

Government of India
Central Water Commission



KRISHNA BASIN
WATER QUALITY DATA (Vol.III)
(JUNE 2015 – MAY 2016)

KRISHNA & CO-ORDINATION CIRCLE
HYDERABAD

FEBRUARY, 2017

PREFACE

Monitoring of river water quality in all the important river basins in India is carried out as a part of hydrological observation programme which is one of the main functions of the Central Water Commission. River Water Samples are collected from the regular hydrological stations maintained by the Commission and analysed in the laboratories set up at Divisional headquarters. The water quality data is published every year in the form of Water Quality Year Book.

In Krishna basin, the Water Quality is monitored at 32 hydrological observation stations (Upper Krishna Division-10, Lower Krishna Division-13, Cauvery Division-9). The water samples collected from the hydrological stations under Lower Krishna Division are being analysed at Water Quality Level-III Laboratory at Hyderabad. The water samples collected from the hydrological stations under Upper Krishna Division are being analysed at Water Quality Level-II Laboratory at Pune and of Cauvery Division are being analysed at Water Quality Laboratory Level II at Bengaluru.

The water samples received directly in the respective laboratories are analysed for parameters which include physical, chemical, biological & toxic elements. In addition to above parameters three chemical indices are derived mathematically based on the observed data. Then the waters are classified with the help of US Salinity Diagram.

The Water Quality Year Book 2015-16 is useful to all the water resources planners, managers and water users in Krishna basin. Its usefulness will further improve, particularly for planning drinking water supply, irrigation, and industrial and sewage disposal schemes.

Hyderabad
February , 2017


(Rajeev Singhal)
Superintending Engineer

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**KRISHNA BASIN
WATER QUALITY DATA (Vol.III)
(JUNE 2015-MAY 2016)**

1.0 WATER QUALITY MONITORING

River water quality monitoring is being carried out by the Central Water Commission in the Krishna basin since 1972. This volume III contains data on water quality, monitored at 32 hydrological observation stations, in Krishna Basin during the water year 2015-16. Out of these 32 Water Quality stations, 10 stations are monitored by the Upper Krishna Division, Pune, 13 stations are monitored by Lower Krishna Division, Hyderabad and remaining 9 stations are monitored by the Cauvery Division, Bengaluru. Krishna Basin map showing the locations of these stations is appended.

One Level III laboratory located in Hyderabad and two Level II laboratories located in Pune and Bangalore are engaged in the analysis water quality parameters.

1.1 Classification of Water Quality Stations

Based on the human activity at water quality station, they are classified as base line stations, flux stations and trend stations. Collection of samples depends upon the classification of particular station.

(i) Base line Stations: These are the water quality stations, where there is no influence of human activities on water quality. At these stations, water quality is monitored six times a year for perennial rivers and three to four times a year for seasonal rivers.

(ii) Flux Stations: These stations are also known as impact stations. These stations are meant for measuring the mass of particular pollutant on main river stream for measuring the extent of pollution due to human interference or geological feature at any point of time and are necessary for measuring impact of pollution control measures adopted. These stations shall be monitored twelve to twenty-four times in a year, depending up on the pollution potential or importance of water use.

(iii) Trend Stations: These stations are designed for water quality monitoring to show how a particular point on a watercourse varies over time, normally, due to influence of human activities. These stations are monitored twelve times in a year.

Under DWRIS plan scheme the following sites have been upgraded during financial year 2014-15

1. Krishna at Arjunwad(Seasonal) GD to GDSQ(S) w.e.f. 26-12-2014 for Sediment observations and 01-09-2014 for WQ
2. Varna at Samdoli (Seasonal) GD to GDSQ(S) w.e.f. 26-12-2014 for Sediment observations and 01-09-2014 for WQ
3. Ghataprabha at Gokak Falls (Seasonal) GD to GDSQ(S) w.e.f. 27-12-2014 for Sediment observations and 01-09-2014 for WQ
4. New site Tungabhadra at Doddipadu GD w.e.f 18-11-2014.

2.0 OBSERVATION/SAMPLING TECHNIQUES

A single grab sample at each station is collected on the scheduled dates at 30 cm below the water surface at the discharge measuring section from the stream.

The water samples are collected in two polythene bottles of one liter capacity and in one 250ml sterilized glass bottle every month on the sample collection date. The water samples collected in polythene bottles are used for the analysis of physico chemical parameters and the water sample collected in the sterilized glass bottle is used for the analysis of Bacteriological parameters. Once in year in the month of April water sample are collected for the analysis of Trace and Toxic elements in a new polythene bottles and also water samples are collected in amber colored glass bottles for the analysis of Pesticides

The samples are transported in cool packs with ice to the respective laboratories with a minimum loss of time to ensure that they reach the laboratories within 24 hours after collection. The parameters like pH, electrical conductance, dissolved oxygen, alkalinity, hardness and ammonia are analyzed immediately soon after the receipt of samples in laboratory. Afterwards they are preserved at 4°C for analysis of other parameters within the prescribed time limits.

2.1 Analysis Techniques and Methods

The water samples, received from different water quality monitoring stations are analyzed for different parameters following the “Standard methods for the examination of water and waste water” – APHA, AWWA & WPCF, 20th edition and HP Manual.

2.2 Volumetric analysis Method

This method is used to determine the quantities of total hardness, calcium, carbonate, bicarbonate, chloride, dissolved oxygen, biochemical oxygen demand and chemical oxygen demand. In this procedure, analysis is carried out to find the volume of a solution of accurately known concentration, which reacts quantitatively with the known volume of sample from which the concentration of the parameter is evaluated.

2.3 Instrumental method:

Potentiometric method	pH by digital pH meter
Conductometric method	EC by digital EC meter
Flame Photometric method	Sodium and Potassium by using Flame Photometer
Colorimetric method	Nitrate, Nitrite, Phosphate, Silicate, Iron , Boron Fluoride, Sulphate and Ammonia by using UV-VIS Spectrophotometer

2.4 List of Water Quality Parameters analyzed in the CWC Laboratories

Physico – Chemical Parameters: 1. pH 2. Electrical Conductance 3. Sodium 4. Potassium 5. Calcium 6. Magnesium 7. Iron 8. Ammonia 9. Carbonate 10. Bi-carbonate 11. Chloride 12. Fluoride 13. Sulphate 14. Nitrate 15. Nitrite 16. Ortho Phosphate, 17. Silicate, 18. Total Hardness and 19. Turbidity.

Biological / Bacteriological Parameters: 1. Dissolved Oxygen 2. Bio-chemical Oxygen Demand 3. Chemical Oxygen Demand. 4. Total Organic Carbon .5. Total Coliforms 6. Faecal Coliforms

Pesticides : 1. Aldrin 2. BHC 3. DDT 4. Dieldrin 5. Endo sulfan.

Trace & Toxic Elements : 1. Boron. 2. Arsenic 3. Mercury 4. Nickel 5. Zinc 6. Chromium 7. Lead 8. Cadmium.

2.5 Calculated parameters

Six parameters are calculated on the measured results of other parameters. The formulae are given below.

(i) Carbonate and bicarbonate: By using the measured values of Phenolphthalein Alkalinity (P) and Total Alkalinity (T), Carbonate alkalinity and bicarbonate alkalinity are calculated in water sample using following formulae.

Condition	OH ⁻ alkalinity as CaCO ₃ mg/L	CO ₃ ²⁻ alkalinity as CaCO ₃ mg/L	HCO ₃ ³⁻ alkalinity as CaCO ₃ mg/L
P=0	0	0	T
P<½T	0	2P	T-2P
P=½T	0	2P	0
P>½T	2P-T	2(T-P)	0
P=½T	T	0	0

$$\text{CO}_3^{2-} \text{ mg/L} = \text{CO}_3^{2-} \text{ alkalinity as CaCO}_3 \text{ mg/L} \times 0.60$$

$$\text{HCO}_3^- \text{ mg/L} = \text{HCO}_3^- \text{ alkalinity as CaCO}_3 \text{ mg/L} \times 1.22$$

(ii) Calcium: $\text{Ca}^{++} \text{ mg/L} = 0.4 \times \text{Ca-Hardness as CaCO}_3^{2-} \text{ mg/L}$

(iii) Magnesium: $\text{Mg}^{++} \text{ mg/L} = 0.243 \times [\text{Total Hardness as CaCO}_3^{2-} \text{ mg/L} - \text{Ca-Hardness as CaCO}_3^{2-} \text{ mg/L}]$

(iv) Sodium Percentage (%Na) :
$$\text{SP} = \frac{\text{Na}^+ \times 100}{\sqrt{[\text{Ca}^{++} + \text{Mg}^{++} + \text{Na}^+ + \text{K}^+]}}$$

(Ionic concentrations are in meq /L)

(v) Sodium Adsorption Ratio (SAR) :
$$\text{SAR} = \frac{\text{Na}^+}{\sqrt{(\text{Ca}^{++} + \text{Mg}^{++})/2}}$$

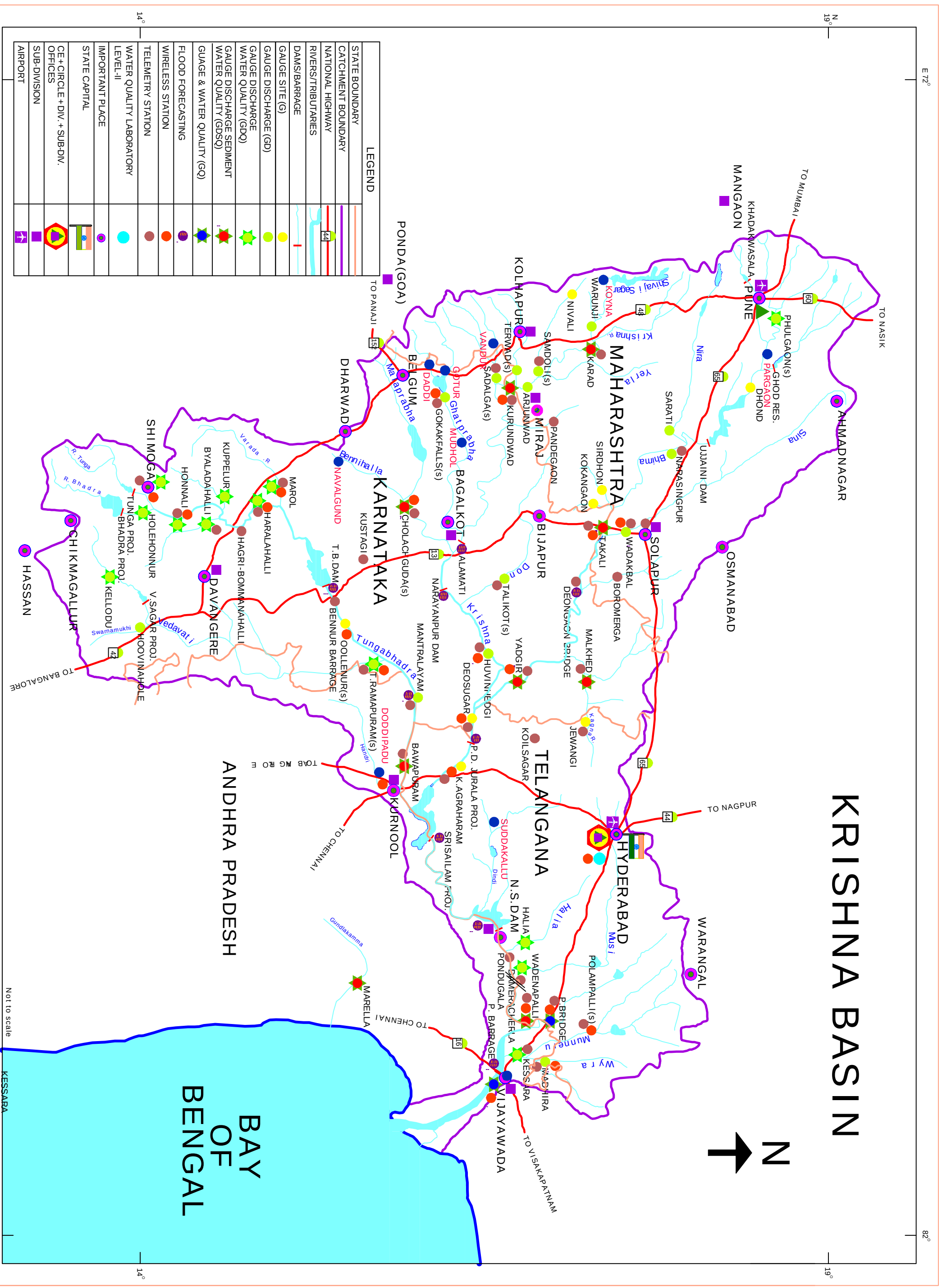
(Ionic concentrations are in meq /L)

(vi) Residual Sodium Carbonate (RSC) :
$$\text{RSC} = (\text{CO}_3^{2-} + \text{HCO}_3^-) - (\text{Ca}^{++} + \text{Mg}^{++})$$

(Ionic concentrations are in meq /L)

2.6 Method of Presentation

Station wise water quality data as presented in this volume comprises history sheet, water quality data sheet and water quality summary for the current year and water quality seasonal average summary from 1993. The data presented in this volume- III are generated through SWDES. The serial order of water quality sites is arranged along the river moving upstream from the sea or confluence with another river / international boundary, towards its source, giving priority to sites on intermediate tributary. Tolerance limits of water quality parameters for different designated uses are according to Bureau of Indian Standard code BIS : 2296-1982.



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82°

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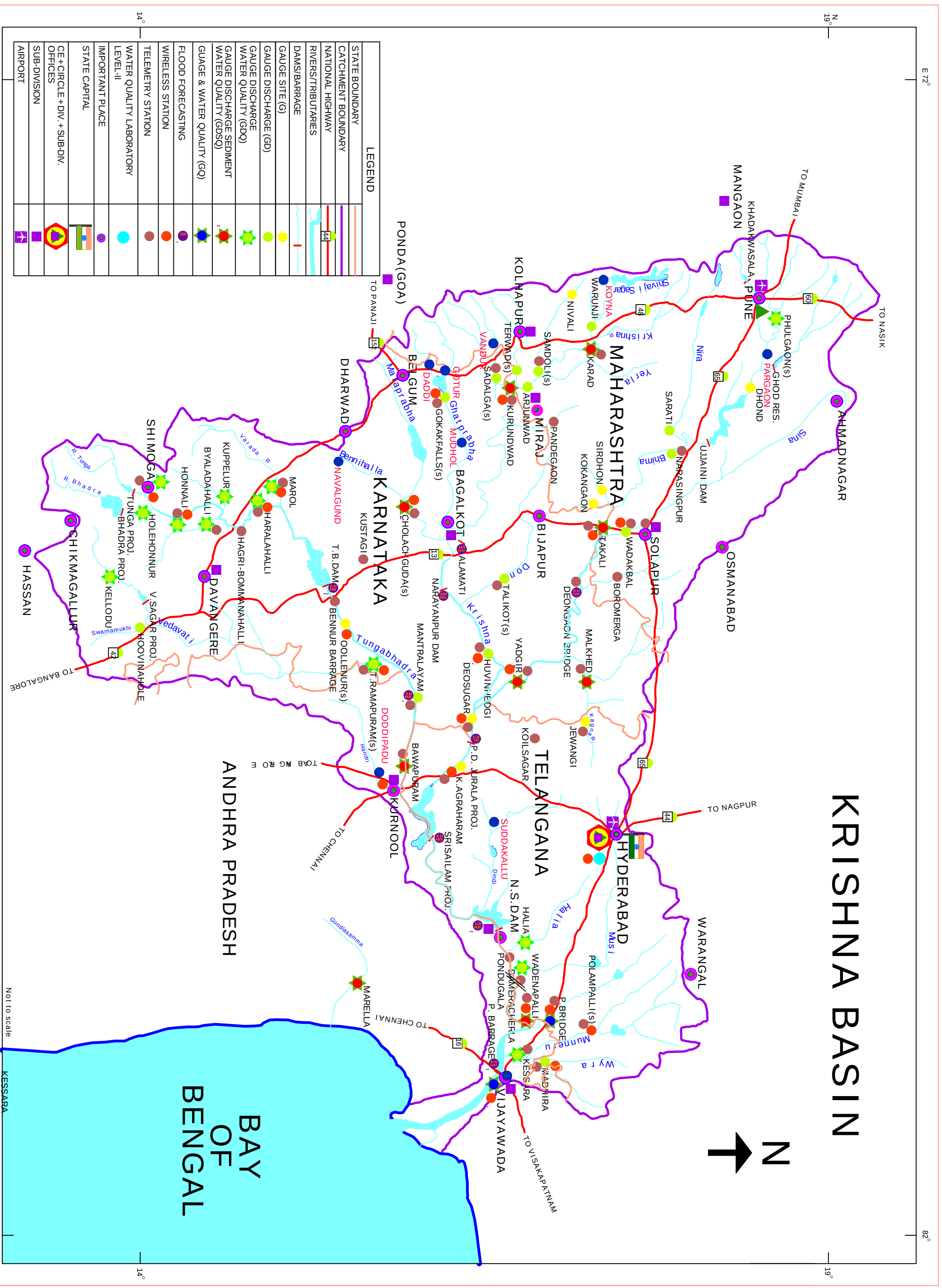
14°

72°

KRISHNA BASIN



BAY OF BENGAL



HISTORY SHEET

		Water Year	: 2015-2016
Site	: Vijayawada	Code	: AK000B9
State	: Andhra Pradesh	District	Krishna
Basin	: Krishna	Independent River	: Krishna
Tributary	: -	Sub Tributary	: -
Sub-Sub Tributary	: -	Local River	: Krishna
Division	: Lower Krishna Divn., Hyderabad	Sub-Division	: Lower Krishna SD2, Vijayawada
Drainage Area	: 251360 Sq. Km.	Bank	: Left
Latitude	: 16°30'04"	Longitude	: 80°37'30"
	Opening Date	Closing Date	
Gauge	: 21/03/1964		
Discharge	: 24/03/1964		
Sediment	: 01/02/1965		
Water Quality	: 01/01/1972		

Water Quality Datasheet for the period : 2015-2016

Station Name : Vijayawada (AK000B9)

Division : Lower Krishna Divn., Hyderabad

Local River : Krishna

River Water Analysis Division : Lower Krishna SD2, Vijayawada

S.No	Parameters
	PHYSICAL
1	Q (cumec)
	CHEMICAL
	BIOLOGICAL/BACTERIOLOGICAL
	TRACE & TOXIC
	CHEMICAL INDICES
	PESTICIDES

Samples not collected due to No flow/DryBed on date of collection
from 1-6-2015 to 31-5-2016.

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Vijayawada (AK000B9)

Division : Lower Krishna Divn., Hyderabad

Local River : Krishna

River Water Sub-Division : Lower Krishna SD2, Vijayawada

S.No	Parameters	Flood				
		Jun - Oct				
		2001	2002	2003	2004	2005
	PHYSICAL					
1	Q (cumec)	154.3	24.62	3.942	4.827	429.0
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	555	579	681	611	502
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.2	8.2	7.9	7.8	7.9
6	TDS (mg/L)					
7	Temp (deg C)	27.7	29.1	29.4	27.8	27.8
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	7.4	4.1	1.9	1.5	0.0
2	ALK-TOT (mgCaCO3/L)	92	92	181	227	173
3	B (mg/L)	0.01	0.01	0.03	0.00	0.00
4	Ca (mg/L)	30	22	35	39	35
5	Cl (mg/L)	45.7	56.1	54.2	50.2	41.0
6	CO3 (mg/L)	8.9	4.9	2.2	1.8	0.0
7	F (mg/L)	0.57	0.59	0.75	0.95	0.49
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	95	102	216	274	211
10	K (mg/L)	3.7	2.7	5.2	3.4	2.6
11	Mg (mg/L)	14.9	15.0	13.9	15.9	14.6
12	Na (mg/L)	34.8	25.9	58.8	60.5	39.4
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.00	0.00
14	NO2+NO3 (mg N/L)	0.10	0.09	0.01	0.01	0.01
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.10	0.09	0.01	0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.051	0.032	0.037	0.001	0.001
19	SiO2 (mg/L)	4.3	4.5	14.1	17.6	23.2
20	SO4 (mg/L)	51.8	55.9	101.1	46.5	36.4
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.0	1.0	1.5	1.7	1.2
2	COD (mg/L)					
3	DO (mg/L)	6.1	5.2	5.9	5.0	5.7
4	DO_SAT% (%)	77	68	78	64	73
5	Fcol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
7	TOC (mg/L)					
	TRACE & TOXIC					
1	Cd (µg/L)					
2	Cr (µg/L)					
3	Hg (µg/L)					
4	Ni (µg/L)					
5	Pb (µg/L)					
6	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	75	56	87	96	87
2	HAR_Total (mgCaCO3/L)	137	119	145	162	147
3	Na% (%)	34	31	41	44	35
4	RSC (-)	0.0	0.0	0.7	1.4	0.7
5	SAR (-)	1.3	1.0	2.2	2.1	1.4
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Vijayawada (AK000B9)

Division : Lower Krishna Divn., Hyderabad

Local River : Krishna

River Water Sub-Division : Lower Krishna SD2, Vijayawada

S.No	Parameters	Flood				
		Jun - Oct				
		2006	2007	2008	2009	2010
	PHYSICAL					
1	Q (cumec)	270.5	3578	100.1	354.0	629.0
2	EC_FLD (µmho/cm)					537
3	EC_GEN (µmho/cm)	509	519	597	576	572
4	pH_FLD (pH units)					7.6
5	pH_GEN (pH units)	8.3	8.0	8.3	8.2	8.2
6	TDS (mg/L)					
7	Temp (deg C)	28.2	26.5	26.3	26.0	30.6
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	3.3	0.0	4.0	0.0	1.6
2	ALK-TOT (mgCaCO3/L)	154	149	182	150	163
3	B (mg/L)	0.00	0.00	0.00	0.00	0.00
4	Ca (mg/L)	36	34	42	31	37
5	Cl (mg/L)	43.1	33.5	51.1	52.8	56.9
6	CO3 (mg/L)	4.0	0.0	4.8	0.0	1.9
7	F (mg/L)	0.67	0.66	0.65	0.56	0.65
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	180	182	212	183	195
10	K (mg/L)	2.9	3.5	3.1	3.2	3.5
11	Mg (mg/L)	11.8	13.5	11.2	15.5	14.9
12	Na (mg/L)	60.4	44.0	53.8	52.8	55.3
13	NH3-N (mg N/L)	0.00	0.05	0.05	0.00	0.00
14	NO2+NO3 (mg N/L)	0.00	0.01	0.01	1.50	0.00
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.00	0.01	0.01	1.50	0.00
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.001	0.001	0.000	0.162
19	SiO2 (mg/L)	16.3	12.9	16.4	14.1	13.5
20	SO4 (mg/L)	41.8	30.0	46.2	61.6	51.8
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.1	1.1	1.2	1.5	1.2
2	COD (mg/L)		11.8	17.9	29.5	39.3
3	DO (mg/L)	7.2	6.7	6.5	6.1	7.1
4	DO_SAT% (%)	93	84	80	84	94
5	FCol-MPN (MPN/100mL)				16000	13800
6	Tcol-MPN (MPN/100mL)				16000	14600
7	TOC (mg/L)					
	TRACE & TOXIC					
1	Cd (µg/L)					
2	Cr (µg/L)					
3	Hg (µg/L)					
4	Ni (µg/L)					
5	Pb (µg/L)					
6	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	90	84	106	78	91
2	HAR_Total (mgCaCO3/L)	139	140	152	143	153
3	Na% (%)	46	40	43	44	43
4	RSC (-)	0.3	0.2	0.6	0.2	0.2
5	SAR (-)	2.2	1.6	1.9	1.9	2.0
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Vijayawada (AK000B9)

Division : Lower Krishna Divn., Hyderabad

Local River : Krishna

River Water Sub-Division : Lower Krishna SD2, Vijayawada

S.No	Parameters	Flood				
		Jun - Oct				
		2011	2012	2013	2014	2015
	PHYSICAL					
1	Q (cumec)	165.6		454.2	125.8	
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	622		507	497	
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.1		8.4	8.6	
6	TDS (mg/L)	421		272		
7	Temp (deg C)	28.0		31.0	32.0	
8	Turb (NTU)	1.00		1.44	13.00	
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	1.3		2.2	4.2	
2	ALK-TOT (mgCaCO3/L)	171		130	141	
3	B (mg/L)	0.00		0.05	0.19	
4	Ca (mg/L)	34		27	27	
5	Cl (mg/L)	60.6		39.8	67.2	
6	CO3 (mg/L)	1.6		2.6	5.0	
7	F (mg/L)	1.15		0.61	0.47	
8	Fe (mg/L)	0.0		0.1	0.1	
9	HCO3 (mg/L)	206		153	162	
10	K (mg/L)	3.3		2.6	3.2	
11	Mg (mg/L)	20.6		15.6	15.1	
12	Na (mg/L)	57.6		44.8	50.8	
13	NH3-N (mg N/L)	0.00		0.09	0.00	
14	NO2+NO3 (mg N/L)	0.38		0.60	1.22	
15	NO2-N (mgN/L)	0.00		0.00	0.03	
16	NO3-N (mgN/L)	0.38		0.60	1.19	
17	o-PO4-P (mg P/L)	0.267		0.115	0.110	
18	P-Tot (mgP/L)	0.371				
19	SiO2 (mg/L)	13.0		12.2	12.8	
20	SO4 (mg/L)	55.3		40.3	48.7	
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.9		1.3	1.6	
2	COD (mg/L)	11.2		6.6	3.5	
3	DO (mg/L)	6.5		6.7	6.7	
4	DO_SAT% (%)	84		90	92	
5	Fcol-MPN (MPN/100mL)	13667		401	16000	
6	Tcol-MPN (MPN/100mL)	16000		1201	16000	
7	TOC (mg/L)	3.5				
	TRACE & TOXIC					
1	Cd (µg/L)					
2	Cr (µg/L)					
3	Hg (µg/L)					
4	Ni (µg/L)					
5	Pb (µg/L)					
6	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	86		68	68	
2	HAR_Total (mgCaCO3/L)	172		133	131	
3	Na% (%)	42		42	45	
4	RSC (-)	0.2		0.0	0.2	
5	SAR (-)	1.9		1.7	1.9	
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Vijayawada (AK000B9)

Division : Lower Krishna Divn., Hyderabad

Local River : Krishna

River Water Sub-Division : Lower Krishna SD2, Vijayawada

S.No	Parameters	Winter				
		Nov - Feb				
		2001-2002	2002-2003	2003-2004	2004-2005	2005-2006
	PHYSICAL					
1	Q (cumec)	62.64	6.100	1.626	2.428	971.2
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	649	563	587	584	520
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.3	7.9	8.1	7.9	8.1
6	TDS (mg/L)					
7	Temp (deg C)	26.2	26.2	26.4	26.1	24.8
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	14.6	2.4	0.0	1.2	3.9
2	ALK-TOT (mgCaCO3/L)	134	110	202	183	172
3	B (mg/L)	0.01	0.01	0.00	0.00	0.00
4	Ca (mg/L)	38	33	34	42	37
5	Cl (mg/L)	68.4	58.1	53.8	52.3	39.8
6	CO3 (mg/L)	17.6	2.8	0.0	1.5	4.8
7	F (mg/L)	0.52	0.36	0.76	0.56	0.63
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	128	128	246	220	201
10	K (mg/L)	3.4	2.4	3.2	2.9	
11	Mg (mg/L)	24.8	21.1	14.4	17.9	14.5
12	Na (mg/L)	55.0	26.0	38.5	42.0	
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.00	0.00
14	NO2+NO3 (mg N/L)	0.09	0.06	0.01	0.01	0.01
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.09	0.06	0.01	0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.065	0.028	0.001	0.001	0.001
19	SiO2 (mg/L)	3.9	5.8	15.0	14.1	13.7
20	SO4 (mg/L)	67.3	66.3	51.7	59.8	47.8
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.1	1.0	1.4	1.0	1.2
2	COD (mg/L)					
3	DO (mg/L)	6.2	6.7	6.2	6.4	6.6
4	DO_SAT% (%)	76	83	77	79	80
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
7	TOC (mg/L)					
	TRACE & TOXIC					
1	Cd (µg/L)					
2	Cr (µg/L)					
3	Hg (µg/L)					
4	Ni (µg/L)					
5	Pb (µg/L)					
6	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	95	83	85	105	92
2	HAR_Total (mgCaCO3/L)	198	171	145	180	152
3	Na% (%)	38	23	36	33	
4	RSC (-)	0.0	0.0	1.1	0.3	0.4
5	SAR (-)	1.7	0.9	1.4	1.4	
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Vijayawada (AK000B9)

Division : Lower Krishna Divn., Hyderabad

Local River : Krishna

River Water Sub-Division : Lower Krishna SD2, Vijayawada

S.No	Parameters	Winter				
		Nov - Feb				
		2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	PHYSICAL					
1	Q (cumec)	139.8	96.83	198.1	176.2	230.9
2	EC_FLD (µmho/cm)					675
3	EC_GEN (µmho/cm)	508	566	666	650	724
4	pH_FLD (pH units)					7.4
5	pH_GEN (pH units)	8.4	8.5	8.5	8.2	8.3
6	TDS (mg/L)					
7	Temp (deg C)	27.0	25.8	24.8	25.0	26.0
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	10.0	13.9	8.0	0.0	5.3
2	ALK-TOT (mgCaCO3/L)	186	189	195	196	197
3	B (mg/L)	0.00	0.00	0.00	0.00	0.00
4	Ca (mg/L)	40	40	53	38	40
5	Cl (mg/L)	40.5	48.8	55.0	58.1	70.8
6	CO3 (mg/L)	12.0	16.7	9.6	0.0	6.4
7	F (mg/L)	0.48	0.82	0.76	0.55	0.77
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	203	196	218	239	228
10	K (mg/L)	2.3	2.9	3.1	3.1	3.7
11	Mg (mg/L)	14.5	17.0	9.7	19.4	22.2
12	Na (mg/L)	57.5	65.5	63.3	64.8	71.1
13	NH3-N (mg N/L)	0.00	0.05	0.05	0.00	0.00
14	NO2+NO3 (mg N/L)	0.00	0.01	0.01	1.64	0.00
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.00	0.01	0.01	1.64	0.00
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.001	0.001	0.000	0.153
19	SiO2 (mg/L)	18.3	15.0	16.3	16.5	15.6
20	SO4 (mg/L)	40.8	42.3	49.0	53.0	57.7
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.2	1.2	1.1	1.6	0.7
2	COD (mg/L)		31.3	9.4	15.3	19.4
3	DO (mg/L)	7.7	7.5	7.1	7.2	7.2
4	DO_SAT% (%)	96	91	86	87	89
5	FCol-MPN (MPN/100mL)				16000	16000
6	Tcol-MPN (MPN/100mL)				16000	16000
7	TOC (mg/L)					
	TRACE & TOXIC					
1	Cd (µg/L)					
2	Cr (µg/L)					
3	Hg (µg/L)					
4	Ni (µg/L)					
5	Pb (µg/L)					
6	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	101	100	133	94	99
2	HAR_Total (mgCaCO3/L)	161	171	174	175	191
3	Na% (%)	43	45	44	44	44
4	RSC (-)	0.5	0.4	0.4	0.8	0.2
5	SAR (-)	2.0	2.2	2.1	2.2	2.3
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Vijayawada (AK000B9)

Division : Lower Krishna Divn., Hyderabad

Local River : Krishna

River Water Sub-Division : Lower Krishna SD2, Vijayawada

S.No	Parameters	Winter				
		Nov - Feb				
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
	PHYSICAL					
1	Q (cumec)	146.3		189.7		
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	524		562		
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.5		8.3		
6	TDS (mg/L)	328		485		
7	Temp (deg C)	28.0		27.5		
8	Turb (NTU)	1.00		4.00		
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	12.2		2.1		
2	ALK-TOT (mgCaCO3/L)	155		160		
3	B (mg/L)	0.17		0.02		
4	Ca (mg/L)	28		33		
5	Cl (mg/L)	50.5		44.5		
6	CO3 (mg/L)	14.7		2.5		
7	F (mg/L)	0.57		0.55		
8	Fe (mg/L)	0.0		0.0		
9	HCO3 (mg/L)	159		191		
10	K (mg/L)	2.5		3.2		
11	Mg (mg/L)	16.0		19.1		
12	Na (mg/L)	52.4		50.6		
13	NH3-N (mg N/L)	0.00		0.00		
14	NO2+NO3 (mg N/L)	2.75		1.13		
15	NO2-N (mgN/L)	0.00		0.00		
16	NO3-N (mgN/L)	2.75		1.13		
17	o-PO4-P (mg P/L)	0.230		0.175		
18	P-Tot (mgP/L)	0.230				
19	SiO2 (mg/L)	15.1		12.6		
20	SO4 (mg/L)	49.8		17.3		
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.3		1.1		
2	COD (mg/L)	4.3		3.7		
3	DO (mg/L)	6.2		6.8		
4	DO_SAT% (%)	79		86		
5	Fcol-MPN (MPN/100mL)	16000		515		
6	Tcol-MPN (MPN/100mL)	16000		1450		
7	TOC (mg/L)	2.4				
	TRACE & TOXIC					
1	Cd (µg/L)					
2	Cr (µg/L)					
3	Hg (µg/L)					
4	Ni (µg/L)					
5	Pb (µg/L)					
6	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	70		83		
2	HAR_Total (mgCaCO3/L)	137		163		
3	Na% (%)	45		40		
4	RSC (-)	0.4		0.0		
5	SAR (-)	2.0		1.7		
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Vijayawada (AK000B9)

Division : Lower Krishna Divn., Hyderabad

Local River : Krishna

River Water Sub-Division : Lower Krishna SD2, Vijayawada

S.No	Parameters	Summer			
		Mar - May			
		2002	2003	2004	2005
	PHYSICAL				
1	Q (cumec)	102.2	3.914	1.273	3.561
2	EC_FLD (µmho/cm)				
3	EC_GEN (µmho/cm)	556	644	583	611
4	pH_FLD (pH units)				
5	pH_GEN (pH units)	8.0	7.9	7.8	7.7
6	TDS (mg/L)				
7	Temp (deg C)	31.7	32.3	30.9	27.8
8	Turb (NTU)				
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	2.3	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	51	99	182	158
3	B (mg/L)	0.01	0.00	0.00	0.00
4	Ca (mg/L)	26	29	31	40
5	Cl (mg/L)	53.3	55.4	52.8	60.8
6	CO3 (mg/L)	2.8	0.0	0.0	0.0
7	F (mg/L)	0.64	0.68	0.69	0.69
8	Fe (mg/L)	0.0	0.0	0.1	0.0
9	HCO3 (mg/L)	56	106	222	192
10	K (mg/L)	3.1	2.6	2.5	3.7
11	Mg (mg/L)	12.7	16.2	14.3	18.3
12	Na (mg/L)	45.7	55.7	36.7	53.6
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.00
14	NO2+NO3 (mg N/L)	0.09	0.05	0.01	0.01
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.09	0.05	0.01	0.01
17	o-PO4-P (mg P/L)				
18	P-Tot (mgP/L)	0.023	0.027	0.001	0.001
19	SiO2 (mg/L)	4.5	6.0	16.9	16.8
20	SO4 (mg/L)	43.8	75.9	51.6	59.8
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	1.3	1.2	1.5	0.9
2	COD (mg/L)				
3	DO (mg/L)	5.0	5.0	6.5	5.3
4	DO_SAT% (%)	69	69	88	67
5	FCol-MPN (MPN/100mL)				
6	Tcol-MPN (MPN/100mL)				
7	TOC (mg/L)				
	TRACE & TOXIC				
1	Cd (µg/L)				
2	Cr (µg/L)				
3	Hg (µg/L)				
4	Ni (µg/L)				
5	Pb (µg/L)				
6	Zn (µg/L)				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	65	73	78	99
2	HAR_Total (mgCaCO3/L)	118	140	137	175
3	Na% (%)	45	37	35	39
4	RSC (-)	0.0	0.0	0.9	0.3
5	SAR (-)	1.9	2.1	1.4	1.8
	PESTICIDES				
1	Aldrin (µg/L)				
2	BHC (µg/L)				
3	DDT (µg/L)				
4	Dieldrin (µg/L)				
5	Endos (µg/L)				

Samples not collected as discharges estimated for the year 2010 and 2011 in Summer.

Samples not collected due to No flow/Dry bed condition from 2012 to 2016 in Summer.

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Vijayawada (AK000B9)

Division : Lower Krishna Divn., Hyderabad

Local River : Krishna

River Water Sub-Division : Lower Krishna SD2, Vijayawada

S.No	Parameters	Summer			
		Mar - May			
		2006	2007	2008	2009
	PHYSICAL				
1	Q (cumec)	49.77	0.000	7.232	30.76
2	EC_FLD (µmho/cm)				
3	EC_GEN (µmho/cm)	767	500	644	620
4	pH_FLD (pH units)				
5	pH_GEN (pH units)	8.3	8.3	8.4	8.5
6	TDS (mg/L)				
7	Temp (deg C)	28.5	27.0	26.3	28.0
8	Turb (NTU)				
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	11.6	24.1	5.5	8.0
2	ALK-TOT (mgCaCO3/L)	200	180	194	176
3	B (mg/L)	0.00	0.00	0.00	0.00
4	Ca (mg/L)	45	42	42	47
5	Cl (mg/L)	54.0	42.4	59.7	53.9
6	CO3 (mg/L)	14.0	29.0	6.7	9.6
7	F (mg/L)	0.82	0.88	0.79	0.72
8	Fe (mg/L)	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	215	161	223	195
10	K (mg/L)	4.1	3.1	3.3	3.2
11	Mg (mg/L)	17.0	15.0	15.3	7.8
12	Na (mg/L)	75.0	47.0	66.7	60.6
13	NH3-N (mg N/L)	0.00	0.00	0.05	0.05
14	NO2+NO3 (mg N/L)	0.01	0.00	0.01	0.01
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.01	0.00	0.01	0.01
17	o-PO4-P (mg P/L)		0.000		
18	P-Tot (mgP/L)	0.001	0.001	0.001	0.001
19	SiO2 (mg/L)	16.3	11.8	15.3	11.8
20	SO4 (mg/L)	45.0	47.0	40.0	50.0
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	2.0	1.2	0.9	1.1
2	COD (mg/L)			9.3	12.0
3	DO (mg/L)	5.7	6.8	6.4	7.3
4	DO_SAT% (%)	73	85	79	93
5	FCol-MPN (MPN/100mL)				
6	Tcol-MPN (MPN/100mL)				
7	TOC (mg/L)			3.3	
	TRACE & TOXIC				
1	Cd (µg/L)	0.01		0.70	
2	Cr (µg/L)	2.00		2.00	
3	Hg (µg/L)			0.00	
4	Ni (µg/L)	1.00		8.40	
5	Pb (µg/L)	68.00		11.78	
6	Zn (µg/L)	12.00		16.31	
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	113	105	105	116
2	HAR_Total (mgCaCO3/L)	183	168	169	149
3	Na% (%)	47	37	46	46
4	RSC (-)	0.3	0.3	0.5	0.6
5	SAR (-)	2.4	1.6	2.2	2.2
	PESTICIDES				
1	Aldrin (µg/L)	0.010		0.010	
2	BHC (µg/L)	0.100		0.480	
3	DDT (µg/L)	0.100		0.100	
4	Dieldrin (µg/L)	0.037		0.010	
5	Endos (µg/L)	0.110		0.100	

HISTORY SHEET

		Water Year	: 2015-2016
Site	: Keesara	Code	: AKA00B4
State	: Andhra Pradesh	District	Krishna
Basin	: Krishna	Independent River	: Krishna
Tributary	: Munneru	Sub Tributary	: -
Sub-Sub Tributary	: -	Local River	: Munneru
Division	: Lower Krishna Divn., Hyderabad	Sub-Division	: Lower Krishna SD2, Vijayawada
Drainage Area	: 9854 Sq. Km.	Bank	: Left
Latitude	: 16°42'53"	Longitude	: 80°19'13"
	Opening Date	Closing Date	
Gauge	: 23/09/1963		
Discharge	: 26/06/1964		
Sediment	: 02/07/1965		
Water Quality	: 01/01/1972		

Water Quality Datasheet for the period : 2015-2016

Station Name : Keesara (AKA00B4)

Division : Lower Krishna Divn., Hyderabad

Local River : Munneru

River Water Analysis Sub-Division : Lower Krishna SD2, Vijayawada

S.No	Parameters	01/07/2015	01/08/2015	01/09/2015	01/10/2015	02/11/2015	01/12/2015
		A	A	A	A	A	A
	PHYSICAL						
1	Q (cumec)	115.3	10.38	96.33	47.81	0.439	1.181
2	Colour_Cod (-)	Light Brown	Clear	Light Brown	Light Brown	Clear	Clear
3	EC_GEN (µmho/cm)	591	540	518	795	793	1730
4	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free	odour free
5	pH_GEN (pH units)	8.0	8.0	7.8	8.2	7.9	8.2
6	TDS (mg/L)	304	350	424	474	369	582
7	Temp (deg C)	27.0	26.0	25.0	25.0	25.0	25.0
8	Turb (NTU)	199.00	15.00	48.00	1.00	3.00	1.00
	CHEMICAL						
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	157	174	201	229	238	282
3	B (mg/L)		0.33	0.02		0.01	0.00
4	Ca (mg/L)	27	33	26	38	38	40
5	Cl (mg/L)	48.3	62.3	57.7	73.1	94.4	130.7
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.65	0.79	0.89	1.01	0.75	0.88
8	Fe (mg/L)	0.1	0.0	0.1	0.0	0.0	0.0
9	HCO3 (mg/L)	191	213	245	279	291	344
10	K (mg/L)	3.1	4.9	4.2	3.8	4.7	4.4
11	Mg (mg/L)	14.6	19.4	15.0	21.3	21.3	23.0
12	Na (mg/L)	57.4	64.7	91.4	106.2	109.0	134.7
13	NH3-N (mg N/L)	0.06	0.08	0.00	0.00	0.00	0.00
14	NO2+NO3 (mg N/L)	0.72	0.50	1.93	0.92	1.15	0.18
15	NO2-N (mgN/L)	0.03	0.00	0.00	0.01	0.00	0.00
16	NO3-N (mgN/L)	0.68	0.49	1.93	0.92	1.15	0.18
17	o-PO4-P (mg P/L)	0.170	0.223	0.263	0.202	0.119	0.065
18	SiO2 (mg/L)	7.1	12.7	7.7	14.8	5.3	5.1
19	SO4 (mg/L)	40.5	49.2	20.5	22.2	51.8	26.0
	BIOLOGICAL/BACTERIOLOGICAL						
1	BOD3-27 (mg/L)	4.1	1.0	2.2	1.3	1.0	1.0
2	COD (mg/L)	8.5	15.7	13.5	18.3	5.7	17.4
3	DO (mg/L)	4.3	5.7	4.4	6.4	4.2	4.8
4	DO_SAT% (%)	54	70	53	77	51	58
5	FCol-MPN (MPN/100mL)	3500	1400	9000	16000	500	2800
6	Tcol-MPN (MPN/100mL)	16000	2800	16000	16000	16000	9000
7	TOC (mg/L)	24.7	17.3	19.2	34.4	24.3	32.0
	TRACE & TOXIC						
	CHEMICAL INDICES						
1	HAR_Ca (mgCaCO3/L)	68	82	64	96	94	100
2	HAR_Total (mgCaCO3/L)	129	163	127	185	183	196
3	Na% (%)	49	46	60	55	56	59
4	RSC (-)	0.6	0.3	1.5	0.9	1.1	1.7
5	SAR (-)	2.2	2.2	3.5	3.4	3.5	4.2
	PESTICIDES	Analysis not done due to mal function of instrument.					

Samples not collected during June, and from January to May months due to Drybed/No flow

Water Quality Summary for the period : 2015-2016

Station Name : Keesara (AKA00B4)

Division : Lower Krishna Divn., Hyderabad

Local River : Munneru

Sub-Division : Lower Krishna SD2, Vijayawada

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	369	1194	0.000	28.76
2	EC_GEN (μmho/cm)	6	1730	518	828
3	pH_GEN (pH units)	6	8.2	7.8	8
4	TDS (mg/L)	6	582	304	417
5	Temp (deg C)	6	27.0	25.0	25.5
6	Turb (NTU)	6	199.00	1.00	44.5
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	6	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	6	282	157	213
3	B (mg/L)	4	0.33	0.00	0.09
4	Ca (mg/L)	6	40	26	34
5	Cl (mg/L)	6	130.7	48.3	77.7
6	CO3 (mg/L)	6	0.0	0.0	0
7	F (mg/L)	6	1.01	0.65	0.83
8	Fe (mg/L)	6	0.1	0.0	0
9	HCO3 (mg/L)	6	344	191	260
10	K (mg/L)	6	4.9	3.1	4.2
11	Mg (mg/L)	6	23.0	14.6	19.1
12	Na (mg/L)	6	134.7	57.4	93.9
13	NH3-N (mg N/L)	6	0.08	0.00	0.02
14	NO2+NO3 (mg N/L)	6	1.93	0.18	0.9
15	NO2-N (mgN/L)	6	0.03	0.00	0.01
16	NO3-N (mgN/L)	6	1.93	0.18	0.89
17	o-PO4-P (mg P/L)	6	0.263	0.065	0.174
18	SiO2 (mg/L)	6	14.8	5.1	8.8
19	SO4 (mg/L)	6	51.8	20.5	35
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	6	4.1	1.0	1.8
2	COD (mg/L)	6	18.3	5.7	13.2
3	DO (mg/L)	6	6.4	4.2	5
4	DO_SAT% (%)	6	77	51	61
5	FCol-MPN (MPN/100mL)	6	16000	500	5533
6	Tcol-MPN (MPN/100mL)	6	16000	2800	12633
7	TOC (mg/L)	6	34.4	17.3	25.3
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	6	100	64	84
2	HAR_Total (mgCaCO3/L)	6	196	127	164
3	Na% (%)	6	60	46	54
4	RSC (-)	6	1.7	0.3	1
5	SAR (-)	6	4.2	2.2	3.2
	PESTICIDES				

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Keesara (AKA00B4)

Division : Lower Krishna Divn., Hyderabad

Local River : Munneru

River Water Sub-Division : Lower Krishna SD2, Vijayawada

S.No	Parameters	Flood				
		Jun - Oct				
		2001	2002	2003	2004	2005
	PHYSICAL					
1	Q (cumec)	53.58	7.178	45.01	65.86	65.67
2	EC_FLD (μmho/cm)					
3	EC_GEN (μmho/cm)	840	677	903	582	545
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.4	7.6	8.1	8.3	8.3
6	TDS (mg/L)					
7	Temp (deg C)	28.7	30.5	29.0	27.0	29.5
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	23.2	0.0	7.0	7.5	4.6
2	ALK-TOT (mgCaCO3/L)	154	78	222	250	168
3	B (mg/L)	0.01	0.01	0.00	0.00	0.01
4	Ca (mg/L)	35	20	37	31	29
5	Cl (mg/L)	78.2	64.0	44.0	42.1	39.0
6	CO3 (mg/L)	28.0	0.0	8.4	9.0	5.5
7	F (mg/L)	0.57	0.97	0.97	1.03	1.11
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	131	95	254	287	194
10	K (mg/L)	5.0	4.7	4.3	2.2	2.3
11	Mg (mg/L)	33.2	24.3	11.7	17.0	14.5
12	Na (mg/L)	94.8	39.0	51.0	69.0	56.5
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.00	0.00
14	NO2+NO3 (mg N/L)	0.24	0.05	0.01	0.01	0.01
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.24	0.05	0.01	0.01	0.01
17	o-PO4-P (mg P/L)	0.000				
18	P-Tot (mgP/L)	0.100	0.107	0.136	0.001	0.005
19	SiO2 (mg/L)	7.2	3.5	10.9	13.0	13.7
20	SO4 (mg/L)	50.8	60.5	40.5	35.0	36.0
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.3	2.4	1.9	1.3	1.0
2	COD (mg/L)					
3	DO (mg/L)	5.8	4.5	5.4	6.0	5.8
4	DO_SAT% (%)	75	60	70	75	69
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
7	TOC (mg/L)					
	TRACE & TOXIC					
1	As (μg/L)					
2	Cd (μg/L)					
3	Cr (μg/L)					
4	Hg (μg/L)					
5	Ni (μg/L)					
6	Pb (μg/L)					
7	Zn (μg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	88	51	94	76	73
2	HAR_Total (mgCaCO3/L)	226	152	142	147	133
3	Na% (%)	48	32	42	49	44
4	RSC (-)	0.1	0.0	1.6	2.1	0.7
5	SAR (-)	2.8	1.4	1.8	2.4	2.1
	PESTICIDES					
1	Aldrin (μg/L)					
2	BHC (μg/L)					
3	DDT (μg/L)					
4	Dieldrin (μg/L)					
5	Endos (μg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Keesara (AKA00B4)

Division : Lower Krishna Divn., Hyderabad

Local River : Munneru

River Water Sub-Division : Lower Krishna SD2, Vijayawada

S.No	Parameters	Flood				
		Jun - Oct				
		2006	2007	2008	2009	2010
	PHYSICAL					
1	Q (cumec)	29.74	137.6	72.83	56.37	147.2
2	EC_FLD (µmho/cm)					890
3	EC_GEN (µmho/cm)	710	689	649	641	613
4	pH_FLD (pH units)					8.2
5	pH_GEN (pH units)	8.4	8.6	8.2	8.4	8.4
6	TDS (mg/L)					
7	Temp (deg C)	28.7	29.8	27.7	28.8	29.7
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	6.6	14.4	2.7	4.0	2.7
2	ALK-TOT (mgCaCO3/L)	223	230	189	176	183
3	B (mg/L)	0.00	0.00	0.00	0.00	0.00
4	Ca (mg/L)	36	30	44	27	31
5	Cl (mg/L)	63.3	91.6	52.6	74.0	52.4
6	CO3 (mg/L)	8.0	17.3	3.2	4.8	3.2
7	F (mg/L)	0.96	1.33	0.79	0.95	1.11
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	255	245	225	205	216
10	K (mg/L)	4.8	4.8	3.4	5.0	3.4
11	Mg (mg/L)	17.0	17.3	6.8	10.2	73.0
12	Na (mg/L)	110.3	103.3	60.7	76.6	59.5
13	NH3-N (mg N/L)	0.00	0.05	0.05	0.00	0.00
14	NO2+NO3 (mg N/L)	0.00	0.01	0.01	0.60	0.00
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.00	0.01	0.01	0.60	0.00
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.001	0.001	0.000	0.150
19	SiO2 (mg/L)	14.1	14.3	10.4	13.2	12.4
20	SO4 (mg/L)	56.3	38.7	37.7	45.8	40.9
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.4	1.1	0.9	2.0	1.0
2	COD (mg/L)		18.2	17.9	17.5	13.1
3	DO (mg/L)	6.9	7.2	5.7	5.0	6.6
4	DO_SAT% (%)	89	93	72	65	87
5	FCol-MPN (MPN/100mL)				16000	7433
6	Tcol-MPN (MPN/100mL)				16000	8900
7	TOC (mg/L)					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Hg (µg/L)					
5	Ni (µg/L)					
6	Pb (µg/L)					
7	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	90	76	109	68	79
2	HAR_Total (mgCaCO3/L)	161	148	138	111	383
3	Na% (%)	59	55	48	56	30
4	RSC (-)	1.3	1.7	1.1	1.3	0.3
5	SAR (-)	3.8	3.7	2.3	3.0	1.4
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Keesara (AKA00B4)

Division : Lower Krishna Divn., Hyderabad

Local River : Munneru

River Water Sub-Division : Lower Krishna SD2, Vijayawada

S.No	Parameters	Flood				
		Jun - Oct				
		2011	2012	2013	2014	2015
	PHYSICAL					
1	Q (cumec)	36.29	63.22	201.0	16.87	67.46
2	EC_FLD (µmho/cm)			1000		
3	EC_GEN (µmho/cm)	805	631	657	923	611
4	pH_FLD (pH units)			7.0		
5	pH_GEN (pH units)	8.2	8.3	8.2	8.1	8.0
6	TDS (mg/L)	454	476	478	522	388
7	Temp (deg C)	29.0	30.0	29.1	29.0	25.8
8	Turb (NTU)	1.00	0.55	2.60	8.33	65.75
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	1.3	2.0	2.2	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	229	200	252	208	190
3	B (mg/L)	0.00	0.19	0.72	0.32	0.18
4	Ca (mg/L)	31	36	59	33	31
5	Cl (mg/L)	89.9	77.0	49.5	93.4	60.4
6	CO3 (mg/L)	1.6	2.4	2.6	0.0	0.0
7	F (mg/L)	1.39	0.78	0.74	0.93	0.83
8	Fe (mg/L)	0.0	0.0	0.2	0.1	0.1
9	HCO3 (mg/L)	276	239	303	254	232
10	K (mg/L)	4.2	4.1	2.3	5.1	4.0
11	Mg (mg/L)	16.4	20.7	11.0	19.1	17.6
12	Na (mg/L)	100.8	89.7	63.9	110.4	79.9
13	NH3-N (mg N/L)	0.00	0.00	0.02	0.00	0.03
14	NO2+NO3 (mg N/L)	0.42	0.93	0.67	1.04	1.02
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.02	0.01
16	NO3-N (mgN/L)	0.42	0.93	0.67	1.02	1.00
17	o-PO4-P (mg P/L)	0.257	0.124	0.125	0.146	0.215
18	P-Tot (mgP/L)	0.257			0.166	
19	SiO2 (mg/L)	14.4	11.6	11.3	15.0	10.6
20	SO4 (mg/L)	46.6	47.0	32.7	58.4	33.1
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.2	1.2	0.6	1.0	2.1
2	COD (mg/L)	15.1	21.1	10.1	6.9	14.0
3	DO (mg/L)	5.1	6.4	6.5	5.9	5.2
4	DO_SAT% (%)	75	84	85	77	64
5	FCol-MPN (MPN/100mL)	12333	8150	8800	6210	7475
6	Tcol-MPN (MPN/100mL)	13667	8400	16000	8000	12700
7	TOC (mg/L)	3.1	3.6	0.8		23.9
	TRACE & TOXIC					
1	As (µg/L)		8.30	4.39		
2	Cd (µg/L)		0.85	2.23		
3	Cr (µg/L)		15.27	0.69		
4	Hg (µg/L)			0.60		
5	Ni (µg/L)		5.44	18.42		
6	Pb (µg/L)		3.46	2.36		
7	Zn (µg/L)		62.51	0.01		
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	78	90	148	84	78
2	HAR_Total (mgCaCO3/L)	146	176	194	163	151
3	Na% (%)	58	52	42	58	52
4	RSC (-)	1.7	0.5	1.2	0.9	0.8
5	SAR (-)	3.6	3.0	2.0	3.7	2.8
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Keesara (AKA00B4)

Division : Lower Krishna Divn., Hyderabad

Local River : Munneru

River Water Sub-Division : Lower Krishna SD2, Vijayawada

S.No	Parameters	Winter				
		Nov - Feb				
		2001-2002	2002-2003	2003-2004	2004-2005	2005-2006
	PHYSICAL					
1	Q (cumec)	11.90		3.990	6.410	23.52
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	867		805	919	789
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.5		8.6	8.3	8.0
6	TDS (mg/L)					
7	Temp (deg C)	25.5		26.0	27.0	25.5
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	31.1		20.4	7.5	0.0
2	ALK-TOT (mgCaCO3/L)	195		298	312	267
3	B (mg/L)	0.01		0.00	0.00	0.01
4	Ca (mg/L)	21		37	39	42
5	Cl (mg/L)	86.8		69.8	85.5	63.7
6	CO3 (mg/L)	37.5		24.6	9.0	0.0
7	F (mg/L)	0.75		0.88	0.83	1.04
8	Fe (mg/L)	0.0		0.0	0.0	0.0
9	HCO3 (mg/L)	161		313	362	326
10	K (mg/L)	3.9		3.8	2.9	
11	Mg (mg/L)	36.0		17.5	21.5	21.0
12	Na (mg/L)	84.5		59.5	98.0	
13	NH3-N (mg N/L)	0.00		0.00	0.00	0.00
14	NO2+NO3 (mg N/L)	0.09		0.01	0.01	0.01
15	NO2-N (mgN/L)	0.00		0.00	0.00	0.00
16	NO3-N (mgN/L)	0.09		0.01	0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.008		0.001	0.001	0.010
19	SiO2 (mg/L)	9.6		15.9	13.6	11.1
20	SO4 (mg/L)	51.5		44.0	62.0	54.5
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.9		1.8	0.7	0.9
2	COD (mg/L)					
3	DO (mg/L)	7.3		6.8	5.8	5.8
4	DO_SAT% (%)	88		83	72	72
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
7	TOC (mg/L)					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Hg (µg/L)					
5	Ni (µg/L)					
6	Pb (µg/L)					
7	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	54		93	96	105
2	HAR_Total (mgCaCO3/L)	204		166	186	193
3	Na% (%)	47		43	53	
4	RSC (-)	0.2		2.7	2.5	1.5
5	SAR (-)	2.6		2.0	3.1	
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Keesara (AKA00B4)

Division : Lower Krishna Divn., Hyderabad

Local River : Munneru

River Water Sub-Division : Lower Krishna SD2, Vijayawada

S.No	Parameters	Winter				
		Nov - Feb				
		2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	PHYSICAL					
1	Q (cumec)	19.97	20.00	47.12	18.98	38.91
2	EC_FLD (µmho/cm)					780
3	EC_GEN (µmho/cm)	700	772	782	874	770
4	pH_FLD (pH units)					8.1
5	pH_GEN (pH units)	8.2	8.3	8.3	8.3	8.3
6	TDS (mg/L)					
7	Temp (deg C)	24.0	25.0	22.0	25.5	25.0
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	4.1	8.0	4.0	8.0
2	ALK-TOT (mgCaCO3/L)	254	253	276	188	233
3	B (mg/L)	0.00	0.00	0.00	0.00	0.00
4	Ca (mg/L)	41	36	46	32	36
5	Cl (mg/L)	59.6	69.7	75.9	81.2	67.7
6	CO3 (mg/L)	0.0	5.0	9.6	4.8	9.6
7	F (mg/L)	1.10	1.00	0.85	1.44	0.78
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	310	298	318	219	265
10	K (mg/L)	2.7	3.3	4.0	2.8	3.6
11	Mg (mg/L)	22.0	20.5	11.7	17.9	20.4
12	Na (mg/L)	109.0	116.0	104.2	109.4	83.3
13	NH3-N (mg N/L)	0.00	0.05	0.05	0.00	0.00
14	NO2+NO3 (mg N/L)	0.00	0.01	0.01	0.18	0.00
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.00	0.01	0.01	0.18	0.00
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.001	0.001	0.000	0.060
19	SiO2 (mg/L)	16.7	16.5	12.2	10.4	15.2
20	SO4 (mg/L)	47.0	37.0	47.4	69.2	45.5
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.8	1.2	1.0	0.7	1.1
2	COD (mg/L)		27.5	12.5	13.0	19.8
3	DO (mg/L)	6.8	6.7	7.1	6.0	6.8
4	DO_SAT% (%)	82	81	81	73	82
5	FCol-MPN (MPN/100mL)				12500	10500
6	Tcol-MPN (MPN/100mL)				16000	12500
7	TOC (mg/L)					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Hg (µg/L)					
5	Ni (µg/L)					
6	Pb (µg/L)					
7	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	103	90	116	80	90
2	HAR_Total (mgCaCO3/L)	194	175	165	155	175
3	Na% (%)	54	58	57	61	50
4	RSC (-)	1.2	1.6	2.2	1.0	1.2
5	SAR (-)	3.4	3.8	3.6	3.9	2.7
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Keesara (AKA00B4)

Division : Lower Krishna Divn., Hyderabad

Local River : Munneru

River Water Sub-Division : Lower Krishna SD2, Vijayawada

S.No	Parameters	Winter				
		Nov - Feb				
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
	PHYSICAL					
1	Q (cumec)	14.17	10.83	23.46	15.50	0.810
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	873	812	840	779	1262
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.0	7.8	8.2	8.3	8.0
6	TDS (mg/L)	555	483	535	553	476
7	Temp (deg C)	25.5	27.0	26.0	25.1	25.0
8	Turb (NTU)	1.00	1.50	2.50	0.10	2.00
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	2.1	0.0
2	ALK-TOT (mgCaCO3/L)	251	252	245	259	260
3	B (mg/L)	0.18	0.28	0.78	0.24	0.01
4	Ca (mg/L)	41	39	45	44	39
5	Cl (mg/L)	97.3	72.0	74.8	91.0	112.5
6	CO3 (mg/L)	0.0	0.0	0.0	2.5	0.0
7	F (mg/L)	0.96	1.03	0.83	0.89	0.81
8	Fe (mg/L)	0.1	0.0	0.0	0.1	0.0
9	HCO3 (mg/L)	306	307	300	311	317
10	K (mg/L)	3.4	4.9	3.3	2.6	4.5
11	Mg (mg/L)	23.6	22.3	26.0	24.4	22.1
12	Na (mg/L)	110.2	90.9	96.6	86.9	121.8
13	NH3-N (mg N/L)	0.02	0.04	0.05	0.00	0.00
14	NO2+NO3 (mg N/L)	0.81	0.82	1.07	0.51	0.66
15	NO2-N (mgN/L)	0.01	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.80	0.82	1.07	0.50	0.66
17	o-PO4-P (mg P/L)	0.134	0.053	0.100	0.100	0.092
18	P-Tot (mgP/L)	0.134				
19	SiO2 (mg/L)	17.2	16.6	13.7	11.2	5.2
20	SO4 (mg/L)	63.8	37.0	44.5	57.0	38.9
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.3	1.5	1.4	0.3	1.0
2	COD (mg/L)	23.8	17.8	6.1	8.1	11.5
3	DO (mg/L)	6.9	5.0	6.8	6.3	4.5
4	DO_SAT% (%)	84	64	83	77	54
5	FCol-MPN (MPN/100mL)	515	180	180	1315	1650
6	Tcol-MPN (MPN/100mL)	1450	850	365	8250	12500
7	TOC (mg/L)	3.3	2.4		39.4	28.1
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)				2.90	
3	Cr (µg/L)				0.19	
4	Hg (µg/L)					
5	Ni (µg/L)				12.08	
6	Pb (µg/L)				19.79	
7	Zn (µg/L)				8.50	
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	102	97	111	109	97
2	HAR_Total (mgCaCO3/L)	200	190	220	211	189
3	Na% (%)	54	50	49	47	58
4	RSC (-)	1.0	1.3	0.5	1.0	1.4
5	SAR (-)	3.4	2.9	2.8	2.6	3.9
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Keesara (AKA00B4)

Division : Lower Krishna Divn., Hyderabad

Local River : Munneru

River Water Sub-Division : Lower Krishna SD2, Vijayawada

S.No	Parameters	Summer			
		Mar - May			
		2002	2006	2007	2008
	PHYSICAL				
1	Q (cumec)	7.196	14.06	2.246	40.40
2	EC_FLD (µmho/cm)				
3	EC_GEN (µmho/cm)	883	788	769	805
4	pH_FLD (pH units)				
5	pH_GEN (pH units)	7.8	8.6	8.6	8.1
6	TDS (mg/L)				
7	Temp (deg C)	31.0	29.5	23.0	26.0
8	Turb (NTU)				
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0	15.8	24.1	0.0
2	ALK-TOT (mgCaCO3/L)	42	259	304	240
3	B (mg/L)	0.02	0.01	0.00	0.00
4	Ca (mg/L)	26	38	35	35
5	Cl (mg/L)	90.5	71.3	69.6	63.4
6	CO3 (mg/L)	0.0	19.0	29.0	0.0
7	F (mg/L)	0.64	1.01	1.98	1.02
8	Fe (mg/L)	0.0	0.0	0.0	
9	HCO3 (mg/L)	51	277	312	293
10	K (mg/L)	2.8	2.8	4.3	3.4
11	Mg (mg/L)	31.4	17.0	17.0	20.0
12	Na (mg/L)	85.0	82.0	98.0	101.0
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.05
14	NO2+NO3 (mg N/L)	0.14	0.01	0.00	
15	NO2-N (mgN/L)	0.00	0.00	0.00	
16	NO3-N (mgN/L)	0.14	0.01	0.00	
17	o-PO4-P (mg P/L)				
18	P-Tot (mgP/L)	0.001	0.010	0.001	0.001
19	SiO2 (mg/L)	6.5	11.1	21.0	20.1
20	SO4 (mg/L)	54.0	41.0	50.0	42.0
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	0.8	0.8	1.7	0.4
2	COD (mg/L)				7.4
3	DO (mg/L)	6.0	5.4	5.9	6.1
4	DO_SAT% (%)	81	71	69	76
5	FCol-MPN (MPN/100mL)				
6	Tcol-MPN (MPN/100mL)				
7	TOC (mg/L)				3.0
	TRACE & TOXIC				
1	As (µg/L)				
2	Cd (µg/L)			8.00	0.80
3	Cr (µg/L)			31.00	2.00
4	Hg (µg/L)			2.03	0.00
5	Ni (µg/L)			1.00	9.80
6	Pb (µg/L)			78.00	16.06
7	Zn (µg/L)			106.00	2.24
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	65	95	88	88
2	HAR_Total (mgCaCO3/L)	196	166	158	171
3	Na% (%)	48	51	57	56
4	RSC (-)	0.0	1.9	2.9	1.4
5	SAR (-)	2.7	2.8	3.4	3.4
	PESTICIDES				
1	Aldrin (µg/L)			0.010	0.010
2	BHC (µg/L)			0.100	0.100
3	DDT (µg/L)			0.100	0.100
4	Dieldrin (µg/L)			0.020	0.010
5	Endos (µg/L)			0.100	0.100

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Keesara (AKA00B4)

Division : Lower Krishna Divn., Hyderabad

Local River : Munneru

River Water Sub-Division : Lower Krishna SD2, Vijayawada

S.No	Parameters	Summer			
		Mar - May			
		2009	2010	2015	2016
	PHYSICAL				
1	Q (cumec)	0.446	0.798	0.131	
2	EC_FLD (µmho/cm)				
3	EC_GEN (µmho/cm)	805	846	1048	
4	pH_FLD (pH units)				
5	pH_GEN (pH units)	8.4	8.4	8.1	
6	TDS (mg/L)			615	
7	Temp (deg C)	28.0	28.5	25.5	
8	Turb (NTU)			4.00	
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	8.0	8.0	1.7	
2	ALK-TOT (mgCaCO3/L)	216	196	247	
3	B (mg/L)	0.00	0.00	0.26	
4	Ca (mg/L)	30	35	39	
5	Cl (mg/L)	209.7	187.4	123.4	
6	CO3 (mg/L)	9.6	9.6	2.1	
7	F (mg/L)	1.07	2.36	0.97	
8	Fe (mg/L)	0.0	0.0	0.0	
9	HCO3 (mg/L)	244	220	298	
10	K (mg/L)	4.6	5.2	5.8	
11	Mg (mg/L)	13.0	19.4	21.5	
12	Na (mg/L)	94.3	113.0	138.8	
13	NH3-N (mg N/L)	0.05	0.00	0.01	
14	NO2+NO3 (mg N/L)	0.01	0.00	0.52	
15	NO2-N (mgN/L)	0.00	0.00	0.28	
16	NO3-N (mgN/L)	0.01	0.00	0.24	
17	o-PO4-P (mg P/L)			0.120	
18	P-Tot (mgP/L)	0.001	0.000		
19	SiO2 (mg/L)	16.9	13.9	16.4	
20	SO4 (mg/L)	48.0	39.2	85.4	
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	0.3	0.7	1.7	
2	COD (mg/L)	8.1	31.0	16.6	
3	DO (mg/L)	5.0	6.6	4.5	
4	DO_SAT% (%)	64	84	55	
5	FCol-MPN (MPN/100mL)		1300	11	
6	Tcol-MPN (MPN/100mL)		1700	8115	
7	TOC (mg/L)			34.6	
	TRACE & TOXIC				
1	As (µg/L)		4.66		
2	Cd (µg/L)	2.21	0.00		
3	Cr (µg/L)	2.00	0.00		
4	Hg (µg/L)				
5	Ni (µg/L)	1.00	0.90		
6	Pb (µg/L)	24.44	0.00		
7	Zn (µg/L)	17.76	111.24		
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	76	88	97	
2	HAR_Total (mgCaCO3/L)	130	169	186	
3	Na% (%)	60	59	61	
4	RSC (-)	1.7	0.6	1.3	
5	SAR (-)	3.6	3.8	4.5	
	PESTICIDES				
1	Aldrin (µg/L)	0.010	0.002		
2	BHC (µg/L)	0.100	0.058		
3	DDT (µg/L)	0.100	0.004		
4	Dieldrin (µg/L)	0.010	0.002		
5	Endos (µg/L)	0.100	0.018		

Samples not collected during Summer season from 2003 to 2005 and from 2011 to 2014 and 2016 due to Drybed/No flow.

HISTORY SHEET

Water Year : 2015-2016

Site : Madhira

Code : AKA10D2

State : Telangana

District : Khammam

Basin : Krishna

Independent River : Krishna

Tributary : Munneru

Sub Tributary : Wyrā

Sub-Sub Tributary : -

Local River : Wyrā

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada

Drainage Area : 1850 Sq. Km.

Bank : Left

Latitude : 16°55'05"

Longitude : 80°21'32"

Opening Date

Closing Date

Gauge : 23/02/1984

Discharge : 07/06/1984

Sediment : 01/03/2014

Water Quality : 01/06/1992

WQ observations suspended on 31-05-2006 and restarted w.e.f 01-03-2014.

Water Quality Datasheet for the period : 2015-2016

Station Name : Madhira (AKA10D2)

Division : Lower Krishna Divn., Hyderabad

Local River : Wyra

River Water Analysis Division : Lower Krishna SD2, Vijayawada

S.No	Parameters	01/07/2015	01/08/2015	01/09/2015	01/10/2015	02/11/2015	01/12/2015
		A	A	A	A	A	A
	PHYSICAL						
1	Q (cumec)	30.61	3.077	13.01	6.410	4.344	2.463
2	Colour_Cod (-)	Brown	Clear	Brown	Clear	Clear	Clear
3	EC_GEN (µmho/cm)	470	639	696	788	735	1633
4	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free	odour free
5	pH_GEN (pH units)	7.9	7.9	8.0	8.0	7.9	8.2
6	TDS (mg/L)	256	486	472	486	407	581
7	Temp (deg C)	29.8	30.0	30.0	31.0	30.0	26.0
8	Turb (NTU)	464.00	20.00	34.00	0.10	3.00	2.00
	CHEMICAL						
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	183	243	242	259	204	323
3	B (mg/L)		0.23	0.13		0.16	0.00
4	Ca (mg/L)	34	38	36	42	40	45
5	Cl (mg/L)	37.2	81.9	71.3	65.0	76.1	86.0
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.69	0.83	0.94	1.04	0.91	0.87
8	Fe (mg/L)	0.1	0.0	0.1	0.0	0.0	0.0
9	HCO3 (mg/L)	223	296	295	316	249	394
10	K (mg/L)	3.2	3.9	3.6	3.4	3.2	3.2
11	Mg (mg/L)	18.9	22.8	19.9	23.3	22.1	25.2
12	Na (mg/L)	52.4	99.5	105.8	102.0	117.2	123.8
13	NH3-N (mg N/L)	0.03	0.05	0.00	0.02	0.00	0.05
14	NO2+NO3 (mg N/L)	1.00	0.54	1.55	0.80	1.35	0.84
15	NO2-N (mgN/L)	0.01	0.02	0.00	0.01	0.00	0.07
16	NO3-N (mgN/L)	0.99	0.53	1.55	0.79	1.35	0.77
17	o-PO4-P (mg P/L)	0.460	0.210	0.364	0.154	0.118	0.090
18	SiO2 (mg/L)	16.1	13.9	11.2	19.2	8.1	8.3
19	SO4 (mg/L)	94.0	79.0	26.0	11.5	38.0	72.0
	BIOLOGICAL/BACTERIOLOGICAL						
1	BOD3-27 (mg/L)	0.3	0.7	3.1	1.0	0.5	0.4
2	COD (mg/L)	13.0	10.0	12.7	18.7	3.2	9.3
3	DO (mg/L)	3.0	5.4	4.4	6.4	5.5	5.5
4	DO_SAT% (%)	39	71	58	86	73	68
5	Fcol-MPN (MPN/100mL)	9000	9000	2400	170	9000	5000
6	Tcol-MPN (MPN/100mL)	16000	16000	16000	3500	16000	9000
7	TOC (mg/L)	11.2	35.7	30.8	35.0	37.7	43.5
	TRACE & TOXIC						
	CHEMICAL INDICES						
1	HAR_Ca (mgCaCO3/L)	84	96	90	104	100	112
2	HAR_Total (mgCaCO3/L)	163	191	173	201	192	217
3	Na% (%)	41	53	57	52	57	55
4	RSC (-)	0.4	1.1	1.4	1.2	0.3	2.1
5	SAR (-)	1.8	3.1	3.5	3.1	3.7	3.7
	PESTICIDES	Analysis not done due to mal function of instrument.					

Samples not collected in June and from January to May months due to Dried/No flow

Water Quality Summary for the period : 2015-2016

Station Name : Madhira (AKA10D2)

Division : Lower Krishna Divn., Hyderabad

Local River : Wyra

Sub-Division : Lower Krishna SD2, Vijayawada

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	369	347.3	0.000	6.049
2	EC_GEN (µmho/cm)	6	1633	470	827
3	pH_GEN (pH units)	6	8.2	7.9	8
4	TDS (mg/L)	6	581	256	448
5	Temp (deg C)	6	31.0	26.0	29.5
6	Turb (NTU)	6	464.00	0.10	87.18
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	6	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	6	323	183	242
3	B (mg/L)	4	0.23	0.00	0.13
4	Ca (mg/L)	6	45	34	39
5	Cl (mg/L)	6	86.0	37.2	69.6
6	CO3 (mg/L)	6	0.0	0.0	0
7	F (mg/L)	6	1.04	0.69	0.88
8	Fe (mg/L)	6	0.1	0.0	0
9	HCO3 (mg/L)	6	394	223	296
10	K (mg/L)	6	3.9	3.2	3.4
11	Mg (mg/L)	6	25.2	18.9	22
12	Na (mg/L)	6	123.8	52.4	100.1
13	NH3-N (mg N/L)	6	0.05	0.00	0.03
14	NO2+NO3 (mg N/L)	6	1.55	0.54	1.01
15	NO2-N (mgN/L)	6	0.07	0.00	0.02
16	NO3-N (mgN/L)	6	1.55	0.53	1
17	o-PO4-P (mg P/L)	6	0.460	0.090	0.233
18	SiO2 (mg/L)	6	19.2	8.1	12.8
19	SO4 (mg/L)	6	94.0	11.5	53.4
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	6	3.1	0.3	1
2	COD (mg/L)	6	18.7	3.2	11.2
3	DO (mg/L)	6	6.4	3.0	5
4	DO_SAT% (%)	6	86	39	66
5	FCol-MPN (MPN/100mL)	6	9000	170	5762
6	Tcol-MPN (MPN/100mL)	6	16000	3500	12750
7	TOC (mg/L)	6	43.5	11.2	32.3
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	6	112	84	98
2	HAR_Total (mgCaCO3/L)	6	217	163	190
3	Na% (%)	6	57	41	52
4	RSC (-)	6	2.1	0.3	1.1
5	SAR (-)	6	3.7	1.8	3.2
	PESTICIDES				

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Madhira (AKA10D2)

Division : Lower Krishna Divn., Hyderabad

Local River : Wyra

River Water Sub-Division : Lower Krishna SD2, Vijayawada

S.No	Parameters	Flood						
		Jun - Oct						
		2001	2002	2003	2004	2005	2014	2015
	PHYSICAL							
1	Q (cumec)	9.193	5.220	3.811	26.38	14.01	11.90	13.28
2	EC_GEN (µmho/cm)	746	581	880	588	720	838	648
3	pH_GEN (pH units)	8.2	7.9	8.2	8.1	8.3	8.2	7.9
4	TDS (mg/L)						505	425
5	Temp (deg C)	27.5	31.0	29.3	27.8	31.2	27.3	30.2
6	Turb (NTU)						5.33	129.53
	CHEMICAL							
1	Alk-Phen (mgCaCO3/L)	6.2	10.4	7.0	0.0	3.9	1.4	0.0
2	ALK-TOT (mgCaCO3/L)	138	174	341	224	248	233	232
3	B (mg/L)	0.01	0.01	0.00	0.00	0.01	0.46	0.18
4	Ca (mg/L)	12	28	39	31	39	39	37
5	Cl (mg/L)	59.9	92.5	69.9	43.8	57.6	79.2	63.9
6	CO3 (mg/L)	7.5	12.5	8.4	0.0	4.7	1.7	0.0
7	F (mg/L)	0.65	0.94	1.54	0.85	0.88	0.88	0.87
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0	0.1	0.0
9	HCO3 (mg/L)	153	187	399	273	293	280	283
10	K (mg/L)	5.2	3.8	5.7	3.1	3.1	4.2	3.5
11	Mg (mg/L)	30.1	26.0	23.7	17.3	10.3	21.5	21.2
12	Na (mg/L)	72.4	84.5	140.0	61.0	94.7	99.4	89.9
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.00	0.00	0.00	0.02
14	NO2+NO3 (mg N/L)	0.32	0.16	0.01	0.01	0.01	1.87	0.97
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00	0.00	0.01
16	NO3-N (mgN/L)	0.32	0.16	0.01	0.01	0.01	1.86	0.96
17	o-PO4-P (mg P/L)						0.174	0.297
18	P-Tot (mgP/L)	0.195	0.038	0.224	0.001	0.010	0.149	
19	SiO2 (mg/L)	6.4	6.2	12.3	13.5	17.1	15.1	15.1
20	SO4 (mg/L)	51.0	66.5	89.3	37.0	43.0	64.7	52.6
	BIOLOGICAL/BACTERIOLOGICAL							
1	BOD3-27 (mg/L)						1.4	1.3
2	COD (mg/L)						17.3	13.6
3	DO (mg/L)						5.4	4.8
4	DO_SAT% (%)						69	64
5	FCol-MPN (MPN/100mL)						16000	5143
6	Tcol-MPN (MPN/100mL)						16000	12875
7	TOC (mg/L)							28.2
	TRACE & TOXIC							
1	As (µg/L)							
2	Cd (µg/L)							
3	Cr (µg/L)							
4	Cu (µg/L)							
5	Hg (µg/L)							
6	Ni (µg/L)							
7	Pb (µg/L)							
8	Zn (µg/L)							
	CHEMICAL INDICES							
1	HAR_Ca (mgCaCO3/L)	31	70	97	78	97	97	94
2	HAR_Total (mgCaCO3/L)	157	178	196	151	140	186	182
3	Na% (%)	49	50	56	46	55	53	51
4	RSC (-)	0.0	0.4	2.9	1.5	2.2	0.9	1.0
5	SAR (-)	2.5	2.8	4.3	2.2	3.5	3.2	2.9
	PESTICIDES	WQ obsrvations suspended on 31-05-2006 and restarted w.e.f 01-03-2014.						

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Madhira (AKA10D2)

Division : Lower Krishna Divn., Hyderabad

Local River : Wyra

River Water Sub-Division : Lower Krishna SD2, Vijayawada

S.No	Parameters	Winter					
		Nov - Feb					
		2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2014-2015
		2015-2016					
	PHYSICAL						
1	Q (cumec)	5.017	1.406	3.086	4.963	27.00	11.74
2	EC_GEN (µmho/cm)	847	940	993	890	676	744
3	pH_GEN (pH units)	8.3	8.4	8.3	8.1	8.0	8.2
4	TDS (mg/L)						505
5	Temp (deg C)	25.5	27.0	27.7	23.3	26.0	23.8
6	Turb (NTU)						1.58
	CHEMICAL						
1	Alk-Phen (mgCaCO3/L)	5.2	28.2	15.3	0.0	0.0	1.0
2	ALK-TOT (mgCaCO3/L)	143	182	394	313	238	280
3	B (mg/L)	0.01	0.00	0.00	0.00	0.01	0.24
4	Ca (mg/L)	34	16	56	42	40	43
5	Cl (mg/L)	75.7	88.1	73.5	74.5	49.2	79.1
6	CO3 (mg/L)	6.3	34.0	18.4	0.0	0.0	1.3
7	F (mg/L)	0.78	0.91	2.57	0.98	0.92	0.96
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0	0.1
9	HCO3 (mg/L)	161	153	443	382	291	339
10	K (mg/L)	2.8	2.9	3.1	3.0		3.0
11	Mg (mg/L)	31.7	36.2	21.9	21.5	16.8	24.6
12	Na (mg/L)	78.2	74.0	98.3	94.8		103.0
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.00	0.00	0.04
14	NO2+NO3 (mg N/L)	0.06	0.09	0.01	0.01	0.01	0.82
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00	0.05
16	NO3-N (mgN/L)	0.05	0.09	0.01	0.01	0.01	0.77
17	o-PO4-P (mg P/L)						0.110
18	P-Tot (mgP/L)	0.023	0.001	0.001	0.001	0.010	
19	SiO2 (mg/L)	5.2	6.2	20.8	16.0	12.0	12.9
20	SO4 (mg/L)	65.3	80.0	51.7	56.0	43.0	43.3
	BIOLOGICAL/BACTERIOLOGICAL						
1	BOD3-27 (mg/L)						0.8
2	COD (mg/L)						9.1
3	DO (mg/L)						7.2
4	DO_SAT% (%)						85
5	FCol-MPN (MPN/100mL)						5220
6	Tcol-MPN (MPN/100mL)						6558
7	TOC (mg/L)						41.0
	TRACE & TOXIC						
1	As (µg/L)						
2	Cd (µg/L)						1.42
3	Cr (µg/L)						11.54
4	Cu (µg/L)						2.89
5	Hg (µg/L)						
6	Ni (µg/L)						1.78
7	Pb (µg/L)						10.94
8	Zn (µg/L)						4.50
	CHEMICAL INDICES						
1	HAR_Ca (mgCaCO3/L)	85	40	140	104	100	109
2	HAR_Total (mgCaCO3/L)	217	191	231	194	170	211
3	Na% (%)	43	46	48	51		51
4	RSC (-)	0.0	0.0	3.3	2.4	1.4	1.4
5	SAR (-)	2.3	2.3	2.8	3.0		3.1
	PESTICIDES						

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Madhira (AKA10D2)

Division : Lower Krishna Divn., Hyderabad

Local River : Wyra

River Water Sub-Division : Lower Krishna SD2, Vijayawada

S.No	Parameters	Summer					
		Mar - May					
		2002	2003	2004	2005	2006	2015
		2016					
	PHYSICAL						
1	Q (cumec)	4.733	Drybed/No flow		0.043	6.470	1.067
2	EC_GEN (µmho/cm)	843			1120	837	994
3	pH_GEN (pH units)	7.9			8.0	8.1	8.3
4	TDS (mg/L)						642
5	Temp (deg C)	30.5			22.0	25.5	27.0
6	Turb (NTU)						3.03
	CHEMICAL						
1	Alk-Phen (mgCaCO3/L)	0.0			0.0	0.0	1.2
2	ALK-TOT (mgCaCO3/L)	108			311	295	258
3	B (mg/L)	0.01			0.00	0.01	0.31
4	Ca (mg/L)	21			37	38	41
5	Cl (mg/L)	89.3			108.8	70.8	109.7
6	CO3 (mg/L)	0.0			0.0	0.0	1.4
7	F (mg/L)	0.81			1.11	1.11	0.91
8	Fe (mg/L)	0.0			0.0	0.0	0.0
9	HCO3 (mg/L)	132			379	360	311
10	K (mg/L)	2.8			0.8	3.3	4.3
11	Mg (mg/L)	37.3			21.0	21.0	23.7
12	Na (mg/L)	75.5			131.0	91.0	138.7
13	NH3-N (mg N/L)	0.00			0.00	0.00	0.09
14	NO2+NO3 (mg N/L)	0.04			0.01	0.01	1.03
15	NO2-N (mgN/L)	0.00			0.00	0.00	0.02
16	NO3-N (mgN/L)	0.03			0.01	0.01	1.01
17	o-PO4-P (mg P/L)						0.133
18	P-Tot (mgP/L)	0.008			0.001	0.010	
19	SiO2 (mg/L)	5.4			16.9	12.0	15.2
20	SO4 (mg/L)	55.5			69.0	50.0	81.1
	BIOLOGICAL/BACTERIOLOGICAL						
1	BOD3-27 (mg/L)						0.4
2	COD (mg/L)						9.3
3	DO (mg/L)						4.9
4	DO_SAT% (%)						62
5	FCol-MPN (MPN/100mL)						2
6	Tcol-MPN (MPN/100mL)						517
7	TOC (mg/L)						42.8
	TRACE & TOXIC						
1	As (µg/L)						2.97
2	Cd (µg/L)						3.00
3	Cr (µg/L)						0.00
4	Cu (µg/L)						
5	Hg (µg/L)						0.23
6	Ni (µg/L)						9.14
7	Pb (µg/L)						18.00
8	Zn (µg/L)						11.00
	CHEMICAL INDICES						
1	HAR_Ca (mgCaCO3/L)	54			93	95	101
2	HAR_Total (mgCaCO3/L)	209			180	183	200
3	Na% (%)	44			61	52	60
4	RSC (-)	0.0			2.6	2.3	1.2
5	SAR (-)	2.3			4.3	2.9	4.3
	PESTICIDES						

HISTORY SHEET

Water Year : 2015-2016

Site : Paleru Bridge

Code : AKC00D3

State : Andhra Pradesh

District : Krishna

Basin : Krishna

Independent River : Krishna

Tributary : Paleru

Sub Tributary : -

Sub-Sub Tributary : -

Local River : Paleru

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada

Drainage Area : 2928 Sq. Km.

Bank : Right

Latitude : 16°56'56"

Longitude : 80°02'57"

Opening Date

Closing Date

Gauge : 18/05/1964

Discharge : 01/07/1964

Sediment : 01/03/2014

Water Quality : 01/06/1992

Discharge observations suspended from 01/05/2007.

Upgraded GD to GDSQ w.e.f. 01/03/2014.

Water Quality Datasheet for the period : 2015-2016

Station Name : Paleru Bridge (AKC00D3)

Division : Lower Krishna Divn., Hyderabad

Local River : Paleru

River Water Analysis Sub-Division : Lower Krishna SD2, Vijayawada

S.No	Parameters	01/06/2015	01/07/2015	01/09/2015
		A	A	A
	PHYSICAL			
1	Q (cumec)	4.158	4.415	0.461
2	Colour_Cod (-)	Light Brown	Clear	Light Brown
3	EC_GEN (µmho/cm)	885	902	853
4	Odour_Code (-)	odour free	odour free	odour free
5	pH_GEN (pH units)	7.9	7.9	7.5
6	TDS (mg/L)	526	480	692
7	Temp (deg C)	29.0	30.0	29.0
8	Turb (NTU)	0.10	0.10	4.00
	CHEMICAL			
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	225	257	226
3	B (mg/L)			0.27
4	Ca (mg/L)	47	50	57
5	Cl (mg/L)	84.8	88.1	129.0
6	CO3 (mg/L)	0.0	0.0	0.0
7	F (mg/L)	0.90	1.00	1.38
8	Fe (mg/L)	0.0	0.0	0.0
9	HCO3 (mg/L)	274	313	276
10	K (mg/L)	4.7	4.3	4.1
11	Mg (mg/L)	27.2	29.0	33.0
12	Na (mg/L)	86.0	86.9	106.2
13	NH3-N (mg N/L)	0.00	0.00	0.00
14	NO2+NO3 (mg N/L)	0.58	0.67	1.26
15	NO2-N (mgN/L)	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.58	0.67	1.26
17	o-PO4-P (mg P/L)	0.070	0.050	0.186
18	SiO2 (mg/L)	45.0	3.0	25.5
19	SO4 (mg/L)	82.9	84.5	76.5
	BIOLOGICAL/BACTERIOLOGICAL			
1	BOD3-27 (mg/L)	0.7	0.8	0.4
2	COD (mg/L)	11.3	6.5	20.0
3	DO (mg/L)	3.0	2.8	2.4
4	DO_SAT% (%)	39	37	31
5	FCol-MPN (MPN/100mL)	2	1700	70
6	Tcol-MPN (MPN/100mL)	220	2800	16000
7	TOC (mg/L)	23.3	41.5	32.2
	TRACE & TOXIC			
	CHEMICAL INDICES			
1	HAR_Ca (mgCaCO3/L)	118	126	142
2	HAR_Total (mgCaCO3/L)	231	247	280
3	Na% (%)	44	43	45
4	RSC (-)	0.0	0.2	0.0
5	SAR (-)	2.5	2.4	2.8
	PESTICIDES	Analysis not done due to mal function of instrument.		

Samples not collected during August and from October to May months due to Dry bed/No flow.

Water Quality Summary for the period : 2015-2016

Station Name : Paleru Bridge (AKC00D3)

Division : Lower Krishna Divn., Hyderabad

Local River : Paleru

Sub-Division : Lower Krishna SD2, Vijayawada

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	367	33.60	0.000	1.105
2	EC_GEN (µmho/cm)	3	902	853	880
3	pH_GEN (pH units)	3	7.9	7.5	7.8
4	TDS (mg/L)	3	692	480	566
5	Temp (deg C)	3	30.0	29.0	29.3
6	Turb (NTU)	3	4.00	0.10	1.4
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	3	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	3	257	225	236
3	B (mg/L)	1	0.27	0.27	0.27
4	Ca (mg/L)	3	57	47	51
5	Cl (mg/L)	3	129.0	84.8	100.6
6	CO3 (mg/L)	3	0.0	0.0	0
7	F (mg/L)	3	1.38	0.90	1.09
8	Fe (mg/L)	3	0.0	0.0	0
9	HCO3 (mg/L)	3	313	274	288
10	K (mg/L)	3	4.7	4.1	4.4
11	Mg (mg/L)	3	33.0	27.2	29.7
12	Na (mg/L)	3	106.2	86.0	93
13	NH3-N (mg N/L)	3	0.00	0.00	0
14	NO2+NO3 (mg N/L)	3	1.26	0.58	0.84
15	NO2-N (mgN/L)	3	0.00	0.00	0
16	NO3-N (mgN/L)	3	1.26	0.58	0.84
17	o-PO4-P (mg P/L)	3	0.186	0.050	0.102
18	SiO2 (mg/L)	3	45.0	3.0	24.5
19	SO4 (mg/L)	3	84.5	76.5	81.3
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	3	0.8	0.4	0.6
2	COD (mg/L)	3	20.0	6.5	12.6
3	DO (mg/L)	3	3.0	2.4	2.7
4	DO_SAT% (%)	3	39	31	36
5	FCol-MPN (MPN/100mL)	3	1700	2	591
6	Tcol-MPN (MPN/100mL)	3	16000	220	6340
7	TOC (mg/L)	3	41.5	23.3	32.3
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	3	142	118	129
2	HAR_Total (mgCaCO3/L)	3	280	231	253
3	Na% (%)	3	45	43	44
4	RSC (-)	3	0.2	0.0	0.1
5	SAR (-)	3	2.8	2.4	2.6
	PESTICIDES				

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Paleru Bridge (AKC00D3)

Division : Lower Krishna Divn., Hyderabad

Local River : Paleru

River Water Sub-Division : Lower Krishna SD2, Vijayawada

S.No	Parameters	Flood				
		Jun - Oct				
		2001	2002	2003	2004	2005
	PHYSICAL					
1	Q (cumec)	9.216	1.870	0.355	4.400	9.140
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	829	1085	1363	941	1010
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	7.9	7.4	7.7	7.8	7.7
6	TDS (mg/L)					
7	Temp (deg C)	28.2	30.5	29.3	26.5	27.3
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	2.5	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	155	167	405	297	301
3	B (mg/L)	0.01	0.01	0.08	0.00	0.00
4	Ca (mg/L)	33	17	96	50	72
5	Cl (mg/L)	64.5	92.5	131.0	98.0	104.9
6	CO3 (mg/L)	3.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.95	0.94	0.83	1.40	1.34
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	183	203	494	362	367
10	K (mg/L)	4.8	7.2	22.9	3.1	4.6
11	Mg (mg/L)	42.9	65.5	42.2	59.0	39.2
12	Na (mg/L)	52.1	35.0	126.3	23.0	67.2
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.00	0.00
14	NO2+NO3 (mg N/L)	0.26	0.31	0.01	0.01	0.01
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.26	0.30	0.01	0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.076	0.940	0.114	0.001	0.001
19	SiO2 (mg/L)	4.5	7.6	28.2	15.0	34.4
20	SO4 (mg/L)	65.9	65.0	289.0	82.0	67.0
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)					
2	COD (mg/L)					
3	DO (mg/L)					
4	DO_SAT% (%)					
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
7	TOC (mg/L)					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	83	42	240	125	180
2	HAR_Total (mgCaCO3/L)	262	315	416	371	343
3	Na% (%)	30	19	36	12	29
4	RSC (-)	0.0	0.0	0.3	0.0	0.0
5	SAR (-)	1.4	0.9	2.6	0.5	1.6
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Paleru Bridge (AKC00D3)

Division : Lower Krishna Divn., Hyderabad

Local River : Paleru

River Water Sub-Division : Lower Krishna SD2, Vijayawada

S.No	Parameters	Flood				
		Jun - Oct				
		2006	2007	2008	2009	2010
	PHYSICAL					
1	Q (cumec)	6.869				
2	EC_FLD (µmho/cm)					958
3	EC_GEN (µmho/cm)	734	671	775	821	793
4	pH_FLD (pH units)					7.7
5	pH_GEN (pH units)	7.9	7.7	7.8	7.5	7.8
6	TDS (mg/L)					
7	Temp (deg C)	26.6	28.5	27.2	27.7	31.5
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	1.6
2	ALK-TOT (mgCaCO3/L)	284	238	255	250	241
3	B (mg/L)	0.00	0.00	0.00	0.00	0.00
4	Ca (mg/L)	52	52	60	54	54
5	Cl (mg/L)	59.6	58.1	65.8	71.2	72.6
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	1.9
7	F (mg/L)	1.09	1.17	1.03	1.79	1.12
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	347	290	312	306	290
10	K (mg/L)	4.3	4.1	3.5	4.5	3.7
11	Mg (mg/L)	27.4	25.8	22.3	25.3	29.7
12	Na (mg/L)	77.2	66.4	62.7	68.5	64.3
13	NH3-N (mg N/L)	0.00	0.05	0.05	0.00	0.00
14	NO2+NO3 (mg N/L)	0.00	0.01	0.01	0.87	0.00
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.00	0.01	0.01	0.87	0.00
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.001	0.001	0.000	0.353
19	SiO2 (mg/L)	23.9	27.1	32.9	35.0	22.4
20	SO4 (mg/L)	60.8	49.0	45.4	65.9	62.7
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.2	1.3	1.1	1.6	1.4
2	COD (mg/L)		16.2	22.9	30.0	31.2
3	DO (mg/L)	5.3	5.6	5.0	3.7	4.7
4	DO_SAT% (%)	67	72	63	37	46
5	FCol-MPN (MPN/100mL)				11467	11660
6	Tcol-MPN (MPN/100mL)				13667	13140
7	TOC (mg/L)					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	131	130	151	134	135
2	HAR_Total (mgCaCO3/L)	245	237	244	239	259
3	Na% (%)	40	37	36	38	35
4	RSC (-)	0.9	0.3	0.3	0.5	0.1
5	SAR (-)	2.2	1.9	1.8	1.9	1.7
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Paleru Bridge (AKC00D3)

Division : Lower Krishna Divn., Hyderabad

Local River : Paleru

River Water Sub-Division : Lower Krishna SD2, Vijayawada

S.No	Parameters	Flood				
		Jun - Oct				
		2011	2012	2013	2014	2015
	PHYSICAL					
1	Q (cumec)				4.926	3.011
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	750	969	797	910	880
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	7.7	7.6	7.9	8.0	7.8
6	TDS (mg/L)	493	643	438	565	566
7	Temp (deg C)	28.5	29.7	30.0	27.3	29.3
8	Turb (NTU)	1.00	0.84	1.41	3.25	1.40
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	1.0	0.0
2	ALK-TOT (mgCaCO3/L)	224	254	234	254	236
3	B (mg/L)	0.00	0.21	0.41	0.21	0.27
4	Ca (mg/L)	45	53	53	51	51
5	Cl (mg/L)	72.6	106.8	72.1	85.8	100.6
6	CO3 (mg/L)	0.0	0.0	0.0	1.3	0.0
7	F (mg/L)	1.41	1.22	0.92	1.12	1.09
8	Fe (mg/L)		0.1	0.0	0.1	0.0
9	HCO3 (mg/L)	273	310	286	307	288
10	K (mg/L)	3.2	4.7	3.2	4.8	4.4
11	Mg (mg/L)	25.3	30.3	30.6	29.5	29.7
12	Na (mg/L)	64.0	82.6	69.0	88.9	93.0
13	NH3-N (mg N/L)	0.00	0.01	0.09	0.00	0.00
14	NO2+NO3 (mg N/L)	0.33	0.82	1.20	1.15	0.84
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.01	0.00
16	NO3-N (mgN/L)	0.33	0.82	1.20	1.14	0.84
17	o-PO4-P (mg P/L)	0.411	0.099	0.210	0.164	0.102
18	P-Tot (mgP/L)	0.411			0.155	
19	SiO2 (mg/L)	19.3	28.3	13.1	24.4	24.5
20	SO4 (mg/L)	53.9	61.1	59.5	84.5	81.3
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.0	1.1	1.6	0.9	0.6
2	COD (mg/L)	26.0	14.3	6.2	18.1	12.6
3	DO (mg/L)	4.5	4.4	5.4	4.4	2.7
4	DO_SAT% (%)	54	58	72	55	36
5	Fcol-MPN (MPN/100mL)	10646	3552	2150	4658	591
6	Tcol-MPN (MPN/100mL)	11446	4020	9500	6335	6340
7	TOC (mg/L)	3.2	3.3			32.3
	TRACE & TOXIC					
1	As (µg/L)		8.25			
2	Cd (µg/L)		0.93			
3	Cr (µg/L)		59.19			
4	Cu (µg/L)					
5	Hg (µg/L)					
6	Ni (µg/L)		9.48			
7	Pb (µg/L)		5.79			
8	Zn (µg/L)		12.41			
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	112	131	131	127	129
2	HAR_Total (mgCaCO3/L)	217	258	259	250	253
3	Na% (%)	39	41	36	43	44
4	RSC (-)	0.4	0.8	0.0	0.3	0.1
5	SAR (-)	1.9	2.4	1.9	2.5	2.6
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Paleru Bridge (AKC00D3)

Division : Lower Krishna Divn., Hyderabad

Local River : Paleru

River Water Sub-Division : Lower Krishna SD2, Vijayawada

S.No	Parameters	Winter				
		Nov - Feb				
		2001-2002	2002-2003	2003-2004	2004-2005	2005-2006
	PHYSICAL					
1	Q (cumec)	8.757	0.076	0.420	8.513	23.94
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	735	877	1095	844	619
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.0	8.1	7.8	7.9	7.9
6	TDS (mg/L)					
7	Temp (deg C)	25.5	26.5	27.5	25.5	24.1
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	1.7	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	141	136	522	268	214
3	B (mg/L)	0.01	0.01	0.07	0.00	0.25
4	Ca (mg/L)	34	64	97	52	49
5	Cl (mg/L)	61.0	125.8	134.8	73.8	44.9
6	CO3 (mg/L)	2.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.83	1.09	3.90	0.97	0.89
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	168	166	637	328	261
10	K (mg/L)	2.2	8.0	18.0	2.4	
11	Mg (mg/L)	38.7	49.2	48.0	29.0	23.0
12	Na (mg/L)	52.1	58.0	44.5	62.0	
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.00	0.00
14	NO2+NO3 (mg N/L)	0.17	0.26	0.01	0.01	0.01
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.17	0.26	0.01	0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.070	0.038	0.001	0.001	0.000
19	SiO2 (mg/L)	3.6	5.5	23.0	17.9	15.9
20	SO4 (mg/L)	67.0	98.0	92.5	67.5	47.5
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)					
2	COD (mg/L)					
3	DO (mg/L)					
4	DO_SAT% (%)					
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
7	TOC (mg/L)					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	86	161	243	131	123
2	HAR_Total (mgCaCO3/L)	247	366	442	251	218
3	Na% (%)	32	27	18	34	
4	RSC (-)	0.0	0.0	1.7	0.8	0.0
5	SAR (-)	1.5	1.4	1.0	1.7	
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Paleru Bridge (AKC00D3)

Division : Lower Krishna Divn., Hyderabad

Local River : Paleru

River Water Sub-Division : Lower Krishna SD2, Vijayawada

S.No	Parameters	Winter				
		Nov - Feb				
		2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	PHYSICAL					
1	Q (cumec)	16.45				
2	EC_FLD (µmho/cm)					904
3	EC_GEN (µmho/cm)	586	644	920	771	751
4	pH_FLD (pH units)					7.9
5	pH_GEN (pH units)	8.1	7.9	7.8	7.8	7.9
6	TDS (mg/L)					
7	Temp (deg C)	24.3	27.8	24.8	27.0	26.5
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	6.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	231	228	283	237	227
3	B (mg/L)	0.00	0.00	0.00	0.00	0.00
4	Ca (mg/L)	47	47	80	57	49
5	Cl (mg/L)	42.6	47.7	80.7	66.2	62.0
6	CO3 (mg/L)	7.3	0.0	0.0	0.0	0.0
7	F (mg/L)	0.84	1.75	0.96	1.18	0.84
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	268	278	345	289	278
10	K (mg/L)	3.3	2.8	3.2	2.8	3.0
11	Mg (mg/L)	20.5	22.8	24.6	27.4	27.9
12	Na (mg/L)	53.0	55.3	81.7	68.1	62.4
13	NH3-N (mg N/L)	0.00	0.05	0.05	0.00	0.00
14	NO2+NO3 (mg N/L)	0.00	0.01	0.01	1.02	0.00
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.00	0.01	0.01	1.02	0.00
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.001	0.001	0.000	0.128
19	SiO2 (mg/L)	20.7	20.1	18.2	29.6	19.8
20	SO4 (mg/L)	42.5	46.3	101.7	63.9	59.3
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.8	1.2	0.9	1.2	0.8
2	COD (mg/L)		13.9	12.6	20.4	21.3
3	DO (mg/L)	7.4	7.0	6.0	5.3	6.5
4	DO_SAT% (%)	89	90	72	67	81
5	FCol-MPN (MPN/100mL)				7825	3815
6	Tcol-MPN (MPN/100mL)				10675	10333
7	TOC (mg/L)					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	116	118	200	142	122
2	HAR_Total (mgCaCO3/L)	202	213	302	257	239
3	Na% (%)	36	36	36	37	36
4	RSC (-)	0.6	0.3	0.2	0.1	0.0
5	SAR (-)	1.6	1.7	2.0	1.9	1.8
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Paleru Bridge (AKC00D3)

Division : Lower Krishna Divn., Hyderabad

Local River : Paleru

River Water Sub-Division : Lower Krishna SD2, Vijayawada

S.No	Parameters	Winter				
		Nov - Feb				
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
	PHYSICAL					
1	Q (cumec)				6.613	
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	749	979	752	590	
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	7.7	7.5	7.9	8.0	
6	TDS (mg/L)	473	557	434	442	
7	Temp (deg C)	29.4	25.1	26.0	25.8	
8	Turb (NTU)	1.00	1.03	3.00	1.08	
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	
2	ALK-TOT (mgCaCO3/L)	253	283	237	231	
3	B (mg/L)	0.19	0.19	0.12	0.22	
4	Ca (mg/L)	53	63	54	51	
5	Cl (mg/L)	71.0	105.0	68.7	59.8	
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	
7	F (mg/L)	1.10	1.38	0.92	0.81	
8	Fe (mg/L)	0.2	0.0	0.1	0.1	
9	HCO3 (mg/L)	308	345	289	282	
10	K (mg/L)	2.6	2.4	3.0	2.5	
11	Mg (mg/L)	30.6	36.8	31.2	31.3	
12	Na (mg/L)	65.3	90.8	61.4	62.5	
13	NH3-N (mg N/L)	0.02	0.17	0.03	0.04	
14	NO2+NO3 (mg N/L)	0.92	1.39	1.21	0.76	
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.02	
16	NO3-N (mgN/L)	0.92	1.39	1.21	0.74	
17	o-PO4-P (mg P/L)	0.211	0.159	0.143	0.119	
18	P-Tot (mgP/L)	0.211				
19	SiO2 (mg/L)	30.9	26.3	16.6	19.2	
20	SO4 (mg/L)	64.1	54.4	47.0	59.7	
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.8	0.9	1.7	0.8	
2	COD (mg/L)	9.7	15.2	6.6	7.9	
3	DO (mg/L)	5.1	3.5	5.6	6.0	
4	DO_SAT% (%)	67	42	68	74	
5	Fcol-MPN (MPN/100mL)	5000	403	840	713	
6	Tcol-MPN (MPN/100mL)	6050	4283	3000	1510	
7	TOC (mg/L)	2.5	2.7		35.5	
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)				1.34	
3	Cr (µg/L)				1.42	
4	Cu (µg/L)				1.56	
5	Hg (µg/L)					
6	Ni (µg/L)				3.69	
7	Pb (µg/L)				6.93	
8	Zn (µg/L)				4.75	
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	133	157	134	126	
2	HAR_Total (mgCaCO3/L)	260	310	264	257	
3	Na% (%)	35	39	33	34	
4	RSC (-)	0.2	0.0	0.0	0.1	
5	SAR (-)	1.8	2.2	1.7	1.7	
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Paleru Bridge (AKC00D3)

Division : Lower Krishna Divn., Hyderabad

Local River : Paleru

River Water Sub-Division : Lower Krishna SD2, Vijayawada

S.No	Parameters	Summer				
		Mar - May				
		2002	2003	2004	2005	2006
	PHYSICAL					
1	Q (cumec)	6.137			0.387	7.587
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	888			1057	728
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.0			7.4	8.3
6	TDS (mg/L)					
7	Temp (deg C)	31.0			26.7	26.3
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0			0.0	9.1
2	ALK-TOT (mgCaCO3/L)	84			310	254
3	B (mg/L)	0.01			0.00	0.00
4	Ca (mg/L)	27			73	48
5	Cl (mg/L)	70.1			112.4	49.3
6	CO3 (mg/L)	0.0			0.0	11.0
7	F (mg/L)	0.97			0.99	1.01
8	Fe (mg/L)	0.0			0.0	0.0
9	HCO3 (mg/L)	102			379	287
10	K (mg/L)	3.4			9.0	2.5
11	Mg (mg/L)	45.2			46.3	25.3
12	Na (mg/L)	59.3			64.7	61.3
13	NH3-N (mg N/L)	0.00			0.00	0.00
14	NO2+NO3 (mg N/L)	0.16			0.01	0.01
15	NO2-N (mgN/L)	0.00			0.00	0.00
16	NO3-N (mgN/L)	0.16			0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.019			0.001	0.000
19	SiO2 (mg/L)	6.3			28.0	16.9
20	SO4 (mg/L)	54.3			38.0	44.7
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)					
2	COD (mg/L)					
3	DO (mg/L)					
4	DO_SAT% (%)					
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
7	TOC (mg/L)					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					0.01
3	Cr (µg/L)					2.00
4	Cu (µg/L)					
5	Hg (µg/L)					
6	Ni (µg/L)					1.00
7	Pb (µg/L)					65.00
8	Zn (µg/L)					26.00
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	68			183	119
2	HAR_Total (mgCaCO3/L)	257			376	225
3	Na% (%)	33			27	37
4	RSC (-)	0.0			0.4	0.6
5	SAR (-)	1.6			1.4	1.8
	PESTICIDES					
1	Aldrin (µg/L)					0.010
2	BHC (µg/L)					0.100
3	DDT (µg/L)					0.100
4	Dieldrin (µg/L)					0.010
5	Endos (µg/L)					0.100

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Paleru Bridge (AKC00D3)

Division : Lower Krishna Divn., Hyderabad

Local River : Paleru

River Water Sub-Division : Lower Krishna SD2, Vijayawada

S.No	Parameters	Summer				
		Mar - May				
		2007	2008	2009	2010	2011
	PHYSICAL					
1	Q (cumec)	8.885				
2	EC_FLD (µmho/cm)				937	
3	EC_GEN (µmho/cm)	678	672	901	757	787
4	pH_FLD (pH units)				7.6	
5	pH_GEN (pH units)	8.0	7.8	7.4	7.9	7.7
6	TDS (mg/L)					
7	Temp (deg C)	26.7	26.7	26.3	24.0	
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	248	231	296	267	232
3	B (mg/L)	0.00	0.00	0.00	0.00	0.00
4	Ca (mg/L)	49	49	64	50	47
5	Cl (mg/L)	48.6	63.4	66.2	62.7	71.1
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	1.42	0.85	0.83	1.98	1.05
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	302	281	361	325	283
10	K (mg/L)	2.5	2.8	2.4	2.5	2.1
11	Mg (mg/L)	21.7	19.3	21.4	25.9	26.5
12	Na (mg/L)	69.3	65.7	71.5	64.6	71.1
13	NH3-N (mg N/L)	0.00	0.05	0.05	0.00	0.00
14	NO2+NO3 (mg N/L)	0.00	0.01	0.01	0.00	0.00
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.00	0.01	0.01	0.00	0.00
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.001	0.001	0.000	0.178
19	SiO2 (mg/L)	20.5	18.5	30.2	23.0	17.2
20	SO4 (mg/L)	45.0	40.7	54.9	54.1	53.8
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.1	1.8	0.7	2.1	0.8
2	COD (mg/L)		14.7	8.0	17.5	24.3
3	DO (mg/L)	6.1	5.8	3.0	5.9	5.2
4	DO_SAT% (%)	75	73	37	63	
5	Fcol-MPN (MPN/100mL)				11467	12500
6	Tcol-MPN (MPN/100mL)				11467	16000
7	TOC (mg/L)		2.8			
	TRACE & TOXIC					
1	As (µg/L)				1.70	
2	Cd (µg/L)	7.00	0.90	2.11	0.00	0.98
3	Cr (µg/L)	46.00	2.00	2.10	0.00	0.00
4	Cu (µg/L)					
5	Hg (µg/L)	5.82	0.00			
6	Ni (µg/L)	1.00	9.10	1.23	0.00	4.37
7	Pb (µg/L)	117.00	16.78	29.00	0.00	34.66
8	Zn (µg/L)	100.00	4.97	34.38	7.99	49.01
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	122	123	159	124	116
2	HAR_Total (mgCaCO3/L)	212	203	248	232	227
3	Na% (%)	41	41	39	38	41
4	RSC (-)	0.7	0.6	1.0	0.8	0.3
5	SAR (-)	2.1	2.0	2.0	1.9	2.1
	PESTICIDES					
1	Aldrin (µg/L)	0.010	0.010	0.010	0.000	0.000
2	BHC (µg/L)	0.100	0.270	0.100	0.306	0.000
3	DDT (µg/L)	0.100	0.100	0.100	0.013	0.000
4	Dieldrin (µg/L)	0.030	0.010	0.010	0.002	0.000
5	Endos (µg/L)	0.100	0.100	0.100	0.147	0.000

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Paleru Bridge (AKC00D3)

Division : Lower Krishna Divn., Hyderabad

Local River : Paleru

River Water Sub-Division : Lower Krishna SD2, Vijayawada

S.No	Parameters	Summer				
		Mar - May				
		2012	2013	2014	2015	2016
	PHYSICAL					
1	Q (cumec)			2.626	3.652	
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	925	1140	811	760	
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	7.4	7.8	7.7	7.9	
6	TDS (mg/L)	588	638	557	475	
7	Temp (deg C)	29.5	26.0	28.3	25.7	
8	Turb (NTU)	1.00	0.47	3.67	1.67	
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	
2	ALK-TOT (mgCaCO3/L)	272	293	248	208	
3	B (mg/L)	0.05	0.32	0.17	0.16	
4	Ca (mg/L)	44	78	47	43	
5	Cl (mg/L)	70.3	149.5	70.3	63.7	
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	
7	F (mg/L)	0.87	0.82	0.96	0.85	
8	Fe (mg/L)	0.1	0.2	0.8	0.0	
9	HCO3 (mg/L)	331	357	302	254	
10	K (mg/L)	4.8	1.4	2.7	2.8	
11	Mg (mg/L)	25.3	45.7	27.4	24.7	
12	Na (mg/L)	75.0	102.8	65.5	69.5	
13	NH3-N (mg N/L)	0.04	0.00	0.03	0.00	
14	NO2+NO3 (mg N/L)	1.12	1.18	2.25	0.57	
15	NO2-N (mgN/L)	0.01	0.00	0.00	0.03	
16	NO3-N (mgN/L)	1.11	1.18	2.25	0.54	
17	o-PO4-P (mg P/L)	0.192	0.158	0.053	0.100	
18	P-Tot (mgP/L)	0.192				
19	SiO2 (mg/L)	33.2	22.0	19.7	30.0	
20	SO4 (mg/L)	69.2	48.0	60.7	67.8	
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.7	1.0	0.9	0.7	
2	COD (mg/L)	7.2	13.0	6.1	7.7	
3	DO (mg/L)	4.7	4.9	4.6	3.6	
4	DO_SAT% (%)	62	60	60	45	
5	Fcol-MPN (MPN/100mL)	1940	800	270	21	
6	Tcol-MPN (MPN/100mL)	6140	1700	503	953	
7	TOC (mg/L)	2.6	3.3		26.5	
	TRACE & TOXIC					
1	As (µg/L)	0.88	6.35	0.61	0.00	
2	Cd (µg/L)	0.20	0.12	0.02	2.00	
3	Cr (µg/L)	0.00	1.44	0.06	0.00	
4	Cu (µg/L)					
5	Hg (µg/L)	0.60	2.35	0.24	0.08	
6	Ni (µg/L)	3.24	7.23	1.18	9.88	
7	Pb (µg/L)	14.13	0.36	0.13	15.00	
8	Zn (µg/L)	22.80	0.30	40.00	11.00	
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	110	194	118	107	
2	HAR_Total (mgCaCO3/L)	215	385	232	210	
3	Na% (%)	43	37	38	42	
4	RSC (-)	1.2	0.0	0.4	0.1	
5	SAR (-)	2.3	2.3	1.9	2.1	
	PESTICIDES					
1	Aldrin (µg/L)	0.007				
2	BHC (µg/L)	0.020				
3	DDT (µg/L)	0.001				
4	Dieldrin (µg/L)	0.000				
5	Endos (µg/L)	0.098				

HISTORY SHEET

Water Year : 2015-2016

Site : Wadenapally

Code : AK000D5

State : Telangana

District : Nalgonda

Basin : Krishna

Independent River : Krishna

Tributary : -

Sub Tributary : -

Sub-Sub Tributary : -

Local River : Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada

Drainage Area : 235544 Sq. Km.

Bank : Left

Latitude : 16°47'39"

Longitude : 80°04'23"

Opening Date

Closing Date

Gauge : 27/05/1964

Discharge : 10/12/1965

Sediment : 01/12/1966

Water Quality : 01/01/1972

Water Quality Datasheet for the period : 2015-2016

Station Name : Wadenapally (AK000D5)

Division : Lower Krishna Divn., Hyderabad

Local River : Krishna

River Water Analysis Sub-Division : Lower Krishna SD2, Vijayawada

S.No	Parameters	01/06/2015	01/07/2015	01/08/2015	01/09/2015
		A	A	A	A
	PHYSICAL				
1	Q (cumec)	11.77	14.25	65.01	10.40
2	Colour_Cod (-)	Clear	Clear	Clear	Clear
3	EC_GEN (μmho/cm)	769	745	730	730
4	Odour_Code (-)	odour free	odour free	odour free	odour free
5	pH_GEN (pH units)	8.2	8.1	8.0	8.2
6	TDS (mg/L)	404	374	544	580
7	Temp (deg C)	26.0	26.0	26.0	25.0
8	Turb (NTU)	1.00	1.00	1.00	4.00
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	175	162	180	164
3	B (mg/L)			0.17	0.25
4	Ca (mg/L)	37	37	51	41
5	Cl (mg/L)	69.6	76.0	100.9	97.3
6	CO3 (mg/L)	0.0	0.0	0.0	0.0
7	F (mg/L)	0.71	0.76	0.91	0.80
8	Fe (mg/L)	0.1	0.0	0.0	0.0
9	HCO3 (mg/L)	214	198	220	200
10	K (mg/L)	3.1	3.3	4.9	4.5
11	Mg (mg/L)	20.9	20.9	29.6	23.3
12	Na (mg/L)	78.7	84.6	89.5	98.4
13	NH3-N (mg N/L)	0.07	0.08	0.07	0.00
14	NO2+NO3 (mg N/L)	0.74	0.64	0.60	0.74
15	NO2-N (mgN/L)	0.00	0.06	0.01	0.04
16	NO3-N (mgN/L)	0.74	0.58	0.59	0.71
17	o-PO4-P (mg P/L)	0.100	0.170	0.232	0.117
18	SiO2 (mg/L)	22.2	14.5	15.9	14.1
19	SO4 (mg/L)	74.8	76.0	116.2	97.0
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	0.6	0.3	1.0	0.7
2	COD (mg/L)	9.5	3.3	6.8	9.0
3	DO (mg/L)	5.1	4.8	5.4	6.9
4	DO_SAT% (%)	63	59	67	84
5	FCol-MPN (MPN/100mL)	2	2800	260	9000
6	Tcol-MPN (MPN/100mL)	220	3500	1400	16000
7	TOC (mg/L)	11.3	20.0	20.4	10.1
	TRACE & TOXIC				
1	As (μg/L)				
2	Cd (μg/L)				
3	Cr (μg/L)				
4	Hg (μg/L)				
5	Ni (μg/L)				
6	Pb (μg/L)				
7	Zn (μg/L)				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	92	92	128	102
2	HAR_Total (mgCaCO3/L)	179	179	251	199
3	Na% (%)	48	50	43	51
4	RSC (-)	0.0	0.0	0.0	0.0
5	SAR (-)	2.6	2.8	2.5	3.0
	PESTICIDES	Analysis not done due to mal function of instrument.			

Water Quality Datasheet for the period : 2015-2016

Station Name : Wadenapally (AK000D5)

Division : Lower Krishna Divn., Hyderabad

Local River : Krishna

River Water Analysis Sub-Division : Lower Krishna SD2, Vijayawada

S.No	Parameters	01/10/2015	02/11/2015	01/12/2015	01/01/2016
		A	A	A	A
	PHYSICAL				
1	Q (cumec)	24.53	15.63	0.137	0.602
2	Colour_Cod (-)	Clear	Clear	Clear	Clear
3	EC_GEN (μmho/cm)	755	769	683	731
4	Odour_Code (-)	odour free	odour free	odour free	odour free
5	pH_GEN (pH units)	7.7	7.5	8.0	8.1
6	TDS (mg/L)	494	262	349	384
7	Temp (deg C)	26.0	26.0	25.0	26.0
8	Turb (NTU)	4.00	3.00	2.00	2.00
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	136	182	136	160
3	B (mg/L)		0.00	0.00	
4	Ca (mg/L)	38	38	30	33
5	Cl (mg/L)	78.7	84.4	50.7	62.9
6	CO3 (mg/L)	0.0	0.0	0.0	0.0
7	F (mg/L)	0.88	0.75	0.34	0.40
8	Fe (mg/L)	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	166	223	166	195
10	K (mg/L)	4.3	4.3	2.8	3.2
11	Mg (mg/L)	21.8	22.0	16.6	18.7
12	Na (mg/L)	83.7	95.9	56.6	73.4
13	NH3-N (mg N/L)	0.03	0.00	0.03	0.00
14	NO2+NO3 (mg N/L)	0.90	2.23	0.64	1.23
15	NO2-N (mgN/L)	0.01	0.00	0.09	0.09
16	NO3-N (mgN/L)	0.90	2.23	0.55	1.14
17	o-PO4-P (mg P/L)	0.136	0.241	0.150	0.106
18	SiO2 (mg/L)	23.5	8.0	5.1	7.2
19	SO4 (mg/L)	107.8	89.0	70.0	81.3
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	0.9	2.5	0.8	1.2
2	COD (mg/L)	15.3	16.2	10.1	11.3
3	DO (mg/L)	5.8	4.2	5.6	6.9
4	DO_SAT% (%)	71	52	68	85
5	FCol-MPN (MPN/100mL)	140	80	170	9000
6	Tcol-MPN (MPN/100mL)	16000	16000	2800	9000
7	TOC (mg/L)	9.3	12.3	4.0	18.8
	TRACE & TOXIC				
1	As (μg/L)				
2	Cd (μg/L)				
3	Cr (μg/L)				
4	Hg (μg/L)				
5	Ni (μg/L)				
6	Pb (μg/L)				
7	Zn (μg/L)				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	96	96	74	82
2	HAR_Total (mgCaCO3/L)	187	188	143	160
3	Na% (%)	49	52	46	50
4	RSC (-)	0.0	0.0	0.0	0.0
5	SAR (-)	2.7	3.1	2.1	2.5
	PESTICIDES				

Water Quality Datasheet for the period : 2015-2016

Station Name : Wadenapally (AK000D5)

Division : Lower Krishna Divn., Hyderabad

Local River : Krishna

River Water Analysis Sub-Division : Lower Krishna SD2, Vijayawada

S.No	Parameters	01/02/2016	01/03/2016	01/04/2016	02/05/2016
		A	A	A	A
	PHYSICAL				
1	Q (cumec)	20.67	0.828	12.08	5.625
2	Colour_Cod (-)	Clear	Clear	Clear	Clear
3	EC_GEN (μmho/cm)	1694	578	1209	436
4	Odour_Code (-)	odour free	odour free	odour free	odour free
5	pH_GEN (pH units)	8.5	8.6	8.5	8.1
6	TDS (mg/L)	353	384	351	
7	Temp (deg C)	25.0	26.0	26.0	26.0
8	Turb (NTU)	4.00	4.00	11.00	11.00
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	5.3	6.4	3.5	0.0
2	ALK-TOT (mgCaCO3/L)	152	127	117	116
3	B (mg/L)				
4	Ca (mg/L)	32	30	29	24
5	Cl (mg/L)	59.0	60.1	63.8	67.5
6	CO3 (mg/L)	6.4	7.7	4.2	0.0
7	F (mg/L)	0.58	0.26	0.49	0.35
8	Fe (mg/L)	0.1	0.0	0.0	0.0
9	HCO3 (mg/L)	172	140	135	142
10	K (mg/L)	3.4	2.7	3.2	3.5
11	Mg (mg/L)	17.4	16.1	16.2	13.4
12	Na (mg/L)	61.3	68.7	74.9	76.4
13	NH3-N (mg N/L)	0.01	0.03	0.03	0.00
14	NO2+NO3 (mg N/L)	0.51	0.90	1.15	1.11
15	NO2-N (mgN/L)	0.06	0.00	0.03	0.19
16	NO3-N (mgN/L)	0.45	0.89	1.12	0.92
17	o-PO4-P (mg P/L)	0.066	0.181	0.096	0.080
18	SiO2 (mg/L)	14.6	10.8	8.6	13.6
19	SO4 (mg/L)	85.3	57.0	68.8	72.0
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	0.9	1.4	0.7	1.0
2	COD (mg/L)	8.0	6.5	7.6	14.1
3	DO (mg/L)	6.1	7.3	6.6	4.9
4	DO_SAT% (%)	73	90	81	60
5	FCol-MPN (MPN/100mL)	16000	9000	1100	2200
6	Tcol-MPN (MPN/100mL)	16000	16000	16000	16000
7	TOC (mg/L)				
	TRACE & TOXIC				
1	As (μg/L)			0.00	
2	Cd (μg/L)			0.00	
3	Cr (μg/L)			0.00	
4	Hg (μg/L)			0.00	
5	Ni (μg/L)			0.00	
6	Pb (μg/L)			0.00	
7	Zn (μg/L)			0.04	
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	80	74	72	60
2	HAR_Total (mgCaCO3/L)	153	141	140	116
3	Na% (%)	46	51	53	58
4	RSC (-)	0.0	0.0	0.0	0.0
5	SAR (-)	2.2	2.5	2.8	3.1
	PESTICIDES				

Water Quality Summary for the period : 2015-2016

Station Name : Wadenapally (AK000D5)

Division : Lower Krishna Divn., Hyderabad

Local River : Krishna

Sub-Division : Lower Krishna SD2, Vijayawada

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	372	229.4	0.000	32.59
2	EC_GEN (µmho/cm)	12	1694	436	819
3	pH_GEN (pH units)	12	8.6	7.5	8.1
4	TDS (mg/L)	11	580	262	407
5	Temp (deg C)	12	26.0	25.0	25.8
6	Turb (NTU)	12	11.00	1.00	4
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	12	6.4	0.0	1.3
2	ALK-TOT (mgCaCO3/L)	12	182	116	151
3	B (mg/L)	4	0.25	0.00	0.11
4	Ca (mg/L)	12	51	24	35
5	Cl (mg/L)	12	100.9	50.7	72.6
6	CO3 (mg/L)	12	7.7	0.0	1.5
7	F (mg/L)	12	0.91	0.26	0.6
8	Fe (mg/L)	12	0.1	0.0	0
9	HCO3 (mg/L)	12	223	135	181
10	K (mg/L)	12	4.9	2.7	3.6
11	Mg (mg/L)	12	29.6	13.4	19.7
12	Na (mg/L)	12	98.4	56.6	78.5
13	NH3-N (mg N/L)	12	0.08	0.00	0.03
14	NO2+NO3 (mg N/L)	12	2.23	0.51	0.95
15	NO2-N (mgN/L)	12	0.19	0.00	0.05
16	NO3-N (mgN/L)	12	2.23	0.45	0.9
17	o-PO4-P (mg P/L)	12	0.241	0.066	0.14
18	SiO2 (mg/L)	12	23.5	5.1	13.2
19	SO4 (mg/L)	12	116.2	57.0	82.9
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	12	2.5	0.3	1
2	COD (mg/L)	12	16.2	3.3	9.8
3	DO (mg/L)	12	7.3	4.2	5.8
4	DO_SAT% (%)	12	90	52	71
5	Fcol-MPN (MPN/100mL)	12	16000	2	4146
6	Tcol-MPN (MPN/100mL)	12	16000	220	10743
7	TOC (mg/L)	8	20.4	4.0	13.3
	TRACE & TOXIC				
1	As (µg/L)	1	0.00	0.00	0
2	Cd (µg/L)	1	0.00	0.00	0
3	Cr (µg/L)	1	0.00	0.00	0
4	Hg (µg/L)	1	0.00	0.00	0
5	Ni (µg/L)	1	0.00	0.00	0
6	Pb (µg/L)	1	0.00	0.00	0
7	Zn (µg/L)	1	0.04	0.04	0.04
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	12	128	60	87
2	HAR_Total (mgCaCO3/L)	12	251	116	170
3	Na% (%)	12	58	43	50
4	RSC (-)	12	0.0	0.0	0
5	SAR (-)	12	3.1	2.1	2.6
	PESTICIDES				

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Wadenapally (AK000D5)

Division : Lower Krishna Divn., Hyderabad

Local River : Krishna

River Water Sub-Division : Lower Krishna SD2, Vijayawada

S.No	Parameters	Flood				
		Jun - Oct				
		2001	2002	2003	2004	2005
	PHYSICAL					
1	Q (cumec)	261.9	178.7	49.25	146.8	581.9
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	518	594	701	611	512
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.1	8.3	8.2	8.2	8.0
6	TDS (mg/L)					
7	Temp (deg C)	28.2	30.5	30.8	26.9	29.0
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	1.3	10.6	2.8	4.2	1.7
2	ALK-TOT (mgCaCO3/L)	74	101	161	182	144
3	B (mg/L)	0.01	0.01	0.00	0.00	0.00
4	Ca (mg/L)	30	23	31	29	37
5	Cl (mg/L)	51.8	56.5	47.3	66.1	45.5
6	CO3 (mg/L)	1.6	12.8	3.4	5.0	2.0
7	F (mg/L)	0.39	0.54	0.68	1.01	0.64
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	87	97	190	212	172
10	K (mg/L)	2.7	2.5	3.1	3.4	4.8
11	Mg (mg/L)	13.8	14.0	17.5	18.8	14.8
12	Na (mg/L)	31.2	27.8	45.6	63.4	49.2
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.00	0.00
14	NO2+NO3 (mg N/L)	0.14	0.14	0.01	0.01	0.01
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.14	0.13	0.01	0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.017	0.107	0.001	0.001	0.001
19	SiO2 (mg/L)	3.0	5.2	11.3	14.6	15.9
20	SO4 (mg/L)	51.9	57.8	235.8	60.2	54.2
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.5	1.1	2.0	1.3	1.0
2	COD (mg/L)					
3	DO (mg/L)		5.8	6.5	5.4	5.6
4	DO_SAT% (%)		77	87	67	73
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
7	TOC (mg/L)					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	74	57	78	73	93
2	HAR_Total (mgCaCO3/L)	131	116	151	151	155
3	Na% (%)	33	34	38	47	37
4	RSC (-)	0.0	0.1	0.3	0.7	0.1
5	SAR (-)	1.2	1.1	1.6	2.3	1.6
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Wadenapally (AK000D5)

Division : Lower Krishna Divn., Hyderabad

Local River : Krishna

River Water Sub-Division : Lower Krishna SD2, Vijayawada

S.No	Parameters	Flood				
		Jun - Oct				
		2006	2007	2008	2009	2010
	PHYSICAL					
1	Q (cumec)	548.5	2406	301.8	413.0	526.4
2	EC_FLD (µmho/cm)					664
3	EC_GEN (µmho/cm)	563	529	647	625	757
4	pH_FLD (pH units)					8.3
5	pH_GEN (pH units)	8.2	7.5	8.0	7.5	8.0
6	TDS (mg/L)					
7	Temp (deg C)	27.6	28.1	28.0	27.1	28.4
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	4.0	0.0	1.6	1.6	1.6
2	ALK-TOT (mgCaCO3/L)	140	140	162	167	179
3	B (mg/L)	0.00	0.00	0.00	0.00	0.00
4	Ca (mg/L)	32	32	42	37	43
5	Cl (mg/L)	34.8	50.3	61.7	58.0	75.5
6	CO3 (mg/L)	4.8	0.0	1.9	1.9	1.9
7	F (mg/L)	0.62	0.81	0.31	0.78	0.83
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	161	171	193	200	214
10	K (mg/L)	2.3	3.4	3.2	2.9	4.0
11	Mg (mg/L)	11.6	15.6	13.0	15.3	21.0
12	Na (mg/L)	50.4	55.8	58.7	59.4	73.5
13	NH3-N (mg N/L)	0.00	0.05	0.05	0.00	0.00
14	NO2+NO3 (mg N/L)	0.00	0.01	0.01	0.56	0.00
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.00	0.01	0.01	0.56	0.00
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.001	0.001	0.000	0.135
19	SiO2 (mg/L)	19.2	15.3	17.0	17.0	17.7
20	SO4 (mg/L)	40.2	47.4	53.4	62.6	101.6
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.8	1.5	1.0	0.9	0.7
2	COD (mg/L)		13.9	26.7	18.6	34.3
3	DO (mg/L)	7.2	6.8	5.9	6.5	6.9
4	DO_SAT% (%)	91	87	76	82	89
5	FCol-MPN (MPN/100mL)				6000	9712
6	Tcol-MPN (MPN/100mL)				10500	12940
7	TOC (mg/L)					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	81	80	106	92	108
2	HAR_Total (mgCaCO3/L)	129	145	160	156	196
3	Na% (%)	43	44	44	45	45
4	RSC (-)	0.2	0.1	0.1	0.4	0.0
5	SAR (-)	1.9	2.0	2.0	2.1	2.3
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Wadenapally (AK000D5)

Division : Lower Krishna Divn., Hyderabad

Local River : Krishna

River Water Sub-Division : Lower Krishna SD2, Vijayawada

S.No	Parameters	Flood				
		Jun - Oct				
		2011	2012	2013	2014	2015
	PHYSICAL					
1	Q (cumec)	250.9	30.10	227.0	135.4	25.19
2	EC_FLD (µmho/cm)			542		
3	EC_GEN (µmho/cm)	703	633	611	649	746
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.0	7.9	8.1	8.3	8.0
6	TDS (mg/L)	473	429	381	416	479
7	Temp (deg C)	26.8	27.7	27.0	26.8	25.8
8	Turb (NTU)	1.00	0.84	1.00	5.00	2.20
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	1.2	0.0	0.0	0.8	0.0
2	ALK-TOT (mgCaCO3/L)	172	132	116	145	164
3	B (mg/L)	0.00	0.20	0.13	0.20	0.21
4	Ca (mg/L)	34	31	29	36	41
5	Cl (mg/L)	73.0	60.0	60.6	63.8	84.5
6	CO3 (mg/L)	1.4	0.0	0.0	1.0	0.0
7	F (mg/L)	1.04	0.61	0.65	0.66	0.81
8	Fe (mg/L)	0.0	0.1	0.1	0.0	0.0
9	HCO3 (mg/L)	207	161	141	175	200
10	K (mg/L)	3.5	3.5	2.9	3.8	4.0
11	Mg (mg/L)	19.2	17.6	15.8	21.1	23.3
12	Na (mg/L)	69.3	64.4	66.5	71.4	87.0
13	NH3-N (mg N/L)	0.00	0.02	0.07	0.00	0.05
14	NO2+NO3 (mg N/L)	0.32	0.95	0.66	1.27	0.72
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.01	0.02
16	NO3-N (mgN/L)	0.32	0.95	0.66	1.26	0.70
17	o-PO4-P (mg P/L)	0.375	0.059	0.085	0.125	0.151
18	P-Tot (mgP/L)	0.376			0.131	
19	SiO2 (mg/L)	15.7	13.6	12.4	15.2	18.0
20	SO4 (mg/L)	63.9	56.0	67.1	93.2	94.4
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.8	0.5	0.9	0.8	0.7
2	COD (mg/L)	32.9	8.5	8.7	10.0	8.8
3	DO (mg/L)	6.0	5.5	6.1	6.1	5.6
4	DO_SAT% (%)	75	70	76	77	69
5	Fcol-MPN (MPN/100mL)	14600	1146	131	6492	2440
6	Tcol-MPN (MPN/100mL)	16000	3540	2340	6984	7424
7	TOC (mg/L)	3.3	2.7	0.4		14.2
	TRACE & TOXIC					
1	As (µg/L)		0.01	6.09		
2	Cd (µg/L)		0.00	2.53		
3	Cr (µg/L)		0.00	1.29		
4	Cu (µg/L)					
5	Hg (µg/L)			0.66		
6	Ni (µg/L)		3.34	13.53		
7	Pb (µg/L)		2.23	0.28		
8	Zn (µg/L)		24.24	0.00		
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	85	76	72	91	102
2	HAR_Total (mgCaCO3/L)	165	150	138	179	199
3	Na% (%)	47	49	50	46	48
4	RSC (-)	0.2	0.2	0.0	0.0	0.0
5	SAR (-)	2.4	2.4	2.5	2.3	2.7
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Wadenapally (AK000D5)

Division : Lower Krishna Divn., Hyderabad

Local River : Krishna

River Water Sub-Division : Lower Krishna SD2, Vijayawada

S.No	Parameters	Winter				
		Nov - Feb				
		2001-2002	2002-2003	2003-2004	2004-2005	2005-2006
	PHYSICAL					
1	Q (cumec)	209.6	107.1	96.38	189.8	907.4
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	580	550	600	663	538
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.1	8.5	8.4	8.2	8.1
6	TDS (mg/L)					
7	Temp (deg C)	25.5	26.5	26.8	25.5	24.9
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	1.7	15.8	10.0	2.1	0.0
2	ALK-TOT (mgCaCO3/L)	102	105	186	173	175
3	B (mg/L)	0.00	0.01	0.00	0.00	0.00
4	Ca (mg/L)	34	24	30	40	38
5	Cl (mg/L)	56.4	56.6	54.8	52.0	37.4
6	CO3 (mg/L)	2.0	19.0	12.0	2.5	0.0
7	F (mg/L)	0.47	0.36	0.72	0.68	0.67
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	120	90	202	206	214
10	K (mg/L)	2.7	2.1	2.6	1.9	
11	Mg (mg/L)	22.5	26.8	11.4	20.3	14.3
12	Na (mg/L)	43.9	26.8	38.8	39.0	
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.00	0.00
14	NO2+NO3 (mg N/L)	0.31	0.09	0.01	0.01	0.01
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.31	0.08	0.01	0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.094	0.045	0.001	0.001	0.001
19	SiO2 (mg/L)	3.3	6.3	16.4	16.4	15.0
20	SO4 (mg/L)	70.5	67.3	59.8	61.5	41.5
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.4	1.3	1.6	0.6	0.8
2	COD (mg/L)					
3	DO (mg/L)		7.0	6.8	6.2	6.6
4	DO_SAT% (%)		88	85	76	79
5	Fcol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
7	TOC (mg/L)					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	86	59	76	101	96
2	HAR_Total (mgCaCO3/L)	180	171	123	185	155
3	Na% (%)	35	24	40	31	
4	RSC (-)	0.0	0.0	1.3	0.1	0.4
5	SAR (-)	1.4	1.0	1.5	1.3	
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Wadenapally (AK000D5)

Division : Lower Krishna Divn., Hyderabad

Local River : Krishna

River Water Sub-Division : Lower Krishna SD2, Vijayawada

S.No	Parameters	Winter				
		Nov - Feb				
		2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	PHYSICAL					
1	Q (cumec)	244.2	324.1	409.8	366.8	269.9
2	EC_FLD (µmho/cm)					646
3	EC_GEN (µmho/cm)	484	549	586	591	715
4	pH_FLD (pH units)					8.2
5	pH_GEN (pH units)	8.2	8.0	8.1	8.3	8.1
6	TDS (mg/L)					
7	Temp (deg C)	28.5	24.8	27.0	24.9	26.5
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	9.8	3.9	2.0	2.0	2.0
2	ALK-TOT (mgCaCO3/L)	167	182	177	181	207
3	B (mg/L)	0.00	0.00	0.00	0.00	0.00
4	Ca (mg/L)	37	48	48	46	43
5	Cl (mg/L)	31.9	44.0	49.9	46.2	71.4
6	CO3 (mg/L)	11.8	4.8	2.4	2.4	2.4
7	F (mg/L)	0.62	0.75	0.32	0.84	0.78
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	179	212	211	216	248
10	K (mg/L)	2.0	2.7	3.1	2.5	3.5
11	Mg (mg/L)	14.8	17.5	10.1	14.6	24.6
12	Na (mg/L)	43.5	56.8	57.3	57.5	72.1
13	NH3-N (mg N/L)	0.00	0.05	0.05	0.00	0.00
14	NO2+NO3 (mg N/L)	0.00	0.01	0.01	1.34	0.00
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.00	0.01	0.01	1.34	0.00
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.001	0.001	0.000	0.162
19	SiO2 (mg/L)	18.2	15.8	16.0	16.8	17.6
20	SO4 (mg/L)	37.3	45.3	51.6	58.2	77.3
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.0	1.0	0.8	1.1	0.6
2	COD (mg/L)		29.1	12.6	17.1	25.5
3	DO (mg/L)	7.9	7.5	6.9	7.0	7.1
4	DO_SAT% (%)	102	91	87	85	88
5	FCol-MPN (MPN/100mL)				14250	5315
6	Tcol-MPN (MPN/100mL)				16000	12225
7	TOC (mg/L)					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	92	119	121	116	108
2	HAR_Total (mgCaCO3/L)	153	192	163	177	210
3	Na% (%)	38	39	43	41	43
4	RSC (-)	0.3	0.2	0.3	0.1	0.2
5	SAR (-)	1.5	1.8	2.0	1.9	2.2
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Wadenapally (AK000D5)

Division : Lower Krishna Divn., Hyderabad

Local River : Krishna

River Water Sub-Division : Lower Krishna SD2, Vijayawada

S.No	Parameters	Winter				
		Nov - Feb				
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
	PHYSICAL					
1	Q (cumec)	227.4	219.0	211.4	167.0	9.261
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	611	558	583	474	969
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.3	8.0	8.1	8.1	8.0
6	TDS (mg/L)	423	360	336	366	337
7	Temp (deg C)	26.0	25.3	25.3	26.8	25.5
8	Turb (NTU)	1.00	0.80	3.50	2.80	2.75
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	3.0	35.7	0.0	0.0	1.3
2	ALK-TOT (mgCaCO3/L)	186	212	155	159	158
3	B (mg/L)	0.20	0.16	0.03	0.16	0.00
4	Ca (mg/L)	37	30	35	37	33
5	Cl (mg/L)	63.3	52.4	47.3	48.6	64.3
6	CO3 (mg/L)	3.7	43.0	0.0	0.0	1.6
7	F (mg/L)	0.67	0.85	0.47	0.59	0.52
8	Fe (mg/L)	0.0	0.0	0.1	0.1	0.0
9	HCO3 (mg/L)	220	172	189	194	189
10	K (mg/L)	2.8	1.8	2.7	2.9	3.4
11	Mg (mg/L)	20.7	17.0	19.7	19.7	18.7
12	Na (mg/L)	60.5	58.0	51.0	56.5	71.8
13	NH3-N (mg N/L)	0.10	0.03	0.01	0.04	0.01
14	NO2+NO3 (mg N/L)	0.89	0.61	1.22	1.01	1.15
15	NO2-N (mgN/L)	0.01	0.00	0.00	0.06	0.06
16	NO3-N (mgN/L)	0.89	0.61	1.22	0.95	1.09
17	o-PO4-P (mg P/L)	0.243	0.048	0.160	0.156	0.141
18	P-Tot (mgP/L)	0.243				
19	SiO2 (mg/L)	15.3	15.7	15.2	14.1	8.7
20	SO4 (mg/L)	65.8	51.2	54.4	53.5	81.4
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.0	1.1	1.0	1.1	1.3
2	COD (mg/L)	60.8	16.3	4.1	10.6	11.4
3	DO (mg/L)	6.5	6.8	7.0	7.3	5.7
4	DO_SAT% (%)	80	82	85	92	70
5	FCol-MPN (MPN/100mL)	5400	946	858	1458	6313
6	Tcol-MPN (MPN/100mL)	9200	4808	2930	6800	10950
7	TOC (mg/L)	2.6	2.1		20.8	11.7
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)				1.16	
3	Cr (µg/L)				7.07	
4	Cu (µg/L)				1.50	
5	Hg (µg/L)					
6	Ni (µg/L)				4.05	
7	Pb (µg/L)				5.70	
8	Zn (µg/L)				5.00	
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	93	75	87	91	83
2	HAR_Total (mgCaCO3/L)	179	145	169	174	161
3	Na% (%)	42	46	39	41	48
4	RSC (-)	0.3	1.5	0.0	0.0	0.0
5	SAR (-)	2.0	2.1	1.7	1.9	2.5
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Wadenapally (AK000D5)

Division : Lower Krishna Divn., Hyderabad

Local River : Krishna

River Water Sub-Division : Lower Krishna SD2, Vijayawada

S.No	Parameters	Summer				
		Mar - May				
		2002	2003	2004	2005	2006
	PHYSICAL					
1	Q (cumec)	222.9	58.02	32.66	51.28	159.8
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	599	632	555	585	660
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	7.9	8.3	8.4	8.1	8.5
6	TDS (mg/L)					
7	Temp (deg C)	31.0	33.3	29.0	27.7	27.5
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	9.4	7.0	0.0	10.5
2	ALK-TOT (mgCaCO3/L)	43	89	178	160	210
3	B (mg/L)	0.01	0.01	0.00	0.00	0.00
4	Ca (mg/L)	24	21	27	38	41
5	Cl (mg/L)	48.9	52.0	49.3	52.3	47.0
6	CO3 (mg/L)	0.0	11.3	8.4	0.0	12.7
7	F (mg/L)	0.53	0.65	0.62	0.68	0.83
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	53	86	200	195	231
10	K (mg/L)	2.7	2.4	2.4	1.4	2.8
11	Mg (mg/L)	17.9	17.6	14.7	22.0	17.3
12	Na (mg/L)	48.3	25.7	38.0	46.3	63.7
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.00	0.00
14	NO2+NO3 (mg N/L)	0.26	0.13	0.01	0.01	0.01
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.26	0.12	0.01	0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.047	0.057	0.001	0.001	0.001
19	SiO2 (mg/L)	3.1	2.6	13.1	24.2	17.2
20	SO4 (mg/L)	54.7	74.3	62.7	60.7	46.7
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.3	1.1	0.4	1.0	0.6
2	COD (mg/L)					
3	DO (mg/L)		5.5	5.5	5.4	5.6
4	DO_SAT% (%)		77	72	68	71
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
7	TOC (mg/L)					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					0.01
3	Cr (µg/L)					9.00
4	Cu (µg/L)					
5	Hg (µg/L)					
6	Ni (µg/L)					1.00
7	Pb (µg/L)					65.00
8	Zn (µg/L)					10.00
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	61	53	67	94	103
2	HAR_Total (mgCaCO3/L)	135	127	128	186	175
3	Na% (%)	43	30	39	35	43
4	RSC (-)	0.0	0.0	1.0	0.2	0.7
5	SAR (-)	1.8	1.0	1.5	1.5	2.1
	PESTICIDES					
1	Aldrin (µg/L)					0.010
2	BHC (µg/L)					0.100
3	DDT (µg/L)					0.100
4	Dieldrin (µg/L)					0.010
5	Endos (µg/L)					0.100

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Wadenapally (AK000D5)

Division : Lower Krishna Divn., Hyderabad

Local River : Krishna

River Water Sub-Division : Lower Krishna SD2, Vijayawada

S.No	Parameters	Summer				
		Mar - May				
		2007	2008	2009	2010	2011
	PHYSICAL					
1	Q (cumec)	171.7	147.2	171.5	211.5	173.6
2	EC_FLD (µmho/cm)				638	
3	EC_GEN (µmho/cm)	591	697	682	625	858
4	pH_FLD (pH units)				8.4	
5	pH_GEN (pH units)	8.1	8.3	8.1	8.5	7.6
6	TDS (mg/L)					
7	Temp (deg C)	27.0	26.7	27.0	27.5	25.5
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	5.3	2.8	2.7	8.0	0.0
2	ALK-TOT (mgCaCO3/L)	213	219	228	175	208
3	B (mg/L)	0.00	0.00	0.00	0.00	0.00
4	Ca (mg/L)	40	51	50	45	45
5	Cl (mg/L)	44.2	62.9	59.0	51.8	83.9
6	CO3 (mg/L)	6.3	3.3	3.2	9.6	0.0
7	F (mg/L)	1.08	0.75	0.79	1.00	1.06
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	247	260	272	194	254
10	K (mg/L)	2.4	2.5	2.2	2.6	3.6
11	Mg (mg/L)	19.0	17.7	13.6	16.5	25.8
12	Na (mg/L)	62.0	73.0	61.7	58.6	83.3
13	NH3-N (mg N/L)	0.00	0.05	0.05	0.00	0.00
14	NO2+NO3 (mg N/L)	0.00	0.01	0.01	0.00	0.00
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.00	0.01	0.01	0.00	0.00
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.001	0.001	0.000	0.272
19	SiO2 (mg/L)	17.2	17.3	17.1	13.9	16.0
20	SO4 (mg/L)	45.7	44.7	52.5	48.8	83.6
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.6	0.5	0.7	0.3	0.3
2	COD (mg/L)		7.9	6.7	21.6	26.2
3	DO (mg/L)	6.3	6.1	6.0	6.4	6.3
4	DO_SAT% (%)	78	76	76	81	76
5	FCol-MPN (MPN/100mL)				10833	9000
6	Tcol-MPN (MPN/100mL)				10900	16000
7	TOC (mg/L)		3.3			
	TRACE & TOXIC					
1	As (µg/L)				2.79	
2	Cd (µg/L)	7.00	0.90	2.56	0.00	
3	Cr (µg/L)	9.00	2.00	2.00	0.00	
4	Cu (µg/L)					
5	Hg (µg/L)	1.36	0.00			
6	Ni (µg/L)	1.00	9.90	3.25	0.00	
7	Pb (µg/L)	19.00	21.25	36.00	0.00	
8	Zn (µg/L)	69.00	2.89	6.63	4.24	
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	100	127	124	112	112
2	HAR_Total (mgCaCO3/L)	179	200	181	181	220
3	Na% (%)	42	44	42	41	45
4	RSC (-)	0.7	0.4	1.0	0.0	0.0
5	SAR (-)	2.0	2.3	2.0	1.9	2.5
	PESTICIDES					
1	Aldrin (µg/L)	0.040	0.010	0.014	0.000	
2	BHC (µg/L)	0.140	0.200	0.100	0.027	
3	DDT (µg/L)	0.100	0.100	0.100	0.010	
4	Dieldrin (µg/L)	0.140	0.010	0.010	0.002	
5	Endos (µg/L)	0.190	0.100	0.100	0.055	

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Wadenapally (AK000D5)

Division : Lower Krishna Divn., Hyderabad

Local River : Krishna

River Water Sub-Division : Lower Krishna SD2, Vijayawada

S.No	Parameters	Summer				
		Mar - May				
		2012	2013	2014	2015	2016
	PHYSICAL					
1	Q (cumec)	76.14	24.02	150.9	70.53	6.178
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	900	723	627	740	741
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.2	8.2	8.3	8.3	8.4
6	TDS (mg/L)	375	404	381	427	368
7	Temp (deg C)	26.3	27.3	28.0	26.0	26.0
8	Turb (NTU)	1.00	0.88	4.33	3.00	8.67
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	1.4	0.0	1.4	1.7	3.3
2	ALK-TOT (mgCaCO3/L)	159	155	163	197	120
3	B (mg/L)	0.08	0.28	0.15	0.12	
4	Ca (mg/L)	29	37	36	45	28
5	Cl (mg/L)	59.7	80.5	52.5	63.1	63.8
6	CO3 (mg/L)	1.7	0.0	1.7	2.1	4.0
7	F (mg/L)	0.45	0.85	0.60	0.91	0.37
8	Fe (mg/L)	0.2	0.2	0.7	0.0	0.0
9	HCO3 (mg/L)	191	189	195	236	139
10	K (mg/L)	2.7	2.4	2.4	2.7	3.1
11	Mg (mg/L)	16.7	21.6	20.0	25.9	15.2
12	Na (mg/L)	58.0	75.6	58.0	74.1	73.3
13	NH3-N (mg N/L)	0.12	0.01	0.03	0.00	0.02
14	NO2+NO3 (mg N/L)	0.68	0.94	1.30	0.78	1.05
15	NO2-N (mgN/L)	0.01	0.00	0.00	0.00	0.07
16	NO3-N (mgN/L)	0.67	0.94	1.30	0.78	0.98
17	o-PO4-P (mg P/L)	0.093	0.080	0.097	0.195	0.119
18	P-Tot (mgP/L)	0.093				
19	SiO2 (mg/L)	16.2	10.8	16.3	18.4	11.0
20	SO4 (mg/L)	57.5	32.2	57.8	120.6	65.9
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.9	0.6	1.2	0.8	1.0
2	COD (mg/L)	10.1	8.6	6.6	7.4	9.4
3	DO (mg/L)	6.3	6.1	6.6	5.3	6.3
4	DO_SAT% (%)	78	78	85	65	77
5	FCol-MPN (MPN/100mL)	5607	801	34	45	4100
6	Tcol-MPN (MPN/100mL)	6140	3734	77	8085	16000
7	TOC (mg/L)	2.9	2.9		32.6	
	TRACE & TOXIC					
1	As (µg/L)	1.53	4.26	1.62	3.44	0.00
2	Cd (µg/L)	0.00	1.20	0.01	2.00	0.00
3	Cr (µg/L)	0.00	2.95	0.03	0.00	0.00
4	Cu (µg/L)					
5	Hg (µg/L)	1.22	0.28	0.28	0.14	0.00
6	Ni (µg/L)	1.57	2.89	1.72	7.45	0.00
7	Pb (µg/L)	18.98	5.05	0.72	14.00	0.00
8	Zn (µg/L)	18.21	10.85	2.00	15.00	0.04
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	73	94	89	112	69
2	HAR_Total (mgCaCO3/L)	143	184	173	220	132
3	Na% (%)	47	47	41	42	54
4	RSC (-)	0.3	0.0	0.1	0.0	0.0
5	SAR (-)	2.1	2.4	1.9	2.2	2.8
	PESTICIDES					
1	Aldrin (µg/L)	0.000				
2	BHC (µg/L)	0.011				
3	DDT (µg/L)	0.001				
4	Dieldrin (µg/L)	0.000				
5	Endos (µg/L)	0.009				

HISTORY SHEET

Water Year : 2015-2016

Site : Dameracherla

Code : AKF00A7

State : Telangana

District : Nalgonda

Basin : Krishna

Independent River : Krishna

Tributary : Musi

Sub Tributary : -

Sub-Sub Tributary : -

Local River : Musi

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam

Drainage Area : 11501 Sq. Km.

Bank : Right

Latitude : 16°44'21"

Longitude : 79°40'11"

Opening Date

Closing Date

Gauge : 01/12/1967

Discharge : 27/07/1968

Sediment : 02/09/2013

Water Quality : 01/01/1980

Water Quality Datasheet for the period : 2015-2016

Station Name : Dameracherla (AKF00A7)

Division : Lower Krishna Divn., Hyderabad

Local River : Musi

River Water AnalysisSub-Division : Lower Krishna SD 1, N.S.Dam

S.No	Parameters	01/06/2015	01/07/2015	01/09/2015	02/11/2015	01/12/2015
		A	A	A	A	A
	PHYSICAL					
1	Q (cumec)	4.019	8.739	15.37	5.264	2.560
2	Colour_Cod (-)	Clear	Clear	Clear	Clear	Clear
3	EC_GEN (μmho/cm)	1180	1305	874	780	1812
4	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free
5	pH_GEN (pH units)	8.3	8.2	7.6	8.0	8.2
6	TDS (mg/L)	770	698	636	303	670
7	Temp (deg C)	28.5	27.5	28.0	27.0	25.0
8	Turb (NTU)	0.10	2.00	7.00	1.00	1.00
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	3.5	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	233	260	261	179	265
3	B (mg/L)			0.51	0.00	0.00
4	Ca (mg/L)	52	59	51	42	59
5	Cl (mg/L)	152.8	173.6	90.9	83.9	127.8
6	CO3 (mg/L)	4.2	0.0	0.0	0.0	0.0
7	F (mg/L)	1.18	1.36	1.24	0.88	0.98
8	Fe (mg/L)	0.0	0.0	0.1	0.0	0.0
9	HCO3 (mg/L)	276	317	318	218	323
10	K (mg/L)	7.6	7.0	3.1	3.0	2.4
11	Mg (mg/L)	30.1	34.5	29.1	23.8	34.3
12	Na (mg/L)	141.4	155.0	111.2	87.5	110.5
13	NH3-N (mg N/L)	0.13	0.10	0.00	0.00	0.00
14	NO2+NO3 (mg N/L)	0.61	0.40	2.22	1.13	0.14
15	NO2-N (mgN/L)	0.06	0.01	0.03	0.00	0.00
16	NO3-N (mgN/L)	0.55	0.39	2.19	1.13	0.14
17	o-PO4-P (mg P/L)	0.100	0.180	0.103	0.106	0.082
18	SiO2 (mg/L)	45.1	25.4	27.3	5.5	14.2
19	SO4 (mg/L)	124.0	118.0	82.0	180.3	123.5
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	3.7	0.9	1.4	0.8	0.7
2	COD (mg/L)	21.6	13.4	7.4	21.0	15.0
3	DO (mg/L)	7.8	5.2	5.9	6.5	6.3
4	DO_SAT% (%)	100	65	75	82	76
5	FCol-MPN (MPN/100mL)	40	40	16000	270	70
6	Tcol-MPN (MPN/100mL)	2800	1600	16000	2400	1100
7	TOC (mg/L)	16.9	11.7	37.0	11.8	29.7
	TRACE & TOXIC					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	130	148	128	106	148
2	HAR_Total (mgCaCO3/L)	256	292	249	205	291
3	Na% (%)	54	53	49	48	45
4	RSC (-)	0.0	0.0	0.3	0.0	0.0
5	SAR (-)	3.9	4.0	3.1	2.7	2.8
	PESTICIDES	Anlaysis not done due to mal function of instrument.				

Samples not collected during August, October and from January to May months due to Dry bed/No flow condition.

Water Quality Summary for the period : 2015-2016

Station Name : Dameracherla (AKF00A7)

Division : Lower Krishna Divn., Hyderabad

Local River : Musi

Sub-Division : Lower Krishna SD 1, N.S.Dam

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	366	100.9	0.000	4.707
2	EC_GEN (μmho/cm)	5	1812	780	1190
3	pH_GEN (pH units)	5	8.3	7.6	8.1
4	TDS (mg/L)	5	770	303	615
5	Temp (deg C)	5	28.5	25.0	27.2
6	Turb (NTU)	5	7.00	0.10	2.22
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	5	3.5	0.0	0.7
2	ALK-TOT (mgCaCO3/L)	5	265	179	240
3	B (mg/L)	3	0.51	0.00	0.17
4	Ca (mg/L)	5	59	42	53
5	Cl (mg/L)	5	173.6	83.9	125.8
6	CO3 (mg/L)	5	4.2	0.0	0.8
7	F (mg/L)	5	1.36	0.88	1.13
8	Fe (mg/L)	5	0.1	0.0	0
9	HCO3 (mg/L)	5	323	218	290
10	K (mg/L)	5	7.6	2.4	4.6
11	Mg (mg/L)	5	34.5	23.8	30.4
12	Na (mg/L)	5	155.0	87.5	121.1
13	NH3-N (mg N/L)	5	0.13	0.00	0.05
14	NO2+NO3 (mg N/L)	5	2.22	0.14	0.9
15	NO2-N (mgN/L)	5	0.06	0.00	0.02
16	NO3-N (mgN/L)	5	2.19	0.14	0.88
17	o-PO4-P (mg P/L)	5	0.180	0.082	0.114
18	SiO2 (mg/L)	5	45.1	5.5	23.5
19	SO4 (mg/L)	5	180.3	82.0	125.6
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	5	3.7	0.7	1.5
2	COD (mg/L)	5	21.6	7.4	15.7
3	DO (mg/L)	5	7.8	5.2	6.3
4	DO_SAT% (%)	5	100	65	80
5	Fcol-MPN (MPN/100mL)	5	16000	40	3284
6	Tcol-MPN (MPN/100mL)	5	16000	1100	4780
7	TOC (mg/L)	5	37.0	11.7	21.4
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	5	148	106	132
2	HAR_Total (mgCaCO3/L)	5	292	205	259
3	Na% (%)	5	54	45	50
4	RSC (-)	5	0.3	0.0	0.1
5	SAR (-)	5	4.0	2.7	3.3
	PESTICIDES				

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Dameracherla (AKF00A7)

Division : Lower Krishna Divn., Hyderabad

Local River : Musi

River Water

Sub-Division : Lower Krishna SD 1, N.S.Dam

S.No	Parameters	Flood				
		Jun - Oct				
		2001	2002	2003	2004	2005
	PHYSICAL					
1	Q (cumec)	10.36	0.868	9.180	21.09	32.95
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	977	1195	930	828	947
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.3	8.1	7.8	7.8	8.1
6	TDS (mg/L)					
7	Temp (deg C)	28.2	30.5	30.0	27.0	26.7
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	6.6	14.1	0.0	0.0	6.6
2	ALK-TOT (mgCaCO3/L)	124	139	313	249	255
3	B (mg/L)	0.01	0.01	0.00	0.00	0.01
4	Ca (mg/L)	23	18	52	54	63
5	Cl (mg/L)	97.6	159.7	127.8	90.2	90.7
6	CO3 (mg/L)	8.0	17.0	0.0	0.0	8.0
7	F (mg/L)	0.80	1.19		1.19	1.12
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	135	136	382	304	295
10	K (mg/L)	4.9	4.9		2.7	2.4
11	Mg (mg/L)	46.8	42.4	5.0	31.0	32.7
12	Na (mg/L)	86.0	100.5	74.0	61.0	88.7
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.00	0.00
14	NO2+NO3 (mg N/L)	0.26	0.01	0.01	0.01	0.01
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.26	0.01	0.01	0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.060	0.033	0.001	0.001	0.001
19	SiO2 (mg/L)	6.1	3.9	18.4	18.8	23.1
20	SO4 (mg/L)	78.2	90.5	103.2	86.0	149.0
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.4	0.4	1.4	1.2	0.8
2	COD (mg/L)					
3	DO (mg/L)	6.5	6.5	6.6	4.3	5.7
4	DO_SAT% (%)	83	85	87	54	71
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
7	TOC (mg/L)					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	58	46	130	135	157
2	HAR_Total (mgCaCO3/L)	254	223	151	264	293
3	Na% (%)	42	49		33	38
4	RSC (-)	0.0	0.0	3.3	0.0	0.0
5	SAR (-)	2.4	3.0	2.6	1.6	2.2
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Dameracherla (AKF00A7)

Division : Lower Krishna Divn., Hyderabad

Local River : Musi

River Water

Sub-Division : Lower Krishna SD 1, N.S.Dam

S.No	Parameters	Flood				
		Jun - Oct				
		2006	2007	2008	2009	2010
	PHYSICAL					
1	Q (cumec)	26.08	105.2	37.62	34.04	41.65
2	EC_FLD (µmho/cm)					874
3	EC_GEN (µmho/cm)	830	892	1185	1062	1150
4	pH_FLD (pH units)					6.9
5	pH_GEN (pH units)	8.1	8.2	8.1	8.4	8.0
6	TDS (mg/L)					
7	Temp (deg C)	28.3	27.6	24.6	27.3	28.6
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	2.1	3.2	5.3	0.0
2	ALK-TOT (mgCaCO3/L)	243	235	280	228	293
3	B (mg/L)	0.00	0.00	0.00	0.00	0.00
4	Ca (mg/L)	60	54	62	46	51
5	Cl (mg/L)	75.3	89.7	157.2	128.2	125.0
6	CO3 (mg/L)	0.0	2.5	3.8	6.4	0.0
7	F (mg/L)	1.18	1.43	1.16	1.14	1.33
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	297	281	334	265	357
10	K (mg/L)	4.0	3.1	5.3	6.1	4.3
11	Mg (mg/L)	21.7	26.5	26.3	23.0	28.8
12	Na (mg/L)	94.7	109.3	123.7	114.0	129.6
13	NH3-N (mg N/L)	0.00	0.05	0.05	0.00	0.00
14	NO2+NO3 (mg N/L)	0.00	0.01	0.01	0.42	0.00
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.00	0.01	0.01	0.42	0.00
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.001	0.001	0.000	0.343
19	SiO2 (mg/L)	25.9	25.1	26.7	31.9	24.2
20	SO4 (mg/L)	81.7	83.5	65.3	91.9	93.2
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.9	1.5	1.3	1.2	0.7
2	COD (mg/L)		15.5	40.0	18.7	24.3
3	DO (mg/L)	6.2	6.2	5.1	6.2	5.1
4	DO_SAT% (%)	79	78	61	78	65
5	FCol-MPN (MPN/100mL)					6160
6	Tcol-MPN (MPN/100mL)					7460
7	TOC (mg/L)					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	151	135	155	116	127
2	HAR_Total (mgCaCO3/L)	241	245	264	212	247
3	Na% (%)	45	48	49	50	53
4	RSC (-)	0.2	0.1	0.5	0.7	1.1
5	SAR (-)	2.7	3.0	3.3	3.5	3.7
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Dameracherla (AKF00A7)

Division : Lower Krishna Divn., Hyderabad

Local River : Musi

River Water

Sub-Division : Lower Krishna SD 1, N.S.Dam

S.No	Parameters	Flood				
		Jun - Oct				
		2011	2012	2013	2014	2015
	PHYSICAL					
1	Q (cumec)	30.52	3.476	50.47	9.006	9.376
2	EC_FLD (µmho/cm)			1730		
3	EC_GEN (µmho/cm)	1140	1112	1258	1263	1120
4	pH_FLD (pH units)			7.4		
5	pH_GEN (pH units)	8.0	7.9	7.9	8.2	8.0
6	TDS (mg/L)	898	638	762	760	701
7	Temp (deg C)	27.1	27.0	27.6	27.9	28.0
8	Turb (NTU)	1.00	0.55	1.17	4.40	3.03
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.8	1.2
2	ALK-TOT (mgCaCO3/L)	251	185	190	241	251
3	B (mg/L)	0.00	0.24	0.53	0.31	0.51
4	Ca (mg/L)	52	60	48	55	54
5	Cl (mg/L)	149.8	132.3	183.9	182.6	139.1
6	CO3 (mg/L)	0.0	0.0	0.0	1.0	1.4
7	F (mg/L)	2.29	1.18	1.31	1.26	1.26
8	Fe (mg/L)	0.0	0.1	0.1	0.1	0.0
9	HCO3 (mg/L)	307	226	232	292	304
10	K (mg/L)	4.3	3.4	4.2	7.6	5.9
11	Mg (mg/L)	30.4	35.0	28.1	32.1	31.2
12	Na (mg/L)	109.7	101.1	139.6	149.8	135.9
13	NH3-N (mg N/L)	0.00	0.01	0.27	0.00	0.08
14	NO2+NO3 (mg N/L)	0.31	0.98	3.00	1.06	1.08
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.01	0.03
16	NO3-N (mgN/L)	0.31	0.98	3.00	1.04	1.04
17	o-PO4-P (mg P/L)	0.400	0.086	0.158	0.176	0.128
18	P-Tot (mgP/L)	0.400			0.167	
19	SiO2 (mg/L)	28.6	23.6	15.8	25.8	32.6
20	SO4 (mg/L)	77.0	108.0	96.8	102.1	108.0
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.8	1.1	1.3	1.1	2.0
2	COD (mg/L)	23.1	29.3	10.1	27.0	14.1
3	DO (mg/L)	5.6	5.8	5.5	6.0	6.3
4	DO_SAT% (%)	70	72	70	77	80
5	FCol-MPN (MPN/100mL)	12846	8115	123	3293	5360
6	Tcol-MPN (MPN/100mL)	12846	8150	195	4164	6800
7	TOC (mg/L)	4.1	3.4	0.4		21.9
	TRACE & TOXIC					
1	As (µg/L)		7.88	0.57		
2	Cd (µg/L)		0.01	0.42		
3	Cr (µg/L)		52.25	5.47		
4	Cu (µg/L)					
5	Hg (µg/L)			0.58		
6	Ni (µg/L)		5.80	12.25		
7	Pb (µg/L)		5.48	0.94		
8	Zn (µg/L)		56.20	0.10		
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	130	149	120	137	136
2	HAR_Total (mgCaCO3/L)	257	295	237	271	266
3	Na% (%)	48	43	57	52	52
4	RSC (-)	0.3	0.0	0.0	0.1	0.1
5	SAR (-)	3.0	2.6	4.8	3.9	3.6
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Dameracherla (AKF00A7)

Division : Lower Krishna Divn., Hyderabad

Local River : Musi

River Water

Sub-Division : Lower Krishna SD 1, N.S.Dam

S.No	Parameters	Winter				
		Nov - Feb				
		2001-2002	2002-2003	2003-2004	2004-2005	2005-2006
	PHYSICAL					
1	Q (cumec)	20.47	4.138	2.762	33.14	102.3
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	810	1027	1240	910	727
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.3	8.1	8.2	8.1	7.8
6	TDS (mg/L)					
7	Temp (deg C)	25.5	27.0	30.0	27.5	20.6
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	17.4	0.0	0.0	2.9	0.0
2	ALK-TOT (mgCaCO3/L)	152	253	290	256	215
3	B (mg/L)	0.01	0.01	0.00	0.00	0.01
4	Ca (mg/L)	33	41	68	53	47
5	Cl (mg/L)	75.4	128.4	141.6	84.9	51.5
6	CO3 (mg/L)	21.0	0.0	0.0	3.5	0.0
7	F (mg/L)	0.84	0.96		0.98	1.07
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	143	309	353	306	262
10	K (mg/L)	1.6	1.9		1.8	
11	Mg (mg/L)	43.1	53.6	38.0	30.5	22.3
12	Na (mg/L)	57.7	72.0	72.0	65.3	
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.00	0.00
14	NO2+NO3 (mg N/L)	0.03	0.08	0.01	0.01	0.01
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.03	0.08	0.01	0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.024	0.015	0.001	0.001	0.003
19	SiO2 (mg/L)	7.1	10.4	45.7	22.2	14.4
20	SO4 (mg/L)	76.3	123.0	124.8	96.5	53.8
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.0	0.4		0.9	1.0
2	COD (mg/L)					
3	DO (mg/L)	7.2	7.6		6.3	6.2
4	DO_SAT% (%)	88	95		80	69
5	Fcol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
7	TOC (mg/L)					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	84	102	170	133	118
2	HAR_Total (mgCaCO3/L)	263	326	328	260	210
3	Na% (%)	32	33		35	
4	RSC (-)	0.0	0.0	0.0	0.2	0.1
5	SAR (-)	1.6	1.7	1.7	1.8	
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Dameracherla (AKF00A7)

Division : Lower Krishna Divn., Hyderabad

Local River : Musi

River Water

Sub-Division : Lower Krishna SD 1, N.S.Dam

S.No	Parameters	Winter				
		Nov - Feb				
		2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	PHYSICAL					
1	Q (cumec)	82.92	70.84	51.70	35.73	65.53
2	EC_FLD (µmho/cm)					1496
3	EC_GEN (µmho/cm)	690	790	807	802	968
4	pH_FLD (pH units)					7.2
5	pH_GEN (pH units)	8.1	7.9	8.2	8.1	8.2
6	TDS (mg/L)					
7	Temp (deg C)	25.0	21.0	21.5	25.8	24.9
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	3.9	0.0	4.0	2.0	0.0
2	ALK-TOT (mgCaCO3/L)	244	246	230	227	250
3	B (mg/L)	0.00	0.00	0.00	0.00	0.00
4	Ca (mg/L)	51	54	64	55	50
5	Cl (mg/L)	54.2	62.2	72.6	66.5	107.6
6	CO3 (mg/L)	4.8	0.0	4.8	2.4	0.0
7	F (mg/L)	0.73	1.18	0.90	1.48	1.03
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	288	300	271	272	305
10	K (mg/L)	1.8	2.7	2.7	2.1	4.2
11	Mg (mg/L)	22.5	25.8	13.4	22.9	28.9
12	Na (mg/L)	82.8	105.0	71.0	69.5	95.3
13	NH3-N (mg N/L)	0.00	0.05	0.05	0.00	0.00
14	NO2+NO3 (mg N/L)	0.00	0.01	0.01	0.74	0.00
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.00	0.01	0.01	0.74	0.00
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.001	0.001	0.000	0.102
19	SiO2 (mg/L)	23.9	20.6	17.6	21.6	22.9
20	SO4 (mg/L)	57.5	46.0	51.6	82.9	220.9
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.2	1.7	1.0	1.1	1.3
2	COD (mg/L)		27.3	11.6	22.4	19.2
3	DO (mg/L)	7.0	7.1	7.0	6.7	6.3
4	DO_SAT% (%)	86	76	79	83	76
5	FCol-MPN (MPN/100mL)				10575	9675
6	Tcol-MPN (MPN/100mL)				12600	12700
7	TOC (mg/L)					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	129	134	160	136	126
2	HAR_Total (mgCaCO3/L)	222	241	216	231	246
3	Na% (%)	44	47	42	39	45
4	RSC (-)	0.6	0.1	0.5	0.2	0.3
5	SAR (-)	2.4	3.0	2.1	2.0	2.7
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Dameracherla (AKF00A7)

Division : Lower Krishna Divn., Hyderabad

Local River : Musi

River Water

Sub-Division : Lower Krishna SD 1, N.S.Dam

S.No	Parameters	Winter				
		Nov - Feb				
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
	PHYSICAL					
1	Q (cumec)	25.31	4.074	65.53	27.70	3.912
2	EC_FLD (µmho/cm)			1735		
3	EC_GEN (µmho/cm)	926	1273	891	781	1296
4	pH_FLD (pH units)			7.5		
5	pH_GEN (pH units)	7.9	7.8	8.2	8.2	8.1
6	TDS (mg/L)	589	745	513	503	487
7	Temp (deg C)	25.9	24.3	25.3	25.9	26.0
8	Turb (NTU)	1.00	0.70	7.00	2.58	1.00
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	1.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	260	267	222	229	222
3	B (mg/L)	0.26	0.18	0.51	0.21	0.00
4	Ca (mg/L)	50	63	50	53	51
5	Cl (mg/L)	106.8	184.6	94.7	80.7	105.9
6	CO3 (mg/L)	0.0	0.0	1.3	0.0	0.0
7	F (mg/L)	1.12	1.75	0.91	0.89	0.93
8	Fe (mg/L)	0.1	0.0	0.1	0.1	0.0
9	HCO3 (mg/L)	317	326	268	279	271
10	K (mg/L)	3.1	1.8	4.1	2.1	2.7
11	Mg (mg/L)	29.6	36.8	28.8	29.8	29.0
12	Na (mg/L)	93.8	126.3	85.2	80.0	99.0
13	NH3-N (mg N/L)	0.01	0.02	0.00	0.07	0.00
14	NO2+NO3 (mg N/L)	0.83	0.77	1.09	0.83	0.64
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.05	0.00
16	NO3-N (mgN/L)	0.83	0.77	1.09	0.78	0.63
17	o-PO4-P (mg P/L)	0.119	0.058	0.245	0.075	0.094
18	P-Tot (mgP/L)	0.119				
19	SiO2 (mg/L)	25.2	29.4	13.9	21.1	9.9
20	SO4 (mg/L)	80.0	98.0	79.1	66.3	151.9
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.7	0.8	1.4	1.7	0.8
2	COD (mg/L)	12.9	18.3	5.3	13.9	18.0
3	DO (mg/L)	5.8	5.4	6.6	7.4	6.4
4	DO_SAT% (%)	71	65	78	90	79
5	FCol-MPN (MPN/100mL)	4725	801	4098	4945	170
6	Tcol-MPN (MPN/100mL)	5800	5647	4190	8113	1750
7	TOC (mg/L)	3.4	3.7		31.5	20.7
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)				1.96	
3	Cr (µg/L)				2.41	
4	Cu (µg/L)				1.84	
5	Hg (µg/L)					
6	Ni (µg/L)				5.40	
7	Pb (µg/L)				10.41	
8	Zn (µg/L)				4.75	
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	126	158	124	132	127
2	HAR_Total (mgCaCO3/L)	250	311	244	256	248
3	Na% (%)	45	47	42	41	46
4	RSC (-)	0.4	0.0	0.0	0.1	0.0
5	SAR (-)	2.6	3.1	2.4	2.2	2.7
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Dameracherla (AKF00A7)

Division : Lower Krishna Divn., Hyderabad

Local River : Musi

River Water

Sub-Division : Lower Krishna SD 1, N.S.Dam

S.No	Parameters	Summer				
		Mar - May				
		2002	2003	2004	2005	2006
	PHYSICAL					
1	Q (cumec)	5.475			4.505	18.51
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	966			954	851
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	7.9			7.9	8.1
6	TDS (mg/L)					
7	Temp (deg C)	31.0			30.7	22.3
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0			0.0	0.0
2	ALK-TOT (mgCaCO3/L)	73			250	241
3	B (mg/L)	0.01			0.00	0.01
4	Ca (mg/L)	24			64	43
5	Cl (mg/L)	107.6			98.7	59.9
6	CO3 (mg/L)	0.0			0.0	0.0
7	F (mg/L)	1.09			1.19	1.03
8	Fe (mg/L)	0.0			0.0	0.0
9	HCO3 (mg/L)	89			305	294
10	K (mg/L)	2.6			1.7	1.6
11	Mg (mg/L)	41.9			37.3	25.7
12	Na (mg/L)	76.7			78.3	60.3
13	NH3-N (mg N/L)	0.00			0.00	0.00
14	NO2+NO3 (mg N/L)	0.16			0.01	0.01
15	NO2-N (mgN/L)	0.00			0.00	0.00
16	NO3-N (mgN/L)	0.16			0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.011			0.001	0.004
19	SiO2 (mg/L)	7.3			34.5	21.2
20	SO4 (mg/L)	60.3			50.0	40.7
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.8			1.1	0.9
2	COD (mg/L)					
3	DO (mg/L)	5.3			5.3	5.4
4	DO_SAT% (%)	71			71	63
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
7	TOC (mg/L)					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					0.01
3	Cr (µg/L)					2.00
4	Cu (µg/L)					
5	Hg (µg/L)					
6	Ni (µg/L)					1.00
7	Pb (µg/L)					80.00
8	Zn (µg/L)					7.00
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	59			159	108
2	HAR_Total (mgCaCO3/L)	233			315	214
3	Na% (%)	41			35	38
4	RSC (-)	0.0			0.2	0.6
5	SAR (-)	2.2			1.9	1.8
	PESTICIDES					
1	Aldrin (µg/L)					0.010
2	BHC (µg/L)					0.100
3	DDT (µg/L)					0.100
4	Dieldrin (µg/L)					0.027
5	Endos (µg/L)					0.182

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Dameracherla (AKF00A7)

Division : Lower Krishna Divn., Hyderabad

Local River : Musi

River Water

Sub-Division : Lower Krishna SD 1, N.S.Dam

S.No	Parameters	Summer				
		Mar - May				
		2007	2008	2009	2010	2011
	PHYSICAL					
1	Q (cumec)	33.62	44.00	39.87	29.13	49.80
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	765	903	944	847	926
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.1	7.9	8.2	8.4	7.9
6	TDS (mg/L)					
7	Temp (deg C)	24.0	25.3	23.0	28.0	25.0
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	2.7	5.3	0.0
2	ALK-TOT (mgCaCO3/L)	258	248	229	232	240
3	B (mg/L)	0.00	0.00	0.00	0.00	0.00
4	Ca (mg/L)	52	51	54	39	52
5	Cl (mg/L)	69.5	109.6	96.0	80.5	107.8
6	CO3 (mg/L)	0.0	0.0	3.2	6.4	0.0
7	F (mg/L)	1.50	0.94	0.94	2.01	0.93
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	315	303	273	270	293
10	K (mg/L)	2.4	3.2	2.4	3.0	2.3
11	Mg (mg/L)	23.0	22.7	12.3	23.0	30.2
12	Na (mg/L)	79.3	104.0	81.9	74.6	93.3
13	NH3-N (mg N/L)	0.00	0.05	0.05	0.00	0.00
14	NO2+NO3 (mg N/L)	0.00	0.01	0.01	0.00	0.00
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.00	0.01	0.01	0.00	0.00
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.001	0.001	0.000	0.070
19	SiO2 (mg/L)	22.8	20.3	22.9	22.8	18.4
20	SO4 (mg/L)	56.7	42.0	51.4	55.0	99.8
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	2.9	0.7	1.0	0.6	0.3
2	COD (mg/L)		13.7	12.1	26.6	19.9
3	DO (mg/L)	6.4	5.4	7.3	6.5	5.8
4	DO_SAT% (%)	76	65	85	83	70
5	FCol-MPN (MPN/100mL)				11467	10500
6	Tcol-MPN (MPN/100mL)				11667	16000
7	TOC (mg/L)		3.5			
	TRACE & TOXIC					
1	As (µg/L)				2.27	
2	Cd (µg/L)	8.00	1.10	2.38	0.00	1.12
3	Cr (µg/L)	2.00	2.00	2.00	0.00	0.36
4	Cu (µg/L)					
5	Hg (µg/L)	1.70	0.00			
6	Ni (µg/L)	1.00	11.60	1.96	0.03	7.64
7	Pb (µg/L)	93.00	22.53	36.26	0.00	31.01
8	Zn (µg/L)	50.00	2.85	22.11	5.81	38.10
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	130	128	136	97	130
2	HAR_Total (mgCaCO3/L)	226	223	188	193	256
3	Na% (%)	43	50	49	45	44
4	RSC (-)	0.7	0.5	0.9	0.8	0.0
5	SAR (-)	2.3	3.0	2.8	2.4	2.5
	PESTICIDES					
1	Aldrin (µg/L)	0.020	0.010	0.010	0.000	0.000
2	BHC (µg/L)	0.100	0.190	0.243	0.129	0.000
3	DDT (µg/L)	0.100	0.100	0.100	0.019	0.000
4	Dieldrin (µg/L)	0.030	0.010	0.010	0.002	0.000
5	Endos (µg/L)	0.190	0.100	0.100	0.075	0.000

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Dameracherla (AKF00A7)

Division : Lower Krishna Divn., Hyderabad

Local River : Musi

River Water

Sub-Division : Lower Krishna SD 1, N.S.Dam

S.No	Parameters	Summer				
		Mar - May				
		2012	2013	2014	2015	2016
	PHYSICAL					
1	Q (cumec)	6.854	3.697	14.52	22.37	Dry Bed
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	1273	1580	975	953	
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	7.9	7.8	8.1	8.2	
6	TDS (mg/L)	839	871	632	584	
7	Temp (deg C)	27.8	25.8	30.3	27.3	
8	Turb (NTU)	1.00	0.51	3.33	2.03	
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	1.2	
2	ALK-TOT (mgCaCO3/L)	315	311	250	210	
3	B (mg/L)	0.07	0.38	0.50	0.23	
4	Ca (mg/L)	44	77	48	45	
5	Cl (mg/L)	114.8	253.4	113.7	92.1	
6	CO3 (mg/L)	0.0	0.0	0.0	1.4	
7	F (mg/L)	1.35	1.24	1.02	0.84	
8	Fe (mg/L)	0.1	0.2	0.5	0.0	
9	HCO3 (mg/L)	385	379	305	253	
10	K (mg/L)	1.5	1.8	4.1	3.0	
11	Mg (mg/L)	26.1	40.8	28.2	25.9	
12	Na (mg/L)	121.1	150.3	116.2	87.6	
13	NH3-N (mg N/L)	0.05	0.00	0.03	0.06	
14	NO2+NO3 (mg N/L)	0.76	1.29	0.74	0.42	
15	NO2-N (mgN/L)	0.01	0.00	0.00	0.03	
16	NO3-N (mgN/L)	0.74	1.29	0.74	0.39	
17	o-PO4-P (mg P/L)	0.118	0.087	0.060	0.213	
18	P-Tot (mgP/L)	0.118				
19	SiO2 (mg/L)	28.4	23.8	17.5	33.6	
20	SO4 (mg/L)	74.8	109.5	58.0	92.1	
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.2	0.6	1.1	0.5	
2	COD (mg/L)	10.0	10.9	6.6	9.6	
3	DO (mg/L)	5.1	6.4	5.9	5.9	
4	DO_SAT% (%)	65	78	79	74	
5	FCol-MPN (MPN/100mL)	1867	175	70	3	
6	Tcol-MPN (MPN/100mL)	5233	1650	133	5523	
7	TOC (mg/L)	2.7	3.4		36.6	
	TRACE & TOXIC					
1	As (µg/L)	2.44	4.85	1.02	3.55	
2	Cd (µg/L)	0.78	2.14	0.01	3.00	
3	Cr (µg/L)	0.00	2.57	0.08	0.00	
4	Cu (µg/L)					
5	Hg (µg/L)	0.68	1.69	0.00	0.10	
6	Ni (µg/L)	4.41	8.78	1.34	9.04	
7	Pb (µg/L)	32.49	1.71	0.33	20.00	
8	Zn (µg/L)	21.89	0.15	3.00	11.00	
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	111	192	120	112	
2	HAR_Total (mgCaCO3/L)	220	362	237	220	
3	Na% (%)	55	47	50	46	
4	RSC (-)	1.9	0.0	0.5	0.0	
5	SAR (-)	3.6	3.5	3.3	2.6	
	PESTICIDES					
1	Aldrin (µg/L)	0.001				
2	BHC (µg/L)	0.022				
3	DDT (µg/L)	0.002				
4	Dieldrin (µg/L)	0.000				
5	Endos (µg/L)	0.034				

HISTORY SHEET

Water Year : 2015-2016

Site : Halia

Code : AKH00G2

State : Telangana

District : Nalgonda

Basin : Krishna

Independent River : Krishna

Tributary : Halia

Sub Tributary : -

Sub-Sub Tributary : -

Local River : Halia

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam

Drainage Area : 3100 Sq. Km.

Bank : Left

Latitude : 16°47'25"

Longitude : 79°20'19"

Opening Date

Closing Date

Gauge : 15/02/1984

Discharge : 11/07/1984

Sediment :

Water Quality : 01/06/1992

Water Quality Datasheet for the period : 2015-2016

Station Name : Halia (AKH00G2)

Division : Lower Krishna Divn., Hyderabad

Local River : Halia

River Water Analysis Sub-Division : Lower Krishna SD 1, N.S.Dam

S.No	Parameters	01/07/2015	01/09/2015	01/10/2015	01/12/2015
		A	A	A	A
	PHYSICAL				
1	Q (cumec)	1.303	10.03	6.482	1.933
2	Colour_Cod (-)	Clear	Clear	Clear	Clear
3	EC_GEN (μ mho/cm)	939	854	932	2028
4	Odour_Code (-)	odour free	odour free	odour free	odour free
5	pH_GEN (pH units)	8.2	8.0	8.0	8.2
6	TDS (mg/L)	478	664	588	720
7	Temp (deg C)	28.0	26.0	29.0	26.0
8	Turb (NTU)	13.00	0.10	0.10	1.00
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	264	251	254	315
3	B (mg/L)		0.09		0.00
4	Ca (mg/L)	42	36	38	44
5	Cl (mg/L)	106.7	92.4	91.7	115.9
6	CO3 (mg/L)	0.0	0.0	0.0	0.0
7	F (mg/L)	1.42	1.36	1.58	1.16
8	Fe (mg/L)	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	322	306	310	385
10	K (mg/L)	5.0	5.0	5.4	5.7
11	Mg (mg/L)	23.8	20.4	21.8	25.6
12	Na (mg/L)	141.5	134.8	141.1	155.5
13	NH3-N (mg N/L)	0.06	0.01	0.07	0.00
14	NO2+NO3 (mg N/L)	0.48	0.82	1.22	0.55
15	NO2-N (mgN/L)	0.02	0.07	0.02	0.00
16	NO3-N (mgN/L)	0.46	0.76	1.20	0.55
17	o-PO4-P (mg P/L)	0.060	0.144	0.181	0.042
18	SiO2 (mg/L)	16.2	20.3	31.8	11.1
19	SO4 (mg/L)	93.5	74.5	64.0	76.3
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	0.8	1.5	1.2	0.8
2	COD (mg/L)	6.9	15.5	15.7	8.1
3	DO (mg/L)	5.2	5.4	6.6	6.3
4	DO_SAT% (%)	66	67	86	78
5	FCol-MPN (MPN/100mL)	16000	700	16000	300
6	Tcol-MPN (MPN/100mL)	16000	16000	16000	16000
7	TOC (mg/L)	42.5	37.3	37.4	40.2
	TRACE & TOXIC				
1	As (μ g/L)				
2	Cd (μ g/L)				
3	Cr (μ g/L)				
4	Hg (μ g/L)				
5	Ni (μ g/L)				
6	Pb (μ g/L)				
7	Zn (μ g/L)				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	104	90	96	110
2	HAR_Total (mgCaCO3/L)	203	175	187	217
3	Na% (%)	60	62	61	60
4	RSC (-)	1.2	1.5	1.4	2.0
5	SAR (-)	4.3	4.4	4.5	4.6
	PESTICIDES	Anlalysis not done due to mal function of instrument.			

Water Quality Datasheet for the period : 2015-2016

Station Name : Halia (AKH00G2)

Division : Lower Krishna Divn., Hyderabad

Local River : Halia

River Water Analysis Sub-Division : Lower Krishna SD 1, N.S.Dam

S.No	Parameters	01/04/2016 A	04/05/2016 A
	PHYSICAL		
1	Q (cumec)	0.600	4.832
2	Colour_Cod (-)	Clear	Clear
3	EC_GEN (µmho/cm)	2185	761
4	Odour_Code (-)	odour free	odour free
5	pH_GEN (pH units)	8.9	7.3
6	TDS (mg/L)	666	
7	Temp (deg C)	26.0	25.5
8	Turb (NTU)	3.00	846.00
	CHEMICAL		
1	Alk-Phen (mgCaCO3/L)	7.6	0.0
2	ALK-TOT (mgCaCO3/L)	291	164
3	B (mg/L)		
4	Ca (mg/L)	42	29
5	Cl (mg/L)	123.3	86.6
6	CO3 (mg/L)	9.2	0.0
7	F (mg/L)	0.98	0.44
8	Fe (mg/L)	0.1	0.1
9	HCO3 (mg/L)	336	200
10	K (mg/L)	6.8	11.5
11	Mg (mg/L)	24.1	15.8
12	Na (mg/L)	170.7	103.7
13	NH3-N (mg N/L)	0.03	0.00
14	NO2+NO3 (mg N/L)	0.63	2.81
15	NO2-N (mgN/L)	0.01	0.19
16	NO3-N (mgN/L)	0.62	2.61
17	o-PO4-P (mg P/L)	0.103	0.320
18	SiO2 (mg/L)	14.7	10.4
19	SO4 (mg/L)	125.3	106.7
	BIOLOGICAL/BACTERIOLOGICAL		
1	BOD3-27 (mg/L)	2.1	1.0
2	COD (mg/L)	7.2	38.6
3	DO (mg/L)	7.2	2.2
4	DO_SAT% (%)	89	27
5	FCol-MPN (MPN/100mL)	1700	9000
6	Tcol-MPN (MPN/100mL)	2200	16000
7	TOC (mg/L)		
	TRACE & TOXIC		
1	As (µg/L)	0.00	
2	Cd (µg/L)	0.00	
3	Cr (µg/L)	0.00	
4	Hg (µg/L)	0.00	
5	Ni (µg/L)	0.00	
6	Pb (µg/L)	0.00	
7	Zn (µg/L)	0.03	
	CHEMICAL INDICES		
1	HAR_Ca (mgCaCO3/L)	106	72
2	HAR_Total (mgCaCO3/L)	206	138
3	Na% (%)	63	60
4	RSC (-)	1.7	0.5
5	SAR (-)	5.2	3.9
	PESTICIDES		

Samples not collected during June, August, November, and from January to March months due to Dry bed/No flow condition.

Water Quality Summary for the period : 2015-2016

Station Name : Halia (AKH00G2)

Division : Lower Krishna Divn., Hyderabad

Local River : Halia

Sub-Division : Lower Krishna SD 1, N.S.Dam

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	366	31.36	0.000	2.117
2	EC_GEN (μmho/cm)	6	2185	761	1283
3	pH_GEN (pH units)	6	8.9	7.3	8.1
4	TDS (mg/L)	5	720	478	623
5	Temp (deg C)	6	29.0	25.5	26.8
6	Turb (NTU)	6	846.00	0.10	143.87
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	6	7.6	0.0	1.3
2	ALK-TOT (mgCaCO3/L)	6	315	164	257
3	B (mg/L)	2	0.09	0.00	0.05
4	Ca (mg/L)	6	44	29	39
5	Cl (mg/L)	6	123.3	86.6	102.8
6	CO3 (mg/L)	6	9.2	0.0	1.5
7	F (mg/L)	6	1.58	0.44	1.16
8	Fe (mg/L)	6	0.1	0.0	0
9	HCO3 (mg/L)	6	385	200	310
10	K (mg/L)	6	11.5	5.0	6.6
11	Mg (mg/L)	6	25.6	15.8	21.9
12	Na (mg/L)	6	170.7	103.7	141.3
13	NH3-N (mg N/L)	6	0.07	0.00	0.03
14	NO2+NO3 (mg N/L)	6	2.81	0.48	1.08
15	NO2-N (mgN/L)	6	0.19	0.00	0.05
16	NO3-N (mgN/L)	6	2.61	0.46	1.03
17	o-PO4-P (mg P/L)	6	0.320	0.042	0.142
18	SiO2 (mg/L)	6	31.8	10.4	17.4
19	SO4 (mg/L)	6	125.3	64.0	90
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	6	2.1	0.8	1.2
2	COD (mg/L)	6	38.6	6.9	15.3
3	DO (mg/L)	6	7.2	2.2	5.5
4	DO_SAT% (%)	6	89	27	69
5	FCol-MPN (MPN/100mL)	6	16000	300	7283
6	Tcol-MPN (MPN/100mL)	6	16000	2200	13700
7	TOC (mg/L)	4	42.5	37.3	39.4
	TRACE & TOXIC				
1	As (μg/L)	1	0.00	0.00	0
2	Cd (μg/L)	1	0.00	0.00	0
3	Cr (μg/L)	1	0.00	0.00	0
4	Hg (μg/L)	1	0.00	0.00	0
5	Ni (μg/L)	1	0.00	0.00	0
6	Pb (μg/L)	1	0.00	0.00	0
7	Zn (μg/L)	1	0.03	0.03	0.03
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	6	110	72	96
2	HAR_Total (mgCaCO3/L)	6	217	138	188
3	Na% (%)	6	63	60	61
4	RSC (-)	6	2.0	0.5	1.4
5	SAR (-)	6	5.2	3.9	4.5
	PESTICIDES				

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Halia (AKH00G2)

Division : Lower Krishna Divn., Hyderabad

Local River : Halia

River Water

Sub-Division : Lower Krishna SD 1, N.S.Dam

S.No	Parameters	Flood				
		Jun - Oct				
		2001	2002	2003	2004	2005
	PHYSICAL					
1	Q (cumec)	37.50	Negligible flow		118.1	17.56
2	EC_GEN (µmho/cm)	284			400	740
3	pH_GEN (pH units)	8.3			8.0	8.1
4	TDS (mg/L)					
5	Temp (deg C)	28.0			22.0	28.5
6	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	12.4			0.0	0.0
2	ALK-TOT (mgCaCO3/L)	126			165	218
3	B (mg/L)	0.01			0.00	0.01
4	Ca (mg/L)	22			26	33
5	Cl (mg/L)	11.2			26.5	57.8
6	CO3 (mg/L)	15.0			0.0	0.0
7	F (mg/L)	0.17			0.90	0.91
8	Fe (mg/L)	0.0			0.0	0.0
9	HCO3 (mg/L)	123			201	266
10	K (mg/L)	2.6			2.0	3.2
11	Mg (mg/L)	6.3			12.0	17.0
12	Na (mg/L)	26.2			41.0	74.0
13	NH3-N (mg N/L)	0.00			0.00	0.00
14	NO2+NO3 (mg N/L)	0.18			0.01	0.01
15	NO2-N (mgN/L)	0.00			0.00	0.00
16	NO3-N (mgN/L)	0.18			0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.200			0.001	0.005
19	SiO2 (mg/L)	7.1			13.5	19.3
20	SO4 (mg/L)	18.0			36.0	55.0
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)					
2	COD (mg/L)					
3	DO (mg/L)					
4	DO_SAT% (%)					
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
7	TOC (mg/L)					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	55			65	81
2	HAR_Total (mgCaCO3/L)	81			115	152
3	Na% (%)	40			43	51
4	RSC (-)	0.9			1.0	1.3
5	SAR (-)	1.3			1.7	2.6
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Halia (AKH00G2)

Division : Lower Krishna Divn., Hyderabad

Local River : Halia

River Water

Sub-Division : Lower Krishna SD 1, N.S.Dam

S.No	Parameters	Flood				
		Jun - Oct				
		2006	2007	2008	2009	2010
	PHYSICAL					
1	Q (cumec)	8.710	18.40	9.945	102.6	7.412
2	EC_GEN (µmho/cm)	789	739	846	661	968
3	pH_GEN (pH units)	8.4	8.4	8.2	8.0	8.3
4	TDS (mg/L)					
5	Temp (deg C)	27.0	27.3	25.0	26.5	26.7
6	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	5.5	8.6	2.7	0.0	3.2
2	ALK-TOT (mgCaCO3/L)	287	250	264	212	279
3	B (mg/L)	0.00	0.00	0.00	0.00	0.00
4	Ca (mg/L)	33	34	43	40	38
5	Cl (mg/L)	56.9	62.3	56.0	54.7	81.1
6	CO3 (mg/L)	6.7	10.4	3.2	0.0	3.8
7	F (mg/L)	1.07	1.60	0.99	1.00	1.37
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	336	284	316	259	333
10	K (mg/L)	4.0	11.9	3.5	3.4	3.3
11	Mg (mg/L)	16.0	18.2	13.6	17.0	21.2
12	Na (mg/L)	126.7	125.2	116.9	66.3	130.5
13	NH3-N (mg N/L)	0.00	0.05	0.05	0.00	0.00
14	NO2+NO3 (mg N/L)	0.00	0.01	0.01	0.80	0.00
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.00	0.01	0.01	0.80	0.00
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.001	0.001	0.000	0.159
19	SiO2 (mg/L)	20.8	25.0	34.3	18.9	22.4
20	SO4 (mg/L)	38.0	40.6	47.9	60.8	63.6
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	2.4	1.0	0.7	1.2	0.6
2	COD (mg/L)		6.6	24.1	15.3	25.9
3	DO (mg/L)	7.3	7.1	5.6	5.7	5.7
4	DO_SAT% (%)	91	90	68	69	71
5	FCol-MPN (MPN/100mL)					6560
6	Tcol-MPN (MPN/100mL)					9400
7	TOC (mg/L)					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	83	86	107	100	94
2	HAR_Total (mgCaCO3/L)	150	161	163	171	183
3	Na% (%)	62	60	60	43	60
4	RSC (-)	2.7	1.8	2.0	1.0	2.0
5	SAR (-)	4.6	4.3	4.0	2.2	4.2
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Halia (AKH00G2)

Division : Lower Krishna Divn., Hyderabad

Local River : Halia

River Water

Sub-Division : Lower Krishna SD 1, N.S.Dam

S.No	Parameters	Flood				
		Jun - Oct				
		2011	2012	2013	2014	2015
	PHYSICAL					
1	Q (cumec)	6.507	1.422	8.529	5.689	5.939
2	EC_GEN (µmho/cm)	958	893	992	981	908
3	pH_GEN (pH units)	8.1	8.1	8.0	8.3	8.1
4	TDS (mg/L)	572	600	584	660	577
5	Temp (deg C)	26.2	23.5	26.0	26.3	27.7
6	Turb (NTU)	1.00	2.05	0.80	10.00	4.40
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	1.4	0.0
2	ALK-TOT (mgCaCO3/L)	311	285	270	251	256
3	B (mg/L)	0.00	0.23	0.08	0.19	0.09
4	Ca (mg/L)	36	45	45	40	39
5	Cl (mg/L)	96.0	125.0	90.8	99.6	96.9
6	CO3 (mg/L)	0.0	0.0	0.0	1.7	0.0
7	F (mg/L)	2.22	1.28	1.00	1.07	1.45
8	Fe (mg/L)	0.0	0.1	0.1	0.1	0.0
9	HCO3 (mg/L)	380	348	330	303	313
10	K (mg/L)	4.6	7.5	4.2	4.4	5.1
11	Mg (mg/L)	20.5	26.0	26.0	22.7	22.0
12	Na (mg/L)	120.6	148.0	130.1	123.1	139.2
13	NH3-N (mg N/L)	0.00	0.00	0.06	0.00	0.05
14	NO2+NO3 (mg N/L)	0.28	1.18	1.92	0.92	0.84
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.04
16	NO3-N (mgN/L)	0.28	1.18	1.92	0.92	0.80
17	o-PO4-P (mg P/L)	0.248	0.093	0.078	0.169	0.128
18	P-Tot (mgP/L)	0.248			0.170	
19	SiO2 (mg/L)	22.0	28.3	16.2	27.8	22.8
20	SO4 (mg/L)	62.7	71.3	71.5	83.0	77.3
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.4	1.3	0.7	0.9	1.2
2	COD (mg/L)	14.5	10.5	5.8	21.5	12.7
3	DO (mg/L)	5.8	5.0	5.4	6.5	5.7
4	DO_SAT% (%)	72	59	67	80	73
5	FCol-MPN (MPN/100mL)	10308	8250	83	6147	10900
6	Tcol-MPN (MPN/100mL)	12058	8650	863	8410	16000
7	TOC (mg/L)	4.0	4.6	0.5		39.1
	TRACE & TOXIC					
1	As (µg/L)		10.50			
2	Cd (µg/L)		0.06			
3	Cr (µg/L)		34.37			
4	Cu (µg/L)					
5	Hg (µg/L)					
6	Ni (µg/L)		15.11			
7	Pb (µg/L)		9.33			
8	Zn (µg/L)		32.84			
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	90	112	112	99	97
2	HAR_Total (mgCaCO3/L)	175	221	221	194	188
3	Na% (%)	59	58	55	56	61
4	RSC (-)	2.7	1.3	1.0	1.2	1.4
5	SAR (-)	4.0	4.4	3.8	3.9	4.4
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Halia (AKH00G2)

Division : Lower Krishna Divn., Hyderabad

Local River : Halia

River Water

Sub-Division : Lower Krishna SD 1, N.S.Dam

S.No	Parameters	Winter				
		Nov - Feb				
		2001-2002	2002-2003	2003-2004	2004-2005	2005-2006
	PHYSICAL					
1	Q (cumec)	1.242	0.183		1.843	33.68
2	EC_GEN (µmho/cm)	806	873		815	719
3	pH_GEN (pH units)	8.2	8.1		8.2	8.2
4	TDS (mg/L)					
5	Temp (deg C)	25.5	27.0		21.5	21.0
6	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	12.0	0.0		7.9	7.1
2	ALK-TOT (mgCaCO3/L)	167	101		203	274
3	B (mg/L)	0.01	0.00		0.00	0.01
4	Ca (mg/L)	28	32		34	34
5	Cl (mg/L)	63.8	78.0		65.1	51.5
6	CO3 (mg/L)	14.5	0.0		9.5	8.5
7	F (mg/L)	0.88	0.87		1.00	1.69
8	Fe (mg/L)	0.0	0.0		0.0	0.0
9	HCO3 (mg/L)	175	123		228	317
10	K (mg/L)	2.8	2.1		10.5	
11	Mg (mg/L)	33.8	38.2		20.3	17.0
12	Na (mg/L)	72.3	63.0		89.3	
13	NH3-N (mg N/L)	0.00	0.00		0.00	0.00
14	NO2+NO3 (mg N/L)	0.10	0.01		0.01	0.01
15	NO2-N (mgN/L)	0.00	0.00		0.00	0.00
16	NO3-N (mgN/L)	0.10	0.01		0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.059	0.015		0.001	0.008
19	SiO2 (mg/L)	8.3	6.5		19.1	15.3
20	SO4 (mg/L)	67.8	105.0		58.8	43.5
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)					
2	COD (mg/L)					
3	DO (mg/L)					
4	DO_SAT% (%)					
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
7	TOC (mg/L)					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	71	80		86	85
2	HAR_Total (mgCaCO3/L)	211	239		170	156
3	Na% (%)	42	36		51	
4	RSC (-)	0.0	0.0		0.7	2.4
5	SAR (-)	2.2	1.8		3.1	
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Halia (AKH00G2)

Division : Lower Krishna Divn., Hyderabad

Local River : Halia

River Water

Sub-Division : Lower Krishna SD 1, N.S.Dam

S.No	Parameters	Winter				
		Nov - Feb				
		2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	PHYSICAL					
1	Q (cumec)	15.96	12.07	20.43	6.468	20.64
2	EC_GEN (µmho/cm)	672	786	773	759	858
3	pH_GEN (pH units)	8.5	8.3	8.2	8.1	8.2
4	TDS (mg/L)					
5	Temp (deg C)	27.5	19.0	23.3	23.1	21.5
6	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	14.9	5.0	4.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	287	278	262	232	258
3	B (mg/L)	0.00	0.00	0.00	0.00	0.00
4	Ca (mg/L)	36	41	50	39	37
5	Cl (mg/L)	49.3	61.9	61.7	59.0	73.6
6	CO3 (mg/L)	18.0	6.0	4.8	0.0	0.0
7	F (mg/L)	1.05	2.00	1.05	1.47	1.19
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	314	327	310	283	315
10	K (mg/L)	2.9	3.8	3.6	2.9	3.6
11	Mg (mg/L)	18.8	19.5	10.9	19.9	20.2
12	Na (mg/L)	109.3	139.3	97.6	93.3	105.7
13	NH3-N (mg N/L)	0.00	0.05	0.05	0.00	0.00
14	NO2+NO3 (mg N/L)	0.00	0.01	0.01	0.13	0.00
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.00	0.01	0.01	0.13	0.00
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.001	0.001	0.000	0.111
19	SiO2 (mg/L)	22.5	19.1	18.3	15.8	21.2
20	SO4 (mg/L)	41.0	43.0	167.9	55.6	55.9
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.3	1.5	0.7	0.6	0.5
2	COD (mg/L)		17.5	9.5	13.9	16.0
3	DO (mg/L)	7.8	8.4	6.4	6.3	6.6
4	DO_SAT% (%)	99	96	75	73	74
5	FCol-MPN (MPN/100mL)				14250	14250
6	Tcol-MPN (MPN/100mL)				16000	16000
7	TOC (mg/L)					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	89	101	124	97	92
2	HAR_Total (mgCaCO3/L)	167	183	170	180	176
3	Na% (%)	57	62	55	53	56
4	RSC (-)	2.4	1.9	1.9	1.1	1.7
5	SAR (-)	3.7	4.5	3.3	3.1	3.5
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Halia (AKH00G2)

Division : Lower Krishna Divn., Hyderabad

Local River : Halia

River Water

Sub-Division : Lower Krishna SD 1, N.S.Dam

S.No	Parameters	Winter				
		Nov - Feb				
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
	PHYSICAL					
1	Q (cumec)	6.871	1.708	9.322	7.423	1.933
2	EC_GEN (µmho/cm)	909	1200	825	736	2028
3	pH_GEN (pH units)	8.0	8.1	8.2	8.1	8.2
4	TDS (mg/L)	575	661	502	495	720
5	Temp (deg C)	21.3	20.0	22.3	21.3	26.0
6	Turb (NTU)	1.00	1.00	6.00	2.33	1.00
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	1.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	291	345	208	244	315
3	B (mg/L)	0.25	0.27	0.03	0.26	0.00
4	Ca (mg/L)	40	49	41	42	44
5	Cl (mg/L)	92.4	118.8	72.6	76.7	115.8
6	CO3 (mg/L)	0.0	0.0	1.3	0.0	0.0
7	F (mg/L)	1.47	1.50	0.96	1.13	1.16
8	Fe (mg/L)	0.0	0.5	0.0	0.1	0.0
9	HCO3 (mg/L)	354	422	252	297	385
10	K (mg/L)	4.3	4.8	3.7	3.5	5.7
11	Mg (mg/L)	23.3	28.7	22.8	23.9	25.6
12	Na (mg/L)	117.8	157.5	76.8	99.9	155.5
13	NH3-N (mg N/L)	0.02	0.00	0.00	0.04	0.00
14	NO2+NO3 (mg N/L)	0.78	1.01	0.96	0.82	0.55
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.02	0.00
16	NO3-N (mgN/L)	0.78	1.01	0.96	0.80	0.55
17	o-PO4-P (mg P/L)	0.099	0.056	0.148	0.121	0.042
18	P-Tot (mgP/L)	0.099				
19	SiO2 (mg/L)	24.7	27.8	17.2	22.8	11.1
20	SO4 (mg/L)	74.0	90.5	38.7	67.7	76.3
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.8	1.0	0.9	0.5	0.8
2	COD (mg/L)	18.3	19.5	6.3	10.9	8.1
3	DO (mg/L)	5.8	6.6	6.7	6.9	6.3
4	DO_SAT% (%)	65	73	76	78	78
5	FCol-MPN (MPN/100mL)	4708	125	740	4583	300
6	Tcol-MPN (MPN/100mL)	5325	700	2600	5625	16000
7	TOC (mg/L)	3.2	4.0		33.3	40.2
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)				1.73	
3	Cr (µg/L)				1.86	
4	Cu (µg/L)				1.76	
5	Hg (µg/L)					
6	Ni (µg/L)				4.88	
7	Pb (µg/L)				8.04	
8	Zn (µg/L)				4.80	
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	100	121	102	105	110
2	HAR_Total (mgCaCO3/L)	197	241	197	205	217
3	Na% (%)	56	58	44	51	60
4	RSC (-)	1.9	2.1	0.6	0.9	2.0
5	SAR (-)	3.7	4.4	2.4	3.1	4.6
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Halia (AKH00G2)

Division : Lower Krishna Divn., Hyderabad

Local River : Halia

River Water

Sub-Division : Lower Krishna SD 1, N.S.Dam

S.No	Parameters	Summer				
		Mar - May				
		2002	2003	2004	2005	2006
	PHYSICAL					
1	Q (cumec)	Drybed/No flow			0.130	2.623
2	EC_GEN (µmho/cm)				816	884
3	pH_GEN (pH units)				8.0	8.3
4	TDS (mg/L)					
5	Temp (deg C)				24.3	25.2
6	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)				0.0	10.5
2	ALK-TOT (mgCaCO3/L)				284	294
3	B (mg/L)				0.00	0.01
4	Ca (mg/L)				47	43
5	Cl (mg/L)				55.9	63.3
6	CO3 (mg/L)				0.0	12.7
7	F (mg/L)				1.00	1.36
8	Fe (mg/L)				0.0	0.0
9	HCO3 (mg/L)				346	332
10	K (mg/L)				5.3	3.5
11	Mg (mg/L)				27.0	13.7
12	Na (mg/L)				63.0	108.3
13	NH3-N (mg N/L)				0.00	0.00
14	NO2+NO3 (mg N/L)				0.01	0.01
15	NO2-N (mgN/L)				0.00	0.00
16	NO3-N (mgN/L)				0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)				0.001	0.010
19	SiO2 (mg/L)				26.3	16.4
20	SO4 (mg/L)				53.5	41.3
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)					
2	COD (mg/L)					
3	DO (mg/L)					
4	DO_SAT% (%)					
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
7	TOC (mg/L)					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					0.01
3	Cr (µg/L)					2.00
4	Cu (µg/L)					
5	Hg (µg/L)					
6	Ni (µg/L)					1.00
7	Pb (µg/L)					86.00
8	Zn (µg/L)					2.00
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)				116	108
2	HAR_Total (mgCaCO3/L)				229	165
3	Na% (%)				37	57
4	RSC (-)				1.1	2.6
5	SAR (-)				1.8	3.7
	PESTICIDES					
1	Aldrin (µg/L)					0.039
2	BHC (µg/L)					0.100
3	DDT (µg/L)					0.100
4	Dieldrin (µg/L)					0.010
5	Endos (µg/L)					0.100

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Halia (AKH00G2)

Division : Lower Krishna Divn., Hyderabad

Local River : Halia

River Water

Sub-Division : Lower Krishna SD 1, N.S.Dam

S.No	Parameters	Summer				
		Mar - May				
		2007	2008	2009	2010	2011
	PHYSICAL					
1	Q (cumec)	1.446	4.355	5.438	11.22	7.981
2	EC_GEN (µmho/cm)	773	881	814	886	880
3	pH_GEN (pH units)	8.7	8.2	8.2	8.4	8.0
4	TDS (mg/L)					
5	Temp (deg C)	29.0	23.7	24.3	26.7	24.0
6	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	27.9	2.8	2.7	5.3	0.0
2	ALK-TOT (mgCaCO3/L)	333	291	281	292	264
3	B (mg/L)	0.00	0.00	0.00	0.00	0.00
4	Ca (mg/L)	33	38	42	35	41
5	Cl (mg/L)	48.9	72.2	69.2	76.9	80.6
6	CO3 (mg/L)	33.7	3.3	3.2	6.4	0.0
7	F (mg/L)	2.14	2.07	1.21	2.17	1.23
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	338	348	337	343	322
10	K (mg/L)	4.0	18.4	3.9	4.0	3.5
11	Mg (mg/L)	20.0	16.7	13.3	15.2	23.6
12	Na (mg/L)	120.3	106.0	96.5	116.6	114.6
13	NH3-N (mg N/L)	0.00	0.05	0.05	0.00	0.00
14	NO2+NO3 (mg N/L)	0.00	0.01	0.01	0.00	0.00
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.00	0.01	0.01	0.00	0.00
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.001	0.001	0.000	0.123
19	SiO2 (mg/L)	23.5	21.3	22.2	21.2	20.7
20	SO4 (mg/L)	44.3	35.3	47.9	53.7	55.6
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.0	0.7	1.4	0.7	0.2
2	COD (mg/L)		12.5	10.8	31.3	13.3
3	DO (mg/L)	7.9	6.7	6.3	5.7	6.1
4	DO_SAT% (%)	103	79	74	71	73
5	FCol-MPN (MPN/100mL)				9133	7000
6	Tcol-MPN (MPN/100mL)				12333	12000
7	TOC (mg/L)		4.1			
	TRACE & TOXIC					
1	As (µg/L)				4.12	
2	Cd (µg/L)	8.00	1.00	2.26	0.00	1.25
3	Cr (µg/L)	69.00	2.00	2.00	0.00	0.00
4	Cu (µg/L)					
5	Hg (µg/L)	1.38	0.00			
6	Ni (µg/L)	1.00	10.60	1.49	0.25	5.87
7	Pb (µg/L)	103.00	17.23	31.87	0.00	22.42
8	Zn (µg/L)	0.10	3.53	4.03	4.02	21.71
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	82	94	104	88	102
2	HAR_Total (mgCaCO3/L)	165	164	160	151	200
3	Na% (%)	59	56	56	62	55
4	RSC (-)	3.4	2.6	2.5	2.8	1.3
5	SAR (-)	4.1	3.6	3.3	4.2	3.6
	PESTICIDES					
1	Aldrin (µg/L)	0.010	0.010	0.010	0.004	0.000
2	BHC (µg/L)	0.100	0.130	0.100	0.183	0.000
3	DDT (µg/L)	0.100	0.100	0.100	0.002	0.000
4	Dieldrin (µg/L)	0.040	0.010	0.010	0.003	0.000
5	Endos (µg/L)	0.100	0.100	0.100	0.039	0.000

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Halia (AKH00G2)

Division : Lower Krishna Divn., Hyderabad

Local River : Halia

River Water

Sub-Division : Lower Krishna SD 1, N.S.Dam

S.No	Parameters	Summer				
		Mar - May				
		2012	2013	2014	2015	2016
	PHYSICAL					
1	Q (cumec)	2.535	0.378	2.973	2.158	2.716
2	EC_GEN (µmho/cm)	1026	1250	900	905	1473
3	pH_GEN (pH units)	7.8	8.2	8.2	8.2	8.1
4	TDS (mg/L)	582	690	569	587	666
5	Temp (deg C)	24.4	23.5	25.7	23.7	25.8
6	Turb (NTU)	1.00	0.90	9.67	3.00	424.50
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	1.4	1.2	3.8
2	ALK-TOT (mgCaCO3/L)	295	378	271	244	227
3	B (mg/L)	0.06	0.36	0.03	0.19	
4	Ca (mg/L)	38	53	40	38	36
5	Cl (mg/L)	94.1	141.6	74.5	83.2	105.0
6	CO3 (mg/L)	0.0	0.0	1.7	1.4	4.6
7	F (mg/L)	1.22	1.03	0.81	1.09	0.71
8	Fe (mg/L)	0.2	0.2	0.8	0.0	0.1
9	HCO3 (mg/L)	360	461	327	294	268
10	K (mg/L)	4.1	3.5	3.9	4.2	9.2
11	Mg (mg/L)	19.6	31.1	23.0	21.5	19.9
12	Na (mg/L)	118.2	175.3	99.4	115.4	137.2
13	NH3-N (mg N/L)	0.03	0.04	0.03	0.01	0.01
14	NO2+NO3 (mg N/L)	0.69	1.25	0.79	0.68	1.72
15	NO2-N (mgN/L)	0.01	0.00	0.00	0.11	0.10
16	NO3-N (mgN/L)	0.67	1.25	0.79	0.57	1.62
17	o-PO4-P (mg P/L)	0.110	0.074	0.040	0.147	0.211
18	P-Tot (mgP/L)	0.110				
19	SiO2 (mg/L)	32.6	14.8	22.5	27.7	12.6
20	SO4 (mg/L)	68.0	85.0	59.3	85.5	116.0
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.7	0.7	0.7	1.0	1.5
2	COD (mg/L)	13.0	8.1	7.4	12.6	22.9
3	DO (mg/L)	6.5	5.1	6.3	5.7	4.7
4	DO_SAT% (%)	78	60	78	68	58
5	FCol-MPN (MPN/100mL)	887	116	417	8	5350
6	Tcol-MPN (MPN/100mL)	1817	402	843	5417	9100
7	TOC (mg/L)	3.9	6.9		38.2	
	TRACE & TOXIC					
1	As (µg/L)	2.22	3.27	2.13	0.10	0.00
2	Cd (µg/L)	0.16	0.06	0.01	3.00	0.00
3	Cr (µg/L)	0.00	0.52	0.13	0.00	0.00
4	Cu (µg/L)					
5	Hg (µg/L)	1.70	0.39	0.22	0.13	0.00
6	Ni (µg/L)	2.58	13.22	1.50	8.16	0.00
7	Pb (µg/L)	25.56	1.33	9.39	17.00	0.00
8	Zn (µg/L)	24.06	0.10	10.15	5.00	0.03
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	95	134	99	95	89
2	HAR_Total (mgCaCO3/L)	177	263	195	184	172
3	Na% (%)	58	59	51	57	62
4	RSC (-)	2.4	2.3	1.5	1.2	1.1
5	SAR (-)	3.9	4.7	3.2	3.7	4.5
	PESTICIDES					
1	Aldrin (µg/L)	0.000				
2	BHC (µg/L)	0.004				
3	DDT (µg/L)	0.000				
4	Dieldrin (µg/L)	0.000				
5	Endos (µg/L)	0.020				

HISTORY SHEET

		Water Year	: 2015-2016
Site	: Bawapuram	Code	: AKL00B8
State	: Andhra Pradesh	District	Kurnool
Basin	: Krishna	Independent River	: Krishna
Tributary	: Tungabhadra	Sub Tributary	: -
Sub-Sub Tributary	: -	Local River	: Tungabhadra
Division	: Lower Krishna Divn., Hyderabad	Sub-Division	: Lower Tungabhadra SD, Kurnool
Drainage Area	: 67180 Sq. Km.	Bank	: Right
Latitude	: 15°52'57"	Longitude	: 77°57'26"
	Opening Date	Closing Date	
Gauge	: 14/03/1964		
Discharge	: 01/04/1964		
Sediment	: 01/06/1965		
Water Quality	: 01/01/1972		

Water Quality Datasheet for the period : 2015-2016

Station Name : Bawapuram (AKL00B8)

Division : Lower Krishna Divn., Hyderabad

Local River : Tungabhadra

River Water Analysis Division : Lower Tungabhadra SD, Kurnool

S.No	Parameters	01/06/2015	01/07/2015	24/08/2015	01/09/2015	01/10/2015
		A	A	A	A	A
	PHYSICAL					
1	Q (cumec)	0.174	1.082	3.473	0.104	9.065
2	Colour_Cod (-)	Clear	Clear	Clear	Clear	Clear
3	EC_GEN (µmho/cm)	1645	1621	1413	1544	1113
4	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free
5	pH_GEN (pH units)	8.5	8.5	7.6	8.1	8.2
6	TDS (mg/L)	1058	936	922	1122	710
7	Temp (deg C)	25.0	25.5	27.0	27.0	29.0
8	Turb (NTU)	1.00	8.00	21.00	3.00	3.00
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	3.5	3.5	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	204	194	151	174	177
3	B (mg/L)			0.24	0.57	
4	Ca (mg/L)	46	48	38	47	45
5	Cl (mg/L)	194.2	210.8	179.0	223.4	170.4
6	CO3 (mg/L)	4.2	4.2	0.0	0.0	0.0
7	F (mg/L)	0.95	1.22	0.92	1.30	1.00
8	Fe (mg/L)	0.0	0.0	0.0	0.1	0.0
9	HCO3 (mg/L)	240	228	184	212	216
10	K (mg/L)	7.5	6.0	7.6	7.7	7.6
11	Mg (mg/L)	27.7	28.2	21.4	26.7	25.2
12	Na (mg/L)	241.3	260.0	201.1	274.6	180.6
13	NH3-N (mg N/L)	0.05	0.01	0.00	0.00	0.00
14	NO2+NO3 (mg N/L)	0.66	0.58	1.47	1.50	1.27
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.21	0.01
16	NO3-N (mgN/L)	0.66	0.58	1.47	1.29	1.27
17	o-PO4-P (mg P/L)	0.210	0.150	0.138	0.118	0.428
18	SiO2 (mg/L)	20.1	8.6	10.0	4.1	9.6
19	SO4 (mg/L)	351.0	286.0	166.0	308.0	212.0
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.0	3.7	1.2	2.8	2.0
2	COD (mg/L)	16.7	14.6	21.6	29.0	16.6
3	DO (mg/L)	4.2	4.9	1.2	5.2	5.3
4	DO_SAT% (%)	51	59	15	65	69
5	FCol-MPN (MPN/100mL)	2	340	80	2200	90
6	Tcol-MPN (MPN/100mL)	1300	3500	170	9000	16000
7	TOC (mg/L)	4.2	40.8		15.2	16.7
	TRACE & TOXIC					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	116	120	96	118	112
2	HAR_Total (mgCaCO3/L)	231	238	185	229	217
3	Na% (%)	69	70	69	72	64
4	RSC (-)	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	6.9	7.4	6.4	7.9	5.4
	PESTICIDES	Anlaysis not done due to mal function of instrument.				

Water Quality Datasheet for the period : 2015-2016

Station Name : Bawapuram (AKL00B8)

Division : Lower Krishna Divn., Hyderabad

Local River : Tungabhadra

River Water Analysis Division : Lower Tungabhadra SD, Kurnool

S.No	Parameters	02/11/2015	01/12/2015	01/01/2016	01/02/2016
		A	A	A	A
	PHYSICAL				
1	Q (cumec)	0.261	3.175	1.123	0.754
2	Colour_Cod (-)	Clear	Clear	Clear	Clear
3	EC_GEN (µmho/cm)	1192	1673	1425	6910
4	Odour_Code (-)	odour free	odour free	odour free	odour free
5	pH_GEN (pH units)	8.2	8.4	8.6	8.7
6	TDS (mg/L)	566	607	820	714
7	Temp (deg C)	28.5	27.4	24.9	21.5
8	Turb (NTU)	8.00	4.00	14.00	14.00
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0	3.5	3.5	9.1
2	ALK-TOT (mgCaCO3/L)	222	215	216	207
3	B (mg/L)	0.09	0.00		
4	Ca (mg/L)	46	41	44	41
5	Cl (mg/L)	135.6	99.1	158.5	141.2
6	CO3 (mg/L)	0.0	4.2	4.2	11.0
7	F (mg/L)	0.88	0.54	0.34	0.48
8	Fe (mg/L)	0.0	0.0	0.1	0.0
9	HCO3 (mg/L)	271	253	255	230
10	K (mg/L)	4.9	3.7	4.7	4.6
11	Mg (mg/L)	26.2	23.0	25.2	23.1
12	Na (mg/L)	165.4	133.3	206.3	164.6
13	NH3-N (mg N/L)	0.00	0.04	0.00	0.00
14	NO2+NO3 (mg N/L)	1.19	0.00	0.89	0.36
15	NO2-N (mgN/L)	0.00	0.00	0.02	0.01
16	NO3-N (mgN/L)	1.19	0.00	0.86	0.35
17	o-PO4-P (mg P/L)	0.252	0.142	0.089	0.067
18	SiO2 (mg/L)	5.9	5.4	6.0	11.9
19	SO4 (mg/L)	192.0	96.0	260.0	238.0
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	2.7	1.3	1.6	1.4
2	COD (mg/L)	16.6	12.9	7.3	12.0
3	DO (mg/L)	5.9	6.0	6.9	6.3
4	DO_SAT% (%)	75	75	82	71
5	Fcol-MPN (MPN/100mL)	210	2	16000	1700
6	Tcol-MPN (MPN/100mL)	16000	2	16000	16000
7	TOC (mg/L)	18.4	15.4	10.8	
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	116	102	110	103
2	HAR_Total (mgCaCO3/L)	225	198	215	200
3	Na% (%)	61	59	67	64
4	RSC (-)	0.0	0.4	0.0	0.2
5	SAR (-)	4.8	4.1	6.1	5.1
	PESTICIDES				

Samples not collected due to Dry bed/No flow condition from March to May months.

Water Quality Summary for the period : 2015-2016

Station Name : Bawapuram (AKL00B8)

Division : Lower Krishna Divn., Hyderabad

Local River : Tungabhadra

Sub-Division : Lower Tungabhadra SD, Kurnool

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	373	2081	0.000	47.09
2	EC_GEN (µmho/cm)	9	6910	1113	2060
3	pH_GEN (pH units)	9	8.7	7.6	8.3
4	TDS (mg/L)	9	1122	566	828
5	Temp (deg C)	9	29.0	21.5	26.2
6	Turb (NTU)	9	21.00	1.00	8.44
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	9	9.1	0.0	2.6
2	ALK-TOT (mgCaCO3/L)	9	222	151	195
3	B (mg/L)	4	0.57	0.00	0.22
4	Ca (mg/L)	9	48	38	44
5	Cl (mg/L)	9	223.4	99.1	168
6	CO3 (mg/L)	9	11.0	0.0	3.1
7	F (mg/L)	9	1.30	0.34	0.85
8	Fe (mg/L)	9	0.1	0.0	0
9	HCO3 (mg/L)	9	271	184	232
10	K (mg/L)	9	7.7	3.7	6
11	Mg (mg/L)	9	28.2	21.4	25.2
12	Na (mg/L)	9	274.6	133.3	203
13	NH3-N (mg N/L)	9	0.05	0.00	0.01
14	NO2+NO3 (mg N/L)	9	1.50	0.00	0.88
15	NO2-N (mgN/L)	9	0.21	0.00	0.03
16	NO3-N (mgN/L)	9	1.47	0.00	0.85
17	o-PO4-P (mg P/L)	9	0.428	0.067	0.177
18	SiO2 (mg/L)	9	20.1	4.1	9.1
19	SO4 (mg/L)	9	351.0	96.0	234.3
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	9	3.7	1.0	2
2	COD (mg/L)	9	29.0	7.3	16.4
3	DO (mg/L)	9	6.9	1.2	5.1
4	DO_SAT% (%)	9	82	15	63
5	Fcol-MPN (MPN/100mL)	9	16000	2	2292
6	Tcol-MPN (MPN/100mL)	9	16000	2	8664
7	TOC (mg/L)	7	40.8	4.2	17.4
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	9	120	96	110
2	HAR_Total (mgCaCO3/L)	9	238	185	215
3	Na% (%)	9	72	59	66
4	RSC (-)	9	0.4	0.0	0.1
5	SAR (-)	9	7.9	4.1	6
	PESTICIDES				

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Bawapuram (AKL00B8)

Division : Lower Krishna Divn., Hyderabad

Local River : Tungabhadra

River Water Sub-Division : Lower Tungabhadra SD, Kurnool

S.No	Parameters	Flood				
		Jun - Oct				
		2001	2002	2003	2004	2005
	PHYSICAL					
1	Q (cumec)	113.4	2.943	21.05	20.86	166.1
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	847	1370	1153	819	558
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.8	8.6	8.5	8.4	8.4
6	TDS (mg/L)					
7	Temp (deg C)	28.8	29.0	29.3	26.4	26.9
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	22.6	28.2	10.0	11.0	6.6
2	ALK-TOT (mgCaCO3/L)	126	147	163	188	141
3	B (mg/L)	0.01	0.01	0.00	0.00	0.01
4	Ca (mg/L)	24	19	49	30	31
5	Cl (mg/L)	81.6	147.4	105.0	80.7	47.3
6	CO3 (mg/L)	27.3	34.0	12.0	13.2	8.0
7	F (mg/L)	0.62	0.88	1.15	1.11	0.61
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	98	110	174	203	156
10	K (mg/L)	4.6	3.1	5.8	3.1	2.6
11	Mg (mg/L)	31.2	35.6	17.6	19.6	5.3
12	Na (mg/L)	105.8	110.0	176.0	87.6	89.3
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.00	0.00
14	NO2+NO3 (mg N/L)	0.25	0.21	0.01	0.01	0.01
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.25	0.21	0.01	0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.103	0.025	0.214	0.001	0.000
19	SiO2 (mg/L)	2.9	4.3	12.6	12.5	10.3
20	SO4 (mg/L)	92.1	320.0	138.7	114.6	88.3
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.8	1.8	1.7	1.9	1.3
2	COD (mg/L)					
3	DO (mg/L)		5.7	4.5	6.1	6.3
4	DO_SAT% (%)		74	59	76	78
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
7	TOC (mg/L)					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	59	47	123	76	77
2	HAR_Total (mgCaCO3/L)	189	196	196	157	99
3	Na% (%)	55	55	62	52	65
4	RSC (-)	0.2	0.0	0.0	0.6	0.9
5	SAR (-)	3.5	3.4	5.7	3.0	3.9
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Bawapuram (AKL00B8)

Division : Lower Krishna Divn., Hyderabad

Local River : Tungabhadra

River Water Sub-Division : Lower Tungabhadra SD, Kurnool

S.No	Parameters	Flood				
		Jun - Oct				
		2006	2007	2008	2009	2010
	PHYSICAL					
1	Q (cumec)	61.43	335.5	89.00	228.5	107.9
2	EC_FLD (µmho/cm)				511	
3	EC_GEN (µmho/cm)	974	916	906	772	905
4	pH_FLD (pH units)				7.6	
5	pH_GEN (pH units)	8.3	8.1	8.4	8.2	8.4
6	TDS (mg/L)					
7	Temp (deg C)	27.2	22.8	23.4	23.6	22.4
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	3.3	2.3	4.8	2.0	3.2
2	ALK-TOT (mgCaCO3/L)	181	180	174	128	152
3	B (mg/L)	0.00	0.00	0.00	0.00	0.00
4	Ca (mg/L)	38	49	43	36	41
5	Cl (mg/L)	114.5	91.8	101.6	66.8	102.3
6	CO3 (mg/L)	4.0	2.8	5.8	2.4	3.8
7	F (mg/L)	0.82	1.11	0.67	0.58	0.87
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	213	214	200	151	178
10	K (mg/L)	4.3	4.4	4.0	2.6	3.8
11	Mg (mg/L)	16.6	14.0	13.2	11.9	50.2
12	Na (mg/L)	140.6	122.8	138.9	70.7	537.9
13	NH3-N (mg N/L)	0.00	0.05	0.05	0.00	0.00
14	NO2+NO3 (mg N/L)	0.00	0.01	0.01	0.26	0.00
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.00	0.01	0.01	0.26	0.00
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.001	0.001	0.000	0.207
19	SiO2 (mg/L)	14.7	15.4	14.8	13.2	11.8
20	SO4 (mg/L)	140.4	126.0	102.5	102.9	182.8
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.4	2.1	1.8	3.2	1.6
2	COD (mg/L)		22.7	19.5	28.4	25.7
3	DO (mg/L)	6.0	5.9	6.2	6.5	6.8
4	DO_SAT% (%)	75	68	73	76	78
5	FCol-MPN (MPN/100mL)				16000	5360
6	Tcol-MPN (MPN/100mL)				16000	9080
7	TOC (mg/L)					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	95	122	108	91	102
2	HAR_Total (mgCaCO3/L)	164	180	163	141	311
3	Na% (%)	62	57	64	47	66
4	RSC (-)	0.8	0.2	0.3	0.1	0.1
5	SAR (-)	4.6	4.0	4.7	2.5	14.6
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Bawapuram (AKL00B8)

Division : Lower Krishna Divn., Hyderabad

Local River : Tungabhadra

River Water Sub-Division : Lower Tungabhadra SD, Kurnool

S.No	Parameters	Flood				
		Jun - Oct				
		2011	2012	2013	2014	2015
	PHYSICAL					
1	Q (cumec)	126.5	30.63	1175	1158	2.780
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	1020	1094	336	801	1467
4	pH_FLD (pH units)			8.1		
5	pH_GEN (pH units)	8.3	8.3	8.5	8.2	8.2
6	TDS (mg/L)	410	702	219	493	950
7	Temp (deg C)	21.6	25.2	27.7	25.3	26.7
8	Turb (NTU)	1.00	5.62	1.40	46.50	7.20
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	1.2	0.8	2.9	1.0	1.4
2	ALK-TOT (mgCaCO3/L)	172	158	82	120	180
3	B (mg/L)	0.00	0.21	0.16	0.32	0.40
4	Ca (mg/L)	40	32	19	33	45
5	Cl (mg/L)	126.2	135.8	27.7	88.6	195.6
6	CO3 (mg/L)	1.4	1.0	3.5	1.3	1.7
7	F (mg/L)	1.22	0.99	0.35	0.68	1.08
8	Fe (mg/L)	0.0	0.1	0.1	0.1	0.0
9	HCO3 (mg/L)	207	191	93	143	216
10	K (mg/L)	5.1	4.3	2.0	3.7	7.3
11	Mg (mg/L)	22.7	18.3	10.2	18.7	25.8
12	Na (mg/L)	133.8	160.6	34.2	109.3	231.5
13	NH3-N (mg N/L)	0.00	0.01	0.11	0.00	0.01
14	NO2+NO3 (mg N/L)	0.24	1.04	1.14	1.17	1.10
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.01	0.04
16	NO3-N (mgN/L)	0.24	1.04	1.14	1.16	1.05
17	o-PO4-P (mg P/L)	0.474	0.116	0.257	0.283	0.209
18	P-Tot (mgP/L)	0.474			0.226	
19	SiO2 (mg/L)	11.5	12.3	6.2	9.7	10.5
20	SO4 (mg/L)	163.9	110.4	24.7	96.5	264.6
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.4	1.3	1.2	0.8	2.1
2	COD (mg/L)	26.5	30.9	12.9	11.9	19.7
3	DO (mg/L)	6.2	5.8	6.4	5.1	4.2
4	DO_SAT% (%)	70	70	81	62	52
5	Fcol-MPN (MPN/100mL)	10046	4680	113	4858	542
6	Tcol-MPN (MPN/100mL)	12846	7960	277	7600	5994
7	TOC (mg/L)	2.9	4.5	0.2		19.2
	TRACE & TOXIC					
1	As (µg/L)		9.97	8.19		
2	Cd (µg/L)		0.41	0.38		
3	Cr (µg/L)		7.13	1.07		
4	Cu (µg/L)					
5	Hg (µg/L)			0.00		
6	Ni (µg/L)		6.51	13.77		
7	Pb (µg/L)		1.05	5.39		
8	Zn (µg/L)		328.00	0.02		
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	99	79	47	83	112
2	HAR_Total (mgCaCO3/L)	194	155	89	161	220
3	Na% (%)	57	67	43	54	69
4	RSC (-)	0.2	0.4	0.0	0.0	0.0
5	SAR (-)	4.1	5.7	1.5	3.5	6.8
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Bawapuram (AKL00B8)

Division : Lower Krishna Divn., Hyderabad

Local River : Tungabhadra

River Water Sub-Division : Lower Tungabhadra SD, Kurnool

S.No	Parameters	Winter				
		Nov - Feb				
		2001-2002	2002-2003	2003-2004	2004-2005	2005-2006
	PHYSICAL					
1	Q (cumec)	16.55	6.476	24.03	22.31	118.2
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	1072	1286	988	1080	1036
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.6	8.6	8.6	8.3	8.3
6	TDS (mg/L)					
7	Temp (deg C)	25.5	26.5	26.8	24.7	26.9
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	26.4	26.1	18.4	2.8	6.0
2	ALK-TOT (mgCaCO3/L)	164	138	215	248	185
3	B (mg/L)	0.01	0.01	0.00	0.00	0.01
4	Ca (mg/L)	31	24	43	53	51
5	Cl (mg/L)	122.1	130.3	95.7	109.3	93.6
6	CO3 (mg/L)	31.8	31.5	22.2	3.3	7.3
7	F (mg/L)	0.67	0.69	0.89	0.79	0.91
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	135	104	217	296	211
10	K (mg/L)	3.2	2.7	3.1	2.6	
11	Mg (mg/L)	31.9	28.1	16.7	27.0	19.0
12	Na (mg/L)	131.9	100.8	91.0	119.7	
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.00	0.00
14	NO2+NO3 (mg N/L)	0.01	0.12	0.01	0.01	0.01
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.01	0.12	0.01	0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.061	0.036	0.001	0.001	0.001
19	SiO2 (mg/L)	4.2	5.1	9.5	11.1	9.2
20	SO4 (mg/L)	172.0	161.3	119.5	270.0	205.8
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.6	1.3	2.1	1.4	0.6
2	COD (mg/L)					
3	DO (mg/L)		5.3	5.9	6.1	6.4
4	DO_SAT% (%)		66	74	73	79
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
7	TOC (mg/L)					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	78	61	108	132	127
2	HAR_Total (mgCaCO3/L)	211	178	178	244	206
3	Na% (%)	58	52	52	51	
4	RSC (-)	0.0	0.0	0.8	0.6	0.1
5	SAR (-)	4.0	3.3	3.0	3.4	
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Bawapuram (AKL00B8)

Division : Lower Krishna Divn., Hyderabad

Local River : Tungabhadra

River Water Sub-Division : Lower Tungabhadra SD, Kurnool

S.No	Parameters	Winter				
		Nov - Feb				
		2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	PHYSICAL					
1	Q (cumec)	45.80	87.29	64.31	108.1	73.31
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	1097	835	1022	1133	1024
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.5	8.4	8.5	8.7	8.5
6	TDS (mg/L)					
7	Temp (deg C)	25.5	22.0	22.5	21.9	21.4
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	9.1	8.1	8.0	8.0	7.5
2	ALK-TOT (mgCaCO3/L)	227	175	209	200	193
3	B (mg/L)	0.00	0.00	0.00	0.00	0.00
4	Ca (mg/L)	49	37	56	54	40
5	Cl (mg/L)	114.1	93.2	114.9	132.9	118.7
6	CO3 (mg/L)	11.0	9.7	9.6	9.6	9.0
7	F (mg/L)	0.82	0.77	0.77	1.22	2.62
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	255	194	236	224	217
10	K (mg/L)	3.7	3.4	4.9	4.0	4.0
11	Mg (mg/L)	21.5	14.3	11.6	19.9	23.0
12	Na (mg/L)	203.8	112.3	203.8	159.1	137.9
13	NH3-N (mg N/L)	0.00	0.05	0.05	0.00	0.00
14	NO2+NO3 (mg N/L)	0.00	0.01	0.01	0.73	0.00
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.00	0.01	0.01	0.73	0.00
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.001	0.001	0.000	0.153
19	SiO2 (mg/L)	12.7	13.0	15.8	13.0	16.3
20	SO4 (mg/L)	195.3	57.5	124.0	218.8	184.0
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.2	1.7	1.7	1.7	1.2
2	COD (mg/L)		34.7	17.9	23.4	21.1
3	DO (mg/L)	6.9	6.9	6.8	6.9	7.4
4	DO_SAT% (%)	84	79	79	78	84
5	FCol-MPN (MPN/100mL)				6500	7750
6	Tcol-MPN (MPN/100mL)				12500	10750
7	TOC (mg/L)					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	123	92	139	134	101
2	HAR_Total (mgCaCO3/L)	212	151	188	217	197
3	Na% (%)	67	59	65	61	59
4	RSC (-)	0.3	0.5	0.5	0.2	0.2
5	SAR (-)	6.1	4.0	6.4	4.7	4.3
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Bawapuram (AKL00B8)

Division : Lower Krishna Divn., Hyderabad

Local River : Tungabhadra

River Water Sub-Division : Lower Tungabhadra SD, Kurnool

S.No	Parameters	Winter				
		Nov - Feb				
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
	PHYSICAL					
1	Q (cumec)	128.3	3.556	1.925	15.07	1.328
2	EC_FLD (µmho/cm)			400		
3	EC_GEN (µmho/cm)	1046	1238	1156	1130	2800
4	pH_FLD (pH units)			8.2		
5	pH_GEN (pH units)	8.4	8.3	8.4	8.4	8.5
6	TDS (mg/L)	712	712	745	715	677
7	Temp (deg C)	23.0	24.3	27.6	26.6	25.6
8	Turb (NTU)	1.00	1.28	3.75	4.83	10.00
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	6.2	3.2	4.2	2.9	4.0
2	ALK-TOT (mgCaCO3/L)	198	205	189	211	215
3	B (mg/L)	0.29	0.26	0.03	0.23	0.05
4	Ca (mg/L)	39	45	44	48	43
5	Cl (mg/L)	117.3	124.8	129.2	125.3	133.6
6	CO3 (mg/L)	7.4	3.8	5.0	3.5	4.8
7	F (mg/L)	0.91	1.22	0.74	0.82	0.56
8	Fe (mg/L)	0.1	0.0	0.0	0.1	0.0
9	HCO3 (mg/L)	226	242	220	250	252
10	K (mg/L)	4.2	3.3	3.9	3.7	4.4
11	Mg (mg/L)	22.1	26.3	25.0	26.4	24.4
12	Na (mg/L)	153.9	174.3	142.3	149.1	167.4
13	NH3-N (mg N/L)	0.01	0.04	0.01	0.04	0.01
14	NO2+NO3 (mg N/L)	0.77	0.98	0.80	1.24	0.61
15	NO2-N (mgN/L)	0.02	0.00	0.00	0.09	0.01
16	NO3-N (mgN/L)	0.75	0.98	0.80	1.15	0.60
17	o-PO4-P (mg P/L)	0.536	0.181	0.197	0.260	0.138
18	P-Tot (mgP/L)	0.536				
19	SiO2 (mg/L)	12.1	15.7	10.5	12.2	7.3
20	SO4 (mg/L)	196.8	197.0	87.9	202.6	196.5
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.9	1.1	1.2	1.3	1.8
2	COD (mg/L)	11.8	12.0	3.5	17.3	12.2
3	DO (mg/L)	6.7	7.0	6.4	6.8	6.3
4	DO_SAT% (%)	78	84	78	84	76
5	FCol-MPN (MPN/100mL)	4665	801	4290	4393	4478
6	Tcol-MPN (MPN/100mL)	6365	4621	4858	5098	12001
7	TOC (mg/L)	3.6	3.3		33.0	14.9
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)				3.44	
3	Cr (µg/L)				2.42	
4	Cu (µg/L)				1.90	
5	Hg (µg/L)					
6	Ni (µg/L)				16.87	
7	Pb (µg/L)				17.98	
8	Zn (µg/L)				6.50	
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	97	113	109	121	108
2	HAR_Total (mgCaCO3/L)	189	222	213	231	209
3	Na% (%)	63	63	59	57	63
4	RSC (-)	0.3	0.1	0.0	0.1	0.1
5	SAR (-)	4.9	5.1	4.2	4.2	5.0
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Bawapuram (AKL00B8)

Division : Lower Krishna Divn., Hyderabad

Local River : Tungabhadra

River Water Sub-Division : Lower Tungabhadra SD, Kurnool

S.No	Parameters	Summer				
		Mar - May				
		2002	2003	2004	2005	2006
	PHYSICAL					
1	Q (cumec)	3.131			0.376	2.221
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	1140			1250	1357
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.4			8.2	8.5
6	TDS (mg/L)					
7	Temp (deg C)	30.5			22.0	30.7
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	21.2			0.0	10.5
2	ALK-TOT (mgCaCO3/L)	95			186	222
3	B (mg/L)	0.01			0.00	0.01
4	Ca (mg/L)	16			38	44
5	Cl (mg/L)	130.9			134.3	143.3
6	CO3 (mg/L)	25.5			0.0	12.7
7	F (mg/L)	1.10			0.96	1.07
8	Fe (mg/L)	0.0			0.0	0.0
9	HCO3 (mg/L)	64			227	245
10	K (mg/L)	4.5			4.1	4.1
11	Mg (mg/L)	27.6			18.0	19.3
12	Na (mg/L)	131.0			147.0	181.7
13	NH3-N (mg N/L)	0.00			0.00	0.00
14	NO2+NO3 (mg N/L)	0.16			0.01	0.01
15	NO2-N (mgN/L)	0.00			0.00	0.00
16	NO3-N (mgN/L)	0.16			0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.050			0.001	0.001
19	SiO2 (mg/L)	3.1			8.6	13.7
20	SO4 (mg/L)	124.0			300.0	215.0
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.6			1.5	1.5
2	COD (mg/L)					
3	DO (mg/L)				5.4	5.1
4	DO_SAT% (%)				62	68
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
7	TOC (mg/L)					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					0.10
3	Cr (µg/L)					2.00
4	Cu (µg/L)					
5	Hg (µg/L)					
6	Ni (µg/L)					1.00
7	Pb (µg/L)					114.00
8	Zn (µg/L)					14.00
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	40			95	109
2	HAR_Total (mgCaCO3/L)	155			170	190
3	Na% (%)	64			65	67
4	RSC (-)	0.0			0.3	0.7
5	SAR (-)	4.6			4.9	5.9
	PESTICIDES					
1	Aldrin (µg/L)					0.010
2	BHC (µg/L)					0.100
3	DDT (µg/L)					0.100
4	Dieldrin (µg/L)					0.026
5	Endos (µg/L)					0.100

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Bawapuram (AKL00B8)

Division : Lower Krishna Divn., Hyderabad

Local River : Tungabhadra

River Water Sub-Division : Lower Tungabhadra SD, Kurnool

S.No	Parameters	Summer				
		Mar - May				
		2007	2008	2009	2010	2011
	PHYSICAL					
1	Q (cumec)	1.644	58.74	1.440	10.15	5.109
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	1060	984	1553	1247	1370
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.2	8.5	8.4	8.9	8.2
6	TDS (mg/L)					
7	Temp (deg C)	27.0	23.3	24.3	23.5	22.0
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	12.0	5.5	8.0	9.3	0.0
2	ALK-TOT (mgCaCO3/L)	242	199	208	199	186
3	B (mg/L)	0.00	0.00	0.00	0.00	0.00
4	Ca (mg/L)	50	54	45	42	43
5	Cl (mg/L)	149.3	137.3	209.1	159.7	169.3
6	CO3 (mg/L)	14.5	6.7	9.6	11.2	0.0
7	F (mg/L)	1.57	0.88	1.19	1.19	1.03
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	266	229	234	220	227
10	K (mg/L)	6.0	5.2	7.6	5.2	5.9
11	Mg (mg/L)	26.5	14.7	17.8	23.0	25.3
12	Na (mg/L)	210.0	123.0	102.2	183.5	194.0
13	NH3-N (mg N/L)	0.00	0.05	0.05	0.00	0.00
14	NO2+NO3 (mg N/L)	0.00	0.01	0.01	0.00	0.00
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.00	0.01	0.01	0.00	0.00
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.001	0.001	0.000	0.068
19	SiO2 (mg/L)	13.3	18.0	13.6	15.6	11.2
20	SO4 (mg/L)	202.5	156.7	132.1	292.0	255.0
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.3	1.7	1.2	2.4	1.1
2	COD (mg/L)		23.1	9.4	27.6	34.9
3	DO (mg/L)	6.0	5.6	5.5	5.9	6.5
4	DO_SAT% (%)	76	65	65	70	74
5	FCol-MPN (MPN/100mL)				11467	16000
6	Tcol-MPN (MPN/100mL)				11467	16000
7	TOC (mg/L)		4.2			
	TRACE & TOXIC					
1	As (µg/L)				10.42	
2	Cd (µg/L)		1.20	2.73	0.01	
3	Cr (µg/L)		2.00	2.00	0.00	
4	Cu (µg/L)					
5	Hg (µg/L)		0.00			
6	Ni (µg/L)		13.50	9.62	3.82	
7	Pb (µg/L)		21.47	44.00	0.00	
8	Zn (µg/L)		5.73	6.93	6.35	
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	125	136	114	104	108
2	HAR_Total (mgCaCO3/L)	235	197	188	200	214
3	Na% (%)	66	57	41	66	66
4	RSC (-)	0.2	0.1	0.4	0.1	0.0
5	SAR (-)	6.0	3.8	3.2	5.7	5.8
	PESTICIDES					
1	Aldrin (µg/L)		0.010	0.010	0.000	
2	BHC (µg/L)		0.160	0.100	0.007	
3	DDT (µg/L)		0.100	0.100	0.071	
4	Dieldrin (µg/L)		0.010	0.010	0.002	
5	Endos (µg/L)		0.100	0.100	0.101	

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Bawapuram (AKL00B8)

Division : Lower Krishna Divn., Hyderabad

Local River : Tungabhadra

River Water Sub-Division : Lower Tungabhadra SD, Kurnool

S.No	Parameters	Summer				
		Mar - May				
		2012	2013	2014	2015	2016
	PHYSICAL					
1	Q (cumec)	0.718	0.486	9.365	0.938	
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	1349	1260	1410	1468	
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.3	8.3	8.2	8.4	
6	TDS (mg/L)	788	691	828	923	
7	Temp (deg C)	25.7	23.5	28.0	27.3	
8	Turb (NTU)	1.00	1.13	1.00	3.00	
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	1.4	2.1	0.0	3.5	
2	ALK-TOT (mgCaCO3/L)	183	167	231	208	
3	B (mg/L)	0.08	0.38	0.03	0.47	
4	Ca (mg/L)	32	36	45	49	
5	Cl (mg/L)	174.9	150.8	155.1	178.3	
6	CO3 (mg/L)	1.7	2.5	0.0	4.2	
7	F (mg/L)	1.15	0.74	0.75	0.86	
8	Fe (mg/L)	0.2	0.2	0.0	0.1	
9	HCO3 (mg/L)	220	199	282	245	
10	K (mg/L)	4.9	4.6	6.0	5.9	
11	Mg (mg/L)	18.5	20.6	25.8	28.5	
12	Na (mg/L)	202.5	195.3	132.0	208.1	
13	NH3-N (mg N/L)	0.04	0.00	0.01	0.01	
14	NO2+NO3 (mg N/L)	0.81	1.19	0.89	0.97	
15	NO2-N (mgN/L)	0.01	0.00	0.00	0.15	
16	NO3-N (mgN/L)	0.80	1.19	0.89	0.82	
17	o-PO4-P (mg P/L)	0.161	0.125	0.110	0.233	
18	P-Tot (mgP/L)	0.161				
19	SiO2 (mg/L)	18.0	13.2	10.6	14.7	
20	SO4 (mg/L)	223.0	184.0	155.0	272.0	
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	2.4	0.7	1.1	1.0	
2	COD (mg/L)	17.2	8.9	4.1	15.2	
3	DO (mg/L)	5.6	5.5	6.9	5.3	
4	DO_SAT% (%)	69	65	88	67	
5	FCol-MPN (MPN/100mL)	1277	66	230	21	
6	Tcol-MPN (MPN/100mL)	2077	260	2400	667	
7	TOC (mg/L)	5.8	4.1		31.1	
	TRACE & TOXIC					
1	As (µg/L)	6.81	4.84		11.79	
2	Cd (µg/L)	0.67	1.59		4.00	
3	Cr (µg/L)	0.00	0.68		0.00	
4	Cu (µg/L)					
5	Hg (µg/L)	1.01	0.37		0.09	
6	Ni (µg/L)	6.77	8.99		13.63	
7	Pb (µg/L)	36.03	6.46		19.00	
8	Zn (µg/L)	17.41	7.84		9.00	
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	79	89	112	124	
2	HAR_Total (mgCaCO3/L)	156	175	220	243	
3	Na% (%)	73	70	56	65	
4	RSC (-)	0.6	0.0	0.3	0.0	
5	SAR (-)	7.1	6.5	3.9	5.9	
	PESTICIDES					
1	Aldrin (µg/L)	0.002				
2	BHC (µg/L)	0.026				
3	DDT (µg/L)	0.002				
4	Dieldrin (µg/L)	0.000				
5	Endos (µg/L)	0.068				

HISTORY SHEET

Water Year : 2015-2016

Site : Mantralayam

Code : AKL00F2

State : Andhra Pradesh

District : Kurnool

Basin : Krishna

Independent River : Krishna

Tributary : Tungabhadra

Sub Tributary : -

Sub-Sub Tributary : -

Local River : Tungabhadra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool

Drainage Area : 60630 Sq. Km.

Bank : Right

Latitude : 15°56'43"

Longitude : 77°25'38"

Opening Date

Closing Date

Gauge : 10/03/1972

Discharge : 01/06/1972

Sediment : 26/07/1977

Water Quality : 01/08/1977

Sediment and WQ observations suspended from 31-05-2006.

Upgraded from GD to GDSQ w.e.f. 07-10-2013.

Water Quality Datasheet for the period : 2015-2016

Station Name : Mantralayam (AKL00F2)

Division : Lower Krishna Divn., Hyderabad

Local River : Tungabhadra

River Water Analysis Division : Lower Tungabhadra SD, Kurnool

S.No	Parameters	01/06/2015	01/08/2015	01/09/2015	01/10/2015	02/11/2015
		A	A	A	A	A
	PHYSICAL					
1	Q (cumec)	6.254	0.000	7.504	122.4	20.44
2	Colour_Cod (-)	Clear	Clear	Light Brown	Light Brown	Light Brown
3	EC_GEN (μmho/cm)	1565	907	1251	779	1269
4	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free
5	pH_GEN (pH units)	8.5	7.7	8.2	7.9	8.2
6	TDS (mg/L)	1028	780	780	508	660
7	Temp (deg C)	28.0	33.0	33.0	32.0	30.0
8	Turb (NTU)	0.10	18.00	9.00	9.00	11.00
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	3.5	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	215	202	162	147	231
3	B (mg/L)		0.28	0.30		0.27
4	Ca (mg/L)	55	33	44	33	50
5	Cl (mg/L)	183.7	113.5	124.2	74.4	145.2
6	CO3 (mg/L)	4.2	0.0	0.0	0.0	0.0
7	F (mg/L)	0.86	0.78	0.90	0.90	0.79
8	Fe (mg/L)	0.1	0.0	0.0	0.1	0.0
9	HCO3 (mg/L)	254	246	198	179	282
10	K (mg/L)	7.2	5.4	7.2	6.6	4.6
11	Mg (mg/L)	32.1	18.9	25.2	18.4	28.9
12	Na (mg/L)	236.9	116.8	170.7	120.6	196.0
13	NH3-N (mg N/L)	0.02	0.00	0.01	0.00	0.00
14	NO2+NO3 (mg N/L)	0.90	0.93	1.75	1.87	1.06
15	NO2-N (mgN/L)	0.00	0.00	0.24	0.00	0.00
16	NO3-N (mgN/L)	0.90	0.93	1.50	1.86	1.05
17	o-PO4-P (mg P/L)	0.260	0.042	0.252	0.452	0.374
18	SiO2 (mg/L)	19.6	1.4	7.3	14.2	4.9
19	SO4 (mg/L)	340.0	88.0	142.0	120.0	261.0
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.2	2.8	2.9	1.1	1.5
2	COD (mg/L)	14.4	30.2	27.4	17.9	12.5
3	DO (mg/L)	5.1	1.6	5.0	6.1	5.9
4	DO_SAT% (%)	65	23	70	84	78
5	Fcol-MPN (MPN/100mL)	20	300	5000	16000	270
6	Tcol-MPN (MPN/100mL)	340	700	16000	16000	5000
7	TOC (mg/L)	23.1	12.7	10.1	10.3	26.4
	TRACE & TOXIC					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	138	82	110	82	126
2	HAR_Total (mgCaCO3/L)	272	161	215	159	246
3	Na% (%)	65	60	63	61	63
4	RSC (-)	0.0	0.8	0.0	0.0	0.0
5	SAR (-)	6.3	4.0	5.1	4.2	5.5
	PESTICIDES	Anlysis not done due to mal function of instrument.				

Water Quality Datasheet for the period : 2015-2016

Station Name : Mantralayam (AKL00F2)

Division : Lower Krishna Divn., Hyderabad

Local River : Tungabhadra

River Water Analysis Division : Lower Tungabhadra SD, Kurnool

S.No	Parameters	01/12/2015	01/01/2016	01/02/2016	29/05/2016
		A	A	A	A
	PHYSICAL				
1	Q (cumec)	38.39	16.83	13.86	79.21
2	Colour_Cod (-)	Clear	Clear	Clear	Clear
3	EC_GEN (μmho/cm)	2016	1142	2697	395
4	Odour_Code (-)	odour free	odour free	odour free	odour free
5	pH_GEN (pH units)	8.4	8.6	8.7	7.2
6	TDS (mg/L)	754	726	588	
7	Temp (deg C)	29.0	28.0	23.0	25.0
8	Turb (NTU)	20.00	18.00	121.00	134.00
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	3.5	3.5	6.5	0.0
2	ALK-TOT (mgCaCO3/L)	239	206	201	78
3	B (mg/L)	0.00			
4	Ca (mg/L)	47	46	41	52
5	Cl (mg/L)	124.9	128.9	110.1	22.3
6	CO3 (mg/L)	4.2	4.2	7.8	0.0
7	F (mg/L)	0.81	0.64	0.86	0.56
8	Fe (mg/L)	0.1	0.3	0.0	0.6
9	HCO3 (mg/L)	283	242	229	95
10	K (mg/L)	4.5	4.6	4.5	3.9
11	Mg (mg/L)	27.0	26.1	22.8	30.1
12	Na (mg/L)	171.2	167.2	123.3	36.0
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.04
14	NO2+NO3 (mg N/L)	0.70	0.85	0.42	1.53
15	NO2-N (mgN/L)	0.00	0.02	0.03	0.01
16	NO3-N (mgN/L)	0.70	0.83	0.39	1.52
17	o-PO4-P (mg P/L)	0.251	0.169	0.128	0.222
18	SiO2 (mg/L)	7.2	5.2	10.0	9.4
19	SO4 (mg/L)	155.0	242.0	193.0	26.8
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	0.7	0.7	1.2	0.8
2	COD (mg/L)	10.9	12.1	12.4	
3	DO (mg/L)	6.5	7.0	6.6	6.2
4	DO_SAT% (%)	84	89	77	75
5	Fcol-MPN (MPN/100mL)	330	900	800	9000
6	Tcol-MPN (MPN/100mL)	9000	16000	3000	9000
7	TOC (mg/L)	22.0	4.4		
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	118	114	102	130
2	HAR_Total (mgCaCO3/L)	231	223	197	256
3	Na% (%)	61	62	57	23
4	RSC (-)	0.2	0.0	0.1	0.0
5	SAR (-)	4.9	4.9	3.8	1.0
	PESTICIDES				

Samples not collected during July, March and April months due to Dry bed/No flow

Water Quality Summary for the period : 2015-2016

Station Name : Mantralayam (AKL00F2)

Division : Lower Krishna Divn., Hyderabad

Local River : Tungabhadra

Sub-Division : Lower Tungabhadra SD, Kurnool

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	367	1867	0.000	54.65
2	EC_GEN (μmho/cm)	9	2697	395	1336
3	pH_GEN (pH units)	9	8.7	7.2	8.2
4	TDS (mg/L)	8	1028	508	728
5	Temp (deg C)	9	33.0	23.0	29
6	Turb (NTU)	9	134.00	0.10	37.79
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	9	6.5	0.0	1.9
2	ALK-TOT (mgCaCO3/L)	9	239	78	187
3	B (mg/L)	4	0.30	0.00	0.21
4	Ca (mg/L)	9	55	33	45
5	Cl (mg/L)	9	183.7	22.3	114.1
6	CO3 (mg/L)	9	7.8	0.0	2.3
7	F (mg/L)	9	0.90	0.56	0.79
8	Fe (mg/L)	9	0.6	0.0	0.1
9	HCO3 (mg/L)	9	283	95	223
10	K (mg/L)	9	7.2	3.9	5.4
11	Mg (mg/L)	9	32.1	18.4	25.5
12	Na (mg/L)	9	236.9	36.0	148.7
13	NH3-N (mg N/L)	9	0.04	0.00	0.01
14	NO2+NO3 (mg N/L)	9	1.87	0.42	1.11
15	NO2-N (mgN/L)	9	0.24	0.00	0.04
16	NO3-N (mgN/L)	9	1.86	0.39	1.08
17	o-PO4-P (mg P/L)	9	0.452	0.042	0.239
18	SiO2 (mg/L)	9	19.6	1.4	8.8
19	SO4 (mg/L)	9	340.0	26.8	174.2
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	9	2.9	0.7	1.4
2	COD (mg/L)	8	30.2	10.9	17.2
3	DO (mg/L)	9	7.0	1.6	5.5
4	DO_SAT% (%)	9	89	23	72
5	FCol-MPN (MPN/100mL)	9	16000	20	3624
6	Tcol-MPN (MPN/100mL)	9	16000	340	8338
7	TOC (mg/L)	7	26.4	4.4	15.6
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	9	138	82	111
2	HAR_Total (mgCaCO3/L)	9	272	159	218
3	Na% (%)	9	65	23	57
4	RSC (-)	9	0.8	0.0	0.1
5	SAR (-)	9	6.3	1.0	4.4
	PESTICIDES				

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Mantralayam (AKL00F2)

Division : Lower Krishna Divn., Hyderabad

Local River : Tungabhadra

River Water Sub-Division : Lower Tungabhadra SD, Kurnool

S.No	Parameters	Flood			
		Jun - Oct			
		2001	2002	2003	2004
	PHYSICAL				
1	Q (cumec)	107.1	14.49	119.8	109.2
2	EC_GEN (µmho/cm)	881	1120	901	807
3	pH_GEN (pH units)	8.5	8.4	8.4	8.3
4	TDS (mg/L)				
5	Temp (deg C)	28.8	30.5	29.5	24.6
6	Turb (NTU)				
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	6.6	17.4	11.0	13.3
2	ALK-TOT (mgCaCO3/L)	100	134	176	176
3	B (mg/L)	0.01	0.01	0.00	0.00
4	Ca (mg/L)	41	12	37	31
5	Cl (mg/L)	87.2	118.7	65.9	67.9
6	CO3 (mg/L)	8.0	21.0	13.3	16.0
7	F (mg/L)	0.53	0.92	0.80	1.08
8	Fe (mg/L)	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	106	121	188	182
10	K (mg/L)	4.8	2.7	4.7	4.5
11	Mg (mg/L)	42.3	37.0	12.2	16.6
12	Na (mg/L)	102.3	87.0	108.3	88.4
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.00
14	NO2+NO3 (mg N/L)	0.32	0.34	0.01	0.01
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.32	0.34	0.01	0.01
17	o-PO4-P (mg P/L)				
18	P-Tot (mgP/L)	0.158	0.128	0.188	0.001
19	SiO2 (mg/L)	5.8	5.4	10.3	12.6
20	SO4 (mg/L)	93.8	98.0	169.5	106.8
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	3.0		2.8	0.1
2	COD (mg/L)				
3	DO (mg/L)	5.6	5.3	4.6	4.1
4	DO_SAT% (%)	72	71	61	49
5	FCol-MPN (MPN/100mL)				
6	Tcol-MPN (MPN/100mL)				
7	TOC (mg/L)				
	TRACE & TOXIC				
1	As (µg/L)				
2	Cd (µg/L)				
3	Cr (µg/L)				
4	Cu (µg/L)				
5	Hg (µg/L)				
6	Ni (µg/L)				
7	Pb (µg/L)				
8	Zn (µg/L)				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	102	31	94	78
2	HAR_Total (mgCaCO3/L)	278	185	144	147
3	Na% (%)	48	49	59	54
4	RSC (-)	0.0	0.0	0.7	0.6
5	SAR (-)	3.1	2.8	3.9	3.1
	PESTICIDES				
1	Aldrin (µg/L)				
2	BHC (µg/L)				
3	DDT (µg/L)				
4	Dieldrin (µg/L)				
5	Endos (µg/L)	WQ observations restarted from 07-10-2013.			

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Mantralayam (AKL00F2)

Division : Lower Krishna Divn., Hyderabad

Local River : Tungabhadra

River Water Sub-Division : Lower Tungabhadra SD, Kurnool

S.No	Parameters	Flood			
		Jun - Oct			
		2005	2013	2014	2015
	PHYSICAL				
1	Q (cumec)	229.3	903.5	1116	34.03
2	EC_GEN (µmho/cm)	705	512	893	1126
3	pH_GEN (pH units)	8.3	8.5	7.9	8.1
4	TDS (mg/L)		364	538	774
5	Temp (deg C)	22.7	27.3	25.4	31.5
6	Turb (NTU)		1.36	37.00	9.03
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	2.8	3.2	0.0	0.9
2	ALK-TOT (mgCaCO3/L)	149	137	135	181
3	B (mg/L)	0.01	0.24	0.21	0.29
4	Ca (mg/L)	36	29	34	41
5	Cl (mg/L)	70.0	53.5	91.2	124.0
6	CO3 (mg/L)	3.3	3.9	0.0	1.0
7	F (mg/L)	0.66	0.56	0.72	0.86
8	Fe (mg/L)	0.0	0.1	0.1	0.0
9	HCO3 (mg/L)	175	159	165	219
10	K (mg/L)	3.3	2.7	3.9	6.6
11	Mg (mg/L)	14.0	16.2	18.6	23.6
12	Na (mg/L)	109.7	64.7	121.2	161.2
13	NH3-N (mg N/L)	0.00	0.13	0.04	0.01
14	NO2+NO3 (mg N/L)	0.01	1.27	1.60	1.36
15	NO2-N (mgN/L)	0.00	0.00	0.04	0.06
16	NO3-N (mgN/L)	0.01	1.27	1.56	1.30
17	o-PO4-P (mg P/L)		0.154	0.277	0.251
18	P-Tot (mgP/L)	0.001		0.244	
19	SiO2 (mg/L)	9.5	9.1	10.4	10.6
20	SO4 (mg/L)	145.3	55.8	124.4	172.5
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	2.0	0.8	0.8	2.0
2	COD (mg/L)		10.3	9.2	22.5
3	DO (mg/L)	6.1	6.1	5.5	4.5
4	DO_SAT% (%)	70	77	68	60
5	FCol-MPN (MPN/100mL)		2271	6492	5330
6	Tcol-MPN (MPN/100mL)		4059	7040	8260
7	TOC (mg/L)		0.2		14.0
	TRACE & TOXIC				
1	As (µg/L)		8.10		
2	Cd (µg/L)		0.29		
3	Cr (µg/L)		0.50		
4	Cu (µg/L)				
5	Hg (µg/L)		0.51		
6	Ni (µg/L)		3.93		
7	Pb (µg/L)		7.11		
8	Zn (µg/L)		0.01		
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	90	73	84	103
2	HAR_Total (mgCaCO3/L)	148	140	161	202
3	Na% (%)	54	45	56	62
4	RSC (-)	0.3	0.1	0.0	0.2
5	SAR (-)	3.7	2.4	3.9	4.9
	PESTICIDES				
1	Aldrin (µg/L)				
2	BHC (µg/L)				
3	DDT (µg/L)				
4	Dieldrin (µg/L)				
5	Endos (µg/L)				

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Mantralayam (AKL00F2)

Division : Lower Krishna Divn., Hyderabad

Local River : Tungabhadra

River Water Sub-Division : Lower Tungabhadra SD, Kurnool

S.No	Parameters	Winter			
		Nov - Feb			
		2001-2002	2002-2003	2003-2004	2004-2005
	PHYSICAL				
1	Q (cumec)	49.17	46.31	68.55	60.58
2	EC_GEN (µmho/cm)	1054	1329	1015	907
3	pH_GEN (pH units)	8.5	8.5	8.5	8.3
4	TDS (mg/L)				
5	Temp (deg C)	25.5	26.3	26.8	28.0
6	Turb (NTU)				
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	26.4	16.3	18.7	2.5
2	ALK-TOT (mgCaCO3/L)	173	120	226	206
3	B (mg/L)	0.02	0.01	0.00	0.00
4	Ca (mg/L)	30	23	41	45
5	Cl (mg/L)	112.4	103.2	95.1	91.7
6	CO3 (mg/L)	31.8	19.7	22.5	3.0
7	F (mg/L)	0.72	0.57	0.82	0.78
8	Fe (mg/L)	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	146	106	231	245
10	K (mg/L)	3.4	2.9	3.1	3.8
11	Mg (mg/L)	37.8	30.9	19.0	19.3
12	Na (mg/L)	119.4	77.3	92.8	117.3
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.00
14	NO2+NO3 (mg N/L)	0.07	0.07	0.01	0.01
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.07	0.07	0.01	0.01
17	o-PO4-P (mg P/L)				
18	P-Tot (mgP/L)	0.101	0.033	0.001	0.001
19	SiO2 (mg/L)	4.3	5.4	11.4	8.9
20	SO4 (mg/L)	176.0	138.7	118.3	171.3
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	2.1		2.0	1.6
2	COD (mg/L)				
3	DO (mg/L)	7.0	6.3	5.2	6.1
4	DO_SAT% (%)	86	78	66	78
5	FCol-MPN (MPN/100mL)				
6	Tcol-MPN (MPN/100mL)				
7	TOC (mg/L)				
	TRACE & TOXIC				
1	As (µg/L)				
2	Cd (µg/L)				
3	Cr (µg/L)				
4	Cu (µg/L)				
5	Hg (µg/L)				
6	Ni (µg/L)				
7	Pb (µg/L)				
8	Zn (µg/L)				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	74	57	103	112
2	HAR_Total (mgCaCO3/L)	232	186	182	192
3	Na% (%)	53	42	52	56
4	RSC (-)	0.0	0.0	0.9	0.9
5	SAR (-)	3.4	2.3	3.0	4.1
	PESTICIDES				
1	Aldrin (µg/L)				
2	BHC (µg/L)				
3	DDT (µg/L)				
4	Dieldrin (µg/L)				
5	Endos (µg/L)				

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Mantralayam (AKL00F2)

Division : Lower Krishna Divn., Hyderabad

Local River : Tungabhadra

River Water Sub-Division : Lower Tungabhadra SD, Kurnool

S.No	Parameters	Winter			
		Nov - Feb			
		2005-2006	2013-2014	2014-2015	2015-2016
	PHYSICAL				
1	Q (cumec)	203.6	70.11	75.50	22.38
2	EC_GEN (µmho/cm)	903	1023	1070	1781
3	pH_GEN (pH units)	8.1	8.4	8.3	8.5
4	TDS (mg/L)		576	729	682
5	Temp (deg C)	18.8	24.5	22.3	27.5
6	Turb (NTU)		8.67	4.08	42.50
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0	2.8	2.9	3.4
2	ALK-TOT (mgCaCO3/L)	196	206	212	219
3	B (mg/L)	0.01	0.36	0.30	0.13
4	Ca (mg/L)	49	44	49	46
5	Cl (mg/L)	78.4	107.9	124.0	127.3
6	CO3 (mg/L)	0.0	3.3	3.5	4.0
7	F (mg/L)	0.85	0.76	0.83	0.78
8	Fe (mg/L)	0.0	0.0	0.1	0.1
9	HCO3 (mg/L)	239	244	251	259
10	K (mg/L)		4.5	5.1	4.5
11	Mg (mg/L)	16.8	25.2	27.9	26.2
12	Na (mg/L)		127.5	161.5	164.4
13	NH3-N (mg N/L)	0.00	0.01	0.04	0.00
14	NO2+NO3 (mg N/L)	0.01	1.29	0.98	0.76
15	NO2-N (mgN/L)	0.00	0.00	0.04	0.01
16	NO3-N (mgN/L)	0.01	1.29	0.94	0.74
17	o-PO4-P (mg P/L)		0.323	0.227	0.231
18	P-Tot (mgP/L)	0.001			
19	SiO2 (mg/L)	11.0	10.9	11.8	6.8
20	SO4 (mg/L)	153.3	95.3	191.9	212.8
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	0.9	1.5	1.0	1.0
2	COD (mg/L)		2.7	17.2	12.0
3	DO (mg/L)	6.1	6.6	6.6	6.5
4	DO_SAT% (%)	65	78	76	82
5	FCol-MPN (MPN/100mL)		5543	4158	575
6	Tcol-MPN (MPN/100mL)		6767	4430	8250
7	TOC (mg/L)			32.8	17.6
	TRACE & TOXIC				
1	As (µg/L)				
2	Cd (µg/L)			3.27	
3	Cr (µg/L)			4.52	
4	Cu (µg/L)			1.55	
5	Hg (µg/L)				
6	Ni (µg/L)			16.18	
7	Pb (µg/L)			18.57	
8	Zn (µg/L)			5.40	
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	121	110	123	115
2	HAR_Total (mgCaCO3/L)	191	214	239	224
3	Na% (%)		56	59	61
4	RSC (-)	0.3	0.0	0.1	0.1
5	SAR (-)		3.8	4.5	4.8
	PESTICIDES				
1	Aldrin (µg/L)				
2	BHC (µg/L)				
3	DDT (µg/L)				
4	Dieldrin (µg/L)				
5	Endos (µg/L)				

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Mantralayam (AKL00F2)

Division : Lower Krishna Divn., Hyderabad

Local River : Tungabhadra

River Water Sub-Division : Lower Tungabhadra SD, Kurnool

S.No	Parameters	Summer			
		Mar - May			
		2002	2003	2004	2005
	PHYSICAL				
1	Q (cumec)	6.277	Drybed/No flow		6.311
2	EC_GEN (µmho/cm)	1049			1310
3	pH_GEN (pH units)	8.4			8.2
4	TDS (mg/L)				
5	Temp (deg C)	30.5			21.0
6	Turb (NTU)				
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	14.1			0.0
2	ALK-TOT (mgCaCO3/L)	99			215
3	B (mg/L)	0.01			0.00
4	Ca (mg/L)	25			36
5	Cl (mg/L)	110.1			149.0
6	CO3 (mg/L)	17.0			0.0
7	F (mg/L)	0.97			0.96
8	Fe (mg/L)	0.0			0.0
9	HCO3 (mg/L)	87			262
10	K (mg/L)	3.0			8.2
11	Mg (mg/L)	28.3			30.0
12	Na (mg/L)	115.0			153.0
13	NH3-N (mg N/L)	0.00			0.00
14	NO2+NO3 (mg N/L)	0.11			0.01
15	NO2-N (mgN/L)	0.00			0.00
16	NO3-N (mgN/L)	0.11			0.01
17	o-PO4-P (mg P/L)				
18	P-Tot (mgP/L)	0.091			0.001
19	SiO2 (mg/L)	2.8			13.5
20	SO4 (mg/L)	115.5			460.0
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	1.4			1.5
2	COD (mg/L)				
3	DO (mg/L)	4.3			5.4
4	DO_SAT% (%)	57			61
5	FCol-MPN (MPN/100mL)				
6	Tcol-MPN (MPN/100mL)				
7	TOC (mg/L)				
	TRACE & TOXIC				
1	As (µg/L)				
2	Cd (µg/L)				
3	Cr (µg/L)				
4	Cu (µg/L)				
5	Hg (µg/L)				
6	Ni (µg/L)				
7	Pb (µg/L)				
8	Zn (µg/L)				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	64			90
2	HAR_Total (mgCaCO3/L)	181			215
3	Na% (%)	57			60
4	RSC (-)	0.0			0.0
5	SAR (-)	3.7			4.6
	PESTICIDES				
1	Aldrin (µg/L)				
2	BHC (µg/L)				
3	DDT (µg/L)				
4	Dieldrin (µg/L)				
5	Endos (µg/L)				

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Mantralayam (AKL00F2)

Division : Lower Krishna Divn., Hyderabad

Local River : Tungabhadra

River Water Sub-Division : Lower Tungabhadra SD, Kurnool

S.No	Parameters	Summer			
		Mar - May			
		2006	2014	2015	2016
	PHYSICAL				
1	Q (cumec)	9.053	8.403	19.40	79.21
2	EC_GEN (µmho/cm)	1475	1575	834	395
3	pH_GEN (pH units)	8.7	8.4	8.4	7.2
4	TDS (mg/L)		858	540	
5	Temp (deg C)	24.3	24.5	25.7	25.0
6	Turb (NTU)		12.55	4.00	134.00
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	17.2	2.1	3.5	0.0
2	ALK-TOT (mgCaCO3/L)	228	241	237	78
3	B (mg/L)	0.01	0.27	0.37	
4	Ca (mg/L)	50	52	49	52
5	Cl (mg/L)	162.7	198.7	128.3	22.3
6	CO3 (mg/L)	20.7	2.5	4.2	0.0
7	F (mg/L)	1.03	1.09	0.92	0.56
8	Fe (mg/L)	0.0	1.1	0.1	0.6
9	HCO3 (mg/L)	236	289	281	95
10	K (mg/L)	5.5	4.0	5.7	3.9
11	Mg (mg/L)	23.0	30.1	28.1	30.1
12	Na (mg/L)	220.0	280.0	160.3	36.0
13	NH3-N (mg N/L)	0.00	0.03	0.02	0.04
14	NO2+NO3 (mg N/L)	0.01	1.02	0.69	1.53
15	NO2-N (mgN/L)	0.00	0.00	0.25	0.01
16	NO3-N (mgN/L)	0.01	1.02	0.44	1.52
17	o-PO4-P (mg P/L)		0.045	0.343	0.222
18	P-Tot (mgP/L)	0.000			
19	SiO2 (mg/L)	12.1	16.6	17.0	9.4
20	SO4 (mg/L)	256.7	191.0	191.3	26.8
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	0.8	0.8	0.8	0.8
2	COD (mg/L)		5.7	11.4	
3	DO (mg/L)	4.5	4.8	4.9	6.2
4	DO_SAT% (%)	54	58	59	75
5	FCol-MPN (MPN/100mL)		60	21	9000
6	Tcol-MPN (MPN/100mL)		130	650	9000
7	TOC (mg/L)			31.7	
	TRACE & TOXIC				
1	As (µg/L)		2.02	8.32	
2	Cd (µg/L)	2.00	0.05	3.00	
3	Cr (µg/L)	2.00	0.26	0.00	
4	Cu (µg/L)				
5	Hg (µg/L)		0.14	0.09	
6	Ni (µg/L)	1.00	0.31	12.45	
7	Pb (µg/L)	144.00	36.01	19.00	
8	Zn (µg/L)	10.00	15.40	7.00	
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	124	129	122	130
2	HAR_Total (mgCaCO3/L)	220	255	239	256
3	Na% (%)	67	70	59	23
4	RSC (-)	0.2	0.0	0.1	0.0
5	SAR (-)	6.6	7.7	4.5	1.0
	PESTICIDES				
1	Aldrin (µg/L)	0.010			
2	BHC (µg/L)	0.100			
3	DDT (µg/L)	0.100			
4	Dieldrin (µg/L)	0.040			
5	Endos (µg/L)	0.142			

HISTORY SHEET

Water Year : 2015-2016

Site : T Ramapuram

Code : AKL50A6

State : Karnataka

District : Bellary

Basin : Krishna

Independent River : Krishna

Tributary : Tungabhadra

Sub Tributary : Hagari

Sub-Sub Tributary : -

Local River : Hagari

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool

Drainage Area : 23500 Sq. Km.

Bank : Right

Latitude : 15°39'40"

Longitude : 76°57'56"

Opening Date

Closing Date

Gauge : 13/07/1963

Discharge : 23/08/1964

Sediment :

Water Quality : 01/01/1980

Water Quality Datasheet for the period : 2015-2016

Station Name : T Ramapuram (Seasonal) (AKL50A6)

Division : Lower Krishna Divn., Hyderabad

Local River : Hagari

River Water Analysis Division : Lower Tungabhadra SD, Kurnool

S.No	Parameters	01/06/2015	20/08/2015	01/09/2015	01/10/2015	02/11/2015
		A	A	A	A	A
	PHYSICAL					
1	Q (cumec)	34.87	61.41	14.77	84.33	13.95
2	Colour_Cod (-)	Brown	Brown	Clear	Brown	Clear
3	EC_GEN (µmho/cm)	917	612	1341	1047	1277
4	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free
5	pH_GEN (pH units)	8.0	6.7	8.1	7.9	8.0
6	TDS (mg/L)	568	438	842	660	584
7	Temp (deg C)	27.0	29.0	26.0	28.0	26.5
8	Turb (NTU)	5.00	232.00	11.00	11.00	20.00
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	139	108	176	180	222
3	B (mg/L)		0.28	0.63		0.03
4	Ca (mg/L)	30	30	48	42	42
5	Cl (mg/L)	86.8	53.8	135.4	104.2	143.2
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.83	1.03	0.82	0.95	0.80
8	Fe (mg/L)	0.2	0.0	0.0	0.1	0.0
9	HCO3 (mg/L)	169	132	215	219	270
10	K (mg/L)	4.4	3.2	2.0	6.4	4.2
11	Mg (mg/L)	17.0	18.0	27.2	24.3	23.3
12	Na (mg/L)	121.1	80.3	193.2	160.4	187.9
13	NH3-N (mg N/L)	0.04	0.00	0.01	0.00	0.00
14	NO2+NO3 (mg N/L)	1.70	0.73	2.63	1.97	2.51
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.01	0.00
16	NO3-N (mgN/L)	1.70	0.73	2.63	1.96	2.51
17	o-PO4-P (mg P/L)	0.190	0.290	0.353	0.385	0.291
18	SiO2 (mg/L)	17.4	11.3	10.3	17.8	6.2
19	SO4 (mg/L)	145.0	198.0	164.0	129.0	219.0
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.3	1.8	2.8	1.1	0.4
2	COD (mg/L)	13.5	20.0	18.8	19.6	12.9
3	DO (mg/L)	5.0	5.0	5.9	5.9	5.9
4	DO_SAT% (%)	63	65	73	75	73
5	FCol-MPN (MPN/100mL)	2	2200	2800	16000	2800
6	Tcol-MPN (MPN/100mL)	340	16000	16000	16000	16000
7	TOC (mg/L)	35.0	8.3	22.8	16.0	18.2
	TRACE & TOXIC					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	76	76	120	104	104
2	HAR_Total (mgCaCO3/L)	147	151	233	205	201
3	Na% (%)	64	53	64	62	67
4	RSC (-)	0.0	0.0	0.0	0.0	0.4
5	SAR (-)	4.4	2.9	5.5	4.9	5.8
	PESTICIDES	Anlysis not done due to mal function of instrument.				

Water Quality Datasheet for the period : 2015-2016

Station Name : T Ramapuram (Seasonal) (AKL50A6)

Division : Lower Krishna Divn., Hyderabad

Local River : Hagari

River Water Analysis Division : Lower Tungabhadra SD, Kurnool

S.No	Parameters	01/12/2015	01/01/2016	01/02/2016	31/05/2016
		A	A	A	A
	PHYSICAL				
1	Q (cumec)	26.03	6.833	1.878	47.89
2	Colour_Cod (-)	Clear	Clear	Clear	Clear
3	EC_GEN (µmho/cm)	2544	1683	8532	201
4	Odour_Code (-)	odour free	odour free	odour free	odour free
5	pH_GEN (pH units)	8.2	8.4	8.6	7.2
6	TDS (mg/L)	949	998	964	
7	Temp (deg C)	25.0	21.0	25.0	26.0
8	Turb (NTU)	29.00	28.00	34.00	94.00
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0	3.5	7.6	0.0
2	ALK-TOT (mgCaCO3/L)	222	238	239	120
3	B (mg/L)	0.00			
4	Ca (mg/L)	54	46	58	38
5	Cl (mg/L)	182.8	190.5	196.3	35.1
6	CO3 (mg/L)	0.0	4.2	9.1	0.0
7	F (mg/L)	0.85	0.52	0.86	0.74
8	Fe (mg/L)	0.1	0.5	0.0	0.0
9	HCO3 (mg/L)	271	282	273	146
10	K (mg/L)	5.3	5.2	4.6	3.3
11	Mg (mg/L)	30.8	26.3	33.4	20.7
12	Na (mg/L)	214.1	221.0	214.2	81.5
13	NH3-N (mg N/L)	0.01	0.00	0.00	0.02
14	NO2+NO3 (mg N/L)	1.49	2.78	1.06	1.78
15	NO2-N (mgN/L)	0.01	0.01	0.04	0.00
16	NO3-N (mgN/L)	1.48	2.77	1.02	1.78
17	o-PO4-P (mg P/L)	0.185	0.163	0.183	0.111
18	SiO2 (mg/L)	5.7	8.4	17.7	12.0
19	SO4 (mg/L)	227.0	320.0	340.0	1.0
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	1.0	2.3	1.2	1.3
2	COD (mg/L)	13.3	4.8	8.4	
3	DO (mg/L)	6.4	8.7	7.3	4.0
4	DO_SAT% (%)	77	98	89	49
5	FCol-MPN (MPN/100mL)	3500	3000	1700	2
6	Tcol-MPN (MPN/100mL)	16000	16000	16000	2200
7	TOC (mg/L)	17.1	14.8		
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	134	116	146	95
2	HAR_Total (mgCaCO3/L)	262	226	285	181
3	Na% (%)	64	68	62	49
4	RSC (-)	0.0	0.3	0.0	0.0
5	SAR (-)	5.8	6.4	5.5	2.6
	PESTICIDES				

Samples not collected during July, March and April months due to Drybed/No flow.

Water Quality Summary for the period : 2015-2016

Station Name : T Ramapuram (Seasonal) (AKL50A6)

Division : Lower Krishna Divn., Hyderabad

Local River : Hagari

Sub-Division : Lower Tungabhadra SD, Kurnool

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	367	1117	0.000	24.74
2	EC_GEN (µmho/cm)	9	8532	201	2017
3	pH_GEN (pH units)	9	8.6	6.7	7.9
4	TDS (mg/L)	8	998	438	750
5	Temp (deg C)	9	29.0	21.0	25.9
6	Turb (NTU)	9	232.00	5.00	51.56
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	9	7.6	0.0	1.2
2	ALK-TOT (mgCaCO3/L)	9	239	108	183
3	B (mg/L)	4	0.63	0.00	0.23
4	Ca (mg/L)	9	58	30	43
5	Cl (mg/L)	9	196.3	35.1	125.3
6	CO3 (mg/L)	9	9.1	0.0	1.5
7	F (mg/L)	9	1.03	0.52	0.82
8	Fe (mg/L)	9	0.5	0.0	0.1
9	HCO3 (mg/L)	9	282	132	220
10	K (mg/L)	9	6.4	2.0	4.3
11	Mg (mg/L)	9	33.4	17.0	24.5
12	Na (mg/L)	9	221.0	80.3	163.7
13	NH3-N (mg N/L)	9	0.04	0.00	0.01
14	NO2+NO3 (mg N/L)	9	2.78	0.73	1.85
15	NO2-N (mgN/L)	9	0.04	0.00	0.01
16	NO3-N (mgN/L)	9	2.77	0.73	1.84
17	o-PO4-P (mg P/L)	9	0.385	0.111	0.239
18	SiO2 (mg/L)	9	17.8	5.7	11.9
19	SO4 (mg/L)	9	340.0	1.0	193.7
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	9	2.8	0.4	1.5
2	COD (mg/L)	8	20.0	4.8	13.9
3	DO (mg/L)	9	8.7	4.0	6
4	DO_SAT% (%)	9	98	49	73
5	FCol-MPN (MPN/100mL)	9	16000	2	3556
6	Tcol-MPN (MPN/100mL)	9	16000	340	12727
7	TOC (mg/L)	7	35.0	8.3	18.9
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	9	146	76	108
2	HAR_Total (mgCaCO3/L)	9	285	147	210
3	Na% (%)	9	68	49	61
4	RSC (-)	9	0.4	0.0	0.1
5	SAR (-)	9	6.4	2.6	4.9
	PESTICIDES				

Water Quality Seasonal Average for the period: 2001-2016

Station Name : T Ramapuram (Seasonal) (AKL50A6)

Division : Lower Krishna Divn., Hyderabad

Local River : Hagari

River Water

Sub-Division : Lower Tungabhadra SD, Kurnool

S.No	Parameters	Flood Jun - Oct				
		2001	2002	2003	2004	2005
	PHYSICAL					
1	Q (cumec)	101.5	2.406	83.69	56.50	47.57
2	EC_GEN (µmho/cm)	1158	2550	930	563	1157
3	pH_GEN (pH units)	8.3	7.9	7.9	8.1	8.1
4	TDS (mg/L)					
5	Temp (deg C)	28.0	29.0	30.0	27.5	27.0
6	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	12.4	28.2	0.0	0.0	3.9
2	ALK-TOT (mgCaCO3/L)	129	185	164	151	189
3	B (mg/L)	0.02	0.02	0.00	0.00	0.00
4	Ca (mg/L)	50	11	36	25	53
5	Cl (mg/L)	126.8	284.9	80.0	48.0	142.2
6	CO3 (mg/L)	15.0	34.0	0.0	0.0	4.7
7	F (mg/L)	0.48	0.91	0.65	0.99	0.78
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	127	157	200	185	221
10	K (mg/L)	3.1	4.9	3.9	1.6	3.0
11	Mg (mg/L)	30.4	66.5	59.5	12.0	20.3
12	Na (mg/L)	121.9	239.0	81.0	69.0	120.7
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.00	0.00
14	NO2+NO3 (mg N/L)	0.46	0.63	0.01	0.01	0.01
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.46	0.63	0.01	0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.245	0.025	0.500	0.001	0.001
19	SiO2 (mg/L)	8.1	7.1	14.1	15.1	13.4
20	SO4 (mg/L)	129.0	295.0	125.0	77.0	160.0
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.4	0.2	3.4	0.8	1.8
2	COD (mg/L)					
3	DO (mg/L)	6.0	5.7	4.4	4.7	5.7
4	DO_SAT% (%)	77	74	58	59	72
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
7	TOC (mg/L)					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Ni (µg/L)					
6	Pb (µg/L)					
7	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	125	27	90	63	132
2	HAR_Total (mgCaCO3/L)	252	304	338	113	216
3	Na% (%)	51	63	34	56	55
4	RSC (-)	0.0	0.0	0.0	0.8	0.2
5	SAR (-)	3.4	6.0	1.9	2.8	3.6
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : T Ramapuram (Seasonal) (AKL50A6)

Division : Lower Krishna Divn., Hyderabad

Local River : Hagari

River Water

Sub-Division : Lower Tungabhadra SD, Kurnool

S.No	Parameters	Flood Jun - Oct				
		2006	2007	2008	2009	2010
	PHYSICAL					
1	Q (cumec)	25.67	21.96	56.06	225.5	45.64
2	EC_GEN (µmho/cm)	1971	1445	1176	1432	1695
3	pH_GEN (pH units)	8.2	8.1	8.1	8.1	8.2
4	TDS (mg/L)					
5	Temp (deg C)	26.0	26.6	26.5	26.3	25.8
6	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	4.0	3.0	2.7	2.0
2	ALK-TOT (mgCaCO3/L)	243	238	188	185	213
3	B (mg/L)	0.00	0.00	0.00	0.00	0.00
4	Ca (mg/L)	73	70	60	47	53
5	Cl (mg/L)	247.0	185.4	167.0	179.1	193.8
6	CO3 (mg/L)	0.0	4.8	3.6	3.2	2.4
7	F (mg/L)	1.10	1.39	0.79	0.84	0.95
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	297	280	222	220	255
10	K (mg/L)	6.7	5.4	4.1	4.4	5.2
11	Mg (mg/L)	39.3	28.2	18.0	23.0	30.6
12	Na (mg/L)	325.0	239.0	181.5	170.5	237.9
13	NH3-N (mg N/L)	0.00	0.05	0.05	0.00	0.00
14	NO2+NO3 (mg N/L)	0.00	0.35	0.01	1.54	0.00
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.00	0.35	0.01	1.54	0.00
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.001	0.001	0.000	0.317
19	SiO2 (mg/L)	18.3	17.4	16.3	14.6	15.1
20	SO4 (mg/L)	411.0	235.6	239.0	294.5	397.5
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.1	1.6	0.6	0.9	1.2
2	COD (mg/L)		23.3	28.2	49.5	22.7
3	DO (mg/L)	6.5	6.0	5.6	6.2	6.0
4	DO_SAT% (%)	81	75	69	77	74
5	FCol-MPN (MPN/100mL)				16000	5590
6	Tcol-MPN (MPN/100mL)				16000	6690
7	TOC (mg/L)					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Ni (µg/L)					
6	Pb (µg/L)					
7	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	182	175	149	118	132
2	HAR_Total (mgCaCO3/L)	346	293	224	213	260
3	Na% (%)	66	63	62	60	65
4	RSC (-)	0.0	0.0	0.1	0.0	0.3
5	SAR (-)	7.5	6.0	5.1	4.9	6.4
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : T Ramapuram (Seasonal) (AKL50A6)

Division : Lower Krishna Divn., Hyderabad

Local River : Hagari

River Water

Sub-Division : Lower Tungabhadra SD, Kurnool

S.No	Parameters	Flood Jun - Oct				
		2011	2012	2013	2014	2015
	PHYSICAL					
1	Q (cumec)	7.341	61.02	18.68	10.65	48.85
2	EC_GEN (µmho/cm)	1794	1088	1740	1213	979
3	pH_GEN (pH units)	8.2	8.0	8.2	8.0	7.7
4	TDS (mg/L)	895	696	1164	690	627
5	Temp (deg C)	26.2	25.0	25.0	24.2	27.5
6	Turb (NTU)	1.00	40.00	0.10	214.80	64.75
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.8	0.0	0.0	0.8	0.0
2	ALK-TOT (mgCaCO3/L)	233	157	241	159	151
3	B (mg/L)	0.00	0.17	0.42	0.32	0.45
4	Ca (mg/L)	58	41	44	39	38
5	Cl (mg/L)	247.1	117.4	231.8	129.7	95.1
6	CO3 (mg/L)	1.0	0.0	0.0	1.0	0.0
7	F (mg/L)	1.93	0.85	0.80	1.02	0.91
8	Fe (mg/L)	0.0	0.1	0.1	0.1	0.1
9	HCO3 (mg/L)	282	192	294	192	184
10	K (mg/L)	5.6	4.4	5.5	4.7	4.0
11	Mg (mg/L)	33.9	24.1	25.3	22.5	21.6
12	Na (mg/L)	254.3	98.1	258.0	176.1	138.7
13	NH3-N (mg N/L)	0.00	0.01	0.01	0.02	0.01
14	NO2+NO3 (mg N/L)	0.48	1.70	0.78	1.79	1.76
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.01	0.00
16	NO3-N (mgN/L)	0.48	1.70	0.78	1.78	1.76
17	o-PO4-P (mg P/L)	0.612	0.361	0.440	0.291	0.304
18	P-Tot (mgP/L)	0.612			0.304	
19	SiO2 (mg/L)	15.8	7.8	13.3	13.4	14.2
20	SO4 (mg/L)	352.0	100.5	172.0	214.0	159.0
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.3	1.1	1.2	1.0	1.7
2	COD (mg/L)	31.7	27.6	2.4	22.8	18.0
3	DO (mg/L)	5.8	5.2	6.2	5.6	5.4
4	DO_SAT% (%)	71	63	75	67	69
5	FCol-MPN (MPN/100mL)	12058	8250	16000	772	5251
6	Tcol-MPN (MPN/100mL)	12058	8050	16000	2260	12085
7	TOC (mg/L)	4.0	3.6			20.5
	TRACE & TOXIC					
1	As (µg/L)		7.38			
2	Cd (µg/L)		2.49			
3	Cr (µg/L)		23.65			
4	Cu (µg/L)					
5	Ni (µg/L)		8.51			
6	Pb (µg/L)		3.31			
7	Zn (µg/L)		28.13			
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	146	102	110	98	94
2	HAR_Total (mgCaCO3/L)	287	202	216	192	184
3	Na% (%)	65	51	72	66	61
4	RSC (-)	0.3	0.0	0.5	0.0	0.0
5	SAR (-)	6.6	3.1	7.7	5.6	4.4
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : T Ramapuram (Seasonal) (AKL50A6)

Division : Lower Krishna Divn., Hyderabad

Local River : Hagari

River Water

Sub-Division : Lower Tungabhadra SD, Kurnool

S.No	Parameters	Winter				
		Nov - Feb				
		2001-2002	2002-2003	2003-2004	2004-2005	2005-2006
	PHYSICAL					
1	Q (cumec)	14.80	16.61	9.045	14.05	41.12
2	EC_GEN (µmho/cm)	1651	1308	1500	1233	1210
3	pH_GEN (pH units)	8.4	8.4	8.3	8.1	8.0
4	TDS (mg/L)					
5	Temp (deg C)	25.5	26.7	27.0	27.5	23.0
6	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	17.4	23.2	17.9	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	148	169	316	214	210
3	B (mg/L)	0.02	0.02	0.00	0.00	0.01
4	Ca (mg/L)	47	20	61	48	60
5	Cl (mg/L)	212.3	201.3	119.9	134.7	141.5
6	CO3 (mg/L)	21.0	28.0	21.6	0.0	0.0
7	F (mg/L)	0.75	0.74	0.91	0.89	0.85
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	138	150	342	262	256
10	K (mg/L)	3.4	3.8	3.5	3.4	
11	Mg (mg/L)	39.4	37.1	25.9	28.0	19.0
12	Na (mg/L)	206.6	144.3	157.7	143.8	
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.00	0.00
14	NO2+NO3 (mg N/L)	0.25	0.40	0.01	0.01	0.01
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.25	0.40	0.01	0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.058	0.117	0.001	0.001	0.001
19	SiO2 (mg/L)	6.2	5.3	15.0	13.2	9.1
20	SO4 (mg/L)	269.5	198.0	166.0	253.8	193.8
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.8	2.5	1.6	1.1	0.3
2	COD (mg/L)					
3	DO (mg/L)	7.3	6.0	6.6	6.3	5.1
4	DO_SAT% (%)	89	75	83	80	59
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
7	TOC (mg/L)					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Ni (µg/L)					
6	Pb (µg/L)					
7	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	117	51	152	119	150
2	HAR_Total (mgCaCO3/L)	281	205	260	236	229
3	Na% (%)	61	61	56	57	
4	RSC (-)	0.0	0.0	1.2	0.1	0.0
5	SAR (-)	5.3	4.5	4.3	4.1	
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : T Ramapuram (Seasonal) (AKL50A6)

Division : Lower Krishna Divn., Hyderabad

Local River : Hagari

River Water

Sub-Division : Lower Tungabhadra SD, Kurnool

S.No	Parameters	Winter				
		Nov - Feb				
		2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	PHYSICAL					
1	Q (cumec)	64.11	59.03	40.96	31.96	79.42
2	EC_GEN (µmho/cm)	933	1150	1170	1380	1040
3	pH_GEN (pH units)	8.4	8.2	8.3	8.5	8.1
4	TDS (mg/L)					
5	Temp (deg C)	26.0	25.0	25.0	27.0	25.0
6	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	15.8	0.0	8.0	8.0	0.0
2	ALK-TOT (mgCaCO3/L)	240	220	216	220	200
3	B (mg/L)	0.00	0.00	0.00	0.00	0.00
4	Ca (mg/L)	42	69	61	79	45
5	Cl (mg/L)	92.0	137.1	131.4	164.1	122.5
6	CO3 (mg/L)	19.0	0.0	9.6	9.6	0.0
7	F (mg/L)	0.78	0.80	0.97	1.08	0.69
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	254	268	244	249	244
10	K (mg/L)	3.4	3.9	3.2	3.8	4.1
11	Mg (mg/L)	22.0	16.0	16.5	22.4	24.3
12	Na (mg/L)	155.0	185.0	149.0	173.2	134.0
13	NH3-N (mg N/L)	0.00	0.05	0.05	0.00	0.00
14	NO2+NO3 (mg N/L)	0.00	0.01	0.01	1.70	0.00
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.00	0.01	0.01	1.70	0.00
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.001	0.001	0.000	0.580
19	SiO2 (mg/L)	10.5	11.6	12.2	13.1	9.2
20	SO4 (mg/L)	148.0	110.0	161.5	271.0	160.0
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.7	1.0	0.5	0.9	0.5
2	COD (mg/L)		31.0	25.2	21.7	13.8
3	DO (mg/L)	6.7	6.6	6.5	6.9	6.6
4	DO_SAT% (%)	82	80	79	87	80
5	FCol-MPN (MPN/100mL)				2800	16000
6	Tcol-MPN (MPN/100mL)				3500	16000
7	TOC (mg/L)					
	TRACE & TOXIC					
1	As (µg/L)				2.78	
2	Cd (µg/L)				0.00	
3	Cr (µg/L)				0.00	
4	Cu (µg/L)					
5	Ni (µg/L)				2.66	
6	Pb (µg/L)				0.00	
7	Zn (µg/L)				4.29	
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	104	173	153	196	112
2	HAR_Total (mgCaCO3/L)	196	239	221	290	214
3	Na% (%)	63	62	59	56	57
4	RSC (-)	0.9	0.0	0.0	0.0	0.0
5	SAR (-)	4.8	5.2	4.4	4.4	4.0
	PESTICIDES					
1	Aldrin (µg/L)				0.000	
2	BHC (µg/L)				0.199	
3	DDT (µg/L)				0.015	
4	Dieldrin (µg/L)				0.002	
5	Endos (µg/L)				0.052	

Water Quality Seasonal Average for the period: 2001-2016

Station Name : T Ramapuram (Seasonal) (AKL50A6)

Division : Lower Krishna Divn., Hyderabad

Local River : Hagari

River Water

Sub-Division : Lower Tungabhadra SD, Kurnool

S.No	Parameters	Winter				
		Nov - Feb				
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
	PHYSICAL					
1	Q (cumec)	81.42	18.70	44.38	19.02	12.17
2	EC_GEN (µmho/cm)	1010	1360	1240	1465	3509
3	pH_GEN (pH units)	8.2	8.1	8.2	8.2	8.3
4	TDS (mg/L)	570	796	724	927	874
5	Temp (deg C)	27.0	25.0	26.0	22.8	24.4
6	Turb (NTU)	1.00	0.10	35.00	5.33	27.75
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	2.8
2	ALK-TOT (mgCaCO3/L)	224	237	220	227	230
3	B (mg/L)	0.00	0.37	0.38	0.25	0.01
4	Ca (mg/L)	33	53	54	51	50
5	Cl (mg/L)	123.0	151.7	136.2	171.7	178.2
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	3.3
7	F (mg/L)	0.82	0.79	0.74	0.88	0.76
8	Fe (mg/L)	0.0	0.0	0.0	0.1	0.1
9	HCO3 (mg/L)	273	289	268	277	274
10	K (mg/L)	3.5	1.5	4.2	3.8	4.8
11	Mg (mg/L)	19.9	31.1	21.4	29.0	28.4
12	Na (mg/L)	145.5	192.4	179.0	156.9	209.3
13	NH3-N (mg N/L)	0.00	0.05	0.00	0.04	0.00
14	NO2+NO3 (mg N/L)	0.70	0.43	1.48	2.10	1.96
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.06	0.02
16	NO3-N (mgN/L)	0.70	0.43	1.48	2.04	1.94
17	o-PO4-P (mg P/L)	0.858	0.356	0.360	0.259	0.206
18	P-Tot (mgP/L)	0.858				
19	SiO2 (mg/L)	11.7	14.0	12.4	11.1	9.5
20	SO4 (mg/L)	182.0	115.0	184.0	175.5	276.5
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.3	0.9	1.2	0.6	1.2
2	COD (mg/L)	13.0	7.7	6.5	14.0	9.9
3	DO (mg/L)	5.9	6.8	6.8	7.0	7.1
4	DO_SAT% (%)	74	82	84	81	84
5	FCol-MPN (MPN/100mL)	16000	2400	16000	1858	2750
6	Tcol-MPN (MPN/100mL)	16000	5000	16000	9100	16000
7	TOC (mg/L)	3.7	2.7		26.8	16.7
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)				5.06	
3	Cr (µg/L)				3.46	
4	Cu (µg/L)				1.70	
5	Ni (µg/L)				21.12	
6	Pb (µg/L)				26.13	
7	Zn (µg/L)				6.35	
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	83	132	134	126	125
2	HAR_Total (mgCaCO3/L)	165	262	223	247	243
3	Na% (%)	65	62	63	56	65
4	RSC (-)	1.2	0.0	0.0	0.2	0.2
5	SAR (-)	4.9	5.2	5.2	4.4	5.9
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : T Ramapuram (Seasonal) (AKL50A6)

Division : Lower Krishna Divn., Hyderabad

Local River : Hagari

River Water

Sub-Division : Lower Tungabhadra SD, Kurnool

S.No	Parameters	Summer					
		Mar - May					
		2002	2003	2004	2006	2015	2016
	PHYSICAL						
1	Q (cumec)			0.176	0.351	10.39	47.89
2	EC_GEN (µmho/cm)			1810	2805	1875	201
3	pH_GEN (pH units)			8.4	8.0	7.8	7.2
4	TDS (mg/L)					1303	
5	Temp (deg C)			27.0	26.0	27.0	26.0
6	Turb (NTU)					12.33	94.00
	CHEMICAL						
1	Alk-Phen (mgCaCO3/L)			9.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)			172	243	247	120
3	B (mg/L)			0.00	0.01	0.40	
4	Ca (mg/L)			57	92	53	38
5	Cl (mg/L)			248.4	39.0	251.6	35.1
6	CO3 (mg/L)			10.8	0.0	0.0	0.0
7	F (mg/L)			0.38	1.29	1.00	0.74
8	Fe (mg/L)			0.0	0.0	0.1	0.0
9	HCO3 (mg/L)			188	296	302	146
10	K (mg/L)			5.5	6.6	6.6	3.3
11	Mg (mg/L)			33.5	50.0	30.8	20.6
12	Na (mg/L)			198.0	195.0	281.5	81.4
13	NH3-N (mg N/L)			0.00	0.00	0.02	0.02
14	NO2+NO3 (mg N/L)			0.01	0.01	1.13	1.78
15	NO2-N (mgN/L)			0.00	0.00	0.07	0.00
16	NO3-N (mgN/L)			0.01	0.01	1.07	1.78
17	o-PO4-P (mg P/L)					0.187	0.111
18	P-Tot (mgP/L)			0.001	0.001		
19	SiO2 (mg/L)			19.5	17.5	10.6	12.0
20	SO4 (mg/L)			185.0	355.0	388.0	1.0
	BIOLOGICAL/BACTERIOLOGICAL						
1	BOD3-27 (mg/L)			1.7	0.6	1.3	1.3
2	COD (mg/L)				85.0	21.8	
3	DO (mg/L)			7.5	5.4	5.0	4.0
4	DO_SAT% (%)			94	67	63	49
5	FCol-MPN (MPN/100mL)					5335	2
6	Tcol-MPN (MPN/100mL)					5427	2200
7	TOC (mg/L)					43.6	
	TRACE & TOXIC						
1	As (µg/L)					13.81	
2	Cd (µg/L)					3.49	
3	Cr (µg/L)					6.51	
4	Cu (µg/L)						
5	Ni (µg/L)					20.72	
6	Pb (µg/L)					29.07	
7	Zn (µg/L)					16.28	
	CHEMICAL INDICES						
1	HAR_Ca (mgCaCO3/L)			142	230	133	95
2	HAR_Total (mgCaCO3/L)			282	438	261	181
3	Na% (%)			60	49	69	49
4	RSC (-)			0.0	0.0	0.0	0.0
5	SAR (-)			5.1	4.1	7.6	2.6
	PESTICIDES						
1	Aldrin (µg/L)				0.010		
2	BHC (µg/L)				0.100		
3	DDT (µg/L)				0.100		
4	Dieldrin (µg/L)				0.072		
5	Endos (µg/L)				0.100		

Samples not collected during Summer season 2002, 2003 and 2005

Site Downgraded from 2006 onwards.

HISTORY SHEET

		Water Year	: 2015-2016
Site	: KELLODU	Code	: AKL50T9
State	: Karnataka	District	Chitradurga
Basin	: Krishna	Independent River	: Krishna
Tributary	: Tungabhadra	Sub Tributary	: Vedavathi
Sub-Sub Tributary	:	Local River	: Vedavathi
Division	: Cauvery Division, Bangalore	Sub-Division	: Upper Tungabhadra SD Davangere
Drainage Area	: 4320 Sq. Km.	Bank	: Left
Latitude	: 13°45'15"	Longitude	: 76°19'11"
	Opening Date	Closing Date	
Gauge	: 01/06/1990		
Discharge	: 11/07/1990		
Sediment	:		
Water Quality	: 01/07/1994		

Water Quality Datasheet for the period : 2015-2016

Station Name : KELLODU (AKL50T9)

Division : Cauvery Division, Bangalore

Local River : Vedavathi

River Water Analysis Division : Upper Tungabhadra SD Davangere

S.No	Parameters	01/09/2015	05/10/2015	02/11/2015	01/12/2015	
		A	A	A	A	
	PHYSICAL					
1	Q (cumec)	0.478	72.03	1.918	1.951	
2	Colour_Cod (-)	Clear	Brown	Clear	Clear	
3	EC_GEN (µmho/cm)	673	183	747	775	
4	Odour_Code (-)	odour free	rotten egg	odour free	odour free	
5	pH_GEN (pH units)	8.2	7.6	8.2	8.2	
6	Temp (deg C)	28.0	27.0	28.0	27.5	
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	
2	ALK-TOT (mgCaCO3/L)	170	75	243	272	
3	B (mg/L)	0.58	0.30	0.32	0.30	
4	Ca (mg/L)	22	13	35	35	
5	Cl (mg/L)	91.9	10.3	100.1	90.5	
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	
7	F (mg/L)	0.95	0.15	0.68	0.34	
8	Fe (mg/L)	0.2	0.6	0.7	0.2	
9	HCO3 (mg/L)	207	91	297	332	
10	K (mg/L)	5.4	4.0	5.0	3.6	
11	Mg (mg/L)	20.4	3.9	19.4	25.3	
12	Na (mg/L)	96.2	18.5	102.1	100.2	
13	NO2+NO3 (mg N/L)	1.32	0.53	1.13	0.92	
14	NO2-N (mgN/L)	0.04	0.03	0.00	0.01	
15	NO3-N (mgN/L)	1.28	0.50	1.13	0.91	
16	o-PO4-P (mg P/L)	0.424	0.331	0.444	0.455	
17	SiO2 (mg/L)	18.3	6.4	30.7	9.3	
18	SO4 (mg/L)	42.2	6.2	20.8	19.2	
	BIOLOGICAL/BACTERIOLOGICAL					
	TRACE & TOXIC					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	56	32	88	88	
2	HAR_Total (mgCaCO3/L)	141	48	169	193	
3	Na% (%)	59	43	56	53	
4	RSC (-)	0.6	0.5	1.5	1.6	
5	SAR (-)	3.5	1.2	3.4	3.1	
	PESTICIDES					

Samples not collected from Jun 15 to Aug 15 and Jan 16 to May 16 due to no flow / dry bed condition

Water Quality Summary for the period : 2015-2016

Station Name : KELLODU (AKL50T9)

Division : Cauvery Division, Bangalore

Local River : Vedavathi

Sub-Division : Upper Tungabhadra SD Davangere

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	366	77.90	0.000	2.168
2	EC_GEN (μmho/cm)	4	775	183	595
3	pH_GEN (pH units)	4	8.2	7.6	8.1
4	Temp (deg C)	4	28.0	27.0	27.6
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	4	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	4	272	75	190
3	B (mg/L)	4	0.58	0.30	0.38
4	Ca (mg/L)	4	35	13	26
5	Cl (mg/L)	4	100.1	10.3	73.2
6	CO3 (mg/L)	4	0.0	0.0	0
7	F (mg/L)	4	0.95	0.15	0.53
8	Fe (mg/L)	4	0.7	0.2	0.4
9	HCO3 (mg/L)	4	332	91	232
10	K (mg/L)	4	5.4	3.6	4.5
11	Mg (mg/L)	4	25.3	3.9	17.3
12	Na (mg/L)	4	102.1	18.5	79.3
13	NO2+NO3 (mg N/L)	4	1.32	0.53	0.98
14	NO2-N (mgN/L)	4	0.04	0.00	0.02
15	NO3-N (mgN/L)	4	1.28	0.50	0.96
16	o-PO4-P (mg P/L)	4	0.455	0.331	0.413
17	SiO2 (mg/L)	4	30.7	6.4	16.2
18	SO4 (mg/L)	4	42.2	6.2	22.1
	BIOLOGICAL/BACTERIOLOGICAL				
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	4	88	32	66
2	HAR_Total (mgCaCO3/L)	4	193	48	138
3	Na% (%)	4	59	43	53
4	RSC (-)	4	1.6	0.5	1.1
5	SAR (-)	4	3.5	1.2	2.8
	PESTICIDES				

Water Quality Seasonal Average for the period: 2001-2016

Station Name : KELLODU (AKL50T9)

Division : Cauvery Division, Bangalore

Local River : Vedavathi

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Flood				
		Jun - Oct				
		2001	2002	2003	2004	2009
	PHYSICAL					
1	Q (cumec)	0.396	1.043	0.000	Samples not collected during flood season 2004 to 2008, 2011 and 2013 due to no flow / dry bed	4.681
2	EC_GEN (µmho/cm)		200	272		631
3	pH_GEN (pH units)		8.1	7.4		8.1
4	Temp (deg C)		24.5	26.0		22.9
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)		2	22		237
2	B (mg/L)					0.11
3	Ca (mg/L)		6	24		37
4	Cl (mg/L)		46.5	17.0		55.8
5	F (mg/L)		0.53	0.30		0.41
6	Fe (mg/L)		0.4	1.4		0.1
7	HCO3 (mg/L)		2	27		289
8	K (mg/L)		2.3	3.1		5.4
9	Mg (mg/L)		4.4	12.5		21.4
10	Na (mg/L)		26.7	14.0		73.5
11	NO2+NO3 (mg N/L)		0.98	25.22		0.87
12	NO2-N (mgN/L)		0.00	0.00		0.00
13	NO3-N (mgN/L)		0.98	25.22		0.87
14	o-PO4-P (mg P/L)		0.021	0.031		0.000
15	SiO2 (mg/L)		40.5	0.9		19.4
16	SO4 (mg/L)		22.1	10.1		14.1
	BIOLOGICAL/BACTERIOLOGICAL					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Ni (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)		15	61		92
2	HAR_Total (mgCaCO3/L)		33	113		181
3	Na% (%)		62	21		46
4	RSC (-)		0.0	0.0		1.1
5	SAR (-)		2.0	0.6		2.4
	PESTICIDES					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : KELLODU (AKL50T9)

Division : Cauvery Division, Bangalore

Local River : Vedavathi

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Flood			
		Jun - Oct			
		2010	2012	2014	2015
	PHYSICAL				
1	Q (cumec)	34.86	0.682	14.17	36.25
2	EC_GEN (µmho/cm)	606	249	378	428
3	pH_GEN (pH units)	8.0	7.9	7.7	7.9
4	Temp (deg C)	23.5	26.0	27.0	27.5
	CHEMICAL				
1	ALK-TOT (mgCaCO3/L)	208	81	136	122
2	B (mg/L)			0.30	0.44
3	Ca (mg/L)	22	10	26	18
4	Cl (mg/L)	60.1	22.7	32.0	51.1
5	F (mg/L)	0.42	0.25	0.19	0.55
6	Fe (mg/L)	0.1		0.1	0.4
7	HCO3 (mg/L)	254	98	166	149
8	K (mg/L)	4.6	4.2	10.5	4.7
9	Mg (mg/L)	13.0	3.9	10.7	12.2
10	Na (mg/L)	96.4	35.5	37.2	57.4
11	NO2+NO3 (mg N/L)	0.95	1.68	1.06	0.92
12	NO2-N (mgN/L)	0.03	0.01	0.01	0.03
13	NO3-N (mgN/L)	0.92	1.67	1.05	0.89
14	o-PO4-P (mg P/L)	0.007		0.031	0.377
15	SiO2 (mg/L)	13.2		7.3	12.3
16	SO4 (mg/L)	15.8	14.5	17.9	24.2
	BIOLOGICAL/BACTERIOLOGICAL				
	TRACE & TOXIC				
1	As (µg/L)		2.1		
2	Cd (µg/L)		0.0		
3	Cr (µg/L)		10.0		
4	Cu (µg/L)		14.4		
5	Ni (µg/L)		4.5		
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	55	24	64	44
2	HAR_Total (mgCaCO3/L)	109	40	109	95
3	Na% (%)	64	63	40	51
4	RSC (-)	2.0	0.8	0.6	0.6
5	SAR (-)	4.0	2.4	1.6	2.4
	PESTICIDES				

Water Quality Seasonal Average for the period: 2001-2016

Station Name : KELLODU (AKL50T9)

Division : Cauvery Division, Bangalore

Local River : Vedavathi

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Winter				
		Nov - Feb				
		2001-2002	2002-2003	2003-2004	2005-2006	2009-2010
	PHYSICAL					
1	Q (cumec)		6.673	Samples not collected during winter season 2001-02, 2003-04, 2004-05, 2006-07 to 2013-14 due to no flow / dry bed	3.440	3.822
2	EC_GEN (µmho/cm)		221		594	802
3	pH_GEN (pH units)		7.7		8.1	8.1
4	Temp (deg C)		24.5		25.0	23.5
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)		59		10	280
2	B (mg/L)					0.17
3	Ca (mg/L)		6		14	37
4	Cl (mg/L)		32.0		77.3	82.0
5	F (mg/L)		0.47		0.38	0.53
6	Fe (mg/L)		0.0		1.9	0.0
7	HCO3 (mg/L)		36		12	342
8	K (mg/L)		3.1		5.2	4.7
9	Mg (mg/L)		4.4		10.8	24.6
10	Na (mg/L)		25.5		59.0	103.8
11	NO2+NO3 (mg N/L)		0.14		18.91	0.84
12	NO2-N (mgN/L)		0.00		9.38	0.03
13	NO3-N (mgN/L)		0.14		9.53	0.81
14	o-PO4-P (mg P/L)		0.021		0.052	0.007
15	SiO2 (mg/L)		30.0		1.8	22.6
16	SO4 (mg/L)		7.7		11.4	15.8
	BIOLOGICAL/BACTERIOLOGICAL					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Ni (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)		15		34	93
2	HAR_Total (mgCaCO3/L)		33		79	196
3	Na% (%)		60		60	53
4	RSC (-)		0.0		0.0	1.7
5	SAR (-)		1.9		2.9	3.2
	PESTICIDES					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : KELLODU (AKL50T9)

Division : Cauvery Division, Bangalore

Local River : Vedavathi

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Winter				Summer	
		Nov - Feb				Mar - May	
		2010-2011	2011-2012	2014-2015	2015-2016	2002	2008
	PHYSICAL						
1	Q (cumec)	11.04	1.822	2.103	1.935	Samples not collected during summer season 2002 to 2007 and from 2009 to 2016 due to no flow / dry bed	0.402
2	EC_GEN (µmho/cm)	847	613	493	761		175
3	pH_GEN (pH units)	8.2	7.6	8.4	8.2		8.2
4	Temp (deg C)	23.5	23.0	28.0	27.8		24.5
	CHEMICAL						
1	ALK-TOT (mgCaCO3/L)	297	206	181	258		29
2	B (mg/L)	0.11		0.31	0.31		0.00
3	Ca (mg/L)	38	22	40	35		6
4	Cl (mg/L)	84.7	68.2	49.3	95.3		33.4
5	F (mg/L)	0.61		0.36	0.51		0.11
6	Fe (mg/L)	0.0	0.0	0.0	0.4		0.4
7	HCO3 (mg/L)	362	251	221	314		35
8	K (mg/L)	5.7	2.5	12.3	4.3		3.1
9	Mg (mg/L)	28.5	10.7	15.6	22.4		3.9
10	Na (mg/L)	110.5	101.2	37.5	101.1		25.8
11	NO2+NO3 (mg N/L)	1.03	1.08	1.22	1.03		0.78
12	NO2-N (mgN/L)	0.00	0.00	0.00	0.01		0.00
13	NO3-N (mgN/L)	1.03	1.08	1.22	1.02		0.78
14	o-PO4-P (mg P/L)	0.003	0.000	0.000	0.450		0.010
15	SiO2 (mg/L)	18.2	14.1	5.6	20.0		12.6
16	SO4 (mg/L)	25.9	21.2	6.8	20.0		12.5
	BIOLOGICAL/BACTERIOLOGICAL						
	TRACE & TOXIC						
1	As (µg/L)						
2	Cd (µg/L)						
3	Cr (µg/L)						
4	Cu (µg/L)						
5	Ni (µg/L)						
	CHEMICAL INDICES						
1	HAR_Ca (mgCaCO3/L)	96	56	100	88		14
2	HAR_Total (mgCaCO3/L)	215	101	165	181		30
3	Na% (%)	51	68	31	54		62
4	RSC (-)	1.7	2.1	0.4	1.6		0.0
5	SAR (-)	3.2	4.4	1.3	3.3		2.0
	PESTICIDES						

HISTORY SHEET

		Water Year	: 2015-2016
Site	: HOOVINAHOLE	Code	: HOOVINAHOLE
State	: Karnataka	District	Chitradurga
Basin	: Krishna	Independent River	: Krishna
Tributary	: Tungabhadra	Sub Tributary	: Swarnamukhi
Sub-Sub Tributary	:	Local River	: Swarnamukhi
Division	: Cauvery Division, Bangalore	Sub-Division	: Upper Tungabhadra SD Davangere
Drainage Area	: 2585 Sq. Km.	Bank	: Right
Latitude	: 13°58'57"	Longitude	: 76°44'57"
	Opening Date	Closing Date	
Gauge	: 28/11/1997		
Discharge	: 02/10/2001		
Sediment	:		
Water Quality	: 01/06/2008		

Water Quality Datasheet for the period : 2015-2016

Station Name : HOOVINAHOLE (HOOVINAHOLE)

Division : Cauvery Division, Bangalore

Local River : Swarnamukhi

River Water Analysis Division : Upper Tungabhadra SD Davangere

S.No	Parameters	01/12/2015	
		A	
	PHYSICAL		
1	Q (cumec)	6.473	
2	Colour_Cod (-)	Clear	
3	EC_GEN (μmho/cm)	441	
4	Odour_Code (-)	odour free	
5	pH_GEN (pH units)	8.1	
6	Temp (deg C)	17.0	
	CHEMICAL		
1	Alk-Phen (mgCaCO3/L)	0.0	
2	ALK-TOT (mgCaCO3/L)	166	
3	B (mg/L)	0.15	
4	Ca (mg/L)	26	
5	Cl (mg/L)	43.0	
6	CO3 (mg/L)	0.0	
7	F (mg/L)	0.17	
8	Fe (mg/L)	0.2	
9	HCO3 (mg/L)	202	
10	K (mg/L)	1.7	
11	Mg (mg/L)	12.6	
12	Na (mg/L)	48.5	
13	NO2+NO3 (mg N/L)	1.02	
14	NO2-N (mgN/L)	0.01	
15	NO3-N (mgN/L)	1.01	
16	o-PO4-P (mg P/L)	0.279	
17	SiO2 (mg/L)	8.9	
18	SO4 (mg/L)	8.6	
	BIOLOGICAL/BACTERIOLOGICAL		
	TRACE & TOXIC		
	CHEMICAL INDICES		
1	HAR_Ca (mgCaCO3/L)	64	
2	HAR_Total (mgCaCO3/L)	117	
3	Na% (%)	47	
4	RSC (-)	1.0	
5	SAR (-)	2.0	
	PESTICIDES		

Samples not collected from Jun 2015 to Nov 2015 and Jan 16 to May 16 due to no flow / dry bed

Water Quality Summary for the period : 2015-2016

Station Name : HOOVINAHOLE (HOOVINAHOLE)

Division : Cauvery Division, Bangalore

Local River : Swarnamukhi

Sub-Division : Upper Tungabhadra SD Davangere

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	366	7.174	0.000	0.146
2	EC_GEN (μmho/cm)	1	144	144	144
3	pH_GEN (pH units)	1	8.1	8.1	8.1
4	Temp (deg C)	1	17.0	17.0	17
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	1	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	1	166	166	166
3	B (mg/L)	1	0.15	0.15	0.15
4	Ca (mg/L)	1	26	26	26
5	Cl (mg/L)	1	43.0	43.0	43
6	CO3 (mg/L)	1	0.0	0.0	0
7	F (mg/L)	1	0.17	0.17	0.17
8	Fe (mg/L)	1	0.2	0.2	0.2
9	HCO3 (mg/L)	1	202	202	202
10	K (mg/L)	1	1.7	1.7	1.7
11	Mg (mg/L)	1	12.6	12.6	12.6
12	Na (mg/L)	1	48.5	48.5	48.5
13	NO2+NO3 (mg N/L)	1	1.02	1.02	1.02
14	NO2-N (mgN/L)	1	0.01	0.01	0.01
15	NO3-N (mgN/L)	1	1.01	1.01	1.01
16	o-PO4-P (mg P/L)	1	0.279	0.279	0.279
17	SiO2 (mg/L)	1	8.9	8.9	8.9
18	SO4 (mg/L)	1	8.6	8.6	8.6
	BIOLOGICAL/BACTERIOLOGICAL				
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	1	64	64	64
2	HAR_Total (mgCaCO3/L)	1	117	117	117
3	Na% (%)	1	47	47	47
4	RSC (-)	1	1.0	1.0	1
5	SAR (-)	1	2.0	2.0	2
	PESTICIDES				

Water Quality Seasonal Average for the period: 2008-2016

Station Name : HOOVINAHOLE (HOOVINAHOLE)

Division : Cauvery Division, Bangalore

Local River : Swarnamukhi

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Flood		
		Jun - Oct		
		2008	2009	2010
	PHYSICAL			
1	Q (cumec)		0.620	1.110
2	EC_GEN (µmho/cm)		851	1176
3	pH_GEN (pH units)		8.0	8.3
4	Temp (deg C)		28.0	24.5
	CHEMICAL			
1	Alk-Phen (mgCaCO3/L)		0.0	0.0
2	ALK-TOT (mgCaCO3/L)		262	375
3	B (mg/L)		0.11	
4	Ca (mg/L)		29	34
5	Cl (mg/L)		88.6	141.1
6	CO3 (mg/L)		0.0	0.0
7	F (mg/L)		0.76	0.57
8	Fe (mg/L)		0.0	0.1
9	HCO3 (mg/L)		319	457
10	K (mg/L)		2.8	3.4
11	Mg (mg/L)		17.5	26.2
12	Na (mg/L)		140.5	198.1
13	NO2+NO3 (mg N/L)		1.88	1.43
14	NO2-N (mgN/L)		0.00	0.01
15	NO3-N (mgN/L)		1.88	1.42
16	o-PO4-P (mg P/L)		0.000	0.010
17	SiO2 (mg/L)		26.6	0.0
18	SO4 (mg/L)		35.2	37.7
	BIOLOGICAL/BACTERIOLOGICAL			
	TRACE & TOXIC			
	CHEMICAL INDICES			
1	HAR_Ca (mgCaCO3/L)		72	84
2	HAR_Total (mgCaCO3/L)		145	193
3	Na% (%)		67	69
4	RSC (-)		2.4	3.7
5	SAR (-)		5.1	6.2
	PESTICIDES			

Samples not collected during flood season 2008 and from 2011 to 2015 due to dry bed/ no flow

Water Quality Seasonal Average for the period: 2008-2016

Station Name : HOOVINAHOLE (HOOVINAHOLE)

Division : Cauvery Division, Bangalore

Local River : Swarnamukhi

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Winter					Summer
		Nov - Feb					Mar - May
		2008-2009	2009-2010	2010-2011	2011-2012	2015-2016	2009
	PHYSICAL						
1	Q (cumec)	3.745	0.952	1.406	Samples not collected during winter season 2011-12 to 2014-15 due to dry bed / no flow	6.473	Samples not collected during summer season 2009 to 2015-16 due to dry bed / no flow
2	EC_GEN (µmho/cm)	682	1610	1453		144	
3	pH_GEN (pH units)	8.2	8.1	8.8		8.1	
4	Temp (deg C)	28.0	23.5	23.0		17.0	
	CHEMICAL						
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	69.0		0.0	
2	ALK-TOT (mgCaCO3/L)	244	471	438		166	
3	B (mg/L)	0.13	0.30	0.32		0.15	
4	Ca (mg/L)	34	34	16		26	
5	Cl (mg/L)	66.4	252.8	226.5		43.0	
6	CO3 (mg/L)	0.0	0.0	83.1		0.0	
7	F (mg/L)	0.47	1.42	1.46		0.17	
8	Fe (mg/L)	0.1	0.0	0.0		0.2	
9	HCO3 (mg/L)	297	574	366		202	
10	K (mg/L)	3.5	1.7	1.6		1.7	
11	Mg (mg/L)	17.5	28.2	27.2		12.6	
12	Na (mg/L)	95.0	322.0	278.1		48.5	
13	NO2+NO3 (mg N/L)		2.21	1.50		1.02	
14	NO2-N (mgN/L)	0.01	0.03	0.00		0.01	
15	NO3-N (mgN/L)		2.19	1.50		1.01	
16	o-PO4-P (mg P/L)	0.052	0.000	0.010		0.279	
17	SiO2 (mg/L)	17.4	30.0	23.0		8.9	
18	SO4 (mg/L)	24.6	19.1	17.1		8.6	
	BIOLOGICAL/BACTERIOLOGICAL						
	TRACE & TOXIC						
	CHEMICAL INDICES						
1	HAR_Ca (mgCaCO3/L)	84	84	40		64	
2	HAR_Total (mgCaCO3/L)	157	201	153		117	
3	Na% (%)	56	78	80		47	
4	RSC (-)	1.8	5.4	5.7		1.0	
5	SAR (-)	3.3	9.9	9.8		2.0	
	PESTICIDES						

HISTORY SHEET

		Water Year	:	2015-2016
Site	: MAROL	Code	:	AKLA0C4
State	: Karnataka	District		Haveri
Basin	: Krishna	Independent River	:	Krishna
Tributary	:	Sub Tributary	:	Varada
Sub-Sub Tributary	:	Local River	:	Varada
Division	: Cauvery Division, Bangalore	Sub-Division	:	Upper Tungabhadra SD Davangere
Drainage Area	: 4901 Sq. Km.	Bank	:	Right
Latitude	: 14°56'20"	Longitude	:	75°37'05"
	Opening Date	Closing Date		
Gauge	: 05/02/1965			
Discharge	: 01/02/1966			
Sediment	: 16/09/1972			
Water Quality	: 01/02/1973			

Water Quality Datasheet for the period : 2015-2016

Station Name : MAROL (AKLA0C4)

Division : Cauvery Division, Bangalore

Local River : Varada

River Water Analysis Division : Upper Tungabhadra SD Davangere

S.No	Parameters	01/07/2015	01/08/2015	01/09/2015	05/10/2015	
		A	A	A	A	
	PHYSICAL					Water samples not collected from Nov 2015 to May 2016 due to no flow / Dry Bed condition
1	Q (cumec)	109.8	29.35	12.97	104.9	
2	Colour_Cod (-)	Clear	Light Brown	Clear	Clear	
3	EC_GEN (µmho/cm)	82	104	126	173	
4	Odour_Code (-)	odour free	odour free	odour free	odour free	
5	pH_GEN (pH units)	7.2	7.2	7.6	7.4	
6	Temp (deg C)	26.5	27.0	27.0	26.5	
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	
2	ALK-TOT (mgCaCO3/L)	23	28	32	44	
3	B (mg/L)	0.09	0.42	1.62	0.26	
4	Ca (mg/L)	7	10	10	13	
5	Cl (mg/L)	9.9	11.0	17.8	22.7	
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	
7	F (mg/L)	0.04	0.06	0.21	0.13	
8	Fe (mg/L)	0.7	0.6	0.1	0.1	
9	HCO3 (mg/L)	27	35	39	54	
10	K (mg/L)	1.3	1.1	1.1	1.2	
11	Mg (mg/L)	3.4	2.9	4.4	7.8	
12	Na (mg/L)	4.1	6.2	7.3	9.4	
13	NO2+NO3 (mg N/L)	0.35	0.43	1.06	0.98	
14	NO2-N (mgN/L)	0.01	0.01	0.01	0.01	
15	NO3-N (mgN/L)	0.34	0.42	1.05	0.97	
16	o-PO4-P (mg P/L)	0.010	0.041	0.403	0.310	
17	SiO2 (mg/L)	7.1	8.2	22.4	11.5	
18	SO4 (mg/L)	7.0	8.7	5.3	11.0	
	BIOLOGICAL/BACTERIOLOGICAL					
	TRACE & TOXIC					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	18	24	26	32	
2	HAR_Total (mgCaCO3/L)	32	36	44	64	
3	Na% (%)	21	27	26	24	
4	RSC (-)	0.0	0.0	0.0	0.0	
5	SAR (-)	0.3	0.5	0.5	0.5	
	PESTICIDES					

Water Quality Summary for the period : 2015-2016

Station Name : MAROL (AKLA0C4)

Division : Cauvery Division, Bangalore

Local River : Varada

Sub-Division : Upper Tungabhadra SD Davangere

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	366	260.2	0.000	16.71
2	EC_GEN (µmho/cm)	4	173	82	121
3	pH_GEN (pH units)	4	7.6	7.2	7.3
4	Temp (deg C)	4	27.0	26.5	26.8
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	4	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	4	44	23	32
3	B (mg/L)	4	1.62	0.09	0.6
4	Ca (mg/L)	4	13	7	10
5	Cl (mg/L)	4	22.7	9.9	15.4
6	CO3 (mg/L)	4	0.0	0.0	0
7	F (mg/L)	4	0.21	0.04	0.11
8	Fe (mg/L)	4	0.7	0.1	0.4
9	HCO3 (mg/L)	4	54	27	39
10	K (mg/L)	4	1.3	1.1	1.2
11	Mg (mg/L)	4	7.8	2.9	4.6
12	Na (mg/L)	4	9.4	4.1	6.8
13	NO2+NO3 (mg N/L)	4	1.06	0.35	0.71
14	NO2-N (mgN/L)	4	0.01	0.01	0.01
15	NO3-N (mgN/L)	4	1.05	0.34	0.69
16	o-PO4-P (mg P/L)	4	0.403	0.010	0.191
17	SiO2 (mg/L)	4	22.4	7.1	12.3
18	SO4 (mg/L)	4	11.0	5.3	8
	BIOLOGICAL/BACTERIOLOGICAL				
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	4	32	18	25
2	HAR_Total (mgCaCO3/L)	4	64	32	44
3	Na% (%)	4	27	21	24
4	RSC (-)	4	0.0	0.0	0
5	SAR (-)	4	0.5	0.3	0.4
	PESTICIDES				

Water Quality Seasonal Average for the period: 2001-2016

Station Name : MAROL (AKLA0C4)

Division : Cauvery Division, Bangalore

Local River : Varada

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Flood				
		Jun - Oct				
		2001	2002	2003	2004	2005
	PHYSICAL					
1	Q (cumec)	0.000	52.36	68.42	93.45	129.9
2	EC_GEN (μmho/cm)		149	131	141	101
3	pH_GEN (pH units)		7.8	7.7	7.6	7.5
4	Temp (deg C)		25.5	28.4	26.1	26.0
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)		28	29	50	79
2	B (mg/L)			0.00		0.28
3	Ca (mg/L)		5	7	10	18
4	Cl (mg/L)		30.2	18.1	18.1	84.8
5	F (mg/L)		0.03	0.15	0.22	0.12
6	Fe (mg/L)		0.0	1.0		0.1
7	HCO3 (mg/L)		34	35	46	96
8	K (mg/L)		1.4	1.9	1.3	2.4
9	Mg (mg/L)		3.5	4.1	6.1	8.9
10	Na (mg/L)		22.7	11.2	13.1	59.9
11	NO2+NO3 (mg N/L)		0.14	0.13	3.31	
12	NO2-N (mgN/L)		0.00	0.00	1.85	
13	NO3-N (mgN/L)		0.14	0.13	1.46	0.10
14	o-PO4-P (mg P/L)		0.008	0.005	0.000	0.017
15	SiO2 (mg/L)		20.8	12.6	6.1	9.0
16	SO4 (mg/L)		2.0	4.2	1.4	1.6
	BIOLOGICAL/BACTERIOLOGICAL					
	TRACE & TOXIC					
1	As (μg/L)					
2	Cd (μg/L)					
3	Cr (μg/L)					
4	Cu (μg/L)					
5	Ni (μg/L)					
6	Pb (μg/L)					
7	Zn (μg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)		13	18	24	46
2	HAR_Total (mgCaCO3/L)		28	35	49	83
3	Na% (%)		61	40	37	63
4	RSC (-)		0.0	0.0	0.0	0.2
5	SAR (-)		1.9	0.9	0.8	4.6
	PESTICIDES					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : MAROL (AKLA0C4)

Division : Cauvery Division, Bangalore

Local River : Varada

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Flood				
		Jun - Oct				
		2006	2007	2008	2009	2010
	PHYSICAL					
1	Q (cumec)	189.5	267.3	160.3	269.1	290.1
2	EC_GEN (μmho/cm)	267	247	383	233	111
3	pH_GEN (pH units)	7.6	7.8	7.9	7.6	7.5
4	Temp (deg C)	26.3	25.6	25.5	23.9	24.4
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	79	65	79	69	34
2	B (mg/L)	0.00	0.10	0.39	0.05	
3	Ca (mg/L)	12	17	23	17	9
4	Cl (mg/L)	28.5	30.1	30.4	24.4	12.0
5	F (mg/L)	0.00	0.13	0.19	0.17	0.15
6	Fe (mg/L)	0.0	0.2	0.1	0.3	0.4
7	HCO3 (mg/L)	96	79	96	84	41
8	K (mg/L)	31.0	1.5	1.9	1.9	1.2
9	Mg (mg/L)	5.2	6.6	7.0	6.6	4.1
10	Na (mg/L)	23.1	24.1	21.7	23.2	8.0
11	NO2+NO3 (mg N/L)	3.45	0.87	1.02	1.08	0.75
12	NO2-N (mgN/L)	0.00	0.04	0.04	0.05	0.01
13	NO3-N (mgN/L)	3.45	0.82	0.98	1.03	0.73
14	o-PO4-P (mg P/L)	0.000	0.000	0.000	0.010	0.008
15	SiO2 (mg/L)	1.3	13.7	12.0	8.7	8.3
16	SO4 (mg/L)	1.3	8.8	13.2	11.8	5.5
	BIOLOGICAL/BACTERIOLOGICAL					
	TRACE & TOXIC					
1	As (μg/L)					
2	Cd (μg/L)					
3	Cr (μg/L)					
4	Cu (μg/L)					
5	Ni (μg/L)					
6	Pb (μg/L)					
7	Zn (μg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	31	42	58	43	23
2	HAR_Total (mgCaCO3/L)	53	70	87	70	40
3	Na% (%)	36	35	32	33	29
4	RSC (-)	0.5	0.0	0.0	0.0	0.0
5	SAR (-)	1.7	1.1	0.9	1.0	0.5
	PESTICIDES					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : MAROL (AKLA0C4)

Division : Cauvery Division, Bangalore

Local River : Varada

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Flood				
		Jun - Oct				
		2011	2012	2013	2014	2015
	PHYSICAL					
1	Q (cumec)	217.4	163.9	213.1	401.0	64.26
2	EC_GEN (μmho/cm)	129	101	195	150	121
3	pH_GEN (pH units)	7.1	7.3	7.3	7.2	7.3
4	Temp (deg C)	24.8	26.5	26.5	26.0	26.8
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	40	29	65	42	32
2	B (mg/L)			0.01	0.10	0.60
3	Ca (mg/L)	10	7	15	12	10
4	Cl (mg/L)	14.1	12.0	17.9	16.1	15.4
5	F (mg/L)	0.07	0.07	0.21	0.11	0.11
6	Fe (mg/L)	0.5		0.4	0.5	0.4
7	HCO3 (mg/L)	48	33	79	51	39
8	K (mg/L)	1.1	1.0	1.5	1.4	1.2
9	Mg (mg/L)	4.6	3.2	4.1	5.2	4.6
10	Na (mg/L)	9.4	7.8	20.9	10.2	6.8
11	NO2+NO3 (mg N/L)	0.90	1.08	1.78	1.95	0.71
12	NO2-N (mgN/L)	0.01	0.01	0.02	0.03	0.01
13	NO3-N (mgN/L)	0.89	1.06	1.76	1.91	0.69
14	o-PO4-P (mg P/L)	0.000		0.090	0.038	0.191
15	SiO2 (mg/L)	7.6		8.4	8.3	12.3
16	SO4 (mg/L)	6.3	5.4	9.1	7.8	8.0
	BIOLOGICAL/BACTERIOLOGICAL					
	TRACE & TOXIC					
1	As (μg/L)		5.1	8.6		
2	Cd (μg/L)		0.0	0.1		
3	Cr (μg/L)		2.0	1.0		
4	Cu (μg/L)		11.2	0.8		
5	Ni (μg/L)		1.1	10.5		
6	Pb (μg/L)			0.5		
7	Zn (μg/L)			0.0		
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	26	19	38	31	25
2	HAR_Total (mgCaCO3/L)	45	32	55	52	44
3	Na% (%)	30	32	37	27	24
4	RSC (-)	0.0	0.0	0.3	0.0	0.0
5	SAR (-)	0.6	0.6	1.0	0.6	0.4
	PESTICIDES					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : MAROL (AKLA0C4)

Division : Cauvery Division, Bangalore

Local River : Varada

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Winter			
		Nov - Feb			
		2003-2004	2005-2006	2006-2007	2007-2008
	PHYSICAL				
1	Q (cumec)	10.87	33.83	174.1	85.82
2	EC_GEN (μmho/cm)	280	160	272	155
3	pH_GEN (pH units)	8.2	7.7	8.2	7.6
4	Temp (deg C)	29.5	25.5	26.0	25.5
	CHEMICAL				
1	ALK-TOT (mgCaCO3/L)	33	79	21	24
2	B (mg/L)		0.29	0.00	0.02
3	Ca (mg/L)	25	14	16	6
4	Cl (mg/L)	18.1	79.0	24.1	31.2
5	F (mg/L)	0.09	0.15	0.00	0.00
6	Fe (mg/L)	0.0	0.1	0.0	0.0
7	HCO3 (mg/L)	40	96	26	29
8	K (mg/L)	2.0	1.6	31.5	0.4
9	Mg (mg/L)	14.0	7.6	6.6	3.4
10	Na (mg/L)	12.2	60.7	19.8	22.1
11	NO2+NO3 (mg N/L)	0.29		0.31	0.13
12	NO2-N (mgN/L)	0.00		0.00	0.00
13	NO3-N (mgN/L)	0.29		0.31	0.13
14	o-PO4-P (mg P/L)	0.000	0.017	0.000	0.000
15	SiO2 (mg/L)	6.3	2.6	0.6	16.2
16	SO4 (mg/L)	80.9	1.9	81.6	1.9
	BIOLOGICAL/BACTERIOLOGICAL				
	TRACE & TOXIC				
1	As (μg/L)				
2	Cd (μg/L)				
3	Cr (μg/L)				
4	Cu (μg/L)				
5	Ni (μg/L)				
6	Pb (μg/L)				
7	Zn (μg/L)				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	62	35	39	15
2	HAR_Total (mgCaCO3/L)	120	67	66	29
3	Na% (%)	18	66	29	62
4	RSC (-)	0.0	0.2	0.0	0.0
5	SAR (-)	0.5	3.2	1.1	1.8
	PESTICIDES				

Samples not collected during winter season 2001-2002, 2002-2003, 2004-2005, 2008-2009 due to No flow/ Dry bed

Water Quality Seasonal Average for the period: 2001-2016

Station Name : MAROL (AKLA0C4)

Division : Cauvery Division, Bangalore

Local River : Varada

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Winter					
		Nov - Feb					
		2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
	PHYSICAL						
1	Q (cumec)	23.03	72.23	11.05	95.09	184.3	
2	EC_GEN (μmho/cm)	283	241	215	276	259	
3	pH_GEN (pH units)	7.8	7.2	7.6	7.6	8.0	
4	Temp (deg C)	25.0	25.0	26.0	27.5	26.5	
	CHEMICAL						
1	ALK-TOT (mgCaCO3/L)	76	77	69	85	77	
2	B (mg/L)	0.03			0.01	0.21	
3	Ca (mg/L)	20	18	14	24	22	
4	Cl (mg/L)	34.6	27.5	22.0	32.7	37.3	
5	F (mg/L)	0.10			0.17	0.17	
6	Fe (mg/L)	0.1	0.0		0.1	0.0	
7	HCO3 (mg/L)	93	94	84	103	93	
8	K (mg/L)	1.4	1.3	1.0	1.5	5.0	
9	Mg (mg/L)	9.2	6.8	5.8	5.8	8.7	
10	Na (mg/L)	23.0	19.5	19.5	25.7	16.0	
11	NO2+NO3 (mg N/L)	1.07	1.16	1.13	1.53	1.57	
12	NO2-N (mgN/L)	0.01	0.01	0.03	0.11	0.01	
13	NO3-N (mgN/L)	1.06	1.15	1.11	1.42	1.56	
14	o-PO4-P (mg P/L)	0.000	0.047		0.021	0.000	
15	SiO2 (mg/L)	10.5	10.2		9.2	8.3	
16	SO4 (mg/L)	14.2	9.1	5.5	5.1	4.4	
	BIOLOGICAL/BACTERIOLOGICAL						
	TRACE & TOXIC						
1	As (μg/L)						
2	Cd (μg/L)					0.0	
3	Cr (μg/L)					2.6	
4	Cu (μg/L)					4.8	
5	Ni (μg/L)					0.0	
6	Pb (μg/L)					1.2	
7	Zn (μg/L)					10.0	
	CHEMICAL INDICES						
1	HAR_Ca (mgCaCO3/L)	50	46	36	60	56	
2	HAR_Total (mgCaCO3/L)	88	74	60	84	92	
3	Na% (%)	36	36	41	39	26	
4	RSC (-)	0.0	0.1	0.2	0.0	0.0	
5	SAR (-)	1.1	1.0	1.1	1.2	0.7	
	PESTICIDES	Samples not collected during summer season due to dry bed/ no flow					

Samples not collected due to no flow / Dry bed

HISTORY SHEET

		Water Year	: 2015-2016
Site	: HARALAHALLI	Code	: AKL0058
State	: Karnataka	District	Haveri
Basin	: Krishna	Independent River	: Krishna
Tributary	: Tungabhadra	Sub Tributary	: -
Sub-Sub Tributary	:	Local River	: Tungabhadra
Division	: Cauvery Division, Bangalore	Sub-Division	: Upper Tungabhadra SD Davangere
Drainage Area	: 14582 Sq. Km.	Bank	: Left
Latitude	: 14°49'50"	Longitude	: 75°40'08"
	Opening Date	Closing Date	
Gauge	: 11/08/1965		
Discharge	: 01/12/1966		
Sediment	: 01/11/1972		
Water Quality	: 01/11/1972		

Water Quality Datasheet for the period : 2015-2016

Station Name : HARALAHALLI (AKL00S8)

Division : Cauvery Division, Bangalore

Local River : Tungabhadra

River Water Analysis Division : Upper Tungabhadra SD Davangere

S.No	Parameters	01/07/2015	01/09/2015	02/11/2015	
		A	A	A	
	PHYSICAL				
1	Q (cumec)	216.4	123.7	46.99	
2	Colour_Cod (-)	Light Brown	Clear	Clear	
3	EC_GEN (µmho/cm)	296	368	539	
4	Odour_Code (-)	odour free	odour free	odour free	
5	pH_GEN (pH units)	7.4	7.3	7.5	
6	Temp (deg C)	25.0	25.0	25.5	
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	
2	ALK-TOT (mgCaCO3/L)	63	87	142	
3	B (mg/L)	0.13	1.84	0.27	
4	Ca (mg/L)	19	22	30	
5	Cl (mg/L)	41.5	43.0	73.8	
6	CO3 (mg/L)	0.0	0.0	0.0	
7	F (mg/L)	0.02	0.49	0.59	
8	Fe (mg/L)	0.4	0.2	0.3	
9	HCO3 (mg/L)	77	106	173	
10	K (mg/L)	4.5	4.7	5.7	
11	Mg (mg/L)	7.8	8.7	14.6	
12	Na (mg/L)	28.1	36.9	58.0	
13	NO2+NO3 (mg N/L)	0.49	1.47	2.05	
14	NO2-N (mgN/L)	0.01	0.01	0.00	
15	NO3-N (mgN/L)	0.48	1.46	2.05	
16	o-PO4-P (mg P/L)	0.041	0.217	0.258	
17	SiO2 (mg/L)	9.9	16.2	26.2	
18	SO4 (mg/L)	30.5	21.0	17.1	
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)		0.4	0.4	
2	DO (mg/L)	4.7	5.0	5.6	
3	DO_SAT% (%)	57	61	68	
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	48	56	76	
2	HAR_Total (mgCaCO3/L)	80	92	137	
3	Na% (%)	42	45	47	
4	RSC (-)	0.0	0.0	0.1	
5	SAR (-)	1.4	1.7	2.2	
	PESTICIDES				

Water samples not collected from Jan 2016 to May 2016 due to no flow condition

Water Quality Summary for the period : 2015-2016

Station Name : HARALAHALLI (AKL00S8)

Division : Cauvery Division, Bangalore

Local River : Tungabhadra

Sub-Division : Upper Tungabhadra SD Davangere

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	366	1712	0.000	96.87
2	EC_GEN (μmho/cm)	3	539	296	401
3	pH_GEN (pH units)	3	7.5	7.3	7.4
4	Temp (deg C)	3	25.5	25.0	25.2
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	3	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	3	142	63	97
3	B (mg/L)	3	1.84	0.13	0.75
4	Ca (mg/L)	3	30	19	24
5	Cl (mg/L)	3	73.8	41.5	52.8
6	CO3 (mg/L)	3	0.0	0.0	0
7	F (mg/L)	3	0.59	0.02	0.37
8	Fe (mg/L)	3	0.4	0.2	0.3
9	HCO3 (mg/L)	3	173	77	119
10	K (mg/L)	3	5.7	4.5	5
11	Mg (mg/L)	3	14.6	7.8	10.4
12	Na (mg/L)	3	58.0	28.1	41
13	NO2+NO3 (mg N/L)	3	2.05	0.49	1.34
14	NO2-N (mgN/L)	3	0.01	0.00	0.01
15	NO3-N (mgN/L)	3	2.05	0.48	1.33
16	o-PO4-P (mg P/L)	3	0.258	0.041	0.172
17	SiO2 (mg/L)	3	26.2	9.9	17.4
18	SO4 (mg/L)	3	30.5	17.1	22.9
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	2	0.4	0.4	0.4
2	DO (mg/L)	3	5.6	4.7	5.1
3	DO_SAT% (%)	3	68	57	62
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	3	76	48	60
2	HAR_Total (mgCaCO3/L)	3	137	80	103
3	Na% (%)	3	47	42	45
4	RSC (-)	3	0.1	0.0	0
5	SAR (-)	3	2.2	1.4	1.7
	PESTICIDES				

Water Quality Seasonal Average for the period: 2001-2016

Station Name : HARALAHALLI (AKL00S8)

Division : Cauvery Division, Bangalore

Local River : Tungabhadra

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Flood				
		Jun - Oct				
		2001	2002	2003	2004	2005
	PHYSICAL					
1	Q (cumec)	305.7	176.9	189.7	201.8	544.1
2	EC_GEN (µmho/cm)	179	197	165	143	101
3	pH_GEN (pH units)	8.0	7.9	8.2	7.3	7.3
4	Temp (deg C)	25.4	28.8	28.3	27.0	27.3
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	53	50	57	26	41
2	B (mg/L)	0.00	0.22	0.00		0.20
3	Ca (mg/L)	15	17	8	17	5
4	Cl (mg/L)	20.9	25.5	24.0	22.9	65.7
5	F (mg/L)	0.79	0.47	0.52	0.05	0.50
6	Fe (mg/L)	0.2	0.1		0.0	0.4
7	HCO3 (mg/L)	57	61	54	31	50
8	K (mg/L)	0.6	1.9	1.8	1.8	24.4
9	Mg (mg/L)	7.6	7.4	9.0	12.8	2.4
10	Na (mg/L)	13.3	16.3	15.8	14.9	49.0
11	NH3-N (mg N/L)	0.33				
12	NO2+NO3 (mg N/L)	0.22	0.32	0.21	14.50	0.13
13	NO2-N (mgN/L)	0.00	0.00	0.00	1.50	0.06
14	NO3-N (mgN/L)	0.22	0.32	0.21	8.39	0.06
15	o-PO4-P (mg P/L)	0.010	0.016	0.012	0.006	0.014
16	SiO2 (mg/L)	14.3	27.8	1.8	20.0	14.6
17	SO4 (mg/L)	15.8	12.6	8.9	26.8	13.4
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)					1.0
2	DO (mg/L)	10.3	10.0			6.8
3	DO_SAT% (%)	124	129			85
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	38	41	19	43	14
2	HAR_Total (mgCaCO3/L)	70	72	57	96	24
3	Na% (%)	30	35	37	25	59
4	RSC (-)	0.0	0.0	0.0	0.0	0.3
5	SAR (-)	0.7	0.9	0.9	0.7	5.7
	PESTICIDES					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : HARALAHALLI (AKL00S8)

Division : Cauvery Division, Bangalore

Local River : Tungabhadra

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Flood				
		Jun - Oct				
		2006	2007	2008	2009	2010
	PHYSICAL					
1	Q (cumec)	440.6	725.0	420.2	199.6	692.3
2	EC_GEN (µmho/cm)	377	251	233	253	136
3	pH_GEN (pH units)	7.3	7.4	7.9	7.8	7.3
4	Temp (deg C)	25.5	25.2	26.0	25.5	26.0
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	128	63	58	71	41
2	B (mg/L)	0.00	0.02		0.02	
3	Ca (mg/L)	20	17	17	17	10
4	Cl (mg/L)	43.2	32.9	30.4	26.3	14.4
5	F (mg/L)	0.00	0.27	0.12	0.19	0.14
6	Fe (mg/L)	0.0	0.3		0.1	0.1
7	HCO3 (mg/L)	156	77	70	87	50
8	K (mg/L)	34.6	1.7	2.6	2.6	1.5
9	Mg (mg/L)	11.4	7.2	4.4	7.3	4.9
10	Na (mg/L)	31.4	24.7	20.7	27.1	12.1
11	NH3-N (mg N/L)	0.00				
12	NO2+NO3 (mg N/L)	0.17	0.59	1.06	1.03	0.95
13	NO2-N (mgN/L)	0.00	0.02	0.01	0.01	0.01
14	NO3-N (mgN/L)	0.17	0.57	1.05	1.02	0.93
15	o-PO4-P (mg P/L)	0.000	0.023		0.021	0.021
16	SiO2 (mg/L)	1.4	11.4		11.8	12.4
17	SO4 (mg/L)	10.0	9.7	12.4	12.6	7.9
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)					
2	DO (mg/L)					
3	DO_SAT% (%)					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	49	42	42	42	24
2	HAR_Total (mgCaCO3/L)	97	72	60	72	44
3	Na% (%)	33	41	40	43	36
4	RSC (-)	0.6	0.0	0.0	0.0	0.0
5	SAR (-)	1.5	1.2	1.1	1.3	0.8
	PESTICIDES					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : HARALAHALLI (AKL00S8)

Division : Cauvery Division, Bangalore

Local River : Tungabhadra

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Flood				
		Jun - Oct				
		2011	2012	2013	2014	2015
	PHYSICAL					
1	Q (cumec)	770.9	393.0	1097	478.3	170.1
2	EC_GEN (µmho/cm)	95	109	138	189	332
3	pH_GEN (pH units)	6.6	7.3	7.2	7.5	7.3
4	Temp (deg C)	26.0	25.8	25.3	25.0	25.0
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	28	31	38	52	75
2	B (mg/L)			0.02	0.14	0.99
3	Ca (mg/L)	6	8	10	13	21
4	Cl (mg/L)	9.9	13.0	16.9	24.7	42.2
5	F (mg/L)	0.06	0.08	0.06	0.15	0.26
6	Fe (mg/L)	0.2		0.1	0.1	0.3
7	HCO3 (mg/L)	34	37	46	63	92
8	K (mg/L)	1.2	1.3	1.5	1.7	4.6
9	Mg (mg/L)	3.4	3.2	4.9	6.3	8.3
10	Na (mg/L)	7.5	9.4	10.5	17.3	32.5
11	NH3-N (mg N/L)					
12	NO2+NO3 (mg N/L)	0.76	1.15	1.00	0.98	0.98
13	NO2-N (mgN/L)	0.01	0.01	0.01	0.03	0.01
14	NO3-N (mgN/L)	0.74	1.14	0.99	0.95	0.97
15	o-PO4-P (mg P/L)	0.000		0.067	0.031	0.129
16	SiO2 (mg/L)	8.1		10.1	6.5	13.1
17	SO4 (mg/L)	6.5	5.5	8.4	5.8	25.8
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)		0.7	0.4	1.1	0.4
2	DO (mg/L)		6.0	5.9	5.4	4.9
3	DO_SAT% (%)		73	71	65	59
	TRACE & TOXIC					
1	As (µg/L)		4.4	1.0		
2	Cd (µg/L)		0.2	0.0		
3	Cr (µg/L)		7.3	1.7		
4	Cu (µg/L)		29.4	0.4		
5	Hg (µg/L)					
6	Ni (µg/L)		5.4	9.0		
7	Pb (µg/L)			0.0		
8	Zn (µg/L)			0.0		
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	16	20	26	32	52
2	HAR_Total (mgCaCO3/L)	30	33	46	58	86
3	Na% (%)	34	35	31	37	43
4	RSC (-)	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.6	0.7	0.7	1.0	1.5
	PESTICIDES					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : HARALAHALLI (AKL00S8)

Division : Cauvery Division, Bangalore

Local River : Tungabhadra

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Winter				
		Nov - Feb				
		2001-2002	2002-2003	2003-2004	2004-2005	2005-2006
	PHYSICAL					
1	Q (cumec)	39.45	150.0	63.58	58.16	92.31
2	EC_GEN (µmho/cm)	235	327	193	274	241
3	pH_GEN (pH units)	7.9	7.9	7.5	8.0	7.8
4	Temp (deg C)	24.6	26.8	29.0	28.5	25.8
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	55	101	38	74	156
2	B (mg/L)					0.21
3	Ca (mg/L)	23	26	10	16	21
4	Cl (mg/L)	29.6	36.6	28.0	26.3	83.7
5	F (mg/L)	0.53	0.73	0.23	0.06	0.31
6	Fe (mg/L)	0.0	0.2	0.1	0.0	0.4
7	HCO3 (mg/L)	67	123	46	90	190
8	K (mg/L)	1.1	1.8	1.6	33.6	52.4
9	Mg (mg/L)	7.5	14.8	9.6	7.7	13.5
10	Na (mg/L)	19.1	24.7	17.9	17.7	60.5
11	NH3-N (mg N/L)					
12	NO2+NO3 (mg N/L)	0.35	0.14	0.28		0.20
13	NO2-N (mgN/L)	0.00	0.00	0.00		0.10
14	NO3-N (mgN/L)	0.35	0.14	0.28	2.80	0.10
15	o-PO4-P (mg P/L)	0.021	0.013	0.015	0.000	0.014
16	SiO2 (mg/L)	11.0	9.0		13.2	23.1
17	SO4 (mg/L)	22.9	13.2	21.1	17.8	14.4
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)					
2	DO (mg/L)	9.7	10.1			
3	DO_SAT% (%)	116	126			
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	57	65	26	39	54
2	HAR_Total (mgCaCO3/L)	88	127	65	71	110
3	Na% (%)	29	29	37	25	42
4	RSC (-)	0.0	0.0	0.0	0.1	0.9
5	SAR (-)	0.9	1.0	1.0	0.9	2.5
	PESTICIDES					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : HARALAHALLI (AKL00S8)

Division : Cauvery Division, Bangalore

Local River : Tungabhadra

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Winter				
		Nov - Feb				
		2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	PHYSICAL					
1	Q (cumec)	51.64	126.5	42.53	88.34	101.0
2	EC_GEN (µmho/cm)	342	383	338	407	301
3	pH_GEN (pH units)	7.9	8.0	8.1	7.6	7.7
4	Temp (deg C)	24.3	25.5	25.0	25.3	25.5
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	100	48	91	98	84
2	B (mg/L)	0.00	0.11	0.11	0.08	0.06
3	Ca (mg/L)	13	25	21	25	19
4	Cl (mg/L)	45.6	57.0	37.8	48.6	25.9
5	F (mg/L)	0.00	0.19	0.21	0.24	0.16
6	Fe (mg/L)	0.0	0.1	0.1	0.1	0.0
7	HCO3 (mg/L)	122	59	111	119	103
8	K (mg/L)	46.7	1.2	1.8	3.4	1.7
9	Mg (mg/L)	6.7	9.9	9.2	10.2	9.2
10	Na (mg/L)	32.8	42.6	39.8	47.1	27.5
11	NH3-N (mg N/L)	0.00				
12	NO2+NO3 (mg N/L)	1.08	4.50	1.19	1.04	1.13
13	NO2-N (mgN/L)	0.00	0.02	0.01	0.03	0.03
14	NO3-N (mgN/L)	1.08	4.48	1.18	1.00	1.10
15	o-PO4-P (mg P/L)	0.000	0.063	0.052	0.041	0.026
16	SiO2 (mg/L)	1.9	15.6	11.8	14.1	10.8
17	SO4 (mg/L)	15.6	37.9	31.2	38.0	21.9
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)					
2	DO (mg/L)					
3	DO_SAT% (%)					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	31	61	52	62	48
2	HAR_Total (mgCaCO3/L)	59	103	90	105	86
3	Na% (%)	38	47	48	47	41
4	RSC (-)	0.8	0.0	0.1	0.0	0.0
5	SAR (-)	2.7	1.8	1.8	2.0	1.3
	PESTICIDES					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : HARALAHALLI (AKL00S8)

Division : Cauvery Division, Bangalore

Local River : Tungabhadra

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Winter				
		Nov - Feb				
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
	PHYSICAL					
1	Q (cumec)	46.51	135.0	51.28	48.43	46.99
2	EC_GEN (µmho/cm)	384	385	363	479	539
3	pH_GEN (pH units)	7.6	7.6	7.5	7.8	7.5
4	Temp (deg C)	25.5	24.0	26.5	25.0	25.5
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	101	112	101	135	142
2	B (mg/L)	0.00		0.01	0.32	0.27
3	Ca (mg/L)	22	26	22	32	30
4	Cl (mg/L)	46.1	37.6	37.3	64.4	73.8
5	F (mg/L)			0.32	0.30	0.59
6	Fe (mg/L)	0.0		0.1	0.0	0.3
7	HCO3 (mg/L)	124	137	123	165	173
8	K (mg/L)	2.1	1.7	2.4	9.2	5.7
9	Mg (mg/L)	10.2	9.7	5.8	12.6	14.6
10	Na (mg/L)	40.8	36.3	48.3	49.5	58.0
11	NH3-N (mg N/L)					
12	NO2+NO3 (mg N/L)	1.24	1.26	1.64	1.18	2.05
13	NO2-N (mgN/L)	0.01	0.00	0.01	0.03	0.00
14	NO3-N (mgN/L)	1.23	1.26	1.63	1.16	2.05
15	o-PO4-P (mg P/L)	0.041		0.062	0.036	0.258
16	SiO2 (mg/L)	10.5		10.0	7.7	26.2
17	SO4 (mg/L)	25.2	12.0	13.6	16.8	17.1
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.7	1.2	0.6	0.8	0.4
2	DO (mg/L)	6.0	5.3	6.3	6.0	5.6
3	DO_SAT% (%)	72	64	78	72	68
	TRACE & TOXIC					
1	As (µg/L)	0.2				
2	Cd (µg/L)	0.2			0.1	
3	Cr (µg/L)	1.2			6.6	
4	Cu (µg/L)				2.5	
5	Hg (µg/L)					
6	Ni (µg/L)	5.5			0.2	
7	Pb (µg/L)				1.7	
8	Zn (µg/L)				10.0	
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	56	64	56	80	76
2	HAR_Total (mgCaCO3/L)	99	105	80	133	137
3	Na% (%)	46	43	56	42	47
4	RSC (-)	0.1	0.2	0.4	0.1	0.1
5	SAR (-)	1.8	1.5	2.4	1.8	2.2
	PESTICIDES					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : HARALAHALLI (AKL00S8)

Division : Cauvery Division, Bangalore

Local River : Tungabhadra

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Summer				
		Mar - May				
		2002	2003	2004	2005	2006
	PHYSICAL					
1	Q (cumec)	13.82			40.00	32.26
2	EC_GEN (µmho/cm)	347			293	
3	pH_GEN (pH units)	7.8			8.1	
4	Temp (deg C)	27.3			27.0	28.5
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	54			131	
2	B (mg/L)					
3	Ca (mg/L)	28			14	
4	Cl (mg/L)	52.4			21.2	
5	F (mg/L)	0.45			0.65	
6	Fe (mg/L)	0.0			0.0	
7	HCO3 (mg/L)	66			80	
8	K (mg/L)	0.4			24.9	
9	Mg (mg/L)	13.9			5.3	
10	Na (mg/L)	30.6			15.2	
11	NH3-N (mg N/L)					
12	NO2+NO3 (mg N/L)	0.14			4.85	
13	NO2-N (mgN/L)	0.00			2.10	
14	NO3-N (mgN/L)	0.14			2.75	
15	o-PO4-P (mg P/L)	0.005			0.012	
16	SiO2 (mg/L)	16.0				
17	SO4 (mg/L)	45.2			2.0	
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)					
2	DO (mg/L)	10.3				
3	DO_SAT% (%)	129				
	TRACE & TOXIC					
1	As (µg/L)					16.8
2	Cd (µg/L)					0.0
3	Cr (µg/L)					7.5
4	Cu (µg/L)					3.1
5	Hg (µg/L)				0.2	
6	Ni (µg/L)				2.1	1.8
7	Pb (µg/L)					2.1
8	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	70			36	
2	HAR_Total (mgCaCO3/L)	128			58	
3	Na% (%)	34			27	
4	RSC (-)	0.0			0.2	
5	SAR (-)	1.2			0.9	
	PESTICIDES					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : HARALAHALLI (AKL00S8)

Division : Cauvery Division, Bangalore

Local River : Tungabhadra

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Summer				
		Mar - May				
		2007	2008	2009	2010	2011
	PHYSICAL					
1	Q (cumec)	11.79	45.83	72.96	30.50	52.18
2	EC_GEN (µmho/cm)	401	224	230	468	501
3	pH_GEN (pH units)	8.2	8.2	8.1	8.0	7.6
4	Temp (deg C)	29.0	26.3	26.0	26.0	26.0
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	125	48	70	123	124
2	B (mg/L)	0.00	0.07	0.10	0.10	0.16
3	Ca (mg/L)	19	15	16	26	26
4	Cl (mg/L)	48.0	30.0	24.9	51.0	54.0
5	F (mg/L)	0.00	0.10	0.08	0.21	0.49
6	Fe (mg/L)	0.0	0.1	0.1	0.1	0.2
7	HCO3 (mg/L)	152	58	85	150	151
8	K (mg/L)	41.8	1.6	2.0	3.4	4.1
9	Mg (mg/L)	10.4	6.7	6.8	12.1	12.6
10	Na (mg/L)	36.5	21.5	22.1	55.8	50.4
11	NH3-N (mg N/L)	0.00				
12	NO2+NO3 (mg N/L)	4.48	0.97	1.02	0.88	1.02
13	NO2-N (mgN/L)	0.00	0.01	0.00	0.01	0.00
14	NO3-N (mgN/L)	4.48	0.96	1.02	0.86	1.02
15	o-PO4-P (mg P/L)	0.000	0.326	0.021	0.026	0.031
16	SiO2 (mg/L)	3.0	13.5	10.6	14.3	16.6
17	SO4 (mg/L)	2.2	15.0	15.8	33.2	39.8
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)					
2	DO (mg/L)					
3	DO_SAT% (%)					
	TRACE & TOXIC					
1	As (µg/L)	6.4	2.2			1.6
2	Cd (µg/L)	4.0	0.9			0.0
3	Cr (µg/L)					1.3
4	Cu (µg/L)	3.0	3.7			
5	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)	1.7	1.6			
8	Zn (µg/L)	22.0	29.0			
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	47	39	40	64	64
2	HAR_Total (mgCaCO3/L)	91	66	68	115	117
3	Na% (%)	36	41	41	51	48
4	RSC (-)	0.7	0.0	0.0	0.2	0.2
5	SAR (-)	1.7	1.2	1.2	2.3	2.0
	PESTICIDES					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : HARALAHALLI (AKL00S8)

Division : Cauvery Division, Bangalore

Local River : Tungabhadra

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Summer				
		Mar - May				
		2012	2013	2014	2015	2016
	PHYSICAL					
1	Q (cumec)	125.2	32.01	32.62	18.71	
2	EC_GEN (µmho/cm)	270	398	480	421	
3	pH_GEN (pH units)	7.3	8.4	7.1	7.3	
4	Temp (deg C)	26.0	26.5	25.5	25.0	
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	81	101	160	119	
2	B (mg/L)		0.00	0.21	0.33	
3	Ca (mg/L)	18	32	29	29	
4	Cl (mg/L)	26.8	44.7	43.3	54.0	
5	F (mg/L)	0.30		0.47	0.47	
6	Fe (mg/L)		0.1	0.1	0.1	
7	HCO3 (mg/L)	98	123	195	145	
8	K (mg/L)	2.1	2.2	2.7	12.5	
9	Mg (mg/L)	7.3	6.8	9.7	9.7	
10	Na (mg/L)	24.3	40.4	55.5	43.6	
11	NH3-N (mg N/L)					
12	NO2+NO3 (mg N/L)	1.75	2.27	1.25	1.30	
13	NO2-N (mgN/L)	0.12	0.01	0.10	0.23	
14	NO3-N (mgN/L)	1.63	2.26	1.15	1.06	
15	o-PO4-P (mg P/L)		0.031	0.062	0.010	
16	SiO2 (mg/L)		9.9	11.7	4.7	
17	SO4 (mg/L)	14.4	22.1	26.3	18.5	
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.9	1.0	1.2		
2	DO (mg/L)	5.2	5.4	4.3	5.2	
3	DO_SAT% (%)	64	66	52	63	
	TRACE & TOXIC					
1	As (µg/L)	1.6	7.0			
2	Cd (µg/L)	0.3	0.1			
3	Cr (µg/L)	2.4	0.7			
4	Cu (µg/L)	2.0	6.2			
5	Hg (µg/L)					
6	Ni (µg/L)	7.7	4.7			
7	Pb (µg/L)	3.8	5.5			
8	Zn (µg/L)	44.0	410.9			
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	46	80	72	72	
2	HAR_Total (mgCaCO3/L)	76	108	113	113	
3	Na% (%)	40	44	51	43	
4	RSC (-)	0.1	0.0	1.0	0.1	
5	SAR (-)	1.2	1.7	2.3	1.8	
	PESTICIDES					

HISTORY SHEET

		Water Year	: 2015-2016
Site	: BYALADAHALLI	Code	: AKLB0D3
State	: Karnataka	District	Davanagere
Basin	: Krishna	Independent River	: Krishna
Tributary	: Tungabhadra	Sub Tributary	: Haridra
Sub-Sub Tributary	:	Local River	: Haridra
Division	: Cauvery Division, Bangalore	Sub-Division	: Upper Tungabhadra SD Davangere
Drainage Area	: 2300 Sq. Km.	Bank	: Right
Latitude	: 14°26'02"	Longitude	: 75°46'47"
	Opening Date	Closing Date	
Gauge	: 21/03/1985		
Discharge	: 11/06/1985		
Sediment	: 10/12/1997		
Water Quality	: 02/06/1986		

Water Quality Datasheet for the period : 2015-2016

Station Name : BYALADAHALLI (AKLB0D3)

Division : Cauvery Division, Bangalore

Local River : Haridra

River Water Analysis Division : Upper Tungabhadra SD Davangere

S.No	Parameters	01/07/2015	01/08/2015	01/09/2015	05/10/2015
		A	A	A	A
	PHYSICAL				
1	Q (cumec)	3.245	5.905	16.40	84.38
2	Colour_Cod (-)	Clear	Clear	Clear	Light Brown
3	EC_GEN (µmho/cm)	709	769	668	386
4	Odour_Code (-)	odour free	odour free	odour free	odour free
5	pH_GEN (pH units)	8.1	7.9	7.5	7.3
6	Temp (deg C)	25.5	24.5	26.0	26.0
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	216	209	178	128
3	B (mg/L)	0.14	0.52	1.91	0.29
4	Ca (mg/L)	50	48	42	32
5	Cl (mg/L)	69.6	87.0	76.3	33.2
6	CO3 (mg/L)	0.0	0.0	0.0	0.0
7	F (mg/L)	0.65	0.57	1.65	0.67
8	Fe (mg/L)	0.1	0.1	0.2	0.1
9	HCO3 (mg/L)	264	254	217	156
10	K (mg/L)	6.1	6.3	4.1	2.0
11	Mg (mg/L)	16.5	18.5	20.4	8.7
12	Na (mg/L)	83.2	89.8	60.6	38.0
13	NO2+NO3 (mg N/L)	1.83	0.76	1.90	0.91
14	NO2-N (mgN/L)	0.04	0.03	0.28	0.03
15	NO3-N (mgN/L)	1.79	0.73	1.63	0.88
16	o-PO4-P (mg P/L)	0.083	0.269	0.444	0.830
17	SiO2 (mg/L)	13.5	15.7	19.3	4.9
18	SO4 (mg/L)	57.9	78.8	46.2	30.2
	BIOLOGICAL/BACTERIOLOGICAL				
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	124	120	104	80
2	HAR_Total (mgCaCO3/L)	193	197	189	116
3	Na% (%)	48	49	41	41
4	RSC (-)	0.5	0.3	0.0	0.2
5	SAR (-)	2.6	2.8	1.9	1.5
	PESTICIDES				

Water Quality Datasheet for the period : 2015-2016

Station Name : BYALADAHALLI (AKLB0D3)

Division : Cauvery Division, Bangalore

Local River : Haridra

River Water Analysis Division : Upper Tungabhadra SD Davangere

S.No	Parameters	02/11/2015	01/12/2015
		A	A
	PHYSICAL		
1	Q (cumec)	9.529	9.506
2	Colour_Cod (-)	Clear	Clear
3	EC_GEN (µmho/cm)	527	627
4	Odour_Code (-)	odour free	odour free
5	pH_GEN (pH units)	8.0	7.7
6	Temp (deg C)	25.0	25.0
	CHEMICAL		
1	Alk-Phen (mgCaCO3/L)	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	177	207
3	B (mg/L)	0.36	0.33
4	Ca (mg/L)	30	35
5	Cl (mg/L)	57.2	63.5
6	CO3 (mg/L)	0.0	0.0
7	F (mg/L)	0.99	0.42
8	Fe (mg/L)	0.2	0.1
9	HCO3 (mg/L)	216	253
10	K (mg/L)	1.8	2.5
11	Mg (mg/L)	14.6	22.4
12	Na (mg/L)	62.0	71.8
13	NO2+NO3 (mg N/L)	1.88	1.36
14	NO2-N (mgN/L)	0.04	0.04
15	NO3-N (mgN/L)	1.84	1.32
16	o-PO4-P (mg P/L)	0.424	0.444
17	SiO2 (mg/L)	15.9	13.8
18	SO4 (mg/L)	19.5	41.3
	BIOLOGICAL/BACTERIOLOGICAL		
	TRACE & TOXIC		
	CHEMICAL INDICES		
1	HAR_Ca (mgCaCO3/L)	76	88
2	HAR_Total (mgCaCO3/L)	137	181
3	Na% (%)	49	46
4	RSC (-)	0.8	0.6
5	SAR (-)	2.3	2.3
	PESTICIDES		

Water samples not collected from Jan 2016 to May 2016 due to no flow condition

Water Quality Summary for the period : 2015-2016

Station Name : BYALADAHALLI (AKLB0D3)

Division : Cauvery Division, Bangalore

Local River : Haridra

Sub-Division : Upper Tungabhadra SD Davangere

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	366	117.3	0.000	7.873
2	EC_GEN (µmho/cm)	6	769	386	614
3	pH_GEN (pH units)	6	8.1	7.3	7.8
4	Temp (deg C)	6	26.0	24.5	25.3
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	6	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	6	216	128	186
3	B (mg/L)	6	1.91	0.14	0.59
4	Ca (mg/L)	6	50	30	39
5	Cl (mg/L)	6	87.0	33.4	64.5
6	CO3 (mg/L)	6	0.0	0.0	0
7	F (mg/L)	6	1.65	0.42	0.82
8	Fe (mg/L)	6	0.2	0.1	0.1
9	HCO3 (mg/L)	6	264	156	227
10	K (mg/L)	6	6.3	1.8	3.8
11	Mg (mg/L)	6	22.4	8.7	16.8
12	Na (mg/L)	6	89.8	38.0	67.6
13	NO2+NO3 (mg N/L)	6	1.90	0.76	1.44
14	NO2-N (mgN/L)	6	0.28	0.03	0.08
15	NO3-N (mgN/L)	6	1.84	0.73	1.36
16	o-PO4-P (mg P/L)	6	0.444	0.083	0.338
17	SiO2 (mg/L)	6	19.3	4.9	13.8
18	SO4 (mg/L)	6	78.8	19.5	45.6
	BIOLOGICAL/BACTERIOLOGICAL				
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	6	124	76	99
2	HAR_Total (mgCaCO3/L)	6	197	116	169
3	Na% (%)	6	49	41	46
4	RSC (-)	6	0.8	0.0	0.4
5	SAR (-)	6	2.8	1.5	2.3
	PESTICIDES				

Water Quality Seasonal Average for the period: 2001-2016

Station Name : BYALADAHALLI (AKLB0D3)

Division : Cauvery Division, Bangalore

Local River : Haridra

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Flood				
		Jun - Oct				
		2001	2002	2003	2004	2005
	PHYSICAL					
1	Q (cumec)	39.26	1.580	0.000	5.450	22.30
2	EC_GEN (µmho/cm)	347	562	390	589	402
3	pH_GEN (pH units)	7.9	7.9	6.6	8.1	7.8
4	Temp (deg C)	24.1	25.8	26.0	26.0	24.3
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	147	157	77	163	78
2	B (mg/L)	0.03	0.28		0.13	0.22
3	Ca (mg/L)	26	36	29	38	18
4	Cl (mg/L)	61.9	78.6	44.0	88.0	64.3
5	F (mg/L)	0.39	0.86	0.36	0.74	0.44
6	Fe (mg/L)	0.0	0.1	0.2	0.7	0.2
7	HCO3 (mg/L)	104	161	93	199	95
8	K (mg/L)	2.1	2.6	3.5	25.8	17.4
9	Mg (mg/L)	11.3	22.4	15.8	21.0	9.6
10	Na (mg/L)	35.7	57.6	24.1	51.2	47.5
11	NH3-N (mg N/L)	0.00	0.00	0.00		0.00
12	NO2+NO3 (mg N/L)	0.22	0.60	0.28	4.35	4.90
13	NO2-N (mgN/L)	0.00	0.00	0.00	1.80	0.00
14	NO3-N (mgN/L)	0.22	0.60	0.28	2.55	1.90
15	o-PO4-P (mg P/L)	0.018	0.008	0.083	0.000	0.265
16	SiO2 (mg/L)	17.0	47.5	22.5	4.8	3.4
17	SO4 (mg/L)	9.0	39.7	36.5	20.0	26.8
	BIOLOGICAL/BACTERIOLOGICAL					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Ni (µg/L)					
6	Pb (µg/L)					
7	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	66	91	73	94	46
2	HAR_Total (mgCaCO3/L)	113	184	138	182	86
3	Na% (%)	40	40	27	34	50
4	RSC (-)	0.0	0.0	0.0	0.0	0.1
5	SAR (-)	1.5	1.9	0.9	1.7	2.3
	PESTICIDES					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : BYALADAHALLI (AKLB0D3)

Division : Cauvery Division, Bangalore

Local River : Haridra

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Flood				
		Jun - Oct				
		2006	2007	2008	2009	2010
	PHYSICAL					
1	Q (cumec)			16.37	24.01	31.75
2	EC_GEN (µmho/cm)			543	548	565
3	pH_GEN (pH units)			8.0	7.9	7.8
4	Temp (deg C)			25.6	24.3	25.9
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)			152	177	178
2	B (mg/L)			0.36	0.11	0.09
3	Ca (mg/L)			34	33	33
4	Cl (mg/L)			62.3	49.5	54.3
5	F (mg/L)			0.56	0.69	0.56
6	Fe (mg/L)			0.1	0.1	0.0
7	HCO3 (mg/L)			185	216	217
8	K (mg/L)			4.7	5.2	4.0
9	Mg (mg/L)			13.1	15.1	17.7
10	Na (mg/L)			58.9	62.7	60.3
11	NH3-N (mg N/L)					
12	NO2+NO3 (mg N/L)			1.13	1.22	1.24
13	NO2-N (mgN/L)			0.04	0.04	0.06
14	NO3-N (mgN/L)			1.08	1.18	1.15
15	o-PO4-P (mg P/L)			0.186	0.220	0.129
16	SiO2 (mg/L)			9.1	11.8	9.8
17	SO4 (mg/L)			32.0	30.2	28.1
	BIOLOGICAL/BACTERIOLOGICAL					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Ni (µg/L)					
6	Pb (µg/L)					
7	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)			86	83	83
2	HAR_Total (mgCaCO3/L)			141	146	157
3	Na% (%)			47	46	44
4	RSC (-)			0.4	0.6	0.5
5	SAR (-)			2.2	2.2	2.1
	PESTICIDES					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : BYALADAHALLI (AKLB0D3)

Division : Cauvery Division, Bangalore

Local River : Haridra

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Flood				
		Jun - Oct				
		2011	2012	2013	2014	2015
	PHYSICAL					
1	Q (cumec)	21.61	20.33	27.79	21.97	27.48
2	EC_GEN (µmho/cm)	599	572	516	654	633
3	pH_GEN (pH units)	7.7	7.7	7.9	7.9	7.7
4	Temp (deg C)	28.5	27.0	26.1	24.9	25.5
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	192	186	143	216	183
2	B (mg/L)	0.05		0.04	0.23	0.71
3	Ca (mg/L)	35	36	32	39	43
4	Cl (mg/L)	59.6	55.6	52.8	67.7	66.6
5	F (mg/L)	0.75	0.92	0.29	0.29	0.88
6	Fe (mg/L)	0.0		0.1	0.1	0.1
7	HCO3 (mg/L)	234	227	203	263	223
8	K (mg/L)	4.6	3.0	3.8	5.6	4.6
9	Mg (mg/L)	15.9	13.6	13.4	18.5	16.0
10	Na (mg/L)	69.2	65.0	58.3	68.7	67.9
11	NH3-N (mg N/L)					
12	NO2+NO3 (mg N/L)	1.32	2.85	2.36	2.30	1.35
13	NO2-N (mgN/L)	0.02	0.02	0.01	0.05	0.09
14	NO3-N (mgN/L)	1.29	2.83	2.34	2.25	1.26
15	o-PO4-P (mg P/L)	0.096		0.065	0.235	0.289
16	SiO2 (mg/L)	10.6		16.4	7.2	13.3
17	SO4 (mg/L)	31.9	20.0	19.6	18.2	53.3
	BIOLOGICAL/BACTERIOLOGICAL					
	TRACE & TOXIC					
1	As (µg/L)		0.8	9.1		
2	Cd (µg/L)		0.2	0.9		
3	Cr (µg/L)		2.0	1.8		
4	Cu (µg/L)		31.4	1.6		
5	Ni (µg/L)		1.1	15.1		
6	Pb (µg/L)			3.8		
7	Zn (µg/L)			0.0		
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	88	89	81	97	108
2	HAR_Total (mgCaCO3/L)	154	146	137	174	169
3	Na% (%)	48	48	44	44	46
4	RSC (-)	0.8	0.8	0.7	0.9	0.3
5	SAR (-)	2.4	2.3	2.0	2.2	2.3
	PESTICIDES					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : BYALADAHALLI (AKLB0D3)

Division : Cauvery Division, Bangalore

Local River : Haridra

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Winter				
		Nov - Feb				
		2001-2002	2002-2003	2003-2004	2004-2005	2005-2006
	PHYSICAL					
1	Q (cumec)	7.623	24.77		4.350	15.10
2	EC_GEN (µmho/cm)	388	436		549	756
3	pH_GEN (pH units)	7.7	8.0		8.0	7.8
4	Temp (deg C)	25.0	23.2		25.0	23.5
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	213	120		156	110
2	B (mg/L)	0.01				0.16
3	Ca (mg/L)	28	35		25	30
4	Cl (mg/L)	68.2	56.0		78.3	134.5
5	F (mg/L)	0.13	1.22		0.54	0.32
6	Fe (mg/L)	0.7	0.0		0.5	0.3
7	HCO3 (mg/L)	130	147		190	134
8	K (mg/L)	1.6	2.7		51.6	26.2
9	Mg (mg/L)	10.4	18.0		13.4	14.6
10	Na (mg/L)	46.0	35.6		55.2	86.2
11	NH3-N (mg N/L)	0.00	0.00			
12	NO2+NO3 (mg N/L)	0.27	0.56		4.20	0.56
13	NO2-N (mgN/L)	0.00	0.00		1.10	0.28
14	NO3-N (mgN/L)	0.27	0.56		3.10	0.29
15	o-PO4-P (mg P/L)	0.010	0.007		0.000	0.082
16	SiO2 (mg/L)	6.6	33.6		12.6	2.5
17	SO4 (mg/L)	3.8	23.7		21.0	24.4
	BIOLOGICAL/BACTERIOLOGICAL					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Ni (µg/L)					
6	Pb (µg/L)					
7	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	71	86		63	75
2	HAR_Total (mgCaCO3/L)	114	161		118	136
3	Na% (%)	46	30		40	52
4	RSC (-)	0.0	0.0		0.8	0.0
5	SAR (-)	1.9	1.3		2.2	3.3
	PESTICIDES					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : BYALADAHALLI (AKLB0D3)

Division : Cauvery Division, Bangalore

Local River : Haridra

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Winter				
		Nov - Feb				
		2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	PHYSICAL					
1	Q (cumec)			23.58	8.290	19.36
2	EC_GEN (µmho/cm)			554	572	604
3	pH_GEN (pH units)			8.1	7.9	7.9
4	Temp (deg C)			24.6	25.2	28.7
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)			191	197	190
2	B (mg/L)			0.16	0.12	0.14
3	Ca (mg/L)			35	34	38
4	Cl (mg/L)			51.5	55.5	66.1
5	F (mg/L)			0.55	0.55	0.49
6	Fe (mg/L)			0.1	0.0	0.0
7	HCO3 (mg/L)			232	241	232
8	K (mg/L)			2.7	4.0	4.8
9	Mg (mg/L)			16.5	16.5	16.8
10	Na (mg/L)			58.2	67.2	64.7
11	NH3-N (mg N/L)				0.00	
12	NO2+NO3 (mg N/L)			0.48	0.94	1.01
13	NO2-N (mgN/L)			0.03	0.05	0.04
14	NO3-N (mgN/L)			0.46	0.90	0.98
15	o-PO4-P (mg P/L)			0.150	0.124	0.065
16	SiO2 (mg/L)			10.9	10.6	10.3
17	SO4 (mg/L)			20.0	25.0	27.5
	BIOLOGICAL/BACTERIOLOGICAL					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Ni (µg/L)					
6	Pb (µg/L)					
7	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)			88	84	94
2	HAR_Total (mgCaCO3/L)			157	153	165
3	Na% (%)			44	48	44
4	RSC (-)			0.7	0.9	0.5
5	SAR (-)			2.0	2.4	2.2
	PESTICIDES					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : BYALADAHALLI (AKLB0D3)

Division : Cauvery Division, Bangalore

Local River : Haridra

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Winter				
		Nov - Feb				
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
	PHYSICAL					
1	Q (cumec)	6.850	170.4	4.156	12.45	9.518
2	EC_GEN (µmho/cm)	708	683	610	649	577
3	pH_GEN (pH units)	7.3	7.6	7.7	7.9	7.9
4	Temp (deg C)	28.5	23.5	25.5	24.7	25.0
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	294	232	218	220	192
2	B (mg/L)			0.02	0.33	0.35
3	Ca (mg/L)	41	42	37	43	33
4	Cl (mg/L)	57.7	64.8	55.2	70.1	60.3
5	F (mg/L)		0.65	0.70	0.60	0.70
6	Fe (mg/L)	0.0		0.0	0.0	0.1
7	HCO3 (mg/L)	297	284	266	268	234
8	K (mg/L)	3.0	4.1	2.4	12.1	2.2
9	Mg (mg/L)	15.1	17.5	15.6	17.8	18.5
10	Na (mg/L)	92.3	70.8	80.1	67.0	66.9
11	NH3-N (mg N/L)					
12	NO2+NO3 (mg N/L)	1.46	1.69	1.90	2.18	1.62
13	NO2-N (mgN/L)	0.03	0.03	0.07	0.02	0.04
14	NO3-N (mgN/L)	1.43	1.66	1.83	2.16	1.58
15	o-PO4-P (mg P/L)	0.078		0.098	0.093	0.434
16	SiO2 (mg/L)	11.4		14.2	9.3	14.8
17	SO4 (mg/L)	31.5	16.3	20.6	23.9	30.4
	BIOLOGICAL/BACTERIOLOGICAL					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)				0.2	
3	Cr (µg/L)				0.0	
4	Cu (µg/L)				4.5	
5	Ni (µg/L)				0.0	
6	Pb (µg/L)				1.3	
7	Zn (µg/L)				9.0	
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	102	106	92	107	82
2	HAR_Total (mgCaCO3/L)	165	179	157	181	159
3	Na% (%)	54	46	52	41	48
4	RSC (-)	1.6	1.1	1.2	0.8	0.7
5	SAR (-)	3.1	2.3	2.8	2.1	2.3
	PESTICIDES					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : BYALADAHALLI (AKLB0D3)

Division : Cauvery Division, Bangalore

Local River : Haridra

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Summer				
		Mar - May				
		2002	2005	2006	2008	2012
	PHYSICAL					
1	Q (cumec)	0.551	Samples not collected during summer season 2003 to 2005, 2007, 2009, 2010, 2011 & 2013 to 2016 due to no flow/dry bed	1.270	3.059	40.28
2	EC_GEN (µmho/cm)			273	653	531
3	pH_GEN (pH units)			7.4	7.8	7.5
4	Temp (deg C)			28.5	27.0	29.5
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)			152	199	181
2	B (mg/L)			0.12	0.12	
3	Ca (mg/L)			36	44	32
4	Cl (mg/L)			123.4	71.6	47.9
5	F (mg/L)			0.30	0.30	0.84
6	Fe (mg/L)			0.2	0.1	
7	HCO3 (mg/L)			186	243	220
8	K (mg/L)			14.1	7.0	4.2
9	Mg (mg/L)			22.3	24.5	19.4
10	Na (mg/L)			85.7	52.0	54.0
11	NH3-N (mg N/L)			1.00		
12	NO2+NO3 (mg N/L)				1.23	2.60
13	NO2-N (mgN/L)				0.00	0.08
14	NO3-N (mgN/L)			0.28	1.23	2.52
15	o-PO4-P (mg P/L)			0.073	0.052	
16	SiO2 (mg/L)			1.0	38.6	
17	SO4 (mg/L)			43.9	13.7	19.1
	BIOLOGICAL/BACTERIOLOGICAL					
	TRACE & TOXIC					
1	As (µg/L)				4.2	0.6
2	Cd (µg/L)				1.0	0.2
3	Cr (µg/L)					2.7
4	Cu (µg/L)				6.5	3.0
5	Ni (µg/L)					5.1
6	Pb (µg/L)				2.3	3.8
7	Zn (µg/L)				58.0	55.0
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)			90	111	80
2	HAR_Total (mgCaCO3/L)			182	213	161
3	Na% (%)			48	34	42
4	RSC (-)			0.0	0.0	0.4
5	SAR (-)			2.8	1.6	1.9
	PESTICIDES					

HISTORY SHEET

		Water Year	: 2015-2016
Site	: KUPPELUR	Code	: AKLC0B8
State	: Karnataka	District	Haveri
Basin	: Krishna	Independent River	: Krishna
Tributary	: Tungabhadra	Sub Tributary	: Kumudavathi
Sub-Sub Tributary	:	Local River	: Kumudavathi
Division	: Cauvery Division, Bangalore	Sub-Division	: Upper Tungabhadra SD Davangere
Drainage Area	: 1850 Sq. Km.	Bank	: Left
Latitude	: 14°30'00"	Longitude	: 75°38'02"
	Opening Date	Closing Date	
Gauge	: 01/06/1990		
Discharge	: 24/07/1990		
Sediment	:		
Water Quality	: 01/07/1994		

Water Quality Datasheet for the period : 2015-2016

Station Name : KUPPELUR (AKLC0B8)

Division : Cauvery Division, Bangalore

Local River : Kumudavathi

River Water Analysis Division : Upper Tungabhadra SD Davangere

S.No	Parameters	01/07/2015	01/08/2015	01/09/2015	05/10/2015	
		A	A	B	A	
	PHYSICAL					
1	Q (cumec)	17.33	7.081	7.131	20.22	
2	Colour_Cod (-)	Brown	Brown	Brown	Brown	
3	EC_GEN (µmho/cm)	282	334	356	270	
4	Odour_Code (-)	odour free	odour free	odour free	odour free	
5	pH_GEN (pH units)	7.9	7.3	7.6	7.3	
6	Temp (deg C)	27.0	28.0	28.0	27.0	
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	
2	ALK-TOT (mgCaCO3/L)	77	109	95	75	
3	B (mg/L)	0.10	0.47	1.78	0.33	
4	Ca (mg/L)	22	29	32	18	
5	Cl (mg/L)	35.9	39.1	41.2	39.4	
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	
7	F (mg/L)	0.19	0.19	0.63	0.36	
8	Fe (mg/L)	0.3	0.1	0.1	0.2	
9	HCO3 (mg/L)	93	133	116	91	
10	K (mg/L)	3.8	3.0	2.7	4.2	
11	Mg (mg/L)	9.7	11.7	9.7	9.7	
12	Na (mg/L)	17.1	21.1	24.4	20.8	
13	NO2+NO3 (mg N/L)	0.62	0.60	1.50	1.51	
14	NO2-N (mgN/L)	0.01	0.01	0.00	0.03	
15	NO3-N (mgN/L)	0.60	0.59	1.50	1.49	
16	o-PO4-P (mg P/L)	0.052	0.072	0.434	0.465	
17	SiO2 (mg/L)	10.7	18.6	18.2	10.8	
18	SO4 (mg/L)	19.0	11.9	11.4	6.9	
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)		0.8	1.5	1.5	
2	DO (mg/L)	4.9	5.9	4.8	3.8	
3	DO_SAT% (%)	61	75	62	47	
	TRACE & TOXIC					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	56	72	80	44	
2	HAR_Total (mgCaCO3/L)	97	121	121	85	
3	Na% (%)	27	27	30	34	
4	RSC (-)	0.0	0.0	0.0	0.0	
5	SAR (-)	0.8	0.8	1.0	1.0	
	PESTICIDES					

Water samples not collected from Nov 2015 to May 2016 due to no flow / Dry Bed condition

Water Quality Summary for the period : 2015-2016

Station Name : KUPPELUR (AKLC0B8)

Division : Cauvery Division, Bangalore

Local River : Kumudavathi

Sub-Division : Upper Tungabhadra SD Davangere

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	366	34.12	0.000	3.021
2	EC_GEN (µmho/cm)	4	356	270	311
3	pH_GEN (pH units)	4	7.9	7.3	7.5
4	Temp (deg C)	4	28.0	27.0	27.5
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	4	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	4	109	75	89
3	B (mg/L)	4	1.78	0.10	0.67
4	Ca (mg/L)	4	32	18	25
5	Cl (mg/L)	4	41.2	35.9	38.9
6	CO3 (mg/L)	4	0.0	0.0	0
7	F (mg/L)	4	0.63	0.19	0.34
8	Fe (mg/L)	4	0.3	0.1	0.2
9	HCO3 (mg/L)	4	133	91	108
10	K (mg/L)	4	4.2	2.7	3.4
11	Mg (mg/L)	4	11.7	9.7	10.2
12	Na (mg/L)	4	24.4	17.1	20.9
13	NO2+NO3 (mg N/L)	4	1.51	0.60	1.06
14	NO2-N (mgN/L)	4	0.03	0.00	0.01
15	NO3-N (mgN/L)	4	1.50	0.59	1.04
16	o-PO4-P (mg P/L)	4	0.465	0.052	0.256
17	SiO2 (mg/L)	4	18.6	10.7	14.6
18	SO4 (mg/L)	4	19.0	6.9	12.3
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	3	1.5	0.8	1.3
2	DO (mg/L)	4	5.9	3.8	4.8
3	DO_SAT% (%)	4	75	47	61
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	4	80	44	63
2	HAR_Total (mgCaCO3/L)	4	121	85	106
3	Na% (%)	4	34	27	29
4	RSC (-)	4	0.0	0.0	0
5	SAR (-)	4	1.0	0.8	0.9
	PESTICIDES				

Water Quality Seasonal Average for the period: 2001-2016

Station Name : KUPPELUR (AKLC0B8)

Division : Cauvery Division, Bangalore

Local River : Kumudavathi

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Flood Jun - Oct				
		2001	2002	2003	2004	2005
	PHYSICAL					
1	Q (cumec)	11.77	2.039	55.64	9.945	44.17
2	EC_GEN (µmho/cm)	258	334	355	436	192
3	pH_GEN (pH units)	8.1	8.1	6.6	8.1	7.6
4	Temp (deg C)	25.3	25.5	29.0	26.0	24.6
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	88	102	118	248	46
2	B (mg/L)	0.00			0.11	0.22
3	Ca (mg/L)	27	27	31	22	9
4	Cl (mg/L)	31.1	40.1	35.5	67.1	50.6
5	F (mg/L)	0.58	0.06	0.21	0.32	
6	Fe (mg/L)	0.0	0.0	0.4		
7	HCO3 (mg/L)	108	124	144	151	56
8	K (mg/L)	1.2	4.7	2.3	6.2	4.5
9	Mg (mg/L)	9.3	10.9	16.5	18.2	4.3
10	Na (mg/L)	16.8	30.0	21.4	49.8	38.2
11	NO2+NO3 (mg N/L)	0.29	0.00	0.28		0.07
12	NO2-N (mgN/L)	0.00	0.00	0.00		0.00
13	NO3-N (mgN/L)	0.29	0.00	0.28	1.45	0.07
14	o-PO4-P (mg P/L)	0.016	0.000	0.010		0.043
15	SiO2 (mg/L)	20.3		9.9	6.2	5.2
16	SO4 (mg/L)	4.8	11.0	9.1	4.5	1.9
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)					
2	DO (mg/L)					
3	DO_SAT% (%)					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Ni (µg/L)					
6	Pb (µg/L)					
7	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	67	67	79	54	22
2	HAR_Total (mgCaCO3/L)	106	113	147	130	40
3	Na% (%)	25	36	24	44	62
4	RSC (-)	0.0	0.0	0.0	0.0	0.1
5	SAR (-)	0.7	1.2	0.8	1.9	2.7
	PESTICIDES					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : KUPPELUR (AKLC0B8)

Division : Cauvery Division, Bangalore

Local River : Kumudavathi

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Flood				
		Jun - Oct				
		2006	2007	2008	2009	2010
	PHYSICAL					
1	Q (cumec)	Dry bed / No Flow		22.59	56.14	118.8
2	EC_GEN (µmho/cm)			298	292	343
3	pH_GEN (pH units)			8.0	7.9	7.8
4	Temp (deg C)			25.1	25.8	26.2
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)			88	85	106
2	B (mg/L)			0.33	0.04	
3	Ca (mg/L)			29	24	27
4	Cl (mg/L)			28.8	34.0	42.3
5	F (mg/L)			0.19	0.26	0.22
6	Fe (mg/L)			0.1	0.2	0.5
7	HCO3 (mg/L)			108	104	129
8	K (mg/L)			3.1	3.4	2.5
9	Mg (mg/L)			8.7	9.0	13.1
10	Na (mg/L)			17.3	22.0	25.1
11	NO2+NO3 (mg N/L)			1.36	1.20	1.70
12	NO2-N (mgN/L)			0.02	0.03	0.01
13	NO3-N (mgN/L)			1.34	1.17	1.69
14	o-PO4-P (mg P/L)			0.000	0.023	0.028
15	SiO2 (mg/L)			10.0	10.7	9.6
16	SO4 (mg/L)			12.5	15.6	11.1
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)					
2	DO (mg/L)					
3	DO_SAT% (%)					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Ni (µg/L)					
6	Pb (µg/L)					
7	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)			72	60	68
2	HAR_Total (mgCaCO3/L)			108	97	123
3	Na% (%)			25	30	29
4	RSC (-)			0.0	0.0	0.0
5	SAR (-)			0.7	1.0	0.9
	PESTICIDES					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : KUPPELUR (AKLC0B8)

Division : Cauvery Division, Bangalore

Local River : Kumudavathi

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Flood				
		Jun - Oct				
		2011	2012	2013	2014	2015
	PHYSICAL					
1	Q (cumec)	31.66	16.87	132.2	148.5	12.94
2	EC_GEN (µmho/cm)	343	334	307	247	311
3	pH_GEN (pH units)	7.4	7.4	7.5	7.4	7.5
4	Temp (deg C)	26.2	25.8	26.5	26.0	27.5
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	100	119	92	69	89
2	B (mg/L)			0.01	0.11	0.67
3	Ca (mg/L)	27	31	29	20	25
4	Cl (mg/L)	39.5	34.4	33.8	28.2	38.9
5	F (mg/L)	0.29	0.32	0.30	0.16	0.34
6	Fe (mg/L)	0.1		0.3	0.6	0.2
7	HCO3 (mg/L)	122	133	112	85	108
8	K (mg/L)	2.6	3.0	2.8	3.9	3.4
9	Mg (mg/L)	11.0	8.3	7.1	9.1	10.2
10	Na (mg/L)	23.9	21.3	27.2	16.2	20.9
11	NO2+NO3 (mg N/L)	1.69	2.37	3.25	2.90	1.06
12	NO2-N (mgN/L)	0.01	0.01	0.01	0.05	0.01
13	NO3-N (mgN/L)	1.68	2.35	3.23	2.85	1.04
14	o-PO4-P (mg P/L)	0.000		0.090	0.062	0.256
15	SiO2 (mg/L)	10.2		7.9	6.4	14.6
16	SO4 (mg/L)	7.0	10.2	13.7	12.2	12.3
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)				1.4	1.3
2	DO (mg/L)				6.0	4.8
3	DO_SAT% (%)				74	61
	TRACE & TOXIC					
1	As (µg/L)		1.6	6.0		
2	Cd (µg/L)		0.7	0.3		
3	Cr (µg/L)		3.4	1.0		
4	Cu (µg/L)		11.6	1.9		
5	Ni (µg/L)		3.5	11.9		
6	Pb (µg/L)			12.8		
7	Zn (µg/L)			0.0		
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	68	78	73	51	63
2	HAR_Total (mgCaCO3/L)	114	112	103	88	106
3	Na% (%)	31	29	34	29	29
4	RSC (-)	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	1.0	0.9	1.1	0.8	0.9
	PESTICIDES					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : KUPPELUR (AKLC0B8)

Division : Cauvery Division, Bangalore

Local River : Kumudavathi

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Winter				
		Nov - Feb				
		2001-2002	2002-2003	2003-2004	2004-2005	2005-2006
	PHYSICAL					
1	Q (cumec)		23.06	1.601	2.480	15.87
2	EC_GEN (µmho/cm)		375	353	545	270
3	pH_GEN (pH units)		8.0	8.2	7.9	7.7
4	Temp (deg C)		25.5	30.0	25.0	24.0
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)		136	133	272	105
2	B (mg/L)					0.28
3	Ca (mg/L)		33	34	28	28
4	Cl (mg/L)		33.4	34.1	88.6	91.7
5	F (mg/L)		0.76	0.21	0.25	
6	Fe (mg/L)		0.0	0.5		
7	HCO3 (mg/L)		166	162	166	128
8	K (mg/L)		2.0	2.7	4.6	3.3
9	Mg (mg/L)		18.1	15.3	20.0	14.3
10	Na (mg/L)		21.9	21.6	66.2	58.7
11	NO2+NO3 (mg N/L)		0.00	0.28		
12	NO2-N (mgN/L)		0.00	0.00		
13	NO3-N (mgN/L)		0.00	0.28	1.90	
14	o-PO4-P (mg P/L)		0.000	0.000		0.016
15	SiO2 (mg/L)				18.0	1.2
16	SO4 (mg/L)		4.3	10.1	2.6	2.2
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)					
2	DO (mg/L)					
3	DO_SAT% (%)					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Ni (µg/L)					
6	Pb (µg/L)					
7	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)		83	84	71	71
2	HAR_Total (mgCaCO3/L)		158	148	154	130
3	Na% (%)		23	24	48	49
4	RSC (-)		0.0	0.0	0.0	0.0
5	SAR (-)		0.8	0.8	2.3	2.2
	PESTICIDES					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : KUPPELUR (AKLC0B8)

Division : Cauvery Division, Bangalore

Local River : Kumudavathi

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Winter				
		Nov - Feb				
		2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	PHYSICAL					
1	Q (cumec)	Dry bed / No Flow		5.039	10.37	10.84
2	EC_GEN (µmho/cm)			382	456	602
3	pH_GEN (pH units)			7.9	7.8	7.9
4	Temp (deg C)			24.8	24.5	25.2
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)			133	149	161
2	B (mg/L)			0.19	0.15	0.13
3	Ca (mg/L)			34	42	44
4	Cl (mg/L)			40.6	48.6	79.4
5	F (mg/L)			0.28	0.30	0.32
6	Fe (mg/L)			0.1	0.1	0.0
7	HCO3 (mg/L)			162	182	197
8	K (mg/L)			2.7	2.1	3.7
9	Mg (mg/L)			13.1	16.5	21.1
10	Na (mg/L)			24.1	32.2	45.3
11	NO2+NO3 (mg N/L)			0.88	1.58	2.65
12	NO2-N (mgN/L)			0.01	0.04	0.01
13	NO3-N (mgN/L)			0.86	1.54	2.64
14	o-PO4-P (mg P/L)			0.031	0.000	0.000
15	SiO2 (mg/L)			11.5	13.2	12.4
16	SO4 (mg/L)			6.1	12.2	22.9
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)					
2	DO (mg/L)					
3	DO_SAT% (%)					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Ni (µg/L)					
6	Pb (µg/L)					
7	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)			86	104	110
2	HAR_Total (mgCaCO3/L)			141	173	197
3	Na% (%)			27	29	32
4	RSC (-)			0.0	0.0	0.0
5	SAR (-)			0.9	1.1	1.4
	PESTICIDES					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : KUPPELUR (AKLC0B8)

Division : Cauvery Division, Bangalore

Local River : Kumudavathi

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Winter				
		Nov - Feb				
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
	PHYSICAL					
1	Q (cumec)	17.05		4.564	13.91	
2	EC_GEN (µmho/cm)	460		526	633	
3	pH_GEN (pH units)	7.3		7.6	8.3	
4	Temp (deg C)	26.5		26.5	25.0	
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	137		153	177	
2	B (mg/L)			0.02	0.44	
3	Ca (mg/L)	38		43	50	
4	Cl (mg/L)	58.0		67.1	96.6	
5	F (mg/L)			0.40	0.38	
6	Fe (mg/L)	0.0		0.1	0.0	
7	HCO3 (mg/L)	168		187	216	
8	K (mg/L)	2.1		2.3	8.7	
9	Mg (mg/L)	14.1		18.5	22.4	
10	Na (mg/L)	32.2		40.5	40.5	
11	NO2+NO3 (mg N/L)	2.12		2.05	2.44	
12	NO2-N (mgN/L)	0.01		0.01	0.01	
13	NO3-N (mgN/L)	2.11		2.03	2.42	
14	o-PO4-P (mg P/L)	0.000		0.021	0.010	
15	SiO2 (mg/L)	12.1		13.3	7.7	
16	SO4 (mg/L)	12.3		9.8	12.0	
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)				1.3	
2	DO (mg/L)				6.7	
3	DO_SAT% (%)				81	
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Ni (µg/L)					
6	Pb (µg/L)					
7	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	94		108	124	
2	HAR_Total (mgCaCO3/L)	153		185	217	
3	Na% (%)	31		32	28	
4	RSC (-)	0.0		0.0	0.0	
5	SAR (-)	1.1		1.3	1.2	
	PESTICIDES					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : KUPPELUR (AKLC0B8)

Division : Cauvery Division, Bangalore

Local River : Kumudavathi

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Summer Mar - May	
		2002	2008
	PHYSICAL		
1	Q (cumec)		1.275
2	EC_GEN (µmho/cm)		411
3	pH_GEN (pH units)		8.2
4	Temp (deg C)		27.0
	CHEMICAL		
1	ALK-TOT (mgCaCO3/L)		70
2	B (mg/L)		0.11
3	Ca (mg/L)		28
4	Cl (mg/L)		57.5
5	F (mg/L)		0.61
6	Fe (mg/L)		0.0
7	HCO3 (mg/L)		85
8	K (mg/L)		4.7
9	Mg (mg/L)		10.9
10	Na (mg/L)		42.5
11	NO2+NO3 (mg N/L)		1.12
12	NO2-N (mgN/L)		0.11
13	NO3-N (mgN/L)		1.01
14	o-PO4-P (mg P/L)		0.052
15	SiO2 (mg/L)		14.0
16	SO4 (mg/L)		40.1
	BIOLOGICAL/BACTERIOLOGICAL		
1	BOD3-27 (mg/L)		
2	DO (mg/L)		
3	DO_SAT% (%)		
	TRACE & TOXIC		
1	As (µg/L)		
2	Cd (µg/L)		
3	Cr (µg/L)		
4	Cu (µg/L)		
5	Ni (µg/L)		
6	Pb (µg/L)		
7	Zn (µg/L)		
	CHEMICAL INDICES		
1	HAR_Ca (mgCaCO3/L)		71
2	HAR_Total (mgCaCO3/L)		117
3	Na% (%)		43
4	RSC (-)		0.0
5	SAR (-)		1.7
	PESTICIDES		

Samples not collected during summer season from 2001 to 2007 and from 2009-2016 due to dry bed/ no flow

HISTORY SHEET

		Water Year	: 2015-2016
Site	: HONNALI	Code	: AKL00X6
State	: Karnataka	District	Davanagere
Basin	: Krishna	Independent River	: Krishna
Tributary	: Tungabhadra	Sub Tributary	:
Sub-Sub Tributary	:	Local River	: Tungabhadra
Division	: Cauvery Division, Bangalore	Sub-Division	: Upper Tungabhadra SD Davangere
Drainage Area	: 7075 Sq. Km.	Bank	: Left
Latitude	: 14°14'14"	Longitude	: 75°39'45"
	Opening Date	Closing Date	
Gauge	: 21/06/1978		
Discharge	: 01/06/1980		
Sediment	: 15/09/1995		
Water Quality	: 02/06/1986		

Water Quality Datasheet for the period : 2015-2016

Station Name : HONNALI (AKL00X6)

Division : Cauvery Division, Bangalore

Local River : Tungabhadra

River Water Analysis

Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	01/07/2015	01/09/2015	02/11/2015	01/01/2016	01/03/2016	02/05/2016
		A	A	A	A	A	A
	PHYSICAL						
1	Q (cumec)	390.4	205.2	100.1	30.61	45.17	23.46
2	Colour_Cod (-)	Light Brown	Clear	Clear	Clear	Clear	Clear
3	EC_GEN (µmho/cm)	94	120	203	152	168	120
4	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free	odour free
5	pH_GEN (pH units)	7.3	7.2	7.5	7.1	7.1	6.4
6	TDS (mg/L)					79	56
7	Temp (deg C)	27.0	27.0	27.0	23.0	29.0	31.0
	CHEMICAL						
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	29	36	62	56	49	28
3	B (mg/L)	0.05	1.59	0.21	0.15	0.35	0.09
4	Ca (mg/L)	9	10	18	16	16	10
5	Cl (mg/L)	9.9	12.8	26.3	12.4	20.9	19.5
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.04	0.23	0.23	0.11		
8	Fe (mg/L)	0.3	0.1	0.1	0.1	0.1	0.3
9	HCO3 (mg/L)	36	43	76	69	60	35
10	K (mg/L)	1.3	1.3	1.7	1.8	1.7	1.2
11	Mg (mg/L)	3.4	4.4	7.8	4.9	6.8	4.9
12	Na (mg/L)	4.5	7.2	10.4	7.7	7.8	5.8
13	NO2+NO3 (mg N/L)	0.39	0.92	1.08	0.53	0.73	1.04
14	NO2-N (mgN/L)	0.01	0.08	0.00	0.00	0.03	0.00
15	NO3-N (mgN/L)	0.38	0.84	1.08	0.53	0.70	1.04
16	o-PO4-P (mg P/L)	0.021	0.248	0.269	0.093	0.000	0.000
17	SiO2 (mg/L)	7.4	27.4	21.4	10.6	16.0	12.6
18	SO4 (mg/L)	4.1	4.1	4.7	3.1	8.4	3.7
	BIOLOGICAL/BACTERIOLOGICAL						
1	BOD3-27 (mg/L)		0.4	0.8	2.2	0.4	0.6
2	DO (mg/L)	5.7	5.4	5.8	8.9	5.4	5.0
3	DO_SAT% (%)	71	68	73	103	70	67
	TRACE & TOXIC						
1	As (µg/L)						3.0
2	Cr (µg/L)						3.0
3	Cu (µg/L)						0.5
4	Ni (µg/L)						3.3
5	Zn (µg/L)						9.8
	CHEMICAL INDICES						
1	HAR_Ca (mgCaCO3/L)	22	104	44	40	40	24
2	HAR_Total (mgCaCO3/L)	36	189	76	60	68	44
3	Na% (%)	21	41	22	21	19	22
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.3	1.9	0.5	0.4	0.4	0.4
	PESTICIDES						

Water Quality Summary for the period : 2015-2016

Station Name : HONNALI (AKL00X6)

Division : Cauvery Division, Bangalore

Local River : Tungabhadra

Sub-Division : Upper Tungabhadra SD Davangere

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	366	1870	12.30	156.1
2	EC_GEN (µmho/cm)	6	203	94	143
3	pH_GEN (pH units)	6	7.5	6.4	7.1
4	TDS (mg/L)	2	79	56	68
5	Temp (deg C)	6	31.0	23.0	27.3
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	6	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	6	62	28	42
3	B (mg/L)	5	1.59	0.05	0.41
4	Ca (mg/L)	6	18	9	13
5	Cl (mg/L)	6	26.3	9.9	17
6	CO3 (mg/L)	6	0.0	0.0	0
7	F (mg/L)	3	0.23	0.04	0.15
8	Fe (mg/L)	6	0.3	0.1	0.2
9	HCO3 (mg/L)	6	76	35	53
10	K (mg/L)	6	1.8	1.2	1.5
11	Mg (mg/L)	6	7.8	3.4	5.3
12	Na (mg/L)	6	10.4	4.5	7.2
13	NO2+NO3 (mg N/L)	6	1.08	0.39	0.78
14	NO2-N (mgN/L)	6	0.08	0.00	0.02
15	NO3-N (mgN/L)	6	1.08	0.38	0.76
16	o-PO4-P (mg P/L)	6	0.269	0.000	0.105
17	SiO2 (mg/L)	6	27.4	7.4	15.9
18	SO4 (mg/L)	6	8.4	3.1	4.7
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	5	2.2	0.4	0.9
2	DO (mg/L)	6	8.9	5.0	6
3	DO_SAT% (%)	6	103	67	75
	TRACE & TOXIC				
1	As (µg/L)	1	3.0	3.0	3
2	Cr (µg/L)	1	3.0	3.0	3
3	Cu (µg/L)	1	0.5	0.5	0.5
4	Ni (µg/L)	1	3.3	3.3	3.3
5	Zn (µg/L)	1	9.8	9.8	9.8
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	6	104	22	46
2	HAR_Total (mgCaCO3/L)	6	189	36	79
3	Na% (%)	6	41	19	24
4	RSC (-)	6	0.0	0.0	0
5	SAR (-)	6	1.9	0.3	0.7
	PESTICIDES				

Water Quality Seasonal Average for the period: 2001-2016

Station Name : HONNALI (AKL00X6)

Division : Cauvery Division, Bangalore

Local River : Tungabhadra

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Flood				
		Jun - Oct				
		2001	2002	2003	2004	2005
	PHYSICAL					
1	Q (cumec)	248.0	137.8	209.2	545.4	140.4
2	EC_GEN (µmho/cm)	133	188	116	141	60
3	pH_GEN (pH units)	8.2	8.1	8.1	7.2	7.0
4	TDS (mg/L)					
5	Temp (deg C)	23.3	22.9	27.8	28.3	28.3
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	61	130	39	76	55
2	B (mg/L)	0.07	0.13	0.00		0.18
3	Ca (mg/L)	11	19	6	11	11
4	Cl (mg/L)	12.6	19.0	18.0	27.5	44.0
5	F (mg/L)	0.17	0.24	0.31	0.26	0.35
6	Fe (mg/L)	0.0	0.0	0.0		1.1
7	HCO3 (mg/L)	50	79	34	49	67
8	K (mg/L)	1.1	1.6	1.5	1.4	9.5
9	Mg (mg/L)	5.0	7.6	2.8	5.2	5.7
10	Na (mg/L)	7.6	11.0	13.2	17.8	28.4
11	NH3-N (mg N/L)	0.03			0.00	
12	NO2+NO3 (mg N/L)	0.15	0.11		2.75	0.14
13	NO2-N (mgN/L)	0.00	0.00		1.35	0.07
14	NO3-N (mgN/L)	0.15	0.11	0.26	1.40	0.07
15	o-PO4-P (mg P/L)	0.000	0.009	0.019	0.014	0.017
16	SiO2 (mg/L)	21.7	27.6	7.5	4.4	0.2
17	SO4 (mg/L)	3.6	4.4	2.4	1.0	1.9
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)			1.0	0.9	0.9
2	DO (mg/L)		8.7	7.6	7.1	6.4
3	DO_SAT% (%)		101	95	91	82
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	27	47	16	28	28
2	HAR_Total (mgCaCO3/L)	48	78	27	50	51
3	Na% (%)	29	26	50	41	50
4	RSC (-)	0.0	0.0	0.0	0.0	0.3
5	SAR (-)	0.5	0.6	1.2	1.1	2.0
	PESTICIDES					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : HONNALI (AKL00X6)

Division : Cauvery Division, Bangalore

Local River : Tungabhadra

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Flood				
		Jun - Oct				
		2006	2007	2008	2009	2010
	PHYSICAL					
1	Q (cumec)			533.8	308.8	776.5
2	EC_GEN (µmho/cm)			137	121	88
3	pH_GEN (pH units)			7.9	7.7	7.2
4	TDS (mg/L)					
5	Temp (deg C)			27.0	26.8	25.6
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)			40	38	27
2	B (mg/L)				0.01	
3	Ca (mg/L)			10	10	7
4	Cl (mg/L)			17.6	12.6	9.6
5	F (mg/L)			0.03	0.07	0.12
6	Fe (mg/L)				0.2	0.3
7	HCO3 (mg/L)			49	47	33
8	K (mg/L)			2.5	1.6	1.2
9	Mg (mg/L)			2.9	4.4	3.9
10	Na (mg/L)			10.8	8.4	5.2
11	NH3-N (mg N/L)					
12	NO2+NO3 (mg N/L)			0.45	0.65	0.69
13	NO2-N (mgN/L)			0.00	0.00	0.33
14	NO3-N (mgN/L)			0.45	0.65	0.36
15	o-PO4-P (mg P/L)				0.140	0.010
16	SiO2 (mg/L)				10.2	9.0
17	SO4 (mg/L)			2.7	3.5	4.2
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)					
2	DO (mg/L)					5.3
3	DO_SAT% (%)					65
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)			26	24	18
2	HAR_Total (mgCaCO3/L)			38	42	34
3	Na% (%)			35	28	24
4	RSC (-)			0.1	0.0	0.0
5	SAR (-)			0.8	0.5	0.4
	PESTICIDES					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : HONNALI (AKL00X6)

Division : Cauvery Division, Bangalore

Local River : Tungabhadra

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Flood				
		Jun - Oct				
		2011	2012	2013	2014	2015
	PHYSICAL					
1	Q (cumec)	1445	361.9	1657	449.3	297.8
2	EC_GEN (µmho/cm)	56	63	80	100	107
3	pH_GEN (pH units)	6.4	7.1	7.0	7.4	7.2
4	TDS (mg/L)					
5	Temp (deg C)	26.9	25.8	25.8	26.5	27.0
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	16	19	22	30	32
2	B (mg/L)			0.01	0.11	0.82
3	Ca (mg/L)	4	4	6	8	9
4	Cl (mg/L)	6.0	6.6	9.9	11.9	11.4
5	F (mg/L)	0.06	0.05	0.05	0.10	0.13
6	Fe (mg/L)	0.1		0.2	0.1	0.2
7	HCO3 (mg/L)	20	23	27	36	40
8	K (mg/L)	1.0	1.1	1.1	1.4	1.3
9	Mg (mg/L)	1.5	2.7	2.4	4.1	3.9
10	Na (mg/L)	3.5	3.8	5.5	6.7	5.9
11	NH3-N (mg N/L)					
12	NO2+NO3 (mg N/L)	0.53	0.71	0.73	0.77	0.66
13	NO2-N (mgN/L)	0.00	0.01	0.03	0.03	0.05
14	NO3-N (mgN/L)	0.53	0.71	0.69	0.74	0.61
15	o-PO4-P (mg P/L)	0.005		0.031	0.021	0.134
16	SiO2 (mg/L)	5.8		8.7	4.9	17.4
17	SO4 (mg/L)	3.4	3.2	3.7	4.1	4.1
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.4	0.5	0.4	0.5	0.4
2	DO (mg/L)	6.1	6.4	6.3	5.7	5.5
3	DO_SAT% (%)	76	78	77	71	69
	TRACE & TOXIC					
1	As (µg/L)		0.6	4.7		
2	Cd (µg/L)		0.2	0.0		
3	Cr (µg/L)		7.3	1.3		
4	Cu (µg/L)		5.4	0.7		
5	Hg (µg/L)					
6	Ni (µg/L)		2.3	7.6		
7	Pb (µg/L)			5.4		
8	Zn (µg/L)			0.0		
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	10	11	16	19	63
2	HAR_Total (mgCaCO3/L)	16	22	26	36	113
3	Na% (%)	31	26	30	28	31
4	RSC (-)	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.4	0.4	0.5	0.5	1.1
	PESTICIDES					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : HONNALI (AKL00X6)

Division : Cauvery Division, Bangalore

Local River : Tungabhadra

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Winter				
		Nov - Feb				
		2001-2002	2002-2003	2003-2004	2004-2005	2005-2006
	PHYSICAL					
1	Q (cumec)	32.45	105.4	39.33	57.11	76.34
2	EC_GEN (µmho/cm)	210	175	243	228	139
3	pH_GEN (pH units)	7.9	8.2	8.0	7.7	7.8
4	TDS (mg/L)					
5	Temp (deg C)	21.1	24.3	27.8	28.0	26.3
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	68	109	86	145	65
2	B (mg/L)	0.01				0.21
3	Ca (mg/L)	14	13	19	11	15
4	Cl (mg/L)	28.0	23.1	24.7	23.8	48.1
5	F (mg/L)	0.86	0.18	0.30	0.01	0.29
6	Fe (mg/L)	0.0	0.0	0.2	0.1	2.0
7	HCO3 (mg/L)	42	66	104	80	80
8	K (mg/L)	1.0	1.6	1.6	33.2	2.3
9	Mg (mg/L)	6.1	7.5	12.2	6.1	8.3
10	Na (mg/L)	16.2	14.5	15.8	14.6	36.2
11	NH3-N (mg N/L)	0.00			0.00	
12	NO2+NO3 (mg N/L)	0.46	0.00		3.22	0.87
13	NO2-N (mgN/L)	0.00	0.00		1.73	0.43
14	NO3-N (mgN/L)	0.46	0.00	0.11	1.49	0.44
15	o-PO4-P (mg P/L)	0.031	0.000	0.008	0.015	0.016
16	SiO2 (mg/L)	15.9		11.4	12.6	0.9
17	SO4 (mg/L)	14.4	2.6	4.6	5.3	4.8
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)			2.0	0.8	0.7
2	DO (mg/L)			5.5	7.0	6.3
3	DO_SAT% (%)			69	89	78
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	34	33	48	27	38
2	HAR_Total (mgCaCO3/L)	59	64	98	53	73
3	Na% (%)	38	32	28	25	51
4	RSC (-)	0.0	0.0	0.0	0.3	0.0
5	SAR (-)	0.9	0.8	0.7	0.9	1.8
	PESTICIDES					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : HONNALI (AKL00X6)

Division : Cauvery Division, Bangalore

Local River : Tungabhadra

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Winter				
		Nov - Feb				
		2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	PHYSICAL					
1	Q (cumec)			29.73	145.7	80.10
2	EC_GEN (µmho/cm)			177	152	154
3	pH_GEN (pH units)			7.7	7.5	7.7
4	TDS (mg/L)					
5	Temp (deg C)			25.8	25.8	26.4
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)			58	45	50
2	B (mg/L)			0.08	0.06	0.05
3	Ca (mg/L)			14	12	11
4	Cl (mg/L)			20.4	17.5	19.0
5	F (mg/L)			0.13	0.06	0.05
6	Fe (mg/L)			0.1	0.1	0.0
7	HCO3 (mg/L)			70	55	61
8	K (mg/L)			1.6	2.4	1.2
9	Mg (mg/L)			6.3	5.8	7.3
10	Na (mg/L)			15.1	9.0	8.2
11	NH3-N (mg N/L)					
12	NO2+NO3 (mg N/L)			0.46	0.97	0.86
13	NO2-N (mgN/L)			0.01	0.02	0.01
14	NO3-N (mgN/L)			0.45	0.95	0.85
15	o-PO4-P (mg P/L)			0.041	0.021	0.016
16	SiO2 (mg/L)			11.6	13.4	11.1
17	SO4 (mg/L)			2.8	2.7	4.3
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)					1.8
2	DO (mg/L)					6.4
3	DO_SAT% (%)					79
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)			34	30	27
2	HAR_Total (mgCaCO3/L)			60	54	57
3	Na% (%)			35	26	23
4	RSC (-)			0.0	0.0	0.0
5	SAR (-)			0.8	0.5	0.5
	PESTICIDES					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : HONNALI (AKL00X6)

Division : Cauvery Division, Bangalore

Local River : Tungabhadra

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Winter				
		Nov - Feb				
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
	PHYSICAL					
1	Q (cumec)	52.15	90.40	134.8	48.62	65.37
2	EC_GEN (µmho/cm)	177	235	211	222	178
3	pH_GEN (pH units)	7.2	7.5	7.4	7.9	7.3
4	TDS (mg/L)					
5	Temp (deg C)	28.0	25.3	25.5	25.2	25.0
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	59	78	68	54	59
2	B (mg/L)			0.00	0.21	0.18
3	Ca (mg/L)	13	22	15	15	17
4	Cl (mg/L)	20.1	26.6	21.3	22.0	19.3
5	F (mg/L)		0.19	0.29	0.15	0.17
6	Fe (mg/L)	0.0		0.1	0.0	0.1
7	HCO3 (mg/L)	72	95	83	66	72
8	K (mg/L)	1.5	1.6	1.7	4.1	1.7
9	Mg (mg/L)	6.8	6.3	6.8	7.3	6.3
10	Na (mg/L)	12.6	15.1	17.5	8.6	9.1
11	NH3-N (mg N/L)					
12	NO2+NO3 (mg N/L)	1.00	0.83	1.25	1.68	0.81
13	NO2-N (mgN/L)	0.44	0.01	0.00	0.39	0.00
14	NO3-N (mgN/L)	0.56	0.83	1.25	1.29	0.81
15	o-PO4-P (mg P/L)	0.000		0.021	0.021	0.181
16	SiO2 (mg/L)			9.6	4.9	16.0
17	SO4 (mg/L)	5.3	4.1	3.8	4.4	3.9
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.6	0.9	3.0	1.3	1.5
2	DO (mg/L)	6.2	5.4	5.2	5.4	7.3
3	DO_SAT% (%)	79	66	64	65	88
	TRACE & TOXIC					
1	As (µg/L)	0.2	3.6			
2	Cd (µg/L)	0.2			0.0	
3	Cr (µg/L)	3.2	0.2		1.2	
4	Cu (µg/L)		0.4		5.7	
5	Hg (µg/L)					
6	Ni (µg/L)	5.6	8.9		1.6	
7	Pb (µg/L)				0.9	
8	Zn (µg/L)				9.7	
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	32	56	38	38	42
2	HAR_Total (mgCaCO3/L)	60	82	66	68	68
3	Na% (%)	29	26	36	20	22
4	RSC (-)	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.7	0.7	0.9	0.5	0.5
	PESTICIDES					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : HONNALI (AKL00X6)

Division : Cauvery Division, Bangalore

Local River : Tungabhadra

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Summer				
		Mar - May				
		2002	2003	2004	2005	2006
	PHYSICAL					
1	Q (cumec)	23.98	30.59	3.193	35.77	56.40
2	EC_GEN (µmho/cm)	313	309	258	308	185
3	pH_GEN (pH units)	7.8	7.9	7.7	7.7	7.5
4	TDS (mg/L)					
5	Temp (deg C)	25.6	26.5	27.8	30.3	29.0
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	122	205	88		61
2	B (mg/L)			0.05		
3	Ca (mg/L)	20	21	23	11	15
4	Cl (mg/L)	44.8	37.1	23.6	34.3	21.3
5	F (mg/L)	1.03	0.24	0.25	0.28	0.65
6	Fe (mg/L)	0.0	0.0			1.5
7	HCO3 (mg/L)	74	125	107	109	74
8	K (mg/L)	3.6	4.3	1.4	41.4	9.3
9	Mg (mg/L)	10.1	14.6	12.8	8.3	7.6
10	Na (mg/L)	26.3	24.5	14.3	26.1	14.6
11	NH3-N (mg N/L)	0.00			0.00	
12	NO2+NO3 (mg N/L)	0.04	0.28		5.37	0.49
13	NO2-N (mgN/L)	0.00	0.00		4.76	0.24
14	NO3-N (mgN/L)	0.04	0.28	0.15	0.61	0.25
15	o-PO4-P (mg P/L)	0.007	0.010	0.014	0.014	0.014
16	SiO2 (mg/L)	13.1	16.1	9.0		10.2
17	SO4 (mg/L)	14.6	7.9	8.6	7.2	10.1
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)			0.6	1.0	1.0
2	DO (mg/L)		2.2	7.9	5.6	6.6
3	DO_SAT% (%)		27	99	74	85
	TRACE & TOXIC					
1	As (µg/L)				1.8	13.7
2	Cd (µg/L)					0.0
3	Cr (µg/L)				7.5	7.5
4	Cu (µg/L)					8.9
5	Hg (µg/L)				0.1	
6	Ni (µg/L)				5.2	
7	Pb (µg/L)					4.5
8	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	49	53	58	27	37
2	HAR_Total (mgCaCO3/L)	91	114	111	61	69
3	Na% (%)	38	31	22	33	30
4	RSC (-)	0.0	0.0	0.0	0.6	0.0
5	SAR (-)	1.2	1.0	0.6	1.5	0.8
	PESTICIDES					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : HONNALI (AKL00X6)

Division : Cauvery Division, Bangalore

Local River : Tungabhadra

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Summer				
		Mar - May				
		2007	2008	2009	2010	2011
	PHYSICAL					
1	Q (cumec)		38.27	61.46	38.27	46.91
2	EC_GEN (µmho/cm)		205	149	228	258
3	pH_GEN (pH units)		7.0	7.4	7.8	7.4
4	TDS (mg/L)					
5	Temp (deg C)		32.0	29.3	26.9	30.4
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)		63	48	76	78
2	B (mg/L)		0.07	0.07	0.06	0.29
3	Ca (mg/L)		17	12	18	19
4	Cl (mg/L)		21.9	17.2	22.2	22.9
5	F (mg/L)		0.15	0.08	0.18	0.39
6	Fe (mg/L)		0.0	0.2	0.1	0.1
7	HCO3 (mg/L)		77	59	93	96
8	K (mg/L)		2.3	1.4	2.2	2.2
9	Mg (mg/L)		6.2	4.4	7.8	8.7
10	Na (mg/L)		15.6	11.3	16.4	17.0
11	NH3-N (mg N/L)					
12	NO2+NO3 (mg N/L)		0.34	0.49	0.95	0.99
13	NO2-N (mgN/L)		0.00	0.01	0.04	0.01
14	NO3-N (mgN/L)		0.34	0.48	0.90	0.98
15	o-PO4-P (mg P/L)		0.000	0.016	0.010	0.016
16	SiO2 (mg/L)		12.1	11.0	13.3	15.8
17	SO4 (mg/L)		3.8	2.6	3.9	4.8
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)					
2	DO (mg/L)					5.8
3	DO_SAT% (%)					77
	TRACE & TOXIC					
1	As (µg/L)		6.7			1.6
2	Cd (µg/L)		0.9			0.0
3	Cr (µg/L)					1.1
4	Cu (µg/L)		3.7	1.7		
5	Hg (µg/L)					
6	Ni (µg/L)			11.7		
7	Pb (µg/L)		1.2			
8	Zn (µg/L)		40.0			
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)		43	30	46	48
2	HAR_Total (mgCaCO3/L)		69	48	78	84
3	Na% (%)		32	33	31	30
4	RSC (-)		0.0	0.0	0.0	0.0
5	SAR (-)		0.8	0.7	0.8	0.8
	PESTICIDES					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : HONNALI (AKL00X6)

Division : Cauvery Division, Bangalore

Local River : Tungabhadra

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Summer				
		Mar - May				
		2012	2013	2014	2015	2016
	PHYSICAL					
1	Q (cumec)	88.92	33.34	118.8	35.17	34.31
2	EC_GEN (µmho/cm)	157	186	239	230	144
3	pH_GEN (pH units)	7.1	7.2	7.5	7.4	6.8
4	TDS (mg/L)					68
5	Temp (deg C)	28.0	28.5	28.0	28.3	30.0
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	48	58	77	83	39
2	B (mg/L)		0.00	0.11	0.40	0.22
3	Ca (mg/L)	13	15	18	17	13
4	Cl (mg/L)	17.0	18.6	23.3	22.7	20.2
5	F (mg/L)	0.16		0.27	0.27	
6	Fe (mg/L)		0.1	0.1	0.1	0.2
7	HCO3 (mg/L)	58	71	94	101	47
8	K (mg/L)	2.0	1.6	1.8	5.0	1.4
9	Mg (mg/L)	5.1	6.8	8.7	9.2	5.8
10	Na (mg/L)	9.1	11.5	17.2	15.3	6.3
11	NH3-N (mg N/L)					
12	NO2+NO3 (mg N/L)	1.74	1.90	2.24	1.45	0.88
13	NO2-N (mgN/L)	0.07	0.01	0.01	0.05	0.01
14	NO3-N (mgN/L)	1.67	1.88	2.23	1.40	0.87
15	o-PO4-P (mg P/L)		0.031	0.052	0.021	0.000
16	SiO2 (mg/L)		13.1	10.3	6.0	14.3
17	SO4 (mg/L)	4.9	6.0	5.1	5.2	6.1
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.0	0.7	2.8	2.3	0.5
2	DO (mg/L)	5.3	5.0	5.8	5.2	5.2
3	DO_SAT% (%)	67	65	75	67	68
	TRACE & TOXIC					
1	As (µg/L)	1.1	6.8	5.7		3.0
2	Cd (µg/L)	0.2	0.1	0.5		
3	Cr (µg/L)	2.3	0.4	0.5		3.0
4	Cu (µg/L)	2.0	3.8	1.0		0.5
5	Hg (µg/L)					
6	Ni (µg/L)	9.2	3.3	7.9		3.3
7	Pb (µg/L)	3.7	2.5	2.9		
8	Zn (µg/L)	10.0	123.6	16.0		9.8
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	33	38	44	42	32
2	HAR_Total (mgCaCO3/L)	54	66	80	80	56
3	Na% (%)	26	27	31	28	21
4	RSC (-)	0.0	0.0	0.0	0.1	0.0
5	SAR (-)	0.5	0.6	0.8	0.7	0.4
	PESTICIDES					

HISTORY SHEET

		Water Year	: 2015-2016
Site	: SHIMOGA	Code	: AKLD0C6
State	: Karnataka	District	Shimoga
Basin	: Krishna	Independent River	: Krishna
Tributary	: Tungabhadra	Sub Tributary	: Tunga
Sub-Sub Tributary	:	Local River	: Tunga
Division	: Cauvery Division, Bangalore	Sub-Division	: Upper Tungabhadra SD Davangere
Drainage Area	: 2831 Sq. Km.	Bank	: Right
Latitude	: 13°55'37"	Longitude	: 75°35'06"
	Opening Date	Closing Date	
Gauge	: 21/06/1971		
Discharge	: 22/01/1972		
Sediment	: 14/09/1972		
Water Quality	: 01/01/1973		

Water Quality Datasheet for the period : 2015-2016

Station Name : SHIMOGA (AKLD0C6)

Local River : Tunga

River Water Analysis

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	01/07/2015	01/09/2015	01/11/2015	01/01/2016	01/03/2016	02/05/2016
		A	A	A	A	A	A
	PHYSICAL						
1	Q (cumec)	449.4	144.4	49.43	2.795	2.200	2.335
2	Colour_Cod (-)	Light Brown	Light Brown	Light Brown	Light Brown	Clear	Light Brown
3	EC_GEN (umho/cm)	59	61	69	78	144	163
4	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free	odour free
5	pH_GEN (pH units)	7.4	6.9	7.4	6.8	6.7	6.3
6	TDS (mg/L)				37	68	76
7	Temp (deg C)	24.5	24.5	25.0	23.5	27.5	27.0
	CHEMICAL						
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	16	16	22	21	46	49
3	B (mg/L)	0.08	0.08	0.28	0.20	0.32	0.09
4	Ca (mg/L)	5	6	6	8	12	10
5	Cl (mg/L)	6.0	7.8	7.1	11.4	13.8	21.3
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.15	0.10	0.10	0.06		
8	Fe (mg/L)	0.3	0.2	0.2	0.2	0.1	0.0
9	HCO3 (mg/L)	19	19	27	25	56	59
10	K (mg/L)	1.0	0.9	1.0	1.2	2.2	4.1
11	Mg (mg/L)	1.9	1.5	1.9	2.9	5.3	7.8
12	Na (mg/L)	3.5	4.8	3.9	3.9	7.8	9.3
13	NO2+NO3 (mg N/L)	0.34	0.62	0.63	0.49	0.64	0.85
14	NO2-N (mgN/L)	0.01	0.01	0.00	0.00	0.18	0.01
15	NO3-N (mgN/L)	0.32	0.60	0.63	0.49	0.46	0.84
16	o-PO4-P (mg P/L)	0.000	0.413	0.475	0.165	0.031	0.103
17	SiO2 (mg/L)	6.6	16.3	20.8	13.5	17.0	13.6
18	SO4 (mg/L)	3.4	2.8	1.9	2.2	5.9	3.4
	BIOLOGICAL/BACTERIOLOGICAL						
1	BOD3-27 (mg/L)		0.4	0.4	0.6	0.6	21.7
2	DO (mg/L)	5.3	4.3	5.6	6.5	1.4	0.6
3	DO_SAT% (%)	63	51	68	76	17	7
	TRACE & TOXIC						
1	As (µg/L)						3.1
2	Cr (µg/L)						2.1
3	Cu (µg/L)						0.3
4	Ni (µg/L)						0.1
5	Zn (µg/L)						0.7
	CHEMICAL INDICES						
1	HAR_Ca (mgCaCO3/L)	12	14	16	20	30	24
2	HAR_Total (mgCaCO3/L)	20	20	24	32	52	56
3	Na% (%)	26	33	25	20	24	25
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.3	0.5	0.3	0.3	0.5	0.5
	PESTICIDES						

Water Quality Summary for the period : 2015-2016

Station Name : SHIMOGA (AKLD0C6)

Division : Cauvery Division, Bangalore

Local River : Tunga

Sub-Division : Upper Tungabhadra SD Davangere

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	366	2023	0.708	116.1
2	EC_GEN (µmho/cm)	6	163	59	96
3	pH_GEN (pH units)	6	7.4	6.3	6.9
4	TDS (mg/L)	3	76	37	60
5	Temp (deg C)	6	27.5	23.5	25.3
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	6	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	6	49	16	28
3	B (mg/L)	6	0.32	0.08	0.17
4	Ca (mg/L)	6	12	5	8
5	Cl (mg/L)	6	21.3	6.0	11.2
6	CO3 (mg/L)	6	0.0	0.0	0
7	F (mg/L)	4	0.15	0.06	0.1
8	Fe (mg/L)	6	0.3	0.0	0.2
9	HCO3 (mg/L)	6	59	19	34
10	K (mg/L)	6	4.1	0.9	1.7
11	Mg (mg/L)	6	7.8	1.5	3.6
12	Na (mg/L)	6	9.3	3.5	5.5
13	NO2+NO3 (mg N/L)	6	0.85	0.34	0.59
14	NO2-N (mgN/L)	6	0.18	0.00	0.04
15	NO3-N (mgN/L)	6	0.84	0.32	0.56
16	o-PO4-P (mg P/L)	6	0.475	0.000	0.198
17	SiO2 (mg/L)	6	20.8	6.6	14.6
18	SO4 (mg/L)	6	5.9	1.9	3.2
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	5	21.7	0.4	4.7
2	DO (mg/L)	6	6.5	0.6	3.9
3	DO_SAT% (%)	6	76	7	47
	TRACE & TOXIC				
1	As (µg/L)	1	3.1	3.1	3.1
2	Cr (µg/L)	1	2.1	2.1	2
3	Cu (µg/L)	1	0.3	0.3	0.3
4	Ni (µg/L)	1	0.1	0.1	0.1
5	Zn (µg/L)	1	0.7	0.7	0.7
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	6	30	12	19
2	HAR_Total (mgCaCO3/L)	6	56	20	34
3	Na% (%)	6	33	20	26
4	RSC (-)	6	0.0	0.0	0
5	SAR (-)	6	0.5	0.3	0.4
	PESTICIDES				

Water Quality Seasonal Average for the period: 2001-2016

Station Name : SHIMOGA (AKLD0C6)

Division : Cauvery Division, Bangalore

Local River : Tunga

River WaterSub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Flood				
		Jun - Oct				
		2001	2002	2003	2004	2005
	PHYSICAL					
1	Q (cumec)	296.2	137.2	222.2	181.8	514.2
2	EC_GEN (µmho/cm)	62	180	123	269	42
3	pH_GEN (pH units)	8.1	7.9	7.6	7.2	7.1
4	TDS (mg/L)					
5	Temp (deg C)	25.8	27.4	25.0	25.0	24.0
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	16	70	32	70	41
2	B (mg/L)	0.06	0.25	0.00		0.17
3	Ca (mg/L)	4	13	10	15	7
4	Cl (mg/L)	11.1	22.5	20.1	42.2	68.6
5	F (mg/L)	0.19	0.38	0.00	0.09	0.19
6	Fe (mg/L)	0.1	0.0	0.0	0.0	0.1
7	HCO3 (mg/L)	19	69	39	86	50
8	K (mg/L)	0.7	2.6	1.2	8.1	7.0
9	Mg (mg/L)	2.2	8.3	4.1	12.6	3.3
10	Na (mg/L)	7.2	14.1	12.0	22.0	48.5
11	NH3-N (mg N/L)	0.04	0.00	0.00		
12	NO2+NO3 (mg N/L)	0.10	0.32	0.07	2.09	
13	NO2-N (mgN/L)	0.00	0.00	0.00	1.13	
14	NO3-N (mgN/L)	0.10	0.32	0.07	0.96	0.48
15	o-PO4-P (mg P/L)	0.005	0.062	0.000	0.000	0.048
16	SiO2 (mg/L)	18.0	22.2	3.9	10.0	2.8
17	SO4 (mg/L)	1.8	3.8	2.4	3.0	3.1
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.8	2.0	0.7	1.0	0.9
2	DO (mg/L)	7.4	7.0	8.0	8.2	7.3
3	DO_SAT% (%)	90	88	97	99	86
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Ni (µg/L)					
6	Pb (µg/L)					
7	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	9	31	24	39	17
2	HAR_Total (mgCaCO3/L)	18	66	41	91	31
3	Na% (%)	46	31	39	32	71
4	RSC (-)	0.0	0.0	0.0	0.0	0.2
5	SAR (-)	0.7	0.8	0.8	1.0	5.0
	PESTICIDES					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : SHIMOGA (AKLD0C6)

Division : Cauvery Division, Bangalore

Local River : Tunga

River WaterSub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Flood				
		Jun - Oct				
		2006	2007	2008	2009	2010
	PHYSICAL					
1	Q (cumec)	590.6	525.0	444.6	470.7	815.9
2	EC_GEN (µmho/cm)	248	178	64	52	43
3	pH_GEN (pH units)	7.6	8.0	7.5	7.3	7.1
4	TDS (mg/L)					
5	Temp (deg C)	24.5	26.4	27.0	24.5	25.0
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	88	57	15	15	12
2	B (mg/L)	0.00	0.11		0.00	
3	Ca (mg/L)	12	12	4	3	3
4	Cl (mg/L)	25.2	17.9	6.7	5.8	5.7
5	F (mg/L)	0.00	0.38	0.02	0.06	0.02
6	Fe (mg/L)	0.0	0.0		0.2	0.3
7	HCO3 (mg/L)	107	69	19	19	14
8	K (mg/L)	35.8	2.3	0.8	0.7	1.0
9	Mg (mg/L)	5.9	8.4	2.9	2.9	1.9
10	Na (mg/L)	15.1	11.5	3.9	3.2	2.8
11	NH3-N (mg N/L)	0.00				
12	NO2+NO3 (mg N/L)	0.15	0.24	0.59	0.49	0.43
13	NO2-N (mgN/L)	0.00	0.00	0.01	0.01	0.01
14	NO3-N (mgN/L)	0.15	0.24	0.57	0.48	0.42
15	o-PO4-P (mg P/L)	0.000	0.045		0.000	0.000
16	SiO2 (mg/L)	1.6	0.9		9.5	8.4
17	SO4 (mg/L)	5.5	3.3	3.6	3.2	2.3
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	2.0	1.1	1.2	0.6	
2	DO (mg/L)	8.2	6.0	7.8	6.8	7.2
3	DO_SAT% (%)	97	74	98	80	87
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Ni (µg/L)					
6	Pb (µg/L)					
7	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	31	29	10	8	8
2	HAR_Total (mgCaCO3/L)	55	64	22	20	16
3	Na% (%)	27	28	27	25	26
4	RSC (-)	0.7	0.0	0.0	0.0	0.0
5	SAR (-)	0.9	0.6	0.4	0.3	0.3
	PESTICIDES					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : SHIMOGA (AKLD0C6)

Division : Cauvery Division, Bangalore

Local River : Tunga

River WaterSub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Flood				
		Jun - Oct				
		2011	2012	2013	2014	2015
	PHYSICAL					
1	Q (cumec)	236.1	387.3	886.7	17.51	296.9
2	EC_GEN (µmho/cm)	41	45	57	61	60
3	pH_GEN (pH units)	6.2	7.0	6.9	7.1	7.1
4	TDS (mg/L)					
5	Temp (deg C)	24.5	24.0	25.3	25.0	24.5
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	12	12	13	19	16
2	B (mg/L)	0.00		0.00	0.11	0.08
3	Ca (mg/L)	3	3	4	6	5
4	Cl (mg/L)	3.9	5.0	6.9	7.1	6.9
5	F (mg/L)	0.00	0.04	0.03	0.08	0.12
6	Fe (mg/L)	0.1		0.2	0.1	0.3
7	HCO3 (mg/L)	14	14	16	23	19
8	K (mg/L)	2.6	0.9	0.9	1.3	1.0
9	Mg (mg/L)	1.0	1.9	2.4	1.9	1.7
10	Na (mg/L)	3.0	2.9	3.7	3.1	4.2
11	NH3-N (mg N/L)					
12	NO2+NO3 (mg N/L)	0.38	0.63	0.66	0.31	0.48
13	NO2-N (mgN/L)	0.00	0.01	0.09	0.01	0.01
14	NO3-N (mgN/L)	0.38	0.62	0.57	0.29	0.46
15	o-PO4-P (mg P/L)	0.000		0.036	0.001	0.207
16	SiO2 (mg/L)	7.3		10.1	5.2	11.4
17	SO4 (mg/L)	3.0	3.0	3.9	3.5	3.1
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	2.6	0.4	0.2	0.6	0.4
2	DO (mg/L)	6.9	6.8	6.7	5.3	4.8
3	DO_SAT% (%)	83	81	81	65	57
	TRACE & TOXIC					
1	As (µg/L)		0.1	0.6		
2	Cd (µg/L)		0.6	0.0		
3	Cr (µg/L)		4.9	8.0		
4	Cu (µg/L)		3.3	0.5		
5	Ni (µg/L)		1.5	10.2		
6	Pb (µg/L)			0.5		
7	Zn (µg/L)			0.0		
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	8	8	10	16	13
2	HAR_Total (mgCaCO3/L)	12	16	20	24	20
3	Na% (%)	30	27	28	21	30
4	RSC (-)	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.4	0.3	0.4	0.3	0.4
	PESTICIDES					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : SHIMOGA (AKLD0C6)

Division : Cauvery Division, Bangalore

Local River : Tunga

River WaterSub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Winter				
		Nov - Feb				
		2001-2002	2002-2003	2003-2004	2004-2005	2005-2006
	PHYSICAL					
1	Q (cumec)	17.71	48.42	25.89	26.11	50.59
2	EC_GEN (µmho/cm)	55	148	102	352	75
3	pH_GEN (pH units)	8.0	8.2	8.0	7.8	7.8
4	TDS (mg/L)					
5	Temp (deg C)	26.6	27.0	26.5	23.0	22.3
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	8	60	27	72	40
2	B (mg/L)	0.02				0.22
3	Ca (mg/L)	5	15	6	6	8
4	Cl (mg/L)	11.0	10.5	18.6	75.8	67.3
5	F (mg/L)	0.57	0.22	0.02	0.09	
6	Fe (mg/L)	0.0	0.1	0.0	0.2	
7	HCO3 (mg/L)	10	73	32	88	49
8	K (mg/L)	1.1	1.0	0.8	13.6	1.7
9	Mg (mg/L)	1.0	7.4	2.9	8.1	5.3
10	Na (mg/L)	6.1	6.1	13.6	59.0	48.3
11	NH3-N (mg N/L)	0.04	0.00	0.00		
12	NO2+NO3 (mg N/L)	0.26	0.07	0.21	2.99	
13	NO2-N (mgN/L)	0.00	0.00	0.00	1.52	
14	NO3-N (mgN/L)	0.26	0.07	0.21	1.47	
15	o-PO4-P (mg P/L)	0.016	0.010	0.000	0.000	0.041
16	SiO2 (mg/L)	9.5	33.6	10.5	1.2	1.9
17	SO4 (mg/L)	4.4	4.6	1.0	5.0	1.9
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.7	1.0	1.5	0.5	1.0
2	DO (mg/L)	7.0	7.0	6.1	7.9	7.4
3	DO_SAT% (%)	87	88	75	92	85
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Ni (µg/L)					
6	Pb (µg/L)					
7	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	11	37	16	16	20
2	HAR_Total (mgCaCO3/L)	15	68	28	50	42
3	Na% (%)	46	16	52	66	72
4	RSC (-)	0.0	0.0	0.0	0.5	0.1
5	SAR (-)	0.7	0.3	1.2	3.6	3.8
	PESTICIDES					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : SHIMOGA (AKLD0C6)

Division : Cauvery Division, Bangalore

Local River : Tunga

River WaterSub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Winter				
		Nov - Feb				
		2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	PHYSICAL					
1	Q (cumec)	31.91	55.47	7.848	103.8	51.94
2	EC_GEN (µmho/cm)	319	132	111	75	66
3	pH_GEN (pH units)	7.6	7.7	7.6	7.8	7.4
4	TDS (mg/L)					
5	Temp (deg C)	25.3	24.4	25.8	25.3	25.0
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	118	40	52	27	
2	B (mg/L)	0.00	0.05	0.09	0.04	0.08
3	Ca (mg/L)	20	11	8	6	4
4	Cl (mg/L)	30.5	13.2	11.7	7.8	6.0
5	F (mg/L)	0.00	0.14	0.08	0.03	0.06
6	Fe (mg/L)	0.0	0.1	0.1	0.1	0.2
7	HCO3 (mg/L)	144	49	63	33	28
8	K (mg/L)	29.0	2.8	2.5	0.9	0.9
9	Mg (mg/L)	9.3	4.0	3.4	2.9	3.2
10	Na (mg/L)	21.6	8.6	8.0	4.0	3.5
11	NH3-N (mg N/L)	0.00				
12	NO2+NO3 (mg N/L)	0.18	0.32	0.53	0.41	0.46
13	NO2-N (mgN/L)	0.00	0.10	0.09	0.01	0.01
14	NO3-N (mgN/L)	0.18	0.22	0.44	0.41	0.45
15	o-PO4-P (mg P/L)	0.000	0.121	0.124	0.005	0.000
16	SiO2 (mg/L)	1.4	14.3	12.4	10.2	11.1
17	SO4 (mg/L)	1.2	2.9	1.2	0.9	2.1
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.2	1.2	1.8	0.9	
2	DO (mg/L)	7.8	8.4	6.8	7.4	6.6
3	DO_SAT% (%)	95	101	82	90	80
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Ni (µg/L)					
6	Pb (µg/L)					
7	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	49	29	20	16	11
2	HAR_Total (mgCaCO3/L)	87	45	34	28	22
3	Na% (%)	31	28	31	23	23
4	RSC (-)	0.6	0.0	0.4	0.0	0.0
5	SAR (-)	1.3	0.6	0.6	0.3	0.3
	PESTICIDES					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : SHIMOGA (AKLD0C6)

Division : Cauvery Division, Bangalore

Local River : Tunga

River WaterSub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Winter				
		Nov - Feb				
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
	PHYSICAL					
1	Q (cumec)	35.90	102.7	46.92	11.01	26.11
2	EC_GEN (µmho/cm)	78	87	75	76	74
3	pH_GEN (pH units)	6.9	7.0	7.1	7.4	7.1
4	TDS (mg/L)					37
5	Temp (deg C)	24.3	23.8	23.5	24.0	24.3
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	23	29	23	24	21
2	B (mg/L)			0.00	0.15	0.24
3	Ca (mg/L)	6	7	6	7	7
4	Cl (mg/L)	9.4	9.1	8.9	8.5	9.2
5	F (mg/L)		0.09	0.06	0.07	0.08
6	Fe (mg/L)	0.1		0.1	0.0	0.2
7	HCO3 (mg/L)	28	35	29	29	26
8	K (mg/L)	1.0	1.3	1.0	2.3	1.1
9	Mg (mg/L)	3.4	3.4	2.9	3.2	2.4
10	Na (mg/L)	4.6	5.1	4.6	3.5	3.9
11	NH3-N (mg N/L)					
12	NO2+NO3 (mg N/L)	0.61	0.71	0.70	0.90	0.56
13	NO2-N (mgN/L)	0.01	0.01	0.01	0.06	0.00
14	NO3-N (mgN/L)	0.60	0.70	0.69	0.84	0.56
15	o-PO4-P (mg P/L)	0.000		0.036	0.005	0.320
16	SiO2 (mg/L)	11.0		8.0	5.5	17.1
17	SO4 (mg/L)	2.2	2.4	1.6	3.0	2.0
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.9	1.2	0.8	0.7	0.5
2	DO (mg/L)	5.9	5.9	6.6	5.8	6.1
3	DO_SAT% (%)	70	69	78	69	72
	TRACE & TOXIC					
1	As (µg/L)	0.3				
2	Cd (µg/L)	0.2			0.1	
3	Cr (µg/L)	1.1			0.8	
4	Cu (µg/L)				4.3	
5	Ni (µg/L)	5.2			1.8	
6	Pb (µg/L)				1.5	
7	Zn (µg/L)				8.3	
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	14	17	16	17	18
2	HAR_Total (mgCaCO3/L)	28	31	28	30	28
3	Na% (%)	26	26	26	19	23
4	RSC (-)	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.4	0.4	0.4	0.3	0.3
	PESTICIDES					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : SHIMOGA (AKLD0C6)

Division : Cauvery Division, Bangalore

Local River : Tunga

River WaterSub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Summer				
		Mar - May				
		2002	2003	2004	2006	2007
	PHYSICAL					
1	Q (cumec)	0.769	1.028	Samples not collected during summer season 2004, 2005, 2009,2010 and 2011 due to no flow / dry bed	0.910	3.786
2	EC_GEN (µmho/cm)	134	208		153	339
3	pH_GEN (pH units)	7.6	7.5		7.5	7.7
4	TDS (mg/L)					
5	Temp (deg C)	29.0	29.6		25.3	28.3
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	26	85		75	118
2	B (mg/L)	0.05				0.00
3	Ca (mg/L)	7	16		18	21
4	Cl (mg/L)	22.0	14.9		89.0	35.3
5	F (mg/L)	0.27	0.06			0.00
6	Fe (mg/L)	0.0	0.0			0.0
7	HCO3 (mg/L)	32	103		92	144
8	K (mg/L)	3.8	5.7		1.8	34.0
9	Mg (mg/L)	4.0	11.3		5.7	8.5
10	Na (mg/L)	13.4	10.2		68.2	26.1
11	NH3-N (mg N/L)	0.00	0.00			0.00
12	NO2+NO3 (mg N/L)	0.01	0.21			0.34
13	NO2-N (mgN/L)	0.00	0.00			0.00
14	NO3-N (mgN/L)	0.01	0.21			0.34
15	o-PO4-P (mg P/L)	0.000	0.000		0.052	0.000
16	SiO2 (mg/L)	10.6	6.9		1.2	16.2
17	SO4 (mg/L)	7.6	1.0		2.0	10.6
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.6	1.8		1.8	1.8
2	DO (mg/L)	6.5	6.8		6.7	5.5
3	DO_SAT% (%)	84	89		80	70
	TRACE & TOXIC					
1	As (µg/L)				12.8	5.4
2	Cd (µg/L)					2.0
3	Cr (µg/L)				4.0	
4	Cu (µg/L)				3.8	3.3
5	Ni (µg/L)				1.0	
6	Pb (µg/L)					2.4
7	Zn (µg/L)					55.0
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	17	40		45	52
2	HAR_Total (mgCaCO3/L)	34	87		69	88
3	Na% (%)	43	19		68	30
4	RSC (-)	0.0	0.0		0.1	0.6
5	SAR (-)	1.0	0.5		3.6	1.2
	PESTICIDES					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : SHIMOGA (AKLD0C6)

Division : Cauvery Division, Bangalore

Local River : Tunga

River WaterSub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Summer					
		Mar - May					
		2008	2012	2013	2014	2015	2016
	PHYSICAL						
1	Q (cumec)	8.390	4.179	0.378	3.504	2.901	2.268
2	EC_GEN (µmho/cm)	234	141	148	130	135	154
3	pH_GEN (pH units)	7.9	6.9	7.5	7.2	7.4	6.5
4	TDS (mg/L)						72
5	Temp (deg C)	29.3	24.8	27.5	26.8	27.0	27.3
	CHEMICAL						
1	ALK-TOT (mgCaCO3/L)	86	46	45	43	44	47
2	B (mg/L)	0.01		0.00	0.10	0.37	0.20
3	Ca (mg/L)	16	10	11	10	11	11
4	Cl (mg/L)	15.4	14.2	14.2	11.0	15.6	17.6
5	F (mg/L)	0.07	0.14		0.10	0.13	
6	Fe (mg/L)	0.0		0.1	0.1	0.1	0.0
7	HCO3 (mg/L)	105	56	54	52	53	58
8	K (mg/L)	6.3	3.1	4.1	3.9	3.4	3.1
9	Mg (mg/L)	11.4	5.3	4.9	4.4	5.3	6.6
10	Na (mg/L)	11.3	7.0	8.7	9.0	7.2	8.6
11	NH3-N (mg N/L)						
12	NO2+NO3 (mg N/L)	0.22	1.50	2.89	2.09	0.90	0.75
13	NO2-N (mgN/L)	0.00	0.12	0.01	0.01	0.08	0.10
14	NO3-N (mgN/L)	0.22	1.38	2.87	2.07	0.81	0.65
15	o-PO4-P (mg P/L)	0.000		0.155	0.078	0.010	0.067
16	SiO2 (mg/L)	12.1		10.1	7.5	4.8	15.3
17	SO4 (mg/L)	1.5	2.2	2.9	3.7	2.5	4.6
	BIOLOGICAL/BACTERIOLOGICAL						
1	BOD3-27 (mg/L)	1.6	1.5	0.2	1.0	0.7	11.1
2	DO (mg/L)	4.8	4.7	4.0	4.3	4.0	1.0
3	DO_SAT% (%)	67	56	50	53	50	12
	TRACE & TOXIC						
1	As (µg/L)	5.8		2.2	1.2		3.1
2	Cd (µg/L)	1.0		0.1	0.0		
3	Cr (µg/L)			0.1	0.5		2.0
4	Cu (µg/L)	3.5		2.8	1.4		0.3
5	Ni (µg/L)			14.1	11.4		0.1
6	Pb (µg/L)	1.5		1.5	2.0		
7	Zn (µg/L)	29.0		14.1	14.0		0.7
	CHEMICAL INDICES						
1	HAR_Ca (mgCaCO3/L)	41	26	28	24	28	27
2	HAR_Total (mgCaCO3/L)	88	48	48	42	50	54
3	Na% (%)	21	23	26	29	22	24
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.5	0.4	0.5	0.6	0.4	0.5
	PESTICIDES						

HISTORY SHEET

		Water Year	: 2015-2016
Site	: HOLEHONNUR	Code	: AKLE0A4
State	: Karnataka	District	Shimoga
Basin	: Krishna	Independent River	: Krishna
Tributary	: Tungabhadra	Sub Tributary	: Bhadra
Sub-Sub Tributary	: -	Local River	: Bhadra
Division	: Cauvery Division, Bangalore	Sub-Division	: Upper Tungabhadra SD Davangere
Drainage Area	: 2990 Sq. Km.	Bank	: Right
Latitude	: 13°58'34"	Longitude	: 75°41'07"
	Opening Date	Closing Date	
Gauge	: 28/11/1997		
Discharge	: 01/07/2003		
Sediment	:		
Water Quality	: 01/07/2003		

Water Quality Datasheet for the period : 2015-2016

Station Name : HOLEHONNUR (AKLE0A4)

Division : Cauvery Division, Bangalore

Local River : Bhadra

River Water Analysis Division : Upper Tungabhadra SD Davangere

S.No	Parameters	01/06/2015	01/07/2015	01/08/2015	01/09/2015
		A	A	A	A
	PHYSICAL				
1	Q (cumec)	28.45	31.79	64.41	51.20
2	Colour_ Cod (-)	Clear	Light Brown	Light Brown	Clear
3	EC_GEN (µmho/cm)	202	284	206	245
4	Odour_ Code (-)	odour free	odour free	odour free	odour free
5	pH_GEN (pH units)	7.3	7.9	7.1	7.6
6	TDS (mg/L)				
7	Temp (deg C)	25.5	23.5	23.5	24.5
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	48	81	66	67
3	B (mg/L)	0.05	0.10	0.41	0.44
4	Ca (mg/L)	18	27	22	23
5	Cl (mg/L)	35.1	41.5	17.4	29.5
6	CO3 (mg/L)	0.0	0.0	0.0	0.0
7	F (mg/L)	0.08	0.19	0.13	0.38
8	Fe (mg/L)	1.0	1.5	0.7	0.2
9	HCO3 (mg/L)	58	99	81	82
10	K (mg/L)	1.9	4.5	3.0	2.6
11	Mg (mg/L)	8.7	11.7	3.9	7.3
12	Na (mg/L)	12.4	14.6	11.2	16.2
13	NO2+NO3 (mg N/L)	0.53	0.78	0.62	1.41
14	NO2-N (mgN/L)	0.01	0.01	0.01	0.03
15	NO3-N (mgN/L)	0.52	0.77	0.60	1.39
16	o-PO4-P (mg P/L)	0.031	0.062	0.155	0.382
17	SiO2 (mg/L)	12.0	16.0	10.8	11.7
18	SO4 (mg/L)	4.8	7.7	13.0	6.7
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)			0.2	0.7
2	DO (mg/L)	5.3	4.9	4.7	5.0
3	DO_SAT% (%)	64	57	55	60
	TRACE & TOXIC				
1	As (µg/L)				
2	Cd (µg/L)				
3	Cr (µg/L)				
4	Cu (µg/L)				
5	Ni (µg/L)				
6	Pb (µg/L)				
7	Zn (µg/L)				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	44	68	56	58
2	HAR_Total (mgCaCO3/L)	80	117	72	88
3	Na% (%)	25	21	24	28
4	RSC (-)	0.0	0.0	0.0	0.0
5	SAR (-)	0.6	0.6	0.6	0.8
	PESTICIDES				

Water Quality Datasheet for the period : 2015-2016

Station Name : HOLEHONNUR (AKLE0A4)

Division : Cauvery Division, Bangalore

Local River : Bhadra

River Water Analysis Division : Upper Tungabhadra SD Davangere

S.No	Parameters	05/10/2015	02/11/2015	01/12/2015	01/01/2016
		A	A	A	A
	PHYSICAL				
1	Q (cumec)	136.1	58.88	29.29	10.43
2	Colour_ Cod (-)	Light Brown	Light Brown	Clear	Clear
3	EC_GEN (µmho/cm)	150	188	217	194
4	Odour_ Code (-)	odour free	odour free	odour free	odour free
5	pH_GEN (pH units)	6.9	7.7	7.8	7.3
6	TDS (mg/L)				92
7	Temp (deg C)	23.5	23.5	22.0	21.5
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	31	58	78	72
3	B (mg/L)	0.26	0.28	0.28	0.43
4	Ca (mg/L)	13	18	19	21
5	Cl (mg/L)	20.9	21.3	22.7	16.7
6	CO3 (mg/L)	0.0	0.0	0.0	0.0
7	F (mg/L)	0.15	0.23	0.10	0.13
8	Fe (mg/L)	1.2	0.9	0.1	0.2
9	HCO3 (mg/L)	38	70	96	88
10	K (mg/L)	5.5	1.6	1.3	1.8
11	Mg (mg/L)	4.9	6.8	9.7	7.8
12	Na (mg/L)	7.2	9.2	10.3	7.8
13	NO2+NO3 (mg N/L)	1.20	1.11	0.92	1.04
14	NO2-N (mgN/L)	0.06	0.00	0.01	0.00
15	NO3-N (mgN/L)	1.15	1.11	0.91	1.04
16	o-PO4-P (mg P/L)	0.382	0.403	0.486	0.258
17	SiO2 (mg/L)	7.0	25.7	0.486	12.6
18	SO4 (mg/L)	15.2	8.7	4.8	5.8
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	0.6	1.1	0.8	1.2
2	DO (mg/L)	3.6	5.8	7.1	7.1
3	DO_SAT% (%)	42	68	82	80
	TRACE & TOXIC				
1	As (µg/L)				
2	Cd (µg/L)				
3	Cr (µg/L)				
4	Cu (µg/L)				
5	Ni (µg/L)				
6	Pb (µg/L)				
7	Zn (µg/L)				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	32	44	48	52
2	HAR_Total (mgCaCO3/L)	52	72	89	84
3	Na% (%)	21	21	20	16
4	RSC (-)	0.0	0.0	0.0	0.0
5	SAR (-)	0.4	0.5	0.5	0.4
	PESTICIDES				

Water Quality Datasheet for the period : 2015-2016

Station Name : HOLEHONNUR (AKLE0A4)

Division : Cauvery Division, Bangalore

Local River : Bhadra

River Water Analysis Division : Upper Tungabhadra SD Davangere

S.No	Parameters	01/02/2016	01/03/2016	01/04/2016	01/05/2016
		A	A	A	A
	PHYSICAL				
1	Q (cumec)	10.34	32.92	33.46	27.80
2	Colour_ Cod (-)	Clear	Clear	Clear	Clear
3	EC_GEN (µmho/cm)	224	155	140	127
4	Odour_ Code (-)	odour free	odour free	odour free	odour free
5	pH_GEN (pH units)	7.2	7.0	7.0	6.7
6	TDS (mg/L)	106	73	66	59
7	Temp (deg C)	22.5	24.5	26.0	25.5
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	66	46	48	33
3	B (mg/L)	0.32	0.33	0.13	0.09
4	Ca (mg/L)	19	13	13	11
5	Cl (mg/L)	26.6	18.1	13.1	19.5
6	CO3 (mg/L)	0.0	0.0	0.0	0.0
7	F (mg/L)	0.21		0.23	
8	Fe (mg/L)	0.1	0.1	0.1	0.2
9	HCO3 (mg/L)	81	56	58	40
10	K (mg/L)	2.1	1.7	1.4	1.2
11	Mg (mg/L)	7.8	6.8	4.9	4.9
12	Na (mg/L)	13.1	6.8	6.6	7.3
13	NO2+NO3 (mg N/L)	0.94	0.99	1.22	1.29
14	NO2-N (mgN/L)	0.01	0.01	0.01	0.01
15	NO3-N (mgN/L)	0.92	0.98	1.21	1.28
16	o-PO4-P (mg P/L)	0.258	0.052	1.498	0.000
17	SiO2 (mg/L)	15.5	17.7	12.1	10.6
18	SO4 (mg/L)	13.0	6.8	4.7	3.3
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	2.8	1.0	0.6	0.4
2	DO (mg/L)	6.3	5.8	5.6	5.6
3	DO_SAT% (%)	73	69	69	68
	TRACE & TOXIC				
1	As (µg/L)	0.7			3.7
2	Cd (µg/L)	0.0			
3	Cr (µg/L)	0.1			1.0
4	Cu (µg/L)	0.1			1.0
5	Ni (µg/L)	0.7			1.3
6	Pb (µg/L)	0.1			
7	Zn (µg/L)	3.1			20.8
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	48	32	32	28
2	HAR_Total (mgCaCO3/L)	80	60	52	48
3	Na% (%)	26	19	21	24
4	RSC (-)	0.0	0.0	0.0	0.0
5	SAR (-)	0.6	0.4	0.4	0.5
	PESTICIDES				

Water Quality Summary for the period : 2015-2016

Station Name : HOLEHONNUR (AKLE0A4)

Division : Cauvery Division, Bangalore

Local River : Bhadra

Sub-Division : Upper Tungabhadra SD Davangere

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	366	383.7	9.460	46.16
2	EC_GEN (µmho/cm)	12	284	127	194
3	pH_GEN (pH units)	12	7.9	6.7	7.3
4	TDS (mg/L)	5	106	59	79
5	Temp (deg C)	12	26.0	21.5	23.8
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	8	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	8	78	31	53
3	B (mg/L)	12	0.44	0.05	0.26
4	Ca (mg/L)	12	27	11	18
5	Cl (mg/L)	12	41.5	13.1	23.5
6	CO3 (mg/L)	12	0.0	0.0	0
7	F (mg/L)	10	0.38	0.08	0.18
8	Fe (mg/L)	12	1.5	0.1	0.5
9	HCO3 (mg/L)	12	99	38	70
10	K (mg/L)	12	5.5	1.2	2.4
11	Mg (mg/L)	12	11.7	3.9	7.1
12	Na (mg/L)	12	16.2	6.6	10.2
13	NO2+NO3 (mg N/L)	12	1.41	0.53	1.01
14	NO2-N (mgN/L)	12	0.06	0.00	0.02
15	NO3-N (mgN/L)	12	1.39	0.52	0.99
16	o-PO4-P (mg P/L)	12	1.498	0.000	0.331
17	SiO2 (mg/L)	12	25.7	7.0	13.8
18	SO4 (mg/L)	12	15.2	3.3	7.9
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	10	2.8	0.2	0.9
2	DO (mg/L)	12	7.1	3.6	5.6
3	DO_SAT% (%)	12	82	42	65
	TRACE & TOXIC				
1	As (µg/L)	2	3.7	0.7	2.2
2	Cd (µg/L)	1	0.0	0.0	0
3	Cr (µg/L)	2	1.0	0.1	0.5
4	Cu (µg/L)	2	1.0	0.1	0.6
5	Ni (µg/L)	2	1.3	0.7	1
6	Pb (µg/L)	1	0.1	0.1	0.1
7	Zn (µg/L)	2	20.8	3.1	11.9
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	12	68	28	45
2	HAR_Total (mgCaCO3/L)	12	117	48	75
3	Na% (%)	12	28	16	22
4	RSC (-)	12	0.0	0.0	0
5	SAR (-)	12	0.8	0.4	0.5
	PESTICIDES				

Water Quality Seasonal Average for the period: 2003-2016

Station Name : HOLEHONNUR (AKLE0A4)

Division : Cauvery Division, Bangalore

Local River : Bhadra

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Flood				
		Jun - Oct				
		2003	2004	2005	2006	2007
	PHYSICAL					
1	Q (cumec)	7.331	8.851	65.85	44.18	173.7
2	EC_GEN (µmho/cm)	485	554	219	332	181
3	pH_FLD (pH units)					
4	pH_GEN (pH units)	7.2	7.3	7.5	7.2	7.6
5	TDS (mg/L)					
6	Temp (deg C)	29.8	28.5	30.3	28.1	25.2
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	166	104	80	93	47
2	B (mg/L)	0.09	0.16	0.21	0.00	0.14
3	Ca (mg/L)	37	27	20	13	13
4	Cl (mg/L)	68.5	91.3	48.9	41.7	22.2
5	F (mg/L)	0.28	0.12	0.25	0.00	0.08
6	Fe (mg/L)	1.7		1.7	0.0	0.3
7	HCO3 (mg/L)	160	127	97	113	57
8	K (mg/L)	6.9	6.0	4.7	40.5	1.8
9	Mg (mg/L)	20.0	20.4	14.0	6.8	5.5
10	Na (mg/L)	39.0	62.9	34.7	28.1	14.4
11	NO2+NO3 (mg N/L)		1.38	0.63	0.66	0.68
12	NO2-N (mgN/L)		1.05	0.00	0.00	0.01
13	NO3-N (mgN/L)	0.69	0.34	0.63	0.66	0.67
14	o-PO4-P (mg P/L)	0.007	0.000	0.155	0.000	0.002
15	SiO2 (mg/L)	3.4	33.5	2.9	11.2	12.7
16	SO4 (mg/L)	19.4	45.5	27.0	15.3	4.3
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.0	1.6	1.0	1.2	1.2
2	DO (mg/L)	6.1	4.9	5.2	6.9	4.4
3	DO_SAT% (%)	80	63	69	88	53
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	92	67	49	32	33
2	HAR_Total (mgCaCO3/L)	175	151	107	61	56
3	Na% (%)	32	46	40	34	34
4	RSC (-)	0.0	0.0	0.0	0.7	0.0
5	SAR (-)	1.3	2.2	1.5	1.6	0.8
	PESTICIDES					

Water Quality Seasonal Average for the period: 2003-2016

Station Name : HOLEHONNUR (AKLE0A4)

Division : Cauvery Division, Bangalore

Local River : Bhadra

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Flood			
		Jun - Oct			
		2008	2009	2010	2011
	PHYSICAL				
1	Q (cumec)	84.44		197.1	230.5
2	EC_GEN (µmho/cm)	215		227	182
3	pH_FLD (pH units)				
4	pH_GEN (pH units)	7.7		7.7	7.1
5	TDS (mg/L)				
6	Temp (deg C)	24.7		24.5	25.0
	CHEMICAL				
1	ALK-TOT (mgCaCO3/L)	64		72	55
2	B (mg/L)	0.29		0.02	
3	Ca (mg/L)	16		19	15
4	Cl (mg/L)	24.8		24.6	20.8
5	F (mg/L)	0.10		0.15	0.23
6	Fe (mg/L)	0.3		0.3	0.2
7	HCO3 (mg/L)	78		88	67
8	K (mg/L)	2.4		2.6	2.0
9	Mg (mg/L)	8.0		7.8	5.8
10	Na (mg/L)	15.5		13.9	12.7
11	NO2+NO3 (mg N/L)	0.90		0.97	1.07
12	NO2-N (mgN/L)	0.01		0.00	0.00
13	NO3-N (mgN/L)	0.89		0.97	1.06
14	o-PO4-P (mg P/L)	0.000		0.021	0.008
15	SiO2 (mg/L)	10.6		14.3	12.2
16	SO4 (mg/L)	5.2		4.8	6.4
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	0.9			0.7
2	DO (mg/L)	4.7		5.4	5.9
3	DO_SAT% (%)	57		65	72
	TRACE & TOXIC				
1	As (µg/L)				
2	Cd (µg/L)				
3	Cr (µg/L)				
4	Cu (µg/L)				
5	Hg (µg/L)				
6	Ni (µg/L)				
7	Pb (µg/L)				
8	Zn (µg/L)				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	39		48	37
2	HAR_Total (mgCaCO3/L)	72		80	61
3	Na% (%)	31		26	29
4	RSC (-)	0.0		0.0	0.0
5	SAR (-)	0.8		0.7	0.7
	PESTICIDES				

Water Quality Seasonal Average for the period: 2003-2016

Station Name : HOLEHONNUR (AKLE0A4)

Division : Cauvery Division, Bangalore

Local River : Bhadra

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Flood			
		Jun - Oct			
		2012	2013	2014	2015
	PHYSICAL				
1	Q (cumec)	39.26	286.3	170.7	62.38
2	EC_GEN (µmho/cm)	284	199	205	217
3	pH_FLD (pH units)			7.4	
4	pH_GEN (pH units)	7.3	7.3	7.3	7.3
5	TDS (mg/L)				
6	Temp (deg C)	25.4	25.9	25.3	24.1
	CHEMICAL				
1	ALK-TOT (mgCaCO3/L)	68	60	60	48
2	B (mg/L)		0.03	0.31	0.25
3	Ca (mg/L)	20	15	16	21
4	Cl (mg/L)	40.7	22.8	24.4	28.9
5	F (mg/L)	0.19	0.11	0.11	0.19
6	Fe (mg/L)		0.1	0.3	0.9
7	HCO3 (mg/L)	83	73	73	72
8	K (mg/L)	2.5	2.3	2.4	3.5
9	Mg (mg/L)	6.8	5.1	6.4	7.3
10	Na (mg/L)	26.8	19.3	15.3	12.3
11	NO2+NO3 (mg N/L)	1.89	1.72	1.94	0.91
12	NO2-N (mgN/L)	0.01	0.02	0.04	0.02
13	NO3-N (mgN/L)	1.87	1.71	1.90	0.89
14	o-PO4-P (mg P/L)		0.044	0.068	0.203
15	SiO2 (mg/L)		12.1	7.9	11.5
16	SO4 (mg/L)	6.6	7.3	6.9	9.5
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	0.7	0.8	1.7	0.5
2	DO (mg/L)	5.6	6.0	6.0	4.7
3	DO_SAT% (%)	68	73	73	55
	TRACE & TOXIC				
1	As (µg/L)		2.1		
2	Cd (µg/L)		0.1		
3	Cr (µg/L)		1.3		
4	Cu (µg/L)		1.0		
5	Hg (µg/L)				
6	Ni (µg/L)		9.5		
7	Pb (µg/L)		5.7		
8	Zn (µg/L)		0.0		
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	51	37	41	52
2	HAR_Total (mgCaCO3/L)	80	58	68	82
3	Na% (%)	40	36	31	24
4	RSC (-)	0.0	0.2	0.0	0.0
5	SAR (-)	1.3	1.1	0.8	0.6
	PESTICIDES				

Water Quality Seasonal Average for the period: 2003-2016

Station Name : HOLEHONNUR (AKLE0A4)

Division : Cauvery Division, Bangalore

Local River : Bhadra

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Winter				
		Nov - Feb				
		2003-2004	2004-2005	2005-2006	2006-2007	2007-2008
	PHYSICAL					
1	Q (cumec)	2.709	14.00	19.02	34.01	48.06
2	EC_GEN (µmho/cm)	454	214	207	307	231
3	pH_FLD (pH units)					
4	pH_GEN (pH units)	7.5	7.3	7.7	7.6	7.8
5	TDS (mg/L)					
6	Temp (deg C)	30.4	28.8	26.8	26.4	23.6
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	96	258	70	68	49
2	B (mg/L)	0.15		0.22	0.00	0.12
3	Ca (mg/L)	28	23	23	11	17
4	Cl (mg/L)	62.3	64.5	82.2	41.8	30.7
5	F (mg/L)	0.16	0.24	0.29	0.14	0.14
6	Fe (mg/L)	0.3		1.5	0.0	0.2
7	HCO3 (mg/L)	101	157	85	84	60
8	K (mg/L)	2.2	42.0	5.9	39.1	3.1
9	Mg (mg/L)	15.5	12.9	12.2	5.0	5.5
10	Na (mg/L)	40.9	47.1	58.4	26.8	22.5
11	NO2+NO3 (mg N/L)		6.79	0.56	1.15	0.45
12	NO2-N (mgN/L)		3.43	0.00	0.00	0.03
13	NO3-N (mgN/L)	1.37	3.36	0.56	1.15	0.42
14	o-PO4-P (mg P/L)	0.053		0.035	0.000	0.057
15	SiO2 (mg/L)	14.8	20.4	7.8	14.9	11.4
16	SO4 (mg/L)	33.5	14.2	39.4	22.4	15.9
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.4	1.2	1.7	1.4	0.9
2	DO (mg/L)	4.8	5.8	6.4	7.0	4.6
3	DO_SAT% (%)	64	74	80	86	54
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	69	58	58	26	42
2	HAR_Total (mgCaCO3/L)	134	111	108	47	65
3	Na% (%)	31	39	51	38	39
4	RSC (-)	0.0	0.4	0.0	0.4	0.0
5	SAR (-)	1.4	2.0	2.5	1.8	1.2
	PESTICIDES					

Water Quality Seasonal Average for the period: 2003-2016

Station Name : HOLEHONNUR (AKLE0A4)

Division : Cauvery Division, Bangalore

Local River : Bhadra

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Winter			
		Nov - Feb			
		2008-2009	2009-2010	2010-2011	2011-2012
	PHYSICAL				
1	Q (cumec)	33.79		63.83	37.17
2	EC_GEN (µmho/cm)	240		194	279
3	pH_FLD (pH units)				
4	pH_GEN (pH units)	7.6		7.5	7.0
5	TDS (mg/L)				
6	Temp (deg C)	23.5		24.4	24.3
	CHEMICAL				
1	ALK-TOT (mgCaCO3/L)	64		56	71
2	B (mg/L)	0.14		0.06	
3	Ca (mg/L)	17		16	21
4	Cl (mg/L)	33.2		20.3	44.1
5	F (mg/L)	0.14		0.14	
6	Fe (mg/L)	0.2		0.0	0.0
7	HCO3 (mg/L)	78		68	86
8	K (mg/L)	2.3		1.8	2.5
9	Mg (mg/L)	5.6		6.1	5.3
10	Na (mg/L)	23.0		13.0	26.6
11	NO2+NO3 (mg N/L)	0.54		0.99	1.51
12	NO2-N (mgN/L)	0.02		0.05	0.02
13	NO3-N (mgN/L)	0.52		0.94	1.48
14	o-PO4-P (mg P/L)	0.049		0.018	0.000
15	SiO2 (mg/L)	12.5		12.4	12.5
16	SO4 (mg/L)	5.9		9.0	6.9
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	1.5		0.2	1.0
2	DO (mg/L)	5.4		6.2	5.3
3	DO_SAT% (%)	63		74	63
	TRACE & TOXIC				
1	As (µg/L)				0.3
2	Cd (µg/L)				0.2
3	Cr (µg/L)				1.1
4	Cu (µg/L)				
5	Hg (µg/L)				
6	Ni (µg/L)				5.0
7	Pb (µg/L)				
8	Zn (µg/L)				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	42		39	53
2	HAR_Total (mgCaCO3/L)	65		64	75
3	Na% (%)	40		29	41
4	RSC (-)	0.0		0.0	0.0
5	SAR (-)	1.2		0.7	1.3
	PESTICIDES				

Water Quality Seasonal Average for the period: 2003-2016

Station Name : HOLEHONNUR (AKLE0A4)

Division : Cauvery Division, Bangalore

Local River : Bhadra

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Winter			
		Nov - Feb			
		2012-2013	2013-2014	2014-2015	2015-2016
	PHYSICAL				
1	Q (cumec)	52.24	34.55	28.57	27.24
2	EC_GEN (µmho/cm)	250	265	191	206
3	pH_FLD (pH units)				
4	pH_GEN (pH units)	7.1	7.3	7.6	7.5
5	TDS (mg/L)				99
6	Temp (deg C)	23.1	24.5	22.8	22.4
	CHEMICAL				
1	ALK-TOT (mgCaCO3/L)	58	73	59	67
2	B (mg/L)		0.02	0.20	0.33
3	Ca (mg/L)	21	19	19	19
4	Cl (mg/L)	40.1	36.8	23.7	21.8
5	F (mg/L)	0.14	0.19	0.11	0.17
6	Fe (mg/L)		0.2	0.1	0.3
7	HCO3 (mg/L)	71	87	72	84
8	K (mg/L)	2.2	2.4	5.6	1.7
9	Mg (mg/L)	4.6	6.6	6.8	8.0
10	Na (mg/L)	23.9	27.8	8.7	10.1
11	NO2+NO3 (mg N/L)	1.59	1.64	1.12	1.00
12	NO2-N (mgN/L)	0.02	0.02	0.02	0.01
13	NO3-N (mgN/L)	1.57	1.62	1.10	0.99
14	o-PO4-P (mg P/L)		0.075	0.039	0.351
15	SiO2 (mg/L)		12.7	10.4	16.9
16	SO4 (mg/L)	5.2	6.7	6.5	8.1
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	1.0	1.2	1.0	1.5
2	DO (mg/L)	6.1	6.2	6.4	6.6
3	DO_SAT% (%)	71	73	73	75
	TRACE & TOXIC				
1	As (µg/L)	0.5			0.7
2	Cd (µg/L)	0.1		0.0	0.0
3	Cr (µg/L)	0.5		0.2	0.1
4	Cu (µg/L)	3.1		7.3	0.1
5	Hg (µg/L)				
6	Ni (µg/L)	11.6		1.6	0.7
7	Pb (µg/L)			1.0	0.1
8	Zn (µg/L)			9.8	3.1
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	52	47	47	48
2	HAR_Total (mgCaCO3/L)	71	74	75	81
3	Na% (%)	41	44	19	21
4	RSC (-)	0.0	0.0	0.0	0.0
5	SAR (-)	1.2	1.4	0.4	0.5
	PESTICIDES				

Water Quality Seasonal Average for the period: 2003-2016

Station Name : HOLEHONNUR (AKLE0A4)

Division : Cauvery Division, Bangalore

Local River : Bhadra

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Summer				
		Mar - May				
		2004	2005	2006	2007	2008
	PHYSICAL					
1	Q (cumec)	9.774		40.77	61.69	53.24
2	EC_GEN (µmho/cm)	407		237	318	174
3	pH_FLD (pH units)					
4	pH_GEN (pH units)	7.6		7.6	7.6	7.5
5	TDS (mg/L)					
6	Temp (deg C)	33.0		29.5	28.8	26.5
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	95		57	79	48
2	B (mg/L)	0.06		0.23	0.00	0.07
3	Ca (mg/L)	25		30	15	13
4	Cl (mg/L)	36.3		42.9	38.1	20.4
5	F (mg/L)	0.26		0.29	0.00	0.08
6	Fe (mg/L)			1.4	0.0	0.3
7	HCO3 (mg/L)	116		69	97	58
8	K (mg/L)	2.5		3.9	27.6	2.3
9	Mg (mg/L)	14.8		10.7	8.5	4.6
10	Na (mg/L)	24.2		24.3	26.9	14.2
11	NO2+NO3 (mg N/L)			0.69	0.24	0.49
12	NO2-N (mgN/L)			0.00	0.00	0.01
13	NO3-N (mgN/L)	1.69		0.69	0.24	0.47
14	o-PO4-P (mg P/L)			0.389	0.000	0.386
15	SiO2 (mg/L)	10.8		3.9	9.8	12.9
16	SO4 (mg/L)	18.2		41.3	25.2	3.4
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	3.1		1.3	1.5	1.5
2	DO (mg/L)	7.3		7.0	6.2	4.2
3	DO_SAT% (%)	101		92	79	52
	TRACE & TOXIC					
1	As (µg/L)			13.9	6.9	6.8
2	Cd (µg/L)			0.0	4.0	1.0
3	Cr (µg/L)			4.8		
4	Cu (µg/L)			11.5	4.7	3.6
5	Hg (µg/L)			0.0		
6	Ni (µg/L)					
7	Pb (µg/L)			1.1	3.4	1.4
8	Zn (µg/L)				40.0	41.0
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	63		74	37	34
2	HAR_Total (mgCaCO3/L)	125		119	73	53
3	Na% (%)	30		30	35	36
4	RSC (-)	0.0		0.0	0.3	0.0
5	SAR (-)	1.0		1.0	1.4	0.9
	PESTICIDES					

Water Quality Seasonal Average for the period: 2003-2016

Station Name : HOLEHONNUR (AKLE0A4)

Division : Cauvery Division, Bangalore

Local River : Bhadra

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Summer			
		Mar - May			
		2009	2010	2011	2012
	PHYSICAL				
1	Q (cumec)	67.84		66.63	82.77
2	EC_GEN (µmho/cm)	164		177	169
3	pH_FLD (pH units)				
4	pH_GEN (pH units)	7.4		7.1	7.0
5	TDS (mg/L)				
6	Temp (deg C)	25.2		22.8	24.5
	CHEMICAL				
1	ALK-TOT (mgCaCO3/L)	51		53	48
2	B (mg/L)	0.07		0.03	
3	Ca (mg/L)	13		15	13
4	Cl (mg/L)	18.5		19.3	20.9
5	F (mg/L)	0.06		0.25	0.15
6	Fe (mg/L)	0.2		0.0	
7	HCO3 (mg/L)	63		65	58
8	K (mg/L)	1.4		1.7	2.3
9	Mg (mg/L)	4.5		6.2	5.5
10	Na (mg/L)	12.7		9.8	12.3
11	NO2+NO3 (mg N/L)	0.51		0.92	1.58
12	NO2-N (mgN/L)	0.02		0.01	0.02
13	NO3-N (mgN/L)	0.49		0.91	1.56
14	o-PO4-P (mg P/L)	0.010		0.026	
15	SiO2 (mg/L)	11.5		16.3	
16	SO4 (mg/L)	3.0		5.1	5.3
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	1.3			0.6
2	DO (mg/L)	5.5		5.6	5.4
3	DO_SAT% (%)	66		65	65
	TRACE & TOXIC				
1	As (µg/L)			1.6	0.5
2	Cd (µg/L)				0.4
3	Cr (µg/L)			1.8	1.9
4	Cu (µg/L)	3.4		4.3	1.1
5	Hg (µg/L)				
6	Ni (µg/L)	11.3			4.3
7	Pb (µg/L)				3.6
8	Zn (µg/L)				40.0
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	33		37	32
2	HAR_Total (mgCaCO3/L)	52		63	55
3	Na% (%)	34		24	31
4	RSC (-)	0.0		0.0	0.0
5	SAR (-)	0.8		0.5	0.7
	PESTICIDES				

Water Quality Seasonal Average for the period: 2003-2016

Station Name : HOLEHONNUR (AKLE0A4)

Division : Cauvery Division, Bangalore

Local River : Bhadra

River Water Sub-Division : Upper Tungabhadra SD Davangere

S.No	Parameters	Summer			
		Mar - May			
		2013	2014	2015	2016
	PHYSICAL				
1	Q (cumec)	71.71	88.10	28.15	31.39
2	EC_GEN (µmho/cm)	159	160	188	141
3	pH_FLD (pH units)				
4	pH_GEN (pH units)	6.9	7.0	7.3	6.9
5	TDS (mg/L)				66
6	Temp (deg C)	25.0	24.8	24.0	25.3
	CHEMICAL				
1	ALK-TOT (mgCaCO3/L)	41	51	61	39
2	B (mg/L)	0.00	0.04	0.48	0.18
3	Ca (mg/L)	13	13	14	12
4	Cl (mg/L)	20.5	17.7	22.1	16.9
5	F (mg/L)		0.22	0.19	0.23
6	Fe (mg/L)	0.1	0.1	0.1	0.1
7	HCO3 (mg/L)	50	63	74	51
8	K (mg/L)	1.3	3.7	6.0	1.4
9	Mg (mg/L)	5.7	4.9	5.2	5.5
10	Na (mg/L)	8.9	11.9	15.3	6.9
11	NO2+NO3 (mg N/L)	1.65	1.26	0.52	1.17
12	NO2-N (mgN/L)	0.01	0.01	0.04	0.01
13	NO3-N (mgN/L)	1.64	1.24	0.48	1.15
14	o-PO4-P (mg P/L)	0.041	0.048	0.021	0.517
15	SiO2 (mg/L)	13.1	17.2	4.7	13.5
16	SO4 (mg/L)	6.4	4.5	4.0	4.9
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	0.4	1.6	3.3	0.6
2	DO (mg/L)	4.9	6.2	5.3	5.6
3	DO_SAT% (%)	59	74	62	68
	TRACE & TOXIC				
1	As (µg/L)	7.1	0.7		3.7
2	Cd (µg/L)	0.1	0.1		
3	Cr (µg/L)	0.3	0.5		1.0
4	Cu (µg/L)	2.9	0.3		1.0
5	Hg (µg/L)				
6	Ni (µg/L)	1.2	9.1		1.3
7	Pb (µg/L)	1.6	0.4		
8	Zn (µg/L)	77.9	18.0		20.8
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	33	33	36	31
2	HAR_Total (mgCaCO3/L)	56	54	58	54
3	Na% (%)	25	31	33	22
4	RSC (-)	0.0	0.0	0.1	0.0
5	SAR (-)	0.5	0.7	0.9	0.4
	PESTICIDES				

HISTORY SHEET

		Water Year	: 2015-2016
Site	: Yadgir	Code	: AKP00B6
State	: Karnataka	District	Yadgir
Basin	: Krishna	Independent River	: Krishna
Tributary	: Bhima	Sub Tributary	: -
Sub-Sub Tributary	: -	Local River	: Bhima
Division	: Lower Krishna Divn., Hyderabad	Sub-Division	: Middle Krishna SD 2 , Kurnool
Drainage Area	: 69863 Sq. Km.	Bank	: Left
Latitude	: 16°44'15"	Longitude	: 77°07'31"
	Opening Date	Closing Date	
Gauge	: 05/09/1963		
Discharge	: 11/11/1964		
Sediment	: 01/06/1965		
Water Quality	: 01/01/1972		

Water Quality Datasheet for the period : 2015-2016

Station Name : Yadgir (AKP00B6)

Division : Lower Krishna Divn., Hyderabad

Local River : Bhima

River Water Analysis Sub-Division : Middle Krishna SD 2 , Kurnool

S.No	Parameters	01/08/2015	01/09/2015	01/10/2015	02/11/2015
		A	A	A	A
	PHYSICAL				
1	Q (cumec)	0.000	38.86	103.5	68.95
2	Colour_Cod (-)	Clear	Clear	Clear	Clear
3	EC_GEN (μmho/cm)	841	590	566	674
4	Odour_Code (-)	odour free	odour free	odour free	odour free
5	pH_GEN (pH units)	6.7	8.1	8.2	8.0
6	TDS (mg/L)	472	472	328	239
7	Temp (deg C)	26.0	24.0	27.0	26.0
8	Turb (NTU)	15.00	1.00	1.00	2.00
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	233	168	123	165
3	B (mg/L)	0.15	0.26		0.00
4	Ca (mg/L)	44	38	29	34
5	Cl (mg/L)	86.0	54.2	44.8	67.4
6	CO3 (mg/L)	0.0	0.0	0.0	0.0
7	F (mg/L)	0.86	0.70	0.64	0.65
8	Fe (mg/L)	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	284	205	150	201
10	K (mg/L)	5.3	4.6	3.5	3.6
11	Mg (mg/L)	26.2	21.8	15.5	18.7
12	Na (mg/L)	94.1	72.2	57.1	85.6
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.00
14	NO2+NO3 (mg N/L)	1.10	0.87	1.33	1.11
15	NO2-N (mgN/L)	0.00	0.00	0.12	0.00
16	NO3-N (mgN/L)	1.10	0.87	1.22	1.10
17	o-PO4-P (mg P/L)	0.184	0.107	0.098	0.251
18	SiO2 (mg/L)	11.4	11.6	17.7	7.5
19	SO4 (mg/L)	105.0	43.0	40.0	112.0
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	2.4	2.4	2.7	1.8
2	COD (mg/L)	22.4	14.7	17.5	8.9
3	DO (mg/L)	3.5	5.0	5.8	4.9
4	DO_SAT% (%)	43	59	73	60
5	FCol-MPN (MPN/100mL)	230	90	70	3000
6	Tcol-MPN (MPN/100mL)	300	16000	16000	16000
7	TOC (mg/L)	22.0	10.2	4.1	4.5
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	110	96	72	84
2	HAR_Total (mgCaCO3/L)	219	187	137	162
3	Na% (%)	48	45	47	53
4	RSC (-)	0.3	0.0	0.0	0.1
5	SAR (-)	2.8	2.3	2.1	2.9
	PESTICIDES	Anlaysis not done due to mal function of instrument.			

Samples not collected during June, July and from December to May due to Drybed/No flow .

Water Quality Summary for the period : 2015-2016

Station Name : Yadgir (AKP00B6)

Division : Lower Krishna Divn., Hyderabad

Local River : Bhima

Sub-Division : Middle Krishna SD 2 , Kurnool

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	367	297.0	0.000	12.90
2	EC_GEN (μmho/cm)	4	841	566	668
3	pH_GEN (pH units)	4	8.2	6.7	7.8
4	TDS (mg/L)	4	472	239	378
5	Temp (deg C)	4	27.0	24.0	25.8
6	Turb (NTU)	4	15.00	1.00	4.75
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	4	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	4	233	123	172
3	B (mg/L)	3	0.26	0.00	0.14
4	Ca (mg/L)	4	44	29	36
5	Cl (mg/L)	4	86.0	44.8	63.1
6	CO3 (mg/L)	4	0.0	0.0	0
7	F (mg/L)	4	0.86	0.64	0.71
8	Fe (mg/L)	4	0.0	0.0	0
9	HCO3 (mg/L)	4	284	150	210
10	K (mg/L)	4	5.3	3.5	4.3
11	Mg (mg/L)	4	26.2	15.5	20.6
12	Na (mg/L)	4	94.1	57.1	77.2
13	NH3-N (mg N/L)	4	0.00	0.00	0
14	NO2+NO3 (mg N/L)	4	1.33	0.87	1.1
15	NO2-N (mgN/L)	4	0.12	0.00	0.03
16	NO3-N (mgN/L)	4	1.22	0.87	1.07
17	o-PO4-P (mg P/L)	4	0.251	0.098	0.16
18	SiO2 (mg/L)	4	17.7	7.5	12.1
19	SO4 (mg/L)	4	112.0	40.0	75
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	4	2.7	1.8	2.3
2	COD (mg/L)	4	22.4	8.9	15.9
3	DO (mg/L)	4	5.8	3.5	4.8
4	DO_SAT% (%)	4	73	43	59
5	FCoI-MPN (MPN/100mL)	4	3000	70	848
6	TcoI-MPN (MPN/100mL)	4	16000	300	12075
7	TOC (mg/L)	4	22.0	4.1	10.2
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	4	110	72	91
2	HAR_Total (mgCaCO3/L)	4	219	137	176
3	Na% (%)	4	53	45	48
4	RSC (-)	4	0.3	0.0	0.1
5	SAR (-)	4	2.9	2.1	2.5
	PESTICIDES				

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Yadgir (AKP00B6)

Division : Lower Krishna Divn., Hyderabad

Local River : Bhima

River Water

Sub-Division : Middle Krishna SD 2 , Kurnool

S.No	Parameters	Flood				
		Jun - Oct				
		2001	2002	2003	2004	2005
	PHYSICAL					
1	Q (cumec)	118.8	38.99	90.21	232.3	1553
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	543	599	681	472	408
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.4	8.4	8.4	8.1	8.0
6	TDS (mg/L)					
7	Temp (deg C)	27.3	29.7	29.3	25.2	27.0
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	8.3	23.2	12.3	3.0	0.0
2	ALK-TOT (mgCaCO3/L)	89	131	195	143	147
3	B (mg/L)	0.01	0.01	0.00	0.00	0.01
4	Ca (mg/L)	26	13	29	26	31
5	Cl (mg/L)	43.1	54.2	41.7	42.7	26.4
6	CO3 (mg/L)	10.0	28.0	14.8	3.6	0.0
7	F (mg/L)	0.47	0.82	0.44	0.89	0.31
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	88	103	208	167	179
10	K (mg/L)	4.0	3.5	5.2	2.4	2.4
11	Mg (mg/L)	17.4	24.4	15.5	12.8	15.7
12	Na (mg/L)	35.1	51.7	94.3	44.4	28.7
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.00	0.00
14	NO2+NO3 (mg N/L)	0.27	0.19	0.01	0.01	0.01
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.27	0.19	0.01	0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.054	0.042	0.001	0.001	0.001
19	SiO2 (mg/L)	4.6	5.9	14.1	16.2	15.3
20	SO4 (mg/L)	47.4	61.0	330.7	46.6	36.7
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.9	0.7	1.0	0.6	1.1
2	COD (mg/L)					
3	DO (mg/L)	6.3	6.3	6.3	5.9	5.7
4	DO_SAT% (%)	80	82	82	72	71
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
7	TOC (mg/L)					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Hg (µg/L)					
5	Ni (µg/L)					
6	Pb (µg/L)					
7	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	66	33	72	65	78
2	HAR_Total (mgCaCO3/L)	139	135	137	118	143
3	Na% (%)	33	43	55	43	30
4	RSC (-)	0.0	0.2	1.2	0.5	0.2
5	SAR (-)	1.3	1.9	3.5	1.8	1.0
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Yadgir (AKP00B6)

Division : Lower Krishna Divn., Hyderabad

Local River : Bhima

River Water

Sub-Division : Middle Krishna SD 2 , Kurnool

S.No	Parameters	Flood				
		Jun - Oct				
		2006	2007	2008	2009	2010
	PHYSICAL					
1	Q (cumec)	315.5	735.3	422.8	2333	724.3
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	584	708	527	522	852
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.3	8.2	8.0	8.1	8.1
6	TDS (mg/L)					
7	Temp (deg C)	25.5	25.0	26.5	23.5	27.8
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	7.1	2.9	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	163	166	162	132	179
3	B (mg/L)	0.00	0.00	0.00	0.00	0.00
4	Ca (mg/L)	36	45	44	34	51
5	Cl (mg/L)	48.4	67.8	38.9	39.5	89.3
6	CO3 (mg/L)	8.5	3.5	0.0	0.0	0.0
7	F (mg/L)	0.66	0.69	0.56	0.32	0.63
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	182	195	198	161	219
10	K (mg/L)	3.4	16.8	2.4	2.9	3.3
11	Mg (mg/L)	15.3	19.8	8.8	16.1	28.9
12	Na (mg/L)	71.0	92.3	42.6	54.3	65.4
13	NH3-N (mg N/L)	0.00	0.05	0.05	0.00	0.00
14	NO2+NO3 (mg N/L)	0.01	0.01	0.01	1.04	0.00
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.01	0.01	0.01	1.04	0.00
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.001	0.001	0.000	0.084
19	SiO2 (mg/L)	17.5	20.1	20.6	17.6	19.9
20	SO4 (mg/L)	64.3	88.3	52.2	62.2	130.5
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.9	0.7	1.1	1.0	1.2
2	COD (mg/L)		7.7	13.2	40.7	29.1
3	DO (mg/L)	6.6	6.3	5.9	6.1	6.5
4	DO_SAT% (%)	81	76	73	72	82
5	Fcol-MPN (MPN/100mL)				16000	11500
6	Tcol-MPN (MPN/100mL)				16000	16000
7	TOC (mg/L)					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Hg (µg/L)					
5	Ni (µg/L)					
6	Pb (µg/L)					
7	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	89	112	110	84	127
2	HAR_Total (mgCaCO3/L)	153	194	146	151	248
3	Na% (%)	48	48	39	42	36
4	RSC (-)	0.5	0.0	0.4	0.0	0.0
5	SAR (-)	2.5	2.9	1.6	1.9	1.8
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Yadgir (AKP00B6)

Division : Lower Krishna Divn., Hyderabad

Local River : Bhima

River Water

Sub-Division : Middle Krishna SD 2 , Kurnool

S.No	Parameters	Flood				
		Jun - Oct				
		2011	2012	2013	2014	2015
	PHYSICAL					
1	Q (cumec)	588.8	75.96	149.7	495.8	47.45
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	619	575	621	720	666
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.1	8.1	8.2	7.9	7.7
6	TDS (mg/L)	447	385	378	423	424
7	Temp (deg C)	25.7	25.3	26.3	25.3	25.7
8	Turb (NTU)	1.00	3.37	1.17	24.50	5.67
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	137	183	160	161	175
3	B (mg/L)	0.00	0.16	0.17	0.19	0.20
4	Ca (mg/L)	31	33	40	35	37
5	Cl (mg/L)	61.9	37.1	61.3	64.8	61.7
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.96	0.65	0.59	0.66	0.73
8	Fe (mg/L)	0.0	0.1	0.1	0.1	0.0
9	HCO3 (mg/L)	167	223	195	197	213
10	K (mg/L)	3.5	3.3	3.7	5.0	4.5
11	Mg (mg/L)	18.3	18.6	22.4	19.7	21.2
12	Na (mg/L)	54.5	58.6	50.9	88.3	74.4
13	NH3-N (mg N/L)	0.00	0.01	0.13	0.05	0.00
14	NO2+NO3 (mg N/L)	0.56	1.29	1.21	1.06	1.10
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.02	0.04
16	NO3-N (mgN/L)	0.56	1.29	1.21	1.04	1.06
17	o-PO4-P (mg P/L)	0.205	0.149	0.117	0.154	0.130
18	P-Tot (mgP/L)	0.205			0.155	
19	SiO2 (mg/L)	16.9	15.3	14.9	16.3	13.6
20	SO4 (mg/L)	85.8	47.0	70.0	97.7	62.7
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.6	1.1	1.7	2.1	2.5
2	COD (mg/L)	15.1	21.1	9.0	16.5	18.2
3	DO (mg/L)	6.0	5.2	6.4	6.7	4.8
4	DO_SAT% (%)	74	63	79	81	58
5	FCol-MPN (MPN/100mL)	13667	6210	610	12058	130
6	Tcol-MPN (MPN/100mL)	16000	10767	1867	12200	10767
7	TOC (mg/L)	2.4	2.7	0.3		12.1
	TRACE & TOXIC					
1	As (µg/L)		9.20	5.98		
2	Cd (µg/L)		0.51	1.11		
3	Cr (µg/L)		22.31	0.64		
4	Hg (µg/L)			0.06		
5	Ni (µg/L)		12.18	18.85		
6	Pb (µg/L)		7.90	0.81		
7	Zn (µg/L)		8.96	0.02		
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	78	82	99	87	93
2	HAR_Total (mgCaCO3/L)	155	160	193	169	181
3	Na% (%)	42	44	36	51	47
4	RSC (-)	0.0	0.5	0.0	0.1	0.1
5	SAR (-)	1.9	2.0	1.6	3.0	2.4
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Yadgir (AKP00B6)

Division : Lower Krishna Divn., Hyderabad

Local River : Bhima

River Water

Sub-Division : Middle Krishna SD 2 , Kurnool

S.No	Parameters	Winter				
		Nov - Feb				
		2001-2002	2002-2003	2003-2004	2004-2005	2005-2006
	PHYSICAL					
1	Q (cumec)	27.28	20.70	28.50	25.38	192.0
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	710	633	543	526	593
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.4	8.6	8.6	8.3	8.2
6	TDS (mg/L)					
7	Temp (deg C)	24.7	26.7	26.8	26.8	29.0
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	20.8	30.2	22.2	9.1	4.2
2	ALK-TOT (mgCaCO3/L)	175	132	200	201	192
3	B (mg/L)	0.01	0.01	0.00	0.00	0.01
4	Ca (mg/L)	39	25	29	23	41
5	Cl (mg/L)	64.3	50.3	37.3	41.7	41.3
6	CO3 (mg/L)	25.0	36.3	26.7	11.0	5.0
7	F (mg/L)	0.69	0.46	0.74	0.70	0.44
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	163	88	189	223	225
10	K (mg/L)	3.6	2.4	2.4	2.3	
11	Mg (mg/L)	24.7	27.0	13.4	27.0	18.0
12	Na (mg/L)	71.0	37.0	31.5	49.0	
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.00	0.00
14	NO2+NO3 (mg N/L)	0.24	0.11	0.01	0.01	0.01
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.24	0.11	0.01	0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.022	0.022	0.001	0.001	0.000
19	SiO2 (mg/L)	6.1	6.0	15.4	14.4	16.9
20	SO4 (mg/L)	99.3	76.0	52.0	64.0	87.0
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	3.3	1.2	1.1	0.7	3.8
2	COD (mg/L)					
3	DO (mg/L)	6.7	7.3	6.9	6.6	6.4
4	DO_SAT% (%)	81	92	86	83	83
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
7	TOC (mg/L)					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Hg (µg/L)					
5	Ni (µg/L)					
6	Pb (µg/L)					
7	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	98	62	72	56	101
2	HAR_Total (mgCaCO3/L)	201	175	128	169	176
3	Na% (%)	43	29	34	41	
4	RSC (-)	0.0	0.0	1.5	1.0	0.3
5	SAR (-)	2.2	1.3	1.2	2.1	
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Yadgir (AKP00B6)

Division : Lower Krishna Divn., Hyderabad

Local River : Bhima

River Water

Sub-Division : Middle Krishna SD 2 , Kurnool

S.No	Parameters	Winter				
		Nov - Feb				
		2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	PHYSICAL					
1	Q (cumec)	48.38	86.08	77.90	158.8	310.4
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	730	700	666	836	843
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.7	8.4	8.5	8.5	8.2
6	TDS (mg/L)					
7	Temp (deg C)	24.0	25.0	27.0	25.5	25.5
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	8.3	11.6	8.0	6.0	4.0
2	ALK-TOT (mgCaCO3/L)	181	191	164	192	202
3	B (mg/L)	0.00	0.00	0.00	0.00	0.00
4	Ca (mg/L)	45	42	48	49	44
5	Cl (mg/L)	66.3	62.8	63.3	85.2	82.3
6	CO3 (mg/L)	10.0	14.0	9.6	7.2	4.8
7	F (mg/L)	0.64	0.86	0.87	0.55	0.45
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	200	205	181	220	237
10	K (mg/L)	3.4	4.2	3.2	3.1	3.5
11	Mg (mg/L)	25.0	21.0	8.7	24.3	24.8
12	Na (mg/L)	84.0	120.0	67.1	90.3	80.6
13	NH3-N (mg N/L)	0.00	0.05	0.05	0.00	0.00
14	NO2+NO3 (mg N/L)	0.01	0.01	0.01	2.17	0.00
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.01	0.01	0.01	2.17	0.00
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.001	0.001	0.000	0.085
19	SiO2 (mg/L)	17.5	15.8	19.0	16.1	17.7
20	SO4 (mg/L)	76.0	95.0	68.8	117.4	113.5
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.6	1.6	3.1	2.4	1.6
2	COD (mg/L)		17.2	21.0	19.8	19.9
3	DO (mg/L)	6.4	6.7	6.4	7.3	7.0
4	DO_SAT% (%)	76	81	80	89	85
5	FCol-MPN (MPN/100mL)				12500	5350
6	Tcol-MPN (MPN/100mL)				16000	9750
7	TOC (mg/L)					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Hg (µg/L)					
5	Ni (µg/L)					
6	Pb (µg/L)					
7	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	112	105	120	122	110
2	HAR_Total (mgCaCO3/L)	216	193	156	224	213
3	Na% (%)	45	57	48	47	45
4	RSC (-)	0.0	0.0	0.2	0.0	0.2
5	SAR (-)	2.5	3.8	2.3	2.6	2.4
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Yadgir (AKP00B6)

Division : Lower Krishna Divn., Hyderabad

Local River : Bhima

River Water

Sub-Division : Middle Krishna SD 2 , Kurnool

S.No	Parameters	Winter				
		Nov - Feb				
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
	PHYSICAL					
1	Q (cumec)	88.46	46.53	74.94		68.95
2	EC_FLD (µmho/cm)		650			
3	EC_GEN (µmho/cm)	645	646	571		674
4	pH_FLD (pH units)		8.2			
5	pH_GEN (pH units)	8.5	8.2	8.3		8.0
6	TDS (mg/L)	449	427	420		239
7	Temp (deg C)	23.5	25.5	25.3		26.0
8	Turb (NTU)	1.00	2.05	8.00		2.00
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	10.1	0.0	2.2		0.0
2	ALK-TOT (mgCaCO3/L)	183	171	172		165
3	B (mg/L)	0.28	0.09	0.15		0.00
4	Ca (mg/L)	32	34	40		34
5	Cl (mg/L)	56.1	54.0	29.0		67.3
6	CO3 (mg/L)	12.2	0.0	2.6		0.0
7	F (mg/L)	0.74	0.67	0.61		0.65
8	Fe (mg/L)	0.0	0.0	0.0		0.0
9	HCO3 (mg/L)	198	209	204		201
10	K (mg/L)	3.3	2.1	4.0		3.6
11	Mg (mg/L)	18.2	18.8	22.8		18.7
12	Na (mg/L)	65.6	67.8	61.7		85.6
13	NH3-N (mg N/L)	0.00	0.01	0.00		0.00
14	NO2+NO3 (mg N/L)	0.67	0.80	1.08		1.11
15	NO2-N (mgN/L)	0.00	0.00	0.00		0.00
16	NO3-N (mgN/L)	0.67	0.80	1.08		1.10
17	o-PO4-P (mg P/L)	0.186	0.106	0.125		0.251
18	P-Tot (mgP/L)	0.186				
19	SiO2 (mg/L)	18.6	18.9	19.9		7.5
20	SO4 (mg/L)	80.9	71.5	73.2		112.0
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.0	1.3	1.6		1.8
2	COD (mg/L)	19.5	16.4	9.4		8.9
3	DO (mg/L)	6.4	6.0	6.9		4.9
4	DO_SAT% (%)	75	74	83		60
5	FCOI-MPN (MPN/100mL)	9200	1850	160		3000
6	Tcol-MPN (MPN/100mL)	12500	9000	440		16000
7	TOC (mg/L)	2.0	2.1			4.5
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Hg (µg/L)					
5	Ni (µg/L)					
6	Pb (µg/L)					
7	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	81	84	99		84
2	HAR_Total (mgCaCO3/L)	157	162	194		162
3	Na% (%)	47	47	40		53
4	RSC (-)	0.5	0.2	0.1		0.1
5	SAR (-)	2.3	2.3	1.9		2.9
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Yadgir (AKP00B6)

Division : Lower Krishna Divn., Hyderabad

Local River : Bhima

River Water

Sub-Division : Middle Krishna SD 2 , Kurnool

S.No	Parameters	Summer			
		Mar - May			
		2002	2003	2004	2007
	PHYSICAL				
1	Q (cumec)	No flow 2002,2003,2005,2006		19.43	0.000
2	EC_FLD (µmho/cm)	and from 2008 to 2016.			
3	EC_GEN (µmho/cm)			564	737
4	pH_FLD (pH units)				
5	pH_GEN (pH units)			8.7	8.4
6	TDS (mg/L)				
7	Temp (deg C)			30.0	27.0
8	Turb (NTU)				
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)			14.9	19.9
2	ALK-TOT (mgCaCO3/L)			203	232
3	B (mg/L)			0.00	0.00
4	Ca (mg/L)			27	48
5	Cl (mg/L)			42.8	67.9
6	CO3 (mg/L)			18.0	24.0
7	F (mg/L)			0.74	0.99
8	Fe (mg/L)			0.0	0.0
9	HCO3 (mg/L)			211	234
10	K (mg/L)			2.1	3.2
11	Mg (mg/L)			19.4	19.0
12	Na (mg/L)			35.0	86.0
13	NH3-N (mg N/L)			0.00	0.00
14	NO2+NO3 (mg N/L)			0.01	0.01
15	NO2-N (mgN/L)			0.00	0.00
16	NO3-N (mgN/L)			0.01	0.01
17	o-PO4-P (mg P/L)				
18	P-Tot (mgP/L)			0.001	0.001
19	SiO2 (mg/L)			11.3	21.0
20	SO4 (mg/L)			64.0	65.0
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)			1.4	0.9
2	COD (mg/L)				
3	DO (mg/L)			6.2	5.6
4	DO_SAT% (%)			82	70
5	FCol-MPN (MPN/100mL)				
6	Tcol-MPN (MPN/100mL)				
7	TOC (mg/L)				
	TRACE & TOXIC				
1	As (µg/L)				
2	Cd (µg/L)				7.00
3	Cr (µg/L)				18.00
4	Hg (µg/L)				1.85
5	Ni (µg/L)				1.00
6	Pb (µg/L)				46.00
7	Zn (µg/L)				45.00
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)			68	120
2	HAR_Total (mgCaCO3/L)			149	199
3	Na% (%)			34	48
4	RSC (-)			1.1	0.7
5	SAR (-)			1.3	2.7
	PESTICIDES				
1	Aldrin (µg/L)				0.010
2	BHC (µg/L)				0.100
3	DDT (µg/L)				0.100
4	Dieldrin (µg/L)				0.020
5	Endos (µg/L)				0.100

HISTORY SHEET

		Water Year	: 2015-2016
Site	: Malkhed	Code	: AKP10E1
State	: Karnataka	District	Gulbarga
Basin	: Krishna	Independent River	: Krishna
Tributary	: Bhima	Sub Tributary	: Kagna
Sub-Sub Tributary	: -	Local River	: Kagna
Division	: Lower Krishna Divn., Hyderabad	Sub-Division	: Middle Krishna SD 2 , Kurnool
Drainage Area	: 7650 Sq. Km.	Bank	: Left
Latitude	: 17°12'12"	Longitude	: 77°09'23"
	Opening Date	Closing Date	
Gauge	: 29/09/1989		
Discharge	: 15/08/1990		
Sediment	: 08/09/1992		
Water Quality	: 01/06/1992		

Water Quality Datasheet for the period : 2015-2016

Station Name : Malkhed (AKP10E1)

Division : Lower Krishna Divn., Hyderabad

Local River : Kagna

River Water Analysis Sub-Division : Middle Krishna SD 2 , Kurnool

S.No	Parameters	01/06/2015	01/07/2015	01/08/2015	01/09/2015
		A	A	A	A
	PHYSICAL				
1	Q (cumec)	0.968	1.031	1.140	2.867
2	Colour_Cod (-)	Clear	Clear	Clear	Brown
3	EC_GEN (μmho/cm)	522	500	391	437
4	Odour_Code (-)	odour free	odour free	odour free	odour free
5	pH_GEN (pH units)	8.2	8.1	8.0	8.0
6	TDS (mg/L)	282	300	298	314
7	Temp (deg C)	25.0	28.5	27.5	29.0
8	Turb (NTU)	0.10	29.00	40.00	3.00
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	170	203	196	203
3	B (mg/L)			0.31	0.00
4	Ca (mg/L)	30	35	35	34
5	Cl (mg/L)	23.0	20.2	20.0	23.9
6	CO3 (mg/L)	0.0	0.0	0.0	0.0
7	F (mg/L)	0.48	0.68	0.61	0.53
8	Fe (mg/L)	0.3	0.0	0.1	0.0
9	HCO3 (mg/L)	207	248	239	247
10	K (mg/L)	4.8	3.9	3.9	4.6
11	Mg (mg/L)	16.5	19.4	19.9	17.5
12	Na (mg/L)	39.5	37.3	39.0	42.9
13	NH3-N (mg N/L)	0.00	0.04	0.06	0.00
14	NO2+NO3 (mg N/L)	1.04	1.30	1.97	1.98
15	NO2-N (mgN/L)	0.00	0.03	0.11	0.05
16	NO3-N (mgN/L)	1.04	1.28	1.86	1.94
17	o-PO4-P (mg P/L)	0.140	0.050	0.210	0.070
18	SiO2 (mg/L)	26.5	10.8	8.4	14.8
19	SO4 (mg/L)	21.5	3.4	18.2	17.7
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	0.8	0.1	0.7	0.5
2	COD (mg/L)	5.9	2.0	8.4	3.7
3	DO (mg/L)	5.1	4.8	5.8	5.6
4	DO_SAT% (%)	62	61	73	73
5	FCol-MPN (MPN/100mL)	2	1300	1700	260
6	Tcol-MPN (MPN/100mL)	800	2800	3500	16000
7	TOC (mg/L)	1.9	19.0	17.6	19.7
	TRACE & TOXIC				
1	As (μg/L)				
2	Cd (μg/L)				
3	Cr (μg/L)				
4	Hg (μg/L)				
5	Ni (μg/L)				
6	Pb (μg/L)				
7	Zn (μg/L)				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	74	88	88	84
2	HAR_Total (mgCaCO3/L)	143	169	171	157
3	Na% (%)	37	32	33	37
4	RSC (-)	0.6	0.7	0.5	0.9
5	SAR (-)	1.4	1.3	1.3	1.5
	PESTICIDES	Anlaysis not done due to mal function of instrument.			

Water Quality Datasheet for the period : 2015-2016

Station Name : Malkhed (AKP10E1)

Division : Lower Krishna Divn., Hyderabad

Local River : Kagna

River Water Analysis Sub-Division : Middle Krishna SD 2 , Kurnool

S.No	Parameters	01/10/2015	02/11/2015	01/12/2015	01/01/2016
		A	A	A	A
	PHYSICAL				
1	Q (cumec)	4.687	0.488	4.582	4.582
2	Colour_Cod (-)	Light Brown	Dark Green	Clear	Clear
3	EC_GEN (µmho/cm)	532	523	1034	666
4	Odour_Code (-)	odour free	odour free	odour free	odour free
5	pH_GEN (pH units)	7.9	7.9	8.2	8.3
6	TDS (mg/L)	320	260	338	341
7	Temp (deg C)	28.0	26.0	25.0	22.0
8	Turb (NTU)	3.00	17.00	0.10	17.00
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	3.5
2	ALK-TOT (mgCaCO3/L)	194	227	232	242
3	B (mg/L)		0.00	0.00	
4	Ca (mg/L)	38	38	39	36
5	Cl (mg/L)	21.3	23.3	24.4	25.1
6	CO3 (mg/L)	0.0	0.0	0.0	4.2
7	F (mg/L)	0.65	0.65	0.61	0.44
8	Fe (mg/L)	0.0	0.0	0.0	0.1
9	HCO3 (mg/L)	237	277	283	287
10	K (mg/L)	4.6	4.3	4.7	4.2
11	Mg (mg/L)	20.9	21.6	22.3	20.6
12	Na (mg/L)	40.2	50.2	46.0	53.5
13	NH3-N (mg N/L)	0.00	0.00	0.06	0.00
14	NO2+NO3 (mg N/L)	1.85	2.71	0.73	1.52
15	NO2-N (mgN/L)	0.03	0.00	0.00	0.02
16	NO3-N (mgN/L)	1.82	2.71	0.73	1.50
17	o-PO4-P (mg P/L)	0.092	0.128	0.047	0.081
18	SiO2 (mg/L)	25.1	10.9	8.1	9.7
19	SO4 (mg/L)	24.3	6.7	21.8	25.3
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	1.4	0.6	0.3	0.9
2	COD (mg/L)	11.1	2.4	7.7	1.6
3	DO (mg/L)	6.2	5.6	5.6	6.3
4	DO_SAT% (%)	79	69	68	72
5	Fcol-MPN (MPN/100mL)	16000	9000	300	16000
6	Tcol-MPN (MPN/100mL)	16000	16000	16000	16000
7	TOC (mg/L)	15.4	24.0	21.6	20.3
	TRACE & TOXIC				
1	As (µg/L)				
2	Cd (µg/L)				
3	Cr (µg/L)				
4	Hg (µg/L)				
5	Ni (µg/L)				
6	Pb (µg/L)				
7	Zn (µg/L)				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	94	94	98	90
2	HAR_Total (mgCaCO3/L)	181	184	191	176
3	Na% (%)	32	37	34	39
4	RSC (-)	0.3	0.9	0.8	1.3
5	SAR (-)	1.3	1.6	1.5	1.8
	PESTICIDES				

Water Quality Datasheet for the period : 2015-2016

Station Name : Malkhed (AKP10E1)

Division : Lower Krishna Divn., Hyderabad

Local River : Kagna

River Water Analysis Sub-Division : Middle Krishna SD 2 , Kurnool

S.No	Parameters	01/02/2016	01/03/2016	01/04/2016	02/05/2016
		A	A	A	A
	PHYSICAL				
1	Q (cumec)	3.877	3.197	3.031	1.343
2	Colour_Cod (-)	Clear	Clear	Clear	Clear
3	EC_GEN (μmho/cm)	2897	501	1210	390
4	Odour_Code (-)	odour free	odour free	odour free	odour free
5	pH_GEN (pH units)	8.6	8.4	8.5	8.1
6	TDS (mg/L)	305	311	315	
7	Temp (deg C)	25.0	27.0	27.0	31.0
8	Turb (NTU)	45.00	7.00	19.00	46.00
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	6.0	3.9	3.5	0.0
2	ALK-TOT (mgCaCO3/L)	229	200	229	242
3	B (mg/L)				
4	Ca (mg/L)	32	33	34	36
5	Cl (mg/L)	26.1	26.5	25.7	31.6
6	CO3 (mg/L)	7.2	4.7	4.2	0.0
7	F (mg/L)	0.72	0.51	0.62	0.67
8	Fe (mg/L)	0.0	0.0	0.1	0.0
9	HCO3 (mg/L)	265	234	271	295
10	K (mg/L)	4.1	4.2	5.1	5.4
11	Mg (mg/L)	17.5	16.9	19.4	20.4
12	Na (mg/L)	48.2	43.3	56.1	58.8
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.00
14	NO2+NO3 (mg N/L)	0.75	1.04	1.53	0.81
15	NO2-N (mgN/L)	0.01	0.00	0.01	0.13
16	NO3-N (mgN/L)	0.74	1.03	1.52	0.68
17	o-PO4-P (mg P/L)	0.054	0.102	0.094	0.040
18	SiO2 (mg/L)	9.0	9.1	9.6	11.9
19	SO4 (mg/L)	24.0	18.9	18.2	19.3
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	1.2	1.9	1.5	1.2
2	COD (mg/L)	2.8	6.1	3.2	12.5
3	DO (mg/L)	6.7	4.5	4.8	4.3
4	DO_SAT% (%)	80	57	60	58
5	FCol-MPN (MPN/100mL)	9000	16000	1400	3000
6	Tcol-MPN (MPN/100mL)	16000	16000	1700	16000
7	TOC (mg/L)				
	TRACE & TOXIC				
1	As (μg/L)			0.00	
2	Cd (μg/L)			0.00	
3	Cr (μg/L)			0.00	
4	Hg (μg/L)			0.00	
5	Ni (μg/L)			0.00	
6	Pb (μg/L)			0.00	
7	Zn (μg/L)			0.09	
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	80	82	86	90
2	HAR_Total (mgCaCO3/L)	153	152	167	175
3	Na% (%)	40	38	41	41
4	RSC (-)	1.5	1.0	1.3	1.4
5	SAR (-)	1.7	1.5	1.9	1.9
	PESTICIDES				

Water Quality Summary for the period : 2015-2016

Station Name : Malkhed (AKP10E1)

Division : Lower Krishna Divn., Hyderabad

Local River : Kagna

Sub-Division : Middle Krishna SD 2 , Kurnool

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	368	120.7	0.488	4.767
2	EC_GEN (µmho/cm)	12	2897	390	800
3	pH_GEN (pH units)	12	8.6	7.9	8.2
4	TDS (mg/L)	11	341	260	308
5	Temp (deg C)	12	31.0	22.0	26.8
6	Turb (NTU)	12	46.00	0.10	18.85
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	12	6.0	0.0	1.4
2	ALK-TOT (mgCaCO3/L)	12	242	170	214
3	B (mg/L)	4	0.31	0.00	0.08
4	Ca (mg/L)	12	39	30	35
5	Cl (mg/L)	12	31.6	20.0	24.3
6	CO3 (mg/L)	12	7.2	0.0	1.7
7	F (mg/L)	12	0.72	0.44	0.6
8	Fe (mg/L)	12	0.3	0.0	0.1
9	HCO3 (mg/L)	12	295	207	257
10	K (mg/L)	12	5.4	3.9	4.5
11	Mg (mg/L)	12	22.3	16.5	19.4
12	Na (mg/L)	12	58.8	37.3	46.2
13	NH3-N (mg N/L)	12	0.06	0.00	0.01
14	NO2+NO3 (mg N/L)	12	2.71	0.73	1.44
15	NO2-N (mgN/L)	12	0.13	0.00	0.03
16	NO3-N (mgN/L)	12	2.71	0.68	1.4
17	o-PO4-P (mg P/L)	12	0.210	0.040	0.092
18	SiO2 (mg/L)	12	26.5	8.1	12.8
19	SO4 (mg/L)	12	25.3	3.4	18.3
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	12	1.9	0.1	0.9
2	COD (mg/L)	12	12.5	1.6	5.6
3	DO (mg/L)	12	6.7	4.3	5.4
4	DO_SAT% (%)	12	80	57	68
5	FCoI-MPN (MPN/100mL)	12	16000	2	6164
6	TcoI-MPN (MPN/100mL)	12	16000	800	11400
7	TOC (mg/L)	8	24.0	1.9	17.4
	TRACE & TOXIC				
1	As (µg/L)	1	0.00	0.00	0
2	Cd (µg/L)	1	0.00	0.00	0
3	Cr (µg/L)	1	0.00	0.00	0
4	Hg (µg/L)	1	0.00	0.00	0
5	Ni (µg/L)	1	0.00	0.00	0
6	Pb (µg/L)	1	0.00	0.00	0
7	Zn (µg/L)	1	0.09	0.09	0.09
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	12	98	74	87
2	HAR_Total (mgCaCO3/L)	12	191	143	168
3	Na% (%)	12	41	32	37
4	RSC (-)	12	1.5	0.3	0.9
5	SAR (-)	12	1.9	1.3	1.6
	PESTICIDES				

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Malkhed (AKP10E1)

Division : Lower Krishna Divn., Hyderabad

Local River : Kagna

River Water

Sub-Division : Middle Krishna SD 2 , Kurnool

S.No	Parameters	Flood				
		Jun - Oct				
		2001	2002	2003	2004	2005
	PHYSICAL					
1	Q (cumec)	60.39	3.601	5.273	31.70	
2	EC_GEN (μmho/cm)	518	565	741	375	
3	pH_GEN (pH units)	8.2	7.9	8.1	8.0	
4	TDS (mg/L)					
5	Temp (deg C)	28.7	31.0	31.3	24.5	
6	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	14.1	0.0	2.3	0.0	
2	ALK-TOT (mgCaCO3/L)	119	113	256	198	
3	B (mg/L)	0.00	0.01	0.00	0.00	
4	Ca (mg/L)	30	16	30	24	
5	Cl (mg/L)	20.0	26.4	14.3	14.8	
6	CO3 (mg/L)	17.0	0.0	2.8	0.0	
7	F (mg/L)	0.66	0.73	0.89	0.88	
8	Fe (mg/L)	0.0	0.0	0.0	0.0	
9	HCO3 (mg/L)	110	138	306	241	
10	K (mg/L)	3.3	3.4	4.3	3.4	
11	Mg (mg/L)	28.8	28.0	23.7	11.3	
12	Na (mg/L)	36.6	22.3	29.0	56.0	
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.00	
14	NO2+NO3 (mg N/L)	0.19	0.26	0.01	0.01	
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	
16	NO3-N (mgN/L)	0.19	0.26	0.01	0.01	
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.062	0.033	0.004	0.001	
19	SiO2 (mg/L)	3.1	5.1	14.5	17.3	
20	SO4 (mg/L)	17.7	17.3	28.3	8.3	
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)					
2	COD (mg/L)					
3	DO (mg/L)					
4	DO_SAT% (%)					
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
7	TOC (mg/L)					
	TRACE & TOXIC					
1	As (μg/L)					
2	Cd (μg/L)					
3	Cr (μg/L)					
4	Hg (μg/L)					
5	Ni (μg/L)					
6	Pb (μg/L)					
7	Zn (μg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	75	39	74	61	
2	HAR_Total (mgCaCO3/L)	195	156	173	108	
3	Na% (%)	28	23	26	49	
4	RSC (-)	0.0	0.0	1.7	1.8	
5	SAR (-)	1.1	0.8	1.0	2.4	
	PESTICIDES					
1	Aldrin (μg/L)					
2	BHC (μg/L)					
3	DDT (μg/L)					
4	Dieldrin (μg/L)					
5	Endos (μg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Malkhed (AKP10E1)

Division : Lower Krishna Divn., Hyderabad

Local River : Kagna

River Water

Sub-Division : Middle Krishna SD 2 , Kurnool

S.No	Parameters	Flood				
		Jun - Oct				
		2006	2007	2008	2009	2010
	PHYSICAL					
1	Q (cumec)	3.990	31.40	16.54	383.7	86.12
2	EC_GEN (µmho/cm)	501	433	484	486	549
3	pH_GEN (pH units)	7.9	8.0	8.0	8.0	8.2
4	TDS (mg/L)					
5	Temp (deg C)	25.3	28.3	28.0	25.8	27.3
6	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	2.7
2	ALK-TOT (mgCaCO3/L)	215	257	216	205	216
3	B (mg/L)	0.00	0.00	0.00	0.00	0.00
4	Ca (mg/L)	37	54	44	36	36
5	Cl (mg/L)	19.2	16.7	19.7	20.7	41.1
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	3.2
7	F (mg/L)	0.85	0.78	0.63	0.59	0.79
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	262	314	264	251	257
10	K (mg/L)	3.8	3.9	3.1	3.5	3.5
11	Mg (mg/L)	18.3	17.5	14.1	16.8	20.1
12	Na (mg/L)	42.3	32.5	46.5	36.1	40.6
13	NH3-N (mg N/L)	0.00	0.05	0.05	0.00	0.00
14	NO2+NO3 (mg N/L)	0.01	0.01	0.01	1.19	0.00
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.01	0.01	0.01	1.19	0.00
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.001	0.001	0.000	0.076
19	SiO2 (mg/L)	20.4	19.1	22.4	20.3	24.3
20	SO4 (mg/L)	22.3	19.0	24.9	23.0	21.2
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.9	1.4	0.9	1.1	0.8
2	COD (mg/L)		5.1	19.9	5.8	36.8
3	DO (mg/L)	6.0	6.2	5.3	5.5	5.6
4	DO_SAT% (%)	74	79	67	68	70
5	Fcol-MPN (MPN/100mL)				12500	9133
6	Tcol-MPN (MPN/100mL)				16000	11667
7	TOC (mg/L)					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Hg (µg/L)					
5	Ni (µg/L)					
6	Pb (µg/L)					
7	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	93	135	110	89	91
2	HAR_Total (mgCaCO3/L)	169	208	169	159	174
3	Na% (%)	35	26	36	32	33
4	RSC (-)	0.9	1.0	1.0	0.9	0.9
5	SAR (-)	1.4	1.0	1.5	1.2	1.4
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Malkhed (AKP10E1)

Division : Lower Krishna Divn., Hyderabad

Local River : Kagna

River Water

Sub-Division : Middle Krishna SD 2 , Kurnool

S.No	Parameters	Flood				
		Jun - Oct				
		2011	2012	2013	2014	2015
	PHYSICAL					
1	Q (cumec)	123.8	7.217	27.32	16.99	2.139
2	EC_GEN (μmho/cm)	457	772	580	605	476
3	pH_GEN (pH units)	8.1	8.1	8.2	8.1	8.0
4	TDS (mg/L)	270	519	344	372	303
5	Temp (deg C)	27.7	26.3	26.3	26.7	27.6
6	Turb (NTU)	1.00	3.03	3.05	10.33	15.02
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	1.4	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	151	213	238	226	193
3	B (mg/L)	0.00	0.15	0.21	0.17	0.16
4	Ca (mg/L)	29	32	37	34	34
5	Cl (mg/L)	21.4	25.9	23.3	26.7	21.7
6	CO3 (mg/L)	0.0	0.0	1.7	0.0	0.0
7	F (mg/L)	0.77	0.64	0.75	0.66	0.59
8	Fe (mg/L)	0.0	0.1	0.1	0.1	0.1
9	HCO3 (mg/L)	184	260	287	275	236
10	K (mg/L)	3.5	3.8	3.6	4.1	4.4
11	Mg (mg/L)	15.9	18.5	21.2	19.3	18.8
12	Na (mg/L)	35.8	43.9	42.5	47.5	39.8
13	NH3-N (mg N/L)	0.00	0.02	0.04	0.00	0.02
14	NO2+NO3 (mg N/L)	0.85	1.14	0.91	2.22	1.63
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.02	0.04
16	NO3-N (mgN/L)	0.85	1.14	0.91	2.20	1.59
17	o-PO4-P (mg P/L)	0.102	0.080	0.041	0.093	0.112
18	P-Tot (mgP/L)	0.102			0.087	
19	SiO2 (mg/L)	19.2	26.8	17.7	25.1	17.1
20	SO4 (mg/L)	16.1	19.1	17.5	23.3	17.0
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.3	0.9	0.7	0.6	0.7
2	COD (mg/L)	8.3	14.1	8.3	5.1	6.2
3	DO (mg/L)	5.4	6.2	5.7	5.8	5.5
4	DO_SAT% (%)	69	77	70	73	70
5	Fcol-MPN (MPN/100mL)	11667	10933	1333	6210	3852
6	Tcol-MPN (MPN/100mL)	12333	11667	4600	7133	7820
7	TOC (mg/L)	3.9	2.0	0.3		14.7
	TRACE & TOXIC					
1	As (μg/L)		8.07	9.08		
2	Cd (μg/L)		0.12	0.61		
3	Cr (μg/L)		1.67	0.83		
4	Hg (μg/L)			0.39		
5	Ni (μg/L)		1.89	2.47		
6	Pb (μg/L)		1.01	3.18		
7	Zn (μg/L)		23.14	0.00		
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	72	79	91	85	86
2	HAR_Total (mgCaCO3/L)	138	156	180	165	164
3	Na% (%)	34	37	33	38	34
4	RSC (-)	0.4	1.2	1.2	1.2	0.6
5	SAR (-)	1.3	1.6	1.4	1.6	1.4
	PESTICIDES					
1	Aldrin (μg/L)					
2	BHC (μg/L)					
3	DDT (μg/L)					
4	Dieldrin (μg/L)					
5	Endos (μg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Malkhed (AKP10E1)

Division : Lower Krishna Divn., Hyderabad

Local River : Kagna

River Water

Sub-Division : Middle Krishna SD 2 , Kurnool

S.No	Parameters	Winter				
		Nov - Feb				
		2001-2002	2002-2003	2003-2004	2004-2005	2005-2006
	PHYSICAL					
1	Q (cumec)	4.891	2.211	1.593	0.815	4.462
2	EC_GEN (μmho/cm)	543	573	589	431	545
3	pH_GEN (pH units)	8.4	8.2	8.3	8.0	7.7
4	TDS (mg/L)					
5	Temp (deg C)	25.5	26.5	26.0	20.0	24.0
6	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	7.1	0.0	15.9	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	145	113	299	117	257
3	B (mg/L)	0.01	0.01	0.00	0.00	0.01
4	Ca (mg/L)	15	24	34	16	43
5	Cl (mg/L)	22.0	26.4	23.7	18.5	21.0
6	CO3 (mg/L)	8.5	0.0	19.2	0.0	0.0
7	F (mg/L)	0.50	0.56	0.94	0.50	0.82
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	159	138	325	143	314
10	K (mg/L)	6.9	3.2	4.5	2.7	
11	Mg (mg/L)	35.8	39.6	20.7	8.0	22.0
12	Na (mg/L)	68.5	21.5	26.0	30.0	
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.00	0.00
14	NO2+NO3 (mg N/L)	0.41	0.28	0.01	0.01	0.01
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.40	0.27	0.01	0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.005	0.040	0.001	0.001	0.001
19	SiO2 (mg/L)	6.2	7.3	15.6	20.1	24.4
20	SO4 (mg/L)	21.5	17.0	20.0	20.0	28.0
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)					
2	COD (mg/L)					
3	DO (mg/L)					
4	DO_SAT% (%)					
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
7	TOC (mg/L)					
	TRACE & TOXIC					
1	As (μg/L)					
2	Cd (μg/L)					
3	Cr (μg/L)					
4	Hg (μg/L)					
5	Ni (μg/L)					
6	Pb (μg/L)					
7	Zn (μg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	39	60	85	40	106
2	HAR_Total (mgCaCO3/L)	188	225	171	73	198
3	Na% (%)	39	15	24	46	
4	RSC (-)	0.0	0.0	2.6	0.9	1.2
5	SAR (-)	2.1	0.6	0.9	1.5	
	PESTICIDES					
1	Aldrin (μg/L)					
2	BHC (μg/L)					
3	DDT (μg/L)					
4	Dieldrin (μg/L)					
5	Endos (μg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Malkhed (AKP10E1)

Division : Lower Krishna Divn., Hyderabad

Local River : Kagna

River Water

Sub-Division : Middle Krishna SD 2 , Kurnool

S.No	Parameters	Winter				
		Nov - Feb				
		2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	PHYSICAL					
1	Q (cumec)	2.586	7.964	10.79	12.44	12.99
2	EC_GEN (μmho/cm)	529	599	572	585	606
3	pH_GEN (pH units)	7.8	8.2	8.2	8.2	8.2
4	TDS (mg/L)					
5	Temp (deg C)	23.5	22.0	26.0	22.5	24.8
6	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	2.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	220	232	236	226	228
3	B (mg/L)	0.00	0.00	0.00	0.00	0.00
4	Ca (mg/L)	36	38	51	34	42
5	Cl (mg/L)	23.4	26.1	21.5	21.3	23.3
6	CO3 (mg/L)	0.0	0.0	2.4	0.0	0.0
7	F (mg/L)	0.85	0.75	0.69	1.12	0.68
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	269	283	283	276	279
10	K (mg/L)	3.4	3.9	3.7	3.4	3.5
11	Mg (mg/L)	20.5	21.5	14.6	16.5	24.3
12	Na (mg/L)	45.0	45.0	44.0	46.2	38.7
13	NH3-N (mg N/L)	0.00	0.05	0.05	0.00	0.00
14	NO2+NO3 (mg N/L)	0.01	0.01	0.01	1.89	0.00
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.01	0.01	0.01	1.89	0.00
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.001	0.001	0.000	0.077
19	SiO2 (mg/L)	21.7	20.4	23.6	20.2	27.6
20	SO4 (mg/L)	17.5	15.5	16.7	22.8	19.3
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.4	2.9	0.7	0.7	0.5
2	COD (mg/L)		31.9	8.3	10.8	21.9
3	DO (mg/L)	6.0	7.0	6.5	6.8	6.9
4	DO_SAT% (%)	71	80	80	79	83
5	Fcol-MPN (MPN/100mL)				16000	16000
6	Tcol-MPN (MPN/100mL)				16000	16000
7	TOC (mg/L)					
	TRACE & TOXIC					
1	As (μg/L)					
2	Cd (μg/L)					
3	Cr (μg/L)					
4	Hg (μg/L)					
5	Ni (μg/L)					
6	Pb (μg/L)					
7	Zn (μg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	90	94	128	84	106
2	HAR_Total (mgCaCO3/L)	175	183	189	153	207
3	Na% (%)	35	34	33	39	28
4	RSC (-)	0.9	1.0	1.0	1.5	0.4
5	SAR (-)	1.5	1.5	1.4	1.6	1.2
	PESTICIDES					
1	Aldrin (μg/L)					
2	BHC (μg/L)					
3	DDT (μg/L)					
4	Dieldrin (μg/L)					
5	Endos (μg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Malkhed (AKP10E1)

Division : Lower Krishna Divn., Hyderabad

Local River : Kagna

River Water

Sub-Division : Middle Krishna SD 2 , Kurnool

S.No	Parameters	Winter				
		Nov - Feb				
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
	PHYSICAL					
1	Q (cumec)	2.910	4.633	12.81	2.990	3.382
2	EC_GEN (μmho/cm)	597	576	669	454	1280
3	pH_GEN (pH units)	8.1	8.1	8.2	8.3	8.3
4	TDS (mg/L)	347	336	460	314	311
5	Temp (deg C)	24.5	23.0	24.0	23.5	24.5
6	Turb (NTU)	1.00	3.00	4.50	0.10	19.78
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	2.1	2.4
2	ALK-TOT (mgCaCO3/L)	238	234	213	194	233
3	B (mg/L)	0.21	0.27	0.17	0.21	0.00
4	Ca (mg/L)	40	37	40	42	36
5	Cl (mg/L)	27.3	23.2	40.6	21.2	24.7
6	CO3 (mg/L)	0.0	0.0	0.0	2.5	2.8
7	F (mg/L)	0.84	0.95	0.63	0.59	0.61
8	Fe (mg/L)	0.1	0.4	0.0	0.2	0.0
9	HCO3 (mg/L)	290	286	260	231	278
10	K (mg/L)	3.4	2.3	3.1	3.2	4.3
11	Mg (mg/L)	22.8	21.4	22.8	21.0	20.5
12	Na (mg/L)	47.4	42.2	39.4	41.6	49.5
13	NH3-N (mg N/L)	0.00	0.00	0.01	0.00	0.01
14	NO2+NO3 (mg N/L)	2.03	1.86	1.77	1.19	1.43
15	NO2-N (mgN/L)	0.01	0.00	0.00	0.02	0.01
16	NO3-N (mgN/L)	2.02	1.86	1.77	1.17	1.42
17	o-PO4-P (mg P/L)	0.017	0.054	0.085	0.095	0.078
18	P-Tot (mgP/L)	0.017				
19	SiO2 (mg/L)	34.4	31.3	24.9	21.0	9.4
20	SO4 (mg/L)	15.1	21.4	17.2	21.0	19.4
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.0	0.8	1.2	0.5	0.8
2	COD (mg/L)	15.2	13.0	2.5	5.7	3.6
3	DO (mg/L)	6.3	6.5	6.9	7.2	6.0
4	DO_SAT% (%)	76	76	80	85	72
5	Fcol-MPN (MPN/100mL)	2400	515	465	1450	8575
6	Tcol-MPN (MPN/100mL)	7000	3150	800	9200	16000
7	TOC (mg/L)	2.7	1.7		27.4	22.0
	TRACE & TOXIC					
1	As (μg/L)					
2	Cd (μg/L)				0.57	
3	Cr (μg/L)				0.57	
4	Hg (μg/L)					
5	Ni (μg/L)				5.69	
6	Pb (μg/L)				6.48	
7	Zn (μg/L)				9.20	
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	100	92	100	104	91
2	HAR_Total (mgCaCO3/L)	195	181	195	192	176
3	Na% (%)	34	33	30	32	37
4	RSC (-)	0.9	1.1	0.4	0.1	1.2
5	SAR (-)	1.5	1.4	1.2	1.3	1.6
	PESTICIDES					
1	Aldrin (μg/L)					
2	BHC (μg/L)					
3	DDT (μg/L)					
4	Dieldrin (μg/L)					
5	Endos (μg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Malkhed (AKP10E1)

Division : Lower Krishna Divn., Hyderabad

Local River : Kagna

River Water

Sub-Division : Middle Krishna SD 2 , Kurnool

S.No	Parameters	Summer				
		Mar - May				
		2002	2003	2004	2005	2006
	PHYSICAL					
1	Q (cumec)	1.410	0.273	10.74		0.810
2	EC_GEN (µmho/cm)	607		476		590
3	pH_GEN (pH units)	7.6	7.9	8.1		8.1
4	TDS (mg/L)					
5	Temp (deg C)	31.0	32.0	30.0		27.0
6	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0		0.0
2	ALK-TOT (mgCaCO3/L)	35	129	237		227
3	B (mg/L)	0.02	0.01	0.00		0.01
4	Ca (mg/L)	15	22	25		40
5	Cl (mg/L)	22.0	20.1	21.9		24.1
6	CO3 (mg/L)	0.0	0.0	0.0		0.0
7	F (mg/L)	0.40	1.00	0.89		0.88
8	Fe (mg/L)	0.0	0.0	0.0		0.0
9	HCO3 (mg/L)	43	157	289		277
10	K (mg/L)	2.8	4.0	3.9		4.9
11	Mg (mg/L)	39.3	35.0	16.5		21.0
12	Na (mg/L)	23.0	17.0	35.0		66.0
13	NH3-N (mg N/L)	0.00	0.00	0.00		0.00
14	NO2+NO3 (mg N/L)	0.20	0.24	0.01		0.01
15	NO2-N (mgN/L)	0.00	0.00	0.00		0.00
16	NO3-N (mgN/L)	0.20	0.24	0.01		0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.025	0.001		0.001
19	SiO2 (mg/L)	9.5	9.0	11.6		12.8
20	SO4 (mg/L)	20.0	108.0	10.0		17.0
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)					
2	COD (mg/L)					
3	DO (mg/L)					
4	DO_SAT% (%)					
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
7	TOC (mg/L)					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Hg (µg/L)					
5	Ni (µg/L)					
6	Pb (µg/L)					
7	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	37	55	62		100
2	HAR_Total (mgCaCO3/L)	201	201	131		188
3	Na% (%)	20	15	36		43
4	RSC (-)	0.0	0.0	2.1		0.8
5	SAR (-)	0.7	0.5	1.3		2.1
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Malkhed (AKP10E1)

Division : Lower Krishna Divn., Hyderabad

Local River : Kagna

River Water

Sub-Division : Middle Krishna SD 2 , Kurnool

S.No	Parameters	Summer				
		Mar - May				
		2007	2008	2009	2010	2011
	PHYSICAL					
1	Q (cumec)	0.000	33.35	2.870	6.171	2.922
2	EC_GEN (µmho/cm)	577	602	573	603	520
3	pH_GEN (pH units)	8.0	8.2	8.1	8.4	8.1
4	TDS (mg/L)					
5	Temp (deg C)	26.0	25.0	25.0	26.5	25.0
6	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	8.0	0.0
2	ALK-TOT (mgCaCO3/L)	280	200	244	180	216
3	B (mg/L)	0.00	0.00	0.00	0.00	0.00
4	Ca (mg/L)	40	34	37	29	32
5	Cl (mg/L)	21.5	60.5	23.7	22.5	24.1
6	CO3 (mg/L)	0.0	0.0	0.0	9.6	0.0
7	F (mg/L)	1.27	0.73	0.81	0.93	0.63
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	342	244	298	200	264
10	K (mg/L)	4.6	3.2	4.0	4.0	1.9
11	Mg (mg/L)	23.0	18.0	20.4	16.5	18.5
12	Na (mg/L)	64.0	43.0	40.6	45.9	24.3
13	NH3-N (mg N/L)	0.00	0.05	0.05	0.00	0.00
14	NO2+NO3 (mg N/L)	0.01	0.01	0.01	0.00	0.00
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.01	0.01	0.01	0.00	0.00
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.001	0.001	0.000	0.065
19	SiO2 (mg/L)	26.3	17.5	29.4	23.1	25.2
20	SO4 (mg/L)	14.0	28.0	14.1	19.6	16.0
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.8	0.3	0.4	1.3	0.2
2	COD (mg/L)		7.4	4.0	17.7	9.1
3	DO (mg/L)	3.9	5.8	5.5	6.0	5.9
4	DO_SAT% (%)	48	71	67	74	71
5	Fcol-MPN (MPN/100mL)				2400	16000
6	Tcol-MPN (MPN/100mL)				3000	16000
7	TOC (mg/L)		3.0			
	TRACE & TOXIC					
1	As (µg/L)				1.17	
2	Cd (µg/L)	8.00	0.60	2.06	0.00	0.00
3	Cr (µg/L)	51.00	2.00	2.00	0.00	0.00
4	Hg (µg/L)	1.97	0.00			
5	Ni (µg/L)	1.00	7.50	1.00	2.20	2.10
6	Pb (µg/L)	111.00	10.80	18.09	0.00	5.49
7	Zn (µg/L)	133.00	7.36	4.02	8.52	17.46
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	100	85	92	72	80
2	HAR_Total (mgCaCO3/L)	196	160	177	141	157
3	Na% (%)	41	36	33	41	25
4	RSC (-)	1.7	0.8	1.4	0.8	1.2
5	SAR (-)	2.0	1.5	1.3	1.7	0.8
	PESTICIDES					
1	Aldrin (µg/L)	0.010	0.010	0.010	0.000	0.000
2	BHC (µg/L)	0.100	0.100	0.100	0.016	0.569
3	DDT (µg/L)	0.100	0.100	0.100	0.004	0.000
4	Dieldrin (µg/L)	0.110	0.010	0.010	0.000	0.033
5	Endos (µg/L)	0.100	0.100	0.100	0.073	0.012

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Malkhed (AKP10E1)

Division : Lower Krishna Divn., Hyderabad

Local River : Kagna

River Water

Sub-Division : Middle Krishna SD 2 , Kurnool

S.No	Parameters	Summer				
		Mar - May				
		2012	2013	2014	2015	2016
	PHYSICAL					
1	Q (cumec)	1.127	1.683	3.086	2.201	2.524
2	EC_GEN (µmho/cm)	720	739	560	492	700
3	pH_GEN (pH units)	8.1	7.9	8.1	8.2	8.3
4	TDS (mg/L)	426	468	416	323	313
5	Temp (deg C)	27.0	30.0	28.0	27.0	28.3
6	Turb (NTU)	1.00	2.63	8.00	6.33	24.00
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	1.2	2.5
2	ALK-TOT (mgCaCO3/L)	275	241	231	182	224
3	B (mg/L)	0.00	0.23	0.15	0.16	
4	Ca (mg/L)	38	29	34	32	34
5	Cl (mg/L)	29.8	25.2	25.0	22.9	27.9
6	CO3 (mg/L)	0.0	0.0	0.0	1.4	3.0
7	F (mg/L)	0.42	0.89	0.73	0.60	0.60
8	Fe (mg/L)	0.1	0.1	0.1	0.0	0.0
9	HCO3 (mg/L)	335	294	282	219	267
10	K (mg/L)	4.6	4.1	4.0	4.4	4.9
11	Mg (mg/L)	21.9	16.5	19.4	20.4	18.9
12	Na (mg/L)	59.6	50.1	40.8	40.4	52.7
13	NH3-N (mg N/L)	0.06	0.00	0.01	0.01	0.00
14	NO2+NO3 (mg N/L)	2.33	1.44	0.64	0.72	1.13
15	NO2-N (mgN/L)	0.01	0.00	0.00	0.15	0.05
16	NO3-N (mgN/L)	2.32	1.44	0.64	0.58	1.08
17	o-PO4-P (mg P/L)	0.318	0.093	0.000	0.080	0.079
18	P-Tot (mgP/L)	0.318				
19	SiO2 (mg/L)	15.5	19.0	28.8	23.9	10.2
20	SO4 (mg/L)	21.5	12.3	18.2	19.6	18.8
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	2.2	0.7	0.9	0.7	1.5
2	COD (mg/L)	21.7	3.2		4.5	7.2
3	DO (mg/L)	6.2	5.4	5.4	5.1	4.5
4	DO_SAT% (%)	78	71	69	64	58
5	Fcol-MPN (MPN/100mL)	2400	230	230	15	6800
6	Tcol-MPN (MPN/100mL)	9000	2800	2400	880	11233
7	TOC (mg/L)	2.8	2.1		21.6	
	TRACE & TOXIC					
1	As (µg/L)	0.71	1.24	0.31	1.57	0.00
2	Cd (µg/L)	0.00	2.49	0.00	2.00	0.00
3	Cr (µg/L)	0.00	3.12	0.00	0.00	0.00
4	Hg (µg/L)	0.74	0.47	0.20	0.31	0.00
5	Ni (µg/L)	3.65	4.12	0.00	6.24	0.00
6	Pb (µg/L)	24.71	7.00	0.00	14.00	0.00
7	Zn (µg/L)	88.90	25.27	21.80	3.00	0.09
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	94	72	86	81	86
2	HAR_Total (mgCaCO3/L)	185	141	167	166	165
3	Na% (%)	41	43	34	34	40
4	RSC (-)	1.8	2.0	1.3	0.4	1.2
5	SAR (-)	1.9	1.8	1.4	1.4	1.8
	PESTICIDES					
1	Aldrin (µg/L)	0.001				
2	BHC (µg/L)	0.018				
3	DDT (µg/L)	0.005				
4	Dieldrin (µg/L)	0.001				
5	Endos (µg/L)	0.022				

HISTORY SHEET

		Water Year	: 2015-2016
Site	: Takli	Code	: AKP00K4
State	: Maharashtra	District	Sholapur
Basin	: Krishna	Independent River	: Krishna
Tributary	: Bhima	Sub Tributary	: -
Sub-Sub Tributary	: -	Local River	: Bhima
Division	: Upper Krishna Divn, Pune	Sub-Division	: Bhima SD, Sholapur
Drainage Area	: 33916 Sq. Km.	Bank	: Left
Latitude	: 17°24'51"	Longitude	: 75°50'52"
	Opening Date	Closing Date	
Gauge	: 01/06/1965		
Discharge	: 01/06/1965		
Sediment	: 01/12/1966		
Water Quality	: 01/09/1972		

Water Quality Datasheet for the period : 2015-2016

Station Name : Takli (AKP00K4)

Division : Upper Krishna Divn, Pune

Local River : Bhima

River Water Analysis

Sub-Division : Bhima SD, Sholapur

S.No	Parameters
	PHYSICAL
1	Q (cumec)
	CHEMICAL
	BIOLOGICAL/BACTERIOLOGICAL
	TRACE & TOXIC
	CHEMICAL INDICES
	PESTICIDES

Samples not collected due to no flow/drybed
condition from 1-6-2015 to 31-5-2016

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Takli (AKP00K4)

Division : Upper Krishna Divn, Pune

Local River : Bhima

River Water

Sub-Division : Bhima SD, Sholapur

S.No	Parameters	Flood				
		Jun - Oct				
		2001	2002	2003	2004	2005
	PHYSICAL					
1	Q (cumec)	61.14		3.774	106.6	1095
2	EC_FLD (µmho/cm)	570				
3	EC_GEN (µmho/cm)	569		973	448	461
4	pH_FLD (pH units)	8.5				
5	pH_GEN (pH units)	8.6		8.3	8.3	8.2
6	TDS (mg/L)	455				
7	Temp (deg C)	28.0			24.0	26.2
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	3.9			4.3	0.7
2	ALK-TOT (mgCaCO3/L)	106			97	89
3	B (mg/L)	0.25				0.18
4	Ca (mg/L)	24				22
5	Cl (mg/L)	52.9				54.8
6	CO3 (mg/L)	4.7			5.2	0.8
7	F (mg/L)	0.53				0.21
8	Fe (mg/L)	0.0				0.5
9	HCO3 (mg/L)	119			108	107
10	K (mg/L)	1.0				25.5
11	Mg (mg/L)	21.2				17.9
12	Na (mg/L)	50.7				36.0
13	NH3-N (mg N/L)	0.06				
14	NO2+NO3 (mg N/L)					1.38
15	NO2-N (mgN/L)					0.05
16	NO3-N (mgN/L)	0.01				1.33
17	P-Tot (mgP/L)	0.050				0.113
18	SiO2 (mg/L)	33.6				8.3
19	SO4 (mg/L)	75.6		167.3		45.3
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.0		1.0	2.0	1.6
2	COD (mg/L)			7.6	8.7	12.2
3	DO (mg/L)				6.1	5.7
4	DO_SAT% (%)				72	74
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
	TRACE & TOXIC					
1	Al (mg/L)	0.01				
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Hg (µg/L)					
6	Ni (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	61				55
2	HAR_Total (mgCaCO3/L)	150				130
3	Na% (%)	42				32
4	RSC (-)	0.0				0.0
5	SAR (-)	1.8				1.4
	PESTICIDES					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Takli (AKP00K4)

Division : Upper Krishna Divn, Pune

Local River : Bhima

River Water

Sub-Division : Bhima SD, Sholapur

S.No	Parameters	Flood				
		Jun - Oct				
		2006	2007	2008	2009	2010
	PHYSICAL					
1	Q (cumec)	1555	333.3		865.2	159.8
2	EC_FLD (µmho/cm)		150			
3	EC_GEN (µmho/cm)	605	669		1242	921
4	pH_FLD (pH units)		7.4			
5	pH_GEN (pH units)	8.3	8.3		7.9	8.3
6	TDS (mg/L)					
7	Temp (deg C)		26.8		26.5	26.5
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.5		0.0	0.7
2	ALK-TOT (mgCaCO3/L)	316	83		103	183
3	B (mg/L)	0.30	0.15		0.21	0.39
4	Ca (mg/L)	54	15		36	52
5	Cl (mg/L)	66.4	76.6		97.5	96.4
6	CO3 (mg/L)	0.0	0.6		0.0	0.8
7	F (mg/L)	0.30	0.27		0.37	0.48
8	Fe (mg/L)	0.1	0.2		0.5	0.1
9	HCO3 (mg/L)	198	100		126	221
10	K (mg/L)	26.0	0.8		0.6	2.7
11	Mg (mg/L)	19.1	32.6		12.9	20.1
12	Na (mg/L)	52.1	46.6		69.3	63.3
13	NH3-N (mg N/L)					
14	NO2+NO3 (mg N/L)	0.60	0.62		1.00	0.15
15	NO2-N (mgN/L)	0.00	0.01		0.01	0.01
16	NO3-N (mgN/L)	0.60	0.61		0.99	0.14
17	P-Tot (mgP/L)	0.367	0.083		0.009	0.013
18	SiO2 (mg/L)	6.2	10.3		8.6	7.3
19	SO4 (mg/L)	102.6	84.3		50.2	31.2
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.8	1.2		0.8	0.9
2	COD (mg/L)	4.7	8.9		5.3	7.2
3	DO (mg/L)		3.9			
4	DO_SAT% (%)		49			
5	Fcol-MPN (MPN/100mL)				55367	8933
6	Tcol-MPN (MPN/100mL)				56713	12667
	TRACE & TOXIC					
1	Al (mg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Hg (µg/L)					
6	Ni (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	135	38		89	131
2	HAR_Total (mgCaCO3/L)	214	174		143	215
3	Na% (%)	34	35		52	34
4	RSC (-)	0.0	0.0		0.0	0.0
5	SAR (-)	1.8	1.5		2.7	1.8
	PESTICIDES					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Takli (AKP00K4)

Division : Upper Krishna Divn, Pune

Local River : Bhima

River Water

Sub-Division : Bhima SD, Sholapur

S.No	Parameters	Flood				
		Jun - Oct				
		2011	2012	2013	2014	2015
	PHYSICAL					
1	Q (cumec)	903.1		412.6	768.9	
2	EC_FLD (µmho/cm)			356	350	
3	EC_GEN (µmho/cm)	579		721	984	
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	7.0		7.6	7.9	
6	TDS (mg/L)					
7	Temp (deg C)	27.0		25.8	25.0	
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0		0.0	0.0	
2	ALK-TOT (mgCaCO3/L)	89		78	102	
3	B (mg/L)	0.10		0.10	0.07	
4	Ca (mg/L)	32		34	48	
5	Cl (mg/L)	116.6		28.3	47.9	
6	CO3 (mg/L)	0.0		0.0	0.0	
7	F (mg/L)	0.37		0.37	0.37	
8	Fe (mg/L)	0.9		0.4	2.0	
9	HCO3 (mg/L)	108		96	125	
10	K (mg/L)	0.7		1.1	2.8	
11	Mg (mg/L)	12.6		12.6	17.5	
12	Na (mg/L)	81.6		19.8	37.0	
13	NH3-N (mg N/L)					
14	NO2+NO3 (mg N/L)	1.51		0.70	2.14	
15	NO2-N (mgN/L)	0.00		0.00	0.05	
16	NO3-N (mgN/L)	1.51		0.70	2.09	
17	P-Tot (mgP/L)	0.045		0.017	0.023	
18	SiO2 (mg/L)	5.6		20.9	40.8	
19	SO4 (mg/L)	69.2		56.2	86.3	
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.0		1.0	0.9	
2	COD (mg/L)	5.0		7.8	8.0	
3	DO (mg/L)					
4	DO_SAT% (%)					
5	FCol-MPN (MPN/100mL)	130000		1785	35000	
6	Tcol-MPN (MPN/100mL)	240000		2615	54000	
	TRACE & TOXIC					
1	Al (mg/L)					
2	Cd (µg/L)			0.46		
3	Cr (µg/L)			2.98		
4	Cu (µg/L)			2.02		
5	Hg (µg/L)			0.49		
6	Ni (µg/L)			9.90		
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	80		84	120	
2	HAR_Total (mgCaCO3/L)	133		137	193	
3	Na% (%)	57		26	29	
4	RSC (-)	0.0		0.0	0.0	
5	SAR (-)	3.1		0.8	1.2	
	PESTICIDES					

Samples not collected during Winter Season.

Samples not collected during Summer Season.

HISTORY SHEET

		Water Year	: 2015-2016
Site	: Sarati	Code	: AKPA0C2
State	: Maharashtra	District	Pune
Basin	: Krishna	Independent River	: Krishna
Tributary	: Bhima	Sub Tributary	: Nira
Sub-Sub Tributary	: -	Local River	: Nira
Division	: Upper Krishna Divn, Pune	Sub-Division	: Bhima SD, Sholapur
Drainage Area	: 7200 Sq. Km.	Bank	: Left
Latitude	: 17°54'43"	Longitude	: 75°00'27"
	Opening Date	Closing Date	
Gauge	: 01/06/1965		
Discharge	: 01/06/1965		
Sediment	: 01/06/1966		
Water Quality	: 01/09/1972		

Sediment and Wqobservations suspended from 31-05-2006
and restarted Sediment on 6-8-2013 WQon 1-8-2013.
Discharge observations are conducted once in a week.

Water Quality Datasheet for the period : 2015-2016**Station Name : Sarati (AKPA0C2)****Division : Upper Krishna Divn, Pune****Local River : Nira****River Water Analysis****Sub-Division : Bhima SD, Sholapur**

S.No	Parameters
	PHYSICAL
1	Q (cumec)
	CHEMICAL
	BIOLOGICAL/BACTERIOLOGICAL
	TRACE & TOXIC
	CHEMICAL INDICES
	PESTICIDES

Samples not collected due to no flow/drybed
condition from 1-6-2015 to 31-5-2016

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Sarati (AKPA0C2)

Division : Upper Krishna Divn, Pune

Local River : Nira

River Water

Sub-Division : Bhima SD, Sholapur

S.No	Parameters	Flood						
		Jun - Oct						
		2001	2004	2005	2012	2013	2014	2015
	PHYSICAL				During Flood season 2002,2003 and from 2006 to 2012 Drybed/No-flow condition.			During Winter and Summer seasons Drybed/No-flow condition.
1	Q (cumec)	3.562	26.32	347.7		87.00	64.70	
2	EC_GEN (µmho/cm)	797	347	233		920	869	
3	pH_FLD (pH units)	7.5						
4	pH_GEN (pH units)	8.7	8.3	7.7		7.7	7.9	
5	TDS (mg/L)	640						
6	Temp (deg C)	24.0	27.0	24.8		26.3	26.0	
	CHEMICAL							
1	Alk-Phen (mgCaCO3/L)	72.2	0.0	0.0		0.0	0.0	
2	ALK-TOT (mgCaCO3/L)	202	112	76		86	154	
3	B (mg/L)	0.23		0.14		0.08	0.01	
4	Ca (mg/L)	23		16		33	59	
5	Cl (mg/L)	78.7		32.0		32.1	67.5	
6	CO3 (mg/L)	86.9	0.0	0.0		0.0	0.0	
7	F (mg/L)	0.15		0.13		0.34	0.36	
8	Fe (mg/L)	0.0		0.8		1.2	3.0	
9	HCO3 (mg/L)	69	136	93		105	188	
10	K (mg/L)	2.6		28.2		1.4	3.7	
11	Mg (mg/L)	30.8		7.1		19.4	24.3	
12	Na (mg/L)	67.6		29.4		22.1	49.3	
13	NO2+NO3 (mg N/L)			1.46		0.88	2.81	
14	NO2-N (mgN/L)			0.30		0.02	0.00	
15	NO3-N (mgN/L)	0.01		1.16		0.86	2.80	
16	P-Tot (mgP/L)	0.050		0.204		0.028	0.028	
17	SiO2 (mg/L)	15.8		5.9		16.7	33.1	
18	SO4 (mg/L)	50.4		28.9		66.4	98.6	
	BIOLOGICAL/BACTERIOLOGICAL							
1	BOD3-27 (mg/L)	2.7	2.9	1.1		0.8	2.3	
2	COD (mg/L)		5.6	11.5		4.8	16.0	
3	DO (mg/L)		6.0					
4	DO_SAT% (%)		74					
5	FCol-MPN (MPN/100mL)					23500	4900	
6	Tcol-MPN (MPN/100mL)					62500	7900	
	TRACE & TOXIC							
1	Al (mg/L)	0.01						
2	As (µg/L)					2.19		
3	Cd (µg/L)					0.41		
4	Cr (µg/L)					2.01		
5	Cu (µg/L)					4.17		
6	Hg (µg/L)					0.08		
7	Ni (µg/L)					10.55		
	CHEMICAL INDICES							
1	HAR_Ca (mgCaCO3/L)	57		41		82	148	
2	HAR_Total (mgCaCO3/L)	185		71		163	250	
3	Na% (%)	44		38		24	30	
4	RSC (-)	0.4		0.1		0.0	0.0	
5	SAR (-)	2.2		1.5		0.8	1.4	
	PESTICIDES							

HISTORY SHEET

		Water Year	: 2015-2016
Site	: Phulgaon (Seasonal)	Code	: AKP00X5
State	: Maharashtra	District	Pune
Basin	: Krishna	Independent River	: Krishna
Tributary	: Bhima	Sub Tributary	: -
Sub-Sub Tributary	: -	Local River	: Bhima
Division	: Upper Krishna Divn, Pune	Sub-Division	: Bhima SD, Sholapur
Drainage Area	: 2205 Sq. Km.	Bank	: Right
Latitude	: 18°40'01"	Longitude	: 74°00'08"
	Opening Date	Closing Date	
Gauge	: 06/06/1986		
Discharge	: 20/06/1992		
Sediment	:		
Water Quality	: 02/08/1993		

Water Quality Datasheet for the period : 2015-2016

Station Name : Phulgaon (Seasonal) (AKP00X5)

Division : Upper Krishna Divn, Pune

Local River : Bhima

River Water Analysis

Sub-Division : Bhima SD, Sholapur

S.No	Parameters	04/08/2015
		A
	PHYSICAL	
1	Q (cumec)	42.49
2	Colour_Cod (-)	Dark Brown
3	EC_GEN (µmho/cm)	269
4	Odour_Code (-)	odour free
5	pH_GEN (pH units)	8.0
6	Temp (deg C)	23.0
	CHEMICAL	
1	Alk-Phen (mgCaCO3/L)	0.0
2	ALK-TOT (mgCaCO3/L)	96
3	B (mg/L)	0.11
4	Ca (mg/L)	29
5	Cl (mg/L)	19.2
6	CO3 (mg/L)	0.0
7	F (mg/L)	0.71
8	Fe (mg/L)	2.8
9	HCO3 (mg/L)	117
10	K (mg/L)	1.0
11	Mg (mg/L)	5.8
12	Na (mg/L)	10.2
13	NO2+NO3 (mg N/L)	1.84
14	NO2-N (mgN/L)	0.01
15	NO3-N (mgN/L)	1.84
16	P-Tot (mgP/L)	0.054
17	SiO2 (mg/L)	12.2
18	SO4 (mg/L)	14.6
	BIOLOGICAL/BACTERIOLOGICAL	
1	BOD3-27 (mg/L)	1.1
2	COD (mg/L)	10.0
	TRACE & TOXIC	
	CHEMICAL INDICES	
1	HAR_Ca (mgCaCO3/L)	72
2	HAR_Total (mgCaCO3/L)	96
3	Na% (%)	19
4	RSC (-)	0.0
5	SAR (-)	0.5
	PESTICIDES	Anlaysis not done due to mal function of instrument.

Samples not collected during June, July September, October and November months.

Water Quality Summary for the period : 2015-2016

Station Name : Phulgaon (Seasonal) (AKP00X5)

Division : Upper Krishna Divn, Pune

Local River : Bhima

Sub-Division : Bhima SD, Sholapur

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	183	310.8	0.000	16.11
2	EC_GEN (µmho/cm)	1	269	269	269
3	pH_GEN (pH units)	1	8.0	8.0	8
4	Temp (deg C)	1	23.0	23.0	23
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	1	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	1	96	96	96
3	B (mg/L)	1	0.11	0.11	0.11
4	Ca (mg/L)	1	29	29	29
5	Cl (mg/L)	1	19.2	19.2	19.2
6	CO3 (mg/L)	1	0.0	0.0	0
7	F (mg/L)	1	0.71	0.71	0.71
8	Fe (mg/L)	1	2.8	2.8	2.8
9	HCO3 (mg/L)	1	117	117	117
10	K (mg/L)	1	1.0	1.0	1
11	Mg (mg/L)	1	5.8	5.8	5.8
12	Na (mg/L)	1	10.2	10.2	10.2
13	NO2+NO3 (mg N/L)	1	1.84	1.84	1.84
14	NO2-N (mgN/L)	1	0.01	0.01	0.01
15	NO3-N (mgN/L)	1	1.84	1.84	1.84
16	P-Tot (mgP/L)	1	0.054	0.054	0.054
17	SiO2 (mg/L)	1	12.2	12.2	12.2
18	SO4 (mg/L)	1	14.6	14.6	14.6
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	1	1.1	1.1	1.1
2	COD (mg/L)	1	10.0	10.0	10
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	1	72	72	72
2	HAR_Total (mgCaCO3/L)	1	96	96	96
3	Na% (%)	1	19	19	19
4	RSC (-)	1	0.0	0.0	0
5	SAR (-)	1	0.5	0.5	0.5
	PESTICIDES				

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Phulgaon (Seasonal) (AKP00X5)

Division : Upper Krishna Divn, Pune

Local River : Bhima

River Water

Sub-Division : Bhima SD, Sholapur

S.No	Parameters	Flood Jun - Oct				
		2001	2002	2003	2004	2005
	PHYSICAL					
1	Q (cumec)	30.89	79.08	79.29	117.2	506.4
2	EC_FLD (µmho/cm)	207	200			
3	EC_GEN (µmho/cm)	207	200	200	284	230
4	pH_FLD (pH units)	7.9	8.0			
5	pH_GEN (pH units)	7.8	8.0	8.1	7.9	8.0
6	TDS (mg/L)	159	157			
7	Temp (deg C)	23.0	23.5	23.5	23.7	23.0
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	1.1	1.0		0.0	0.0
2	ALK-TOT (mgCaCO3/L)	145	103		71	62
3	B (mg/L)	0.59	1.20			0.11
4	Ca (mg/L)	23	26			16
5	Cl (mg/L)	12.6	21.2			14.7
6	CO3 (mg/L)	1.3	1.2		0.0	0.0
7	F (mg/L)	0.32	0.36			0.14
8	Fe (mg/L)	0.0				0.6
9	HCO3 (mg/L)	175	123		87	75
10	K (mg/L)	0.7	0.7			11.3
11	Mg (mg/L)	9.9	10.1			8.8
12	Na (mg/L)	7.3	8.1			8.0
13	NH3-N (mg N/L)	0.03	0.03			
14	NO2+NO3 (mg N/L)					2.00
15	NO2-N (mgN/L)					0.04
16	NO3-N (mgN/L)	0.01				1.96
17	P-Tot (mgP/L)	0.045	0.202			0.094
18	SiO2 (mg/L)	43.4	19.4			5.4
19	SO4 (mg/L)	5.5	17.5	7.5		14.0
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.2	1.5	0.4	2.1	0.3
2	COD (mg/L)			2.7	5.4	17.3
3	DO (mg/L)		6.7		6.2	
4	DO_SAT% (%)		84		73	
5	Fcol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
	TRACE & TOXIC					
1	Al (mg/L)	0.01				
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Hg (µg/L)					
6	Ni (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	58	64			40
2	HAR_Total (mgCaCO3/L)	99	106			77
3	Na% (%)	14	14			13
4	RSC (-)	0.9	0.1			0.0
5	SAR (-)	0.3	0.3			0.4
	PESTICIDES					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Phulgaon (Seasonal) (AKP00X5)

Division : Upper Krishna Divn, Pune

Local River : Bhima

River Water

Sub-Division : Bhima SD, Sholapur

S.No	Parameters	Flood Jun - Oct				
		2006	2007	2008	2009	2010
	PHYSICAL					
1	Q (cumec)	279.4	212.4	126.8	133.2	150.9
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	200	194	197	708	268
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	7.5	7.8	7.7	7.7	7.8
6	TDS (mg/L)					
7	Temp (deg C)	24.4	23.5	23.2	22.8	23.7
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	122	49	68	63	66
3	B (mg/L)	0.10	0.06	0.07	0.07	0.30
4	Ca (mg/L)	20	16	20	24	24
5	Cl (mg/L)	17.1	15.6	11.5	13.0	14.1
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.12	0.16	0.07	0.33	0.24
8	Fe (mg/L)	0.3	0.1	0.2	0.4	0.2
9	HCO3 (mg/L)	83	60	83	77	80
10	K (mg/L)	12.8	2.8	1.2	0.1	1.2
11	Mg (mg/L)	4.4	5.1	7.6	6.5	6.2
12	Na (mg/L)	12.5	8.9	7.9	8.1	8.4
13	NH3-N (mg N/L)					
14	NO2+NO3 (mg N/L)	0.65	1.05	1.16	0.63	0.19
15	NO2-N (mgN/L)	0.00	0.01	0.01	0.01	0.01
16	NO3-N (mgN/L)	0.65	1.04	1.16	0.62	0.18
17	P-Tot (mgP/L)	0.258	0.171	0.014	0.005	0.007
18	SiO2 (mg/L)	4.3	11.4	4.8	9.7	8.0
19	SO4 (mg/L)	21.2	15.8	10.2	24.9	18.8
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.5	1.0	1.2	1.0	1.0
2	COD (mg/L)	3.4	6.5	6.3	6.4	7.3
3	DO (mg/L)					
4	DO_SAT% (%)					
5	Fcol-MPN (MPN/100mL)				8550	3900
6	Tcol-MPN (MPN/100mL)				8700	6350
	TRACE & TOXIC					
1	Al (mg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Hg (µg/L)					
6	Ni (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	50	40	49	60	60
2	HAR_Total (mgCaCO3/L)	68	61	80	87	86
3	Na% (%)	24	23	17	17	18
4	RSC (-)	0.3	0.0	0.0	0.0	0.0
5	SAR (-)	0.7	0.5	0.4	0.4	0.4
	PESTICIDES					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Phulgaon (Seasonal) (AKP00X5)

Division : Upper Krishna Divn, Pune

Local River : Bhima

River Water

Sub-Division : Bhima SD, Sholapur

S.No	Parameters	Flood June-Oct				
		2011	2012	2013	2014	2015
	PHYSICAL					
1	Q (cumec)	126.0		899.6	323.1	42.49
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	243		81	232	269
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	7.9		7.3	7.8	8.0
6	TDS (mg/L)					
7	Temp (deg C)	22.0		26.5	22.8	23.0
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0		0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	71		64	115	96
3	B (mg/L)	0.06		0.11	0.05	0.11
4	Ca (mg/L)	28		26	42	29
5	Cl (mg/L)	15.5		8.5	31.5	19.2
6	CO3 (mg/L)	0.0		0.0	0.0	0.0
7	F (mg/L)	0.26		0.33	0.25	0.71
8	Fe (mg/L)	1.0		0.1	1.5	2.8
9	HCO3 (mg/L)	87		78	140	117
10	K (mg/L)	0.6		0.6	0.8	1.0
11	Mg (mg/L)	5.8		3.9	5.3	5.8
12	Na (mg/L)	10.5		5.0	23.8	10.2
13	NH3-N (mg N/L)					
14	NO2+NO3 (mg N/L)	1.23		0.32	0.99	1.84
15	NO2-N (mgN/L)	0.01		0.00	0.02	0.01
16	NO3-N (mgN/L)	1.22		0.31	0.97	1.84
17	P-Tot (mgP/L)	0.080		0.038	0.015	0.054
18	SiO2 (mg/L)	10.9		13.5	20.5	12.2
19	SO4 (mg/L)	18.4		14.2	12.6	14.6
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.8		1.9	2.6	1.1
2	COD (mg/L)	5.0		13.0	16.5	10.0
3	DO (mg/L)					
4	DO_SAT% (%)					
5	FCol-MPN (MPN/100mL)	4900		24000	46000	
6	Tcol-MPN (MPN/100mL)	7000		54000	82500	
	TRACE & TOXIC					
1	Al (mg/L)					
2	Cd (µg/L)			0.31		
3	Cr (µg/L)			2.67		
4	Cu (µg/L)			2.98		
5	Hg (µg/L)			0.56		
6	Ni (µg/L)			8.05		
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	70		64	106	72
2	HAR_Total (mgCaCO3/L)	94		80	128	96
3	Na% (%)	19		12	32	19
4	RSC (-)	0.0		0.0	0.0	0.0
5	SAR (-)	0.5		0.2	1.0	0.5
	PESTICIDES	Seasonal site from 2006-07 onwards.				

Samples not collected during Winter and Summer seasons.

HISTORY SHEET

		Water Year	: 2015-2016
Site	: Huvinhedigi	Code	: AK000N2
State	: Karnataka	District	Raichur
Basin	: Krishna	Independent River	: Krishna
Tributary	: -	Sub Tributary	: -
Sub-Sub Tributary	: -	Local River	: Krishna
Division	: Lower Krishna Divn., Hyderabad	Sub-Division	: Middle Krishna SD 2 , Kurnool
Drainage Area	: 55150 Sq. Km.	Bank	: Right
Latitude	: 16°29'25"	Longitude	: 76°55'23"
	Opening Date	Closing Date	
Gauge	: 01/02/1976		
Discharge	: 01/02/1976		
Sediment	: 01/06/1976		
Water Quality	: 01/02/1976		

Sediment WQ observations suspended on 31-05-2006
and site has been upgraded from GD TO GDSQ from 12-06-2013.

Water Quality Datasheet for the period : 2015-2016

Station Name : Huvinhedigi (AK000N2)

Division : Lower Krishna Divn., Hyderabad

Local River : Krishna

River Water Analysis

Sub-Division : Middle Krishna SD 2 , Kurnool

S.No	Parameters	01/06/2015	01/07/2015	01/08/2015	01/09/2015
		A	A	A	A
	PHYSICAL				
1	Q (cumec)	5.189	0.895	9.917	38.20
2	Colour_Cod (-)	Clear	Clear	Clear	Clear
3	EC_GEN (µmho/cm)	1333	1599	783	831
4	Odour_Code (-)	odour free	odour free	odour free	odour free
5	pH_GEN (pH units)	8.4	8.2	8.0	8.0
6	TDS (mg/L)	866	954	766	704
7	Temp (deg C)	27.0	26.5	25.0	27.0
8	Turb (NTU)	2.00	65.00	30.00	21.00
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	3.5	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	205	198	139	189
3	B (mg/L)			0.17	0.23
4	Ca (mg/L)	50	60	45	46
5	Cl (mg/L)	160.2	208.7	125.7	105.1
6	CO3 (mg/L)	4.2	0.0	0.0	0.0
7	F (mg/L)	0.78	1.30	0.66	0.90
8	Fe (mg/L)	0.2	0.0	0.0	0.0
9	HCO3 (mg/L)	242	241	170	231
10	K (mg/L)	4.8	4.0	2.8	3.8
11	Mg (mg/L)	28.7	35.5	25.2	25.2
12	Na (mg/L)	187.8	219.0	111.4	109.9
13	NH3-N (mg N/L)	0.04	0.07	0.05	0.00
14	NO2+NO3 (mg N/L)	1.13	0.65	0.68	1.49
15	NO2-N (mgN/L)	0.00	0.10	0.03	0.11
16	NO3-N (mgN/L)	1.13	0.55	0.65	1.39
17	o-PO4-P (mg P/L)	0.100	0.330	0.210	0.137
18	SiO2 (mg/L)	31.6	33.1	4.0	18.7
19	SO4 (mg/L)	255.0	336.0	203.0	77.0
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	0.8	1.4	0.7	1.5
2	COD (mg/L)	8.6	5.7	10.0	9.8
3	DO (mg/L)	4.7	4.8	6.0	5.8
4	DO_SAT% (%)	59	59	73	73
5	FCol-MPN (MPN/100mL)	2	1400	700	260
6	Tcol-MPN (MPN/100mL)	270	16000	16000	16000
7	TOC (mg/L)	17.6	21.4	8.5	20.6
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	124	150	112	116
2	HAR_Total (mgCaCO3/L)	244	298	217	221
3	Na% (%)	62	61	53	52
4	RSC (-)	0.0	0.0	0.0	0.0
5	SAR (-)	5.3	5.5	3.3	3.2
	PESTICIDES	Anlysis not done due to mal function of instrument.			

Water Quality Datasheet for the period : 2015-2016

Station Name : Huvinhedigi (AK000N2)

Division : Lower Krishna Divn., Hyderabad

Local River : Krishna

River Water Analysis

Sub-Division : Middle Krishna SD 2 , Kurnool

S.No	Parameters	01/10/2015	02/11/2015	01/12/2015	01/01/2016
		A	A	A	A
	PHYSICAL				
1	Q (cumec)	80.98	63.39	52.06	2.545
2	Colour_Cod (-)	Clear	Clear	Clear	Clear
3	EC_GEN (µmho/cm)	833	824	1672	1144
4	Odour_Code (-)	odour free	odour free	odour free	odour free
5	pH_GEN (pH units)	8.0	8.0	8.2	8.6
6	TDS (mg/L)	544	400	633	694
7	Temp (deg C)	28.0	27.0	26.0	24.0
8	Turb (NTU)	24.00	28.00	27.00	66.00
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	3.5
2	ALK-TOT (mgCaCO3/L)	183	219	237	238
3	B (mg/L)		0.16	0.00	
4	Ca (mg/L)	44	46	52	51
5	Cl (mg/L)	80.0	86.2	98.7	127.9
6	CO3 (mg/L)	0.0	0.0	0.0	4.2
7	F (mg/L)	0.98	0.90	0.78	0.38
8	Fe (mg/L)	0.0	0.0	0.1	0.4
9	HCO3 (mg/L)	223	268	289	282
10	K (mg/L)	3.2	2.3	2.7	3.3
11	Mg (mg/L)	24.8	26.4	30.4	29.1
12	Na (mg/L)	102.3	104.3	89.0	148.3
13	NH3-N (mg N/L)	0.14	0.00	0.00	0.00
14	NO2+NO3 (mg N/L)	1.35	1.46	0.48	1.01
15	NO2-N (mgN/L)	0.01	0.00	0.00	0.05
16	NO3-N (mgN/L)	1.33	1.46	0.48	0.96
17	o-PO4-P (mg P/L)	0.277	0.228	0.082	0.059
18	SiO2 (mg/L)	28.7	9.9	11.6	15.9
19	SO4 (mg/L)	99.0	88.0	73.0	262.0
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	0.9	0.4	0.3	1.2
2	COD (mg/L)	17.9	8.1	4.4	9.3
3	DO (mg/L)	5.5	5.9	6.3	7.3
4	DO_SAT% (%)	70	74	78	87
5	FCol-MPN (MPN/100mL)	170	170	700	5000
6	Tcol-MPN (MPN/100mL)	16000	16000	16000	16000
7	TOC (mg/L)	21.7	19.9	17.9	3.1
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	110	114	130	128
2	HAR_Total (mgCaCO3/L)	213	224	257	249
3	Na% (%)	51	50	43	56
4	RSC (-)	0.0	0.0	0.0	0.0
5	SAR (-)	3.1	3.0	2.4	4.1
	PESTICIDES				

Water Quality Datasheet for the period : 2015-2016

Station Name : Huvinhedigi (AK000N2)

Division : Lower Krishna Divn., Hyderabad

Local River : Krishna

River Water Analysis

Sub-Division : Middle Krishna SD 2 , Kurnool

S.No	Parameters	15/02/2016	16/03/2016	02/05/2016
		A	A	A
	PHYSICAL			
1	Q (cumec)	40.38	91.95	34.19
2	Colour_Cod (-)	Clear	Clear	Clear
3	EC_GEN (µmho/cm)	1002	813	496
4	Odour_Code (-)	odour free	odour free	odour free
5	pH_GEN (pH units)	8.3	7.2	8.3
6	TDS (mg/L)	495	460	508
7	Temp (deg C)	25.0	27.5	31.0
8	Turb (NTU)	48.00	51.00	230.00
	CHEMICAL			
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	4.5
2	ALK-TOT (mgCaCO3/L)	158	130	106
3	B (mg/L)			
4	Ca (mg/L)	45	41	38
5	Cl (mg/L)	99.5	19.0	107.4
6	CO3 (mg/L)	0.0	0.0	5.4
7	F (mg/L)	0.14	0.10	0.12
8	Fe (mg/L)	0.0	0.0	0.0
9	HCO3 (mg/L)	193	159	118
10	K (mg/L)	1.7	1.2	1.4
11	Mg (mg/L)	25.3	37.8	21.1
12	Na (mg/L)	93.9	65.0	85.9
13	NH3-N (mg N/L)	0.06	0.00	0.00
14	NO2+NO3 (mg N/L)	1.62	0.52	0.64
15	NO2-N (mgN/L)	0.04	0.02	0.10
16	NO3-N (mgN/L)	1.58	0.50	0.54
17	o-PO4-P (mg P/L)	0.216	0.145	0.100
18	SiO2 (mg/L)	9.6	11.6	9.6
19	SO4 (mg/L)	145.0	166.0	102.0
	BIOLOGICAL/BACTERIOLOGICAL			
1	BOD3-27 (mg/L)	3.4	3.3	1.1
2	COD (mg/L)	5.6	16.1	16.1
3	DO (mg/L)	6.3	5.5	5.1
4	DO_SAT% (%)	77	69	69
5	FCol-MPN (MPN/100mL)	60	20	16000
6	Tcol-MPN (MPN/100mL)	220	170	16000
7	TOC (mg/L)			
	TRACE & TOXIC			
	CHEMICAL INDICES			
1	HAR_Ca (mgCaCO3/L)	112	102	94
2	HAR_Total (mgCaCO3/L)	217	260	182
3	Na% (%)	48	35	51
4	RSC (-)	0.0	0.0	0.0
5	SAR (-)	2.8	1.8	2.8
	PESTICIDES			

Samples not collected during April month due to No flow condition.

Water Quality Summary for the period : 2015-2016

Station Name : Huvinhedigi (AK000N2)

Division : Lower Krishna Divn., Hyderabad

Local River : Krishna

Sub-Division : Middle Krishna SD 2 , Kurnool

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	372	714.8	0.000	36.94
2	EC_GEN (μmho/cm)	11	1672	496	1030
3	pH_GEN (pH units)	11	8.6	7.2	8.1
4	TDS (mg/L)	11	954	400	639
5	Temp (deg C)	11	31.0	24.0	26.7
6	Turb (NTU)	11	230.00	2.00	53.82
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	11	4.5	0.0	1
2	ALK-TOT (mgCaCO3/L)	11	238	106	182
3	B (mg/L)	4	0.23	0.00	0.14
4	Ca (mg/L)	11	60	38	47
5	Cl (mg/L)	11	208.7	19.0	110.8
6	CO3 (mg/L)	11	5.4	0.0	1.3
7	F (mg/L)	11	1.30	0.10	0.64
8	Fe (mg/L)	11	0.4	0.0	0.1
9	HCO3 (mg/L)	11	289	118	220
10	K (mg/L)	11	4.8	1.2	2.8
11	Mg (mg/L)	11	37.8	21.1	28.1
12	Na (mg/L)	11	219.0	65.0	119.7
13	NH3-N (mg N/L)	11	0.14	0.00	0.03
14	NO2+NO3 (mg N/L)	11	1.62	0.48	1
15	NO2-N (mgN/L)	11	0.11	0.00	0.04
16	NO3-N (mgN/L)	11	1.58	0.48	0.96
17	o-PO4-P (mg P/L)	11	0.330	0.059	0.171
18	SiO2 (mg/L)	11	33.1	4.0	16.7
19	SO4 (mg/L)	11	336.0	73.0	164.2
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	11	3.4	0.3	1.4
2	COD (mg/L)	11	17.9	4.4	10.1
3	DO (mg/L)	11	7.3	4.7	5.8
4	DO_SAT% (%)	11	87	59	72
5	FCol-MPN (MPN/100mL)	11	16000	2	2226
6	Tcol-MPN (MPN/100mL)	11	16000	170	11696
7	TOC (mg/L)	8	21.7	3.1	16.3
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	11	150	94	118
2	HAR_Total (mgCaCO3/L)	11	298	182	235
3	Na% (%)	11	62	35	51
4	RSC (-)	11	0.0	0.0	0
5	SAR (-)	11	5.5	1.8	3.4
	PESTICIDES				

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Huvinhedigi (AK000N2)

Division : Lower Krishna Divn., Hyderabad

Local River : Krishna

River Water

Sub-Division : Middle Krishna SD 2 , Kurnool

S.No	Parameters	Flood			
		Jun - Oct			
		2001	2002	2003	2004
	PHYSICAL				
1	Q (cumec)	349.3	28.38	59.19	241.9
2	EC_GEN (µmho/cm)	518	889	835	624
3	pH_GEN (pH units)	8.2	8.2	8.2	8.2
4	TDS (mg/L)				
5	Temp (deg C)	28.7	31.0	31.3	29.3
6	Turb (NTU)				
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	8.0	18.5	4.6	3.9
2	ALK-TOT (mgCaCO3/L)	79	132	181	187
3	B (mg/L)	0.02	0.01	0.08	0.00
4	Ca (mg/L)	29	21	38	30
5	Cl (mg/L)	47.5	90.8	62.1	54.4
6	CO3 (mg/L)	9.7	22.3	5.6	4.7
7	F (mg/L)	0.27	0.67	0.75	1.10
8	Fe (mg/L)	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	76	116	209	219
10	K (mg/L)	2.1	3.1	3.5	2.2
11	Mg (mg/L)	15.5	33.1	19.9	14.3
12	Na (mg/L)	25.6	50.3	57.7	72.7
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.00
14	NO2+NO3 (mg N/L)	0.18	0.10	0.01	0.01
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.18	0.10	0.01	0.01
17	o-PO4-P (mg P/L)				
18	P-Tot (mgP/L)	0.037	0.040	0.031	0.001
19	SiO2 (mg/L)	3.1	6.4	16.6	16.3
20	SO4 (mg/L)	32.5	94.7	141.7	67.3
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	0.8	1.3	1.3	2.0
2	COD (mg/L)				
3	DO (mg/L)	6.7	5.0	6.5	6.5
4	DO_SAT% (%)	87	68	88	85
5	FCol-MPN (MPN/100mL)				
6	Tcol-MPN (MPN/100mL)				
7	TOC (mg/L)				
	TRACE & TOXIC				
1	As (µg/L)				
2	Cd (µg/L)				
3	Cr (µg/L)				
4	Cu (µg/L)				
5	Hg (µg/L)				
6	Ni (µg/L)				
7	Pb (µg/L)				
8	Zn (µg/L)				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	73	52	94	76
2	HAR_Total (mgCaCO3/L)	138	190	177	136
3	Na% (%)	28	34	30	53
4	RSC (-)	0.0	0.0	0.6	1.1
5	SAR (-)	0.9	1.5	1.7	2.7
	PESTICIDES				

Sediment WQ observations suspended on 31-05-2006
and site has been upgraded from GD TO GDSQ from 12-06-2013.

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Huvinhedigi (AK000N2)

Division : Lower Krishna Divn., Hyderabad

Local River : Krishna

River Water

Sub-Division : Middle Krishna SD 2 , Kurnool

S.No	Parameters	Flood			
		Jun - Oct			
		2005	2013	2014	2015
	PHYSICAL				
1	Q (cumec)	612.4	900.0	1413	27.03
2	EC_GEN (µmho/cm)	498	545	774	1076
3	pH_GEN (pH units)	7.8	8.3	8.2	8.1
4	TDS (mg/L)		317	477	767
5	Temp (deg C)	32.9	26.3	25.2	26.7
6	Turb (NTU)		2.82	38.00	28.40
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0	2.2	1.7	0.7
2	ALK-TOT (mgCaCO3/L)	125	183	145	183
3	B (mg/L)	0.01	0.28	0.24	0.20
4	Ca (mg/L)	35	52	31	49
5	Cl (mg/L)	40.6	39.2	82.8	135.9
6	CO3 (mg/L)	0.0	2.6	2.0	0.8
7	F (mg/L)	0.70	0.65	0.70	0.92
8	Fe (mg/L)	0.0	0.1	0.1	0.0
9	HCO3 (mg/L)	152	218	173	221
10	K (mg/L)	1.9	1.8	3.0	3.7
11	Mg (mg/L)	14.0	20.2	17.7	27.9
12	Na (mg/L)	38.0	53.0	94.4	146.1
13	NH3-N (mg N/L)	0.00	0.11	0.00	0.06
14	NO2+NO3 (mg N/L)	0.01	0.67	1.11	1.06
15	NO2-N (mgN/L)	0.00	0.00	0.01	0.05
16	NO3-N (mgN/L)	0.01	0.67	1.10	1.01
17	o-PO4-P (mg P/L)		0.284	0.115	0.211
18	P-Tot (mgP/L)	0.001		0.095	
19	SiO2 (mg/L)	27.4	15.6	18.4	23.2
20	SO4 (mg/L)	31.5	71.0	98.3	194.0
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	0.7	1.1	1.1	1.1
2	COD (mg/L)		7.0	7.0	10.4
3	DO (mg/L)	6.6	6.3	6.2	5.4
4	DO_SAT% (%)	91	79	75	67
5	FCol-MPN (MPN/100mL)		590	9692	506
6	Tcol-MPN (MPN/100mL)		4575	10240	12854
7	TOC (mg/L)		0.2		17.9
	TRACE & TOXIC				
1	As (µg/L)		2.99		
2	Cd (µg/L)		0.34		
3	Cr (µg/L)		0.46		
4	Cu (µg/L)				
5	Hg (µg/L)		0.70		
6	Ni (µg/L)		33.09		
7	Pb (µg/L)		1.18		
8	Zn (µg/L)		0.01		
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	88	130	79	122
2	HAR_Total (mgCaCO3/L)	146	214	152	239
3	Na% (%)	35	37	51	56
4	RSC (-)	0.0	0.0	0.4	0.0
5	SAR (-)	1.3	1.8	3.3	4.1
	PESTICIDES				

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Huvinhedigi (AK000N2)

Division : Lower Krishna Divn., Hyderabad

Local River : Krishna

River Water

Sub-Division : Middle Krishna SD 2 , Kurnool

S.No	Parameters	Winter			
		Nov - Feb			
		2001-2002	2002-2003	2003-2004	2004-2005
	PHYSICAL				
1	Q (cumec)	61.37	61.85	92.30	98.14
2	EC_GEN (µmho/cm)	882	666	568	595
3	pH_GEN (pH units)	8.4	8.1	8.2	8.2
4	TDS (mg/L)				
5	Temp (deg C)	25.5	26.5	26.0	23.5
6	Turb (NTU)				
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	17.4	0.0	11.5	4.6
2	ALK-TOT (mgCaCO3/L)	141	104	231	229
3	B (mg/L)	0.01	0.01	0.00	0.00
4	Ca (mg/L)	26	43	32	27
5	Cl (mg/L)	102.7	60.4	40.3	49.0
6	CO3 (mg/L)	21.0	0.0	13.8	5.5
7	F (mg/L)	0.75	0.66	0.89	0.83
8	Fe (mg/L)	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	130	127	253	268
10	K (mg/L)	2.6	1.7	1.9	1.8
11	Mg (mg/L)	37.2	16.1	15.8	15.0
12	Na (mg/L)	80.0	33.5	26.5	73.5
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.00
14	NO2+NO3 (mg N/L)	0.16	0.11	0.01	0.01
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.16	0.11	0.01	0.01
17	o-PO4-P (mg P/L)				
18	P-Tot (mgP/L)	0.017	0.045	0.001	0.001
19	SiO2 (mg/L)	8.1	5.8	23.3	22.8
20	SO4 (mg/L)	116.5	84.0	86.5	58.0
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	1.1	0.3	2.1	0.5
2	COD (mg/L)				
3	DO (mg/L)	7.3	6.2	6.3	6.3
4	DO_SAT% (%)	89	77	77	74
5	FCol-MPN (MPN/100mL)				
6	Tcol-MPN (MPN/100mL)				
7	TOC (mg/L)				
	TRACE & TOXIC				
1	As (µg/L)				
2	Cd (µg/L)				
3	Cr (µg/L)				
4	Cu (µg/L)				
5	Hg (µg/L)				
6	Ni (µg/L)				
7	Pb (µg/L)				
8	Zn (µg/L)				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	65	107	79	68
2	HAR_Total (mgCaCO3/L)	220	174	145	130
3	Na% (%)	44	28	27	55
4	RSC (-)	0.0	0.0	1.7	2.0
5	SAR (-)	2.4	1.1	1.0	3.0
	PESTICIDES				

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Huvinhedigi (AK000N2)

Division : Lower Krishna Divn., Hyderabad

Local River : Krishna

River Water

Sub-Division : Middle Krishna SD 2 , Kurnool

S.No	Parameters	Winter			
		Nov - Feb			
		2005-2006	2013-2014	2014-2015	2015-2016
	PHYSICAL				
1	Q (cumec)	70.86	58.35	53.24	39.59
2	EC_GEN (µmho/cm)	658	813	775	1160
3	pH_GEN (pH units)	8.1	8.2	8.2	8.3
4	TDS (mg/L)		516	594	556
5	Temp (deg C)	27.0	26.0	24.6	25.5
6	Turb (NTU)		9.50	2.05	42.25
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0	1.1	1.0	0.9
2	ALK-TOT (mgCaCO3/L)	204	207	220	213
3	B (mg/L)	0.01	0.62	0.20	0.08
4	Ca (mg/L)	39	45	50	48
5	Cl (mg/L)	50.5	71.7	88.6	103.1
6	CO3 (mg/L)	0.0	1.3	1.3	1.0
7	F (mg/L)	1.09	0.84	0.89	0.55
8	Fe (mg/L)	0.0	0.0	0.1	0.1
9	HCO3 (mg/L)	249	250	266	258
10	K (mg/L)		2.4	2.7	2.5
11	Mg (mg/L)	15.5	26.0	27.6	27.8
12	Na (mg/L)		79.1	104.7	108.9
13	NH3-N (mg N/L)	0.00	0.00	0.03	0.01
14	NO2+NO3 (mg N/L)	0.01	0.90	0.92	1.14
15	NO2-N (mgN/L)	0.00	0.00	0.03	0.02
16	NO3-N (mgN/L)	0.01	0.90	0.89	1.12
17	o-PO4-P (mg P/L)		0.140	0.135	0.146
18	P-Tot (mgP/L)	0.001			
19	SiO2 (mg/L)	18.6	22.7	27.8	11.7
20	SO4 (mg/L)	59.0	83.5	70.0	142.0
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	0.9	0.9	0.8	1.3
2	COD (mg/L)		6.3	11.1	6.8
3	DO (mg/L)	6.2	6.9	7.1	6.5
4	DO_SAT% (%)	78	86	85	79
5	FCol-MPN (MPN/100mL)		4165	878	1483
6	Tcol-MPN (MPN/100mL)		4383	3008	12055
7	TOC (mg/L)			32.1	13.6
	TRACE & TOXIC				
1	As (µg/L)				
2	Cd (µg/L)			1.99	
3	Cr (µg/L)			1.36	
4	Cu (µg/L)			1.53	
5	Hg (µg/L)				
6	Ni (µg/L)			7.55	
7	Pb (µg/L)			14.51	
8	Zn (µg/L)			5.20	
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	96	113	124	121
2	HAR_Total (mgCaCO3/L)	161	221	239	237
3	Na% (%)		44	49	49
4	RSC (-)	0.9	0.0	0.1	0.0
5	SAR (-)		2.3	3.0	3.1
	PESTICIDES				

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Huvinhedigi (AK000N2)

Division : Lower Krishna Divn., Hyderabad

Local River : Krishna

River Water

Sub-Division : Middle Krishna SD 2 , Kurnool

S.No	Parameters	Summer			
		Mar - May			
		2002	2003	2004	2005
	PHYSICAL				
1	Q (cumec)	29.67	57.31	86.23	57.91
2	EC_GEN (µmho/cm)	875	770	616	649
3	pH_GEN (pH units)	8.3	8.2	8.9	8.2
4	TDS (mg/L)				
5	Temp (deg C)	31.0	32.0	30.0	27.0
6	Turb (NTU)				
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	9.0	0.0
2	ALK-TOT (mgCaCO3/L)	35	111	280	218
3	B (mg/L)	0.01	0.01	0.00	0.00
4	Ca (mg/L)	24	22	37	83
5	Cl (mg/L)	107.6	52.9	43.8	51.0
6	CO3 (mg/L)	0.0	0.0	10.8	0.0
7	F (mg/L)	0.87	0.87	0.95	0.96
8	Fe (mg/L)	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	43	135	320	266
10	K (mg/L)	2.5	1.9	1.8	1.0
11	Mg (mg/L)	44.2	26.3	17.5	7.0
12	Na (mg/L)	60.0	34.0	30.0	41.0
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.00
14	NO2+NO3 (mg N/L)	0.14	0.12	0.01	0.01
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.14	0.12	0.01	0.01
17	o-PO4-P (mg P/L)				
18	P-Tot (mgP/L)	0.001	0.075	0.001	0.001
19	SiO2 (mg/L)	3.2	7.1	22.7	22.5
20	SO4 (mg/L)	99.0	80.0	56.0	54.0
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	1.0	1.4	2.1	0.9
2	COD (mg/L)				
3	DO (mg/L)	5.0	3.1	5.2	5.9
4	DO_SAT% (%)	67	42	69	74
5	FCol-MPN (MPN/100mL)				
6	Tcol-MPN (MPN/100mL)				
7	TOC (mg/L)				
	TRACE & TOXIC				
1	As (µg/L)				
2	Cd (µg/L)				
3	Cr (µg/L)				
4	Cu (µg/L)				
5	Hg (µg/L)				
6	Ni (µg/L)				
7	Pb (µg/L)				
8	Zn (µg/L)				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	60	55	92	208
2	HAR_Total (mgCaCO3/L)	244	164	165	237
3	Na% (%)	35	31	28	27
4	RSC (-)	0.0	0.0	2.3	0.0
5	SAR (-)	1.7	1.2	1.0	1.2
	PESTICIDES				

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Huvinhedigi (AK000N2)

Division : Lower Krishna Divn., Hyderabad

Local River : Krishna

River Water

Sub-Division : Middle Krishna SD 2 , Kurnool

S.No	Parameters	Summer			
		Mar - May			
		2006	2014	2015	2016
	PHYSICAL				
1	Q (cumec)	57.93	23.55	24.31	63.07
2	EC_GEN (µmho/cm)	704	978	785	654
3	pH_GEN (pH units)	8.1	8.2	8.3	7.8
4	TDS (mg/L)		650	539	484
5	Temp (deg C)	26.0	26.0	25.7	29.3
6	Turb (NTU)		13.67	13.67	140.50
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0	0.7	2.3	2.2
2	ALK-TOT (mgCaCO3/L)	218	219	171	118
3	B (mg/L)	0.01	0.54	0.36	
4	Ca (mg/L)	50	46	50	39
5	Cl (mg/L)	57.1	97.3	145.0	63.2
6	CO3 (mg/L)	0.0	0.8	2.8	2.7
7	F (mg/L)	0.92	0.95	1.13	0.11
8	Fe (mg/L)	0.0	0.5	0.0	0.0
9	HCO3 (mg/L)	266	265	203	138
10	K (mg/L)	1.9	3.1	3.0	1.3
11	Mg (mg/L)	14.0	26.7	28.7	29.5
12	Na (mg/L)	68.0	108.4	139.1	75.5
13	NH3-N (mg N/L)	0.00	0.02	0.01	0.00
14	NO2+NO3 (mg N/L)	0.01	1.19	0.59	0.58
15	NO2-N (mgN/L)	0.00	0.00	0.05	0.06
16	NO3-N (mgN/L)	0.01	1.19	0.54	0.52
17	o-PO4-P (mg P/L)		0.137	0.217	0.122
18	P-Tot (mgP/L)	0.001			
19	SiO2 (mg/L)	17.3	26.3	30.7	10.6
20	SO4 (mg/L)	45.0	135.8	159.3	134.0
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	0.3	1.3	0.7	2.2
2	COD (mg/L)		6.6	9.2	16.1
3	DO (mg/L)		5.7	5.2	5.3
4	DO_SAT% (%)		70	64	69
5	FCol-MPN (MPN/100mL)		920	2	8010
6	Tcol-MPN (MPN/100mL)		5673	5500	8085
7	TOC (mg/L)			33.2	
	TRACE & TOXIC				
1	As (µg/L)		2.05	3.24	
2	Cd (µg/L)		0.00	3.00	
3	Cr (µg/L)		0.35	0.00	
4	Cu (µg/L)				
5	Hg (µg/L)		1.78	0.08	
6	Ni (µg/L)		5.06	14.01	
7	Pb (µg/L)		13.35	22.00	
8	Zn (µg/L)		4.00	12.00	
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	125	114	124	98
2	HAR_Total (mgCaCO3/L)	183	226	244	221
3	Na% (%)	44	50	54	43
4	RSC (-)	0.7	0.1	0.0	0.0
5	SAR (-)	2.2	3.2	3.9	2.3
	PESTICIDES				

HISTORY SHEET

Water Year : 2015-2016

Site : Cholachguda (Seasonal)

Code : AKS00H1

State : Karnataka

District : Bijapur

Basin : Krishna

Independent River : Krishna

Tributary : Malaprabha

Sub Tributary : -

Sub-Sub Tributary : -

Local River : Malaprabha

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot

Drainage Area : 9373 Sq. Km.

Bank : Left

Latitude : 15°52'43"

Longitude : 75°43'16"

Opening Date

Closing Date

Gauge : 01/06/1982

Discharge : 01/06/1982

Sediment : 01/06/1982

Water Quality : 01/06/1982

Water Quality Datasheet for the period : 2015-2016

Station Name : Chalachguda (Seasonal) (AKS00H1)

Division : Upper Krishna Divn, Pune

Local River : Malaprabha

River Water Analysis

Sub-Division : Middle Krishna SD 1, Bagalkot

S.No	Parameters	05/10/2015
		A
	PHYSICAL	
1	Q (cumec)	133.4
2	Colour_Cod (-)	Brown
3	EC_FLD (µmho/cm)	548
4	EC_GEN (µmho/cm)	314
5	Odour_Code (-)	odour free
6	pH_FLD (pH units)	7.2
7	pH_GEN (pH units)	7.9
8	Temp (deg C)	23.0
	CHEMICAL	
1	Alk-Phen (mgCaCO3/L)	0.0
2	ALK-TOT (mgCaCO3/L)	97
3	B (mg/L)	0.08
4	Ca (mg/L)	34
5	Cl (mg/L)	51.6
6	CO3 (mg/L)	0.0
7	F (mg/L)	0.56
8	Fe (mg/L)	2.0
9	HCO3 (mg/L)	118
10	K (mg/L)	1.3
11	Mg (mg/L)	3.9
12	Na (mg/L)	38.0
13	NO2+NO3 (mg N/L)	1.57
14	NO2-N (mgN/L)	0.01
15	NO3-N (mgN/L)	1.56
16	P-Tot (mgP/L)	0.008
17	SiO2 (mg/L)	2.3
18	SO4 (mg/L)	20.3
	BIOLOGICAL/BACTERIOLOGICAL	
1	BOD3-27 (mg/L)	1.6
2	COD (mg/L)	15.0
3	DO (mg/L)	7.8
4	DO_SAT% (%)	91
	TRACE & TOXIC	
	CHEMICAL INDICES	
1	HAR_Ca (mgCaCO3/L)	84
2	HAR_Total (mgCaCO3/L)	100
3	Na% (%)	45
4	RSC (-)	0.0
5	SAR (-)	1.7
	PESTICIDES	Analysis not done due to mal function of instrument.

Samples not collected during June to September and November months.

Water Quality Summary for the period : 2015-2016

Station Name : Cholachguda (Seasonal) (AKS00H1)

Division : Upper Krishna Divn, Pune

Local River : Malaprabha

Sub-Division : Middle Krishna SD 1, Bagalkot

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	183	167.5	0.000	16.80
2	EC_FLD (µmho/cm)	1	548	548	548
3	EC_GEN (µmho/cm)	1	314	314	314
4	pH_FLD (pH units)	1	7.2	7.2	7.2
5	pH_GEN (pH units)	1	7.9	7.9	7.9
6	Temp (deg C)	1	23.0	23.0	23
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	1	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	1	97	97	97
3	B (mg/L)	1	0.08	0.08	0.08
4	Ca (mg/L)	1	34	34	34
5	Cl (mg/L)	1	51.6	51.6	51.6
6	CO3 (mg/L)	1	0.0	0.0	0
7	F (mg/L)	1	0.56	0.56	0.56
8	Fe (mg/L)	1	2.0	2.0	2
9	HCO3 (mg/L)	1	118	118	118
10	K (mg/L)	1	1.3	1.3	1.3
11	Mg (mg/L)	1	3.9	3.9	3.9
12	Na (mg/L)	1	38.0	38.0	38
13	NO2+NO3 (mg N/L)	1	1.57	1.57	1.57
14	NO2-N (mgN/L)	1	0.01	0.01	0.01
15	NO3-N (mgN/L)	1	1.56	1.56	1.56
16	P-Tot (mgP/L)	1	0.008	0.008	0.008
17	SiO2 (mg/L)	1	2.3	2.3	2.3
18	SO4 (mg/L)	1	20.3	20.3	20.3
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	1	1.6	1.6	1.6
2	COD (mg/L)	1	15.0	15.0	15
3	DO (mg/L)	1	7.8	7.8	7.8
4	DO_SAT% (%)	1	91	91	91
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	1	84	84	84
2	HAR_Total (mgCaCO3/L)	1	100	100	100
3	Na% (%)	1	45	45	45
4	RSC (-)	1	0.0	0.0	0
5	SAR (-)	1	1.7	1.7	1.7
	PESTICIDES				

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Cholachguda (Seasonal) (AKS00H1)

Division : Upper Krishna Divn, Pune

Local River : Malaprabha

River Water

Sub-Division : Middle Krishna SD 1, Bagalkot

S.No	Parameters	Flood				
		Jun - Oct				
		2001	2002	2003	2004	2005
	PHYSICAL					
1	Q (cumec)	10.76	3.108	224.0	50.73	101.7
2	EC_FLD (µmho/cm)	870	97	97	651	240
3	EC_GEN (µmho/cm)	810	469	243	230	284
4	pH_FLD (pH units)	7.9	7.5	7.4	7.5	7.7
5	pH_GEN (pH units)	8.1	8.0	8.1	8.2	8.0
6	TDS (mg/L)	727	292			
7	Temp (deg C)	23.0	23.5	23.0	23.0	23.0
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	1.9	0.9		0.0	0.0
2	ALK-TOT (mgCaCO3/L)	122	103		79	84
3	B (mg/L)	0.10	0.39			0.19
4	Ca (mg/L)	26	25			16
5	Cl (mg/L)	149.8	31.1			27.9
6	CO3 (mg/L)	2.3	1.1		0.0	0.0
7	F (mg/L)	0.23	0.44			0.16
8	Fe (mg/L)	0.0				1.5
9	HCO3 (mg/L)	144	123		97	103
10	K (mg/L)	2.0	1.8			41.1
11	Mg (mg/L)	29.6	17.9			5.8
12	Na (mg/L)	81.8	57.5			22.6
13	NH3-N (mg N/L)	0.00	0.00			
14	NO2+NO3 (mg N/L)					1.13
15	NO2-N (mgN/L)					0.15
16	NO3-N (mgN/L)	0.01				0.99
17	P-Tot (mgP/L)	0.108	0.163			0.083
18	SiO2 (mg/L)	15.9	22.5			3.7
19	SO4 (mg/L)	59.0	63.0			28.3
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.3	0.4	2.1	2.9	0.9
2	COD (mg/L)		8.0	6.8	9.3	5.3
3	DO (mg/L)	6.8	6.6	7.2	5.6	6.0
4	DO_SAT% (%)	79	78	84	65	69
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
7	TOC (mg/L)					
	TRACE & TOXIC					
1	Al (mg/L)	0.01				
2	As (µg/L)					
3	Cd (µg/L)					
4	Cr (µg/L)					
5	Cu (µg/L)					
6	Hg (µg/L)					
7	Ni (µg/L)					
8	Pb (µg/L)					
9	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	66	62			41
2	HAR_Total (mgCaCO3/L)	189	137			65
3	Na% (%)	48	41			30
4	RSC (-)	0.3	0.0			0.5
5	SAR (-)	2.5	2.1			1.3
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Cholachguda (Seasonal) (AKS00H1)

Division : Upper Krishna Divn, Pune

Local River : Malaprabha

River Water

Sub-Division : Middle Krishna SD 1, Bagalkot

S.No	Parameters	Flood				
		Jun - Oct				
		2006	2007	2008	2009	2010
	PHYSICAL					
1	Q (cumec)	13.82	67.44	33.96	292.9	13.19
2	EC_FLD (µmho/cm)	246	243	259	263	266
3	EC_GEN (µmho/cm)	547	434	1022	1645	966
4	pH_FLD (pH units)	7.4	7.6	7.3	7.4	7.3
5	pH_GEN (pH units)	8.2	8.0	7.8	7.8	8.2
6	TDS (mg/L)					
7	Temp (deg C)	22.5	23.0	22.5	22.5	23.7
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.4	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	273	101	84	153	157
3	B (mg/L)	0.41	0.13	0.20	0.26	0.39
4	Ca (mg/L)	36	29	36	53	60
5	Cl (mg/L)	78.7	58.5	72.4	153.5	167.4
6	CO3 (mg/L)	0.0	0.5	0.0	0.0	0.0
7	F (mg/L)	0.19	0.46	0.73	0.69	0.54
8	Fe (mg/L)	0.1	0.4	0.2	0.6	0.3
9	HCO3 (mg/L)	173	122	103	186	192
10	K (mg/L)	41.4	8.7	3.9	0.9	4.9
11	Mg (mg/L)	18.7	6.6	10.2	17.9	20.1
12	Na (mg/L)	46.2	54.8	48.2	89.8	100.0
13	NH3-N (mg N/L)					
14	NO2+NO3 (mg N/L)	0.87	4.55	1.52	1.26	0.45
15	NO2-N (mgN/L)	0.01	0.03	0.01	0.01	0.01
16	NO3-N (mgN/L)	0.86	4.52	1.51	1.25	0.44
17	P-Tot (mgP/L)	0.248	0.154	0.041	0.016	0.013
18	SiO2 (mg/L)	8.9	9.0	9.3	6.8	5.9
19	SO4 (mg/L)	30.6	40.8	48.9	60.0	26.5
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.4	1.0	2.1	0.9	0.5
2	COD (mg/L)	2.5	8.9	3.8	5.9	4.4
3	DO (mg/L)	7.0	7.1	7.1	7.1	7.1
4	DO_SAT% (%)	80	82	81	82	83
5	FCol-MPN (MPN/100mL)				35000	9600
6	Tcol-MPN (MPN/100mL)				54000	13667
7	TOC (mg/L)					
	TRACE & TOXIC					
1	Al (mg/L)					
2	As (µg/L)					
3	Cd (µg/L)					
4	Cr (µg/L)					
5	Cu (µg/L)					
6	Hg (µg/L)					
7	Ni (µg/L)					
8	Pb (µg/L)					
9	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	91	73	89	132	150
2	HAR_Total (mgCaCO3/L)	169	100	131	207	233
3	Na% (%)	32	46	37	49	48
4	RSC (-)	0.1	0.5	0.0	0.0	0.0
5	SAR (-)	1.6	2.5	1.7	2.8	2.9
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Cholachguda (Seasonal) (AKS00H1)

Division : Upper Krishna Divn, Pune

Local River : Malaprabha

River Water

Sub-Division : Middle Krishna SD 1, Bagalkot

S.No	Parameters	Flood				
		Jun - Oct				
		2011	2012	2013	2014	2015
	PHYSICAL					
1	Q (cumec)	22.72	2.660	36.55	13.14	133.4
2	EC_FLD (µmho/cm)	270	270	275	584	548
3	EC_GEN (µmho/cm)	798	541	440	589	314
4	pH_FLD (pH units)	7.3	7.1	7.2	7.1	7.2
5	pH_GEN (pH units)	7.9	7.3	7.6	7.8	7.9
6	TDS (mg/L)					
7	Temp (deg C)	22.5	21.0	25.8	25.5	23.0
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	139	97	95	117	97
3	B (mg/L)	0.11	0.15	0.13	0.05	0.08
4	Ca (mg/L)	54	37	29	38	34
5	Cl (mg/L)	60.4	77.1	63.1	73.3	51.6
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.38	0.40	0.58	0.48	0.56
8	Fe (mg/L)	0.1	0.0	0.9	2.1	2.0
9	HCO3 (mg/L)	169	118	115	143	118
10	K (mg/L)	2.1	2.0	2.2	2.2	1.3
11	Mg (mg/L)	7.8	11.7	9.1	12.6	3.9
12	Na (mg/L)	42.0	54.1	45.5	48.5	38.0
13	NH3-N (mg N/L)					
14	NO2+NO3 (mg N/L)	1.09	1.13	1.24	1.66	1.57
15	NO2-N (mgN/L)	0.00	0.24	0.00	0.01	0.01
16	NO3-N (mgN/L)	1.09	0.89	1.24	1.65	1.56
17	P-Tot (mgP/L)	0.016	0.049	0.014	0.012	0.008
18	SiO2 (mg/L)	8.3	0.0	0.6	11.1	2.3
19	SO4 (mg/L)	28.4	46.6	29.0	37.0	20.3
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.0	1.8	1.2	1.9	1.6
2	COD (mg/L)	4.3	10.6	10.1	16.7	15.0
3	DO (mg/L)	7.2	7.1	7.6	7.7	7.8
4	DO_SAT% (%)	82	80	93	94	91
5	FCol-MPN (MPN/100mL)	64000	33000	26933	15100	
6	Tcol-MPN (MPN/100mL)	90000	49000	65667	23267	
7	TOC (mg/L)					
	TRACE & TOXIC					
1	Al (mg/L)					
2	As (µg/L)		14.56	1.69		
3	Cd (µg/L)		0.11	1.62		
4	Cr (µg/L)		1.42	4.94		
5	Cu (µg/L)		6.54	4.23		
6	Hg (µg/L)			0.48		
7	Ni (µg/L)		13.34	18.23		
8	Pb (µg/L)		0.92	-0.50		
9	Zn (µg/L)		4.31	-0.05		
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	134	92	72	96	84
2	HAR_Total (mgCaCO3/L)	167	141	110	149	100
3	Na% (%)	36	45	45	41	45
4	RSC (-)	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	1.5	2.0	1.8	1.8	1.7
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Cholachguda (Seasonal) (AKS00H1)

Division : Upper Krishna Divn, Pune

Local River : Malaprabha

River Water

Sub-Division : Middle Krishna SD 1, Bagalkot

S.No	Parameters	Winter				
		Nov - Feb				
		2001-2002	2002-2003	2003-2004	2004-2005	2005-2006
	PHYSICAL					
1	Q (cumec)	9.762	4.474		7.368	21.96
2	EC_FLD (µmho/cm)	385	377		940	247
3	EC_GEN (µmho/cm)	1171	749		429	375
4	pH_FLD (pH units)	7.6	7.5		7.5	7.4
5	pH_GEN (pH units)	8.2	8.1		8.4	8.0
6	TDS (mg/L)	925	839			
7	Temp (deg C)	22.7	22.7		23.0	22.2
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	35.0	14.9			0.0
2	ALK-TOT (mgCaCO3/L)	191	163			84
3	B (mg/L)	0.72	0.94			0.15
4	Ca (mg/L)	27	38			15
5	Cl (mg/L)	201.4				37.4
6	CO3 (mg/L)	42.1	17.9			0.0
7	F (mg/L)	0.17	0.47			0.34
8	Fe (mg/L)	0.0				1.3
9	HCO3 (mg/L)	148	163			103
10	K (mg/L)	2.1	3.4			34.4
11	Mg (mg/L)	53.1	18.9			11.6
12	Na (mg/L)	75.6	87.1			22.5
13	NH3-N (mg N/L)	0.00	0.02			
14	NO2+NO3 (mg N/L)					1.57
15	NO2-N (mgN/L)					0.17
16	NO3-N (mgN/L)	0.01				1.40
17	P-Tot (mgP/L)	0.117				0.096
18	SiO2 (mg/L)	25.8				4.5
19	SO4 (mg/L)	66.0	44.9			24.7
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.4	1.8		1.5	1.1
2	COD (mg/L)		12.1		5.3	45.2
3	DO (mg/L)	6.9	7.3		6.5	6.4
4	DO_SAT% (%)	80	84		76	73
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
7	TOC (mg/L)					
	TRACE & TOXIC					
1	Al (mg/L)	0.01				
2	As (µg/L)					
3	Cd (µg/L)					
4	Cr (µg/L)					
5	Cu (µg/L)					
6	Hg (µg/L)					
7	Ni (µg/L)					
8	Pb (µg/L)					
9	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	67	94			39
2	HAR_Total (mgCaCO3/L)	288	173			87
3	Na% (%)	38	49			27
4	RSC (-)	0.0	0.2			0.2
5	SAR (-)	2.0	2.7			1.1
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Cholachguda (Seasonal) (AKS00H1)

Division : Upper Krishna Divn, Pune

Local River : Malaprabha

River Water

Sub-Division : Middle Krishna SD 1, Bagalkot

S.No	Parameters	Winter				
		Nov - Feb				
		2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	PHYSICAL					
1	Q (cumec)	70.53	26.76	20.56	14.51	15.59
2	EC_FLD (µmho/cm)	246	255	265	1077	270
3	EC_GEN (µmho/cm)	363	653	394	2651	999
4	pH_FLD (pH units)	7.4	7.5	7.6	7.3	7.2
5	pH_GEN (pH units)	8.0	8.1	8.1	8.0	7.9
6	TDS (mg/L)					
7	Temp (deg C)	22.5	22.4	23.3	17.7	19.0
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.5	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	168	120	96	123	154
3	B (mg/L)	0.34	0.17	0.17	0.32	0.26
4	Ca (mg/L)	25	28	29	46	63
5	Cl (mg/L)	43.3	93.4	49.1	111.5	172.6
6	CO3 (mg/L)	0.0	0.0	0.6	0.0	0.0
7	F (mg/L)	0.13	0.45	0.60	0.16	1.02
8	Fe (mg/L)	0.1	0.4	0.2	0.5	0.2
9	HCO3 (mg/L)	103	146	115	150	188
10	K (mg/L)	30.9	1.8	1.4	11.5	3.4
11	Mg (mg/L)	11.3	25.1	10.2	14.3	20.4
12	Na (mg/L)	30.6	62.6	32.6	64.3	110.0
13	NH3-N (mg N/L)					
14	NO2+NO3 (mg N/L)	0.68	0.48	1.38	2.57	0.85
15	NO2-N (mgN/L)	0.01	0.07	0.16	0.01	0.01
16	NO3-N (mgN/L)	0.67	0.41	1.23	2.56	0.84
17	P-Tot (mgP/L)	0.332	0.249	0.038	0.007	0.054
18	SiO2 (mg/L)	3.2	7.2	5.8	8.7	6.8
19	SO4 (mg/L)	40.4	54.1	23.9	42.4	44.1
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.5	0.6	0.6	0.5	1.0
2	COD (mg/L)	11.9	9.9	4.0	4.0	7.6
3	DO (mg/L)	6.9	7.0	7.3	7.3	7.1
4	DO_SAT% (%)	79	80	85	76	77
5	FCol-MPN (MPN/100mL)				50467	11000
6	Tcol-MPN (MPN/100mL)				87067	14000
7	TOC (mg/L)					
	TRACE & TOXIC					
1	Al (mg/L)					
2	As (µg/L)					
3	Cd (µg/L)					
4	Cr (µg/L)					
5	Cu (µg/L)					
6	Hg (µg/L)					
7	Ni (µg/L)					
8	Pb (µg/L)					
9	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	61	70	72	116	156
2	HAR_Total (mgCaCO3/L)	108	174	114	176	241
3	Na% (%)	31	43	39	43	49
4	RSC (-)	0.0	0.0	0.1	0.0	0.0
5	SAR (-)	1.3	2.1	1.3	2.2	3.1
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Cholachguda (Seasonal) (AKS00H1)

Division : Upper Krishna Divn, Pune

Local River : Malaprabha

River Water

Sub-Division : Middle Krishna SD 1, Bagalkot

S.No	Parameters	Winter				
		Nov - Feb				
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
	PHYSICAL					
1	Q (cumec)	31.03		6.313	10.15	
2	EC_FLD (µmho/cm)	271		240	610	
3	EC_GEN (µmho/cm)	721		1820	953	
4	pH_FLD (pH units)	7.3		7.1	7.2	
5	pH_GEN (pH units)	8.0		6.9	8.3	
6	TDS (mg/L)					
7	Temp (deg C)	21.0		20.0	23.0	
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0		0.0	0.0	
2	ALK-TOT (mgCaCO3/L)	134		140	148	
3	B (mg/L)	0.08		0.09	0.08	
4	Ca (mg/L)	50		58	66	
5	Cl (mg/L)	113.1		158.5	184.0	
6	CO3 (mg/L)	0.0		0.0	0.0	
7	F (mg/L)	0.39		0.40	0.29	
8	Fe (mg/L)	0.1		2.8	0.0	
9	HCO3 (mg/L)	163		171	181	
10	K (mg/L)	2.6		3.1	2.9	
11	Mg (mg/L)	13.6		15.6	21.4	
12	Na (mg/L)	70.6		103.5	95.5	
13	NH3-N (mg N/L)					
14	NO2+NO3 (mg N/L)	0.84		1.66	2.18	
15	NO2-N (mgN/L)	0.01		0.00	0.01	
16	NO3-N (mgN/L)	0.83		1.66	2.17	
17	P-Tot (mgP/L)	0.031		0.012	0.009	
18	SiO2 (mg/L)	11.4		2.8	89.6	
19	SO4 (mg/L)	52.7		60.0	50.7	
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.6		0.3	1.1	
2	COD (mg/L)	2.3		2.3	10.6	
3	DO (mg/L)	7.1		7.8	7.8	
4	DO_SAT% (%)	80		86	91	
5	FCol-MPN (MPN/100mL)	220000		240000	7800	
6	Tcol-MPN (MPN/100mL)	280000		920000	13000	
7	TOC (mg/L)					
	TRACE & TOXIC					
1	Al (mg/L)					
2	As (µg/L)					
3	Cd (µg/L)				0.26	
4	Cr (µg/L)				35.31	
5	Cu (µg/L)				15.98	
6	Hg (µg/L)					
7	Ni (µg/L)				-0.50	
8	Pb (µg/L)				1.59	
9	Zn (µg/L)				10.00	
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	124		144	164	
2	HAR_Total (mgCaCO3/L)	181		209	253	
3	Na% (%)	46		52	45	
4	RSC (-)	0.0		0.0	0.0	
5	SAR (-)	2.3		3.1	2.6	
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Cholachguda (Seasonal) (AKS00H1)

Division : Upper Krishna Divn, Pune

Local River : Malaprabha

River Water

Sub-Division : Middle Krishna SD 1, Bagalkot

S.No	Parameters	Summer			
		Mar-May			
		2003	2006	2007	2008
	PHYSICAL				
1	Q (cumec)	1.881	21.00		
2	EC_FLD (µmho/cm)	94	260	243	257
3	EC_GEN (µmho/cm)	596	355	571	1002
4	pH_FLD (pH units)	7.5	7.4	7.5	7.5
5	pH_GEN (pH units)	8.2	7.8	8.0	8.1
6	TDS (mg/L)				
7	Temp (deg C)	23.5	23.5	23.5	23.0
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	131	98	116	100
3	B (mg/L)	1.00	0.15	0.14	0.18
4	Ca (mg/L)	30	27	27	30
5	Cl (mg/L)		32.8	97.9	90.7
6	CO3 (mg/L)	0.0	0.0	0.0	0.0
7	F (mg/L)	0.30	0.41	0.26	0.26
8	Fe (mg/L)		0.9	0.7	0.5
9	HCO3 (mg/L)	160	120	99	122
10	K (mg/L)	4.7	38.6	30.0	1.0
11	Mg (mg/L)	17.3	5.5	23.2	13.1
12	Na (mg/L)	89.0	33.6	45.6	60.5
13	NH3-N (mg N/L)				
14	NO2+NO3 (mg N/L)		1.96	0.99	0.83
15	NO2-N (mgN/L)		0.16	0.08	0.17
16	NO3-N (mgN/L)		1.80	0.91	0.66
17	P-Tot (mgP/L)		0.112	0.155	0.289
18	SiO2 (mg/L)		4.6	4.6	0.7
19	SO4 (mg/L)		45.7	79.9	45.4
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)		0.9	1.9	0.4
2	COD (mg/L)		38.0	9.1	10.6
3	DO (mg/L)	7.0	6.8	6.9	6.9
4	DO SAT% (%)	82	79	81	81
5	FCol-MPN (MPN/100mL)				
6	Tcol-MPN (MPN/100mL)				
7	TOC (mg/L)				1.6
	TRACE & TOXIC				
1	Al (mg/L)				
2	As (µg/L)				
3	Cd (µg/L)			8.00	1.70
4	Cr (µg/L)			45.00	2.00
5	Cu (µg/L)				
6	Hg (µg/L)			0.80	0.00
7	Ni (µg/L)			7.00	17.40
8	Pb (µg/L)			74.00	33.91
9	Zn (µg/L)			26.00	4.75
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	76	68	67	74
2	HAR_Total (mgCaCO3/L)	148	91	164	129
3	Na% (%)	56	34	33	47
4	RSC (-)	0.0	0.2	0.0	0.0
5	SAR (-)	3.2	1.5	1.5	2.3
	PESTICIDES				
1	Aldrin (µg/L)			0.010	0.010
2	BHC (µg/L)			0.100	0.100
3	DDT (µg/L)			0.100	0.100
4	Dieldrin (µg/L)			0.040	0.010
5	Endos (µg/L)			0.100	0.100

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Cholachguda (Seasonal) (AKS00H1)

Division : Upper Krishna Divn, Pune

Local River : Malaprabha

River Water

Sub-Division : Middle Krishna SD 1, Bagalkot

S.No	Parameters	Summer	
		Mar-May	
		2009	2010
	PHYSICAL		
1	Q (cumec)		
2	EC_FLD (µmho/cm)	280	270
3	EC_GEN (µmho/cm)	884	547
4	pH_FLD (pH units)	7.6	7.2
5	pH_GEN (pH units)	8.0	8.1
6	TDS (mg/L)		
7	Temp (deg C)	23.0	18.5
	CHEMICAL		
1	Alk-Phen (mgCaCO3/L)	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	84	128
3	B (mg/L)	0.00	0.60
4	Ca (mg/L)	33	41
5	Cl (mg/L)	115.5	68.7
6	CO3 (mg/L)	0.0	0.0
7	F (mg/L)	1.05	0.20
8	Fe (mg/L)	0.0	0.4
9	HCO3 (mg/L)	103	156
10	K (mg/L)	1.1	15.7
11	Mg (mg/L)	33.5	24.5
12	Na (mg/L)	27.1	40.0
13	NH3-N (mg N/L)		
14	NO2+NO3 (mg N/L)	0.85	1.90
15	NO2-N (mgN/L)	0.20	0.01
16	NO3-N (mgN/L)	0.65	1.89
17	P-Tot (mgP/L)	0.010	0.015
18	SiO2 (mg/L)	6.4	4.6
19	SO4 (mg/L)	23.7	40.9
	BIOLOGICAL/BACTERIOLOGICAL		
1	BOD3-27 (mg/L)	1.1	1.1
2	COD (mg/L)	4.6	6.8
3	DO (mg/L)	7.2	7.2
4	DO_SAT% (%)	84	76
5	FCol-MPN (MPN/100mL)		35000
6	Tcol-MPN (MPN/100mL)		54000
7	TOC (mg/L)		
	TRACE & TOXIC		
1	Al (mg/L)		
2	As (µg/L)		
3	Cd (µg/L)		
4	Cr (µg/L)		
5	Cu (µg/L)		
6	Hg (µg/L)		
7	Ni (µg/L)		
8	Pb (µg/L)		
9	Zn (µg/L)		
	CHEMICAL INDICES		
1	HAR_Ca (mgCaCO3/L)	82	103
2	HAR_Total (mgCaCO3/L)	222	205
3	Na% (%)	21	28
4	RSC (-)	0.0	0.0
5	SAR (-)	0.8	1.2
	PESTICIDES		
1	Aldrin (µg/L)		
2	BHC (µg/L)		
3	DDT (µg/L)		
4	Dieldrin (µg/L)		
5	Endos (µg/L)		

Dry bed/No flow condition 2002, 2004, 2005

HISTORY SHEET

		Water Year	: 2015-2016
Site	: Gokak Falls (Seasonal)	Code	: AKT00P9
State	: Karnataka	District	Belgaum
Basin	: Krishna	Independent River	: Krishna
Tributary	: Ghataprabha	Sub Tributary	: -
Sub-Sub Tributary	: -	Local River	: Ghataprabha
Division	: Upper Krishna Divn, Pune	Sub-Division	: Middle Krishna SD 1, Bagalkot
Drainage Area	: 2770 Sq. Km.	Bank	: Right
Latitude	: 16°11'24"	Longitude	: 74°47'29"
	Opening Date	Closing Date	
Gauge	: 21/03/1971		
Discharge	: 14/07/1971		
Sediment	: 27/12/2014		
Water Quality	: 01/09/2014		

Water Quality Datasheet for the period : 2015-2016

Station Name : Gokak Falls (Seasonal) (AKT00P9)

Division : Upper Krishna Divn, Pune

Local River : Ghataprabha

River Water Analysis

Sub-Division : Middle Krishna SD 1, Bagalkot

S.No	Parameters	02/07/2015	03/08/2015	01/09/2015
		A	A	A
	PHYSICAL			
1	Q (cumec)	104.8	134.1	86.88
2	Colour_Cod (-)	Clear	Clear	Clear
3	EC_FLD (µmho/cm)	235	215	594
4	EC_GEN (µmho/cm)	336	151	168
5	Odour_Code (-)	odour free	odour free	odour free
6	pH_FLD (pH units)	7.5	6.6	6.0
7	pH_GEN (pH units)	7.7	7.6	7.7
8	Temp (deg C)	22.0	21.0	21.0
	CHEMICAL			
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	42	48	59
3	B (mg/L)	0.05	0.11	0.06
4	Ca (mg/L)	24	16	24
5	Cl (mg/L)	24.0	18.1	17.4
6	CO3 (mg/L)	0.0	0.0	0.0
7	F (mg/L)	0.36	0.74	0.34
8	Fe (mg/L)	2.1	2.9	1.0
9	HCO3 (mg/L)	51	59	72
10	K (mg/L)	1.1	0.8	0.5
11	Mg (mg/L)	8.8	4.9	3.9
12	Na (mg/L)	13.9	11.4	9.8
13	NO2+NO3 (mg N/L)	1.28	2.10	0.89
14	NO2-N (mgN/L)	0.00	0.00	0.01
15	NO3-N (mgN/L)	1.28	2.10	0.89
16	P-Tot (mgP/L)	0.011	0.024	0.013
17	SiO2 (mg/L)	0.5	16.2	17.0
18	SO4 (mg/L)	26.2	15.2	9.7
	BIOLOGICAL/BACTERIOLOGICAL			
1	BOD3-27 (mg/L)	0.7	0.6	2.3
2	COD (mg/L)	5.0	5.0	19.0
3	DO (mg/L)		6.8	
4	DO_SAT% (%)		76	
5	FCol-MPN (MPN/100mL)	2300	200	200
6	Tcol-MPN (MPN/100mL)	3300	450	400
	TRACE & TOXIC			
	CHEMICAL INDICES			
1	HAR_Ca (mgCaCO3/L)	60	40	60
2	HAR_Total (mgCaCO3/L)	97	60	76
3	Na% (%)	24	29	22
4	RSC (-)	0.0	0.0	0.0
5	SAR (-)	0.6	0.6	0.5
	PESTICIDES	Anlysis not done due to mal function of instrument.		

Samples not collected due to no flow condition during June, October and November months.

Water Quality Summary for the period : 2015-2016

Station Name : Gokak Falls (Seasonal) (AKT00P9)

Division : Upper Krishna Divn, Pune

Local River : Ghataprabha

Sub-Division : Middle Krishna SD 1, Bagalkot

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	183	342.6	0.000	46.45
2	EC_FLD (μmho/cm)	3	594	215	348
3	EC_GEN (μmho/cm)	3	336	151	218
4	pH_FLD (pH units)	3	7.5	6.0	6.7
5	pH_GEN (pH units)	3	7.7	7.6	7.7
6	Temp (deg C)	3	22.0	21.0	21.3
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	3	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	3	59	42	50
3	B (mg/L)	3	0.11	0.05	0.07
4	Ca (mg/L)	3	24	16	21
5	Cl (mg/L)	3	24.0	17.4	19.8
6	CO3 (mg/L)	3	0.0	0.0	0
7	F (mg/L)	3	0.74	0.34	0.48
8	Fe (mg/L)	3	2.9	1.0	2
9	HCO3 (mg/L)	3	72	51	61
10	K (mg/L)	3	1.1	0.5	0.8
11	Mg (mg/L)	3	8.8	3.9	5.8
12	Na (mg/L)	3	13.9	9.8	11.7
13	NO2+NO3 (mg N/L)	3	2.10	0.89	1.43
14	NO2-N (mgN/L)	3	0.01	0.00	0
15	NO3-N (mgN/L)	3	2.10	0.89	1.42
16	P-Tot (mgP/L)	3	0.024	0.011	0.016
17	SiO2 (mg/L)	3	17.0	0.5	11.2
18	SO4 (mg/L)	3	26.2	9.7	17
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	3	2.3	0.6	1.2
2	COD (mg/L)	3	19.0	5.0	9.7
3	DO (mg/L)	1	6.8	6.8	6.8
4	DO_SAT% (%)	1	76	76	76
5	FCol-MPN (MPN/100mL)	3	2300	200	900
6	Tcol-MPN (MPN/100mL)	3	3300	400	1383
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	3	60	40	53
2	HAR_Total (mgCaCO3/L)	3	97	60	78
3	Na% (%)	3	29	22	25
4	RSC (-)	3	0.0	0.0	0
5	SAR (-)	3	0.6	0.5	0.6
	PESTICIDES				

Water Quality Seasonal Average for the period: 2014-2016

Station Name : Gokak Falls (Seasonal) (AKT00P9)

Division : Upper Krishna Divn, Pune

Local River : Ghataprabha

River Water

Sub-Division : Middle Krishna SD 1, Bagalkot

S.No	Parameters	Flood		Winter		Summer	
		Jun - Oct		Nov - Feb		Mar - May	
		2014	2015	2014-2015	2015-2016	2015	2016
	PHYSICAL						
1	Q (cumec)	75.15	108.6	10.16			
2	EC_FLD (µmho/cm)		348				
3	EC_GEN (µmho/cm)	235	218	377			
4	pH_FLD (pH units)		6.7				
5	pH_GEN (pH units)	7.6	7.7	8.0			
6	Temp (deg C)	23.0	21.3	20.8			
	CHEMICAL						
1	ALK-TOT (mgCaCO3/L)	96	50	112			
2	B (mg/L)	0.04	0.07	0.05			
3	Ca (mg/L)	35	21	42			
4	Cl (mg/L)	51.8	19.8	43.5			
5	F (mg/L)	0.24	0.48	0.35			
6	Fe (mg/L)	2.7	2.0	1.4			
7	HCO3 (mg/L)	117	61	137			
8	K (mg/L)	0.7	0.8	0.2			
9	Mg (mg/L)	12.6	5.8	10.2			
10	Na (mg/L)	33.0	11.7	28.3			
11	NO2+NO3 (mg N/L)	1.70	1.43	2.10			
12	NO2-N (mgN/L)	0.01	0.00	0.01			
13	NO3-N (mgN/L)	1.69	1.42	2.09			
14	P-Tot (mgP/L)	0.007	0.016	0.008			
15	SiO2 (mg/L)	24.8	11.2	10.9			
16	SO4 (mg/L)	40.4	17.0	34.2			
	BIOLOGICAL/BACTERIOLOGICAL						
1	BOD3-27 (mg/L)	1.8	1.2	1.6			
2	COD (mg/L)	14.0	9.7	14.4			
3	DO (mg/L)		6.8				
4	DO_SAT% (%)		76				
5	FCol-MPN (MPN/100mL)	58000	900	13000			
6	Tcol-MPN (MPN/100mL)	97500	1383	19500			
	TRACE & TOXIC						
1	Cd (µg/L)			1.29			
2	Cr (µg/L)			7.43			
3	Cu (µg/L)			5.21			
4	Pb (µg/L)			1.52			
5	Zn (µg/L)			10.00			
	CHEMICAL INDICES						
1	HAR_Ca (mgCaCO3/L)	88	53	104			
2	HAR_Total (mgCaCO3/L)	141	78	147			
3	Na% (%)	34	25	28			
4	SAR (-)	1.2	0.6	1.0			
	PESTICIDES	Converted as Seasonal site from June 2006					

Water Quality observations from 01-09-2014

HISTORY SHEET

		Water Year	: 2015-2016
Site	: Kurundwad	Code	: AK000V1
State	: Maharashtra	District	Kolhapur
Basin	: Krishna	Independent River	: Krishna
Tributary	: -	Sub Tributary	: -
Sub-Sub Tributary	: -	Local River	: Krishna
Division	: Upper Krishna Divn, Pune	Sub-Division	: Upper Krishna SD 2, Miraj
Drainage Area	: 15190 Sq. Km.	Bank	: Right
Latitude	: 16°41'01"	Longitude	: 74°36'11"
	Opening Date	Closing Date	
Gauge	: 21/05/1972		
Discharge	: 26/06/1972		
Sediment	: 06/08/2003		
Water Quality	: 01/07/2003		

Water Quality Datasheet for the period : 2015-2016

Station Name : Kurundwad (AK000V1)

Division : Upper Krishna Divn, Pune

Local River : Krishna

River Water Analysis

Sub-Division : Upper Krishna SD 2, Miraj

S.No	Parameters	02/07/2015	03/08/2015	01/09/2015	05/10/2015
		A	A	A	A
	PHYSICAL				
1	Q (cumec)	275.2	766.3	149.2	255.7
2	Colour_Cod (-)	Light Brown	Light Brown	Light Brown	Light Brown
3	EC_FLD (µmho/cm)	241	152	158	171
4	EC_GEN (µmho/cm)	277	135	192	306
5	Odour_Code (-)	odour free	odour free	odour free	odour free
6	pH_FLD (pH units)	7.9	7.4	7.5	7.6
7	pH_GEN (pH units)	7.5	7.6	7.6	7.7
8	Temp (deg C)	26.0	25.0	24.5	28.0
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	84	62	55	79
3	B (mg/L)	0.60	0.07	0.08	0.06
4	Ca (mg/L)	29	26	29	26
5	Cl (mg/L)	30.6	17.0	21.1	33.5
6	CO3 (mg/L)	0.0	0.0	0.0	0.0
7	F (mg/L)	0.35	0.58	0.32	0.36
8	Fe (mg/L)	1.9	2.3	2.8	1.5
9	HCO3 (mg/L)	103	76	67	96
10	K (mg/L)	1.7	0.6	0.5	0.9
11	Mg (mg/L)	5.8	6.8	7.8	5.8
12	Na (mg/L)	16.3	9.8	11.3	19.7
13	NO2+NO3 (mg N/L)	1.66	1.25	1.23	1.24
14	NO2-N (mgN/L)	0.00	0.01	0.00	0.00
15	NO3-N (mgN/L)	1.66	1.24	1.23	1.24
16	P-Tot (mgP/L)	0.007	0.012	0.023	0.002
17	SiO2 (mg/L)	1.3	5.6	18.1	1.1
18	SO4 (mg/L)	20.0	15.3	20.3	27.3
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	1.0	0.8	0.6	1.7
2	COD (mg/L)	7.0	7.0	5.0	15.0
3	DO (mg/L)	6.3	6.5	5.9	7.0
4	DO_SAT% (%)	78	79	70	89
5	FCol-MPN (MPN/100mL)	34000	13000	4900	3300
6	Tcol-MPN (MPN/100mL)	40000	23000	7900	4900
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	72	64	72	64
2	HAR_Total (mgCaCO3/L)	96	92	105	89
3	Na% (%)	27	19	19	32
4	RSC (-)	0.0	0.0	0.0	0.0
5	SAR (-)	0.7	0.4	0.5	0.9
	PESTICIDES	Analysis not done due to mal function of instrument.			

Samples not collected during June and from November to May months.

Water Quality Summary for the period : 2015-2016

Station Name : Kurundwad (AK000V1)

Division : Upper Krishna Divn, Pune

Local River : Krishna

Sub-Division : Upper Krishna SD 2, Miraj

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	369	2522	0.000	109.4
2	EC_FLD (µmho/cm)	4	241	152	181
3	EC_GEN (µmho/cm)	4	306	135	228
4	pH_FLD (pH units)	4	7.9	7.4	7.6
5	pH_GEN (pH units)	4	7.7	7.5	7.6
6	Temp (deg C)	4	28.0	24.5	25.9
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	4	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	4	84	55	70
3	B (mg/L)	4	0.60	0.06	0.2
4	Ca (mg/L)	4	29	26	27
5	Cl (mg/L)	4	33.5	17.0	25.5
6	CO3 (mg/L)	4	0.0	0.0	0
7	F (mg/L)	4	0.58	0.32	0.4
8	Fe (mg/L)	4	2.8	1.5	2.1
9	HCO3 (mg/L)	4	103	67	85
10	K (mg/L)	4	1.7	0.5	0.9
11	Mg (mg/L)	4	7.8	5.8	6.6
12	Na (mg/L)	4	19.7	9.8	14.3
13	NO2+NO3 (mg N/L)	4	1.66	1.23	1.34
14	NO2-N (mgN/L)	4	0.01	0.00	0
15	NO3-N (mgN/L)	4	1.66	1.23	1.34
16	P-Tot (mgP/L)	4	0.023	0.002	0.011
17	SiO2 (mg/L)	4	18.1	1.1	6.5
18	SO4 (mg/L)	4	27.3	15.3	20.7
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	4	1.7	0.6	1
2	COD (mg/L)	4	15.0	5.0	8.5
3	DO (mg/L)	4	7.0	5.9	6.4
4	DO_SAT% (%)	4	89	70	79
5	FCol-MPN (MPN/100mL)	4	34000	3300	13800
6	Tcol-MPN (MPN/100mL)	4	40000	4900	18950
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	4	72	64	68
2	HAR_Total (mgCaCO3/L)	4	105	89	96
3	Na% (%)	4	32	19	24
4	RSC (-)	4	0.0	0.0	0
5	SAR (-)	4	0.9	0.4	0.6
	PESTICIDES				

Water Quality Seasonal Average for the period: 2003-2016

Station Name : Kurundwad (AK000V1)

Division : Upper Krishna Divn, Pune

Local River : Krishna

River Water

Sub-Division : Upper Krishna SD 2, Miraj

S.No	Parameters	Flood			
		Jun - Oct			
		2003	2004	2005	2006
	PHYSICAL				
1	Q (cumec)	698.9	703.8	1584	956.3
2	EC_FLD (µmho/cm)	936	945	572	822
3	EC_GEN (µmho/cm)	173	247	319	295
4	pH_FLD (pH units)	7.8	7.4	7.5	6.9
5	pH_GEN (pH units)	7.9	7.8	7.7	7.7
6	Temp (deg C)		21.4	25.0	26.0
	CHEMICAL				
1	ALK-TOT (mgCaCO3/L)		58	101	220
2	B (mg/L)			0.13	0.09
3	Ca (mg/L)			18	37
4	Cl (mg/L)			27.2	36.4
5	F (mg/L)			0.20	0.09
6	Fe (mg/L)			0.3	0.1
7	HCO3 (mg/L)		70	123	141
8	K (mg/L)			21.7	15.7
9	Mg (mg/L)			16.4	7.5
10	Na (mg/L)			19.4	16.5
11	NO2+NO3 (mg N/L)			2.46	2.48
12	NO2-N (mgN/L)			0.04	0.01
13	NO3-N (mgN/L)			2.41	2.47
14	P-Tot (mgP/L)			0.094	0.157
15	SiO2 (mg/L)			9.1	5.0
16	SO4 (mg/L)	8.5		26.2	24.3
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	0.9	1.5	0.3	0.6
2	COD (mg/L)	5.2	5.8	15.1	2.5
3	DO (mg/L)	6.3	6.2	6.6	6.9
4	DO_SAT% (%)		70	80	85
5	FCol-MPN (MPN/100mL)				
6	Tcol-MPN (MPN/100mL)				
	TRACE & TOXIC				
1	As (µg/L)				
2	Cd (µg/L)				
3	Cr (µg/L)				
4	Cu (µg/L)				
5	Hg (µg/L)				
6	Ni (µg/L)				
7	Pb (µg/L)				
8	Zn (µg/L)				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)			44	91
2	HAR_Total (mgCaCO3/L)			112	123
3	Na% (%)			24	22
4	RSC (-)			0.0	0.3
5	SAR (-)			0.8	0.7
	PESTICIDES				

Water Quality Seasonal Average for the period: 2003-2016

Station Name : Kurundwad (AK000V1)

Division : Upper Krishna Divn, Pune

Local River : Krishna

River Water

Sub-Division : Upper Krishna SD 2, Miraj

S.No	Parameters	Flood			
		Jun - Oct			
		2007	2008	2009	2010
	PHYSICAL				
1	Q (cumec)	871.7	876.2	843.0	1394
2	EC_FLD (µmho/cm)			294	
3	EC_GEN (µmho/cm)	226	230	459	273
4	pH_FLD (pH units)			7.0	
5	pH_GEN (pH units)	7.7	7.7	7.6	7.9
6	Temp (deg C)	23.5	25.0	25.0	26.2
	CHEMICAL				
1	ALK-TOT (mgCaCO3/L)	54	50	85	62
2	B (mg/L)	0.04	0.07	0.05	0.11
3	Ca (mg/L)	24	18	28	24
4	Cl (mg/L)	26.5	14.4	19.5	23.2
5	F (mg/L)	0.46	0.10	0.22	0.20
6	Fe (mg/L)	0.2	0.2	0.2	0.1
7	HCO3 (mg/L)	66	60	104	75
8	K (mg/L)	2.7	1.1	0.2	1.3
9	Mg (mg/L)	4.5	7.3	7.9	5.6
10	Na (mg/L)	13.8	9.1	11.6	15.3
11	NO2+NO3 (mg N/L)	0.56	0.57	0.66	0.18
12	NO2-N (mgN/L)	0.01	0.01	0.00	0.01
13	NO3-N (mgN/L)	0.55	0.57	0.66	0.17
14	P-Tot (mgP/L)	0.233	0.008	0.005	0.009
15	SiO2 (mg/L)	11.5	5.2	9.5	8.8
16	SO4 (mg/L)	23.6	23.9	22.6	18.7
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	0.3	0.4	0.8	1.4
2	COD (mg/L)	9.0	1.7	4.9	10.0
3	DO (mg/L)	4.7		6.8	
4	DO_SAT% (%)	55		82	
5	FCol-MPN (MPN/100mL)			28667	12100
6	Tcol-MPN (MPN/100mL)			41333	17600
	TRACE & TOXIC				
1	As (µg/L)				
2	Cd (µg/L)				
3	Cr (µg/L)				
4	Cu (µg/L)				
5	Hg (µg/L)				
6	Ni (µg/L)				
7	Pb (µg/L)				
8	Zn (µg/L)				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	61	46	71	59
2	HAR_Total (mgCaCO3/L)	79	76	104	82
3	Na% (%)	26	19	20	28
4	RSC (-)	0.0	0.0	0.0	0.0
5	SAR (-)	0.7	0.4	0.5	0.7
	PESTICIDES				

Water Quality Seasonal Average for the period: 2003-2016

Station Name : Kurundwad (AK000V1)

Division : Upper Krishna Divn, Pune

Local River : Krishna

River Water

Sub-Division : Upper Krishna SD 2, Miraj

S.No	Parameters	Flood Jun-Oct				
		2011	2012	2013	2014	2015
	PHYSICAL					
1	Q (cumec)	1141	952.5	1352	1884	361.6
2	EC_FLD (µmho/cm)	389	312	373	460	181
3	EC_GEN (µmho/cm)	192	165	288	255	228
4	pH_FLD (pH units)	7.6	7.6	7.5	7.5	7.6
5	pH_GEN (pH units)	7.5	7.8	7.2	7.7	7.6
6	Temp (deg C)	25.0	25.4	24.2	24.5	25.9
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	46	51	55	76	70
2	B (mg/L)	0.04	0.04	0.13	0.04	0.20
3	Ca (mg/L)	18	20	24	33	27
4	Cl (mg/L)	19.1	18.7	14.1	39.6	25.5
5	F (mg/L)	0.27	0.24	0.31	0.26	0.40
6	Fe (mg/L)	0.3	0.7	0.5	1.7	2.1
7	HCO3 (mg/L)	56	62	67	93	85
8	K (mg/L)	0.7	1.5	0.5	0.9	0.9
9	Mg (mg/L)	3.9	2.7	5.8	8.1	6.6
10	Na (mg/L)	13.6	12.2	8.6	23.8	14.3
11	NO2+NO3 (mg N/L)	0.96	0.85	0.90	1.63	1.34
12	NO2-N (mgN/L)	0.00	0.05	0.00	0.00	0.00
13	NO3-N (mgN/L)	0.95	0.80	0.89	1.63	1.34
14	P-Tot (mgP/L)	0.015	0.018	0.027	0.027	0.011
15	SiO2 (mg/L)	10.4	4.4	22.1	19.1	6.5
16	SO4 (mg/L)	15.4	8.9	23.8	24.3	20.7
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.7	0.6	0.5	1.9	1.0
2	COD (mg/L)	4.1	4.6	3.6	15.0	8.5
3	DO (mg/L)	7.7	7.5	7.6	7.6	6.4
4	DO_SAT% (%)	94	92	90	90	79
5	FCol-MPN (MPN/100mL)	174250	279750	6900	64333	13800
6	Tcol-MPN (MPN/100mL)	289250	472250	10275	112000	18950
	TRACE & TOXIC					
1	As (µg/L)		12.00	2.34		
2	Cd (µg/L)		0.17	0.50		
3	Cr (µg/L)		0.27	4.10		
4	Cu (µg/L)		3.52	1.73		
5	Hg (µg/L)			0.32		
6	Ni (µg/L)		7.64	6.63		
7	Pb (µg/L)		1.15	-0.50		
8	Zn (µg/L)		3.11	-0.05		
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	46	49	59	83	68
2	HAR_Total (mgCaCO3/L)	62	60	83	117	96
3	Na% (%)	30	26	18	31	24
4	RSC (-)	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.7	0.6	0.4	1.0	0.6
	PESTICIDES					

Water Quality Seasonal Average for the period: 2003-2016

Station Name : Kurundwad (AK000V1)

Division : Upper Krishna Divn, Pune

Local River : Krishna

River Water

Sub-Division : Upper Krishna SD 2, Miraj

S.No	Parameters	Winter		
		Nov-Feb		
		2010-2011	2011-2012	2012-2013
	PHYSICAL			
1	Q (cumec)	100.2	Samples not collected due to dry bed/ np flow condition in winter season from 2003-2004 to 2009-2010 and from 2011-2012 to 2015-2016.	Samples not collected due to Dry bed/ no flow condition during Summer season from 2004 to 2016
2	EC_FLD (µmho/cm)			
3	EC_GEN (µmho/cm)	680		
4	pH_FLD (pH units)			
5	pH_GEN (pH units)	6.1		
6	Temp (deg C)	25.3		
	CHEMICAL			
1	ALK-TOT (mgCaCO3/L)	108		
2	B (mg/L)	0.14		
3	Ca (mg/L)	43		
4	Cl (mg/L)	39.5		
5	F (mg/L)	0.48		
6	Fe (mg/L)	0.2		
7	HCO3 (mg/L)	132		
8	K (mg/L)	1.3		
9	Mg (mg/L)	14.6		
10	Na (mg/L)	25.7		
11	NO2+NO3 (mg N/L)	0.43		
12	NO2-N (mgN/L)	0.01		
13	NO3-N (mgN/L)	0.43		
14	P-Tot (mgP/L)	0.013		
15	SiO2 (mg/L)	10.2		
16	SO4 (mg/L)	49.3		
	BIOLOGICAL/BACTERIOLOGICAL			
1	BOD3-27 (mg/L)	0.9		
2	COD (mg/L)	6.1		
3	DO (mg/L)			
4	DO_SAT% (%)			
5	Fcol-MPN (MPN/100mL)	54000		
6	Tcol-MPN (MPN/100mL)	92000		
	TRACE & TOXIC			
1	As (µg/L)			
2	Cd (µg/L)			
3	Cr (µg/L)			
4	Cu (µg/L)			
5	Hg (µg/L)			
6	Ni (µg/L)			
7	Pb (µg/L)			
8	Zn (µg/L)			
	CHEMICAL INDICES			
1	HAR_Ca (mgCaCO3/L)	108		
2	HAR_Total (mgCaCO3/L)	169		
3	Na% (%)	25		
4	RSC (-)	0.0		
5	SAR (-)	0.9		
	PESTICIDES			

HISTORY SHEET

Water Year : 2015-2016

Site : Arjunwad (Seasonal)

Code : AK000V4

State : Maharashtra

District : Kolhapur

Basin : Krishna

Independent River : Krishna

Tributary : -

Sub Tributary : -

Sub-Sub Tributary : -

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 2, Miraj

Drainage Area : 12660 Sq. Km.

Bank : Right

Latitude : 16°46'51"

Longitude : 74°37'59"

Opening Date

Closing Date

Gauge : 12/01/1969

Discharge : 12/01/1969

Sediment : 26/12/2014

Water Quality : 01/09/2014

Water Quality Datasheet for the period : 2015-2016

Station Name : Arjunwad (Seasonal) (AK000V4)

Division : Upper Krishna Divn, Pune

Local River : Krishna

River Water Analysis

Sub-Division : Upper Krishna SD 2, Miraj

S.No	Parameters	02/07/2015	03/08/2015	01/09/2015	05/10/2015
		A	A	A	A
	PHYSICAL				
1	Q (cumec)	99.38	307.2	50.95	180.2
2	Colour_Cod (-)	Light Brown	Light Brown	Light Brown	Brown
3	EC_FLD (µmho/cm)	333	212	379	513
4	EC_GEN (µmho/cm)	308	179	335	495
5	Odour_Code (-)	odour free	odour free	odour free	odour free
6	pH_FLD (pH units)	7.2	6.8	7.7	7.8
7	pH_GEN (pH units)	7.8	7.8	7.9	7.8
8	Temp (deg C)	25.0	25.0	25.0	25.0
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	96	62	81	91
3	B (mg/L)	0.08	0.14	0.08	0.01
4	Ca (mg/L)	35	19	29	34
5	Cl (mg/L)	27.0	18.7	32.6	77.1
6	CO3 (mg/L)	0.0	0.0	0.0	0.0
7	F (mg/L)	0.40	0.63	0.36	0.39
8	Fe (mg/L)	3.7	3.6	1.2	1.6
9	HCO3 (mg/L)	117	76	99	111
10	K (mg/L)	1.4	0.7	0.7	0.8
11	Mg (mg/L)	7.8	6.8	2.9	12.6
12	Na (mg/L)	19.3	10.8	20.5	47.7
13	NO2+NO3 (mg N/L)	2.24	2.24	0.86	1.29
14	NO2-N (mgN/L)	0.00	0.00	0.01	0.00
15	NO3-N (mgN/L)	2.24	2.24	0.86	1.29
16	P-Tot (mgP/L)	0.007	0.006	0.018	0.033
17	SiO2 (mg/L)	4.5	16.9	17.6	4.2
18	SO4 (mg/L)	25.4	17.6	15.3	59.0
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	1.2	0.8	1.7	1.3
2	COD (mg/L)	11.0	7.0	16.0	11.0
3	DO (mg/L)	4.2	8.0	9.0	4.0
4	DO_SAT% (%)	51	97	109	48
5	FCol-MPN (MPN/100mL)	4900	1700	7900	13000
6	Tcol-MPN (MPN/100mL)	7900	2100	17000	24000
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	88	49	72	84
2	HAR_Total (mgCaCO3/L)	121	77	84	137
3	Na% (%)	26	23	34	43
4	RSC (-)	0.0	0.0	0.0	0.0
5	SAR (-)	0.8	0.5	1.0	1.8
	PESTICIDES	Anlysis not done due to mal function of instrument.			

Samples not collected due to no flow condition during June and November months.

Water Quality Summary for the period : 2015-2016

Station Name : Arjunwad (Seasonal) (AK000V4)

Division : Upper Krishna Divn, Pune

Local River : Krishna

Sub-Division : Upper Krishna SD 2, Miraj

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	188	1460	0.000	88.15
2	EC_FLD (µmho/cm)	4	513	212	359
3	EC_GEN (µmho/cm)	4	495	179	329
4	pH_FLD (pH units)	4	7.8	6.8	7.4
5	pH_GEN (pH units)	4	7.9	7.8	7.8
6	Temp (deg C)	4	25.0	25.0	25
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	4	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	4	96	62	82
3	B (mg/L)	4	0.14	0.01	0.08
4	Ca (mg/L)	4	35	19	29
5	Cl (mg/L)	4	77.1	18.7	38.8
6	CO3 (mg/L)	4	0.0	0.0	0
7	F (mg/L)	4	0.63	0.36	0.45
8	Fe (mg/L)	4	3.7	1.2	2.5
9	HCO3 (mg/L)	4	117	76	100
10	K (mg/L)	4	1.4	0.7	0.9
11	Mg (mg/L)	4	12.6	2.9	7.5
12	Na (mg/L)	4	47.7	10.8	24.6
13	NO2+NO3 (mg N/L)	4	2.24	0.86	1.66
14	NO2-N (mgN/L)	4	0.01	0.00	0
15	NO3-N (mgN/L)	4	2.24	0.86	1.66
16	P-Tot (mgP/L)	4	0.033	0.006	0.016
17	SiO2 (mg/L)	4	17.6	4.2	10.8
18	SO4 (mg/L)	4	59.0	15.3	29.3
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	4	1.7	0.8	1.3
2	COD (mg/L)	4	16.0	7.0	11.3
3	DO (mg/L)	4	9.0	4.0	6.3
4	DO_SAT% (%)	4	109	48	76
5	FCol-MPN (MPN/100mL)	4	13000	1700	6875
6	Tcol-MPN (MPN/100mL)	4	24000	2100	12750
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	4	88	49	73
2	HAR_Total (mgCaCO3/L)	4	137	77	105
3	Na% (%)	4	43	23	32
4	RSC (-)	4	0.0	0.0	0
5	SAR (-)	4	1.8	0.5	1
	PESTICIDES				

Water Quality Seasonal Average for the period: 2014-2016

Station Name : Arjunwad (Seasonal) (AK000V4)

Division : Upper Krishna Divn, Pune

Local River : Krishna

River Water

Sub-Division : Upper Krishna SD 2, Miraj

S.No	Parameters	Flood		Winter		Summer	
		Jun - Oct		Nov - Feb		Mar - May	
		2014	2015	2014-2015	2015-2016	2015	2016
				Water Quality observations started from 01-09-2014,			
	PHYSICAL						
1	Q (cumec)	505.4	159.4				
2	EC_FLD (μmho/cm)		359				
3	EC_GEN (μmho/cm)	530	329				
4	pH_FLD (pH units)		7.4				
5	pH_GEN (pH units)	8.1	7.8				
6	Temp (deg C)	25.3	25.0				
	CHEMICAL						
1	ALK-TOT (mgCaCO3/L)	153	82				
2	B (mg/L)	0.05	0.08				
3	Ca (mg/L)	63	29				
4	Cl (mg/L)	45.5	38.8				
5	F (mg/L)	0.31	0.45				
6	Fe (mg/L)	3.2	2.5				
7	HCO3 (mg/L)	186	100				
8	K (mg/L)	0.7	0.9				
9	Mg (mg/L)	12.6	7.5				
10	Na (mg/L)	32.1	24.6				
11	NO2+NO3 (mg N/L)	2.32	1.66				
12	NO2-N (mgN/L)	0.00	0.00				
13	NO3-N (mgN/L)	2.32	1.66				
14	P-Tot (mgP/L)	0.014	0.016				
15	SiO2 (mg/L)	19.2	10.8				
16	SO4 (mg/L)	38.8	29.3				
	BIOLOGICAL/BACTERIOLOGICAL						
1	BOD3-27 (mg/L)	1.5	1.3				
2	COD (mg/L)	11.0	11.3				
3	DO (mg/L)		6.3				
4	DO_SAT% (%)		76				
5	FCol-MPN (MPN/100mL)	8150	6875				
6	Tcol-MPN (MPN/100mL)	10800	12750				
	TRACE & TOXIC						
	CHEMICAL INDICES						
1	HAR_Ca (mgCaCO3/L)	158	73				
2	HAR_Total (mgCaCO3/L)	211	105				
3	Na% (%)	25	32				
4	SAR (-)	1.0	1.0				
	PESTICIDES	Converted as Seasonal site from June 2006					

HISTORY SHEET

Water Year : 2015-2016

Site : Samdoli (Seasonal)

Code : AKX00A7

State : Maharashtra

District : Sangli

Basin : Krishna

Independent River : Krishna

Tributary : Varna

Sub Tributary : -

Sub-Sub Tributary : -

Local River : Varna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 2, Miraj

Drainage Area : 1948 Sq. Km.

Bank : Left

Latitude : 16°51'18"

Longitude : 74°29'50"

Opening Date

Closing Date

Gauge : 23/08/1963

Discharge : 01/12/1964

Sediment : 26/12/2014

Water Quality : 01/09/2014

Water Quality Datasheet for the period : 2015-2016

Station Name : Samdoli (Seasonal) (AKX00A7)

Division : Upper Krishna Divn, Pune

Local River : Varna

River Water Analysis

Sub-Division : Upper Krishna SD 2, Miraj

S.No	Parameters	02/07/2015 A	03/08/2015 A	01/09/2015 A	05/10/2015 A
	PHYSICAL				
1	Q (cumec)	64.85	100.6	37.53	70.70
2	Colour_Cod (-)	Light Brown	Brown	Light Brown	Clear
3	EC_FLD (µmho/cm)	124	416	357	399
4	EC_GEN (µmho/cm)	99	146	176	340
5	Odour_Code (-)	odour free	odour free	odour free	odour free
6	pH_FLD (pH units)	7.9	7.1	6.7	6.9
7	pH_GEN (pH units)	7.5	7.6	7.8	7.7
8	Temp (deg C)	25.0	25.0	25.0	27.5
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	54	56	55	63
3	B (mg/L)	0.05	0.11	0.06	0.01
4	Ca (mg/L)	18	16	21	24
5	Cl (mg/L)	29.6	13.7	19.5	54.2
6	CO3 (mg/L)	0.0	0.0	0.0	0.0
7	F (mg/L)	0.35	0.62	0.33	0.35
8	Fe (mg/L)	3.3	1.6	2.7	1.7
9	HCO3 (mg/L)	66	68	67	77
10	K (mg/L)	1.4	0.6	0.3	0.4
11	Mg (mg/L)	6.8	5.8	3.9	10.7
12	Na (mg/L)	16.9	8.4	11.0	28.0
13	NO2+NO3 (mg N/L)	2.26	1.06	1.20	1.21
14	NO2-N (mgN/L)	0.00	0.00	0.01	0.01
15	NO3-N (mgN/L)	2.26	1.06	1.19	1.20
16	P-Tot (mgP/L)	0.003	0.020	0.022	0.010
17	SiO2 (mg/L)	4.5	15.5	15.7	4.6
18	SO4 (mg/L)	19.9	15.6	14.9	34.4
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	1.0	0.9	0.6	0.5
2	COD (mg/L)	6.0	6.0	5.0	4.0
3	DO (mg/L)	4.8	4.7	5.8	6.0
4	DO_SAT% (%)	58	57	70	75
5	FCol-MPN (MPN/100mL)	3300	3400	13000	4900
6	Tcol-MPN (MPN/100mL)	4900	4000	17000	7000
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	44	40	52	60
2	HAR_Total (mgCaCO3/L)	72	64	68	105
3	Na% (%)	33	22	26	37
4	RSC (-)	0.0	0.0	0.0	0.0
5	SAR (-)	0.9	0.5	0.6	1.2
	PESTICIDES	Anlaysis not done due to mal function of instrument.			

Samples not collected due to Drybed/ noflow condition during Juneand November months.

Water Quality Summary for the period : 2015-2016

Station Name : Samdoli (Seasonal) (AKX00A7)

Division : Upper Krishna Divn, Pune

Local River : Varna

Sub-Division : Upper Krishna SD 2, Miraj

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	186	644.8	0.000	59.57
2	EC_FLD (µmho/cm)	4	416	124	324
3	EC_GEN (µmho/cm)	4	340	99	190
4	pH_FLD (pH units)	4	7.9	6.7	7.1
5	pH_GEN (pH units)	4	7.8	7.5	7.6
6	Temp (deg C)	4	27.5	25.0	25.6
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	4	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	4	63	54	57
3	B (mg/L)	4	0.11	0.01	0.06
4	Ca (mg/L)	4	24	16	20
5	Cl (mg/L)	4	54.2	13.7	29.3
6	CO3 (mg/L)	4	0.0	0.0	0
7	F (mg/L)	4	0.62	0.33	0.41
8	Fe (mg/L)	4	3.3	1.6	2.3
9	HCO3 (mg/L)	4	77	66	70
10	K (mg/L)	4	1.4	0.3	0.7
11	Mg (mg/L)	4	10.7	3.9	6.8
12	Na (mg/L)	4	28.0	8.4	16.1
13	NO2+NO3 (mg N/L)	4	2.26	1.06	1.43
14	NO2-N (mgN/L)	4	0.01	0.00	0
15	NO3-N (mgN/L)	4	2.26	1.06	1.43
16	P-Tot (mgP/L)	4	0.022	0.003	0.014
17	SiO2 (mg/L)	4	15.7	4.5	10.1
18	SO4 (mg/L)	4	34.4	14.9	21.2
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	4	1.0	0.5	0.8
2	COD (mg/L)	4	6.0	4.0	5.3
3	DO (mg/L)	4	6.0	4.7	5.3
4	DO_SAT% (%)	4	75	57	65
5	FCol-MPN (MPN/100mL)	4	13000	3300	6150
6	Tcol-MPN (MPN/100mL)	4	17000	4000	8225
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	4	60	40	49
2	HAR_Total (mgCaCO3/L)	4	105	64	77
3	Na% (%)	4	37	22	29
4	RSC (-)	4	0.0	0.0	0
5	SAR (-)	4	1.2	0.5	0.8
	PESTICIDES				

Water Quality Seasonal Average for the period: 2014-2016

Station Name : Samdoli (Seasonal) (AKX00A7)

Division : Upper Krishna Divn, Pune

Local River : Varna

River Water

Sub-Division : Upper Krishna SD 2, Miraj

S.No	Parameters	Flood		Winter		Summer	
		Jun - Oct		Nov - Feb		Mar - May	
		2014	2015	2014-2015	2015-2016	2015	2016
	PHYSICAL			Water Quality observations started from 01-09-2014.			
1	Q (cumec)	296.8	68.43				
2	EC_FLD (µmho/cm)		324				
3	EC_GEN (µmho/cm)	342	190				
4	pH_FLD (pH units)		7.1				
5	pH_GEN (pH units)	7.8	7.6				
6	Temp (deg C)	21.3	25.6				
	CHEMICAL						
1	ALK-TOT (mgCaCO3/L)	142	57				
2	B (mg/L)	0.04	0.06				
3	Ca (mg/L)	48	20				
4	Cl (mg/L)	44.7	29.3				
5	F (mg/L)	0.29	0.41				
6	Fe (mg/L)	2.0	2.3				
7	HCO3 (mg/L)	173	70				
8	K (mg/L)	0.5	0.7				
9	Mg (mg/L)	10.7	6.8				
10	Na (mg/L)	32.1	16.1				
11	NO2+NO3 (mg N/L)	1.88	1.43				
12	NO2-N (mgN/L)	0.00	0.00				
13	NO3-N (mgN/L)	1.88	1.43				
14	P-Tot (mgP/L)	0.018	0.014				
15	SiO2 (mg/L)	12.8	10.1				
16	SO4 (mg/L)	40.8	21.2				
	BIOLOGICAL/BACTERIOLOGICAL						
1	BOD3-27 (mg/L)	2.6	0.8				
2	COD (mg/L)	22.5	5.3				
3	DO (mg/L)		5.3				
4	DO_SAT% (%)		65				
5	FCol-MPN (MPN/100mL)	28000	6150				
6	Tcol-MPN (MPN/100mL)	41000	8225				
	TRACE & TOXIC						
	CHEMICAL INDICES						
1	HAR_Ca (mgCaCO3/L)	120	49				
2	HAR_Total (mgCaCO3/L)	165	77				
3	Na% (%)	30	29				
4	SAR (-)	1.1	0.8				
	PESTICIDES						

HISTORY SHEET

Water Year : 2015-2016

Site : Karad

Code : AK000X6

State : Maharashtra

District : Satara

Basin : Krishna

Independent River : Krishna

Tributary : -

Sub Tributary : -

Sub-Sub Tributary : -

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 1, Kolhapur

Drainage Area : 5462 Sq. Km.

Bank : Right

Latitude : 17°17'40"

Longitude : 74°11'25"

Opening Date

Closing Date

Gauge : 25/12/1964

Discharge : 21/06/1965

Sediment : 22/06/1965

Water Quality : 01/09/1972

Water Quality Datasheet for the period : 2015-2016

Station Name : Karad (AK000X6)

Division : Upper Krishna Divn, Pune

Local River : Krishna

River Water Analysis Sub-Division : Upper Krishna SD 1, Kolhapur

S.No	Parameters	04/08/2015
		A
	PHYSICAL	
1	Q (cumec)	269.4
2	Colour_Cod (-)	Light Brown
3	EC_FLD (µmho/cm)	370
4	EC_GEN (µmho/cm)	112
5	Odour_Code (-)	odour free
6	pH_FLD (pH units)	7.7
7	pH_GEN (pH units)	7.7
8	Temp (deg C)	23.5
	CHEMICAL	
1	Alk-Phen (mgCaCO3/L)	0.0
2	ALK-TOT (mgCaCO3/L)	62
3	B (mg/L)	0.06
4	Ca (mg/L)	29
5	Cl (mg/L)	8.2
6	CO3 (mg/L)	0.0
7	F (mg/L)	0.43
8	Fe (mg/L)	2.4
9	HCO3 (mg/L)	76
10	K (mg/L)	0.4
11	Mg (mg/L)	5.8
12	Na (mg/L)	4.7
13	NO2+NO3 (mg N/L)	1.28
14	NO2-N (mgN/L)	0.01
15	NO3-N (mgN/L)	1.28
16	P-Tot (mgP/L)	0.001
17	SiO2 (mg/L)	6.7
18	SO4 (mg/L)	17.5
	BIOLOGICAL/BACTERIOLOGICAL	
1	BOD3-27 (mg/L)	0.8
2	COD (mg/L)	6.0
3	DO (mg/L)	6.2
4	DO_SAT% (%)	72
5	FCol-MPN (MPN/100mL)	1700
6	Tcol-MPN (MPN/100mL)	2200
	TRACE & TOXIC	
	CHEMICAL INDICES	
1	HAR_Ca (mgCaCO3/L)	72
2	HAR_Total (mgCaCO3/L)	96
3	Na% (%)	10
4	RSC (-)	0.0
5	SAR (-)	0.2
	PESTICIDES	Anlaysis not done due to mal function of instrument.

Samples not collected during June, July, September to May MONTHS

Water Quality Summary for the period : 2015-2016

Station Name : Karad (AK000X6)

Division : Upper Krishna Divn, Pune

Local River : Krishna

Sub-Division : Upper Krishna SD 1, Kolhapur

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	367	1046	0.000	34.57
2	EC_FLD (µmho/cm)	1	370	370	370
3	EC_GEN (µmho/cm)	1	112	112	112
4	pH_FLD (pH units)	1	7.7	7.7	7.7
5	pH_GEN (pH units)	1	7.7	7.7	7.7
6	Temp (deg C)	1	23.5	23.5	23.5
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	1	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	1	62	62	62
3	B (mg/L)	1	0.06	0.06	0.06
4	Ca (mg/L)	1	29	29	29
5	Cl (mg/L)	1	8.2	8.2	8.2
6	CO3 (mg/L)	1	0.0	0.0	0
7	F (mg/L)	1	0.43	0.43	0.43
8	Fe (mg/L)	1	2.4	2.4	2.4
9	HCO3 (mg/L)	1	76	76	76
10	K (mg/L)	1	0.4	0.4	0.4
11	Mg (mg/L)	1	5.8	5.8	5.8
12	Na (mg/L)	1	4.7	4.7	4.7
13	NO2+NO3 (mg N/L)	1	1.28	1.28	1.28
14	NO2-N (mgN/L)	1	0.01	0.01	0
15	NO3-N (mgN/L)	1	1.28	1.28	1.28
16	P-Tot (mgP/L)	1	0.001	0.001	0.001
17	SiO2 (mg/L)	1	6.7	6.7	6.7
18	SO4 (mg/L)	1	17.5	17.5	17.5
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	1	0.8	0.8	0.8
2	COD (mg/L)	1	6.0	6.0	6
3	DO (mg/L)	1	6.2	6.2	6.2
4	DO_SAT% (%)	1	72	72	72
5	FCol-MPN (MPN/100mL)	1	1700	1700	1700
6	Tcol-MPN (MPN/100mL)	1	2200	2200	2200
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	1	72	72	72
2	HAR_Total (mgCaCO3/L)	1	96	96	96
3	Na% (%)	1	10	10	10
4	RSC (-)	1	0.0	0.0	0
5	SAR (-)	1	0.2	0.2	0.2
	PESTICIDES				

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Karad (AK000X6)

Division : Upper Krishna Divn, Pune

Local River : Krishna

River Water

Sub-Division : Upper Krishna SD 1, Kolhapur

S.No	Parameters	Flood				
		Jun - Oct				
		2001	2002	2003	2004	2005
	PHYSICAL					
1	Q (cumec)	74.20	78.89	166.2	215.4	1470
2	EC_FLD (µmho/cm)	190		102	167	151
3	EC_GEN (µmho/cm)	265		126	174	162
4	pH_FLD (pH units)	7.8		8.1	7.9	8.0
5	pH_GEN (pH units)	7.8		7.5	7.7	7.7
6	TDS (mg/L)	182				
7	Temp (deg C)	25.2		24.7	22.8	23.4
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	1.2	0.6	7.5	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	73	116	60	53	65
3	B (mg/L)	0.18	0.21			0.23
4	Ca (mg/L)	19	19	9		14
5	Cl (mg/L)	11.7	19.7	7.0		10.1
6	CO3 (mg/L)	1.4	0.8	9.0	0.0	0.0
7	F (mg/L)	0.16	0.32			0.14
8	Fe (mg/L)	0.0				0.2
9	HCO3 (mg/L)	87	140	54	65	79
10	K (mg/L)	0.6	0.6			13.2
11	Mg (mg/L)	6.1	9.3	2.4		5.6
12	Na (mg/L)	7.8	11.8			12.9
13	NH3-N (mg N/L)	0.03	0.03			
14	NO2+NO3 (mg N/L)					1.15
15	NO2-N (mgN/L)					0.03
16	NO3-N (mgN/L)	0.01				1.12
17	P-Tot (mgP/L)	0.057	0.039			0.089
18	SiO2 (mg/L)	36.5	18.2			8.4
19	SO4 (mg/L)	10.9	8.6	3.4		15.6
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.9	1.0	1.0	2.1	0.7
2	COD (mg/L)		4.0	3.4	6.1	13.4
3	DO (mg/L)	6.3		6.2	6.7	6.1
4	DO_SAT% (%)	76		74	78	72
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
	TRACE & TOXIC					
1	Al (mg/L)	0.01				
2	As (µg/L)					
3	Cd (µg/L)					
4	Cr (µg/L)					
5	Cu (µg/L)					
6	Hg (µg/L)					
7	Ni (µg/L)					
8	Pb (µg/L)					
9	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	47	48	24		36
2	HAR_Total (mgCaCO3/L)	73	87	34		59
3	Na% (%)	19	20			31
4	RSC (-)	0.2	0.6	0.5		0.1
5	SAR (-)	0.4	0.5			0.9
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Karad (AK000X6)

Division : Upper Krishna Divn, Pune

Local River : Krishna

River Water

Sub-Division : Upper Krishna SD 1, Kolhapur

S.No	Parameters	Flood				
		Jun - Oct				
		2006	2007	2008	2009	2010
	PHYSICAL					
1	Q (cumec)	1223	1140	179.0	142.5	280.5
2	EC_FLD (µmho/cm)	270	281	278	266	314
3	EC_GEN (µmho/cm)	183	116	189	204	265
4	pH_FLD (pH units)	7.7	7.8	7.7	7.6	7.8
5	pH_GEN (pH units)	7.7	7.7	7.6	7.6	8.1
6	TDS (mg/L)					
7	Temp (deg C)	24.0	22.3	21.8	23.0	23.8
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.5	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	155	33	54	69	75
3	B (mg/L)	0.12	0.06	0.05	0.10	0.12
4	Ca (mg/L)	26	10	15	21	26
5	Cl (mg/L)	13.3	12.3	11.0	9.2	14.0
6	CO3 (mg/L)	0.0	0.6	0.0	0.0	0.0
7	F (mg/L)	0.10	0.30	0.11	0.30	0.18
8	Fe (mg/L)	0.0	0.6	0.2	0.1	0.8
9	HCO3 (mg/L)	95	39	66	84	92
10	K (mg/L)	10.3	0.3	1.6	0.8	1.1
11	Mg (mg/L)	2.2	2.3	4.0	5.6	6.1
12	Na (mg/L)	12.3	7.4	7.7	6.7	8.6
13	NH3-N (mg N/L)					
14	NO2+NO3 (mg N/L)	0.56	0.43	0.30	0.38	0.18
15	NO2-N (mgN/L)	0.01	0.01	0.01	0.00	0.01
16	NO3-N (mgN/L)	0.55	0.42	0.30	0.38	0.17
17	P-Tot (mgP/L)	0.314	0.213	0.099	0.044	0.016
18	SiO2 (mg/L)	9.7	5.5	6.2	6.8	14.1
19	SO4 (mg/L)	12.4	3.9	4.8	18.3	18.1
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.2	1.0	1.9	1.9	1.1
2	COD (mg/L)	10.7	8.8	7.9	8.4	7.9
3	DO (mg/L)	6.2	6.2	6.2	6.2	6.2
4	DO_SAT% (%)	73	71	70	72	73
5	FCol-MPN (MPN/100mL)				58723	46600
6	Tcol-MPN (MPN/100mL)				58777	78800
	TRACE & TOXIC					
1	Al (mg/L)					
2	As (µg/L)					
3	Cd (µg/L)					
4	Cr (µg/L)					
5	Cu (µg/L)					
6	Hg (µg/L)					
7	Ni (µg/L)					
8	Pb (µg/L)					
9	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	65	26	38	52	66
2	HAR_Total (mgCaCO3/L)	74	35	55	75	91
3	Na% (%)	25	34	27	17	18
4	RSC (-)	0.1	0.0	0.0	0.0	0.0
5	SAR (-)	0.6	0.6	0.5	0.3	0.4
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Karad (AK000X6)

Division : Upper Krishna Divn, Pune

Local River : Krishna

River Water

Sub-Division : Upper Krishna SD 1, Kolhapur

S.No	Parameters	Flood				
		Jun - Oct				
		2011	2012	2013	2014	2015
	PHYSICAL					
1	Q (cumec)	247.3	382.1	1141	560.9	269.4
2	EC_FLD (µmho/cm)	294	292	289	289	370
3	EC_GEN (µmho/cm)	175	104	96	175	112
4	pH_FLD (pH units)	7.7	7.6	7.6	7.8	7.7
5	pH_GEN (pH units)	7.6	7.4	7.2	7.6	7.7
6	TDS (mg/L)					
7	Temp (deg C)	22.7	24.0	24.3	23.8	23.5
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	49	34	41	77	62
3	B (mg/L)	0.05	0.07	0.09	0.06	0.06
4	Ca (mg/L)	18	10	11	30	29
5	Cl (mg/L)	9.7	5.9	8.2	32.0	8.2
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.32	0.31	0.31	0.28	0.43
8	Fe (mg/L)	0.5	0.1	0.3	0.9	2.4
9	HCO3 (mg/L)	59	41	50	94	76
10	K (mg/L)	1.0	0.6	0.7	0.9	0.4
11	Mg (mg/L)	4.1	1.5	8.7	3.4	5.8
12	Na (mg/L)	6.9	4.0	4.7	23.9	4.7
13	NH3-N (mg N/L)					
14	NO2+NO3 (mg N/L)	0.72	0.49	0.56	0.94	1.28
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.02	0.00
16	NO3-N (mgN/L)	0.71	0.48	0.55	0.93	1.28
17	P-Tot (mgP/L)	0.009	0.015	0.058	0.022	0.001
18	SiO2 (mg/L)	11.1	8.0	19.8	25.1	6.7
19	SO4 (mg/L)	11.3	3.5	11.9	11.8	17.5
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.8	1.5	1.8	2.3	0.8
2	COD (mg/L)	4.2	6.0	16.5	12.5	6.0
3	DO (mg/L)	6.2	6.2	6.3	6.2	6.2
4	DO_SAT% (%)	72	73	75	73	72
5	FCol-MPN (MPN/100mL)	246250	580000	471500	920000	1700
6	Tcol-MPN (MPN/100mL)	386000	975000	824500	1600000	2200
	TRACE & TOXIC					
1	Al (mg/L)					
2	As (µg/L)			2.31		
3	Cd (µg/L)			0.28		
4	Cr (µg/L)			27.30		
5	Cu (µg/L)			22.11		
6	Hg (µg/L)			0.11		
7	Ni (µg/L)			9.86		
8	Pb (µg/L)			-0.50		
9	Zn (µg/L)			-0.05		
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	45	26	28	74	72
2	HAR_Total (mgCaCO3/L)	62	32	64	88	96
3	Na% (%)	19	21	14	37	10
4	RSC (-)	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.4	0.3	0.3	1.1	0.2
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Karad (AK000X6)

Division : Upper Krishna Divn, Pune

Local River : Krishna

River Water

Sub-Division : Upper Krishna SD 1, Kolhapur

S.No	Parameters	Winter					
		Nov - Feb					
		2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007
	PHYSICAL						
1	Q (cumec)	38.13	46.73	20.76	11.97	44.21	58.69
2	EC_FLD (µmho/cm)	418		121	522	91	299
3	EC_GEN (µmho/cm)	203		128	528	239	285
4	pH_FLD (pH units)	7.9		7.9	8.4	8.2	7.9
5	pH_GEN (pH units)	7.8		7.4	8.6	7.5	8.1
6	TDS (mg/L)	165					
7	Temp (deg C)	23.4		23.5	23.0	22.0	19.8
	CHEMICAL						
1	Alk-Phen (mgCaCO3/L)	0.6	1.9			0.0	0.5
2	ALK-TOT (mgCaCO3/L)	91	41			78	192
3	B (mg/L)	0.29	0.68			0.16	0.18
4	Ca (mg/L)	20	9			30	25
5	Cl (mg/L)	21.8	10.8			13.7	21.5
6	CO3 (mg/L)	0.8	2.3			0.0	0.6
7	F (mg/L)	0.17	0.17			0.29	0.25
8	Fe (mg/L)	0.0				0.2	0.4
9	HCO3 (mg/L)	109	45			95	117
10	K (mg/L)	0.4	0.3			4.6	6.1
11	Mg (mg/L)	7.7	4.2			5.0	14.6
12	Na (mg/L)	9.7	4.6			7.6	8.8
13	NH3-N (mg N/L)	0.02	0.07				
14	NO2+NO3 (mg N/L)					0.86	0.43
15	NO2-N (mgN/L)					0.03	0.02
16	NO3-N (mgN/L)	0.01				0.83	0.41
17	P-Tot (mgP/L)	0.110				0.089	0.329
18	SiO2 (mg/L)	15.0				5.4	5.2
19	SO4 (mg/L)	8.4	3.6			21.5	30.4
	BIOLOGICAL/BACTERIOLOGICAL						
1	BOD3-27 (mg/L)	1.2	1.4	1.0	2.9	0.9	0.9
2	COD (mg/L)		5.7	2.8	6.2	13.3	8.4
3	DO (mg/L)	6.3		6.2	7.1	6.1	6.2
4	DO_SAT% (%)	73		73	83	70	68
5	FCol-MPN (MPN/100mL)						
6	Tcol-MPN (MPN/100mL)						
	TRACE & TOXIC						
1	Al (mg/L)	0.01					
2	As (µg/L)						
3	Cd (µg/L)						
4	Cr (µg/L)						
5	Cu (µg/L)						
6	Hg (µg/L)						
7	Ni (µg/L)						
8	Pb (µg/L)						
9	Zn (µg/L)						
	CHEMICAL INDICES						
1	HAR_Ca (mgCaCO3/L)	49	23			76	62
2	HAR_Total (mgCaCO3/L)	81	41			97	123
3	Na% (%)	19	19			17	18
4	RSC (-)	0.2	0.1			0.0	0.1
5	SAR (-)	0.4	0.3			0.4	0.4
	PESTICIDES						
1	Aldrin (µg/L)						
2	BHC (µg/L)						
3	DDT (µg/L)						
4	Dieldrin (µg/L)						
5	Endos (µg/L)						

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Karad (AK000X6)

Division : Upper Krishna Divn, Pune

Local River : Krishna

River Water

Sub-Division : Upper Krishna SD 1, Kolhapur

S.No	Parameters	Winter					
		Nov - Feb					
		2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013
	PHYSICAL						
1	Q (cumec)	43.54	50.82	102.8	47.06	34.63	
2	EC_FLD (µmho/cm)	312	267	345	305	307	
3	EC_GEN (µmho/cm)	174	202	340	766	426	
4	pH_FLD (pH units)	7.7	7.6	7.7	7.6	7.5	
5	pH_GEN (pH units)	7.8	8.0	8.0	8.4	7.7	
6	TDS (mg/L)						
7	Temp (deg C)	20.7	22.6	24.3	23.8	24.0	
	CHEMICAL						
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	1.0	0.0	
2	ALK-TOT (mgCaCO3/L)	56	84	146	144	114	
3	B (mg/L)	0.07	0.16	0.20	0.12	0.04	
4	Ca (mg/L)	14	20	38	56	42	
5	Cl (mg/L)	8.6	14.7	19.3	17.6	17.9	
6	CO3 (mg/L)	0.0	0.0	0.0	1.2	0.0	
7	F (mg/L)	0.27	0.26	1.06	0.56	0.32	
8	Fe (mg/L)	0.1	0.3	0.0	0.2	0.2	
9	HCO3 (mg/L)	68	103	178	173	139	
10	K (mg/L)	0.5	0.9	1.1	1.2	1.3	
11	Mg (mg/L)	3.8	7.4	19.7	9.2	13.6	
12	Na (mg/L)	10.5	9.9	14.6	11.2	11.9	
13	NH3-N (mg N/L)						
14	NO2+NO3 (mg N/L)	0.53	0.45	1.85	0.48	1.11	
15	NO2-N (mgN/L)	0.01	0.01	0.01	0.01	0.00	
16	NO3-N (mgN/L)	0.52	0.44	1.85	0.47	1.11	
17	P-Tot (mgP/L)	0.293	0.003	0.058	0.039	0.030	
18	SiO2 (mg/L)	5.1	5.1	12.1	13.5	28.2	
19	SO4 (mg/L)	7.6	7.6	10.7	20.5	12.4	
	BIOLOGICAL/BACTERIOLOGICAL						
1	BOD3-27 (mg/L)	1.4	0.7	1.7	1.0	2.1	
2	COD (mg/L)	9.6	3.1	4.0	7.3	7.6	
3	DO (mg/L)	6.1	5.6	6.1	6.1	6.2	
4	DO_SAT% (%)	68	64	73	72	74	
5	FCol-MPN (MPN/100mL)			50600	39000	350000	
6	Tcol-MPN (MPN/100mL)			88000	63500	540000	
	TRACE & TOXIC						
1	Al (mg/L)						
2	As (µg/L)						
3	Cd (µg/L)						
4	Cr (µg/L)						
5	Cu (µg/L)						
6	Hg (µg/L)						
7	Ni (µg/L)						
8	Pb (µg/L)						
9	Zn (µg/L)						
	CHEMICAL INDICES						
1	HAR_Ca (mgCaCO3/L)	35	51	96	140	104	
2	HAR_Total (mgCaCO3/L)	51	82	178	179	161	
3	Na% (%)	31	25	15	12	14	
4	RSC (-)	0.1	0.1	0.0	0.0	0.0	
5	SAR (-)	0.6	0.5	0.5	0.4	0.4	
	PESTICIDES						
1	Aldrin (µg/L)						
2	BHC (µg/L)						
3	DDT (µg/L)						
4	Dieldrin (µg/L)						
5	Endos (µg/L)						

Dry bed/no flow condition during Winter season from 2012-2013 to 2015-2016.

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Karad (AK000X6)

Division : Upper Krishna Divn, Pune

Local River : Krishna

River Water

Sub-Division : Upper Krishna SD 1, Kolhapur

S.No	Parameters	Summer			
		Mar - May			
		2002	2003	2004	2006
	PHYSICAL				
1	Q (cumec)	69.12	57.61	61.59	66.85
2	EC_FLD (µmho/cm)	125		76	82
3	EC_GEN (µmho/cm)	121		76	103
4	pH_FLD (pH units)	8.0		7.8	7.8
5	pH_GEN (pH units)	7.9		7.3	7.5
6	TDS (mg/L)	88			
7	Temp (deg C)	25.5		23.3	24.7
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.6	0.1		0.0
2	ALK-TOT (mgCaCO3/L)	68	35		37
3	B (mg/L)	0.34			0.15
4	Ca (mg/L)	13	8		8
5	Cl (mg/L)	13.1	8.4		7.2
6	CO3 (mg/L)	0.7	0.2		0.0
7	F (mg/L)	0.46	0.11		0.23
8	Fe (mg/L)	0.0			0.2
9	HCO3 (mg/L)	82	43		46
10	K (mg/L)	0.3			4.0
11	Mg (mg/L)	5.6	2.9		1.3
12	Na (mg/L)	3.9			9.5
13	NH3-N (mg N/L)	0.05	0.00		
14	NO2+NO3 (mg N/L)				0.57
15	NO2-N (mgN/L)				0.03
16	NO3-N (mgN/L)	0.01			0.54
17	P-Tot (mgP/L)	0.053			0.110
18	SiO2 (mg/L)	9.3			4.7
19	SO4 (mg/L)	3.8			6.2
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	1.2			0.7
2	COD (mg/L)			2.9	12.4
3	DO (mg/L)	6.1		6.1	6.2
4	DO_SAT% (%)	75		72	74
5	FCol-MPN (MPN/100mL)				
6	Tcol-MPN (MPN/100mL)				
	TRACE & TOXIC				
1	Al (mg/L)	0.01			
2	As (µg/L)				
3	Cd (µg/L)				0.01
4	Cr (µg/L)				2.00
5	Cu (µg/L)				
6	Hg (µg/L)				
7	Ni (µg/L)				1.00
8	Pb (µg/L)				29.00
9	Zn (µg/L)				0.10
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	33	21		20
2	HAR_Total (mgCaCO3/L)	56	33		25
3	Na% (%)	13			47
4	RSC (-)	0.3	0.1		0.2
5	SAR (-)	0.2			1.0
	PESTICIDES				
1	Aldrin (µg/L)				0.010
2	BHC (µg/L)				0.100
3	DDT (µg/L)				0.100
4	Dieldrin (µg/L)				0.053
5	Endos (µg/L)				0.100

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Karad (AK000X6)

Division : Upper Krishna Divn, Pune

Local River : Krishna

River Water

Sub-Division : Upper Krishna SD 1, Kolhapur

S.No	Parameters	Summer			
		Mar - May			
		2007	2008	2009	2010
	PHYSICAL				
1	Q (cumec)	0.000	18.51	58.79	
2	EC_FLD (µmho/cm)	322	316	296	
3	EC_GEN (µmho/cm)	210	139	90	
4	pH_FLD (pH units)	7.8	7.7	7.8	
5	pH_GEN (pH units)	7.8	7.9	7.5	
6	TDS (mg/L)				
7	Temp (deg C)	23.0	24.0	23.3	
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	
2	ALK-TOT (mgCaCO3/L)	184	56	26	
3	B (mg/L)	0.14	0.06	0.02	
4	Ca (mg/L)	22	11	6	
5	Cl (mg/L)	11.7	8.1	11.1	
6	CO3 (mg/L)	0.0	0.0	0.0	
7	F (mg/L)	0.15	0.14	0.77	
8	Fe (mg/L)	0.5	0.0	0.2	
9	HCO3 (mg/L)	112	68	32	
10	K (mg/L)	7.8	1.0	0.5	
11	Mg (mg/L)	2.4	4.9	2.8	
12	Na (mg/L)	11.1	7.8	8.5	
13	NH3-N (mg N/L)				
14	NO2+NO3 (mg N/L)	0.45	0.52	0.19	
15	NO2-N (mgN/L)	0.04	0.03	0.11	
16	NO3-N (mgN/L)	0.42	0.49	0.07	
17	P-Tot (mgP/L)	0.141	0.291	0.010	
18	SiO2 (mg/L)	3.0	0.5	8.1	
19	SO4 (mg/L)	2.2	3.8	7.5	
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	0.4	0.1	0.7	
2	COD (mg/L)	9.9	12.2	3.1	
3	DO (mg/L)	6.0	6.0	6.1	
4	DO_SAT% (%)	70	71	72	
5	FCol-MPN (MPN/100mL)				
6	Tcol-MPN (MPN/100mL)				
	TRACE & TOXIC				
1	Al (mg/L)				
2	As (µg/L)				
3	Cd (µg/L)			1.49	
4	Cr (µg/L)			2.00	
5	Cu (µg/L)				
6	Hg (µg/L)				
7	Ni (µg/L)			1.00	
8	Pb (µg/L)			11.00	
9	Zn (µg/L)			8.66	
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	55	27	16	
2	HAR_Total (mgCaCO3/L)	65	47	28	
3	Na% (%)	24	26	39	
4	RSC (-)	0.5	0.2	0.0	
5	SAR (-)	0.6	0.5	0.7	
	PESTICIDES				
1	Aldrin (µg/L)			0.010	
2	BHC (µg/L)			0.100	
3	DDT (µg/L)			0.100	
4	Dieldrin (µg/L)			0.010	
5	Endos (µg/L)			0.100	

Dry bed/no flow condition during summer season 2005 and from 2011 to 2016

HISTORY SHEET

Water Year : 2015-2016

Site : Warunji

Code : AKZ00A7

State : Maharashtra

District : Satara

Basin : Krishna

Independent River : Krishna

Tributary : Koyna

Sub Tributary : -

Sub-Sub Tributary : -

Local River : Koyna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 1, Kolhapur

Drainage Area : 1890 Sq. Km.

Bank : Left

Latitude : 17°16'20"

Longitude : 74°09'54"

Opening Date

Closing Date

Gauge : 20/08/1963

Discharge : 01/01/1966

Sediment : 01/06/1974

Water Quality : 01/06/1974

Sediment and WQ observations suspended on 31-5-2006
and restarted Sediment on 18-6-2013 and WQ on 2-7-2013.

Water Quality Datasheet for the period : 2015-2016

Station Name : Warunji (AKZ00A7)

Division : Upper Krishna Divn, Pune

Local River : Koyna

River Water Analysis Sub-Division : Upper Krishna SD 1, Kolhapur

S.No	Parameters	04/08/2015
		A
	PHYSICAL	
1	Q (cumec)	113.2
2	Colour_Cod (-)	Light Brown
3	EC_FLD (µmho/cm)	785
4	EC_GEN (µmho/cm)	101
5	Odour_Code (-)	odour free
6	pH_FLD (pH units)	8.4
7	pH_GEN (pH units)	7.7
8	Temp (deg C)	20.0
	CHEMICAL	
1	Alk-Phen (mgCaCO3/L)	0.0
2	ALK-TOT (mgCaCO3/L)	50
3	B (mg/L)	0.14
4	Ca (mg/L)	19
5	Cl (mg/L)	9.9
6	CO3 (mg/L)	0.0
7	F (mg/L)	0.50
8	Fe (mg/L)	1.4
9	HCO3 (mg/L)	61
10	K (mg/L)	0.2
11	Mg (mg/L)	5.8
12	Na (mg/L)	6.4
13	NO2+NO3 (mg N/L)	0.79
14	NO2-N (mgN/L)	0.00
15	NO3-N (mgN/L)	0.79
16	P-Tot (mgP/L)	0.019
17	SiO2 (mg/L)	17.0
18	SO4 (mg/L)	15.6
	BIOLOGICAL/BACTERIOLOGICAL	
1	BOD3-27 (mg/L)	1.0
2	COD (mg/L)	6.0
3	DO (mg/L)	5.9
4	DO_SAT% (%)	65
5	FCol-MPN (MPN/100mL)	7900
6	Tcol-MPN (MPN/100mL)	11000
	TRACE & TOXIC	
	CHEMICAL INDICES	
1	HAR_Ca (mgCaCO3/L)	48
2	HAR_Total (mgCaCO3/L)	72
3	Na% (%)	16
4	RSC (-)	0.0
5	SAR (-)	0.3
	PESTICIDES	Analysis not done due to mal function of instrument.

Samples not collected during June, July and from September to May months. Due to Drybed/No flow condition.

Water Quality Summary for the period : 2015-2016

Station Name : Warunji (AKZ00A7)

Division : Upper Krishna Divn, Pune

Local River : Koyna

Sub-Division : Upper Krishna SD 1, Kolhapur

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	367	235.7	0.000	11.37
2	EC_FLD (μmho/cm)	1	785	785	785
3	EC_GEN (μmho/cm)	1	101	101	101
4	pH_FLD (pH units)	1	8.4	8.4	8.4
5	pH_GEN (pH units)	1	7.7	7.7	7.7
6	Temp (deg C)	1	20.0	20.0	20
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	1	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	1	50	50	50
3	B (mg/L)	1	0.14	0.14	0.14
4	Ca (mg/L)	1	19	19	19
5	Cl (mg/L)	1	9.9	9.9	9.9
6	CO3 (mg/L)	1	0.0	0.0	0
7	F (mg/L)	1	0.50	0.50	0.5
8	Fe (mg/L)	1	1.4	1.4	1.4
9	HCO3 (mg/L)	1	61	61	61
10	K (mg/L)	1	0.2	0.2	0.2
11	Mg (mg/L)	1	5.8	5.8	5.8
12	Na (mg/L)	1	6.4	6.4	6.4
13	NO2+NO3 (mg N/L)	1	0.79	0.79	0.79
14	NO2-N (mgN/L)	1	0.00	0.00	0
15	NO3-N (mgN/L)	1	0.79	0.79	0.79
16	P-Tot (mgP/L)	1	0.019	0.019	0.019
17	SiO2 (mg/L)	1	17.0	17.0	17
18	SO4 (mg/L)	1	15.6	15.6	15.6
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	1	1.0	1.0	1
2	COD (mg/L)	1	6.0	6.0	6
3	DO (mg/L)	1	5.9	5.9	5.9
4	DO_SAT% (%)	1	65	65	65
5	Fcol-MPN (MPN/100mL)	1	7900	7900	7900
6	Tcol-MPN (MPN/100mL)	1	11000	11000	11000
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	1	48	48	48
2	HAR_Total (mgCaCO3/L)	1	72	72	72
3	Na% (%)	1	16	16	16
4	RSC (-)	1	0.0	0.0	0
5	SAR (-)	1	0.3	0.3	0.3
	PESTICIDES				

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Warunji (AKZ00A7)

Division : Upper Krishna Divn, Pune

Local River : Koyna

River Water

Sub-Division : Upper Krishna SD 1, Kolhapur

S.No	Parameters	Flood			
		Jun - Oct			
		2001	2002	2003	2004
	PHYSICAL				
1	Q (cumec)	48.40	70.11	185.8	483.1
2	EC_FLD (µmho/cm)	136	134	83	86
3	EC_GEN (µmho/cm)	162	136	105	107
4	pH_FLD (pH units)	7.8	7.8	7.6	7.4
5	pH_GEN (pH units)	7.7	7.7	7.6	7.6
6	TDS (mg/L)	111	110		
7	Temp (deg C)	24.5	25.2	24.8	24.0
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.6	0.7		0.0
2	ALK-TOT (mgCaCO3/L)	49	82		39
3	B (mg/L)	0.26	0.08		
4	Ca (mg/L)	12	14		
5	Cl (mg/L)	9.1	14.0		
6	CO3 (mg/L)	0.7	0.9		0.0
7	F (mg/L)	0.07	0.18		
8	Fe (mg/L)	0.0			
9	HCO3 (mg/L)	58	98		47
10	K (mg/L)	0.3	0.4		
11	Mg (mg/L)	3.7	7.9		
12	Na (mg/L)	5.6	6.6		
13	NH3-N (mg N/L)	0.00	0.00		
14	NO2+NO3 (mg N/L)				
15	NO2-N (mgN/L)				
16	NO3-N (mgN/L)	0.01			
17	P-Tot (mgP/L)	0.105	0.035		
18	SiO2 (mg/L)	31.2	10.0		
19	SO4 (mg/L)	3.8	4.3	4.3	
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	0.6	0.7	0.8	1.1
2	COD (mg/L)		4.0	2.8	12.0
3	DO (mg/L)	5.8	6.3	6.1	7.3
4	DO_SAT% (%)	74	76	74	87
5	FCol-MPN (MPN/100mL)				
6	Tcol-MPN (MPN/100mL)				
	TRACE & TOXIC				
1	Al (mg/L)	0.01			
2	Cd (µg/L)				
3	Cr (µg/L)				
4	Cu (µg/L)				
5	Hg (µg/L)				
6	Ni (µg/L)				
7	Pb (µg/L)				
8	Zn (µg/L)				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	30	36		
2	HAR_Total (mgCaCO3/L)	45	68		
3	Na% (%)	21	17		
4	RSC (-)	0.1	0.3		
5	SAR (-)	0.4	0.3		
	PESTICIDES				
1	Aldrin (µg/L)				
2	BHC (µg/L)				
3	DDT (µg/L)				
4	Dieldrin (µg/L)				
5	Endos (µg/L)				

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Warunji (AKZ00A7)

Division : Upper Krishna Divn, Pune

Local River : Koyna

River Water

Sub-Division : Upper Krishna SD 1, Kolhapur

S.No	Parameters	Flood			
		Jun - Oct			
		2005	2013	2014	2015
	PHYSICAL				
1	Q (cumec)	1169	661.6	386.6	113.2
2	EC_FLD (µmho/cm)	83	985	353	785
3	EC_GEN (µmho/cm)	94	101	111	101
4	pH_FLD (pH units)	7.7	8.7	8.7	8.4
5	pH_GEN (pH units)	7.4	6.9	7.5	7.7
6	TDS (mg/L)				
7	Temp (deg C)	23.0	24.1	21.5	20.0
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	38	30	59	50
3	B (mg/L)	0.20	0.11	0.07	0.14
4	Ca (mg/L)	7	10	30	19
5	Cl (mg/L)	4.5	5.2	31.5	9.9
6	CO3 (mg/L)	0.0	0.0	0.0	0.0
7	F (mg/L)	0.11	0.29	0.25	0.50
8	Fe (mg/L)	0.2	0.5	1.0	1.4
9	HCO3 (mg/L)	46	37	71	61
10	K (mg/L)	7.7	0.4	0.2	0.2
11	Mg (mg/L)	3.3	4.9	6.3	5.8
12	Na (mg/L)	7.4	3.3	23.6	6.4
13	NH3-N (mg N/L)				
14	NO2+NO3 (mg N/L)	0.34	0.41	1.18	0.79
15	NO2-N (mgN/L)	0.03	0.01	0.00	0.00
16	NO3-N (mgN/L)	0.31	0.41	1.18	0.79
17	P-Tot (mgP/L)	0.075	0.023	0.011	0.019
18	SiO2 (mg/L)	3.9	32.0	22.7	17.0
19	SO4 (mg/L)	12.9	17.0	22.6	15.6
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	0.4	0.8	3.1	1.0
2	COD (mg/L)	10.1	6.0	19.0	6.0
3	DO (mg/L)	6.2	5.7	6.8	5.9
4	DO_SAT% (%)	72	68	77	65
5	FCol-MPN (MPN/100mL)		123900	18500	7900
6	Tcol-MPN (MPN/100mL)		275500	26000	11000
	TRACE & TOXIC				
1	Al (mg/L)				
2	Cd (µg/L)		0.22		
3	Cr (µg/L)		2.84		
4	Cu (µg/L)		2.75		
5	Hg (µg/L)		0.02		
6	Ni (µg/L)		7.15		
7	Pb (µg/L)		-0.50		
8	Zn (µg/L)		-0.05		
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	17	24	74	48
2	HAR_Total (mgCaCO3/L)	31	44	100	72
3	Na% (%)	30	14	34	16
4	RSC (-)	0.1	0.0	0.0	0.0
5	SAR (-)	0.6	0.2	1.0	0.3
	PESTICIDES				
1	Aldrin (µg/L)				
2	BHC (µg/L)				
3	DDT (µg/L)				
4	Dieldrin (µg/L)				
5	Endos (µg/L)				

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Warunji (AKZ00A7)

Division : Upper Krishna Divn, Pune

Local River : Koyna

River Water

Sub-Division : Upper Krishna SD 1, Kolhapur

S.No	Parameters	Winter				
		Nov - Feb				
		2001-2002	2002-2003	2003-2004	2004-2005	2005-2006
	PHYSICAL					
1	Q (cumec)	26.94	62.94	19.82		60.25
2	EC_FLD (µmho/cm)	268	64	121		61
3	EC_GEN (µmho/cm)	189	70	128		66
4	pH_FLD (pH units)	7.7	7.8	7.8		7.8
5	pH_GEN (pH units)	7.9	7.5	7.7		7.4
6	TDS (mg/L)	140	54			
7	Temp (deg C)	23.5	23.0	23.0		22.5
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.8	0.1			0.0
2	ALK-TOT (mgCaCO3/L)	79	30			27
3	B (mg/L)	0.13	0.19			0.18
4	Ca (mg/L)	22	8			9
5	Cl (mg/L)	17.6				9.4
6	CO3 (mg/L)	0.9	0.1			0.0
7	F (mg/L)	0.06	0.17			0.22
8	Fe (mg/L)	0.0				0.2
9	HCO3 (mg/L)	95	36			33
10	K (mg/L)	0.3	0.4			6.2
11	Mg (mg/L)	8.7	2.5			3.7
12	Na (mg/L)	8.7	4.6			5.0
13	NH3-N (mg N/L)	0.00	0.02			
14	NO2+NO3 (mg N/L)					0.75
15	NO2-N (mgN/L)					0.03
16	NO3-N (mgN/L)	0.01				0.72
17	P-Tot (mgP/L)	0.052				0.084
18	SiO2 (mg/L)	10.1				3.6
19	SO4 (mg/L)	8.2	3.1			15.3
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.9	0.4	0.6		0.9
2	COD (mg/L)		5.7	1.9		13.1
3	DO (mg/L)	6.2	6.7	6.1		6.1
4	DO_SAT% (%)	72	77	71		70
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
	TRACE & TOXIC					
1	Al (mg/L)	0.01				
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)					
5	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	56	19			22
2	HAR_Total (mgCaCO3/L)	92	29			37
3	Na% (%)	16	26			21
4	RSC (-)	0.0	0.1			0.1
5	SAR (-)	0.4	0.4			0.4
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Warunji (AKZ00A7)

Division : Upper Krishna Divn, Pune

Local River : Koyna

River Water

Sub-Division : Upper Krishna SD 1, Kolhapur

S.No	Parameters	Summer				
		Mar - May				
		2002	2003	2004	2005	2006
	PHYSICAL					
1	Q (cumec)	60.57	65.44	42.08		61.19
2	EC_FLD (µmho/cm)	84	64	64		118
3	EC_GEN (µmho/cm)	88	67	80		111
4	pH_FLD (pH units)	7.7	7.8	7.7		8.1
5	pH_GEN (pH units)	8.1	7.7	7.4		8.0
6	TDS (mg/L)	62				
7	Temp (deg C)	24.0	25.6	25.0		25.0
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0				0.0
2	ALK-TOT (mgCaCO3/L)	40				38
3	B (mg/L)	0.18	0.21			0.17
4	Ca (mg/L)	12	11			12
5	Cl (mg/L)	13.9				6.8
6	CO3 (mg/L)	0.0				0.0
7	F (mg/L)	0.25	0.13			0.25
8	Fe (mg/L)	0.0				0.2
9	HCO3 (mg/L)	49				46
10	K (mg/L)	0.1	0.7			1.6
11	Mg (mg/L)	4.1	0.9			2.0
12	Na (mg/L)	3.4	5.2			7.6
13	NH3-N (mg N/L)	0.00	0.00			
14	NO2+NO3 (mg N/L)					0.41
15	NO2-N (mgN/L)					0.03
16	NO3-N (mgN/L)	0.01				0.38
17	P-Tot (mgP/L)	0.025				0.096
18	SiO2 (mg/L)	9.3				4.6
19	SO4 (mg/L)	7.7				7.6
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	2.8				1.0
2	COD (mg/L)			1.0		11.4
3	DO (mg/L)	6.1	6.1	6.2		6.2
4	DO_SAT% (%)	72	75	75		75
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
	TRACE & TOXIC					
1	Al (mg/L)	0.01				
2	Cd (µg/L)					0.01
3	Cr (µg/L)					2.00
4	Cu (µg/L)					
5	Hg (µg/L)					
6	Ni (µg/L)					1.00
7	Pb (µg/L)					23.00
8	Zn (µg/L)					0.10
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	30	28			29
2	HAR_Total (mgCaCO3/L)	47	32			37
3	Na% (%)	14	26			30
4	RSC (-)	0.0				0.0
5	SAR (-)	0.2	0.4			0.5
	PESTICIDES					
1	Aldrin (µg/L)					0.010
2	BHC (µg/L)					0.100
3	DDT (µg/L)					0.100
4	Dieldrin (µg/L)					0.033
5	Endos (µg/L)					0.100