94	1.19	1.47	0.77	1.50	2.04	1.36	1.11	1.41	0.81
15	NO2-N (mgN/L)	0.00	0.06	0.03	0.00	0.02	0.00	0.00	0.04	0.02	0.00	0.01	0.01	0.04	0.03	0.02	0.00	0.00	0.01	0.01	0.04	0.00	0.00	0.00
16	NO3-N (mgN/L)	1.40	0.99	1.25	1.85	1.63	1.54	1.55	1.17	0.29	0.71	0.54	1.47	0.98	0.92	1.17	1.47	0.77	1.50	2.03	1.32	1.11	1.41	0.81
17	o-PO4-P (mg P/L)		0.000	0.000	0.000	0.000	0.015	0.000											0.000	0.013	0.000		0.000	
18	P-Tot (mgP/L)	0.001	0.001	0.001	0.001	0.001	0.005	0.002	0.002	0.005	0.001	0.007	0.001	0.001	0.010	0.001	0.001	0.001	0.001	0.013	0.001	0.001	0.001	0.002
19	SiO2 (mg/L)	8.6	20.2	22.5	14.9	11.7	9.0	8.7	6.7	10.0	27.6	18.6	9.4	6.0	6.6	7.5	8.5	21.0	19.9	17.2	9.2	9.2	9.5	4.6
20	SO4 (mg/L)	1.7	3.0	2.0	3.0	4.8	12.8	12.9	9.9	10.2	25.2	10.3	10.2	13.2	40.3	20.5	1.8	5.8	2.4	2.3	2.4	11.5	8.1	8.6
	BIOLOGICAL/BACTERIOLOGICAL																							
1	BOD3-27 (mg/L)	1.0	0.9	0.7	1.0	1.0	1.1	1.2	1.3	1.1	0.7	0.5	0.7	0.7	1.5	1.2	0.8	0.9	1.2	0.9	1.1	1.1	1.2	1.2
2	DO (mg/L)	6.7	7.1	6.8	7.1	7.0	6.9	7.2	7.1	7.0	6.8	6.8	5.9	6.6	7.1	6.7	8.1	8.0	8.4	7.8	8.1	7.8	7.9	8.2
3	DO_SAT% (%)	84	90	88	93	91	90	93	94	90	87	87	77	82	93	90	95	94	95	90	90	91	87	91
4	FCol-MPN (MPN/100mL)				11	40	11	7	146		19					78				17	42	7	11	17
5	Tcol-MPN (MPN/100mL)				14	54	15	7	295		26					214				22	72	7	15	21
	TRACE & TOXIC																							
1	Al (mg/L)		0.00	2.26																2.70				
	CHEMICAL INDICES																							
1	HAR_Ca (mgCaCO3/L)	27	26	29	41	36	33	27	34	38	42	40	38	61	81	110	34	30	32	33	29	37	29	43
2	HAR_Total (mgCaCO3/L)	38	43	39	53	53	54	48	62	64	68	59	64	101	130	176	48	46	47	43	40	57	52	77
3	Na% (%)	25	37	24	23	22	26	26	23	13	15	20	12	11	26	4	23	21	25	26	26	23	27	18
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.4	0.8	0.4	0.5	0.4	0.5	0.5	0.5	0.2	0.3	0.4	0.2	0.2	0.9	0.1	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.4
	PESTICIDES																							

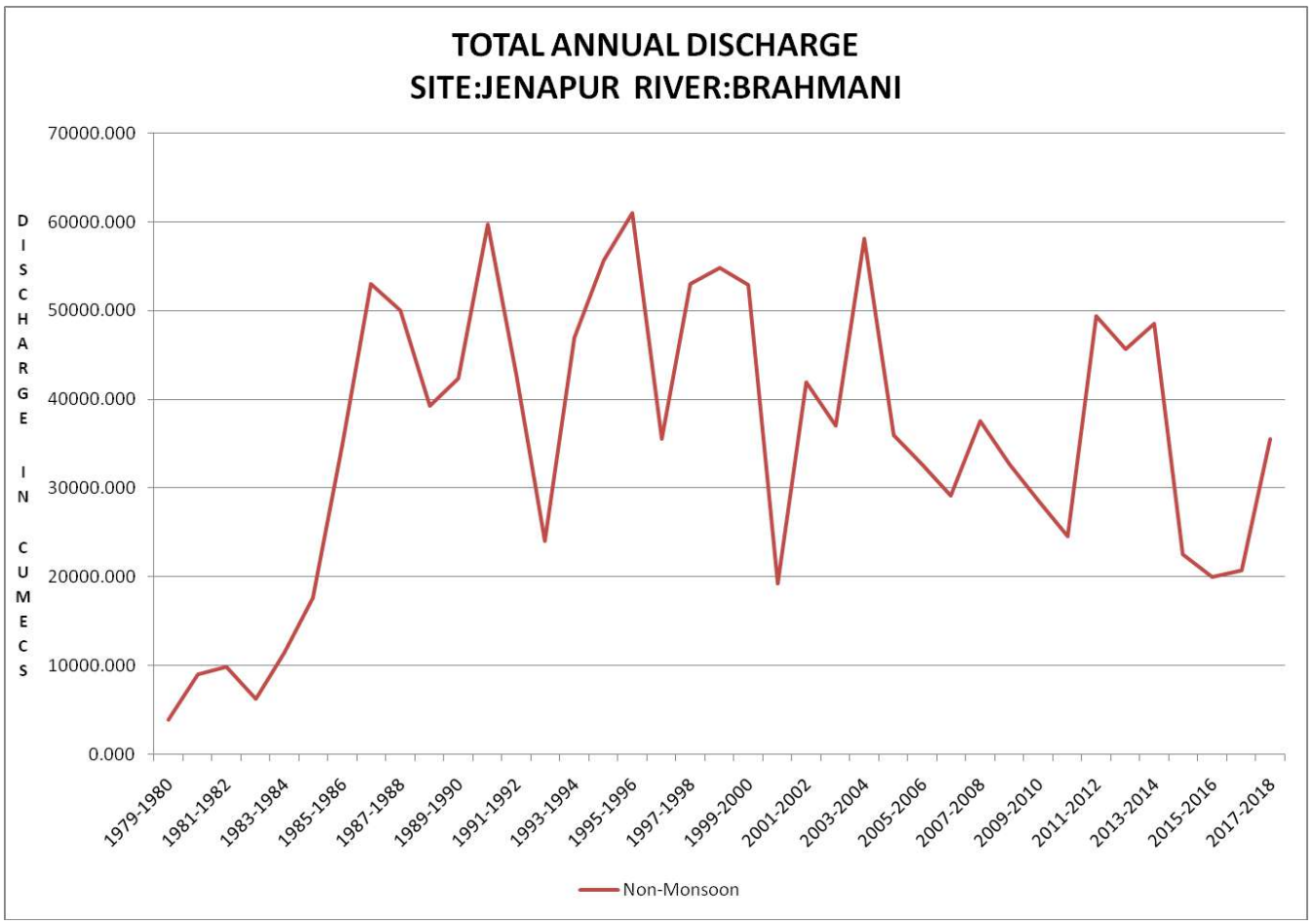
Water Quality Seasonal Average for the period: 2003-2018

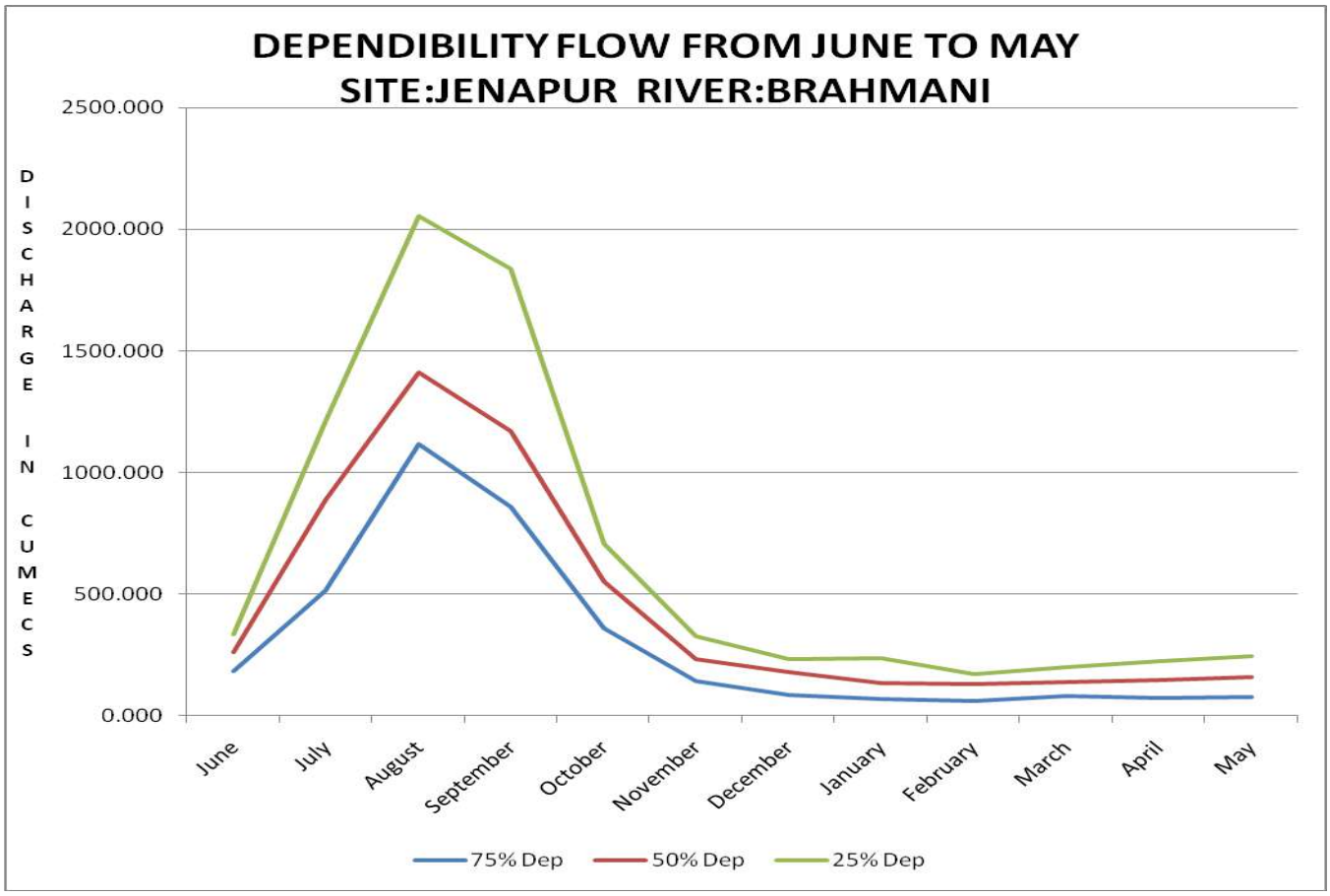
Station Name : JENAPUR (EB000G6) **Division : E.E., Bhubaneswar**

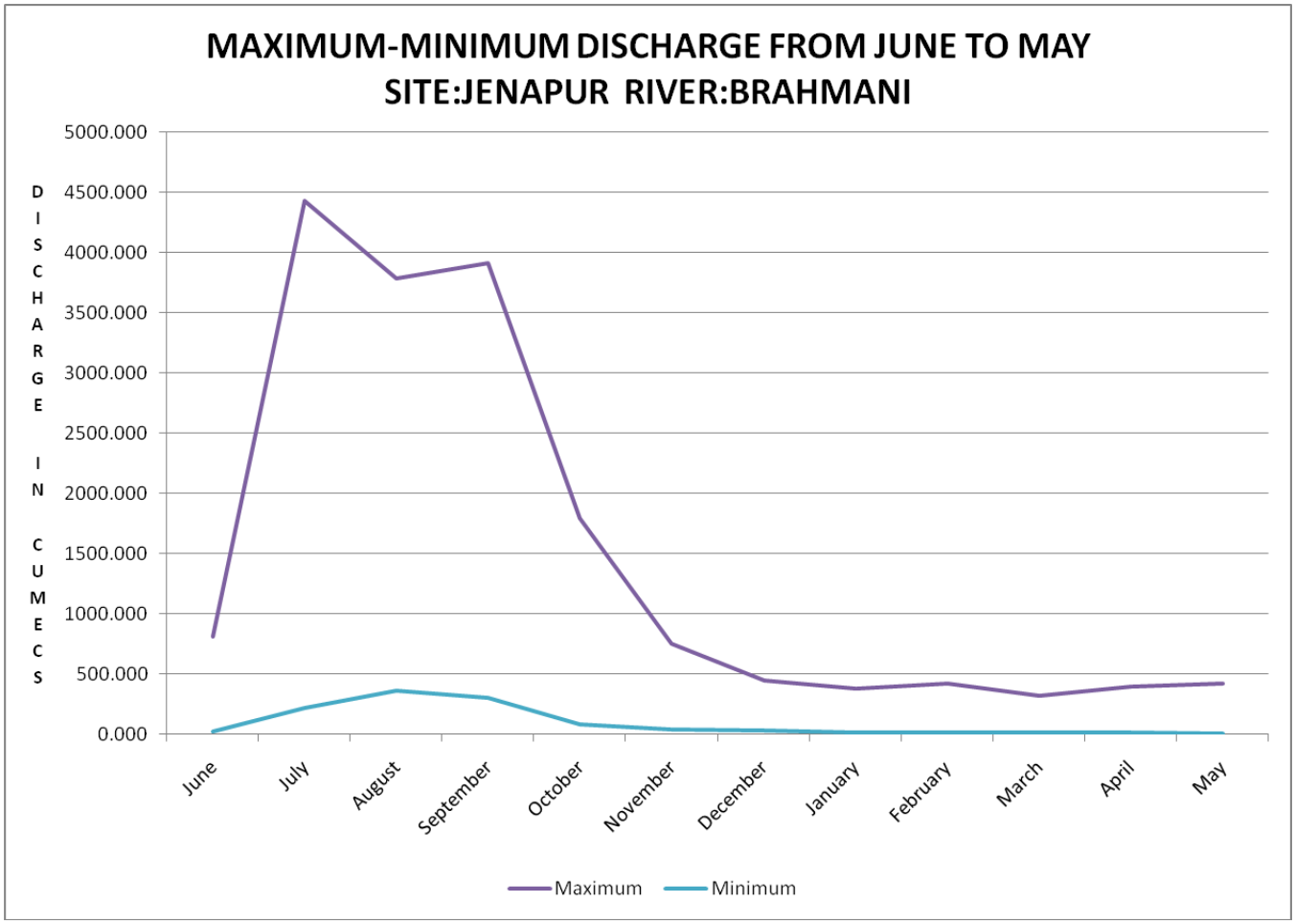
Local River : Brahmani **River Water** **Sub-Division : Rourkela**

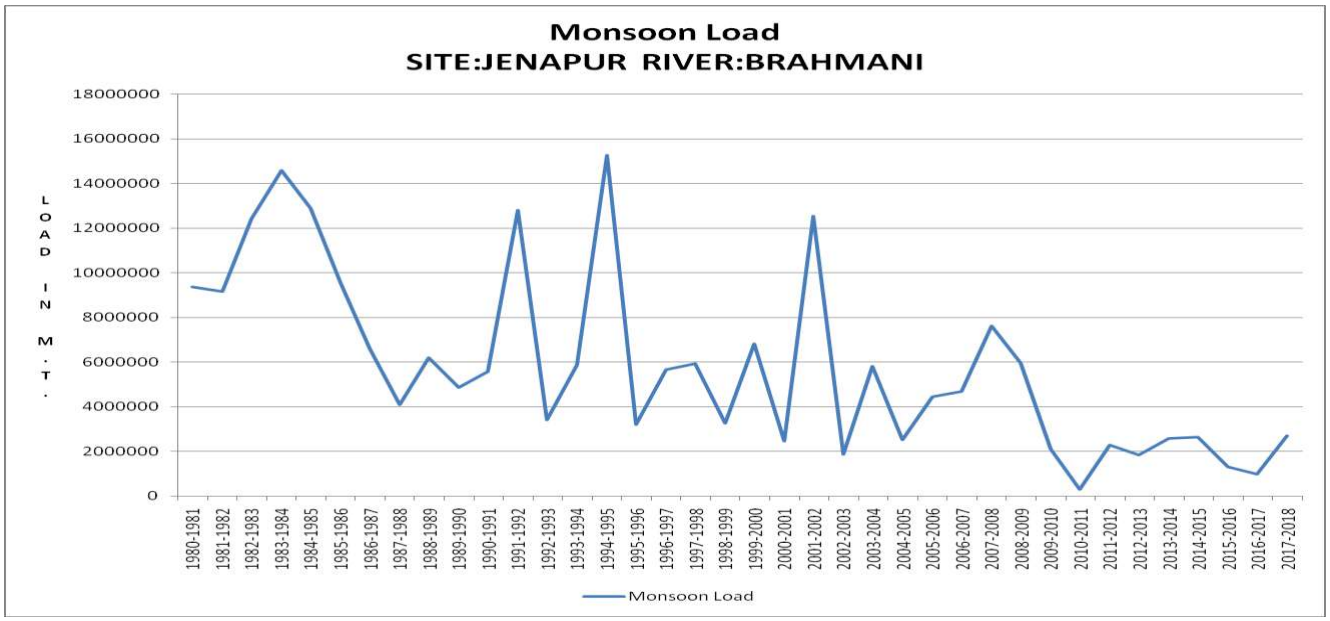
S.No	Parameters								Summer														
									Mar - May														
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	PHYSICAL																						
1	Q (cumec)	290.5	148.8	353.3	130.5				111.7	183.6	90.38	156.0	121.0	131.6	133.1	147.8	141.1	396.0	259.7	83.32			
2	EC_FLD (µmho/cm)	104	140	137	187	391	308	215	137	117	130	134	144	165	118	191	127	150	113	208	239	141	236
3	EC_GEN (µmho/cm)	104	140	137	187	395	312	214	138	115	125	128	143	166	118	191	127	150	113	208	244	149	230
4	pH_FLD (pH units)	7.8	7.5	7.9	7.9	7.7	7.9	7.7	7.9	7.8	7.6	8.1	8.1	8.0	8.0	8.3	7.6	7.7	7.7	7.9	7.8	7.8	7.6
5	pH_GEN (pH units)	7.8	7.5	7.9	7.9	7.8	8.0	7.7	7.9	7.8	7.6	8.1	8.2	8.0	8.0	8.3	7.6	7.7	7.7	7.9	7.9	7.7	7.5
6	Temp (deg C)	21.5	20.9	22.6	25.7	23.8	23.3	23.4	27.5	26.0	27.5	27.0	25.8	28.2	24.7	25.3	24.8	28.1	27.8	26.2	33.0	28.0	27.0
	CHEMICAL																						
1	Alk-Phen (mgCaCO3/L)	0.0	0.0		0.0	5.8	0.0	0.0				0.0	0.0	0.0	1.3	5.9	0.0	0.0	0.0	0.0	18.4	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	49	46		60	75	64	64				70	44	49	35	63	51	85	41	24	91	66	57
3	B (mg/L)	0.01	0.00	0.01	0.00	0.01	0.01	0.02	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	0.02
4	Ca (mg/L)	12	20	12	11	25	34	29	12	10	13	12	14	14	12	15	16	16	13	17	39	37	23
5	Cl (mg/L)	22.6	15.1	12.5	23.1	17.0	17.9	12.1	9.1	10.3	9.5	10.0	11.7	14.3	11.2	12.6	16.3	10.7	14.1	15.2	34.6	12.6	12.1
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	6.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	7.1	0.0	0.0	0.0	0.0	22.2	0.0	0.0
7	F (mg/L)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.00	0.28	0.04	0.00	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)	0.0	1.9	0.0	0.3	0.4	0.6	0.4		0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	1.9	0.0	0.1	0.3	0.5	0.5
9	HCO3 (mg/L)	60	58	39	62	77	77	77	48	43	51	42	55	60	39	62	62	88	50	55	66	81	70
10	K (mg/L)	1.2	1.4	1.7	1.3	2.0	14.1	2.3	1.5	1.7	1.6	1.6	0.3	1.4	1.2	1.7	1.4	1.2	2.1	1.2	3.4	13.3	1.1
11	Mg (mg/L)	2.9	19.4	4.7	5.3	8.8	12.9	8.4	3.7	3.3	2.3	3.5	4.6	6.5	4.2	9.1	6.2	5.3	5.5	6.2	15.9	14.6	8.5
12	Na (mg/L)	3.5	6.1	7.8	3.8	28.3	48.7	4.3	6.8	6.9	6.2	6.8	8.0	9.7	7.3	7.5	5.0	4.4	8.9	5.2	38.4	43.1	4.4
13	NH3-N (mg N/L)												0.05	0.00									
14	NO2+NO3 (mg N/L)	0.41	0.71	1.02	1.21	1.11	1.18	1.20	1.57	1.51	0.80	2.12	0.96	1.38	1.46	1.52	0.41	0.71	0.92	1.07	0.96	1.26	1.20
15	NO2-N (mgN/L)	0.07	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.01	0.00	0.00	0.02	0.00
16	NO3-N (mgN/L)	0.34	0.71	1.02	1.20	1.10	1.18	1.20	1.57	1.51	0.80	2.12	0.96	1.38	1.46	1.52	0.34	0.71	0.91	1.07	0.95	1.23	1.20
17	o-PO4-P (mg P/L)								0.010	0.000	0.000	0.000			0.000								
18	P-Tot (mgP/L)	0.010	0.001	0.001	0.001	0.010	0.010	0.001	0.001	0.001	0.001	0.001	0.050	0.001	0.001	0.001	0.010	0.001	0.001	0.001	0.010	0.010	0.001
19	SiO2 (mg/L)	10.3	30.3	12.4	5.3	5.5	6.8	8.0	9.1	21.8	24.9	16.5	10.3	8.5	7.8	4.3	8.3	30.3	12.5	5.3	5.7	7.3	7.8
20	SO4 (mg/L)	6.3	8.5	9.2	5.3	10.5	11.6	13.1	2.0	3.1	3.7	2.9	6.8	9.3	5.8	6.2	4.7	6.4	9.8	5.9	13.0	9.8	28.6
	BIOLOGICAL/BACTERIOLOGICAL																						
1	BOD3-27 (mg/L)	1.5	0.3	0.3	0.5	1.2	0.8	1.5	0.9	1.0	0.8	1.1	0.9	1.1	1.4	1.5	1.4	0.9	0.5	0.3	0.7	1.0	0.9
2	DO (mg/L)	7.7	7.8	7.7	9.6	7.1	8.7	6.7	7.5	7.4	7.7	7.3	6.8	7.2	8.1	7.6	7.3	6.8	6.9	5.9	6.4	6.9	5.4
3	DO_SAT% (%)	87	87	89	117	85	101	78	94	90	97	91	83	92	96	92	88	86	88	73	89	88	67
4	FCol-MPN (MPN/100mL)		11				78	63				4	9	11	144	24		12				87	53
5	Tcol-MPN (MPN/100mL)		27				158	160				9	11	144	179	25		13				143	147
	TRACE & TOXIC																						
1	Al (mg/L)																						
	CHEMICAL INDICES																						
1	HAR_Ca (mgCaCO3/L)	31	49	31	28	62	84	72	30	25	33	31	35	35	29	39	40	41	33	43	98	94	57
2	HAR_Total (mgCaCO3/L)	43	130	50	50	99	138	107	46	38	43	45	54	62	47	77	66	63	56	68	164	154	92
3	Na% (%)	15	10	25	14	26	40	8	24	27	23	24	24	24	25	17	15	13	25	14	29	36	10
4	RSC (-)	0.2	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.3	0.0	0.0
5	SAR (-)	0.2	0.2	0.5	0.2	1.2	1.8	0.2	0.4	0.5	0.4	0.4	0.5	0.5	0.5	0.4	0.3	0.2	0.5	0.3	1.6	1.5	0.2
	PESTICIDES																						

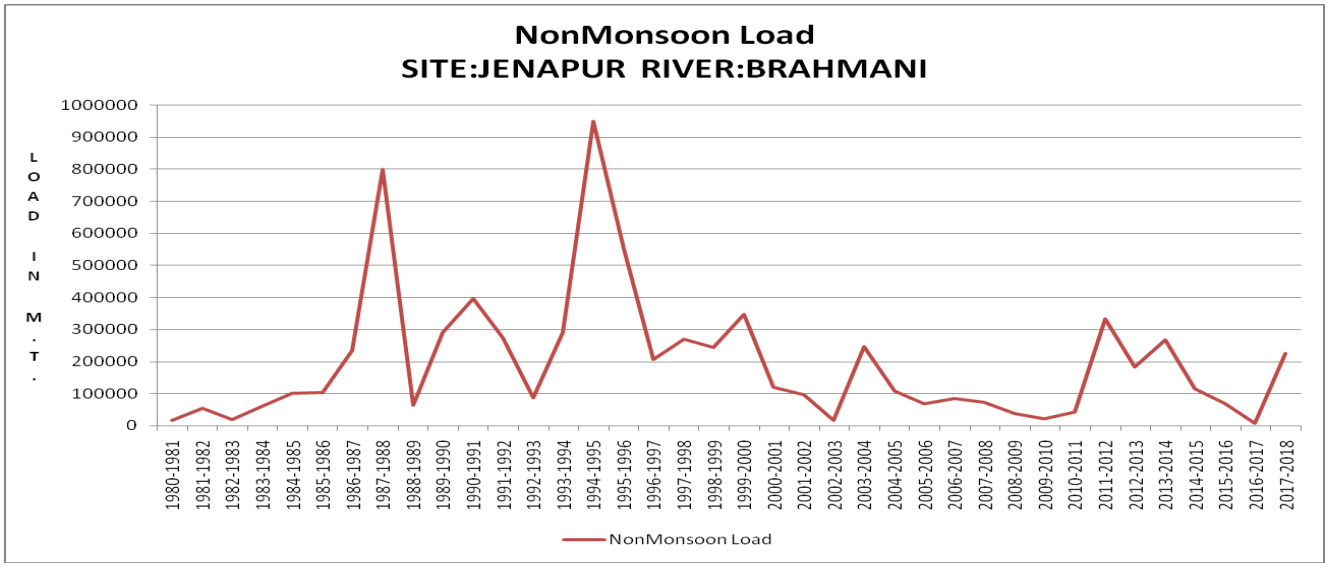

TOTAL ANNUAL DISCHARGE
SITE:JENAPUR RIVER:BRAHMANI
DISCHARGE IN CUMECS
400000.000
350000.000
300000.000
250000.000
200000.000
150000.000
100000.000
50000.000
0.000
1979-1980
1981-1982
1983-1984
1985-1986
1987-1988
1989-1990
1991-1992
1993-1994
1995-1996
1997-1998
1999-2000
2001-2002
2003-2004
2005-2006
2007-2008
2009-2010
2011-2012
2013-2014
2015-2016
2017-2018
Monsoon
Annual Runoff

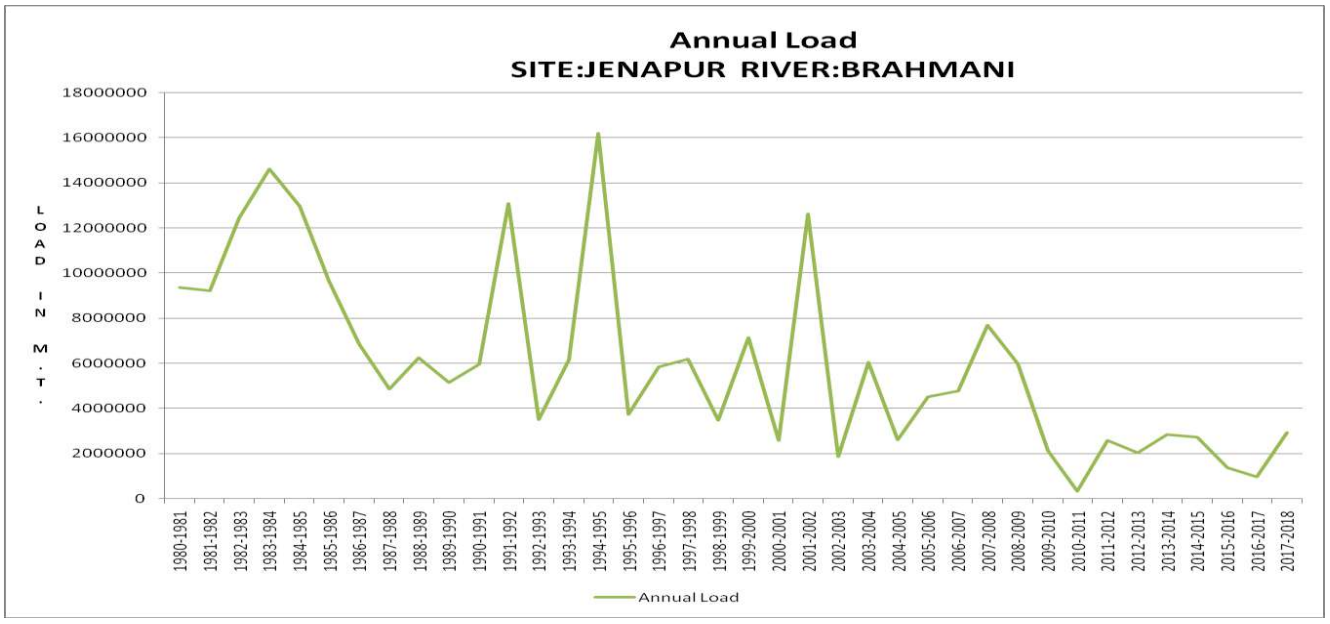

TOTAL ANNUAL DISCHARGE
SITE:JENAPUR RIVER:BRAHMANI
DISCHARGE IN CUMECS
70000.000
60000.000
50000.000
40000.000
30000.000
20000.000
10000.000
0.000
1979-1980
1981-1982
1983-1984
1985-1986
1987-1988
1989-1990
1991-1992
1993-1994
1995-1996
1997-1998
1999-2000
2001-2002
2003-2004
2005-2006
2007-2008
2009-2010
2011-2012
2013-2014
2015-2016
2017-2018
Non-Monsoon

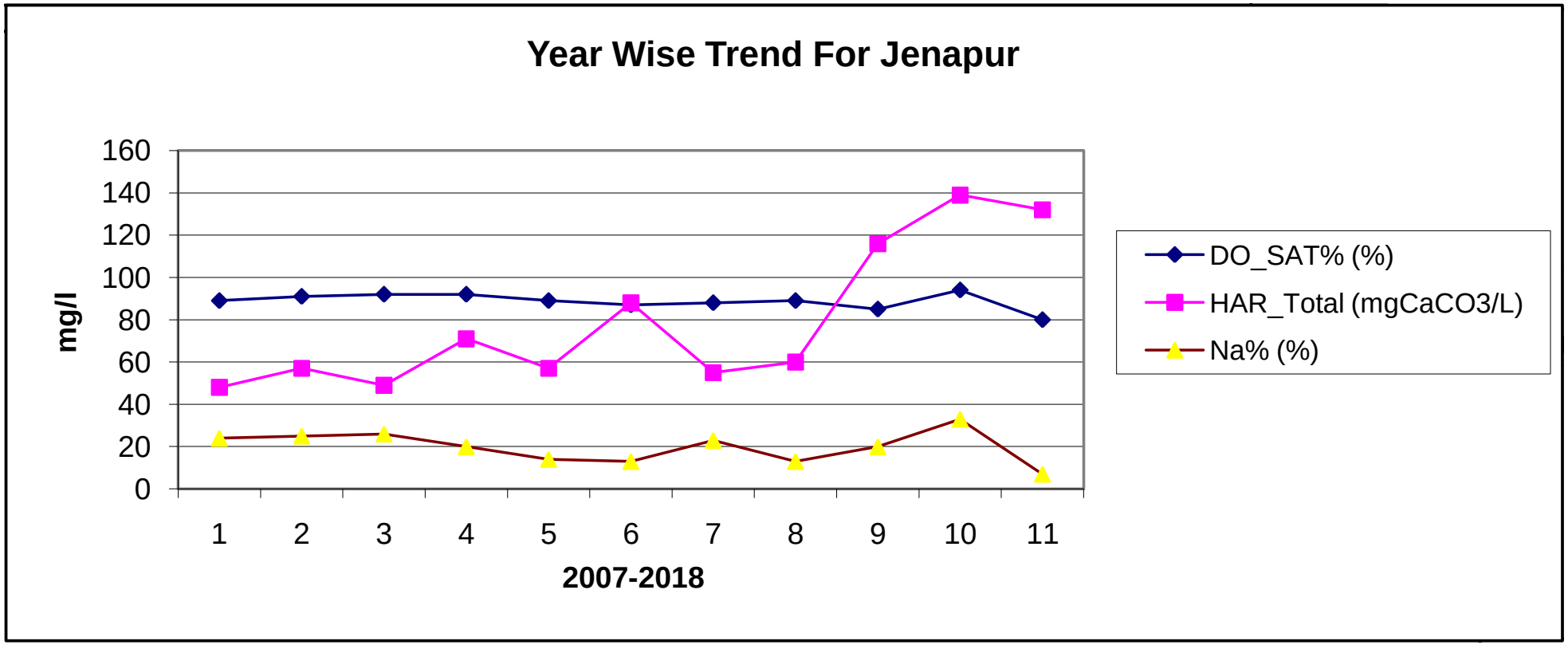

DEPENDIBILITY FLOW FROM JUNE TO MAY
SITE:JENAPUR RIVER:BRAHMANI
DISCHARGE IN CUMECS
2500.000
2000.000
1500.000
1000.000
500.000
0.000
June
July
August
September
October
November
December
January
February
March
April
May
75% Dep
50% Dep
25% Dep

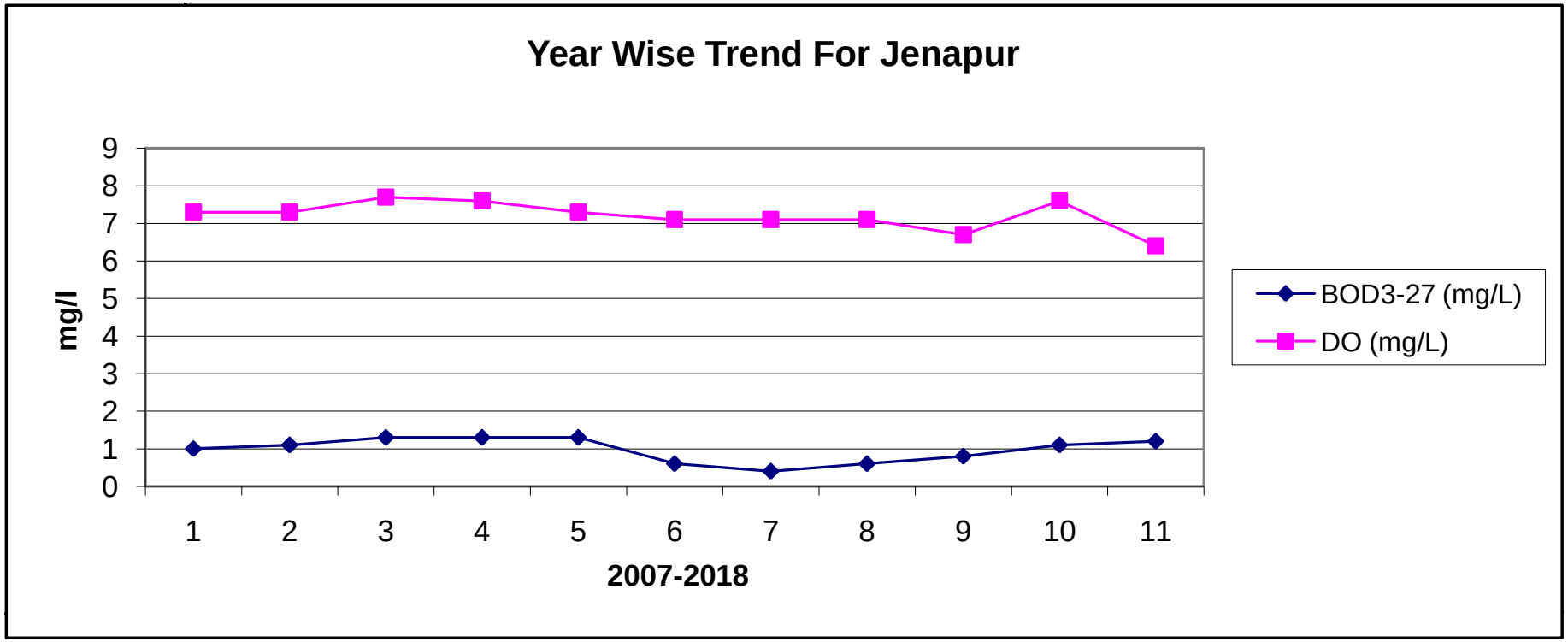

MAXIMUM-MINIMUM DISCHARGE FROM JUNE TO MAY
SITE:JENAPUR RIVER:BRAHMANI
DISCHARGE IN CUMECS
5000.000
4500.000
4000.000
3500.000
3000.000
2500.000
2000.000
1500.000
1000.000
500.000
0.000
June
July
August
September
October
November
December
January
February
March
April
May
Maximum
Minimum

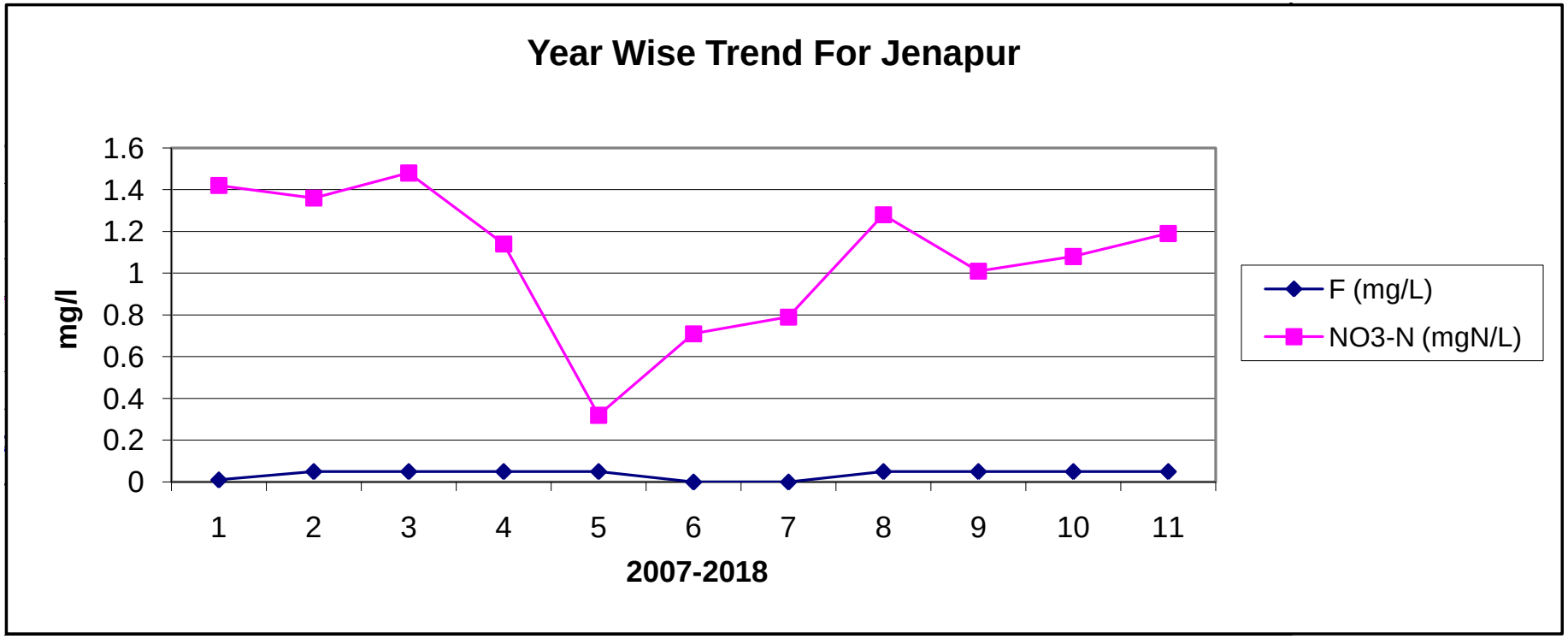

Monsoon Load
SITE:JENAPUR RIVER:BRAHMANI
LOAD IN M.T.
18000000
16000000
14000000
12000000
10000000
8000000
6000000
4000000
2000000
0
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
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

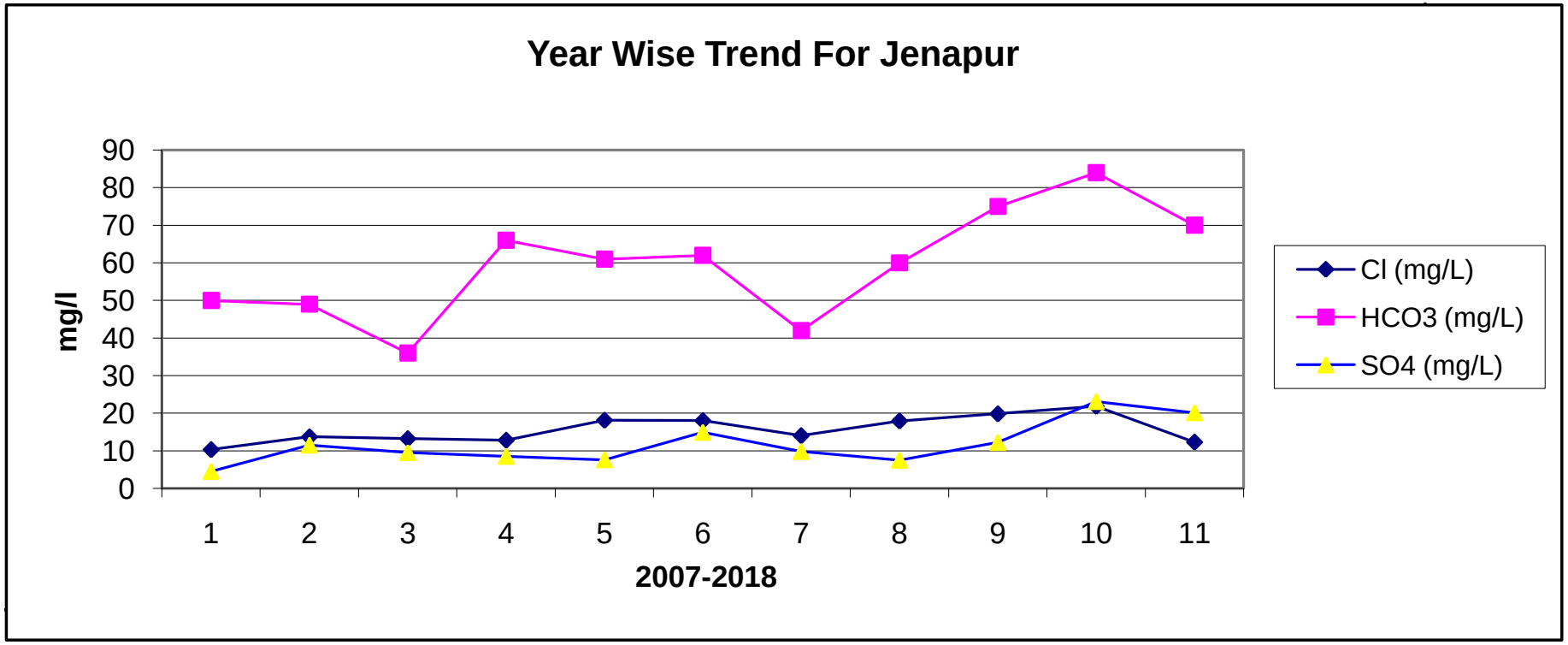

NonMonsoon Load
SITE:JENAPUR RIVER:BRAHMANI
LOAD IN M.T.
1000000
900000
800000
700000
600000
500000
400000
300000
200000
100000
0
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
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

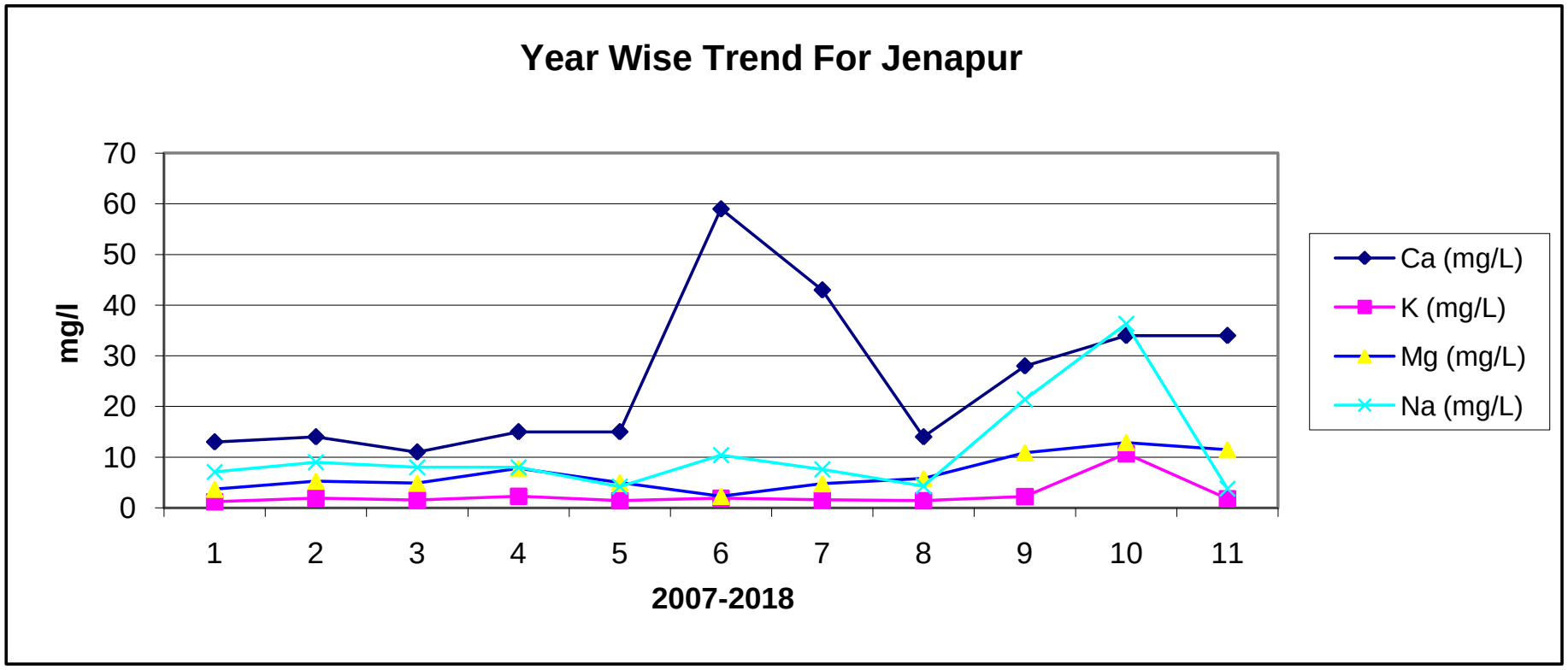

Annual Load
SITE:JENAPUR RIVER:BRAHMANI
LOAD IN M.T.
18000000
16000000
14000000
12000000
10000000
8000000
6000000
4000000
2000000
0
1980-1981
1981-1982
1982-1983
1983-1984
1984-1985
1985-1986
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
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
Annual Load


Year Wise Trend For Jenapur
160
140
120
100
80
60
40
20
0
mg/l
1
2
3
4
5
6
7
8
9
10
11
2007-2018
DO_SAT% (%)
HAR_Total (mgCaCO3/L)
Na% (%)


Year Wise Trend For Jenapur
mg/l
9
8
7
6
5
4
3
2
1
0
1
2
3
4
5
6
7
8
9
10
11
2007-2018
BOD3-27 (mg/L)
DO (mg/L)


Year Wise Trend For Jenapur
mg/l
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
1
2
3
4
5
6
7
8
9
10
11
2007-2018
F (mg/L)
NO3-N (mgN/L)


Year Wise Trend For Jenapur
90
80
70
60
50
40
30
20
10
0
mg/l
1
2
3
4
5
6
7
8
9
10
11
2007-2018
Cl (mg/L)
HCO3 (mg/L)
SO4 (mg/L)


Year Wise Trend For Jenapur
70
60
50
40
30
20
10
0
mg/l
1
2
3
4
5
6
7
8
9
10
11
2007-2018
Ca (mg/L)
K (mg/L)
Mg (mg/L)
Na (mg/L)

HISTORY SHEET

Water Year : 2017-2018

Site : Altuma **Code : EBA00I3**

State : Orissa District Dhenkanal

Basin : Brahmani-Baitarani Independent River : Brahmni

Tributary : Ramyala Sub Tributary : Ramyala

Sub-Sub Tributary : Ramyala Local River : Ramyala

Division : E.E., Bhubaneswar Sub-Division : Rourkela

Drainage Area : 830 Sq. Km. Bank : Left

Latitude : 20°55'48" Longitude : 85°31'20"

Zero of Gauge (m) : 44 (m.s.l) 6/8/1990 - 12/31/2020

Opening Date Closing Date

Gauge : 6/8/1990

Discharge : 7/25/1990

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**
1993-1994	791.2	49.620	8/15/1993	0.500	46.300	6/9/1993
1994-1995	329.4	49.740	8/17/1994	0.600	46.280	6/2/1994
1995-1996	333.2	48.830	8/9/1995	0.780	46.160	5/31/1996
1996-1997	500.7	48.800	6/22/1996	0.620	46.145	6/20/1996
1997-1998	922.3	49.940	8/6/1997	0.550	46.180	6/17/1997
1998-1999	377.1	48.380	7/3/1998	0.590	46.260	6/2/1998
1999-2000	500.0	50.000	10/31/1999	1.530	46.290	6/10/1999
2000-2001	392.5	48.620	8/31/2000	0.370	46.200	5/23/2001
2001-2002	475.4	48.780	7/9/2001	0.485	46.160	6/29/2001
2002-2003	102.5	47.130	9/6/2002	0.796	46.125	6/10/2002
2003-2004	581.5	48.910	9/7/2003	1.000	46.185	1/18/2004
2004-2005	250.3	47.980	8/13/2004	0.963	46.130	6/28/2004
2005-2006	758.4	49.780	7/31/2005	0.159	45.985	6/25/2005
2006-2007	531.1	48.860	8/23/2006	1.054	45.990	5/31/2007
2007-2008	543.0	48.675	9/24/2007	0.674	45.960	6/14/2007
2008-2009	536.8	49.560	9/18/2008	0.785	45.920	6/3/2008
2009-2010	892.7	50.150	7/21/2009	1.124	45.910	6/9/2009
2010-2011	243.8	47.580	6/30/2010	0.584	45.855	6/6/2010
2011-2012	832.0	49.585	9/23/2011	1.069	45.820	6/1/2011
2012-2013	460.8	48.460	9/11/2012	0.000	46.200	8/16/2012
2013-2014	399.4	47.980	10/10/2013	0.792	45.650	6/7/2013
2014-2015	783.5	49.505	8/5/2014	0.621	45.540	6/30/2014
2015-2016	241.3	47.305	7/29/2015	0.552	45.360	5/20/2016
2016-2017	303.1	47.650	8/16/2016	0.000	45.640	6/21/2016
2017-2018	61.62	46.420	8/3/2017	0.591	45.475	4/1/2018

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

Stage-Discharge Data for the period 2017 - 2018

Station Name : Altuma (EBA00I3) **Division : E.E., Bhubaneswar**

Local River : Ramyala **Sub-Division : Rourkela**

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	45.460	2.106	45.540	3.331	45.905	24.47	45.820	22.31	45.950	30.15 *	45.870	22.30
2	45.480	2.434	45.520	3.149	46.160	39.60	45.810		45.930	29.22 *	45.900	23.93
3	45.460	2.141	45.520	3.149	46.420	61.62	46.000		46.260	48.35	45.880	22.77
4	45.460	2.119 *	45.510	3.023	45.950	26.84	46.220	48.98	46.040	33.98		
5	45.460	2.111	45.510	3.008	45.880	22.54	45.890	26.83	45.960	30.72		
6	45.460	2.083	45.500	2.742	45.930		45.830	21.93	45.920	26.12	45.760	14.97
7	45.450	1.956	45.500	2.868	45.830	19.56	45.930	29.48	45.910	25.37	45.740	12.34
8	45.450	1.936	45.500	2.873	45.750	16.13	45.850	21.66	45.900	24.29 *	45.730	11.79
9	45.440	1.817	45.540		45.910	23.32	45.920	28.62	46.080	38.84	45.730	11.71
10	45.440	1.791	45.540	3.384	45.870	18.22	45.880		46.110	40.90	45.710	11.17
11	45.440	1.794 *	45.570	3.721	45.820	17.99	45.915	28.03	45.975	28.36	45.700	13.36
12	45.430	1.670	45.580	3.893	45.775	16.63	45.835	21.16	45.940	24.16		
13	45.420	1.529	45.560	3.558	46.060		46.020	35.32	45.920	24.02	45.690	7.235
14	45.410	1.432	45.715	7.309	45.995	30.06	46.005	33.34	45.900	22.54	45.680	6.502
15	45.400	1.351	45.800	17.69	45.890		45.935	29.06	45.940	29.82 *	45.680	6.477
16	45.400	1.374	45.750		45.865	20.43	46.035	37.06	45.910	23.21	45.680	6.156
17	45.410	1.457	45.690	11.42	45.835	19.24	45.960		45.900	22.46	45.670	6.124
18	45.410	1.482 *	45.725	12.35	46.340	56.18	45.870	23.00	45.890	21.03	45.720	9.213
19	45.400	1.384	45.710	11.90	46.100	42.17	46.030	35.52	46.000	33.84 *		
20	45.390	1.268	45.830	17.27	46.000		46.010	34.57	46.080	38.08	45.710	8.374
21	45.560	4.757	45.880	19.10	46.020	36.39	45.945	30.59	46.365	58.19	45.680	6.678
22	45.525	3.899	45.755	13.30	45.905	27.79	45.880	23.05	46.100	36.54 *	45.670	6.169
23	45.450	2.203	45.810		45.860	24.52	45.850	20.47	46.000	34.02	45.650	5.685
24	45.430	3.872	46.150	38.84	45.910	27.31	46.040		45.970	32.01	45.640	5.246
25	45.450	2.225 *	45.935	26.58	45.850	23.53	45.915	19.62	45.920	24.72	45.640	5.240
26	45.900	7.627 *	45.835	19.33	45.820	21.85	46.140	42.82	45.870	22.03		
27	45.680	5.106	45.780	16.13	45.780		46.000	36.17	45.850	21.07	45.620	4.866
28	45.610	4.184	45.750	12.92	45.810	20.48	45.960	31.05	45.950	23.73	45.600	4.395
29	45.590	3.885	45.730	14.33	46.060	37.94	46.130		45.880	22.16 *	45.600	4.403
30	45.570	3.523	45.760		45.935	30.17	46.000		45.850	21.17	45.600	4.409
31			45.740	15.27	45.840	23.34			45.900	23.49		
Ten-Daily Mean												
I Ten-Daily	45.456	2.049	45.518	3.058	45.961	28.03	45.915	28.54	46.006	32.79	45.790	16.37
II Ten-Daily	45.411	1.474	45.693	9.901	45.968	28.96	45.961	30.79	45.946	26.75	45.691	7.930
III Ten-Daily	45.576	4.128	45.830	19.53	45.890	27.33	45.986	29.11	45.969	29.01	45.633	5.232
Monthly												
Min.	45.390	1.268	45.500	2.742	45.750	16.13	45.810	19.62	45.850	21.03	45.600	4.395
Max.	45.900	7.627	46.150	38.84	46.420	61.62	46.220	48.98	46.365	58.19	45.900	23.93
Mean	45.481	2.551	45.685	10.83	45.938	28.01	45.954	29.59	45.973	29.5	45.702	9.66

Annual Runoff in MCM = 275 Annual Runoff in mm = 331

Peak Observed Discharge = 61.62 cumecs on 03-Aug-17 Corres. Water Level :46.42 m

Lowest Observed Discharge = 0.591 cumecs on 31-Mar-18 Corres. Water Level :45.475 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-Discharge Data for the period 2017 - 2018

Station Name : Altuma (EBA00I3) **Division : E.E., Bhubaneswar**

Local River : Ramyala **Sub-Division : Rourkela**

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	45.590	4.283	45.555	1.559	45.525	1.130	45.505	0.858	45.475	0.591 *	45.510	1.022
2	45.590	4.277 *	45.555	1.541	45.525	1.107	45.505	0.857 *	45.490	0.731	45.540	1.453
3	45.590	4.264 *	45.550	1.497	45.525	1.106	45.505	0.850	45.485	0.720	45.540	1.427
4	45.590	4.254	45.550	1.486	45.525	1.101 *	45.505	0.850 *	45.490	0.728	45.550	1.608
5	45.590	4.237	45.550	1.488	45.520	1.052	45.500	0.817	45.490	0.721	45.540	1.414
6	45.580	2.138	45.545	1.405	45.520	1.059	45.500	0.816	45.490	0.716	45.540	1.411 *
7	45.580	2.131	45.545	1.400 *	45.520	1.052	45.500	0.792	45.490	0.713	45.540	1.400
8	45.580	2.102	45.540	1.337	45.515	1.013	45.500	0.787	45.490	0.712 *	45.535	1.337
9	45.580	2.094	45.540	1.296	45.515	1.007	45.495	0.761	45.490	0.710	45.535	1.322
10	45.580	2.082 *	45.540	1.294	45.515	1.009	45.495	0.756	45.630	3.618	45.530	1.272
11	45.580	2.044	45.540	1.282	45.525	1.129 *	45.495	0.755 *	45.540	1.473	45.530	1.273
12	45.570	1.791	45.550	1.407	45.525	1.131	45.490	0.740	45.500	0.977	45.520	1.099
13	45.570	1.799	45.550	1.415	45.525	1.123	45.490	0.735	45.510	1.129	45.510	0.984 *
14	45.570	1.800	45.550	1.400 *	45.520	1.046	45.490	0.735	45.510	1.130 *	45.500	0.825
15	45.570	1.789	45.545	1.376	45.510	0.960	45.490	0.734	45.515	1.141 *	45.510	1.002
16	45.570	1.775	45.540	1.308	45.510	0.967	45.490	0.731	45.505	1.028	45.550	1.601
17	45.560	1.630 *	45.535	1.235	45.510	0.984	45.490	0.732	45.490	0.718	45.690	6.280
18	45.560	1.628	45.535	1.231	45.510	0.985 *	45.485	0.719 *	45.500	0.942	45.640	3.772
19	45.560	1.624	45.540	1.273	45.515	1.002	45.485	0.717	45.490	0.715	45.560	1.807
20	45.560	1.621	45.550	1.396	45.510	0.985	45.485	0.712	45.485	0.682	45.550	1.435 *
21	45.560	1.613	45.550	1.400 *	45.510	0.982	45.485	0.705	45.485	0.672	45.690	6.325
22	45.560	1.613	45.550	1.414	45.510	0.981	45.480	0.629	45.480	0.643 *	45.640	3.749
23	45.550	1.554	45.535	1.280	45.505	0.920	45.480	0.625	45.480	0.641	45.620	3.082
24	45.550	1.551 *	45.535	1.287	45.505	0.922	45.480	0.620	45.510	1.061	45.540	1.508
25	45.550	1.549 *	45.530	1.237	45.505	0.920 *	45.480	0.620 *	45.540	1.435	45.520	1.100
26	45.545	1.511	45.530	1.239 *	45.500	0.814	45.480	0.619	45.510	1.058	45.510	1.050
27	45.545	1.450	45.540	1.321	45.500	0.799	45.475	0.600	45.510	1.042	45.510	1.025 *
28	45.555	1.585	45.530	1.230 *	45.505	0.865	45.475	0.595	45.510	1.026	45.500	0.975
29	45.560	1.619	45.530	1.226			45.475	0.594 *	45.500	0.973 *	45.490	0.847
30	45.560	1.611	45.530	1.209			45.475	0.593 *	45.500	0.972 *	45.480	0.800
31	45.560	1.602 *	45.530	1.205			45.475	0.591			45.500	0.972
Ten-Daily Mean												
I Ten-Daily	45.585	3.186	45.547	1.430	45.521	1.064	45.501	0.814	45.502	0.996	45.536	1.367
II Ten-Daily	45.567	1.750	45.543	1.332	45.516	1.031	45.489	0.731	45.504	0.993	45.556	2.008
III Ten-Daily	45.554	1.569	45.535	1.277	45.505	0.900	45.478	0.618	45.503	0.952	45.545	1.948
Monthly												
Min.	45.545	1.450	45.530	1.205	45.500	0.799	45.475	0.591	45.475	0.591	45.480	0.800
Max.	45.590	4.283	45.555	1.559	45.525	1.131	45.505	0.858	45.630	3.618	45.690	6.325
Mean	45.568	2.149	45.542	1.344	45.514	1.005	45.489	0.718	45.503	0.981	45.546	1.78

Peak Computed Discharge = 36.54 cumecs on 22-Oct-17 Corres. Water Level :46.1 m

Lowest Computed Discharge = 0.591 cumecs on 01-Apr-18 Corres. Water Level :45.475 m

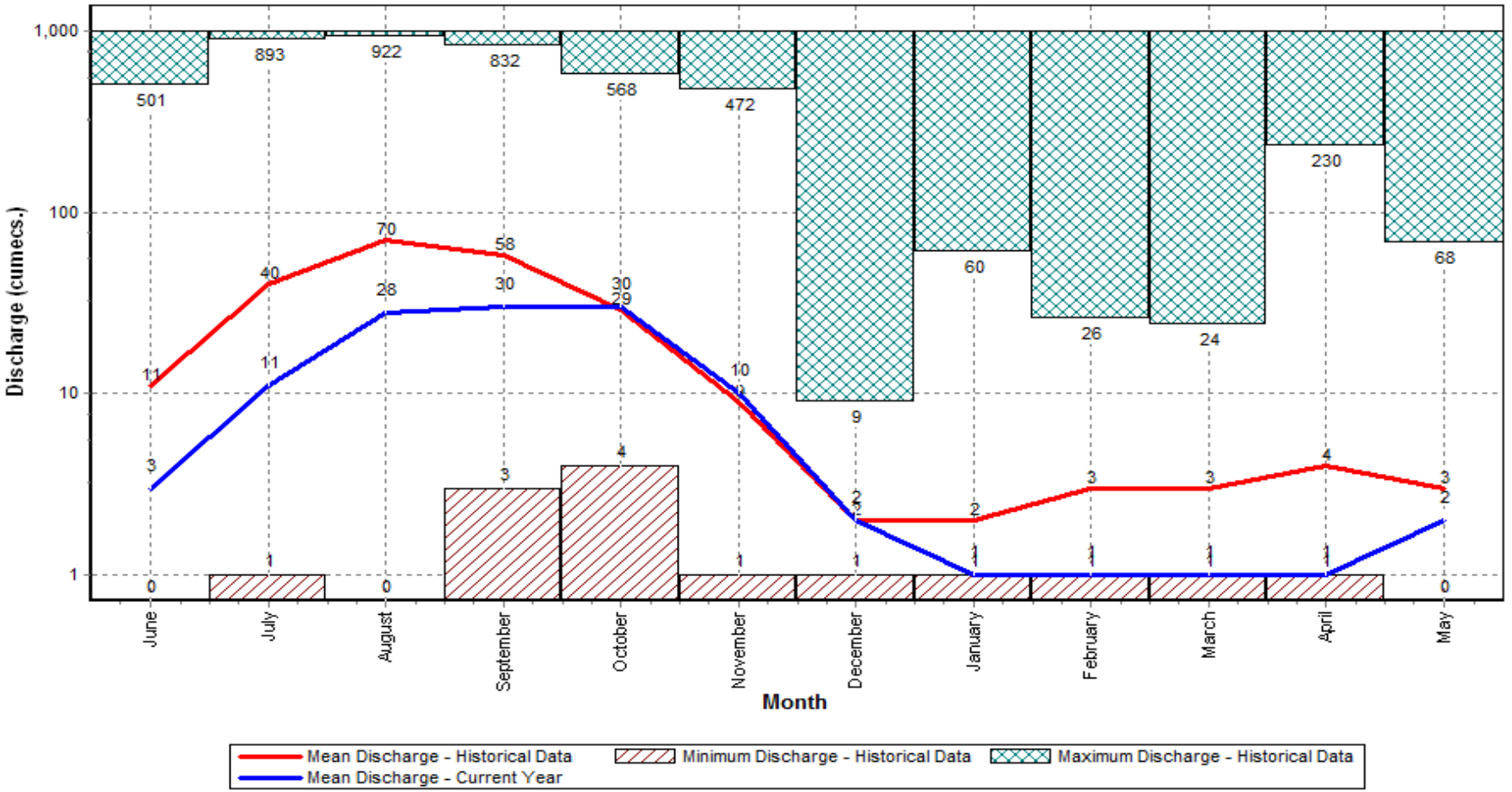
Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2017-2018

Station Name : Altuma (EBA00I3) | **Data considered : 1993-2018** | **Division : E.E., Bhubaneswar**

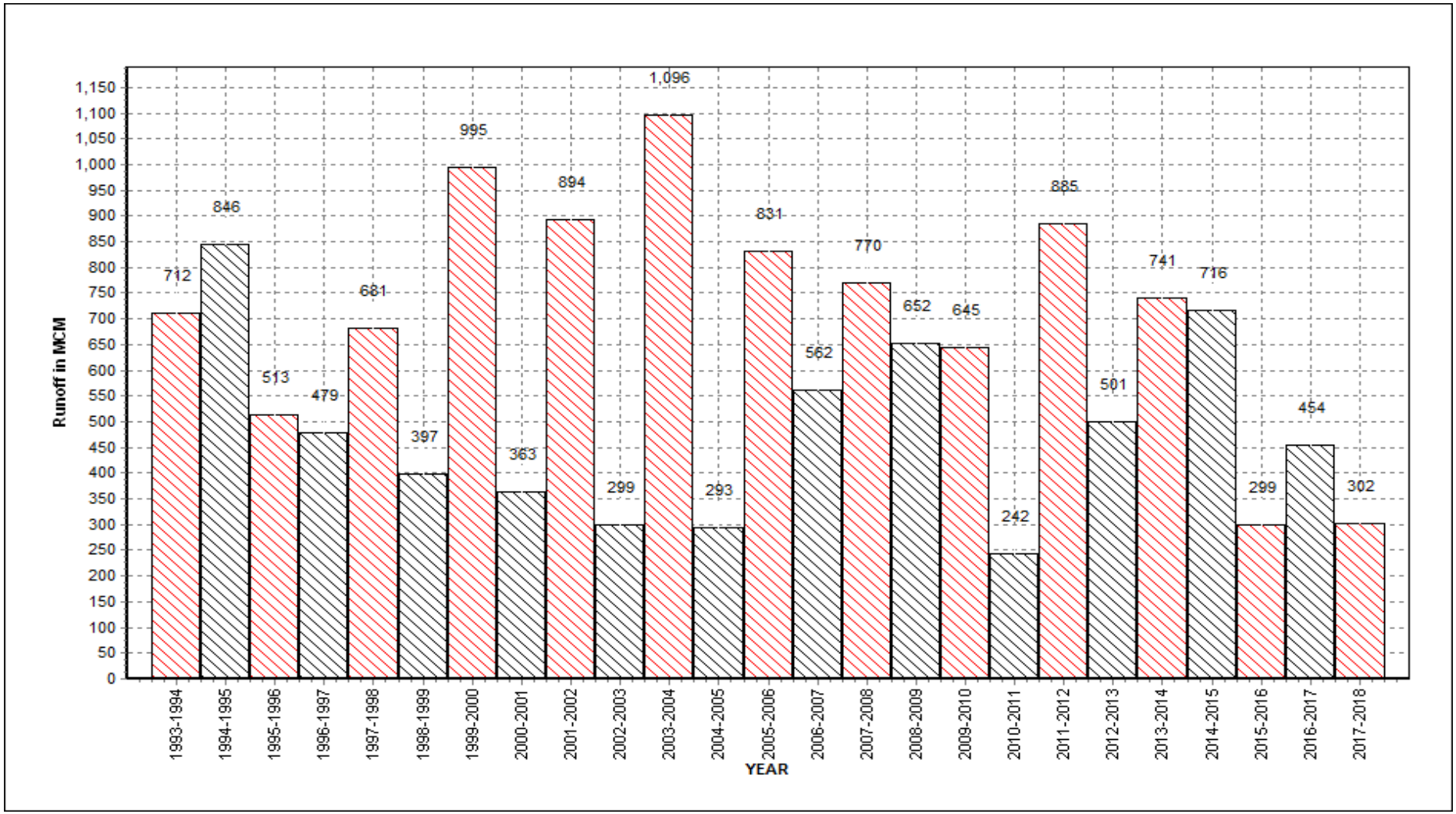
Local River : Ramyala | **Sub-Division : Rourkela**



Annual Runoff Values for the period: 1993 - 2018

Station Name : Altuma (EBA00I3) **Division : E.E., Bhubaneswar**

Local River : Ramyala **Sub-Division : Rourkela**

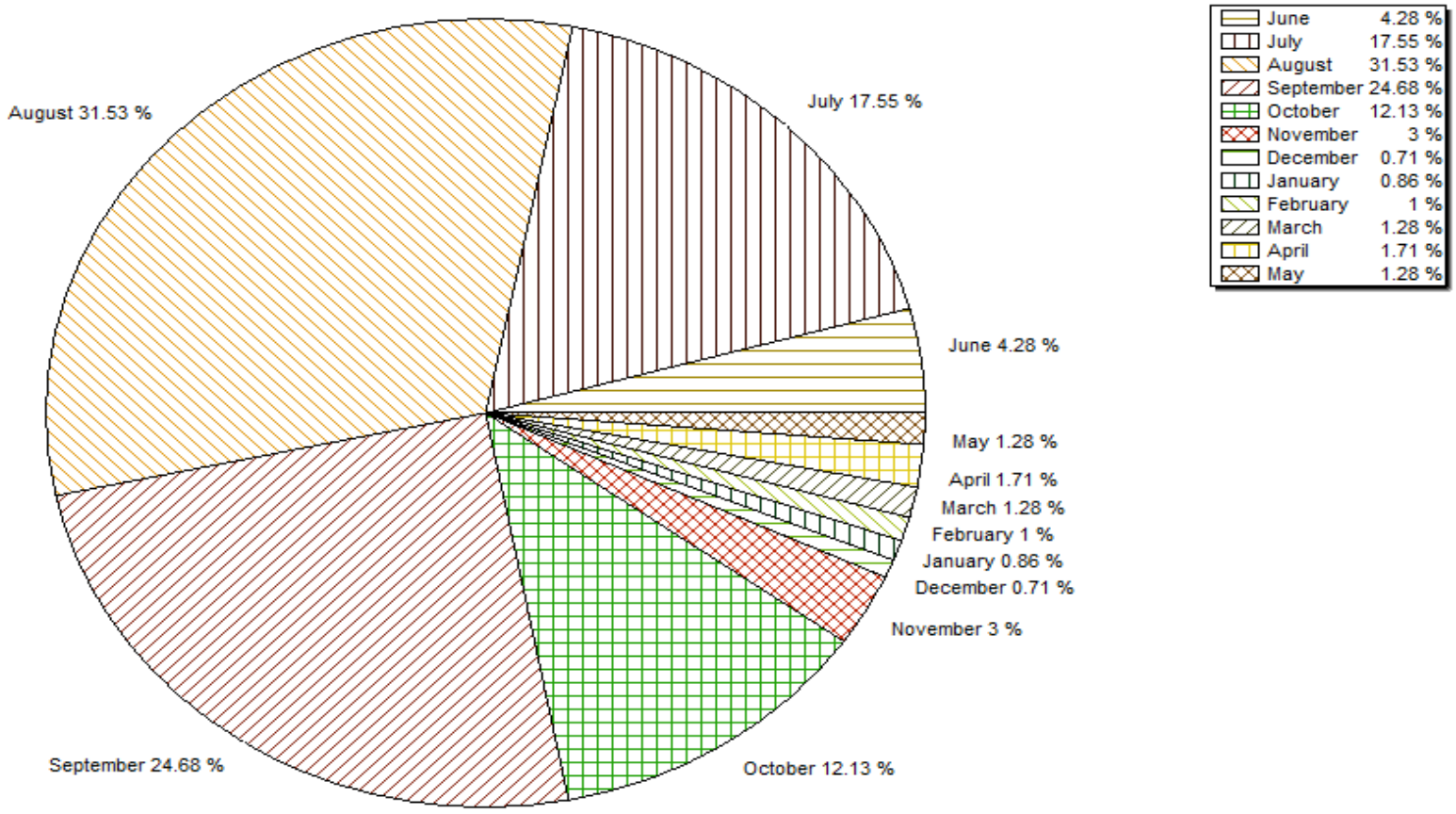


Note: Missing values have not been considered while arriving at Annual Runoff

Monthly Average Runoff based on period : 1993-2017

Station Name : Altuma (EBA00I3) **Division : E.E., Bhubaneswar**

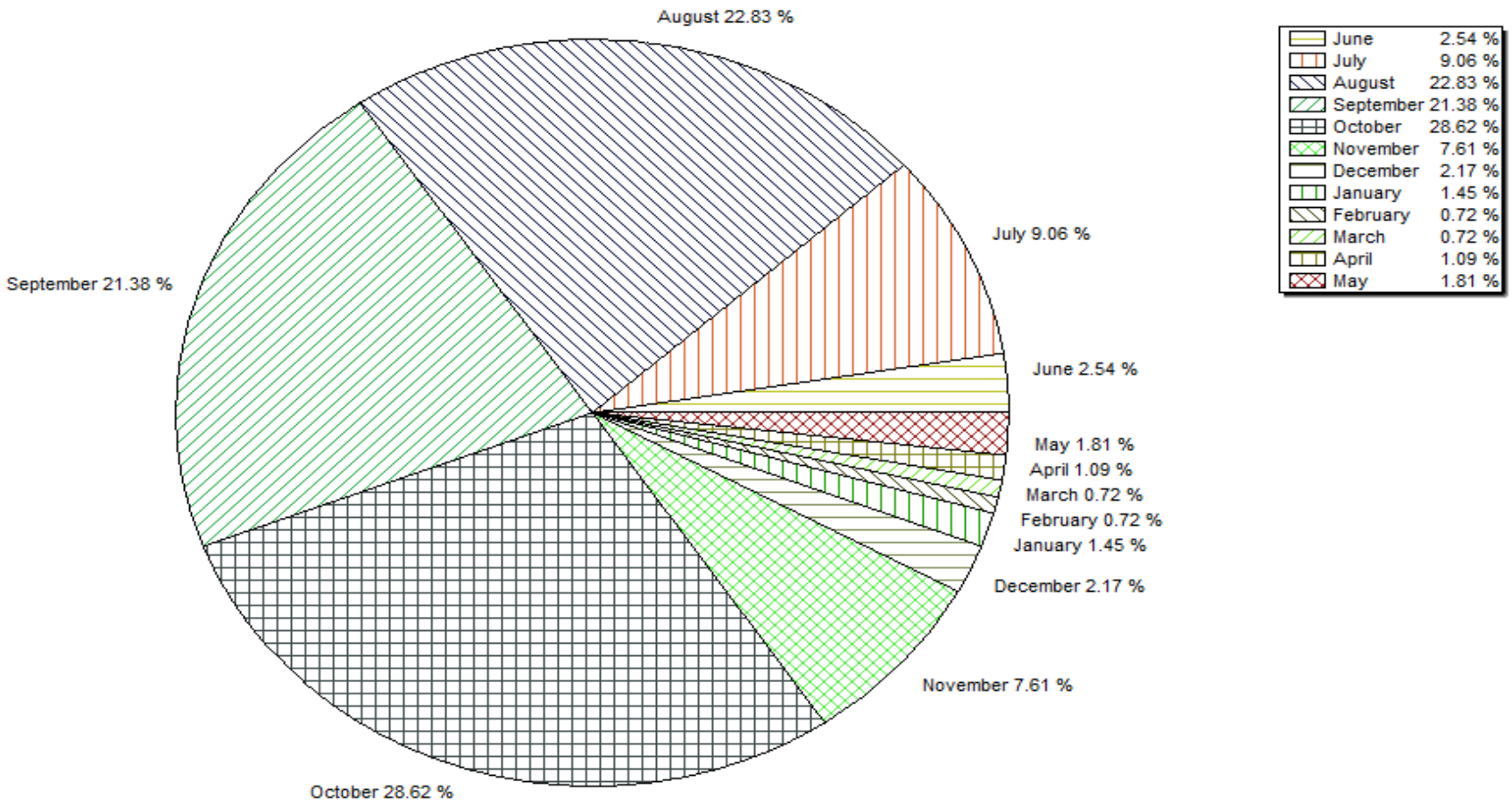
Local River : Ramyala **Sub-Division : Rourkela**



Monthly Runoff for the Year : 2017-2018

Station Name : Altuma (EBA00I3) **Division : E.E., Bhubaneswar**

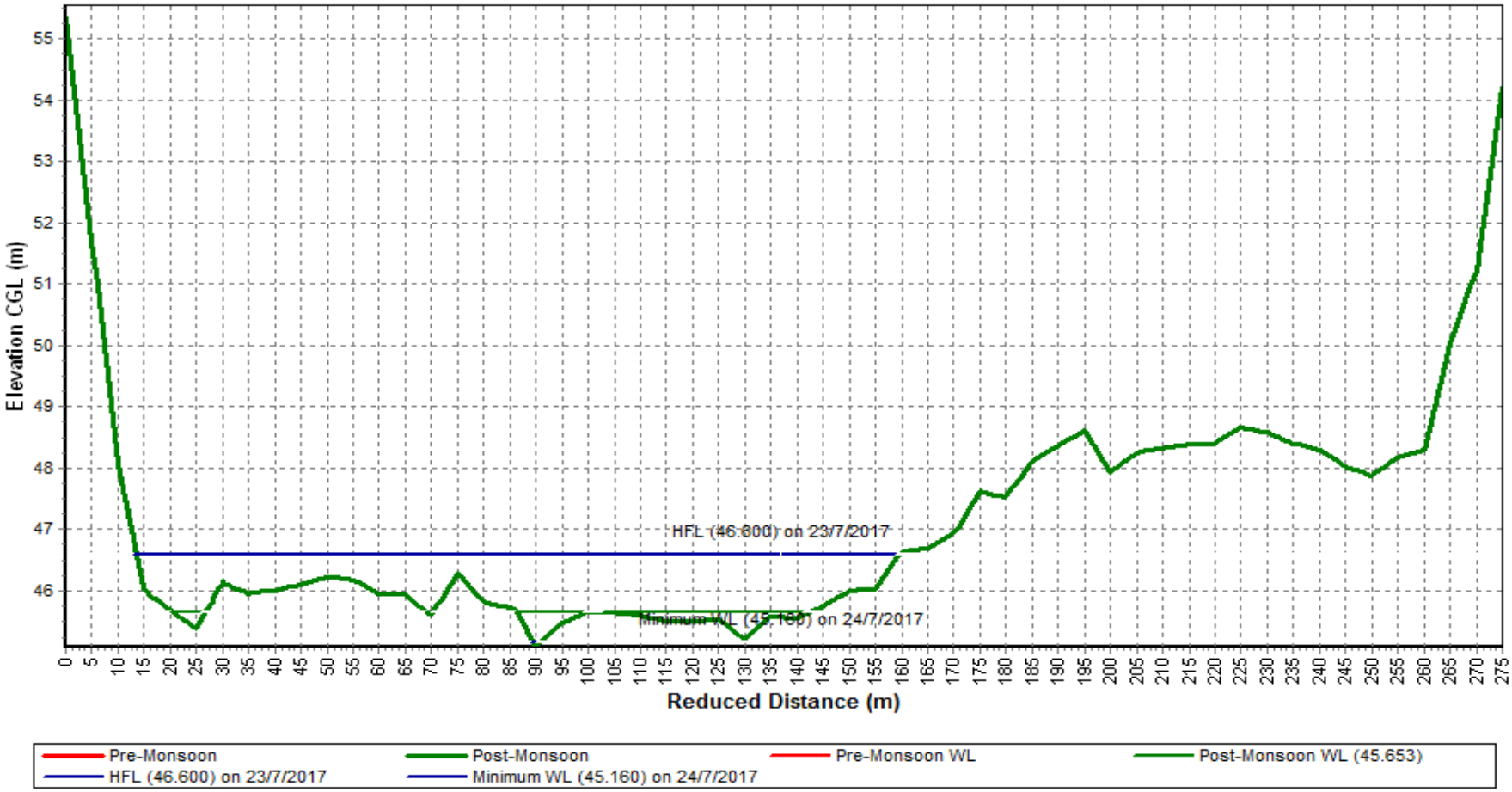
Local River : Ramyala **Sub-Division : Rourkela**



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

Station Name : Altuma (EBA00I3) **Division : E.E., Bhubaneswar**

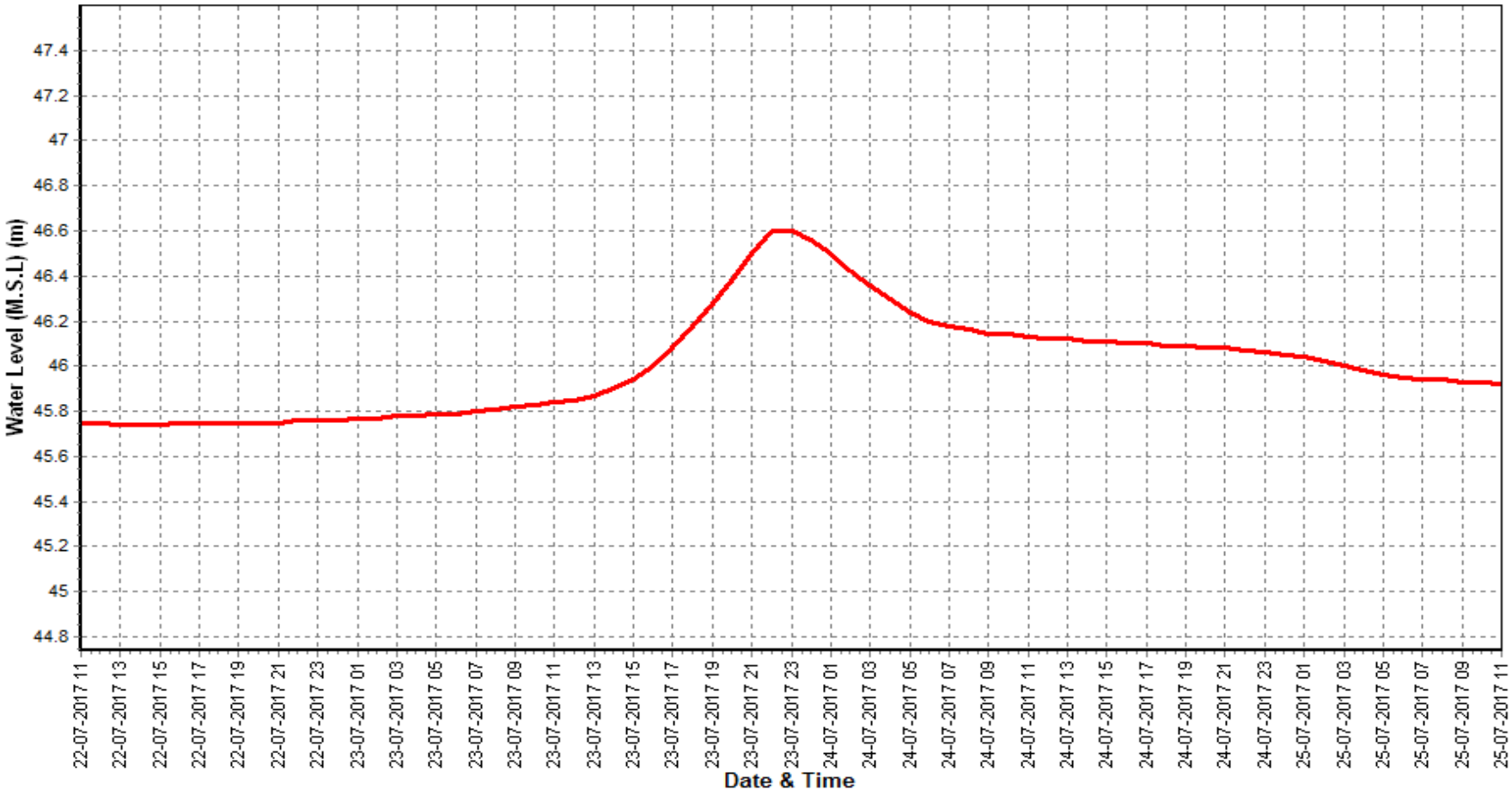
Local River : Ramyala **Sub-Division : Rourkela**



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

Station Name : Altuma (EBA00I3) **Division : E.E., Bhubaneswar**

Local River : Ramyala **Sub-Division : Rourkela**

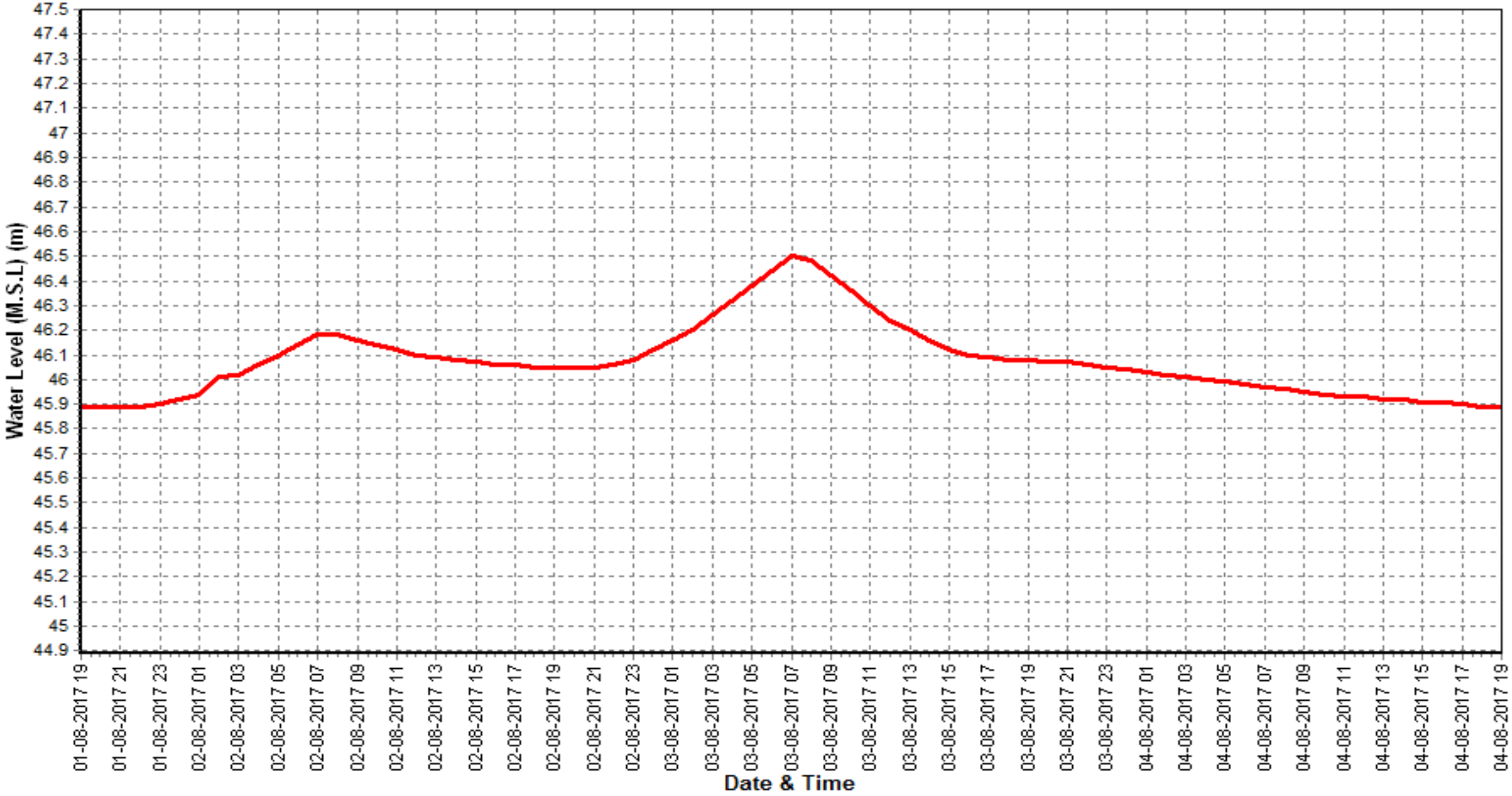


Time Span: 72 Hrs

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

Station Name : Altuma (EBA00I3) **Division : E.E., Bhubaneswar**

Local River : Ramyala **Sub-Division : Rourkela**

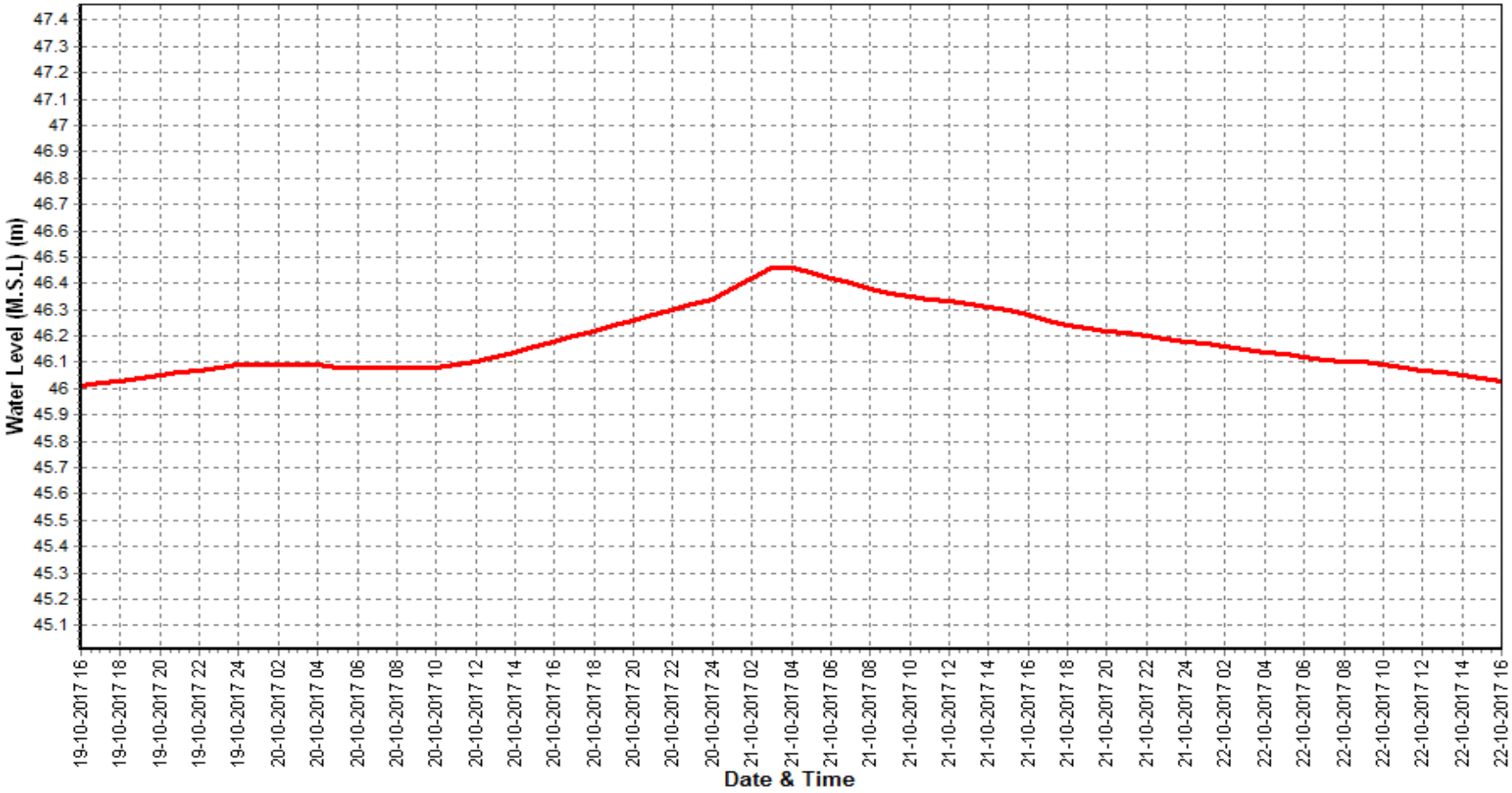


Time Span: 72 Hrs

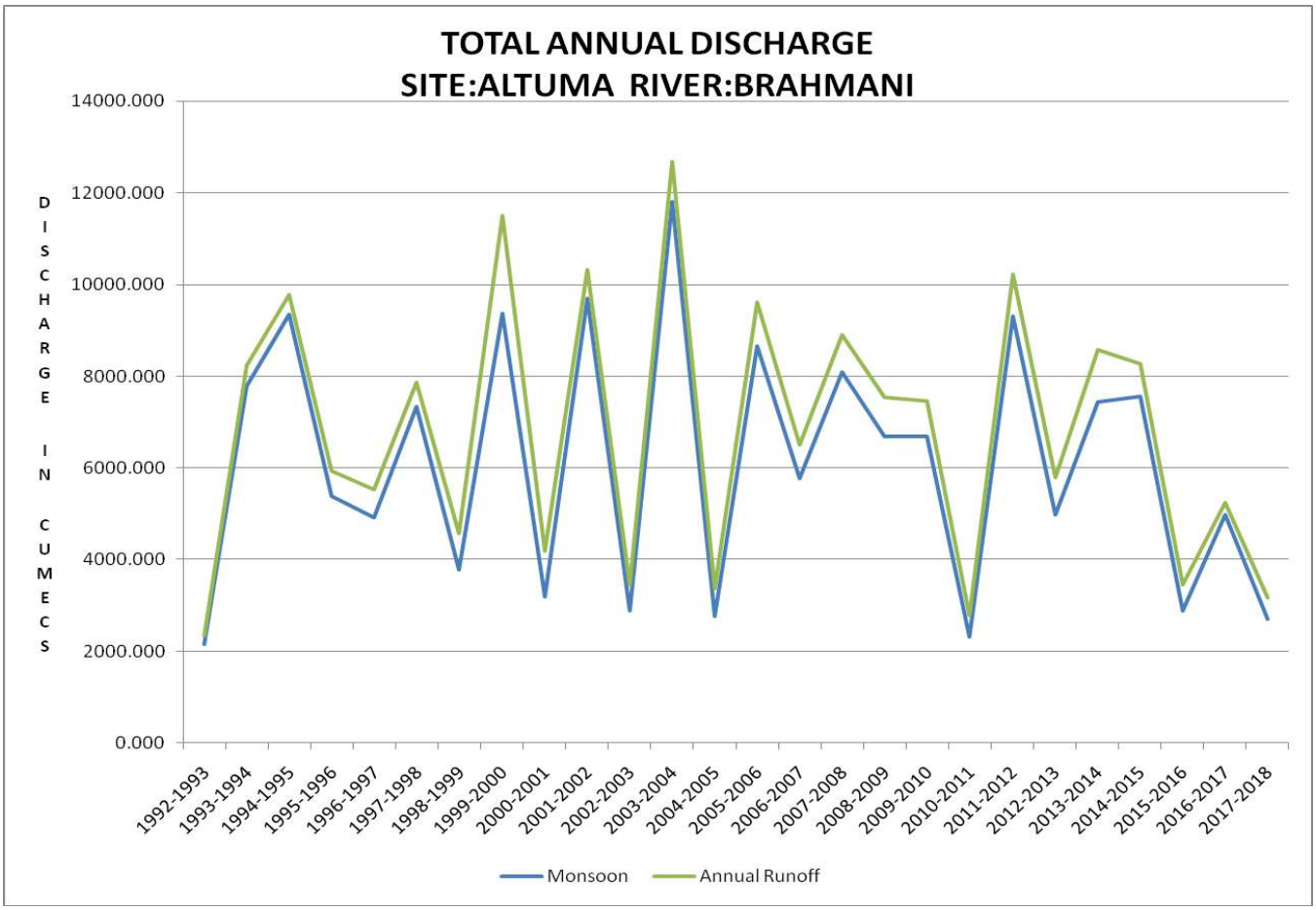
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2017-2018

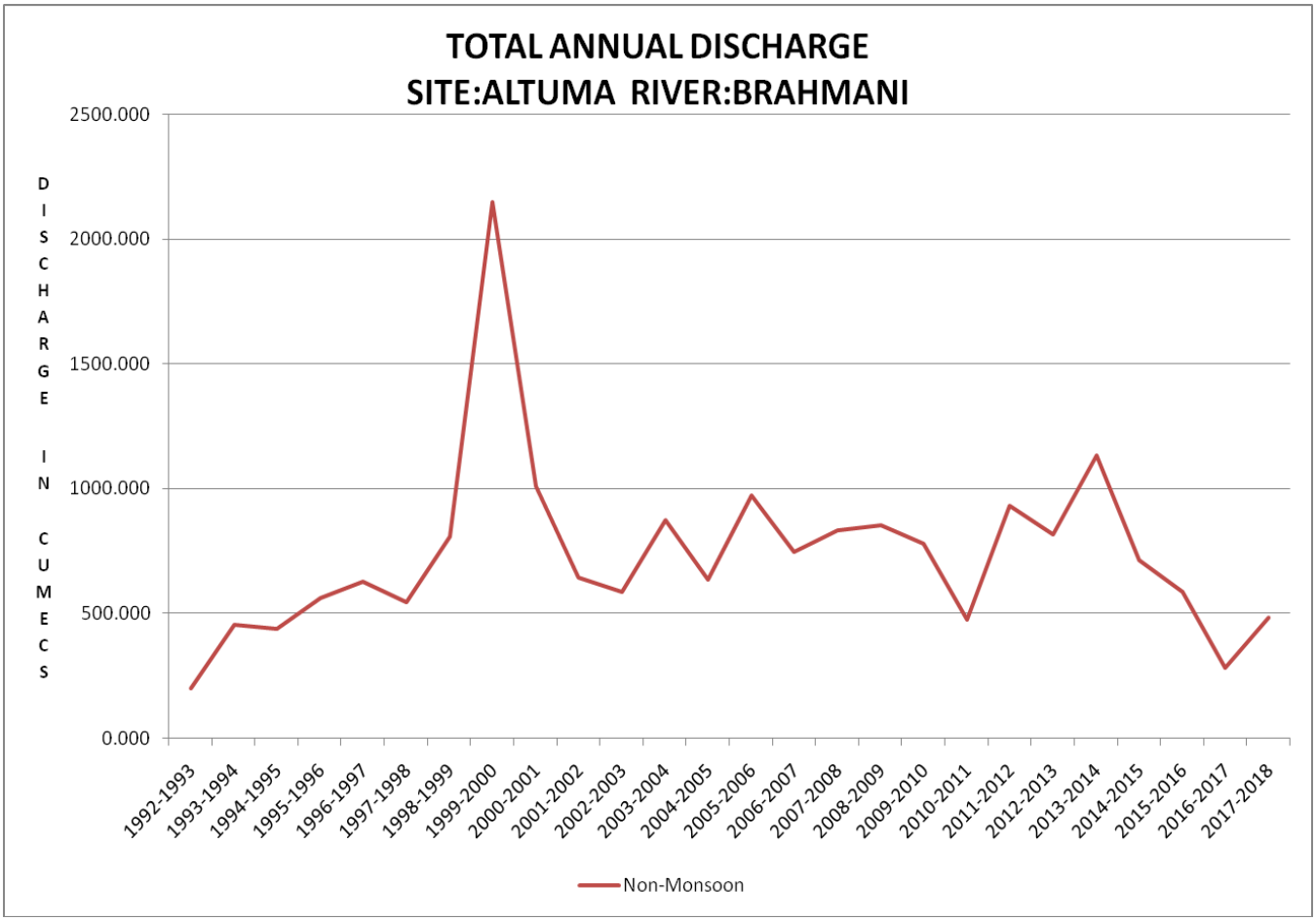
Station Name : Altuma (EBA00I3) **Division : E.E., Bhubaneswar**

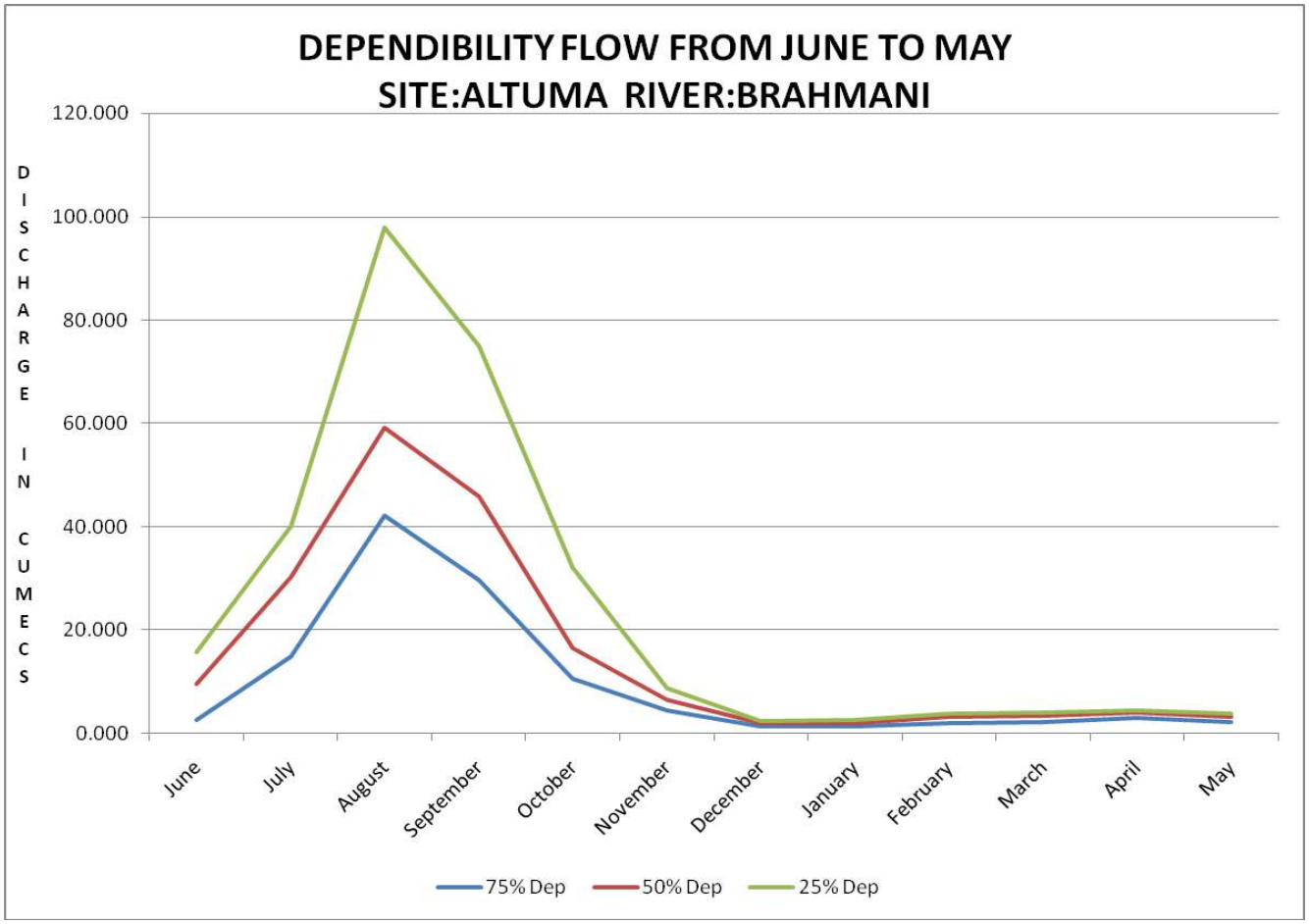
Local River : Ramyala **Sub-Division : Rourkela**

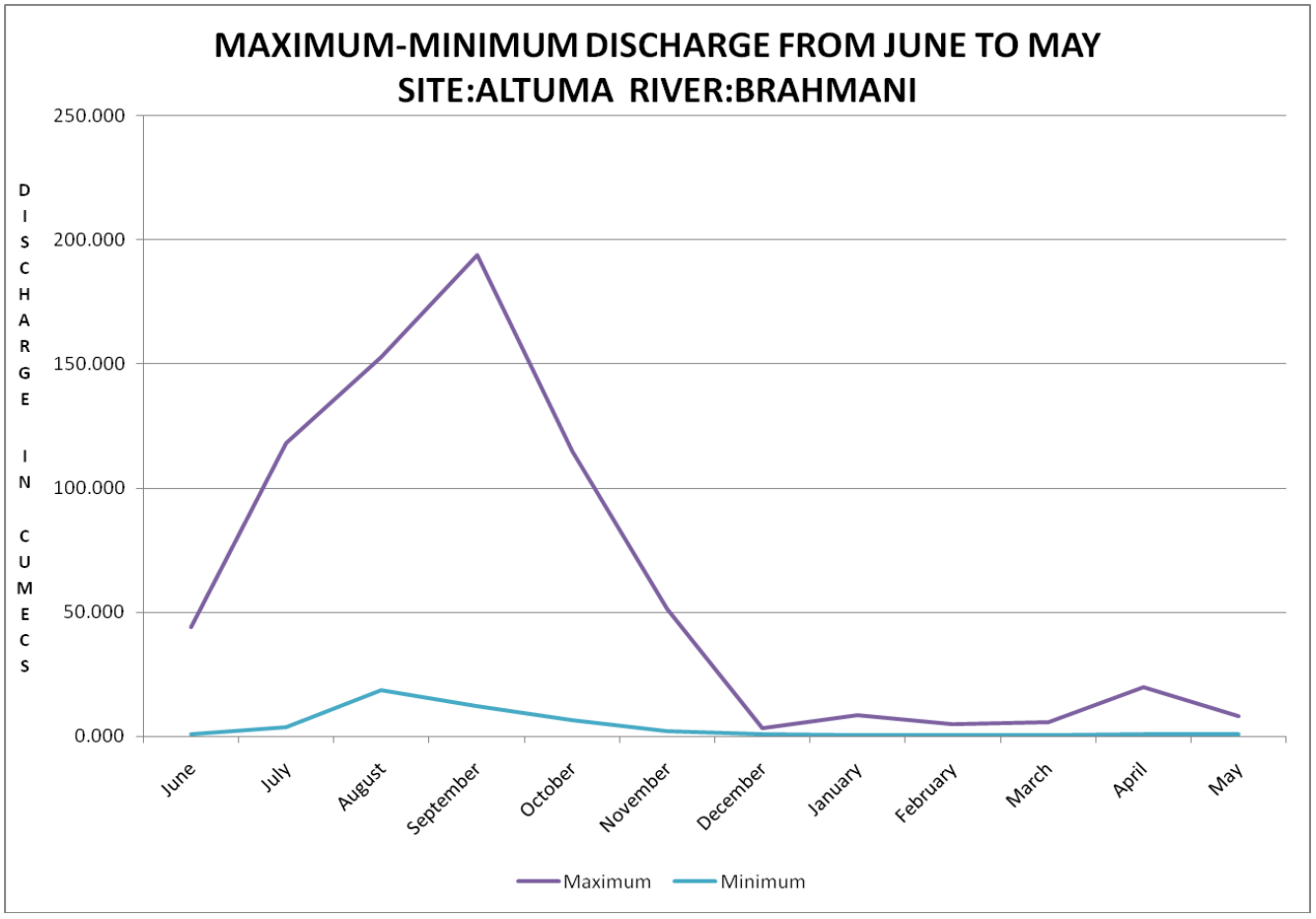


Time Span: 72 Hrs


TOTAL ANNUAL DISCHARGE
SITE:ALTUMA RIVER:BRAHMANI
DISCHARGE IN CUMECS
14000.000
12000.000
10000.000
8000.000
6000.000
4000.000
2000.000
0.000
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
Annual Runoff


TOTAL ANNUAL DISCHARGE
SITE:ALTUMA RIVER:BRAHMANI
DISCHARGE IN CUMECS
2500.000
2000.000
1500.000
1000.000
500.000
0.000
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


DEPENDIBILITY FLOW FROM JUNE TO MAY
SITE:ALTUMA RIVER:BRAHMANI
DISCHARGE IN CUMECS
120.000
100.000
80.000
60.000
40.000
20.000
0.000
June
July
August
September
October
November
December
January
February
March
April
May
75% Dep
50% Dep
25% Dep


MAXIMUM-MINIMUM DISCHARGE FROM JUNE TO MAY
SITE:ALTUMA RIVER:BRAHMANI
DISCHARGE IN CUMECS
250.000
200.000
150.000
100.000
50.000
0.000
June
July
August
September
October
November
December
January
February
March
April
May
Maximum
Minimum

HISTORY SHEET

			Water Year	:	**2017-2018**
Site	:	**TALCHER**	**Code**	:	**EB000N5**
State	:	Orissa	District		Angul
Basin	:	Brahmani-Baitarani	Independent River	:	Brahmani
Tributary	:	Brahmani	Sub Tributary	:	
Sub-Sub Tributary	:		Local River	:	Brahmani
Division	:	E.E., Bhubaneswar	Sub-Division	:	Rourkela
Drainage Area	:	29750 Sq. Km.	Bank	:	Left
Latitude	:	20°57'00"	Longitude	:	85°15'00"
		Opening Date	Closing Date		
Gauge	:	8/16/1985			
Discharge	:	8/16/1985	5/31/1996		
Sediment	:	8/16/1985	5/31/1996		
Water Quality	:	8/16/1985			

Water Quality Datasheet for the period : 2017-2018

Station Name : TALCHER (EB000N5) **Division : E.E., Bhubaneswar**

Local River : Brahmani **River Water Analysis** **Sub-Division : Rourkela**

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)												
2	Colour_Cod (-)	Clear	Light Brown	Light Brown	Light Brown	Light Brown	Clear	Clear	Clear	Clear	Clear	Clear	Clear
3	EC_FLD (µmho/cm)	127	140	110	112	145	198	135	179	151	338	169	201
4	EC_GEN (µmho/cm)	121	134	105	108	141	192	128	176	148	331	164	199
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)	8.0	7.8	7.3	7.4	8.3	7.4	7.5	7.6	7.6	7.9	7.1	7.8
7	pH_GEN (pH units)	7.9	7.7	7.4	7.4	8.2	7.5	7.5	7.5	7.7	7.8	7.2	7.7
8	Temp (deg C)	31.0	30.5	29.5	29.0	28.5	25.5	20.5	19.5	18.5	27.0	28.0	31.5
	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	
2	ALK-TOT (mgCaCO3/L)	55	51	28	42	46	55	51	55	51	69	92	
3	B (mg/L)	0.02	0.02	0.03	0.01	0.02	0.01	0.02	0.01	0.02	0.01	0.02	0.01
4	Ca (mg/L)	32	34	35	37	17	20	25	26	26	25	20	13
5	Cl (mg/L)	9.4	11.3	11.3	7.5	8.7	8.7	10.4	12.1	10.4	12.1	12.1	17.3
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
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	0.5	0.5	0.4	0.5	0.4	0.4	0.4	0.5	0.5	0.4
9	HCO3 (mg/L)	68	62	34	51	56	68	62	68	62	85	113	62
10	K (mg/L)	1.4	2.4	1.8	2.1	2.5	2.7	2.9	3.0	0.5	0.7	0.9	1.5
11	Mg (mg/L)	12.6	13.6	14.6	15.6	6.4	6.4	9.5	7.9	10.3	8.7	9.5	7.2
12	Na (mg/L)	4.1	4.8	2.6	2.8	3.0	3.5	4.3	4.9	2.4	2.9	3.0	4.4
13	NO2+NO3 (mg N/L)	1.29	1.25	1.25	1.20	1.23	1.19	1.12	1.23	1.18	1.25	1.22	1.16
14	NO2-N (mgN/L)	0.04	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	NO3-N (mgN/L)	1.25	1.23	1.23	1.19	1.23	1.19	1.12	1.23	1.18	1.25	1.22	1.16
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)	7.0	9.0	8.5	7.2	6.0	9.1	7.5	6.7	8.2	9.5	6.8	7.8
18	SO4 (mg/L)	12.8	10.9	11.2	12.7	15.4	15.6	15.4	15.6	15.9	16.1	14.0	14.5
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)	2.0	0.8	0.6	0.8	0.6	0.4	0.2	0.2	0.6	0.4	0.4	2.2
2	DO (mg/L)	7.7	6.0	6.6	6.0	6.6	6.4	6.6	6.0	7.4	4.0	6.0	6.8
3	DO_SAT% (%)	104	79	85	77	84	77	72	64	78	50	76	91
4	FCol-MPN (MPN/100mL)	90	110	170	90	40	60	80	90	90	40	70	60
5	Tcol-MPN (MPN/100mL)	130	270	400	260	120	170	210	260	220	120	170	210
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)	80	84	88	92	42	49	62	65	65	62	49	33
2	HAR_Total (mgCaCO3/L)	133	141	149	157	69	75	102	98	108	98	89	62
3	Na% (%)	6	7	4	4	8	9	8	9	5	6	7	13
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
5	SAR (-)	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2
	PESTICIDES												

Water Quality Summary for the period : 2017-2018

Station Name : TALCHER (EB000N5) **Division : E.E., Bhubaneswar**

Local River : Brahmani **Sub-Division : Rourkela**

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)				
2	EC_FLD (µmho/cm)	12	338	110	167
3	EC_GEN (µmho/cm)	12	331	105	162
4	pH_FLD (pH units)	12	8.3	7.1	7.6
5	pH_GEN (pH units)	12	8.2	7.2	7.6
6	Temp (deg C)	12	31.5	18.5	26.6
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	11	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	11	92	28	54
3	B (mg/L)	12	0.03	0.01	0.02
4	Ca (mg/L)	12	37	13	26
5	Cl (mg/L)	12	17.3	7.5	10.9
6	CO3 (mg/L)	12	0.0	0.0	0
7	F (mg/L)	12	0.05	0.05	0.05
8	Fe (mg/L)	12	0.5	0.4	0.4
9	HCO3 (mg/L)	12	113	34	66
10	K (mg/L)	12	3.0	0.5	1.9
11	Mg (mg/L)	12	15.6	6.4	10.2
12	Na (mg/L)	12	4.9	2.4	3.6
13	NO2+NO3 (mg N/L)	12	1.29	1.12	1.21
14	NO2-N (mgN/L)	12	0.04	0.00	0.01
15	NO3-N (mgN/L)	12	1.25	1.12	1.21
16	P-Tot (mgP/L)	12	0.001	0.001	0.001
17	SiO2 (mg/L)	12	9.5	6.0	7.8
18	SO4 (mg/L)	12	16.1	10.9	14.2
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	12	2.2	0.2	0.8
2	DO (mg/L)	12	7.7	4.0	6.3
3	DO_SAT% (%)	12	104	50	78
4	FCol-MPN (MPN/100mL)	12	170	40	83
5	Tcol-MPN (MPN/100mL)	12	400	120	212
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	12	92	33	64
2	HAR_Total (mgCaCO3/L)	12	157	62	107
3	Na% (%)	12	13	4	7
4	RSC (-)	12	0.1	0.0	0
5	SAR (-)	12	0.2	0.1	0.2
	PESTICIDES				

Water Quality Seasonal Average for the period: 2003-2018

Station Name : TALCHER (EB000N5) **Division : E.E., Bhubaneswar**

Local River : Brahmani **River Water** **Sub-Division : Rourkela**

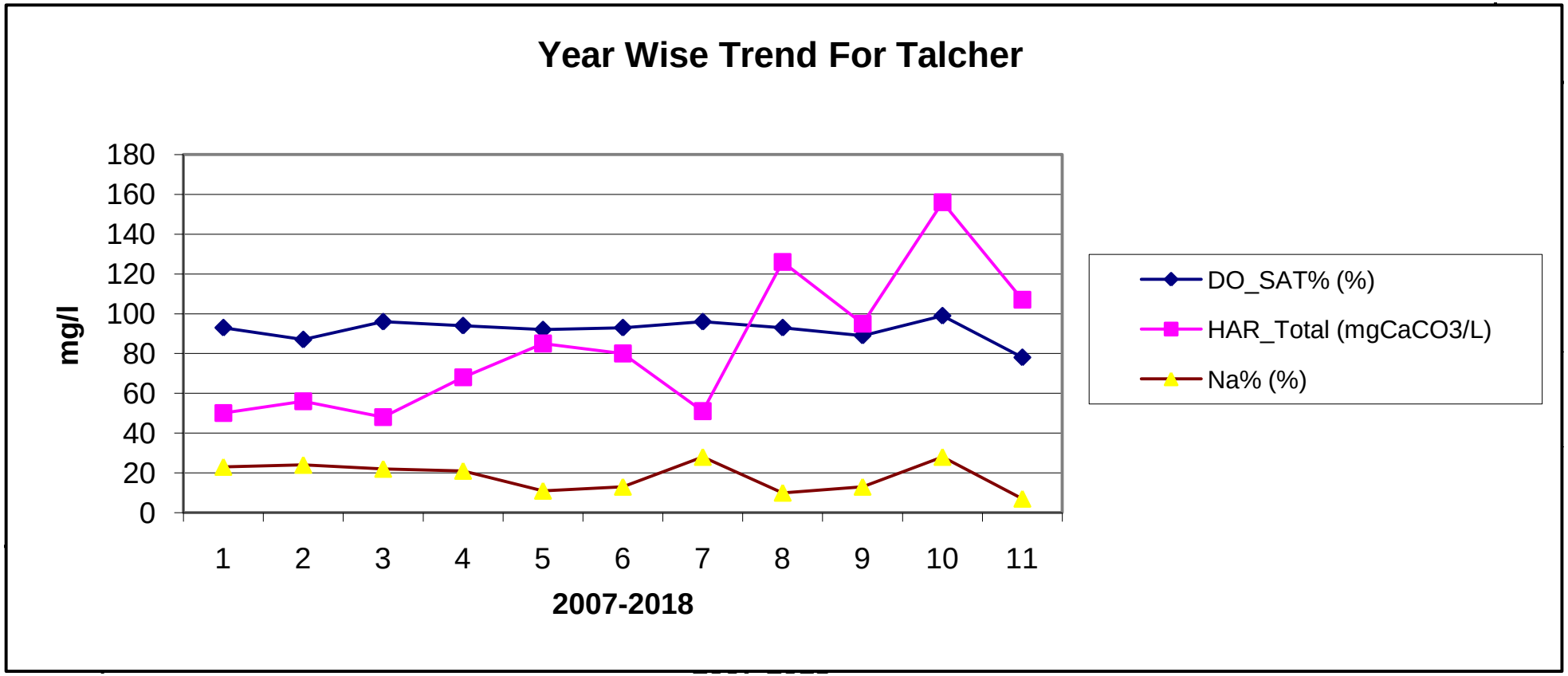
S.No	Parameters	Flood															Winter							
		Jun - Oct															Nov - Feb							
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	PHYSICAL																							
1	Q (cumec)																							
2	EC_FLD (µmho/cm)	114	151	112	129	156	124	126	160	108	144	110	131	226	211	127	116	136	191	117	99	158	130	152
3	EC_GEN (µmho/cm)	114	152	109	126	151	124	126	160	108	144	110	131	216	193	122	115	136	186	114	93	158	148	152
4	pH_FLD (pH units)	7.5	7.8	7.7	7.9	7.9	7.6	7.7	7.8	8.2	7.6	7.6	7.9	7.4	7.7	7.7	7.6	7.8	7.8	8.0	8.0	7.8	7.7	7.7
5	pH_GEN (pH units)	7.5	7.9	7.8	7.9	7.9	7.6	7.7	7.8	8.2	7.6	7.6	7.9	7.4	7.7	7.7	7.6	7.9	7.8	8.0	8.0	7.8	7.7	7.7
6	Temp (deg C)	29.9	24.5	28.9	29.2	30.2	29.2	28.4	27.4	28.0	29.6	28.9	27.7	29.6	30.0	29.7	23.0	24.9	23.6	24.8	24.4	24.1	24.3	23.8
	CHEMICAL																							
1	Alk-Phen (mgCaCO3/L)				0.0	0.0	0.0	0.0	0.0	3.7	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)				80	86	36	32	44	43	45	58	34	54	66	44				87	41	44	37	38
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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Ca (mg/L)	12	16	12	13	16	12	11	16	47	21	15	47	19	36	31	13	11	18	15	11	17	10	12
5	Cl (mg/L)	8.5	16.7	9.4	10.5	12.6	10.6	9.7	12.6	17.0	14.7	13.4	17.0	11.2	11.3	9.7	8.7	8.7	15.6	8.8	9.0	12.7	11.2	12.3
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.4	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)	0.02	0.27	0.02	0.02	0.02	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.02	0.37	0.00	0.00	0.00	0.05	0.05	0.05
8	Fe (mg/L)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	1.9	0.0	0.4	0.4	0.5	0.5	0.2	0.1	0.1	0.2	0.1	0.2	0.1	0.1
9	HCO3 (mg/L)	45	68	43	64	62	44	39	55	43	62	66	43	66	80	54	49	43	87	48	35	53	44	57
10	K (mg/L)	1.5	1.8	1.7	8.2	1.8	1.3	1.6	1.9	1.6	1.8	1.6	1.6	1.9	11.7	2.0	1.6	1.5	2.0	1.6	1.5	1.5	1.5	1.8
11	Mg (mg/L)	2.1	5.3	2.0	3.2	4.6	3.9	5.1	4.7	3.5	6.8	4.2	3.5	9.0	13.2	12.5	2.8	3.6	7.3	2.2	1.7	4.9	5.3	6.1
12	Na (mg/L)	6.0	10.6	6.1	6.6	7.8	7.6	5.9	7.7	3.4	4.5	9.6	3.4	4.4	20.6	3.5	6.5	5.6	10.7	5.9	5.5	7.3	7.1	7.4
13	NO2+NO3 (mg N/L)	0.34	1.63	0.34	1.14	0.39	0.39	0.27	0.57	0.41	0.71	1.11	1.45	1.05	1.10	1.24	0.54	0.56	0.40	0.60	0.58	0.51	0.26	0.36
14	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.01	0.01	0.02	0.00	0.00	0.01	0.02	0.00	0.00	0.00	0.00
15	NO3-N (mgN/L)	0.34	1.63	0.34	1.14	0.39	0.39	0.27	0.57	0.34	0.71	1.11	1.45	1.04	1.09	1.23	0.54	0.56	0.39	0.57	0.58	0.51	0.26	0.36
16	o-PO4-P (mg P/L)		0.000	0.000	0.000	0.000		0.000										0.000	0.000	0.000	0.000		0.000	
17	P-Tot (mgP/L)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.010	0.001	0.001	0.001	0.001	0.010	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
18	SiO2 (mg/L)	9.2	18.1	27.4	11.5	13.3	8.3	6.8	6.9	10.4	12.8	10.9	5.2	5.6	6.6	7.5	9.3	22.1	22.8	18.8	9.0	7.9	7.4	4.6
19	SO4 (mg/L)	2.2	5.1	3.1	1.9	4.8	10.6	12.8	10.3	11.6	55.3	10.5	16.2	9.2	13.5	12.6	2.1	7.0	2.4	4.8	4.7	11.4	9.6	9.4
	BIOLOGICAL/BACTERIOLOGICAL																							
1	BOD3-27 (mg/L)	0.7	0.5	0.7	0.7	0.9	1.0	1.1	1.2	1.0	0.9	0.2	0.7	1.0	1.3	1.0	0.5	1.6	0.6	0.6	0.8	0.9	1.1	1.0
2	DO (mg/L)	6.8	7.5	7.2	7.1	7.3	7.1	7.4	7.3	7.1	7.2	7.4	6.5	6.4	7.8	6.6	8.2	8.0	8.2	7.7	7.8	8.0	8.1	8.1
3	DO_SAT% (%)	89	90	93	92	97	93	96	92	90	95	96	82	84	103	86	95	97	96	92	93	95	97	95
4	FCol-MPN (MPN/100mL)				93	13	27	12	250		30					100				111		5	18	64
5	Tcol-MPN (MPN/100mL)				118	21	34	20	625		25					236				112		6	22	885
	TRACE & TOXIC																							
	CHEMICAL INDICES																							
1	HAR_Ca (mgCaCO3/L)	30	39	30	33	41	30	28	41	117	51	38	117	48	89	77	32	27	45	37	28	42	26	30
2	HAR_Total (mgCaCO3/L)	39	61	38	47	60	47	49	60	132	80	55	132	85	144	130	43	43	75	46	35	62	48	55
3	Na% (%)	25	28	25	21	22	27	21	21	9	12	27	9	10	21	6	24	22	21	21	24	20	24	22
4	RSC (-)	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.4	0.6	0.4	0.4	0.4	0.5	0.4	0.4	0.2	0.2	0.6	0.2	0.2	0.7	0.1	0.4	0.4	0.5	0.4	0.4	0.4	0.5	0.4
	PESTICIDES																							

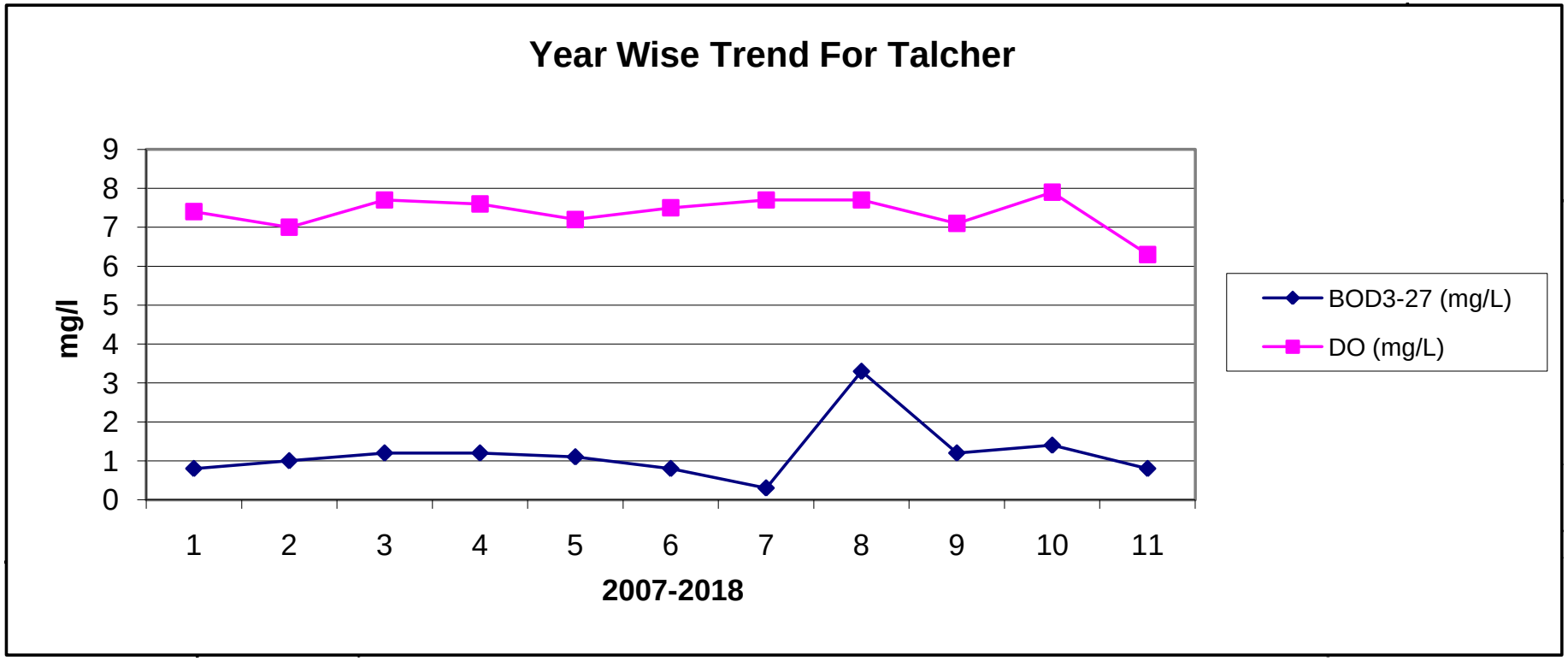
Water Quality Seasonal Average for the period: 2003-2018

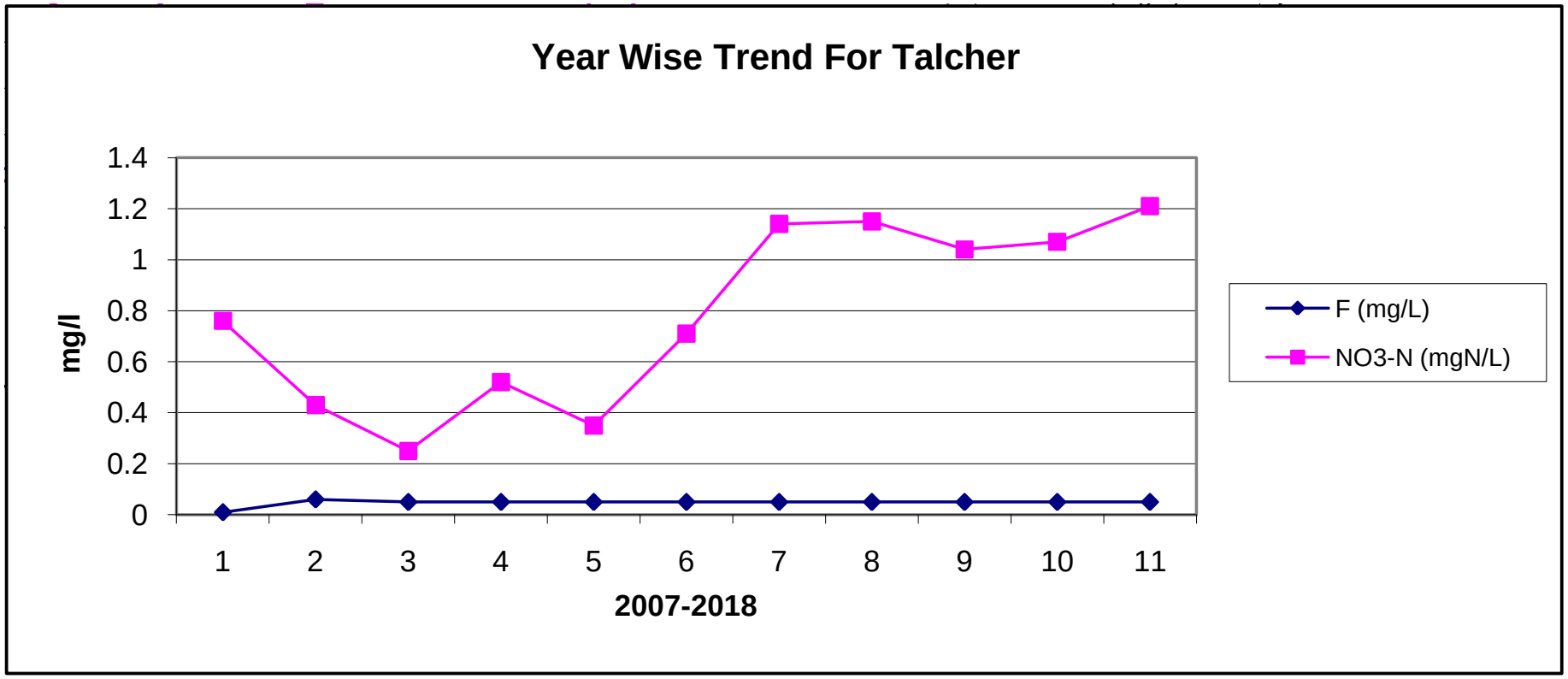
Station Name : TALCHER (EB000N5) **Division : E.E., Bhubaneswar**

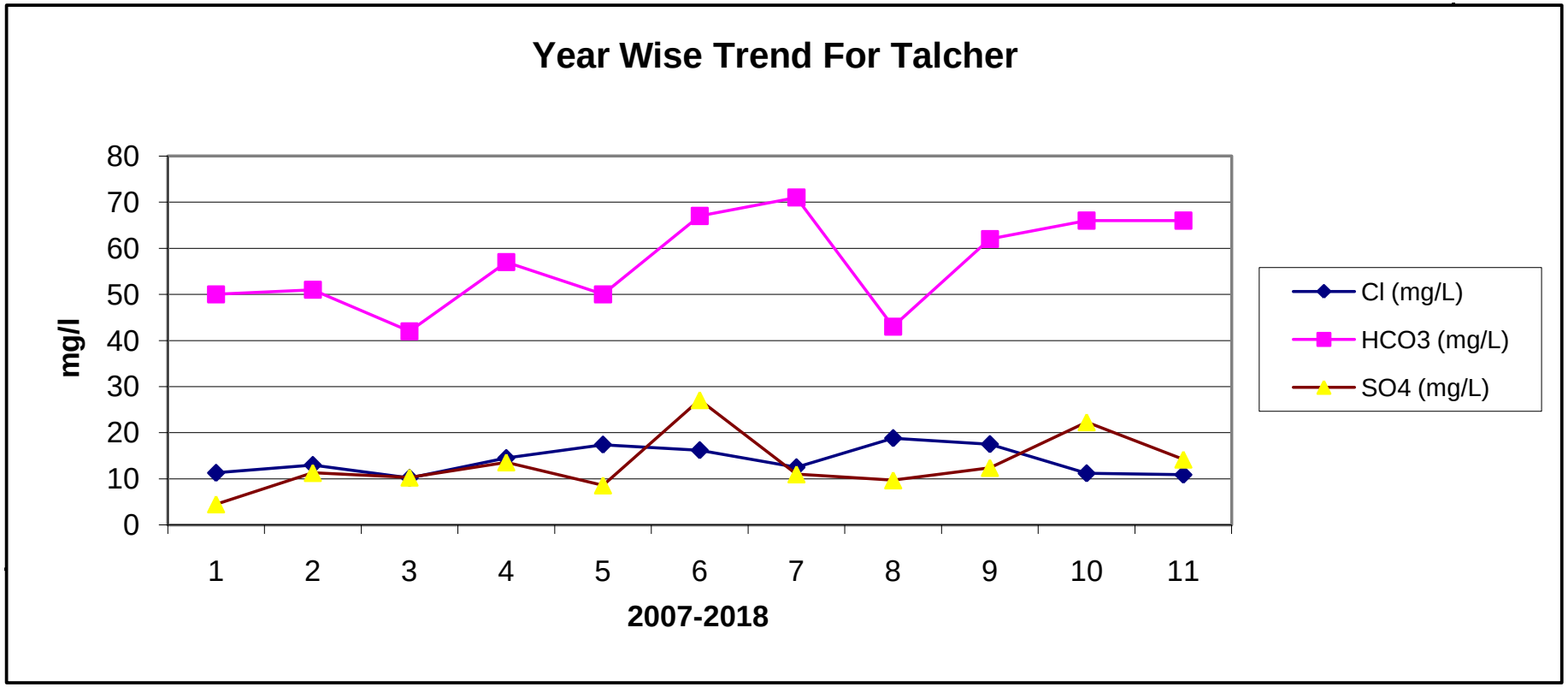
Local River : Brahmani **River Water** **Sub-Division : Rourkela**

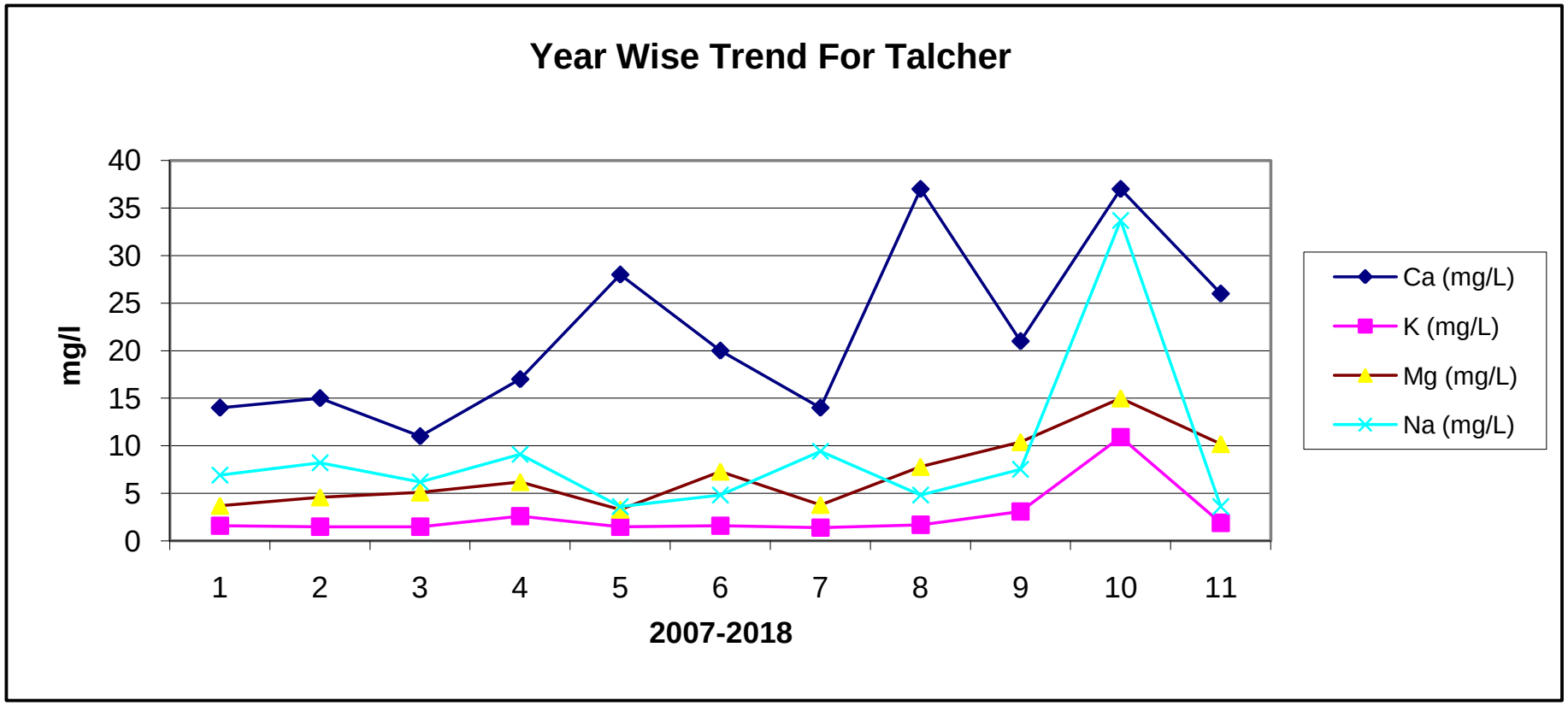
S.No	Parameters								Summer														
									Mar - May														
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	PHYSICAL																						
1	Q (cumec)																						
2	EC_FLD (µmho/cm)	108	128	113	159	696	233	166	122	139	135	136	143	178	115	267	123	137	114	173	233	172	236
3	EC_GEN (µmho/cm)	108	128	113	163	692	237	161	123	137	130	125	140	178	115	267	123	137	114	173	232	177	231
4	pH_FLD (pH units)	7.7	7.4	7.9	7.9	7.7	7.7	7.5	7.8	7.7	7.6	8.1	8.0	8.0	7.9	8.3	7.5	7.7	7.7	7.8	7.8	7.6	7.6
5	pH_GEN (pH units)	7.7	7.4	7.9	7.9	7.7	7.8	7.5	7.9	7.9	7.7	8.0	8.1	8.0	7.9	8.3	7.5	7.7	7.8	7.8	7.9	7.6	7.6
6	Temp (deg C)	26.3	23.1	24.1	20.9	24.0	23.5	21.0	23.9	26.7	28.2	29.0	26.8	28.8	27.7	28.3	30.0	26.3	27.0	29.2	28.0	27.2	28.8
	CHEMICAL																						
1	Alk-Phen (mgCaCO3/L)	0.0	0.0		0.0	4.6	0.0	0.0				0.0	0.0	0.0	0.0	8.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	45	72		60	62	42	53				75	41	44	35	79	48	60	62	40	43	52	81
3	B (mg/L)	0.01	0.00	0.00	0.00	0.01	0.01	0.01	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	0.01
4	Ca (mg/L)	16	18	14	36	20	38	24	14	8	15	14	13	17	10	24	14	21	13	23	25	40	19
5	Cl (mg/L)	22.2	12.3	11.6	21.9	14.6	12.3	10.4	8.4	11.0	9.8	9.3	12.0	17.5	9.9	20.7	11.9	24.1	12.5	17.7	32.1	9.4	13.8
6	CO3 (mg/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	0.0	14.1	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	0.00	0.34	0.00	0.00	0.01	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	1.5	0.0	0.3	0.4	0.2	0.4	0.1	0.1	0.1	0.1		0.1	0.1	0.1	0.0	1.9	0.0	0.3	0.4	0.6	0.4
9	HCO3 (mg/L)	54	68	74	42	65	51	65	53	34	52	46	51	58	43	62	58	73	76	52	53	64	86
10	K (mg/L)	1.4	1.5	1.3	1.5	3.3	13.6	2.3	1.5	2.0	1.7	1.6	1.2	1.6	1.3	4.9	1.5	1.5	1.4	2.0	5.1	6.0	1.0
11	Mg (mg/L)	3.4	10.0	3.5	5.3	9.5	14.1	8.5	2.7	3.8	2.0	2.4	4.8	5.5	4.9	9.1	2.9	4.5	3.7	18.1	13.9	19.2	8.5
12	Na (mg/L)	3.5	5.2	9.6	3.4	9.1	52.5	3.8	5.7	7.5	6.3	6.4	7.3	10.5	5.5	13.6	3.9	4.7	8.7	9.1	10.4	30.7	3.4
13	NO2+NO3 (mg N/L)	0.43	0.71	1.06	0.82	1.01	0.97	1.18	0.50	0.43	0.78	0.63	1.62	0.38	0.21	0.64	0.40	0.71	1.19	1.11	1.10	1.19	1.21
14	NO2-N (mgN/L)	0.07	0.00	0.00	0.01	0.01	0.02	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.07	0.00	0.00	0.00	0.00	0.01	0.00
15	NO3-N (mgN/L)	0.36	0.71	1.15	0.81	0.99	0.96	1.18	0.50	0.43	0.78	0.62	1.62	0.38	0.21	0.64	0.33	0.71	1.19	1.11	1.10	1.17	1.21
16	o-PO4-P (mg P/L)										0.000	0.000	0.010		0.000								
17	P-Tot (mgP/L)	0.010	0.001	0.001	0.001	0.010	0.010	0.001	0.001	0.001	0.001	0.001	0.050	0.001	0.001	0.001	0.010	0.001	0.001	0.001	0.010	0.010	0.001
18	SiO2 (mg/L)	11.5	13.3	9.7	5.0	5.8	7.5	7.9	10.2	21.8	18.4	20.0	9.0	8.2	7.7	3.8	10.3	13.7	10.7	4.3	5.7	8.2	8.0
19	SO4 (mg/L)	9.4	9.3	11.7	10.0	13.4	46.5	15.7	1.2	7.3	3.1	3.2	3.9	12.2	7.1	24.8	2.6	3.7	10.8	9.0	16.2	4.5	14.9
	BIOLOGICAL/BACTERIOLOGICAL																						
1	BOD3-27 (mg/L)	1.4	0.3	0.5	0.9	1.7	1.6	0.3	0.6	0.8	0.7	0.8	0.9	1.1	1.4	1.3	1.1	1.1	0.3	1.1	0.9	1.1	1.0
2	DO (mg/L)	7.5	8.1	8.4	9.9	8.3	8.8	6.6	7.8	7.1	7.6	7.3	7.0	5.2	7.7	7.5	7.2	6.9	7.4	6.8	6.7	7.0	5.6
3	DO_SAT% (%)	93	95	100	110	98	102	73	92	88	97	94	87	68	97	97	95	86	93	89	86	88	72
4	FCol-MPN (MPN/100mL)		22				68	80				14	4	5	11	19		16				50	57
5	Tcol-MPN (MPN/100mL)		23				213	215				146	5	8	12	20		24				97	167
	TRACE & TOXIC																						
	CHEMICAL INDICES																						
1	HAR_Ca (mgCaCO3/L)	40	45	35	91	50	94	60	34	21	36	34	33	41	24	59	35	53	32	58	61	100	48
2	HAR_Total (mgCaCO3/L)	54	87	50	113	90	153	96	45	36	45	44	53	64	44	97	47	72	48	134	119	180	83
3	Na% (%)	12	13	29	8	16	38	8	21	30	23	23	22	26	21	21	15	13	28	14	15	26	9
4	RSC (-)	0.2	0.1	0.2	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	0.3	0.0	0.0	0.0	0.0
5	SAR (-)	0.2	0.3	0.6	0.2	0.4	1.8	0.2	0.4	0.6	0.4	0.4	0.4	0.6	0.4	0.6	0.2	0.2	0.6	0.3	0.4	1.0	0.2
	PESTICIDES																						


Year Wise Trend For Talcher
mg/l
180
160
140
120
100
80
60
40
20
0
1
2
3
4
5
6
7
8
9
10
11
2007-2018
DO_SAT% (%)
HAR_Total (mgCaCO3/L)
Na% (%)


Year Wise Trend For Talcher
mg/l
9
8
7
6
5
4
3
2
1
0
1
2
3
4
5
6
7
8
9
10
11
2007-2018
BOD3-27 (mg/L)
DO (mg/L)


Year Wise Trend For Talcher
1.4
1.2
1
0.8
0.6
0.4
0.2
0
mg/l
1
2
3
4
5
6
7
8
9
10
11
2007-2018
F (mg/L)
NO3-N (mgN/L)


Year Wise Trend For Talcher
mg/l
80
70
60
50
40
30
20
10
0
1
2
3
4
5
6
7
8
9
10
11
2007-2018
Cl (mg/L)
HCO3 (mg/L)
SO4 (mg/L)


Year Wise Trend For Talcher
mg/l
40
35
30
25
20
15
10
5
0
1
2
3
4
5
6
7
8
9
10
11
2007-2018
Ca (mg/L)
K (mg/L)
Mg (mg/L)
Na (mg/L)

HISTORY SHEET

			Water Year	:	**2017-2018**
Site	:	**NANDIRA**	**Code**	:	**NANDIRA**
State	:	Orissa	District		Angul
Basin	:	Brahmani-Baitarani	Independent River	:	Brahmni
Tributary	:	Nandiranala	Sub Tributary	:	
Sub-Sub Tributary	:		Local River	:	Nandiranala
Division	:	E.E., Bhubaneswar	Sub-Division	:	Sambalpur
Drainage Area	:	Sq. Km.	Bank	:	Right
Latitude	:	°""	Longitude	:	°""
		Opening Date	Closing Date		
Gauge	:				
Discharge	:				
Sediment	:				
Water Quality	:	11/1/1990			

Water Quality Datasheet for the period : 2017-2018

Station Name : NANDIRA (NANDIRA) **Division : E.E., Bhubaneswar**

Local River : Nandiranala **River Water Analysis** **Sub-Division : Sambalpur**

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)												
2	Colour_Cod (-)	Clear	Light Brown	Light Brown	Light Brown	Light Brown	Clear	Clear	Clear	Clear	Clear	Clear	Clear
3	EC_FLD (µmho/cm)	355	168	441	520	148	439	439	150	398	549	412	468
4	EC_GEN (µmho/cm)	345	164	438	516	143	436	433	147	393	544	407	462
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	7.7	7.9	8.2	7.3	8.2	8.0	7.6	8.5	7.5	7.6	7.5
7	pH_GEN (pH units)	7.8	7.8	7.8	8.1	7.2	8.1	8.0	7.5	8.5	7.5	7.5	7.4
8	Temp (deg C)	30.0	29.5	28.5	28.5	28.5	25.0	21.5	19.0	18.5	27.5	27.0	30.0
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.0	0.0		
2	ALK-TOT (mgCaCO3/L)	102	55	102	134	60	143	102	111	126	107		
3	B (mg/L)	0.02	0.02	0.02	0.01	0.01	0.02	0.01	0.01	0.02	0.03	0.01	0.02
4	Ca (mg/L)	32	34	35	37	22	52	56	31	58	56	41	31
5	Cl (mg/L)	15.1	18.9	26.4	24.5	12.1	22.5	22.5	12.1	26.0	27.7	26.0	22.5
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.4	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)	0.5	0.5	0.4	0.4	0.4	0.3	0.5	0.4	0.5	0.5	0.4	0.0
9	HCO3 (mg/L)	124	68	124	163	73	175	124	135	124	130	118	90
10	K (mg/L)	2.6	2.3	3.5	3.9	4.1	4.6	4.8	5.1	0.5	2.9	3.0	4.6
11	Mg (mg/L)	11.7	12.6	13.6	15.6	7.9	19.9	19.9	7.9	23.0	19.1	16.7	11.9
12	Na (mg/L)	23.4	5.3	15.5	16.1	16.6	18.1	18.9	29.0	2.4	38.1	40.5	16.5
13	NO2+NO3 (mg N/L)	1.20	1.25	1.13	1.20	1.18	1.15	1.12	1.19	1.21	1.18	1.22	1.21
14	NO2-N (mgN/L)	0.03	0.01	0.04	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	NO3-N (mgN/L)	1.18	1.23	1.09	1.18	1.18	1.15	1.12	1.19	1.21	1.18	1.22	1.21
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)	7.0	8.5	7.8	9.0	6.2	8.6	7.5	6.3	7.5	8.7	9.8	9.0
18	SO4 (mg/L)	13.2	13.8	13.8	43.0	21.5	21.7	22.1	22.4	22.9	35.2	30.0	26.1
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)	1.6	1.6	0.6	0.8	0.6	0.2	0.6	0.4	2.0	0.4	0.4	1.0
2	DO (mg/L)	6.8	6.2	6.2	5.6	6.4	7.4	7.6	6.4	7.7	2.6	6.8	5.2
3	DO_SAT% (%)	89	80	79	71	81	89	85	68	82	32	85	68
4	FCol-MPN (MPN/100mL)	60	80	110	110	80	70	80	90	90	60	80	90
5	Tcol-MPN (MPN/100mL)	120	210	260	270	210	260	230	270	230	170	210	220
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)	80	84	88	92	56	131	141	78	144	141	101	78
2	HAR_Total (mgCaCO3/L)	129	137	145	157	89	213	223	112	240	220	171	128
3	Na% (%)	28	8	19	18	28	15	15	35	2	27	34	21
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 (-)	0.9	0.2	0.6	0.6	0.8	0.5	0.6	1.2	0.1	1.1	1.4	0.6
	PESTICIDES												

Water Quality Summary for the period : 2017-2018

Station Name : NANDIRA (NANDIRA) **Division : E.E., Bhubaneswar**

Local River : Nandiranala **Sub-Division : Sambalpur**

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)				
2	EC_FLD (µmho/cm)	12	549	148	374
3	EC_GEN (µmho/cm)	12	544	143	369
4	pH_FLD (pH units)	12	8.5	7.3	7.8
5	pH_GEN (pH units)	12	8.5	7.2	7.8
6	Temp (deg C)	12	30.0	18.5	26.1
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	10	12.0	0.0	1.2
2	ALK-TOT (mgCaCO3/L)	10	143	55	104
3	B (mg/L)	12	0.03	0.01	0.02
4	Ca (mg/L)	12	58	22	40
5	Cl (mg/L)	12	27.7	12.1	21.3
6	CO3 (mg/L)	12	14.4	0.0	1.2
7	F (mg/L)	12	0.05	0.05	0.05
8	Fe (mg/L)	12	0.5	0.0	0.4
9	HCO3 (mg/L)	12	175	68	121
10	K (mg/L)	12	5.1	0.5	3.5
11	Mg (mg/L)	12	23.0	7.9	15
12	Na (mg/L)	12	40.5	2.4	20
13	NO2+NO3 (mg N/L)	12	1.25	1.12	1.19
14	NO2-N (mgN/L)	12	0.04	0.00	0.01
15	NO3-N (mgN/L)	12	1.23	1.09	1.18
16	P-Tot (mgP/L)	12	0.001	0.001	0.001
17	SiO2 (mg/L)	12	9.8	6.2	8
18	SO4 (mg/L)	12	43.0	13.2	23.8
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	12	2.0	0.2	0.8
2	DO (mg/L)	12	7.7	2.6	6.2
3	DO_SAT% (%)	12	89	32	76
4	FCol-MPN (MPN/100mL)	12	110	60	83
5	Tcol-MPN (MPN/100mL)	12	270	120	222
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	12	144	56	101
2	HAR_Total (mgCaCO3/L)	12	240	89	164
3	Na% (%)	12	35	2	21
4	RSC (-)	12	0.0	0.0	0
5	SAR (-)	12	1.4	0.1	0.7
	PESTICIDES				

Water Quality Seasonal Average for the period: 2003-2018

Station Name : NANDIRA (NANDIRA) **Division : E.E., Bhubaneswar**

Local River : Nandiranala **River Water** **Sub-Division : Sambalpur**

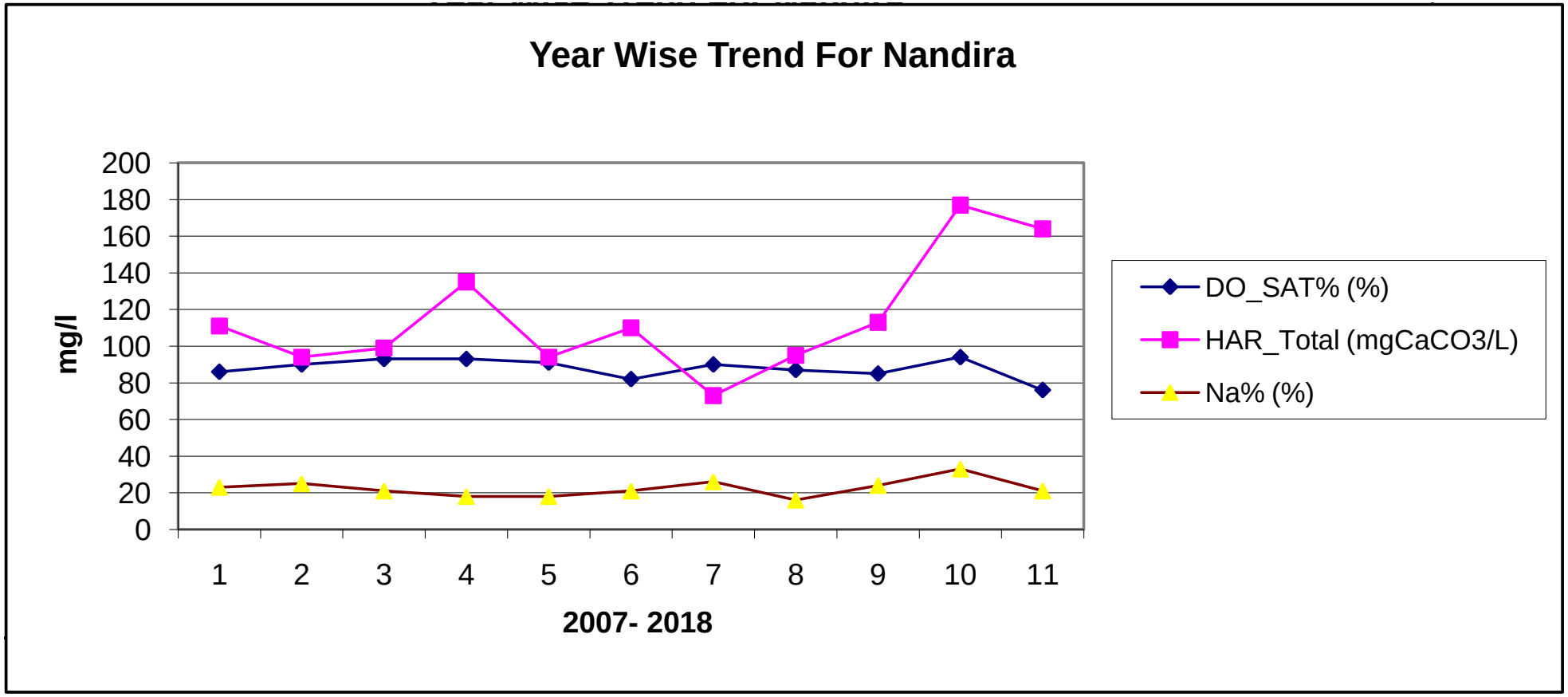
S.No	Parameters	Flood Jun - Oct															Winter Nov - Feb									
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013
	PHYSICAL																									
1	Q (cumec)																									
2	EC_FLD (µmho/cm)	298	408	305	290	336	264	214	309	246	251	262	274	458	290	326	333	306	243	230	216	229	217	290	230	363
3	EC_GEN (µmho/cm)	295	408	302	277	333	264	214	309	246	251	262	274	463	293	321	341	306	239	226	213	229	217	290	230	363
4	pH_FLD (pH units)	7.9	8.0	7.8	7.9	8.0	7.8	7.8	8.1	8.0	7.6	7.7	7.8	7.6	7.7	7.8	7.8	8.0	7.9	8.1	7.9	7.9	7.8	7.6	7.7	7.4
5	pH_GEN (pH units)	7.7	8.0	7.8	8.0	8.0	7.8	7.8	8.1	8.0	7.6	7.7	7.8	7.5	7.8	7.7	7.7	8.0	7.9	8.1	8.0	7.9	7.8	7.6	7.7	7.4
6	Temp (deg C)	30.7	26.0	29.1	29.6	29.9	29.3	29.2	28.4	29.6	30.4	29.0	27.2	28.8	30.2	29.0	25.7	25.4	22.7	23.2	23.8	23.9	25.3	25.0	26.9	23.3
	CHEMICAL																									
1	Alk-Phen (mgCaCO3/L)				0.0	0.1	0.0	0.0	3.2	4.6	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)				113	76	48	26	68	71	42	76	69	63	66	91				71	43	46	45	69	72	113
3	B (mg/L)	0.55	0.13	0.53	0.00	0.17	0.21	0.15	0.15	0.01	0.00	0.00	0.00	0.01	0.01	0.02	0.56	0.15	0.53	0.00	0.19	0.15	0.17	0.15	0.01	0.00
4	Ca (mg/L)	33	31	33	31	34	23	17	29	22	20	20	25	26	35	32	32	32	25	23	20	21	19	28	27	34
5	Cl (mg/L)	16.4	25.7	21.6	17.4	23.3	20.0	18.3	17.9	28.3	18.9	20.6	28.3	12.8	17.0	19.4	21.3	23.3	22.3	16.6	17.8	18.6	15.5	17.9	16.5	27.8
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	3.8	5.5	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	0.0	0.0
7	F (mg/L)	0.42	0.82	0.47	0.54	0.66	0.05	0.20	0.48	0.05	0.17	0.05	0.05	0.05	0.05	0.05	0.32	0.35	0.11	0.19	0.44	0.21	0.30	0.56	0.05	0.06
8	Fe (mg/L)	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.0	1.3	0.1	0.3	0.5	0.4	0.4	0.1	0.1	0.1	0.3	0.1	0.2	0.1	0.1	0.0	1.5
9	HCO3 (mg/L)	77	100	96	62	94	59	31	75	76	50	97	84	77	80	110	92	89	78	68	53	57	54	79	88	117
10	K (mg/L)	2.0	5.9	2.1	2.9	2.6	5.8	2.3	3.0	2.4	2.4	1.6	2.4	3.5	8.0	3.3	2.2	2.8	3.7	3.3	2.1	1.6	1.5	2.9	2.0	4.2
11	Mg (mg/L)	6.0	9.7	9.4	7.8	10.1	8.6	8.6	12.5	9.9	9.3	4.8	9.9	11.7	20.4	12.3	10.0	9.2	6.0	7.1	6.3	8.0	9.2	10.0	6.1	13.1
12	Na (mg/L)	11.3	17.2	14.9	11.5	15.5	13.4	10.9	12.2	8.4	9.0	10.7	8.4	13.4	28.4	15.4	13.9	15.3	14.8	11.1	12.3	13.8	9.8	12.3	10.8	19.5
13	NO2+NO3 (mg N/L)	7.27	10.01	9.01	11.29	9.05	6.58	5.43	7.80	0.41	0.96	1.88	2.03	1.11	1.06	1.19	10.48	8.76	6.33	7.82	6.33	6.27	4.06	5.25	0.44	0.84
14	NO2-N (mgN/L)	0.00	0.02	0.25	1.26	0.00	0.00	0.00	0.01	0.07	0.00	0.00	0.01	0.02	0.01	0.02	0.00	0.00	0.65	0.92	0.00	0.00	0.00	0.00	0.07	0.00
15	NO3-N (mgN/L)	7.27	9.98	8.75	10.03	9.05	6.58	5.43	7.79	0.34	0.96	1.88	2.02	1.08	1.04	1.17	10.48	8.76	5.68	6.90	6.33	6.27	4.06	5.25	0.37	0.84
16	o-PO4-P (mg P/L)		0.103	0.064	0.044	0.058	0.110	0.060	0.062									0.008	0.043	0.018	0.000	0.121	0.065			
17	P-Tot (mgP/L)	0.066	0.001	0.064	0.045	0.280	0.003	0.010	0.001	0.010	0.001	0.001	0.001	0.001	0.010	0.001	0.037	0.001	0.032	0.019	0.001	0.002	0.010	0.001	0.010	0.001
18	SiO2 (mg/L)	14.0	32.6	26.7	13.9	10.1	9.2	8.5	6.6	11.6	11.4	8.0	5.4	6.0	6.2	7.7	14.4	31.9	22.2	18.2	9.0	8.6	7.9	3.2	11.8	11.5
19	SO4 (mg/L)	16.0	9.3	11.4	19.6	20.5	20.1	27.3	27.8	29.3	34.9	24.6	31.9	22.9	17.8	21.1	10.2	17.9	7.4	7.6	15.0	15.2	25.4	34.5	27.8	43.9
	BIOLOGICAL/BACTERIOLOGICAL																									
1	BOD3-27 (mg/L)	1.8	1.4	1.9	1.9	1.9	2.2	2.1	2.5	2.1	0.9	0.6	0.6	0.8	0.8	1.0	1.7	1.4	2.0	1.9	2.0	2.0	2.6	2.4	2.8	0.7
2	DO (mg/L)	6.5	6.5	6.7	6.6	6.6	6.9	7.2	7.2	6.8	6.6	6.9	6.4	6.7	7.4	6.2	7.3	8.0	7.9	7.5	7.4	7.7	7.8	7.6	7.5	7.8
3	DO_SAT% (%)	87	80	87	86	87	90	94	92	89	87	90	80	86	97	80	89	96	91	88	88	91	95	92	94	92
4	FCol-MPN (MPN/100mL)				170	60	57	12	335		17					88				705		13	17	104		30
5	Tcol-MPN (MPN/100mL)				920	65	70	31	1250		26					214				1270		17	21	940		25
	TRACE & TOXIC																									
	CHEMICAL INDICES																									
1	HAR_Ca (mgCaCO3/L)	83	77	82	76	86	58	42	71	55	50	49	61	64	87	80	80	80	61	58	51	53	48	71	68	86
2	HAR_Total (mgCaCO3/L)	108	117	121	109	128	93	77	123	97	89	69	103	113	172	131	122	118	86	87	77	87	87	113	94	141
3	Na% (%)	18	25	23	19	21	24	24	19	16	17	25	15	20	23	20	20	21	27	20	25	26	20	19	20	22
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	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
5	SAR (-)	0.5	0.7	0.6	0.5	0.6	0.6	0.5	0.5	0.4	0.4	0.6	0.4	0.6	0.9	0.6	0.6	0.6	0.7	0.5	0.6	0.7	0.5	0.5	0.5	0.7
	PESTICIDES																									

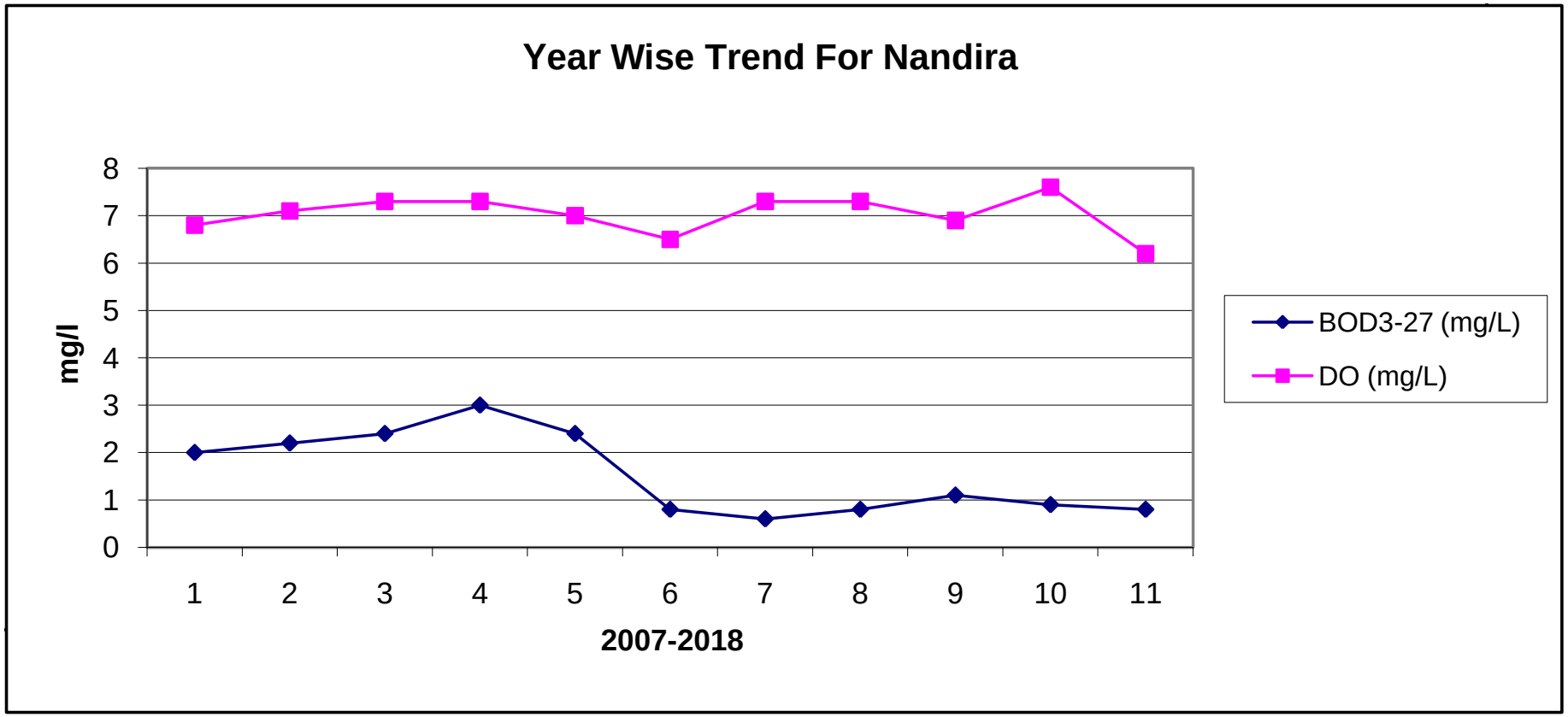
Water Quality Seasonal Average for the period: 2003-2018

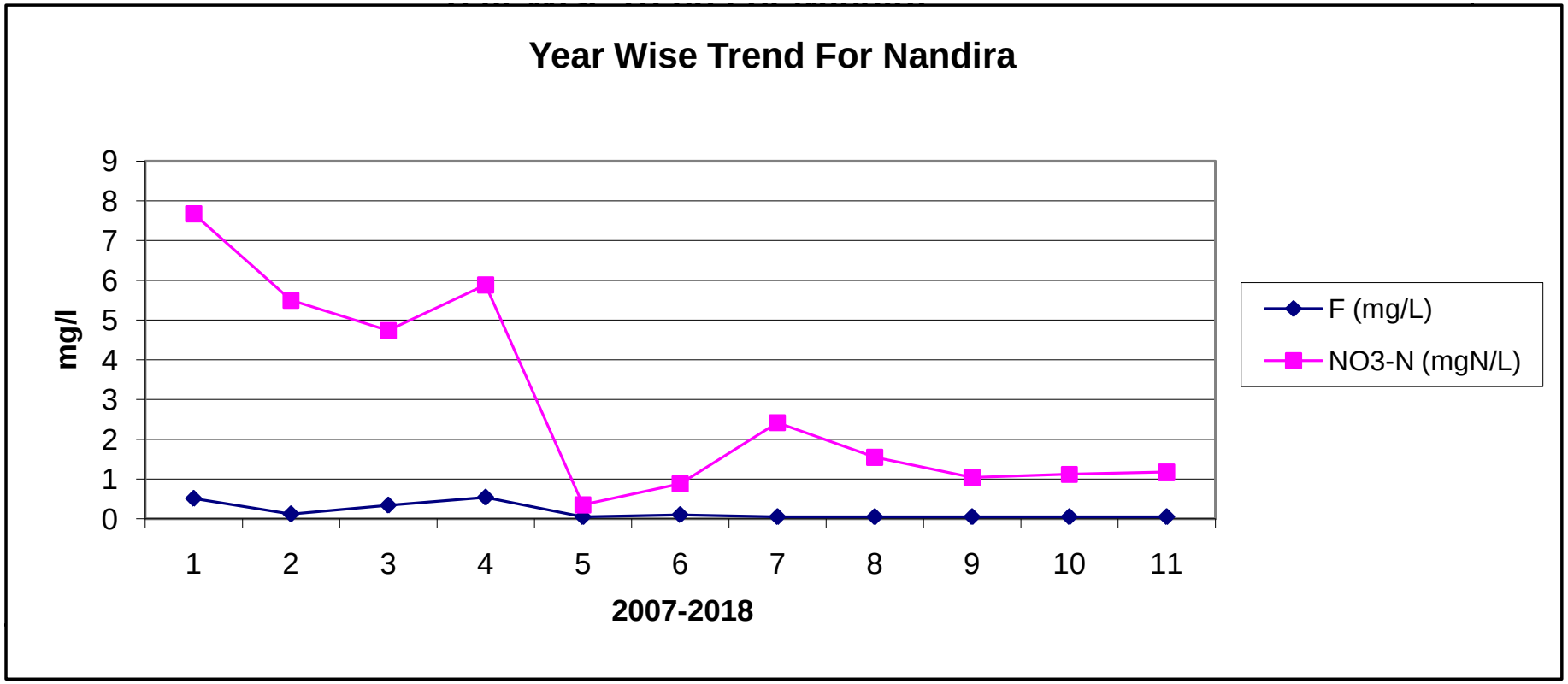
Station Name : NANDIRA (NANDIRA) **Division : E.E., Bhubaneswar**

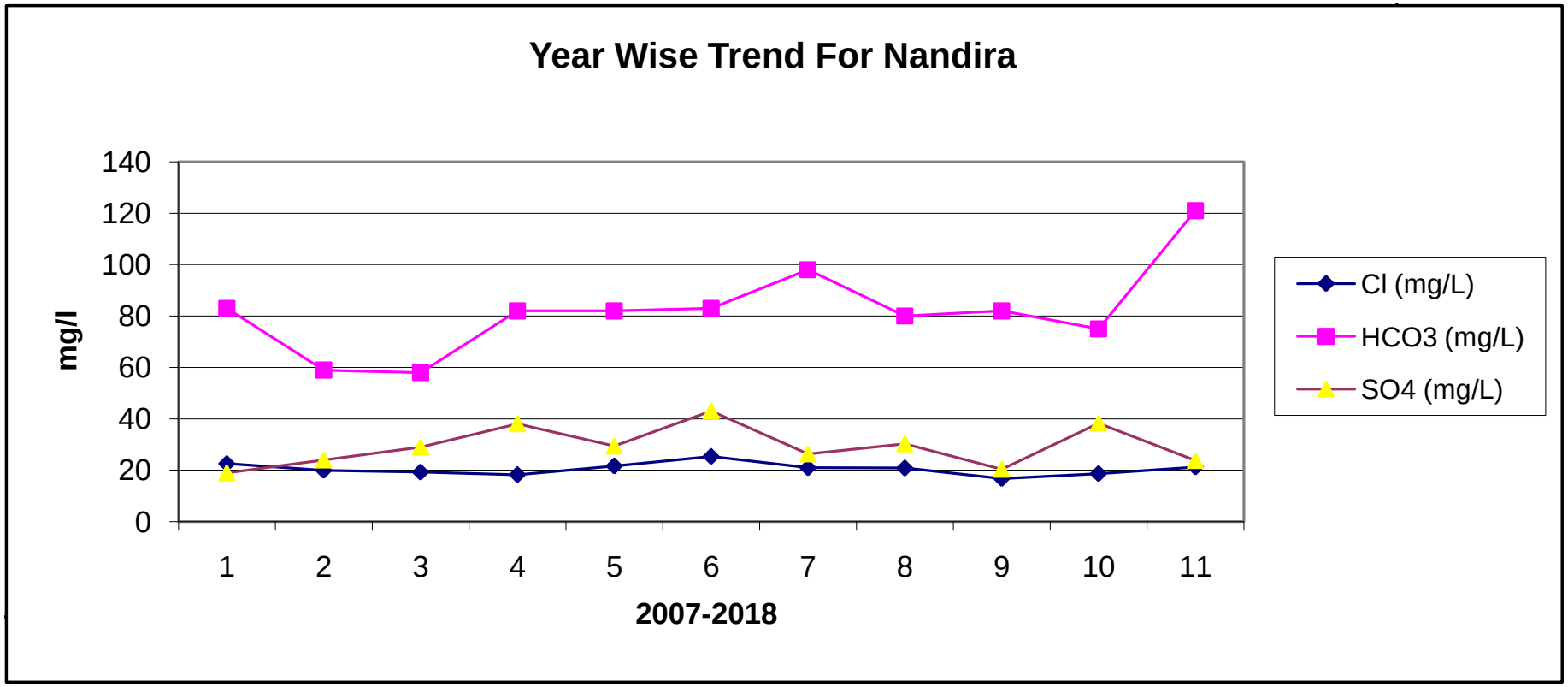
Local River : Nandiranala **River Water** **Sub-Division : Sambalpur**

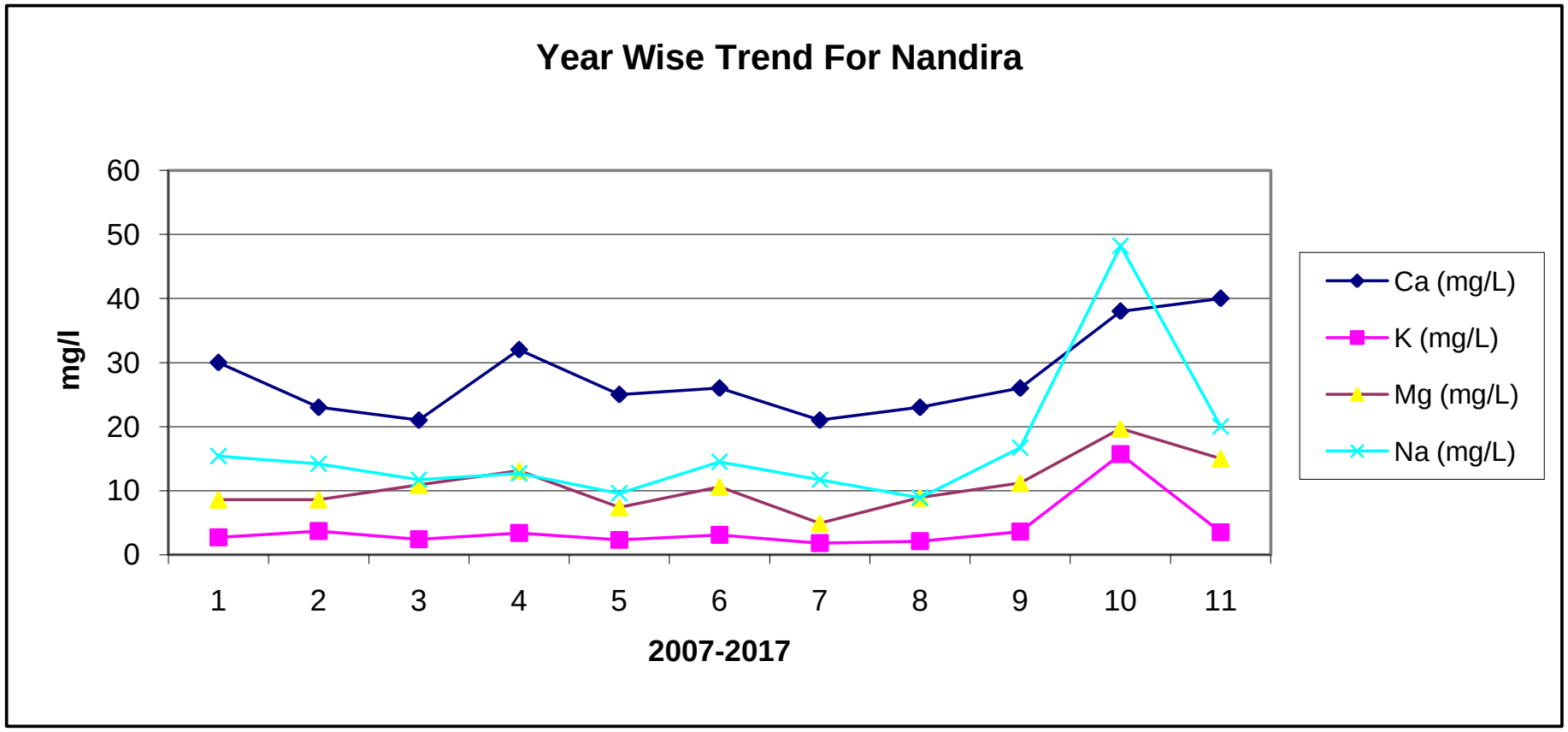
S.No	Parameters						Summer														
							Mar - May														
		2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	PHYSICAL																				
1	Q (cumec)																				
2	EC_FLD (µmho/cm)	272	330	710	621	357	347	138	204	239	351	293	378	450	273	338	120	184	468	366	476
3	EC_GEN (µmho/cm)	272	330	707	623	352	352	138	201	236	353	293	378	450	273	338	120	184	473	375	471
4	pH_FLD (pH units)	8.0	8.0	7.8	8.0	8.0	8.0	7.9	7.5	8.1	8.1	8.3	7.9	8.2	7.6	7.5	7.6	7.8	7.6	7.7	7.5
5	pH_GEN (pH units)	8.0	8.0	7.7	8.1	8.0	7.8	7.9	7.5	8.1	8.1	8.3	7.9	8.2	7.6	7.5	7.6	7.8	7.8	7.8	7.4
6	Temp (deg C)	23.9	20.0	22.6	22.6	21.0	27.3	26.1	27.4	28.5	28.5	30.2	28.7	29.3	31.0	27.5	26.3	28.2	27.9	26.8	28.2
	CHEMICAL																				
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	3.5	0.0	3.0				0.0	0.0	0.0	0.0	19.5	0.0	0.0		0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	84	63	67	47	120				94	87	53	90	120	71	81		66	85	74	107
3	B (mg/L)	0.00	0.00	0.01	0.01	0.01	0.61	0.01	0.14	0.00	0.19	0.11	0.18	0.15	0.01	0.00	0.00	0.00	0.01	0.02	0.02
4	Ca (mg/L)	23	20	19	39	49	56	12	22	25	36	26	32	43	28	26	21	25	38	42	43
5	Cl (mg/L)	20.9	17.4	17.0	17.9	20.8	21.2	12.7	18.7	15.2	28.1	22.0	26.0	19.5	17.6	32.9	21.7	13.3	23.3	22.6	25.4
6	CO3 (mg/L)	0.0	0.0	4.2	0.0	3.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	23.5	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	3.69	0.83	0.36	0.16	0.38	0.14	0.63	0.61	0.05	0.06	0.05	0.05	0.05	0.05	0.05
8	Fe (mg/L)	0.3	0.3	0.4	0.4	0.4	0.1	0.3	0.1	0.2	0.0	0.1	0.1	0.1	0.0	1.3	0.1	0.4	0.3	0.7	0.3
9	HCO3 (mg/L)	100	77	73	58	139	167	45	60	59	106	64	109	98	86	92	97	78	103	90	113
10	K (mg/L)	1.8	2.0	4.6	18.3	3.8	2.4	3.4	1.9	2.0	3.6	3.0	3.9	4.7	2.6	3.0	2.1	1.9	2.6	25.1	3.5
11	Mg (mg/L)	5.7	9.2	8.8	19.9	17.7	18.0	3.2	5.0	8.2	9.3	9.4	17.2	18.5	4.9	9.4	4.0	6.8	13.6	18.1	15.9
12	Na (mg/L)	12.0	10.7	21.8	61.5	17.1	13.9	9.8	13.1	10.8	19.5	16.0	15.6	14.1	10.3	17.0	12.9	7.2	15.3	63.3	31.7
13	NO2+NO3 (mg N/L)	2.89	1.24	1.13	1.16	1.17	8.30	4.39	5.62	7.51	7.31	2.67	4.49	3.56	0.41	0.81	2.72	1.19	0.85	1.22	1.20
14	NO2-N (mgN/L)	0.00	0.00	0.00	0.01	0.00	0.00	0.11	0.02	0.00	0.12	0.00	0.00	0.00	0.07	0.00	0.00	0.01	0.00	0.02	0.00
15	NO3-N (mgN/L)	2.89	1.23	1.13	1.15	1.17	8.30	4.28	5.60	7.51	7.19	2.67	4.49	3.56	0.34	0.81	2.72	1.18	0.85	1.21	1.20
16	o-PO4-P (mg P/L)								0.005	0.026		0.141	0.020								
17	P-Tot (mgP/L)	0.001	0.001	0.010	0.010	0.001	0.001	0.001	0.006	0.021	0.050	0.002	0.010	0.001	0.010	0.001	0.001	0.001	0.010	0.010	0.001
18	SiO2 (mg/L)	8.8	5.9	6.0	7.0	7.5	18.5	32.6	20.1	19.3	9.1	9.1	8.7	2.2	11.7	12.0	7.9	6.0	5.0	8.5	9.2
19	SO4 (mg/L)	27.4	27.9	22.5	50.5	22.3	40.3	4.7	10.7	20.5	22.0	42.4	36.4	60.0	31.8	55.6	28.1	30.7	13.5	56.2	30.5
	BIOLOGICAL/BACTERIOLOGICAL																				
1	BOD3-27 (mg/L)	0.7	1.2	2.0	0.6	0.8	2.1	2.5	2.0	2.2	2.3	2.6	2.6	4.8	2.5	0.8	0.3	0.5	0.6	1.5	0.6
2	DO (mg/L)	7.8	9.3	8.2	8.6	7.2	5.9	7.2	6.9	7.0	6.2	6.6	6.9	7.2	6.7	4.6	7.0	6.1	5.7	6.8	4.8
3	DO_SAT% (%)	92	102	94	98	81	73	88	87	89	80	87	89	94	91	58	86	78	72	85	62
4	FCol-MPN (MPN/100mL)				80	83				114	80	7	12	16		22				77	77
5	Tcol-MPN (MPN/100mL)				168	248				855	90	11	15	19		31				143	200
	TRACE & TOXIC																				
	CHEMICAL INDICES																				
1	HAR_Ca (mgCaCO3/L)	56	51	47	97	123	140	29	54	62	89	64	79	107	71	65	53	63	95	106	107
2	HAR_Total (mgCaCO3/L)	80	89	84	180	197	215	46	75	96	128	103	151	184	91	104	70	91	152	181	173
3	Na% (%)	25	20	35	40	17	12	31	26	20	25	26	19	14	19	27	28	14	17	39	27
4	RSC (-)	0.2	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	0.1	0.3	0.0	0.0	0.0	0.0
5	SAR (-)	0.6	0.5	1.0	2.0	0.6	0.4	0.7	0.6	0.5	0.8	0.7	0.5	0.4	0.5	0.8	0.7	0.3	0.5	2.1	1.0
	PESTICIDES																				


Year Wise Trend For Nandira
mg/l
200
180
160
140
120
100
80
60
40
20
0
1
2
3
4
5
6
7
8
9
10
11
2007- 2018
DO_SAT% (%)
HAR_Total (mgCaCO3/L)
Na% (%)


Year Wise Trend For Nandira
mg/l
8
7
6
5
4
3
2
1
0
1
2
3
4
5
6
7
8
9
10
11
2007-2018
BOD3-27 (mg/L)
DO (mg/L)


Year Wise Trend For Nandira
mg/l
9
8
7
6
5
4
3
2
1
0
1
2
3
4
5
6
7
8
9
10
11
2007-2018
F (mg/L)
NO3-N (mgN/L)


Year Wise Trend For Nandira
140
120
100
80
60
40
20
0
mg/l
1
2
3
4
5
6
7
8
9
10
11
2007-2018
Cl (mg/L)
HCO3 (mg/L)
SO4 (mg/L)


Year Wise Trend For Nandira
mg/l
60
50
40
30
20
10
0
1
2
3
4
5
6
7
8
9
10
11
2007-2017
Ca (mg/L)
K (mg/L)
Mg (mg/L)
Na (mg/L)

HISTORY SHEET

			Water Year	:	**2017-2018**
Site	:	**KAMALANGA**	**Code**	:	**KAMALANGA**
State	:	Orissa	District		Angul
Basin	:	Brahmani-Baitarani	Independent River	:	Brahmni
Tributary	:		Sub Tributary	:	
Sub-Sub Tributary	:		Local River	:	Brahmni
Division	:	E.E., Bhubaneswar	Sub-Division	:	Sambalpur
Drainage Area	:	Sq. Km.	Bank	:	Left
Latitude	:	°""	Longitude	:	°""
		Opening Date	Closing Date		
Gauge	:				
Discharge	:				
Sediment	:				
Water Quality	:	11/1/1990			

Water Quality Datasheet for the period : 2017-2018

Station Name : KAMALANGA (KAMALANGA) **Division : E.E., Bhubaneswar**

Local River : Brahmni **River Water Analysis** **Sub-Division : Sambalpur**

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)												
2	Colour_Cod (-)	Clear	Light Brown	Light Brown	Light Brown	Light Brown	Clear	Clear	Clear	Clear	Clear	Clear	Clear
3	EC_FLD (µmho/cm)	488	168	480	361	170	438	369	149	401	400	478	340
4	EC_GEN (µmho/cm)	482	163	476	358	166	432	362	145	397	403	474	346
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	7.8	8.0	8.2	7.6	8.0	8.1	7.5	8.0	7.6	7.7	7.7
7	pH_GEN (pH units)	7.9	7.7	7.9	8.1	7.5	8.1	8.0	7.5	7.9	7.7	7.6	7.8
8	Temp (deg C)	30.0	29.0	28.0	28.0	28.5	25.0	21.0	18.5	18.0	27.0	26.0	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	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	92	55	97	102	55	111	88	92	83	92	92	107
3	B (mg/L)	0.02	0.02	0.03	0.02	0.01	0.02	0.01	0.02	0.01	0.03	0.02	0.01
4	Ca (mg/L)	50	48	50	51	21	37	47	27	44	43	44	35
5	Cl (mg/L)	11.3	13.2	26.4	20.8	19.0	13.8	17.3	15.6	19.0	20.8	26.0	31.1
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
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)	0.5	0.5	0.4	0.4	0.4	0.3	0.4	0.5	0.5	0.3	0.4	0.4
9	HCO3 (mg/L)	113	68	118	124	68	135	107	113	101	113	113	131
10	K (mg/L)	3.5	2.0	2.0	2.3	2.8	2.9	3.2	3.5	1.6	2.1	2.5	6.4
11	Mg (mg/L)	25.3	25.3	26.2	27.2	10.3	15.9	20.7	7.9	14.3	17.5	19.9	17.5
12	Na (mg/L)	27.0	5.1	14.3	15.2	15.9	16.3	17.1	17.6	20.8	21.4	22.6	23.8
13	NO2+NO3 (mg N/L)	1.22	1.23	1.16	1.20	1.25	1.19	1.21	1.23	1.19	1.22	1.15	1.18
14	NO2-N (mgN/L)	0.01	0.01	0.04	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	NO3-N (mgN/L)	1.21	1.22	1.12	1.18	1.25	1.19	1.21	1.23	1.19	1.22	1.15	1.18
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)	7.0	8.0	7.8	9.0	6.5	7.8	8.7	9.5	8.2	6.5	7.4	9.4
18	SO4 (mg/L)	56.0	12.3	12.4	32.6	21.4	21.6	21.9	22.1	22.4	26.9	24.1	23.3
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)	1.6	1.4	0.6	0.8	0.8	0.2	0.4	0.4	0.8	0.4	1.0	1.2
2	DO (mg/L)	6.4	6.4	6.4	6.2	6.4	6.0	7.2	5.6	7.4	3.6	8.9	3.6
3	DO_SAT% (%)	84	83	81	79	81	72	80	59	78	45	110	46
4	FCol-MPN (MPN/100mL)	140	90	80	60	90	80	40	60	70	40	90	70
5	Tcol-MPN (MPN/100mL)	260	220	140	170	260	210	170	140	210	140	220	210
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)	124	120	124	128	53	92	118	69	111	108	111	88
2	HAR_Total (mgCaCO3/L)	230	226	234	242	96	158	204	102	171	181	194	161
3	Na% (%)	20	5	12	12	26	18	15	27	21	20	20	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	0.0
5	SAR (-)	0.8	0.1	0.4	0.4	0.7	0.6	0.5	0.8	0.7	0.7	0.7	0.8
	PESTICIDES												

Water Quality Summary for the period : 2017-2018

Station Name : KAMALANGA (KAMALANGA) **Division : E.E., Bhubaneswar**

Local River : Brahmni **Sub-Division : Sambalpur**

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)				
2	EC_FLD (µmho/cm)	12	488	149	354
3	EC_GEN (µmho/cm)	12	482	145	350
4	pH_FLD (pH units)	12	8.2	7.5	7.8
5	pH_GEN (pH units)	12	8.1	7.5	7.8
6	Temp (deg C)	12	30.0	18.0	25.7
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	12	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	12	111	55	89
3	B (mg/L)	12	0.03	0.01	0.02
4	Ca (mg/L)	12	51	21	42
5	Cl (mg/L)	12	31.1	11.3	19.5
6	CO3 (mg/L)	12	0.0	0.0	0
7	F (mg/L)	12	0.05	0.05	0.05
8	Fe (mg/L)	12	0.5	0.3	0.4
9	HCO3 (mg/L)	12	135	68	109
10	K (mg/L)	12	6.4	1.6	2.9
11	Mg (mg/L)	12	27.2	7.9	19
12	Na (mg/L)	12	27.0	5.1	18.1
13	NO2+NO3 (mg N/L)	12	1.25	1.15	1.2
14	NO2-N (mgN/L)	12	0.04	0.00	0.01
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	9.5	6.5	8
18	SO4 (mg/L)	12	56.0	12.3	24.7
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	12	1.6	0.2	0.8
2	DO (mg/L)	12	8.9	3.6	6.1
3	DO_SAT% (%)	12	110	45	75
4	FCol-MPN (MPN/100mL)	12	140	40	76
5	Tcol-MPN (MPN/100mL)	12	260	140	196
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	12	128	53	104
2	HAR_Total (mgCaCO3/L)	12	242	96	183
3	Na% (%)	12	27	5	18
4	RSC (-)	12	0.0	0.0	0
5	SAR (-)	12	0.8	0.1	0.6
	PESTICIDES				

Water Quality Seasonal Average for the period: 2003-2018

Station Name : KAMALANGA (KAMALANGA) **Division : E.E., Bhubaneswar**

Local River : Brahmni **River Water** **Sub-Division : Sambalpur**

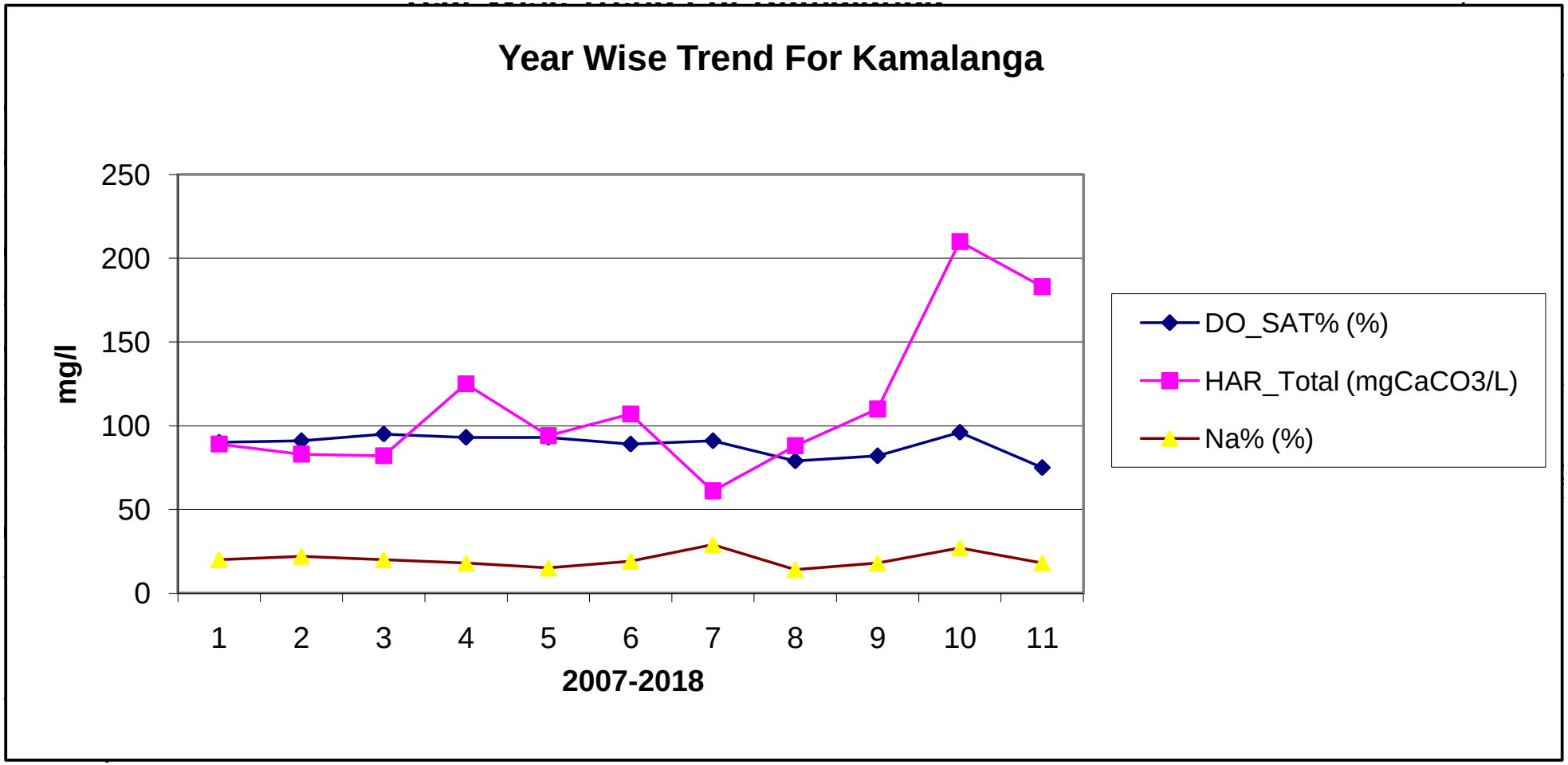
S.No	Parameters	Flood																					
		Jun - Oct																					
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010
	PHYSICAL																						
1	Q (cumec)																						
2	EC_FLD (µmho/cm)	222	313	159	203	278	231	183	269	191	177	251	308	424	281	333	313	160	146	139	175	175	212
3	EC_GEN (µmho/cm)	228	312	155	198	276	231	183	269	191	177	251	308	427	285	329	318	159	141	135	170	175	212
4	pH_FLD (pH units)	7.7	8.0	7.8	7.9	8.0	7.7	7.8	8.1	8.1	7.6	7.6	7.9	7.6	7.8	7.9	7.7	8.0	7.9	8.0	8.1	7.9	7.8
5	pH_GEN (pH units)	7.5	8.0	7.9	8.0	8.0	7.7	7.8	8.0	8.1	7.6	7.6	7.9	7.6	7.8	7.8	7.5	8.0	8.0	8.0	8.1	8.0	7.8
6	Temp (deg C)	28.9	25.5	28.3	28.5	29.5	29.3	29.3	28.4	29.6	30.4	23.4	27.2	28.8	29.8	28.7	24.4	25.2	22.8	23.8	23.4	23.6	25.3
	CHEMICAL																						
1	Alk-Phen (mgCaCO3/L)				0.0	0.0	0.0	0.0	3.2	4.6	0.0		0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)				104	62	47	36	66	65	51		52	75	91	80				57	46	38	45
3	B (mg/L)	0.53	0.00	0.44	0.00	0.13	0.11	0.13	0.14	0.01	0.00	0.00	0.00	0.01	0.01	0.02	0.45	0.11	0.47	0.00	0.19	0.10	0.12
4	Ca (mg/L)	25	30	19	23	28	21	15	24	19	16	18	24	24	56	44	34	17	16	14	22	14	19
5	Cl (mg/L)	11.0	18.3	10.7	16.5	15.2	15.2	14.8	17.9	23.4	14.7	21.1	23.4	13.6	23.4	18.1	17.2	10.3	10.1	10.4	10.9	15.2	14.1
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8	5.5	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)	0.18	0.42	0.06	0.21	0.21	0.23	0.11	0.12	0.05	0.06	0.05	0.05	0.05	0.05	0.05	0.15	0.38	0.14	0.08	0.17	0.23	0.15
8	Fe (mg/L)	0.1	0.2	0.0	0.1	0.1	0.1	0.1	0.1	0.0	1.3	0.1	0.3	0.5	0.6	0.4	0.1	0.2	0.1	0.2	0.1	0.1	0.1
9	HCO3 (mg/L)	50	81	48	66	76	57	44	72	68	48	80	63	91	110	98	75	36	41	41	56	47	55
10	K (mg/L)	1.7	4.0	1.6	2.0	6.3	3.3	1.9	2.5	2.0	1.7	3.1	2.0	2.4	7.5	2.5	2.2	2.4	1.6	1.7	1.4	1.5	1.4
11	Mg (mg/L)	6.2	8.6	4.5	5.7	8.4	8.6	7.6	10.3	7.4	5.3	4.6	7.4	9.3	21.8	22.9	9.6	4.4	5.4	4.7	4.1	7.0	8.7
12	Na (mg/L)	7.8	12.7	6.3	11.5	11.0	10.7	8.2	12.3	5.6	5.0	13.1	5.6	9.4	26.2	15.5	12.7	6.6	6.7	7.4	8.0	9.6	9.8
13	NH3-N (mg N/L)																						
14	NO2+NO3 (mg N/L)	7.41	7.61	3.64	6.15	7.94	4.18	3.30	5.15	0.41	2.59	2.87	1.54	0.96	1.10	1.21	11.39	5.97	4.80	3.14	3.76	3.38	3.85
15	NO2-N (mgN/L)	0.00	0.06	0.06	0.07	0.02	0.00	0.00	0.00	0.07	0.00	0.01	0.01	0.02	0.01	0.02	0.06	0.02	0.03	0.07	0.10	0.00	0.04
16	NO3-N (mgN/L)	7.41	7.55	3.58	6.08	7.93	4.18	3.30	5.15	0.34	2.59	2.86	1.54	0.94	1.09	1.19	11.33	5.95	4.76	3.08	3.66	3.38	3.81
17	o-PO4-P (mg P/L)		0.036	0.010	0.089	0.012	0.058	0.046										0.088	0.047	0.310	0.013	0.062	0.078
18	P-Tot (mgP/L)	0.061	0.001	0.011	0.062	0.015	0.002	0.008	0.001	0.010	0.001	0.001	0.001	0.001	0.008	0.001	0.064	0.001	0.044	0.055	0.031	0.003	0.001
19	SiO2 (mg/L)	13.4	25.2	12.8	15.1	9.7	8.8	8.0	8.0	10.2	12.4	8.5	8.5	6.0	6.2	7.7	18.4	24.7	16.7	20.6	8.8	8.8	7.6
20	SO4 (mg/L)	20.5	25.9	13.6	9.5	23.0	24.4	18.5	17.3	22.8	65.3	22.1	24.8	24.1	52.8	27.0	30.3	15.8	12.9	12.6	13.0	10.9	21.3
	BIOLOGICAL/BACTERIOLOGICAL																						
1	BOD3-27 (mg/L)	2.3	1.2	1.2	1.5	1.5	1.6	1.6	2.0	1.5	1.0	0.6	0.4	0.8	0.9	1.0	1.3	1.2	1.5	1.5	1.9	1.6	1.9
2	DO (mg/L)	5.5	6.7	7.0	7.0	7.1	7.2	7.3	7.4	7.1	6.7	7.0	6.1	6.5	7.9	6.3	7.9	8.1	8.0	7.9	7.5	7.8	7.8
3	DO_SAT% (%)	71	81	89	90	93	93	95	95	93	89	86	77	84	104	82	93	98	93	94	88	91	95
4	FCol-MPN (MPN/100mL)				60	80	26	15	82		17					92				550		7	13
5	Tcol-MPN (MPN/100mL)				165	90	29	28	155		22					210				660		8	16
	TRACE & TOXIC																						
	CHEMICAL INDICES																						
1	HAR_Ca (mgCaCO3/L)	64	75	47	59	70	52	38	59	46	39	44	59	59	139	110	85	44	41	35	54	36	47
2	HAR_Total (mgCaCO3/L)	90	112	66	82	105	88	70	102	77	61	63	90	98	230	205	125	70	64	55	71	65	84
3	Na% (%)	16	20	17	22	18	22	21	20	14	15	30	12	16	19	15	18	19	18	22	21	24	20
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.4	0.5	0.3	0.5	0.5	0.5	0.5	0.5	0.3	0.3	0.7	0.3	0.4	0.8	0.5	0.5	0.4	0.4	0.4	0.4	0.5	0.5
	PESTICIDES																						

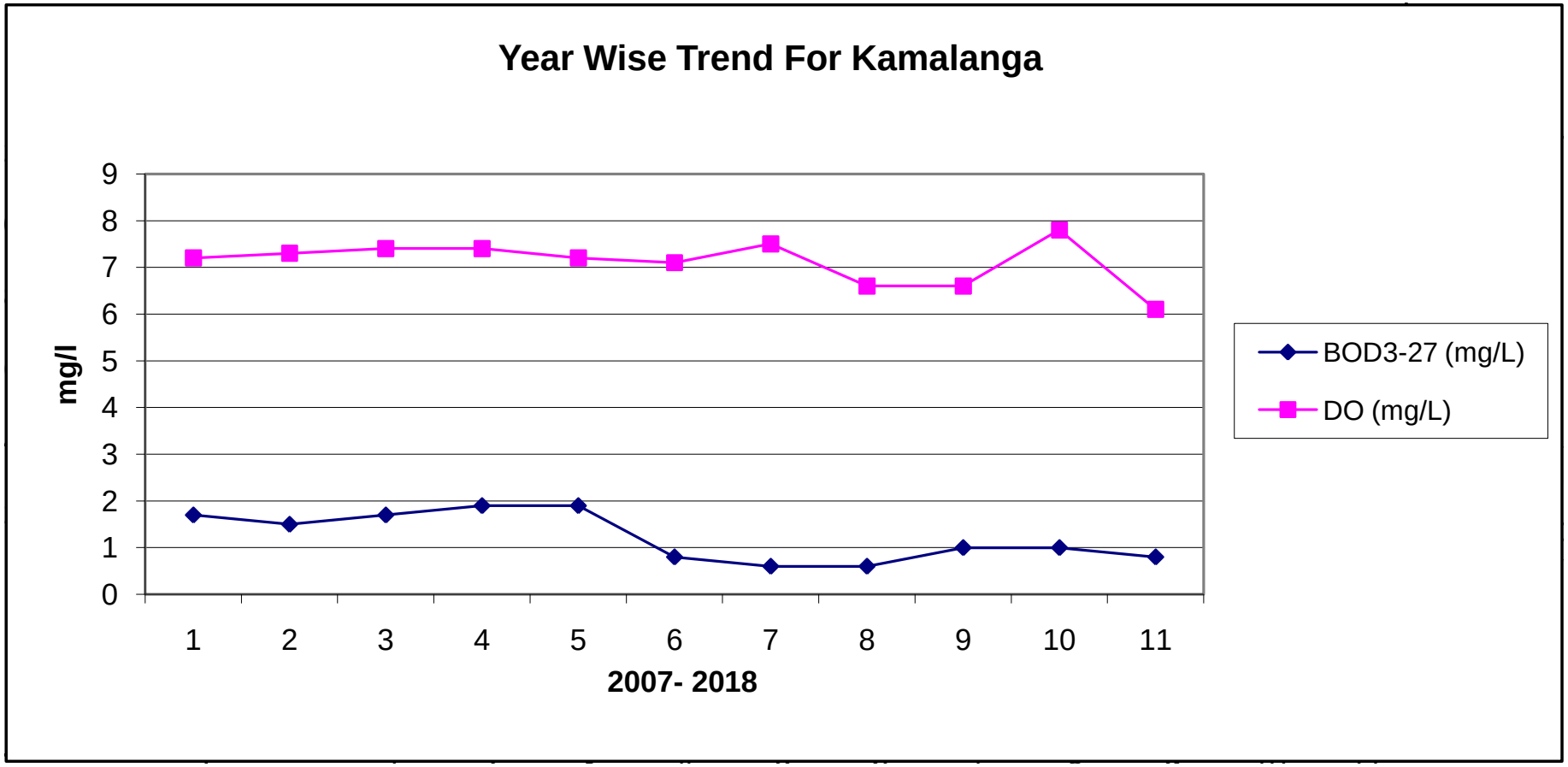
Water Quality Seasonal Average for the period: 2003-2018

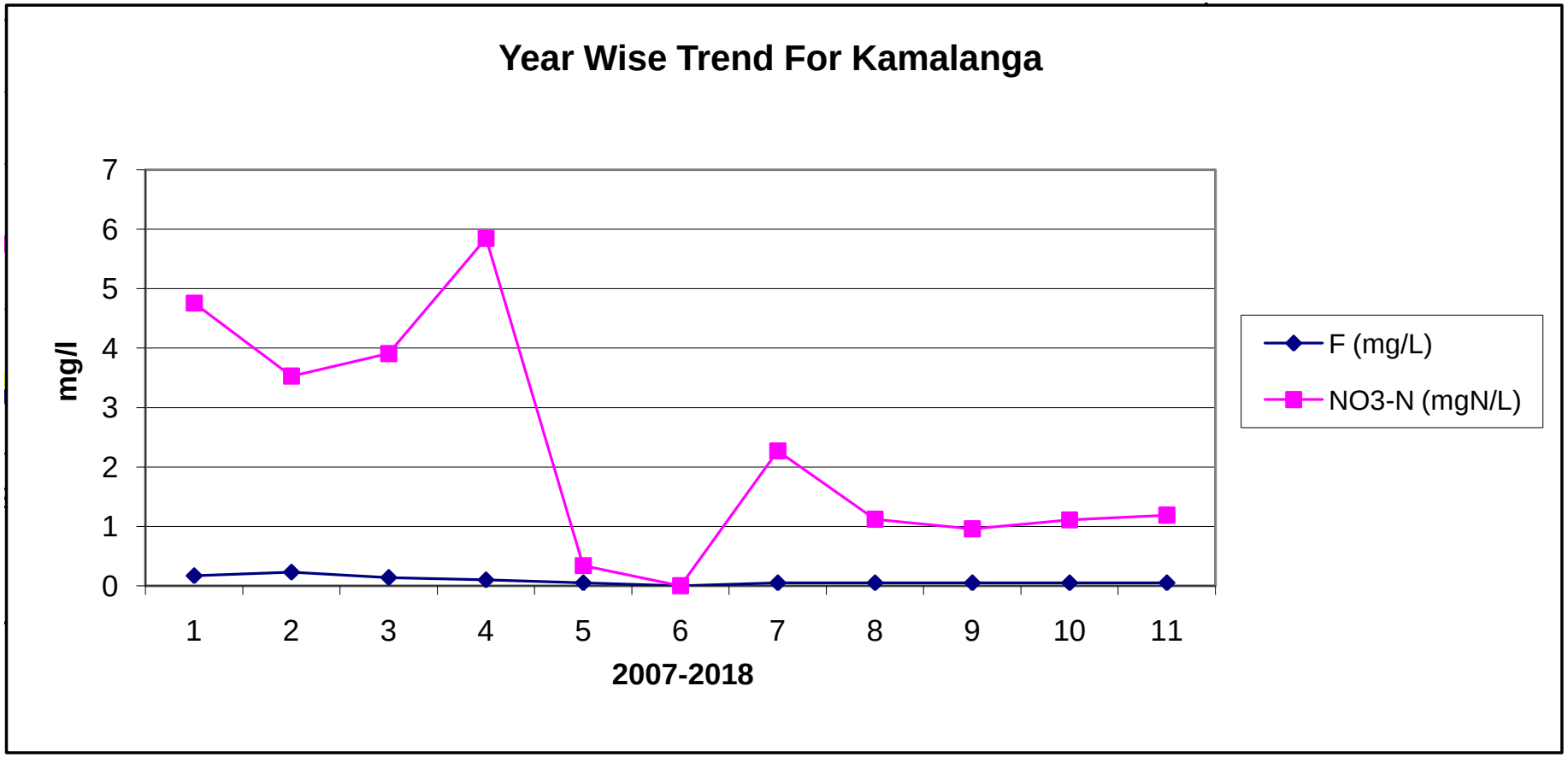
Station Name : KAMALANGA (KAMALANGA) **Division : E.E., Bhubaneswar**

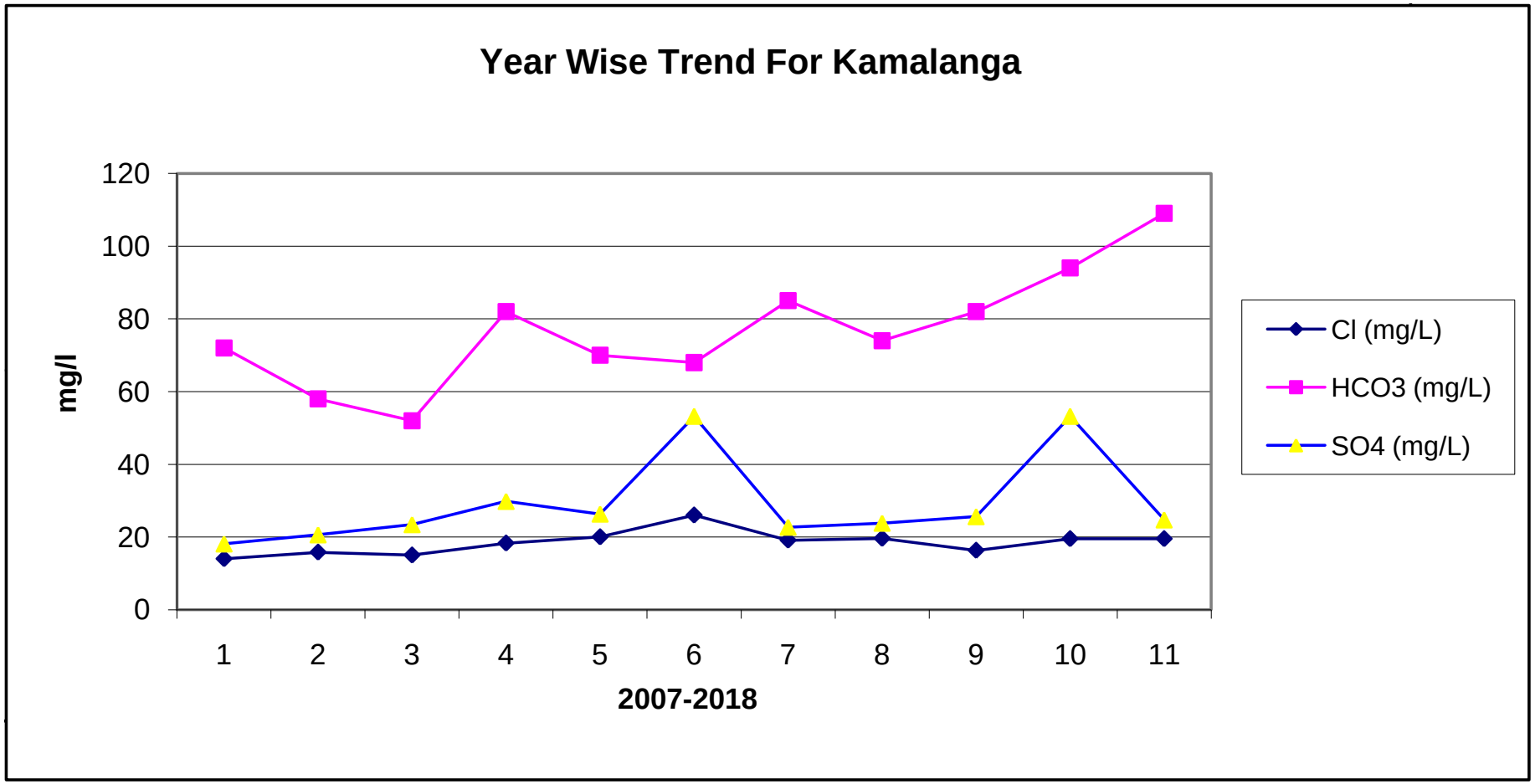
Local River : Brahmni **River Water** **Sub-Division : Sambalpur**

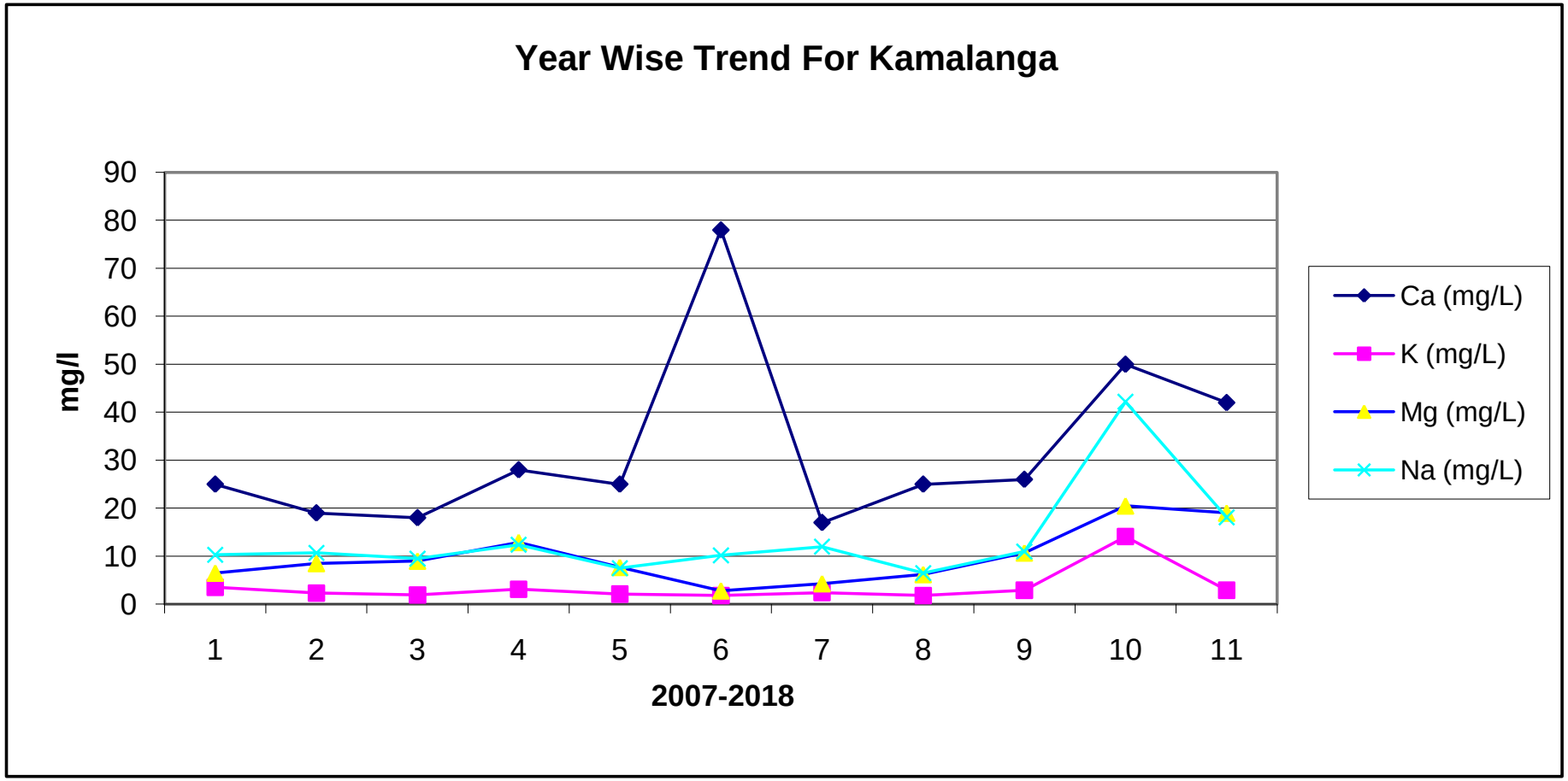
Winter								Summer														
Nov - Feb								Mar - May														
2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
267	197	358	284	373	822	670	339	193	133	145	179	226	260	258	467	260	352	119	193	395	352	406
267	197	358	284	373	824	675	334	200	131	140	175	225	260	258	467	260	352	119	193	396	355	408
7.6	7.7	7.5	8.1	8.0	7.5	8.1	7.9	8.1	7.8	7.6	8.2	8.1	7.9	7.9	8.2	7.6	7.6	7.7	7.7	7.8	7.8	7.7
7.6	7.7	7.5	8.1	8.0	7.6	8.1	7.9	7.9	7.8	7.7	8.2	7.5	7.7	7.9	8.2	7.6	7.6	7.7	7.7	7.9	7.8	7.7
25.0	27.0	23.3	18.7	20.1	23.2	22.4	20.6	23.9	26.8	27.8	28.2	27.0	29.5	28.7	29.3	31.0	27.5	26.3	28.0	27.6	26.7	27.3
0.0	0.0	0.0		0.0	3.5	0.0	0.0				0.0		0.0	0.0	13.7	0.0	0.0	0.0	0.0	3.1	0.0	0.0
66	51	83		65	65	55	94				104		60	49	110	68	85	64	71	72	83	97
0.15	0.01	0.00	0.00	0.00	0.01	0.01	0.01	0.55	0.04	0.29	0.00	0.21	0.07	0.17	0.15	0.01	0.00	0.00	0.00	0.01	0.01	0.02
25	31	39	16	26	20	47	39	21	12	17	21	23	23	21	41	26	25	18	25	38	43	41
15.1	17.9	25.9	15.7	18.1	17.4	13.7	16.4	11.0	11.6	9.4	9.9	16.1	17.5	16.7	23.3	17.0	29.6	20.2	15.2	19.5	20.7	26.0
0.0	0.0	0.0	0.0	0.0	4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.5	0.0	0.0	0.0	0.0	3.7	0.0	0.0
0.07	0.05	0.06	0.05	0.05	0.05	0.05	0.05	0.11	0.40	0.08	0.09	0.11	0.23	0.16	0.13	0.05	0.05	0.05	0.05	0.05	0.05	0.05
0.1	0.0	1.3	0.1	0.2	0.4	0.5	0.4	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.0	1.1	0.1	0.4	0.4	0.6	0.4
81	62	106	85	79	70	68	114	55	33	43	64	85	73	59	100	83	113	94	87	81	101	119
2.6	1.8	3.8	2.2	1.7	2.7	16.9	2.8	1.8	2.3	1.6	1.6	1.6	1.9	2.7	4.9	2.4	3.4	1.6	1.7	3.8	21.5	3.7
10.0	7.8	16.5	4.3	5.6	9.0	20.7	14.7	6.3	3.2	4.9	6.1	6.8	10.4	11.7	21.1	8.1	10.0	4.0	5.2	15.2	18.1	18.3
10.7	8.3	19.2	11.9	7.9	15.6	45.2	17.9	7.8	7.8	5.8	6.1	12.0	12.5	11.3	15.0	9.6	16.3	10.5	6.2	7.7	64.8	22.6
												0.05										
5.03	0.42	0.86	2.05	0.93	0.95	1.07	1.21	5.70	2.84	3.71	3.87	0.98	2.64	5.14	8.09	0.41	0.79	1.56	0.72	1.01	1.24	1.18
0.00	0.07	0.00	0.00	0.02	0.03	0.02	0.00	0.08	0.06	0.04	0.02	0.06	0.00	0.06	0.00	0.07	0.00	0.00	0.03	0.00	0.01	0.00
5.03	0.35	0.86	2.05	0.91	0.92	1.05	1.21	5.62	2.78	3.68	3.85	0.93	2.64	5.09	8.09	0.35	0.79	1.55	0.70	1.01	1.22	1.18
									0.041	0.055	0.017		0.069	0.147								
0.001	0.010	0.001	0.001	0.001	0.010	0.010	0.001	0.131	0.001	0.065	0.018	0.050	0.002	0.001	0.001	0.010	0.001	0.001	0.001	0.010	0.010	0.001
3.2	10.8	12.5	8.4	8.8	5.3	6.5	8.5	13.3	23.4	19.3	17.2	9.9	9.0	8.2	1.9	11.0	12.0	8.6	8.7	5.0	8.8	7.8
28.2	28.5	40.7	22.6	24.1	31.9	53.4	22.0	17.0	10.0	14.1	11.5	16.6	27.5	34.2	52.9	29.3	49.7	24.0	21.5	19.7	53.7	24.7
1.8	2.3	0.3	0.7	0.7	1.2	1.1	0.5	1.5	1.7	1.7	1.5	1.6	1.4	1.8	2.1	1.9	1.2	0.7	0.7	1.1	1.2	0.9
7.7	7.5	7.9	7.9	8.9	7.2	8.6	6.5	7.4	7.3	7.2	7.0	6.8	6.8	7.2	7.0	6.9	6.6	7.6	4.4	6.0	6.6	5.4
93	94	93	96	97	84	98	72	87	91	91	90	86	89	93	92	93	83	94	57	76	82	67
33		17				83	63				74	45	8	4	13		20				117	67
560		22				130	183				654	65	12	6	13		25				247	190
62	78	97	41	65	50	118	97	52	31	43	51	57	57	52	102	64	62	44	62	96	107	102
104	111	166	59	88	88	204	158	78	40	64	77	86	101	101	189	98	104	61	83	160	182	178
18	16	20	30	16	26	29	20	18	26	16	15	24	22	19	14	17	25	27	14	11	39	21
0.0	0.0	0.0	0.2	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	0.3	0.0	0.0	0.0	0.0
0.5	0.4	0.6	0.7	0.4	0.7	1.4	0.6	0.4	0.5	0.3	0.3	0.6	0.6	0.5	0.5	0.4	0.7	0.6	0.3	0.3	2.1	0.7


Year Wise Trend For Kamalanga
250
200
150
100
50
0
mg/l
1
2
3
4
5
6
7
8
9
10
11
2007-2018
DO_SAT% (%)
HAR_Total (mgCaCO3/L)
Na% (%)


Year Wise Trend For Kamalanga
mg/l
9
8
7
6
5
4
3
2
1
0
1
2
3
4
5
6
7
8
9
10
11
2007- 2018
BOD3-27 (mg/L)
DO (mg/L)


Year Wise Trend For Kamalanga
mg/l
7
6
5
4
3
2
1
0
1
2
3
4
5
6
7
8
9
10
11
2007-2018
F (mg/L)
NO3-N (mgN/L)


Year Wise Trend For Kamalanga
120
100
80
60
40
20
0
mg/l
1
2
3
4
5
6
7
8
9
10
11
2007-2018
Cl (mg/L)
HCO3 (mg/L)
SO4 (mg/L)


Year Wise Trend For Kamalanga
mg/l
90
80
70
60
50
40
30
20
10
0
1
2
3
4
5
6
7
8
9
10
11
2007-2018
Ca (mg/L)
K (mg/L)
Mg (mg/L)
Na (mg/L)

HISTORY SHEET

			Water Year	**:**	**2017-2018**
Site	**:**	**RSP NALLA**	**Code**	**:**	**RSP**
State	:	Orissa	District		Sundergarh
Basin	:	Brahmani-Baitarani	Independent River	:	Brahmni
Tributary	:	RSP Nala	Sub Tributary	:	
Sub-Sub Tributary	:		Local River	:	RSP Nala
Division	:	E.E., Bhubaneswar	Sub-Division	:	Sambalpur
Drainage Area	:	Sq. Km.	Bank	:	Left
Latitude	:	°""	Longitude	:	°""
		Opening Date	Closing Date		
Gauge	:				
Discharge	:				
Sediment	:				
Water Quality	:	11/1/1990			

Water Quality Datasheet for the period : 2017-2018

Station Name : RSP NALLA (RSP) **Division : E.E., Bhubaneswar**

Local River : RSP Nala **River Water Analysis** **Sub-Division : Sambalpur**

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)												
2	Colour_Cod (-)	Clear	Light Brown	Light Brown	Light Brown	Light Brown	Clear	Clear	Clear	Clear	Clear	Clear	Clear
3	EC_FLD (µmho/cm)	438	418	438	306	310	540	338	378	348	457	450	510
4	EC_GEN (µmho/cm)	430	413	432	299	300	544	335	372	341	460	445	505
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)	7.8	7.7	7.2	7.2	8.0	7.5	7.2	7.4	8.0	7.5	7.5	7.4
7	pH_GEN (pH units)	7.7	7.6	7.1	7.1	8.0	7.4	7.1	7.4	8.0	7.6	7.5	7.3
8	Temp (deg C)	29.0	27.5	30.0	26.0	27.0	26.0	16.0	11.0	15.0	21.0	28.0	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	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	60	28	28	51	46	97	51	60	88	88	32	46
3	B (mg/L)	0.02	0.01	0.01	0.01	0.02	0.01	0.02	0.03	0.02	0.01	0.02	0.03
4	Ca (mg/L)	45	46	46	45	22	44	48	43	42	38	51	33
5	Cl (mg/L)	30.2	24.5	24.5	20.8	15.6	24.2	67.6	24.2	19.0	20.8	27.7	32.9
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
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)	0.5	0.5	0.4	0.4	0.5	0.5	0.4	0.5	0.5	0.3	0.4	0.5
9	HCO3 (mg/L)	73	34	34	62	56	118	62	73	107	107	39	56
10	K (mg/L)	9.4	6.5	8.2	8.3	8.9	9.0	9.6	10.1	5.4	5.8	5.9	11.2
11	Mg (mg/L)	27.3	15.6	16.5	17.5	9.5	16.7	19.9	13.5	13.5	15.1	19.9	15.1
12	Na (mg/L)	18.5	8.3	9.2	10.1	11.0	12.1	12.8	23.6	27.9	28.6	30.6	20.9
13	NO2+NO3 (mg N/L)	1.12	1.18	1.23	1.26	1.21	1.19	1.22	1.18	1.23	1.19	1.22	1.25
14	NO2-N (mgN/L)	0.00	0.03	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	NO3-N (mgN/L)	1.12	1.15	1.21	1.23	1.21	1.19	1.22	1.18	1.23	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)	9.0	8.5	9.2	7.4	7.5	9.4	8.5	6.5	9.2	8.8	7.4	6.4
18	SO4 (mg/L)	48.0	39.7	39.4	32.7	45.0	48.0	49.7	52.0	55.0	60.2	15.6	52.2
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)	1.6	1.2	1.8	20.0	0.6	1.2	2.2	2.4	2.8	1.0	0.6	1.8
2	DO (mg/L)	1.2	5.6	5.6	1.2	5.6	3.0	6.4	3.6	5.6	2.4	8.9	3.6
3	DO_SAT% (%)	16	70	74	15	70	37	64	32	55	27	114	46
4	FCol-MPN (MPN/100mL)	110	120	90	40	110	90	80	70	110	110	120	130
5	Tcol-MPN (MPN/100mL)	210	260	130	170	300	270	220	260	270	300	330	340
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)	112	116	116	112	56	111	121	108	105	95	127	82
2	HAR_Total (mgCaCO3/L)	226	181	185	185	95	181	204	164	161	158	210	145
3	Na% (%)	15	9	9	10	18	12	11	23	27	27	24	22
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 (-)	0.5	0.3	0.3	0.3	0.5	0.4	0.4	0.8	1.0	1.0	0.9	0.8
	PESTICIDES												

Water Quality Summary for the period : 2017-2018

Station Name : RSP NALLA (RSP) **Division : E.E., Bhubaneswar**

Local River : RSP Nala **Sub-Division : Sambalpur**

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)				
2	EC_FLD (µmho/cm)	12	540	306	411
3	EC_GEN (µmho/cm)	12	544	299	406
4	pH_FLD (pH units)	12	8.0	7.2	7.5
5	pH_GEN (pH units)	12	8.0	7.1	7.5
6	Temp (deg C)	12	30.0	11.0	23.8
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	12	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	12	97	28	56
3	B (mg/L)	12	0.03	0.01	0.02
4	Ca (mg/L)	12	51	22	42
5	Cl (mg/L)	12	67.6	15.6	27.7
6	CO3 (mg/L)	12	0.0	0.0	0
7	F (mg/L)	12	0.05	0.05	0.05
8	Fe (mg/L)	12	0.5	0.3	0.5
9	HCO3 (mg/L)	12	118	34	69
10	K (mg/L)	12	11.2	5.4	8.2
11	Mg (mg/L)	12	27.3	9.5	16.7
12	Na (mg/L)	12	30.6	8.3	17.8
13	NO2+NO3 (mg N/L)	12	1.26	1.12	1.21
14	NO2-N (mgN/L)	12	0.03	0.00	0.01
15	NO3-N (mgN/L)	12	1.25	1.12	1.2
16	P-Tot (mgP/L)	12	0.001	0.001	0.001
17	SiO2 (mg/L)	12	9.4	6.4	8.1
18	SO4 (mg/L)	12	60.2	15.6	44.8
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	12	20.0	0.6	3.1
2	DO (mg/L)	12	8.9	1.2	4.4
3	DO_SAT% (%)	12	114	15	52
4	FCol-MPN (MPN/100mL)	12	130	40	98
5	Tcol-MPN (MPN/100mL)	12	340	130	255
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	12	127	56	105
2	HAR_Total (mgCaCO3/L)	12	226	95	174
3	Na% (%)	12	27	9	17
4	RSC (-)	12	0.0	0.0	0
5	SAR (-)	12	1.0	0.3	0.6
	PESTICIDES				

Water Quality Seasonal Average for the period: 2003-2018

Station Name : RSP NALLA (RSP) **Division : E.E., Bhubaneswar**

Local River : RSP Nala **River Water** **Sub-Division : Sambalpur**

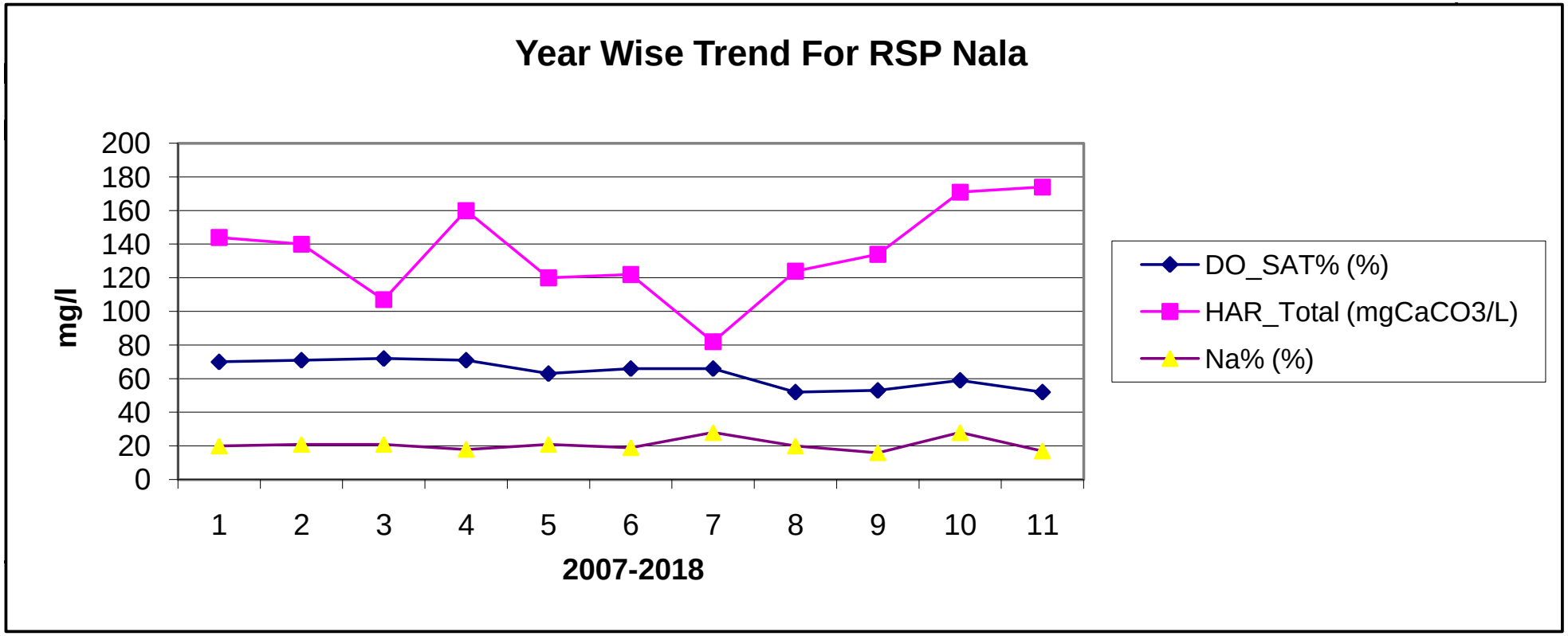
S.No	Parameters	Flood															Winter							
		Jun - Oct															Nov - Feb							
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	PHYSICAL																							
1	Q (cumec)																							
2	EC_FLD (µmho/cm)	426	379	272	262	328	321	293	311	358	338	316	404	514	361	382	297	465	292	301	318	400	265	475
3	EC_GEN (µmho/cm)	432	379	269	260	326	321	293	311	358	338	316	404	516	365	375	303	465	287	300	339	403	265	475
4	pH_FLD (pH units)	7.5	7.6	7.6	7.4	7.6	7.4	7.4	7.5	8.1	7.3	7.4	7.4	7.6	7.6	7.5	7.5	7.8	7.5	7.9	7.6	7.8	7.6	7.5
5	pH_GEN (pH units)	7.4	7.6	7.6	7.5	7.6	7.4	7.4	7.5	8.1	7.3	7.4	7.4	7.4	7.6	7.5	7.2	7.8	7.6	7.9	7.6	7.8	7.6	7.5
6	Temp (deg C)	29.5	29.0	30.6	30.2	28.6	29.6	29.8	31.0	30.2	28.0	25.8	28.6	28.8	28.6	27.9	29.3	23.0	22.7	22.4	22.3	22.5	20.5	21.8
	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	0.0
2	ALK-TOT (mgCaCO3/L)					72	61	60	48	82	9	71	91	68	52	43					64	84	30	93
3	B (mg/L)	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.16	0.01	0.00	0.00	0.00	0.01	0.01	0.01	0.49	0.00	0.00	0.00	0.19	0.00	0.25	0.20
4	Ca (mg/L)	30	43	29	27	33	30	25	28	34	28	20	34	28	46	41	42	57	29	32	35	38	24	47
5	Cl (mg/L)	16.8	22.1	17.5	18.2	19.0	22.0	21.4	21.9	27.2	34.7	25.7	33.8	17.7	19.6	23.1	18.7	16.5	18.8	16.5	21.3	24.5	19.9	26.4
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.27	0.39	0.40	0.51	0.43	0.30	0.27	0.25	0.05	0.06	0.05	0.05	0.05	0.05	0.05	0.58	0.53	0.32	0.33	0.33	0.08	0.41	0.74
8	Fe (mg/L)	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.0	1.4	0.1	0.3	0.5	0.4	0.5	0.1	0.1	0.3	0.2	0.1	0.3	0.1	0.1
9	HCO3 (mg/L)	80	111	55	80	88	72	42	59	96	45	93	111	83	63	52	89	149	50	78	78	90	37	113
10	K (mg/L)	2.9	3.3	2.5	6.7	2.9	5.3	4.3	4.5	6.7	4.1	3.3	6.7	3.6	9.4	8.3	2.4	2.3	4.5	3.2	3.6	4.5	2.0	5.1
11	Mg (mg/L)	11.1	10.5	7.5	7.1	11.5	10.7	10.7	11.1	12.6	8.4	6.1	12.6	12.6	15.0	17.3	15.1	14.8	7.9	10.3	11.2	14.1	10.3	16.0
12	Na (mg/L)	12.3	15.1	13.2	12.5	13.7	14.8	12.6	13.5	15.5	9.3	15.7	15.5	8.5	19.5	11.4	13.0	11.2	14.0	11.9	14.1	16.0	12.0	17.1
13	NO2+NO3 (mg N/L)	9.50	10.68	13.11	7.23	10.33	10.66	7.36	7.50	0.39	1.06	12.72	1.50	1.19	1.06	1.20	19.70	17.90	15.24	13.00	14.38	12.66	10.82	10.90
14	NO2-N (mgN/L)	0.00	0.01	0.96	0.16	0.03	0.09	0.00	0.00	0.07	0.00	0.00	0.02	0.02	0.01	0.02	0.39	1.30	1.00	0.83	0.09	0.96	0.10	0.00
15	NO3-N (mgN/L)	9.50	10.67	12.15	7.07	10.30	10.57	7.36	7.50	0.33	1.06	12.72	1.48	1.16	1.05	1.18	19.31	16.60	14.24	12.17	14.29	11.70	10.72	10.90
16	o-PO4-P (mg P/L)		0.027	0.011	0.010	0.000		0.000										0.000	0.000	0.005	0.000	0.120	0.008	
17	P-Tot (mgP/L)	0.001	0.001	0.012	0.011	0.001	0.002	0.003	0.001	0.010	0.001	0.001	0.001	0.001	0.010	0.001	0.001	0.001	0.001	0.007	0.001	0.002	0.001	0.001
18	SiO2 (mg/L)	16.2	23.7	25.4	12.3	8.6	9.1	9.1	7.8	8.8	11.6	8.0	5.6	6.0	6.6	8.3	16.1	25.5	21.7	16.3	8.9	9.4	8.9	5.5
19	SO4 (mg/L)	28.9	23.3	20.2	16.2	25.1	24.4	42.7	37.4	42.8	45.0	32.5	45.0	26.4	50.8	41.0	36.2	27.8	25.6	23.3	22.4	28.4	23.9	62.6
	BIOLOGICAL/BACTERIOLOGICAL																							
1	BOD3-27 (mg/L)	1.2	5.5	1.4	3.4	1.4	1.4	1.8	1.7	1.9	5.6	1.9	5.3	9.0	17.7	5.0	1.9	6.5	1.8	1.5	1.6	1.9	2.0	2.3
2	DO (mg/L)	5.3	4.9	5.8	5.6	5.6	5.3	4.5	5.4	3.8	5.0	5.6	3.2	4.4	5.0	3.8	4.8	4.8	7.4	7.2	6.3	6.9	7.9	6.2
3	DO_SAT% (%)	69	64	77	75	73	69	59	73	50	64	69	42	57	65	49	63	56	85	83	71	79	88	71
4	FCol-MPN (MPN/100mL)															94								
5	Tcol-MPN (MPN/100mL)															214								
	TRACE & TOXIC																							
1	Al (mg/L)			4.02																				
	CHEMICAL INDICES																							
1	HAR_Ca (mgCaCO3/L)	75	108	72	67	81	75	63	70	84	70	51	84	71	115	103	106	142	73	80	88	94	59	117
2	HAR_Total (mgCaCO3/L)	121	152	103	95	129	120	107	116	137	105	77	137	123	178	174	168	204	106	122	135	153	102	184
3	Na% (%)	19	19	22	23	22	23	21	20	18	16	30	18	12	18	12	15	11	21	17	19	18	20	17
4	RSC (-)	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.5	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.6	0.4	0.8	0.6	0.3	0.6	0.4	0.4	0.3	0.6	0.5	0.5	0.6	0.5	0.6
	PESTICIDES																							

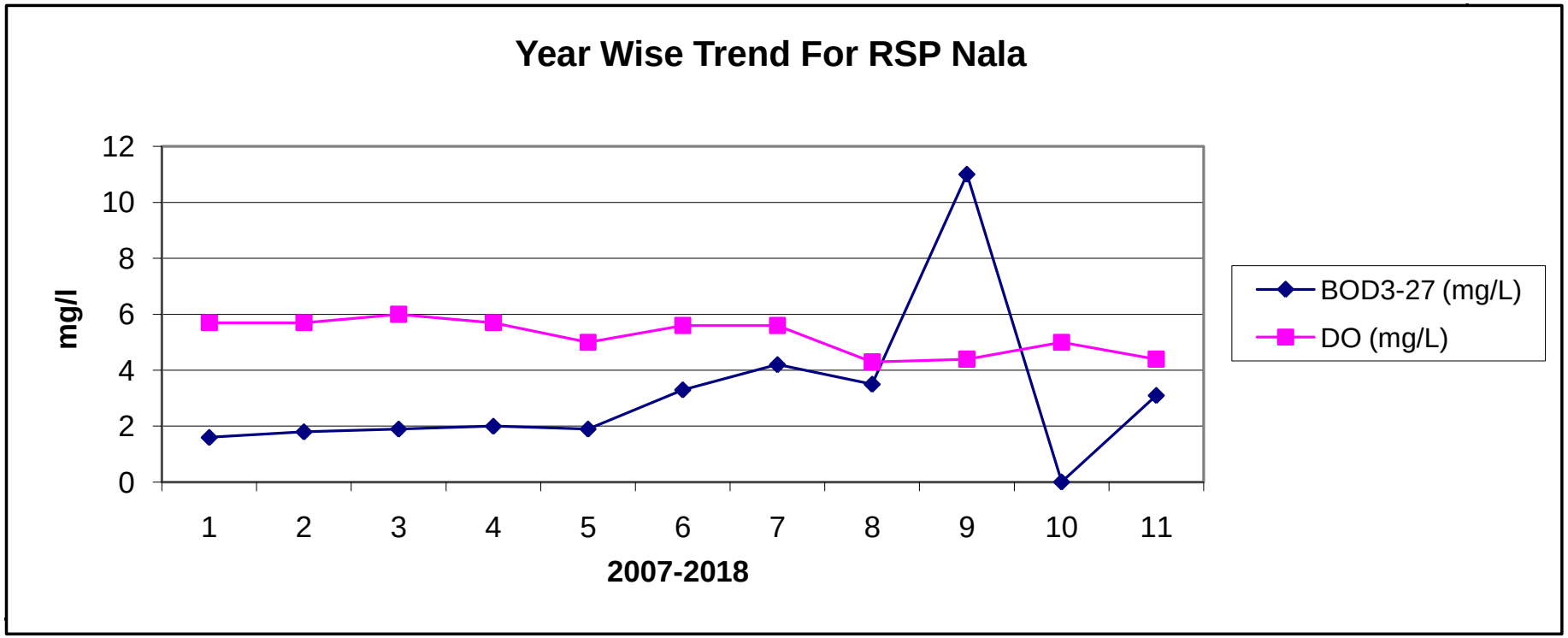
Water Quality Seasonal Average for the period: 2003-2018

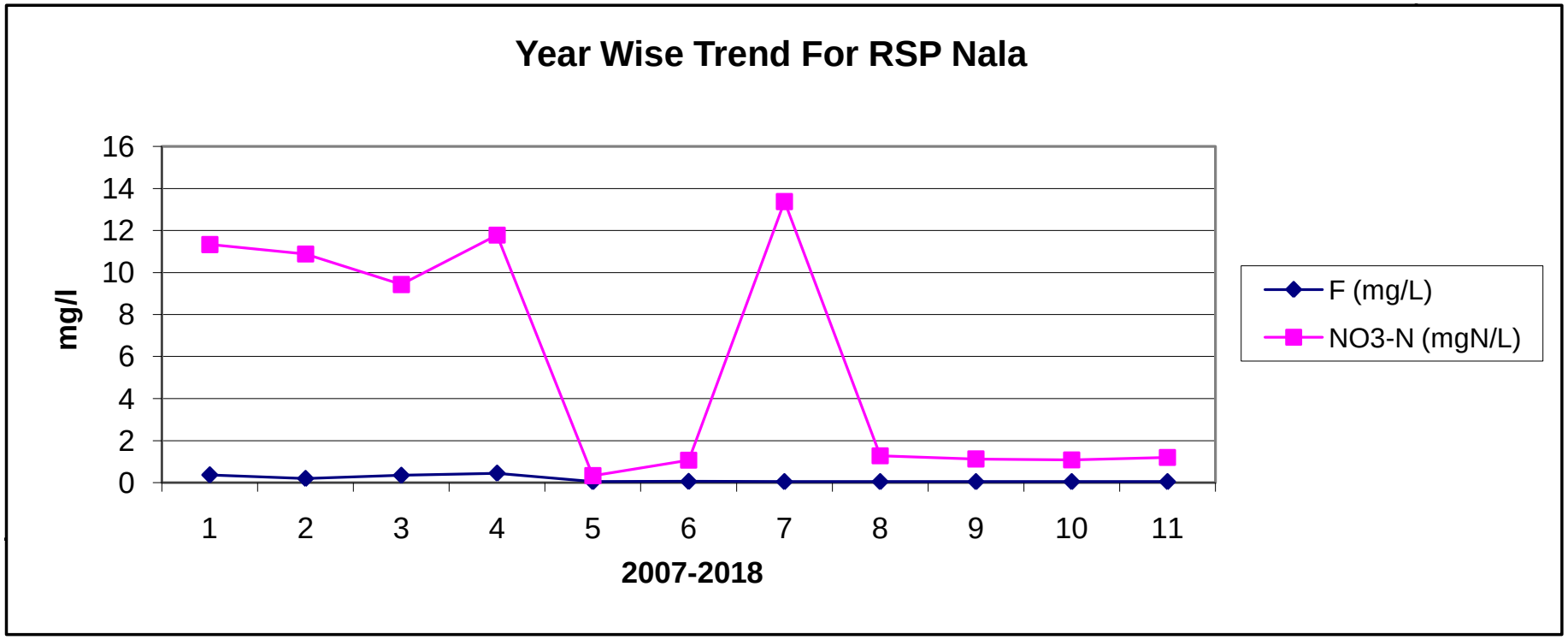
Station Name : RSP NALLA (RSP) **Division : E.E., Bhubaneswar**

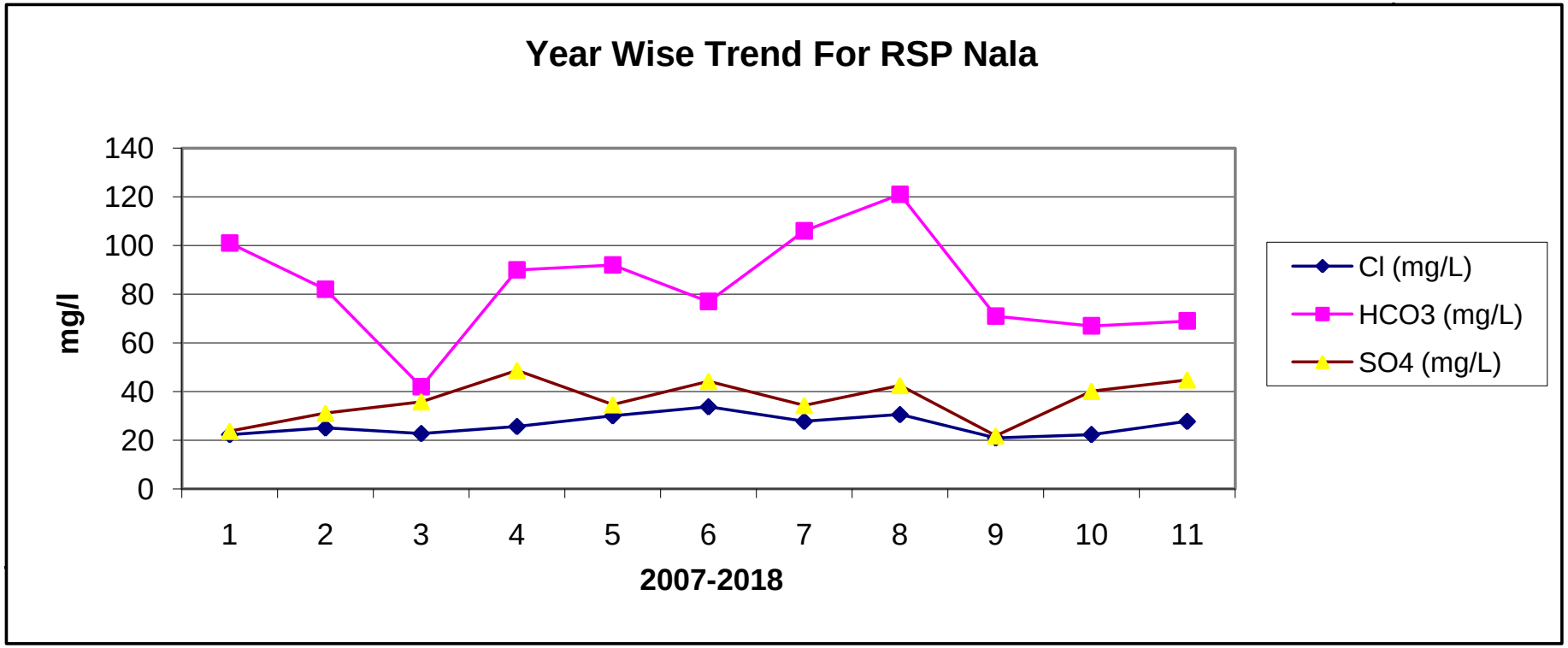
Local River : RSP Nala **River Water** **Sub-Division : Sambalpur**

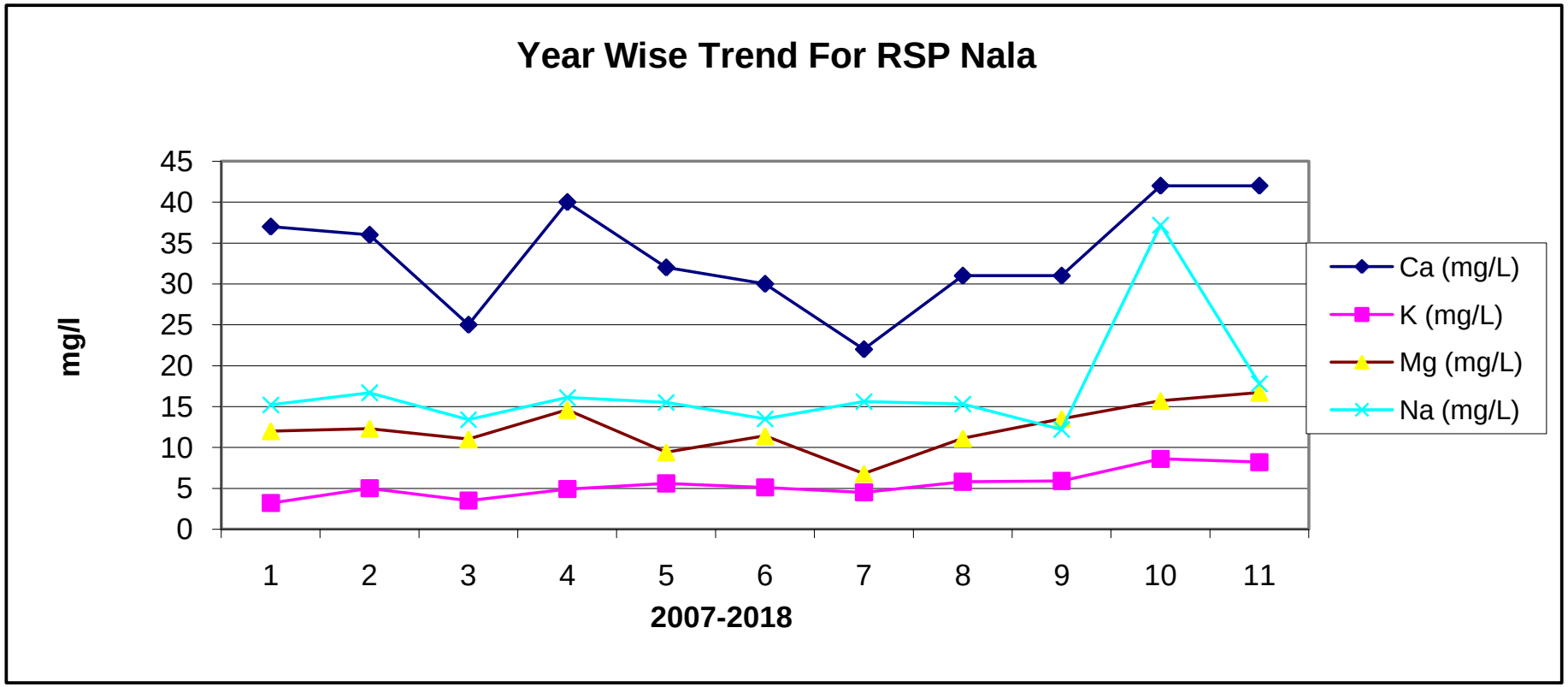
S.No	Parameters								Summer														
									Mar - May														
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	PHYSICAL																						
1	Q (cumec)																						
2	EC_FLD (µmho/cm)	273	348	233	460	877	617	401	233	493	382	398	454	450	343	523	337	473	357	634	814	568	472
3	EC_GEN (µmho/cm)	273	348	233	460	878	619	398	267	493	377	393	457	450	343	523	337	473	357	634	815	567	470
4	pH_FLD (pH units)	7.5	7.7	7.6	7.7	7.5	7.7	7.5	7.7	7.6	7.4	7.6	7.4	7.7	7.4	7.5	7.3	7.7	7.6	7.4	7.0	7.3	7.4
5	pH_GEN (pH units)	7.5	7.7	7.6	7.7	7.5	7.7	7.5	7.5	7.6	7.5	7.6	7.4	7.7	7.4	7.5	7.3	7.7	7.6	7.4	6.9	7.5	7.4
6	Temp (deg C)	22.8	19.8	19.5	21.0	20.3	21.0	17.0	28.2	27.7	28.4	28.5	28.5	27.0	26.7	26.3	28.7	23.7	25.7	27.0	26.4	23.7	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	0.0	10.4	0.0		0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	89	76	86	102	52	55	74				151		73	39	92	73	109		110	49	59	55
3	B (mg/L)	0.01	0.00	0.00	0.00	0.01	0.01	0.02	0.64	0.70	0.07	0.00	0.20	0.00	0.55	0.15	0.01	0.00	0.00	0.00	0.01	0.02	0.02
4	Ca (mg/L)	31	34	23	29	22	38	44	33	57	42	44	49	42	25	50	31	27	22	29	47	40	41
5	Cl (mg/L)	35.8	32.5	31.3	37.2	17.4	18.9	33.8	17.3	23.1	19.3	18.3	29.1	30.9	28.5	30.8	27.0	33.6	26.1	26.9	30.8	31.4	27.1
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	0.0	12.5	0.0	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.05	0.06	0.05	0.05	0.05	0.05	0.05	0.20	0.49	0.77	0.34	0.32	0.18	0.41	0.38	0.05	0.06	0.05	0.05	0.05	0.05	0.05
8	Fe (mg/L)	0.0	1.2	0.1	0.3	0.5	0.6	0.5	0.1	0.1	0.2	0.2	0.1	0.2	0.1	0.1	0.0	0.9	0.1	0.4	0.4	0.5	0.4
9	HCO3 (mg/L)	108	76	119	124	63	68	90	71	124	87	97	155	89	48	112	64	133	111	134	60	71	68
10	K (mg/L)	5.6	5.1	4.6	6.4	5.2	7.3	8.5	2.1	3.6	3.2	3.7	3.3	5.0	4.3	5.4	3.7	6.6	6.2	3.6	10.9	9.1	7.6
11	Mg (mg/L)	7.8	16.0	7.2	10.7	11.7	14.6	15.9	10.9	13.9	12.1	12.9	14.0	12.6	12.3	18.5	6.2	10.4	7.3	9.0	17.5	18.5	16.7
12	Na (mg/L)	15.7	13.5	14.9	15.5	12.3	40.4	19.1	11.9	14.8	13.6	12.4	19.3	20.9	16.4	19.3	15.0	20.5	16.5	14.5	18.1	62.6	26.7
13	NO2+NO3 (mg N/L)	0.40	1.11	15.50	1.12	1.13	1.11	1.21	15.57	17.98	19.35	14.69	9.16	10.62	11.53	20.07	0.41	1.04	11.65	1.15	1.08	1.12	1.22
14	NO2-N (mgN/L)	0.07	0.00	0.00	0.00	0.00	0.01	0.00	0.29	0.10	1.18	0.07	0.07	0.30	0.39	0.00	0.07	0.00	0.01	0.00	0.00	0.01	0.00
15	NO3-N (mgN/L)	0.33	1.11	15.50	1.12	1.13	1.10	1.21	15.28	17.88	18.17	14.62	9.09	10.32	11.14	20.07	0.34	1.04	11.64	1.15	1.08	1.11	1.22
16	o-PO4-P (mg P/L)									0.000	0.000	0.000	0.012		0.000								
17	P-Tot (mgP/L)	0.010	0.001	0.001	0.001	0.010	0.010	0.001	0.001	0.001	0.001	0.001	0.034	0.002	0.007	0.001	0.010	0.001	0.001	0.001	0.010	0.010	0.001
18	SiO2 (mg/L)	8.8	12.0	9.1	5.8	5.8	6.5	8.4	15.6	24.1	19.1	16.8	9.6	9.3	8.8	4.1	8.7	12.0	8.1	6.7	5.3	7.7	7.5
19	SO4 (mg/L)	28.5	42.8	41.5	44.4	24.3	15.1	51.2	19.7	34.7	27.6	28.8	23.3	45.9	40.1	49.3	29.2	44.8	27.8	35.9	10.7	55.4	42.7
	BIOLOGICAL/BACTERIOLOGICAL																						
1	BOD3-27 (mg/L)	2.2	1.2	7.7	3.3	1.3	3.8	2.1	2.6	20.4	1.9	1.6	1.8	2.4	1.8	1.9	1.4	2.3	3.3	0.8	27.1	1.9	1.1
2	DO (mg/L)	6.5	7.2	5.9	6.9	5.4	6.2	4.6	3.9	3.6	5.7	4.9	4.9	5.0	5.8	5.3	5.2	4.6	5.2	2.7	3.1	3.3	5.0
3	DO_SAT% (%)	75	78	64	78	58	68	47	49	46	73	62	63	63	71	66	67	53	62	34	39	38	62
4	FCol-MPN (MPN/100mL)						95	88														77	120
5	Tcol-MPN (MPN/100mL)						275	255														123	323
	TRACE & TOXIC																						
1	Al (mg/L)												0.05										
	CHEMICAL INDICES																						
1	HAR_Ca (mgCaCO3/L)	78	86	57	73	55	96	111	83	141	104	111	121	106	63	124	77	67	54	73	118	100	101
2	HAR_Total (mgCaCO3/L)	111	153	87	117	104	157	177	129	199	154	164	180	158	114	201	103	111	84	111	190	177	171
3	Na% (%)	23	16	26	21	19	32	18	16	14	16	14	19	22	23	17	23	27	28	21	17	41	24
4	RSC (-)	0.1	0.0	0.2	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	0.5	0.3	0.1	0.0	0.0	0.0
5	SAR (-)	0.7	0.5	0.7	0.6	0.5	1.4	0.6	0.5	0.5	0.5	0.4	0.6	0.7	0.7	0.6	0.6	0.9	0.8	0.6	0.6	2.0	0.9
	PESTICIDES																						


Year Wise Trend For RSP Nala
mg/l
200
180
160
140
120
100
80
60
40
20
0
1
2
3
4
5
6
7
8
9
10
11
2007-2018
DO_SAT% (%)
HAR_Total (mgCaCO3/L)
Na% (%)


Year Wise Trend For RSP Nala
12
10
8
6
4
2
0
mg/l
1
2
3
4
5
6
7
8
9
10
11
2007-2018
BOD3-27 (mg/L)
DO (mg/L)


Year Wise Trend For RSP Nala
16
14
12
10
8
6
4
2
0
mg/l
1
2
3
4
5
6
7
8
9
10
11
2007-2018
F (mg/L)
NO3-N (mgN/L)


Year Wise Trend For RSP Nala
140
120
100
80
60
40
20
0
mg/l
1
2
3
4
5
6
7
8
9
10
11
2007-2018
Cl (mg/L)
HCO3 (mg/L)
SO4 (mg/L)


Year Wise Trend For RSP Nala
mg/l
45
40
35
30
25
20
15
10
5
0
1
2
3
4
5
6
7
8
9
10
11
2007-2018
Ca (mg/L)
K (mg/L)
Mg (mg/L)
Na (mg/L)

LIST OF PERSONS INVOLVED IN THE PREPARATION OF WATER YEAR BOOK

1. Sri. N.C. NANDA, Executive Engineer, ERD, CWC, Bhubaneswar
2. Sri. R. Rajsekhar, AEE(HQS), ERD, CWC, Bhubaneswar
3. Sri. P.S. Baral, SDE, Brahmani Sub-Division, CWC, Rourkela
4. Sri. N.K. Bhuyan, ARO, ERD, CWC, Bhubaneswar
5. Sri. P. Samantara, SA, ERD, CWC, Bhubaneswar
6. Sri. S.S. Mohanty, Sr. Computer, ERD, CWC, Bhubaneswar
7. Sri. Ashok Mishra, SWA,ERD, Bhubaneswar
8. Sri. D.P. Moharana, MTS,ERD, Bhubaneswar
9. Sri. N. Sahoo, SWA,ERD, Bhubaneswar