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प्रस्तावना

भारत में सभी महत्वपूर्ण नदी घाटियों में नदी के पानी की गुणवत्ता की निगरानी जल विज्ञानीय अवलोकन कार्यक्रम के एक भाग के रूप में की जाती है जो केंद्रीय जल आयोग के मुख्य कार्यों में से एक है। नदी जल के नमूने आयोग द्वारा रखे गए नियमित जल विज्ञान स्टेशनों से एकत्र किए जाते हैं और प्रभागीय मुख्यालय में स्थापित प्रयोगशालाओं में विश्लेषण किया जाता है। जल गुणवत्ता डेटा हर साल जल गुणवत्ता वार्षिक पुस्तक के रूप में प्रकाशित किया जाता है।

कृष्णा नदी क्षेत्र में, जल गुणवत्ता की निगरानी 32 जल विज्ञानीय अवलोकन स्टेशनों (ऊपरी कृष्णा मण्डल-10, निचली कृष्णा मण्डल-13, कावेरी मण्डल-9) में की जाती है। निचली कृष्णा मण्डल के तहत जल विज्ञानीय स्टेशनों से एकत्र किए गए पानी के नमूनों का विश्लेषण हैदराबाद में पानी की गुणवत्ता स्तर-III प्रयोगशाला में किया जाता है। ऊपरी कृष्णा मण्डल के तहत जल विज्ञानीय स्टेशनों से एकत्र किए गए पानी के नमूनों का विश्लेषण पुणे में जल गुणवत्ता स्तर-II प्रयोगशाला में किया जाता है और कावेरी मण्डल का बेंगलुरु में जल गुणवत्ता प्रयोगशाला स्तर-II पर विश्लेषण किया जाता है। ये सभी प्रयोगशालाएं वर्ष 2018-19 के दौरान एन.ए.बी.एल. से मान्यता प्राप्त हैं।

संबंधित प्रयोगशालाओं में सीधे प्राप्त पानी के नमूनों का विश्लेषण कर भौतिक, रासायनिक, जैविक और विषाक्त तत्व आदि मापदंडो को ज्ञात किया जाता हैं। उपरोक्त मापदंडों के अलावा, तीन रासायनिक सूचकांक, गणितीय रूप से अवलोकित आंकड़ों के आधार पर निकाले जाते हैं। फिर पानी को यूएस सालिनिटी डायग्राम की मदद से वर्गीकृत किया जाता है।

जल गुणवत्ता वार्षिक बुक 2018-19 कृष्णा नदी क्षेत्र में सभी जल संसाधन योजनाकारों, प्रबंधकों और जल उपयोगकर्ताओं के लिए उपयोगी है। इसकी उपयोगिता में और सुधार होगा, विशेष रूप से पेयजल आपूर्ति, सिंचाई, औद्योगिक और सीवेज निपटान की योजनाओं के लिए।

हैदराबाद
जून 2020

(श्रीनिवासू बैरी)
अधीक्षण अभियंता

PREFACE

Monitoring of river water quality in all the important river basins of 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. All these laboratories are NABL accredited during the year 2018-19.

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 2018-19 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
June 2020

(Srinivasu Bairy)
Superintending Engineer

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कृष्णा नदी क्षेत्र

जल की गुणवत्ता डेटा (खंड - III)

(जून 2018 - मई 2019)

1.0 पानी की गुणवत्ता की निगरानी

केंद्रीय जल आयोग द्वारा 1972 से कृष्णा बेसिन में नदी जल की गुणवत्ता की निगरानी की जा रही है। इस खंड III में, पानी की गुणवत्ता के बारे में आंकड़े हैं, जो कि जल वर्ष 2018-19 के दौरान कृष्णा बेसिन में 32 जल विज्ञानीय अवलोकन स्टेशनों से लिए गए है। इन 32 जल गुणवत्ता स्टेशनों में से 10 स्टेशनों की निगरानी ऊपरी कृष्णा मण्डल, पुणे द्वारा की जाती है, 13 स्टेशनों की निगरानी निचली कृष्णा मण्डल, हैदराबाद द्वारा की जाती है और शेष 9 स्टेशनों की निगरानी कावेरी मण्डल, बेंगलुरु द्वारा की जाती है। इन स्टेशनों के स्थानों को दिखाने वाला कृष्णा नदी क्षेत्र का मानचित्र संलग्न है।

हैदराबाद में स्थित एक स्तर -III प्रयोगशाला और पुणे और बैंगलोर में स्थित दो स्तर -II प्रयोगशालाएं पानी की गुणवत्ता के मापदंडों के विश्लेषण में लगी हुई हैं। ये सभी प्रयोगशालाएं वर्ष 2018-19 के दौरान एन.ए.बी.एल. से मान्यता प्राप्त हैं।

1.1 जल गुणवत्ता स्टेशनों का वर्गीकरण

जल गुणवत्ता स्टेशन में मानव गतिविधि के आधार पर , उन्हें बेस लाइन स्टेशनों, फ्लक्स स्टेशनों और ट्रेंड स्टेशनों के रूप में वर्गीकृत किया जाता है।

(i) बेस लाइन स्टेशन: ये वह जल गुणवत्ता स्टेशन हैं , जहां पानी की गुणवत्ता पर मानव गतिविधियों का कोई प्रभाव नहीं है। इन स्टेशनों पर बारहमासी नदियों के लिए वर्ष में छह बार और मौसमी नदियों के लिए तीन से चार बार पानी की गुणवत्ता की निगरानी की जाती है।

(ii) फ्लक्स स्टेशन: इन स्टेशनों को प्रभाव स्टेशनों के रूप में भी जाना जाता है। ये स्टेशन किसी भी समय मानव हस्तक्षेप या भूवैज्ञानिक विशेषता के कारण प्रदूषण की सीमा को मापने के लिए मुख्य नदी की धारा पर विशेष प्रदूषक के द्रव्यमान को मापने के लिए हैं और अपनाए गए प्रदूषण नियंत्रण उपायों के प्रभाव को मापने के लिए आवश्यक हैं। इन स्टेशनों पर पानी के उपयोग की प्रदूषण क्षमता या महत्व के आधार पर एक वर्ष में बारह से चौबीस बार निगरानी की जाती है।

(iii) ट्रेंड स्टेशन: इन स्टेशनों को पानी की गुणवत्ता की निगरानी के लिए डिज़ाइन किया गया है, यह दिखाने के लिए कि मानव गतिविधियों के प्रभाव के कारण जलधारा पर एक विशेष बिंदु, समय के साथ कैसे बदलता है। इन स्टेशनों पर साल में बारह बार निगरानी की जाती है|

2.0 अवलोकन / नमूना तकनीके:

प्रत्येक स्टेशन पर जल धारा से डिस्चार्ज मापन खंड पर पानी की सतह के 30 सेमी नीचे, निर्धारित तिथियों पर एक सामान्य नमूना एकत्र किया जाता है।

दो पानी के नमूने एक 1 लीटर क्षमता की पॉलिथीन की बोतल में और एक 250 मिलीलीटर विसंक्रामित कांच की बोतल मे हर महीने नमूना संग्रह की तारीख पर एकत्र किए जाते हैं। पॉलिथीन की बोतलों में एकत्रित पानी के नमूनों का उपयोग भौतिक रासायनिक मापदंडों के विश्लेषण के लिए किया जाता है और विसंक्रामित कांच की बोतल में एकत्रित पानी के नमूने का उपयोग बैक्टीरिया के मानकों के विश्लेषण के लिए किया जाता है। वर्ष में एक बार अप्रैल के महीने में पानी के नमूने को एक नई पॉलिथीन की बोतलों में निशानी वाले और जहरीले तत्वों के विश्लेषण के लिए एकत्र किया जाता है और कीटनाशकों के विश्लेषण के लिए भूरे पीले रंग की

कांच की बोतल में भी पानी के नमूने एकत्र किए जाते हैं।

नमूने को संबंधित प्रयोगशालाओं में बर्फ के साथ ठंडे पैक में ले जाया जाता है , ताकि न्यूनतम 24 घंटे के संग्रह के बाद वे प्रयोगशालाओं में पहुंच सकें। प्रयोगशाला में नमूनों की प्राप्ति के तुरंत बाद pH, विद्युत प्रवाहकत्त्व, भंग ऑक्सीजन, क्षारीयता, कठोरता और अमोनिया जैसे मापदंडों का विश्लेषण किया जाता है। बाद में उन्हें निर्धारित समय सीमा के भीतर अन्य मापदंडों के विश्लेषण के लिए 4°C पर संरक्षित किया जाता है।

2.1 जल गुणवत्ता स्टेशनों का प्रकार:

स. क्र.	साइट का नाम	मण्डल का नाम	प्रकार	स. क्र.	साइट का नाम	मण्डल का नाम	प्रकार
1	विजयवाड़ा	नि.कृ.म.	फ्लक्स	17	होन्नाली	का.म.	बेसलाइन
2	कीसरा	नि.कृ.म.	बेसलाइन	18	शिमोगा	का.म.	बेसलाइन
3	मधिरा	नि.कृ.म.	ट्रेंड	19	होलेहोन्नूरु	का.म.	ट्रेंड
4	पलेरू बांध	नि.कृ.म.	ट्रेंड	20	यादगीर	नि.कृ.म.	ट्रेंड
5	वादेनापल्ली	नि.कृ.म.	ट्रेंड	21	मलखेड़	नि.कृ.म.	बेसलाइन
6	दामेरचेरला	नि.कृ.म.	ट्रेंड	22	टाकली	ऊ.कृ.म.	ट्रेंड
7	हालिया	नि.कृ.म.	ट्रेंड	23	सराटी	ऊ.कृ.म.	बेसलाइन
8	बावापुरम	नि.कृ.म.	ट्रेंड	24	फुलगाँव	ऊ.कृ.म.	बेसलाइन
9	मंत्रालयम	नि.कृ.म.	ट्रेंड	25	हुविनहेदगी	नि.कृ.म.	ट्रेंड
10	टी. रामपुरम	नि.कृ.म.	ट्रेंड	26	चोलचगुड्डा	ऊ.कृ.म.	ट्रेंड
11	केल्लोडु	का.म.	ट्रेंड	27	गोकक फ़ॉल्स	ऊ.कृ.म.	ट्रेंड
12	हूविनहोले	का.म.	ट्रेंड	28	कुरुंद्वाड़	ऊ.कृ.म.	ट्रेंड
13	मारोल	का.म.	ट्रेंड	29	अर्जुनवाड़	ऊ.कृ.म.	ट्रेंड
14	हरलाहल्ली	का.म.	ट्रेंड	30	समडोली	ऊ.कृ.म.	ट्रेंड
15	ब्यालड़ाहल्ली	का.म.	ट्रेंड	31	कराड़	ऊ.कृ.म.	ट्रेंड
16	कुप्पेलूर	का.म.	ट्रेंड	32	वारुंजी	ऊ.कृ.म.	बेसलाइन

2.2 विश्लेषण तकनीक और तरीके:

विभिन्न जल गुणवत्ता निगरानी स्टेशनों से प्राप्त पानी के नमूनों का विश्लेषण विभिन्न मापदंडों के लिए "पानी और अपशिष्ट जल की जांच के मानक तरीकों" - APHA, AWWA और WPCF, 22 वां संस्करण के अनुसार किया जाता हैं|

2.3 आयतनिक विश्लेषण विधि:

इस विधि का उपयोग कुल कठोरता , कैल्शियम, कार्बोनेट, बाइकार्बोनेट, क्लोराइड, घुलनशील ऑक्सीजन, जैव रासायनिक ऑक्सीजन की मांग और रासायनिक ऑक्सीजन की मांग को निर्धारित करने के लिए किया जाता है। इस प्रक्रिया में, सटीक रूप से ज्ञात संकेंद्रण की मात्रा का

पता लगाने के लिए विश्लेषण किया जाता है , जो नमूना की ज्ञात मात्रा के साथ प्रतिक्रिया करता है जिससे पैरामीटर की संकेंद्रता का मूल्यांकन किया जाता है।

2.4 उपकरण विधि:

उपकरण विधि मे, विश्लेषण किए गए प्रासंगिक मापदंडों और उपयोग किए गए उपकरणों का विवरण यहां दिया गया है:

स. क्र.	विधि	विश्लेषित किए गए मापदंड	उपकरण का नाम
1	पोटेंशियोमेट्रिक विधि	pH	डिजिटल pH मीटर
2	कंडोमेट्रिक विधि	विद्युत चालकता	डिजिटल चालकता मीटर
3	नेफेलोमेट्रिक विधि	सल्फेट और टर्बिडिटी	नेफेलो-टर्बिडिटी मीटर
4	लौ उत्सर्जन फोटोमेट्री विधि	सोडियम & पोटेशियम	लौ फोटोमीटर
5	वर्णमिति विधि	अमोनियाकल नाइट्रोजन, नाइट्राइट-नाइट्रोजन, फॉस्फेट-फॉस्फोरस, सिलिकॉन, बोरान	यूवी-विज़ स्पेक्ट्रोफोटोमीटर
6	ग्रेविमेट्रिक विधि	पूर्णत घुले हुए ठोंस पदार्थ	180^{o}C पर पूर्ण सूखापन के लिए गर्म वायु ओवन
7	क्रोमैटोग्राफिक विधि	एल्ड्रिन, बीएचसी, डीडीटी, डाइड्रिन और एंडोसुलफान	गैस क्रोमोग्राफ
8	परमाणु अवशोषण विधि	आर्सेनिक, कैडमियम, क्रोमियम, मरकरी, आयरन, निकल, लेड, जिंक और कॉपर	परमाणु अवशोषण स्पेक्ट्रोमीटर
9	ऑक्सीडेटिव दहन इन्फ्रारेड विश्लेषण विधि	कुल ओर्गनीक कार्बन	कुल ओर्गनीक कार्बन विश्लेषक
10	आयन चयनात्मक इलेक्ट्रोड विधि / स्पेक्ट्रोफोटोमेट्रिक विधि	नाइट्रेट-नाइट्रोजन और फ्लोराइड	आयन मीटर / स्पेक्ट्रोफोटोमीटर

2.5 के.ज.आ. प्रयोगशालाओं में विश्लेषण किए गए जल गुणवत्ता पैरामीटर्स की सूची

भौतिक - रासायनिक पैरामीटर: 1. PH 2. विद्युत चाल कता 3. सोडियम 4. पोटेशियम 5. कैल्शियम 6. मैग्नीशियम 7. लोहा 8. अमोनिया 9. कार्बोनेट 10. द्वि-कार्बोनेट 11. क्लोराइड 12. फ्लोराइड 13. सल्फेट 14. नाइट्रेट 15. नाइ ट्राइट 16. ऑर्थो-फॉस्फेट, 17. सिलिकेट, 18. टोटल हार्डनेस 19. टर्बिडिटी 20. बोरोन और 21. टोटल डिसॉल्व्ड सॉलिड्स।

जैविक / जीवाणुतत्व-संबंधी पैरामीटर: 1. घुलित ऑक्सीजन 2. जैव-रासायनिक ऑक्सीजन की माँग 3. रासायनिक ऑक्सीजन की माँग 4. टोटल ऑर्गेनिक कार्बन 5. फेकल कोलीफॉर्म

कीटनाशक: 1. एल्ड्रिन 2. बीएचसी 3. डीडीटी 4. डीड्रिन 5.एंडोसल्फान

ट्रेस और विषाक्त तत्व: 1. आर्सेनिक 2. पारा 3. निकल 4. जस्ता 5. क्रोमियम 6. लीड 7. कैडमियम 8. तांबा

2.6 परिकलित पैरामीटर:

छह मापदंडों की गणना अन्य मापदंडों के परिणामों के आधार पर की जाती है। जिसके लिए सूत्र नीचे दिए गए हैं।

(i) कार्बोनेट और बाइकार्बोनेट : पानी के नमूने में फेनोल्फथेलिन क्षारीयता (P) और कुल क्षारीयता (T) के मापित मूल्यों का उपयोग करके , कार्बोनेट क्षारीयता और बाइकार्बोनेट क्षारीयता की गणना गणना निम्नलिखित सूत्रों का उपयोग करके करते है।

अवस्था	OH^- क्षारीय $CaCO_3$ mg / L के रूप में	CO_3^- $CaCO_3$ क्षारीयता mg / L के रूप में	HCO_3^- $CaCO_3$ क्षारीयता mg / L के रूप में
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

CO_3-- mg / L = CO_3^{--} $CaCO_3$ mg / L x 0.60 के रूप में क्षारीयता

HCO_3- mg / L = HCO_3^- $CaCO_3$ mg / L x 1.22 के रूप में क्षारीयता

(ii) कैल्शियम: Ca^{++} mg/L = 0.4 x Ca-Hardness as $CaCO_3^{--}$ mg/L

(iii) मैग्निशियम: Mg^{++} mg/L = 0.243 x [Total Hardness as $CaCO_3$ -- mg/L - Ca^-Hardness as $CaCO_3^{--}$ mg/L]

(iv) सोडियम प्रतिशत (% Na): SP = $\frac{Na^+ X\ 100}{\sqrt{Ca^{++} + Mg^{++} + Na^+ + K^+}}$

(Ionic सांद्रता meq / L में हैं)

(v) सोडियम अवशोषण अनुपात (SAR): SAR = $\frac{Na^+}{\sqrt{(Ca^{++} + Mg^{++})/2}}$

(Ionic सांद्रता meq / L में हैं)

(vi) अवशिष्ट सोडियम कार्बोनेट (RSC): RSC = $(CO_3^{--} + HCO_3^-) - (Ca^{++} + Mg^{++})$

(Ionic सांद्रता meq / L में हैं)

2.7 प्रस्तुति का तरीका:

इस खंड में प्रस्तुत स्टेशन वार जल गुणवत्ता डेटा में इतिहास पत्रक , वर्तमान वर्ष के लिए जल गुणवत्ता डेटा पत्रक और पानी की गुणवत्ता सारांश और 1993 से पानी की गुणवत्ता मौसमी औसत सारांश शामिल हैं। इस खंड- III में प्रस्तुत डेटा SWDES के माध्यम से उत्पन्न होते हैं। पानी की गुणवत्ता वाली साइटों का क्रम समुद्र से ऊपर की ओर बहने वाली नदी या किसी अन्य नदी / अंतरराष्ट्रीय सीमा के साथ संगम से तय किया जाता है , तथा स्रोत की ओर , मध्यवर्ती उपनदी पर स्तिथ साइटों को प्राथमिकता दी जाती है। विभिन्न नामित उपयोगों के लिए पानी की गुणवत्ता के मापदंडों की सहिष्णुता सीमाएं भारतीय मानक ब्यूरो IS : 2296-1982 के अनुसार होती हैं।

2.8 जल गुणवत्ता परिदृश्य :

३२ जल गुणवत्ता वाले स्टेशनों में से 13 स्टेशनों के जल गुणवत्ता परिदृश्य को कृष्णा , तुंगभद्रा और भीमा नदियों पर गिरने वाली पुस्तक में शामिल किया गया है । शेष 19 स्टेशन कृष्णा की विभिन्न सहायक नदियों पर एकल बिंदु स्रोत हैं, जिनके लिए कोई पानी की गुणवत्ता परिदृश्य उपलब्ध नहीं है ।

KRISHNA BASIN
WATER QUALITY DATA (Vol. III)
(JUNE 2018 - MAY 2019)

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 2017-18. 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 of water quality parameters. All these laboratories are NABL accredited during the year 2017-18.

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.

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 $4^{o}C$ for analysis of other parameters within the prescribed time limits.

2.1 Type of Water Quality Stations:

Sl. No	Name of Site	Name of Division	Type	Sl. No	Name of Site	Name of Division	Type
1	Vijayawada	LKD	Flux	17	Honnali	CD	Baseline
2	Keesara	LKD	Baseline	18	Shimoga	CD	Baseline
3	Madhira	LKD	Trend	19	Holehonnur	CD	Trend
4	Paleru Bridge	LKD	Trend	20	Yadgir	LKD	Trend
5	Wadenapally	LKD	Trend	21	Malkhed	LKD	Baseline
6	Dameracherla	LKD	Trend	22	Takli	UKD	Trend
7	Halia	LKD	Trend	23	Sarati	UKD	Baseline
8	Bawapuram	LKD	Trend	24	Phulgaon	UKD	Baseline
9	Mantralayam	LKD	Trend	25	Huvinhedgi	LKD	Trend
10	T. Rampuram	LKD	Trend	26	Cholachagudda	UKD	Trend
11	Kellodu	CD	Trend	27	Gokakfalls	UKD	Trend
12	Hoovinahole	CD	Trend	28	Kurundwad	UKD	Trend
13	Marol	CD	Trend	29	Arujunwad	UKD	Trend
14	Harlahalli	CD	Trend	30	Samdoli	UKD	Trend
15	Byaladahalli	CD	Trend	31	Karad	UKD	Trend
16	Kuppelur	CD	Trend	32	Warunji	UKD	Baseline

2.2 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, 22^{nd} edition.

2.3 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.

2.4. Instrumental methods:

The instrumental methods, the relevant parameters analyzed and instruments used are given here under.

S.No.	Method	Parameter analyzed	Instrument used
1	Potentiometric method	pH	Digital pH meter
2	Conductometric method	Electrical Conductance	Digital Conductivity meter
3	Nephelometric method	Sulfate & Turbidity	Nephelo-Turbidity Meter
4	Flame Emission Photometric method	Sodium & Potassium	Flame Photometer
5	Colorimetric method	Ammonical Nitrogen, Nitrite-Nitrogen, Phosphate-Phosphorous, Silicon, Boron	UV-VIS Spectrophotometer
6	Gravimetric method	Total dissolved solids	Hot Air oven for total dryness at 180ºC
7	Chromatographic method	Aldrin, BHC, DDT, Dieldrin and Endosulphan	Gas Chromatograph
8	Atomic Absorption method	Arsenic, Cadmium, Chromium, Mercury,Iron Nickel, Lead, Zinc and copper	Atomic Absorption Spectrometer
9	Oxidative Combustion Infrared Analysis method	Total Organic Carbon	Total Organic Carbon Analyzer
10	Ion selective electrode method/Spectro photometric method	Nitrate-Nitrogen & Fluoride	Ion meter/Spectrophoto Meter

2.5 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.Turbity.20.Boron,21.Total Dissolved Solids.

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

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

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

2.6 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^{--} alkalinity as $CaCO_3$ mg/L	HCO^{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

CO_3^{--} mg/L = CO_3^{--} alkalinity as $CaCO_3$ mg/L x 0.60

HCO_3^- mg/L = HCO_3^- alkalinity as $CaCO_3$ mg/L x 1.22

(ii) Calcium: Ca^{++} mg/L = 0.4 x Ca-Hardness as $CaCO_3^{--}$ mg/L

(iii) Magnesium: Mg^{++} mg/L = 0.243 x [Total Hardness as $CaCO_3^{--}$ mg/L - Ca-Hardness as $CaCO_3^{--}$mg/L]

(iv) Sodium Percentage (%Na) : SP **=** $\frac{Na^+ X\,100}{\sqrt{Ca^{++} + Mg^{++} + Na^+ + K^+}}$

(Ionic concentrations are in meq /L)

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

(Ionic concentrations are in meq /L)

(vi) Residual Sodium Carbonate (RSC) : RSC = $(CO_3^{--} + HCO_3^-) – (Ca^{++} + Mg^{++})$

(Ionic concentrations are in meq /L)

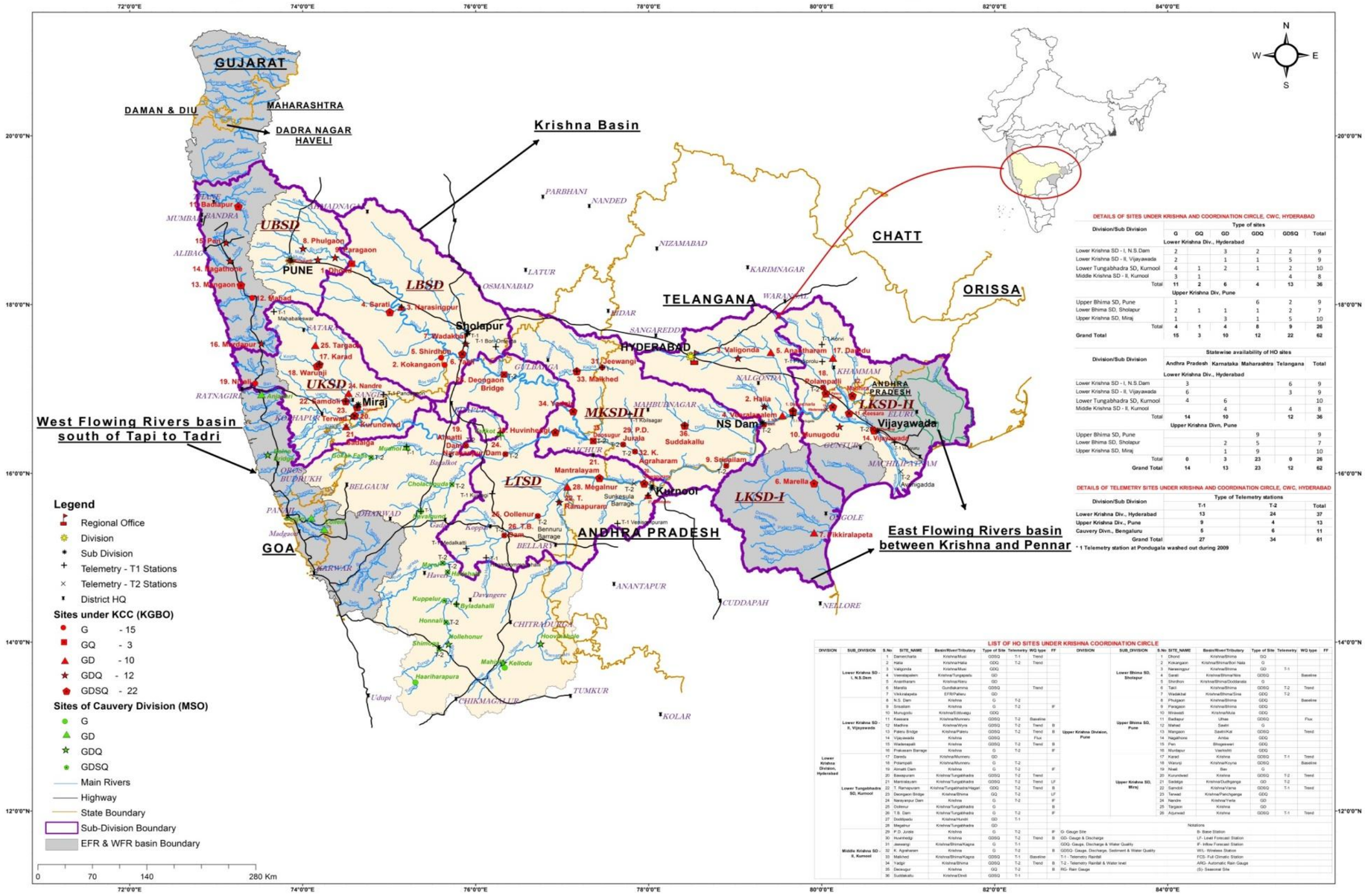
2.7 Method of Presentation

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.

2.8 Water Quality Scenario

Out of 32 water quality stations, the water quality scenario of 13 stations is included in the book which are falling on rivers Krishna ,Tungabhadra and Bhima. The remaining 19 stations are single point sources on different tributaries of Krishna for which no water quality scenario is available.

JURISDICTION MAP OF KRISHNA & COORDINATION CIRCLE, CWC, HYDERABAD



DETAILS OF SITES UNDER KRISHNA AND COORDINATION CIRCLE, CWC, HYDERABAD

Division/Sub Division	Type of sites					
	G	GQ	GD	GDQ	GDSQ	Total
Lower Krishna Div., Hyderabad						
Lower Krishna SD - I, N.S.Dam	2		3	2	2	9
Lower Krishna SD - II, Vijayawada	2		1	1	5	9
Lower Tungabhadra SD, Kurnool	4	1	2	1	2	10
Middle Krishna SD - II, Kurnool	3	1			4	8
Total	11	2	6	4	13	36
Upper Krishna Div, Pune						
Upper Bhima SD, Pune	1			6	2	9
Lower Bhima SD, Sholapur	2	1	1	1	2	7
Upper Krishna SD, Miraj	1		3	1	5	10
Total	4	1	4	8	9	26
Grand Total	15	3	10	12	22	62

Division/Sub Division	Statewise availability of HO sites				
	Andhra Pradesh	Karnataka	Maharashtra	Telangana	Total
Lower Krishna Div., Hyderabad					
Lower Krishna SD - I, N.S.Dam	3			6	9
Lower Krishna SD - II, Vijayawada	6			3	9
Lower Tungabhadra SD, Kurnool	4		6		10
Middle Krishna SD - II, Kurnool			4	4	8
Total	14		10	12	36
Upper Krishna Divn, Pune					
Upper Bhima SD, Pune			9		9
Lower Bhima SD, Sholapur		2	5		7
Upper Krishna SD, Miraj		1	9		10
Total	0	3	23	0	26
Grand Total	14	13	23	12	62

DETAILS OF TELEMETRY SITES UNDER KRISHNA AND COORDINATION CIRCLE, CWC, HYDERABAD

Division/Sub Division	Type of Telemetry stations		
	T-1	T-2	Total
Lower Krishna Div., Hyderabad	13	24	37
Upper Krishna Div., Pune	9	4	13
Cauvery Divn., Bengaluru	5	6	11
Grand Total	27	34	61

* 1 Telemetry station at Pondugala washed out during 2009

LIST OF HO SITES UNDER KRISHNA COORDINATION CIRCLE

DIVISION	SUB_DIVISION	S.No	SITE_NAME	Basin/River/Tributary	Type of Site	Telemetry	WQ type	FF
Lower Krishna Division, Hyderabad	Lower Krishna SD - I, N.S.Dam	1	Damercharla	Krishna/Musi	GDSQ	T-1	Trend	
		2	Halia	Krishna/Halia	GDQ	T-2	Trend	
		3	Valigonda	Krishna/Musi	GDQ			
		4	Veerabadrapalem	Krishna/Tungapatlu	GD			
		5	Anantharam	Krishna/Nimu	GD			
		6	Manthla	Gundlakamma	GDSQ		Trend	
		7	Vikkiralapeta	EFR/Pallaru	GD			
		8	N.S. Dam	Krishna	G	T-2		
		9	Srisailam	Krishna	G	T-2		F
		10	Munugodu	Krishna/Eddavagu	GDQ			
	Lower Krishna SD - II, Vijayawada	11	Kesara	Krishna/Munneru	GDSQ	T-2	Baseline	
		12	Madhira	Krishna/Wyra	GDSQ	T-2	Trend	B
		13	Paleru Bridge	Krishna/Paleru	GDSQ	T-2	Trend	B
		14	Vijayawada	Krishna	GDSQ		Flux	
		15	Wadapalli	Krishna	GDSQ	T-2	Trend	B
		16	Prakasam Barrage	Krishna	G	T-2		F
		17	Dareda	Krishna/Munneru	GD			
		18	Polampalli	Krishna/Munneru	G	T-2		
		19	Almatti Dam	Krishna	G	T-2		F
		20	Bawapuram	Krishna/Tungabhadra	GDSQ	T-2	Trend	
		21	Mantralayam	Krishna/Tungabhadra	GDSQ	T-2	Trend	LF
	Lower Tungabhadra SD, Kurnool	22	T. Ramapuram	Krishna/Tungabhadra/Hagari	GDQ	T-2	Trend	B
		23	Deongaon Bridge	Krishna/Bhima	GQ	T-2		LF
		24	Narayanpur Dam	Krishna	G	T-2		F
		25	Oollenur	Krishna/Tungabhadra	G			B
		26	T.B. Dam	Krishna/Tungabhadra	G	T-2		F
		27	Dadhipadu	Krishna/Hundri	GD	T-1		
		28	Megalnur	Krishna/Tungabhadra	GD			
		29	P.D. Jurala	Krishna	G	T-2		F
		30	Huvinhedgi	Krishna	GDSQ	T-2	Trend	B
		31	Jewargi	Krishna/Bhima/Kagna	G	T-1		
	Middle Krishna SD - II, Kurnool	32	K. Agraharam	Krishna	G	T-2		B
		33	Malkhed	Krishna/Bhima/Kagna	GDSQ	T-1	Baseline	
		34	Yadgir	Krishna/Bhima	GDSQ	T-2	Trend	B
		35	Deosugur	Krishna	GQ	T-2		B
		36	Suddakallu	Krishna/Dindi	GDSQ	T-1		
Upper Krishna Division, Pune	Upper Bhima SD, Pune	1	Dhond	Krishna/Bhima	GD			
		2	Kokangaon	Krishna/Bhima/Bori Nala	G			
		3	Narsingpur	Krishna/Bhima	GD	T-1		
		4	Saratl	Krishna/Bhima/Nira	GDSQ			Baseline
		5	Shirdhon	Krishna/Bhima/Doddanala	G			
		6	Takli	Krishna/Bhima	GDSQ	T-2	Trend	
		7	Wadakbal	Krishna/Bhima/Sina	GDQ	T-2		
		8	Phulgaon	Krishna/Bhima	GDQ			Baseline
		9	Paragaon	Krishna/Bhima	GDQ			
		10	Mirawadi	Krishna/Mula	GDQ			
		11	Badapur	Ulhas	GDSQ			Flux
		12	Mahad	Savitri	G			
		13	Mangaon	Savitri/Kol	GDSQ			Trend
		14	Nagathone	Amba	GDQ			
		15	Pen	Bhogeswari	GDQ			
		16	Mordapur	Vashishti	GDQ			
		17	Karad	Krishna	GDSQ	T-1	Trend	
		18	Warunji	Krishna/Koyna	GDSQ			Baseline
		19	Nirali	Bas	G			
		20	Kurundwad	Krishna/Bhima	GDSQ	T-2	Trend	
	Upper Krishna SD, Miraj	21	Sadalga	Krishna/Dudhganga	GD	T-2		
		22	Samdoli	Krishna/Yerla	GDSQ	T-1	Trend	
		23	Terwad	Krishna/Warnaganga	GDQ			
		24	Nandre	Krishna/Yerla	GD			
		25	Targaon	Krishna	GD			
		26	Arjunwad	Krishna	GDSQ	T-1	Trend	

Notations

B- Base Station
LF - Level Forecast Station
IF - Inflow Forecast Station
WS - Wireless Station
FCS- Full Climatic Station
ARG- Automatic Rain Gauge
(S)- Seasonal Site

G- Gauge Site
GD- Gauge & Discharge
GDQ- Gauge, Discharge & Water Quality
GDSQ- Gauge, Discharge, Sediment & Water Quality
T-1 - Telemetry Rainfall
T-2 - Telemetry Rainfall & Water level
RG- Rain Gauge

Table 1 - Tolerance limit relating to selected pollution parameters for inland surface waters required for different uses as prescribed by the Bureau of Indian Standards (BIS: 2296-1982)

Sl. No	Constituents	Unit	Designated use class of inland surface water				
			A	B	C	D	E
1	pH		6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5	6.0-8.5
2	EC at 25°C	µS/cm,Max	-	-	-	1000	2250
3	DO	mg/L, Min	6	5	4	4	-
4	BOD	mg/L, Max	2	3	3	-	-
5	Total coliform organisms	MPN/100 ml, Max	50*	500*	5000*	-	-
6	Colour,	Hazen units, Max	10	300	300	-	-
7	Odour		Un-objectionable	-	-	-	-
8	Taste		Tasteless	-	-	-	-
9	Total dissolved solids	mg/L, Max	500	-	1500	-	2100
10	Total Hardness	as $CaCO_3$, mg/L, Max	300	-	-	-	-
11	Calcium hardness	as $CaCO_3$, mg/L, Max	200	-	-		-
12	Magnesium	as $CaCO_3$, mg/L, Max	100	-	-	-	-
13	Iron	as Fe, mg/L, Max	0.3	-	50	-	-
14	Chloride	as Cl, mg/L, Max	250	-	600	-	600
15	Fluoride	as F, mg/L, Max	1.5	1.5	1.5	-	-
16	Sulphate	as SO_4,mg/L, Max	400	-	400	-	1000
17	Nitrate	as NO_3, mg/L, Max	20	-	50	-	-
18	Free Ammonia	as N, mg/L, Max	-	-	-	1.2	-
19	Arsenic	as As, mg/L, Max	0.05	0.2	0.2	-	-
20	Boron	as B, mg/L, Max	-	-	-	-	2
21	Cadmium	as Cd, mg/L, Max	0.01	-	0.01	-	-
22	Chromium	as Cr^{6+}, mg/L, Max	0.05	0.05	0.05	-	-
23	Copper	as Cu, mg/L, Max	1.5	-	1.50	-	-
24	Cyanide	as CN, mg/L, Max	0.05	0.05	0.05	-	-
25	Lead	as Pb, mg/L, Max	0.1	-	0.10	-	-
26	Manganese	as Mn, mg/L, Max	0.5	-	-	-	-
27	Mercury	as Hg mg/L, Max	0.001	-	-	-	-
28	Zinc	as Zn, mg/L, Max	15	-	15	-	-
29	Pesticides		Absent	-	Absent	-	-
30	Free carbon dioxide	as CO_2, mg/L, Max	-	-	-	6	-
31	Phenolic compound	as C_6H_5OH, mg/L,Max	0.002	0.005	0.005	-	-
32	Sodium percent,	Max	-	-	-	-	60
33	SAR	Max	-	-	-	-	26

A Drinking water source without conventional treatment but after disinfections
B Outdoor bathing-organised
C Drinking water source with conventional treatment followed by disinfections
D Propagation of wildlife, fisheries
E Irrigation, industrial cooling and controlled waste disposal

*** If the coliform count is more than the prescribed tolerance limit, the criteria for coliform shall be satisfied if not more than 20% of samples show more than the tolerance limit specified and not more than 5% of samples show more than 4 times the tolerance limit. Further, the faecal coliform should not be more than 40% of the total coliform.**

HISTORY SHEET

			Water Year	:	**2018-2019**
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 : 2018-2019

Station Name : Vijayawada (AK000B9) **Division : Lower Krishna Divn., Hyderabad**

Local River : Krishna **River Water Analy** **Sub-Division : Lower Krishna SD2, Vijayawada**

S.No	Parameters	25/06/2018	14/07/2018	12/08/2018	19/09/2018	03/10/2018
		A	A	A	A	A
	PHYSICAL					
1	Q (cumec)	0.000	26.16	700.8	61.10	0.000
2	Colour_Cod (-)	Clear	Light Brown	Light Brown	Clear	Clear
3	EC_FLD (µmho/cm)		1015	1018		486
4	EC_GEN (µmho/cm)	686	725	452	448	315
5	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free
6	pH_FLD (pH units)		7.4	7.4	7.6	7.0
7	pH_GEN (pH units)	8.1	8.1	8.2	8.2	7.8
8	TDS (mg/L)	452	283	259	244	223
9	Temp (deg C)	20.0	26.0	25.0	24.0	23.0
10	Turb (NTU)	12.00	32.00	1.00	15.00	42.00
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	121	134	8	128	133
3	B (mg/L)	0.04	0.06	0.06	0.01	0.12
4	Ca (mg/L)	35	30	24	31	30
5	Cl (mg/L)	92.9	58.5	45.1	36.8	44.2
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.66	0.38	0.33	0.38	0.44
8	Fe (mg/L)	0.3	1.6	1.3	0.0	0.0
9	HCO3 (mg/L)	148	163	10	156	162
10	K (mg/L)	0.4	0.3	0.3	0.4	0.4
11	Mg (mg/L)	20.4	17.2	14.6	12.9	12.7
12	Na (mg/L)	75.6	28.8	32.1	40.4	45.1
13	NH3-N (mg N/L)	0.01	0.10	0.09	0.22	0.00
14	NO2+NO3 (mg N/L)	0.02	2.63	1.86	0.97	0.25
15	NO2-N (mgN/L)	0.02	0.02	0.01	0.67	0.01
16	NO3-N (mgN/L)	0.00	2.61	1.85	0.30	0.24
17	o-PO4-P (mg P/L)	0.080	0.100	0.100	0.200	0.300
18	SiO2 (mg/L)	40.0	39.1	7.1	9.8	13.0
19	SO4 (mg/L)	36.3	25.9	91.8	43.5	40.9
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.8	1.5	2.5	2.4	1.2
2	COD (mg/L)	20.0	23.6	21.6	8.4	22.0
3	DO (mg/L)	6.5	4.8	5.9	6.0	4.0
4	DO_SAT% (%)	71	59	71	71	47
5	FCol-MPN (MPN/100mL)	80	80	140	500	140
6	Tcol-MPN (MPN/100mL)	1300	16000	1700	9000	16000
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)	0.00	15.00	19.00	11.00	5.00
5	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)	0.04	63.50	58.60	37.40	5.00
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	87	76	60	77	74
2	HAR_Total (mgCaCO3/L)	172	147	121	131	127
3	Na% (%)	49	30	37	40	44
4	RSC (-)	0.0	0.0	0.0	0.0	0.1
5	SAR (-)	2.5	1.0	1.3	1.5	1.7
	PESTICIDES					

Water Quality Datasheet for the period : 2018-2019

Station Name : Vijayawada (AK000B9) **Division : Lower Krishna Divn., Hyderabad**

Local River : Krishna **River Water Analy** **Sub-Division : Lower Krishna SD2, Vijayawada**

S.No	Parameters	01/11/2018	01/01/2019	01/02/2019	01/03/2019	01/04/2019	01/05/2019
		A	A	A	A	A	A
	PHYSICAL						
1	Q (cumec)	0.000	0.000	0.000	0.000	0.000	0.000
2	Colour_Cod (-)	Clear	Light Brown	Clear	Clear	Clear	Light Brown
3	EC_FLD (µmho/cm)	624	560	648	657	634	624
4	EC_GEN (µmho/cm)	641	679	865	1003	725	428
5	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free	odour free
6	pH_FLD (pH units)	8.2	7.4	7.4	7.4	8.1	8.7
7	pH_GEN (pH units)	7.8	8.4	7.9	7.6	7.3	8.0
8	TDS (mg/L)	434	391	489	504	481	310
9	Temp (deg C)	18.0	19.0	16.0	19.0	20.0	21.0
10	Turb (NTU)	0.00	1.00	1.00	2.00	1.00	1.00
	CHEMICAL						
1	Alk-Phen (mgCaCO3/L)	0.0	4.9	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	144	220	204	225	195	174
3	B (mg/L)	0.10	0.03	0.04	0.03	0.09	0.04
4	Ca (mg/L)	33	46	45	43	41	27
5	Cl (mg/L)	62.0	99.0	0.8	107.0	96.0	80.9
6	CO3 (mg/L)	0.0	5.9	0.0	0.0	0.0	0.0
7	F (mg/L)	0.06	0.75	0.76	0.57	0.60	0.71
8	Fe (mg/L)	0.0	0.1	0.2	0.1	0.2	0.6
9	HCO3 (mg/L)	176	256	249	274	237	212
10	K (mg/L)	0.5	0.3	0.5	0.8	0.4	0.5
11	Mg (mg/L)	23.8	25.5	31.9	27.8	28.8	20.4
12	Na (mg/L)	51.1	74.0	48.8	97.0	92.7	72.2
13	NH3-N (mg N/L)	0.29	0.15	0.09	0.84	0.05	0.03
14	NO2+NO3 (mg N/L)	2.78	0.35	1.65	2.60	0.48	0.49
15	NO2-N (mgN/L)	0.00	0.02	0.03	0.09	0.00	0.02
16	NO3-N (mgN/L)	2.78	0.33	1.62	2.51	0.48	0.47
17	o-PO4-P (mg P/L)	0.100	0.193	0.190	0.237	0.930	0.204
18	SiO2 (mg/L)	11.0	5.4	14.6	7.6	14.6	23.2
19	SO4 (mg/L)	83.9	34.1	83.2	126.6	115.5	55.4
	BIOLOGICAL/BACTERIOLOGICAL						
1	BOD3-27 (mg/L)	2.0	1.8	1.7	1.1	0.6	2.7
2	COD (mg/L)	10.4	19.9	3.2	19.0	26.5	17.9
3	DO (mg/L)	5.0	7.1	7.7	7.6	7.9	7.9
4	DO_SAT% (%)	53	77	78	82	87	89
5	FCol-MPN (MPN/100mL)	300	300	1700	1700	210	170
6	Tcol-MPN (MPN/100mL)	1400	1400	3400	5000	330	340
	TRACE & TOXIC						
1	As (µg/L)					2.43	
2	Cd (µg/L)					1.30	
3	Cr (µg/L)					2.00	
4	Cu (µg/L)	7.00	8.00	4.00	3.00	18.00	6.00
5	Hg (µg/L)					0.04	
6	Ni (µg/L)					5.30	
7	Pb (µg/L)					17.00	
8	Zn (µg/L)	14.10	26.50	38.40	23.60	11.90	14.40
	CHEMICAL INDICES						
1	HAR_Ca (mgCaCO3/L)	82	115	112	109	103	68
2	HAR_Total (mgCaCO3/L)	181	221	245	224	223	153
3	Na% (%)	38	42	30	49	48	51
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.4
5	SAR (-)	1.7	2.2	1.4	2.8	2.7	2.5
	PESTICIDES						

Water Quality Summary for the period : 2018-2019

Station Name : Vijayawada (AK000B9) **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)	365	4174	0.000	32.22
2	EC_FLD (µmho/cm)	10	1018	486	689
3	EC_GEN (µmho/cm)	12	1003	315	648
4	pH_FLD (pH units)	11	8.7	7.0	7.7
5	pH_GEN (pH units)	12	8.4	7.3	7.9
6	TDS (mg/L)	11	504	223	370
7	Temp (deg C)	12	26.0	16.0	21.1
8	Turb (NTU)	11	42.00	0.00	9.82
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	12	4.9	0.0	0.4
2	ALK-TOT (mgCaCO3/L)	12	225	8	152
3	B (mg/L)	12	0.12	0.00	0.05
4	Ca (mg/L)	12	46	24	35
5	Cl (mg/L)	12	107.0	0.8	63.8
6	CO3 (mg/L)	12	5.9	0.0	0.5
7	F (mg/L)	12	0.76	0.06	0.48
8	Fe (mg/L)	12	1.6	0.0	0.4
9	HCO3 (mg/L)	12	274	10	185
10	K (mg/L)	12	0.8	0.3	0.4
11	Mg (mg/L)	12	31.9	12.7	20.8
12	Na (mg/L)	12	97.0	28.8	57.9
13	NH3-N (mg N/L)	12	0.84	0.00	0.17
14	NO2+NO3 (mg N/L)	12	2.78	0.02	1.23
15	NO2-N (mgN/L)	12	0.67	0.00	0.11
16	NO3-N (mgN/L)	12	2.78	0.00	1.12
17	o-PO4-P (mg P/L)	12	0.930	0.080	0.253
18	SiO2 (mg/L)	12	40.0	5.4	16.6
19	SO4 (mg/L)	11	126.6	25.9	67
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	12	2.7	0.2	1.6
2	COD (mg/L)	12	26.5	3.2	16.3
3	DO (mg/L)	12	7.9	4.0	6.3
4	DO_SAT% (%)	12	89	47	71
5	FCol-MPN (MPN/100mL)	12	1700	80	450
6	Tcol-MPN (MPN/100mL)	12	16000	330	4714
	TRACE & TOXIC				
1	As (µg/L)	1	2.43	2.43	2.43
2	Cd (µg/L)	1	1.30	1.30	1.3
3	Cr (µg/L)	1	2.00	2.00	2
4	Cu (µg/L)	12	19.00	0.00	8.67
5	Hg (µg/L)	1	0.04	0.04	0.04
6	Ni (µg/L)	1	5.30	5.30	5.3
7	Pb (µg/L)	1	17.00	17.00	17
8	Zn (µg/L)	12	63.50	0.04	25.1
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	12	115	60	87
2	HAR_Total (mgCaCO3/L)	12	245	121	173
3	Na% (%)	12	51	30	41
4	RSC (-)	12	0.4	0.0	0.1
5	SAR (-)	12	2.8	1.0	1.9
	PESTICIDES				

Water Quality Seasonal Average for the period: 2004-2019

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				
		2004	2005	2006	2007	2008
	PHYSICAL					
1	Q (cumec)	4.827	429.0	270.5	3578	100.1
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	611	502	509	519	597
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	7.8	7.9	8.3	8.0	8.3
6	TDS (mg/L)					
7	Temp (deg C)	27.8	27.8	28.2	26.5	26.3
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	1.5	0.0	3.3	0.0	4.0
2	ALK-TOT (mgCaCO3/L)	227	173	154	149	182
3	B (mg/L)	0.00	0.00	0.00	0.00	0.00
4	Ca (mg/L)	39	35	36	34	42
5	Cl (mg/L)	50.2	41.0	43.1	33.5	51.1
6	CO3 (mg/L)	1.8	0.0	4.0	0.0	4.8
7	F (mg/L)	0.95	0.49	0.67	0.66	0.65
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	274	211	180	182	212
10	K (mg/L)	3.4	2.6	2.9	3.5	3.1
11	Mg (mg/L)	15.9	14.6	11.8	13.5	11.2
12	Na (mg/L)	60.5	39.4	60.4	44.0	53.8
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.05	0.05
14	NO2+NO3 (mg N/L)	0.01	0.01	0.00	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	0.01	0.00	0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.001	0.001	0.001	0.001
19	SiO2 (mg/L)	17.6	23.2	16.3	12.9	16.4
20	SO4 (mg/L)	46.5	36.4	41.8	30.0	46.2
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.7	1.2	1.1	1.1	1.2
2	COD (mg/L)				11.8	17.9
3	DO (mg/L)	5.0	5.7	7.2	6.7	6.5
4	DO_SAT% (%)	64	73	93	84	80
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)	96	87	90	84	106
2	HAR_Total (mgCaCO3/L)	162	147	139	140	152
3	Na% (%)	44	35	46	40	43
4	RSC (-)	1.4	0.7	0.3	0.2	0.6
5	SAR (-)	2.1	1.4	2.2	1.6	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: 2004-2019

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				
		2009	2010	2011	2012	2013
	PHYSICAL					
1	Q (cumec)	354.0	629.0	165.6		454.2
2	EC_FLD (µmho/cm)		537			
3	EC_GEN (µmho/cm)	576	572	622		507
4	pH_FLD (pH units)		7.6			
5	pH_GEN (pH units)	8.2	8.2	8.1		8.4
6	TDS (mg/L)			421		272
7	Temp (deg C)	26.0	30.6	28.0		31.0
8	Turb (NTU)			1.00		1.44
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	1.6	1.3		2.2
2	ALK-TOT (mgCaCO3/L)	150	163	171		130
3	B (mg/L)	0.00	0.00	0.00		0.05
4	Ca (mg/L)	31	37	34		27
5	Cl (mg/L)	52.8	56.9	60.6		39.8
6	CO3 (mg/L)	0.0	1.9	1.6		2.6
7	F (mg/L)	0.56	0.65	1.15		0.61
8	Fe (mg/L)	0.0	0.0	0.0		0.1
9	HCO3 (mg/L)	183	195	206		153
10	K (mg/L)	3.2	3.5	3.3		2.6
11	Mg (mg/L)	15.5	14.9	20.6		15.6
12	Na (mg/L)	52.8	55.3	57.6		44.8
13	NH3-N (mg N/L)	0.00	0.00	0.00		0.09
14	NO2+NO3 (mg N/L)	1.50	0.00	0.38		0.60
15	NO2-N (mgN/L)	0.00	0.00	0.00		0.00
16	NO3-N (mgN/L)	1.50	0.00	0.38		0.60
17	o-PO4-P (mg P/L)			0.267		0.115
18	P-Tot (mgP/L)	0.000	0.162	0.371		
19	SiO2 (mg/L)	14.1	13.5	13.0		12.2
20	SO4 (mg/L)	61.6	51.8	55.3		40.3
	BIOLOGICAL/BACTERIOLOG					
1	BOD3-27 (mg/L)	1.5	1.2	0.9		1.3
2	COD (mg/L)	29.5	39.3	11.2		6.6
3	DO (mg/L)	6.1	7.1	6.5		6.7
4	DO_SAT% (%)	84	94	84		90
5	FCol-MPN (MPN/100mL)	16000	13800	13667		401
6	Tcol-MPN (MPN/100mL)	16000	14600	16000		1201
7	TOC (mg/L)			3.5		
	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	91	86		68
2	HAR_Total (mgCaCO3/L)	143	153	172		133
3	Na% (%)	44	43	42		42
4	RSC (-)	0.2	0.2	0.2		0.0
5	SAR (-)	1.9	2.0	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)					

Samples not collected during Flood season 2012.

Water Quality Seasonal Average for the period: 2004-2019

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				
		2014	2015	2016	2017	2018
	PHYSICAL					
1	Q (cumec)	125.8		365.2	134.0	157.6
2	EC_FLD (µmho/cm)					840
3	EC_GEN (µmho/cm)	497		512	520	525
4	pH_FLD (pH units)				6.5	7.3
5	pH_GEN (pH units)	8.6		8.3	7.6	8.1
6	TDS (mg/L)			461	302	292
7	Temp (deg C)	32.0		22.5	23.0	23.6
8	Turb (NTU)	13.00		4.00	37.00	20.40
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	4.2		1.0	4.0	0.0
2	ALK-TOT (mgCaCO3/L)	141		138	158	105
3	B (mg/L)	0.19				0.06
4	Ca (mg/L)	27		29	35	30
5	Cl (mg/L)	67.2		39.9	72.8	55.5
6	CO3 (mg/L)	5.0		1.2	4.8	0.0
7	F (mg/L)	0.47		0.38	0.45	0.44
8	Fe (mg/L)	0.1		0.1	1.7	0.6
9	HCO3 (mg/L)	162		165	183	128
10	K (mg/L)	3.2		3.1	0.4	0.4
11	Mg (mg/L)	15.1		15.9	23.0	15.6
12	Na (mg/L)	50.8		42.7	53.9	44.4
13	NH3-N (mg N/L)	0.00		0.00	0.10	0.08
14	NO2+NO3 (mg N/L)	1.22		0.79	14.03	1.15
15	NO2-N (mgN/L)	0.03		0.00	0.03	0.15
16	NO3-N (mgN/L)	1.19		0.79	14.01	1.00
17	o-PO4-P (mg P/L)	0.110		0.073	0.160	0.156
18	P-Tot (mgP/L)					
19	SiO2 (mg/L)	12.8		9.7	0.0	21.8
20	SO4 (mg/L)	48.7		24.5	28.3	47.7
	BIOLOGICAL/BACTERIOLOG					
1	BOD3-27 (mg/L)	1.6		0.9	0.6	1.9
2	COD (mg/L)	3.5		7.0	3.3	19.1
3	DO (mg/L)	6.7		6.4	6.0	5.4
4	DO_SAT% (%)	92		74	70	64
5	FCol-MPN (MPN/100mL)	16000		12500	16000	188
6	Tcol-MPN (MPN/100mL)	16000		12500	16000	8800
7	TOC (mg/L)					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)				4.00	10.00
5	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)				79.60	32.91
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	68		73	88	75
2	HAR_Total (mgCaCO3/L)	131		139	184	140
3	Na% (%)	45		40	39	40
4	RSC (-)	0.2		0.0	0.0	0.0
5	SAR (-)	1.9		1.6	1.7	1.6
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Samples not collected during Flood season 2015.

Water Quality Seasonal Average for the period: 2004-2019

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			
		2004-2005	2005-2006	2006-2007	2007-2008
	PHYSICAL				
1	Q (cumec)	2.428	971.2	139.8	96.83
2	EC_FLD (µmho/cm)				
3	EC_GEN (µmho/cm)	584	520	508	566
4	pH_FLD (pH units)				
5	pH_GEN (pH units)	7.9	8.1	8.4	8.5
6	TDS (mg/L)				
7	Temp (deg C)	26.1	24.8	27.0	25.8
8	Turb (NTU)				
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	1.2	3.9	10.0	13.9
2	ALK-TOT (mgCaCO3/L)	183	172	186	189
3	B (mg/L)	0.00	0.00	0.00	0.00
4	Ca (mg/L)	42	37	40	40
5	Cl (mg/L)	52.3	39.8	40.5	48.8
6	CO3 (mg/L)	1.5	4.8	12.0	16.7
7	F (mg/L)	0.56	0.63	0.48	0.82
8	Fe (mg/L)	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	220	201	203	196
10	K (mg/L)	2.9		2.3	2.9
11	Mg (mg/L)	17.9	14.5	14.5	17.0
12	Na (mg/L)	42.0		57.5	65.5
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.05
14	NO2+NO3 (mg N/L)	0.01	0.01	0.00	0.01
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.01	0.01	0.00	0.01
17	o-PO4-P (mg P/L)				
18	P-Tot (mgP/L)	0.001	0.001	0.001	0.001
19	SiO2 (mg/L)	14.1	13.7	18.3	15.0
20	SO4 (mg/L)	59.8	47.8	40.8	42.3
	BIOLOGICAL/BACTERIOLOG				
1	BOD3-27 (mg/L)	1.0	1.2	1.2	1.2
2	COD (mg/L)				31.3
3	DO (mg/L)	6.4	6.6	7.7	7.5
4	DO_SAT% (%)	79	80	96	91
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)	105	92	101	100
2	HAR_Total (mgCaCO3/L)	180	152	161	171
3	Na% (%)	33		43	45
4	RSC (-)	0.3	0.4	0.5	0.4
5	SAR (-)	1.4		2.0	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: 2004-2019

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			
		2008-2009	2009-2010	2010-2011	2011-2012
	PHYSICAL				
1	Q (cumec)	198.1	176.2	230.9	146.3
2	EC_FLD (µmho/cm)			675	
3	EC_GEN (µmho/cm)	666	650	724	524
4	pH_FLD (pH units)			7.4	
5	pH_GEN (pH units)	8.5	8.2	8.3	8.5
6	TDS (mg/L)				328
7	Temp (deg C)	24.8	25.0	26.0	28.0
8	Turb (NTU)				1.00
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	8.0	0.0	5.3	12.2
2	ALK-TOT (mgCaCO3/L)	195	196	197	155
3	B (mg/L)	0.00	0.00	0.00	0.17
4	Ca (mg/L)	53	38	40	28
5	Cl (mg/L)	55.0	58.1	70.8	50.5
6	CO3 (mg/L)	9.6	0.0	6.4	14.7
7	F (mg/L)	0.76	0.55	0.77	0.57
8	Fe (mg/L)	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	218	239	228	159
10	K (mg/L)	3.1	3.1	3.7	2.5
11	Mg (mg/L)	9.7	19.4	22.2	16.0
12	Na (mg/L)	63.3	64.8	71.1	52.4
13	NH3-N (mg N/L)	0.05	0.00	0.00	0.00
14	NO2+NO3 (mg N/L)	0.01	1.64	0.00	2.75
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.01	1.64	0.00	2.75
17	o-PO4-P (mg P/L)				0.230
18	P-Tot (mgP/L)	0.001	0.000	0.153	0.230
19	SiO2 (mg/L)	16.3	16.5	15.6	15.1
20	SO4 (mg/L)	49.0	53.0	57.7	49.8
	BIOLOGICAL/BACTERIOLOG				
1	BOD3-27 (mg/L)	1.1	1.6	0.7	0.3
2	COD (mg/L)	9.4	15.3	19.4	4.3
3	DO (mg/L)	7.1	7.2	7.2	6.2
4	DO_SAT% (%)	86	87	89	79
5	FCol-MPN (MPN/100mL)		16000	16000	16000
6	Tcol-MPN (MPN/100mL)		16000	16000	16000
7	TOC (mg/L)				2.4
	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)	133	94	99	70
2	HAR_Total (mgCaCO3/L)	174	175	191	137
3	Na% (%)	44	44	44	45
4	RSC (-)	0.4	0.8	0.2	0.4
5	SAR (-)	2.1	2.2	2.3	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: 2004-2019

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		
		2013-2014	2018-2019	Remarks
	PHYSICAL			
1	Q (cumec)	189.7	0.000	
2	EC_FLD (µmho/cm)		614	
3	EC_GEN (µmho/cm)	562	747	
4	pH_FLD (pH units)		7.8	
5	pH_GEN (pH units)	8.3	7.9	
6	TDS (mg/L)	485	438	
7	Temp (deg C)	27.5	18.8	
8	Turb (NTU)	4.00	0.67	
	CHEMICAL			
1	Alk-Phen (mgCaCO3/L)	2.1	1.2	
2	ALK-TOT (mgCaCO3/L)	160	178	
3	B (mg/L)	0.02	0.04	
4	Ca (mg/L)	33	39	
5	Cl (mg/L)	44.5	51.0	Sample not collected during winter season 2012-2013 and from 2014-2015 to 2017-2018.
6	CO3 (mg/L)	2.5	1.5	
7	F (mg/L)	0.55	0.42	
8	Fe (mg/L)	0.0	0.1	
9	HCO3 (mg/L)	191	214	
10	K (mg/L)	3.2	0.4	
11	Mg (mg/L)	19.1	23.7	
12	Na (mg/L)	50.6	52.9	
13	NH3-N (mg N/L)	0.00	0.16	
14	NO2+NO3 (mg N/L)	1.13	1.37	
15	NO2-N (mgN/L)	0.00	0.12	
16	NO3-N (mgN/L)	1.13	1.25	
17	o-PO4-P (mg P/L)	0.175	0.221	
18	P-Tot (mgP/L)			
19	SiO2 (mg/L)	12.6	11.1	
20	SO4 (mg/L)	17.3	67.1	
	BIOLOGICAL/BACTERIOLOG			
1	BOD3-27 (mg/L)	1.1	1.4	
2	COD (mg/L)	3.7	9.2	
3	DO (mg/L)	6.8	6.4	
4	DO_SAT% (%)	86	68	
5	FCol-MPN (MPN/100mL)	515	595	
6	Tcol-MPN (MPN/100mL)	1450	1725	
7	TOC (mg/L)			
	TRACE & TOXIC			
1	As (µg/L)			
2	Cd (µg/L)			
3	Cr (µg/L)			
4	Cu (µg/L)		6.75	
5	Hg (µg/L)			
6	Ni (µg/L)			
7	Pb (µg/L)			
8	Zn (µg/L)		21.68	
	CHEMICAL INDICES			
1	HAR_Ca (mgCaCO3/L)	83	97	
2	HAR_Total (mgCaCO3/L)	163	196	
3	Na% (%)	40	37	
4	RSC (-)	0.0	0.0	
5	SAR (-)	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: 2004-2019

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			
		2005	2006	2007	2008
	PHYSICAL				
1	Q (cumec)	3.561	49.77	0.000	7.232
2	EC_FLD (µmho/cm)				
3	EC_GEN (µmho/cm)	611	767	500	644
4	pH_FLD (pH units)				
5	pH_GEN (pH units)	7.7	8.3	8.3	8.4
6	TDS (mg/L)				
7	Temp (deg C)	27.8	28.5	27.0	26.3
8	Turb (NTU)				
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0	11.6	24.1	5.5
2	ALK-TOT (mgCaCO3/L)	158	200	180	194
3	B (mg/L)	0.00	0.00	0.00	0.00
4	Ca (mg/L)	40	45	42	42
5	Cl (mg/L)	60.8	54.0	42.4	59.7
6	CO3 (mg/L)	0.0	14.0	29.0	6.7
7	F (mg/L)	0.69	0.82	0.88	0.79
8	Fe (mg/L)	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	192	215	161	223
10	K (mg/L)	3.7	4.1	3.1	3.3
11	Mg (mg/L)	18.3	17.0	15.0	15.3
12	Na (mg/L)	53.6	75.0	47.0	66.7
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.05
14	NO2+NO3 (mg N/L)	0.01	0.01	0.00	0.01
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.01	0.01	0.00	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)	16.8	16.3	11.8	15.3
20	SO4 (mg/L)	59.8	45.0	47.0	40.0
	BIOLOGICAL/BACTERIOLOG				
1	BOD3-27 (mg/L)	0.9	2.0	1.2	0.9
2	COD (mg/L)				9.3
3	DO (mg/L)	5.3	5.7	6.8	6.4
4	DO_SAT% (%)	67	73	85	79
5	FCol-MPN (MPN/100mL)				
6	Tcol-MPN (MPN/100mL)				
7	TOC (mg/L)				3.3
	TRACE & TOXIC				
1	As (µg/L)				
2	Cd (µg/L)		0.01		0.70
3	Cr (µg/L)		2.00		2.00
4	Cu (µg/L)				
5	Hg (µg/L)				0.00
6	Ni (µg/L)		1.00		8.40
7	Pb (µg/L)		68.00		11.78
8	Zn (µg/L)		12.00		16.31
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	99	113	105	105
2	HAR_Total (mgCaCO3/L)	175	183	168	169
3	Na% (%)	39	47	37	46
4	RSC (-)	0.3	0.3	0.3	0.5
5	SAR (-)	1.8	2.4	1.6	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

Water Quality Seasonal Average for the period: 2004-2019

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		
		2009	2019	Remarks
	PHYSICAL			Sample not collected as Discharge estimated for the year 2010 and 2011 in Summer. Samples not collected due to No Flow / Dry bed condition from 2012 to 2018.
1	Q (cumec)	30.76	0.000	
2	EC_FLD (µmho/cm)		639	
3	EC_GEN (µmho/cm)	620	719	
4	pH_FLD (pH units)		8.1	
5	pH_GEN (pH units)	8.5	7.6	
6	TDS (mg/L)		432	
7	Temp (deg C)	28.0	20.0	
8	Turb (NTU)		1.33	
	CHEMICAL			
1	Alk-Phen (mgCaCO3/L)	8.0	0.0	
2	ALK-TOT (mgCaCO3/L)	176	198	
3	B (mg/L)	0.00	0.05	
4	Ca (mg/L)	47	37	
5	Cl (mg/L)	53.9	94.6	
6	CO3 (mg/L)	9.6	0.0	
7	F (mg/L)	0.72	0.63	
8	Fe (mg/L)	0.0	0.3	
9	HCO3 (mg/L)	195	241	
10	K (mg/L)	3.2	0.6	
11	Mg (mg/L)	7.8	25.7	
12	Na (mg/L)	60.6	87.3	
13	NH3-N (mg N/L)	0.05	0.31	
14	NO2+NO3 (mg N/L)	0.01	1.19	
15	NO2-N (mgN/L)	0.00	0.04	
16	NO3-N (mgN/L)	0.01	1.15	
17	o-PO4-P (mg P/L)		0.457	
18	P-Tot (mgP/L)	0.001		
19	SiO2 (mg/L)	11.8	15.1	
20	SO4 (mg/L)	50.0	99.2	
	BIOLOGICAL/BACTERIOLOG			
1	BOD3-27 (mg/L)	1.1	1.5	
2	COD (mg/L)	12.0	21.2	
3	DO (mg/L)	7.3	7.8	
4	DO_SAT% (%)	93	86	
5	FCol-MPN (MPN/100mL)		693	
6	Tcol-MPN (MPN/100mL)		1890	
7	TOC (mg/L)			
	TRACE & TOXIC			
1	As (µg/L)		2.43	
2	Cd (µg/L)		1.30	
3	Cr (µg/L)		2.00	
4	Cu (µg/L)		9.00	
5	Hg (µg/L)		0.04	
6	Ni (µg/L)		5.30	
7	Pb (µg/L)		17.00	
8	Zn (µg/L)		16.63	
	CHEMICAL INDICES			
1	HAR_Ca (mgCaCO3/L)	116	93	
2	HAR_Total (mgCaCO3/L)	149	200	
3	Na% (%)	46	49	
4	RSC (-)	0.6	0.2	
5	SAR (-)	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)			

HISTORY SHEET

			Water Year	:	**2018-2019**
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 : 2018-2019

Station Name : Keesara (AKA00B4) **Division : Lower Krishna Divn., Hyderabad**

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

S.No	Parameters	25/06/2018	02/07/2018	01/08/2018	04/09/2018	03/10/2018
		A	A	A	A	A
	PHYSICAL					
1	Q (cumec)	0.000	5.287	3.852	39.68	53.55
2	Colour_Cod (-)	Clear	Light Brown	Clear	Light Brown	Light Brown
3	EC_FLD (µmho/cm)		1775	1650	160	165
4	EC_GEN (µmho/cm)	1140	1170	883	734	784
5	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free
6	pH_FLD (pH units)		7.9	7.8	7.7	7.5
7	pH_GEN (pH units)	8.4	8.2	8.4	8.5	8.1
8	TDS (mg/L)	716	852	312	570	516
9	Temp (deg C)	19.0	24.0	22.0	21.0	22.0
10	Turb (NTU)	17.00	0.00	1.00	4.00	16.00
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	4.9	19.1	0.0
2	ALK-TOT (mgCaCO3/L)	152	214	172	60	271
3	B (mg/L)	0.06	0.10	0.09	0.03	0.11
4	Ca (mg/L)	27	35	40	21	25
5	Cl (mg/L)	172.9	157.0	61.5	74.6	100.6
6	CO3 (mg/L)	0.0	0.0	5.9	23.0	0.0
7	F (mg/L)	0.83	0.88	0.68	0.66	0.88
8	Fe (mg/L)	0.4	0.1	0.8	0.0	0.0
9	HCO3 (mg/L)	185	261	198	27	331
10	K (mg/L)	0.8	0.5	0.5	0.6	0.4
11	Mg (mg/L)	28.3	33.2	17.9	30.3	35.8
12	Na (mg/L)	124.1	105.0	47.5	20.0	105.0
13	NH3-N (mg N/L)	0.02	0.09	0.12	0.15	0.00
14	NO2+NO3 (mg N/L)	0.30	1.97	0.26	0.01	0.63
15	NO2-N (mgN/L)	0.04	0.04	0.05	0.01	0.24
16	NO3-N (mgN/L)	0.26	1.93	0.21	0.00	0.39
17	o-PO4-P (mg P/L)	0.200	0.230	0.100	0.100	0.000
18	SiO2 (mg/L)	25.0	24.6	10.3	21.5	12.6
19	SO4 (mg/L)	50.8	93.1	27.8	55.6	20.5
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.8	2.8	2.4	0.9	0.3
2	COD (mg/L)	40.0	50.8	15.6	13.6	10.0
3	DO (mg/L)	4.4	4.6	5.9	5.6	4.5
4	DO_SAT% (%)	47	55	67	63	51
5	FCol-MPN (MPN/100mL)	20	40	170	40	800
6	Tcol-MPN (MPN/100mL)	80	220	1700	270	1300
	TRACE & TOXIC					
1	Cu (µg/L)	0.01	10.00	15.00	9.00	8.00
2	Zn (µg/L)	0.04	6.22	25.60	33.40	6.00
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	69	89	100	52	62
2	HAR_Total (mgCaCO3/L)	186	227	175	178	211
3	Na% (%)	59	50	37	20	52
4	RSC (-)	0.0	0.0	0.0	0.0	1.2
5	SAR (-)	4.0	3.0	1.6	0.7	3.2
	PESTICIDES					

Water Quality Datasheet for the period : 2018-2019

Station Name : Keesara (AKA00B4) **Division : Lower Krishna Divn., Hyderabad**

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

S.No	01/11/2018	03/12/2018	01/01/2019	01/02/2019	
	A	A	A	A	
1	19.78	18.19	16.00	13.90	
2	Light Brown	Clear	Light Brown	Light Brown	
3	160	157	1550	150	
4	972	1814	1584	1008	
5	odour free	odour free	odour free	odour free	
6	7.7	7.7	7.7	7.7	
7	8.1	8.0	8.3	7.8	
8	806		759	559	
9	22.0	23.0	21.0	20.0	
10	18.00		1.00	1.00	
1	0.0	0.0	4.9	0.0	
2	234	284	180	212	
3	0.50	0.03	0.08	0.07	
4	26	34	47	41	
5	127.0	123.0	228.0	140.0	
6	0.0	0.0	5.9	0.0	
7	0.08	0.23	0.77	0.81	
8	0.0	0.0	1.4	0.3	
9	286	346	207	259	
10	0.5	0.4	0.4	0.7	
11	33.5	29.4	32.1	27.6	
12	100.3	106.0	111.2	110.5	
13	0.03	0.00	0.10	0.05	
14	1.92	0.49	1.62	2.23	
15	0.02	0.00	0.03	0.15	
16	1.90	0.49	1.59	2.08	
17	0.100	0.300	0.247	0.220	
18	13.1	11.6	4.6	25.8	
19	100.7		17.9	86.2	
1	0.9	0.2	0.6	1.5	
2	26.4	8.3	6.4	9.1	
3	4.8	6.7	8.3	7.2	
4	55	78	93	79	
5	220	20	220	140	
6	1300	80	1100	330	
1	9.00	9.00	10.00	17.00	
2	13.00	9.20	35.90	129.10	
1	66	86	117	101	
2	206	209	250	216	
3	52	53	49	53	
4	0.6	1.5	0.0	0.0	
5	3.1	3.2	3.1	3.3	

Sample not collected during March ,April,May due to Dry bed / No flow condition.

Water Quality Summary for the period : 2018-2019

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)	365	2933	0.000	51.17
2	EC_FLD (µmho/cm)	8	1775	150	721
3	EC_GEN (µmho/cm)	9	1814	734	1121
4	pH_FLD (pH units)	8	7.9	7.5	7.7
5	pH_GEN (pH units)	9	8.5	7.8	8.2
6	TDS (mg/L)	8	852	312	636
7	Temp (deg C)	9	24.0	19.0	21.6
8	Turb (NTU)	8	18.00	0.00	7.25
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	9	19.1	0.0	3.2
2	ALK-TOT (mgCaCO3/L)	9	284	60	198
3	B (mg/L)	9	0.50	0.03	0.12
4	Ca (mg/L)	9	47	21	33
5	Cl (mg/L)	9	228.0	61.5	131.6
6	CO3 (mg/L)	9	23.0	0.0	3.9
7	F (mg/L)	9	0.88	0.08	0.64
8	Fe (mg/L)	9	1.4	0.0	0.3
9	HCO3 (mg/L)	9	346	27	233
10	K (mg/L)	9	0.8	0.4	0.5
11	Mg (mg/L)	9	35.8	17.9	29.8
12	Na (mg/L)	9	124.1	20.0	92.2
13	NH3-N (mg N/L)	9	0.15	0.00	0.06
14	NO2+NO3 (mg N/L)	9	2.23	0.01	1.05
15	NO2-N (mgN/L)	9	0.24	0.00	0.06
16	NO3-N (mgN/L)	9	2.08	0.00	0.98
17	o-PO4-P (mg P/L)	9	0.300	0.000	0.166
18	SiO2 (mg/L)	9	25.8	4.6	16.6
19	SO4 (mg/L)	8	100.7	17.9	56.6
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	9	2.8	0.2	1.3
2	COD (mg/L)	9	50.8	6.4	20
3	DO (mg/L)	9	8.3	4.4	5.8
4	DO_SAT% (%)	9	93	47	65
5	FCol-MPN (MPN/100mL)	9	800	20	186
6	Tcol-MPN (MPN/100mL)	9	1700	80	709
	TRACE & TOXIC				
1	Cu (µg/L)	9	17.00	0.01	9.67
2	Zn (µg/L)	9	129.10	0.04	28.72
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	9	117	52	82
2	HAR_Total (mgCaCO3/L)	9	250	175	206
3	Na% (%)	9	59	20	47
4	RSC (-)	9	1.5	0.0	0.4
5	SAR (-)	9	4.0	0.7	2.8
	PESTICIDES				

Water Quality Seasonal Average for the period: 2004-2019

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				
		Flood	2005	2006	2007	2008
	PHYSICAL					
1	Q (cumec)	65.86	65.67	29.74	137.6	72.83
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	582	545	710	689	649
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.3	8.3	8.4	8.6	8.2
6	TDS (mg/L)					
7	Temp (deg C)	27.0	29.5	28.7	29.8	27.7
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	7.5	4.6	6.6	14.4	2.7
2	ALK-TOT (mgCaCO3/L)	250	168	223	230	189
3	B (mg/L)	0.00	0.01	0.00	0.00	0.00
4	Ca (mg/L)	31	29	36	30	44
5	Cl (mg/L)	42.1	39.0	63.3	91.6	52.6
6	CO3 (mg/L)	9.0	5.5	8.0	17.3	3.2
7	F (mg/L)	1.03	1.11	0.96	1.33	0.79
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	287	194	255	245	225
10	K (mg/L)	2.2	2.3	4.8	4.8	3.4
11	Mg (mg/L)	17.0	14.5	17.0	17.3	6.8
12	Na (mg/L)	69.0	56.5	110.3	103.3	60.7
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.05	0.05
14	NO2+NO3 (mg N/L)	0.01	0.01	0.00	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	0.01	0.00	0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.005	0.001	0.001	0.001
19	SiO2 (mg/L)	13.0	13.7	14.1	14.3	10.4
20	SO4 (mg/L)	35.0	36.0	56.3	38.7	37.7
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.3	1.0	1.4	1.1	0.9
2	COD (mg/L)				18.2	17.9
3	DO (mg/L)	6.0	5.8	6.9	7.2	5.7
4	DO_SAT% (%)	75	69	89	93	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	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	76	73	90	76	109
2	HAR_Total (mgCaCO3/L)	147	133	161	148	138
3	Na% (%)	49	44	59	55	48
4	RSC (-)	2.1	0.7	1.3	1.7	1.1
5	SAR (-)	2.4	2.1	3.8	3.7	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: 2004-2019

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				
		2009	2010	2011	2012	2013
	PHYSICAL					
1	Q (cumec)	56.37	147.2	36.29	63.22	201.0
2	EC_FLD (µmho/cm)		890			1000
3	EC_GEN (µmho/cm)	641	613	805	631	657
4	pH_FLD (pH units)		8.2			7.0
5	pH_GEN (pH units)	8.4	8.4	8.2	8.3	8.2
6	TDS (mg/L)			454	476	478
7	Temp (deg C)	28.8	29.7	29.0	30.0	29.1
8	Turb (NTU)			1.00	0.55	2.60
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	4.0	2.7	1.3	2.0	2.2
2	ALK-TOT (mgCaCO3/L)	176	183	229	200	252
3	B (mg/L)	0.00	0.00	0.00	0.19	0.72
4	Ca (mg/L)	27	31	31	36	59
5	Cl (mg/L)	74.0	52.4	89.9	77.0	49.5
6	CO3 (mg/L)	4.8	3.2	1.6	2.4	2.6
7	F (mg/L)	0.95	1.11	1.39	0.78	0.74
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.2
9	HCO3 (mg/L)	205	216	276	239	303
10	K (mg/L)	5.0	3.4	4.2	4.1	2.3
11	Mg (mg/L)	10.2	73.0	16.4	20.7	11.0
12	Na (mg/L)	76.6	59.5	100.8	89.7	63.9
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.00	0.02
14	NO2+NO3 (mg N/L)	0.60	0.00	0.42	0.93	0.67
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.60	0.00	0.42	0.93	0.67
17	o-PO4-P (mg P/L)			0.257	0.124	0.125
18	P-Tot (mgP/L)	0.000	0.150	0.257		
19	SiO2 (mg/L)	13.2	12.4	14.4	11.6	11.3
20	SO4 (mg/L)	45.8	40.9	46.6	47.0	32.7
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	2.0	1.0	0.2	1.2	0.6
2	COD (mg/L)	17.5	13.1	15.1	21.1	10.1
3	DO (mg/L)	5.0	6.6	5.1	6.4	6.5
4	DO_SAT% (%)	65	87	75	84	85
5	FCol-MPN (MPN/100mL)	16000	7433	12333	8150	8800
6	Tcol-MPN (MPN/100mL)	16000	8900	13667	8400	16000
7	TOC (mg/L)			3.1	3.6	0.8
	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	Cu (µg/L)					
5	Hg (µg/L)					0.60
6	Ni (µg/L)				5.44	18.42
7	Pb (µg/L)				3.46	2.36
8	Zn (µg/L)				62.51	0.01
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	68	79	78	90	148
2	HAR_Total (mgCaCO3/L)	111	383	146	176	194
3	Na% (%)	56	30	58	52	42
4	RSC (-)	1.3	0.3	1.7	0.5	1.2
5	SAR (-)	3.0	1.4	3.6	3.0	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: 2004-2019

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				
		2014	2015	2016	2017	2018
	PHYSICAL					
1	Q (cumec)	16.87	67.46	101.4	50.20	20.47
2	EC_FLD (µmho/cm)			1730	1758	938
3	EC_GEN (µmho/cm)	923	611	449	707	942
4	pH_FLD (pH units)			7.8	7.7	7.7
5	pH_GEN (pH units)	8.1	8.0	8.1	8.2	8.3
6	TDS (mg/L)	522	388	314	446	593
7	Temp (deg C)	29.0	25.8	25.0	24.0	21.6
8	Turb (NTU)	8.33	65.75	325.80	27.75	7.60
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.4	8.0	4.8
2	ALK-TOT (mgCaCO3/L)	208	190	147	200	174
3	B (mg/L)	0.32	0.18		0.12	0.08
4	Ca (mg/L)	33	31	23	40	30
5	Cl (mg/L)	93.4	60.4	41.5	91.9	113.3
6	CO3 (mg/L)	0.0	0.0	0.5	9.6	5.8
7	F (mg/L)	0.93	0.83	0.68	0.78	0.78
8	Fe (mg/L)	0.1	0.1	0.1	0.7	0.3
9	HCO3 (mg/L)	254	232	178	225	200
10	K (mg/L)	5.1	4.0	3.5	0.6	0.5
11	Mg (mg/L)	19.1	17.6	12.5	27.9	29.1
12	Na (mg/L)	110.4	79.9	57.8	87.9	80.3
13	NH3-N (mg N/L)	0.00	0.03	0.00	0.08	0.07
14	NO2+NO3 (mg N/L)	1.04	1.02	0.92	7.29	0.63
15	NO2-N (mgN/L)	0.02	0.01	0.00	0.14	0.08
16	NO3-N (mgN/L)	1.02	1.00	0.92	7.15	0.56
17	o-PO4-P (mg P/L)	0.146	0.215	0.250	0.325	0.126
18	P-Tot (mgP/L)	0.166				
19	SiO2 (mg/L)	15.0	10.6	10.8	13.0	18.8
20	SO4 (mg/L)	58.4	33.1	20.8	68.2	49.5
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.0	2.1	1.6	1.3	1.6
2	COD (mg/L)	6.9	14.0	14.0	13.1	26.0
3	DO (mg/L)	5.9	5.2	5.5	5.9	5.0
4	DO_SAT% (%)	77	64	67	70	57
5	FCol-MPN (MPN/100mL)	6210	7475	10720	8780	214
6	Tcol-MPN (MPN/100mL)	8000	12700	13360	8780	714
7	TOC (mg/L)		23.9			
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)				1.20	8.40
5	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)				54.66	14.25
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	84	78	56	100	74
2	HAR_Total (mgCaCO3/L)	163	151	108	216	195
3	Na% (%)	58	52	52	47	44
4	RSC (-)	0.9	0.8	0.8	0.1	0.2
5	SAR (-)	3.7	2.8	2.4	2.6	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: 2004-2019

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				
		2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
	PHYSICAL					
1	Q (cumec)	6.410	23.52	19.97	20.00	47.12
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	919	789	700	772	782
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.3	8.0	8.2	8.3	8.3
6	TDS (mg/L)					
7	Temp (deg C)	27.0	25.5	24.0	25.0	22.0
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	7.5	0.0	0.0	4.1	8.0
2	ALK-TOT (mgCaCO3/L)	312	267	254	253	276
3	B (mg/L)	0.00	0.01	0.00	0.00	0.00
4	Ca (mg/L)	39	42	41	36	46
5	Cl (mg/L)	85.5	63.7	59.6	69.7	75.9
6	CO3 (mg/L)	9.0	0.0	0.0	5.0	9.6
7	F (mg/L)	0.83	1.04	1.10	1.00	0.85
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	362	326	310	298	318
10	K (mg/L)	2.9		2.7	3.3	4.0
11	Mg (mg/L)	21.5	21.0	22.0	20.5	11.7
12	Na (mg/L)	98.0		109.0	116.0	104.2
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.05	0.05
14	NO2+NO3 (mg N/L)	0.01	0.01	0.00	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	0.01	0.00	0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.010	0.001	0.001	0.001
19	SiO2 (mg/L)	13.6	11.1	16.7	16.5	12.2
20	SO4 (mg/L)	62.0	54.5	47.0	37.0	47.4
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.7	0.9	0.8	1.2	1.0
2	COD (mg/L)				27.5	12.5
3	DO (mg/L)	5.8	5.8	6.8	6.7	7.1
4	DO_SAT% (%)	72	72	82	81	81
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)	96	105	103	90	116
2	HAR_Total (mgCaCO3/L)	186	193	194	175	165
3	Na% (%)	53		54	58	57
4	RSC (-)	2.5	1.5	1.2	1.6	2.2
5	SAR (-)	3.1		3.4	3.8	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: 2004-2019

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				
		2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
	PHYSICAL					
1	Q (cumec)	18.98	38.91	14.17	10.83	23.46
2	EC_FLD (µmho/cm)		780			
3	EC_GEN (µmho/cm)	874	770	873	812	840
4	pH_FLD (pH units)		8.1			
5	pH_GEN (pH units)	8.3	8.3	8.0	7.8	8.2
6	TDS (mg/L)			555	483	535
7	Temp (deg C)	25.5	25.0	25.5	27.0	26.0
8	Turb (NTU)			1.00	1.50	2.50
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	4.0	8.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	188	233	251	252	245
3	B (mg/L)	0.00	0.00	0.18	0.28	0.78
4	Ca (mg/L)	32	36	41	39	45
5	Cl (mg/L)	81.2	67.7	97.3	72.0	74.8
6	CO3 (mg/L)	4.8	9.6	0.0	0.0	0.0
7	F (mg/L)	1.44	0.78	0.96	1.03	0.83
8	Fe (mg/L)	0.0	0.0	0.1	0.0	0.0
9	HCO3 (mg/L)	219	265	306	307	300
10	K (mg/L)	2.8	3.6	3.4	4.9	3.3
11	Mg (mg/L)	17.9	20.4	23.6	22.3	26.0
12	Na (mg/L)	109.4	83.3	110.2	90.9	96.6
13	NH3-N (mg N/L)	0.00	0.00	0.02	0.04	0.05
14	NO2+NO3 (mg N/L)	0.18	0.00	0.81	0.82	1.07
15	NO2-N (mgN/L)	0.00	0.00	0.01	0.00	0.00
16	NO3-N (mgN/L)	0.18	0.00	0.80	0.82	1.07
17	o-PO4-P (mg P/L)			0.134	0.053	0.100
18	P-Tot (mgP/L)	0.000	0.060	0.134		
19	SiO2 (mg/L)	10.4	15.2	17.2	16.6	13.7
20	SO4 (mg/L)	69.2	45.5	63.8	37.0	44.5
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.7	1.1	1.3	1.5	1.4
2	COD (mg/L)	13.0	19.8	23.8	17.8	6.1
3	DO (mg/L)	6.0	6.8	6.9	5.0	6.8
4	DO_SAT% (%)	73	82	84	64	83
5	FCol-MPN (MPN/100mL)	12500	10500	515	180	180
6	Tcol-MPN (MPN/100mL)	16000	12500	1450	850	365
7	TOC (mg/L)			3.3	2.4	
	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)	80	90	102	97	111
2	HAR_Total (mgCaCO3/L)	155	175	200	190	220
3	Na% (%)	61	50	54	50	49
4	RSC (-)	1.0	1.2	1.0	1.3	0.5
5	SAR (-)	3.9	2.7	3.4	2.9	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: 2004-2019

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				
		2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
	PHYSICAL					
1	Q (cumec)	15.50	0.810	27.53	6.494	16.97
2	EC_FLD (µmho/cm)			1738	1793	504
3	EC_GEN (µmho/cm)	779	1262	677	827	1345
4	pH_FLD (pH units)			7.7	7.7	7.7
5	pH_GEN (pH units)	8.3	8.0	8.4	7.8	8.1
6	TDS (mg/L)	553	476	496	479	708
7	Temp (deg C)	25.1	25.0	22.3	21.0	21.5
8	Turb (NTU)	0.10	2.00	0.33	12.50	6.67
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	2.1	0.0	5.0	0.0	1.2
2	ALK-TOT (mgCaCO3/L)	259	260	200	245	227
3	B (mg/L)	0.24	0.01		0.03	0.17
4	Ca (mg/L)	44	39	42	45	37
5	Cl (mg/L)	91.0	112.5	66.3	99.8	154.5
6	CO3 (mg/L)	2.5	0.0	6.1	0.0	1.5
7	F (mg/L)	0.89	0.81	0.71	0.91	0.47
8	Fe (mg/L)	0.1	0.0	0.1	0.3	0.4
9	HCO3 (mg/L)	311	317	231	299	274
10	K (mg/L)	2.6	4.5	4.1	0.4	0.5
11	Mg (mg/L)	24.4	22.1	22.8	30.5	30.6
12	Na (mg/L)	86.9	121.8	72.0	87.5	107.0
13	NH3-N (mg N/L)	0.00	0.00	0.13	1.45	0.05
14	NO2+NO3 (mg N/L)	0.51	0.66	0.22	5.97	1.56
15	NO2-N (mgN/L)	0.00	0.00	0.01	0.02	0.05
16	NO3-N (mgN/L)	0.50	0.66	0.21	5.94	1.51
17	o-PO4-P (mg P/L)	0.100	0.092	0.078	0.425	0.217
18	P-Tot (mgP/L)					
19	SiO2 (mg/L)	11.2	5.2	13.7	8.6	13.7
20	SO4 (mg/L)	57.0	38.9	83.5	55.4	68.3
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.3	1.0	1.7	0.4	0.8
2	COD (mg/L)	8.1	11.5	8.0	16.0	12.5
3	DO (mg/L)	6.3	4.5	5.9	5.5	6.8
4	DO_SAT% (%)	77	54	68	62	76
5	FCol-MPN (MPN/100mL)	1315	1650	6370	1450	150
6	Tcol-MPN (MPN/100mL)	8250	12500	8600	10500	703
7	TOC (mg/L)	39.4	28.1			
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)	2.90				
3	Cr (µg/L)	0.19				
4	Cu (µg/L)			0.00	3.00	11.25
5	Hg (µg/L)					
6	Ni (µg/L)	12.08				
7	Pb (µg/L)	19.79				
8	Zn (µg/L)	8.50		0.00	56.50	46.80
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	109	97	104	111	92
2	HAR_Total (mgCaCO3/L)	211	189	199	238	220
3	Na% (%)	47	58	43	45	52
4	RSC (-)	1.0	1.4	0.1	0.2	0.5
5	SAR (-)	2.6	3.9	2.2	2.5	3.2
	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: 2004-2019

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				
		2006	2007	2008	2009	2010
	PHYSICAL					
1	Q (cumec)	14.06	2.246	40.40	0.446	0.798
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	788	769	805	805	846
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.6	8.6	8.1	8.4	8.4
6	TDS (mg/L)					
7	Temp (deg C)	29.5	23.0	26.0	28.0	28.5
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	15.8	24.1	0.0	8.0	8.0
2	ALK-TOT (mgCaCO3/L)	259	304	240	216	196
3	B (mg/L)	0.01	0.00	0.00	0.00	0.00
4	Ca (mg/L)	38	35	35	30	35
5	Cl (mg/L)	71.3	69.6	63.4	209.7	187.4
6	CO3 (mg/L)	19.0	29.0	0.0	9.6	9.6
7	F (mg/L)	1.01	1.98	1.02	1.07	2.36
8	Fe (mg/L)	0.0	0.0		0.0	0.0
9	HCO3 (mg/L)	277	312	293	244	220
10	K (mg/L)	2.8	4.3	3.4	4.6	5.2
11	Mg (mg/L)	17.0	17.0	20.0	13.0	19.4
12	Na (mg/L)	82.0	98.0	101.0	94.3	113.0
13	NH3-N (mg N/L)	0.00	0.00	0.05	0.05	0.00
14	NO2+NO3 (mg N/L)	0.01	0.00		0.01	0.00
15	NO2-N (mgN/L)	0.00	0.00		0.00	0.00
16	NO3-N (mgN/L)	0.01	0.00		0.01	0.00
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.010	0.001	0.001	0.001	0.000
19	SiO2 (mg/L)	11.1	21.0	20.1	16.9	13.9
20	SO4 (mg/L)	41.0	50.0	42.0	48.0	39.2
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.8	1.7	0.4	0.3	0.7
2	COD (mg/L)			7.4	8.1	31.0
3	DO (mg/L)	5.4	5.9	6.1	5.0	6.6
4	DO_SAT% (%)	71	69	76	64	84
5	FCol-MPN (MPN/100mL)					1300
6	Tcol-MPN (MPN/100mL)					1700
7	TOC (mg/L)			3.0		
	TRACE & TOXIC					
1	As (µg/L)					4.66
2	Cd (µg/L)		8.00	0.80	2.21	0.00
3	Cr (µg/L)		31.00	2.00	2.00	0.00
4	Cu (µg/L)					
5	Hg (µg/L)		2.03	0.00		
6	Ni (µg/L)		1.00	9.80	1.00	0.90
7	Pb (µg/L)		78.00	16.06	24.44	0.00
8	Zn (µg/L)		106.00	2.24	17.76	111.24
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	95	88	88	76	88
2	HAR_Total (mgCaCO3/L)	166	158	171	130	169
3	Na% (%)	51	57	56	60	59
4	RSC (-)	1.9	2.9	1.4	1.7	0.6
5	SAR (-)	2.8	3.4	3.4	3.6	3.8
	PESTICIDES					
1	Aldrin (µg/L)		0.010	0.010	0.010	0.002
2	BHC (µg/L)		0.100	0.100	0.100	0.058
3	DDT (µg/L)		0.100	0.100	0.100	0.004
4	Dieldrin (µg/L)		0.020	0.010	0.010	0.002
5	Endos (µg/L)		0.100	0.100	0.100	0.018

Water Quality Seasonal Average for the period: 2004-2019

Station Name : Keesara (AKA00B4) **Division : Lower Krishna Divn., Hyderabad**

Local River : Munneru **River Water Sub-Division : Lower Krishna SD2, Vijayawada**

S.No	Parameters	Mar- May		
		2015	2018	
	PHYSICAL			
1	Q (cumec)	0.131	8.305	Samples not collected during Summer Season 2011 to 2014,2016 to 2019 due to Drybed / no flow condition.eason
2	EC_FLD (µmho/cm)		1710	
3	EC_GEN (µmho/cm)	1048	1427	
4	pH_FLD (pH units)		7.6	
5	pH_GEN (pH units)	8.1	8.1	
6	TDS (mg/L)	615	703	
7	Temp (deg C)	25.5	21.0	
8	Turb (NTU)	4.00	34.50	
	CHEMICAL			
1	Alk-Phen (mgCaCO3/L)	1.7	0.0	
2	ALK-TOT (mgCaCO3/L)	247	339	
3	B (mg/L)	0.26	0.53	
4	Ca (mg/L)	39	49	
5	Cl (mg/L)	123.4	138.6	
6	CO3 (mg/L)	2.1	0.0	
7	F (mg/L)	0.97	0.76	
8	Fe (mg/L)	0.0	0.1	
9	HCO3 (mg/L)	298	413	
10	K (mg/L)	5.8	0.8	
11	Mg (mg/L)	21.5	35.3	
12	Na (mg/L)	138.8	145.0	
13	NH3-N (mg N/L)	0.01	0.01	
14	NO2+NO3 (mg N/L)	0.52	6.88	
15	NO2-N (mgN/L)	0.28	0.02	
16	NO3-N (mgN/L)	0.24	6.86	
17	o-PO4-P (mg P/L)	0.120	0.800	
18	P-Tot (mgP/L)			
19	SiO2 (mg/L)	16.4	9.2	
20	SO4 (mg/L)	85.4	86.7	
	BIOLOGICAL/BACTERIOLOGICAL			
1	BOD3-27 (mg/L)	1.7	2.2	
2	COD (mg/L)	16.6	23.1	
3	DO (mg/L)	4.5	5.1	
4	DO_SAT% (%)	55	57	
5	FCol-MPN (MPN/100mL)	11	1510	
6	Tcol-MPN (MPN/100mL)	8115	1565	
7	TOC (mg/L)	34.6		
	TRACE & TOXIC			
1	As (µg/L)		2.50	
2	Cd (µg/L)		2.60	
3	Cr (µg/L)		0.00	
4	Cu (µg/L)		6.05	
5	Hg (µg/L)		0.28	
6	Ni (µg/L)		10.50	
7	Pb (µg/L)		29.00	
8	Zn (µg/L)		43.11	
	CHEMICAL INDICES			
1	HAR_Ca (mgCaCO3/L)	97	123	
2	HAR_Total (mgCaCO3/L)	186	270	
3	Na% (%)	61	54	
4	RSC (-)	1.3	1.4	
5	SAR (-)	4.5	3.9	
	PESTICIDES			
1	Aldrin (µg/L)			
2	BHC (µg/L)			
3	DDT (µg/L)			
4	Dieldrin (µg/L)			
5	Endos (µg/L)			

HISTORY SHEET

			Water Year	:	**2018-2019**
Site	:	**Madhira**	**Code**	:	**AKA10D2**
State	:	Andhra Pradesh	District		Khammam
Basin	:	Krishna	Independent River	:	Krishna
Tributary	:	Munneru	Sub Tributary	:	Wyra
Sub-Sub Tributary	:	-	Local River	:	Wyra
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			

Water Quality Datasheet for the period : 2018-2019

Station Name : Madhira (AKA10D2) **Division : Lower Krishna Divn., Hyderabad**

Local River : Wyra **River Water Ana** **Sub-Division : Lower Krishna SD2, Vijayawada**

S.No	Parameters	25/06/2018	02/07/2018	01/08/2018	04/09/2018
		A	A	A	A
	PHYSICAL				
1	Q (cumec)	0.170	3.383	0.000	6.528
2	Colour_Cod (-)	Light Brown	Clear	Clear	Clear
3	EC_FLD (µmho/cm)				
4	EC_GEN (µmho/cm)	846	835	1082	802
5	Odour_Code (-)	odour free	odour free	odour free	odour free
6	pH_FLD (pH units)				
7	pH_GEN (pH units)	7.8	8.1	8.4	8.2
8	TDS (mg/L)	671	750	884	523
9	Temp (deg C)	18.0	27.0	26.0	28.0
10	Turb (NTU)	23.00	1.00	0.00	4.00
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	4.9	0.0
2	ALK-TOT (mgCaCO3/L)	206	181	119	125
3	B (mg/L)	0.07	0.05	0.05	0.02
4	Ca (mg/L)	31	46	51	21
5	Cl (mg/L)	147.7	162.2	129.6	60.7
6	CO3 (mg/L)	0.0	0.0	5.9	0.0
7	F (mg/L)	0.83	0.83	0.78	0.79
8	Fe (mg/L)	0.3	0.1	1.0	0.0
9	HCO3 (mg/L)	252	221	133	152
10	K (mg/L)	0.6	0.5	0.5	0.5
11	Mg (mg/L)	27.1	33.8	44.8	34.3
12	Na (mg/L)	119.3	82.2	90.5	21.2
13	NH3-N (mg N/L)	0.02	0.29	0.13	0.19
14	NO2+NO3 (mg N/L)	0.02	4.11	1.08	0.46
15	NO2-N (mgN/L)	0.02	0.12	0.00	0.33
16	NO3-N (mgN/L)	0.00	3.99	1.08	0.13
17	o-PO4-P (mg P/L)	0.120	0.100	0.200	0.300
18	SiO2 (mg/L)	40.0	55.9	8.4	39.7
19	SO4 (mg/L)	55.6	87.9	120.2	59.3
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	1.0	0.8	2.4	2.7
2	COD (mg/L)	18.0	28.8	28.0	12.8
3	DO (mg/L)	4.1	4.8	4.6	4.4
4	DO_SAT% (%)	43	60	57	56
5	FCol-MPN (MPN/100mL)	40	80	40	20
6	Tcol-MPN (MPN/100mL)	130	500	80	260
	TRACE & TOXIC				
1	Cu (µg/L)	0.00	12.00	7.00	9.00
2	Zn (µg/L)	0.04	24.50	34.60	24.00
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	79	115	127	52
2	HAR_Total (mgCaCO3/L)	191	255	313	195
3	Na% (%)	58	41	39	19
4	RSC (-)	0.3	0.0	0.0	0.0
5	SAR (-)	3.8	2.2	2.2	0.7
	PESTICIDES				

Water Quality Datasheet for the period : 2018-2019

Station Name : Madhira (AKA10D2) **Division : Lower Krishna Divn., Hyderabad**

Local River : Wyra **River Water Ana** **Sub-Division : Lower Krishna SD2, Vijayawada**

S.No	Parameters	03/10/2018	01/11/2018	03/12/2018	01/01/2019
		A	A	A	A
	PHYSICAL				
1	Q (cumec)	8.831	6.578	4.844	0.796
2	Colour_Cod (-)	Clear	Clear	Clear	Clear
3	EC_FLD (µmho/cm)	232	256	253	832
4	EC_GEN (µmho/cm)	789	859	1814	967
5	Odour_Code (-)	odour free	odour free	odour free	odour free
6	pH_FLD (pH units)	7.3	7.3	7.3	7.3
7	pH_GEN (pH units)	7.9	8.0	7.9	8.4
8	TDS (mg/L)	696	850		544
9	Temp (deg C)	27.0	26.0	27.0	25.0
10	Turb (NTU)	9.00	1.00		1.00
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	4.9
2	ALK-TOT (mgCaCO3/L)	281	242	350	233
3	B (mg/L)	0.05	0.07	0.02	0.02
4	Ca (mg/L)	27	24	40	33
5	Cl (mg/L)	87.7	118.0	121.0	131.0
6	CO3 (mg/L)	0.0	0.0	0.0	5.9
7	F (mg/L)	0.89	0.10	0.11	0.91
8	Fe (mg/L)	0.0	0.0	0.0	0.3
9	HCO3 (mg/L)	343	296	426	272
10	K (mg/L)	0.3	0.4	0.4	0.3
11	Mg (mg/L)	34.9	34.4	33.9	29.9
12	Na (mg/L)	112.2	95.9	117.0	112.2
13	NH3-N (mg N/L)	0.00	0.17	0.38	0.17
14	NO2+NO3 (mg N/L)	0.62	1.60	0.73	0.70
15	NO2-N (mgN/L)	0.02	0.05	0.02	0.04
16	NO3-N (mgN/L)	0.60	1.55	0.71	0.66
17	o-PO4-P (mg P/L)	0.000	0.100	0.800	0.216
18	SiO2 (mg/L)	15.6	24.6	13.5	12.3
19	SO4 (mg/L)	10.5	93.3		39.0
	BIOLOGICAL/BACTERIOLOGICA				
1	BOD3-27 (mg/L)	0.2	1.6	0.8	0.3
2	COD (mg/L)	7.6	19.2	8.3	1.6
3	DO (mg/L)	5.0	4.4	4.2	7.5
4	DO_SAT% (%)	63	54	53	91
5	FCol-MPN (MPN/100mL)	220	130	170	170
6	Tcol-MPN (MPN/100mL)	2200	1300	1300	220
	TRACE & TOXIC				
1	Cu (µg/L)	7.00	8.00	9.00	8.00
2	Zn (µg/L)	5.10	13.20	8.10	36.20
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	67	59	101	82
2	HAR_Total (mgCaCO3/L)	213	202	242	207
3	Na% (%)	54	51	51	54
4	RSC (-)	1.4	0.8	2.2	0.6
5	SAR (-)	3.4	2.9	3.3	3.4
	PESTICIDES				
		Samples not collected due to Dry Bed/ No Flow condition.			

Water Quality Summary for the period : 2018-2019

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)	365	1401	0.000	15.15
2	EC_FLD (µmho/cm)	4	832	232	393
3	EC_GEN (µmho/cm)	8	1814	789	999
4	pH_FLD (pH units)	4	7.3	7.3	7.3
5	pH_GEN (pH units)	8	8.4	7.8	8.1
6	TDS (mg/L)	7	884	523	703
7	Temp (deg C)	8	28.0	18.0	25.5
8	Turb (NTU)	7	23.00	0.00	5.57
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	8	4.9	0.0	1.2
2	ALK-TOT (mgCaCO3/L)	8	350	119	217
3	B (mg/L)	8	0.07	0.02	0.04
4	Ca (mg/L)	8	51	21	34
5	Cl (mg/L)	8	162.2	60.7	119.7
6	CO3 (mg/L)	8	5.9	0.0	1.5
7	F (mg/L)	8	0.91	0.10	0.65
8	Fe (mg/L)	8	1.0	0.0	0.2
9	HCO3 (mg/L)	8	426	133	262
10	K (mg/L)	8	0.6	0.3	0.4
11	Mg (mg/L)	8	44.8	27.1	34.1
12	Na (mg/L)	8	119.3	21.2	93.8
13	NH3-N (mg N/L)	8	0.38	0.00	0.17
14	NO2+NO3 (mg N/L)	8	4.11	0.02	1.16
15	NO2-N (mgN/L)	8	0.33	0.00	0.07
16	NO3-N (mgN/L)	8	3.99	0.00	1.09
17	o-PO4-P (mg P/L)	8	0.800	0.000	0.23
18	SiO2 (mg/L)	8	55.9	8.4	26.2
19	SO4 (mg/L)	7	120.2	10.5	66.5
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	8	2.7	0.2	1.2
2	COD (mg/L)	8	28.8	1.6	15.5
3	DO (mg/L)	8	7.5	4.1	4.9
4	DO_SAT% (%)	8	91	43	60
5	FCol-MPN (MPN/100mL)	8	220	20	109
6	Tcol-MPN (MPN/100mL)	8	2200	80	749
	TRACE & TOXIC				
1	Cu (µg/L)	8	12.00	0.00	7.5
2	Zn (µg/L)	8	36.20	0.04	18.22
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	8	127	52	85
2	HAR_Total (mgCaCO3/L)	8	313	191	227
3	Na% (%)	8	58	19	46
4	RSC (-)	8	2.2	0.0	0.7
5	SAR (-)	8	3.8	0.7	2.7
	PESTICIDES				

Water Quality Seasonal Average for the period: 2004-2019

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			
		2004	2005	2014	2015
	PHYSICAL				
1	Q (cumec)	26.38	14.01	11.90	13.28
2	EC_FLD (µmho/cm)				
3	EC_GEN (µmho/cm)	588	720	838	648
4	pH_FLD (pH units)				
5	pH_GEN (pH units)	8.1	8.3	8.2	7.9
6	TDS (mg/L)			505	425
7	Temp (deg C)	27.8	31.2	27.3	30.2
8	Turb (NTU)			5.33	129.53
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0	3.9	1.4	0.0
2	ALK-TOT (mgCaCO3/L)	224	248	233	232
3	B (mg/L)	0.00	0.01	0.46	0.18
4	Ca (mg/L)	31	39	39	37
5	Cl (mg/L)	43.8	57.6	79.2	63.9
6	CO3 (mg/L)	0.0	4.7	1.7	0.0
7	F (mg/L)	0.85	0.88	0.88	0.87
8	Fe (mg/L)	0.0	0.0	0.1	0.0
9	HCO3 (mg/L)	273	293	280	283
10	K (mg/L)	3.1	3.1	4.2	3.5
11	Mg (mg/L)	17.3	10.3	21.5	21.2
12	Na (mg/L)	61.0	94.7	99.4	89.9
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.02
14	NO2+NO3 (mg N/L)	0.01	0.01	1.87	0.97
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.01
16	NO3-N (mgN/L)	0.01	0.01	1.86	0.96
17	o-PO4-P (mg P/L)			0.174	0.297
18	P-Tot (mgP/L)	0.001	0.010	0.149	
19	SiO2 (mg/L)	13.5	17.1	15.1	15.1
20	SO4 (mg/L)	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 (ug/l)				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	78	97	97	94
2	HAR_Total (mgCaCO3/L)	151	140	186	182
3	Na% (%)	46	55	53	51
4	RSC (-)	1.5	2.2	0.9	1.0
5	SAR (-)	2.2	3.5	3.2	2.9
	PESTICIDES	**WQ observations suspended on 31-05-2006 and restarted w.e.f 01-03-2014.**			

Water Quality Seasonal Average for the period: 2004-2019

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		
		2016	2017	2018
	PHYSICAL			
1	Q (cumec)	19.49	13.92	3.782
2	EC_FLD (µmho/cm)	824	825	232
3	EC_GEN (µmho/cm)	504	871	871
4	pH_FLD (pH units)	7.6	7.4	7.3
5	pH_GEN (pH units)	8.1	8.1	8.1
6	TDS (mg/L)	379	542	705
7	Temp (deg C)	28.3	28.8	25.2
8	Turb (NTU)	166.33	39.00	7.40
	CHEMICAL			
1	Alk-Phen (mgCaCO3/L)	0.0	10.4	1.0
2	ALK-TOT (mgCaCO3/L)	203	224	182
3	B (mg/L)		0.03	0.05
4	Ca (mg/L)	30	38	35
5	Cl (mg/L)	48.5	103.8	117.6
6	CO3 (mg/L)	0.0	12.5	1.2
7	F (mg/L)	0.65	0.75	0.82
8	Fe (mg/L)	0.1	1.4	0.3
9	HCO3 (mg/L)	248	248	220
10	K (mg/L)	3.7	0.5	0.5
11	Mg (mg/L)	16.2	26.8	35.0
12	Na (mg/L)	75.5	109.8	85.1
13	NH3-N (mg N/L)	0.00	0.32	0.12
14	NO2+NO3 (mg N/L)	1.62	5.63	1.26
15	NO2-N (mgN/L)	0.00	0.10	0.10
16	NO3-N (mgN/L)	1.62	5.53	1.16
17	o-PO4-P (mg P/L)	0.188	0.523	0.144
18	P-Tot (mgP/L)			
19	SiO2 (mg/L)	12.0	14.4	31.9
20	SO4 (mg/L)	38.7	62.3	66.7
	BIOLOGICAL/BACTERIOLOGICAL			
1	BOD3-27 (mg/L)	1.0	1.3	1.4
2	COD (mg/L)	20.2	13.1	19.0
3	DO (mg/L)	5.0	6.2	4.6
4	DO_SAT% (%)	65	80	56
5	FCol-MPN (MPN/100mL)	16000	13240	80
6	Tcol-MPN (MPN/100mL)	16000	13240	634
7	TOC (mg/L)			
	TRACE & TOXIC			
1	As (µg/L)			
2	Cd (µg/L)			
3	Cr (µg/L)			
4	Cu (µg/L)		4.40	7.00
5	Hg (µg/L)			
6	Ni (µg/L)			
7	Pb (µg/L)			
8	Zn (ug/l)			
	CHEMICAL INDICES			
1	HAR_Ca (mgCaCO3/L)	74	96	88
2	HAR_Total (mgCaCO3/L)	141	208	234
3	Na% (%)	53	53	42
4	RSC (-)	1.3	0.4	0.3
5	SAR (-)	2.7	3.4	2.5
	PESTICIDES	**WQ observations suspended on 31-05-2006 and restarted w.e.f 01-03-2014.**		

Water Quality Seasonal Average for the period: 2004-2019

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			
		2004-2005	2005-2006	2014-2015	2015-2016
	PHYSICAL				
1	Q (cumec)	4.963	27.00	11.74	3.403
2	EC_FLD (µmho/cm)				
3	EC_GEN (µmho/cm)	890	676	744	1184
4	pH_FLD (pH units)				
5	pH_GEN (pH units)	8.1	8.0	8.2	8.0
6	TDS (mg/L)			505	494
7	Temp (deg C)	23.3	26.0	23.8	28.0
8	Turb (NTU)			1.58	2.50
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	1.0	0.0
2	ALK-TOT (mgCaCO3/L)	313	238	280	263
3	B (mg/L)	0.00	0.01	0.24	0.08
4	Ca (mg/L)	42	40	43	42
5	Cl (mg/L)	74.5	49.2	79.1	81.0
6	CO3 (mg/L)	0.0	0.0	1.3	0.0
7	F (mg/L)	0.98	0.92	0.96	0.89
8	Fe (mg/L)	0.0	0.0	0.1	0.0
9	HCO3 (mg/L)	382	291	339	321
10	K (mg/L)	3.0		3.0	3.2
11	Mg (mg/L)	21.5	16.8	24.6	23.7
12	Na (mg/L)	94.8		103.0	120.5
13	NH3-N (mg N/L)	0.00	0.00	0.04	0.03
14	NO2+NO3 (mg N/L)	0.01	0.01	0.82	1.09
15	NO2-N (mgN/L)	0.00	0.00	0.05	0.04
16	NO3-N (mgN/L)	0.01	0.01	0.77	1.06
17	o-PO4-P (mg P/L)			0.110	0.104
18	P-Tot (mgP/L)	0.001	0.010		
19	SiO2 (mg/L)	16.0	12.0	12.9	8.2
20	SO4 (mg/L)	56.0	43.0	43.3	55.0
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)			0.8	0.5
2	COD (mg/L)			9.1	6.3
3	DO (mg/L)			7.2	5.5
4	DO_SAT% (%)			85	70
5	FCol-MPN (MPN/100mL)			5220	7000
6	Tcol-MPN (MPN/100mL)			6558	12500
7	TOC (mg/L)			41.0	40.6
	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 (ug/l)				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	104	100	109	106
2	HAR_Total (mgCaCO3/L)	194	170	211	205
3	Na% (%)	51		51	56
4	RSC (-)	2.4	1.4	1.4	1.2
5	SAR (-)	3.0		3.1	3.7
	PESTICIDES	**WQ observations suspended on 31-05-2006 and restarted w.e.f 01-03-2014.**			

Water Quality Seasonal Average for the period: 2004-2019

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		
		2016-2017	2017-2018	2018-2019
	PHYSICAL			
1	Q (cumec)	2.726	2.644	4.073
2	EC_FLD (µmho/cm)	827	830	447
3	EC_GEN (µmho/cm)	946	1232	1213
4	pH_FLD (pH units)	7.2	7.3	7.3
5	pH_GEN (pH units)	8.0	8.0	8.1
6	TDS (mg/L)	562	691	697
7	Temp (deg C)	25.5	26.0	26.0
8	Turb (NTU)	0.00	8.00	1.00
	CHEMICAL			
1	Alk-Phen (mgCaCO3/L)	3.2	0.0	1.6
2	ALK-TOT (mgCaCO3/L)	245	336	275
3	B (mg/L)		0.02	0.04
4	Ca (mg/L)	51	53	32
5	Cl (mg/L)	94.3	113.1	123.3
6	CO3 (mg/L)	3.9	0.0	2.0
7	F (mg/L)	0.89	1.05	0.37
8	Fe (mg/L)	0.0	0.0	0.1
9	HCO3 (mg/L)	291	410	331
10	K (mg/L)	12.8	0.6	0.4
11	Mg (mg/L)	27.8	35.5	32.7
12	Na (mg/L)	91.1	153.9	108.4
13	NH3-N (mg N/L)	0.01	0.01	0.24
14	NO2+NO3 (mg N/L)	0.98	7.36	1.01
15	NO2-N (mgN/L)	0.47	0.02	0.04
16	NO3-N (mgN/L)	0.50	7.34	0.97
17	o-PO4-P (mg P/L)	0.073	1.332	0.372
18	P-Tot (mgP/L)			
19	SiO2 (mg/L)	10.8	20.1	16.8
20	SO4 (mg/L)	116.9	82.1	66.2
	BIOLOGICAL/BACTERIOLOGICAL			
1	BOD3-27 (mg/L)	2.0	0.4	0.9
2	COD (mg/L)	17.0	2.6	9.7
3	DO (mg/L)	5.8	6.2	5.4
4	DO_SAT% (%)	71	77	66
5	FCol-MPN (MPN/100mL)	6000	285	157
6	Tcol-MPN (MPN/100mL)	6000	790	940
7	TOC (mg/L)			
	TRACE & TOXIC			
1	As (µg/L)			
2	Cd (µg/L)			
3	Cr (µg/L)			
4	Cu (µg/L)	0.00	5.00	8.33
5	Hg (µg/L)			
6	Ni (µg/L)			
7	Pb (µg/L)			
8	Zn (ug/l)			
	CHEMICAL INDICES			
1	HAR_Ca (mgCaCO3/L)	127	133	81
2	HAR_Total (mgCaCO3/L)	243	281	217
3	Na% (%)	43	55	52
4	RSC (-)	0.2	1.2	1.2
5	SAR (-)	2.5	4.1	3.2
	PESTICIDES			

Water Quality Seasonal Average for the period: 2004-2019

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				
		2005	2006	2015	2018	
	PHYSICAL					
1	Q (cumec)	0.043	6.470	1.067	11.72	
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	1120	837	994	1404	
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.0	8.1	8.3	8.2	
6	TDS (mg/L)			642	834	
7	Temp (deg C)	22.0	25.5	27.0	28.0	
8	Turb (NTU)			3.03	27.00	
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	1.2	0.0	
2	ALK-TOT (mgCaCO3/L)	311	295	258	302	
3	B (mg/L)	0.00	0.01	0.31	0.04	
4	Ca (mg/L)	37	38	41	48	
5	Cl (mg/L)	108.8	70.8	109.7	119.1	
6	CO3 (mg/L)	0.0	0.0	1.4	0.0	
7	F (mg/L)	1.11	1.11	0.91	0.69	
8	Fe (mg/L)	0.0	0.0	0.0	0.1	
9	HCO3 (mg/L)	379	360	311	368	
10	K (mg/L)	0.8	3.3	4.3	0.7	
11	Mg (mg/L)	21.0	21.0	23.7	39.1	
12	Na (mg/L)	131.0	91.0	138.7	40.4	
13	NH3-N (mg N/L)	0.00	0.00	0.09	0.07	
14	NO2+NO3 (mg N/L)	0.01	0.01	1.03	5.54	
15	NO2-N (mgN/L)	0.00	0.00	0.02	0.02	
16	NO3-N (mgN/L)	0.01	0.01	1.01	5.51	
17	o-PO4-P (mg P/L)			0.133	0.605	
18	P-Tot (mgP/L)	0.001	0.010			
19	SiO2 (mg/L)	16.9	12.0	15.2	13.0	
20	SO4 (mg/L)	69.0	50.0	81.1	78.2	
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)			0.4	1.3	
2	COD (mg/L)			9.3	19.0	
3	DO (mg/L)			4.9	5.4	
4	DO_SAT% (%)			62	69	
5	FCol-MPN (MPN/100mL)			2	750	
6	Tcol-MPN (MPN/100mL)			517	1200	
7	TOC (mg/L)			42.8		
	TRACE & TOXIC					
1	As (µg/L)			2.97	0.28	
2	Cd (µg/L)			3.00	0.30	
3	Cr (µg/L)			0.00	0.00	
4	Cu (µg/L)				4.25	
5	Hg (µg/L)			0.23	0.13	
6	Ni (µg/L)			9.14	2.20	
7	Pb (µg/L)			18.00	0.00	
8	Zn (ug/l)			11.00	36.20	
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	93	95	101	119	
2	HAR_Total (mgCaCO3/L)	180	183	200	282	
3	Na% (%)	61	52	60	24	
4	RSC (-)	2.6	2.3	1.2	0.4	
5	SAR (-)	4.3	2.9	4.3	1.1	
	PESTICIDES					

samples not collected durind summer season 2007 to 2014,2016,2017 and 2019 due to Dry bed/ No flow condition

HISTORY SHEET

			Water Year	:	**2018-2019**
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			

Water Quality Datasheet for the period : 2018-2019

Station Name : Paleru Bridge (AKC00D3) **Division : Lower Krishna Divn., Hyderabad**

Local River : Paleru **River Water Analysis Division : Lower Krishna SD2, Vijayawada**

S.No	Parameters	25/06/2018	02/07/2018	01/08/2018	04/09/2018	03/10/2018	01/11/2018
		A	A	A	A	A	A
	PHYSICAL						
1	Q (cumec)	1.245	2.815	0.335	2.790	13.37	0.570
2	Colour_Cod (-)	Light Brown	Light Brown	Light Brown	Light Brown	Clear	Clear
3	EC_FLD (µmho/cm)		765	740	750	735	635
4	EC_GEN (µmho/cm)	1250	824	3158	1016	850	1408
5	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free	odour free
6	pH_FLD (pH units)		7.4	7.2	7.4	7.4	7.2
7	pH_GEN (pH units)	7.6	7.5	7.3	8.0	7.8	7.7
8	TDS (mg/L)	898	440	1378	783	491	983
9	Temp (deg C)	25.5	24.0	23.0	25.0	24.5	23.5
10	Turb (NTU)	0.00	0.00	18.00	2.00	5.00	0.00
	CHEMICAL						
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	298	295	298	170	237	325
3	B (mg/L)	0.10	0.02	0.04	0.01	0.12	0.07
4	Ca (mg/L)	71	71	98	36	29	63
5	Cl (mg/L)	166.2	154.5	408.9	132.3	44.6	175.0
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	1.09	1.30	0.89	0.93	0.89	0.09
8	Fe (mg/L)	0.2	0.0	0.4	0.0	0.0	0.0
9	HCO3 (mg/L)	363	360	363	207	289	397
10	K (mg/L)	0.5	0.4	0.9	0.6	0.3	0.5
11	Mg (mg/L)	48.3	45.0	50.6	55.9	49.9	53.1
12	Na (mg/L)	78.9	78.6	274.3	21.1	81.0	113.5
13	NH3-N (mg N/L)	0.03	0.19	1.81	0.14	0.00	0.16
14	NO2+NO3 (mg N/L)	0.19	3.08	2.05	0.13	0.83	1.74
15	NO2-N (mgN/L)	0.14	0.01	0.04	0.13	0.02	0.14
16	NO3-N (mgN/L)	0.05	3.07	2.01	0.00	0.81	1.60
17	o-PO4-P (mg P/L)	0.220	0.190	1.700	0.200	0.500	0.400
18	SiO2 (mg/L)	100.0	32.9	15.7	18.4	18.3	10.4
19	SO4 (mg/L)	53.2	93.1	129.0	43.5	73.4	165.2
	BIOLOGICAL/BACTERIOLOGICAL						
1	BOD3-27 (mg/L)	1.2	0.9	3.3	0.1	0.6	0.4
2	COD (mg/L)	14.4	30.0	58.4	12.8	6.4	12.0
3	DO (mg/L)	4.4	4.6	4.8	4.9	4.0	5.0
4	DO_SAT% (%)	53	55	56	59	48	58
5	FCol-MPN (MPN/100mL)	80	1300	110	220	40	80
6	Tcol-MPN (MPN/100mL)	800	16000	270	2800	270	270
	TRACE & TOXIC						
1	As (µg/L)						
2	Cd (µg/L)						
3	Cr (µg/L)						
4	Cu (µg/L)	0.01	9.00	13.00	11.00	5.00	9.00
5	Hg (µg/L)						
6	Ni (µg/L)						
7	Pb (µg/L)						
8	Zn (µg/L)	0.04	9.40	21.30	29.70	2.50	11.00
	CHEMICAL INDICES						
1	HAR_Ca (mgCaCO3/L)	176	178	246	89	71	157
2	HAR_Total (mgCaCO3/L)	378	365	457	322	279	379
3	Na% (%)	31	32	57	13	39	40
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	1.8	1.8	5.6	0.5	2.1	2.5
	PESTICIDES						

Water Quality Datasheet for the period : 2018-2019

Station Name : Paleru Bridge (AKC00D3) **Division : Lower Krishna Divn., Hyderabad**

Local River : Paleru **River Water Analysis Division : Lower Krishna SD2, Vijayawada**

S.No	Parameters	03/12/2018	01/01/2019	01/02/2019	01/03/2019	01/04/2019	01/05/2019
		A	A	A	A	A	A
	PHYSICAL						
1	Q (cumec)	6.606	0.402	1.792	0.945	0.828	1.874
2	Colour_Cod (-)	Light Brown	Light Brown	Light Brown	Light Brown	Light Brown	Light Brown
3	EC_FLD (µmho/cm)	685	675	675	670	760	765
4	EC_GEN (µmho/cm)	1924	1298	1250	1277	830	882
5	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free	odour free
6	pH_FLD (pH units)	7.4	7.4	7.2	7.4	7.4	7.4
7	pH_GEN (pH units)	7.9	8.2	7.6	7.4	7.6	7.6
8	TDS (mg/L)		628	828	612	484	536
9	Temp (deg C)	25.0	22.5	23.0	22.5	23.5	24.5
10	Turb (NTU)		1.00	1.00	1.00	0.00	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)	321	243	287	284	279	320
3	B (mg/L)	0.01	0.06	0.20	0.02	0.10	0.06
4	Ca (mg/L)	57	32	71	49	49	37
5	Cl (mg/L)	119.0	176.0	195.0	150.0	106.0	29.3
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.11	1.18	1.26	1.13	0.84	0.92
8	Fe (mg/L)	0.0	0.1	0.2	0.1	0.2	0.1
9	HCO3 (mg/L)	392	296	350	346	340	390
10	K (mg/L)	0.3	0.2	0.6	0.4	0.3	0.4
11	Mg (mg/L)	42.1	51.4	51.0	46.4	43.1	45.3
12	Na (mg/L)	82.9	115.0	159.0	119.0	83.7	107.4
13	NH3-N (mg N/L)	0.00	0.21	0.41	0.44	0.06	0.01
14	NO2+NO3 (mg N/L)	0.79	0.66	2.84	1.23	0.55	0.80
15	NO2-N (mgN/L)	0.04	0.05	0.04	0.06	0.00	0.03
16	NO3-N (mgN/L)	0.75	0.61	2.80	1.17	0.55	0.77
17	o-PO4-P (mg P/L)	0.400	0.169	0.210	0.260	0.096	0.252
18	SiO2 (mg/L)	22.4	20.7	17.8	20.8	27.4	35.9
19	SO4 (mg/L)		93.4	131.8	153.2	96.6	67.5
	BIOLOGICAL/BACTERIOLOGICAL						
1	BOD3-27 (mg/L)	0.2	2.4	3.0	0.6	2.5	0.9
2	COD (mg/L)	7.5	7.6	23.4	6.6	14.3	3.5
3	DO (mg/L)	5.6	5.1	6.7	6.8	6.6	6.9
4	DO_SAT% (%)	68	58	78	77	77	81
5	FCol-MPN (MPN/100mL)	40	2200	2800	520	3500	110
6	Tcol-MPN (MPN/100mL)	220	16000	16000	1400	16000	330
	TRACE & TOXIC						
1	As (µg/L)					2.29	
2	Cd (µg/L)					2.30	
3	Cr (µg/L)					2.40	
4	Cu (µg/L)	7.00	9.00	5.00	4.00	32.00	5.00
5	Hg (µg/L)					0.28	
6	Ni (µg/L)					11.40	
7	Pb (µg/L)					32.00	
8	Zn (µg/L)	4.90	32.20	50.40	32.20	8.10	16.40
	CHEMICAL INDICES						
1	HAR_Ca (mgCaCO3/L)	142	80	178	124	122	92
2	HAR_Total (mgCaCO3/L)	317	294	390	317	302	280
3	Na% (%)	36	46	47	45	38	46
4	RSC (-)	0.1	0.0	0.0	0.0	0.0	0.8
5	SAR (-)	2.0	2.9	3.5	2.9	2.1	2.8
	PESTICIDES						

Water Quality Summary for the period : 2018-2019

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)	365	216.1	0.000	5.520
2	EC_FLD (µmho/cm)	11	765	635	714
3	EC_GEN (µmho/cm)	12	3158	824	1331
4	pH_FLD (pH units)	11	7.4	7.2	7.3
5	pH_GEN (pH units)	12	8.2	7.3	7.7
6	TDS (mg/L)	11	1378	440	733
7	Temp (deg C)	12	25.5	22.5	23.9
8	Turb (NTU)	11	18.00	0.00	2.73
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	12	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	12	325	170	280
3	B (mg/L)	12	0.20	0.01	0.07
4	Ca (mg/L)	12	98	29	55
5	Cl (mg/L)	12	408.9	29.3	154.7
6	CO3 (mg/L)	12	0.0	0.0	0
7	F (mg/L)	12	1.30	0.09	0.88
8	Fe (mg/L)	12	0.4	0.0	0.1
9	HCO3 (mg/L)	12	397	207	341
10	K (mg/L)	12	0.9	0.2	0.4
11	Mg (mg/L)	12	55.9	42.1	48.5
12	Na (mg/L)	12	274.3	21.1	109.5
13	NH3-N (mg N/L)	12	1.81	0.00	0.29
14	NO2+NO3 (mg N/L)	12	3.08	0.13	1.24
15	NO2-N (mgN/L)	12	0.14	0.00	0.06
16	NO3-N (mgN/L)	12	3.07	0.00	1.18
17	o-PO4-P (mg P/L)	12	1.700	0.096	0.383
18	SiO2 (mg/L)	12	100.0	10.4	28.4
19	SO4 (mg/L)	11	165.2	43.5	100
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	12	3.3	0.1	1.3
2	COD (mg/L)	12	58.4	3.5	16.4
3	DO (mg/L)	12	6.9	4.0	5.4
4	DO_SAT% (%)	12	81	48	64
5	FCol-MPN (MPN/100mL)	12	3500	40	917
6	Tcol-MPN (MPN/100mL)	12	16000	220	5863
	TRACE & TOXIC				
1	As (µg/L)	1	2.29	2.29	2.29
2	Cd (µg/L)	1	2.30	2.30	2.3
3	Cr (µg/L)	1	2.40	2.40	2.4
4	Cu (µg/L)	12	32.00	0.01	9.08
5	Hg (µg/L)	1	0.28	0.28	0.28
6	Ni (µg/L)	1	11.40	11.40	11.4
7	Pb (µg/L)	1	32.00	32.00	32
8	Zn (µg/L)	12	50.40	0.04	18.18
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	12	246	71	138
2	HAR_Total (mgCaCO3/L)	12	457	279	340
3	Na% (%)	12	57	13	39
4	RSC (-)	12	0.8	0.0	0.1
5	SAR (-)	12	5.6	0.5	2.6
	PESTICIDES				

Water Quality Seasonal Average for the period: 2004-2019

Station Name : Paleru Bridge (AKC00D3) **Division : Lower Krishna Divn., Hyderabad**

Local River : Paleru **River Water Sub-Division : Lower Krishna SD2, Vijayawada**

S.No		Parameters				
		Jun- Oct				
		2004	2005	2006	2007	2008
	PHYSICAL					
1	Q (cumec)	4.400	9.140	6.869		
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	941	1010	734	671	775
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	7.8	7.7	7.9	7.7	7.8
6	TDS (mg/L)					
7	Temp (deg C)	26.5	27.3	26.6	28.5	27.2
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	297	301	284	238	255
3	B (mg/L)	0.00	0.00	0.00	0.00	0.00
4	Ca (mg/L)	50	72	52	52	60
5	Cl (mg/L)	98.0	104.9	59.6	58.1	65.8
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	1.40	1.34	1.09	1.17	1.03
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	362	367	347	290	312
10	K (mg/L)	3.1	4.6	4.3	4.1	3.5
11	Mg (mg/L)	59.0	39.2	27.4	25.8	22.3
12	Na (mg/L)	23.0	67.2	77.2	66.4	62.7
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.05	0.05
14	NO2+NO3 (mg N/L)	0.01	0.01	0.00	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	0.01	0.00	0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.001	0.001	0.001	0.001
19	SiO2 (mg/L)	15.0	34.4	23.9	27.1	32.9
20	SO4 (mg/L)	82.0	67.0	60.8	49.0	45.4
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)			1.2	1.3	1.1
2	COD (mg/L)				16.2	22.9
3	DO (mg/L)			5.3	5.6	5.0
4	DO_SAT% (%)			67	72	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)					
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)	125	180	131	130	151
2	HAR_Total (mgCaCO3/L)	371	343	245	237	244
3	Na% (%)	12	29	40	37	36
4	RSC (-)	0.0	0.0	0.9	0.3	0.3
5	SAR (-)	0.5	1.6	2.2	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: 2004-2019

Station Name : Paleru Bridge (AKC00D3) **Division : Lower Krishna Divn., Hyderabad**

Local River : Paleru **River Water Sub-Division : Lower Krishna SD2, Vijayawada**

S.No		Parameters				
		Jun- Oct				
		2009	2010	2011	2012	2013
	PHYSICAL					
1	Q (cumec)					
2	EC_FLD (µmho/cm)		958			
3	EC_GEN (µmho/cm)	821	793	750	969	797
4	pH_FLD (pH units)		7.7			
5	pH_GEN (pH units)	7.5	7.8	7.7	7.6	7.9
6	TDS (mg/L)			493	643	438
7	Temp (deg C)	27.7	31.5	28.5	29.7	30.0
8	Turb (NTU)			1.00	0.84	1.41
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	1.6	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	250	241	224	254	234
3	B (mg/L)	0.00	0.00	0.00	0.21	0.41
4	Ca (mg/L)	54	54	45	53	53
5	Cl (mg/L)	71.2	72.6	72.6	106.8	72.1
6	CO3 (mg/L)	0.0	1.9	0.0	0.0	0.0
7	F (mg/L)	1.79	1.12	1.41	1.22	0.92
8	Fe (mg/L)	0.0	0.0		0.1	0.0
9	HCO3 (mg/L)	306	290	273	310	286
10	K (mg/L)	4.5	3.7	3.2	4.7	3.2
11	Mg (mg/L)	25.3	29.7	25.3	30.3	30.6
12	Na (mg/L)	68.5	64.3	64.0	82.6	69.0
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.01	0.09
14	NO2+NO3 (mg N/L)	0.87	0.00	0.33	0.82	1.20
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.87	0.00	0.33	0.82	1.20
17	o-PO4-P (mg P/L)			0.411	0.099	0.210
18	P-Tot (mgP/L)	0.000	0.353	0.411		
19	SiO2 (mg/L)	35.0	22.4	19.3	28.3	13.1
20	SO4 (mg/L)	65.9	62.7	53.9	61.1	59.5
	BIOLOGICAL/BACTERIOLOGICA					
1	BOD3-27 (mg/L)	1.6	1.4	1.0	1.1	1.6
2	COD (mg/L)	30.0	31.2	26.0	14.3	6.2
3	DO (mg/L)	3.7	4.7	4.5	4.4	5.4
4	DO_SAT% (%)	37	46	54	58	72
5	FCol-MPN (MPN/100mL)	11467	11660	10646	3552	2150
6	Tcol-MPN (MPN/100mL)	13667	13140	11446	4020	9500
7	TOC (mg/L)			3.2	3.3	
	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)	134	135	112	131	131
2	HAR_Total (mgCaCO3/L)	239	259	217	258	259
3	Na% (%)	38	35	39	41	36
4	RSC (-)	0.5	0.1	0.4	0.8	0.0
5	SAR (-)	1.9	1.7	1.9	2.4	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: 2004-2019

Station Name : Paleru Bridge (AKC00D3) **Division : Lower Krishna Divn., Hyderabad**

Local River : Paleru **River Water Sub-Division : Lower Krishna SD2, Vijayawada**

S.No		Parameters				
		Jun- Oct				
		2014	2015	2016	2017	2018
	PHYSICAL					
1	Q (cumec)	4.926	3.011	2.542	4.205	4.111
2	EC_FLD (µmho/cm)				1755	748
3	EC_GEN (µmho/cm)	910	880	1038	1023	1420
4	pH_FLD (pH units)			7.6	7.3	7.4
5	pH_GEN (pH units)	8.0	7.8	7.9	7.9	7.7
6	TDS (mg/L)	565	566	896	694	798
7	Temp (deg C)	27.3	29.3	26.8	24.1	24.4
8	Turb (NTU)	3.25	1.40	0.00	8.75	5.00
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	1.0	0.0	0.0	8.8	0.0
2	ALK-TOT (mgCaCO3/L)	254	236	196	238	259
3	B (mg/L)	0.21	0.27		0.00	0.06
4	Ca (mg/L)	51	51	67	62	61
5	Cl (mg/L)	85.8	100.6	165.2	140.8	181.3
6	CO3 (mg/L)	1.3	0.0	0.0	10.6	0.0
7	F (mg/L)	1.12	1.09	0.71	1.06	1.02
8	Fe (mg/L)	0.1	0.0	0.1	0.4	0.1
9	HCO3 (mg/L)	307	288	239	269	316
10	K (mg/L)	4.8	4.4	4.6	0.5	0.5
11	Mg (mg/L)	29.5	29.7	36.8	45.4	49.9
12	Na (mg/L)	88.9	93.0	82.1	99.6	106.8
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.06	0.43
14	NO2+NO3 (mg N/L)	1.15	0.84	1.77	6.29	1.26
15	NO2-N (mgN/L)	0.01	0.00	0.00	0.07	0.07
16	NO3-N (mgN/L)	1.14	0.84	1.77	6.22	1.19
17	o-PO4-P (mg P/L)	0.164	0.102	0.207	0.770	0.562
18	P-Tot (mgP/L)	0.155				
19	SiO2 (mg/L)	24.4	24.5	14.8	18.8	37.0
20	SO4 (mg/L)	84.5	81.3	78.9	95.4	78.4
	BIOLOGICAL/BACTERIOLOGICA					
1	BOD3-27 (mg/L)	0.9	0.6	1.4	1.0	1.2
2	COD (mg/L)	18.1	12.6	16.2	17.9	24.4
3	DO (mg/L)	4.4	2.7	5.4	5.2	4.5
4	DO_SAT% (%)	55	36	67	62	54
5	FCol-MPN (MPN/100mL)	4658	591	2615	6860	350
6	Tcol-MPN (MPN/100mL)	6335	6340	3150	6804	4028
7	TOC (mg/L)		32.3			
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)				0.40	7.60
5	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)				55.06	12.59
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	127	129	168	155	152
2	HAR_Total (mgCaCO3/L)	250	253	322	345	360
3	Na% (%)	43	44	35	39	34
4	RSC (-)	0.3	0.1	0.0	0.0	0.0
5	SAR (-)	2.5	2.6	2.0	2.3	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: 2004-2019

Station Name : Paleru Bridge (AKC00D3) **Division : Lower Krishna Divn., Hyderabad**

Local River : Paleru **River Water Sub-Division : Lower Krishna SD2, Vijayawada**

S.No		Winter				
		Nov - Feb				
		2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
	PHYSICAL					
1	Q (cumec)	8.513	23.94	16.45		
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	844	619	586	644	920
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	7.9	7.9	8.1	7.9	7.8
6	TDS (mg/L)					
7	Temp (deg C)	25.5	24.1	24.3	27.8	24.8
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	6.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	268	214	231	228	283
3	B (mg/L)	0.00	0.25	0.00	0.00	0.00
4	Ca (mg/L)	52	49	47	47	80
5	Cl (mg/L)	73.8	44.9	42.6	47.7	80.7
6	CO3 (mg/L)	0.0	0.0	7.3	0.0	0.0
7	F (mg/L)	0.97	0.89	0.84	1.75	0.96
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	328	261	268	278	345
10	K (mg/L)	2.4		3.3	2.8	3.2
11	Mg (mg/L)	29.0	23.0	20.5	22.8	24.6
12	Na (mg/L)	62.0		53.0	55.3	81.7
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.05	0.05
14	NO2+NO3 (mg N/L)	0.01	0.01	0.00	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	0.01	0.00	0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.000	0.001	0.001	0.001
19	SiO2 (mg/L)	17.9	15.9	20.7	20.1	18.2
20	SO4 (mg/L)	67.5	47.5	42.5	46.3	101.7
	BIOLOGICAL/BACTERIOLOGICA					
1	BOD3-27 (mg/L)			1.8	1.2	0.9
2	COD (mg/L)				13.9	12.6
3	DO (mg/L)			7.4	7.0	6.0
4	DO_SAT% (%)			89	90	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	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	131	123	116	118	200
2	HAR_Total (mgCaCO3/L)	251	218	202	213	302
3	Na% (%)	34		36	36	36
4	RSC (-)	0.8	0.0	0.6	0.3	0.2
5	SAR (-)	1.7		1.6	1.7	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: 2004-2019

Station Name : Paleru Bridge (AKC00D3) **Division : Lower Krishna Divn., Hyderabad**

Local River : Paleru **River Water Sub-Division : Lower Krishna SD2, Vijayawada**

S.No		Winter				
		Nov - Feb				
		2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
	PHYSICAL					
1	Q (cumec)					
2	EC_FLD (µmho/cm)		904			
3	EC_GEN (µmho/cm)	771	751	749	979	752
4	pH_FLD (pH units)		7.9			
5	pH_GEN (pH units)	7.8	7.9	7.7	7.5	7.9
6	TDS (mg/L)			473	557	434
7	Temp (deg C)	27.0	26.5	29.4	25.1	26.0
8	Turb (NTU)			1.00	1.03	3.00
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	237	227	253	283	237
3	B (mg/L)	0.00	0.00	0.19	0.19	0.12
4	Ca (mg/L)	57	49	53	63	54
5	Cl (mg/L)	66.2	62.0	71.0	105.0	68.7
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	1.18	0.84	1.10	1.38	0.92
8	Fe (mg/L)	0.0	0.0	0.2	0.0	0.1
9	HCO3 (mg/L)	289	278	308	345	289
10	K (mg/L)	2.8	3.0	2.6	2.4	3.0
11	Mg (mg/L)	27.4	27.9	30.6	36.8	31.2
12	Na (mg/L)	68.1	62.4	65.3	90.8	61.4
13	NH3-N (mg N/L)	0.00	0.00	0.02	0.17	0.03
14	NO2+NO3 (mg N/L)	1.02	0.00	0.92	1.39	1.21
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	1.02	0.00	0.92	1.39	1.21
17	o-PO4-P (mg P/L)			0.211	0.159	0.143
18	P-Tot (mgP/L)	0.000	0.128	0.211		
19	SiO2 (mg/L)	29.6	19.8	30.9	26.3	16.6
20	SO4 (mg/L)	63.9	59.3	64.1	54.4	47.0
	BIOLOGICAL/BACTERIOLOGICA					
1	BOD3-27 (mg/L)	1.2	0.8	0.8	0.9	1.7
2	COD (mg/L)	20.4	21.3	9.7	15.2	6.6
3	DO (mg/L)	5.3	6.5	5.1	3.5	5.6
4	DO_SAT% (%)	67	81	67	42	68
5	FCol-MPN (MPN/100mL)	7825	3815	5000	403	840
6	Tcol-MPN (MPN/100mL)	10675	10333	6050	4283	3000
7	TOC (mg/L)			2.5	2.7	
	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)	142	122	133	157	134
2	HAR_Total (mgCaCO3/L)	257	239	260	310	264
3	Na% (%)	37	36	35	39	33
4	RSC (-)	0.1	0.0	0.2	0.0	0.0
5	SAR (-)	1.9	1.8	1.8	2.2	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: 2004-2019

Station Name : Paleru Bridge (AKC00D3) **Division : Lower Krishna Divn., Hyderabad**

Local River : Paleru **River Water** **Sub-Division : Lower Krishna SD2, Vijayawada**

S.No		Winter				
		Nov - Feb				
		2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
	PHYSICAL					
1	Q (cumec)	6.613		0.780	1.316	2.342
2	EC_FLD (µmho/cm)			1720	1363	668
3	EC_GEN (µmho/cm)	590		1770	1051	1470
4	pH_FLD (pH units)			7.5	7.3	7.3
5	pH_GEN (pH units)	8.0		7.5	7.6	7.8
6	TDS (mg/L)	442		1185	645	813
7	Temp (deg C)	25.8		25.2	24.9	23.5
8	Turb (NTU)	1.08		0.00	3.00	0.67
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0		0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	231		293	254	294
3	B (mg/L)	0.22			0.05	0.09
4	Ca (mg/L)	51		94	62	56
5	Cl (mg/L)	59.8		253.3	140.7	166.3
6	CO3 (mg/L)	0.0		0.0	0.0	0.0
7	F (mg/L)	0.81		1.15	1.13	0.66
8	Fe (mg/L)	0.1		0.1	0.1	0.1
9	HCO3 (mg/L)	282		358	310	359
10	K (mg/L)	2.5		4.7	0.5	0.4
11	Mg (mg/L)	31.3		51.4	32.0	49.4
12	Na (mg/L)	62.5		185.0	100.7	117.6
13	NH3-N (mg N/L)	0.04		0.11	1.14	0.20
14	NO2+NO3 (mg N/L)	0.76		0.21	4.31	1.51
15	NO2-N (mgN/L)	0.02		0.12	0.02	0.07
16	NO3-N (mgN/L)	0.74		0.08	4.29	1.44
17	o-PO4-P (mg P/L)	0.119		0.134	0.375	0.295
18	P-Tot (mgP/L)		Drybed No Flow			
19	SiO2 (mg/L)	19.2		24.1	26.2	17.8
20	SO4 (mg/L)	59.7		223.9	101.2	130.1
	BIOLOGICAL/BACTERIOLOGICA					
1	BOD3-27 (mg/L)	0.8		11.0	1.1	1.5
2	COD (mg/L)	7.9		37.2	11.1	12.6
3	DO (mg/L)	6.0		1.6	5.6	5.6
4	DO_SAT% (%)	74		19	67	66
5	FCol-MPN (MPN/100mL)	713		8000	6918	1280
6	Tcol-MPN (MPN/100mL)	1510		8000	6900	8123
7	TOC (mg/L)	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		0.00	3.50	7.50
5	Hg (µg/L)					
6	Ni (µg/L)	3.69				
7	Pb (µg/L)	6.93				
8	Zn (µg/L)	4.75		0.00	52.45	24.63
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	126		235	154	139
2	HAR_Total (mgCaCO3/L)	257		450	287	345
3	Na% (%)	34		48	43	42
4	RSC (-)	0.1		0.1	0.1	0.0
5	SAR (-)	1.7		3.9	2.6	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: 2004-2019

Station Name : Paleru Bridge (AKC00D3) **Division : Lower Krishna Divn., Hyderabad**

Local River : Paleru **River Water Sub-Division : Lower Krishna SD2, Vijayawada**

S.No		Summer				
		Mar - May				
		2005	2006	2007	2008	2009
	PHYSICAL					
1	Q (cumec)	0.387	7.587	8.885		
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	1057	728	678	672	901
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	7.4	8.3	8.0	7.8	7.4
6	TDS (mg/L)					
7	Temp (deg C)	26.7	26.3	26.7	26.7	26.3
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	9.1	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	310	254	248	231	296
3	B (mg/L)	0.00	0.00	0.00	0.00	0.00
4	Ca (mg/L)	73	48	49	49	64
5	Cl (mg/L)	112.4	49.3	48.6	63.4	66.2
6	CO3 (mg/L)	0.0	11.0	0.0	0.0	0.0
7	F (mg/L)	0.99	1.01	1.42	0.85	0.83
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	379	287	302	281	361
10	K (mg/L)	9.0	2.5	2.5	2.8	2.4
11	Mg (mg/L)	46.3	25.3	21.7	19.3	21.4
12	Na (mg/L)	64.7	61.3	69.3	65.7	71.5
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.05	0.05
14	NO2+NO3 (mg N/L)	0.01	0.01	0.00	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	0.01	0.00	0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.000	0.001	0.001	0.001
19	SiO2 (mg/L)	28.0	16.9	20.5	18.5	30.2
20	SO4 (mg/L)	38.0	44.7	45.0	40.7	54.9
	BIOLOGICAL/BACTERIOLOGICA					
1	BOD3-27 (mg/L)			1.1	1.8	0.7
2	COD (mg/L)				14.7	8.0
3	DO (mg/L)			6.1	5.8	3.0
4	DO_SAT% (%)			75	73	37
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
7	TOC (mg/L)				2.8	
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)		0.01	7.00	0.90	2.11
3	Cr (µg/L)		2.00	46.00	2.00	2.10
4	Cu (µg/L)					
5	Hg (µg/L)			5.82	0.00	
6	Ni (µg/L)		1.00	1.00	9.10	1.23
7	Pb (µg/L)		65.00	117.00	16.78	29.00
8	Zn (µg/L)		26.00	100.00	4.97	34.38
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	183	119	122	123	159
2	HAR_Total (mgCaCO3/L)	376	225	212	203	248
3	Na% (%)	27	37	41	41	39
4	RSC (-)	0.4	0.6	0.7	0.6	1.0
5	SAR (-)	1.4	1.8	2.1	2.0	2.0
	PESTICIDES					
1	Aldrin (µg/L)		0.010	0.010	0.010	0.010
2	BHC (µg/L)		0.100	0.100	0.270	0.100
3	DDT (µg/L)		0.100	0.100	0.100	0.100
4	Dieldrin (µg/L)		0.010	0.030	0.010	0.010
5	Endos (µg/L)		0.100	0.100	0.100	0.100

Water Quality Seasonal Average for the period: 2004-2019

Station Name : Paleru Bridge (AKC00D3) **Division : Lower Krishna Divn., Hyderabad**

Local River : Paleru **River Water Sub-Division : Lower Krishna SD2, Vijayawada**

S.No		Summer				
		Mar - May				
		2010	2011	2012	2013	2014
	PHYSICAL					
1	Q (cumec)					2.626
2	EC_FLD (µmho/cm)	937				
3	EC_GEN (µmho/cm)	757	787	925	1140	811
4	pH_FLD (pH units)	7.6				
5	pH_GEN (pH units)	7.9	7.7	7.4	7.8	7.7
6	TDS (mg/L)			588	638	557
7	Temp (deg C)	24.0		29.5	26.0	28.3
8	Turb (NTU)			1.00	0.47	3.67
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	267	232	272	293	248
3	B (mg/L)	0.00	0.00	0.05	0.32	0.17
4	Ca (mg/L)	50	47	44	78	47
5	Cl (mg/L)	62.7	71.1	70.3	149.5	70.3
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	1.98	1.05	0.87	0.82	0.96
8	Fe (mg/L)	0.0	0.0	0.1	0.2	0.8
9	HCO3 (mg/L)	325	283	331	357	302
10	K (mg/L)	2.5	2.1	4.8	1.4	2.7
11	Mg (mg/L)	25.9	26.5	25.3	45.7	27.4
12	Na (mg/L)	64.6	71.1	75.0	102.8	65.5
13	NH3-N (mg N/L)	0.00	0.00	0.04	0.00	0.03
14	NO2+NO3 (mg N/L)	0.00	0.00	1.12	1.18	2.25
15	NO2-N (mgN/L)	0.00	0.00	0.01	0.00	0.00
16	NO3-N (mgN/L)	0.00	0.00	1.11	1.18	2.25
17	o-PO4-P (mg P/L)			0.192	0.158	0.053
18	P-Tot (mgP/L)	0.000	0.178	0.192		
19	SiO2 (mg/L)	23.0	17.2	33.2	22.0	19.7
20	SO4 (mg/L)	54.1	53.8	69.2	48.0	60.7
	BIOLOGICAL/BACTERIOLOGICA					
1	BOD3-27 (mg/L)	2.1	0.8	0.7	1.0	0.9
2	COD (mg/L)	17.5	24.3	7.2	13.0	6.1
3	DO (mg/L)	5.9	5.2	4.7	4.9	4.6
4	DO_SAT% (%)	63		62	60	60
5	FCol-MPN (MPN/100mL)	11467	12500	1940	800	270
6	Tcol-MPN (MPN/100mL)	11467	16000	6140	1700	503
7	TOC (mg/L)			2.6	3.3	
	TRACE & TOXIC					
1	As (µg/L)	1.70		0.88	6.35	0.61
2	Cd (µg/L)	0.00	0.98	0.20	0.12	0.02
3	Cr (µg/L)	0.00	0.00	0.00	1.44	0.06
4	Cu (µg/L)					
5	Hg (µg/L)			0.60	2.35	0.24
6	Ni (µg/L)	0.00	4.37	3.24	7.23	1.18
7	Pb (µg/L)	0.00	34.66	14.13	0.36	0.13
8	Zn (µg/L)	7.99	49.01	22.80	0.30	40.00
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	124	116	110	194	118
2	HAR_Total (mgCaCO3/L)	232	227	215	385	232
3	Na% (%)	38	41	43	37	38
4	RSC (-)	0.8	0.3	1.2	0.0	0.4
5	SAR (-)	1.9	2.1	2.3	2.3	1.9
	PESTICIDES					
1	Aldrin (µg/L)	0.000	0.000	0.007		
2	BHC (µg/L)	0.306	0.000	0.020		
3	DDT (µg/L)	0.013	0.000	0.001		
4	Dieldrin (µg/L)	0.002	0.000	0.000		
5	Endos (µg/L)	0.147	0.000	0.098		

Water Quality Seasonal Average for the period: 2004-2019

Station Name : Paleru Bridge (AKC00D3) **Division : Lower Krishna Divn., Hyderabad**

Local River : Paleru **River Water Sub-Division : Lower Krishna SD2, Vijayawada**

S.No		Summer			
		Mar - May			
		2015	2017	2018	2019
	PHYSICAL				
1	Q (cumec)	3.652		2.418	1.216
2	EC_FLD (µmho/cm)				732
3	EC_GEN (µmho/cm)	760		1026	996
4	pH_FLD (pH units)			7.8	7.4
5	pH_GEN (pH units)	7.9		7.7	7.5
6	TDS (mg/L)	475		726	544
7	Temp (deg C)	25.7		23.7	23.5
8	Turb (NTU)	1.67		6.00	1.00
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0		0.0	0.0
2	ALK-TOT (mgCaCO3/L)	208		317	294
3	B (mg/L)	0.16		0.06	0.06
4	Ca (mg/L)	43		72	45
5	Cl (mg/L)	63.7		136.5	95.1
6	CO3 (mg/L)	0.0		0.0	0.0
7	F (mg/L)	0.85		1.25	0.96
8	Fe (mg/L)	0.0		0.1	0.1
9	HCO3 (mg/L)	254		387	359
10	K (mg/L)	2.8		0.6	0.4
11	Mg (mg/L)	24.7		45.9	44.9
12	Na (mg/L)	69.5		132.6	103.4
13	NH3-N (mg N/L)	0.00		0.14	0.17
14	NO2+NO3 (mg N/L)	0.57		4.86	0.86
15	NO2-N (mgN/L)	0.03		0.02	0.03
16	NO3-N (mgN/L)	0.54		4.84	0.83
17	o-PO4-P (mg P/L)	0.100		0.464	0.203
18	P-Tot (mgP/L)				
19	SiO2 (mg/L)	30.0		10.8	28.0
20	SO4 (mg/L)	67.8		100.1	105.8
	BIOLOGICAL/BACTERIOLOGICA				
1	BOD3-27 (mg/L)	0.7		1.2	1.3
2	COD (mg/L)	7.7		23.0	8.1
3	DO (mg/L)	3.6		5.0	6.7
4	DO_SAT% (%)	45		59	78
5	FCol-MPN (MPN/100mL)	21		223	1377
6	Tcol-MPN (MPN/100mL)	953		697	5910
7	TOC (mg/L)	26.5			
	TRACE & TOXIC				
1	As (µg/L)	0.00			2.29
2	Cd (µg/L)	2.00			2.30
3	Cr (µg/L)	0.00			2.40
4	Cu (µg/L)			1.00	13.67
5	Hg (µg/L)	0.08			0.28
6	Ni (µg/L)	9.88			11.40
7	Pb (µg/L)	15.00			32.00
8	Zn (µg/L)	11.00		10.13	18.90
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	107		181	112
2	HAR_Total (mgCaCO3/L)	210		372	300
3	Na% (%)	42		43	43
4	RSC (-)	0.1		0.0	0.3
5	SAR (-)	2.1		3.0	2.6
	PESTICIDES				
1	Aldrin (µg/L)				
2	BHC (µg/L)				
3	DDT (µg/L)				
4	Dieldrin (µg/L)				
5	Endos (µg/L)				

samples not collected durind summer season 2016 and 2017 due to Dry bed/ No flow condition

HISTORY SHEET

			Water Year	:	**2018-2019**
Site	:	**Wadenapally**	**Code**	:	**AK000D5**
State	:	Andhra Pradesh	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 : 2018-2019

Station Name : Wadenapally (AK000D5) **Division : Lower Krishna Divn., Hyderabad**

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

S.No	Parameters	25/06/2018	02/07/2018	01/08/2018	04/09/2018	03/10/2018	01/11/2018
		A	A	A	A	A	A
	PHYSICAL						
1	Q (cumec)	1.261	1.238	113.8	206.5	216.3	202.4
2	Colour_Cod (-)	Clear	Clear	Clear	Light Brown	Clear	Clear
3	EC_FLD (µmho/cm)	100	1003	1003	1005	1001	1001
4	EC_GEN (µmho/cm)	651	599	1308	828	633	734
5	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free	odour free
6	pH_FLD (pH units)	6.7	6.8	6.7	6.8	6.5	6.9
7	pH_GEN (pH units)	7.7	7.8	8.5	8.2	7.9	7.9
8	TDS (mg/L)	533	546	544	402	370	656
9	Temp (deg C)	28.0	28.0	28.0	28.0	28.0	27.0
10	Turb (NTU)	3.00	1.00	4.00	4.00	7.00	0.00
	CHEMICAL						
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	15.2	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	154	167	173	93	152	164
3	B (mg/L)	0.06	0.01	0.10	0.01	0.03	0.02
4	Ca (mg/L)	32	36	35	38	28	42
5	Cl (mg/L)	119.2	120.2	137.5	82.2	96.2	84.0
6	CO3 (mg/L)	0.0	0.0	18.3	0.0	0.0	0.0
7	F (mg/L)	0.66	0.75	0.64	0.57	0.51	0.10
8	Fe (mg/L)	0.1	0.1	0.3	0.0	0.0	0.0
9	HCO3 (mg/L)	188	204	174	114	186	200
10	K (mg/L)	0.5	0.3	0.4	0.7	0.4	0.5
11	Mg (mg/L)	24.3	25.1	29.9	22.8	27.7	27.1
12	Na (mg/L)	84.3	70.6	97.5	22.2	72.3	76.0
13	NH3-N (mg N/L)	0.02	0.21	0.15	0.14	0.00	0.24
14	NO2+NO3 (mg N/L)	0.05	2.69	0.18	0.16	0.44	0.36
15	NO2-N (mgN/L)	0.05	0.07	0.01	0.16	0.04	0.02
16	NO3-N (mgN/L)	0.00	2.62	0.17	0.00	0.40	0.34
17	o-PO4-P (mg P/L)	0.210	0.190	0.200	0.200	0.000	0.500
18	SiO2 (mg/L)	99.6	48.8	10.2	12.7	15.8	57.0
19	SO4 (mg/L)	80.7	62.1	56.6	59.3	130.2	114.2
	BIOLOGICAL/BACTERIOLOGICAL						
1	BOD3-27 (mg/L)	1.2	1.8	2.3	3.2	1.6	2.8
2	COD (mg/L)	15.6	9.2	24.0	15.6	4.8	15.2
3	DO (mg/L)	5.7	4.4	5.4	6.4	4.3	7.0
4	DO_SAT% (%)	73	56	69	82	55	88
5	FCol-MPN (MPN/100mL)	20	130	230	80	140	800
6	Tcol-MPN (MPN/100mL)	40	500	800	330	1300	1400
	TRACE & TOXIC						
1	As (µg/L)						
2	Cd (µg/L)						
3	Cr (µg/L)						
4	Cu (µg/L)	0.01	11.00	13.00	10.00	5.00	7.00
5	Hg (µg/L)						
6	Ni (µg/L)						
7	Pb (µg/L)						
8	Zn (µg/L)	0.05	10.90	51.90	28.30	7.10	12.20
	CHEMICAL INDICES						
1	HAR_Ca (mgCaCO3/L)	79	90	88	96	71	105
2	HAR_Total (mgCaCO3/L)	181	194	212	191	186	217
3	Na% (%)	50	44	50	20	46	43
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	2.7	2.2	2.9	0.7	2.3	2.2
	PESTICIDES						

Water Quality Datasheet for the period : 2018-2019

Station Name : Wadenapally (AK000D5) **Division : Lower Krishna Divn., Hyderabad**

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

S.No	Parameters	03/12/2018	01/01/2019	01/02/2019	01/03/2019	01/04/2019	01/05/2019
		A	A	A	A	A	A
	PHYSICAL						
1	Q (cumec)	89.59	45.42	2.467	58.81	2.435	3.265
2	Colour_Cod (-)	Clear	Clear	Clear	Clear	Clear	Clear
3	EC_FLD (µmho/cm)	1006	1000	1005	1006	1003	1001
4	EC_GEN (µmho/cm)	1616	880	835	893	269	379
5	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free	odour free
6	pH_FLD (pH units)	6.8	6.9	6.2	6.3	6.7	6.7
7	pH_GEN (pH units)	8.1	8.2	7.8	7.6	7.7	7.5
8	TDS (mg/L)		634	446	477	250	297
9	Temp (deg C)	28.0	25.0	25.0	27.0	27.0	28.0
10	Turb (NTU)		1.00	1.00	1.00	1.00	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)	226	271	185	185	174	189
3	B (mg/L)	0.02	0.04	0.03	0.01	0.02	0.07
4	Ca (mg/L)	49	36	43	44	48	29
5	Cl (mg/L)	109.0	121.0	91.0	98.0	65.0	72.9
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	1.24	0.54	0.67	0.61	0.44	0.47
8	Fe (mg/L)	0.0	0.5	0.2	0.1	0.1	0.3
9	HCO3 (mg/L)	275	331	226	226	212	231
10	K (mg/L)	0.3	0.3	0.4	0.5	0.3	0.4
11	Mg (mg/L)	28.3	41.1	22.6	26.8	12.7	23.5
12	Na (mg/L)	78.8	89.1	75.1	101.0	63.0	66.1
13	NH3-N (mg N/L)	0.00	0.26	0.13	0.37	0.10	0.01
14	NO2+NO3 (mg N/L)	0.37	0.40	2.00	0.79	0.49	0.45
15	NO2-N (mgN/L)	0.02	0.02	1.00	0.03	0.04	0.02
16	NO3-N (mgN/L)	0.35	0.38	1.00	0.76	0.45	0.43
17	o-PO4-P (mg P/L)	0.500	0.365	0.180	0.234	0.143	0.154
18	SiO2 (mg/L)	15.6	14.4	13.2	8.1	16.5	20.4
19	SO4 (mg/L)		3.0	92.9	179.8	59.5	57.1
	BIOLOGICAL/BACTERIOLOGICA						
1	BOD3-27 (mg/L)	0.4	2.9	2.3	0.3	1.1	0.8
2	COD (mg/L)	3.6	13.9	9.1	11.5	16.3	3.5
3	DO (mg/L)	6.9	6.1	7.3	7.4	7.0	7.0
4	DO_SAT% (%)	88	74	88	93	88	89
5	FCol-MPN (MPN/100mL)	170	170	340	800	90	130
6	Tcol-MPN (MPN/100mL)	1100	800	3000	1700	330	3400
	TRACE & TOXIC						
1	As (µg/L)					4.50	
2	Cd (µg/L)					1.70	
3	Cr (µg/L)					1.30	
4	Cu (µg/L)	11.00	9.00	5.00	4.00	27.00	7.00
5	Hg (µg/L)					0.33	
6	Ni (µg/L)					7.20	
7	Pb (µg/L)					19.00	
8	Zn (µg/L)	3.20	51.50	35.90	54.60	13.20	11.50
	CHEMICAL INDICES						
1	HAR_Ca (mgCaCO3/L)	121	89	108	109	119	74
2	HAR_Total (mgCaCO3/L)	239	260	202	221	172	171
3	Na% (%)	42	43	45	50	44	46
4	RSC (-)	0.0	0.3	0.0	0.0	0.0	0.4
5	SAR (-)	2.2	2.4	2.3	3.0	2.1	2.2
	PESTICIDES						

Water Quality Summary for the period : 2018-2019

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)	365	588.1	0.000	62.73
2	EC_FLD (µmho/cm)	12	1006	100	928
3	EC_GEN (µmho/cm)	12	1616	269	802
4	pH_FLD (pH units)	12	6.9	6.2	6.7
5	pH_GEN (pH units)	12	8.5	7.5	7.9
6	TDS (mg/L)	11	656	250	469
7	Temp (deg C)	12	28.0	25.0	27.3
8	Turb (NTU)	11	7.00	0.00	2.18
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	12	15.2	0.0	1.3
2	ALK-TOT (mgCaCO3/L)	12	271	93	178
3	B (mg/L)	12	0.10	0.01	0.03
4	Ca (mg/L)	12	49	28	38
5	Cl (mg/L)	12	137.5	65.0	99.7
6	CO3 (mg/L)	12	18.3	0.0	1.5
7	F (mg/L)	12	1.24	0.10	0.6
8	Fe (mg/L)	12	0.5	0.0	0.2
9	HCO3 (mg/L)	12	331	114	214
10	K (mg/L)	12	0.7	0.3	0.4
11	Mg (mg/L)	12	41.1	12.7	26
12	Na (mg/L)	12	101.0	22.2	74.7
13	NH3-N (mg N/L)	12	0.37	0.00	0.14
14	NO2+NO3 (mg N/L)	12	2.69	0.05	0.7
15	NO2-N (mgN/L)	12	1.00	0.01	0.12
16	NO3-N (mgN/L)	12	2.62	0.00	0.57
17	o-PO4-P (mg P/L)	12	0.500	0.000	0.24
18	SiO2 (mg/L)	12	99.6	8.1	27.7
19	SO4 (mg/L)	11	179.8	3.0	81.4
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	12	3.2	0.3	1.7
2	COD (mg/L)	12	24.0	3.5	11.9
3	DO (mg/L)	12	7.4	4.3	6.2
4	DO_SAT% (%)	12	93	55	79
5	FCol-MPN (MPN/100mL)	12	800	20	258
6	Tcol-MPN (MPN/100mL)	12	3400	40	1225
	TRACE & TOXIC				
1	As (µg/L)	1	4.50	4.50	4.5
2	Cd (µg/L)	1	1.70	1.70	1.7
3	Cr (µg/L)	1	1.30	1.30	1.3
4	Cu (µg/L)	12	27.00	0.01	9.08
5	Hg (µg/L)	1	0.33	0.33	0.33
6	Ni (µg/L)	1	7.20	7.20	7.2
7	Pb (µg/L)	1	19.00	19.00	19
8	Zn (µg/L)	12	54.60	0.05	23.36
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	12	121	71	96
2	HAR_Total (mgCaCO3/L)	12	260	171	204
3	Na% (%)	12	50	20	44
4	RSC (-)	12	0.4	0.0	0.1
5	SAR (-)	12	3.0	0.7	2.3
	PESTICIDES				

Water Quality Seasonal Average for the period: 2004-2019

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				
		2004	2005	2006	2007	2008
	PHYSICAL					
1	Q (cumec)	146.8	581.9	548.5	2406	301.8
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	611	512	563	529	647
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.2	8.0	8.2	7.5	8.0
6	TDS (mg/L)					
7	Temp (deg C)	26.9	29.0	27.6	28.1	28.0
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	4.2	1.7	4.0	0.0	1.6
2	ALK-TOT (mgCaCO3/L)	182	144	140	140	162
3	B (mg/L)	0.00	0.00	0.00	0.00	0.00
4	Ca (mg/L)	29	37	32	32	42
5	Cl (mg/L)	66.1	45.5	34.8	50.3	61.7
6	CO3 (mg/L)	5.0	2.0	4.8	0.0	1.9
7	F (mg/L)	1.01	0.64	0.62	0.81	0.31
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	212	172	161	171	193
10	K (mg/L)	3.4	4.8	2.3	3.4	3.2
11	Mg (mg/L)	18.8	14.8	11.6	15.6	13.0
12	Na (mg/L)	63.4	49.2	50.4	55.8	58.7
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.05	0.05
14	NO2+NO3 (mg N/L)	0.01	0.01	0.00	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	0.01	0.00	0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.001	0.001	0.001	0.001
19	SiO2 (mg/L)	14.6	15.9	19.2	15.3	17.0
20	SO4 (mg/L)	60.2	54.2	40.2	47.4	53.4
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.3	1.0	0.8	1.5	1.0
2	COD (mg/L)				13.9	26.7
3	DO (mg/L)	5.4	5.6	7.2	6.8	5.9
4	DO_SAT% (%)	67	73	91	87	76
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	93	81	80	106
2	HAR_Total (mgCaCO3/L)	151	155	129	145	160
3	Na% (%)	47	37	43	44	44
4	RSC (-)	0.7	0.1	0.2	0.1	0.1
5	SAR (-)	2.3	1.6	1.9	2.0	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: 2004-2019

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				
		2009	2010	2011	2012	2013
	PHYSICAL					
1	Q (cumec)	413.0	526.4	250.9	30.10	227.0
2	EC_FLD (µmho/cm)		664			542
3	EC_GEN (µmho/cm)	625	757	703	633	611
4	pH_FLD (pH units)		8.3			
5	pH_GEN (pH units)	7.5	8.0	8.0	7.9	8.1
6	TDS (mg/L)			473	429	381
7	Temp (deg C)	27.1	28.4	26.8	27.7	27.0
8	Turb (NTU)			1.00	0.84	1.00
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	1.6	1.6	1.2	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	167	179	172	132	116
3	B (mg/L)	0.00	0.00	0.00	0.20	0.13
4	Ca (mg/L)	37	43	34	31	29
5	Cl (mg/L)	58.0	75.5	73.0	60.0	60.6
6	CO3 (mg/L)	1.9	1.9	1.4	0.0	0.0
7	F (mg/L)	0.78	0.83	1.04	0.61	0.65
8	Fe (mg/L)	0.0	0.0	0.0	0.1	0.1
9	HCO3 (mg/L)	200	214	207	161	141
10	K (mg/L)	2.9	4.0	3.5	3.5	2.9
11	Mg (mg/L)	15.3	21.0	19.2	17.6	15.8
12	Na (mg/L)	59.4	73.5	69.3	64.4	66.5
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.02	0.07
14	NO2+NO3 (mg N/L)	0.56	0.00	0.32	0.95	0.66
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.56	0.00	0.32	0.95	0.66
17	o-PO4-P (mg P/L)			0.375	0.059	0.085
18	P-Tot (mgP/L)	0.000	0.135	0.376		
19	SiO2 (mg/L)	17.0	17.7	15.7	13.6	12.4
20	SO4 (mg/L)	62.6	101.6	63.9	56.0	67.1
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.9	0.7	0.8	0.5	0.9
2	COD (mg/L)	18.6	34.3	32.9	8.5	8.7
3	DO (mg/L)	6.5	6.9	6.0	5.5	6.1
4	DO_SAT% (%)	82	89	75	70	76
5	FCol-MPN (MPN/100mL)	6000	9712	14600	1146	131
6	Tcol-MPN (MPN/100mL)	10500	12940	16000	3540	2340
7	TOC (mg/L)			3.3	2.7	0.4
	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)	92	108	85	76	72
2	HAR_Total (mgCaCO3/L)	156	196	165	150	138
3	Na% (%)	45	45	47	49	50
4	RSC (-)	0.4	0.0	0.2	0.2	0.0
5	SAR (-)	2.1	2.3	2.4	2.4	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: 2004-2019

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				
		2014	2015	2016	2017	2018
	PHYSICAL					
1	Q (cumec)	135.4	25.19	155.7	23.81	107.8
2	EC_FLD (µmho/cm)			28	120	822
3	EC_GEN (µmho/cm)	649	746	608	645	804
4	pH_FLD (pH units)					6.7
5	pH_GEN (pH units)	8.3	8.0	8.5	8.1	8.0
6	TDS (mg/L)	416	479	394	408	479
7	Temp (deg C)	26.8	25.8	26.5	28.0	28.0
8	Turb (NTU)	5.00	2.20	2.50	6.25	3.80
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.8	0.0	1.3	4.7	3.0
2	ALK-TOT (mgCaCO3/L)	145	164	140	150	148
3	B (mg/L)	0.20	0.21		0.00	0.04
4	Ca (mg/L)	36	41	34	35	34
5	Cl (mg/L)	63.8	84.5	67.4	87.6	111.1
6	CO3 (mg/L)	1.0	0.0	1.6	5.7	3.7
7	F (mg/L)	0.66	0.81	0.64	0.57	0.62
8	Fe (mg/L)	0.0	0.0	0.1	0.2	0.1
9	HCO3 (mg/L)	175	200	167	171	173
10	K (mg/L)	3.8	4.0	3.4	0.4	0.5
11	Mg (mg/L)	21.1	23.3	19.4	28.8	26.0
12	Na (mg/L)	71.4	87.0	65.5	77.9	69.4
13	NH3-N (mg N/L)	0.00	0.05	0.04	0.09	0.10
14	NO2+NO3 (mg N/L)	1.27	0.72	1.14	5.21	0.70
15	NO2-N (mgN/L)	0.01	0.02	0.05	0.04	0.07
16	NO3-N (mgN/L)	1.26	0.70	1.09	5.18	0.64
17	o-PO4-P (mg P/L)	0.125	0.151	0.123	0.180	0.160
18	P-Tot (mgP/L)	0.131				
19	SiO2 (mg/L)	15.2	18.0	14.1	14.0	37.4
20	SO4 (mg/L)	93.2	94.4	58.2	75.4	77.8
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.8	0.7	1.2	1.4	2.0
2	COD (mg/L)	10.0	8.8	14.9	13.9	13.8
3	DO (mg/L)	6.1	5.6	6.1	6.7	5.2
4	DO_SAT% (%)	77	69	76	85	67
5	FCol-MPN (MPN/100mL)	6492	2440	6260	598	120
6	Tcol-MPN (MPN/100mL)	6984	7424	8045	1196	594
7	TOC (mg/L)		14.2			
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)				2.60	7.80
5	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)				40.08	19.65
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	91	102	86	88	85
2	HAR_Total (mgCaCO3/L)	179	199	167	208	193
3	Na% (%)	46	48	46	45	42
4	RSC (-)	0.0	0.0	0.1	0.0	0.0
5	SAR (-)	2.3	2.7	2.3	2.4	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: 2004-2019

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				
		2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
	PHYSICAL					
1	Q (cumec)	189.8	907.4	244.2	324.1	409.8
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	663	538	484	549	586
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.2	8.1	8.2	8.0	8.1
6	TDS (mg/L)					
7	Temp (deg C)	25.5	24.9	28.5	24.8	27.0
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	2.1	0.0	9.8	3.9	2.0
2	ALK-TOT (mgCaCO3/L)	173	175	167	182	177
3	B (mg/L)	0.00	0.00	0.00	0.00	0.00
4	Ca (mg/L)	40	38	37	48	48
5	Cl (mg/L)	52.0	37.4	31.9	44.0	49.9
6	CO3 (mg/L)	2.5	0.0	11.8	4.8	2.4
7	F (mg/L)	0.68	0.67	0.62	0.75	0.32
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	206	214	179	212	211
10	K (mg/L)	1.9		2.0	2.7	3.1
11	Mg (mg/L)	20.3	14.3	14.8	17.5	10.1
12	Na (mg/L)	39.0		43.5	56.8	57.3
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.05	0.05
14	NO2+NO3 (mg N/L)	0.01	0.01	0.00	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	0.01	0.00	0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.001	0.001	0.001	0.001
19	SiO2 (mg/L)	16.4	15.0	18.2	15.8	16.0
20	SO4 (mg/L)	61.5	41.5	37.3	45.3	51.6
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.6	0.8	1.0	1.0	0.8
2	COD (mg/L)				29.1	12.6
3	DO (mg/L)	6.2	6.6	7.9	7.5	6.9
4	DO_SAT% (%)	76	79	102	91	87
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)	101	96	92	119	121
2	HAR_Total (mgCaCO3/L)	185	155	153	192	163
3	Na% (%)	31		38	39	43
4	RSC (-)	0.1	0.4	0.3	0.2	0.3
5	SAR (-)	1.3		1.5	1.8	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: 2004-2019

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				
		2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
	PHYSICAL					
1	Q (cumec)	366.8	269.9	227.4	219.0	211.4
2	EC_FLD (µmho/cm)		646			
3	EC_GEN (µmho/cm)	591	715	611	558	583
4	pH_FLD (pH units)		8.2			
5	pH_GEN (pH units)	8.3	8.1	8.3	8.0	8.1
6	TDS (mg/L)			423	360	336
7	Temp (deg C)	24.9	26.5	26.0	25.3	25.3
8	Turb (NTU)			1.00	0.80	3.50
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	2.0	2.0	3.0	35.7	0.0
2	ALK-TOT (mgCaCO3/L)	181	207	186	212	155
3	B (mg/L)	0.00	0.00	0.20	0.16	0.03
4	Ca (mg/L)	46	43	37	30	35
5	Cl (mg/L)	46.2	71.4	63.3	52.4	47.3
6	CO3 (mg/L)	2.4	2.4	3.7	43.0	0.0
7	F (mg/L)	0.84	0.78	0.67	0.85	0.47
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.1
9	HCO3 (mg/L)	216	248	220	172	189
10	K (mg/L)	2.5	3.5	2.8	1.8	2.7
11	Mg (mg/L)	14.6	24.6	20.7	17.0	19.7
12	Na (mg/L)	57.5	72.1	60.5	58.0	51.0
13	NH3-N (mg N/L)	0.00	0.00	0.10	0.03	0.01
14	NO2+NO3 (mg N/L)	1.34	0.00	0.89	0.61	1.22
15	NO2-N (mgN/L)	0.00	0.00	0.01	0.00	0.00
16	NO3-N (mgN/L)	1.34	0.00	0.89	0.61	1.22
17	o-PO4-P (mg P/L)			0.243	0.048	0.160
18	P-Tot (mgP/L)	0.000	0.162	0.243		
19	SiO2 (mg/L)	16.8	17.6	15.3	15.7	15.2
20	SO4 (mg/L)	58.2	77.3	65.8	51.2	54.4
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.1	0.6	1.0	1.1	1.0
2	COD (mg/L)	17.1	25.5	60.8	16.3	4.1
3	DO (mg/L)	7.0	7.1	6.5	6.8	7.0
4	DO_SAT% (%)	85	88	80	82	85
5	FCol-MPN (MPN/100mL)	14250	5315	5400	946	858
6	Tcol-MPN (MPN/100mL)	16000	12225	9200	4808	2930
7	TOC (mg/L)			2.6	2.1	
	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	108	93	75	87
2	HAR_Total (mgCaCO3/L)	177	210	179	145	169
3	Na% (%)	41	43	42	46	39
4	RSC (-)	0.1	0.2	0.3	1.5	0.0
5	SAR (-)	1.9	2.2	2.0	2.1	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: 2004-2019

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				
		2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
	PHYSICAL					
1	Q (cumec)	167.0	9.261	139.2	83.82	84.97
2	EC_FLD (µmho/cm)			28	40	1003
3	EC_GEN (µmho/cm)	474	969	702	812	1016
4	pH_FLD (pH units)					6.7
5	pH_GEN (pH units)	8.1	8.0	8.3	8.0	8.0
6	TDS (mg/L)	366	337	386	522	579
7	Temp (deg C)	26.8	25.5	27.0	27.3	26.3
8	Turb (NTU)	2.80	2.75	2.75	4.67	0.67
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	1.3	1.5	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	159	158	154	224	212
3	B (mg/L)	0.16	0.00		0.05	0.03
4	Ca (mg/L)	37	33	43	60	42
5	Cl (mg/L)	48.6	64.3	76.0	127.3	101.3
6	CO3 (mg/L)	0.0	1.6	1.8	0.0	0.0
7	F (mg/L)	0.59	0.52	0.80	0.73	0.64
8	Fe (mg/L)	0.1	0.0	0.1	0.1	0.2
9	HCO3 (mg/L)	194	189	185	274	258
10	K (mg/L)	2.9	3.4	5.9	0.5	0.4
11	Mg (mg/L)	19.7	18.7	21.2	35.0	29.8
12	Na (mg/L)	56.5	71.8	79.0	96.4	79.7
13	NH3-N (mg N/L)	0.04	0.01	0.09	0.85	0.16
14	NO2+NO3 (mg N/L)	1.01	1.15	0.45	4.86	0.78
15	NO2-N (mgN/L)	0.06	0.06	0.02	0.03	0.26
16	NO3-N (mgN/L)	0.95	1.09	0.43	4.83	0.52
17	o-PO4-P (mg P/L)	0.156	0.141	0.124	0.848	0.386
18	P-Tot (mgP/L)					
19	SiO2 (mg/L)	14.1	8.7	8.6	26.7	25.0
20	SO4 (mg/L)	53.5	81.4	117.7	113.9	70.0
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.1	1.3	2.7	1.2	2.1
2	COD (mg/L)	10.6	11.4	10.9	19.9	10.5
3	DO (mg/L)	7.3	5.7	6.6	6.6	6.8
4	DO_SAT% (%)	92	70	82	84	85
5	FCol-MPN (MPN/100mL)	1458	6313	2295	105	370
6	Tcol-MPN (MPN/100mL)	6800	10950	4585	185	1575
7	TOC (mg/L)	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		0.00	0.75	8.00
5	Hg (µg/L)					
6	Ni (µg/L)	4.05				
7	Pb (µg/L)	5.70				
8	Zn (µg/L)	5.00		0.00	29.35	25.70
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	91	83	108	149	106
2	HAR_Total (mgCaCO3/L)	174	161	196	295	230
3	Na% (%)	41	48	43	42	43
4	RSC (-)	0.0	0.0	0.1	0.0	0.1
5	SAR (-)	1.9	2.5	2.6	2.5	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: 2004-2019

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				
		2005	2006	2007	2008	2009
	PHYSICAL					
1	Q (cumec)	51.28	159.8	171.7	147.2	171.5
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	585	660	591	697	682
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.1	8.5	8.1	8.3	8.1
6	TDS (mg/L)					
7	Temp (deg C)	27.7	27.5	27.0	26.7	27.0
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	10.5	5.3	2.8	2.7
2	ALK-TOT (mgCaCO3/L)	160	210	213	219	228
3	B (mg/L)	0.00	0.00	0.00	0.00	0.00
4	Ca (mg/L)	38	41	40	51	50
5	Cl (mg/L)	52.3	47.0	44.2	62.9	59.0
6	CO3 (mg/L)	0.0	12.7	6.3	3.3	3.2
7	F (mg/L)	0.68	0.83	1.08	0.75	0.79
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	195	231	247	260	272
10	K (mg/L)	1.4	2.8	2.4	2.5	2.2
11	Mg (mg/L)	22.0	17.3	19.0	17.7	13.6
12	Na (mg/L)	46.3	63.7	62.0	73.0	61.7
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.05	0.05
14	NO2+NO3 (mg N/L)	0.01	0.01	0.00	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	0.01	0.00	0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.001	0.001	0.001	0.001
19	SiO2 (mg/L)	24.2	17.2	17.2	17.3	17.1
20	SO4 (mg/L)	60.7	46.7	45.7	44.7	52.5
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.0	0.6	0.6	0.5	0.7
2	COD (mg/L)				7.9	6.7
3	DO (mg/L)	5.4	5.6	6.3	6.1	6.0
4	DO_SAT% (%)	68	71	78	76	76
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
7	TOC (mg/L)				3.3	
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)		0.01	7.00	0.90	2.56
3	Cr (µg/L)		9.00	9.00	2.00	2.00
4	Cu (µg/L)					
5	Hg (µg/L)			1.36	0.00	
6	Ni (µg/L)		1.00	1.00	9.90	3.25
7	Pb (µg/L)		65.00	19.00	21.25	36.00
8	Zn (µg/L)		10.00	69.00	2.89	6.63
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	94	103	100	127	124
2	HAR_Total (mgCaCO3/L)	186	175	179	200	181
3	Na% (%)	35	43	42	44	42
4	RSC (-)	0.2	0.7	0.7	0.4	1.0
5	SAR (-)	1.5	2.1	2.0	2.3	2.0
	PESTICIDES					
1	Aldrin (µg/L)		0.010	0.040	0.010	0.014
2	BHC (µg/L)		0.100	0.140	0.200	0.100
3	DDT (µg/L)		0.100	0.100	0.100	0.100
4	Dieldrin (µg/L)		0.010	0.140	0.010	0.010
5	Endos (µg/L)		0.100	0.190	0.100	0.100

Water Quality Seasonal Average for the period: 2004-2019

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				
		2010	2011	2012	2013	2014
	PHYSICAL					
1	Q (cumec)	211.5	173.6	76.14	24.02	150.9
2	EC_FLD (µmho/cm)	638				
3	EC_GEN (µmho/cm)	625	858	900	723	627
4	pH_FLD (pH units)	8.4				
5	pH_GEN (pH units)	8.5	7.6	8.2	8.2	8.3
6	TDS (mg/L)			375	404	381
7	Temp (deg C)	27.5	25.5	26.3	27.3	28.0
8	Turb (NTU)			1.00	0.88	4.33
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	8.0	0.0	1.4	0.0	1.4
2	ALK-TOT (mgCaCO3/L)	175	208	159	155	163
3	B (mg/L)	0.00	0.00	0.08	0.28	0.15
4	Ca (mg/L)	45	45	29	37	36
5	Cl (mg/L)	51.8	83.9	59.7	80.5	52.5
6	CO3 (mg/L)	9.6	0.0	1.7	0.0	1.7
7	F (mg/L)	1.00	1.06	0.45	0.85	0.60
8	Fe (mg/L)	0.0	0.0	0.2	0.2	0.7
9	HCO3 (mg/L)	194	254	191	189	195
10	K (mg/L)	2.6	3.6	2.7	2.4	2.4
11	Mg (mg/L)	16.5	25.8	16.7	21.6	20.0
12	Na (mg/L)	58.6	83.3	58.0	75.6	58.0
13	NH3-N (mg N/L)	0.00	0.00	0.12	0.01	0.03
14	NO2+NO3 (mg N/L)	0.00	0.00	0.68	0.94	1.30
15	NO2-N (mgN/L)	0.00	0.00	0.01	0.00	0.00
16	NO3-N (mgN/L)	0.00	0.00	0.67	0.94	1.30
17	o-PO4-P (mg P/L)			0.093	0.080	0.097
18	P-Tot (mgP/L)	0.000	0.272	0.093		
19	SiO2 (mg/L)	13.9	16.0	16.2	10.8	16.3
20	SO4 (mg/L)	48.8	83.6	57.5	32.2	57.8
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.3	0.3	0.9	0.6	1.2
2	COD (mg/L)	21.6	26.2	10.1	8.6	6.6
3	DO (mg/L)	6.4	6.3	6.3	6.1	6.6
4	DO_SAT% (%)	81	76	78	78	85
5	FCol-MPN (MPN/100mL)	10833	9000	5607	801	34
6	Tcol-MPN (MPN/100mL)	10900	16000	6140	3734	77
7	TOC (mg/L)			2.9	2.9	
	TRACE & TOXIC					
1	As (µg/L)	2.79		1.53	4.26	1.62
2	Cd (µg/L)	0.00		0.00	1.20	0.01
3	Cr (µg/L)	0.00		0.00	2.95	0.03
4	Cu (µg/L)					
5	Hg (µg/L)			1.22	0.28	0.28
6	Ni (µg/L)	0.00		1.57	2.89	1.72
7	Pb (µg/L)	0.00		18.98	5.05	0.72
8	Zn (µg/L)	4.24		18.21	10.85	2.00
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	112	112	73	94	89
2	HAR_Total (mgCaCO3/L)	181	220	143	184	173
3	Na% (%)	41	45	47	47	41
4	RSC (-)	0.0	0.0	0.3	0.0	0.1
5	SAR (-)	1.9	2.5	2.1	2.4	1.9
	PESTICIDES					
1	Aldrin (µg/L)	0.000		0.000		
2	BHC (µg/L)	0.027		0.011		
3	DDT (µg/L)	0.010		0.001		
4	Dieldrin (µg/L)	0.002		0.000		
5	Endos (µg/L)	0.055		0.009		

Water Quality Seasonal Average for the period: 2004-2019

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				
		2015	2016	2017	2018	2019
	PHYSICAL					
1	Q (cumec)	70.53	6.178	26.62	109.2	21.50
2	EC_FLD (µmho/cm)			179	1009	1003
3	EC_GEN (µmho/cm)	740	741	776	1139	513
4	pH_FLD (pH units)				6.6	6.6
5	pH_GEN (pH units)	8.3	8.4	8.0	7.9	7.6
6	TDS (mg/L)	427	368	467	607	341
7	Temp (deg C)	26.0	26.0	26.7	27.3	27.3
8	Turb (NTU)	3.00	8.67	30.33	4.33	1.00
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	1.7	3.3	2.8	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	197	120	171	211	183
3	B (mg/L)	0.12			0.01	0.03
4	Ca (mg/L)	45	28	54	55	40
5	Cl (mg/L)	63.1	63.8	93.1	108.7	78.6
6	CO3 (mg/L)	2.1	4.0	3.4	0.0	0.0
7	F (mg/L)	0.91	0.37	0.60	0.78	0.51
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.2
9	HCO3 (mg/L)	236	139	201	258	223
10	K (mg/L)	2.7	3.1	3.7	0.5	0.4
11	Mg (mg/L)	25.9	15.2	26.6	27.9	21.0
12	Na (mg/L)	74.1	73.3	89.7	98.6	76.7
13	NH3-N (mg N/L)	0.00	0.02	1.10	0.18	0.16
14	NO2+NO3 (mg N/L)	0.78	1.05	1.68	4.41	0.57
15	NO2-N (mgN/L)	0.00	0.07	0.10	0.27	0.03
16	NO3-N (mgN/L)	0.78	0.98	1.58	4.14	0.55
17	o-PO4-P (mg P/L)	0.195	0.119	0.173	0.509	0.177
18	P-Tot (mgP/L)					
19	SiO2 (mg/L)	18.4	11.0	18.0	13.2	15.0
20	SO4 (mg/L)	120.6	65.9	146.4	98.7	98.8
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.8	1.0	1.9	0.4	0.7
2	COD (mg/L)	7.4	9.4	13.4	20.3	10.4
3	DO (mg/L)	5.3	6.3	6.2	5.0	7.1
4	DO_SAT% (%)	65	77	77	63	90
5	FCol-MPN (MPN/100mL)	45	4100	850	123	340
6	Tcol-MPN (MPN/100mL)	8085	16000	1100	623	1810
7	TOC (mg/L)	32.6				
	TRACE & TOXIC					
1	As (µg/L)	3.44	0.00	3.72	2.58	4.50
2	Cd (µg/L)	2.00	0.00	1.30	2.00	1.70
3	Cr (µg/L)	0.00	0.00	0.00	0.00	1.30
4	Cu (µg/L)			0.00	2.73	12.67
5	Hg (µg/L)	0.14	0.00	0.49	0.32	0.33
6	Ni (µg/L)	7.45	0.00	1.30	8.40	7.20
7	Pb (µg/L)	14.00	0.00	0.00	24.00	19.00
8	Zn (µg/L)	15.00	0.04	0.00	94.85	26.43
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	112	69	135	138	101
2	HAR_Total (mgCaCO3/L)	220	132	246	254	188
3	Na% (%)	42	54	44	46	47
4	RSC (-)	0.0	0.0	0.0	0.1	0.1
5	SAR (-)	2.2	2.8	2.5	2.7	2.4
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

HISTORY SHEET

			Water Year	:	**2018-2019**
Site	:	**Dameracherla**	**Code**	:	**AKF00A7**
State	:	Andhra Pradesh	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 : 2018-2019

Station Name : Dameracherla (AKF00A7) **Division : Lower Krishna Divn., Hyderabad**

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

S.No	Parameters	02/07/2018	14/08/2018	04/09/2018	03/10/2018	01/11/2018
		A	A	A	A	A
	PHYSICAL					
1	Q (cumec)	5.486	25.47	19.24	22.64	21.69
2	Colour_Cod (-)	Clear	Light Brown	Clear	Clear	Clear
3	EC_FLD (µmho/cm)	164	602	579	646	1223
4	EC_GEN (µmho/cm)	1928	1581	1237	1293	1608
5	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free
6	pH_FLD (pH units)	7.6				
7	pH_GEN (pH units)	8.2	8.2	7.6	7.9	8.1
8	TDS (mg/L)	1137	884	596	1142	1116
9	Temp (deg C)	28.0	26.0	27.5	29.0	25.0
10	Turb (NTU)	0.00	0.00	1.00	7.00	0.00
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	198	123	163	236	270
3	B (mg/L)	0.06	0.06	0.03	0.03	0.02
4	Ca (mg/L)	66	69	43	76	56
5	Cl (mg/L)	461.0	98.0	90.5	202.4	261.0
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	1.34	1.08	0.95	1.06	0.09
8	Fe (mg/L)	0.0	0.4	0.0	0.0	0.0
9	HCO3 (mg/L)	241	151	199	288	329
10	K (mg/L)	0.7	0.9	0.6	0.4	0.4
11	Mg (mg/L)	54.2	48.7	52.6	32.9	56.8
12	Na (mg/L)	189.2	80.6	24.6	170.7	171.3
13	NH3-N (mg N/L)	0.26	0.05	0.19	0.17	0.29
14	NO2+NO3 (mg N/L)	1.19	1.19	0.01	2.94	0.77
15	NO2-N (mgN/L)	0.01	0.00	0.01	2.17	0.04
16	NO3-N (mgN/L)	1.18	1.19	0.00	0.77	0.73
17	o-PO4-P (mg P/L)	0.150	0.100	0.200	0.200	0.400
18	SiO2 (mg/L)	45.4	41.2	13.7	20.7	27.1
19	SO4 (mg/L)	113.8	172.0	133.7	37.2	207.1
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.2	2.7	2.1	1.0	2.6
2	COD (mg/L)	17.2	85.2	16.4	16.0	16.4
3	DO (mg/L)	5.1	5.6	5.1	7.0	7.6
4	DO_SAT% (%)	65	69	64	91	92
5	FCol-MPN (MPN/100mL)	130	40	170	40	80
6	Tcol-MPN (MPN/100mL)	220	130	3500	260	260
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)	11.00	6.00	9.00	4.00	11.00
5	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)	7.90	30.10	26.50	6.90	7.80
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	165	173	107	191	139
2	HAR_Total (mgCaCO3/L)	391	376	326	328	376
3	Na% (%)	51	32	14	53	50
4	RSC (-)	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	4.2	1.8	0.6	4.1	3.9
	PESTICIDES					

Water Quality Datasheet for the period : 2018-2019

Station Name : Dameracherla (AKF00A7) **Division : Lower Krishna Divn., Hyderabad**

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

S.No	Parameters	03/12/2018	28/01/2019	01/02/2019	01/03/2019	01/04/2019	01/05/2019
		A	A	A	A	A	A
	PHYSICAL						
1	Q (cumec)	7.469	35.09	7.580	9.965	10.87	5.612
2	Colour_Cod (-)	Clear	Clear	Clear	Clear	Clear	Clear
3	EC_FLD (µmho/cm)	430		327	432	427	419
4	EC_GEN (µmho/cm)	2381	1134	1387	1393	929	838
5	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free	odour free
6	pH_FLD (pH units)						
7	pH_GEN (pH units)	8.4	7.8	7.9	7.6	7.9	7.9
8	TDS (mg/L)		568	772	618	508	604
9	Temp (deg C)	23.0	20.0	22.0	25.0	26.0	28.0
10	Turb (NTU)		1.00	1.00	1.00	0.00	1.00
	CHEMICAL						
1	Alk-Phen (mgCaCO3/L)	45.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	302	180	199	299	289	305
3	B (mg/L)	0.03	0.01	0.03	0.02	0.07	0.05
4	Ca (mg/L)	43	39	52	60	55	38
5	Cl (mg/L)	158.0	151.0	219.0	174.0	133.0	149.7
6	CO3 (mg/L)	54.2	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	1.19	1.02	1.05	0.98	0.89	1.04
8	Fe (mg/L)	0.0	0.3	0.1	0.1	0.2	0.1
9	HCO3 (mg/L)	258	219	243	365	352	372
10	K (mg/L)	0.7	0.5	0.3	0.3	0.3	0.6
11	Mg (mg/L)	25.7	26.6	48.3	40.6	41.8	49.3
12	Na (mg/L)	166.8	109.1	117.5	149.6	105.0	134.4
13	NH3-N (mg N/L)	0.62	0.18	0.07	0.08	0.05	0.04
14	NO2+NO3 (mg N/L)	1.41	2.95	2.08	0.73	0.51	0.77
15	NO2-N (mgN/L)	0.20	0.09	0.11	0.02	0.00	0.02
16	NO3-N (mgN/L)	1.21	2.86	1.97	0.71	0.51	0.75
17	o-PO4-P (mg P/L)	0.100	0.197	0.090	0.101	0.097	0.201
18	SiO2 (mg/L)	13.9	13.1	8.8	17.2	21.5	27.3
19	SO4 (mg/L)		133.2	153.6	177.8	82.5	88.1
	BIOLOGICAL/BACTERIOLOGICAL						
1	BOD3-27 (mg/L)	0.4	0.7	3.3	0.4	0.1	1.3
2	COD (mg/L)	11.5	5.2	6.4	8.4	14.3	9.5
3	DO (mg/L)	5.8	4.7	2.5	4.9	4.9	5.6
4	DO_SAT% (%)	68	52	29	59	61	71
5	FCol-MPN (MPN/100mL)	80	230	2800	270	110	800
6	Tcol-MPN (MPN/100mL)	1300	300	16000	1300	170	2800
	TRACE & TOXIC						
1	As (µg/L)					2.76	
2	Cd (µg/L)					1.70	
3	Cr (µg/L)					3.40	
4	Cu (µg/L)	5.00	6.00	5.00	3.00	24.00	7.00
5	Hg (µg/L)					0.22	
6	Ni (µg/L)					11.20	
7	Pb (µg/L)					27.00	
8	Zn (µg/L)	5.10	58.30	54.30	37.30	24.10	18.80
	CHEMICAL INDICES						
1	HAR_Ca (mgCaCO3/L)	108	97	131	151	137	95
2	HAR_Total (mgCaCO3/L)	215	208	332	320	311	301
3	Na% (%)	63	53	44	51	43	49
4	RSC (-)	1.8	0.0	0.0	0.0	0.0	0.1
5	SAR (-)	5.0	3.3	2.8	3.7	2.6	3.4
	PESTICIDES						

Water Quality Summary for the period : 2018-2019

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)	365	343.9	0.000	11.01
2	EC_FLD (µmho/cm)	10	1223	164	525
3	EC_GEN (µmho/cm)	11	2381	838	1428
4	pH_FLD (pH units)	1	7.6	7.6	7.6
5	pH_GEN (pH units)	11	8.4	7.6	8
6	TDS (mg/L)	10	1142	508	795
7	Temp (deg C)	11	29.0	20.0	25.4
8	Turb (NTU)	10	7.00	0.00	1.2
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	11	45.0	0.0	4.1
2	ALK-TOT (mgCaCO3/L)	11	305	123	233
3	B (mg/L)	11	0.07	0.01	0.04
4	Ca (mg/L)	11	76	38	54
5	Cl (mg/L)	11	461.0	90.5	190.7
6	CO3 (mg/L)	11	54.2	0.0	4.9
7	F (mg/L)	11	1.34	0.09	0.97
8	Fe (mg/L)	11	0.4	0.0	0.1
9	HCO3 (mg/L)	11	372	151	274
10	K (mg/L)	11	0.9	0.3	0.5
11	Mg (mg/L)	11	56.8	25.7	43.4
12	Na (mg/L)	11	189.2	24.6	129
13	NH3-N (mg N/L)	11	0.62	0.04	0.18
14	NO2+NO3 (mg N/L)	11	2.95	0.01	1.32
15	NO2-N (mgN/L)	11	2.17	0.00	0.24
16	NO3-N (mgN/L)	11	2.86	0.00	1.08
17	o-PO4-P (mg P/L)	11	0.400	0.090	0.167
18	SiO2 (mg/L)	11	45.4	8.8	22.7
19	SO4 (mg/L)	10	207.1	37.2	129.9
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	11	3.3	0.1	1.3
2	COD (mg/L)	11	85.2	5.2	18.8
3	DO (mg/L)	11	7.6	2.5	5.3
4	DO_SAT% (%)	11	92	29	65
5	FCol-MPN (MPN/100mL)	11	2800	40	432
6	Tcol-MPN (MPN/100mL)	11	16000	130	2385
	TRACE & TOXIC				
1	As (µg/L)	1	2.76	2.76	2.76
2	Cd (µg/L)	1	1.70	1.70	1.7
3	Cr (µg/L)	1	3.40	3.40	3.4
4	Cu (µg/L)	11	24.00	3.00	8.27
5	Hg (µg/L)	1	0.22	0.22	0.22
6	Ni (µg/L)	1	11.20	11.20	11.2
7	Pb (µg/L)	1	27.00	27.00	27
8	Zn (µg/L)	11	58.30	5.10	25.19
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	11	191	95	136
2	HAR_Total (mgCaCO3/L)	11	391	208	317
3	Na% (%)	11	63	14	46
4	RSC (-)	11	1.8	0.0	0.2
5	SAR (-)	11	5.0	0.6	3.2
	PESTICIDES				

Water Quality Seasonal Average for the period: 2004-2019

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				
		2004	2005	2006	2007	2008
	PHYSICAL					
1	Q (cumec)	21.09	32.95	26.08	105.2	37.62
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	828	947	830	892	1185
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	7.8	8.1	8.1	8.2	8.1
6	TDS (mg/L)					
7	Temp (deg C)	27.0	26.7	28.3	27.6	24.6
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	6.6	0.0	2.1	3.2
2	ALK-TOT (mgCaCO3/L)	249	255	243	235	280
3	B (mg/L)	0.00	0.01	0.00	0.00	0.00
4	Ca (mg/L)	54	63	60	54	62
5	Cl (mg/L)	90.2	90.7	75.3	89.7	157.2
6	CO3 (mg/L)	0.0	8.0	0.0	2.5	3.8
7	F (mg/L)	1.19	1.12	1.18	1.43	1.16
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	304	295	297	281	334
10	K (mg/L)	2.7	2.4	4.0	3.1	5.3
11	Mg (mg/L)	31.0	32.7	21.7	26.5	26.3
12	Na (mg/L)	61.0	88.7	94.7	109.3	123.7
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.05	0.05
14	NO2+NO3 (mg N/L)	0.01	0.01	0.00	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	0.01	0.00	0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.001	0.001	0.001	0.001
19	SiO2 (mg/L)	18.8	23.1	25.9	25.1	26.7
20	SO4 (mg/L)	86.0	149.0	81.7	83.5	65.3
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.2	0.8	0.9	1.5	1.3
2	COD (mg/L)				15.5	40.0
3	DO (mg/L)	4.3	5.7	6.2	6.2	5.1
4	DO_SAT% (%)	54	71	79	78	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)	135	157	151	135	155
2	HAR_Total (mgCaCO3/L)	264	293	241	245	264
3	Na% (%)	33	38	45	48	49
4	RSC (-)	0.0	0.0	0.2	0.1	0.5
5	SAR (-)	1.6	2.2	2.7	3.0	3.3
	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: 2004-2019

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				
		2009	2010	2011	2012	2013
	PHYSICAL					
1	Q (cumec)	34.04	41.65	30.52	3.476	50.47
2	EC_FLD (µmho/cm)		874			1730
3	EC_GEN (µmho/cm)	1062	1150	1140	1112	1258
4	pH_FLD (pH units)		6.9			7.4
5	pH_GEN (pH units)	8.4	8.0	8.0	7.9	7.9
6	TDS (mg/L)			898	638	762
7	Temp (deg C)	27.3	28.6	27.1	27.0	27.6
8	Turb (NTU)			1.00	0.55	1.17
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	5.3	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	228	293	251	185	190
3	B (mg/L)	0.00	0.00	0.00	0.24	0.53
4	Ca (mg/L)	46	51	52	60	48
5	Cl (mg/L)	128.2	125.0	149.8	132.3	183.9
6	CO3 (mg/L)	6.4	0.0	0.0	0.0	0.0
7	F (mg/L)	1.14	1.33	2.29	1.18	1.31
8	Fe (mg/L)	0.0	0.0	0.0	0.1	0.1
9	HCO3 (mg/L)	265	357	307	226	232
10	K (mg/L)	6.1	4.3	4.3	3.4	4.2
11	Mg (mg/L)	23.0	28.8	30.4	35.0	28.1
12	Na (mg/L)	114.0	129.6	109.7	101.1	139.6
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.01	0.27
14	NO2+NO3 (mg N/L)	0.42	0.00	0.31	0.98	3.00
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.42	0.00	0.31	0.98	3.00
17	o-PO4-P (mg P/L)			0.400	0.086	0.158
18	P-Tot (mgP/L)	0.000	0.343	0.400		
19	SiO2 (mg/L)	31.9	24.2	28.6	23.6	15.8
20	SO4 (mg/L)	91.9	93.2	77.0	108.0	96.8
	BIOLOGICAL/BACTERIOLOGICA					
1	BOD3-27 (mg/L)	1.2	0.7	0.8	1.1	1.3
2	COD (mg/L)	18.7	24.3	23.1	29.3	10.1
3	DO (mg/L)	6.2	5.1	5.6	5.8	5.5
4	DO_SAT% (%)	78	65	70	72	70
5	FCol-MPN (MPN/100mL)		6160	12846	8115	123
6	Tcol-MPN (MPN/100mL)		7460	12846	8150	195
7	TOC (mg/L)			4.1	3.4	0.4
	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)	116	127	130	149	120
2	HAR_Total (mgCaCO3/L)	212	247	257	295	237
3	Na% (%)	50	53	48	43	57
4	RSC (-)	0.7	1.1	0.3	0.0	0.0
5	SAR (-)	3.5	3.7	3.0	2.6	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: 2004-2019

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				
		2014	2015	2016	2017	2018
	PHYSICAL					
1	Q (cumec)	9.006	9.376	83.27	100.0	18.21
2	EC_FLD (µmho/cm)			1740	1633	498
3	EC_GEN (µmho/cm)	1263	1120	554	1007	1510
4	pH_FLD (pH units)			7.4	7.5	7.6
5	pH_GEN (pH units)	8.2	8.0	8.3	8.0	8.0
6	TDS (mg/L)	760	701	354	569	940
7	Temp (deg C)	27.9	28.0	26.5	27.5	27.6
8	Turb (NTU)	4.40	3.03	58.33	14.00	2.00
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.8	1.2	1.5	6.1	0.0
2	ALK-TOT (mgCaCO3/L)	241	251	117	197	180
3	B (mg/L)	0.31	0.51		0.07	0.04
4	Ca (mg/L)	55	54	31	56	64
5	Cl (mg/L)	182.6	139.1	51.5	174.1	213.0
6	CO3 (mg/L)	1.0	1.4	1.8	7.3	0.0
7	F (mg/L)	1.26	1.26	0.28	0.92	1.11
8	Fe (mg/L)	0.1	0.0	0.1	0.4	0.1
9	HCO3 (mg/L)	292	304	139	225	220
10	K (mg/L)	7.6	5.9	3.3	0.5	0.6
11	Mg (mg/L)	32.1	31.2	17.4	40.8	47.1
12	Na (mg/L)	149.8	135.9	62.5	94.5	116.3
13	NH3-N (mg N/L)	0.00	0.08	0.00	0.14	0.17
14	NO2+NO3 (mg N/L)	1.06	1.08	1.57	7.62	1.33
15	NO2-N (mgN/L)	0.01	0.03	0.13	0.08	0.55
16	NO3-N (mgN/L)	1.04	1.04	1.44	7.53	0.78
17	o-PO4-P (mg P/L)	0.176	0.128	0.181	0.519	0.163
18	P-Tot (mgP/L)	0.167				
19	SiO2 (mg/L)	25.8	32.6	10.7	9.3	30.3
20	SO4 (mg/L)	102.1	108.0	66.8	68.3	114.2
	BIOLOGICAL/BACTERIOLOGICA					
1	BOD3-27 (mg/L)	1.1	2.0	1.7	0.8	1.5
2	COD (mg/L)	27.0	14.1	9.7	14.6	33.7
3	DO (mg/L)	6.0	6.3	6.6	6.7	5.7
4	DO_SAT% (%)	77	80	82	84	72
5	FCol-MPN (MPN/100mL)	3293	5360	10673	2950	95
6	Tcol-MPN (MPN/100mL)	4164	6800	16000	2950	1028
7	TOC (mg/L)		21.9			
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)				5.50	7.50
5	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)				64.10	17.85
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	137	136	78	139	159
2	HAR_Total (mgCaCO3/L)	271	266	151	309	355
3	Na% (%)	52	52	39	39	38
4	RSC (-)	0.1	0.1	0.0	0.0	0.0
5	SAR (-)	3.9	3.6	2.0	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: 2004-2019

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				
		2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
	PHYSICAL					
1	Q (cumec)	33.14	102.3	82.92	70.84	51.70
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	910	727	690	790	807
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.1	7.8	8.1	7.9	8.2
6	TDS (mg/L)					
7	Temp (deg C)	27.5	20.6	25.0	21.0	21.5
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	2.9	0.0	3.9	0.0	4.0
2	ALK-TOT (mgCaCO3/L)	256	215	244	246	230
3	B (mg/L)	0.00	0.01	0.00	0.00	0.00
4	Ca (mg/L)	53	47	51	54	64
5	Cl (mg/L)	84.9	51.5	54.2	62.2	72.6
6	CO3 (mg/L)	3.5	0.0	4.8	0.0	4.8
7	F (mg/L)	0.98	1.07	0.73	1.18	0.90
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	306	262	288	300	271
10	K (mg/L)	1.8		1.8	2.7	2.7
11	Mg (mg/L)	30.5	22.3	22.5	25.8	13.4
12	Na (mg/L)	65.3		82.8	105.0	71.0
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.05	0.05
14	NO2+NO3 (mg N/L)	0.01	0.01	0.00	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	0.01	0.00	0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.003	0.001	0.001	0.001
19	SiO2 (mg/L)	22.2	14.4	23.9	20.6	17.6
20	SO4 (mg/L)	96.5	53.8	57.5	46.0	51.6
	BIOLOGICAL/BACTERIOLOGICA					
1	BOD3-27 (mg/L)	0.9	1.0	1.2	1.7	1.0
2	COD (mg/L)				27.3	11.6
3	DO (mg/L)	6.3	6.2	7.0	7.1	7.0
4	DO_SAT% (%)	80	69	86	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)	133	118	129	134	160
2	HAR_Total (mgCaCO3/L)	260	210	222	241	216
3	Na% (%)	35		44	47	42
4	RSC (-)	0.2	0.1	0.6	0.1	0.5
5	SAR (-)	1.8		2.4	3.0	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: 2004-2019

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				
		2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
	PHYSICAL					
1	Q (cumec)	35.73	65.53	25.31	4.074	65.53
2	EC_FLD (µmho/cm)		1496			1735
3	EC_GEN (µmho/cm)	802	968	926	1273	891
4	pH_FLD (pH units)		7.2			7.5
5	pH_GEN (pH units)	8.1	8.2	7.9	7.8	8.2
6	TDS (mg/L)			589	745	513
7	Temp (deg C)	25.8	24.9	25.9	24.3	25.3
8	Turb (NTU)			1.00	0.70	7.00
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	2.0	0.0	0.0	0.0	1.0
2	ALK-TOT (mgCaCO3/L)	227	250	260	267	222
3	B (mg/L)	0.00	0.00	0.26	0.18	0.51
4	Ca (mg/L)	55	50	50	63	50
5	Cl (mg/L)	66.5	107.6	106.8	184.6	94.7
6	CO3 (mg/L)	2.4	0.0	0.0	0.0	1.3
7	F (mg/L)	1.48	1.03	1.12	1.75	0.91
8	Fe (mg/L)	0.0	0.0	0.1	0.0	0.1
9	HCO3 (mg/L)	272	305	317	326	268
10	K (mg/L)	2.1	4.2	3.1	1.8	4.1
11	Mg (mg/L)	22.9	28.9	29.6	36.8	28.8
12	Na (mg/L)	69.5	95.3	93.8	126.3	85.2
13	NH3-N (mg N/L)	0.00	0.00	0.01	0.02	0.00
14	NO2+NO3 (mg N/L)	0.74	0.00	0.83	0.77	1.09
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.74	0.00	0.83	0.77	1.09
17	o-PO4-P (mg P/L)			0.119	0.058	0.245
18	P-Tot (mgP/L)	0.000	0.102	0.119		
19	SiO2 (mg/L)	21.6	22.9	25.2	29.4	13.9
20	SO4 (mg/L)	82.9	220.9	80.0	98.0	79.1
	BIOLOGICAL/BACTERIOLOGICA					
1	BOD3-27 (mg/L)	1.1	1.3	0.7	0.8	1.4
2	COD (mg/L)	22.4	19.2	12.9	18.3	5.3
3	DO (mg/L)	6.7	6.3	5.8	5.4	6.6
4	DO_SAT% (%)	83	76	71	65	78
5	FCol-MPN (MPN/100mL)	10575	9675	4725	801	4098
6	Tcol-MPN (MPN/100mL)	12600	12700	5800	5647	4190
7	TOC (mg/L)			3.4	3.7	
	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)	136	126	126	158	124
2	HAR_Total (mgCaCO3/L)	231	246	250	311	244
3	Na% (%)	39	45	45	47	42
4	RSC (-)	0.2	0.3	0.4	0.0	0.0
5	SAR (-)	2.0	2.7	2.6	3.1	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: 2004-2019

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				
		2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
	PHYSICAL					
1	Q (cumec)	27.70	3.912	8.418	26.55	17.96
2	EC_FLD (µmho/cm)			1640	1620	660
3	EC_GEN (µmho/cm)	781	1296	906	1310	1628
4	pH_FLD (pH units)			7.6	7.5	
5	pH_GEN (pH units)	8.2	8.1	8.4	8.0	8.0
6	TDS (mg/L)	503	487	575	761	819
7	Temp (deg C)	25.9	26.0	22.4	24.3	22.5
8	Turb (NTU)	2.58	1.00	0.50	3.33	0.67
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	3.4	0.0	11.2
2	ALK-TOT (mgCaCO3/L)	229	222	177	275	238
3	B (mg/L)	0.21	0.00		0.05	0.02
4	Ca (mg/L)	53	51	54	72	47
5	Cl (mg/L)	80.7	105.9	115.0	211.9	197.3
6	CO3 (mg/L)	0.0	0.0	4.0	0.0	13.6
7	F (mg/L)	0.89	0.93	0.99	1.08	0.84
8	Fe (mg/L)	0.1	0.0	0.0	0.1	0.1
9	HCO3 (mg/L)	279	271	208	336	262
10	K (mg/L)	2.1	2.7	4.7	1.0	0.5
11	Mg (mg/L)	29.8	29.0	25.4	35.5	39.3
12	Na (mg/L)	80.0	99.0	122.4	139.4	141.2
13	NH3-N (mg N/L)	0.07	0.00	0.24	1.34	0.29
14	NO2+NO3 (mg N/L)	0.83	0.64	0.54	5.27	1.80
15	NO2-N (mgN/L)	0.05	0.00	0.03	0.03	0.11
16	NO3-N (mgN/L)	0.78	0.63	0.51	5.24	1.69
17	o-PO4-P (mg P/L)	0.075	0.094	0.108	1.270	0.197
18	P-Tot (mgP/L)					
19	SiO2 (mg/L)	21.1	9.9	12.9	14.8	15.7
20	SO4 (mg/L)	66.3	151.9	152.8	129.9	164.6
	BIOLOGICAL/BACTERIOLOGICA					
1	BOD3-27 (mg/L)	1.7	0.8	2.4	1.1	1.7
2	COD (mg/L)	13.9	18.0	11.2	21.7	9.8
3	DO (mg/L)	7.4	6.4	6.6	7.4	5.2
4	DO_SAT% (%)	90	79	76	89	60
5	FCol-MPN (MPN/100mL)	4945	170	478	947	798
6	Tcol-MPN (MPN/100mL)	8113	1750	1100	5377	4465
7	TOC (mg/L)	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		0.00	4.33	6.75
5	Hg (µg/L)					
6	Ni (µg/L)	5.40				
7	Pb (µg/L)	10.41				
8	Zn (µg/L)	4.75		0.00	42.07	31.37
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	132	127	136	181	119
2	HAR_Total (mgCaCO3/L)	256	248	242	329	283
3	Na% (%)	41	46	49	48	52
4	RSC (-)	0.1	0.0	0.0	0.5	0.4
5	SAR (-)	2.2	2.7	3.4	3.4	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: 2004-2019

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				
		2005	2006	2007	2008	2009
	PHYSICAL					
1	Q (cumec)	4.505	18.51	33.62	44.00	39.87
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	954	851	765	903	944
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	7.9	8.1	8.1	7.9	8.2
6	TDS (mg/L)					
7	Temp (deg C)	30.7	22.3	24.0	25.3	23.0
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	2.7
2	ALK-TOT (mgCaCO3/L)	250	241	258	248	229
3	B (mg/L)	0.00	0.01	0.00	0.00	0.00
4	Ca (mg/L)	64	43	52	51	54
5	Cl (mg/L)	98.7	59.9	69.5	109.6	96.0
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	3.2
7	F (mg/L)	1.19	1.03	1.50	0.94	0.94
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	305	294	315	303	273
10	K (mg/L)	1.7	1.6	2.4	3.2	2.4
11	Mg (mg/L)	37.3	25.7	23.0	22.7	12.3
12	Na (mg/L)	78.3	60.3	79.3	104.0	81.9
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.05	0.05
14	NO2+NO3 (mg N/L)	0.01	0.01	0.00	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	0.01	0.00	0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.004	0.001	0.001	0.001
19	SiO2 (mg/L)	34.5	21.2	22.8	20.3	22.9
20	SO4 (mg/L)	50.0	40.7	56.7	42.0	51.4
	BIOLOGICAL/BACTERIOLOGICA					
1	BOD3-27 (mg/L)	1.1	0.9	2.9	0.7	1.0
2	COD (mg/L)				13.7	12.1
3	DO (mg/L)	5.3	5.4	6.4	5.4	7.3
4	DO_SAT% (%)	71	63	76	65	85
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
7	TOC (mg/L)				3.5	
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)		0.01	8.00	1.10	2.38
3	Cr (µg/L)		2.00	2.00	2.00	2.00
4	Cu (µg/L)					
5	Hg (µg/L)			1.70	0.00	
6	Ni (µg/L)		1.00	1.00	11.60	1.96
7	Pb (µg/L)		80.00	93.00	22.53	36.26
8	Zn (µg/L)		7.00	50.00	2.85	22.11
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	159	108	130	128	136
2	HAR_Total (mgCaCO3/L)	315	214	226	223	188
3	Na% (%)	35	38	43	50	49
4	RSC (-)	0.2	0.6	0.7	0.5	0.9
5	SAR (-)	1.9	1.8	2.3	3.0	2.8
	PESTICIDES					
1	Aldrin (µg/L)		0.010	0.020	0.010	0.010
2	BHC (µg/L)		0.100	0.100	0.190	0.243
3	DDT (µg/L)		0.100	0.100	0.100	0.100
4	Dieldrin (µg/L)		0.027	0.030	0.010	0.010
5	Endos (µg/L)		0.182	0.190	0.100	0.100

Water Quality Seasonal Average for the period: 2004-2019

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				
		2010	2011	2012	2013	2014
	PHYSICAL					
1	Q (cumec)	29.13	49.80	6.854	3.697	14.52
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	847	926	1273	1580	975
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.4	7.9	7.9	7.8	8.1
6	TDS (mg/L)			839	871	632
7	Temp (deg C)	28.0	25.0	27.8	25.8	30.3
8	Turb (NTU)			1.00	0.51	3.33
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	5.3	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	232	240	315	311	250
3	B (mg/L)	0.00	0.00	0.07	0.38	0.50
4	Ca (mg/L)	39	52	44	77	48
5	Cl (mg/L)	80.5	107.8	114.8	253.4	113.7
6	CO3 (mg/L)	6.4	0.0	0.0	0.0	0.0
7	F (mg/L)	2.01	0.93	1.35	1.24	1.02
8	Fe (mg/L)	0.0	0.0	0.1	0.2	0.5
9	HCO3 (mg/L)	270	293	385	379	305
10	K (mg/L)	3.0	2.3	1.5	1.8	4.1
11	Mg (mg/L)	23.0	30.2	26.1	40.8	28.2
12	Na (mg/L)	74.6	93.3	121.1	150.3	116.2
13	NH3-N (mg N/L)	0.00	0.00	0.05	0.00	0.03
14	NO2+NO3 (mg N/L)	0.00	0.00	0.76	1.29	0.74
15	NO2-N (mgN/L)	0.00	0.00	0.01	0.00	0.00
16	NO3-N (mgN/L)	0.00	0.00	0.74	1.29	0.74
17	o-PO4-P (mg P/L)			0.118	0.087	0.060
18	P-Tot (mgP/L)	0.000	0.070	0.118		
19	SiO2 (mg/L)	22.8	18.4	28.4	23.8	17.5
20	SO4 (mg/L)	55.0	99.8	74.8	109.5	58.0
	BIOLOGICAL/BACTERIOLOGICA					
1	BOD3-27 (mg/L)	0.6	0.3	1.2	0.6	1.1
2	COD (mg/L)	26.6	19.9	10.0	10.9	6.6
3	DO (mg/L)	6.5	5.8	5.1	6.4	5.9
4	DO_SAT% (%)	83	70	65	78	79
5	FCol-MPN (MPN/100mL)	11467	10500	1867	175	70
6	Tcol-MPN (MPN/100mL)	11667	16000	5233	1650	133
7	TOC (mg/L)			2.7	3.4	
	TRACE & TOXIC					
1	As (µg/L)	2.27		2.44	4.85	1.02
2	Cd (µg/L)	0.00	1.12	0.78	2.14	0.01
3	Cr (µg/L)	0.00	0.36	0.00	2.57	0.08
4	Cu (µg/L)					
5	Hg (µg/L)			0.68	1.69	0.00
6	Ni (µg/L)	0.03	7.64	4.41	8.78	1.34
7	Pb (µg/L)	0.00	31.01	32.49	1.71	0.33
8	Zn (µg/L)	5.81	38.10	21.89	0.15	3.00
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	97	130	111	192	120
2	HAR_Total (mgCaCO3/L)	193	256	220	362	237
3	Na% (%)	45	44	55	47	50
4	RSC (-)	0.8	0.0	1.9	0.0	0.5
5	SAR (-)	2.4	2.5	3.6	3.5	3.3
	PESTICIDES					
1	Aldrin (µg/L)	0.000	0.000	0.001		
2	BHC (µg/L)	0.129	0.000	0.022		
3	DDT (µg/L)	0.019	0.000	0.002		
4	Dieldrin (µg/L)	0.002	0.000	0.000		
5	Endos (µg/L)	0.075	0.000	0.034		

Water Quality Seasonal Average for the period: 2004-2019

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				
		2015	2016	2017	2018	2019
			Drybed			
	PHYSICAL		**No flow**			
1	Q (cumec)	22.37		11.83	12.49	8.816
2	EC_FLD (µmho/cm)			1630	1339	426
3	EC_GEN (µmho/cm)	953		1058	1516	1053
4	pH_FLD (pH units)			7.4	7.7	
5	pH_GEN (pH units)	8.2		8.2	7.9	7.8
6	TDS (mg/L)	584		647	905	577
7	Temp (deg C)	27.3		26.0	26.2	26.3
8	Turb (NTU)	2.03		2.50	2.33	0.67
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	1.2		1.9	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	210		213	288	297
3	B (mg/L)	0.23			0.04	0.04
4	Ca (mg/L)	45		74	87	51
5	Cl (mg/L)	92.1		158.0	242.8	152.2
6	CO3 (mg/L)	1.4		2.3	0.0	0.0
7	F (mg/L)	0.84		0.61	0.95	0.97
8	Fe (mg/L)	0.0		0.0	0.0	0.1
9	HCO3 (mg/L)	253		255	352	363
10	K (mg/L)	3.0		9.8	0.7	0.4
11	Mg (mg/L)	25.9		37.0	42.2	43.9
12	Na (mg/L)	87.6		136.7	198.5	129.7
13	NH3-N (mg N/L)	0.06		0.09	0.11	0.06
14	NO2+NO3 (mg N/L)	0.42		1.85	6.38	0.67
15	NO2-N (mgN/L)	0.03		0.00	0.02	0.01
16	NO3-N (mgN/L)	0.39		1.84	6.36	0.66
17	o-PO4-P (mg P/L)	0.213		0.720	0.583	0.133
18	P-Tot (mgP/L)					
19	SiO2 (mg/L)	33.6		18.8	13.7	22.0
20	SO4 (mg/L)	92.1		200.9	127.5	116.1
	BIOLOGICAL/BACTERIOLOGICA					
1	BOD3-27 (mg/L)	0.5		1.4	0.8	0.6
2	COD (mg/L)	9.6		9.7	13.6	10.7
3	DO (mg/L)	5.9		6.3	6.3	5.1
4	DO_SAT% (%)	74		78	78	64
5	FCol-MPN (MPN/100mL)	3		20	1347	393
6	Tcol-MPN (MPN/100mL)	5523		20	1847	1423
7	TOC (mg/L)	36.6				
	TRACE & TOXIC					
1	As (µg/L)	3.55		4.91	2.24	2.76
2	Cd (µg/L)	3.00		2.00	2.20	1.70
3	Cr (µg/L)	0.00		0.00	0.00	3.40
4	Cu (µg/L)			0.00	2.47	11.33
5	Hg (µg/L)	0.10		0.37	0.30	0.22
6	Ni (µg/L)	9.04		5.10	7.50	11.20
7	Pb (µg/L)	20.00		1.00	26.00	27.00
8	Zn (µg/L)	11.00		0.00	26.93	26.73
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	112		184	218	128
2	HAR_Total (mgCaCO3/L)	220		338	394	310
3	Na% (%)	46		45	53	48
4	RSC (-)	0.0		0.0	0.0	0.0
5	SAR (-)	2.6		3.2	4.4	3.2
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

HISTORY SHEET

			Water Year	:	**2018-2019**
Site	:	**Halia**	**Code**	:	**AKH00G2**
State	:	Andhra Pradesh	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 : 2018-2019

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	02/07/2018	04/09/2018	03/10/2018	01/11/2018	03/12/2018
		A	A	A	A	A
	PHYSICAL					
1	Q (cumec)	0.544	4.543	6.863	2.924	5.058
2	Colour_Cod (-)	Clear	Clear	Clear	Clear	Clear
3	EC_GEN (µmho/cm)	1244	725	838	996	2090
4	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free
5	pH_GEN (pH units)	8.1	7.8	7.6	7.9	7.8
6	TDS (mg/L)	381	372	778	689	
7	Temp (deg C)	26.5	28.0	28.0	25.0	24.7
8	Turb (NTU)	37.00	2.00	3.00	0.00	
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	278	171	218	222	317
3	B (mg/L)	0.08	0.02	0.10	0.03	0.06
4	Ca (mg/L)	47	36	64	51	54
5	Cl (mg/L)	162.4	71.4	108.5	117.0	131.0
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	1.44	0.46	0.87	0.09	1.26
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	339	209	266	271	387
10	K (mg/L)	0.6	0.5	0.5	0.6	0.4
11	Mg (mg/L)	30.1	20.6	11.9	24.3	28.5
12	Na (mg/L)	118.5	79.2	113.4	100.6	104.5
13	NH3-N (mg N/L)	0.14	0.13	0.10	0.26	0.03
14	NO2+NO3 (mg N/L)	3.30	0.13	1.16	1.05	0.51
15	NO2-N (mgN/L)	0.04	0.13	0.46	0.00	0.18
16	NO3-N (mgN/L)	3.26	0.00	0.70	1.05	0.33
17	o-PO4-P (mg P/L)	0.120	0.100	0.200	0.030	0.000
18	SiO2 (mg/L)	56.9	15.7	15.2	37.2	18.3
19	SO4 (mg/L)	10.4	92.3	8.7	150.2	
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.1	1.7	0.3	0.8	2.2
2	COD (mg/L)	23.2	10.4	18.4	14.8	6.7
3	DO (mg/L)	6.2	6.0	7.0	5.4	6.0
4	DO_SAT% (%)	76	77	89	65	71
5	FCol-MPN (MPN/100mL)	20	40	110	80	20
6	Tcol-MPN (MPN/100mL)	220	130	2800	800	700
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)	10.00	8.00	4.00	10.00	15.00
5	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)	6.00	23.10	1.50	13.00	9.90
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	118	90	159	126	135
2	HAR_Total (mgCaCO3/L)	244	175	209	228	254
3	Na% (%)	51	50	54	49	47
4	RSC (-)	0.7	0.0	0.2	0.0	1.3
5	SAR (-)	3.3	2.6	3.4	2.9	2.9
	PESTICIDES	**Analysis not done due to mal function of instrument.**				

Samples not collected in June and August months due to Dry bed / No Flow condition.

Water Quality Datasheet for the period : 2018-2019

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	01/01/2019	01/02/2019	01/03/2019	01/04/2019	01/05/2019
		A	A	A	A	A
	PHYSICAL					
1	Q (cumec)	0.653	2.079	0.400	1.808	0.891
2	Colour_Cod (-)	Clear	Clear	Clear	Clear	Clear
3	EC_GEN (µmho/cm)	1099	1336	1506	895	1181
4	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free
5	pH_GEN (pH units)	8.4	8.0	7.7	7.9	8.0
6	TDS (mg/L)	698	802	694	499	653
7	Temp (deg C)	23.0	21.5	23.0	28.0	30.0
8	Turb (NTU)	1.00	1.00	2.00	1.00	1.00
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	4.9	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	170	313	359	330	385
3	B (mg/L)	0.03	0.03	0.03	0.06	0.06
4	Ca (mg/L)	36	36	36	48	32
5	Cl (mg/L)	138.0	163.0	153.0	102.0	140.5
6	CO3 (mg/L)	5.9	0.0	0.0	0.0	0.0
7	F (mg/L)	1.20	0.15	1.39	1.03	1.08
8	Fe (mg/L)	0.2	0.3	0.2	0.3	0.1
9	HCO3 (mg/L)	195	382	438	403	470
10	K (mg/L)	0.2	0.8	0.9	0.4	0.7
11	Mg (mg/L)	36.7	41.7	34.6	36.3	32.8
12	Na (mg/L)	67.5	181.4	270.3	118.5	168.0
13	NH3-N (mg N/L)	0.07	0.05	0.44	0.06	0.03
14	NO2+NO3 (mg N/L)	0.55	2.43	1.35	0.40	0.55
15	NO2-N (mgN/L)	0.03	0.10	0.12	0.01	0.02
16	NO3-N (mgN/L)	0.52	2.33	1.23	0.39	0.53
17	o-PO4-P (mg P/L)	0.173	0.180	0.207	0.152	0.154
18	SiO2 (mg/L)	2.2	13.3	13.1	24.7	37.7
19	SO4 (mg/L)	62.5	127.3	180.7	93.7	65.4
	BIOLOGICAL/BACTERIOLOGICA					
1	BOD3-27 (mg/L)	0.2	0.6	2.6	2.8	1.6
2	COD (mg/L)	6.0	11.1	14.2	13.1	6.0
3	DO (mg/L)	6.5				7.8
4	DO_SAT% (%)	76				103
5	FCol-MPN (MPN/100mL)	300	70	2800	70	170
6	Tcol-MPN (MPN/100mL)	700	170	16000	260	260
	TRACE & TOXIC					
1	As (µg/L)				5.91	
2	Cd (µg/L)				1.70	
3	Cr (µg/L)				3.00	
4	Cu (µg/L)	8.00	9.00	4.00	34.00	7.00
5	Hg (µg/L)				2.30	
6	Ni (µg/L)				11.50	
7	Pb (µg/L)				27.00	
8	Zn (µg/L)	32.60	50.90	25.70	11.90	20.20
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	91	89	90	119	80
2	HAR_Total (mgCaCO3/L)	244	263	234	270	216
3	Na% (%)	38	60	72	49	63
4	RSC (-)	0.0	1.1	2.5	1.3	3.4
5	SAR (-)	1.9	4.9	7.7	3.1	5.0
	PESTICIDES					

Water Quality Summary for the period : 2018-2019

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)	365	29.65	0.000	2.153
2	EC_GEN (µmho/cm)	10	2090	725	1191
3	pH_GEN (pH units)	10	8.4	7.6	7.9
4	TDS (mg/L)	9	802	372	618
5	Temp (deg C)	10	30.0	21.5	25.8
6	Turb (NTU)	9	37.00	0.00	5.33
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	10	4.9	0.0	0.5
2	ALK-TOT (mgCaCO3/L)	10	385	170	276
3	B (mg/L)	10	0.10	0.02	0.05
4	Ca (mg/L)	10	64	32	44
5	Cl (mg/L)	10	163.0	71.4	128.7
6	CO3 (mg/L)	10	5.9	0.0	0.6
7	F (mg/L)	10	1.44	0.09	0.9
8	Fe (mg/L)	10	0.3	0.0	0.1
9	HCO3 (mg/L)	10	470	195	336
10	K (mg/L)	10	0.9	0.2	0.5
11	Mg (mg/L)	10	41.7	11.9	29.7
12	Na (mg/L)	10	270.3	67.5	132.2
13	NH3-N (mg N/L)	10	0.44	0.03	0.13
14	NO2+NO3 (mg N/L)	10	3.30	0.13	1.14
15	NO2-N (mgN/L)	10	0.46	0.00	0.11
16	NO3-N (mgN/L)	10	3.26	0.00	1.03
17	o-PO4-P (mg P/L)	10	0.207	0.000	0.132
18	SiO2 (mg/L)	10	56.9	2.2	23.4
19	SO4 (mg/L)	9	180.7	8.7	87.9
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	10	2.8	0.2	1.4
2	COD (mg/L)	10	23.2	6.0	12.4
3	DO (mg/L)	7	7.8	5.4	6.4
4	DO_SAT% (%)	7	103	65	80
5	FCol-MPN (MPN/100mL)	10	2800	20	368
6	Tcol-MPN (MPN/100mL)	10	16000	130	2204
	TRACE & TOXIC				
1	As (µg/L)	1	5.91	5.91	5.91
2	Cd (µg/L)	1	1.70	1.70	1.7
3	Cr (µg/L)	1	3.00	3.00	3
4	Cu (µg/L)	10	34.00	4.00	10.9
5	Hg (µg/L)	1	2.30	2.30	2.3
6	Ni (µg/L)	1	11.50	11.50	11.5
7	Pb (µg/L)	1	27.00	27.00	27
8	Zn (µg/L)	10	50.90	1.50	19.48
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	10	159	80	110
2	HAR_Total (mgCaCO3/L)	10	270	175	234
3	Na% (%)	10	72	38	53
4	RSC (-)	10	3.4	0.0	1
5	SAR (-)	10	7.7	1.9	3.8
	PESTICIDES				

Water Quality Seasonal Average for the period: 2004-2019

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				
		2004	2005	2006	2007	2008
	PHYSICAL					
1	Q (cumec)	118.1	17.56	8.710	18.40	9.945
2	EC_GEN (µmho/cm)	400	740	789	739	846
3	pH_FLD (pH units)					
4	pH_GEN (pH units)	8.0	8.1	8.4	8.4	8.2
5	TDS (mg/L)					
6	Temp (deg C)	22.0	28.5	27.0	27.3	25.0
7	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	5.5	8.6	2.7
2	ALK-TOT (mgCaCO3/L)	165	218	287	250	264
3	B (mg/L)	0.00	0.01	0.00	0.00	0.00
4	Ca (mg/L)	26	33	33	34	43
5	Cl (mg/L)	26.5	57.8	56.9	62.3	56.0
6	CO3 (mg/L)	0.0	0.0	6.7	10.4	3.2
7	F (mg/L)	0.90	0.91	1.07	1.60	0.99
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	201	266	336	284	316
10	K (mg/L)	2.0	3.2	4.0	11.9	3.5
11	Mg (mg/L)	12.0	17.0	16.0	18.2	13.6
12	Na (mg/L)	41.0	74.0	126.7	125.2	116.9
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.05	0.05
14	NO2+NO3 (mg N/L)	0.01	0.01	0.00	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	0.01	0.00	0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.005	0.001	0.001	0.001
19	SiO2 (mg/L)	13.5	19.3	20.8	25.0	34.3
20	SO4 (mg/L)	36.0	55.0	38.0	40.6	47.9
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)			2.4	1.0	0.7
2	COD (mg/L)				6.6	24.1
3	DO (mg/L)			7.3	7.1	5.6
4	DO_SAT% (%)			91	90	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)					
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	81	83	86	107
2	HAR_Total (mgCaCO3/L)	115	152	150	161	163
3	Na% (%)	43	51	62	60	60
4	RSC (-)	1.0	1.3	2.7	1.8	2.0
5	SAR (-)	1.7	2.6	4.6	4.3	4.0
	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: 2004-2019

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				
		2009	2010	2011	2012	2013
	PHYSICAL					
1	Q (cumec)	102.6	7.412	6.507	1.422	8.529
2	EC_GEN (µmho/cm)	661	968	958	893	992
3	pH_FLD (pH units)					
4	pH_GEN (pH units)	8.0	8.3	8.1	8.1	8.0
5	TDS (mg/L)			572	600	584
6	Temp (deg C)	26.5	26.7	26.2	23.5	26.0
7	Turb (NTU)			1.00	2.05	0.80
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	3.2	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	212	279	311	285	270
3	B (mg/L)	0.00	0.00	0.00	0.23	0.08
4	Ca (mg/L)	40	38	36	45	45
5	Cl (mg/L)	54.7	81.1	96.0	125.0	90.8
6	CO3 (mg/L)	0.0	3.8	0.0	0.0	0.0
7	F (mg/L)	1.00	1.37	2.22	1.28	1.00
8	Fe (mg/L)	0.0	0.0	0.0	0.1	0.1
9	HCO3 (mg/L)	259	333	380	348	330
10	K (mg/L)	3.4	3.3	4.6	7.5	4.2
11	Mg (mg/L)	17.0	21.2	20.5	26.0	26.0
12	Na (mg/L)	66.3	130.5	120.6	148.0	130.1
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.00	0.06
14	NO2+NO3 (mg N/L)	0.80	0.00	0.28	1.18	1.92
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.80	0.00	0.28	1.18	1.92
17	o-PO4-P (mg P/L)			0.248	0.093	0.078
18	P-Tot (mgP/L)	0.000	0.159	0.248		
19	SiO2 (mg/L)	18.9	22.4	22.0	28.3	16.2
20	SO4 (mg/L)	60.8	63.6	62.7	71.3	71.5
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.2	0.6	0.4	1.3	0.7
2	COD (mg/L)	15.3	25.9	14.5	10.5	5.8
3	DO (mg/L)	5.7	5.7	5.8	5.0	5.4
4	DO_SAT% (%)	69	71	72	59	67
5	FCol-MPN (MPN/100mL)		6560	10308	8250	83
6	Tcol-MPN (MPN/100mL)		9400	12058	8650	863
7	TOC (mg/L)			4.0	4.6	0.5
	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)	100	94	90	112	112
2	HAR_Total (mgCaCO3/L)	171	183	175	221	221
3	Na% (%)	43	60	59	58	55
4	RSC (-)	1.0	2.0	2.7	1.3	1.0
5	SAR (-)	2.2	4.2	4.0	4.4	3.8
	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: 2004-2019

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				
		2014	2015	2016	2017	2018
	PHYSICAL					
1	Q (cumec)	5.689	5.939	28.80	7.231	3.983
2	EC_GEN (µmho/cm)	981	908	781	862	936
3	pH_FLD (pH units)					
4	pH_GEN (pH units)	8.3	8.1	8.4	8.1	7.9
5	TDS (mg/L)	660	577	512	543	510
6	Temp (deg C)	26.3	27.7	26.0	25.3	27.5
7	Turb (NTU)	10.00	4.40	7.40	65.25	14.00
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	1.4	0.0	2.3	14.5	0.0
2	ALK-TOT (mgCaCO3/L)	251	256	219	224	222
3	B (mg/L)	0.19	0.09		0.09	0.07
4	Ca (mg/L)	40	39	40	39	49
5	Cl (mg/L)	99.6	96.9	89.1	120.9	114.1
6	CO3 (mg/L)	1.7	0.0	2.8	17.5	0.0
7	F (mg/L)	1.07	1.45	0.99	0.87	0.92
8	Fe (mg/L)	0.1	0.0	0.1	2.4	0.0
9	HCO3 (mg/L)	303	313	262	237	271
10	K (mg/L)	4.4	5.1	4.7	0.7	0.5
11	Mg (mg/L)	22.7	22.0	23.0	30.4	20.9
12	Na (mg/L)	123.1	139.2	102.4	115.1	103.7
13	NH3-N (mg N/L)	0.00	0.05	0.01	0.09	0.12
14	NO2+NO3 (mg N/L)	0.92	0.84	1.00	6.98	1.53
15	NO2-N (mgN/L)	0.00	0.04	0.00	0.08	0.21
16	NO3-N (mgN/L)	0.92	0.80	1.00	6.90	1.32
17	o-PO4-P (mg P/L)	0.169	0.128	0.156	0.538	0.140
18	P-Tot (mgP/L)	0.170				
19	SiO2 (mg/L)	27.8	22.8	20.7	15.2	29.3
20	SO4 (mg/L)	83.0	77.3	56.0	81.1	37.1
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.9	1.2	1.2	1.4	1.0
2	COD (mg/L)	21.5	12.7	14.4	15.4	17.3
3	DO (mg/L)	6.5	5.7	6.1	6.3	6.4
4	DO_SAT% (%)	80	73	74	77	81
5	FCol-MPN (MPN/100mL)	6147	10900	3812	4054	57
6	Tcol-MPN (MPN/100mL)	8410	16000	10800	4600	1050
7	TOC (mg/L)		39.1			
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)				4.20	7.33
5	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)				54.54	10.20
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	99	97	100	98	122
2	HAR_Total (mgCaCO3/L)	194	188	196	224	209
3	Na% (%)	56	61	52	53	52
4	RSC (-)	1.2	1.4	0.6	0.2	0.3
5	SAR (-)	3.9	4.4	3.2	3.4	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: 2004-2019

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				
		2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
	PHYSICAL					
1	Q (cumec)	1.843	33.68	15.96	12.07	20.43
2	EC_GEN (µmho/cm)	815	719	672	786	773
3	pH_FLD (pH units)					
4	pH_GEN (pH units)	8.2	8.2	8.5	8.3	8.2
5	TDS (mg/L)					
6	Temp (deg C)	21.5	21.0	27.5	19.0	23.3
7	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	7.9	7.1	14.9	5.0	4.0
2	ALK-TOT (mgCaCO3/L)	203	274	287	278	262
3	B (mg/L)	0.00	0.01	0.00	0.00	0.00
4	Ca (mg/L)	34	34	36	41	50
5	Cl (mg/L)	65.1	51.5	49.3	61.9	61.7
6	CO3 (mg/L)	9.5	8.5	18.0	6.0	4.8
7	F (mg/L)	1.00	1.69	1.05	2.00	1.05
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	228	317	314	327	310
10	K (mg/L)	10.5		2.9	3.8	3.6
11	Mg (mg/L)	20.3	17.0	18.8	19.5	10.9
12	Na (mg/L)	89.3		109.3	139.3	97.6
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.05	0.05
14	NO2+NO3 (mg N/L)	0.01	0.01	0.00	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	0.01	0.00	0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.008	0.001	0.001	0.001
19	SiO2 (mg/L)	19.1	15.3	22.5	19.1	18.3
20	SO4 (mg/L)	58.8	43.5	41.0	43.0	167.9
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)			1.3	1.5	0.7
2	COD (mg/L)				17.5	9.5
3	DO (mg/L)			7.8	8.4	6.4
4	DO_SAT% (%)			99	96	75
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	85	89	101	124
2	HAR_Total (mgCaCO3/L)	170	156	167	183	170
3	Na% (%)	51		57	62	55
4	RSC (-)	0.7	2.4	2.4	1.9	1.9
5	SAR (-)	3.1		3.7	4.5	3.3
	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: 2004-2019

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				
		2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
	PHYSICAL					
1	Q (cumec)	6.468	20.64	6.871	1.708	9.322
2	EC_GEN (µmho/cm)	759	858	909	1200	825
3	pH_FLD (pH units)					
4	pH_GEN (pH units)	8.1	8.2	8.0	8.1	8.2
5	TDS (mg/L)			575	661	502
6	Temp (deg C)	23.1	21.5	21.3	20.0	22.3
7	Turb (NTU)			1.00	1.00	6.00
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	1.0
2	ALK-TOT (mgCaCO3/L)	232	258	291	345	208
3	B (mg/L)	0.00	0.00	0.25	0.27	0.03
4	Ca (mg/L)	39	37	40	49	41
5	Cl (mg/L)	59.0	73.6	92.4	118.8	72.6
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	1.3
7	F (mg/L)	1.47	1.19	1.47	1.50	0.96
8	Fe (mg/L)	0.0	0.0	0.0	0.5	0.0
9	HCO3 (mg/L)	283	315	354	422	252
10	K (mg/L)	2.9	3.6	4.3	4.8	3.7
11	Mg (mg/L)	19.9	20.2	23.3	28.7	22.8
12	Na (mg/L)	93.3	105.7	117.8	157.5	76.8
13	NH3-N (mg N/L)	0.00	0.00	0.02	0.00	0.00
14	NO2+NO3 (mg N/L)	0.13	0.00	0.78	1.01	0.96
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.13	0.00	0.78	1.01	0.96
17	o-PO4-P (mg P/L)			0.099	0.056	0.148
18	P-Tot (mgP/L)	0.000	0.111	0.099		
19	SiO2 (mg/L)	15.8	21.2	24.7	27.8	17.2
20	SO4 (mg/L)	55.6	55.9	74.0	90.5	38.7
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.6	0.5	0.8	1.0	0.9
2	COD (mg/L)	13.9	16.0	18.3	19.5	6.3
3	DO (mg/L)	6.3	6.6	5.8	6.6	6.7
4	DO_SAT% (%)	73	74	65	73	76
5	FCol-MPN (MPN/100mL)	14250	14250	4708	125	740
6	Tcol-MPN (MPN/100mL)	16000	16000	5325	700	2600
7	TOC (mg/L)			3.2	4.0	
	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)	97	92	100	121	102
2	HAR_Total (mgCaCO3/L)	180	176	197	241	197
3	Na% (%)	53	56	56	58	44
4	RSC (-)	1.1	1.7	1.9	2.1	0.6
5	SAR (-)	3.1	3.5	3.7	4.4	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: 2004-2019

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				
		2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
	PHYSICAL					
1	Q (cumec)	7.423	1.933	2.769	1.521	2.678
2	EC_GEN (µmho/cm)	736	2028	1132	1257	1380
3	pH_FLD (pH units)					
4	pH_GEN (pH units)	8.1	8.2	8.4	8.1	8.0
5	TDS (mg/L)	495	720	662	757	730
6	Temp (deg C)	21.3	26.0	25.9	23.8	23.6
7	Turb (NTU)	2.33	1.00	2.00	6.25	0.67
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	4.5	5.6	1.2
2	ALK-TOT (mgCaCO3/L)	244	315	223	316	256
3	B (mg/L)	0.26	0.00		0.04	0.04
4	Ca (mg/L)	42	44	53	49	44
5	Cl (mg/L)	76.7	115.8	150.2	152.4	137.3
6	CO3 (mg/L)	0.0	0.0	5.4	6.7	1.5
7	F (mg/L)	1.13	1.16	0.87	1.36	0.67
8	Fe (mg/L)	0.1	0.0	0.1	0.1	0.1
9	HCO3 (mg/L)	297	385	261	371	309
10	K (mg/L)	3.5	5.7	6.9	0.8	0.5
11	Mg (mg/L)	23.9	25.6	25.8	32.0	32.8
12	Na (mg/L)	99.9	155.5	184.3	166.0	113.5
13	NH3-N (mg N/L)	0.04	0.00	0.00	0.88	0.10
14	NO2+NO3 (mg N/L)	0.82	0.55	0.47	6.76	1.13
15	NO2-N (mgN/L)	0.02	0.00	0.09	0.06	0.08
16	NO3-N (mgN/L)	0.80	0.55	0.38	6.69	1.06
17	o-PO4-P (mg P/L)	0.121	0.042	0.139	0.550	0.096
18	P-Tot (mgP/L)					
19	SiO2 (mg/L)	22.8	11.1	19.5	25.8	17.7
20	SO4 (mg/L)	67.7	76.3	153.0	132.9	113.3
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.5	0.8	1.3	0.9	1.0
2	COD (mg/L)	10.9	8.1	9.2	13.8	9.7
3	DO (mg/L)	6.9	6.3	6.9	6.7	6.0
4	DO_SAT% (%)	78	78	85	79	71
5	FCol-MPN (MPN/100mL)	4583	300	1153	420	118
6	Tcol-MPN (MPN/100mL)	5625	16000	1925	650	593
7	TOC (mg/L)	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		0.00	3.50	10.50
5	Hg (µg/L)					
6	Ni (µg/L)	4.88				
7	Pb (µg/L)	8.04				
8	Zn (µg/L)	4.80		0.00	41.00	26.60
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	105	110	134	122	110
2	HAR_Total (mgCaCO3/L)	205	217	241	255	247
3	Na% (%)	51	60	59	59	49
4	RSC (-)	0.9	2.0	0.2	1.2	0.6
5	SAR (-)	3.1	4.6	5.2	4.6	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: 2004-2019

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				
		2005	2006	2007	2008	2009
	PHYSICAL					
1	Q (cumec)	0.130	2.623	1.446	4.355	5.438
2	EC_GEN (µmho/cm)	816	884	773	881	814
3	pH_FLD (pH units)					
4	pH_GEN (pH units)	8.0	8.3	8.7	8.2	8.2
5	TDS (mg/L)					
6	Temp (deg C)	24.3	25.2	29.0	23.7	24.3
7	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	10.5	27.9	2.8	2.7
2	ALK-TOT (mgCaCO3/L)	284	294	333	291	281
3	B (mg/L)	0.00	0.01	0.00	0.00	0.00
4	Ca (mg/L)	47	43	33	38	42
5	Cl (mg/L)	55.9	63.3	48.9	72.2	69.2
6	CO3 (mg/L)	0.0	12.7	33.7	3.3	3.2
7	F (mg/L)	1.00	1.36	2.14	2.07	1.21
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	346	332	338	348	337
10	K (mg/L)	5.3	3.5	4.0	18.4	3.9
11	Mg (mg/L)	27.0	13.7	20.0	16.7	13.3
12	Na (mg/L)	63.0	108.3	120.3	106.0	96.5
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.05	0.05
14	NO2+NO3 (mg N/L)	0.01	0.01	0.00	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	0.01	0.00	0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.010	0.001	0.001	0.001
19	SiO2 (mg/L)	26.3	16.4	23.5	21.3	22.2
20	SO4 (mg/L)	53.5	41.3	44.3	35.3	47.9
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)			1.0	0.7	1.4
2	COD (mg/L)				12.5	10.8
3	DO (mg/L)			7.9	6.7	6.3
4	DO_SAT% (%)			103	79	74
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
7	TOC (mg/L)				4.1	
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)		0.01	8.00	1.00	2.26
3	Cr (µg/L)		2.00	69.00	2.00	2.00
4	Cu (µg/L)					
5	Hg (µg/L)			1.38	0.00	
6	Ni (µg/L)		1.00	1.00	10.60	1.49
7	Pb (µg/L)		86.00	103.00	17.23	31.87
8	Zn (µg/L)		2.00	0.10	3.53	4.03
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	116	108	82	94	104
2	HAR_Total (mgCaCO3/L)	229	165	165	164	160
3	Na% (%)	37	57	59	56	56
4	RSC (-)	1.1	2.6	3.4	2.6	2.5
5	SAR (-)	1.8	3.7	4.1	3.6	3.3
	PESTICIDES					
1	Aldrin (µg/L)		0.039	0.010	0.010	0.010
2	BHC (µg/L)		0.100	0.100	0.130	0.100
3	DDT (µg/L)		0.100	0.100	0.100	0.100
4	Dieldrin (µg/L)		0.010	0.040	0.010	0.010
5	Endos (µg/L)		0.100	0.100	0.100	0.100

Water Quality Seasonal Average for the period: 2004-2019

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				
		2010	2011	2012	2013	2014
	PHYSICAL					
1	Q (cumec)	11.22	7.981	2.535	0.378	2.973
2	EC_GEN (µmho/cm)	886	880	1026	1250	900
3	pH_FLD (pH units)					
4	pH_GEN (pH units)	8.4	8.0	7.8	8.2	8.2
5	TDS (mg/L)			582	690	569
6	Temp (deg C)	26.7	24.0	24.4	23.5	25.7
7	Turb (NTU)			1.00	0.90	9.67
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	5.3	0.0	0.0	0.0	1.4
2	ALK-TOT (mgCaCO3/L)	292	264	295	378	271
3	B (mg/L)	0.00	0.00	0.06	0.36	0.03
4	Ca (mg/L)	35	41	38	53	40
5	Cl (mg/L)	76.9	80.6	94.1	141.6	74.5
6	CO3 (mg/L)	6.4	0.0	0.0	0.0	1.7
7	F (mg/L)	2.17	1.23	1.22	1.03	0.81
8	Fe (mg/L)	0.0	0.0	0.2	0.2	0.8
9	HCO3 (mg/L)	343	322	360	461	327
10	K (mg/L)	4.0	3.5	4.1	3.5	3.9
11	Mg (mg/L)	15.2	23.6	19.6	31.1	23.0
12	Na (mg/L)	116.6	114.6	118.2	175.3	99.4
13	NH3-N (mg N/L)	0.00	0.00	0.03	0.04	0.03
14	NO2+NO3 (mg N/L)	0.00	0.00	0.69	1.25	0.79
15	NO2-N (mgN/L)	0.00	0.00	0.01	0.00	0.00
16	NO3-N (mgN/L)	0.00	0.00	0.67	1.25	0.79
17	o-PO4-P (mg P/L)			0.110	0.074	0.040
18	P-Tot (mgP/L)	0.000	0.123	0.110		
19	SiO2 (mg/L)	21.2	20.7	32.6	14.8	22.5
20	SO4 (mg/L)	53.7	55.6	68.0	85.0	59.3
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.7	0.2	1.7	0.7	0.7
2	COD (mg/L)	31.3	13.3	13.0	8.1	7.4
3	DO (mg/L)	5.7	6.1	6.5	5.1	6.3
4	DO_SAT% (%)	71	73	78	60	78
5	FCol-MPN (MPN/100mL)	9133	7000	887	116	417
6	Tcol-MPN (MPN/100mL)	12333	12000	1817	402	843
7	TOC (mg/L)			3.9	6.9	
	TRACE & TOXIC					
1	As (µg/L)	4.12		2.22	3.27	2.13
2	Cd (µg/L)	0.00	1.25	0.16	0.06	0.01
3	Cr (µg/L)	0.00	0.00	0.00	0.52	0.13
4	Cu (µg/L)					
5	Hg (µg/L)			1.70	0.39	0.22
6	Ni (µg/L)	0.25	5.87	2.58	13.22	1.50
7	Pb (µg/L)	0.00	22.42	25.56	1.33	9.39
8	Zn (µg/L)	4.02	21.71	24.06	0.10	10.15
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	88	102	95	134	99
2	HAR_Total (mgCaCO3/L)	151	200	177	263	195
3	Na% (%)	62	55	58	59	51
4	RSC (-)	2.8	1.3	2.4	2.3	1.5
5	SAR (-)	4.2	3.6	3.9	4.7	3.2
	PESTICIDES					
1	Aldrin (µg/L)	0.004	0.000	0.000		
2	BHC (µg/L)	0.183	0.000	0.004		
3	DDT (µg/L)	0.002	0.000	0.000		
4	Dieldrin (µg/L)	0.003	0.000	0.000		
5	Endos (µg/L)	0.039	0.000	0.020		

Water Quality Seasonal Average for the period: 2004-2019

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				
		2015	2016	2017	2018	2019
	PHYSICAL					
1	Q (cumec)	2.158	2.716	0.692	0.836	1.033
2	EC_GEN (µmho/cm)	905	1473	794	1095	1194
3	pH_FLD (pH units)				7.9	
4	pH_GEN (pH units)	8.2	8.1	8.0	7.9	7.9
5	TDS (mg/L)	587	666	577	648	615
6	Temp (deg C)	23.7	25.8	26.5	25.3	27.0
7	Turb (NTU)	3.00	424.50	7.00	4.00	1.33
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	1.2	3.8	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	244	227	238	315	358
3	B (mg/L)	0.19			0.05	0.05
4	Ca (mg/L)	38	36	63	63	38
5	Cl (mg/L)	83.2	105.0	96.1	124.1	131.8
6	CO3 (mg/L)	1.4	4.6	0.0	0.0	0.0
7	F (mg/L)	1.09	0.71	0.50	1.35	1.17
8	Fe (mg/L)	0.0	0.1	0.0	0.1	0.2
9	HCO3 (mg/L)	294	268	290	384	437
10	K (mg/L)	4.2	9.2	2.9	0.6	0.6
11	Mg (mg/L)	21.5	19.9	26.9	29.9	34.6
12	Na (mg/L)	115.4	137.2	108.1	150.8	185.6
13	NH3-N (mg N/L)	0.01	0.01	0.18	0.10	0.17
14	NO2+NO3 (mg N/L)	0.68	1.72	1.91	5.67	0.77
15	NO2-N (mgN/L)	0.11	0.10	0.12	0.03	0.05
16	NO3-N (mgN/L)	0.57	1.62	1.79	5.64	0.72
17	o-PO4-P (mg P/L)	0.147	0.211	0.540	0.670	0.171
18	P-Tot (mgP/L)					
19	SiO2 (mg/L)	27.7	12.6	16.9	21.0	25.2
20	SO4 (mg/L)	85.5	116.0	78.9	108.6	113.3
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.0	1.5	1.5	1.0	2.3
2	COD (mg/L)	12.6	22.9	7.1	10.6	11.1
3	DO (mg/L)	5.7	4.7	6.6	5.3	7.8
4	DO_SAT% (%)	68	58	81	64	103
5	FCol-MPN (MPN/100mL)	8	5350	800	510	1013
6	Tcol-MPN (MPN/100mL)	5417	9100	2800	3967	5507
7	TOC (mg/L)	38.2				
	TRACE & TOXIC					
1	As (µg/L)	0.10	0.00		0.49	5.91
2	Cd (µg/L)	3.00	0.00		1.40	1.70
3	Cr (µg/L)	0.00	0.00		0.00	3.00
4	Cu (µg/L)			0.00	2.87	15.00
5	Hg (µg/L)	0.13	0.00		0.19	2.30
6	Ni (µg/L)	8.16	0.00		6.60	11.50
7	Pb (µg/L)	17.00	0.00		24.00	27.00
8	Zn (µg/L)	5.00	0.03	0.00	18.34	19.27
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	95	89	156	158	96
2	HAR_Total (mgCaCO3/L)	184	172	268	283	240
3	Na% (%)	57	62	47	53	61
4	RSC (-)	1.2	1.1	0.0	0.7	2.4
5	SAR (-)	3.7	4.5	2.9	3.9	5.3
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

Water Year : 2018-2019

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 : 2018-2019

Station Name : Bawapuram (AKL00B8) **Division : Lower Krishna Divn., Hyderabad**

Local River : Tungabhadra River Water Analys **Sub-Division : Lower Tungabhadra SD, Kurnool**

S.No	Parameters	11/06/2018	02/07/2018	01/08/2018	04/09/2018	03/10/2018
		A	A	A	A	A
	PHYSICAL					
1	Q (cumec)	11.94	0.000	148.0	469.3	6.661
2	Colour_Cod (-)	Clear	Brown	Brown	Light Brown	Clear
3	EC_FLD (µmho/cm)		260	140	140	780
4	EC_GEN (µmho/cm)	1372	458	281	215	791
5	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free
6	pH_FLD (pH units)		7.9	8.2	8.5	8.8
7	pH_GEN (pH units)	7.9	8.1	7.9	8.2	8.4
8	TDS (mg/L)	859	198	98	83	509
9	Temp (deg C)	22.5	20.8	20.5	26.5	28.5
10	Turb (NTU)	10.00	44.00	15.00	14.00	18.00
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	16.0
2	ALK-TOT (mgCaCO3/L)	156	82	65	52	149
3	B (mg/L)	0.03	0.07	0.02	0.08	0.15
4	Ca (mg/L)	40	27	18	15	47
5	Cl (mg/L)	191.4	29.8	14.4	20.9	88.7
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	19.3
7	F (mg/L)	0.74	0.65	0.11	0.11	0.64
8	Fe (mg/L)	0.8	6.2	3.7	0.1	0.0
9	HCO3 (mg/L)	190	101	80	63	143
10	K (mg/L)	0.2	0.3	0.2	0.2	0.4
11	Mg (mg/L)	22.2	7.7	5.9	7.1	14.0
12	Na (mg/L)	190.5	21.6	4.7	16.4	114.0
13	NH3-N (mg N/L)	0.16	0.16	0.07	0.13	0.00
14	NO2+NO3 (mg N/L)	5.62	5.51	0.01	0.06	0.71
15	NO2-N (mgN/L)	0.02	1.30	0.01	0.06	0.05
16	NO3-N (mgN/L)	5.60	4.21	0.00	0.00	0.66
17	o-PO4-P (mg P/L)	0.020	0.100	0.100	0.100	0.400
18	SiO2 (mg/L)	72.5	25.9	9.5	4.1	6.8
19	SO4 (mg/L)	277.0	31.0	3.7	24.6	102.8
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.7	1.2	2.3	1.9	0.3
2	COD (mg/L)	24.2	57.6	21.2	7.2	10.4
3	DO (mg/L)	6.6	6.6	5.8	7.1	4.9
4	DO_SAT% (%)	76	73	64	88	63
5	FCol-MPN (MPN/100mL)	80	20	40	80	130
6	Tcol-MPN (MPN/100mL)	140	1300	220	1700	2400
	TRACE & TOXIC					
1	Cu (µg/L)	0.01	20.00	18.00	13.00	5.00
2	Zn (µg/L)	0.02	42.80	35.30	28.00	3.10
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	99	68	44	36	118
2	HAR_Total (mgCaCO3/L)	191	100	68	66	176
3	Na% (%)	69	32	13	35	58
4	RSC (-)	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	6.0	0.9	0.2	0.9	3.7
	PESTICIDES					

Water Quality Datasheet for the period : 2018-2019

Station Name : Bawapuram (AKL00B8) **Division : Lower Krishna Divn., Hyderabad**

River Water Analys

Local River : Tungabhadra **Sub-Division : Lower Tungabhadra SD, Kurnool**

S.No	Parameters	01/11/2018	03/12/2018	01/01/2019	01/02/2019	
		A	A	A	A	
	PHYSICAL					
1	Q (cumec)	2.504	0.544	0.842	0.690	
2	Colour_Cod (-)	Clear	Clear	Clear	Clear	
3	EC_FLD (µmho/cm)	890	1060	1180	1080	
4	EC_GEN (µmho/cm)	945	2469	1405	1319	
5	Odour_Code (-)	odour free	odour free	odour free	odour free	
6	pH_FLD (pH units)	7.4	8.5	8.3	8.5	
7	pH_GEN (pH units)	8.6	8.3	8.4	8.2	
8	TDS (mg/L)	873		1140	786	
9	Temp (deg C)	25.2	24.3	23.0	21.4	
10	Turb (NTU)	0.00		1.00	1.00	
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	19.8	24.7	4.9	0.0	
2	ALK-TOT (mgCaCO3/L)	170	192	213	189	
3	B (mg/L)	0.02	0.02	0.03	0.06	
4	Ca (mg/L)	46	33	40	41	
5	Cl (mg/L)	95.0	163.0	189.0	167.0	
6	CO3 (mg/L)	23.9	29.7	5.9	0.0	
7	F (mg/L)	0.29	1.14	0.73	0.71	
8	Fe (mg/L)	0.1	0.0	0.1	0.2	
9	HCO3 (mg/L)	159	174	247	231	
10	K (mg/L)	0.6	0.5	0.3	0.6	
11	Mg (mg/L)	23.8	32.3	32.5	30.2	
12	Na (mg/L)	78.9	106.0	137.5	209.9	
13	NH3-N (mg N/L)	0.05	0.06	0.03	0.07	
14	NO2+NO3 (mg N/L)	1.52	0.65	0.65	1.57	
15	NO2-N (mgN/L)	0.04	0.05	0.02	0.02	
16	NO3-N (mgN/L)	1.48	0.60	0.63	1.55	
17	o-PO4-P (mg P/L)	0.400	0.100	0.186	0.130	
18	SiO2 (mg/L)	7.4	10.2	7.1	4.6	
19	SO4 (mg/L)	160.5		45.5	221.0	
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	3.2	1.4	2.6	0.8	
2	COD (mg/L)	7.6	4.4	10.0	8.3	
3	DO (mg/L)	6.4	8.1	8.8	7.7	
4	DO_SAT% (%)	77	96	103	86	
5	FCol-MPN (MPN/100mL)	20	20	500	90	
6	Tcol-MPN (MPN/100mL)	260	140	9000	170	
	TRACE & TOXIC					
1	Cu (µg/L)	9.00	22.00	10.00	7.00	
2	Zn (µg/L)	7.60	1.90	44.70	83.10	
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	114	82	100	103	
2	HAR_Total (mgCaCO3/L)	213	216	236	228	
3	Na% (%)	45	52	56	67	
4	RSC (-)	0.0	0.0	0.0	0.0	
5	SAR (-)	2.4	3.2	3.9	6.1	
	PESTICIDES					

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

Water Quality Summary for the period : 2018-2019

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)	366	5750	0.000	160.7
2	EC_FLD (µmho/cm)	8	1180	140	691
3	EC_GEN (µmho/cm)	9	2469	215	1028
4	pH_FLD (pH units)	8	8.8	7.4	8.3
5	pH_GEN (pH units)	9	8.6	7.9	8.2
6	TDS (mg/L)	8	1140	83	568
7	Temp (deg C)	9	28.5	20.5	23.6
8	Turb (NTU)	8	44.00	0.00	12.88
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	9	24.7	0.0	7.3
2	ALK-TOT (mgCaCO3/L)	9	213	52	141
3	B (mg/L)	9	0.15	0.02	0.05
4	Ca (mg/L)	9	47	15	34
5	Cl (mg/L)	9	191.4	14.4	106.6
6	CO3 (mg/L)	9	29.7	0.0	8.8
7	F (mg/L)	9	1.14	0.11	0.57
8	Fe (mg/L)	9	6.2	0.0	1.2
9	HCO3 (mg/L)	9	247	63	154
10	K (mg/L)	9	0.6	0.2	0.4
11	Mg (mg/L)	9	32.5	5.9	19.5
12	Na (mg/L)	9	209.9	4.7	97.7
13	NH3-N (mg N/L)	9	0.16	0.00	0.08
14	NO2+NO3 (mg N/L)	9	5.62	0.01	1.81
15	NO2-N (mgN/L)	9	1.30	0.01	0.17
16	NO3-N (mgN/L)	9	5.60	0.00	1.64
17	o-PO4-P (mg P/L)	9	0.400	0.020	0.171
18	SiO2 (mg/L)	9	72.5	4.1	16.4
19	SO4 (mg/L)	8	277.0	3.7	108.3
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	9	3.2	0.3	1.7
2	COD (mg/L)	9	57.6	4.4	16.8
3	DO (mg/L)	9	8.8	4.9	6.9
4	DO_SAT% (%)	9	103	63	81
5	FCol-MPN (MPN/100mL)	9	500	20	109
6	Tcol-MPN (MPN/100mL)	9	9000	140	1703
	TRACE & TOXIC				
1	Cu (µg/L)	9	22.00	0.01	11.56
2	Zn (µg/L)	9	83.10	0.02	27.39
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	9	118	36	85
2	HAR_Total (mgCaCO3/L)	9	236	66	166
3	Na% (%)	9	69	13	47
4	RSC (-)	9	0.0	0.0	0
5	SAR (-)	9	6.1	0.2	3
	PESTICIDES				

Water Quality Seasonal Average for the period: 2004-2019

Station Name : Bawapuram (AKL00B8) **Division : Lower Krishna Divn., Hyderabad**

Local River : Tungabhadra **River WaterSub-Division : Lower Tungabhadra SD, Kurnool**

S.No	Parameters	Flood				
		Jun - Oct				
		2004	2005	2006	2007	2008
	PHYSICAL					
1	Q (cumec)	20.86	166.1	61.43	335.5	89.00
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	819	558	974	916	906
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.4	8.4	8.3	8.1	8.4
6	TDS (mg/L)					
7	Temp (deg C)	26.4	26.9	27.2	22.8	23.4
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	11.0	6.6	3.3	2.3	4.8
2	ALK-TOT (mgCaCO3/L)	188	141	181	180	174
3	B (mg/L)	0.00	0.01	0.00	0.00	0.00
4	Ca (mg/L)	30	31	38	49	43
5	Cl (mg/L)	80.7	47.3	114.5	91.8	101.6
6	CO3 (mg/L)	13.2	8.0	4.0	2.8	5.8
7	F (mg/L)	1.11	0.61	0.82	1.11	0.67
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	203	156	213	214	200
10	K (mg/L)	3.1	2.6	4.3	4.4	4.0
11	Mg (mg/L)	19.6	5.3	16.6	14.0	13.2
12	Na (mg/L)	87.6	89.3	140.6	122.8	138.9
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.05	0.05
14	NO2+NO3 (mg N/L)	0.01	0.01	0.00	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	0.01	0.00	0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.000	0.001	0.001	0.001
19	SiO2 (mg/L)	12.5	10.3	14.7	15.4	14.8
20	SO4 (mg/L)	114.6	88.3	140.4	126.0	102.5
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.9	1.3	1.4	2.1	1.8
2	COD (mg/L)				22.7	19.5
3	DO (mg/L)	6.1	6.3	6.0	5.9	6.2
4	DO_SAT% (%)	76	78	75	68	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)	76	77	95	122	108
2	HAR_Total (mgCaCO3/L)	157	99	164	180	163
3	Na% (%)	52	65	62	57	64
4	RSC (-)	0.6	0.9	0.8	0.2	0.3
5	SAR (-)	3.0	3.9	4.6	4.0	4.7
	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: 2004-2019

Station Name : Bawapuram (AKL00B8) **Division : Lower Krishna Divn., Hyderabad**

Local River : Tungabhadra **River WaterSub-Division : Lower Tungabhadra SD, Kurnool**

S.No	Parameters	Flood				
		Jun - Oct				
		2009	2010	2011	2012	2013
	PHYSICAL					
1	Q (cumec)	228.5	107.9	126.5	30.63	1175
2	EC_FLD (µmho/cm)	511				
3	EC_GEN (µmho/cm)	772	905	1020	1094	336
4	pH_FLD (pH units)	7.6				8.1
5	pH_GEN (pH units)	8.2	8.4	8.3	8.3	8.5
6	TDS (mg/L)			410	702	219
7	Temp (deg C)	23.6	22.4	21.6	25.2	27.7
8	Turb (NTU)			1.00	5.62	1.40
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	2.0	3.2	1.2	0.8	2.9
2	ALK-TOT (mgCaCO3/L)	128	152	172	158	82
3	B (mg/L)	0.00	0.00	0.00	0.21	0.16
4	Ca (mg/L)	36	41	40	32	19
5	Cl (mg/L)	66.8	102.3	126.2	135.8	27.7
6	CO3 (mg/L)	2.4	3.8	1.4	1.0	3.5
7	F (mg/L)	0.58	0.87	1.22	0.99	0.35
8	Fe (mg/L)	0.0	0.0	0.0	0.1	0.1
9	HCO3 (mg/L)	151	178	207	191	93
10	K (mg/L)	2.6	3.8	5.1	4.3	2.0
11	Mg (mg/L)	11.9	50.2	22.7	18.3	10.2
12	Na (mg/L)	70.7	537.9	133.8	160.6	34.2
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.01	0.11
14	NO2+NO3 (mg N/L)	0.26	0.00	0.24	1.04	1.14
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.26	0.00	0.24	1.04	1.14
17	o-PO4-P (mg P/L)			0.474	0.116	0.257
18	P-Tot (mgP/L)	0.000	0.207	0.474		
19	SiO2 (mg/L)	13.2	11.8	11.5	12.3	6.2
20	SO4 (mg/L)	102.9	182.8	163.9	110.4	24.7
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	3.2	1.6	1.4	1.3	1.2
2	COD (mg/L)	28.4	25.7	26.5	30.9	12.9
3	DO (mg/L)	6.5	6.8	6.2	5.8	6.4
4	DO_SAT% (%)	76	78	70	70	81
5	FCol-MPN (MPN/100mL)	16000	5360	10046	4680	113
6	Tcol-MPN (MPN/100mL)	16000	9080	12846	7960	277
7	TOC (mg/L)			2.9	4.5	0.2
	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)	91	102	99	79	47
2	HAR_Total (mgCaCO3/L)	141	311	194	155	89
3	Na% (%)	47	66	57	67	43
4	RSC (-)	0.1	0.1	0.2	0.4	0.0
5	SAR (-)	2.5	14.6	4.1	5.7	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: 2004-2019

Station Name : Bawapuram (AKL00B8) **Division : Lower Krishna Divn., Hyderabad**

Local River : Tungabhadra **River WaterSub-Division : Lower Tungabhadra SD, Kurnool**

S.No	Parameters	Flood				
		Jun - Oct				
		2014	2015	2016	2017	2018
	PHYSICAL					
1	Q (cumec)	1158	2.780	8.398	206.2	127.2
2	EC_FLD (µmho/cm)			1030	1210	330
3	EC_GEN (µmho/cm)	801	1467	952	884	623
4	pH_FLD (pH units)			8.6	8.6	8.4
5	pH_GEN (pH units)	8.2	8.2	8.6	7.9	8.1
6	TDS (mg/L)	493	950	503	609	349
7	Temp (deg C)	25.3	26.7	27.9	28.8	23.8
8	Turb (NTU)	46.50	7.20	31.80	86.67	20.20
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	1.0	1.4	2.3	0.0	3.2
2	ALK-TOT (mgCaCO3/L)	120	180	175	139	101
3	B (mg/L)	0.32	0.40		0.10	0.07
4	Ca (mg/L)	33	45	40	46	29
5	Cl (mg/L)	88.6	195.6	118.4	129.3	69.0
6	CO3 (mg/L)	1.3	1.7	2.8	0.0	3.9
7	F (mg/L)	0.68	1.08	0.79	0.75	0.45
8	Fe (mg/L)	0.1	0.0	0.1	3.4	2.1
9	HCO3 (mg/L)	143	216	208	169	115
10	K (mg/L)	3.7	7.3	4.3	0.8	0.3
11	Mg (mg/L)	18.7	25.8	21.8	20.6	11.4
12	Na (mg/L)	109.3	231.5	132.6	158.7	69.5
13	NH3-N (mg N/L)	0.00	0.01	0.02	0.08	0.10
14	NO2+NO3 (mg N/L)	1.17	1.10	1.44	9.08	2.38
15	NO2-N (mgN/L)	0.01	0.04	0.00	0.09	0.29
16	NO3-N (mgN/L)	1.16	1.05	1.44	8.98	2.09
17	o-PO4-P (mg P/L)	0.283	0.209	0.301	0.910	0.144
18	P-Tot (mgP/L)	0.226				
19	SiO2 (mg/L)	9.7	10.5	9.2	8.9	23.7
20	SO4 (mg/L)	96.5	264.6	70.6	161.0	87.8
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.8	2.1	1.2	1.2	1.5
2	COD (mg/L)	11.9	19.7	12.3	27.9	24.1
3	DO (mg/L)	5.1	4.2	5.4	6.1	6.2
4	DO_SAT% (%)	62	52	68	78	72
5	FCol-MPN (MPN/100mL)	4858	542	12100	1967	70
6	Tcol-MPN (MPN/100mL)	7600	5994	12100	1967	1152
7	TOC (mg/L)		19.2			
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)				10.67	11.20
5	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)				80.67	21.84
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	83	112	99	114	73
2	HAR_Total (mgCaCO3/L)	161	220	190	200	120
3	Na% (%)	54	69	60	61	41
4	RSC (-)	0.0	0.0	0.2	0.0	0.0
5	SAR (-)	3.5	6.8	4.2	4.7	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: 2004-2019

Station Name : Bawapuram (AKL00B8) **Division : Lower Krishna Divn., Hyderabad**

Local River : Tungabhadra **River WaterSub-Division : Lower Tungabhadra SD, Kurnool**

S.No	Parameters	Winter				
		Nov - Feb				
		2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
	PHYSICAL					
1	Q (cumec)	22.31	118.2	45.80	87.29	64.31
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	1080	1036	1097	835	1022
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.3	8.3	8.5	8.4	8.5
6	TDS (mg/L)					
7	Temp (deg C)	24.7	26.9	25.5	22.0	22.5
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	2.8	6.0	9.1	8.1	8.0
2	ALK-TOT (mgCaCO3/L)	248	185	227	175	209
3	B (mg/L)	0.00	0.01	0.00	0.00	0.00
4	Ca (mg/L)	53	51	49	37	56
5	Cl (mg/L)	109.3	93.6	114.1	93.2	114.9
6	CO3 (mg/L)	3.3	7.3	11.0	9.7	9.6
7	F (mg/L)	0.79	0.91	0.82	0.77	0.77
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	296	211	255	194	236
10	K (mg/L)	2.6		3.7	3.4	4.9
11	Mg (mg/L)	27.0	19.0	21.5	14.3	11.6
12	Na (mg/L)	119.7		203.8	112.3	203.8
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.05	0.05
14	NO2+NO3 (mg N/L)	0.01	0.01	0.00	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	0.01	0.00	0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.001	0.001	0.001	0.001
19	SiO2 (mg/L)	11.1	9.2	12.7	13.0	15.8
20	SO4 (mg/L)	270.0	205.8	195.3	57.5	124.0
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.4	0.6	1.2	1.7	1.7
2	COD (mg/L)				34.7	17.9
3	DO (mg/L)	6.1	6.4	6.9	6.9	6.8
4	DO_SAT% (%)	73	79	84	79	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)	132	127	123	92	139
2	HAR_Total (mgCaCO3/L)	244	206	212	151	188
3	Na% (%)	51		67	59	65
4	RSC (-)	0.6	0.1	0.3	0.5	0.5
5	SAR (-)	3.4		6.1	4.0	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: 2004-2019

Station Name : Bawapuram (AKL00B8) **Division : Lower Krishna Divn., Hyderabad**

Local River : Tungabhadra **River WaterSub-Division : Lower Tungabhadra SD, Kurnool**

S.No	Parameters	Winter				
		Nov - Feb				
		2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
	PHYSICAL					
1	Q (cumec)	108.1	73.31	128.3	3.556	1.925
2	EC_FLD (µmho/cm)					400
3	EC_GEN (µmho/cm)	1133	1024	1046	1238	1156
4	pH_FLD (pH units)					8.2
5	pH_GEN (pH units)	8.7	8.5	8.4	8.3	8.4
6	TDS (mg/L)			712	712	745
7	Temp (deg C)	21.9	21.4	23.0	24.3	27.6
8	Turb (NTU)			1.00	1.28	3.75
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	8.0	7.5	6.2	3.2	4.2
2	ALK-TOT (mgCaCO3/L)	200	193	198	205	189
3	B (mg/L)	0.00	0.00	0.29	0.26	0.03
4	Ca (mg/L)	54	40	39	45	44
5	Cl (mg/L)	132.9	118.7	117.3	124.8	129.2
6	CO3 (mg/L)	9.6	9.0	7.4	3.8	5.0
7	F (mg/L)	1.22	2.62	0.91	1.22	0.74
8	Fe (mg/L)	0.0	0.0	0.1	0.0	0.0
9	HCO3 (mg/L)	224	217	226	242	220
10	K (mg/L)	4.0	4.0	4.2	3.3	3.9
11	Mg (mg/L)	19.9	23.0	22.1	26.3	25.0
12	Na (mg/L)	159.1	137.9	153.9	174.3	142.3
13	NH3-N (mg N/L)	0.00	0.00	0.01	0.04	0.01
14	NO2+NO3 (mg N/L)	0.73	0.00	0.77	0.98	0.80
15	NO2-N (mgN/L)	0.00	0.00	0.02	0.00	0.00
16	NO3-N (mgN/L)	0.73	0.00	0.75	0.98	0.80
17	o-PO4-P (mg P/L)			0.536	0.181	0.197
18	P-Tot (mgP/L)	0.000	0.153	0.536		
19	SiO2 (mg/L)	13.0	16.3	12.1	15.7	10.5
20	SO4 (mg/L)	218.8	184.0	196.8	197.0	87.9
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.7	1.2	0.9	1.1	1.2
2	COD (mg/L)	23.4	21.1	11.8	12.0	3.5
3	DO (mg/L)	6.9	7.4	6.7	7.0	6.4
4	DO_SAT% (%)	78	84	78	84	78
5	FCol-MPN (MPN/100mL)	6500	7750	4665	801	4290
6	Tcol-MPN (MPN/100mL)	12500	10750	6365	4621	4858
7	TOC (mg/L)			3.6	3.3	
	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)	134	101	97	113	109
2	HAR_Total (mgCaCO3/L)	217	197	189	222	213
3	Na% (%)	61	59	63	63	59
4	RSC (-)	0.2	0.2	0.3	0.1	0.0
5	SAR (-)	4.7	4.3	4.9	5.1	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: 2004-2019

Station Name : Bawapuram (AKL00B8) **Division : Lower Krishna Divn., Hyderabad**

Local River : Tungabhadra **River WaterSub-Division : Lower Tungabhadra SD, Kurnool**

S.No	Parameters	Winter				
		Nov - Feb				
		2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
	PHYSICAL			Drybed		
1	Q (cumec)	15.07	1.328	No Flow	2.267	1.145
2	EC_FLD (µmho/cm)				1317	1053
3	EC_GEN (µmho/cm)	1130	2800		1426	1535
4	pH_FLD (pH units)				8.4	8.2
5	pH_GEN (pH units)	8.4	8.5		8.3	8.4
6	TDS (mg/L)	715	677		903	933
7	Temp (deg C)	26.6	25.6		25.2	23.5
8	Turb (NTU)	4.83	10.00		9.00	0.67
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	2.9	4.0		8.0	12.3
2	ALK-TOT (mgCaCO3/L)	211	215		202	191
3	B (mg/L)	0.23	0.05		0.08	0.03
4	Ca (mg/L)	48	43		64	40
5	Cl (mg/L)	125.3	133.6		182.1	153.5
6	CO3 (mg/L)	3.5	4.8		9.6	14.9
7	F (mg/L)	0.82	0.56		0.77	0.72
8	Fe (mg/L)	0.1	0.0		0.1	0.1
9	HCO3 (mg/L)	250	252		226	203
10	K (mg/L)	3.7	4.4		0.9	0.5
11	Mg (mg/L)	26.4	24.4		21.5	29.7
12	Na (mg/L)	149.1	167.4		205.4	133.1
13	NH3-N (mg N/L)	0.04	0.01		0.77	0.05
14	NO2+NO3 (mg N/L)	1.24	0.61		5.80	1.10
15	NO2-N (mgN/L)	0.09	0.01		0.01	0.03
16	NO3-N (mgN/L)	1.15	0.60		5.79	1.06
17	o-PO4-P (mg P/L)	0.260	0.138		0.843	0.204
18	P-Tot (mgP/L)					
19	SiO2 (mg/L)	12.2	7.3		11.3	7.3
20	SO4 (mg/L)	202.6	196.5		276.7	142.3
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.3	1.8		2.0	2.0
2	COD (mg/L)	17.3	12.2		21.8	7.6
3	DO (mg/L)	6.8	6.3		7.1	7.8
4	DO_SAT% (%)	84	76		85	91
5	FCol-MPN (MPN/100mL)	4393	4478		63	158
6	Tcol-MPN (MPN/100mL)	5098	12001		157	2393
7	TOC (mg/L)	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			4.33	12.00
5	Hg (µg/L)					
6	Ni (µg/L)	16.87				
7	Pb (µg/L)	17.98				
8	Zn (µg/L)	6.50			27.10	34.32
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	121	108		159	100
2	HAR_Total (mgCaCO3/L)	231	209		249	223
3	Na% (%)	57	63		64	55
4	RSC (-)	0.1	0.1		0.0	0.0
5	SAR (-)	4.2	5.0		5.7	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: 2004-2019

Station Name : Bawapuram (AKL00B8) **Division : Lower Krishna Divn., Hyderabad**

Local River : Tungabhadra **River WaterSub-Division : Lower Tungabhadra SD, Kurnool**

S.No	Parameters	Summer				
		Mar - May				
		2005	2006	2007	2008	2009
	PHYSICAL					
1	Q (cumec)	0.376	2.221	1.644	58.74	1.440
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	1250	1357	1060	984	1553
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.2	8.5	8.2	8.5	8.4
6	TDS (mg/L)					
7	Temp (deg C)	22.0	30.7	27.0	23.3	24.3
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	10.5	12.0	5.5	8.0
2	ALK-TOT (mgCaCO3/L)	186	222	242	199	208
3	B (mg/L)	0.00	0.01	0.00	0.00	0.00
4	Ca (mg/L)	38	44	50	54	45
5	Cl (mg/L)	134.3	143.3	149.3	137.3	209.1
6	CO3 (mg/L)	0.0	12.7	14.5	6.7	9.6
7	F (mg/L)	0.96	1.07	1.57	0.88	1.19
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	227	245	266	229	234
10	K (mg/L)	4.1	4.1	6.0	5.2	7.6
11	Mg (mg/L)	18.0	19.3	26.5	14.7	17.8
12	Na (mg/L)	147.0	181.7	210.0	123.0	102.2
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.05	0.05
14	NO2+NO3 (mg N/L)	0.01	0.01	0.00	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	0.01	0.00	0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.001	0.001	0.001	0.001
19	SiO2 (mg/L)	8.6	13.7	13.3	18.0	13.6
20	SO4 (mg/L)	300.0	215.0	202.5	156.7	132.1
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.5	1.5	1.3	1.7	1.2
2	COD (mg/L)				23.1	9.4
3	DO (mg/L)	5.4	5.1	6.0	5.6	5.5
4	DO_SAT% (%)	62	68	76	65	65
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
7	TOC (mg/L)				4.2	
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)		0.10		1.20	2.73
3	Cr (µg/L)		2.00		2.00	2.00
4	Cu (µg/L)					
5	Hg (µg/L)				0.00	
6	Ni (µg/L)		1.00		13.50	9.62
7	Pb (µg/L)		114.00		21.47	44.00
8	Zn (µg/L)		14.00		5.73	6.93
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	95	109	125	136	114
2	HAR_Total (mgCaCO3/L)	170	190	235	197	188
3	Na% (%)	65	67	66	57	41
4	RSC (-)	0.3	0.7	0.2	0.1	0.4
5	SAR (-)	4.9	5.9	6.0	3.8	3.2
	PESTICIDES					
1	Aldrin (µg/L)		0.010		0.010	0.010
2	BHC (µg/L)		0.100		0.160	0.100
3	DDT (µg/L)		0.100		0.100	0.100
4	Dieldrin (µg/L)		0.026		0.010	0.010
5	Endos (µg/L)		0.100		0.100	0.100

Water Quality Seasonal Average for the period: 2004-2019

Station Name : Bawapuram (AKL00B8) **Division : Lower Krishna Divn., Hyderabad**

Local River : Tungabhadra **River WaterSub-Division : Lower Tungabhadra SD, Kurnool**

S.No	Parameters	Summer			
		Mar - May			
		2010	2011	2012	2013
	PHYSICAL				
1	Q (cumec)	10.15	5.109	0.718	0.486
2	EC_FLD (µmho/cm)				
3	EC_GEN (µmho/cm)	1247	1370	1349	1260
4	pH_FLD (pH units)				
5	pH_GEN (pH units)	8.9	8.2	8.3	8.3
6	TDS (mg/L)			788	691
7	Temp (deg C)	23.5	22.0	25.7	23.5
8	Turb (NTU)			1.00	1.13
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	9.3	0.0	1.4	2.1
2	ALK-TOT (mgCaCO3/L)	199	186	183	167
3	B (mg/L)	0.00	0.00	0.08	0.38
4	Ca (mg/L)	42	43	32	36
5	Cl (mg/L)	159.7	169.3	174.9	150.8
6	CO3 (mg/L)	11.2	0.0	1.7	2.5
7	F (mg/L)	1.19	1.03	1.15	0.74
8	Fe (mg/L)	0.0	0.0	0.2	0.2
9	HCO3 (mg/L)	220	227	220	199
10	K (mg/L)	5.2	5.9	4.9	4.6
11	Mg (mg/L)	23.0	25.3	18.5	20.6
12	Na (mg/L)	183.5	194.0	202.5	195.3
13	NH3-N (mg N/L)	0.00	0.00	0.04	0.00
14	NO2+NO3 (mg N/L)	0.00	0.00	0.81	1.19
15	NO2-N (mgN/L)	0.00	0.00	0.01	0.00
16	NO3-N (mgN/L)	0.00	0.00	0.80	1.19
17	o-PO4-P (mg P/L)			0.161	0.125
18	P-Tot (mgP/L)	0.000	0.068	0.161	
19	SiO2 (mg/L)	15.6	11.2	18.0	13.2
20	SO4 (mg/L)	292.0	255.0	223.0	184.0
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	2.4	1.1	2.4	0.7
2	COD (mg/L)	27.6	34.9	17.2	8.9
3	DO (mg/L)	5.9	6.5	5.6	5.5
4	DO_SAT% (%)	70	74	69	65
5	FCol-MPN (MPN/100mL)	11467	16000	1277	66
6	Tcol-MPN (MPN/100mL)	11467	16000	2077	260
7	TOC (mg/L)			5.8	4.1
	TRACE & TOXIC				
1	As (µg/L)	10.42		6.81	4.84
2	Cd (µg/L)	0.01		0.67	1.59
3	Cr (µg/L)	0.00		0.00	0.68
4	Cu (µg/L)				
5	Hg (µg/L)			1.01	0.37
6	Ni (µg/L)	3.82		6.77	8.99
7	Pb (µg/L)	0.00		36.03	6.46
8	Zn (µg/L)	6.35		17.41	7.84
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	104	108	79	89
2	HAR_Total (mgCaCO3/L)	200	214	156	175
3	Na% (%)	66	66	73	70
4	RSC (-)	0.1	0.0	0.6	0.0
5	SAR (-)	5.7	5.8	7.1	6.5
	PESTICIDES				
1	Aldrin (µg/L)	0.000		0.002	
2	BHC (µg/L)	0.007		0.026	
3	DDT (µg/L)	0.071		0.002	
4	Dieldrin (µg/L)	0.002		0.000	
5	Endos (µg/L)	0.101		0.068	

Water Quality Seasonal Average for the period: 2004-2019

Station Name : Bawapuram (AKL00B8) **Division : Lower Krishna Divn., Hyderabad**

Local River : Tungabhadra **River WaterSub-Division : Lower Tungabhadra SD, Kurnool**

S.No	Parameters			
		2014	2015	2019
	PHYSICAL			
1	Q (cumec)	9.365	0.938	During summer season 2016, 2017, 2018 and 2019 Drybed / No flow
2	EC_FLD (µmho/cm)			
3	EC_GEN (µmho/cm)	1410	1468	
4	pH_FLD (pH units)			
5	pH_GEN (pH units)	8.2	8.4	
6	TDS (mg/L)	828	923	
7	Temp (deg C)	28.0	27.3	
8	Turb (NTU)	1.00	3.00	
	CHEMICAL			
1	Alk-Phen (mgCaCO3/L)	0.0	3.5	
2	ALK-TOT (mgCaCO3/L)	231	208	
3	B (mg/L)	0.03	0.47	
4	Ca (mg/L)	45	49	
5	Cl (mg/L)	155.1	178.3	
6	CO3 (mg/L)	0.0	4.2	
7	F (mg/L)	0.75	0.86	
8	Fe (mg/L)	0.0	0.1	
9	HCO3 (mg/L)	282	245	
10	K (mg/L)	6.0	5.9	
11	Mg (mg/L)	25.8	28.5	
12	Na (mg/L)	132.0	208.1	
13	NH3-N (mg N/L)	0.01	0.01	
14	NO2+NO3 (mg N/L)	0.89	0.97	
15	NO2-N (mgN/L)	0.00	0.15	
16	NO3-N (mgN/L)	0.89	0.82	
17	o-PO4-P (mg P/L)	0.110	0.233	
18	P-Tot (mgP/L)			
19	SiO2 (mg/L)	10.6	14.7	
20	SO4 (mg/L)	155.0	272.0	
	BIOLOGICAL/BACTERIOLOGICAL			
1	BOD3-27 (mg/L)	1.1	1.0	
2	COD (mg/L)	4.1	15.2	
3	DO (mg/L)	6.9	5.3	
4	DO_SAT% (%)	88	67	
5	FCol-MPN (MPN/100mL)	230	21	
6	Tcol-MPN (MPN/100mL)	2400	667	
7	TOC (mg/L)		31.1	
	TRACE & TOXIC			
1	As (µg/L)		11.79	
2	Cd (µg/L)		4.00	
3	Cr (µg/L)		0.00	
4	Cu (µg/L)			
5	Hg (µg/L)		0.09	
6	Ni (µg/L)		13.63	
7	Pb (µg/L)		19.00	
8	Zn (µg/L)		9.00	
	CHEMICAL INDICES			
1	HAR_Ca (mgCaCO3/L)	112	124	
2	HAR_Total (mgCaCO3/L)	220	243	
3	Na% (%)	56	65	
4	RSC (-)	0.3	0.0	
5	SAR (-)	3.9	5.9	
	PESTICIDES			
1	Aldrin (µg/L)			
2	BHC (µg/L)			
3	DDT (µg/L)			
4	Dieldrin (µg/L)			
5	Endos (µg/L)			

HISTORY SHEET

Water Year : 2018-2019

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			

WQ observations suspended from 31-05-2006 and restarted from 07-10-2013.

Water Quality Datasheet for the period : 2018-2019

Station Name : Mantralayam (AKL00F2) **Division : Lower Krishna Divn., Hyderabad**

Local River : Tungabhadra **River Water** **Sub-Division : Lower Tungabhadra SD, Kurnool**

S.No	Parameters	12/06/2018	21/07/2018	01/08/2018	04/09/2018	03/10/2018
		A	A	A	A	A
	PHYSICAL					
1	Q (cumec)	9.028	1376	207.2	296.2	105.8
2	Colour_Cod (-)	Light Brown	Brown	Brown	Light Brown	Light Brown
3	EC_FLD (µmho/cm)	678	618	659	140	953
4	EC_GEN (µmho/cm)	1154	742	499	252	820
5	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free
6	pH_FLD (pH units)	6.5	7.3	7.2	6.8	
7	pH_GEN (pH units)	8.2	8.1	8.0	7.9	8.4
8	TDS (mg/L)	701	327	102	80	750
9	Temp (deg C)	22.0	29.4	28.3	27.0	31.1
10	Turb (NTU)	3.00	382.00	17.00	18.00	41.00
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	21.1
2	ALK-TOT (mgCaCO3/L)	182	115	64	64	168
3	B (mg/L)	0.04	0.09	0.03	0.02	0.14
4	Ca (mg/L)	39	34	18	15	40
5	Cl (mg/L)	155.3	44.2	20.2	18.9	107.3
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	25.4
7	F (mg/L)	0.81	0.72	0.10	0.08	0.61
8	Fe (mg/L)	0.7	9.5	2.9	0.1	0.0
9	HCO3 (mg/L)	222	141	78	78	153
10	K (mg/L)	0.6	0.5	0.2	0.2	0.7
11	Mg (mg/L)	21.2	16.3	7.3	7.9	21.4
12	Na (mg/L)	185.4	17.4	6.7	19.8	90.2
13	NH3-N (mg N/L)	0.01	0.23	0.15	0.41	0.14
14	NO2+NO3 (mg N/L)	5.47	3.09	0.20	0.01	1.00
15	NO2-N (mgN/L)	0.03	0.03	0.04	0.01	0.06
16	NO3-N (mgN/L)	5.44	3.06	0.16	0.00	0.94
17	o-PO4-P (mg P/L)	0.030	0.200	0.100	0.100	0.800
18	SiO2 (mg/L)	26.5	45.6	3.4	5.2	1.3
19	SO4 (mg/L)	214.9	37.3	7.9	37.2	59.3
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	3.9	0.4	2.0	2.1	0.4
2	COD (mg/L)	26.4	64.4	24.4	16.0	7.2
3	DO (mg/L)	5.0	4.6	5.3	5.9	7.5
4	DO_SAT% (%)	57	60	68	74	101
5	FCol-MPN (MPN/100mL)	20	130	300	40	130
6	Tcol-MPN (MPN/100mL)	40	2800	1300	130	500
	TRACE & TOXIC					
1	Cu (µg/L)	0.00	58.00	14.00	15.00	8.00
2	Zn (µg/L)	0.03	98.50	24.10	24.20	0.80
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	97	84	45	38	99
2	HAR_Total (mgCaCO3/L)	185	152	75	71	188
3	Na% (%)	69	20	16	38	51
4	RSC (-)	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	5.9	0.6	0.3	1.0	2.9
	PESTICIDES					

Water Quality Datasheet for the period : 2018-2019

Station Name : Mantralayam (AKL00F2) **Division : Lower Krishna Divn., Hyderabad**

Local River : Tungabhadra **River Water** **Sub-Division : Lower Tungabhadra SD, Kurnool**

S.No	Parameters	01/11/2018	03/12/2018	01/02/2019	
		A	A	A	
	PHYSICAL				
1	Q (cumec)	48.73	30.46	4.808	
2	Colour_Cod (-)	Light Brown	Clear	Clear	
3	EC_FLD (µmho/cm)	126	1116	1315	
4	EC_GEN (µmho/cm)	774	2420	268	
5	Odour_Code (-)	odour free	odour free	odour free	
6	pH_FLD (pH units)				
7	pH_GEN (pH units)	8.6	8.2	8.1	
8	TDS (mg/L)	672		103	
9	Temp (deg C)	31.1	25.4	23.6	
10	Turb (NTU)	1.00		1.00	
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	28.3	0.0	0.0	
2	ALK-TOT (mgCaCO3/L)	196	239	88	
3	B (mg/L)	0.02	0.06	0.06	
4	Ca (mg/L)	45	33	24	
5	Cl (mg/L)	141.0	142.0	14.0	
6	CO3 (mg/L)	34.1	0.0	0.0	
7	F (mg/L)	0.72	0.99	0.16	
8	Fe (mg/L)	0.0	0.0	0.2	
9	HCO3 (mg/L)	170	291	107	
10	K (mg/L)	0.1	0.4	0.1	
11	Mg (mg/L)	32.1	32.2	9.1	
12	Na (mg/L)	95.2	149.5	9.7	
13	NH3-N (mg N/L)	0.10	0.01	0.01	
14	NO2+NO3 (mg N/L)	3.26	0.42	0.42	
15	NO2-N (mgN/L)	0.05	0.00	0.02	
16	NO3-N (mgN/L)	3.21	0.42	0.40	
17	o-PO4-P (mg P/L)	0.600	0.100	0.160	
18	SiO2 (mg/L)	9.3	8.5	21.3	
19	SO4 (mg/L)	120.5		1.5	
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	0.8	1.2	1.2	
2	COD (mg/L)	8.4	4.4	6.8	
3	DO (mg/L)	5.8	6.9	6.0	
4	DO_SAT% (%)	78	84	70	
5	FCol-MPN (MPN/100mL)	80	170	170	
6	Tcol-MPN (MPN/100mL)	2200	1300	2200	
	TRACE & TOXIC				
1	Cu (µg/L)	9.00	12.00	4.00	
2	Zn (µg/L)	13.10	7.20	40.80	
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	114	83	61	
2	HAR_Total (mgCaCO3/L)	247	217	99	
3	Na% (%)	46	60	18	
4	RSC (-)	0.0	0.5	0.0	
5	SAR (-)	2.6	4.4	0.4	
	PESTICIDES				

Samples not collected January ,March, April, and May months due to Drybed / No flow.

Water Quality Summary for the period : 2018-2019

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)	365	5401	0.000	178.5
2	EC_FLD (µmho/cm)	8	1315	126	701
3	EC_GEN (µmho/cm)	9	2420	252	864
4	pH_FLD (pH units)	4	7.3	6.5	6.9
5	pH_GEN (pH units)	9	8.6	7.9	8.2
6	TDS (mg/L)	8	750	80	408
7	Temp (deg C)	9	31.1	22.0	26.9
8	Turb (NTU)	8	382.00	1.00	58
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	9	28.3	0.0	6
2	ALK-TOT (mgCaCO3/L)	9	285	64	156
3	B (mg/L)	9	0.14	0.02	0.06
4	Ca (mg/L)	9	45	15	32
5	Cl (mg/L)	9	155.3	14.0	82.7
6	CO3 (mg/L)	9	34.1	0.0	7.3
7	F (mg/L)	9	0.99	0.08	0.53
8	Fe (mg/L)	9	9.5	0.0	1.5
9	HCO3 (mg/L)	9	336	78	175
10	K (mg/L)	9	0.7	0.1	0.3
11	Mg (mg/L)	9	32.2	7.3	19.2
12	Na (mg/L)	9	185.4	6.7	79.5
13	NH3-N (mg N/L)	9	0.41	0.01	0.13
14	NO2+NO3 (mg N/L)	9	5.47	0.01	1.58
15	NO2-N (mgN/L)	9	0.06	0.00	0.03
16	NO3-N (mgN/L)	9	5.44	0.00	1.55
17	o-PO4-P (mg P/L)	9	0.800	0.030	0.248
18	SiO2 (mg/L)	9	45.6	1.3	14.8
19	SO4 (mg/L)	8	214.9	1.5	72.2
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	9	3.9	0.4	1.4
2	COD (mg/L)	9	64.4	4.4	18.3
3	DO (mg/L)	9	7.5	4.6	6
4	DO_SAT% (%)	9	101	57	75
5	FCol-MPN (MPN/100mL)	9	330	20	152
6	Tcol-MPN (MPN/100mL)	9	2800	40	1308
	TRACE & TOXIC				
1	Cu (µg/L)	9	58.00	0.00	14.11
2	Zn (µg/L)	9	98.50	0.03	27.03
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	9	114	38	81
2	HAR_Total (mgCaCO3/L)	9	247	71	161
3	Na% (%)	9	69	16	42
4	RSC (-)	9	1.5	0.0	0.2
5	SAR (-)	9	5.9	0.3	2.5
	PESTICIDES				

Water Quality Seasonal Average for the period: 2004-2019

Station Name : Mantralayam (AKL00F2) **Division : Lower Krishna Divn., Hyderabad**

Local River : Tungabhadra **River Water Sub-Division : Lower Tungabhadra SD, Kurnool**

S.No	Parameters	Flood			
	Flood	**Jun-Oct**			
		2004	**2005**	**2013**	**2014**
	PHYSICAL				
1	Q (cumec)	109.2	229.3	903.5	1116
2	EC_FLD (µmho/cm)				
3	EC_GEN (µmho/cm)	807	705	512	893
4	pH_FLD (pH units)				
5	pH_GEN (pH units)	8.3	8.3	8.5	7.9
6	TDS (mg/L)			364	538
7	Temp (deg C)	24.6	22.7	27.3	25.4
8	Turb (NTU)			1.36	37.00
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	13.3	2.8	3.2	0.0
2	ALK-TOT (mgCaCO3/L)	176	149	137	135
3	B (mg/L)	0.00	0.01	0.24	0.21
4	Ca (mg/L)	31	36	29	34
5	Cl (mg/L)	67.9	70.0	53.5	91.2
6	CO3 (mg/L)	16.0	3.3	3.9	0.0
7	F (mg/L)	1.08	0.66	0.56	0.72
8	Fe (mg/L)	0.0	0.0	0.1	0.1
9	HCO3 (mg/L)	182	175	159	165
10	K (mg/L)	4.5	3.3	2.7	3.9
11	Mg (mg/L)	16.6	14.0	16.2	18.6
12	Na (mg/L)	88.4	109.7	64.7	121.2
13	NH3-N (mg N/L)	0.00	0.00	0.13	0.04
14	NO2+NO3 (mg N/L)	0.01	0.01	1.27	1.60
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.04
16	NO3-N (mgN/L)	0.01	0.01	1.27	1.56
17	o-PO4-P (mg P/L)			0.154	0.277
18	P-Tot (mgP/L)	0.001	0.001		0.244
19	SiO2 (mg/L)	12.6	9.5	9.1	10.4
20	SO4 (mg/L)	106.8	145.3	55.8	124.4
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	0.1	2.0	0.8	0.8
2	COD (mg/L)			10.3	9.2
3	DO (mg/L)	4.1	6.1	6.1	5.5
4	DO_SAT% (%)	49	70	77	68
5	FCol-MPN (MPN/100mL)			2271	6492
6	Tcol-MPN (MPN/100mL)			4059	7040
7	TOC (mg/L)			0.2	
	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)	78	90	73	84
2	HAR_Total (mgCaCO3/L)	147	148	140	161
3	Na% (%)	54	54	45	56
4	RSC (-)	0.6	0.3	0.1	0.0
5	SAR (-)	3.1	3.7	2.4	3.9
	PESTICIDES				
1	Aldrin (µg/L)				
2	BHC (µg/L)				
3	DDT (µg/L)				
4	Dieldrin (µg/L)				
5	Endos (µg/L)				
	WQ Observationssuspended 31-05-2006 & restarted from 07-10-2013				

Water Quality Seasonal Average for the period: 2004-2019

Station Name : Mantralayam (AKL00F2) **Division : Lower Krishna Divn., Hyderabad**

Local River : Tungabhadra **River Water Sub-Division : Lower Tungabhadra SD, Kurnool**

S.No	Parameters	Flood			
	Flood	Jun-Oct			
		2015	2016	2017	2018
	PHYSICAL				
1	Q (cumec)	34.03	47.24	164.9	398.9
2	EC_FLD (µmho/cm)		1534	1020	610
3	EC_GEN (µmho/cm)	1126	995	755	693
4	pH_FLD (pH units)		6.0	6.7	6.9
5	pH_GEN (pH units)	8.1	8.8	8.2	8.1
6	TDS (mg/L)	774	662	520	392
7	Temp (deg C)	31.5	27.2	28.8	27.6
8	Turb (NTU)	9.03	52.40	162.67	92.20
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.9	4.8	8.0	4.2
2	ALK-TOT (mgCaCO3/L)	181	164	96	119
3	B (mg/L)	0.29		0.08	0.06
4	Ca (mg/L)	41	41	33	29
5	Cl (mg/L)	124.0	117.0	93.3	69.2
6	CO3 (mg/L)	1.0	5.8	9.6	5.1
7	F (mg/L)	0.86	0.73	0.68	0.46
8	Fe (mg/L)	0.0	0.1	1.4	2.6
9	HCO3 (mg/L)	219	189	98	134
10	K (mg/L)	6.6	5.3	0.4	0.4
11	Mg (mg/L)	23.6	23.3	20.0	14.8
12	Na (mg/L)	161.2	149.4	108.6	63.9
13	NH3-N (mg N/L)	0.01	0.01	0.22	0.19
14	NO2+NO3 (mg N/L)	1.36	1.34	7.90	1.95
15	NO2-N (mgN/L)	0.06	0.00	0.07	0.03
16	NO3-N (mgN/L)	1.30	1.34	7.83	1.92
17	o-PO4-P (mg P/L)	0.251	0.227	0.893	0.246
18	P-Tot (mgP/L)				
19	SiO2 (mg/L)	10.6	10.9	10.4	16.4
20	SO4 (mg/L)	172.5	149.2	129.5	71.3
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	2.0	1.9	1.8	1.8
2	COD (mg/L)	22.5	13.4	19.0	27.7
3	DO (mg/L)	4.5	5.9	5.9	5.7
4	DO_SAT% (%)	60	74	77	72
5	FCol-MPN (MPN/100mL)	5330	11400	975	124
6	Tcol-MPN (MPN/100mL)	8260	16000	4970	954
7	TOC (mg/L)	14.0			
	TRACE & TOXIC				
1	As (µg/L)				
2	Cd (µg/L)				
3	Cr (µg/L)				
4	Cu (µg/L)			3.75	19.00
5	Hg (µg/L)				
6	Ni (µg/L)				
7	Pb (µg/L)				
8	Zn (µg/L)			45.20	29.53
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	103	104	82	72
2	HAR_Total (mgCaCO3/L)	202	201	166	134
3	Na% (%)	62	61	59	39
4	RSC (-)	0.2	0.2	0.0	0.0
5	SAR (-)	4.9	4.6	3.7	2.2
	PESTICIDES				
1	Aldrin (µg/L)				
2	BHC (µg/L)				
3	DDT (µg/L)				
4	Dieldrin (µg/L)				
5	Endos (µg/L)				
	WQ				

Water Quality Seasonal Average for the period: 2004-2019

Station Name : Mantralayam (AKL00F2) **Division : Lower Krishna Divn., Hyderabad**

Local River : Tungabhadra **River Water Sub-Division : Lower Tungabhadra SD, Kurnool**

S.No	Parameters	Winter			
	Flood	Nov-Feb			
		2004-2005	2005-2006	2013-2014	2014-2015
	PHYSICAL				
1	Q (cumec)	60.58	203.6	70.11	75.50
2	EC_FLD (µmho/cm)				
3	EC_GEN (µmho/cm)	907	903	1023	1070
4	pH_FLD (pH units)				
5	pH_GEN (pH units)	8.3	8.1	8.4	8.3
6	TDS (mg/L)			576	729
7	Temp (deg C)	28.0	18.8	24.5	22.3
8	Turb (NTU)			8.67	4.08
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	2.5	0.0	2.8	2.9
2	ALK-TOT (mgCaCO3/L)	206	196	206	212
3	B (mg/L)	0.00	0.01	0.36	0.30
4	Ca (mg/L)	45	49	44	49
5	Cl (mg/L)	91.7	78.4	107.9	124.0
6	CO3 (mg/L)	3.0	0.0	3.3	3.5
7	F (mg/L)	0.78	0.85	0.76	0.83
8	Fe (mg/L)	0.0	0.0	0.0	0.1
9	HCO3 (mg/L)	245	239	244	251
10	K (mg/L)	3.8		4.5	5.1
11	Mg (mg/L)	19.3	16.8	25.2	27.9
12	Na (mg/L)	117.3		127.5	161.5
13	NH3-N (mg N/L)	0.00	0.00	0.01	0.04
14	NO2+NO3 (mg N/L)	0.01	0.01	1.29	0.98
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.04
16	NO3-N (mgN/L)	0.01	0.01	1.29	0.94
17	o-PO4-P (mg P/L)			0.323	0.227
18	P-Tot (mgP/L)	0.001	0.001		
19	SiO2 (mg/L)	8.9	11.0	10.9	11.8
20	SO4 (mg/L)	171.3	153.3	95.3	191.9
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	1.6	0.9	1.5	1.0
2	COD (mg/L)			2.7	17.2
3	DO (mg/L)	6.1	6.1	6.6	6.6
4	DO_SAT% (%)	78	65	78	76
5	FCol-MPN (MPN/100mL)			5543	4158
6	Tcol-MPN (MPN/100mL)			6767	4430
7	TOC (mg/L)				32.8
	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)	112	121	110	123
2	HAR_Total (mgCaCO3/L)	192	191	214	239
3	Na% (%)	56		56	59
4	RSC (-)	0.9	0.3	0.0	0.1
5	SAR (-)	4.1		3.8	4.5
	PESTICIDES				
1	Aldrin (µg/L)				
2	BHC (µg/L)				
3	DDT (µg/L)				
4	Dieldrin (µg/L)				
5	Endos (µg/L)				
	WQ				

Water Quality Seasonal Average for the period: 2004-2019

Station Name : Mantralayam (AKL00F2) **Division : Lower Krishna Divn., Hyderabad**

Local River : Tungabhadra **River Water Sub-Division : Lower Tungabhadra SD, Kurnool**

S.No	Parameters	Winter			
	Flood	Nov-Feb			
		2015-2016	2016-2017	2017-2018	2018-2019
	PHYSICAL				
1	Q (cumec)	22.38	19.29	40.92	26.15
2	EC_FLD (µmho/cm)		1665	1022	852
3	EC_GEN (µmho/cm)	1781	1568	1493	1076
4	pH_FLD (pH units)		6.3	7.8	
5	pH_GEN (pH units)	8.5	8.5	8.2	8.3
6	TDS (mg/L)	682	946	957	433
7	Temp (deg C)	27.5	27.0	27.8	26.2
8	Turb (NTU)	42.50	18.50	41.75	1.00
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	3.4	9.3	10.7	8.3
2	ALK-TOT (mgCaCO3/L)	219	205	226	202
3	B (mg/L)	0.13		0.12	0.05
4	Ca (mg/L)	46	56	65	36
5	Cl (mg/L)	127.3	182.9	180.9	99.5
6	CO3 (mg/L)	4.0	11.2	12.9	10.0
7	F (mg/L)	0.78	0.94	0.77	0.61
8	Fe (mg/L)	0.1	0.0	1.1	0.1
9	HCO3 (mg/L)	259	227	249	226
10	K (mg/L)	4.5	5.0	0.6	0.2
11	Mg (mg/L)	26.2	30.5	37.2	24.7
12	Na (mg/L)	164.4	212.2	206.9	99.0
13	NH3-N (mg N/L)	0.00	0.12	1.14	0.07
14	NO2+NO3 (mg N/L)	0.76	0.13	5.33	1.10
15	NO2-N (mgN/L)	0.01	0.00	0.05	0.02
16	NO3-N (mgN/L)	0.74	0.13	5.28	1.08
17	o-PO4-P (mg P/L)	0.231	0.183	0.810	0.251
18	P-Tot (mgP/L)				
19	SiO2 (mg/L)	6.8	9.5	12.7	12.7
20	SO4 (mg/L)	212.8	288.5	285.4	73.7
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	1.0	0.9	1.3	1.0
2	COD (mg/L)	12.0	14.9	23.0	6.6
3	DO (mg/L)	6.5	6.1	6.6	6.5
4	DO_SAT% (%)	82	76	83	79
5	FCol-MPN (MPN/100mL)	575	8065	640	188
6	Tcol-MPN (MPN/100mL)	8250	8065	998	1750
7	TOC (mg/L)	17.6			
	TRACE & TOXIC				
1	As (µg/L)				
2	Cd (µg/L)				
3	Cr (µg/L)				
4	Cu (µg/L)		0.00	6.75	8.00
5	Hg (µg/L)				
6	Ni (µg/L)				
7	Pb (µg/L)				
8	Zn (µg/L)		0.00	33.40	23.90
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	115	140	162	91
2	HAR_Total (mgCaCO3/L)	224	267	317	194
3	Na% (%)	61	63	58	46
4	RSC (-)	0.1	0.0	0.0	0.5
5	SAR (-)	4.8	5.7	5.1	2.9
	PESTICIDES				
1	Aldrin (µg/L)				
2	BHC (µg/L)				
3	DDT (µg/L)				
4	Dieldrin (µg/L)				
5	Endos (µg/L)				
	WQ				

Water Quality Seasonal Average for the period: 2004-2019

Station Name : Mantralayam (AKL00F2) **Division : Lower Krishna Divn., Hyderabad**

Local River : Tungabhadra **River Water Sub-Division : Lower Tungabhadra SD, Kurnool**

S.No	Parameters	Summer			
	Flood	Mar-May			
		2005	2006	2014	2015
	PHYSICAL				
1	Q (cumec)	6.311	9.053	8.403	19.40
2	EC_FLD (µmho/cm)				
3	EC_GEN (µmho/cm)	1310	1475	1575	834
4	pH_FLD (pH units)				
5	pH_GEN (pH units)	8.2	8.7	8.4	8.4
6	TDS (mg/L)			858	540
7	Temp (deg C)	21.0	24.3	24.5	25.7
8	Turb (NTU)			12.55	4.00
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0	17.2	2.1	3.5
2	ALK-TOT (mgCaCO3/L)	215	228	241	237
3	B (mg/L)	0.00	0.01	0.27	0.37
4	Ca (mg/L)	36	50	52	49
5	Cl (mg/L)	149.0	162.7	198.7	128.3
6	CO3 (mg/L)	0.0	20.7	2.5	4.2
7	F (mg/L)	0.96	1.03	1.09	0.92
8	Fe (mg/L)	0.0	0.0	1.1	0.1
9	HCO3 (mg/L)	262	236	289	281
10	K (mg/L)	8.2	5.5	4.0	5.7
11	Mg (mg/L)	30.0	23.0	30.1	28.1
12	Na (mg/L)	153.0	220.0	280.0	160.3
13	NH3-N (mg N/L)	0.00	0.00	0.03	0.02
14	NO2+NO3 (mg N/L)	0.01	0.01	1.02	0.69
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.25
16	NO3-N (mgN/L)	0.01	0.01	1.02	0.44
17	o-PO4-P (mg P/L)			0.045	0.343
18	P-Tot (mgP/L)	0.001	0.000		
19	SiO2 (mg/L)	13.5	12.1	16.6	17.0
20	SO4 (mg/L)	460.0	256.7	191.0	191.3
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	1.5	0.8	0.8	0.8
2	COD (mg/L)			5.7	11.4
3	DO (mg/L)	5.4	4.5	4.8	4.9
4	DO_SAT% (%)	61	54	58	59
5	FCol-MPN (MPN/100mL)			60	21
6	Tcol-MPN (MPN/100mL)			130	650
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)	90	124	129	122
2	HAR_Total (mgCaCO3/L)	215	220	255	239
3	Na% (%)	60	67	70	59
4	RSC (-)	0.0	0.2	0.0	0.1
5	SAR (-)	4.6	6.6	7.7	4.5
	PESTICIDES				
1	Aldrin (µg/L)		0.010		
2	BHC (µg/L)		0.100		
3	DDT (µg/L)		0.100		
4	Dieldrin (µg/L)		0.040		
5	Endos (µg/L)		0.142		
	WQ	WQ Observationssuspended 31-05-2006 & restarted from 07-10-2013			

Water Quality Seasonal Average for the period: 2004-2019

Station Name : Mantralayam (AKL00F2) **Division : Lower Krishna Divn., Hyderabad**

Local River : Tungabhadra **River Water Sub-Division : Lower Tungabhadra SD, Kurnool**

S.No	Parameters	Summer			
	Flood	Mar-May			
		2016	2017	2018	2019
	PHYSICAL				
1	Q (cumec)	79.21	Drybed	12.02	Drybed
2	EC_FLD (µmho/cm)		No flow	685	No flow
3	EC_GEN (µmho/cm)	395		999	
4	pH_FLD (pH units)			6.0	
5	pH_GEN (pH units)	7.2		8.2	
6	TDS (mg/L)			679	
7	Temp (deg C)	25.0		24.0	
8	Turb (NTU)	134.00		34.00	
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0		0.0	
2	ALK-TOT (mgCaCO3/L)	78		219	
3	B (mg/L)			0.05	
4	Ca (mg/L)	52		59	
5	Cl (mg/L)	22.3		136.7	
6	CO3 (mg/L)	0.0		0.0	
7	F (mg/L)	0.56		0.69	
8	Fe (mg/L)	0.6		1.3	
9	HCO3 (mg/L)	95		267	
10	K (mg/L)	3.9		0.6	
11	Mg (mg/L)	30.1		38.1	
12	Na (mg/L)	36.0		160.1	
13	NH3-N (mg N/L)	0.04		0.08	
14	NO2+NO3 (mg N/L)	1.53		3.29	
15	NO2-N (mgN/L)	0.01		0.01	
16	NO3-N (mgN/L)	1.52		3.28	
17	o-PO4-P (mg P/L)	0.222		0.980	
18	P-Tot (mgP/L)				
19	SiO2 (mg/L)	9.4		4.8	
20	SO4 (mg/L)	26.8		165.6	
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	0.8		0.9	
2	COD (mg/L)			49.8	
3	DO (mg/L)	6.2		4.3	
4	DO_SAT% (%)	75		51	
5	FCol-MPN (MPN/100mL)	9000		110	
6	Tcol-MPN (MPN/100mL)	9000		210	
7	TOC (mg/L)				
	TRACE & TOXIC				
1	As (µg/L)				
2	Cd (µg/L)				
3	Cr (µg/L)				
4	Cu (µg/L)			4.00	
5	Hg (µg/L)				
6	Ni (µg/L)		Drybed		
7	Pb (µg/L)		No flow		
8	Zn (µg/L)			19.50	
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	130		147	
2	HAR_Total (mgCaCO3/L)	256		306	
3	Na% (%)	23		53	
4	RSC (-)	0.0		0.0	
5	SAR (-)	1.0		4.0	
	PESTICIDES				
1	Aldrin (µg/L)				
2	BHC (µg/L)				
3	DDT (µg/L)				
4	Dieldrin (µg/L)				
5	Endos (µg/L)				
	WQ				

HISTORY SHEET

			Water Year	:	**2018-2019**
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 : 2018-2019

Station Name : T Ramapuram (AKL50A6) **Division : Lower Krishna Divn., Hyderabad**

Local River : Hagari **River Water Analysis** **Sub-Division : Lower Tungabhadra SD, Kurnool**

S.No	Parameters	05/06/2018	16/08/2018	04/09/2018	
		A	A	A	
	PHYSICAL				
1	Q (cumec)	14.84	9.964	2.792	
2	Colour_Cod (-)	Brown	Brown	Clear	
3	EC_GEN (µmho/cm)	1225	775	1251	
4	Odour_Code (-)	odour free	odour free	odour free	
5	pH_GEN (pH units)	7.8	8.0	8.1	
6	TDS (mg/L)	981	622	704	
7	Temp (deg C)	29.0	25.5	26.0	
8	Turb (NTU)	0.00	148.00	22.00	
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	33.1	0.0	0.0	
2	ALK-TOT (mgCaCO3/L)	145	123	169	
3	B (mg/L)	0.06	0.08	0.05	
4	Ca (mg/L)	47	40	48	
5	Cl (mg/L)	130.9	51.8	74.2	
6	CO3 (mg/L)	39.9	0.0	0.0	
7	F (mg/L)	0.96	0.64	0.60	
8	Fe (mg/L)	0.3	1.8	0.0	
9	HCO3 (mg/L)	96	150	206	
10	K (mg/L)	0.7	0.4	0.6	
11	Mg (mg/L)	12.0	12.3	23.8	
12	Na (mg/L)	166.5	40.2	44.4	
13	NH3-N (mg N/L)	0.20	0.25	0.06	
14	NO2+NO3 (mg N/L)	3.56	2.07	1.97	
15	NO2-N (mgN/L)	0.53	0.30	0.22	
16	NO3-N (mgN/L)	3.03	1.77	1.75	
17	o-PO4-P (mg P/L)	0.090	0.200	0.300	
18	SiO2 (mg/L)	71.6	5.0	9.6	
19	SO4 (mg/L)	185.2	91.0	92.3	
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	1.7	2.5	0.8	
2	COD (mg/L)	12.4	95.6	8.4	
3	DO (mg/L)	5.0	5.5	4.9	
4	DO_SAT% (%)	65	67	60	
5	FCol-MPN (MPN/100mL)	80	20	170	
6	Tcol-MPN (MPN/100mL)	130	80	800	
	TRACE & TOXIC				
1	Cu (µg/L)	0.00	36.00	37.00	
2	Zn (µg/L)	0.05	83.10	51.60	
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	117	101	120	
2	HAR_Total (mgCaCO3/L)	167	152	219	
3	Na% (%)	68	37	31	
4	RSC (-)	0.0	0.0	0.0	
5	SAR (-)	5.6	1.4	1.3	
	PESTICIDES				

Samples not collected during July 2018 due to Drybed / no flow condition.

Water Quality Datasheet for the period : 2018-2019

Station Name : T Ramapuram (AKL50A6) **Division : Lower Krishna Divn., Hyderabad**

Local River : Hagari **River Water Analysis** **Sub-Division : Lower Tungabhadra SD, Kurnool**

S.No	Parameters	03/10/2018	01/11/2018	03/12/2018	01/01/2019	
		A	A	A	A	
	PHYSICAL					
1	Q (cumec)	28.16	14.07	17.50	1.943	
2	Colour_Cod (-)	Clear	Clear	Clear	Clear	
3	EC_GEN (µmho/cm)	1176	1679	2369	856	
4	Odour_Code (-)	odour free	odour free	odour free	odour free	
5	pH_GEN (pH units)	8.1	8.3	8.1	8.4	
6	TDS (mg/L)	800	1371		523	
7	Temp (deg C)	27.0	24.0	20.0	17.0	
8	Turb (NTU)	177.00	18.00		2.00	
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	26.2	0.0	4.9	
2	ALK-TOT (mgCaCO3/L)	195	229	216	227	
3	B (mg/L)	0.01	0.03	0.03	0.06	
4	Ca (mg/L)	41	35	27	43	
5	Cl (mg/L)	131.1	200.0	149.0	124.0	
6	CO3 (mg/L)	0.0	31.6	0.0	5.9	
7	F (mg/L)	0.53	1.13	0.83	0.84	
8	Fe (mg/L)	0.0	0.0	0.0	0.5	
9	HCO3 (mg/L)	239	215	264	265	
10	K (mg/L)	0.5	0.6	0.4	0.1	
11	Mg (mg/L)	29.1	57.7	38.9	34.2	
12	Na (mg/L)	86.2	160.2	141.2	71.2	
13	NH3-N (mg N/L)	0.00	0.10	0.03	0.09	
14	NO2+NO3 (mg N/L)	2.29	2.01	1.94	0.38	
15	NO2-N (mgN/L)	0.06	0.11	0.14	0.03	
16	NO3-N (mgN/L)	2.23	1.90	1.80	0.35	
17	o-PO4-P (mg P/L)	0.500	0.400	0.400	0.181	
18	SiO2 (mg/L)	16.3	11.6	7.5	0.7	
19	SO4 (mg/L)	3.7	260.3		22.7	
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	3.1	0.5	0.4	1.8	
2	COD (mg/L)	10.0	6.0	5.9	8.0	
3	DO (mg/L)	5.3	6.1	6.7	7.5	
4	DO_SAT% (%)	67	72	74	78	
5	FCol-MPN (MPN/100mL)	20	40	20	2200	
6	Tcol-MPN (MPN/100mL)	130	1300	130	9000	
	TRACE & TOXIC					
1	Cu (µg/L)	6.00	11.00	17.00	9.00	
2	Zn (µg/L)	3.10	13.30	4.80	29.90	
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	103	89	68	107	
2	HAR_Total (mgCaCO3/L)	224	329	230	250	
3	Na% (%)	46	52	57	38	
4	RSC (-)	0.0	0.0	0.0	0.0	
5	SAR (-)	2.5	3.9	4.1	2.0	
	PESTICIDES					

Samples not collected during February to May 2019 due to Drybed / no flow condition.

Water Quality Summary for the period : 2018-2019

Station Name : T Ramapuram (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)	366	211.8	0.000	7.398
2	EC_GEN (µmho/cm)	7	2369	775	1333
3	pH_GEN (pH units)	7	8.4	7.8	8.1
4	TDS (mg/L)	6	1371	523	834
5	Temp (deg C)	7	29.0	17.0	24.1
6	Turb (NTU)	6	177.00	0.00	61.17
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	7	33.1	0.0	9.2
2	ALK-TOT (mgCaCO3/L)	7	229	123	186
3	B (mg/L)	7	0.08	0.01	0.05
4	Ca (mg/L)	7	48	27	40
5	Cl (mg/L)	7	200.0	51.8	123
6	CO3 (mg/L)	7	39.9	0.0	11.1
7	F (mg/L)	7	1.13	0.53	0.79
8	Fe (mg/L)	7	1.8	0.0	0.4
9	HCO3 (mg/L)	7	265	96	205
10	K (mg/L)	7	0.7	0.1	0.5
11	Mg (mg/L)	7	57.7	12.0	29.7
12	Na (mg/L)	7	166.5	40.2	101.4
13	NH3-N (mg N/L)	7	0.25	0.00	0.1
14	NO2+NO3 (mg N/L)	7	3.56	0.38	2.03
15	NO2-N (mgN/L)	7	0.53	0.03	0.2
16	NO3-N (mgN/L)	7	3.03	0.35	1.83
17	o-PO4-P (mg P/L)	7	0.500	0.090	0.296
18	SiO2 (mg/L)	7	71.6	0.7	17.5
19	SO4 (mg/L)	6	260.3	3.7	109.2
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	7	3.1	0.4	1.5
2	COD (mg/L)	7	95.6	5.9	20.9
3	DO (mg/L)	7	7.5	4.9	5.9
4	DO_SAT% (%)	7	78	60	69
5	FCol-MPN (MPN/100mL)	7	2200	20	364
6	Tcol-MPN (MPN/100mL)	7	9000	80	1653
	TRACE & TOXIC				
1	Cu (µg/L)	7	37.00	0.00	16.57
2	Zn (µg/L)	7	83.10	0.05	26.55
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	7	120	68	100
2	HAR_Total (mgCaCO3/L)	7	329	152	224
3	Na% (%)	7	68	31	47
4	RSC (-)	7	0.0	0.0	0
5	SAR (-)	7	5.6	1.3	3
	PESTICIDES				

Water Quality Seasonal Average for the period: 2004-2019

Station Name : T Ramapuram (AKL50A6) **Division : Lower Krishna Divn., Hyderabad**

Local River : Hagari **River Water** **Sub-Division : Lower Tungabhadra SD, Kurnool**

S.No	Parameters	Flood				
		Jun - Oct				
		2004	2005	2006	2007	2008
	PHYSICAL					
1	Q (cumec)	56.50	47.57	25.67	21.96	56.06
2	EC_GEN (µmho/cm)	563	1157	1971	1445	1176
3	pH_GEN (pH units)	8.1	8.1	8.2	8.1	8.1
4	TDS (mg/L)					
5	Temp (deg C)	27.5	27.0	26.0	26.6	26.5
6	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	3.9	0.0	4.0	3.0
2	ALK-TOT (mgCaCO3/L)	151	189	243	238	188
3	B (mg/L)	0.00	0.00	0.00	0.00	0.00
4	Ca (mg/L)	25	53	73	70	60
5	Cl (mg/L)	48.0	142.2	247.0	185.4	167.0
6	CO3 (mg/L)	0.0	4.7	0.0	4.8	3.6
7	F (mg/L)	0.99	0.78	1.10	1.39	0.79
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	185	221	297	280	222
10	K (mg/L)	1.6	3.0	6.7	5.4	4.1
11	Mg (mg/L)	12.0	20.3	39.3	28.2	18.0
12	Na (mg/L)	69.0	120.7	325.0	239.0	181.5
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.05	0.05
14	NO2+NO3 (mg N/L)	0.01	0.01	0.00	0.35	0.01
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.01	0.01	0.00	0.35	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.001	0.001	0.001	0.001
19	SiO2 (mg/L)	15.1	13.4	18.3	17.4	16.3
20	SO4 (mg/L)	77.0	160.0	411.0	235.6	239.0
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.8	1.8	1.1	1.6	0.6
2	COD (mg/L)				23.3	28.2
3	DO (mg/L)	4.7	5.7	6.5	6.0	5.6
4	DO_SAT% (%)	59	72	81	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	Cu (µg/L)					
5	Ni (µg/L)					
6	Pb (µg/L)					
7	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	63	132	182	175	149
2	HAR_Total (mgCaCO3/L)	113	216	346	293	224
3	Na% (%)	56	55	66	63	62
4	RSC (-)	0.8	0.2	0.0	0.0	0.1
5	SAR (-)	2.8	3.6	7.5	6.0	5.1
	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: 2004-2019

Station Name : T Ramapuram (AKL50A6) **Division : Lower Krishna Divn., Hyderabad**

Local River : Hagari **River Water** **Sub-Division : Lower Tungabhadra SD, Kurnool**

S.No	Parameters	Flood				
		Jun - Oct				
		2009	2010	2011	2012	2013
	PHYSICAL					
1	Q (cumec)	225.5	45.64	7.341	61.02	18.68
2	EC_GEN (µmho/cm)	1432	1695	1794	1088	1740
3	pH_GEN (pH units)	8.1	8.2	8.2	8.0	8.2
4	TDS (mg/L)			895	696	1164
5	Temp (deg C)	26.3	25.8	26.2	25.0	25.0
6	Turb (NTU)			1.00	40.00	0.10
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	2.7	2.0	0.8	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	185	213	233	157	241
3	B (mg/L)	0.00	0.00	0.00	0.17	0.42
4	Ca (mg/L)	47	53	58	41	44
5	Cl (mg/L)	179.1	193.8	247.1	117.4	231.8
6	CO3 (mg/L)	3.2	2.4	1.0	0.0	0.0
7	F (mg/L)	0.84	0.95	1.93	0.85	0.80
8	Fe (mg/L)	0.0	0.0	0.0	0.1	0.1
9	HCO3 (mg/L)	220	255	282	192	294
10	K (mg/L)	4.4	5.2	5.6	4.4	5.5
11	Mg (mg/L)	23.0	30.6	33.9	24.1	25.3
12	Na (mg/L)	170.5	237.9	254.3	98.1	258.0
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.01	0.01
14	NO2+NO3 (mg N/L)	1.54	0.00	0.48	1.70	0.78
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	1.54	0.00	0.48	1.70	0.78
17	o-PO4-P (mg P/L)			0.612	0.361	0.440
18	P-Tot (mgP/L)	0.000	0.317	0.612		
19	SiO2 (mg/L)	14.6	15.1	15.8	7.8	13.3
20	SO4 (mg/L)	294.5	397.5	352.0	100.5	172.0
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.9	1.2	0.3	1.1	1.2
2	COD (mg/L)	49.5	22.7	31.7	27.6	2.4
3	DO (mg/L)	6.2	6.0	5.8	5.2	6.2
4	DO_SAT% (%)	77	74	71	63	75
5	FCol-MPN (MPN/100mL)	16000	5590	12058	8250	16000
6	Tcol-MPN (MPN/100mL)	16000	6690	12058	8050	16000
7	TOC (mg/L)			4.0	3.6	
	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)	118	132	146	102	110
2	HAR_Total (mgCaCO3/L)	213	260	287	202	216
3	Na% (%)	60	65	65	51	72
4	RSC (-)	0.0	0.3	0.3	0.0	0.5
5	SAR (-)	4.9	6.4	6.6	3.1	7.7
	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: 2004-2019

Station Name : T Ramapuram (AKL50A6) **Division : Lower Krishna Divn., Hyderabad**

Local River : Hagari **River Water** **Sub-Division : Lower Tungabhadra SD, Kurnool**

S.No	Parameters	Flood				
		Jun - Oct				
		2014	2015	2016	2017	2018
	PHYSICAL					
1	Q (cumec)	10.65	48.85	6.067	49.59	13.94
2	EC_GEN (µmho/cm)	1213	979	1622	530	1107
3	pH_GEN (pH units)	8.0	7.7	8.4	7.9	8.0
4	TDS (mg/L)	690	627	1094	397	777
5	Temp (deg C)	24.2	27.5	25.8	26.8	26.9
6	Turb (NTU)	214.80	64.75	98.80	251.00	86.75
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.8	0.0	5.2	2.0	8.3
2	ALK-TOT (mgCaCO3/L)	159	151	191	123	158
3	B (mg/L)	0.32	0.45		0.07	0.05
4	Ca (mg/L)	39	38	58	34	44
5	Cl (mg/L)	129.7	95.1	210.9	60.1	97.0
6	CO3 (mg/L)	1.0	0.0	6.3	2.4	10.0
7	F (mg/L)	1.02	0.91	0.79	0.62	0.68
8	Fe (mg/L)	0.1	0.1	0.1	7.1	0.5
9	HCO3 (mg/L)	192	184	220	145	173
10	K (mg/L)	4.7	4.0	5.9	0.4	0.5
11	Mg (mg/L)	22.5	21.6	33.0	17.9	19.3
12	Na (mg/L)	176.1	138.7	243.9	72.2	84.3
13	NH3-N (mg N/L)	0.02	0.01	0.01	0.06	0.13
14	NO2+NO3 (mg N/L)	1.79	1.76	2.09	5.58	2.47
15	NO2-N (mgN/L)	0.01	0.00	0.00	0.27	0.28
16	NO3-N (mgN/L)	1.78	1.76	2.08	5.31	2.19
17	o-PO4-P (mg P/L)	0.291	0.304	0.272	1.287	0.273
18	P-Tot (mgP/L)	0.304				
19	SiO2 (mg/L)	13.4	14.2	14.1	14.3	25.6
20	SO4 (mg/L)	214.0	159.0	271.8	102.7	93.0
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.0	1.7	1.4	0.8	2.0
2	COD (mg/L)	22.8	18.0	13.1	12.9	31.6
3	DO (mg/L)	5.6	5.4	5.6	5.8	5.2
4	DO_SAT% (%)	67	69	69	72	65
5	FCol-MPN (MPN/100mL)	772	5251	6412	3055	73
6	Tcol-MPN (MPN/100mL)	2260	12085	13400	3103	285
7	TOC (mg/L)		20.5			
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)				9.75	19.75
5	Ni (µg/L)					
6	Pb (µg/L)					
7	Zn (µg/L)				27.88	34.46
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	98	94	145	85	110
2	HAR_Total (mgCaCO3/L)	192	184	283	160	190
3	Na% (%)	66	61	64	46	45
4	RSC (-)	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	5.6	4.4	6.2	2.4	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: 2004-2019

Station Name : T Ramapuram (AKL50A6) **Division : Lower Krishna Divn., Hyderabad**

Local River : Hagari **River Water** **Sub-Division : Lower Tungabhadra SD, Kurnool**

S.No	Parameters	Winter				
		Nov - Feb				
		2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
	PHYSICAL					
1	Q (cumec)	14.05	41.12	64.11	59.03	40.96
2	EC_GEN (µmho/cm)	1233	1210	933	1150	1170
3	pH_GEN (pH units)	8.1	8.0	8.4	8.2	8.3
4	TDS (mg/L)					
5	Temp (deg C)	27.5	23.0	26.0	25.0	25.0
6	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	15.8	0.0	8.0
2	ALK-TOT (mgCaCO3/L)	214	210	240	220	216
3	B (mg/L)	0.00	0.01	0.00	0.00	0.00
4	Ca (mg/L)	48	60	42	69	61
5	Cl (mg/L)	134.7	141.5	92.0	137.1	131.4
6	CO3 (mg/L)	0.0	0.0	19.0	0.0	9.6
7	F (mg/L)	0.89	0.85	0.78	0.80	0.97
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	262	256	254	268	244
10	K (mg/L)	3.4		3.4	3.9	3.2
11	Mg (mg/L)	28.0	19.0	22.0	16.0	16.5
12	Na (mg/L)	143.8		155.0	185.0	149.0
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.05	0.05
14	NO2+NO3 (mg N/L)	0.01	0.01	0.00	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	0.01	0.00	0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.001	0.001	0.001	0.001
19	SiO2 (mg/L)	13.2	9.1	10.5	11.6	12.2
20	SO4 (mg/L)	253.8	193.8	148.0	110.0	161.5
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.1	0.3	0.7	1.0	0.5
2	COD (mg/L)				31.0	25.2
3	DO (mg/L)	6.3	5.1	6.7	6.6	6.5
4	DO_SAT% (%)	80	59	82	80	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	Ni (µg/L)					
6	Pb (µg/L)					
7	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	119	150	104	173	153
2	HAR_Total (mgCaCO3/L)	236	229	196	239	221
3	Na% (%)	57		63	62	59
4	RSC (-)	0.1	0.0	0.9	0.0	0.0
5	SAR (-)	4.1		4.8	5.2	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: 2004-2019

Station Name : T Ramapuram (AKL50A6) **Division : Lower Krishna Divn., Hyderabad**

Local River : Hagari **River Water** **Sub-Division : Lower Tungabhadra SD, Kurnool**

S.No	Parameters	Winter				
		Nov - Feb				
		2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
	PHYSICAL					
1	Q (cumec)	31.96	79.42	81.42	18.70	44.38
2	EC_GEN (µmho/cm)	1380	1040	1010	1360	1240
3	pH_GEN (pH units)	8.5	8.1	8.2	8.1	8.2
4	TDS (mg/L)			570	796	724
5	Temp (deg C)	27.0	25.0	27.0	25.0	26.0
6	Turb (NTU)			1.00	0.10	35.00
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	8.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	220	200	224	237	220
3	B (mg/L)	0.00	0.00	0.00	0.37	0.38
4	Ca (mg/L)	79	45	33	53	54
5	Cl (mg/L)	164.1	122.5	123.0	151.7	136.2
6	CO3 (mg/L)	9.6	0.0	0.0	0.0	0.0
7	F (mg/L)	1.08	0.69	0.82	0.79	0.74
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	249	244	273	289	268
10	K (mg/L)	3.8	4.1	3.5	1.5	4.2
11	Mg (mg/L)	22.4	24.3	19.9	31.1	21.4
12	Na (mg/L)	173.2	134.0	145.5	192.4	179.0
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.05	0.00
14	NO2+NO3 (mg N/L)	1.70	0.00	0.70	0.43	1.48
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	1.70	0.00	0.70	0.43	1.48
17	o-PO4-P (mg P/L)			0.858	0.356	0.360
18	P-Tot (mgP/L)	0.000	0.580	0.858		
19	SiO2 (mg/L)	13.1	9.2	11.7	14.0	12.4
20	SO4 (mg/L)	271.0	160.0	182.0	115.0	184.0
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.9	0.5	0.3	0.9	1.2
2	COD (mg/L)	21.7	13.8	13.0	7.7	6.5
3	DO (mg/L)	6.9	6.6	5.9	6.8	6.8
4	DO_SAT% (%)	87	80	74	82	84
5	FCol-MPN (MPN/100mL)	2800	16000	16000	2400	16000
6	Tcol-MPN (MPN/100mL)	3500	16000	16000	5000	16000
7	TOC (mg/L)			3.7	2.7	
	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)	196	112	83	132	134
2	HAR_Total (mgCaCO3/L)	290	214	165	262	223
3	Na% (%)	56	57	65	62	63
4	RSC (-)	0.0	0.0	1.2	0.0	0.0
5	SAR (-)	4.4	4.0	4.9	5.2	5.2
	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: 2004-2019

Station Name : T Ramapuram (AKL50A6) **Division : Lower Krishna Divn., Hyderabad**

Local River : Hagari **River Water** **Sub-Division : Lower Tungabhadra SD, Kurnool**

S.No	Parameters	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
	PHYSICAL					
1	Q (cumec)	19.02	12.17	8.994	13.22	11.17
2	EC_GEN (µmho/cm)	1465	3509	1310	1596	1635
3	pH_GEN (pH units)	8.2	8.3	8.3	8.0	8.3
4	TDS (mg/L)	927	874	789	1046	947
5	Temp (deg C)	22.8	24.4	25.0	24.3	20.3
6	Turb (NTU)	5.33	27.75	5.00	78.25	10.00
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	2.8	6.5	0.0	10.4
2	ALK-TOT (mgCaCO3/L)	227	230	218	198	224
3	B (mg/L)	0.25	0.01		0.08	0.04
4	Ca (mg/L)	51	50	56	66	35
5	Cl (mg/L)	171.7	178.2	136.1	198.5	157.7
6	CO3 (mg/L)	0.0	3.3	7.8	0.0	12.5
7	F (mg/L)	0.88	0.76	0.87	0.68	0.93
8	Fe (mg/L)	0.1	0.1	0.0	1.9	0.2
9	HCO3 (mg/L)	277	274	251	242	248
10	K (mg/L)	3.8	4.8	2.8	0.6	0.4
11	Mg (mg/L)	29.0	28.4	30.6	40.6	43.6
12	Na (mg/L)	156.9	209.3	171.2	214.4	124.2
13	NH3-N (mg N/L)	0.04	0.00	0.03	0.72	0.07
14	NO2+NO3 (mg N/L)	2.10	1.96	0.26	6.53	1.44
15	NO2-N (mgN/L)	0.06	0.02	0.00	0.03	0.09
16	NO3-N (mgN/L)	2.04	1.94	0.26	6.50	1.35
17	o-PO4-P (mg P/L)	0.259	0.206	0.358	0.778	0.327
18	P-Tot (mgP/L)					
19	SiO2 (mg/L)	11.1	9.5	11.1	12.6	6.6
20	SO4 (mg/L)	175.5	276.5	167.0	366.1	141.5
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.6	1.2	1.8	1.2	0.9
2	COD (mg/L)	14.0	9.9	9.2	12.7	6.6
3	DO (mg/L)	7.0	7.1	6.5	6.7	6.8
4	DO_SAT% (%)	81	84	79	80	75
5	FCol-MPN (MPN/100mL)	1858	2750	900	208	753
6	Tcol-MPN (MPN/100mL)	9100	16000	900	350	3477
7	TOC (mg/L)	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			6.75	12.33
5	Ni (µg/L)	21.12				
6	Pb (µg/L)	26.13				
7	Zn (µg/L)	6.35			54.65	16.00
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	126	125	140	164	88
2	HAR_Total (mgCaCO3/L)	247	243	268	333	269
3	Na% (%)	56	65	58	58	49
4	RSC (-)	0.2	0.2	0.0	0.0	0.0
5	SAR (-)	4.4	5.9	4.6	5.2	3.3
	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: 2004-2019

Station Name : T Ramapuram (AKL50A6) **Division : Lower Krishna Divn., Hyderabad**

Local River : Hagari **River Water** **Sub-Division : Lower Tungabhadra SD, Kurnool**

S.No	Parameters	2006	2014	2015	2016	2018
	PHYSICAL	0.351		10.39	47.89	1.420
1	Q (cumec)	2805		1875	201	4500
2	EC_GEN (µmho/cm)	8.0		7.8	7.2	7.5
3	pH_GEN (pH units)			1303		3531
4	TDS (mg/L)	26.0		27.0	26.0	22.0
5	Temp (deg C)			12.33	94.00	2.00
6	Turb (NTU)					
	CHEMICAL	0.0		0.0	0.0	0.0
1	Alk-Phen (mgCaCO3/L)	243		247	120	360
2	ALK-TOT (mgCaCO3/L)	0.01		0.40		0.06
3	B (mg/L)	92		53	38	230
4	Ca (mg/L)	39.0		251.6	35.1	687.3
5	Cl (mg/L)	0.0		0.0	0.0	0.0
6	CO3 (mg/L)	1.29		1.00	0.74	1.00
7	F (mg/L)	0.0		0.1	0.0	0.1
8	Fe (mg/L)	296		302	146	439
9	HCO3 (mg/L)	6.6		6.6	3.3	2.6
10	K (mg/L)	50.0		30.8	20.6	87.6
11	Mg (mg/L)	195.0		281.5	81.4	811.1
12	Na (mg/L)	0.00		0.02	0.02	0.12
13	NH3-N (mg N/L)	0.01		1.13	1.78	7.71
14	NO2+NO3 (mg N/L)	0.00		0.07	0.00	0.41
15	NO2-N (mgN/L)	0.01		1.07	1.78	7.30
16	NO3-N (mgN/L)			0.187	0.111	0.750
17	o-PO4-P (mg P/L)	0.001				
18	P-Tot (mgP/L)	17.5		10.6	12.0	25.5
19	SiO2 (mg/L)	355.0		388.0	1.0	907.2
20	SO4 (mg/L)					
	BIOLOGICAL/BACTERIOLOGICAL	0.6		1.3	1.3	1.3
1	BOD3-27 (mg/L)	85.0		21.8		17.5
2	COD (mg/L)	5.4		5.0	4.0	5.2
3	DO (mg/L)	67		63	49	59
4	DO_SAT% (%)			5335	20	170
5	FCol-MPN (MPN/100mL)			5427	2200	9000
6	Tcol-MPN (MPN/100mL)			43.6		
7	TOC (mg/L)					
	TRACE & TOXIC			13.81		
1	As (µg/L)			3.49		
2	Cd (µg/L)			6.51		
3	Cr (µg/L)					13.00
4	Cu (µg/L)			20.72		
5	Ni (µg/L)			29.07		
6	Pb (µg/L)			16.28		45.10
7	Zn (µg/L)					
	CHEMICAL INDICES	230		133	95	576
1	HAR_Ca (mgCaCO3/L)	438		261	181	941
2	HAR_Total (mgCaCO3/L)	49		69	49	65
3	Na% (%)	0.0		0.0	0.0	0.0
4	RSC (-)	4.1		7.6	2.6	11.5
5	SAR (-)					
	PESTICIDES	0.010				
1	Aldrin (µg/L)	0.100				
2	BHC (µg/L)	0.100				
3	DDT (µg/L)	0.072				
4	Dieldrin (µg/L)	0.100				
5	Endos (µg/L)					

Samples a not collected during 2006 to 2017 and 2019 due to Dry bed / No Flow condition.

HISTORY SHEET

			Water Year	:	**2018-2019**
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 : 2018-2019

Station Name : KELLODU (AKL50T9) **Division : Cauvery Division, Bangalore**

Local River : Vedavathi **River Water Analysis** **Sub-Division : Upper Tungabhadra SD Davangere**

S.No	Parameters	
	PHYSICAL	
1	Q (cumec)	
	CHEMICAL	**SAMPLE NOT RECEIVED FROM JUNE 2018 TO MAY 2019 DUE TO DRY BED**
	BIOLOGICAL/BACTERIOLOGICAL	
	TRACE & TOXIC	
	CHEMICAL INDICES	
	PESTICIDES	

Water Quality Seasonal Average for the period: 2005-2019

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					
	PHYSICAL	**2009**	**2010**	**2012**	**2014**	**2015**	
1	Q (cumec)						
2	EC_GEN (µmho/cm)						
3	pH_GEN (pH units)	4.681	34.86	0.682	14.17	36.25	
4	Temp (deg C)	631	606	249	378	428	
	CHEMICAL	8.1	8.0	7.9	7.7	7.9	
1	ALK-TOT (mgCaCO3/L)	22.9	23.5	26.0	27.0	27.5	
2	B (mg/L)						
3	Ca (mg/L)	237	208	81	136	122	
4	Cl (mg/L)	0.11			0.30	0.44	
5	F (mg/L)	37	22	10	26	18	
6	Fe (mg/L)	55.8	60.1	22.7	32.0	51.1	
7	HCO3 (mg/L)	0.41	0.42	0.25	0.19	0.55	
8	K (mg/L)	0.1	0.1		0.1	0.4	
9	Mg (mg/L)	289	254	98	166	149	
10	Na (mg/L)	5.4	4.6	4.2	10.5	4.7	
11	NO2+NO3 (mg N/L)	21.4	13.0	3.9	10.7	12.2	
12	NO2-N (mgN/L)	73.5	96.4	35.5	37.2	57.4	
13	NO3-N (mgN/L)	0.87	0.95	1.68	1.06	0.92	
14	o-PO4-P (mg P/L)	0.00	0.03	0.01	0.01	0.03	
15	SiO2 (mg/L)	0.87	0.92	1.67	1.05	0.89	
16	SO4 (mg/L)	0.000	0.007		0.031	0.377	
	BIOLOGICAL/BACTERIOLOGICAL	19.4	13.2		7.3	12.3	
	TRACE & TOXIC	14.1	15.8	14.5	17.9	24.2	
1	As (µg/L)						
2	Cd (µg/L)						
3	Cr (µg/L)			2.1			
4	Cu (µg/L)			0.0			
5	Ni (µg/L)			10.0			
	CHEMICAL INDICES			14.4			
1	HAR_Ca (mgCaCO3/L)			4.5			
2	HAR_Total (mgCaCO3/L)						
3	Na% (%)	92	55	24	64	44	
4	RSC (-)	181	109	40	109	95	
5	SAR (-)	46	64	63	40	51	
	PESTICIDES	1.1	2.0	0.8	0.6	0.6	

Samples not collected during flood season 2004 to 2008,2011,2013,2016,2017,and 2018due to Drybed / No flow condition.

Water Quality Seasonal Average for the period: 2005-2019

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						
		2005-2006	2009-2010	2010-2011	2011-2012	2014-2015	2015-2016	
	PHYSICAL							
1	Q (cumec)	3.440	3.822	11.04	1.822	2.103	1.935	
2	EC_GEN (µmho/cm)	594	802	847	613	493	761	
3	pH_GEN (pH units)	8.1	8.1	8.2	7.6	8.4	8.2	
4	Temp (deg C)	25.0	23.5	23.5	23.0	28.0	27.8	
	CHEMICAL							
1	ALK-TOT (mgCaCO3/L)	10	280	297	206	181	258	
2	B (mg/L)		0.17	0.11		0.31	0.31	
3	Ca (mg/L)	14	37	38	22	40	35	
4	Cl (mg/L)	77.3	82.0	84.7	68.2	49.3	95.3	
5	F (mg/L)	0.38	0.53	0.61		0.36	0.51	
6	Fe (mg/L)	1.9	0.0	0.0	0.0	0.0	0.4	
7	HCO3 (mg/L)	12	342	362	251	221	314	
8	K (mg/L)	5.2	4.7	5.7	2.5	12.3	4.3	
9	Mg (mg/L)	10.8	24.6	28.5	10.7	15.6	22.4	
10	Na (mg/L)	59.0	103.8	110.5	101.2	37.5	101.1	
11	NO2+NO3 (mg N/L)	18.91	0.84	1.03	1.08	1.22	1.03	
12	NO2-N (mgN/L)	9.38	0.03	0.00	0.00	0.00	0.01	
13	NO3-N (mgN/L)	9.53	0.81	1.03	1.08	1.22	1.02	
14	o-PO4-P (mg P/L)	0.052	0.007	0.003	0.000	0.000	0.450	
15	SiO2 (mg/L)	1.8	22.6	18.2	14.1	5.6	20.0	
16	SO4 (mg/L)	11.4	15.8	25.9	21.2	6.8	20.0	
	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)	34	93	96	56	100	88	
2	HAR_Total (mgCaCO3/L)	79	196	215	101	165	181	
3	Na% (%)	60	53	51	68	31	54	
4	RSC (-)	0.0	1.7	1.7	2.1	0.4	1.6	
5	SAR (-)	2.9	3.2	3.2	4.4	1.3	3.3	
	PESTICIDES							

Samples not collected during Winter season 2004-2005,2006-2007,2007-2008,2008-2009,2012-2013,2013-2014 ,2016-2017,2017-2018and 2018-2019 due to Drybed / No flow condition.

Water Quality Seasonal Average for the period: 2005-2019

Station Name : KELLODU (AKL50T9) **Division : Cauvery Division, Bangalore**

Local River : Vedavathi **River Water** **Sub-Division : Upper Tungabhadra SD Davangere**

S.No	Parameters	2008	
	PHYSICAL		
1	Q (cumec)	0.402	
2	EC_GEN (µmho/cm)	175	
3	pH_GEN (pH units)	8.2	
4	Temp (deg C)	24.5	
	CHEMICAL		
1	ALK-TOT (mgCaCO3/L)	29	
2	B (mg/L)	0.00	
3	Ca (mg/L)	6	
4	Cl (mg/L)	33.4	
5	F (mg/L)	0.11	
6	Fe (mg/L)	0.4	
7	HCO3 (mg/L)	35	
8	K (mg/L)	3.1	
9	Mg (mg/L)	3.9	
10	Na (mg/L)	25.8	
11	NO2+NO3 (mg N/L)	0.78	
12	NO2-N (mgN/L)	0.00	
13	NO3-N (mgN/L)	0.78	
14	o-PO4-P (mg P/L)	0.010	
15	SiO2 (mg/L)	12.6	
16	SO4 (mg/L)	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)	14	
2	HAR_Total (mgCaCO3/L)	30	
3	Na% (%)	62	
4	RSC (-)	0.0	
5	SAR (-)	2.0	
	PESTICIDES		

Samples not collected during Summer season 2004 to 2008,and from 2009 to 2019due to Drybed / No flow condition.

HISTORY SHEET

			Water Year	:	**2018-2019**
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 : 2018-2019

Station Name : HOOVINAHOLE (HOOVINAHOLE) **Division : Cauvery Division, Bangalore**

Local River : Swarnamukhi **River Water Analysis** **Sub-Division : Upper Tungabhadra SD Davangere**

S.No	Parameters	
	PHYSICAL	
1	Q (cumec)	
	CHEMICAL	**No sample received from June 2018 to May 2019 due to DRY BED**
	BIOLOGICAL/BACTERIOLOGICAL	
	TRACE & TOXIC	
	CHEMICAL INDICES	
	PESTICIDES	

Water Quality Seasonal Average for the period: 2008-2019

Station Name : HOOVINAHOLE (HOOVINAHOLE) **Division : Cauvery Division, Bangalore**

Local River : Swarnamukhi **River Water Sub-Division : Upper Tungabhadra SD Davangere**

S.No	Parameters			
		2009	2010	2018
				Samples not collected during flood season 2008 and from 2011 to 2018 due to Drybed / no flow condition.
	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			

Water Quality Seasonal Average for the period: 2008-2019

Station Name : HOOVINAHOLE (HOOVINAHOLE) **Division : Cauvery Division, Bangalore**

Local River : Swarnamukhi **River Wate Sub-Division : Upper Tungabhadra SD Davangere**

S.No	Parameters	Winter					
		Nov - Feb					
		2008-2009	2009-2010	2010-2011	2015-2016	2018-2019	
						Samples not collected during Winter season 2011-2012 to 2014-2015 2016-2017,and 2017-2018,2018-2019 and from 2011 to 2018 due to Drybed / no flow condition.	Samples not collected during Summer season 2009 to 2019 due to Drybed / no flow condition.
	PHYSICAL						
1	Q (cumec)	3.745	0.952	1.406	6.473		
2	EC_GEN (µmho/cm)	682	1610	1453	441		
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/BACTERIOLOC						
	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	:	**2018-2019**
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 : 2018-2019

Station Name : MAROL (AKLA0C4) **Division : Cauvery Division, Bangalore**

Local River : Varada **River Water Analysis Sub Division : Upper Tungabhadra SD Davangere**

S.No	Parameters	02/07/2018	01/08/2018	03/09/2018	01/05/2019
		A	A	A	A
	PHYSICAL				
1	Q (cumec)	82.36	96.01	118.3	
2	Colour_Cod (-)	Light Brown	Light Brown	Clear	SAMPLE NOT collected during june,and from October to May months due to Drybed / No flow condition.
3	EC_GEN (µmho/cm)	118	102	93	
4	Odour_Code (-)	odour free	odour free	odour free	
5	pH_GEN (pH units)	7.4	7.7	7.5	
6	TDS (mg/L)	90	68	52	
7	Temp (deg C)	25.0	25.0	26.0	
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	
2	ALK-TOT (mgCaCO3/L)	44	26	25	
3	B (mg/L)	0.00	0.08	0.00	
4	Ca (mg/L)	10	10	10	
5	Cl (mg/L)	11.7	13.5	11.4	
6	CO3 (mg/L)	0.0	0.0	0.0	
7	F (mg/L)	0.06	0.06	0.04	
8	Fe (mg/L)	0.1	0.6	0.8	
9	HCO3 (mg/L)	54	32	30	
10	K (mg/L)	1.0	1.2	1.3	
11	Mg (mg/L)	4.9	1.9	3.4	
12	Na (mg/L)	7.0	8.6	4.7	
13	NO2+NO3 (mg N/L)	1.22	0.29	0.17	
14	NO2-N (mgN/L)	0.00	0.01	0.00	
15	NO3-N (mgN/L)	1.22	0.28	0.17	
16	o-PO4-P (mg P/L)	0.072	0.000	0.000	
17	SiO2 (mg/L)	7.8	9.9	3.8	
18	SO4 (mg/L)	1.0	9.0	4.8	
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	1.1	3.0	2.1	
2	COD (mg/L)	13.0	12.0	5.0	
3	DO (mg/L)	5.0	6.2	6.8	
4	DO_SAT% (%)	61	76	84	
5	FCol-MPN (MPN/100mL)	4400	46000	11000	
6	Tcol-MPN (MPN/100mL)	7000	80000	22000	
	TRACE & TOXIC				
1	As (µg/L)		1.9		
2	Cd (µg/L)		0.3		
3	Cr (µg/L)		14.9		
4	Cu (µg/L)		0.6		
5	Ni (µg/L)		3.9		
6	Pb (µg/L)		1.1		
7	Zn (µg/L)		8.4		
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	24	24	26	
2	HAR_Total (mgCaCO3/L)	44	32	40	
3	Na% (%)	25	36	20	
4	RSC (-)	0.0	0.0	0.0	
5	SAR (-)	0.5	0.7	0.3	
	PESTICIDES				

Water Quality Summary for the period : 2018-2019

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	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	365	1025	0.000	50.28
2	EC_GEN (µmho/cm)	3	118	93	104
3	pH_GEN (pH units)	3	7.7	7.4	7.5
4	TDS (mg/L)	3	90	52	70
5	Temp (deg C)	3	26.0	25.0	25.3
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	3	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	3	44	25	32
3	B (mg/L)	3	0.08	0.00	0.03
4	Ca (mg/L)	3	10	10	10
5	Cl (mg/L)	3	13.5	11.4	12.2
6	CO3 (mg/L)	3	0.0	0.0	0
7	F (mg/L)	3	0.06	0.04	0.05
8	Fe (mg/L)	3	0.8	0.1	0.5
9	HCO3 (mg/L)	3	54	30	39
10	K (mg/L)	3	1.3	1.0	1.2
11	Mg (mg/L)	3	4.9	1.9	3.4
12	Na (mg/L)	3	8.6	4.7	6.8
13	NO2+NO3 (mg N/L)	3	1.22	0.17	0.56
14	NO2-N (mgN/L)	3	0.01	0.00	0
15	NO3-N (mgN/L)	3	1.22	0.17	0.56
16	o-PO4-P (mg P/L)	3	0.072	0.000	0.024
17	SiO2 (mg/L)	3	9.9	3.8	7.1
18	SO4 (mg/L)	3	9.0	1.0	4.9
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	3	3.0	1.1	2.1
2	COD (mg/L)	3	13.0	5.0	10
3	DO (mg/L)	3	6.8	5.0	6
4	DO_SAT% (%)	3	84	61	73
5	FCol-MPN (MPN/100mL)	3	46000	4400	20467
6	Tcol-MPN (MPN/100mL)	3	80000	7000	36333
	TRACE & TOXIC				
1	As (µg/L)	1	1.9	1.9	1.9
2	Cd (µg/L)	1	0.3	0.3	0.3
3	Cr (µg/L)	1	14.9	14.9	14.9
4	Cu (µg/L)	1	0.6	0.6	0.6
5	Ni (µg/L)	1	3.9	3.9	3.9
6	Pb (µg/L)	1	1.1	1.1	1.1
7	Zn (µg/L)	1	8.4	8.4	8.4
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	3	26	24	25
2	HAR_Total (mgCaCO3/L)	3	44	32	39
3	Na% (%)	3	36	20	27
4	RSC (-)	3	0.0	0.0	0
5	SAR (-)	3	0.7	0.3	0.5
	PESTICIDES				

Water Quality Seasonal Average for the period: 2004-2019

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				
		2004	2005	2006	2007	2008
	PHYSICAL					
1	Q (cumec)	93.45	129.9	189.5	267.3	160.3
2	EC_GEN (µmho/cm)	141	101	267	247	383
3	pH_FLD (pH units)					
4	pH_GEN (pH units)	7.6	7.5	7.6	7.8	7.9
5	TDS (mg/L)					
6	Temp (deg C)	26.1	26.0	26.3	25.6	25.5
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	50	79	79	65	79
2	B (mg/L)		0.28	0.00	0.10	0.39
3	Ca (mg/L)	10	18	12	17	23
4	Cl (mg/L)	18.1	84.8	28.5	30.1	30.4
5	F (mg/L)	0.22	0.12	0.00	0.13	0.19
6	Fe (mg/L)		0.1	0.0	0.2	0.1
7	HCO3 (mg/L)	46	96	96	79	96
8	K (mg/L)	1.3	2.4	31.0	1.5	1.9
9	Mg (mg/L)	6.1	8.9	5.2	6.6	7.0
10	Na (mg/L)	13.1	59.9	23.1	24.1	21.7
11	NO2+NO3 (mg N/L)	3.31		3.45	0.87	1.02
12	NO2-N (mgN/L)	1.85		0.00	0.04	0.04
13	NO3-N (mgN/L)	1.46	0.10	3.45	0.82	0.98
14	o-PO4-P (mg P/L)	0.000	0.017	0.000	0.000	0.000
15	SiO2 (mg/L)	6.1	9.0	1.3	13.7	12.0
16	SO4 (mg/L)	1.4	1.6	1.3	8.8	13.2
	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)					
	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)	24	46	31	42	58
2	HAR_Total (mgCaCO3/L)	49	83	53	70	87
3	Na% (%)	37	63	36	35	32
4	RSC (-)	0.0	0.2	0.5	0.0	0.0
5	SAR (-)	0.8	4.6	1.7	1.1	0.9
	PESTICIDES					

Water Quality Seasonal Average for the period: 2004-2019

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				
		2009	2010	2011	2012	2013
	PHYSICAL					
1	Q (cumec)	269.1	290.1	217.4	163.9	213.1
2	EC_GEN (µmho/cm)	233	111	129	101	195
3	pH_FLD (pH units)					
4	pH_GEN (pH units)	7.6	7.5	7.1	7.3	7.3
5	TDS (mg/L)					
6	Temp (deg C)	23.9	24.4	24.8	26.5	26.5
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	69	34	40	29	65
2	B (mg/L)	0.05				0.01
3	Ca (mg/L)	17	9	10	7	15
4	Cl (mg/L)	24.4	12.0	14.1	12.0	17.9
5	F (mg/L)	0.17	0.15	0.07	0.07	0.21
6	Fe (mg/L)	0.3	0.4	0.5		0.4
7	HCO3 (mg/L)	84	41	48	33	79
8	K (mg/L)	1.9	1.2	1.1	1.0	1.5
9	Mg (mg/L)	6.6	4.1	4.6	3.2	4.1
10	Na (mg/L)	23.2	8.0	9.4	7.8	20.9
11	NO2+NO3 (mg N/L)	1.08	0.75	0.90	1.08	1.78
12	NO2-N (mgN/L)	0.05	0.01	0.01	0.01	0.02
13	NO3-N (mgN/L)	1.03	0.73	0.89	1.06	1.76
14	o-PO4-P (mg P/L)	0.010	0.008	0.000		0.090
15	SiO2 (mg/L)	8.7	8.3	7.6		8.4
16	SO4 (mg/L)	11.8	5.5	6.3	5.4	9.1
	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)					
	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)	43	23	26	19	38
2	HAR_Total (mgCaCO3/L)	70	40	45	32	55
3	Na% (%)	33	29	30	32	37
4	RSC (-)	0.0	0.0	0.0	0.0	0.3
5	SAR (-)	1.0	0.5	0.6	0.6	1.0
	PESTICIDES					

Water Quality Seasonal Average for the period: 2004-2019

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				
		2014	2015	2016	2017	2018
	PHYSICAL					
1	Q (cumec)	401.0	64.26	13.71	75.23	59.33
2	EC_GEN (µmho/cm)	150	121	110	217	104
3	pH_FLD (pH units)					
4	pH_GEN (pH units)	7.2	7.3	7.2	7.4	7.5
5	TDS (mg/L)			66	143	70
6	Temp (deg C)	26.0	26.8	26.0	26.0	25.3
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	42	32	30	52	32
2	B (mg/L)	0.10	0.60	0.07	0.45	0.03
3	Ca (mg/L)	12	10	9	12	10
4	Cl (mg/L)	16.1	15.4	15.6	36.8	12.2
5	F (mg/L)	0.11	0.11		0.49	0.05
6	Fe (mg/L)	0.5	0.4	0.4	0.1	0.5
7	HCO3 (mg/L)	51	39	36	63	39
8	K (mg/L)	1.4	1.2	1.1	1.4	1.2
9	Mg (mg/L)	5.2	4.6	5.8	6.1	3.4
10	Na (mg/L)	10.2	6.8	4.2	27.5	6.8
11	NO2+NO3 (mg N/L)	1.95	0.71	1.00	1.41	0.56
12	NO2-N (mgN/L)	0.03	0.01	0.01	0.02	0.00
13	NO3-N (mgN/L)	1.91	0.69	0.99	1.40	0.56
14	o-PO4-P (mg P/L)	0.038	0.191	0.057	0.110	0.024
15	SiO2 (mg/L)	8.3	12.3	19.7	9.2	7.1
16	SO4 (mg/L)	7.8	8.0	3.8	8.5	4.9
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)				2.1	2.1
2	COD (mg/L)					10.0
3	DO (mg/L)				5.4	6.0
4	DO_SAT% (%)				66	73
5	FCol-MPN (MPN/100mL)					20467
6	Tcol-MPN (MPN/100mL)					36333
	TRACE & TOXIC					
1	As (µg/L)				3.0	1.9
2	Cd (µg/L)				0.0	0.3
3	Cr (µg/L)				12.0	14.9
4	Cu (µg/L)				3.0	0.6
5	Ni (µg/L)					3.9
6	Pb (µg/L)				2.0	1.1
7	Zn (µg/L)				6.0	8.4
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	31	25	24	29	25
2	HAR_Total (mgCaCO3/L)	52	44	48	55	39
3	Na% (%)	27	24	17	42	27
4	RSC (-)	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.6	0.4	0.3	1.5	0.5
	PESTICIDES					

Water Quality Seasonal Average for the period: 2004-2019

Station Name : MAROL (AKLA0C4) **Division : Cauvery Division, Bangalore**

Local River : Varada **River Water Sub-Division : Upper Tungabhadra SD Davangere**

S.No	Parameters	Winter			
		Jun - Oct			
		2005-2006	2006-2007	2007-2008	2010-2011
	PHYSICAL				
1	Q (cumec)	33.83	174.1	85.82	23.03
2	EC_GEN (µmho/cm)	160	272	155	283
3	pH_FLD (pH units)				
4	pH_GEN (pH units)	7.7	8.2	7.6	7.8
5	TDS (mg/L)				
6	Temp (deg C)	25.5	26.0	25.5	25.0
	CHEMICAL				
1	ALK-TOT (mgCaCO3/L)	79	21	24	76
2	B (mg/L)	0.29	0.00	0.02	0.03
3	Ca (mg/L)	14	16	6	20
4	Cl (mg/L)	79.0	24.1	31.2	34.6
5	F (mg/L)	0.15	0.00	0.00	0.10
6	Fe (mg/L)	0.1	0.0	0.0	0.1
7	HCO3 (mg/L)	96	26	29	93
8	K (mg/L)	1.6	31.5	0.4	1.4
9	Mg (mg/L)	7.6	6.6	3.4	9.2
10	Na (mg/L)	60.7	19.8	22.1	23.0
11	NO2+NO3 (mg N/L)		0.31	0.13	1.07
12	NO2-N (mgN/L)		0.00	0.00	0.01
13	NO3-N (mgN/L)		0.31	0.13	1.06
14	o-PO4-P (mg P/L)	0.017	0.000	0.000	0.000
15	SiO2 (mg/L)	2.6	0.6	16.2	10.5
16	SO4 (mg/L)	1.9	81.6	1.9	14.2
	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)				
	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)	35	39	15	50
2	HAR_Total (mgCaCO3/L)	67	66	29	88
3	Na% (%)	66	29	62	36
4	RSC (-)	0.2	0.0	0.0	0.0
5	SAR (-)	3.2	1.1	1.8	1.1
	PESTICIDES				

Water Quality Seasonal Average for the period: 2004-2019

Station Name : MAROL (AKLA0C4) **Division : Cauvery Division, Bangalore**

Local River : Varada **River Water Sub-Division : Upper Tungabhadra SD Davangere**

S.No	Parameters	Winter			
		Jun - Oct			
		2011-2012	2012-2013	2013-2014	2014-2015
	PHYSICAL				
1	Q (cumec)	72.23	11.05	95.09	184.3
2	EC_GEN (µmho/cm)	241	215	276	259
3	pH_FLD (pH units)				
4	pH_GEN (pH units)	7.2	7.6	7.6	8.0
5	TDS (mg/L)				
6	Temp (deg C)	25.0	26.0	27.5	26.5
	CHEMICAL				
1	ALK-TOT (mgCaCO3/L)	77	69	85	77
2	B (mg/L)			0.01	0.21
3	Ca (mg/L)	18	14	24	22
4	Cl (mg/L)	27.5	22.0	32.7	37.3
5	F (mg/L)			0.17	0.17
6	Fe (mg/L)	0.0		0.1	0.0
7	HCO3 (mg/L)	94	84	103	93
8	K (mg/L)	1.3	1.0	1.5	5.0
9	Mg (mg/L)	6.8	5.8	5.8	8.7
10	Na (mg/L)	19.5	19.5	25.7	16.0
11	NO2+NO3 (mg N/L)	1.16	1.13	1.53	1.57
12	NO2-N (mgN/L)	0.01	0.03	0.11	0.01
13	NO3-N (mgN/L)	1.15	1.11	1.42	1.56
14	o-PO4-P (mg P/L)	0.047		0.021	0.000
15	SiO2 (mg/L)	10.2		9.2	8.3
16	SO4 (mg/L)	9.1	5.5	5.1	4.4
	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)				
	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)	46	36	60	56
2	HAR_Total (mgCaCO3/L)	74	60	84	92
3	Na% (%)	36	41	39	26
4	RSC (-)	0.1	0.2	0.0	0.0
5	SAR (-)	1.0	1.1	1.2	0.7
	PESTICIDES				

HISTORY SHEET

			Water Year	:	**2018-2019**
Site	:	**HARALAHALLI**	**Code**	:	**AKL00S8**
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 : 2018-2019

Station Name : HARALAHALLI (AKL00S8) **Division : Cauvery Division, Bangalore**

Local River : Tungabhadra **River Water** **Sub-Division : Upper Tungabhadra SD Davangere**

S.No	Parameters	02/07/2018	01/08/2018	03/09/2018	01/11/2018
		A	A	A	A
	PHYSICAL				
1	Q (cumec)	256.3	430.1	401.9	28.46
2	Colour_Cod (-)	Light Brown	SAMPLE RECEIVED ONLY FOR TRACE AND TOXIC METAL ANALYSIS	Light Brown	Clear
3	EC_GEN (µmho/cm)	132		170	490
4	Odour_Code (-)	odour free		odour free	odour free
5	pH_GEN (pH units)	7.3		7.4	7.7
6	TDS (mg/L)	76		86	268
7	Temp (deg C)	25.0		25.0	24.5
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0		0.0	0.0
2	ALK-TOT (mgCaCO3/L)	35		53	146
3	B (mg/L)	0.00		0.00	0.24
4	Ca (mg/L)	11		18	27
5	Cl (mg/L)	15.6		20.9	58.2
6	CO3 (mg/L)	0.0		0.0	0.0
7	F (mg/L)	0.08		0.13	0.36
8	Fe (mg/L)	0.5		0.0	0.0
9	HCO3 (mg/L)	43		64	179
10	K (mg/L)	1.9		2.1	3.3
11	Mg (mg/L)	5.8		3.9	20.4
12	Na (mg/L)	7.9		10.4	58.3
13	NO2+NO3 (mg N/L)	1.33		0.13	0.43
14	NO2-N (mgN/L)	0.01		0.00	0.00
15	NO3-N (mgN/L)	1.32		0.13	0.43
16	o-PO4-P (mg P/L)	0.031		0.000	0.000
17	SiO2 (mg/L)	10.2		5.4	9.7
18	SO4 (mg/L)	12.3		7.7	27.7
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	1.3		1.0	1.0
2	COD (mg/L)	18.0		17.0	27.0
3	DO (mg/L)	7.4		6.4	7.8
4	DO_SAT% (%)	90		78	93
5	FCol-MPN (MPN/100mL)	10800		3300	90
6	Tcol-MPN (MPN/100mL)	32000		6600	156
	TRACE & TOXIC				
1	As (µg/L)		0.3		
2	Cd (µg/L)		0.2		
3	Cr (µg/L)		26.7		
4	Cu (µg/L)		1.1		
5	Ni (µg/L)		1.3		
6	Pb (µg/L)		0.3		
7	Zn (µg/L)		9.8		
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	28		44	68
2	HAR_Total (mgCaCO3/L)	52		60	153
3	Na% (%)	24		27	45
4	RSC (-)	0.0		0.0	0.0
5	SAR (-)	0.5		0.6	2.1
	PESTICIDES				

Water Quality Datasheet for the period : 2018-2019

Station Name : HARALAHALLI (AKL00S8) **Division : Cauvery Division, Bangalore**

Local River : Tungabhadra **River Water** **Sub-Division : Upper Tungabhadra SD Davangere**

S.No	Parameters	01/01/2019	01/03/2019	01/04/2019
		A	A	A
	PHYSICAL			
1	Q (cumec)	0.000	0.000	26.09
2	Colour_Cod (-)	SAMPLE NOT RECEIVED DUE TO NO FLOW	SAMPLE NOT RECEIVED DUE TO NO FLOW	**SAMPLE RECEIVED ONLY FOR TRACE AND TOXIC METAL ANALYSIS**
3	EC_GEN (µmho/cm)			
4	Odour_Code (-)			
5	pH_GEN (pH units)			
6	TDS (mg/L)			
7	Temp (deg C)			
	CHEMICAL			
1	Alk-Phen (mgCaCO3/L)			
2	ALK-TOT (mgCaCO3/L)			
3	B (mg/L)			
4	Ca (mg/L)			
5	Cl (mg/L)			
6	CO3 (mg/L)			
7	F (mg/L)			
8	Fe (mg/L)			
9	HCO3 (mg/L)			
10	K (mg/L)			
11	Mg (mg/L)			
12	Na (mg/L)			
13	NO2+NO3 (mg N/L)			
14	NO2-N (mgN/L)			
15	NO3-N (mgN/L)			
16	o-PO4-P (mg P/L)			
17	SiO2 (mg/L)			
18	SO4 (mg/L)			
	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)			
	TRACE & TOXIC			
1	As (µg/L)			2.0
2	Cd (µg/L)			0.0
3	Cr (µg/L)			0.6
4	Cu (µg/L)			0.3
5	Ni (µg/L)			4.3
6	Pb (µg/L)			2.8
7	Zn (µg/L)			5.4
	CHEMICAL INDICES			
1	HAR_Ca (mgCaCO3/L)			
2	HAR_Total (mgCaCO3/L)			
3	Na% (%)			
4	RSC (-)			
5	SAR (-)			
	PESTICIDES			

Water Quality Summary for the period : 2018-2019

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)	365	6048	0.000	232.9
2	EC_GEN (µmho/cm)	3	490	132	264
3	pH_GEN (pH units)	3	7.7	7.3	7.5
4	TDS (mg/L)	3	268	76	143
5	Temp (deg C)	3	25.0	24.5	24.8
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	3	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	3	146	35	78
3	B (mg/L)	3	0.24	0.00	0.08
4	Ca (mg/L)	3	27	11	19
5	Cl (mg/L)	3	58.2	15.6	31.6
6	CO3 (mg/L)	3	0.0	0.0	0
7	F (mg/L)	3	0.36	0.08	0.19
8	Fe (mg/L)	3	0.5	0.0	0.2
9	HCO3 (mg/L)	3	179	43	95
10	K (mg/L)	3	3.3	1.9	2.4
11	Mg (mg/L)	3	20.4	3.9	10
12	Na (mg/L)	3	58.3	7.9	25.6
13	NO2+NO3 (mg N/L)	3	1.33	0.13	0.63
14	NO2-N (mgN/L)	3	0.01	0.00	0
15	NO3-N (mgN/L)	3	1.32	0.13	0.63
16	o-PO4-P (mg P/L)	3	0.031	0.000	0.01
17	SiO2 (mg/L)	3	10.2	5.4	8.4
18	SO4 (mg/L)	3	27.7	7.7	15.9
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	3	1.3	1.0	1.1
2	COD (mg/L)	3	27.0	17.0	20.7
3	DO (mg/L)	3	7.8	6.4	7.2
4	DO_SAT% (%)	3	93	78	87
5	FCol-MPN (MPN/100mL)	3	10800	90	4730
6	Tcol-MPN (MPN/100mL)	3	32000	156	12919
	TRACE & TOXIC				
1	As (µg/L)	3	2.0	0.3	0.9
2	Cd (µg/L)	3	0.2	0.0	0.1
3	Cr (µg/L)	3	92.7	0.6	40
4	Cu (µg/L)	3	1.1	0.3	0.6
5	Ni (µg/L)	3	6.8	1.3	4.1
6	Pb (µg/L)	3	2.8	0.3	1.3
7	Zn (µg/L)	3	9.8	4.4	6.5
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	3	68	28	47
2	HAR_Total (mgCaCO3/L)	3	153	52	89
3	Na% (%)	3	45	24	32
4	RSC (-)	3	0.0	0.0	0
5	SAR (-)	3	2.1	0.5	1
	PESTICIDES				

Water Quality Seasonal Average for the period: 2004-2019

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				
		2004	2005	2006	2007	2008
	PHYSICAL					
1	Q (cumec)	201.8	544.1	440.6	725.0	420.2
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	143	101	377	251	233
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	7.3	7.3	7.3	7.4	7.9
6	TDS (mg/L)					
7	Temp (deg C)	27.0	27.3	25.5	25.2	26.0
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	26	41	128	63	58
2	B (mg/L)		0.20	0.00	0.02	
3	Ca (mg/L)	17	5	20	17	17
4	Cl (mg/L)	22.9	65.7	43.2	32.9	30.4
5	F (mg/L)	0.05	0.50	0.00	0.27	0.12
6	Fe (mg/L)	0.0	0.4	0.0	0.3	
7	HCO3 (mg/L)	31	50	156	77	70
8	K (mg/L)	1.8	24.4	34.6	1.7	2.6
9	Mg (mg/L)	12.8	2.4	11.4	7.2	4.4
10	Na (mg/L)	14.9	49.0	31.4	24.7	20.7
11	NO2+NO3 (mg N/L)	14.50	0.13	0.17	0.59	1.06
12	NO2-N (mgN/L)	1.50	0.06	0.00	0.02	0.01
13	NO3-N (mgN/L)	8.39	0.06	0.17	0.57	1.05
14	o-PO4-P (mg P/L)	0.006	0.014	0.000	0.023	
15	SiO2 (mg/L)	20.0	14.6	1.4	11.4	
16	SO4 (mg/L)	26.8	13.4	10.0	9.7	12.4
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)		1.0			
2	COD (mg/L)					
3	DO (mg/L)		6.8			
4	DO_SAT% (%)		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)	43	14	49	42	42
2	HAR_Total (mgCaCO3/L)	96	24	97	72	60
3	Na% (%)	25	59	33	41	40
4	RSC (-)	0.0	0.3	0.6	0.0	0.0
5	SAR (-)	0.7	5.7	1.5	1.2	1.1
	PESTICIDES					

Water Quality Seasonal Average for the period: 2004-2019

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				
		2009	2010	2011	2012	2013
	PHYSICAL					
1	Q (cumec)	199.6	692.3	770.9	393.0	1097
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	253	136	95	109	138
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	7.8	7.3	6.6	7.3	7.2
6	TDS (mg/L)					
7	Temp (deg C)	25.5	26.0	26.0	25.8	25.3
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	71	41	28	31	38
2	B (mg/L)	0.02				0.02
3	Ca (mg/L)	17	10	6	8	10
4	Cl (mg/L)	26.3	14.4	9.9	13.0	16.9
5	F (mg/L)	0.19	0.14	0.06	0.08	0.06
6	Fe (mg/L)	0.1	0.1	0.2		0.1
7	HCO3 (mg/L)	87	50	34	37	46
8	K (mg/L)	2.6	1.5	1.2	1.3	1.5
9	Mg (mg/L)	7.3	4.9	3.4	3.2	4.9
10	Na (mg/L)	27.1	12.1	7.5	9.4	10.5
11	NO2+NO3 (mg N/L)	1.03	0.95	0.76	1.15	1.00
12	NO2-N (mgN/L)	0.01	0.01	0.01	0.01	0.01
13	NO3-N (mgN/L)	1.02	0.93	0.74	1.14	0.99
14	o-PO4-P (mg P/L)	0.021	0.021	0.000		0.067
15	SiO2 (mg/L)	11.8	12.4	8.1		10.1
16	SO4 (mg/L)	12.6	7.9	6.5	5.5	8.4
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)				0.7	0.4
2	COD (mg/L)					
3	DO (mg/L)				6.0	5.9
4	DO_SAT% (%)				73	71
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
	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)	42	24	16	20	26
2	HAR_Total (mgCaCO3/L)	72	44	30	33	46
3	Na% (%)	43	36	34	35	31
4	RSC (-)	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	1.3	0.8	0.6	0.7	0.7
	PESTICIDES					

Water Quality Seasonal Average for the period: 2004-2019

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				
		2014	2015	2016	2017	2018
	PHYSICAL					
1	Q (cumec)	478.3	170.1	447.5	168.6	362.8
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	189	332	186	116	151
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	7.5	7.3	6.5	7.2	7.4
6	TDS (mg/L)			108	77	81
7	Temp (deg C)	25.0	25.0	24.5	24.3	25.0
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	52	75	47	34	44
2	B (mg/L)	0.14	0.99	0.16	0.11	0.00
3	Ca (mg/L)	13	21	17	11	14
4	Cl (mg/L)	24.7	42.2	24.1	11.9	18.3
5	F (mg/L)	0.15	0.26		0.08	0.10
6	Fe (mg/L)	0.1	0.3	0.3	0.2	0.2
7	HCO3 (mg/L)	63	92	58	41	54
8	K (mg/L)	1.7	4.6	2.2	1.6	2.0
9	Mg (mg/L)	6.3	8.3	8.3	3.8	4.9
10	Na (mg/L)	17.3	32.5	7.3	7.3	9.2
11	NO2+NO3 (mg N/L)	0.98	0.98	1.58	0.80	0.73
12	NO2-N (mgN/L)	0.03	0.01	0.02	0.01	0.01
13	NO3-N (mgN/L)	0.95	0.97	1.56	0.78	0.72
14	o-PO4-P (mg P/L)	0.031	0.129	0.000	0.000	0.016
15	SiO2 (mg/L)	6.5	13.1	14.7	5.3	7.8
16	SO4 (mg/L)	5.8	25.8	9.4	6.0	10.0
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.1	0.4	0.6	0.9	1.1
2	COD (mg/L)					17.5
3	DO (mg/L)	5.4	4.9	7.5	5.6	6.9
4	DO_SAT% (%)	65	59	89	67	84
5	FCol-MPN (MPN/100mL)					7050
6	Tcol-MPN (MPN/100mL)					19300
	TRACE & TOXIC					
1	As (µg/L)				1.0	0.3
2	Cd (µg/L)				0.0	0.2
3	Cr (µg/L)				21.0	26.7
4	Cu (µg/L)				2.0	1.1
5	Hg (µg/L)					
6	Ni (µg/L)					1.3
7	Pb (µg/L)				2.0	0.3
8	Zn (µg/L)				36.0	9.8
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	32	52	43	27	36
2	HAR_Total (mgCaCO3/L)	58	86	77	42	56
3	Na% (%)	37	43	20	27	25
4	RSC (-)	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	1.0	1.5	0.4	0.5	0.5
	PESTICIDES					

Water Quality Seasonal Average for the period: 2004-2019

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				
		2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
	PHYSICAL					
1	Q (cumec)	58.16	92.31	51.64	126.5	42.53
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	274	241	342	383	338
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.0	7.8	7.9	8.0	8.1
6	TDS (mg/L)					
7	Temp (deg C)	28.5	25.8	24.3	25.5	25.0
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	74	156	100	48	91
2	B (mg/L)		0.21	0.00	0.11	0.11
3	Ca (mg/L)	16	21	13	25	21
4	Cl (mg/L)	26.3	83.7	45.6	57.0	37.8
5	F (mg/L)	0.06	0.31	0.00	0.19	0.21
6	Fe (mg/L)	0.0	0.4	0.0	0.1	0.1
7	HCO3 (mg/L)	90	190	122	59	111
8	K (mg/L)	33.6	52.4	46.7	1.2	1.8
9	Mg (mg/L)	7.7	13.5	6.7	9.9	9.2
10	Na (mg/L)	17.7	60.5	32.8	42.6	39.8
11	NO2+NO3 (mg N/L)		0.20	1.08	4.50	1.19
12	NO2-N (mgN/L)		0.10	0.00	0.02	0.01
13	NO3-N (mgN/L)	2.80	0.10	1.08	4.48	1.18
14	o-PO4-P (mg P/L)	0.000	0.014	0.000	0.063	0.052
15	SiO2 (mg/L)	13.2	23.1	1.9	15.6	11.8
16	SO4 (mg/L)	17.8	14.4	15.6	37.9	31.2
	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)					
	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	54	31	61	52
2	HAR_Total (mgCaCO3/L)	71	110	59	103	90
3	Na% (%)	25	42	38	47	48
4	RSC (-)	0.1	0.9	0.8	0.0	0.1
5	SAR (-)	0.9	2.5	2.7	1.8	1.8
	PESTICIDES					

Water Quality Seasonal Average for the period: 2004-2019

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				
		2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
	PHYSICAL					
1	Q (cumec)	88.34	101.0	46.51	135.0	51.28
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	407	301	384	385	363
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	7.6	7.7	7.6	7.6	7.5
6	TDS (mg/L)					
7	Temp (deg C)	25.3	25.5	25.5	24.0	26.5
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	98	84	101	112	101
2	B (mg/L)	0.08	0.06	0.00		0.01
3	Ca (mg/L)	25	19	22	26	22
4	Cl (mg/L)	48.6	25.9	46.1	37.6	37.3
5	F (mg/L)	0.24	0.16			0.32
6	Fe (mg/L)	0.1	0.0	0.0		0.1
7	HCO3 (mg/L)	119	103	124	137	123
8	K (mg/L)	3.4	1.7	2.1	1.7	2.4
9	Mg (mg/L)	10.2	9.2	10.2	9.7	5.8
10	Na (mg/L)	47.1	27.5	40.8	36.3	48.3
11	NO2+NO3 (mg N/L)	1.04	1.13	1.24	1.26	1.64
12	NO2-N (mgN/L)	0.03	0.03	0.01	0.00	0.01
13	NO3-N (mgN/L)	1.00	1.10	1.23	1.26	1.63
14	o-PO4-P (mg P/L)	0.041	0.026	0.041		0.062
15	SiO2 (mg/L)	14.1	10.8	10.5		10.0
16	SO4 (mg/L)	38.0	21.9	25.2	12.0	13.6
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)			1.7	1.2	0.6
2	COD (mg/L)					
3	DO (mg/L)			6.0	5.3	6.3
4	DO_SAT% (%)			72	64	78
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
	TRACE & TOXIC					
1	As (µg/L)			0.2		
2	Cd (µg/L)			0.2		
3	Cr (µg/L)			1.2		
4	Cu (µg/L)					
5	Hg (µg/L)					
6	Ni (µg/L)			5.5		
7	Pb (µg/L)					
8	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	62	48	56	64	56
2	HAR_Total (mgCaCO3/L)	105	86	99	105	80
3	Na% (%)	47	41	46	43	56
4	RSC (-)	0.0	0.0	0.1	0.2	0.4
5	SAR (-)	2.0	1.3	1.8	1.5	2.4
	PESTICIDES					

Water Quality Seasonal Average for the period: 2004-2019

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				
		2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
	PHYSICAL					
1	Q (cumec)	48.43	46.99	10.45	22.79	13.89
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	479	539	507	426	490
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	7.8	7.5	7.5	8.1	7.7
6	TDS (mg/L)			348	250	268
7	Temp (deg C)	25.0	25.5	25.5	25.0	24.5
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	135	142	158	112	146
2	B (mg/L)	0.32	0.27	0.05	0.10	0.24
3	Ca (mg/L)	32	30	24	22	27
4	Cl (mg/L)	64.4	73.8	44.0	48.3	58.2
5	F (mg/L)	0.30	0.59		0.32	0.36
6	Fe (mg/L)	0.0	0.3	0.1	0.1	0.0
7	HCO3 (mg/L)	165	173	193	137	179
8	K (mg/L)	9.2	5.7	5.1	2.4	3.3
9	Mg (mg/L)	12.6	14.6	14.7	16.0	20.4
10	Na (mg/L)	49.5	58.0	56.8	40.0	58.3
11	NO2+NO3 (mg N/L)	1.18	2.05	1.60	0.41	0.43
12	NO2-N (mgN/L)	0.03	0.00	0.00	0.00	0.00
13	NO3-N (mgN/L)	1.16	2.05	1.60	0.41	0.43
14	o-PO4-P (mg P/L)	0.036	0.258	0.000	0.000	0.000
15	SiO2 (mg/L)	7.7	26.2	11.7	11.0	9.7
16	SO4 (mg/L)	16.8	17.1	32.1	27.6	27.7
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.8	0.4	1.8	0.4	1.0
2	COD (mg/L)					27.0
3	DO (mg/L)	6.0	5.6	7.3	6.3	7.8
4	DO_SAT% (%)	72	68	89	76	93
5	FCol-MPN (MPN/100mL)					90
6	Tcol-MPN (MPN/100mL)					156
	TRACE & TOXIC					
1	As (µg/L)				3.6	0.5
2	Cd (µg/L)	0.1			0.0	0.0
3	Cr (µg/L)	6.6			12.1	92.7
4	Cu (µg/L)	2.5			4.1	0.3
5	Hg (µg/L)					
6	Ni (µg/L)	0.2			3.6	6.8
7	Pb (µg/L)	1.7			0.6	0.8
8	Zn (µg/L)	10.0			17.8	4.4
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	80	76	61	56	68
2	HAR_Total (mgCaCO3/L)	133	137	122	122	153
3	Na% (%)	42	47	49	41	45
4	RSC (-)	0.1	0.1	0.7	0.0	0.0
5	SAR (-)	1.8	2.2	2.2	1.6	2.1
	PESTICIDES					

Water Quality Seasonal Average for the period: 2004-2019

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				
		2005	2006	2007	2008	2009
	PHYSICAL					
1	Q (cumec)	40.00	32.26	11.79	45.83	72.96
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	293		401	224	230
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.1		8.2	8.2	8.1
6	TDS (mg/L)					
7	Temp (deg C)	27.0	28.5	29.0	26.3	26.0
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	131		125	48	70
2	B (mg/L)			0.00	0.07	0.10
3	Ca (mg/L)	14		19	15	16
4	Cl (mg/L)	21.2		48.0	30.0	24.9
5	F (mg/L)	0.65		0.00	0.10	0.08
6	Fe (mg/L)	0.0		0.0	0.1	0.1
7	HCO3 (mg/L)	80		152	58	85
8	K (mg/L)	24.9		41.8	1.6	2.0
9	Mg (mg/L)	5.3		10.4	6.7	6.8
10	Na (mg/L)	15.2		36.5	21.5	22.1
11	NO2+NO3 (mg N/L)	4.85		4.48	0.97	1.02
12	NO2-N (mgN/L)	2.10		0.00	0.01	0.00
13	NO3-N (mgN/L)	2.75		4.48	0.96	1.02
14	o-PO4-P (mg P/L)	0.012		0.000	0.326	0.021
15	SiO2 (mg/L)			3.0	13.5	10.6
16	SO4 (mg/L)	2.0		2.2	15.0	15.8
	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)					
	TRACE & TOXIC					
1	As (µg/L)		16.8	6.4	2.2	
2	Cd (µg/L)		0.0	4.0	0.9	
3	Cr (µg/L)		7.5			
4	Cu (µg/L)		3.1	3.0	3.7	
5	Hg (µg/L)	0.2				
6	Ni (µg/L)	2.1	1.8			
7	Pb (µg/L)		2.1	1.7	1.6	
8	Zn (µg/L)			22.0	29.0	
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	36		47	39	40
2	HAR_Total (mgCaCO3/L)	58		91	66	68
3	Na% (%)	27		36	41	41
4	RSC (-)	0.2		0.7	0.0	0.0
5	SAR (-)	0.9		1.7	1.2	1.2
	PESTICIDES					

Water Quality Seasonal Average for the period: 2004-2019

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				
		2010	2011	2012	2013	2014
	PHYSICAL					
1	Q (cumec)	30.50	52.18	125.2	32.01	32.62
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	468	501	270	398	480
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.0	7.6	7.3	8.4	7.1
6	TDS (mg/L)					
7	Temp (deg C)	26.0	26.0	26.0	26.5	25.5
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	123	124	81	101	160
2	B (mg/L)	0.10	0.16		0.00	0.21
3	Ca (mg/L)	26	26	18	32	29
4	Cl (mg/L)	51.0	54.0	26.8	44.7	43.3
5	F (mg/L)	0.21	0.49	0.30		0.47
6	Fe (mg/L)	0.1	0.2		0.1	0.1
7	HCO3 (mg/L)	150	151	98	123	195
8	K (mg/L)	3.4	4.1	2.1	2.2	2.7
9	Mg (mg/L)	12.1	12.6	7.3	6.8	9.7
10	Na (mg/L)	55.8	50.4	24.3	40.4	55.5
11	NO2+NO3 (mg N/L)	0.88	1.02	1.75	2.27	1.25
12	NO2-N (mgN/L)	0.01	0.00	0.12	0.01	0.10
13	NO3-N (mgN/L)	0.86	1.02	1.63	2.26	1.15
14	o-PO4-P (mg P/L)	0.026	0.031		0.031	0.062
15	SiO2 (mg/L)	14.3	16.6		9.9	11.7
16	SO4 (mg/L)	33.2	39.8	14.4	22.1	26.3
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)			1.9	1.0	1.2
2	COD (mg/L)					
3	DO (mg/L)			5.2	5.4	4.3
4	DO_SAT% (%)			64	66	52
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
	TRACE & TOXIC					
1	As (µg/L)		1.6	1.6	7.0	
2	Cd (µg/L)		0.0	0.3	0.1	
3	Cr (µg/L)		1.3	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)	64	64	46	80	72
2	HAR_Total (mgCaCO3/L)	115	117	76	108	113
3	Na% (%)	51	48	40	44	51
4	RSC (-)	0.2	0.2	0.1	0.0	1.0
5	SAR (-)	2.3	2.0	1.2	1.7	2.3
	PESTICIDES					

Water Quality Seasonal Average for the period: 2004-2019

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		
		2015	2018	2019
	PHYSICAL			
1	Q (cumec)	18.71	8.087	13.05
2	EC_FLD (µmho/cm)			
3	EC_GEN (µmho/cm)	421		
4	pH_FLD (pH units)			
5	pH_GEN (pH units)	7.3		
6	TDS (mg/L)			
7	Temp (deg C)	25.0		
	CHEMICAL			
1	ALK-TOT (mgCaCO3/L)	119		
2	B (mg/L)	0.33		
3	Ca (mg/L)	29		
4	Cl (mg/L)	54.0		
5	F (mg/L)	0.47		
6	Fe (mg/L)	0.1		
7	HCO3 (mg/L)	145		
8	K (mg/L)	12.5		
9	Mg (mg/L)	9.7		
10	Na (mg/L)	43.6		
11	NO2+NO3 (mg N/L)	1.30		
12	NO2-N (mgN/L)	0.23		
13	NO3-N (mgN/L)	1.06		
14	o-PO4-P (mg P/L)	0.010		
15	SiO2 (mg/L)	4.7		
16	SO4 (mg/L)	18.5		
	BIOLOGICAL/BACTERIOLOGICAL			
1	BOD3-27 (mg/L)			
2	COD (mg/L)			
3	DO (mg/L)	5.2		
4	DO_SAT% (%)	63		
5	FCol-MPN (MPN/100mL)			
6	Tcol-MPN (MPN/100mL)			
	TRACE & TOXIC			
1	As (µg/L)		0.8	2.0
2	Cd (µg/L)		0.4	0.0
3	Cr (µg/L)		0.3	0.6
4	Cu (µg/L)		2.8	0.3
5	Hg (µg/L)			
6	Ni (µg/L)		0.6	4.3
7	Pb (µg/L)		0.7	2.8
8	Zn (µg/L)		2.9	5.4
	CHEMICAL INDICES			
1	HAR_Ca (mgCaCO3/L)	72		
2	HAR_Total (mgCaCO3/L)	113		
3	Na% (%)	43		
4	RSC (-)	0.1		
5	SAR (-)	1.8		
	PESTICIDES			

Samples not collected 2016,2017 due to Dry bed / No Flow condition.

HISTORY SHEET

			Water Year	:	**2018-2019**
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 : 2018-2019

Station Name : BYALADAHALLI (AKLB0D3) **Division : Cauvery Division, Bangalore**

Local River : Haridra **River Water Analysis** **Sub-Division : Upper Tungabhadra SD Davangere**

S.No	Parameters	01/06/2018	02/07/2018	01/08/2018	03/09/2018	03/10/2018
		A	A	A	A	A
	PHYSICAL					
1	Q (cumec)	0.000	0.000	1.347	19.80	17.66
2	Colour_Cod (-)	SAMPLE NOT RECEIVED DUE TO NO FLOW	SAMPLE NOT RECEIVED DUE TO NO FLOW	Clear	Clear	Clear
3	EC_GEN (µmho/cm)			906	552	506
4	Odour_Code (-)			odour free	odour free	odour free
5	pH_GEN (pH units)			7.9	8.2	8.1
6	TDS (mg/L)			632	349	276
7	Temp (deg C)			24.7	24.8	25.8
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)			0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)			246	159	174
3	B (mg/L)			0.31	0.00	0.16
4	Ca (mg/L)			48	30	37
5	Cl (mg/L)			100.5	57.5	38.3
6	CO3 (mg/L)			0.0	0.0	0.0
7	F (mg/L)			0.80	0.72	0.76
8	Fe (mg/L)			0.1	0.4	0.1
9	HCO3 (mg/L)			301	194	213
10	K (mg/L)			4.2	0.9	2.1
11	Mg (mg/L)			46.7	17.5	13.6
12	Na (mg/L)			79.0	57.6	50.0
13	NO2+NO3 (mg N/L)			0.08	0.35	0.41
14	NO2-N (mgN/L)			0.00	0.00	0.03
15	NO3-N (mgN/L)			0.08	0.35	0.38
16	o-PO4-P (mg P/L)			0.052	0.124	0.258
17	SiO2 (mg/L)			12.0	5.4	2.3
18	SO4 (mg/L)			75.9	33.9	27.1
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)			2.0	1.8	2.0
2	COD (mg/L)			19.0	26.0	40.0
3	DO (mg/L)				6.1	5.5
4	DO_SAT% (%)				72	66
5	FCol-MPN (MPN/100mL)			4200	2800	4200
6	Tcol-MPN (MPN/100mL)			16200	10800	16200
	TRACE & TOXIC					
1	As (µg/L)			0.2		
2	Cd (µg/L)			0.4		
3	Cr (µg/L)			0.3		
4	Cu (µg/L)			2.3		
5	Ni (µg/L)			3.7		
6	Pb (µg/L)			1.1		
7	Zn (µg/L)			7.8		
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)			120	76	92
2	HAR_Total (mgCaCO3/L)			314	149	149
3	Na% (%)			35	46	42
4	RSC (-)			0.0	0.2	0.5
5	SAR (-)			1.9	2.1	1.8
	PESTICIDES					

Water Quality Datasheet for the period : 2018-2019

Station Name : BYALADAHALLI (AKLB0D3) **Division : Cauvery Division, Bangalore**

Local River : Haridra **River Water Analysis** **Sub-Division : Upper Tungabhadra SD Davangere**

S.No	Parameters	01/11/2018	03/12/2018	01/01/2019	01/02/2019	01/03/2019
		A	A	A	A	A
	PHYSICAL					
1	Q (cumec)	13.98	13.51	0.864	0.000	0.000
2	Colour_Cod (-)	Clear	Clear	Clear	SAMPLE NOT RECEIVED DUE TO NO FLOW	SAMPLE NOT RECEIVED DUE TO NO FLOW
3	EC_GEN (µmho/cm)	530	823	1144		
4	Odour_Code (-)	odour free	odour free	odour free		
5	pH_GEN (pH units)	7.9	7.8	8.1		
6	TDS (mg/L)	306	436	668		
7	Temp (deg C)	24.8	26.3	25.8		
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0		
2	ALK-TOT (mgCaCO3/L)	189	236	307		
3	B (mg/L)	0.06	0.16	0.31		
4	Ca (mg/L)	42	42	46		
5	Cl (mg/L)	44.0	77.0	154.1		
6	CO3 (mg/L)	0.0	0.0	0.0		
7	F (mg/L)	0.82	0.72	0.82		
8	Fe (mg/L)	0.0	0.1	0.0		
9	HCO3 (mg/L)	231	287	374		
10	K (mg/L)	2.1	4.2	6.6		
11	Mg (mg/L)	15.2	25.3	33.0		
12	Na (mg/L)	61.5	87.3	145.2		
13	NO2+NO3 (mg N/L)	0.64	0.45	6.59		
14	NO2-N (mgN/L)	0.00	0.00	0.00		
15	NO3-N (mgN/L)	0.64	0.45	6.59		
16	o-PO4-P (mg P/L)	0.114	5.074	6.820		
17	SiO2 (mg/L)	10.9	8.2	14.6		
18	SO4 (mg/L)	22.6	42.0	101.1		
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.0	1.3	1.0		
2	COD (mg/L)	11.0	15.0	19.0		
3	DO (mg/L)	6.5	6.6	6.5		
4	DO_SAT% (%)	77	81	79		
5	FCol-MPN (MPN/100mL)	650	17500	1100		
6	Tcol-MPN (MPN/100mL)	1050	46000	1650		
	TRACE & TOXIC					
1	As (µg/L)		0.1			
2	Cd (µg/L)		0.0			
3	Cr (µg/L)		35.9			
4	Cu (µg/L)		2.0			
5	Ni (µg/L)		5.8			
6	Pb (µg/L)		1.0			
7	Zn (µg/L)		11.0			
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	104	104	116		
2	HAR_Total (mgCaCO3/L)	167	209	254		
3	Na% (%)	44	47	55		
4	RSC (-)	0.5	0.6	1.1		
5	SAR (-)	2.1	2.6	4.0		
	PESTICIDES					

Water Quality Summary for the period : 2018-2019

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	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	365	69.61	0.000	6.735
2	EC_GEN (µmho/cm)	6	1144	506	744
3	pH_GEN (pH units)	6	8.2	7.8	8.0
4	TDS (mg/L)	6	668	276	445
5	Temp (deg C)	6	26.3	24.7	25.3
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	6	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	6	307	159	219
3	B (mg/L)	6	0.31	0.00	0.17
4	Ca (mg/L)	6	48	30	41
5	Cl (mg/L)	6	154.1	38.3	78.6
6	CO3 (mg/L)	6	0.0	0.0	0
7	F (mg/L)	6	0.82	0.72	0.77
8	Fe (mg/L)	6	0.4	0.0	0.1
9	HCO3 (mg/L)	6	374	194	267
10	K (mg/L)	6	6.6	0.9	3.3
11	Mg (mg/L)	6	46.7	13.6	25.2
12	Na (mg/L)	6	145.2	50.0	80.1
13	NO2+NO3 (mg N/L)	6	6.59	0.08	1.42
14	NO2-N (mgN/L)	6	0.03	0.00	0
15	NO3-N (mgN/L)	6	6.59	0.08	1.42
16	o-PO4-P (mg P/L)	6	6.820	0.052	2.074
17	SiO2 (mg/L)	6	14.6	2.3	8.9
18	SO4 (mg/L)	6	101.1	22.6	50.4
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	6	2.0	1.0	1.5
2	COD (mg/L)	6	40.0	11.0	21.7
3	DO (mg/L)	5	6.6	5.5	6.2
4	DO_SAT% (%)	5	81	66	75
5	FCol-MPN (MPN/100mL)	6	17500	650	5075
6	Tcol-MPN (MPN/100mL)	6	46000	1050	15317
	TRACE & TOXIC				
1	As (µg/L)	2	0.2	0.1	0.2
2	Cd (µg/L)	2	0.4	0.0	0.2
3	Cr (µg/L)	2	35.9	0.3	18.1
4	Cu (µg/L)	2	2.3	2.0	2.2
5	Ni (µg/L)	2	5.8	3.7	4.8
6	Pb (µg/L)	2	1.1	1.0	1
7	Zn (µg/L)	2	11.0	7.8	9.4
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	6	120	76	102
2	HAR_Total (mgCaCO3/L)	6	314	149	207
3	Na% (%)	6	55	35	45
4	RSC (-)	6	1.1	0.0	0.5
5	SAR (-)	6	4.0	1.8	2.4
	PESTICIDES				

Water Quality Seasonal Average for the period: 2004-2019

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				
		2004	2005	2006	2007	2008
	PHYSICAL					
1	Q (cumec)	5.450	22.30			16.37
2	EC_GEN (µmho/cm)	589	402			543
3	pH_GEN (pH units)	8.1	7.8			8.0
4	TDS (mg/L)					
5	Temp (deg C)	26.0	24.3			25.6
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	163	78			152
2	B (mg/L)	0.13	0.22			0.36
3	Ca (mg/L)	38	18			34
4	Cl (mg/L)	88.0	64.3			62.3
5	F (mg/L)	0.74	0.44			0.56
6	Fe (mg/L)	0.7	0.2			0.1
7	HCO3 (mg/L)	199	95			185
8	K (mg/L)	25.8	17.4			4.7
9	Mg (mg/L)	21.0	9.6			13.1
10	Na (mg/L)	51.2	47.5			58.9
11	NH3-N (mg N/L)		0.00			
12	NO2+NO3 (mg N/L)	4.35	4.90			1.13
13	NO2-N (mgN/L)	1.80	0.00			0.04
14	NO3-N (mgN/L)	2.55	1.90			1.08
15	o-PO4-P (mg P/L)	0.000	0.265			0.186
16	SiO2 (mg/L)	4.8	3.4			9.1
17	SO4 (mg/L)	20.0	26.8			32.0
	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)					
	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	46			86
2	HAR_Total (mgCaCO3/L)	182	86			141
3	Na% (%)	34	50			47
4	RSC (-)	0.0	0.1			0.4
5	SAR (-)	1.7	2.3			2.2
	PESTICIDES					

Observations not done during 2006, flood season Jun- Oct

Observations not done during 2006, flood season Jun- Oct

Water Quality Seasonal Average for the period: 2004-2019

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				
		2009	2010	2011	2012	2013
	PHYSICAL					
1	Q (cumec)	24.01	31.75	21.61	20.33	27.79
2	EC_GEN (µmho/cm)	548	565	599	572	516
3	pH_GEN (pH units)	7.9	7.8	7.7	7.7	7.9
4	TDS (mg/L)					
5	Temp (deg C)	24.3	25.9	28.5	27.0	26.1
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	177	178	192	186	143
2	B (mg/L)	0.11	0.09	0.05		0.04
3	Ca (mg/L)	33	33	35	36	32
4	Cl (mg/L)	49.5	54.3	59.6	55.6	52.8
5	F (mg/L)	0.69	0.56	0.75	0.92	0.29
6	Fe (mg/L)	0.1	0.0	0.0		0.1
7	HCO3 (mg/L)	216	217	234	227	203
8	K (mg/L)	5.2	4.0	4.6	3.0	3.8
9	Mg (mg/L)	15.1	17.7	15.9	13.6	13.4
10	Na (mg/L)	62.7	60.3	69.2	65.0	58.3
11	NH3-N (mg N/L)					
12	NO2+NO3 (mg N/L)	1.22	1.24	1.32	2.85	2.36
13	NO2-N (mgN/L)	0.04	0.06	0.02	0.02	0.01
14	NO3-N (mgN/L)	1.18	1.15	1.29	2.83	2.34
15	o-PO4-P (mg P/L)	0.220	0.129	0.096		0.065
16	SiO2 (mg/L)	11.8	9.8	10.6		16.4
17	SO4 (mg/L)	30.2	28.1	31.9	20.0	19.6
	BIOLOGICAL/BACTERIOLOG					
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)					
	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)	83	83	88	89	81
2	HAR_Total (mgCaCO3/L)	146	157	154	146	137
3	Na% (%)	46	44	48	48	44
4	RSC (-)	0.6	0.5	0.8	0.8	0.7
5	SAR (-)	2.2	2.1	2.4	2.3	2.0
	PESTICIDES					

Water Quality Seasonal Average for the period: 2004-2019

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				
		2014	2015	2016	2017	2018
					Dry bed	
	PHYSICAL				**No Flow**	
1	Q (cumec)	21.97	27.48	22.14		6.468
2	EC_GEN (µmho/cm)	654	633	734		655
3	pH_GEN (pH units)	7.9	7.7	8.1		8.1
4	TDS (mg/L)			455		419
5	Temp (deg C)	24.9	25.5	24.0		25.1
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	216	183	196		193
2	B (mg/L)	0.23	0.71	0.20		0.16
3	Ca (mg/L)	39	43	35		38
4	Cl (mg/L)	67.7	66.6	83.1		65.4
5	F (mg/L)	0.29	0.88			0.76
6	Fe (mg/L)	0.1	0.1	0.0		0.2
7	HCO3 (mg/L)	263	223	239		236
8	K (mg/L)	5.6	4.6	3.9		2.4
9	Mg (mg/L)	18.5	16.0	23.3		25.9
10	Na (mg/L)	68.7	67.9	98.0		62.2
11	NH3-N (mg N/L)					
12	NO2+NO3 (mg N/L)	2.30	1.35	3.61		0.28
13	NO2-N (mgN/L)	0.05	0.09	0.01		0.01
14	NO3-N (mgN/L)	2.25	1.26	3.60		0.27
15	o-PO4-P (mg P/L)	0.235	0.289	0.413		0.145
16	SiO2 (mg/L)	7.2	13.3	10.1		6.6
17	SO4 (mg/L)	18.2	53.3	44.1		45.6
	BIOLOGICAL/BACTERIOLOG					
1	BOD3-27 (mg/L)					1.9
2	COD (mg/L)					28.3
3	DO (mg/L)					5.8
4	DO_SAT% (%)					69
5	FCol-MPN (MPN/100mL)					3733
6	Tcol-MPN (MPN/100mL)					14400
	TRACE & TOXIC					
1	As (µg/L)					0.2
2	Cd (µg/L)					0.4
3	Cr (µg/L)					0.3
4	Cu (µg/L)					2.3
5	Ni (µg/L)					3.7
6	Pb (µg/L)					1.1
7	Zn (µg/L)					7.8
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	97	107	88		96
2	HAR_Total (mgCaCO3/L)	174	174	185		204
3	Na% (%)	44	45	53		41
4	RSC (-)	0.9	0.2	0.2		0.3
5	SAR (-)	2.2	2.2	3.1		1.9
	PESTICIDES					

Water Quality Seasonal Average for the period: 2004-2019

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				
		2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
	PHYSICAL					
1	Q (cumec)	4.350	15.10			23.58
2	EC_GEN (µmho/cm)	549	756			554
3	pH_GEN (pH units)	8.0	7.8			8.1
4	TDS (mg/L)					
5	Temp (deg C)	25.0	23.5			24.6
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	156	110			191
2	B (mg/L)		0.16			0.16
3	Ca (mg/L)	25	30			35
4	Cl (mg/L)	78.3	134.5			51.5
5	F (mg/L)	0.54	0.32			0.55
6	Fe (mg/L)	0.5	0.3			0.1
7	HCO3 (mg/L)	190	134			232
8	K (mg/L)	51.6	26.2			2.7
9	Mg (mg/L)	13.4	14.6			16.5
10	Na (mg/L)	55.2	86.2			58.2
11	NH3-N (mg N/L)					
12	NO2+NO3 (mg N/L)	4.20	0.56			0.48
13	NO2-N (mgN/L)	1.10	0.28			0.03
14	NO3-N (mgN/L)	3.10	0.29			0.46
15	o-PO4-P (mg P/L)	0.000	0.082			0.150
16	SiO2 (mg/L)	12.6	2.5			10.9
17	SO4 (mg/L)	21.0	24.4			20.0
	BIOLOGICAL/BACTERIOLOG					
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)					
	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)	63	75			88
2	HAR_Total (mgCaCO3/L)	118	136			157
3	Na% (%)	40	52			44
4	RSC (-)	0.8	0.0			0.7
5	SAR (-)	2.2	3.3			2.0
	PESTICIDES					

Observations not done during 2006-2007, Winter season.

Observations not done during 2007-2008, Winter season.

Water Quality Seasonal Average for the period: 2004-2019

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				
		2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
	PHYSICAL					
1	Q (cumec)	8.290	19.36	6.850	170.4	4.156
2	EC_GEN (µmho/cm)	572	604	708	683	610
3	pH_GEN (pH units)	7.9	7.9	7.3	7.6	7.7
4	TDS (mg/L)					
5	Temp (deg C)	25.2	28.7	28.5	23.5	25.5
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	197	190	294	232	218
2	B (mg/L)	0.12	0.14			0.02
3	Ca (mg/L)	34	38	41	42	37
4	Cl (mg/L)	55.5	66.1	57.7	64.8	55.2
5	F (mg/L)	0.55	0.49		0.65	0.70
6	Fe (mg/L)	0.0	0.0	0.0		0.0
7	HCO3 (mg/L)	241	232	297	284	266
8	K (mg/L)	4.0	4.8	3.0	4.1	2.4
9	Mg (mg/L)	16.5	16.8	15.1	17.5	15.6
10	Na (mg/L)	67.2	64.7	92.3	70.8	80.1
11	NH3-N (mg N/L)	0.00				
12	NO2+NO3 (mg N/L)	0.94	1.01	1.46	1.69	1.90
13	NO2-N (mgN/L)	0.05	0.04	0.03	0.03	0.07
14	NO3-N (mgN/L)	0.90	0.98	1.43	1.66	1.83
15	o-PO4-P (mg P/L)	0.124	0.065	0.078		0.098
16	SiO2 (mg/L)	10.6	10.3	11.4		14.2
17	SO4 (mg/L)	25.0	27.5	31.5	16.3	20.6
	BIOLOGICAL/BACTERIOLOG					
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)					
	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)	84	94	102	106	92
2	HAR_Total (mgCaCO3/L)	153	165	165	179	157
3	Na% (%)	48	44	54	46	52
4	RSC (-)	0.9	0.5	1.6	1.1	1.2
5	SAR (-)	2.4	2.2	3.1	2.3	2.8
	PESTICIDES					

Water Quality Seasonal Average for the period: 2004-2019

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				
		2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
					Dry bed	
	PHYSICAL				**No Flow**	
1	Q (cumec)	12.45	9.518	6.206		7.090
2	EC_GEN (µmho/cm)	649	577	870		832
3	pH_GEN (pH units)	7.9	7.9	7.9		7.9
4	TDS (mg/L)			562		470
5	Temp (deg C)	24.7	25.0	24.5		25.6
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	220	192	300		244
2	B (mg/L)	0.33	0.35	0.01		0.18
3	Ca (mg/L)	43	33	44		43
4	Cl (mg/L)	70.1	60.3	91.4		91.7
5	F (mg/L)	0.60	0.70			0.79
6	Fe (mg/L)	0.0	0.1	0.0		0.0
7	HCO3 (mg/L)	268	234	366		297
8	K (mg/L)	12.1	2.2	2.8		4.3
9	Mg (mg/L)	17.8	18.5	23.4		24.5
10	Na (mg/L)	67.0	66.9	106.1		98.0
11	NH3-N (mg N/L)					
12	NO2+NO3 (mg N/L)	2.18	1.62	1.64		2.56
13	NO2-N (mgN/L)	0.02	0.04	0.02		0.00
14	NO3-N (mgN/L)	2.16	1.58	1.62		2.56
15	o-PO4-P (mg P/L)	0.093	0.434	0.460		4.003
16	SiO2 (mg/L)	9.3	14.8	24.7		11.2
17	SO4 (mg/L)	23.9	30.4	47.0		55.2
	BIOLOGICAL/BACTERIOLOG					
1	BOD3-27 (mg/L)					1.1
2	COD (mg/L)					15.0
3	DO (mg/L)					6.5
4	DO_SAT% (%)					79
5	FCol-MPN (MPN/100mL)					6417
6	Tcol-MPN (MPN/100mL)					16233
	TRACE & TOXIC					
1	As (µg/L)			0.9		0.1
2	Cd (µg/L)	0.2		0.1		0.0
3	Cr (µg/L)	0.0		0.2		35.9
4	Cu (µg/L)	4.5		1.0		2.0
5	Ni (µg/L)	0.0		1.0		5.8
6	Pb (µg/L)	1.3		0.0		1.0
7	Zn (µg/L)	9.0		2.0		11.0
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	107	82	109		108
2	HAR_Total (mgCaCO3/L)	181	159	206		210
3	Na% (%)	41	48	53		49
4	RSC (-)	0.8	0.7	1.9		0.7
5	SAR (-)	2.1	2.3	3.2		2.9
	PESTICIDES					

HISTORY SHEET

			Water Year	:	**2018-2019**
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 : 2018-2019

Station Name : KUPPELUR (AKLC0B8) **Division : Cauvery Division, Bangalore**

Local River : Kumudavathi **River Water Analysis** **Sub-Division : Upper Tungabhadra SD Davangere**

S.No	Parameters	01/06/2018	02/07/2018	01/08/2018	03/09/2018	03/10/2018	
		A	A	A	A	A	
	PHYSICAL						
1	Q (cumec)	0.000	0.000	11.55	19.79	10.54	
2	Colour_Cod (-)			Light Brown	Light Brown	Clear	
3	EC_GEN (µmho/cm)			196	199	363	
4	Odour_Code (-)			odour free	odour free	odour free	
5	pH_GEN (pH units)			7.7	7.7	7.8	
6	TDS (mg/L)			122	120	212	
7	Temp (deg C)			25.0	26.5	26.0	
	CHEMICAL						
1	Alk-Phen (mgCaCO3/L)			0.0	0.0	0.0	
2	ALK-TOT (mgCaCO3/L)			66	66	109	
3	B (mg/L)			0.01	0.00	0.22	
4	Ca (mg/L)			30	19	30	
5	Cl (mg/L)			19.2	17.4	38.3	
6	CO3 (mg/L)			0.0	0.0	0.0	
7	F (mg/L)			0.13	0.02	0.29	
8	Fe (mg/L)			0.9	0.1	0.0	
9	HCO3 (mg/L)			81	81	133	
10	K (mg/L)			2.9	0.9	2.1	
11	Mg (mg/L)			0.0	10.7	15.6	
12	Na (mg/L)			12.5	57.6	16.3	
13	NO2+NO3 (mg N/L)			0.21	0.20	0.31	
14	NO2-N (mgN/L)			0.01	0.00	0.01	
15	NO3-N (mgN/L)			0.20	0.20	0.29	
16	o-PO4-P (mg P/L)			0.021	0.000	0.000	
17	SiO2 (mg/L)			14.1	4.5	2.6	
18	SO4 (mg/L)			16.0	6.9	11.8	
	BIOLOGICAL/BACTERIOLOGICAL						
1	BOD3-27 (mg/L)			6.2	3.2	0.6	
2	COD (mg/L)			19.0	17.0	11.0	
3	DO (mg/L)			7.7	6.2	6.1	
4	DO_SAT% (%)			93	77	75	
5	FCol-MPN (MPN/100mL)			5500	4400	1470	
6	Tcol-MPN (MPN/100mL)			23000	18400	3300	
	TRACE & TOXIC						
1	As (µg/L)			9.9			
2	Cd (µg/L)			0.3			
3	Cr (µg/L)			7.4			
4	Cu (µg/L)			2.0			
5	Ni (µg/L)			6.7			
6	Pb (µg/L)			0.6			
7	Zn (µg/L)			7.5			
	CHEMICAL INDICES						
1	HAR_Ca (mgCaCO3/L)			76	48	76	
2	HAR_Total (mgCaCO3/L)			76	93	141	
3	Na% (%)			25	57	20	
4	RSC (-)			0.0	0.0	0.0	
5	SAR (-)			0.6	2.6	0.6	
	PESTICIDES						

Sample not received due to NO FLOW

Sample not received due to NO FLOW

Sample not received due to NO FLOW November month.

Water Quality Datasheet for the period : 2018-2019

Station Name : KUPPELUR (AKLC0B8) **Division : Cauvery Division, Bangalore**

Local River : Kumudavathi **River Water Analysis** **Sub-Division : Upper Tungabhadra SD Davangere**

S.No	Parameters	03/12/2018	01/01/2019	01/02/2019	01/03/2019	
		A	A	A	A	
	PHYSICAL					
1	Q (cumec)	0.000	0.000	0.000	0.000	
2	Colour_Cod (-)	Sample not received due to NO FLOW	Sample not received due to NO FLOW	Sample not received due to NO FLOW	Sample not received due to NO FLOW	Sample not received due to NO FLOW April, and May months
3	EC_GEN (µmho/cm)					
4	Odour_Code (-)					
5	pH_GEN (pH units)					
6	TDS (mg/L)					
7	Temp (deg C)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)					
2	ALK-TOT (mgCaCO3/L)					
3	B (mg/L)					
4	Ca (mg/L)					
5	Cl (mg/L)					
6	CO3 (mg/L)					
7	F (mg/L)					
8	Fe (mg/L)					
9	HCO3 (mg/L)					
10	K (mg/L)					
11	Mg (mg/L)					
12	Na (mg/L)					
13	NO2+NO3 (mg N/L)					
14	NO2-N (mgN/L)					
15	NO3-N (mgN/L)					
16	o-PO4-P (mg P/L)					
17	SiO2 (mg/L)					
18	SO4 (mg/L)					
	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)					
	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)					
2	HAR_Total (mgCaCO3/L)					
3	Na% (%)					
4	RSC (-)					
5	SAR (-)					
	PESTICIDES					

Water Quality Summary for the period : 2018-2019

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	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	365	300.0	0.000	7.450
2	EC_GEN (µmho/cm)	4	575	196	333
3	pH_GEN (pH units)	4	7.9	7.7	7.8
4	TDS (mg/L)	4	296	120	188
5	Temp (deg C)	4	26.5	25.0	25.8
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	4	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	4	182	66	106
3	B (mg/L)	4	0.22	0.00	0.07
4	Ca (mg/L)	4	50	19	32
5	Cl (mg/L)	4	80.2	17.4	38.8
6	CO3 (mg/L)	4	0.0	0.0	0
7	F (mg/L)	4	0.34	0.02	0.19
8	Fe (mg/L)	4	0.9	0.0	0.3
9	HCO3 (mg/L)	4	222	81	129
10	K (mg/L)	4	3.0	0.9	2.2
11	Mg (mg/L)	4	15.6	0.0	10.2
12	Na (mg/L)	4	57.6	12.5	34.9
13	NO2+NO3 (mg N/L)	4	0.91	0.20	0.41
14	NO2-N (mgN/L)	4	0.01	0.00	0.01
15	NO3-N (mgN/L)	4	0.91	0.20	0.4
16	o-PO4-P (mg P/L)	4	0.021	0.000	0.005
17	SiO2 (mg/L)	4	14.1	2.6	7.5
18	SO4 (mg/L)	4	23.0	6.9	14.4
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	4	6.2	0.6	2.8
2	COD (mg/L)	4	19.0	8.0	13.8
3	DO (mg/L)	4	7.7	6.1	6.7
4	DO_SAT% (%)	4	93	75	82
5	FCol-MPN (MPN/100mL)	4	5500	650	3005
6	Tcol-MPN (MPN/100mL)	4	23000	1150	11463
	TRACE & TOXIC				
1	As (µg/L)	1	9.9	9.9	9.9
2	Cd (µg/L)	1	0.3	0.3	0.3
3	Cr (µg/L)	1	7.4	7.4	7.4
4	Cu (µg/L)	1	2.0	2.0	2
5	Ni (µg/L)	1	6.7	6.7	6.7
6	Pb (µg/L)	1	0.6	0.6	0.6
7	Zn (µg/L)	1	7.5	7.5	7.5
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	4	124	48	81
2	HAR_Total (mgCaCO3/L)	4	185	76	124
3	Na% (%)	4	57	20	35
4	RSC (-)	4	0.0	0.0	0
5	SAR (-)	4	2.6	0.6	1.4
	PESTICIDES				

Water Quality Seasonal Average for the period: 2004-2019

Station Name : KUPPELUR (AKLC0B8) **Division : Cauvery Division, Bangalore**

Local River : Kumudavathi **River Water** **Sub-Division : Upper Tungabhadra SD Davangere**

S.No	Parameters					
		Jun - Oct				
		2004	2005	2006	2007	2008
	PHYSICAL			Dry bed / No Flow		
1	Q (cumec)	9.945	44.17			22.59
2	EC_GEN (µmho/cm)	436	192			298
3	pH_GEN (pH units)	8.1	7.6			8.0
4	TDS (mg/L)					
5	Temp (deg C)	26.0	24.6			25.1
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	248	46			88
2	B (mg/L)	0.11	0.22			0.33
3	Ca (mg/L)	22	9			29
4	Cl (mg/L)	67.1	50.6			28.8
5	F (mg/L)	0.32				0.19
6	Fe (mg/L)					0.1
7	HCO3 (mg/L)	151	56			108
8	K (mg/L)	6.2	4.5			3.1
9	Mg (mg/L)	18.2	4.3			8.7
10	Na (mg/L)	49.8	38.2			17.3
11	NO2+NO3 (mg N/L)		0.07			1.36
12	NO2-N (mgN/L)		0.00			0.02
13	NO3-N (mgN/L)	1.45	0.07			1.34
14	o-PO4-P (mg P/L)		0.043			0.000
15	SiO2 (mg/L)	6.2	5.2			10.0
16	SO4 (mg/L)	4.5	1.9			12.5
	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)					
	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)	54	22			72
2	HAR_Total (mgCaCO3/L)	130	40			108
3	Na% (%)	44	62			25
4	RSC (-)	0.0	0.1			0.0
5	SAR (-)	1.9	2.7			0.7
	PESTICIDES					

Water Quality Seasonal Average for the period: 2004-2019

Station Name : KUPPELUR (AKLC0B8) **Division : Cauvery Division, Bangalore**

Local River : Kumudavathi **River Water** **Sub-Division : Upper Tungabhadra SD Davangere**

S.No	Parameters					
		2009	2010	2011	2012	2013
	PHYSICAL					
1	Q (cumec)	56.14	118.8	31.66	16.87	132.2
2	EC_GEN (µmho/cm)	292	343	343	334	307
3	pH_GEN (pH units)	7.9	7.8	7.4	7.4	7.5
4	TDS (mg/L)					
5	Temp (deg C)	25.8	26.2	26.2	25.8	26.5
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	85	106	100	119	92
2	B (mg/L)	0.04				0.01
3	Ca (mg/L)	24	27	27	31	29
4	Cl (mg/L)	34.0	42.3	39.5	34.4	33.8
5	F (mg/L)	0.26	0.22	0.29	0.32	0.30
6	Fe (mg/L)	0.2	0.5	0.1		0.3
7	HCO3 (mg/L)	104	129	122	133	112
8	K (mg/L)	3.4	2.5	2.6	3.0	2.8
9	Mg (mg/L)	9.0	13.1	11.0	8.3	7.1
10	Na (mg/L)	22.0	25.1	23.9	21.3	27.2
11	NO2+NO3 (mg N/L)	1.20	1.70	1.69	2.37	3.25
12	NO2-N (mgN/L)	0.03	0.01	0.01	0.01	0.01
13	NO3-N (mgN/L)	1.17	1.69	1.68	2.35	3.23
14	o-PO4-P (mg P/L)	0.023	0.028	0.000		0.090
15	SiO2 (mg/L)	10.7	9.6	10.2		7.9
16	SO4 (mg/L)	15.6	11.1	7.0	10.2	13.7
	BIOLOGICAL/BACTERIOLOG					
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)					
	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)	60	68	68	78	73
2	HAR_Total (mgCaCO3/L)	97	123	114	112	103
3	Na% (%)	30	29	31	29	34
4	RSC (-)	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	1.0	0.9	1.0	0.9	1.1
	PESTICIDES					

Water Quality Seasonal Average for the period: 2004-2019

Station Name : KUPPELUR (AKLC0B8) **Division : Cauvery Division, Bangalore**

Local River : Kumudavathi **River Water** **Sub-Division : Upper Tungabhadra SD Davangere**

S.No	Parameters					
		2014	2015	2016	2017	2018
					Dry bed	
	PHYSICAL				**No Flow**	
1	Q (cumec)	148.5	12.94	3.026		8.376
2	EC_GEN (µmho/cm)	247	311	569		253
3	pH_GEN (pH units)	7.4	7.5	7.5		7.7
4	TDS (mg/L)			350		151
5	Temp (deg C)	26.0	27.5	26.8		25.8
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	69	89	135		80
2	B (mg/L)	0.11	0.67	0.16		0.08
3	Ca (mg/L)	20	25	34		27
4	Cl (mg/L)	28.2	38.9	83.2		25.0
5	F (mg/L)	0.16	0.34			0.15
6	Fe (mg/L)	0.6	0.2	0.2		0.3
7	HCO3 (mg/L)	85	108	165		98
8	K (mg/L)	3.9	3.4	4.2		2.0
9	Mg (mg/L)	9.1	10.2	28.0		8.7
10	Na (mg/L)	16.2	20.9	42.7		28.8
11	NO2+NO3 (mg N/L)	2.90	1.06	2.48		0.24
12	NO2-N (mgN/L)	0.05	0.01	0.01		0.01
13	NO3-N (mgN/L)	2.85	1.04	2.48		0.23
14	o-PO4-P (mg P/L)	0.062	0.256	0.031		0.007
15	SiO2 (mg/L)	6.4	14.6	13.5		7.1
16	SO4 (mg/L)	12.2	12.3	34.5		11.6
	BIOLOGICAL/BACTERIOLOG					
1	BOD3-27 (mg/L)	1.4	1.3	2.2		3.3
2	COD (mg/L)					15.7
3	DO (mg/L)	6.0	4.8	6.4		6.7
4	DO_SAT% (%)	74	61	80		82
5	FCol-MPN (MPN/100mL)					3790
6	Tcol-MPN (MPN/100mL)					14900
	TRACE & TOXIC					
1	As (µg/L)					9.9
2	Cd (µg/L)					0.3
3	Cr (µg/L)					7.4
4	Cu (µg/L)					2.0
5	Ni (µg/L)					6.7
6	Pb (µg/L)					0.6
7	Zn (µg/L)					7.5
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	51	63	84		67
2	HAR_Total (mgCaCO3/L)	88	106	201		103
3	Na% (%)	29	29	28		34
4	RSC (-)	0.0	0.0	0.0		0.0
5	SAR (-)	0.8	0.9	1.3		1.3
	PESTICIDES					

Water Quality Seasonal Average for the period: 2004-2019

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				
		2004-2005	2005-2006	2008-2009	2009-2010	
	PHYSICAL					
1	Q (cumec)	2.480	15.87	5.039	10.37	
2	EC_GEN (µmho/cm)	545	270	382	456	
3	pH_GEN (pH units)	7.9	7.7	7.9	7.8	
4	TDS (mg/L)					
5	Temp (deg C)	25.0	24.0	24.8	24.5	
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	272	105	133	149	
2	B (mg/L)		0.28	0.19	0.15	
3	Ca (mg/L)	28	28	34	42	
4	Cl (mg/L)	88.6	91.7	40.6	48.6	
5	F (mg/L)	0.25		0.28	0.30	
6	Fe (mg/L)			0.1	0.1	
7	HCO3 (mg/L)	166	128	162	182	
8	K (mg/L)	4.6	3.3	2.7	2.1	
9	Mg (mg/L)	20.0	14.3	13.1	16.5	
10	Na (mg/L)	66.2	58.7	24.1	32.2	
11	NO2+NO3 (mg N/L)			0.88	1.58	
12	NO2-N (mgN/L)			0.01	0.04	
13	NO3-N (mgN/L)	1.90		0.86	1.54	
14	o-PO4-P (mg P/L)		0.016	0.031	0.000	
15	SiO2 (mg/L)	18.0	1.2	11.5	13.2	
16	SO4 (mg/L)	2.6	2.2	6.1	12.2	
	BIOLOGICAL/BACTERIOLOG					
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)					
	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	71	86	104	
2	HAR_Total (mgCaCO3/L)	154	130	141	173	
3	Na% (%)	48	49	27	29	
4	RSC (-)	0.0	0.0	0.0	0.0	
5	SAR (-)	2.3	2.2	0.9	1.1	
	PESTICIDES					

2006-2007and 2007-2008 Dry bed / No flow condition.

Water Quality Seasonal Average for the period: 2004-2019

Station Name : KUPPELUR (AKLC0B8) **Division : Cauvery Division, Bangalore**

Local River : Kumudavathi **River Water** **Sub-Division : Upper Tungabhadra SD Davangere**

S.No	Parameters						
		2010-2011	2011-2012	2013-2014	2014-2015	2018-2019	
	PHYSICAL						
1	Q (cumec)	10.84	17.05	4.564	13.91	1.078	
2	EC_GEN (µmho/cm)	602	460	526	633	575	
3	pH_GEN (pH units)	7.9	7.3	7.6	8.3	7.9	
4	TDS (mg/L)					296	
5	Temp (deg C)	25.2	26.5	26.5	25.0	25.5	
	CHEMICAL						
1	ALK-TOT (mgCaCO3/L)	161	137	153	177	182	
2	B (mg/L)	0.13		0.02	0.44	0.05	
3	Ca (mg/L)	44	38	43	50	50	
4	Cl (mg/L)	79.4	58.0	67.1	96.6	80.2	
5	F (mg/L)	0.32		0.40	0.38	0.34	
6	Fe (mg/L)	0.0	0.0	0.1	0.0	0.0	
7	HCO3 (mg/L)	197	168	187	216	222	
8	K (mg/L)	3.7	2.1	2.3	8.7	3.0	
9	Mg (mg/L)	21.1	14.1	18.5	22.4	14.6	
10	Na (mg/L)	45.3	32.2	40.5	40.5	53.0	
11	NO2+NO3 (mg N/L)	2.65	2.12	2.05	2.44	0.91	
12	NO2-N (mgN/L)	0.01	0.01	0.01	0.01	0.00	
13	NO3-N (mgN/L)	2.64	2.11	2.03	2.42	0.91	
14	o-PO4-P (mg P/L)	0.000	0.000	0.021	0.010	0.000	
15	SiO2 (mg/L)	12.4	12.1	13.3	7.7	8.8	
16	SO4 (mg/L)	22.9	12.3	9.8	12.0	23.0	
	BIOLOGICAL/BACTERIOLOG						
1	BOD3-27 (mg/L)				1.3	1.0	
2	COD (mg/L)					8.0	
3	DO (mg/L)				6.7	6.8	
4	DO_SAT% (%)				81	82	
5	FCol-MPN (MPN/100mL)					650	
6	Tcol-MPN (MPN/100mL)					1150	
	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)	110	94	108	124	124	
2	HAR_Total (mgCaCO3/L)	197	153	185	217	185	
3	Na% (%)	32	31	32	28	38	
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	
5	SAR (-)	1.4	1.1	1.3	1.2	1.7	
	PESTICIDES						

2012-2013, 2015-2016,2016-2017,and 2017-2018 Dry bed / No flow condition.

Water Quality Seasonal Average for the period: 2004-2019

Station Name : KUPPELUR (AKLC0B8) **Division : Cauvery Division, Bangalore**

Local River : Kumudavathi **River Water** **Sub-Division : Upper Tungabhadra SD Davangere**

S.No	Parameters		
		2008	2019
			2004 to 2007 and 2009 to 2018 Dry bed / No flow condition.
	PHYSICAL		
1	Q (cumec)	1.275	
2	EC_GEN (µmho/cm)	411	
3	pH_GEN (pH units)	8.2	
4	TDS (mg/L)		
5	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/BACTERIOLOG		
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)		
	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		

HISTORY SHEET

			Water Year	:	**2018-2019**
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 : 2018-2019

Station Name : HONNALI (AKL00X6) **Division : Cauvery Division, Bangalore**

Local River : Tungabhadra **River Water Sub-Division : Upper Tungabhadra SD Davangere**

S.No	Parameters	02/07/2018	01/08/2018	03/09/2018	01/11/2018	03/12/2018
		A	A	A	A	A
	PHYSICAL					
1	Q (cumec)	248.6	628.0	465.2	55.00	51.26
2	Colour_Cod (-)	Clear	SAMPLE RECEIVED ONLY FOR TRACE AND TOXIC METAL ANALYSIS	Clear	Clear	SAMPLE RECEIVED ONLY FOR TRACE AND TOXIC METAL ANALYSIS
3	EC_GEN (µmho/cm)	78		116	191	
4	Odour_Code (-)	odour free		odour free	odour free	
5	pH_FLD (pH units)					
6	pH_GEN (pH units)	7.2		7.5	8.1	
7	TDS (mg/L)	42		90	126	
8	Temp (deg C)	26.0		25.0	25.5	
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0		0.0	0.0	
2	ALK-TOT (mgCaCO3/L)	9		35	79	
3	B (mg/L)	0.36		0.12	0.00	
4	Ca (mg/L)	1		10	18	
5	Cl (mg/L)	7.8		13.5	14.2	
6	CO3 (mg/L)	0.0		0.0	0.0	
7	F (mg/L)	0.08		0.11	0.09	
8	Fe (mg/L)	0.6		0.3	0.3	
9	HCO3 (mg/L)	11		42	97	
10	K (mg/L)	1.2		1.2	1.5	
11	Mg (mg/L)	0.0		4.9	6.8	
12	Na (mg/L)	4.3		7.6	11.0	
13	NO2+NO3 (mg N/L)	0.78		0.07	0.31	
14	NO2-N (mgN/L)	0.06		0.00	0.00	
15	NO3-N (mgN/L)	0.73		0.07	0.31	
16	o-PO4-P (mg P/L)	0.041		0.000	0.000	
17	SiO2 (mg/L)	8.1		5.5	12.6	
18	SO4 (mg/L)	17.2		4.0	6.8	
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.1		1.0	1.0	
2	COD (mg/L)	15.0		14.0	16.0	
3	DO (mg/L)	7.2		6.6	6.1	
4	DO_SAT% (%)	89		80	74	
5	FCol-MPN (MPN/100mL)	5600		2370	260	
6	Tcol-MPN (MPN/100mL)	32000		3300	660	
	TRACE & TOXIC					
1	As (µg/L)		0.2			0.4
2	Cd (µg/L)		0.2			0.0
3	Cr (µg/L)		6.4			1.0
4	Cu (µg/L)		1.2			0.4
5	Ni (µg/L)		4.6			8.7
6	Pb (µg/L)		1.3			0.1
7	Zn (µg/L)		4.9			1.5
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	3		24	44	
2	HAR_Total (mgCaCO3/L)	3		44	72	
3	Na% (%)	68		27	24	
4	RSC (-)	0.1		0.0	0.1	
5	SAR (-)	1.1		0.5	0.6	
	PESTICIDES					

Water Quality Datasheet for the period : 2018-2019

Station Name : HONNALI (AKL00X6) **Division : Cauvery Division, Bangalore**

Local River : Tungabhadra **River Water Sub-Division : Upper Tungabhadra SD Davangere**

S.No	Parameters	01/01/2019	01/03/2019	01/04/2019	01/05/2019
		A	A	A	A
	PHYSICAL				
1	Q (cumec)	23.26	25.61	57.30	33.66
2	Colour_Cod (-)	Clear	Clear		Clear
3	EC_GEN (µmho/cm)	79	212	SAMPLE RECEIVED ONLY FOR TRACE AND TOXIC METAL ANALYSIS	234
4	Odour_Code (-)	odour free	odour free		odour free
5	pH_FLD (pH units)				7.6
6	pH_GEN (pH units)	7.7	7.0		7.3
7	TDS (mg/L)	44	150		176
8	Temp (deg C)	24.0	26.0		29.0
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0	0.0		0.0
2	ALK-TOT (mgCaCO3/L)	57	67		91
3	B (mg/L)	0.19	0.10		0.09
4	Ca (mg/L)	11	17		17
5	Cl (mg/L)	15.3	21.3		19.2
6	CO3 (mg/L)	0.0	0.0		0.0
7	F (mg/L)	0.11	0.25		0.13
8	Fe (mg/L)	0.0	0.1		0.1
9	HCO3 (mg/L)	70	81		111
10	K (mg/L)	1.7	2.5		3.0
11	Mg (mg/L)	7.8	8.7		10.3
12	Na (mg/L)	9.4	11.5		12.1
13	NO2+NO3 (mg N/L)	12.20	0.08		2.75
14	NO2-N (mgN/L)	0.14	0.01		0.00
15	NO3-N (mgN/L)	12.06	0.07		2.75
16	o-PO4-P (mg P/L)	2.480	0.000		0.000
17	SiO2 (mg/L)	7.4	10.7		13.1
18	SO4 (mg/L)	1.1	10.1		7.1
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	1.1	1.9		5.3
2	COD (mg/L)	16.0	16.0		75.0
3	DO (mg/L)	7.0	7.2		8.0
4	DO_SAT% (%)	84	89		104
5	FCol-MPN (MPN/100mL)	6500	60		1100
6	Tcol-MPN (MPN/100mL)	55000	330		2200
	TRACE & TOXIC				
1	As (µg/L)			1.3	
2	Cd (µg/L)			0.0	
3	Cr (µg/L)			0.0	
4	Cu (µg/L)			2.5	
5	Ni (µg/L)			2.9	
6	Pb (µg/L)			2.4	
7	Zn (µg/L)			4.9	
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	28	44		43
2	HAR_Total (mgCaCO3/L)	60	80		86
3	Na% (%)	25	23		23
4	RSC (-)	0.0	0.0		0.1
5	SAR (-)	0.5	0.6		0.6
	PESTICIDES				

Water Quality Summary for the period : 2018-2019

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	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	365	5170	18.40	306.9
2	EC_GEN (µmho/cm)	6	234	78	152
3	pH_GEN (pH units)	6	8.1	7.0	7.5
4	TDS (mg/L)	6	176	42	105
5	Temp (deg C)	6	29.0	24.0	25.9
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	6	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	6	91	9	56
3	B (mg/L)	6	0.36	0.00	0.14
4	Ca (mg/L)	6	18	1	12
5	Cl (mg/L)	6	21.3	7.8	15.2
6	CO3 (mg/L)	6	0.0	0.0	0
7	F (mg/L)	6	0.25	0.08	0.13
8	Fe (mg/L)	6	0.6	0.0	0.2
9	HCO3 (mg/L)	6	111	11	69
10	K (mg/L)	6	3.0	1.2	1.9
11	Mg (mg/L)	6	10.3	0.0	6.4
12	Na (mg/L)	6	12.1	4.3	9.3
13	NO2+NO3 (mg N/L)	6	12.20	0.07	2.7
14	NO2-N (mgN/L)	6	0.14	0.00	0.03
15	NO3-N (mgN/L)	6	12.06	0.07	2.66
16	o-PO4-P (mg P/L)	6	2.480	0.000	0.42
17	SiO2 (mg/L)	6	13.1	5.5	9.6
18	SO4 (mg/L)	6	17.2	1.1	7.7
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	6	5.3	1.0	1.9
2	COD (mg/L)	6	75.0	14.0	25.3
3	DO (mg/L)	6	8.0	6.1	7
4	DO_SAT% (%)	6	104	74	86
5	FCol-MPN (MPN/100mL)	6	6500	60	2648
6	Tcol-MPN (MPN/100mL)	6	55000	330	15582
	TRACE & TOXIC				
1	As (µg/L)	3	1.3	0.2	0.6
2	Cd (µg/L)	3	0.2	0.0	0.1
3	Cr (µg/L)	3	6.4	0.0	2.5
4	Cu (µg/L)	3	2.5	0.4	1.4
5	Ni (µg/L)	3	8.7	2.9	5.4
6	Pb (µg/L)	3	2.4	0.1	1.2
7	Zn (µg/L)	3	4.9	1.5	3.8
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	6	44	3	31
2	HAR_Total (mgCaCO3/L)	6	86	3	58
3	Na% (%)	6	68	23	32
4	RSC (-)	6	0.1	0.0	0.1
5	SAR (-)	6	1.1	0.5	0.6
	PESTICIDES				

Water Quality Seasonal Average for the period: 2004-2019

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				
		2004	2005	2008	2009	
	PHYSICAL					
1	Q (cumec)	545.4	140.4	533.8	308.8	
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	141	60	137	121	
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	7.2	7.0	7.9	7.7	
6	TDS (mg/L)					
7	Temp (deg C)	28.3	28.3	27.0	26.8	
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	76	55	40	38	
2	B (mg/L)		0.18		0.01	
3	Ca (mg/L)	11	11	10	10	
4	Cl (mg/L)	27.5	44.0	17.6	12.6	
5	F (mg/L)	0.26	0.35	0.03	0.07	
6	Fe (mg/L)		1.1		0.2	
7	HCO3 (mg/L)	49	67	49	47	
8	K (mg/L)	1.4	9.5	2.5	1.6	
9	Mg (mg/L)	5.2	5.7	2.9	4.4	
10	Na (mg/L)	17.8	28.4	10.8	8.4	
11	NH3-N (mg N/L)	0.00				
12	NO2+NO3 (mg N/L)	2.75	0.14	0.45	0.65	
13	NO2-N (mgN/L)	1.35	0.07	0.00	0.00	
14	NO3-N (mgN/L)	1.40	0.07	0.45	0.65	
15	o-PO4-P (mg P/L)	0.014	0.017		0.140	
16	SiO2 (mg/L)	4.4	0.2		10.2	
17	SO4 (mg/L)	1.0	1.9	2.7	3.5	
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.9	0.9			
2	COD (mg/L)					
3	DO (mg/L)	7.1	6.4			
4	DO_SAT% (%)	91	82			
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)	28	28	26	24	
2	HAR_Total (mgCaCO3/L)	50	51	38	42	
3	Na% (%)	41	50	35	28	
4	RSC (-)	0.0	0.3	0.1	0.0	
5	SAR (-)	1.1	2.0	0.8	0.5	
	PESTICIDES					

During Flood season 2006,2007 observations not done.

Water Quality Seasonal Average for the period: 2004-2019

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				
		2010	2011	2012	2013	2014
	PHYSICAL					
1	Q (cumec)	776.5	1445	361.9	1657	449.3
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	88	56	63	80	100
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	7.2	6.4	7.1	7.0	7.4
6	TDS (mg/L)					
7	Temp (deg C)	25.6	26.9	25.8	25.8	26.5
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	27	16	19	22	30
2	B (mg/L)				0.01	0.11
3	Ca (mg/L)	7	4	4	6	8
4	Cl (mg/L)	9.6	6.0	6.6	9.9	11.9
5	F (mg/L)	0.12	0.06	0.05	0.05	0.10
6	Fe (mg/L)	0.3	0.1		0.2	0.1
7	HCO3 (mg/L)	33	20	23	27	36
8	K (mg/L)	1.2	1.0	1.1	1.1	1.4
9	Mg (mg/L)	3.9	1.5	2.7	2.4	4.1
10	Na (mg/L)	5.2	3.5	3.8	5.5	6.7
11	NH3-N (mg N/L)					
12	NO2+NO3 (mg N/L)	0.69	0.53	0.71	0.73	0.77
13	NO2-N (mgN/L)	0.33	0.00	0.01	0.03	0.03
14	NO3-N (mgN/L)	0.36	0.53	0.71	0.69	0.74
15	o-PO4-P (mg P/L)	0.010	0.005		0.031	0.021
16	SiO2 (mg/L)	9.0	5.8		8.7	4.9
17	SO4 (mg/L)	4.2	3.4	3.2	3.7	4.1
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)		0.4	0.5	0.4	0.5
2	COD (mg/L)					
3	DO (mg/L)	5.3	6.1	6.4	6.3	5.7
4	DO_SAT% (%)	65	76	78	77	71
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
	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)	18	10	11	16	19
2	HAR_Total (mgCaCO3/L)	34	16	22	26	36
3	Na% (%)	24	31	26	30	28
4	RSC (-)	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.4	0.4	0.4	0.5	0.5
	PESTICIDES					

Water Quality Seasonal Average for the period: 2004-2019

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			
		2015	2016	2017	2018
	PHYSICAL				
1	Q (cumec)	297.8	325.9	248.1	447.3
2	EC_FLD (µmho/cm)				
3	EC_GEN (µmho/cm)	107	85	60	97
4	pH_FLD (pH units)				
5	pH_GEN (pH units)	7.2	6.4	7.1	7.3
6	TDS (mg/L)		45	46	66
7	Temp (deg C)	27.0	24.8	24.3	25.5
	CHEMICAL				
1	ALK-TOT (mgCaCO3/L)	32	24	17	22
2	B (mg/L)	0.82	0.11	0.03	0.24
3	Ca (mg/L)	9	5	7	5
4	Cl (mg/L)	11.4	8.3	5.9	10.6
5	F (mg/L)	0.13		0.05	0.09
6	Fe (mg/L)	0.2	0.4	0.2	0.4
7	HCO3 (mg/L)	40	29	21	27
8	K (mg/L)	1.3	1.3	1.1	1.2
9	Mg (mg/L)	3.9	2.2	1.6	2.4
10	Na (mg/L)	5.9	10.4	3.3	6.0
11	NH3-N (mg N/L)			3.27	
12	NO2+NO3 (mg N/L)	0.66	0.89	0.89	0.43
13	NO2-N (mgN/L)	0.05	0.03	0.01	0.03
14	NO3-N (mgN/L)	0.61	0.86	0.88	0.40
15	o-PO4-P (mg P/L)	0.134	0.016	0.661	0.021
16	SiO2 (mg/L)	17.4	32.3	4.7	6.8
17	SO4 (mg/L)	4.1	4.7	4.0	10.6
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	0.4	0.4	0.5	1.1
2	COD (mg/L)				14.5
3	DO (mg/L)	5.5	7.3	5.7	6.9
4	DO_SAT% (%)	69	87	68	84
5	FCol-MPN (MPN/100mL)				3985
6	Tcol-MPN (MPN/100mL)				17650
	TRACE & TOXIC				
1	As (µg/L)			3.0	0.2
2	Cd (µg/L)			0.0	0.2
3	Cr (µg/L)			11.0	6.4
4	Cu (µg/L)			2.0	1.2
5	Hg (µg/L)				
6	Ni (µg/L)				4.6
7	Pb (µg/L)			2.0	1.3
8	Zn (µg/L)			7.0	4.9
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	23	12	17	13
2	HAR_Total (mgCaCO3/L)	39	21	24	24
3	Na% (%)	24	48	22	47
4	RSC (-)	0.0	0.1	0.0	0.1
5	SAR (-)	0.4	1.2	0.3	0.8
	PESTICIDES				

Water Quality Seasonal Average for the period: 2004-2019

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				
		2004-2005	2005-2006	2006-2007	2008-2009	2009-2010
	PHYSICAL					
1	Q (cumec)	57.11	76.34		29.73	145.7
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	228	139		177	152
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	7.7	7.8		7.7	7.5
6	TDS (mg/L)					
7	Temp (deg C)	28.0	26.3		25.8	25.8
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	145	65		58	45
2	B (mg/L)		0.21		0.08	0.06
3	Ca (mg/L)	11	15		14	12
4	Cl (mg/L)	23.8	48.1		20.4	17.5
5	F (mg/L)	0.01	0.29		0.13	0.06
6	Fe (mg/L)	0.1	2.0		0.1	0.1
7	HCO3 (mg/L)	80	80		70	55
8	K (mg/L)	33.2	2.3		1.6	2.4
9	Mg (mg/L)	6.1	8.3		6.3	5.8
10	Na (mg/L)	14.6	36.2		15.1	9.0
11	NH3-N (mg N/L)	0.00				
12	NO2+NO3 (mg N/L)	3.22	0.87		0.46	0.97
13	NO2-N (mgN/L)	1.73	0.43		0.01	0.02
14	NO3-N (mgN/L)	1.49	0.44		0.45	0.95
15	o-PO4-P (mg P/L)	0.015	0.016		0.041	0.021
16	SiO2 (mg/L)	12.6	0.9		11.6	13.4
17	SO4 (mg/L)	5.3	4.8		2.8	2.7
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.8	0.7			
2	COD (mg/L)					
3	DO (mg/L)	7.0	6.3			
4	DO_SAT% (%)	89	78			
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)	27	38		34	30
2	HAR_Total (mgCaCO3/L)	53	73		60	54
3	Na% (%)	25	51		35	26
4	RSC (-)	0.3	0.0		0.0	0.0
5	SAR (-)	0.9	1.8		0.8	0.5
	PESTICIDES					

During Flood season 2006-2007 observations not done.

Water Quality Seasonal Average for the period: 2004-2019

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				
		2010-2011	2011-2012	2012-2013	2013-2014	2014-2015
	PHYSICAL					
1	Q (cumec)	80.10	52.15	90.40	134.8	48.62
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	154	177	235	211	222
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	7.7	7.2	7.5	7.4	7.9
6	TDS (mg/L)					
7	Temp (deg C)	26.4	28.0	25.3	25.5	25.2
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	50	59	78	68	54
2	B (mg/L)	0.05			0.00	0.21
3	Ca (mg/L)	11	13	22	15	15
4	Cl (mg/L)	19.0	20.1	26.6	21.3	22.0
5	F (mg/L)	0.05		0.19	0.29	0.15
6	Fe (mg/L)	0.0	0.0		0.1	0.0
7	HCO3 (mg/L)	61	72	95	83	66
8	K (mg/L)	1.2	1.5	1.6	1.7	4.1
9	Mg (mg/L)	7.3	6.8	6.3	6.8	7.3
10	Na (mg/L)	8.2	12.6	15.1	17.5	8.6
11	NH3-N (mg N/L)					
12	NO2+NO3 (mg N/L)	0.86	1.00	0.83	1.25	1.68
13	NO2-N (mgN/L)	0.01	0.44	0.01	0.00	0.39
14	NO3-N (mgN/L)	0.85	0.56	0.83	1.25	1.29
15	o-PO4-P (mg P/L)	0.016	0.000		0.021	0.021
16	SiO2 (mg/L)	11.1			9.6	4.9
17	SO4 (mg/L)	4.3	5.3	4.1	3.8	4.4
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.8	0.6	0.9	3.0	1.3
2	COD (mg/L)					
3	DO (mg/L)	6.4	6.2	5.4	5.2	5.4
4	DO_SAT% (%)	79	79	66	64	65
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
	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)	27	32	56	38	38
2	HAR_Total (mgCaCO3/L)	57	60	82	66	68
3	Na% (%)	23	29	26	36	20
4	RSC (-)	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.5	0.7	0.7	0.9	0.5
	PESTICIDES					

Water Quality Seasonal Average for the period: 2004-2019

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			
		2015-2016	2016-2017	2017-2018	2018-2019
	PHYSICAL				
1	Q (cumec)	65.37	33.12	37.25	43.17
2	EC_FLD (µmho/cm)				
3	EC_GEN (µmho/cm)	178	174	155	135
4	pH_FLD (pH units)				
5	pH_GEN (pH units)	7.3	8.0	7.8	7.9
6	TDS (mg/L)		96	99	85
7	Temp (deg C)	25.0	24.3	25.0	24.8
	CHEMICAL				
1	ALK-TOT (mgCaCO3/L)	59	47	54	68
2	B (mg/L)	0.18	0.20	0.06	0.09
3	Ca (mg/L)	17	13	11	14
4	Cl (mg/L)	19.3	23.1	15.8	14.7
5	F (mg/L)	0.17	3.42	0.14	0.10
6	Fe (mg/L)	0.1	0.0	0.0	0.2
7	HCO3 (mg/L)	72	57	66	83
8	K (mg/L)	1.7	1.6	1.4	1.6
9	Mg (mg/L)	6.3	7.9	7.2	7.3
10	Na (mg/L)	9.1	9.9	9.0	10.2
11	NH3-N (mg N/L)				
12	NO2+NO3 (mg N/L)	0.81	1.07	0.36	6.26
13	NO2-N (mgN/L)	0.00	0.01	0.01	0.07
14	NO3-N (mgN/L)	0.81	1.06	0.36	6.19
15	o-PO4-P (mg P/L)	0.181	0.000	0.000	1.240
16	SiO2 (mg/L)	16.0	10.1	9.6	10.0
17	SO4 (mg/L)	3.9	9.5	7.1	4.0
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	1.5	1.1	1.2	1.1
2	COD (mg/L)				16.0
3	DO (mg/L)	7.3	7.2	7.5	6.6
4	DO_SAT% (%)	88	85	90	79
5	FCol-MPN (MPN/100mL)				3380
6	Tcol-MPN (MPN/100mL)				27830
	TRACE & TOXIC				
1	As (µg/L)		1.0	2.3	0.4
2	Cd (µg/L)		0.0	0.1	0.0
3	Cr (µg/L)		0.2	7.6	1.0
4	Cu (µg/L)		1.3	2.2	0.3
5	Hg (µg/L)				
6	Ni (µg/L)		3.9	1.7	8.7
7	Pb (µg/L)		1.0	0.5	0.1
8	Zn (µg/L)		0.7	16.4	1.5
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	42	31	28	36
2	HAR_Total (mgCaCO3/L)	68	64	58	66
3	Na% (%)	22	25	25	25
4	RSC (-)	0.0	0.0	0.0	0.1
5	SAR (-)	0.5	0.5	0.5	0.5
	PESTICIDES				

Water Quality Seasonal Average for the period: 2004-2019

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			
		2005	2006	2008	2009
	PHYSICAL				
1	Q (cumec)	35.77	56.40	38.27	61.46
2	EC_FLD (µmho/cm)				
3	EC_GEN (µmho/cm)	308	185	205	149
4	pH_FLD (pH units)				
5	pH_GEN (pH units)	7.7	7.5	7.0	7.4
6	TDS (mg/L)				
7	Temp (deg C)	30.3	29.0	32.0	29.3
	CHEMICAL				
1	ALK-TOT (mgCaCO3/L)		61	63	48
2	B (mg/L)			0.07	0.07
3	Ca (mg/L)	11	15	17	12
4	Cl (mg/L)	34.3	21.3	21.9	17.2
5	F (mg/L)	0.28	0.65	0.15	0.08
6	Fe (mg/L)		1.5	0.0	0.2
7	HCO3 (mg/L)	109	74	77	59
8	K (mg/L)	41.4	9.3	2.3	1.4
9	Mg (mg/L)	8.3	7.6	6.2	4.4
10	Na (mg/L)	26.1	14.6	15.6	11.3
11	NH3-N (mg N/L)	0.00			
12	NO2+NO3 (mg N/L)	5.37	0.49	0.34	0.49
13	NO2-N (mgN/L)	4.76	0.24	0.00	0.01
14	NO3-N (mgN/L)	0.61	0.25	0.34	0.48
15	o-PO4-P (mg P/L)	0.014	0.014	0.000	0.016
16	SiO2 (mg/L)		10.2	12.1	11.0
17	SO4 (mg/L)	7.2	10.1	3.8	2.6
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	1.0	1.0		
2	COD (mg/L)				
3	DO (mg/L)	5.6	6.6		
4	DO_SAT% (%)	74	85		
5	FCol-MPN (MPN/100mL)				
6	Tcol-MPN (MPN/100mL)				
	TRACE & TOXIC				
1	As (µg/L)	1.8	13.7	6.7	
2	Cd (µg/L)		0.0	0.9	
3	Cr (µg/L)	7.5	7.5		
4	Cu (µg/L)		8.9	3.7	1.7
5	Hg (µg/L)	0.1			
6	Ni (µg/L)	5.2			11.7
7	Pb (µg/L)		4.5	1.2	
8	Zn (µg/L)			40.0	
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	27	37	43	30
2	HAR_Total (mgCaCO3/L)	61	69	69	48
3	Na% (%)	33	30	32	33
4	RSC (-)	0.6	0.0	0.0	0.0
5	SAR (-)	1.5	0.8	0.8	0.7
	PESTICIDES	**Observations not done due to Dry bed / No flow condition**			

Water Quality Seasonal Average for the period: 2004-2019

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				
		2010	2011	2012	2013	2014
	PHYSICAL					
1	Q (cumec)	38.27	46.91	88.92	33.34	118.8
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	228	258	157	186	239
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	7.8	7.4	7.1	7.2	7.5
6	TDS (mg/L)					
7	Temp (deg C)	26.9	30.4	28.0	28.5	28.0
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	76	78	48	58	77
2	B (mg/L)	0.06	0.29		0.00	0.11
3	Ca (mg/L)	18	19	13	15	18
4	Cl (mg/L)	22.2	22.9	17.0	18.6	23.3
5	F (mg/L)	0.18	0.39	0.16		0.27
6	Fe (mg/L)	0.1	0.1		0.1	0.1
7	HCO3 (mg/L)	93	96	58	71	94
8	K (mg/L)	2.2	2.2	2.0	1.6	1.8
9	Mg (mg/L)	7.8	8.7	5.1	6.8	8.7
10	Na (mg/L)	16.4	17.0	9.1	11.5	17.2
11	NH3-N (mg N/L)					
12	NO2+NO3 (mg N/L)	0.95	0.99	1.74	1.90	2.24
13	NO2-N (mgN/L)	0.04	0.01	0.07	0.01	0.01
14	NO3-N (mgN/L)	0.90	0.98	1.67	1.88	2.23
15	o-PO4-P (mg P/L)	0.010	0.016		0.031	0.052
16	SiO2 (mg/L)	13.3	15.8		13.1	10.3
17	SO4 (mg/L)	3.9	4.8	4.9	6.0	5.1
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)			1.0	0.7	2.8
2	COD (mg/L)					
3	DO (mg/L)		5.8	5.3	5.0	5.8
4	DO_SAT% (%)		77	67	65	75
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
	TRACE & TOXIC					
1	As (µg/L)		1.6	1.1	6.8	5.7
2	Cd (µg/L)		0.0	0.2	0.1	0.5
3	Cr (µg/L)		1.1	2.3	0.4	0.5
4	Cu (µg/L)			2.0	3.8	1.0
5	Hg (µg/L)					
6	Ni (µg/L)			9.2	3.3	7.9
7	Pb (µg/L)			3.7	2.5	2.9
8	Zn (µg/L)			10.0	123.6	16.0
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	46	48	33	38	44
2	HAR_Total (mgCaCO3/L)	78	84	54	66	80
3	Na% (%)	31	30	26	27	31
4	RSC (-)	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.8	0.8	0.5	0.6	0.8
	PESTICIDES					

Water Quality Seasonal Average for the period: 2004-2019

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				
		2015	2016	2017	2018	2019
	PHYSICAL					
1	Q (cumec)	35.17	34.31	12.50	25.17	38.86
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	230	144	164	247	223
4	pH_FLD (pH units)					7.6
5	pH_GEN (pH units)	7.4	6.8	7.9	7.8	7.1
6	TDS (mg/L)		68	94	152	163
7	Temp (deg C)	28.3	30.0	26.3	27.0	27.5
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	83	39	59	101	79
2	B (mg/L)	0.40	0.22	0.19	0.05	0.10
3	Ca (mg/L)	17	13	9	22	17
4	Cl (mg/L)	22.7	20.2	15.3	11.7	20.2
5	F (mg/L)	0.27		0.18	0.21	0.19
6	Fe (mg/L)	0.1	0.2	0.0	0.0	0.1
7	HCO3 (mg/L)	101	47	72	123	96
8	K (mg/L)	5.0	1.4	1.7	2.1	2.8
9	Mg (mg/L)	9.2	5.8	8.7	13.9	9.5
10	Na (mg/L)	15.3	6.3	12.7	7.0	11.8
11	NH3-N (mg N/L)					
12	NO2+NO3 (mg N/L)	1.45	0.88	0.62	0.84	1.42
13	NO2-N (mgN/L)	0.05	0.01	0.03	0.00	0.01
14	NO3-N (mgN/L)	1.40	0.87	0.60	0.84	1.41
15	o-PO4-P (mg P/L)	0.021	0.000	0.041	0.041	0.000
16	SiO2 (mg/L)	6.0	14.3	7.9	9.4	11.9
17	SO4 (mg/L)	5.2	6.1	7.8	10.8	8.6
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	2.3	0.5	0.7	0.9	3.6
2	COD (mg/L)				12.0	45.5
3	DO (mg/L)	5.2	5.2	6.1	5.5	7.6
4	DO_SAT% (%)	67	68	75	68	96
5	FCol-MPN (MPN/100mL)				280	580
6	Tcol-MPN (MPN/100mL)				560	1265
	TRACE & TOXIC					
1	As (µg/L)		3.0		0.6	1.3
2	Cd (µg/L)				0.0	0.0
3	Cr (µg/L)		3.0		0.3	0.0
4	Cu (µg/L)		0.5		2.3	2.5
5	Hg (µg/L)					
6	Ni (µg/L)		3.3		0.2	2.9
7	Pb (µg/L)				0.9	2.4
8	Zn (µg/L)		9.8		0.7	4.9
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	42	32	23	56	43
2	HAR_Total (mgCaCO3/L)	80	56	59	113	83
3	Na% (%)	28	20	29	12	23
4	RSC (-)	0.1	0.0	0.0	0.0	0.1
5	SAR (-)	0.7	0.4	0.7	0.3	0.6
	PESTICIDES					

HISTORY SHEET

			Water Year	:	**2018-2019**
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 : 2018-2019

Station Name : SHIMOGA (AKLD0C6) **Division : Cauvery Division, Bangalore**

Local River : Tunga **River Water Analysis** **Sub-Division : Upper Tungabhadra SD Davangere**

S.No	Parameters	01/06/2018	02/07/2018	01/08/2018	03/09/2018	01/11/2018	03/12/2018
		A	A	A	A	A	A
	PHYSICAL						
1	Q (cumec)	0.000	231.6	708.0	356.4	26.48	32.82
2	Colour_Cod (	SAMPLE NOT RECEIVED DUE TO NO FLOW	Light Brown	SAMPLE RECEIVED ONLY FOR TRACE AND TOXIC METAL ANALYSIS	Clear	Light Brown	SAMPLE RECEIVED ONLY FOR TRACE AND TOXIC METAL ANALYSIS
3	EC_FLD (µmh						
4	EC_GEN (µml		58		61	79	
5	Odour_Code		odour free		odour free	odour free	
6	pH_FLD (pH u						
7	pH_GEN (pH		6.9		7.2	7.3	
8	TDS (mg/L)		50		46	50	
9	Temp (deg C)		24.0		23.5	23.0	
	CHEMICAL						
1	Alk-Phen (mg		0.0		0.0	0.0	
2	ALK-TOT (mg		9		20	24	
3	B (mg/L)		0.00		0.00	0.06	
4	Ca (mg/L)		10		8	6	
5	Cl (mg/L)		3.9		5.7	9.9	
6	CO3 (mg/L)		0.0		0.0	0.0	
7	F (mg/L)		0.04		0.06	0.08	
8	Fe (mg/L)		0.4		0.4	0.1	
9	HCO3 (mg/L)		11		24	29	
10	K (mg/L)		1.0		1.9	1.2	
11	Mg (mg/L)		0.0		1.0	2.9	
12	Na (mg/L)		2.6		3.4	5.1	
13	NO2+NO3 (m		1.25		0.10	0.21	
14	NO2-N (mgN/		0.01		0.00	0.00	
15	NO3-N (mgN/		1.23		0.10	0.21	
16	o-PO4-P (mg		0.041		0.000	0.000	
17	SiO2 (mg/L)		7.8		1.6	9.3	
18	SO4 (mg/L)		9.6		4.2	1.3	
	BIOLOGICAL/						
1	BOD3-27 (mg		1.9		0.6	1.1	
2	COD (mg/L)		15.0		16.0	16.0	
3	DO (mg/L)		3.9		6.2	5.1	
4	DO_SAT% (%		46		73	59	
5	FCol-MPN (M		4400		1580	8500	
6	Tcol-MPN (M		32000		2200	27000	
	TRACE & TOX						
1	As (µg/L)			1.2			0.6
2	Cd (µg/L)			0.2			0.0
3	Cr (µg/L)			19.2			5.9
4	Cu (µg/L)			1.5			1.8
5	Ni (µg/L)			3.6			1.9
6	Pb (µg/L)			1.2			0.0
7	Zn (µg/L)			10.0			3.0
	CHEMICAL IN						
1	HAR_Ca (mg(		24		20	16	
2	HAR_Total (n		24		24	28	
3	Na% (%)		18		22	27	
4	RSC (-)		0.0		0.0	0.0	
5	SAR (-)		0.2		0.3	0.4	
	PESTICIDES						

Water Quality Datasheet for the period : 2018-2019

Station Name : SHIMOGA (AKLD0C6) **Division : Cauvery Division, Bangalore**

Local River : Tunga **River Water Analysis** **Sub-Division : Upper Tungabhadra SD Davangere**

S.No	Parameters	01/01/2019	01/03/2019	01/05/2019
		A	A	A
	PHYSICAL			
1	Q (cumec)	25.48	0.000	0.000
2	Colour_Cod (	Clear	Clear	Clear
3	EC_FLD (µmh	69		
4	EC_GEN (µm	79	107	206
5	Odour_Code	odour free	odour free	odour free
6	pH_FLD (pH u	7.0		7.0
7	pH_GEN (pH	7.7	6.8	7.2
8	TDS (mg/L)	44	67	178
9	Temp (deg C)	22.5	24.0	24.0
	CHEMICAL			
1	Alk-Phen (mg	0.0	0.0	0.0
2	ALK-TOT (mg	21	39	74
3	B (mg/L)	0.15	0.15	0.09
4	Ca (mg/L)	6	8	20
5	Cl (mg/L)	11.7	11.4	19.2
6	CO3 (mg/L)	0.0	0.0	0.0
7	F (mg/L)	0.58	0.11	0.08
8	Fe (mg/L)	0.0	0.2	0.0
9	HCO3 (mg/L)	26	48	90
10	K (mg/L)	1.2	2.0	4.5
11	Mg (mg/L)	3.9	4.9	4.7
12	Na (mg/L)	4.4	5.9	10.1
13	NO2+NO3 (m	18.63	0.10	4.31
14	NO2-N (mgN	0.14	0.01	0.28
15	NO3-N (mgN	18.50	0.08	4.04
16	o-PO4-P (mg	2.273	0.000	0.103
17	SiO2 (mg/L)	10.6	10.9	15.4
18	SO4 (mg/L)	0.8	1.0	4.1
	BIOLOGICAL/			
1	BOD3-27 (mg	1.0	2.2	11.0
2	COD (mg/L)	17.0	12.0	78.0
3	DO (mg/L)	5.8	3.1	1.0
4	DO_SAT% (%	66	37	12
5	FCol-MPN (M	8500	110	390
6	Tcol-MPN (M	46000	490	1400
	TRACE & TOX			
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 IN			
1	HAR_Ca (mg(	16	20	51
2	HAR_Total (m	32	40	70
3	Na% (%)	22	23	22
4	RSC (-)	0.0	0.0	0.1
5	SAR (-)	0.3	0.4	0.5
	PESTICIDES			

Water Quality Summary for the period : 2018-2019

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	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	365	3607	0.000	261.8
2	EC_GEN (µmho/cm)	6	206	58	98
3	pH_GEN (pH units)	6	7.7	6.8	7.2
4	TDS (mg/L)	6	178	44	73
5	Temp (deg C)	6	24.0	22.5	23.5
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	6	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	6	74	9	31
3	B (mg/L)	6	0.15	0.00	0.08
4	Ca (mg/L)	6	20	6	10
5	Cl (mg/L)	6	19.2	3.9	10.3
6	CO3 (mg/L)	6	0.0	0.0	0
7	F (mg/L)	6	0.58	0.04	0.16
8	Fe (mg/L)	6	0.4	0.0	0.2
9	HCO3 (mg/L)	6	90	11	38
10	K (mg/L)	6	4.5	1.0	1.9
11	Mg (mg/L)	6	4.9	0.0	2.9
12	Na (mg/L)	6	10.1	2.6	5.2
13	NO2+NO3 (mg N/L)	6	18.63	0.10	4.1
14	NO2-N (mgN/L)	6	0.28	0.00	0.07
15	NO3-N (mgN/L)	6	18.50	0.08	4.03
16	o-PO4-P (mg P/L)	6	2.273	0.000	0.403
17	SiO2 (mg/L)	6	15.4	1.6	9.2
18	SO4 (mg/L)	6	9.6	0.8	3.5
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	6	11.0	0.6	3
2	COD (mg/L)	6	78.0	12.0	25.7
3	DO (mg/L)	6	6.2	1.0	4.2
4	DO_SAT% (%)	6	73	12	49
5	FCol-MPN (MPN/100mL)	6	8500	110	3913
6	Tcol-MPN (MPN/100mL)	6	46000	490	18182
	TRACE & TOXIC				
1	As (µg/L)	2	1.2	0.6	0.9
2	Cd (µg/L)	2	0.2	0.0	0.1
3	Cr (µg/L)	2	19.2	5.9	12.6
4	Cu (µg/L)	2	1.8	1.5	1.6
5	Ni (µg/L)	2	3.6	1.9	2.8
6	Pb (µg/L)	2	1.2	0.0	0.6
7	Zn (µg/L)	2	10.0	3.0	6.5
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	6	51	16	24
2	HAR_Total (mgCaCO3/L)	6	70	24	36
3	Na% (%)	6	27	18	23
4	RSC (-)	6	0.1	0.0	0
5	SAR (-)	6	0.5	0.2	0.4
	PESTICIDES				

Water Quality Seasonal Average for the period: 2004-2019

Station Name : SHIMOGA (AKLD0C6) **Division : Cauvery Division, Bangalore**

Local River : Tunga **River Water** **Sub-Division : Upper Tungabhadra SD Davangere**

S.No	Parameters	Flood				
		Jun - Oct				
		2004	2005	2006	2007	2008
	PHYSICAL					
1	Q (cumec)	181.8	514.2	590.6	525.0	444.6
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	269	42	248	178	64
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	7.2	7.1	7.6	8.0	7.5
6	TDS (mg/L)					
7	Temp (deg C)	25.0	24.0	24.5	26.4	27.0
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	70	41	88	57	15
2	B (mg/L)		0.17	0.00	0.11	
3	Ca (mg/L)	15	7	12	12	4
4	Cl (mg/L)	42.2	68.6	25.2	17.9	6.7
5	F (mg/L)	0.09	0.19	0.00	0.38	0.02
6	Fe (mg/L)	0.0	0.1	0.0	0.0	
7	HCO3 (mg/L)	86	50	107	69	19
8	K (mg/L)	8.1	7.0	35.8	2.3	0.8
9	Mg (mg/L)	12.6	3.3	5.9	8.4	2.9
10	Na (mg/L)	22.0	48.5	15.1	11.5	3.9
11	NO2+NO3 (mg N/L)	2.09		0.15	0.24	0.59
12	NO2-N (mgN/L)	1.13		0.00	0.00	0.01
13	NO3-N (mgN/L)	0.96	0.48	0.15	0.24	0.57
14	o-PO4-P (mg P/L)	0.000	0.048	0.000	0.045	
15	SiO2 (mg/L)	10.0	2.8	1.6	0.9	
16	SO4 (mg/L)	3.0	3.1	5.5	3.3	3.6
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.0	0.9	2.0	1.1	1.2
2	COD (mg/L)					
3	DO (mg/L)	8.2	7.3	8.2	6.0	7.8
4	DO_SAT% (%)	99	86	97	74	98
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	Ni (µg/L)					
6	Pb (µg/L)					
7	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	39	17	31	29	10
2	HAR_Total (mgCaCO3/L)	91	31	55	64	22
3	Na% (%)	32	71	27	28	27
4	RSC (-)	0.0	0.2	0.7	0.0	0.0
5	SAR (-)	1.0	5.0	0.9	0.6	0.4
	PESTICIDES					

Water Quality Seasonal Average for the period: 2004-2019

Station Name : SHIMOGA (AKLD0C6) **Division : Cauvery Division, Bangalore**

Local River : Tunga **River Water** **Sub-Division : Upper Tungabhadra SD Davangere**

S.No	Parameters	Flood				
		Jun - Oct				
		2009	2010	2011	2012	2013
	PHYSICAL					
1	Q (cumec)	470.7	815.9	236.1	387.3	886.7
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	52	43	41	45	57
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	7.3	7.1	6.2	7.0	6.9
6	TDS (mg/L)					
7	Temp (deg C)	24.5	25.0	24.5	24.0	25.3
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	15	12	12	12	13
2	B (mg/L)	0.00		0.00		0.00
3	Ca (mg/L)	3	3	3	3	4
4	Cl (mg/L)	5.8	5.7	3.9	5.0	6.9
5	F (mg/L)	0.06	0.02	0.00	0.04	0.03
6	Fe (mg/L)	0.2	0.3	0.1		0.2
7	HCO3 (mg/L)	19	14	14	14	16
8	K (mg/L)	0.7	1.0	2.6	0.9	0.9
9	Mg (mg/L)	2.9	1.9	1.0	1.9	2.4
10	Na (mg/L)	3.2	2.8	3.0	2.9	3.7
11	NO2+NO3 (mg N/L)	0.49	0.43	0.38	0.63	0.66
12	NO2-N (mgN/L)	0.01	0.01	0.00	0.01	0.09
13	NO3-N (mgN/L)	0.48	0.42	0.38	0.62	0.57
14	o-PO4-P (mg P/L)	0.000	0.000	0.000		0.036
15	SiO2 (mg/L)	9.5	8.4	7.3		10.1
16	SO4 (mg/L)	3.2	2.3	3.0	3.0	3.9
	BIOLOGICAL/BACTERIOLO					
1	BOD3-27 (mg/L)	0.6		2.6	0.4	0.2
2	COD (mg/L)					
3	DO (mg/L)	6.8	7.2	6.9	6.8	6.7
4	DO_SAT% (%)	80	87	83	81	81
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
	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	8	8	10
2	HAR_Total (mgCaCO3/L)	20	16	12	16	20
3	Na% (%)	25	26	30	27	28
4	RSC (-)	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.3	0.3	0.4	0.3	0.4
	PESTICIDES					

Water Quality Seasonal Average for the period: 2004-2019

Station Name : SHIMOGA (AKLD0C6) **Division : Cauvery Division, Bangalore**

Local River : Tunga **River Water** **Sub-Division : Upper Tungabhadra SD Davangere**

S.No	Parameters	Flood				
		Jun - Oct				
		2014	2015	2016	2017	2018
	PHYSICAL					
1	Q (cumec)	17.51	296.9	550.2	287.7	324.0
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	61	60	54	56	60
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	7.1	7.1	6.3	6.9	7.1
6	TDS (mg/L)			30	40	48
7	Temp (deg C)	25.0	24.5	24.0	24.3	23.8
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	19	16	13	16	14
2	B (mg/L)	0.11	0.08	0.11	0.31	0.00
3	Ca (mg/L)	6	5	5	7	9
4	Cl (mg/L)	7.1	6.9	7.5	5.3	4.8
5	F (mg/L)	0.08	0.12		0.05	0.05
6	Fe (mg/L)	0.1	0.3	0.3	0.3	0.4
7	HCO3 (mg/L)	23	19	16	19	18
8	K (mg/L)	1.3	1.0	0.9	0.9	1.4
9	Mg (mg/L)	1.9	1.7	1.5	0.7	0.5
10	Na (mg/L)	3.1	4.2	3.8	3.3	3.0
11	NO2+NO3 (mg N/L)	0.31	0.48	0.60	0.78	0.67
12	NO2-N (mgN/L)	0.01	0.01	0.01	0.01	0.01
13	NO3-N (mgN/L)	0.29	0.46	0.58	0.77	0.67
14	o-PO4-P (mg P/L)	0.001	0.207	0.000	0.010	0.021
15	SiO2 (mg/L)	5.2	11.4	13.5	5.0	4.7
16	SO4 (mg/L)	3.5	3.1	2.9	3.2	6.9
	BIOLOGICAL/BACTERIOLO					
1	BOD3-27 (mg/L)	0.6	0.4	0.8	1.4	1.3
2	COD (mg/L)					15.5
3	DO (mg/L)	5.3	4.8	5.3	5.5	5.1
4	DO_SAT% (%)	65	57	63	66	59
5	FCol-MPN (MPN/100mL)					2990
6	Tcol-MPN (MPN/100mL)					17100
	TRACE & TOXIC					
1	As (µg/L)				1.0	1.2
2	Cd (µg/L)				0.0	0.2
3	Cr (µg/L)				15.0	19.2
4	Cu (µg/L)				3.0	1.5
5	Ni (µg/L)					3.6
6	Pb (µg/L)				2.0	1.2
7	Zn (µg/L)				7.0	10.0
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	16	13	12	17	22
2	HAR_Total (mgCaCO3/L)	24	20	18	20	24
3	Na% (%)	21	30	30	25	20
4	RSC (-)	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.3	0.4	0.4	0.3	0.3
	PESTICIDES					

Water Quality Seasonal Average for the period: 2004-2019

Station Name : SHIMOGA (AKLD0C6) **Division : Cauvery Division, Bangalore**

Local River : Tunga **River Water** **Sub-Division : Upper Tungabhadra SD Davangere**

S.No	Parameters	Winter			
		Nov - Feb			
		2004-2005	2005-2006	2006-2007	2007-2008
	PHYSICAL				
1	Q (cumec)	26.11	50.59	31.91	55.47
2	EC_FLD (µmho/cm)				
3	EC_GEN (µmho/cm)	352	75	319	132
4	pH_FLD (pH units)				
5	pH_GEN (pH units)	7.8	7.8	7.6	7.7
6	TDS (mg/L)				
7	Temp (deg C)	23.0	22.3	25.3	24.4
	CHEMICAL				
1	ALK-TOT (mgCaCO3/L)	72	40	118	40
2	B (mg/L)		0.22	0.00	0.05
3	Ca (mg/L)	6	8	20	11
4	Cl (mg/L)	75.8	67.3	30.5	13.2
5	F (mg/L)	0.09		0.00	0.14
6	Fe (mg/L)	0.2		0.0	0.1
7	HCO3 (mg/L)	88	49	144	49
8	K (mg/L)	13.6	1.7	29.0	2.8
9	Mg (mg/L)	8.1	5.3	9.3	4.0
10	Na (mg/L)	59.0	48.3	21.6	8.6
11	NO2+NO3 (mg N/L)	2.99		0.18	0.32
12	NO2-N (mgN/L)	1.52		0.00	0.10
13	NO3-N (mgN/L)	1.47		0.18	0.22
14	o-PO4-P (mg P/L)	0.000	0.041	0.000	0.121
15	SiO2 (mg/L)	1.2	1.9	1.4	14.3
16	SO4 (mg/L)	5.0	1.9	1.2	2.9
	BIOLOGICAL/BACTERIOLO				
1	BOD3-27 (mg/L)	0.5	1.0	1.2	1.2
2	COD (mg/L)				
3	DO (mg/L)	7.9	7.4	7.8	8.4
4	DO_SAT% (%)	92	85	95	101
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	Ni (µg/L)				
6	Pb (µg/L)				
7	Zn (µg/L)				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	16	20	49	29
2	HAR_Total (mgCaCO3/L)	50	42	87	45
3	Na% (%)	66	72	31	28
4	RSC (-)	0.5	0.1	0.6	0.0
5	SAR (-)	3.6	3.8	1.3	0.6
	PESTICIDES				

Water Quality Seasonal Average for the period: 2004-2019

Station Name : SHIMOGA (AKLD0C6) **Division : Cauvery Division, Bangalore**

Local River : Tunga **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)	7.848	103.8	51.94	35.90
2	EC_FLD (µmho/cm)				
3	EC_GEN (µmho/cm)	111	75	66	78
4	pH_FLD (pH units)				
5	pH_GEN (pH units)	7.6	7.8	7.4	6.9
6	TDS (mg/L)				
7	Temp (deg C)	25.8	25.3	25.0	24.3
	CHEMICAL				
1	ALK-TOT (mgCaCO3/L)	52	27		23
2	B (mg/L)	0.09	0.04	0.08	
3	Ca (mg/L)	8	6	4	6
4	Cl (mg/L)	11.7	7.8	6.0	9.4
5	F (mg/L)	0.08	0.03	0.06	
6	Fe (mg/L)	0.1	0.1	0.2	0.1
7	HCO3 (mg/L)	63	33	28	28
8	K (mg/L)	2.5	0.9	0.9	1.0
9	Mg (mg/L)	3.4	2.9	3.2	3.4
10	Na (mg/L)	8.0	4.0	3.5	4.6
11	NO2+NO3 (mg N/L)	0.53	0.41	0.46	0.61
12	NO2-N (mgN/L)	0.09	0.01	0.01	0.01
13	NO3-N (mgN/L)	0.44	0.41	0.45	0.60
14	o-PO4-P (mg P/L)	0.124	0.005	0.000	0.000
15	SiO2 (mg/L)	12.4	10.2	11.1	11.0
16	SO4 (mg/L)	1.2	0.9	2.1	2.2
	BIOLOGICAL/BACTERIOLO				
1	BOD3-27 (mg/L)	1.8	0.9		0.9
2	COD (mg/L)				
3	DO (mg/L)	6.8	7.4	6.6	5.9
4	DO_SAT% (%)	82	90	80	70
5	FCol-MPN (MPN/100mL)				
6	Tcol-MPN (MPN/100mL)				
	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	Ni (µg/L)				5.2
6	Pb (µg/L)				
7	Zn (µg/L)				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	20	16	11	14
2	HAR_Total (mgCaCO3/L)	34	28	22	28
3	Na% (%)	31	23	23	26
4	RSC (-)	0.4	0.0	0.0	0.0
5	SAR (-)	0.6	0.3	0.3	0.4
	PESTICIDES				

Water Quality Seasonal Average for the period: 2004-2019

Station Name : SHIMOGA (AKLD0C6) **Division : Cauvery Division, Bangalore**

Local River : Tunga **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)	102.7	46.92	11.01	26.11
2	EC_FLD (µmho/cm)				
3	EC_GEN (µmho/cm)	87	75	76	74
4	pH_FLD (pH units)				
5	pH_GEN (pH units)	7.0	7.1	7.4	7.1
6	TDS (mg/L)				37
7	Temp (deg C)	23.8	23.5	24.0	24.3
	CHEMICAL				
1	ALK-TOT (mgCaCO3/L)	29	23	24	21
2	B (mg/L)		0.00	0.15	0.24
3	Ca (mg/L)	7	6	7	7
4	Cl (mg/L)	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	0.0	0.2
7	HCO3 (mg/L)	35	29	29	26
8	K (mg/L)	1.3	1.0	2.3	1.1
9	Mg (mg/L)	3.4	2.9	3.2	2.4
10	Na (mg/L)	5.1	4.6	3.5	3.9
11	NO2+NO3 (mg N/L)	0.71	0.70	0.90	0.56
12	NO2-N (mgN/L)	0.01	0.01	0.06	0.00
13	NO3-N (mgN/L)	0.70	0.69	0.84	0.56
14	o-PO4-P (mg P/L)		0.036	0.005	0.320
15	SiO2 (mg/L)		8.0	5.5	17.1
16	SO4 (mg/L)	2.4	1.6	3.0	2.0
	BIOLOGICAL/BACTERIOLO				
1	BOD3-27 (mg/L)	1.2	0.8	0.7	0.5
2	COD (mg/L)				
3	DO (mg/L)	5.9	6.6	5.8	6.1
4	DO_SAT% (%)	69	78	69	72
5	FCol-MPN (MPN/100mL)				
6	Tcol-MPN (MPN/100mL)				
	TRACE & TOXIC				
1	As (µg/L)				
2	Cd (µg/L)			0.1	
3	Cr (µg/L)			0.8	
4	Cu (µg/L)			4.3	
5	Ni (µg/L)			1.8	
6	Pb (µg/L)			1.5	
7	Zn (µg/L)			8.3	
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	17	16	17	18
2	HAR_Total (mgCaCO3/L)	31	28	30	28
3	Na% (%)	26	26	19	23
4	RSC (-)	0.0	0.0	0.0	0.0
5	SAR (-)	0.4	0.4	0.3	0.3
	PESTICIDES				

Water Quality Seasonal Average for the period: 2004-2019

Station Name : SHIMOGA (AKLD0C6) **Division : Cauvery Division, Bangalore**

Local River : Tunga **River Water** **Sub-Division : Upper Tungabhadra SD Davangere**

S.No	Parameters	Winter		
		Nov - Feb		
		2016-2017	2017-2018	2018-2019
	PHYSICAL			
1	Q (cumec)	21.18	35.47	28.26
2	EC_FLD (µmho/cm)			69
3	EC_GEN (µmho/cm)	74	68	79
4	pH_FLD (pH units)			7.0
5	pH_GEN (pH units)	7.3	7.1	7.5
6	TDS (mg/L)	39	40	47
7	Temp (deg C)	22.8	22.5	22.8
	CHEMICAL			
1	ALK-TOT (mgCaCO3/L)	19	23	23
2	B (mg/L)	0.02	0.02	0.11
3	Ca (mg/L)	5	9	6
4	Cl (mg/L)	9.2	6.6	10.8
5	F (mg/L)		0.07	0.33
6	Fe (mg/L)	0.0	0.2	0.1
7	HCO3 (mg/L)	23	28	28
8	K (mg/L)	1.1	1.1	1.2
9	Mg (mg/L)	4.0	0.9	3.4
10	Na (mg/L)	3.9	3.5	4.8
11	NO2+NO3 (mg N/L)	1.16	0.60	9.42
12	NO2-N (mgN/L)	0.01	0.01	0.07
13	NO3-N (mgN/L)	1.15	0.59	9.35
14	o-PO4-P (mg P/L)	0.000	0.000	1.137
15	SiO2 (mg/L)	7.4	7.7	9.9
16	SO4 (mg/L)	2.1	1.8	1.1
	BIOLOGICAL/BACTERIOLC			
1	BOD3-27 (mg/L)	1.3	0.7	1.1
2	COD (mg/L)			16.5
3	DO (mg/L)	6.2	5.9	5.5
4	DO_SAT% (%)	72	68	63
5	FCol-MPN (MPN/100mL)			8500
6	Tcol-MPN (MPN/100mL)			36500
	TRACE & TOXIC			
1	As (µg/L)	1.4	3.5	0.6
2	Cd (µg/L)	0.0	0.0	0.0
3	Cr (µg/L)	0.1	5.2	5.9
4	Cu (µg/L)	1.1	0.8	1.8
5	Ni (µg/L)	0.6	1.2	1.9
6	Pb (µg/L)	0.0	0.6	0.0
7	Zn (µg/L)	4.1	17.4	3.0
	CHEMICAL INDICES			
1	HAR_Ca (mgCaCO3/L)	14	22	16
2	HAR_Total (mgCaCO3/L)	30	26	30
3	Na% (%)	21	22	25
4	RSC (-)	0.0	0.0	0.0
5	SAR (-)	0.3	0.3	0.4
	PESTICIDES			

Water Quality Seasonal Average for the period: 2004-2019

Station Name : SHIMOGA (AKLD0C6) **Division : Cauvery Division, Bangalore**

Local River : Tunga **River Water** **Sub-Division : Upper Tungabhadra SD Davangere**

S.No	Parameters	Summer				
		Mar - May				
		2006	2007	2008	2012	2013
	PHYSICAL					
1	Q (cumec)	0.910	3.786	8.390	4.179	0.378
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	153	339	234	141	148
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	7.5	7.7	7.9	6.9	7.5
6	TDS (mg/L)					
7	Temp (deg C)	25.3	28.3	29.3	24.8	27.5
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	75	118	86	46	45
2	B (mg/L)		0.00	0.01		0.00
3	Ca (mg/L)	18	21	16	10	11
4	Cl (mg/L)	89.0	35.3	15.4	14.2	14.2
5	F (mg/L)		0.00	0.07	0.14	
6	Fe (mg/L)		0.0	0.0		0.1
7	HCO3 (mg/L)	92	144	105	56	54
8	K (mg/L)	1.8	34.0	6.3	3.1	4.1
9	Mg (mg/L)	5.7	8.5	11.4	5.3	4.9
10	Na (mg/L)	68.2	26.1	11.3	7.0	8.7
11	NO2+NO3 (mg N/L)		0.34	0.22	1.50	2.89
12	NO2-N (mgN/L)		0.00	0.00	0.12	0.01
13	NO3-N (mgN/L)		0.34	0.22	1.38	2.87
14	o-PO4-P (mg P/L)	0.052	0.000	0.000		0.155
15	SiO2 (mg/L)	1.2	16.2	12.1		10.1
16	SO4 (mg/L)	2.0	10.6	1.5	2.2	2.9
	BIOLOGICAL/BACTERIOLO					
1	BOD3-27 (mg/L)	1.8	1.8	1.6	1.5	0.2
2	COD (mg/L)					
3	DO (mg/L)	6.7	5.5	4.8	4.7	4.0
4	DO_SAT% (%)	80	70	67	56	50
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
	TRACE & TOXIC					
1	As (µg/L)	12.8	5.4	5.8		2.2
2	Cd (µg/L)		2.0	1.0		0.1
3	Cr (µg/L)	4.0				0.1
4	Cu (µg/L)	3.8	3.3	3.5		2.8
5	Ni (µg/L)	1.0				14.1
6	Pb (µg/L)		2.4	1.5		1.5
7	Zn (µg/L)		55.0	29.0		14.1
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	45	52	41	26	28
2	HAR_Total (mgCaCO3/L)	69	88	88	48	48
3	Na% (%)	68	30	21	23	26
4	RSC (-)	0.1	0.6	0.0	0.0	0.0
5	SAR (-)	3.6	1.2	0.5	0.4	0.5
	PESTICIDES					

Water Quality Seasonal Average for the period: 2004-2019

Station Name : SHIMOGA (AKLD0C6) **Division : Cauvery Division, Bangalore**

Local River : Tunga **River Water** **Sub-Division : Upper Tungabhadra SD Davangere**

S.No	Parameters		Summer			
			Mar - May			
		2014	2015	2016	2019	
	PHYSICAL					
1	Q (cumec)	3.504	2.901	2.268	0.000	
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	130	135	154	157	
4	pH_FLD (pH units)				7.0	
5	pH_GEN (pH units)	7.2	7.4	6.5	7.0	
6	TDS (mg/L)			72	123	
7	Temp (deg C)	26.8	27.0	27.3	24.0	
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	43	44	47	56	
2	B (mg/L)	0.10	0.37	0.20	0.12	
3	Ca (mg/L)	10	11	11	14	
4	Cl (mg/L)	11.0	15.6	17.6	15.3	
5	F (mg/L)	0.10	0.13		0.09	
6	Fe (mg/L)	0.1	0.1	0.0	0.1	
7	HCO3 (mg/L)	52	53	58	69	
8	K (mg/L)	3.9	3.4	3.1	3.2	
9	Mg (mg/L)	4.4	5.3	6.6	4.8	
10	Na (mg/L)	9.0	7.2	8.6	8.0	
11	NO2+NO3 (mg N/L)	2.09	0.90	0.75	2.20	
12	NO2-N (mgN/L)	0.01	0.08	0.10	0.14	
13	NO3-N (mgN/L)	2.07	0.81	0.65	2.06	
14	o-PO4-P (mg P/L)	0.078	0.010	0.067	0.052	
15	SiO2 (mg/L)	7.5	4.8	15.3	13.1	
16	SO4 (mg/L)	3.7	2.5	4.6	2.5	
	BIOLOGICAL/BACTERIOLO					
1	BOD3-27 (mg/L)	1.0	0.7	11.1	6.6	
2	COD (mg/L)				45.0	
3	DO (mg/L)	4.3	4.0	1.0	2.0	
4	DO_SAT% (%)	53	50	12	24	
5	FCol-MPN (MPN/100mL)				250	
6	Tcol-MPN (MPN/100mL)				945	
	TRACE & TOXIC					
1	As (µg/L)	1.2		3.1		
2	Cd (µg/L)	0.0				
3	Cr (µg/L)	0.5		2.0		
4	Cu (µg/L)	1.4		0.3		
5	Ni (µg/L)	11.4		0.1		
6	Pb (µg/L)	2.0				
7	Zn (µg/L)	14.0		0.7		
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	24	28	27	35	
2	HAR_Total (mgCaCO3/L)	42	50	54	55	
3	Na% (%)	29	22	24	23	
4	RSC (-)	0.0	0.0	0.0	0.0	
5	SAR (-)	0.6	0.4	0.5	0.5	
	PESTICIDES					

Samples not collected during Summer season 2005,2009, to 2011, 2017 and 2018 due to DryBed / No Flow condition.

HISTORY SHEET

			Water Year	:	**2018-2019**
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 : 2018-2019

Station Name : HOLEHONNUR (AKLE0A4) **Division : Cauvery Division, Bangalore**

Local River : Bhadra **River Water** **Sub-Division : Upper Tungabhadra SD Davangere**

S.No	Parameters	01/06/2018	11/06/2018	21/06/2018	02/07/2018	11/07/2018
		B	A	A	A	B
	PHYSICAL					
1	Q (cumec)	29.84	85.06	17.65	13.04	30.49
2	Colour_Cod (-)	Clear	Clear	Clear	Light Brown	Clear
3	EC_GEN (µmho/cm)	228	257	320	325	325
4	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free
5	pH_GEN (pH units)	7.5	7.5	7.6	7.7	7.5
6	TDS (mg/L)	152	152	166	176	268
7	Temp (deg C)	24.0	23.5	23.5	24.0	23.5
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	70	83	103	106	114
3	B (mg/L)	0.06	0.12	0.28	0.00	0.09
4	Ca (mg/L)	27	27	35	32	29
5	Cl (mg/L)	19.9	21.7	27.3	29.1	29.1
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.17	0.21	0.23	0.21	0.19
8	Fe (mg/L)	0.5	0.9	1.1	0.7	0.0
9	HCO3 (mg/L)	86	101	126	129	140
10	K (mg/L)	4.8	5.2	6.7	3.7	5.2
11	Mg (mg/L)	4.9	5.8	7.8	13.6	13.6
12	Na (mg/L)	10.1	22.1	13.8	15.2	16.7
13	NO2+NO3 (mg N/L)	1.33	0.98	4.61	0.94	0.88
14	NO2-N (mgN/L)	0.01	0.01	0.03	0.00	0.03
15	NO3-N (mgN/L)	1.32	0.97	4.58	0.94	0.85
16	o-PO4-P (mg P/L)	0.031	0.083	0.083	0.041	0.093
17	SiO2 (mg/L)	12.0	13.1	13.4	14.6	14.9
18	SO4 (mg/L)	15.6	26.7	16.2	13.4	14.4
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	4.2	2.0	0.8	6.0	0.6
2	COD (mg/L)	32.0	7.0	7.0	22.0	19.0
3	DO (mg/L)	5.6	6.1	5.5	6.3	5.8
4	DO_SAT% (%)	67	71	64	75	68
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	Ni (µg/L)					
6	Pb (µg/L)					
7	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	68	68	88	80	72
2	HAR_Total (mgCaCO3/L)	88	92	120	137	129
3	Na% (%)	19	33	19	19	21
4	RSC (-)	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.5	1.0	0.5	0.6	0.6
	PESTICIDES					

Water Quality Datasheet for the period : 2018-2019

Station Name : HOLEHONNUR (AKLE0A4) **Division : Cauvery Division, Bangalore**

Local River : Bhadra **River Water** **Sub-Division : Upper Tungabhadra SD Davangere**

S.No	Parameters	21/07/2018	01/08/2018	11/08/2018	21/08/2018	03/09/2018
		A	A	A	A	B
	PHYSICAL					
1	Q (cumec)	108.0	173.1	421.1	503.1	141.5
2	Colour_Cod (-)	Clear	Clear	Light Brown	Clear	Light Brown
3	EC_GEN (µmho/cm)	281	95	79	96	98
4	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free
5	pH_GEN (pH units)	7.5	7.2	7.4	7.4	7.4
6	TDS (mg/L)	160	72	68	80	56
7	Temp (deg C)	24.5	23.0	22.5	22.5	23.0
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	110	35	25	35	37
3	B (mg/L)	0.03	0.12	0.12	0.13	0.00
4	Ca (mg/L)	29	11	13	8	11
5	Cl (mg/L)	23.1	7.8	5.7	7.8	7.8
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.19	0.06	0.06	0.63	0.06
8	Fe (mg/L)	0.5	0.3	0.9	0.4	0.0
9	HCO3 (mg/L)	134	43	30	42	46
10	K (mg/L)	5.1	1.3	1.9	1.8	4.1
11	Mg (mg/L)	8.7	2.9	0.0	4.9	2.9
12	Na (mg/L)	13.0	5.0	3.5	4.4	4.1
13	NO2+NO3 (mg N/L)	0.24	0.48	0.63	0.17	2.24
14	NO2-N (mgN/L)	0.01	0.01	0.01	0.01	0.00
15	NO3-N (mgN/L)	0.22	0.46	0.62	0.15	2.24
16	o-PO4-P (mg P/L)	0.062	0.000	0.124	0.000	0.000
17	SiO2 (mg/L)	15.2	9.9	9.6	11.0	6.2
18	SO4 (mg/L)	7.8	3.6	6.7	2.0	2.3
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	3.7	2.4	1.5	1.6	1.3
2	COD (mg/L)	16.0	29.0	11.0	10.0	10.0
3	DO (mg/L)	4.2	8.8	5.8	6.8	6.4
4	DO_SAT% (%)	50	103	66	78	75
5	FCol-MPN (MPN/100mL)					1580
6	Tcol-MPN (MPN/100mL)					4400
	TRACE & TOXIC					
1	As (µg/L)		4.2			
2	Cd (µg/L)		0.1			
3	Cr (µg/L)		1.1			
4	Cu (µg/L)		3.9			
5	Ni (µg/L)		3.1			
6	Pb (µg/L)		0.8			
7	Zn (µg/L)		4.8			
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	72	28	32	20	28
2	HAR_Total (mgCaCO3/L)	108	40	32	40	40
3	Na% (%)	20	21	18	19	16
4	RSC (-)	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.5	0.3	0.3	0.3	0.3
	PESTICIDES					

Water Quality Datasheet for the period : 2018-2019

Station Name : HOLEHONNUR (AKLE0A4) **Division : Cauvery Division, Bangalore**

Local River : Bhadra **River Water** **Sub-Division : Upper Tungabhadra SD Davangere**

S.No	Parameters	11/09/2018	22/09/2018	03/10/2018	11/10/2018	22/10/2018
		A	A	A	A	A
	PHYSICAL					
1	Q (cumec)	114.6	84.04	32.40	65.94	31.98
2	Colour_Cod (-)	Clear	Light Brown	Clear	Light Brown	Light Brown
3	EC_GEN (µmho/cm)	134	180	272	197	273
4	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free
5	pH_GEN (pH units)	7.4	7.6	7.6	7.6	7.8
6	TDS (mg/L)	84	106	190	144	150
7	Temp (deg C)	23.0	23.0	23.5	23.5	23.5
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	44	64	92	80	101
3	B (mg/L)	0.12	0.15	0.01	0.02	0.00
4	Ca (mg/L)	12	18	22	16	24
5	Cl (mg/L)	13.5	17.0	23.1	14.2	24.1
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.10	0.19	0.17	0.08	0.11
8	Fe (mg/L)	0.3	0.5	0.3	0.3	0.3
9	HCO3 (mg/L)	54	79	112	98	123
10	K (mg/L)	3.0	3.1	3.0	2.2	2.8
11	Mg (mg/L)	4.4	7.8	13.6	9.7	11.7
12	Na (mg/L)	8.4	8.9	11.0	7.7	11.3
13	NO2+NO3 (mg N/L)	0.25	0.11	0.62	0.60	1.19
14	NO2-N (mgN/L)	0.01	0.01	0.04	0.03	0.06
15	NO3-N (mgN/L)	0.24	0.10	0.57	0.57	1.13
16	o-PO4-P (mg P/L)	0.000	0.021	0.031	0.041	0.031
17	SiO2 (mg/L)	2.5	3.6	3.1	6.0	6.5
18	SO4 (mg/L)	5.4	15.4	18.6	18.6	10.1
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	2.4	6.7	1.9	1.5	0.2
2	COD (mg/L)	12.0	14.0	10.0	13.0	24.0
3	DO (mg/L)	6.5	6.7	6.6	6.3	6.8
4	DO_SAT% (%)	76	78	77	73	79
5	FCol-MPN (MPN/100mL)	1580	3300	2450	1400	990
6	Tcol-MPN (MPN/100mL)	5500	10500	5500	3400	3900
	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)	30	44	56	40	60
2	HAR_Total (mgCaCO3/L)	48	76	113	81	109
3	Na% (%)	26	20	17	17	18
4	RSC (-)	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.5	0.4	0.5	0.4	0.5
	PESTICIDES					

Water Quality Datasheet for the period : 2018-2019

Station Name : HOLEHONNUR (AKLE0A4) **Division : Cauvery Division, Bangalore**

Local River : Bhadra **River Water** **Sub-Division : Upper Tungabhadra SD Davangere**

S.No	Parameters	01/11/2018	12/11/2018	22/11/2018	03/12/2018	11/12/2018
		A	A	A	A	A
	PHYSICAL					
1	Q (cumec)	31.97	31.62	22.24	8.871	9.678
2	Colour_Cod (-)	Clear	Clear	Clear	Clear	Clear
3	EC_GEN (µmho/cm)	199	187	202	267	298
4	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free
5	pH_GEN (pH units)	7.6	7.6	7.6	8.3	8.1
6	TDS (mg/L)	130	104	122	150	200
7	Temp (deg C)	22.5	23.0	23.0	22.5	23.0
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	7.1	0.0
2	ALK-TOT (mgCaCO3/L)	77	68	73	135	110
3	B (mg/L)	0.00	0.00	0.00	0.09	0.10
4	Ca (mg/L)	14	14	16	22	24
5	Cl (mg/L)	17.4	19.2	17.4	12.8	24.9
6	CO3 (mg/L)	0.0	0.0	0.0	8.6	0.0
7	F (mg/L)	0.13	0.15	0.15	0.17	0.17
8	Fe (mg/L)	0.1	0.2	0.2	0.1	0.2
9	HCO3 (mg/L)	94	83	89	147	134
10	K (mg/L)	1.7	1.9	2.5	2.3	2.9
11	Mg (mg/L)	12.6	12.6	9.7	18.8	11.7
12	Na (mg/L)	10.3	8.1	8.1	15.0	16.0
13	NO2+NO3 (mg N/L)	0.43	0.63	1.12	0.25	0.27
14	NO2-N (mgN/L)	0.00	0.01	0.01	0.01	0.01
15	NO3-N (mgN/L)	0.43	0.62	1.11	0.24	0.25
16	o-PO4-P (mg P/L)	0.010	0.041	0.041	0.052	0.072
17	SiO2 (mg/L)	12.7	35.3	13.6	12.9	13.2
18	SO4 (mg/L)	27.7	3.7	3.6	8.0	1.6
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.0	1.0	1.7	4.3	1.0
2	COD (mg/L)	9.0	4.0	6.0	16.0	8.0
3	DO (mg/L)	6.3	5.3	5.1	6.7	6.8
4	DO_SAT% (%)	72	62	59	77	80
5	FCol-MPN (MPN/100mL)	225	3300	330	2100	330
6	Tcol-MPN (MPN/100mL)	390	1600	16200	10500	3900
	TRACE & TOXIC					
1	As (µg/L)				0.2	
2	Cd (µg/L)				0.0	
3	Cr (µg/L)				1.4	
4	Cu (µg/L)				1.6	
5	Ni (µg/L)				2.9	
6	Pb (µg/L)				1.6	
7	Zn (µg/L)				1.1	
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	36	36	40	55	60
2	HAR_Total (mgCaCO3/L)	89	89	81	133	109
3	Na% (%)	20	16	17	19	24
4	RSC (-)	0.0	0.0	0.0	0.1	0.0
5	SAR (-)	0.5	0.4	0.4	0.6	0.7
	PESTICIDES					

Water Quality Datasheet for the period : 2018-2019

Station Name : HOLEHONNUR (AKLE0A4) **Division : Cauvery Division, Bangalore**

Local River : Bhadra **River Water** **Sub-Division : Upper Tungabhadra SD Davangere**

S.No	Parameters	21/12/2018	01/01/2019	11/01/2019	21/01/2019	01/02/2019
		A	A	B	A	A
	PHYSICAL					
1	Q (cumec)	8.942	9.210	8.220	21.87	102.6
2	Colour_Cod (-)	Clear	Clear	Clear	Clear	
3	EC_GEN (µmho/cm)	299	291	251	189	152
4	Odour_Code (-)	odour free	odour free	odour free	odour free	
5	pH_GEN (pH units)	8.1	7.9	7.5	7.4	7.4
6	TDS (mg/L)	178	190	200	110	88
7	Temp (deg C)	22.5	22.0	22.0	22.0	22.5
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	121	96	81	52	52
3	B (mg/L)	0.07	0.24	0.23	0.23	0.44
4	Ca (mg/L)	22	26	19	18	11
5	Cl (mg/L)	12.8	28.8	19.2	21.7	15.3
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.17	0.17	0.19	0.15	0.17
8	Fe (mg/L)	0.1	0.0	0.0	0.3	0.2
9	HCO3 (mg/L)	147	117	99	63	63
10	K (mg/L)	2.3	2.3	3.2	3.9	1.6
11	Mg (mg/L)	18.8	9.7	11.7	5.8	10.0
12	Na (mg/L)	15.0	22.0	10.1	8.0	5.9
13	NO2+NO3 (mg N/L)	14.73	0.20	0.29	0.17	0.15
14	NO2-N (mgN/L)	0.01	0.00	0.04	0.01	0.01
15	NO3-N (mgN/L)	14.71	0.20	0.25	0.15	0.14
16	o-PO4-P (mg P/L)	0.052	0.465	0.000	0.000	0.010
17	SiO2 (mg/L)	12.5	13.8	23.5	19.8	12.0
18	SO4 (mg/L)	8.0	5.3	13.8	13.7	4.5
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	2.1	1.8	2.2	2.1	2.7
2	COD (mg/L)	7.0	39.0	19.0	22.0	22.0
3	DO (mg/L)	5.9	5.6	7.1	7.3	6.9
4	DO_SAT% (%)	67	64	81	83	79
5	FCol-MPN (MPN/100mL)	10500	5100	1470	2400	4900
6	Tcol-MPN (MPN/100mL)	16200	27600	3900	5400	5400
	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)	55	64	48	46	28
2	HAR_Total (mgCaCO3/L)	133	105	97	70	69
3	Na% (%)	19	31	18	19	15
4	RSC (-)	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.6	0.9	0.4	0.4	0.3
	PESTICIDES					

Water Quality Datasheet for the period : 2018-2019

Station Name : HOLEHONNUR (AKLE0A4) **Division : Cauvery Division, Bangalore**

Local River : Bhadra **River Water** **Sub-Division : Upper Tungabhadra SD Davangere**

S.No	Parameters	01/02/2019	21/02/2019	01/03/2019	11/03/2019	21/03/2019
		B	A	A	A	A
	PHYSICAL					
1	Q (cumec)	102.6	26.24	27.32	22.43	81.73
2	Colour_Cod (-)	Clear	Clear	Clear	Clear	Clear
3	EC_GEN (µmho/cm)	152	188	178	211	179
4	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free
5	pH_GEN (pH units)	7.4	7.3	7.3	7.4	7.6
6	TDS (mg/L)	88	120	114	132	100
7	Temp (deg C)	22.5	23.5	23.5	23.5	23.0
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	37	67	71	22	68
3	B (mg/L)	0.44	0.16	0.17	0.19	0.18
4	Ca (mg/L)	11	13	21	16	16
5	Cl (mg/L)	13.8	17.0	13.5	20.6	14.9
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.11	0.19	0.19	0.19	0.15
8	Fe (mg/L)	0.2	0.2	0.3	0.1	0.1
9	HCO3 (mg/L)	45	81	86	27	83
10	K (mg/L)	1.5	2.1	2.5	2.6	1.7
11	Mg (mg/L)	4.9	8.7	2.9	9.7	9.7
12	Na (mg/L)	4.6	8.0	8.3	8.5	5.9
13	NO2+NO3 (mg N/L)	0.13	0.24	0.11	1.12	0.28
14	NO2-N (mgN/L)	0.01	0.01	0.01	0.97	0.01
15	NO3-N (mgN/L)	0.11	0.22	0.10	0.15	0.27
16	o-PO4-P (mg P/L)	0.134	0.320	0.000	0.041	0.031
17	SiO2 (mg/L)	12.0	5.0	11.2	12.2	11.4
18	SO4 (mg/L)	0.0	0.0	3.0	1.0	1.5
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	2.7	1.3	1.7	1.5	0.6
2	COD (mg/L)	22.0	21.0	22.0	5.0	7.0
3	DO (mg/L)	7.5	6.1	6.5	6.6	5.7
4	DO_SAT% (%)	86	71	76	77	66
5	FCol-MPN (MPN/100mL)	4900	2200	790	3500	1100
6	Tcol-MPN (MPN/100mL)	5400	14000	1700	5400	2200
	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)	28	33	52	40	40
2	HAR_Total (mgCaCO3/L)	48	69	64	80	80
3	Na% (%)	17	20	21	18	14
4	RSC (-)	0.0	0.0	0.1	0.0	0.0
5	SAR (-)	0.3	0.4	0.5	0.4	0.3
	PESTICIDES					

Water Quality Datasheet for the period : 2018-2019

Station Name : HOLEHONNUR (AKLE0A4) **Division : Cauvery Division, Bangalore**

Local River : Bhadra **River Water** **Sub-Division : Upper Tungabhadra SD Davangere**

S.No	Parameters	01/04/2019	11/04/2019	22/04/2019	01/05/2019	13/05/2019	21/05/2019
		B	A	A	A	A	A
	PHYSICAL						
1	Q (cumec)	96.95	29.95	27.57	29.75	29.88	30.49
2	Colour_Cod (-)	Light Brown	Clear	Clear	Clear	Clear	Clear
3	EC_GEN (µmho/cm)	112	150	179	170	182	190
4	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free	odour free
5	pH_GEN (pH units)	7.0	7.6	7.7	7.6	7.8	8.1
6	TDS (mg/L)	86	95	152	140	130	138
7	Temp (deg C)	27.0	24.0	24.5	25.0	24.0	24.5
	CHEMICAL						
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	38	52	68	61	63	64
3	B (mg/L)	0.07	0.08	0.15	0.01	0.22	0.07
4	Ca (mg/L)	9	13	16	19	18	22
5	Cl (mg/L)	13.5	17.0	15.3	19.2	17.4	19.2
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.08	0.13	0.19	0.10	0.13	0.95
8	Fe (mg/L)	0.2	0.2	0.1	0.2	0.0	0.1
9	HCO3 (mg/L)	47	63	83	74	76	79
10	K (mg/L)	1.4	1.8	1.6	1.7	1.7	2.5
11	Mg (mg/L)	4.7	5.7	6.7	6.6	6.7	3.9
12	Na (mg/L)	4.5	7.2	7.8	7.5	6.8	7.5
13	NO2+NO3 (mg N/L)	0.43	0.29	0.24	0.04	0.56	0.31
14	NO2-N (mgN/L)	0.01	0.01	0.04	0.01	0.01	0.01
15	NO3-N (mgN/L)	0.42	0.28	0.20	0.03	0.55	0.29
16	o-PO4-P (mg P/L)	0.000	0.000	0.248	0.041	0.021	0.062
17	SiO2 (mg/L)	10.9	11.9	15.5	13.7	13.9	13.7
18	SO4 (mg/L)	1.2	1.0	0.1	1.4	1.0	0.5
	BIOLOGICAL/BACTERIOLOGICAL						
1	BOD3-27 (mg/L)	3.1	1.1	1.1	1.0	1.0	1.0
2	COD (mg/L)	7.0	19.0	48.0	65.0	22.0	4.0
3	DO (mg/L)	7.2	6.3	5.7	6.4	5.6	6.0
4	DO_SAT% (%)	90	75	68	77	67	71
5	FCol-MPN (MPN/100mL)	2200	2200	130	3300	1300	1300
6	Tcol-MPN (MPN/100mL)	5400	9200	230	7000	2300	4900
	TRACE & TOXIC						
1	As (µg/L)	0.3					
2	Cd (µg/L)	0.0					
3	Cr (µg/L)	0.1					
4	Cu (µg/L)	0.5					
5	Ni (µg/L)	2.1					
6	Pb (µg/L)	2.6					
7	Zn (µg/L)	6.7					
	CHEMICAL INDICES						
1	HAR_Ca (mgCaCO3/L)	24	32	39	47	44	55
2	HAR_Total (mgCaCO3/L)	43	55	67	74	72	71
3	Na% (%)	18	21	20	18	17	18
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.3	0.4	0.4	0.4	0.4	0.4
	PESTICIDES						

Water Quality Summary for the period : 2018-2019

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)	365	1479	3.559	87.22
2	EC_GEN (µmho/cm)	36	325	79	205
3	pH_GEN (pH units)	36	8.3	7.0	7.6
4	TDS (mg/L)	36	268	56	133
5	Temp (deg C)	36	27.0	22.0	23.3
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	36	7.1	0.0	0.2
2	ALK-TOT (mgCaCO3/L)	36	135	22	72
3	B (mg/L)	36	0.44	0.00	0.12
4	Ca (mg/L)	36	35	8	19
5	Cl (mg/L)	36	29.1	5.7	17.8
6	CO3 (mg/L)	36	8.6	0.0	0.2
7	F (mg/L)	36	0.95	0.06	0.19
8	Fe (mg/L)	36	1.1	0.0	0.3
9	HCO3 (mg/L)	36	147	27	87
10	K (mg/L)	36	6.7	1.3	2.8
11	Mg (mg/L)	36	18.8	0.0	8.4
12	Na (mg/L)	36	22.1	3.5	9.7
13	NO2+NO3 (mg N/L)	36	14.73	0.04	1.04
14	NO2-N (mgN/L)	36	0.97	0.00	0.04
15	NO3-N (mgN/L)	36	14.71	0.03	0.99
16	o-PO4-P (mg P/L)	36	0.465	0.000	0.063
17	SiO2 (mg/L)	36	35.3	2.5	12.3
18	SO4 (mg/L)	36	27.7	0.0	7.7
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	36	6.7	0.2	2
2	COD (mg/L)	36	65.0	4.0	17.5
3	DO (mg/L)	36	8.8	4.2	6.3
4	DO_SAT% (%)	36	103	50	74
5	FCol-MPN (MPN/100mL)	27	10500	130	2403
6	Tcol-MPN (MPN/100mL)	27	27600	230	6741
	TRACE & TOXIC				
1	As (µg/L)	3	4.2	0.2	1.6
2	Cd (µg/L)	3	0.1	0.0	0
3	Cr (µg/L)	3	1.4	0.1	0.9
4	Cu (µg/L)	3	3.9	0.5	2
5	Ni (µg/L)	3	3.1	2.1	2.7
6	Pb (µg/L)	3	2.6	0.8	1.7
7	Zn (µg/L)	3	6.7	1.1	4.2
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	36	88	20	47
2	HAR_Total (mgCaCO3/L)	36	137	32	82
3	Na% (%)	36	33	14	20
4	RSC (-)	36	0.1	0.0	0
5	SAR (-)	36	1.0	0.3	0.5
	PESTICIDES				

Water Quality Seasonal Average for the period: 2004-2019

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				
		2004	2005	2006	2007	2008
	PHYSICAL					
1	Q (cumec)	8.851	65.85	44.18	173.7	84.44
2	EC_GEN (µmho/cm)	554	219	332	181	215
3	pH_FLD (pH units)					
4	pH_GEN (pH units)	7.3	7.5	7.2	7.6	7.7
5	TDS (mg/L)					
6	Temp (deg C)	28.5	30.3	28.1	25.2	24.7
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	104	80	93	47	64
3	B (mg/L)	0.16	0.21	0.00	0.14	0.29
4	Ca (mg/L)	27	20	13	13	16
5	Cl (mg/L)	91.3	48.9	41.7	22.2	24.8
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.12	0.25	0.00	0.08	0.10
8	Fe (mg/L)		1.7	0.0	0.3	0.3
9	HCO3 (mg/L)	127	97	113	57	78
10	K (mg/L)	6.0	4.7	40.5	1.8	2.4
11	Mg (mg/L)	20.4	14.0	6.8	5.5	8.0
12	Na (mg/L)	62.9	34.7	28.1	14.4	15.5
13	NO2+NO3 (mg N/L)	1.38	0.63	0.66	0.68	0.90
14	NO2-N (mgN/L)	1.05	0.00	0.00	0.01	0.01
15	NO3-N (mgN/L)	0.34	0.63	0.66	0.67	0.89
16	o-PO4-P (mg P/L)	0.000	0.155	0.000	0.002	0.000
17	SiO2 (mg/L)	33.5	2.9	11.2	12.7	10.6
18	SO4 (mg/L)	45.5	27.0	15.3	4.3	5.2
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.6	1.0	1.2	1.2	0.9
2	COD (mg/L)					
3	DO (mg/L)	4.9	5.2	6.9	4.4	4.7
4	DO_SAT% (%)	63	69	88	53	57
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)	67	49	32	33	39
2	HAR_Total (mgCaCO3/L)	151	107	61	56	72
3	Na% (%)	46	40	34	34	31
4	RSC (-)	0.0	0.0	0.7	0.0	0.0
5	SAR (-)	2.2	1.5	1.6	0.8	0.8
	PESTICIDES					

Water Quality Seasonal Average for the period: 2004-2019

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				
		2009	2010	2011	2012	2013
	PHYSICAL					
1	Q (cumec)		197.1	230.5	39.26	286.3
2	EC_GEN (µmho/cm)		227	182	284	199
3	pH_FLD (pH units)					
4	pH_GEN (pH units)		7.7	7.1	7.3	7.3
5	TDS (mg/L)					
6	Temp (deg C)		24.5	25.0	25.4	25.9
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)		0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)		72	55	68	60
3	B (mg/L)		0.02			0.03
4	Ca (mg/L)		19	15	20	15
5	Cl (mg/L)		24.6	20.8	40.7	22.8
6	CO3 (mg/L)		0.0	0.0	0.0	0.0
7	F (mg/L)		0.15	0.23	0.19	0.11
8	Fe (mg/L)		0.3	0.2		0.1
9	HCO3 (mg/L)		88	67	83	73
10	K (mg/L)		2.6	2.0	2.5	2.3
11	Mg (mg/L)		7.8	5.8	6.8	5.1
12	Na (mg/L)		13.9	12.7	26.8	19.3
13	NO2+NO3 (mg N/L)		0.97	1.07	1.89	1.72
14	NO2-N (mgN/L)		0.00	0.00	0.01	0.02
15	NO3-N (mgN/L)		0.97	1.06	1.87	1.71
16	o-PO4-P (mg P/L)		0.021	0.008		0.044
17	SiO2 (mg/L)		14.3	12.2		12.1
18	SO4 (mg/L)		4.8	6.4	6.6	7.3
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)			0.7	0.7	0.8
2	COD (mg/L)					
3	DO (mg/L)		5.4	5.9	5.6	6.0
4	DO_SAT% (%)		65	72	68	73
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
	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)		48	37	51	37
2	HAR_Total (mgCaCO3/L)		80	61	80	58
3	Na% (%)		26	29	40	36
4	RSC (-)		0.0	0.0	0.0	0.2
5	SAR (-)		0.7	0.7	1.3	1.1
	PESTICIDES					

Water Quality Seasonal Average for the period: 2004-2019

Station Name : HOLEHONNUR (AKLE0A4) **Division : Cauvery Division, Bangalore**

Local River : Bhadra **River Wate Sub-Division : Upper Tungabhadra SD Davangere**

S.No	Parameters	Flood				
		Jun - Oct				
		2014	2015	2016	2017	2018
	PHYSICAL					
1	Q (cumec)	170.7	62.38	31.78	19.49	123.5
2	EC_GEN (µmho/cm)	205	217	205	236	211
3	pH_FLD (pH units)	7.4				
4	pH_GEN (pH units)	7.3	7.3	7.0	7.4	7.5
5	TDS (mg/L)			123	155	135
6	Temp (deg C)	25.3	24.1	22.8	23.2	23.4
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	60	48	60	83	73
3	B (mg/L)	0.31	0.25	0.16	0.24	0.08
4	Ca (mg/L)	16	21	16	21	21
5	Cl (mg/L)	24.4	28.9	23.6	19.9	18.1
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.11	0.19		0.14	0.18
8	Fe (mg/L)	0.3	0.9	0.2	0.2	0.5
9	HCO3 (mg/L)	73	72	73	101	89
10	K (mg/L)	2.4	3.5	3.1	3.6	3.6
11	Mg (mg/L)	6.4	7.3	7.1	9.2	7.5
12	Na (mg/L)	15.3	12.3	15.7	13.5	10.4
13	NO2+NO3 (mg N/L)	1.94	0.91	1.76	1.18	1.02
14	NO2-N (mgN/L)	0.04	0.02	0.02	0.01	0.02
15	NO3-N (mgN/L)	1.90	0.89	1.74	1.16	1.00
16	o-PO4-P (mg P/L)	0.068	0.203	0.066	0.282	0.043
17	SiO2 (mg/L)	7.9	11.5	15.0	10.6	9.4
18	SO4 (mg/L)	6.9	9.5	8.0	11.3	11.8
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.7	0.5	1.1	0.8	2.5
2	COD (mg/L)					15.7
3	DO (mg/L)	6.0	4.7	5.3	5.0	6.3
4	DO_SAT% (%)	73	55	62	59	73
5	FCol-MPN (MPN/100mL)					1883
6	Tcol-MPN (MPN/100mL)					5533
	TRACE & TOXIC					
1	As (µg/L)				2.0	4.2
2	Cd (µg/L)				0.0	0.1
3	Cr (µg/L)				45.0	1.1
4	Cu (µg/L)				4.0	3.8
5	Hg (µg/L)					
6	Ni (µg/L)					3.1
7	Pb (µg/L)				515.0	0.8
8	Zn (µg/L)				11.0	4.8
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	41	52	40	53	52
2	HAR_Total (mgCaCO3/L)	68	82	69	91	84
3	Na% (%)	31	24	31	23	20
4	RSC (-)	0.0	0.0	0.2	0.0	0.0
5	SAR (-)	0.8	0.6	1.0	0.6	0.5
	PESTICIDES					

Water Quality Seasonal Average for the period: 2004-2019

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				
		2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
	PHYSICAL					
1	Q (cumec)	14.00	19.02	34.01	48.06	33.79
2	EC_GEN (µmho/cm)	214	207	307	231	240
3	pH_FLD (pH units)					
4	pH_GEN (pH units)	7.3	7.7	7.6	7.8	7.6
5	TDS (mg/L)					
6	Temp (deg C)	28.8	26.8	26.4	23.6	23.5
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	258	70	68	49	64
3	B (mg/L)		0.22	0.00	0.12	0.14
4	Ca (mg/L)	23	23	11	17	17
5	Cl (mg/L)	64.5	82.2	41.8	30.7	33.2
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.24	0.29	0.14	0.14	0.14
8	Fe (mg/L)		1.5	0.0	0.2	0.2
9	HCO3 (mg/L)	157	85	84	60	78
10	K (mg/L)	42.0	5.9	39.1	3.1	2.3
11	Mg (mg/L)	12.9	12.2	5.0	5.5	5.6
12	Na (mg/L)	47.1	58.4	26.8	22.5	23.0
13	NO2+NO3 (mg N/L)	6.79	0.56	1.15	0.45	0.54
14	NO2-N (mgN/L)	3.43	0.00	0.00	0.03	0.02
15	NO3-N (mgN/L)	3.36	0.56	1.15	0.42	0.52
16	o-PO4-P (mg P/L)		0.035	0.000	0.057	0.049
17	SiO2 (mg/L)	20.4	7.8	14.9	11.4	12.5
18	SO4 (mg/L)	14.2	39.4	22.4	15.9	5.9
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.2	1.7	1.4	0.9	1.5
2	COD (mg/L)					
3	DO (mg/L)	5.8	6.4	7.0	4.6	5.4
4	DO_SAT% (%)	74	80	86	54	63
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)	58	58	26	42	42
2	HAR_Total (mgCaCO3/L)	111	108	47	65	65
3	Na% (%)	39	51	38	39	40
4	RSC (-)	0.4	0.0	0.4	0.0	0.0
5	SAR (-)	2.0	2.5	1.8	1.2	1.2
	PESTICIDES					

Water Quality Seasonal Average for the period: 2004-2019

Station Name : HOLEHONNUR (AKLE0A4) **Division : Cauvery Division, Bangalore**

Local River : Bhadra **River Wate Sub-Division : Upper Tungabhadra SD Davangere**

S.No	Parameters	Winter				
		Nov - Feb				
		2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
	PHYSICAL					
1	Q (cumec)		63.83	37.17	52.24	34.55
2	EC_GEN (µmho/cm)		194	279	250	265
3	pH_FLD (pH units)					
4	pH_GEN (pH units)		7.5	7.0	7.1	7.3
5	TDS (mg/L)					
6	Temp (deg C)		24.4	24.3	23.1	24.5
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)		0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)		56	71	58	73
3	B (mg/L)		0.06			0.02
4	Ca (mg/L)		16	21	21	19
5	Cl (mg/L)		20.3	44.1	40.1	36.8
6	CO3 (mg/L)		0.0	0.0	0.0	0.0
7	F (mg/L)		0.14		0.14	0.19
8	Fe (mg/L)		0.0	0.0		0.2
9	HCO3 (mg/L)		68	86	71	87
10	K (mg/L)		1.8	2.5	2.2	2.4
11	Mg (mg/L)		6.1	5.3	4.6	6.6
12	Na (mg/L)		13.0	26.6	23.9	27.8
13	NO2+NO3 (mg N/L)		0.99	1.51	1.59	1.64
14	NO2-N (mgN/L)		0.05	0.02	0.02	0.02
15	NO3-N (mgN/L)		0.94	1.48	1.57	1.62
16	o-PO4-P (mg P/L)		0.018	0.000		0.075
17	SiO2 (mg/L)		12.4	12.5		12.7
18	SO4 (mg/L)		9.0	6.9	5.2	6.7
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)		0.2	1.0	1.0	1.2
2	COD (mg/L)					
3	DO (mg/L)		6.2	5.3	6.1	6.2
4	DO_SAT% (%)		74	63	71	73
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
	TRACE & TOXIC					
1	As (µg/L)			0.3	0.5	
2	Cd (µg/L)			0.2	0.1	
3	Cr (µg/L)			1.1	0.5	
4	Cu (µg/L)				3.1	
5	Hg (µg/L)					
6	Ni (µg/L)			5.0	11.6	
7	Pb (µg/L)					
8	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)		39	53	52	47
2	HAR_Total (mgCaCO3/L)		64	75	71	74
3	Na% (%)		29	41	41	44
4	RSC (-)		0.0	0.0	0.0	0.0
5	SAR (-)		0.7	1.3	1.2	1.4
	PESTICIDES					

Water Quality Seasonal Average for the period: 2004-2019

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				
		2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
	PHYSICAL					
1	Q (cumec)	28.57	27.24	30.65	21.64	32.01
2	EC_GEN (µmho/cm)	191	206	177	179	223
3	pH_FLD (pH units)					
4	pH_GEN (pH units)	7.6	7.5	7.4	7.2	7.7
5	TDS (mg/L)		99	106	117	140
6	Temp (deg C)	22.8	22.4	22.8	22.8	22.6
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.6
2	ALK-TOT (mgCaCO3/L)	59	67	53	62	81
3	B (mg/L)	0.20	0.33	0.32	0.03	0.17
4	Ca (mg/L)	19	19	16	15	18
5	Cl (mg/L)	23.7	21.8	18.4	14.6	18.3
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.7
7	F (mg/L)	0.11	0.17		0.21	0.16
8	Fe (mg/L)	0.1	0.3	0.1	0.1	0.2
9	HCO3 (mg/L)	72	84	65	76	97
10	K (mg/L)	5.6	1.7	2.0	1.9	2.4
11	Mg (mg/L)	6.8	8.0	6.8	8.2	11.3
12	Na (mg/L)	8.7	10.1	10.6	8.5	10.9
13	NO2+NO3 (mg N/L)	1.12	1.00	1.51	0.67	1.55
14	NO2-N (mgN/L)	0.02	0.01	0.03	0.01	0.01
15	NO3-N (mgN/L)	1.10	0.99	1.48	0.67	1.54
16	o-PO4-P (mg P/L)	0.039	0.351	0.028	0.019	0.100
17	SiO2 (mg/L)	10.4	16.9	19.3	9.8	15.5
18	SO4 (mg/L)	6.5	8.1	9.0	9.0	7.5
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.0	1.5	1.1	0.6	2.0
2	COD (mg/L)					16.3
3	DO (mg/L)	6.4	6.6	6.2	5.5	6.4
4	DO_SAT% (%)	73	75	71	63	74
5	FCol-MPN (MPN/100mL)					3146
6	Tcol-MPN (MPN/100mL)					9208
	TRACE & TOXIC					
1	As (µg/L)		0.7	0.7	2.1	0.2
2	Cd (µg/L)	0.0	0.0	0.0	0.0	0.0
3	Cr (µg/L)	0.2	0.1	0.1	9.8	1.4
4	Cu (µg/L)	7.3	0.1	4.1	5.2	1.6
5	Hg (µg/L)					
6	Ni (µg/L)	1.6	0.7	0.5	1.5	2.9
7	Pb (µg/L)	1.0	0.1	0.1	1.0	1.6
8	Zn (µg/L)	9.8	3.1	0.6	15.4	1.1
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	47	48	40	37	44
2	HAR_Total (mgCaCO3/L)	75	81	68	71	91
3	Na% (%)	19	21	24	21	20
4	RSC (-)	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.4	0.5	0.6	0.4	0.5
	PESTICIDES					

Water Quality Seasonal Average for the period: 2004-2019

Station Name : HOLEHONNUR (AKLE0A4) **Division : Cauvery Division, Bangalore**

Local River : Bhadra **River Wate Sub-Division : Upper Tungabhadra SD Davangere**

S.No	Parameters	Summer				
		Mar- May				
		2006	2007	2008	2009	REMARKS
	PHYSICAL					Samples not collected during the summer season 2005, and 2010 due to Drybed / No flow condition.
1	Q (cumec)	40.77	61.69	53.24	67.84	
2	EC_GEN (µmho/cm)	237	318	174	164	
3	pH_FLD (pH units)					
4	pH_GEN (pH units)	7.6	7.6	7.5	7.4	
5	TDS (mg/L)					
6	Temp (deg C)	29.5	28.8	26.5	25.2	
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	
2	ALK-TOT (mgCaCO3/L)	57	79	48	51	
3	B (mg/L)	0.23	0.00	0.07	0.07	
4	Ca (mg/L)	30	15	13	13	
5	Cl (mg/L)	42.9	38.1	20.4	18.5	
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	
7	F (mg/L)	0.29	0.00	0.08	0.06	
8	Fe (mg/L)	1.4	0.0	0.3	0.2	
9	HCO3 (mg/L)	69	97	58	63	
10	K (mg/L)	3.9	27.6	2.3	1.4	
11	Mg (mg/L)	10.7	8.5	4.6	4.5	
12	Na (mg/L)	24.3	26.9	14.2	12.7	
13	NO2+NO3 (mg N/L)	0.69	0.24	0.49	0.51	
14	NO2-N (mgN/L)	0.00	0.00	0.01	0.02	
15	NO3-N (mgN/L)	0.69	0.24	0.47	0.49	
16	o-PO4-P (mg P/L)	0.389	0.000	0.386	0.010	
17	SiO2 (mg/L)	3.9	9.8	12.9	11.5	
18	SO4 (mg/L)	41.3	25.2	3.4	3.0	
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.3	1.5	1.5	1.3	
2	COD (mg/L)					
3	DO (mg/L)	7.0	6.2	4.2	5.5	
4	DO_SAT% (%)	92	79	52	66	
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
	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	3.4	
5	Hg (µg/L)	0.0				
6	Ni (µg/L)				11.3	
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)	74	37	34	33	
2	HAR_Total (mgCaCO3/L)	119	73	53	52	
3	Na% (%)	30	35	36	34	
4	RSC (-)	0.0	0.3	0.0	0.0	
5	SAR (-)	1.0	1.4	0.9	0.8	
	PESTICIDES					

Water Quality Seasonal Average for the period: 2004-2019

Station Name : HOLEHONNUR (AKLE0A4) **Division : Cauvery Division, Bangalore**

Local River : Bhadra **River Wate Sub-Division : Upper Tungabhadra SD Davangere**

S.No	Parameters	Summer				
		Mar- May				
		2011	2012	2013	2014	2015
	PHYSICAL					
1	Q (cumec)	66.63	82.77	71.71	88.10	28.15
2	EC_GEN (µmho/cm)	177	169	159	160	188
3	pH_FLD (pH units)					
4	pH_GEN (pH units)	7.1	7.0	6.9	7.0	7.3
5	TDS (mg/L)					
6	Temp (deg C)	22.8	24.5	25.0	24.8	24.0
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	53	48	41	51	61
3	B (mg/L)	0.03		0.00	0.04	0.48
4	Ca (mg/L)	15	13	13	13	14
5	Cl (mg/L)	19.3	20.9	20.5	17.7	22.1
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.25	0.15		0.22	0.19
8	Fe (mg/L)	0.0		0.1	0.1	0.1
9	HCO3 (mg/L)	65	58	50	63	74
10	K (mg/L)	1.7	2.3	1.3	3.7	6.0
11	Mg (mg/L)	6.2	5.5	5.7	4.9	5.2
12	Na (mg/L)	9.8	12.3	8.9	11.9	15.3
13	NO2+NO3 (mg N/L)	0.92	1.58	1.65	1.26	0.52
14	NO2-N (mgN/L)	0.01	0.02	0.01	0.01	0.04
15	NO3-N (mgN/L)	0.91	1.56	1.64	1.24	0.48
16	o-PO4-P (mg P/L)	0.026		0.041	0.048	0.021
17	SiO2 (mg/L)	16.3		13.1	17.2	4.7
18	SO4 (mg/L)	5.1	5.3	6.4	4.5	4.0
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)		0.6	0.4	1.6	3.3
2	COD (mg/L)					
3	DO (mg/L)	5.6	5.4	4.9	6.2	5.3
4	DO_SAT% (%)	65	65	59	74	62
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
	TRACE & TOXIC					
1	As (µg/L)	1.6	0.5	7.1	0.7	
2	Cd (µg/L)		0.4	0.1	0.1	
3	Cr (µg/L)	1.8	1.9	0.3	0.5	
4	Cu (µg/L)	4.3	1.1	2.9	0.3	
5	Hg (µg/L)					
6	Ni (µg/L)		4.3	1.2	9.1	
7	Pb (µg/L)		3.6	1.6	0.4	
8	Zn (µg/L)		40.0	77.9	18.0	
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	37	32	33	33	36
2	HAR_Total (mgCaCO3/L)	63	55	56	54	58
3	Na% (%)	24	31	25	31	33
4	RSC (-)	0.0	0.0	0.0	0.0	0.1
5	SAR (-)	0.5	0.7	0.5	0.7	0.9
	PESTICIDES					

Water Quality Seasonal Average for the period: 2004-2019

Station Name : HOLEHONNUR (AKLE0A4) **Division : Cauvery Division, Bangalore**

Local River : Bhadra **River Wate Sub-Division : Upper Tungabhadra SD Davangere**

S.No	Parameters	Summer			
		Mar- May			
		2016	2017	2018	2019
	PHYSICAL				
1	Q (cumec)	31.39	38.84	43.06	41.79
2	EC_GEN (µmho/cm)	141	141	188	172
3	pH_FLD (pH units)				
4	pH_GEN (pH units)	6.9	7.5	7.2	7.5
5	TDS (mg/L)	66	94	118	121
6	Temp (deg C)	25.3	24.3	24.1	24.3
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	39	53	71	56
3	B (mg/L)	0.18	0.15	0.06	0.13
4	Ca (mg/L)	12	12	18	16
5	Cl (mg/L)	16.9	8.5	12.7	16.7
6	CO3 (mg/L)	0.0	0.0	0.0	0.0
7	F (mg/L)	0.23	0.14	0.19	0.23
8	Fe (mg/L)	0.1	0.1	0.1	0.1
9	HCO3 (mg/L)	51	64	86	69
10	K (mg/L)	1.4	1.7	2.6	1.9
11	Mg (mg/L)	5.5	6.2	7.6	6.3
12	Na (mg/L)	6.9	6.8	7.7	7.1
13	NO2+NO3 (mg N/L)	1.17	0.63	0.50	0.38
14	NO2-N (mgN/L)	0.01	0.01	0.02	0.12
15	NO3-N (mgN/L)	1.15	0.62	0.48	0.25
16	o-PO4-P (mg P/L)	0.517	0.048	0.076	0.049
17	SiO2 (mg/L)	13.5	11.0	12.4	12.7
18	SO4 (mg/L)	4.9	7.8	5.8	1.2
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	0.6	0.9	1.5	1.3
2	COD (mg/L)			13.0	22.1
3	DO (mg/L)	5.6	5.5	4.9	6.2
4	DO_SAT% (%)	68	65	58	74
5	FCol-MPN (MPN/100mL)				1758
6	Tcol-MPN (MPN/100mL)				4259
	TRACE & TOXIC				
1	As (µg/L)	3.7		0.5	0.3
2	Cd (µg/L)			0.0	0.0
3	Cr (µg/L)	1.0		0.3	0.1
4	Cu (µg/L)	1.0		1.0	0.4
5	Hg (µg/L)				
6	Ni (µg/L)	1.3		2.1	2.1
7	Pb (µg/L)			1.2	2.6
8	Zn (µg/L)	20.8		1.6	6.7
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	31	31	46	41
2	HAR_Total (mgCaCO3/L)	54	57	77	67
3	Na% (%)	22	20	18	18
4	RSC (-)	0.0	0.0	0.0	0.0
5	SAR (-)	0.4	0.4	0.4	0.4
	PESTICIDES				

HISTORY SHEET

			Water Year	:	**2018-2019**
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 : 2018-2019

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	16/08/2018	04/09/2018	03/10/2018	01/11/2018	
		A	A	A	A	
	PHYSICAL					
1	Q (cumec)	18.60	487.6	69.13	54.45	
2	Colour_Cod (-)	Clear	Light Brown	Clear	Clear	
3	EC_GEN (µmho/cm)	885	392	489	624	
4	Odour_Code (-)	odour free	odour free	odour free	odour free	
5	pH_GEN (pH units)	7.8	8.1	8.1	8.1	
6	TDS (mg/L)	635	231	367	599	
7	Temp (deg C)	23.0	23.0	25.0	24.0	
8	Turb (NTU)	8.00	17.00	14.00	2.00	
	CHEMICAL					Samples not collected during July,November to May due to Drybed / No flow condition.
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	
2	ALK-TOT (mgCaCO3/L)	70	77	140	192	
3	B (mg/L)	0.13	0.02	0.06	0.07	
4	Ca (mg/L)	32	27	30	31	
5	Cl (mg/L)	86.3	10.9	75.2	79.0	
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	
7	F (mg/L)	0.69	0.14	0.36	0.41	
8	Fe (mg/L)	1.0	0.0	0.0	0.0	
9	HCO3 (mg/L)	85	94	171	234	
10	K (mg/L)	0.5	0.3	0.4	0.5	
11	Mg (mg/L)	32.0	13.8	18.7	31.4	
12	Na (mg/L)	55.2	50.2	69.9	65.9	
13	NH3-N (mg N/L)	0.14	0.07	0.14	0.14	
14	NO2+NO3 (mg N/L)	0.54	0.64	0.31	1.80	
15	NO2-N (mgN/L)	0.00	0.61	0.09	0.10	
16	NO3-N (mgN/L)	0.54	0.03	0.22	1.70	
17	o-PO4-P (mg P/L)	0.100	0.300	0.400	0.100	
18	SiO2 (mg/L)	15.2	19.1	1.7	12.7	
19	SO4 (mg/L)	142.6	48.2	96.4	120.3	
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.6	2.2	0.5	0.6	
2	COD (mg/L)	28.4	4.4	6.0	8.8	
3	DO (mg/L)	4.9	6.0	6.8	4.6	
4	DO_SAT% (%)	57	70	82	55	
5	FCol-MPN (MPN/100mL)	110	140	130	40	
6	Tcol-MPN (MPN/100mL)	170	1700	9000	170	
	TRACE & TOXIC					
1	Cu (µg/L)	13.00	15.00	4.00	8.00	
2	Zn (µg/L)	52.50	21.80	4.20	13.70	
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	81	67	74	77	
2	HAR_Total (mgCaCO3/L)	214	125	152	208	
3	Na% (%)	36	47	50	41	
4	RSC (-)	0.0	0.0	0.0	0.0	
5	SAR (-)	1.6	2.0	2.5	2.0	
	PESTICIDES					

Water Quality Summary for the period : 2018-2019

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)	365	1140	0.000	33.36
2	EC_GEN (µmho/cm)	4	885	392	598
3	pH_GEN (pH units)	4	8.1	7.8	8
4	TDS (mg/L)	4	635	231	458
5	Temp (deg C)	4	25.0	23.0	23.8
6	Turb (NTU)	4	17.00	2.00	10.25
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	4	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	4	192	70	120
3	B (mg/L)	4	0.13	0.02	0.07
4	Ca (mg/L)	4	32	27	30
5	Cl (mg/L)	4	86.3	10.9	62.8
6	CO3 (mg/L)	4	0.0	0.0	0
7	F (mg/L)	4	0.69	0.14	0.4
8	Fe (mg/L)	4	1.0	0.0	0.2
9	HCO3 (mg/L)	4	234	85	146
10	K (mg/L)	4	0.5	0.3	0.4
11	Mg (mg/L)	4	32.0	13.8	24
12	Na (mg/L)	4	69.9	50.2	60.3
13	NH3-N (mg N/L)	4	0.14	0.07	0.12
14	NO2+NO3 (mg N/L)	4	1.80	0.31	0.82
15	NO2-N (mgN/L)	4	0.61	0.00	0.2
16	NO3-N (mgN/L)	4	1.70	0.03	0.62
17	o-PO4-P (mg P/L)	4	0.400	0.100	0.225
18	SiO2 (mg/L)	4	19.1	1.7	12.2
19	SO4 (mg/L)	4	142.6	48.2	101.9
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	4	2.2	0.5	1.2
2	COD (mg/L)	4	28.4	4.4	11.9
3	DO (mg/L)	4	6.8	4.6	5.6
4	DO_SAT% (%)	4	82	55	66
5	FCol-MPN (MPN/100mL)	4	140	40	105
6	Tcol-MPN (MPN/100mL)	4	9000	170	2760
	TRACE & TOXIC				
1	Cu (µg/L)	4	15.00	4.00	10
2	Zn (µg/L)	4	52.50	4.20	23.05
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	4	81	67	75
2	HAR_Total (mgCaCO3/L)	4	214	125	175
3	Na% (%)	4	50	36	43
4	RSC (-)	4	0.0	0.0	0
5	SAR (-)	4	2.5	1.6	2
	PESTICIDES				

Water Quality Seasonal Average for the period: 2004-2019

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				
		2004	2005	2006	2007	2008
	PHYSICAL					
1	Q (cumec)	232.3	1553	315.5	735.3	422.8
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	472	408	584	708	527
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.1	8.0	8.3	8.2	8.0
6	TDS (mg/L)					
7	Temp (deg C)	25.2	27.0	25.5	25.0	26.5
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	3.0	0.0	7.1	2.9	0.0
2	ALK-TOT (mgCaCO3/L)	143	147	163	166	162
3	B (mg/L)	0.00	0.01	0.00	0.00	0.00
4	Ca (mg/L)	26	31	36	45	44
5	Cl (mg/L)	42.7	26.4	48.4	67.8	38.9
6	CO3 (mg/L)	3.6	0.0	8.5	3.5	0.0
7	F (mg/L)	0.89	0.31	0.66	0.69	0.56
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	167	179	182	195	198
10	K (mg/L)	2.4	2.4	3.4	16.8	2.4
11	Mg (mg/L)	12.8	15.7	15.3	19.8	8.8
12	Na (mg/L)	44.4	28.7	71.0	92.3	42.6
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.05	0.05
14	NO2+NO3 (mg N/L)	0.01	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)	0.01	0.01	0.01	0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.001	0.001	0.001	0.001
19	SiO2 (mg/L)	16.2	15.3	17.5	20.1	20.6
20	SO4 (mg/L)	46.6	36.7	64.3	88.3	52.2
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.6	1.1	0.9	0.7	1.1
2	COD (mg/L)				7.7	13.2
3	DO (mg/L)	5.9	5.7	6.6	6.3	5.9
4	DO_SAT% (%)	72	71	81	76	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)	65	78	89	112	110
2	HAR_Total (mgCaCO3/L)	118	143	153	194	146
3	Na% (%)	43	30	48	48	39
4	RSC (-)	0.5	0.2	0.5	0.0	0.4
5	SAR (-)	1.8	1.0	2.5	2.9	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: 2004-2019

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				
		2009	2010	2011	2012	2013
	PHYSICAL					
1	Q (cumec)	2333	724.3	588.8	75.96	149.7
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	522	852	619	575	621
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.1	8.1	8.1	8.1	8.2
6	TDS (mg/L)			447	385	378
7	Temp (deg C)	23.5	27.8	25.7	25.3	26.3
8	Turb (NTU)			1.00	3.37	1.17
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	132	179	137	183	160
3	B (mg/L)	0.00	0.00	0.00	0.16	0.17
4	Ca (mg/L)	34	51	31	33	40
5	Cl (mg/L)	39.5	89.3	61.9	37.1	61.3
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.32	0.63	0.96	0.65	0.59
8	Fe (mg/L)	0.0	0.0	0.0	0.1	0.1
9	HCO3 (mg/L)	161	219	167	223	195
10	K (mg/L)	2.9	3.3	3.5	3.3	3.7
11	Mg (mg/L)	16.1	28.9	18.3	18.6	22.4
12	Na (mg/L)	54.3	65.4	54.5	58.6	50.9
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.01	0.13
14	NO2+NO3 (mg N/L)	1.04	0.00	0.56	1.29	1.21
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	1.04	0.00	0.56	1.29	1.21
17	o-PO4-P (mg P/L)			0.205	0.149	0.117
18	P-Tot (mgP/L)	0.000	0.084	0.205		
19	SiO2 (mg/L)	17.6	19.9	16.9	15.3	14.9
20	SO4 (mg/L)	62.2	130.5	85.8	47.0	70.0
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.0	1.2	0.6	1.1	1.7
2	COD (mg/L)	40.7	29.1	15.1	21.1	9.0
3	DO (mg/L)	6.1	6.5	6.0	5.2	6.4
4	DO_SAT% (%)	72	82	74	63	79
5	FCol-MPN (MPN/100mL)	16000	11500	13667	6210	610
6	Tcol-MPN (MPN/100mL)	16000	16000	16000	10767	1867
7	TOC (mg/L)			2.4	2.7	0.3
	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	Cu (µg/L)					
5	Hg (µg/L)					0.06
6	Ni (µg/L)				12.18	18.85
7	Pb (µg/L)				7.90	0.81
8	Zn (µg/L)				8.96	0.02
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	84	127	78	82	99
2	HAR_Total (mgCaCO3/L)	151	248	155	160	193
3	Na% (%)	42	36	42	44	36
4	RSC (-)	0.0	0.0	0.0	0.5	0.0
5	SAR (-)	1.9	1.8	1.9	2.0	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: 2004-2019

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				
		2014	2015	2016	2017	2018
	PHYSICAL					
1	Q (cumec)	495.8	47.45	443.9	358.3	191.8
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	720	666	395	573	589
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	7.9	7.7	8.3	8.1	8.0
6	TDS (mg/L)	423	424	316	371	411
7	Temp (deg C)	25.3	25.7	24.5	25.1	23.7
8	Turb (NTU)	24.50	5.67	166.75	50.00	13.00
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	2.0	4.2	0.0
2	ALK-TOT (mgCaCO3/L)	161	175	151	152	96
3	B (mg/L)	0.19	0.20		0.00	0.07
4	Ca (mg/L)	35	37	33	38	30
5	Cl (mg/L)	64.8	61.7	27.4	60.2	57.5
6	CO3 (mg/L)	0.0	0.0	2.4	5.0	0.0
7	F (mg/L)	0.66	0.73	0.23	0.49	0.40
8	Fe (mg/L)	0.1	0.0	0.1	1.0	0.3
9	HCO3 (mg/L)	197	213	179	175	117
10	K (mg/L)	5.0	4.5	3.2	0.5	0.4
11	Mg (mg/L)	19.7	21.2	19.0	22.8	21.5
12	Na (mg/L)	88.3	74.4	32.7	66.2	58.5
13	NH3-N (mg N/L)	0.05	0.00	0.00	0.17	0.12
14	NO2+NO3 (mg N/L)	1.06	1.10	1.24	8.29	0.50
15	NO2-N (mgN/L)	0.02	0.04	0.01	0.07	0.23
16	NO3-N (mgN/L)	1.04	1.06	1.23	8.22	0.26
17	o-PO4-P (mg P/L)	0.154	0.130	0.082	0.666	0.267
18	P-Tot (mgP/L)	0.155				
19	SiO2 (mg/L)	16.3	13.6	14.3	12.1	12.0
20	SO4 (mg/L)	97.7	62.7	42.0	88.3	95.8
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	2.1	2.5	1.4	1.8	1.4
2	COD (mg/L)	16.5	18.2	6.5	9.1	12.9
3	DO (mg/L)	6.7	4.8	6.6	6.4	5.9
4	DO_SAT% (%)	81	58	79	77	70
5	FCol-MPN (MPN/100mL)	12058	130	10255	6710	127
6	Tcol-MPN (MPN/100mL)	12200	10767	14250	10340	3623
7	TOC (mg/L)		12.1			
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)				5.60	10.67
5	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)				56.68	26.17
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	87	93	83	95	74
2	HAR_Total (mgCaCO3/L)	169	181	162	190	164
3	Na% (%)	51	47	31	43	44
4	RSC (-)	0.1	0.1	0.3	0.1	0.0
5	SAR (-)	3.0	2.4	1.2	2.1	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: 2004-2019

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				
		2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
	PHYSICAL					
1	Q (cumec)	25.38	192.0	48.38	86.08	77.90
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	526	593	730	700	666
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.3	8.2	8.7	8.4	8.5
6	TDS (mg/L)					
7	Temp (deg C)	26.8	29.0	24.0	25.0	27.0
8	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	9.1	4.2	8.3	11.6	8.0
2	ALK-TOT (mgCaCO3/L)	201	192	181	191	164
3	B (mg/L)	0.00	0.01	0.00	0.00	0.00
4	Ca (mg/L)	23	41	45	42	48
5	Cl (mg/L)	41.7	41.3	66.3	62.8	63.3
6	CO3 (mg/L)	11.0	5.0	10.0	14.0	9.6
7	F (mg/L)	0.70	0.44	0.64	0.86	0.87
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	223	225	200	205	181
10	K (mg/L)	2.3		3.4	4.2	3.2
11	Mg (mg/L)	27.0	18.0	25.0	21.0	8.7
12	Na (mg/L)	49.0		84.0	120.0	67.1
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.05	0.05
14	NO2+NO3 (mg N/L)	0.01	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)	0.01	0.01	0.01	0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.000	0.001	0.001	0.001
19	SiO2 (mg/L)	14.4	16.9	17.5	15.8	19.0
20	SO4 (mg/L)	64.0	87.0	76.0	95.0	68.8
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.7	3.8	1.6	1.6	3.1
2	COD (mg/L)				17.2	21.0
3	DO (mg/L)	6.6	6.4	6.4	6.7	6.4
4	DO_SAT% (%)	83	83	76	81	80
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)	56	101	112	105	120
2	HAR_Total (mgCaCO3/L)	169	176	216	193	156
3	Na% (%)	41		45	57	48
4	RSC (-)	1.0	0.3	0.0	0.0	0.2
5	SAR (-)	2.1		2.5	3.8	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: 2004-2019

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				
		2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
	PHYSICAL					
1	Q (cumec)	158.8	310.4	88.46	46.53	74.94
2	EC_FLD (µmho/cm)				650	
3	EC_GEN (µmho/cm)	836	843	645	646	571
4	pH_FLD (pH units)				8.2	
5	pH_GEN (pH units)	8.5	8.2	8.5	8.2	8.3
6	TDS (mg/L)			449	427	420
7	Temp (deg C)	25.5	25.5	23.5	25.5	25.3
8	Turb (NTU)			1.00	2.05	8.00
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	6.0	4.0	10.1	0.0	2.2
2	ALK-TOT (mgCaCO3/L)	192	202	183	171	172
3	B (mg/L)	0.00	0.00	0.28	0.09	0.15
4	Ca (mg/L)	49	44	32	34	40
5	Cl (mg/L)	85.2	82.3	56.1	54.0	29.0
6	CO3 (mg/L)	7.2	4.8	12.2	0.0	2.6
7	F (mg/L)	0.55	0.45	0.74	0.67	0.61
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	220	237	198	209	204
10	K (mg/L)	3.1	3.5	3.3	2.1	4.0
11	Mg (mg/L)	24.3	24.8	18.2	18.8	22.8
12	Na (mg/L)	90.3	80.6	65.6	67.8	61.7
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.01	0.00
14	NO2+NO3 (mg N/L)	2.17	0.00	0.67	0.80	1.08
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	2.17	0.00	0.67	0.80	1.08
17	o-PO4-P (mg P/L)			0.186	0.106	0.125
18	P-Tot (mgP/L)	0.000	0.085	0.186		
19	SiO2 (mg/L)	16.1	17.7	18.6	18.9	19.9
20	SO4 (mg/L)	117.4	113.5	80.9	71.5	73.2
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	2.4	1.6	1.0	1.3	1.6
2	COD (mg/L)	19.8	19.9	19.5	16.4	9.4
3	DO (mg/L)	7.3	7.0	6.4	6.0	6.9
4	DO_SAT% (%)	89	85	75	74	83
5	FCol-MPN (MPN/100mL)	12500	5350	9200	1850	160
6	Tcol-MPN (MPN/100mL)	16000	9750	12500	9000	440
7	TOC (mg/L)			2.0	2.1	
	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)	122	110	81	84	99
2	HAR_Total (mgCaCO3/L)	224	213	157	162	194
3	Na% (%)	47	45	47	47	40
4	RSC (-)	0.0	0.2	0.5	0.2	0.1
5	SAR (-)	2.6	2.4	2.3	2.3	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: 2004-2019

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				
		2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
	PHYSICAL					
1	Q (cumec)	**Dry Bed**	68.95	8.876	183.5	54.45
2	EC_FLD (µmho/cm)	**No Flow**				
3	EC_GEN (µmho/cm)		674	738	665	624
4	pH_FLD (pH units)					
5	pH_GEN (pH units)		8.0	8.6	7.9	8.1
6	TDS (mg/L)		239	413	442	599
7	Temp (deg C)		26.0	23.0	25.5	24.0
8	Turb (NTU)		2.00	0.00	22.00	2.00
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)		0.0	6.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)		165	151	194	192
3	B (mg/L)		0.00		0.15	0.07
4	Ca (mg/L)		34	38	52	31
5	Cl (mg/L)		67.3	61.5	83.6	79.0
6	CO3 (mg/L)		0.0	7.2	0.0	0.0
7	F (mg/L)		0.65	0.38	0.30	0.41
8	Fe (mg/L)		0.0	0.1	0.6	0.0
9	HCO3 (mg/L)		201	170	237	234
10	K (mg/L)		3.6	3.9	0.4	0.4
11	Mg (mg/L)		18.7	20.5	28.1	31.4
12	Na (mg/L)		85.6	66.4	71.8	65.9
13	NH3-N (mg N/L)		0.00	0.00	2.76	0.14
14	NO2+NO3 (mg N/L)		1.11	0.48	5.72	1.80
15	NO2-N (mgN/L)		0.00	0.00	0.03	0.10
16	NO3-N (mgN/L)		1.10	0.48	5.69	1.70
17	o-PO4-P (mg P/L)		0.251	0.071	0.560	0.100
18	P-Tot (mgP/L)					
19	SiO2 (mg/L)		7.5	17.8	15.5	12.7
20	SO4 (mg/L)		112.0	54.0	144.2	120.3
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)		1.8	0.3	1.6	0.6
2	COD (mg/L)		8.9	5.0	34.4	8.8
3	DO (mg/L)		4.9	7.0	6.9	4.6
4	DO_SAT% (%)		60	82	84	55
5	FCol-MPN (MPN/100mL)		3000	16000	3000	40
6	Tcol-MPN (MPN/100mL)		16000	16000	16000	170
7	TOC (mg/L)		4.5			
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)				2.00	8.00
5	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)				35.00	13.70
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)		84	94	129	77
2	HAR_Total (mgCaCO3/L)		162	180	246	208
3	Na% (%)		53	44	39	41
4	RSC (-)		0.1	0.0	0.0	0.0
5	SAR (-)		2.9	2.2	2.0	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: 2004-2019

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	
		2007	
	PHYSICAL		
1	Q (cumec)	0.000	
2	EC_FLD (µmho/cm)		
3	EC_GEN (µmho/cm)	737	
4	pH_FLD (pH units)		
5	pH_GEN (pH units)	8.4	
6	TDS (mg/L)		
7	Temp (deg C)	27.0	
8	Turb (NTU)		
	CHEMICAL		
1	Alk-Phen (mgCaCO3/L)	19.9	
2	ALK-TOT (mgCaCO3/L)	232	
3	B (mg/L)	0.00	
4	Ca (mg/L)	48	
5	Cl (mg/L)	67.9	
6	CO3 (mg/L)	24.0	
7	F (mg/L)	0.99	
8	Fe (mg/L)	0.0	
9	HCO3 (mg/L)	234	
10	K (mg/L)	3.2	
11	Mg (mg/L)	19.0	
12	Na (mg/L)	86.0	
13	NH3-N (mg N/L)	0.00	
14	NO2+NO3 (mg N/L)	0.01	
15	NO2-N (mgN/L)	0.00	
16	NO3-N (mgN/L)	0.01	
17	o-PO4-P (mg P/L)		
18	P-Tot (mgP/L)	0.001	
19	SiO2 (mg/L)	21.0	
20	SO4 (mg/L)	65.0	
	BIOLOGICAL/BACTERIOLOGICAL		
1	BOD3-27 (mg/L)	0.9	
2	COD (mg/L)		
3	DO (mg/L)	5.6	
4	DO_SAT% (%)	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	Cu (µg/L)		
5	Hg (µg/L)	1.85	
6	Ni (µg/L)	1.00	
7	Pb (µg/L)	46.00	
8	Zn (µg/L)	45.00	
	CHEMICAL INDICES		
1	HAR_Ca (mgCaCO3/L)	120	
2	HAR_Total (mgCaCO3/L)	199	
3	Na% (%)	48	
4	RSC (-)	0.7	
5	SAR (-)	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	

During summer season 2005,2006,2008 to 2019 Dry BED / No Flow condition.

HISTORY SHEET

			Water Year	:	**2018-2019**
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 : 2018-2019

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	04/06/2018	02/07/2018	01/08/2018	04/09/2018	03/10/2018
		A	A	A	A	A
	PHYSICAL					
1	Q (cumec)	0.503	2.962	1.394	3.030	2.535
2	Colour_Cod (-)	Light Brown	Brown	Clear	Brown	Clear
3	EC_GEN (µmho/cm)	481	403	680	575	506
4	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free
5	pH_GEN (pH units)	8.3	8.2	8.3	8.2	8.1
6	TDS (mg/L)	423	400	369	380	365
7	Temp (deg C)	20.0	28.0	25.5	28.0	30.0
8	Turb (NTU)	7.00	0.00	38.00	20.00	78.00
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	6.1	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	225	190	218	234	216
3	B (mg/L)	0.06	0.05	0.15	0.03	0.05
4	Ca (mg/L)	37	45	31	21	29
5	Cl (mg/L)	49.6	36.6	42.0	35.8	43.6
6	CO3 (mg/L)	0.0	0.0	7.4	0.0	0.0
7	F (mg/L)	0.74	0.74	0.48	0.56	0.70
8	Fe (mg/L)	0.3	2.5	3.0	0.0	0.0
9	HCO3 (mg/L)	274	232	251	285	263
10	K (mg/L)	0.7	0.4	0.5	0.8	0.7
11	Mg (mg/L)	30.0	18.4	24.3	34.2	26.4
12	Na (mg/L)	58.8	19.4	43.5	59.5	55.2
13	NH3-N (mg N/L)	0.03	0.41	0.07	0.03	0.00
14	NO2+NO3 (mg N/L)	4.53	4.26	1.46	0.94	1.43
15	NO2-N (mgN/L)	0.03	0.07	0.04	0.11	0.67
16	NO3-N (mgN/L)	4.50	4.19	1.42	0.83	0.76
17	o-PO4-P (mg P/L)	0.040	0.200	0.200	0.200	0.900
18	SiO2 (mg/L)	99.6	30.1	10.9	23.6	23.0
19	SO4 (mg/L)	5.2	93.1	18.4	32.0	1.5
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.4	0.6	2.7	1.6	1.6
2	COD (mg/L)	9.2	22.4	22.0	11.6	7.6
3	DO (mg/L)	4.3	6.3	5.6	5.9	6.6
4	DO_SAT% (%)	47	80	68	75	87
5	FCol-MPN (MPN/100mL)	500	130	80	130	80
6	Tcol-MPN (MPN/100mL)	1700	2200	1300	16000	260
	TRACE & TOXIC					
1	Cu (µg/L)	0.00	16.00	18.00	15.00	4.00
2	Zn (µg/L)	0.05	8.10	36.50	38.80	9.50
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	92	112	77	52	72
2	HAR_Total (mgCaCO3/L)	217	188	179	195	182
3	Na% (%)	37	18	35	40	40
4	RSC (-)	0.2	0.1	0.8	0.8	0.7
5	SAR (-)	1.7	0.6	1.4	1.9	1.8
	PESTICIDES					

Water Quality Datasheet for the period : 2018-2019

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	01/11/2018	03/12/2018	01/01/2019	01/02/2019	03/05/2019
		A	A	A	A	A
	PHYSICAL					
1	Q (cumec)	0.797	0.750	0.456	0.287	3.681
2	Colour_Cod (-)	Clear	Clear	Clear	Clear	Clear
3	EC_GEN (µmho/cm)	468	929	362	751	522
4	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free
5	pH_GEN (pH units)	8.1	7.6	8.3	8.0	8.2
6	TDS (mg/L)	288		181	355	374
7	Temp (deg C)	25.0	23.0	19.0	22.0	29.0
8	Turb (NTU)	9.00		1.00	1.00	2.00
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	131	208	165	240	172
3	B (mg/L)	0.05	0.01	0.01	0.04	0.12
4	Ca (mg/L)	27	30	25	31	26
5	Cl (mg/L)	40.0	35.0	40.0	45.0	41.5
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.59	0.27	0.62	0.76	0.93
8	Fe (mg/L)	0.0	0.0	0.1	0.5	1.3
9	HCO3 (mg/L)	160	254	202	293	210
10	K (mg/L)	0.8	0.5	0.4	0.5	0.5
11	Mg (mg/L)	30.8	30.5	25.0	29.0	22.9
12	Na (mg/L)	31.0	41.3	32.1	49.9	39.6
13	NH3-N (mg N/L)	0.60	0.00	0.12	0.60	0.11
14	NO2+NO3 (mg N/L)	1.75	0.83	1.13	2.47	0.42
15	NO2-N (mgN/L)	0.20	0.03	0.03	0.05	0.01
16	NO3-N (mgN/L)	1.55	0.80	1.10	2.42	0.41
17	o-PO4-P (mg P/L)	0.100	0.400	0.221	0.130	0.167
18	SiO2 (mg/L)	19.9	15.2	22.3	45.2	22.6
19	SO4 (mg/L)	122.2		9.7	30.7	18.2
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	2.4	0.8	1.6	1.1	0.8
2	COD (mg/L)	7.6	7.5	4.4	5.6	70.9
3	DO (mg/L)	7.0	6.2	6.5		9.4
4	DO_SAT% (%)	85	72	70		122
5	FCol-MPN (MPN/100mL)	220	80	220	170	2400
6	Tcol-MPN (MPN/100mL)	1300	330	1100	330	3000
	TRACE & TOXIC					
1	Cu (µg/L)	9.00	8.00	14.00	9.00	8.00
2	Zn (µg/L)	14.10	6.70	40.40	63.20	18.00
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	67	74	62	78	64
2	HAR_Total (mgCaCO3/L)	196	201	166	199	159
3	Na% (%)	26	31	30	35	35
4	RSC (-)	0.0	0.2	0.0	0.9	0.3
5	SAR (-)	1.0	1.3	1.1	1.5	1.4
	PESTICIDES					

Water Quality Summary for the period : 2018-2019

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)	371	139.2	0.000	4.992
2	EC_GEN (µmho/cm)	10	929	362	568
3	pH_GEN (pH units)	10	8.3	7.6	8.1
4	TDS (mg/L)	9	423	181	348
5	Temp (deg C)	10	30.0	19.0	25
6	Turb (NTU)	9	78.00	0.00	17.33
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	10	6.1	0.0	0.6
2	ALK-TOT (mgCaCO3/L)	10	240	131	200
3	B (mg/L)	10	0.15	0.01	0.06
4	Ca (mg/L)	10	45	21	30
5	Cl (mg/L)	10	49.6	35.0	40.9
6	CO3 (mg/L)	10	7.4	0.0	0.7
7	F (mg/L)	10	0.93	0.27	0.64
8	Fe (mg/L)	10	3.0	0.0	0.8
9	HCO3 (mg/L)	10	293	160	243
10	K (mg/L)	10	0.8	0.4	0.6
11	Mg (mg/L)	10	34.2	18.4	27.1
12	Na (mg/L)	10	59.5	19.4	43
13	NH3-N (mg N/L)	10	0.60	0.00	0.2
14	NO2+NO3 (mg N/L)	10	4.53	0.42	1.92
15	NO2-N (mgN/L)	10	0.67	0.01	0.12
16	NO3-N (mgN/L)	10	4.50	0.41	1.8
17	o-PO4-P (mg P/L)	10	0.900	0.040	0.256
18	SiO2 (mg/L)	10	99.6	10.9	31.2
19	SO4 (mg/L)	9	122.2	1.5	36.8
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	10	2.7	0.4	1.4
2	COD (mg/L)	10	70.9	4.4	16.9
3	DO (mg/L)	9	9.4	4.3	6.4
4	DO_SAT% (%)	9	122	47	79
5	FCol-MPN (MPN/100mL)	10	2400	80	401
6	Tcol-MPN (MPN/100mL)	10	16000	260	2752
	TRACE & TOXIC				
1	Cu (µg/L)	10	18.00	0.00	10.1
2	Zn (µg/L)	10	63.20	0.05	23.53
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	10	112	52	75
2	HAR_Total (mgCaCO3/L)	10	217	159	188
3	Na% (%)	10	40	18	33
4	RSC (-)	10	0.9	0.0	0.4
5	SAR (-)	10	1.9	0.6	1.4
	PESTICIDES				

Water Quality Seasonal Average for the period: 2004-2019

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				
		2004	2005	2006	2007	2008
	PHYSICAL					
1	Q (cumec)	31.70		3.990	31.40	16.54
2	EC_GEN (µmho/cm)	375		501	433	484
3	pH_FLD (pH units)					
4	pH_GEN (pH units)	8.0		7.9	8.0	8.0
5	TDS (mg/L)					
6	Temp (deg C)	24.5		25.3	28.3	28.0
7	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0		0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	198		215	257	216
3	B (mg/L)	0.00		0.00	0.00	0.00
4	Ca (mg/L)	24		37	54	44
5	Cl (mg/L)	14.8		19.2	16.7	19.7
6	CO3 (mg/L)	0.0		0.0	0.0	0.0
7	F (mg/L)	0.88		0.85	0.78	0.63
8	Fe (mg/L)	0.0		0.0	0.0	0.0
9	HCO3 (mg/L)	241		262	314	264
10	K (mg/L)	3.4		3.8	3.9	3.1
11	Mg (mg/L)	11.3		18.3	17.5	14.1
12	Na (mg/L)	56.0		42.3	32.5	46.5
13	NH3-N (mg N/L)	0.00		0.00	0.05	0.05
14	NO2+NO3 (mg N/L)	0.01		0.01	0.01	0.01
15	NO2-N (mgN/L)	0.00		0.00	0.00	0.00
16	NO3-N (mgN/L)	0.01		0.01	0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001		0.001	0.001	0.001
19	SiO2 (mg/L)	17.3		20.4	19.1	22.4
20	SO4 (mg/L)	8.3		22.3	19.0	24.9
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)			0.9	1.4	0.9
2	COD (mg/L)				5.1	19.9
3	DO (mg/L)			6.0	6.2	5.3
4	DO_SAT% (%)			74	79	67
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)	61		93	135	110
2	HAR_Total (mgCaCO3/L)	108		169	208	169
3	Na% (%)	49		35	26	36
4	RSC (-)	1.8		0.9	1.0	1.0
5	SAR (-)	2.4		1.4	1.0	1.5
	PESTICIDES					
1	Aldrin (µg/L)					
2	BHC (µg/L)					
3	DDT (µg/L)					
4	Dieldrin (µg/L)					
5	Endos (µg/L)					

During flood season Jun-Oct Observations not done.

Water Quality Seasonal Average for the period: 2004-2019

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				
		2009	2010	2011	2012	2013
	PHYSICAL					
1	Q (cumec)	383.7	86.12	123.8	7.217	27.32
2	EC_GEN (µmho/cm)	486	549	457	772	580
3	pH_FLD (pH units)					
4	pH_GEN (pH units)	8.0	8.2	8.1	8.1	8.2
5	TDS (mg/L)			270	519	344
6	Temp (deg C)	25.8	27.3	27.7	26.3	26.3
7	Turb (NTU)			1.00	3.03	3.05
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	2.7	0.0	0.0	1.4
2	ALK-TOT (mgCaCO3/L)	205	216	151	213	238
3	B (mg/L)	0.00	0.00	0.00	0.15	0.21
4	Ca (mg/L)	36	36	29	32	37
5	Cl (mg/L)	20.7	41.1	21.4	25.9	23.3
6	CO3 (mg/L)	0.0	3.2	0.0	0.0	1.7
7	F (mg/L)	0.59	0.79	0.77	0.64	0.75
8	Fe (mg/L)	0.0	0.0	0.0	0.1	0.1
9	HCO3 (mg/L)	251	257	184	260	287
10	K (mg/L)	3.5	3.5	3.5	3.8	3.6
11	Mg (mg/L)	16.8	20.1	15.9	18.5	21.2
12	Na (mg/L)	36.1	40.6	35.8	43.9	42.5
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.02	0.04
14	NO2+NO3 (mg N/L)	1.19	0.00	0.85	1.14	0.91
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	1.19	0.00	0.85	1.14	0.91
17	o-PO4-P (mg P/L)			0.102	0.080	0.041
18	P-Tot (mgP/L)	0.000	0.076	0.102		
19	SiO2 (mg/L)	20.3	24.3	19.2	26.8	17.7
20	SO4 (mg/L)	23.0	21.2	16.1	19.1	17.5
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.1	0.8	0.3	0.9	0.7
2	COD (mg/L)	5.8	36.8	8.3	14.1	8.3
3	DO (mg/L)	5.5	5.6	5.4	6.2	5.7
4	DO_SAT% (%)	68	70	69	77	70
5	FCol-MPN (MPN/100mL)	12500	9133	11667	10933	1333
6	Tcol-MPN (MPN/100mL)	16000	11667	12333	11667	4600
7	TOC (mg/L)			3.9	2.0	0.3
	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	Cu (µg/L)					
5	Hg (µg/L)					0.39
6	Ni (µg/L)				1.89	2.47
7	Pb (µg/L)				1.01	3.18
8	Zn (µg/L)				23.14	0.00
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	89	91	72	79	91
2	HAR_Total (mgCaCO3/L)	159	174	138	156	180
3	Na% (%)	32	33	34	37	33
4	RSC (-)	0.9	0.9	0.4	1.2	1.2
5	SAR (-)	1.2	1.4	1.3	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: 2004-2019

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				
		2014	2015	2016	2017	2018
	PHYSICAL					
1	Q (cumec)	16.99	2.139	188.8	41.36	2.085
2	EC_GEN (µmho/cm)	605	476	346	406	529
3	pH_FLD (pH units)					
4	pH_GEN (pH units)	8.1	8.0	8.2	8.1	8.2
5	TDS (mg/L)	372	303	208	291	387
6	Temp (deg C)	26.7	27.6	26.6	27.7	26.3
7	Turb (NTU)	10.33	15.02	78.60	191.33	28.60
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.6	7.2	1.2
2	ALK-TOT (mgCaCO3/L)	226	193	140	192	217
3	B (mg/L)	0.17	0.16		0.05	0.07
4	Ca (mg/L)	34	34	26	40	32
5	Cl (mg/L)	26.7	21.7	13.0	30.2	41.5
6	CO3 (mg/L)	0.0	0.0	0.7	8.6	1.5
7	F (mg/L)	0.66	0.59	0.33	0.50	0.64
8	Fe (mg/L)	0.1	0.1	0.1	2.1	1.2
9	HCO3 (mg/L)	275	236	170	216	261
10	K (mg/L)	4.1	4.4	3.2	0.5	0.6
11	Mg (mg/L)	19.3	18.8	14.8	22.7	26.7
12	Na (mg/L)	47.5	39.8	23.0	41.8	47.3
13	NH3-N (mg N/L)	0.00	0.02	0.00	0.05	0.11
14	NO2+NO3 (mg N/L)	2.22	1.63	1.52	7.57	2.52
15	NO2-N (mgN/L)	0.02	0.04	0.00	0.08	0.18
16	NO3-N (mgN/L)	2.20	1.59	1.52	7.49	2.34
17	o-PO4-P (mg P/L)	0.093	0.112	0.054	0.300	0.308
18	P-Tot (mgP/L)	0.087				
19	SiO2 (mg/L)	25.1	17.1	13.2	18.3	37.4
20	SO4 (mg/L)	23.3	17.0	9.1	19.2	30.0
BIOLOGICAL/BACTERIOLOGICAL						
1	BOD3-27 (mg/L)	0.6	0.7	1.2	1.3	1.4
2	COD (mg/L)	5.1	6.2	8.0	11.1	14.6
3	DO (mg/L)	5.8	5.5	5.0	6.1	5.7
4	DO_SAT% (%)	73	70	63	78	72
5	FCol-MPN (MPN/100mL)	6210	3852	3258	8500	184
6	Tcol-MPN (MPN/100mL)	7133	7820	10634	9360	4292
7	TOC (mg/L)		14.7			
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					
3	Cr (µg/L)					
4	Cu (µg/L)				5.40	10.60
5	Hg (µg/L)					
6	Ni (µg/L)					
7	Pb (µg/L)					
8	Zn (µg/L)				49.60	18.59
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	85	86	66	99	81
2	HAR_Total (mgCaCO3/L)	165	164	127	194	192
3	Na% (%)	38	34	26	31	34
4	RSC (-)	1.2	0.6	0.3	0.1	0.5
5	SAR (-)	1.6	1.4	0.9	1.3	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: 2004-2019

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				
		2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
	PHYSICAL					
1	Q (cumec)	0.815	4.462	2.586	7.964	10.79
2	EC_GEN (µmho/cm)	431	545	529	599	572
3	pH_FLD (pH units)					
4	pH_GEN (pH units)	8.0	7.7	7.8	8.2	8.2
5	TDS (mg/L)					
6	Temp (deg C)	20.0	24.0	23.5	22.0	26.0
7	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	2.0
2	ALK-TOT (mgCaCO3/L)	117	257	220	232	236
3	B (mg/L)	0.00	0.01	0.00	0.00	0.00
4	Ca (mg/L)	16	43	36	38	51
5	Cl (mg/L)	18.5	21.0	23.4	26.1	21.5
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	2.4
7	F (mg/L)	0.50	0.82	0.85	0.75	0.69
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.0
9	HCO3 (mg/L)	143	314	269	283	283
10	K (mg/L)	2.7		3.4	3.9	3.7
11	Mg (mg/L)	8.0	22.0	20.5	21.5	14.6
12	Na (mg/L)	30.0		45.0	45.0	44.0
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.05	0.05
14	NO2+NO3 (mg N/L)	0.01	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)	0.01	0.01	0.01	0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)	0.001	0.001	0.001	0.001	0.001
19	SiO2 (mg/L)	20.1	24.4	21.7	20.4	23.6
20	SO4 (mg/L)	20.0	28.0	17.5	15.5	16.7
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)			0.4	2.9	0.7
2	COD (mg/L)				31.9	8.3
3	DO (mg/L)			6.0	7.0	6.5
4	DO_SAT% (%)			71	80	80
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)	40	106	90	94	128
2	HAR_Total (mgCaCO3/L)	73	198	175	183	189
3	Na% (%)	46		35	34	33
4	RSC (-)	0.9	1.2	0.9	1.0	1.0
5	SAR (-)	1.5		1.5	1.5	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: 2004-2019

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				
		2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
	PHYSICAL					
1	Q (cumec)	12.44	12.99	2.910	4.633	12.81
2	EC_GEN (µmho/cm)	585	606	597	576	669
3	pH_FLD (pH units)					
4	pH_GEN (pH units)	8.2	8.2	8.1	8.1	8.2
5	TDS (mg/L)			347	336	460
6	Temp (deg C)	22.5	24.8	24.5	23.0	24.0
7	Turb (NTU)			1.00	3.00	4.50
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	226	228	238	234	213
3	B (mg/L)	0.00	0.00	0.21	0.27	0.17
4	Ca (mg/L)	34	42	40	37	40
5	Cl (mg/L)	21.3	23.3	27.3	23.2	40.6
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	1.12	0.68	0.84	0.95	0.63
8	Fe (mg/L)	0.0	0.0	0.1	0.4	0.0
9	HCO3 (mg/L)	276	279	290	286	260
10	K (mg/L)	3.4	3.5	3.4	2.3	3.1
11	Mg (mg/L)	16.5	24.3	22.8	21.4	22.8
12	Na (mg/L)	46.2	38.7	47.4	42.2	39.4
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.00	0.01
14	NO2+NO3 (mg N/L)	1.89	0.00	2.03	1.86	1.77
15	NO2-N (mgN/L)	0.00	0.00	0.01	0.00	0.00
16	NO3-N (mgN/L)	1.89	0.00	2.02	1.86	1.77
17	o-PO4-P (mg P/L)			0.017	0.054	0.085
18	P-Tot (mgP/L)	0.000	0.077	0.017		
19	SiO2 (mg/L)	20.2	27.6	34.4	31.3	24.9
20	SO4 (mg/L)	22.8	19.3	15.1	21.4	17.2
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.7	0.5	1.0	0.8	1.2
2	COD (mg/L)	10.8	21.9	15.2	13.0	2.5
3	DO (mg/L)	6.8	6.9	6.3	6.5	6.9
4	DO_SAT% (%)	79	83	76	76	80
5	FCol-MPN (MPN/100mL)	16000	16000	2400	515	465
6	Tcol-MPN (MPN/100mL)	16000	16000	7000	3150	800
7	TOC (mg/L)			2.7	1.7	
	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	106	100	92	100
2	HAR_Total (mgCaCO3/L)	153	207	195	181	195
3	Na% (%)	39	28	34	33	30
4	RSC (-)	1.5	0.4	0.9	1.1	0.4
5	SAR (-)	1.6	1.2	1.5	1.4	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: 2004-2019

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				
		2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
	PHYSICAL					
1	Q (cumec)	2.990	3.382	18.63	13.18	0.572
2	EC_GEN (µmho/cm)	454	1280	568	567	628
3	pH_FLD (pH units)					
4	pH_GEN (pH units)	8.3	8.3	8.4	8.0	8.0
5	TDS (mg/L)	314	311	390	365	275
6	Temp (deg C)	23.5	24.5	24.0	21.5	22.3
7	Turb (NTU)	0.10	19.78	5.50	24.75	3.67
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	2.1	2.4	4.9	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	194	233	232	250	186
3	B (mg/L)	0.21	0.00		0.03	0.03
4	Ca (mg/L)	42	36	51	48	28
5	Cl (mg/L)	21.2	24.7	33.3	36.8	40.0
6	CO3 (mg/L)	2.5	2.8	5.9	0.0	0.0
7	F (mg/L)	0.59	0.61	0.85	0.64	0.56
8	Fe (mg/L)	0.2	0.0	0.0	0.6	0.2
9	HCO3 (mg/L)	231	278	272	305	227
10	K (mg/L)	3.2	4.3	4.9	0.5	0.5
11	Mg (mg/L)	21.0	20.5	24.7	27.6	28.8
12	Na (mg/L)	41.6	49.5	57.8	45.5	38.6
13	NH3-N (mg N/L)	0.00	0.01	0.79	1.04	0.33
14	NO2+NO3 (mg N/L)	1.19	1.43	0.61	6.82	1.54
15	NO2-N (mgN/L)	0.02	0.01	0.01	0.03	0.08
16	NO3-N (mgN/L)	1.17	1.42	0.60	6.79	1.47
17	o-PO4-P (mg P/L)	0.095	0.078	0.066	0.590	0.213
18	P-Tot (mgP/L)					
19	SiO2 (mg/L)	21.0	9.4	19.0	24.7	25.6
20	SO4 (mg/L)	21.0	19.4	53.6	31.0	54.2
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.5	0.8	0.9	0.8	1.5
2	COD (mg/L)	5.7	3.6	3.7	8.6	6.3
3	DO (mg/L)	7.2	6.0	6.5	6.9	6.6
4	DO_SAT% (%)	85	72	77	78	76
5	FCol-MPN (MPN/100mL)	1450	8575	4585	1020	173
6	Tcol-MPN (MPN/100mL)	9200	16000	9100	1378	765
7	TOC (mg/L)	27.4	22.0			
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)	0.57				
3	Cr (µg/L)	0.57				
4	Cu (µg/L)			0.00	3.25	10.00
5	Hg (µg/L)					
6	Ni (µg/L)	5.69				
7	Pb (µg/L)	6.48				
8	Zn (µg/L)	9.20		0.00	51.27	31.10
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	104	91	127	121	70
2	HAR_Total (mgCaCO3/L)	192	176	230	236	190
3	Na% (%)	32	37	35	30	30
4	RSC (-)	0.1	1.2	0.3	0.6	0.3
5	SAR (-)	1.3	1.6	1.7	1.3	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: 2004-2019

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				
		2005	2006	2007	2008	2009
	PHYSICAL					
1	Q (cumec)		0.810	0.000	33.35	2.870
2	EC_GEN (µmho/cm)		590	577	602	573
3	pH_FLD (pH units)					
4	pH_GEN (pH units)		8.1	8.0	8.2	8.1
5	TDS (mg/L)					
6	Temp (deg C)		27.0	26.0	25.0	25.0
7	Turb (NTU)					
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)		0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)		227	280	200	244
3	B (mg/L)		0.01	0.00	0.00	0.00
4	Ca (mg/L)		40	40	34	37
5	Cl (mg/L)		24.1	21.5	60.5	23.7
6	CO3 (mg/L)		0.0	0.0	0.0	0.0
7	F (mg/L)		0.88	1.27	0.73	0.81
8	Fe (mg/L)		0.0	0.0	0.0	0.0
9	HCO3 (mg/L)		277	342	244	298
10	K (mg/L)		4.9	4.6	3.2	4.0
11	Mg (mg/L)		21.0	23.0	18.0	20.4
12	Na (mg/L)		66.0	64.0	43.0	40.6
13	NH3-N (mg N/L)		0.00	0.00	0.05	0.05
14	NO2+NO3 (mg N/L)		0.01	0.01	0.01	0.01
15	NO2-N (mgN/L)		0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)		0.01	0.01	0.01	0.01
17	o-PO4-P (mg P/L)					
18	P-Tot (mgP/L)		0.001	0.001	0.001	0.001
19	SiO2 (mg/L)		12.8	26.3	17.5	29.4
20	SO4 (mg/L)		17.0	14.0	28.0	14.1
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)			0.8	0.3	0.4
2	COD (mg/L)				7.4	4.0
3	DO (mg/L)			3.9	5.8	5.5
4	DO_SAT% (%)			48	71	67
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	0.60	2.06
3	Cr (µg/L)			51.00	2.00	2.00
4	Cu (µg/L)					
5	Hg (µg/L)			1.97	0.00	
6	Ni (µg/L)			1.00	7.50	1.00
7	Pb (µg/L)			111.00	10.80	18.09
8	Zn (µg/L)			133.00	7.36	4.02
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)		100	100	85	92
2	HAR_Total (mgCaCO3/L)		188	196	160	177
3	Na% (%)		43	41	36	33
4	RSC (-)		0.8	1.7	0.8	1.4
5	SAR (-)		2.1	2.0	1.5	1.3
	PESTICIDES					
1	Aldrin (µg/L)			0.010	0.010	0.010
2	BHC (µg/L)			0.100	0.100	0.100
3	DDT (µg/L)			0.100	0.100	0.100
4	Dieldrin (µg/L)			0.110	0.010	0.010
5	Endos (µg/L)			0.100	0.100	0.100

During Summer season Mar- May Observations not done.

Water Quality Seasonal Average for the period: 2004-2019

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				
		2010	2011	2012	2013	2014
	PHYSICAL					
1	Q (cumec)	6.171	2.922	1.127	1.683	3.086
2	EC_GEN (µmho/cm)	603	520	720	739	560
3	pH_FLD (pH units)					
4	pH_GEN (pH units)	8.4	8.1	8.1	7.9	8.1
5	TDS (mg/L)			426	468	416
6	Temp (deg C)	26.5	25.0	27.0	30.0	28.0
7	Turb (NTU)			1.00	2.63	8.00
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	8.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	180	216	275	241	231
3	B (mg/L)	0.00	0.00	0.00	0.23	0.15
4	Ca (mg/L)	29	32	38	29	34
5	Cl (mg/L)	22.5	24.1	29.8	25.2	25.0
6	CO3 (mg/L)	9.6	0.0	0.0	0.0	0.0
7	F (mg/L)	0.93	0.63	0.42	0.89	0.73
8	Fe (mg/L)	0.0	0.0	0.1	0.1	0.1
9	HCO3 (mg/L)	200	264	335	294	282
10	K (mg/L)	4.0	1.9	4.6	4.1	4.0
11	Mg (mg/L)	16.5	18.5	21.9	16.5	19.4
12	Na (mg/L)	45.9	24.3	59.6	50.1	40.8
13	NH3-N (mg N/L)	0.00	0.00	0.06	0.00	0.01
14	NO2+NO3 (mg N/L)	0.00	0.00	2.33	1.44	0.64
15	NO2-N (mgN/L)	0.00	0.00	0.01	0.00	0.00
16	NO3-N (mgN/L)	0.00	0.00	2.32	1.44	0.64
17	o-PO4-P (mg P/L)			0.318	0.093	0.000
18	P-Tot (mgP/L)	0.000	0.065	0.318		
19	SiO2 (mg/L)	23.1	25.2	15.5	19.0	28.8
20	SO4 (mg/L)	19.6	16.0	21.5	12.3	18.2
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.3	0.2	2.2	0.7	0.9
2	COD (mg/L)	17.7	9.1	21.7	3.2	
3	DO (mg/L)	6.0	5.9	6.2	5.4	5.4
4	DO_SAT% (%)	74	71	78	71	69
5	FCol-MPN (MPN/100mL)	2400	16000	2400	230	230
6	Tcol-MPN (MPN/100mL)	3000	16000	9000	2800	2400
7	TOC (mg/L)			2.8	2.1	
	TRACE & TOXIC					
1	As (µg/L)	1.17		0.71	1.24	0.31
2	Cd (µg/L)	0.00	0.00	0.00	2.49	0.00
3	Cr (µg/L)	0.00	0.00	0.00	3.12	0.00
4	Cu (µg/L)					
5	Hg (µg/L)			0.74	0.47	0.20
6	Ni (µg/L)	2.20	2.10	3.65	4.12	0.00
7	Pb (µg/L)	0.00	5.49	24.71	7.00	0.00
8	Zn (µg/L)	8.52	17.46	88.90	25.27	21.80
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	72	80	94	72	86
2	HAR_Total (mgCaCO3/L)	141	157	185	141	167
3	Na% (%)	41	25	41	43	34
4	RSC (-)	0.8	1.2	1.8	2.0	1.3
5	SAR (-)	1.7	0.8	1.9	1.8	1.4
	PESTICIDES					
1	Aldrin (µg/L)	0.000	0.000	0.001		
2	BHC (µg/L)	0.016	0.569	0.018		
3	DDT (µg/L)	0.004	0.000	0.005		
4	Dieldrin (µg/L)	0.000	0.033	0.001		
5	Endos (µg/L)	0.073	0.012	0.022		

Water Quality Seasonal Average for the period: 2004-2019

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				
		2015	2016	2017	2018	2019
	PHYSICAL					
1	Q (cumec)	2.201	2.524	1.355	0.743	3.681
2	EC_GEN (µmho/cm)	492	700	529	503	522
3	pH_FLD (pH units)				8.0	
4	pH_GEN (pH units)	8.2	8.3	8.3	8.2	8.2
5	TDS (mg/L)	323	313	307	351	374
6	Temp (deg C)	27.0	28.3	28.3	24.7	29.0
7	Turb (NTU)	6.33	24.00	29.00	10.67	2.00
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	1.2	2.5	6.2	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	182	224	207	287	172
3	B (mg/L)	0.16			0.08	0.12
4	Ca (mg/L)	32	34	41	41	26
5	Cl (mg/L)	22.9	27.9	24.7	40.9	41.5
6	CO3 (mg/L)	1.4	3.0	7.5	0.0	0.0
7	F (mg/L)	0.60	0.60	0.76	0.55	0.93
8	Fe (mg/L)	0.0	0.0	0.0	0.2	1.3
9	HCO3 (mg/L)	219	267	238	351	210
10	K (mg/L)	4.4	4.9	4.8	0.6	0.5
11	Mg (mg/L)	20.4	18.9	27.0	25.5	22.9
12	Na (mg/L)	40.4	52.7	44.8	52.4	39.6
13	NH3-N (mg N/L)	0.01	0.00	0.35	0.08	0.11
14	NO2+NO3 (mg N/L)	0.72	1.13	2.76	4.86	0.42
15	NO2-N (mgN/L)	0.15	0.05	0.03	0.05	0.01
16	NO3-N (mgN/L)	0.58	1.08	2.73	4.81	0.41
17	o-PO4-P (mg P/L)	0.080	0.079	0.090	0.603	0.167
18	P-Tot (mgP/L)					
19	SiO2 (mg/L)	23.9	10.2	27.1	24.8	22.6
20	SO4 (mg/L)	19.6	18.8	43.7	22.4	18.2
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.7	1.5	1.6	1.7	0.8
2	COD (mg/L)	4.5	7.2	12.6	9.0	70.9
3	DO (mg/L)	5.1	4.5	6.2	6.6	9.4
4	DO_SAT% (%)	64	58	80	80	122
5	FCol-MPN (MPN/100mL)	15	6800	1233	893	2400
6	Tcol-MPN (MPN/100mL)	880	11233	2633	937	3000
7	TOC (mg/L)	21.6				
	TRACE & TOXIC					
1	As (µg/L)	1.57	0.00	0.93	1.39	
2	Cd (µg/L)	2.00	0.00	0.00	1.90	
3	Cr (µg/L)	0.00	0.00	0.00	0.00	
4	Cu (µg/L)			0.00	1.97	8.00
5	Hg (µg/L)	0.31	0.00	0.32	0.00	
6	Ni (µg/L)	6.24	0.00	0.80	9.10	
7	Pb (µg/L)	14.00	0.00	0.00	23.00	
8	Zn (µg/L)	3.00	0.09	0.00	11.27	18.00
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	81	86	102	102	64
2	HAR_Total (mgCaCO3/L)	166	165	214	209	159
3	Na% (%)	34	40	31	35	35
4	RSC (-)	0.4	1.2	0.2	1.6	0.3
5	SAR (-)	1.4	1.8	1.3	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)					

HISTORY SHEET

			Water Year	:	**2018-2019**
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	:	14/07/1965			
Discharge	:	01/06/1965			
Sediment	:	01/12/1966			
Water Quality	:	01/09/1972			

Water Quality Datasheet for the period : 2018-2019

Station Name : Takli (AKP00K4) **Division : Upper Krishna Divn, Pune**

Local River : Bhima **River Water Analysis** **Sub-Division : Bhima SD, Sholapur**

S.No	Parameters	04/09/2018	
		A	
	PHYSICAL		
1	Q (cumec)	196.6	
2	Colour_Cod (-)	Clear	
3	EC_FLD (µmho/cm)	430	
4	EC_GEN (µmho/cm)	464	
5	Odour_Code (-)	odour free	
6	pH_FLD (pH units)	7.8	
7	pH_GEN (pH units)	8.2	
8	Temp (deg C)	28.0	
	CHEMICAL		
1	Alk-Phen (mgCaCO3/L)	0.0	
2	ALK-TOT (mgCaCO3/L)	118	
3	B (mg/L)	0.26	
4	Ca (mg/L)	28	
5	Cl (mg/L)	62.2	
6	CO3 (mg/L)	0.0	
7	F (mg/L)	0.17	
8	Fe (mg/L)	0.2	
9	HCO3 (mg/L)	144	
10	K (mg/L)	1.3	
11	Mg (mg/L)	17.4	
12	Na (mg/L)	47.3	
13	NO2+NO3 (mg N/L)	0.78	
14	NO2-N (mgN/L)	0.04	
15	NO3-N (mgN/L)	0.75	
16	P-Tot (mgP/L)	0.004	
17	SiO2 (mg/L)	2.7	
18	SO4 (mg/L)	66.5	
	BIOLOGICAL/BACTERIOLOGICAL		
1	BOD3-27 (mg/L)	0.9	
2	COD (mg/L)	7.0	
3	DO (mg/L)	4.5	
4	DO_SAT% (%)	57	
5	FCol-MPN (MPN/100mL)	340	
6	Tcol-MPN (MPN/100mL)	2800	
	TRACE & TOXIC		
	CHEMICAL INDICES		
1	HAR_Ca (mgCaCO3/L)	71	
2	HAR_Total (mgCaCO3/L)	143	
3	Na% (%)	42	
4	RSC (-)	0.0	
5	SAR (-)	1.7	
	PESTICIDES		

Samples not collected during July,November to May due to Drybed / No flow condition.

Water Quality Summary for the period : 2018-2019

Station Name : Takli (AKP00K4) **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)	365	872.2	0.000	19.85
2	EC_FLD (µmho/cm)	1	430	430	430
3	EC_GEN (µmho/cm)	1	464	464	464
4	pH_FLD (pH units)	1	7.8	7.8	7.8
5	pH_GEN (pH units)	1	8.2	8.2	8.2
6	Temp (deg C)	1	28.0	28.0	28
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	1	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	1	118	118	118
3	B (mg/L)	1	0.26	0.26	0.26
4	Ca (mg/L)	1	28	28	28
5	Cl (mg/L)	1	62.2	62.2	62.2
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	144	144	144
10	K (mg/L)	1	1.3	1.3	1.3
11	Mg (mg/L)	1	17.4	17.4	17.4
12	Na (mg/L)	1	47.3	47.3	47.3
13	NO2+NO3 (mg N/L)	1	0.78	0.78	0.78
14	NO2-N (mgN/L)	1	0.04	0.04	0.04
15	NO3-N (mgN/L)	1	0.75	0.75	0.75
16	P-Tot (mgP/L)	1	0.004	0.004	0.004
17	SiO2 (mg/L)	1	2.7	2.7	2.7
18	SO4 (mg/L)	1	66.5	66.5	66.5
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	1	0.9	0.9	0.9
2	COD (mg/L)	1	7.0	7.0	7
3	DO (mg/L)	1	4.5	4.5	4.5
4	DO_SAT% (%)	1	57	57	57
5	FCol-MPN (MPN/100mL)	1	340	340	340
6	Tcol-MPN (MPN/100mL)	1	2800	2800	2800
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	1	71	71	71
2	HAR_Total (mgCaCO3/L)	1	143	143	143
3	Na% (%)	1	42	42	42
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: 2004-2019

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			
		2004	2005	2006	2007
	PHYSICAL				
1	Q (cumec)	106.6	1095	1555	333.3
2	EC_FLD (µmho/cm)				150
3	EC_GEN (µmho/cm)	448	461	605	669
4	pH_FLD (pH units)				7.4
5	pH_GEN (pH units)	8.3	8.2	8.3	8.3
6	Temp (deg C)	24.0	26.2		26.8
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	4.3	0.7	0.0	0.5
2	ALK-TOT (mgCaCO3/L)	97	89	316	83
3	B (mg/L)		0.18	0.30	0.15
4	Ca (mg/L)		22	54	15
5	Cl (mg/L)		54.8	66.4	76.6
6	CO3 (mg/L)	5.2	0.8	0.0	0.6
7	F (mg/L)		0.21	0.30	0.27
8	Fe (mg/L)		0.5	0.1	0.2
9	HCO3 (mg/L)	108	107	198	100
10	K (mg/L)		25.5	26.0	0.8
11	Mg (mg/L)		17.9	19.1	32.6
12	Na (mg/L)		36.0	52.1	46.6
13	NO2+NO3 (mg N/L)		1.38	0.60	0.62
14	NO2-N (mgN/L)		0.05	0.00	0.01
15	NO3-N (mgN/L)		1.33	0.60	0.61
16	P-Tot (mgP/L)		0.113	0.367	0.083
17	SiO2 (mg/L)		8.3	6.2	10.3
18	SO4 (mg/L)		45.3	102.6	84.3
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	2.0	1.6	0.8	1.2
2	COD (mg/L)	8.7	12.2	4.7	8.9
3	DO (mg/L)	6.1	5.7		3.9
4	DO_SAT% (%)	72	74		49
5	FCol-MPN (MPN/100mL)				
6	Tcol-MPN (MPN/100mL)				
	TRACE & TOXIC				
1	Cd (µg/L)				
2	Cr (µg/L)				
3	Cu (µg/L)				
4	Hg (µg/L)				
5	Ni (µg/L)				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)		55	135	38
2	HAR_Total (mgCaCO3/L)		130	214	174
3	Na% (%)		32	34	35
4	RSC (-)		0.0	0.0	0.0
5	SAR (-)		1.4	1.8	1.5
	PESTICIDES				

Water Quality Seasonal Average for the period: 2004-2019

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			
		2008	2009	2010	2011
	PHYSICAL				
1	Q (cumec)	Dry Bed	865.2	159.8	903.1
2	EC_FLD (µmho/cm)	No Flow			
3	EC_GEN (µmho/cm)		1242	921	579
4	pH_FLD (pH units)				
5	pH_GEN (pH units)		7.9	8.3	7.0
6	Temp (deg C)		26.5	26.5	27.0
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)		0.0	0.7	0.0
2	ALK-TOT (mgCaCO3/L)		103	183	89
3	B (mg/L)		0.21	0.39	0.10
4	Ca (mg/L)		36	52	32
5	Cl (mg/L)		97.5	96.4	116.6
6	CO3 (mg/L)		0.0	0.8	0.0
7	F (mg/L)		0.37	0.48	0.37
8	Fe (mg/L)		0.5	0.1	0.9
9	HCO3 (mg/L)		126	221	108
10	K (mg/L)		0.6	2.7	0.7
11	Mg (mg/L)		12.9	20.1	12.6
12	Na (mg/L)		69.3	63.3	81.6
13	NO2+NO3 (mg N/L)		1.00	0.15	1.51
14	NO2-N (mgN/L)		0.01	0.01	0.00
15	NO3-N (mgN/L)		0.99	0.14	1.51
16	P-Tot (mgP/L)		0.009	0.013	0.045
17	SiO2 (mg/L)		8.6	7.3	5.6
18	SO4 (mg/L)		50.2	31.2	69.2
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)		0.8	0.9	1.0
2	COD (mg/L)		5.3	7.2	5.0
3	DO (mg/L)				
4	DO_SAT% (%)				
5	FCol-MPN (MPN/100mL)		55367	8933	130000
6	Tcol-MPN (MPN/100mL)		56713	12667	240000
	TRACE & TOXIC				
1	Cd (µg/L)				
2	Cr (µg/L)				
3	Cu (µg/L)				
4	Hg (µg/L)				
5	Ni (µg/L)				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)		89	131	80
2	HAR_Total (mgCaCO3/L)		143	215	133
3	Na% (%)		52	34	57
4	RSC (-)		0.0	0.0	0.0
5	SAR (-)		2.7	1.8	3.1
	PESTICIDES				

Water Quality Seasonal Average for the period: 2004-2019

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

Water Quality Seasonal Average for the period: 2004-2019

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			
		2016	2017	2018	
	PHYSICAL				
1	Q (cumec)	128.7	118.3	196.6	
2	EC_FLD (µmho/cm)	163	417	430	
3	EC_GEN (µmho/cm)	930	649	464	
4	pH_FLD (pH units)	6.9	6.9	7.8	
5	pH_GEN (pH units)	8.2	8.1	8.2	
6	Temp (deg C)	25.5	28.5	28.0	
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	
2	ALK-TOT (mgCaCO3/L)	171	116	118	
3	B (mg/L)	0.07	0.27	0.26	
4	Ca (mg/L)	43	38	28	
5	Cl (mg/L)	118.4	65.3	62.2	
6	CO3 (mg/L)	0.0	0.0	0.0	
7	F (mg/L)	0.42	0.55	0.17	
8	Fe (mg/L)	3.0	1.5	0.2	
9	HCO3 (mg/L)	209	142	144	
10	K (mg/L)	1.9	2.1	1.3	
11	Mg (mg/L)	33.0	21.4	17.4	
12	Na (mg/L)	91.5	50.1	47.3	
13	NO2+NO3 (mg N/L)	3.06	1.48	0.78	
14	NO2-N (mgN/L)	0.00	0.02	0.04	
15	NO3-N (mgN/L)	3.06	1.46	0.75	
16	P-Tot (mgP/L)	0.009	0.005	0.004	
17	SiO2 (mg/L)	5.9	7.4	2.7	
18	SO4 (mg/L)	153.6	81.5	66.5	
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	1.7	2.8	0.9	
2	COD (mg/L)	16.0	21.5	7.0	
3	DO (mg/L)	5.2	8.9	4.5	
4	DO_SAT% (%)	63	114	57	
5	FCol-MPN (MPN/100mL)	90	20	340	
6	Tcol-MPN (MPN/100mL)	220	370	2800	
	TRACE & TOXIC				
1	Cd (µg/L)				
2	Cr (µg/L)				
3	Cu (µg/L)				
4	Hg (µg/L)				
5	Ni (µg/L)				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	108	94	71	
2	HAR_Total (mgCaCO3/L)	246	183	143	
3	Na% (%)	45	37	42	
4	RSC (-)	0.0	0.0	0.0	
5	SAR (-)	2.5	1.6	1.7	
	PESTICIDES				

Samples not collected during Winter and Summer season.

HISTORY SHEET

			Water Year	:	**2018-2019**
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			

Water Quality Datasheet for the period : 2018-2019

Station Name : Sarati (AKPA0C2) **Division : Upper Krishna Divn, Pune**

Local River : Nira **River Water Analysis** **Sub-Division : Bhima SD, Sholapur**

S.No	Parameters	04/09/2018
		A
	PHYSICAL	
1	Q (cumec)	241.4
2	Colour_Cod (-)	Light Green
3	EC_FLD (µmho/cm)	443
4	EC_GEN (µmho/cm)	360
5	Odour_Code (-)	odour free
6	pH_FLD (pH units)	6.5
7	pH_GEN (pH units)	8.2
8	Temp (deg C)	26.3
	CHEMICAL	
1	Alk-Phen (mgCaCO3/L)	0.0
2	ALK-TOT (mgCaCO3/L)	108
3	B (mg/L)	0.17
4	Ca (mg/L)	17
5	Cl (mg/L)	56.3
6	CO3 (mg/L)	0.0
7	F (mg/L)	0.13
8	Fe (mg/L)	0.5
9	HCO3 (mg/L)	132
10	K (mg/L)	0.5
11	Mg (mg/L)	11.1
12	Na (mg/L)	43.9
13	NO2+NO3 (mg N/L)	1.05
14	NO2-N (mgN/L)	0.04
15	NO3-N (mgN/L)	1.01
16	P-Tot (mgP/L)	0.006
17	SiO2 (mg/L)	5.4
18	SO4 (mg/L)	33.3
	BIOLOGICAL/BACTERIOLOGICAL	
1	BOD3-27 (mg/L)	1.4
2	COD (mg/L)	9.0
3	DO (mg/L)	9.3
4	DO_SAT% (%)	115
5	FCol-MPN (MPN/100mL)	340
6	Tcol-MPN (MPN/100mL)	1700
	TRACE & TOXIC	
	CHEMICAL INDICES	
1	HAR_Ca (mgCaCO3/L)	44
2	HAR_Total (mgCaCO3/L)	90
3	Na% (%)	52
4	RSC (-)	0.4
5	SAR (-)	2.0
	PESTICIDES	

Water Quality Summary for the period : 2018-2019

Station Name : Sarati (AKPA0C2) **Division : Upper Krishna Divn, Pune**

Local River : Nira **Sub-Division : Bhima SD, Sholapur**

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	365	507.2	0.000	17.43
2	EC_FLD (µmho/cm)	1	443	443	443
3	EC_GEN (µmho/cm)	1	360	360	360
4	pH_FLD (pH units)	1	6.5	6.5	6.5
5	pH_GEN (pH units)	1	8.2	8.2	8.2
6	Temp (deg C)	1	26.3	26.3	26.3
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	1	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	1	108	108	108
3	B (mg/L)	1	0.17	0.17	0.17
4	Ca (mg/L)	1	17	17	17
5	Cl (mg/L)	1	56.3	56.3	56.3
6	CO3 (mg/L)	1	0.0	0.0	0
7	F (mg/L)	1	0.13	0.13	0.13
8	Fe (mg/L)	1	0.5	0.5	0.5
9	HCO3 (mg/L)	1	132	132	132
10	K (mg/L)	1	0.5	0.5	0.5
11	Mg (mg/L)	1	11.1	11.1	11.1
12	Na (mg/L)	1	43.9	43.9	43.9
13	NO2+NO3 (mg N/L)	1	1.05	1.05	1.05
14	NO2-N (mgN/L)	1	0.04	0.04	0.04
15	NO3-N (mgN/L)	1	1.01	1.01	1.01
16	P-Tot (mgP/L)	1	0.006	0.006	0.006
17	SiO2 (mg/L)	1	5.4	5.4	5.3
18	SO4 (mg/L)	1	33.3	33.3	33.3
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	1	1.4	1.4	1.4
2	COD (mg/L)	1	9.0	9.0	9
3	DO (mg/L)	1	9.3	9.3	9.3
4	DO_SAT% (%)	1	115	115	115
5	FCol-MPN (MPN/100mL)	1	340	340	340
6	Tcol-MPN (MPN/100mL)	1	1700	1700	1700
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	1	44	44	44
2	HAR_Total (mgCaCO3/L)	1	90	90	90
3	Na% (%)	1	52	52	52
4	RSC (-)	1	0.4	0.4	0.4
5	SAR (-)	1	2.0	2.0	2
	PESTICIDES				

Water Quality Seasonal Average for the period: 2004-2019

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				
		2004	2005	2013	2014	2015
	PHYSICAL					
1	Q (cumec)	26.32	347.7	87.00	64.70	
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	347	233	920	869	
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	8.3	7.7	7.7	7.9	
6	Temp (deg C)	27.0	24.8	26.3	26.0	
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	112	76	86	154	
2	B (mg/L)		0.14	0.08	0.01	
3	Ca (mg/L)		16	33	59	
4	Cl (mg/L)		32.0	32.1	67.5	
5	F (mg/L)		0.13	0.34	0.36	
6	Fe (mg/L)		0.8	1.2	3.0	
7	HCO3 (mg/L)	136	93	105	188	
8	K (mg/L)		28.2	1.4	3.7	
9	Mg (mg/L)		7.1	19.4	24.3	
10	Na (mg/L)		29.4	22.1	49.3	
11	NO2+NO3 (mg N/L)		1.46	0.88	2.81	
12	NO2-N (mgN/L)		0.30	0.02	0.00	
13	NO3-N (mgN/L)		1.16	0.86	2.80	
14	P-Tot (mgP/L)		0.204	0.028	0.028	
15	SiO2 (mg/L)		5.9	16.7	33.1	
16	SO4 (mg/L)		28.9	66.4	98.6	
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	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	As (µg/L)			2.19		
2	Cd (µg/L)			0.41		
3	Cr (µg/L)			2.01		
4	Cu (µg/L)			4.17		
5	Hg (µg/L)			0.08		
6	Ni (µg/L)			10.55		
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)		41	82	148	
2	HAR_Total (mgCaCO3/L)		71	163	250	
3	Na% (%)		38	24	30	
4	RSC (-)		0.1	0.0	0.0	
5	SAR (-)		1.5	0.8	1.4	
	PESTICIDES					

During Flood season 2006 to 2012 Dry Bed / No Flow condition.

Water Quality Seasonal Average for the period: 2004-2019

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			
		2016	2017	2018	
	PHYSICAL				
1	Q (cumec)	133.9	41.29	241.4	
2	EC_FLD (µmho/cm)	1177	900	443	
3	EC_GEN (µmho/cm)	972	927	360	
4	pH_FLD (pH units)	8.5	8.1	6.5	
5	pH_GEN (pH units)	8.2	8.2	8.2	
6	Temp (deg C)	25.0	29.0	26.3	
	CHEMICAL				
1	ALK-TOT (mgCaCO3/L)	158	102	108	
2	B (mg/L)	0.46	0.35	0.17	
3	Ca (mg/L)	42	39	17	
4	Cl (mg/L)	115.2	56.0	56.3	
5	F (mg/L)	0.43	0.56	0.13	
6	Fe (mg/L)	6.3	4.6	0.5	
7	HCO3 (mg/L)	192	125	132	
8	K (mg/L)	2.4	1.7	0.5	
9	Mg (mg/L)	33.0	26.2	11.1	
10	Na (mg/L)	88.2	42.3	43.9	
11	NO2+NO3 (mg N/L)	4.96	3.79	1.05	
12	NO2-N (mgN/L)	0.01	0.00	0.04	
13	NO3-N (mgN/L)	4.95	3.78	1.01	
14	P-Tot (mgP/L)	0.026	0.008	0.006	
15	SiO2 (mg/L)	6.8	5.5	5.3	
16	SO4 (mg/L)	150.8	88.6	33.3	
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	0.6	2.0	1.4	
2	COD (mg/L)	5.0	14.0	9.0	
3	DO (mg/L)	5.2	6.4	9.3	
4	DO_SAT% (%)	63	83	115	
5	FCol-MPN (MPN/100mL)	20	40	340	
6	Tcol-MPN (MPN/100mL)	500	2200	1700	
	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)				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	104	96	44	
2	HAR_Total (mgCaCO3/L)	242	205	90	
3	Na% (%)	44	31	52	
4	RSC (-)	0.0	0.0	0.4	
5	SAR (-)	2.5	1.3	2.0	
	PESTICIDES				

During Winter and summer season Dry Bed / No Flow condition.

HISTORY SHEET

			Water Year	:	**2018-2019**
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 : 2018-2019

Station Name : Phulgaon (Seasonal) (AKP00X5) **Division : Upper Krishna Divn, Pune**

Local River : Bhima **River Water Analysis** **Sub-Division : Bhima SD, Sholapur**

S.No	Parameters	07/08/2018	05/09/2018	
		A	A	
	PHYSICAL			
1	Q (cumec)	52.14	93.32	
2	Colour_Cod (-)	Clear	Clear	
3	EC_FLD (µmho/cm)	220	225	
4	EC_GEN (µmho/cm)	218	216	
5	Odour_Code (-)	odour free	odour free	
6	pH_FLD (pH units)	8.3	7.6	
7	pH_GEN (pH units)	7.9	7.9	
8	Temp (deg C)	23.5	24.5	
	CHEMICAL			
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	
2	ALK-TOT (mgCaCO3/L)	90	92	Samples not collected during July,November to May due to Drybed / No flow condition.
3	B (mg/L)	0.07	0.04	
4	Ca (mg/L)	26	26	
5	Cl (mg/L)	15.6	12.7	
6	CO3 (mg/L)	0.0	0.0	
7	F (mg/L)	0.53	0.12	
8	Fe (mg/L)	0.2	0.4	
9	HCO3 (mg/L)	110	112	
10	K (mg/L)	1.1	0.8	
11	Mg (mg/L)	12.6	5.0	
12	Na (mg/L)	8.4	7.1	
13	NO2+NO3 (mg N/L)	1.73	1.12	
14	NO2-N (mgN/L)	0.00	0.01	
15	NO3-N (mgN/L)	1.73	1.11	
16	P-Tot (mgP/L)	0.046	0.016	
17	SiO2 (mg/L)	42.3	2.8	
18	SO4 (mg/L)	11.1	8.9	
	BIOLOGICAL/BACTERIOLOGICAL			
1	BOD3-27 (mg/L)	0.7	2.2	
2	COD (mg/L)	6.0	12.0	
3	DO (mg/L)	6.8	6.9	
4	DO_SAT% (%)	79	82	
5	FCol-MPN (MPN/100mL)	170	2800	
6	Tcol-MPN (MPN/100mL)	1700	3500	
	TRACE & TOXIC			
	CHEMICAL INDICES			
1	HAR_Ca (mgCaCO3/L)	64	65	
2	HAR_Total (mgCaCO3/L)	117	85	
3	Na% (%)	13	15	
4	RSC (-)	0.0	0.1	
5	SAR (-)	0.3	0.3	
	PESTICIDES			

Water Quality Summary for the period : 2018-2019

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	557.7	0.000	57.02
2	EC_FLD (µmho/cm)	2	225	220	223
3	EC_GEN (µmho/cm)	2	218	216	217
4	pH_FLD (pH units)	2	8.3	7.6	8
5	pH_GEN (pH units)	2	7.9	7.9	7.9
6	Temp (deg C)	2	24.5	23.5	24
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	2	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	2	92	90	91
3	B (mg/L)	2	0.07	0.04	0.05
4	Ca (mg/L)	2	26	26	26
5	Cl (mg/L)	2	15.6	12.7	14.2
6	CO3 (mg/L)	2	0.0	0.0	0
7	F (mg/L)	2	0.53	0.12	0.32
8	Fe (mg/L)	2	0.4	0.2	0.3
9	HCO3 (mg/L)	2	112	110	111
10	K (mg/L)	2	1.1	0.8	1
11	Mg (mg/L)	2	12.6	5.0	8.8
12	Na (mg/L)	2	8.4	7.1	7.7
13	NO2+NO3 (mg N/L)	2	1.73	1.12	1.43
14	NO2-N (mgN/L)	2	0.01	0.00	0.01
15	NO3-N (mgN/L)	2	1.73	1.11	1.42
16	P-Tot (mgP/L)	2	0.046	0.016	0.031
17	SiO2 (mg/L)	2	42.3	2.8	22.5
18	SO4 (mg/L)	2	11.1	8.9	10
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	2	2.2	0.7	1.5
2	COD (mg/L)	2	12.0	6.0	9
3	DO (mg/L)	2	6.9	6.8	6.9
4	DO_SAT% (%)	2	82	79	81
5	FCol-MPN (MPN/100mL)	2	2800	170	1485
6	Tcol-MPN (MPN/100mL)	2	3500	1700	2600
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	2	65	64	64
2	HAR_Total (mgCaCO3/L)	2	117	85	101
3	Na% (%)	2	15	13	14
4	RSC (-)	2	0.1	0.0	0.1
5	SAR (-)	2	0.3	0.3	0.3
	PESTICIDES				

Water Quality Seasonal Average for the period: 2004-2019

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				
		2004	2005	2006	2007	2008
	PHYSICAL					
1	Q (cumec)	117.2	506.4	279.4	212.4	126.8
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	284	230	200	194	197
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	7.9	8.0	7.5	7.8	7.7
6	Temp (deg C)	23.7	23.0	24.4	23.5	23.2
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	71	62	122	49	68
2	B (mg/L)		0.11	0.10	0.06	0.07
3	Ca (mg/L)		16	20	16	20
4	Cl (mg/L)		14.7	17.1	15.6	11.5
5	F (mg/L)		0.14	0.12	0.16	0.07
6	Fe (mg/L)		0.6	0.3	0.1	0.2
7	HCO3 (mg/L)	87	75	83	60	83
8	K (mg/L)		11.3	12.8	2.8	1.2
9	Mg (mg/L)		8.8	4.4	5.1	7.6
10	Na (mg/L)		8.0	12.5	8.9	7.9
11	NO2+NO3 (mg N/L)		2.00	0.65	1.05	1.16
12	NO2-N (mgN/L)		0.04	0.00	0.01	0.01
13	NO3-N (mgN/L)		1.96	0.65	1.04	1.16
14	P-Tot (mgP/L)		0.094	0.258	0.171	0.014
15	SiO2 (mg/L)		5.4	4.3	11.4	4.8
16	SO4 (mg/L)		14.0	21.2	15.8	10.2
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	2.1	0.3	0.5	1.0	1.2
2	COD (mg/L)	5.4	17.3	3.4	6.5	6.3
3	DO (mg/L)	6.2				
4	DO_SAT% (%)	73				
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
	TRACE & TOXIC					
1	Cd (µg/L)					
2	Cr (µg/L)					
3	Cu (µg/L)					
4	Hg (µg/L)					
5	Ni (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)		40	50	40	49
2	HAR_Total (mgCaCO3/L)		77	68	61	80
3	Na% (%)		13	24	23	17
4	RSC (-)		0.0	0.3	0.0	0.0
5	SAR (-)		0.4	0.7	0.5	0.4
	PESTICIDES					

Water Quality Seasonal Average for the period: 2004-2019

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				
		2009	2010	2011	2012	2013
	PHYSICAL				Drybed	
1	Q (cumec)	133.2	150.9	126.0	No Flow	899.6
2	EC_FLD (µmho/cm)					
3	EC_GEN (µmho/cm)	708	268	243		81
4	pH_FLD (pH units)					
5	pH_GEN (pH units)	7.7	7.8	7.9		7.3
6	Temp (deg C)	22.8	23.7	22.0		26.5
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	63	66	71		64
2	B (mg/L)	0.07	0.30	0.06		0.11
3	Ca (mg/L)	24	24	28		26
4	Cl (mg/L)	13.0	14.1	15.5		8.5
5	F (mg/L)	0.33	0.24	0.26		0.33
6	Fe (mg/L)	0.4	0.2	1.0		0.1
7	HCO3 (mg/L)	77	80	87		78
8	K (mg/L)	0.1	1.2	0.6		0.6
9	Mg (mg/L)	6.5	6.2	5.8		3.9
10	Na (mg/L)	8.1	8.4	10.5		5.0
11	NO2+NO3 (mg N/L)	0.63	0.19	1.23		0.32
12	NO2-N (mgN/L)	0.01	0.01	0.01		0.00
13	NO3-N (mgN/L)	0.62	0.18	1.22		0.31
14	P-Tot (mgP/L)	0.005	0.007	0.080		0.038
15	SiO2 (mg/L)	9.7	8.0	10.9		13.5
16	SO4 (mg/L)	24.9	18.8	18.4		14.2
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.0	1.0	0.8		1.9
2	COD (mg/L)	6.4	7.3	5.0		13.0
3	DO (mg/L)					
4	DO_SAT% (%)					
5	FCol-MPN (MPN/100mL)	8550	3900	4900		24000
6	Tcol-MPN (MPN/100mL)	8700	6350	7000		54000
	TRACE & TOXIC					
1	Cd (µg/L)					0.31
2	Cr (µg/L)					2.67
3	Cu (µg/L)					2.98
4	Hg (µg/L)					0.56
5	Ni (µg/L)					8.05
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	60	60	70		64
2	HAR_Total (mgCaCO3/L)	87	86	94		80
3	Na% (%)	17	18	19		12
4	RSC (-)	0.0	0.0	0.0		0.0
5	SAR (-)	0.4	0.4	0.5		0.2
	PESTICIDES					

Water Quality Seasonal Average for the period: 2004-2019

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				
		2014	2015	2016	2017	2018
	PHYSICAL					
1	Q (cumec)	323.1	42.49	144.0	85.65	72.73
2	EC_FLD (µmho/cm)			315	353	223
3	EC_GEN (µmho/cm)	232	269	327	359	217
4	pH_FLD (pH units)			7.7	7.8	8.0
5	pH_GEN (pH units)	7.8	8.0	8.0	7.9	7.9
6	Temp (deg C)	22.8	23.0	25.3	24.8	24.0
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	115	96	122	105	91
2	B (mg/L)	0.05	0.11	0.06	0.11	0.05
3	Ca (mg/L)	42	29	38	38	26
4	Cl (mg/L)	31.5	19.2	26.1	24.5	14.2
5	F (mg/L)	0.25	0.71	0.33	0.50	0.32
6	Fe (mg/L)	1.5	2.8	2.6	3.2	0.3
7	HCO3 (mg/L)	140	117	149	128	111
8	K (mg/L)	0.8	1.0	1.4	1.3	1.0
9	Mg (mg/L)	5.3	5.8	8.3	10.7	8.8
10	Na (mg/L)	23.8	10.2	14.4	15.8	7.7
11	NO2+NO3 (mg N/L)	0.99	1.84	2.48	2.46	1.43
12	NO2-N (mgN/L)	0.02	0.01	0.00	0.01	0.01
13	NO3-N (mgN/L)	0.97	1.84	2.48	2.46	1.42
14	P-Tot (mgP/L)	0.015	0.054	0.041	0.049	0.031
15	SiO2 (mg/L)	20.5	12.2	6.7	8.1	22.5
16	SO4 (mg/L)	12.6	14.6	21.4	33.1	10.0
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	2.6	1.1	0.6	1.3	1.5
2	COD (mg/L)	16.5	10.0	5.0	8.8	9.0
3	DO (mg/L)			6.1	6.5	6.9
4	DO_SAT% (%)			75	78	81
5	FCol-MPN (MPN/100mL)	46000		9200	2585	1485
6	Tcol-MPN (MPN/100mL)	82500		10500	9025	2600
	TRACE & TOXIC					
1	Cd (µg/L)					
2	Cr (µg/L)					
3	Cu (µg/L)					
4	Hg (µg/L)					
5	Ni (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	106	72	94	95	64
2	HAR_Total (mgCaCO3/L)	128	96	129	140	101
3	Na% (%)	32	19	18	20	14
4	RSC (-)	0.0	0.0	0.0	0.0	0.1
5	SAR (-)	1.0	0.5	0.5	0.6	0.3
	PESTICIDES					

HISTORY SHEET

			Water Year	:	**2018-2019**
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			

Water Quality Datasheet for the period : 2018-2019

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	05/06/2018	23/07/2018	01/08/2018	04/09/2018
		A	A	A	A
	PHYSICAL				
1	Q (cumec)	0.000	4614	206.6	1012
2	Colour_Cod (-)	Light Brown	Brown	Light Brown	Light Brown
3	EC_GEN (µmho/cm)	736	467	435	282
4	Odour_Code (-)	odour free	odour free	odour free	odour free
5	pH_GEN (pH units)	8.0	8.2	8.4	8.2
6	TDS (mg/L)	546	208	197	185
7	Temp (deg C)	23.0	26.0	27.0	25.0
8	Turb (NTU)	24.00	208.00	34.00	22.00
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	9.0	0.0
2	ALK-TOT (mgCaCO3/L)	139	106	91	86
3	B (mg/L)	0.11	0.10	0.00	0.05
4	Ca (mg/L)	41	26	26	21
5	Cl (mg/L)	104.8	25.8	30.7	22.9
6	CO3 (mg/L)	0.0	0.0	10.9	0.0
7	F (mg/L)	0.43	0.51	0.26	0.15
8	Fe (mg/L)	0.7	2.4	2.3	0.0
9	HCO3 (mg/L)	169	130	88	105
10	K (mg/L)	0.4	0.1	0.2	0.2
11	Mg (mg/L)	22.6	11.5	9.1	8.2
12	Na (mg/L)	86.6	14.5	15.5	26.1
13	NH3-N (mg N/L)	0.27	0.18	0.30	0.05
14	NO2+NO3 (mg N/L)	5.62	2.41	0.84	0.39
15	NO2-N (mgN/L)	0.02	0.03	0.03	0.19
16	NO3-N (mgN/L)	5.60	2.38	0.81	0.20
17	o-PO4-P (mg P/L)	0.190	0.360	0.100	0.100
18	SiO2 (mg/L)	94.2	31.0	5.3	14.5
19	SO4 (mg/L)	80.7	18.1	21.0	28.3
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	0.9	0.3	1.6	3.7
2	COD (mg/L)	6.0	15.2	11.6	10.8
3	DO (mg/L)	5.4	6.0	6.0	6.7
4	DO_SAT% (%)	63	74	75	81
5	FCol-MPN (MPN/100mL)	40	20	220	140
6	Tcol-MPN (MPN/100mL)	270	220	260	2200
	TRACE & TOXIC				
1	As (µg/L)				
2	Cd (µg/L)				
3	Cr (µg/L)				
4	Cu (µg/L)	0.00	39.00	19.00	13.00
5	Hg (µg/L)				
6	Ni (µg/L)				
7	Pb (µg/L)				
8	Zn (µg/L)	0.03	50.30	49.60	16.00
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	104	64	66	52
2	HAR_Total (mgCaCO3/L)	198	112	103	86
3	Na% (%)	49	22	25	40
4	RSC (-)	0.0	0.0	0.0	0.0
5	SAR (-)	2.7	0.6	0.7	1.2
	PESTICIDES				

Water Quality Datasheet for the period : 2018-2019

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	03/10/2018	01/11/2018	03/12/2018	05/01/2019
		A	A	A	A
	PHYSICAL				
1	Q (cumec)	32.51	46.28	22.96	0.000
2	Colour_Cod (-)	Clear	Clear	Clear	Brown
3	EC_GEN (µmho/cm)	700	670	1668	700
4	Odour_Code (-)	odour free	odour free	odour free	odour free
5	pH_GEN (pH units)	8.3	8.3	8.1	8.2
6	TDS (mg/L)	514	517		634
7	Temp (deg C)	29.0	23.0	27.0	24.0
8	Turb (NTU)	40.00	7.00		1.00
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	29.5	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	202	214	268	103
3	B (mg/L)	0.07	0.07	0.02	0.01
4	Ca (mg/L)	38	32	55	31
5	Cl (mg/L)	85.5	88.0	102.0	60.0
6	CO3 (mg/L)	35.6	0.0	0.0	0.0
7	F (mg/L)	0.90	0.07	0.22	1.02
8	Fe (mg/L)	0.1	0.0	0.0	0.2
9	HCO3 (mg/L)	174	261	327	125
10	K (mg/L)	0.3	0.3	0.2	0.2
11	Mg (mg/L)	25.9	43.2	25.8	19.2
12	Na (mg/L)	101.5	69.2	105.1	32.3
13	NH3-N (mg N/L)	0.09	0.16	0.01	0.18
14	NO2+NO3 (mg N/L)	0.34	2.28	0.67	0.52
15	NO2-N (mgN/L)	0.02	0.18	0.06	0.03
16	NO3-N (mgN/L)	0.32	2.10	0.61	0.49
17	o-PO4-P (mg P/L)	0.600	0.500	0.100	0.143
18	SiO2 (mg/L)	20.3	23.3	26.9	16.5
19	SO4 (mg/L)	24.6	162.5		33.1
	BIOLOGICAL/BACTERIOLOGICA				
1	BOD3-27 (mg/L)	2.9	0.6	1.4	1.4
2	COD (mg/L)	8.8	7.6	2.0	4.8
3	DO (mg/L)	5.7	6.2	7.3	6.1
4	DO_SAT% (%)	74	72	92	72
5	FCol-MPN (MPN/100mL)	40	40	170	110
6	Tcol-MPN (MPN/100mL)	260	220	800	210
	TRACE & TOXIC				
1	As (µg/L)				
2	Cd (µg/L)				
3	Cr (µg/L)				
4	Cu (µg/L)	6.00	8.00	10.00	6.00
5	Hg (µg/L)				
6	Ni (µg/L)				
7	Pb (µg/L)				
8	Zn (µg/L)	4.00	12.00	6.50	58.30
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	96	79	137	79
2	HAR_Total (mgCaCO3/L)	204	259	245	159
3	Na% (%)	52	37	48	31
4	RSC (-)	0.0	0.0	0.5	0.0
5	SAR (-)	3.1	1.9	2.9	1.1
	PESTICIDES				

Water Quality Datasheet for the period : 2018-2019

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	12/02/2019	09/03/2019	01/04/2019	13/05/2019
		A	A	A	A
	PHYSICAL				
1	Q (cumec)	108.8	206.2	52.95	66.12
2	Colour_Cod (-)	Brown	Brown	Clear	Clear
3	EC_GEN (µmho/cm)	535	830	248	625
4	Odour_Code (-)	odour free	odour free	odour free	odour free
5	pH_GEN (pH units)	8.1	8.3	7.9	8.2
6	TDS (mg/L)	458	628	225	270
7	Temp (deg C)	24.0	22.0	23.0	30.0
8	Turb (NTU)	1.00	2.00	1.00	3.00
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0	4.9	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	237	180	136	118
3	B (mg/L)	0.03	0.04	0.02	0.13
4	Ca (mg/L)	41	45	33	32
5	Cl (mg/L)	98.0	72.0	61.0	53.7
6	CO3 (mg/L)	0.0	5.9	0.0	0.0
7	F (mg/L)	0.55	0.52	0.22	0.25
8	Fe (mg/L)	2.1	9.0	2.1	1.0
9	HCO3 (mg/L)	289	208	165	144
10	K (mg/L)	0.3	0.3	0.2	0.3
11	Mg (mg/L)	25.9	20.6	18.2	19.5
12	Na (mg/L)	90.8	68.5	52.9	25.5
13	NH3-N (mg N/L)	0.01	0.12	0.10	0.11
14	NO2+NO3 (mg N/L)	0.78	0.98	0.33	0.53
15	NO2-N (mgN/L)	0.05	0.02	0.01	0.01
16	NO3-N (mgN/L)	0.73	0.96	0.32	0.52
17	o-PO4-P (mg P/L)	0.220	0.189	0.202	0.940
18	SiO2 (mg/L)	10.0	7.4	18.3	10.0
19	SO4 (mg/L)	77.9	140.9	65.4	42.9
	BIOLOGICAL/BACTERIOLOGICA				
1	BOD3-27 (mg/L)	1.4	1.6	0.4	1.3
2	COD (mg/L)	4.0	2.7	6.5	9.5
3	DO (mg/L)				8.4
4	DO_SAT% (%)				111
5	FCol-MPN (MPN/100mL)	140	330	140	140
6	Tcol-MPN (MPN/100mL)	260	9000	1400	1400
	TRACE & TOXIC				
1	As (µg/L)			3.31	
2	Cd (µg/L)			1.10	
3	Cr (µg/L)			2.70	
4	Cu (µg/L)	8.00	2.00	34.00	9.00
5	Hg (µg/L)			0.27	
6	Ni (µg/L)			7.70	
7	Pb (µg/L)			23.00	
8	Zn (µg/L)	62.70	23.30	8.00	16.90
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	103	113	82	79
2	HAR_Total (mgCaCO3/L)	211	199	157	160
3	Na% (%)	48	43	42	26
4	RSC (-)	0.6	0.0	0.0	0.0
5	SAR (-)	2.7	2.1	1.8	0.9
	PESTICIDES				

Water Quality Summary for the period : 2018-2019

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	Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	368	5556	0.000	352.9
2	EC_GEN (µmho/cm)	12	1668	248	658
3	pH_GEN (pH units)	12	8.4	7.9	8.2
4	TDS (mg/L)	11	634	185	398
5	Temp (deg C)	12	30.0	22.0	25.3
6	Turb (NTU)	11	208.00	1.00	31.18
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	12	29.5	0.0	3.6
2	ALK-TOT (mgCaCO3/L)	12	268	86	157
3	B (mg/L)	12	0.13	0.00	0.05
4	Ca (mg/L)	12	55	21	35
5	Cl (mg/L)	12	104.8	22.9	67
6	CO3 (mg/L)	12	35.6	0.0	4.4
7	F (mg/L)	12	1.02	0.07	0.42
8	Fe (mg/L)	12	9.0	0.0	1.7
9	HCO3 (mg/L)	12	327	88	182
10	K (mg/L)	12	0.4	0.1	0.2
11	Mg (mg/L)	12	43.2	8.2	20.8
12	Na (mg/L)	12	105.1	14.5	57.4
13	NH3-N (mg N/L)	12	0.30	0.01	0.13
14	NO2+NO3 (mg N/L)	12	5.62	0.33	1.31
15	NO2-N (mgN/L)	12	0.19	0.01	0.05
16	NO3-N (mgN/L)	12	5.60	0.20	1.25
17	o-PO4-P (mg P/L)	12	0.940	0.100	0.304
18	SiO2 (mg/L)	12	94.2	5.3	23.1
19	SO4 (mg/L)	11	162.5	18.1	63.2
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	12	3.7	0.3	1.5
2	COD (mg/L)	12	15.2	2.0	7.4
3	DO (mg/L)	9	8.4	5.4	6.4
4	DO_SAT% (%)	9	111	63	79
5	FCol-MPN (MPN/100mL)	12	330	20	128
6	Tcol-MPN (MPN/100mL)	12	9000	210	1375
	TRACE & TOXIC				
1	As (µg/L)	1	3.31	3.31	3.31
2	Cd (µg/L)	1	1.10	1.10	1.1
3	Cr (µg/L)	1	2.70	2.70	2.7
4	Cu (µg/L)	12	39.00	0.00	12.83
5	Hg (µg/L)	1	0.27	0.27	0.27
6	Ni (µg/L)	1	7.70	7.70	7.7
7	Pb (µg/L)	1	23.00	23.00	23
8	Zn (µg/L)	12	62.70	0.03	25.64
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	12	137	52	88
2	HAR_Total (mgCaCO3/L)	12	259	86	174
3	Na% (%)	12	52	22	39
4	RSC (-)	12	0.6	0.0	0.1
5	SAR (-)	12	3.1	0.6	1.8
	PESTICIDES				

Water Quality Seasonal Average for the period: 2004-2019

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			
		2004	2005	2013	2014
	PHYSICAL				
1	Q (cumec)	241.9	612.4	900.0	1413
2	EC_GEN (µmho/cm)	624	498	545	774
3	pH_GEN (pH units)	8.2	7.8	8.3	8.2
4	TDS (mg/L)			317	477
5	Temp (deg C)	29.3	32.9	26.3	25.2
6	Turb (NTU)			2.82	38.00
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	3.9	0.0	2.2	1.7
2	ALK-TOT (mgCaCO3/L)	187	125	183	145
3	B (mg/L)	0.00	0.01	0.28	0.24
4	Ca (mg/L)	30	35	52	31
5	Cl (mg/L)	54.4	40.6	39.2	82.8
6	CO3 (mg/L)	4.7	0.0	2.6	2.0
7	F (mg/L)	1.10	0.70	0.65	0.70
8	Fe (mg/L)	0.0	0.0	0.1	0.1
9	HCO3 (mg/L)	219	152	218	173
10	K (mg/L)	2.2	1.9	1.8	3.0
11	Mg (mg/L)	14.3	14.0	20.2	17.7
12	Na (mg/L)	72.7	38.0	53.0	94.4
13	NH3-N (mg N/L)	0.00	0.00	0.11	0.00
14	NO2+NO3 (mg N/L)	0.01	0.01	0.67	1.11
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.01
16	NO3-N (mgN/L)	0.01	0.01	0.67	1.10
17	o-PO4-P (mg P/L)			0.284	0.115
18	P-Tot (mgP/L)	0.001	0.001		0.095
19	SiO2 (mg/L)	16.3	27.4	15.6	18.4
20	SO4 (mg/L)	67.3	31.5	71.0	98.3
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	2.0	0.7	1.1	1.1
2	COD (mg/L)			7.0	7.0
3	DO (mg/L)	6.5	6.6	6.3	6.2
4	DO_SAT% (%)	85	91	79	75
5	FCol-MPN (MPN/100mL)			590	9692
6	Tcol-MPN (MPN/100mL)			4575	10240
7	TOC (mg/L)			0.2	
	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)	76	88	130	79
2	HAR_Total (mgCaCO3/L)	136	146	214	152
3	Na% (%)	53	35	37	51
4	RSC (-)	1.1	0.0	0.0	0.4
5	SAR (-)	2.7	1.3	1.8	3.3
	PESTICIDES				

Water Quality Seasonal Average for the period: 2004-2019

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			
		2015	2016	2017	2018
	PHYSICAL				
1	Q (cumec)	27.03	175.7	345.8	1173
2	EC_GEN (µmho/cm)	1076	672	623	524
3	pH_GEN (pH units)	8.1	8.5	8.1	8.2
4	TDS (mg/L)	767	536	411	330
5	Temp (deg C)	26.7	25.4	26.8	26.0
6	Turb (NTU)	28.40	45.00	68.33	65.60
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.7	5.1	7.0	7.7
2	ALK-TOT (mgCaCO3/L)	183	168	142	125
3	B (mg/L)	0.20		0.04	0.06
4	Ca (mg/L)	49	47	42	30
5	Cl (mg/L)	135.9	74.3	68.3	53.9
6	CO3 (mg/L)	0.8	6.2	8.4	9.3
7	F (mg/L)	0.92	0.81	0.57	0.45
8	Fe (mg/L)	0.0	0.1	1.5	1.1
9	HCO3 (mg/L)	221	192	156	133
10	K (mg/L)	3.7	2.6	0.4	0.2
11	Mg (mg/L)	27.9	27.3	23.4	15.5
12	Na (mg/L)	146.1	78.0	67.0	48.8
13	NH3-N (mg N/L)	0.06	0.08	0.45	0.18
14	NO2+NO3 (mg N/L)	1.06	1.22	4.91	1.92
15	NO2-N (mgN/L)	0.05	0.00	0.12	0.06
16	NO3-N (mgN/L)	1.01	1.21	4.79	1.86
17	o-PO4-P (mg P/L)	0.211	0.097	0.633	0.270
18	P-Tot (mgP/L)				
19	SiO2 (mg/L)	23.2	15.6	17.3	33.1
20	SO4 (mg/L)	194.0	103.1	86.7	34.5
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	1.1	1.5	1.2	1.9
2	COD (mg/L)	10.4	9.5	18.0	10.5
3	DO (mg/L)	5.4	6.2	6.1	6.0
4	DO_SAT% (%)	67	76	76	73
5	FCol-MPN (MPN/100mL)	506	970	1868	92
6	Tcol-MPN (MPN/100mL)	12854	5060	2343	642
7	TOC (mg/L)	17.9			
	TRACE & TOXIC				
1	As (µg/L)				
2	Cd (µg/L)				
3	Cr (µg/L)				
4	Cu (µg/L)			11.50	15.40
5	Hg (µg/L)				
6	Ni (µg/L)				
7	Pb (µg/L)				
8	Zn (µg/L)			113.90	23.99
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	122	118	106	76
2	HAR_Total (mgCaCO3/L)	239	232	203	141
3	Na% (%)	56	39	41	38
4	RSC (-)	0.0	0.0	0.0	0.0
5	SAR (-)	4.1	2.2	2.0	1.7
	PESTICIDES				

Water Quality Seasonal Average for the period: 2004-2019

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			
		2004-2005	2005-2006	2013-2014	2014-2015
	PHYSICAL				
1	Q (cumec)	98.14	70.86	58.35	53.24
2	EC_GEN (µmho/cm)	595	658	813	775
3	pH_GEN (pH units)	8.2	8.1	8.2	8.2
4	TDS (mg/L)			516	594
5	Temp (deg C)	23.5	27.0	26.0	24.6
6	Turb (NTU)			9.50	2.05
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	4.6	0.0	1.1	1.0
2	ALK-TOT (mgCaCO3/L)	229	204	207	220
3	B (mg/L)	0.00	0.01	0.62	0.20
4	Ca (mg/L)	27	39	45	50
5	Cl (mg/L)	49.0	50.5	71.7	88.6
6	CO3 (mg/L)	5.5	0.0	1.3	1.3
7	F (mg/L)	0.83	1.09	0.84	0.89
8	Fe (mg/L)	0.0	0.0	0.0	0.1
9	HCO3 (mg/L)	268	249	250	266
10	K (mg/L)	1.8		2.4	2.7
11	Mg (mg/L)	15.0	15.5	26.0	27.6
12	Na (mg/L)	73.5		79.1	104.7
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.03
14	NO2+NO3 (mg N/L)	0.01	0.01	0.90	0.92
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.03
16	NO3-N (mgN/L)	0.01	0.01	0.90	0.89
17	o-PO4-P (mg P/L)			0.140	0.135
18	P-Tot (mgP/L)	0.001	0.001		
19	SiO2 (mg/L)	22.8	18.6	22.7	27.8
20	SO4 (mg/L)	58.0	59.0	83.5	70.0
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	0.5	0.9	0.9	0.8
2	COD (mg/L)			6.3	11.1
3	DO (mg/L)	6.3	6.2	6.9	7.1
4	DO_SAT% (%)	74	78	86	85
5	FCol-MPN (MPN/100mL)			4165	878
6	Tcol-MPN (MPN/100mL)			4383	3008
7	TOC (mg/L)				32.1
	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)	68	96	113	124
2	HAR_Total (mgCaCO3/L)	130	161	221	239
3	Na% (%)	55		44	49
4	RSC (-)	2.0	0.9	0.0	0.1
5	SAR (-)	3.0		2.3	3.0
	PESTICIDES				

Water Quality Seasonal Average for the period: 2004-2019

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			
		2015-2016	2016-2017	2017-2018	2018-2019
	PHYSICAL				
1	Q (cumec)	39.59	21.95	41.16	44.51
2	EC_GEN (µmho/cm)	1160	754	857	893
3	pH_GEN (pH units)	8.3	8.5	8.1	8.2
4	TDS (mg/L)	556	575	550	536
5	Temp (deg C)	25.5	24.5	24.5	24.5
6	Turb (NTU)	42.25	7.25	25.25	3.00
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.9	6.1	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	213	189	244	205
3	B (mg/L)	0.08		0.07	0.03
4	Ca (mg/L)	48	51	62	40
5	Cl (mg/L)	103.1	109.5	89.1	87.0
6	CO3 (mg/L)	1.0	7.3	0.0	0.0
7	F (mg/L)	0.55	0.96	0.93	0.46
8	Fe (mg/L)	0.1	0.1	0.4	0.6
9	HCO3 (mg/L)	258	215	298	251
10	K (mg/L)	2.5	4.0	0.4	0.2
11	Mg (mg/L)	27.8	24.8	32.2	28.5
12	Na (mg/L)	108.9	144.8	108.9	74.3
13	NH3-N (mg N/L)	0.01	0.02	0.34	0.09
14	NO2+NO3 (mg N/L)	1.14	0.70	6.79	1.06
15	NO2-N (mgN/L)	0.02	0.09	0.04	0.08
16	NO3-N (mgN/L)	1.12	0.60	6.75	0.98
17	o-PO4-P (mg P/L)	0.146	0.120	0.955	0.241
18	P-Tot (mgP/L)				
19	SiO2 (mg/L)	11.7	15.7	18.7	19.2
20	SO4 (mg/L)	142.0	161.2	125.7	91.2
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	1.3	1.0	0.5	1.2
2	COD (mg/L)	6.8	8.8	11.9	4.6
3	DO (mg/L)	6.5	6.6	7.0	6.5
4	DO_SAT% (%)	79	79	84	79
5	FCol-MPN (MPN/100mL)	1483	960	2325	115
6	Tcol-MPN (MPN/100mL)	12055	2325	4493	373
7	TOC (mg/L)	13.6			
	TRACE & TOXIC				
1	As (µg/L)				
2	Cd (µg/L)				
3	Cr (µg/L)				
4	Cu (µg/L)		0.00	5.00	8.00
5	Hg (µg/L)				
6	Ni (µg/L)				
7	Pb (µg/L)				
8	Zn (µg/L)		0.00	59.17	34.88
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	121	128	154	99
2	HAR_Total (mgCaCO3/L)	237	231	288	218
3	Na% (%)	49	53	45	41
4	RSC (-)	0.0	0.0	0.1	0.3
5	SAR (-)	3.1	4.3	2.8	2.2
	PESTICIDES				

Water Quality Seasonal Average for the period: 2004-2019

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			
		2005	2006	2014	2015
	PHYSICAL				
1	Q (cumec)	57.91	57.93	23.55	24.31
2	EC_GEN (µmho/cm)	649	704	978	785
3	pH_GEN (pH units)	8.2	8.1	8.2	8.3
4	TDS (mg/L)			650	539
5	Temp (deg C)	27.0	26.0	26.0	25.7
6	Turb (NTU)			13.67	13.67
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.7	2.3
2	ALK-TOT (mgCaCO3/L)	218	218	219	171
3	B (mg/L)	0.00	0.01	0.54	0.36
4	Ca (mg/L)	83	50	46	50
5	Cl (mg/L)	51.0	57.1	97.3	145.0
6	CO3 (mg/L)	0.0	0.0	0.8	2.8
7	F (mg/L)	0.96	0.92	0.95	1.13
8	Fe (mg/L)	0.0	0.0	0.5	0.0
9	HCO3 (mg/L)	266	266	265	203
10	K (mg/L)	1.0	1.9	3.1	3.0
11	Mg (mg/L)	7.0	14.0	26.7	28.7
12	Na (mg/L)	41.0	68.0	108.4	139.1
13	NH3-N (mg N/L)	0.00	0.00	0.02	0.01
14	NO2+NO3 (mg N/L)	0.01	0.01	1.19	0.59
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.05
16	NO3-N (mgN/L)	0.01	0.01	1.19	0.54
17	o-PO4-P (mg P/L)			0.137	0.217
18	P-Tot (mgP/L)	0.001	0.001		
19	SiO2 (mg/L)	22.5	17.3	26.3	30.7
20	SO4 (mg/L)	54.0	45.0	135.8	159.3
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	0.9	0.3	1.3	0.7
2	COD (mg/L)			6.6	9.2
3	DO (mg/L)	5.9		5.7	5.2
4	DO_SAT% (%)	74		70	64
5	FCol-MPN (MPN/100mL)			920	2
6	Tcol-MPN (MPN/100mL)			5673	5500
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)	208	125	114	124
2	HAR_Total (mgCaCO3/L)	237	183	226	244
3	Na% (%)	27	44	50	54
4	RSC (-)	0.0	0.7	0.1	0.0
5	SAR (-)	1.2	2.2	3.2	3.9
	PESTICIDES				

Water Quality Seasonal Average for the period: 2004-2019

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			
		2016	2017	2018	2019
				Dry Bed	
	PHYSICAL			No Flow	
1	Q (cumec)	63.07	11.38		131.3
2	EC_GEN (µmho/cm)	654	1009		568
3	pH_GEN (pH units)	7.8	7.8		8.1
4	TDS (mg/L)	484	601		374
5	Temp (deg C)	29.3	28.0		25.0
6	Turb (NTU)	140.50	43.00		2.00
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	2.2	0.0		1.6
2	ALK-TOT (mgCaCO3/L)	118	200		145
3	B (mg/L)				0.06
4	Ca (mg/L)	39	64		36
5	Cl (mg/L)	63.2	77.5		62.2
6	CO3 (mg/L)	2.7	0.0		2.0
7	F (mg/L)	0.11	0.59		0.33
8	Fe (mg/L)	0.0	0.0		4.0
9	HCO3 (mg/L)	138	244		172
10	K (mg/L)	1.3	3.5		0.3
11	Mg (mg/L)	29.5	22.9		19.4
12	Na (mg/L)	75.5	126.5		49.0
13	NH3-N (mg N/L)	0.00	0.01		0.11
14	NO2+NO3 (mg N/L)	0.58	2.20		0.61
15	NO2-N (mgN/L)	0.06	0.12		0.01
16	NO3-N (mgN/L)	0.52	2.08		0.60
17	o-PO4-P (mg P/L)	0.122	0.670		0.444
18	P-Tot (mgP/L)				
19	SiO2 (mg/L)	10.6	35.5		11.9
20	SO4 (mg/L)	134.0	106.8		83.1
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	2.2	1.0		1.1
2	COD (mg/L)	16.1	10.5		6.2
3	DO (mg/L)	5.3	4.5		8.4
4	DO_SAT% (%)	69	58		111
5	FCol-MPN (MPN/100mL)	8010	435		203
6	Tcol-MPN (MPN/100mL)	8085	1500		3933
7	TOC (mg/L)				
	TRACE & TOXIC				
1	As (µg/L)		2.04		3.31
2	Cd (µg/L)		1.70		1.10
3	Cr (µg/L)		0.00		2.70
4	Cu (µg/L)		0.00		15.00
5	Hg (µg/L)		0.66		0.27
6	Ni (µg/L)		6.30		7.70
7	Pb (µg/L)		1.00		23.00
8	Zn (µg/L)		0.00		16.07
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	98	161		91
2	HAR_Total (mgCaCO3/L)	221	256		172
3	Na% (%)	43	53		37
4	RSC (-)	0.0	0.0		0.0
5	SAR (-)	2.3	3.5		1.6
	PESTICIDES				

HISTORY SHEET

			Water Year	:	**2018-2019**
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 : 2018-2019

Station Name : Cholachguda (Seasonal) (AKS00H1) **Division : Upper Krishna Divn, Pune**

Local River : Malaprabha **River Water Analysis Sub-Division : Middle Krishna SD 1, Bagalkot**

S.No	Parameters	
	PHYSICAL	
1	Q (cumec)	
	CHEMICAL	**NO SAMPLE RECEIVED FROM JUNE 2018 TO MAY 2019 DUE TO DRY BED**
	BIOLOGICAL/BACTERIOLOGICAL	
	TRACE & TOXIC	
	CHEMICAL INDICES	
	PESTICIDES	**Analysis not done due to mal function of instrument.**

Water Quality Seasonal Average for the period: 2004-2019

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				
		2004	2005	2006	2007	2008
	PHYSICAL					
1	Q (cumec)	50.37	101.7	14.88	67.44	33.96
2	EC_FLD (µmho/cm)	651	240	246	243	259
3	EC_GEN (µmho/cm)	230	284	547	434	1022
4	pH_FLD (pH units)	7.5	7.7	7.4	7.6	7.3
5	pH_GEN (pH units)	8.2	8.0	8.2	8.0	7.8
6	Temp (deg C)	23.0	23.0	22.5	23.0	22.5
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.4	0.0
2	ALK-TOT (mgCaCO3/L)	79	84	244	101	84
3	B (mg/L)		0.19	0.41	0.13	0.20
4	Ca (mg/L)		16	36	29	36
5	Cl (mg/L)		27.9	78.7	58.5	72.4
6	CO3 (mg/L)	0.0	0.0	0.0	0.5	0.0
7	F (mg/L)		0.16	0.19	0.46	0.73
8	Fe (mg/L)		1.5	0.1	0.4	0.2
9	HCO3 (mg/L)	97	103	173	122	103
10	K (mg/L)		41.1	41.4	8.7	3.9
11	Mg (mg/L)		5.8	18.7	6.6	10.2
12	Na (mg/L)		22.6	46.2	54.8	48.2
13	NH3-N (mg N/L)					
14	NO2+NO3 (mg N/L)		1.13	0.87	4.55	1.52
15	NO2-N (mgN/L)		0.15	0.01	0.03	0.01
16	NO3-N (mgN/L)		0.99	0.86	4.52	1.51
17	P-Tot (mgP/L)		0.083	0.248	0.154	0.041
18	SiO2 (mg/L)		3.7	8.9	9.0	9.3
19	SO4 (mg/L)		28.3	30.6	40.8	48.9
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	2.9	0.9	0.4	1.0	2.1
2	COD (mg/L)	9.3	5.3	2.5	8.9	3.8
3	DO (mg/L)	5.6	6.0	7.0	7.1	7.1
4	DO_SAT% (%)	65	69	80	82	81
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)		41	91	73	89
2	HAR_Total (mgCaCO3/L)		65	169	100	131
3	Na% (%)		30	32	46	37
4	RSC (-)		0.5	0.1	0.5	0.0
5	SAR (-)		1.3	1.6	2.5	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: 2004-2019

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				
		2009	2010	2011	2012	2013
	PHYSICAL					
1	Q (cumec)	292.9	13.19	22.72	2.660	36.55
2	EC_FLD (µmho/cm)	263	266	270	270	275
3	EC_GEN (µmho/cm)	1645	966	798	541	440
4	pH_FLD (pH units)	7.4	7.3	7.3	7.1	7.2
5	pH_GEN (pH units)	7.8	8.2	7.9	7.3	7.6
6	Temp (deg C)	22.5	23.7	22.5	21.0	25.8
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	153	157	139	97	95
3	B (mg/L)	0.26	0.39	0.11	0.15	0.13
4	Ca (mg/L)	53	60	54	37	29
5	Cl (mg/L)	153.5	167.4	60.4	77.1	63.1
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.69	0.54	0.38	0.40	0.58
8	Fe (mg/L)	0.6	0.3	0.1	0.0	0.9
9	HCO3 (mg/L)	186	192	169	118	115
10	K (mg/L)	0.9	4.9	2.1	2.0	2.2
11	Mg (mg/L)	17.9	20.1	7.8	11.7	9.1
12	Na (mg/L)	89.8	100.0	42.0	54.1	45.5
13	NH3-N (mg N/L)					
14	NO2+NO3 (mg N/L)	1.26	0.45	1.09	1.13	1.24
15	NO2-N (mgN/L)	0.01	0.01	0.00	0.24	0.00
16	NO3-N (mgN/L)	1.25	0.44	1.09	0.89	1.24
17	P-Tot (mgP/L)	0.016	0.013	0.016	0.049	0.014
18	SiO2 (mg/L)	6.8	5.9	8.3	0.0	0.6
19	SO4 (mg/L)	60.0	26.5	28.4	46.6	29.0
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.9	0.5	1.0	1.8	1.2
2	COD (mg/L)	5.9	4.4	4.3	10.6	10.1
3	DO (mg/L)	7.1	7.1	7.2	7.1	7.6
4	DO_SAT% (%)	82	83	82	80	93
5	FCol-MPN (MPN/100mL)	35000	9600	64000	33000	26933
6	Tcol-MPN (MPN/100mL)	54000	13667	90000	49000	65667
7	TOC (mg/L)					
	TRACE & TOXIC					
1	As (µg/L)				14.6	1.7
2	Cd (µg/L)				0.1	1.6
3	Cr (µg/L)				1.4	4.9
4	Cu (µg/L)				6.5	4.2
5	Hg (µg/L)					0.5
6	Ni (µg/L)				13.3	18.2
7	Pb (µg/L)				0.9	-0.5
8	Zn (µg/L)				4.3	-0.1
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	132	150	134	92	72
2	HAR_Total (mgCaCO3/L)	207	233	167	141	110
3	Na% (%)	49	48	36	45	45
4	RSC (-)	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	2.8	2.9	1.5	2.0	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: 2004-2019

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			
		2014	2015	2016	2017
	PHYSICAL				
1	Q (cumec)	13.14	133.4	10.62	186.9
2	EC_FLD (µmho/cm)	584	548	550	580
3	EC_GEN (µmho/cm)	589	314	559	224
4	pH_FLD (pH units)	7.1	7.2	7.1	7.2
5	pH_GEN (pH units)	7.8	7.9	8.2	8.0
6	Temp (deg C)	25.5	23.0	23.3	23.5
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	117	97	102	57
3	B (mg/L)	0.05	0.08	0.07	0.14
4	Ca (mg/L)	38	34	22	16
5	Cl (mg/L)	73.3	51.6	89.4	13.6
6	CO3 (mg/L)	0.0	0.0	0.0	0.0
7	F (mg/L)	0.48	0.56	0.70	0.62
8	Fe (mg/L)	2.1	2.0	2.1	2.4
9	HCO3 (mg/L)	143	118	125	70
10	K (mg/L)	2.2	1.3	1.7	1.1
11	Mg (mg/L)	12.6	3.9	10.7	5.8
12	Na (mg/L)	48.5	38.0	63.0	9.3
13	NH3-N (mg N/L)				
14	NO2+NO3 (mg N/L)	1.66	1.57	2.55	1.56
15	NO2-N (mgN/L)	0.01	0.01	0.03	0.00
16	NO3-N (mgN/L)	1.65	1.56	2.52	1.56
17	P-Tot (mgP/L)	0.012	0.008	0.023	0.008
18	SiO2 (mg/L)	11.1	2.3	3.1	2.7
19	SO4 (mg/L)	37.0	20.3	32.0	16.7
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	1.9	1.6	0.8	2.7
2	COD (mg/L)	16.7	15.0	5.8	20.0
3	DO (mg/L)	7.7	7.8	7.8	7.7
4	DO_SAT% (%)	94	91	90	90
5	FCol-MPN (MPN/100mL)	15100		9500	5000
6	Tcol-MPN (MPN/100mL)	23267		9500	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)	96	84	54	40
2	HAR_Total (mgCaCO3/L)	149	100	99	64
3	Na% (%)	41	45	58	24
4	RSC (-)	0.0	0.0	0.3	0.0
5	SAR (-)	1.8	1.7	2.8	0.5
	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: 2004-2019

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				
		2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
	PHYSICAL					
1	Q (cumec)	10.77	21.96	70.53	19.94	32.14
2	EC_FLD (µmho/cm)	516	247	246	255	265
3	EC_GEN (µmho/cm)	312	375	363	653	394
4	pH_FLD (pH units)	7.8	7.4	7.4	7.5	7.6
5	pH_GEN (pH units)	8.2	8.0	8.0	8.1	8.1
6	Temp (deg C)	22.5	22.2	22.5	22.4	23.3
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.5
2	ALK-TOT (mgCaCO3/L)	165	84	168	120	96
3	B (mg/L)	0.20	0.15	0.34	0.17	0.17
4	Ca (mg/L)	17	15	25	28	29
5	Cl (mg/L)	20.4	37.4	43.3	93.4	49.1
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.6
7	F (mg/L)	0.25	0.34	0.13	0.45	0.60
8	Fe (mg/L)	0.2	1.3	0.1	0.4	0.2
9	HCO3 (mg/L)	101	103	103	146	115
10	K (mg/L)	2.5	34.4	30.9	1.8	1.4
11	Mg (mg/L)	8.0	11.6	11.3	25.1	10.2
12	Na (mg/L)	17.9	22.5	30.6	62.6	32.6
13	NH3-N (mg N/L)	0.23				
14	NO2+NO3 (mg N/L)	0.94	1.57	0.68	0.48	1.38
15	NO2-N (mgN/L)	0.06	0.17	0.01	0.07	0.16
16	NO3-N (mgN/L)	0.88	1.40	0.67	0.41	1.23
17	P-Tot (mgP/L)	0.072	0.096	0.332	0.249	0.038
18	SiO2 (mg/L)	5.9	4.5	3.2	7.2	5.8
19	SO4 (mg/L)	8.4	24.7	40.4	54.1	23.9
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.0	1.1	0.5	0.6	0.6
2	COD (mg/L)	6.7	45.2	11.9	9.9	4.0
3	DO (mg/L)	6.3	6.4	6.9	7.0	7.3
4	DO_SAT% (%)	72	73	79	80	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)	43	39	61	70	72
2	HAR_Total (mgCaCO3/L)	76	87	108	174	114
3	Na% (%)	32	27	31	43	39
4	RSC (-)	0.1	0.2	0.0	0.0	0.1
5	SAR (-)	0.9	1.1	1.3	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: 2004-2019

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					
		2009-2010	2010-2011	2011-2012	2013-2014	2014-2015	
	PHYSICAL						
1	Q (cumec)	14.51	15.59	31.03	6.313	10.15	
2	EC_FLD (µmho/cm)	873	270	273	240	610	
3	EC_GEN (µmho/cm)	2381	999	520	1820	953	
4	pH_FLD (pH units)	7.3	7.2	7.2	7.1	7.2	
5	pH_GEN (pH units)	8.0	7.9	7.9	6.9	8.3	
6	Temp (deg C)	17.8	19.0	19.4	20.0	23.0	
	CHEMICAL						
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0	
2	ALK-TOT (mgCaCO3/L)	126	154	117	140	148	
3	B (mg/L)	0.48	0.26	0.12	0.09	0.08	
4	Ca (mg/L)	49	63	43	58	66	
5	Cl (mg/L)	154.1	172.6	71.4	158.5	184.0	
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	
7	F (mg/L)	0.17	1.02	0.35	0.40	0.29	
8	Fe (mg/L)	0.5	0.2	0.2	2.8	0.0	
9	HCO3 (mg/L)	154	188	143	171	181	
10	K (mg/L)	9.8	3.4	2.0	3.1	2.9	
11	Mg (mg/L)	17.7	20.4	8.7	15.6	21.4	
12	Na (mg/L)	85.5	110.0	45.2	103.5	95.5	
13	NH3-N (mg N/L)						
14	NO2+NO3 (mg N/L)	2.73	0.85	1.12	1.66	2.18	
15	NO2-N (mgN/L)	0.01	0.01	0.01	0.00	0.01	
16	NO3-N (mgN/L)	2.72	0.84	1.12	1.66	2.17	
17	P-Tot (mgP/L)	0.006	0.054	0.026	0.012	0.009	
18	SiO2 (mg/L)	8.8	6.8	7.4	2.8	89.6	
19	SO4 (mg/L)	38.2	44.1	33.4	60.0	50.7	
	BIOLOGICAL/BACTERIOLOGICAL						
1	BOD3-27 (mg/L)	0.5	1.0	0.7	0.3	1.1	
2	COD (mg/L)	4.2	7.6	3.9	2.3	10.6	
3	DO (mg/L)	7.2	7.1	7.1	7.8	7.8	
4	DO_SAT% (%)	76	77	77	86	91	
5	FCol-MPN (MPN/100mL)	51350	11000	90500	240000	7800	
6	Tcol-MPN (MPN/100mL)	88300	14000	134750	920000	13000	
7	TOC (mg/L)						
	TRACE & TOXIC						
1	As (µg/L)						
2	Cd (µg/L)					0.3	
3	Cr (µg/L)					35.3	
4	Cu (µg/L)					16.0	
5	Hg (µg/L)						
6	Ni (µg/L)					-0.5	
7	Pb (µg/L)					1.6	
8	Zn (µg/L)					10.0	
	CHEMICAL INDICES						
1	HAR_Ca (mgCaCO3/L)	123	156	107	144	164	
2	HAR_Total (mgCaCO3/L)	197	241	144	209	253	
3	Na% (%)	46	49	39	52	45	
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	
5	SAR (-)	2.7	3.1	1.6	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)						

During Winter season 2012-2013 and 2015-2016 to 2018-2019 Dry Bed / No Flow condition.

Water Quality Seasonal Average for the period: 2004-2019

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					
		2006	2007	2008	2009	2010	2019
							During Summer season 2010 to 2019 Dry Bed / No Flow condition.
	PHYSICAL						
1	Q (cumec)	21.00	0.000	13.83	19.50		
2	EC_FLD (µmho/cm)	260	243	257	280	270	
3	EC_GEN (µmho/cm)	355	571	1002	884	547	
4	pH_FLD (pH units)	7.4	7.5	7.5	7.6	7.2	
5	pH_GEN (pH units)	7.8	8.0	8.1	8.0	8.1	
6	Temp (deg C)	23.5	23.5	23.0	23.0	18.5	
	CHEMICAL						
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0	
2	ALK-TOT (mgCaCO3/L)	98	116	100	84	128	
3	B (mg/L)	0.15	0.14	0.18	0.00	0.60	
4	Ca (mg/L)	27	27	30	33	41	
5	Cl (mg/L)	32.8	97.9	90.7	115.5	68.7	
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	
7	F (mg/L)	0.41	0.26	0.26	1.05	0.20	
8	Fe (mg/L)	0.9	0.7	0.5	0.0	0.4	
9	HCO3 (mg/L)	120	99	122	103	156	
10	K (mg/L)	38.6	30.0	1.0	1.1	15.7	
11	Mg (mg/L)	5.5	23.2	13.1	33.5	24.5	
12	Na (mg/L)	33.6	45.6	60.5	27.1	40.0	
13	NH3-N (mg N/L)						
14	NO2+NO3 (mg N/L)	1.96	0.99	0.83	0.85	1.90	
15	NO2-N (mgN/L)	0.16	0.08	0.17	0.20	0.01	
16	NO3-N (mgN/L)	1.80	0.91	0.66	0.65	1.89	
17	P-Tot (mgP/L)	0.112	0.155	0.289	0.010	0.015	
18	SiO2 (mg/L)	4.6	4.6	0.7	6.4	4.6	
19	SO4 (mg/L)	45.7	79.9	45.4	23.7	40.9	
	BIOLOGICAL/BACTERIOLOGICAL						
1	BOD3-27 (mg/L)	0.9	1.9	0.4	1.1	1.1	
2	COD (mg/L)	38.0	9.1	10.6	4.6	6.8	
3	DO (mg/L)	6.8	6.9	6.9	7.2	7.2	
4	DO_SAT% (%)	79	81	81	84	76	
5	FCol-MPN (MPN/100mL)					35000	
6	Tcol-MPN (MPN/100mL)					54000	
7	TOC (mg/L)			1.6			
	TRACE & TOXIC						
1	As (µg/L)						
2	Cd (µg/L)		8.0	1.7			
3	Cr (µg/L)		45.0	2.0			
4	Cu (µg/L)						
5	Hg (µg/L)		0.8	0.0			
6	Ni (µg/L)		7.0	17.4			
7	Pb (µg/L)		74.0	33.9			
8	Zn (µg/L)		26.0	4.8			
	CHEMICAL INDICES						
1	HAR_Ca (mgCaCO3/L)	68	67	74	82	103	
2	HAR_Total (mgCaCO3/L)	91	164	129	222	205	
3	Na% (%)	34	33	47	21	28	
4	RSC (-)	0.2	0.0	0.0	0.0	0.0	
5	SAR (-)	1.5	1.5	2.3	0.8	1.2	
	PESTICIDES						
1	Aldrin (µg/L)		0.0	0.0			
2	BHC (µg/L)		0.1	0.1			
3	DDT (µg/L)		0.1	0.1			
4	Dieldrin (µg/L)		0.0	0.0			
5	Endos (µg/L)		0.1	0.1			

HISTORY SHEET

			Water Year	:	**2018-2019**
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 : 2018-2019

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	01/06/2018	02/07/2018	01/08/2018	03/09/2018
		A	A	A	A
	PHYSICAL				
1	Q (cumec)	SAMPLE NOT RECEIVED DUE TO NO FLOW	6.600	37.59	117.0
2	Colour_Cod (-)		Light Brown	Light Brown	Light Brown
3	EC_GEN (µmho/cm)		161	252	111
4	Odour_Code (-)		odour free	odour free	odour free
5	pH_GEN (pH units)		7.4	7.7	7.5
6	TDS (mg/L)		90	170	80
7	Temp (deg C)		23.0	24.0	25.0
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)		0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)		44	70	35
3	B (mg/L)		0.13	0.19	0.13
4	Ca (mg/L)		18	29	18
5	Cl (mg/L)		19.5	27.0	11.4
6	CO3 (mg/L)		0.0	0.0	0.0
7	F (mg/L)		0.08	0.10	0.06
8	Fe (mg/L)		0.8	0.6	0.3
9	HCO3 (mg/L)		54	86	43
10	K (mg/L)		1.7	1.9	1.9
11	Mg (mg/L)		3.9	1.5	0.0
12	Na (mg/L)		9.2	20.7	5.1
13	NO2+NO3 (mg N/L)		1.08	1.57	0.15
14	NO2-N (mgN/L)		0.07	0.03	0.00
15	NO3-N (mgN/L)		1.01	1.54	0.15
16	o-PO4-P (mg P/L)		0.072	0.010	0.000
17	SiO2 (mg/L)		8.2	15.3	6.9
18	SO4 (mg/L)		10.2	11.5	6.5
	BIOLOGICAL/BACTERIOLOGICA				
1	BOD3-27 (mg/L)		1.1	3.0	1.0
2	COD (mg/L)		16.0	25.0	25.0
3	DO (mg/L)		6.0	6.2	7.0
4	DO_SAT% (%)		70	74	85
5	FCol-MPN (MPN/100mL)		5600	5500	5500
6	Tcol-MPN (MPN/100mL)		18400	7000	7000
	TRACE & TOXIC				
1	As (µg/L)			4.7	
2	Cd (µg/L)			0.2	
3	Cr (µg/L)			4.2	
4	Cu (µg/L)			1.0	
5	Ni (µg/L)			3.9	
6	Pb (µg/L)			1.0	
7	Zn (µg/L)			5.7	
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)		44	72	44
2	HAR_Total (mgCaCO3/L)		60	78	44
3	Na% (%)		24	36	19
4	RSC (-)		0.0	0.0	0.0
5	SAR (-)		0.5	1.0	0.3
	PESTICIDES				

Water Quality Datasheet for the period : 2018-2019

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	03/10/2018	01/11/2018	03/12/2018	01/01/2019
		A	A	A	A
	PHYSICAL				
1	Q (cumec)	33.55	7.110	1.166	SAMPLE NOT RECEIVED DUE TO NO FLOW
2	Colour_Cod (-)	Light Brown	Clear	Clear	
3	EC_GEN (µmho/cm)	321	416	551	
4	Odour_Code (-)	odour free	odour free	odour free	
5	pH_GEN (pH units)	7.6	7.7	7.5	
6	TDS (mg/L)	212	252	330	
7	Temp (deg C)	26.0	20.0	20.0	
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	
2	ALK-TOT (mgCaCO3/L)	113	126	157	
3	B (mg/L)	0.09	0.10	0.16	
4	Ca (mg/L)	24	32	26	
5	Cl (mg/L)	28.8	42.2	57.9	
6	CO3 (mg/L)	0.0	0.0	0.0	
7	F (mg/L)	0.13	0.23	0.19	
8	Fe (mg/L)	0.3	0.0	0.1	
9	HCO3 (mg/L)	138	154	192	
10	K (mg/L)	2.1	3.6	5.0	
11	Mg (mg/L)	13.6	10.7	21.4	
12	Na (mg/L)	18.7	37.5	48.3	
13	NO2+NO3 (mg N/L)	14.86	1.99	0.77	
14	NO2-N (mgN/L)	3.17	0.01	0.00	
15	NO3-N (mgN/L)	11.69	1.98	0.77	
16	o-PO4-P (mg P/L)	0.951	0.010	0.134	
17	SiO2 (mg/L)	3.1	11.9	18.2	
18	SO4 (mg/L)	13.7	16.1	19.2	
	BIOLOGICAL/BACTERIOLOGICA				
1	BOD3-27 (mg/L)	1.5	6.8	4.7	
2	COD (mg/L)	31.0	44.0	40.0	
3	DO (mg/L)	6.5	5.9	4.0	
4	DO_SAT% (%)	80	65	44	
5	FCol-MPN (MPN/100mL)	1470	1650	4700	
6	Tcol-MPN (MPN/100mL)	2100	3950	11000	
	TRACE & TOXIC				
1	As (µg/L)			1.0	
2	Cd (µg/L)			0.0	
3	Cr (µg/L)			11.3	
4	Cu (µg/L)			1.3	
5	Ni (µg/L)			1.6	
6	Pb (µg/L)			1.0	
7	Zn (µg/L)			3.2	
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	60	80	64	
2	HAR_Total (mgCaCO3/L)	117	125	153	
3	Na% (%)	26	39	40	
4	RSC (-)	0.0	0.0	0.1	
5	SAR (-)	0.8	1.5	1.7	
	PESTICIDES				

Water Quality Datasheet for the period : 2018-2019

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	01/02/2019	01/03/2019	01/04/2019	01/05/2019
		A	A	A	A
	PHYSICAL				
1	Q (cumec)	SAMPLE NOT RECEIVED DUE TO NO FLOW	SAMPLE NOT RECEIVED DUE TO NO FLOW	SAMPLE NOT RECEIVED DUE TO NO FLOW	SAMPLE NOT RECEIVED DUE TO NO FLOW
2	Colour_Cod (-)				
3	EC_GEN (µmho/cm)				
4	Odour_Code (-)				
5	pH_GEN (pH units)				
6	TDS (mg/L)				
7	Temp (deg C)				
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)				
2	ALK-TOT (mgCaCO3/L)				
3	B (mg/L)				
4	Ca (mg/L)				
5	Cl (mg/L)				
6	CO3 (mg/L)				
7	F (mg/L)				
8	Fe (mg/L)				
9	HCO3 (mg/L)				
10	K (mg/L)				
11	Mg (mg/L)				
12	Na (mg/L)				
13	NO2+NO3 (mg N/L)				
14	NO2-N (mgN/L)				
15	NO3-N (mgN/L)				
16	o-PO4-P (mg P/L)				
17	SiO2 (mg/L)				
18	SO4 (mg/L)				
	BIOLOGICAL/BACTERIOLOGICA				
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)				
	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)				
2	HAR_Total (mgCaCO3/L)				
3	Na% (%)				
4	RSC (-)				
5	SAR (-)				
	PESTICIDES				

Water Quality Summary for the period : 2018-2019

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)	184	854.4	0.000	85.81
2	EC_GEN (µmho/cm)	6	551	111	302
3	pH_GEN (pH units)	6	7.7	7.4	7.6
4	TDS (mg/L)	6	330	80	189
5	Temp (deg C)	6	26.0	20.0	23
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	6	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	6	157	35	91
3	B (mg/L)	6	0.19	0.09	0.13
4	Ca (mg/L)	6	32	18	24
5	Cl (mg/L)	6	57.9	11.4	31.1
6	CO3 (mg/L)	6	0.0	0.0	0
7	F (mg/L)	6	0.23	0.06	0.13
8	Fe (mg/L)	6	0.8	0.0	0.4
9	HCO3 (mg/L)	6	192	43	111
10	K (mg/L)	6	5.0	1.7	2.7
11	Mg (mg/L)	6	21.4	0.0	8.5
12	Na (mg/L)	6	48.3	5.1	23.3
13	NO2+NO3 (mg N/L)	6	14.86	0.15	3.4
14	NO2-N (mgN/L)	6	3.17	0.00	0.55
15	NO3-N (mgN/L)	6	11.69	0.15	2.86
16	o-PO4-P (mg P/L)	6	0.951	0.000	0.196
17	SiO2 (mg/L)	6	18.2	3.1	10.6
18	SO4 (mg/L)	6	19.2	6.5	12.8
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	6	6.8	1.0	3
2	COD (mg/L)	6	44.0	16.0	30.2
3	DO (mg/L)	6	7.0	4.0	5.9
4	DO_SAT% (%)	6	85	44	70
5	FCol-MPN (MPN/100mL)	6	5600	1470	4070
6	Tcol-MPN (MPN/100mL)	6	18400	2100	8242
	TRACE & TOXIC				
1	As (µg/L)	2	4.7	1.0	2.9
2	Cd (µg/L)	2	0.2	0.0	0.1
3	Cr (µg/L)	2	11.3	4.2	7.7
4	Cu (µg/L)	2	1.3	1.0	1.1
5	Ni (µg/L)	2	3.9	1.6	2.8
6	Pb (µg/L)	2	1.0	1.0	1
7	Zn (µg/L)	2	5.7	3.2	4.4
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	6	80	44	61
2	HAR_Total (mgCaCO3/L)	6	153	44	96
3	Na% (%)	6	40	19	31
4	RSC (-)	6	0.1	0.0	0
5	SAR (-)	6	1.7	0.3	1
	PESTICIDES				

Water Quality Seasonal Average for the period: 2014-2019

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				
		Jun - Oct				
		2014	2015	2016	2017	2018
	PHYSICAL					
1	Q (cumec)	75.15	108.6	9.979	27.54	38.95
2	EC_FLD (µmho/cm)		348	400	219	
3	EC_GEN (µmho/cm)	235	218	290	238	211
4	pH_FLD (pH units)		6.7	6.3	6.4	
5	pH_GEN (pH units)	7.6	7.7	7.6	7.5	7.6
6	TDS (mg/L)					138
7	Temp (deg C)	23.0	21.3	24.3	25.8	24.5
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	96	50	76	56	66
2	B (mg/L)	0.04	0.07	0.07	0.11	0.13
3	Ca (mg/L)	35	21	22	24	22
4	Cl (mg/L)	51.8	19.8	43.0	26.4	21.7
5	F (mg/L)	0.24	0.48	0.37	0.47	0.09
6	Fe (mg/L)	2.7	2.0	3.4	2.5	0.5
7	HCO3 (mg/L)	117	61	93	69	80
8	K (mg/L)	0.7	0.8	3.0	1.4	1.9
9	Mg (mg/L)	12.6	5.8	8.0	5.8	4.7
10	Na (mg/L)	33.0	11.7	23.0	19.2	13.4
11	NO2+NO3 (mg N/L)	1.70	1.43	3.06	1.94	4.42
12	NO2-N (mgN/L)	0.01	0.00	0.00	0.00	0.82
13	NO3-N (mgN/L)	1.69	1.42	3.05	1.94	3.60
14	o-PO4-P (mg P/L)					0.258
15	P-Tot (mgP/L)	0.007	0.016	0.035	0.026	
16	SiO2 (mg/L)	24.8	11.2	7.1	6.3	8.3
17	SO4 (mg/L)	40.4	17.0	18.4	20.4	10.5
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.8	1.2	0.9	1.2	1.7
2	COD (mg/L)	14.0	9.7	6.5	8.8	24.3
3	DO (mg/L)		6.8	5.8	6.3	6.4
4	DO_SAT% (%)		76	69	76	77
5	FCol-MPN (MPN/100mL)	58000	900	6280	4043	4518
6	Tcol-MPN (MPN/100mL)	97500	1383	8447	9350	8625
	TRACE & TOXIC					
1	As (µg/L)					4.7
2	Cd (µg/L)					0.2
3	Cr (µg/L)					4.2
4	Cu (µg/L)					1.0
5	Ni (µg/L)					3.9
6	Pb (µg/L)					1.0
7	Zn (µg/L)					5.7
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	88	53	55	60	55
2	HAR_Total (mgCaCO3/L)	141	78	89	84	75
3	Na% (%)	34	25	34	31	26
4	RSC (-)	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	1.2	0.6	1.0	0.8	0.7
	PESTICIDES					

Water Quality Seasonal Average for the period: 2014-2019

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	Winter				
		Nov - Feb				
		2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
	PHYSICAL					
1	Q (cumec)	10.16	Water Quality observations not done.	Water Quality observations not done.	2.244	7.110
2	EC_FLD (µmho/cm)				550	
3	EC_GEN (µmho/cm)	377			650	484
4	pH_FLD (pH units)				5.2	
5	pH_GEN (pH units)	8.0			7.9	7.6
6	TDS (mg/L)					291
7	Temp (deg C)	20.8			23.5	20.0
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	112			142	142
2	B (mg/L)	0.05			0.20	0.13
3	Ca (mg/L)	42			51	29
4	Cl (mg/L)	43.5			80.1	50.1
5	F (mg/L)	0.35			0.54	0.21
6	Fe (mg/L)	1.4			5.2	0.0
7	HCO3 (mg/L)	137			173	173
8	K (mg/L)	0.2			5.8	4.3
9	Mg (mg/L)	10.2			11.7	16.0
10	Na (mg/L)	28.3			60.1	42.9
11	NO2+NO3 (mg N/L)	2.10			0.76	1.38
12	NO2-N (mgN/L)	0.01			0.00	0.01
13	NO3-N (mgN/L)	2.09			0.76	1.37
14	o-PO4-P (mg P/L)					0.072
15	P-Tot (mgP/L)	0.008			0.002	
16	SiO2 (mg/L)	10.9			7.0	15.0
17	SO4 (mg/L)	34.2			41.0	17.6
	BIOLOGICAL/BACTERIOLOGICA					
1	BOD3-27 (mg/L)	1.6			1.2	5.8
2	COD (mg/L)	14.4			11.4	42.0
3	DO (mg/L)				5.8	5.0
4	DO_SAT% (%)				68	54
5	FCol-MPN (MPN/100mL)	13000			900	3175
6	Tcol-MPN (MPN/100mL)	19500			16000	7475
	TRACE & TOXIC					
1	As (µg/L)					1.0
2	Cd (µg/L)	1.3				0.0
3	Cr (µg/L)	7.4				11.3
4	Cu (µg/L)	5.2				1.3
5	Ni (µg/L)	-0.5				1.6
6	Pb (µg/L)	1.5				1.0
7	Zn (µg/L)	10.0				3.2
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	104			128	72
2	HAR_Total (mgCaCO3/L)	147			177	139
3	Na% (%)	28			42	39
4	RSC (-)	0.0			0.0	0.1
5	SAR (-)	1.0			2.0	1.6
	PESTICIDES					

HISTORY SHEET

			Water Year	:	**2018-2019**
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 : 2018-2019

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	02/07/2018	06/08/2018	04/09/2018	
		A	A	A	
	PHYSICAL				
1	Q (cumec)	527.4	1563	1032	
2	Colour_Cod (-)	Light Brown	Brown	Light Brown	
3	EC_FLD (µmho/cm)	191	154	191	
4	EC_GEN (µmho/cm)	164	122	185	
5	Odour_Code (-)	odour free	odour free	odour free	
6	pH_FLD (pH units)	6.9	6.5	6.8	
7	pH_GEN (pH units)	7.5	7.7	7.9	
8	Temp (deg C)	26.5	24.5	24.5	
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	
2	ALK-TOT (mgCaCO3/L)	50	50	72	
3	B (mg/L)	0.08	0.03	0.06	
4	Ca (mg/L)	16	13	22	
5	Cl (mg/L)	15.4	7.4	12.5	
6	CO3 (mg/L)	0.0	0.0	0.0	
7	F (mg/L)	0.50	0.44	0.08	
8	Fe (mg/L)	0.9	1.9	0.4	
9	HCO3 (mg/L)	61	61	88	
10	K (mg/L)	0.8	0.5	0.6	
11	Mg (mg/L)	2.0	4.9	2.8	
12	Na (mg/L)	9.9	5.0	9.0	
13	NO2+NO3 (mg N/L)	1.89	1.19	1.05	
14	NO2-N (mgN/L)	0.01	0.01	0.05	
15	NO3-N (mgN/L)	1.88	1.18	1.00	
16	P-Tot (mgP/L)	0.019	0.041	0.014	
17	SiO2 (mg/L)	0.6	2.9	2.1	
18	SO4 (mg/L)	5.8	12.1	10.7	
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	1.3	0.6	0.8	
2	COD (mg/L)	8.0	4.0	6.0	
3	DO (mg/L)	6.1	6.1	6.2	
4	DO_SAT% (%)	75	73	74	
5	FCol-MPN (MPN/100mL)	40	90	9000	
6	Tcol-MPN (MPN/100mL)	500	2400	16000	
	TRACE & TOXIC				
1	Cd (µg/L)		0.19		
2	Cu (µg/L)		1.96		
3	Ni (µg/L)		15.80		
4	Pb (µg/L)		4.06		
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	40	32	55	
2	HAR_Total (mgCaCO3/L)	48	52	67	
3	Na% (%)	31	17	23	
4	RSC (-)	0.0	0.0	0.1	
5	SAR (-)	0.6	0.3	0.5	
	PESTICIDES				

Samples not collected during June ,October to May due to Drybed / No flow condition.

Water Quality Summary for the period : 2018-2019

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)	366	4254	0.000	384.0
2	EC_FLD (µmho/cm)	3	191	154	179
3	EC_GEN (µmho/cm)	3	185	122	157
4	pH_FLD (pH units)	3	6.9	6.5	6.7
5	pH_GEN (pH units)	3	7.9	7.5	7.7
6	Temp (deg C)	3	26.5	24.5	25.2
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	3	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	3	72	50	57
3	B (mg/L)	3	0.08	0.03	0.06
4	Ca (mg/L)	3	22	13	17
5	Cl (mg/L)	3	15.4	7.4	11.8
6	CO3 (mg/L)	3	0.0	0.0	0
7	F (mg/L)	3	0.50	0.08	0.34
8	Fe (mg/L)	3	1.9	0.4	1.1
9	HCO3 (mg/L)	3	88	61	70
10	K (mg/L)	3	0.8	0.5	0.6
11	Mg (mg/L)	3	4.9	2.0	3.2
12	Na (mg/L)	3	9.9	5.0	8
13	NO2+NO3 (mg N/L)	3	1.89	1.05	1.37
14	NO2-N (mgN/L)	3	0.05	0.01	0.02
15	NO3-N (mgN/L)	3	1.88	1.00	1.35
16	P-Tot (mgP/L)	3	0.041	0.014	0.025
17	SiO2 (mg/L)	3	2.9	0.6	1.8
18	SO4 (mg/L)	3	12.1	5.8	9.5
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	3	1.3	0.6	0.9
2	COD (mg/L)	3	8.0	4.0	6
3	DO (mg/L)	3	6.2	6.1	6.1
4	DO_SAT% (%)	3	75	73	74
5	FCol-MPN (MPN/100mL)	3	9000	40	3043
6	Tcol-MPN (MPN/100mL)	3	16000	500	6300
	TRACE & TOXIC				
1	Cd (µg/L)	1	0.19	0.19	0.19
2	Cu (µg/L)	1	1.96	1.96	1.96
3	Ni (µg/L)	1	15.80	15.80	15.8
4	Pb (µg/L)	1	4.06	4.06	4.06
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	3	55	32	42
2	HAR_Total (mgCaCO3/L)	3	67	48	56
3	Na% (%)	3	31	17	23
4	RSC (-)	3	0.1	0.0	0.1
5	SAR (-)	3	0.6	0.3	0.5
	PESTICIDES				

Water Quality Seasonal Average for the period: 2004-2019

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				
		2004	2005	2006	2007	2008
	PHYSICAL					
1	Q (cumec)	703.8	1584	956.3	871.7	876.2
2	EC_FLD (µmho/cm)	945	572	822		
3	EC_GEN (µmho/cm)	247	319	295	226	230
4	pH_FLD (pH units)	7.4	7.5	6.9		
5	pH_GEN (pH units)	7.8	7.7	7.7	7.7	7.7
6	Temp (deg C)	21.4	25.0	26.0	23.5	25.0
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	58	101	220	54	50
2	B (mg/L)		0.13	0.09	0.04	0.07
3	Ca (mg/L)		18	37	24	18
4	Cl (mg/L)		27.2	36.4	26.5	14.4
5	F (mg/L)		0.20	0.09	0.46	0.10
6	Fe (mg/L)		0.3	0.1	0.2	0.2
7	HCO3 (mg/L)	70	123	141	66	60
8	K (mg/L)		21.7	15.7	2.7	1.1
9	Mg (mg/L)		16.4	7.5	4.5	7.3
10	Na (mg/L)		19.4	16.5	13.8	9.1
11	NO2+NO3 (mg N/L)		2.46	2.48	0.56	0.57
12	NO2-N (mgN/L)		0.04	0.01	0.01	0.01
13	NO3-N (mgN/L)		2.41	2.47	0.55	0.57
14	P-Tot (mgP/L)		0.094	0.157	0.233	0.008
15	SiO2 (mg/L)		9.1	5.0	11.5	5.2
16	SO4 (mg/L)		26.2	24.3	23.6	23.9
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.5	0.3	0.6	0.3	0.4
2	COD (mg/L)	5.8	15.1	2.5	9.0	1.7
3	DO (mg/L)	6.2	6.6	6.9	4.7	
4	DO_SAT% (%)	70	80	85	55	
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	61	46
2	HAR_Total (mgCaCO3/L)		112	123	79	76
3	Na% (%)		24	22	26	19
4	RSC (-)		0.0	0.3	0.0	0.0
5	SAR (-)		0.8	0.7	0.7	0.4
	PESTICIDES					

Water Quality Seasonal Average for the period: 2004-2019

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				
		2009	2010	2011	2012	2013
	PHYSICAL					
1	Q (cumec)	843.0	1394	1141	952.5	1352
2	EC_FLD (µmho/cm)	294		389	312	373
3	EC_GEN (µmho/cm)	459	273	192	165	288
4	pH_FLD (pH units)	7.0		7.6	7.6	7.5
5	pH_GEN (pH units)	7.6	7.9	7.5	7.8	7.2
6	Temp (deg C)	25.0	26.2	25.0	25.4	24.2
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	85	62	46	51	55
2	B (mg/L)	0.05	0.11	0.04	0.04	0.13
3	Ca (mg/L)	28	24	18	20	24
4	Cl (mg/L)	19.5	23.2	19.1	18.7	14.1
5	F (mg/L)	0.22	0.20	0.27	0.24	0.31
6	Fe (mg/L)	0.2	0.1	0.3	0.7	0.5
7	HCO3 (mg/L)	104	75	56	62	67
8	K (mg/L)	0.2	1.3	0.7	1.5	0.5
9	Mg (mg/L)	7.9	5.6	3.9	2.7	5.8
10	Na (mg/L)	11.6	15.3	13.6	12.2	8.6
11	NO2+NO3 (mg N/L)	0.66	0.18	0.96	0.85	0.90
12	NO2-N (mgN/L)	0.00	0.01	0.00	0.05	0.00
13	NO3-N (mgN/L)	0.66	0.17	0.95	0.80	0.89
14	P-Tot (mgP/L)	0.005	0.009	0.015	0.018	0.027
15	SiO2 (mg/L)	9.5	8.8	10.4	4.4	22.1
16	SO4 (mg/L)	22.6	18.7	15.4	8.9	23.8
	BIOLOGICAL/BACTERIOLOGICA					
1	BOD3-27 (mg/L)	0.8	1.4	0.7	0.6	0.5
2	COD (mg/L)	4.9	10.0	4.1	4.6	3.6
3	DO (mg/L)	6.8		7.7	7.5	7.6
4	DO_SAT% (%)	82		94	92	90
5	FCol-MPN (MPN/100mL)	28667	12100	174250	279750	6900
6	Tcol-MPN (MPN/100mL)	41333	17600	289250	472250	10275
	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)	71	59	46	49	59
2	HAR_Total (mgCaCO3/L)	104	82	62	60	83
3	Na% (%)	20	28	30	26	18
4	RSC (-)	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.5	0.7	0.7	0.6	0.4
	PESTICIDES					

Water Quality Seasonal Average for the period: 2004-2019

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				
		2014	2015	2016	2017	2018
	PHYSICAL					
1	Q (cumec)	1884	361.6	302.8	832.0	1041
2	EC_FLD (µmho/cm)	460	181	431	321	179
3	EC_GEN (µmho/cm)	255	228	308	242	157
4	pH_FLD (pH units)	7.5	7.6	7.4	7.2	6.7
5	pH_GEN (pH units)	7.7	7.6	7.8	7.6	7.7
6	Temp (deg C)	24.5	25.9	26.5	27.1	25.2
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	76	70	84	67	57
2	B (mg/L)	0.04	0.20	0.06	0.09	0.06
3	Ca (mg/L)	33	27	25	24	17
4	Cl (mg/L)	39.6	25.5	34.3	17.5	11.8
5	F (mg/L)	0.26	0.40	0.32	0.47	0.34
6	Fe (mg/L)	1.7	2.1	2.2	2.0	1.1
7	HCO3 (mg/L)	93	85	103	82	70
8	K (mg/L)	0.9	0.9	0.8	1.0	0.6
9	Mg (mg/L)	8.1	6.6	9.7	6.8	3.2
10	Na (mg/L)	23.8	14.3	20.7	11.9	8.0
11	NO2+NO3 (mg N/L)	1.63	1.34	1.95	1.75	1.37
12	NO2-N (mgN/L)	0.00	0.00	0.01	0.02	0.02
13	NO3-N (mgN/L)	1.63	1.34	1.95	1.73	1.35
14	P-Tot (mgP/L)	0.027	0.011	0.018	0.028	0.025
15	SiO2 (mg/L)	19.1	6.5	5.6	6.4	1.8
16	SO4 (mg/L)	24.3	20.7	26.4	20.1	9.5
	BIOLOGICAL/BACTERIOLOGICA					
1	BOD3-27 (mg/L)	1.9	1.0	0.9	0.9	0.9
2	COD (mg/L)	15.0	8.5	7.0	6.8	6.0
3	DO (mg/L)	7.6	6.4	6.2	6.6	6.1
4	DO_SAT% (%)	90	79	77	82	74
5	FCol-MPN (MPN/100mL)	64333	13800	43758	513	3043
6	Tcol-MPN (MPN/100mL)	112000	18950	57750	5175	6300
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)					0.19
3	Cr (µg/L)					
4	Cu (µg/L)					1.96
5	Hg (µg/L)					
6	Ni (µg/L)					15.80
7	Pb (µg/L)					4.06
8	Zn (µg/L)					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	83	68	62	59	42
2	HAR_Total (mgCaCO3/L)	117	96	103	87	56
3	Na% (%)	31	24	30	24	23
4	RSC (-)	0.0	0.0	0.0	0.0	0.1
5	SAR (-)	1.0	0.6	0.9	0.5	0.5
	PESTICIDES					

Water Quality Seasonal Average for the period: 2004-2019

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		Summer
		Nov-Feb		
		2010-2011		2019
			Samples not collected during Winter season from 2003-2004 to 2009-2010 and from 2011-2012 to 2018-2019. due to Drybed / No flow condition.	Samples not collected during summer season 2004 to 2019 due to Drybed / No flow condition.
	PHYSICAL			
1	Q (cumec)	100.2		
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/BACTERIOLOGICA			
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	:	**2018-2019**
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 : 2018-2019

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	02/07/2018	06/08/2018	04/09/2018	03/10/2018	
		A	A	A	A	
	PHYSICAL					
1	Q (cumec)	177.7	782.9	754.4	81.11	
2	Colour_Cod (-)	Light Brown	Light Brown	Light Brown	Light Brown	
3	EC_FLD (µmho/cm)	457	250	247	908	
4	EC_GEN (µmho/cm)	285	171	184	723	
5	Odour_Code (-)	odour free	odour free	odour free	odour free	
6	pH_FLD (pH units)	7.7	7.6	7.6	7.6	
7	pH_GEN (pH units)	7.9	7.9	8.0	8.1	
8	Temp (deg C)	26.0	24.5	25.5	25.0	
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	
2	ALK-TOT (mgCaCO3/L)	70	70	76	152	
3	B (mg/L)	0.13	0.08	0.05	0.14	
4	Ca (mg/L)	26	18	19	47	
5	Cl (mg/L)	19.0	16.2	10.5	63.9	
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	
7	F (mg/L)	0.53	0.48	0.09	0.16	
8	Fe (mg/L)	0.1	1.2	0.4	0.5	
9	HCO3 (mg/L)	86	86	93	186	
10	K (mg/L)	1.2	0.8	0.5	1.6	
11	Mg (mg/L)	3.9	4.9	7.0	17.3	
12	Na (mg/L)	14.6	12.2	7.6	47.2	
13	NO2+NO3 (mg N/L)	1.76	1.30	0.92	2.74	
14	NO2-N (mgN/L)	0.01	0.01	0.00	0.01	
15	NO3-N (mgN/L)	1.75	1.30	0.91	2.73	
16	P-Tot (mgP/L)	0.004	0.040	0.018	0.060	
17	SiO2 (mg/L)	0.7	2.4	6.4	3.3	
18	SO4 (mg/L)	11.3	13.8	10.8	84.0	
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.7	0.7	0.5	0.8	
2	COD (mg/L)	14.0	4.0	3.0	7.0	
3	DO (mg/L)	5.8	6.2	7.1	7.1	
4	DO_SAT% (%)	71	74	86	86	
5	FCol-MPN (MPN/100mL)	110	9000	5000	300	
6	Tcol-MPN (MPN/100mL)	5000	16000	9000	16000	
	TRACE & TOXIC					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	64	44	47	117	
2	HAR_Total (mgCaCO3/L)	80	64	76	189	
3	Na% (%)	28	29	18	35	
4	RSC (-)	0.0	0.1	0.0	0.0	
5	SAR (-)	0.7	0.7	0.4	1.5	
	PESTICIDES					

Samples not collected during June and November due to Drybed / No flow condition.

Water Quality Summary for the period : 2018-2019

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)	184	3067	0.000	461.5
2	EC_FLD (µmho/cm)	4	908	247	465
3	EC_GEN (µmho/cm)	4	723	171	341
4	pH_FLD (pH units)	4	7.7	7.6	7.6
5	pH_GEN (pH units)	4	8.1	7.9	8
6	Temp (deg C)	4	26.0	24.5	25.3
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	4	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	4	152	70	92
3	B (mg/L)	4	0.14	0.05	0.1
4	Ca (mg/L)	4	47	18	27
5	Cl (mg/L)	4	63.9	10.5	27.4
6	CO3 (mg/L)	4	0.0	0.0	0
7	F (mg/L)	4	0.53	0.09	0.31
8	Fe (mg/L)	4	1.2	0.1	0.6
9	HCO3 (mg/L)	4	186	86	112
10	K (mg/L)	4	1.6	0.5	1
11	Mg (mg/L)	4	17.3	3.9	8.3
12	Na (mg/L)	4	47.2	7.6	20.4
13	NO2+NO3 (mg N/L)	4	2.74	0.92	1.68
14	NO2-N (mgN/L)	4	0.01	0.00	0.01
15	NO3-N (mgN/L)	4	2.73	0.91	1.67
16	P-Tot (mgP/L)	4	0.060	0.004	0.03
17	SiO2 (mg/L)	4	6.4	0.7	3.2
18	SO4 (mg/L)	4	84.0	10.8	30
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	4	1.7	0.5	0.9
2	COD (mg/L)	4	14.0	3.0	7
3	DO (mg/L)	4	7.1	5.8	6.5
4	DO_SAT% (%)	4	86	71	79
5	FCol-MPN (MPN/100mL)	4	9000	110	3603
6	Tcol-MPN (MPN/100mL)	4	16000	5000	11500
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	4	117	44	68
2	HAR_Total (mgCaCO3/L)	4	189	64	102
3	Na% (%)	4	35	18	27
4	RSC (-)	4	0.1	0.0	0
5	SAR (-)	4	1.5	0.4	0.8
	PESTICIDES				

Water Quality Seasonal Average for the period: 2014-2019

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				
		Jun - Oct				
		2014	2015	2016	2017	2018
	PHYSICAL					
1	Q (cumec)	505.4	159.4	148.4	341.2	449.0
2	EC_FLD (µmho/cm)		359	512	479	465
3	EC_GEN (µmho/cm)	530	329	538	254	341
4	pH_FLD (pH units)		7.4	6.0	5.8	7.6
5	pH_GEN (pH units)	8.1	7.8	8.0	7.6	8.0
6	Temp (deg C)	25.3	25.0	24.9	25.5	25.3
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	153	82	127	63	92
2	B (mg/L)	0.05	0.08	0.06	0.26	0.10
3	Ca (mg/L)	63	29	37	23	27
4	Cl (mg/L)	45.5	38.8	34.5	21.5	27.4
5	F (mg/L)	0.31	0.45	0.33	0.57	0.31
6	Fe (mg/L)	3.2	2.5	2.3	1.8	0.6
7	HCO3 (mg/L)	186	100	155	77	112
8	K (mg/L)	0.7	0.9	1.1	0.8	1.0
9	Mg (mg/L)	12.6	7.5	12.4	7.3	8.3
10	Na (mg/L)	32.1	24.6	24.7	15.0	20.4
11	NO2+NO3 (mg N/L)	2.32	1.66	2.22	1.45	1.68
12	NO2-N (mgN/L)	0.00	0.00	0.00	0.01	0.01
13	NO3-N (mgN/L)	2.32	1.66	2.21	1.44	1.67
14	P-Tot (mgP/L)	0.014	0.016	0.017	0.024	0.030
15	SiO2 (mg/L)	19.2	10.8	6.9	7.2	3.2
16	SO4 (mg/L)	38.8	29.3	38.7	25.8	30.0
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.5	1.3	1.2	1.0	0.9
2	COD (mg/L)	11.0	11.3	9.5	7.5	7.0
3	DO (mg/L)		6.3	5.7	6.6	6.5
4	DO_SAT% (%)		76	68	80	79
5	FCol-MPN (MPN/100mL)	8150	6875	11820	1023	3603
6	Tcol-MPN (MPN/100mL)	10800	12750	15325	5550	11500
	TRACE & TOXIC					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	158	73	93	58	68
2	HAR_Total (mgCaCO3/L)	211	105	145	88	102
3	Na% (%)	25	32	26	27	27
4	RSC (-)	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	1.0	1.0	0.9	0.7	0.8
	PESTICIDES					

Water Quality Seasonal Average for the period: 2014-2019

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	Summer	
		Mar - May	
		2018-2019	2015
	PHYSICAL	Samples not collected during Winter season from 2014-2015 to 2018-2019 due to Drybed / No flow condition.	**Converted as seasonal site from 01-06-2006.**
1	Q (cumec)		
2	EC_FLD (µmho/cm)		
3	EC_GEN (µmho/cm)		
4	pH_FLD (pH units)		
5	pH_GEN (pH units)		
6	Temp (deg C)		
	CHEMICAL		
1	ALK-TOT (mgCaCO3/L)		
2	B (mg/L)		
3	Ca (mg/L)		
4	Cl (mg/L)		
5	F (mg/L)		
6	Fe (mg/L)		
7	HCO3 (mg/L)		
8	K (mg/L)		
9	Mg (mg/L)		
10	Na (mg/L)		
11	NO2+NO3 (mg N/L)		
12	NO2-N (mgN/L)		
13	NO3-N (mgN/L)		
14	P-Tot (mgP/L)		
15	SiO2 (mg/L)		
16	SO4 (mg/L)		
	BIOLOGICAL/BACTERIOLOG		
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)		
	TRACE & TOXIC		
	CHEMICAL INDICES		
1	HAR_Ca (mgCaCO3/L)		
2	HAR_Total (mgCaCO3/L)		
3	Na% (%)		
4	RSC (-)		
5	SAR (-)		
	PESTICIDES		

HISTORY SHEET

			Water Year	:	**2018-2019**
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 : 2018-2019

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	02/07/2018	06/08/2018	04/09/2018	03/10/2018	
		A	A	A	A	
	PHYSICAL					
1	Q (cumec)	73.32	386.1	125.9	29.14	
2	Colour_Cod (-)	Light Brown	Brown	Brown	Light Brown	
3	EC_FLD (µmho/cm)	185	220	196	581	
4	EC_GEN (µmho/cm)	172	130	172	575	
5	Odour_Code (-)	odour free	odour free	odour free	odour free	
6	pH_FLD (pH units)	7.6	7.7	7.8	8.3	
7	pH_GEN (pH units)	7.7	7.9	7.8	8.3	
8	Temp (deg C)	22.5	21.5	23.5	24.0	
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	
2	ALK-TOT (mgCaCO3/L)	58	58	68	138	
3	B (mg/L)	0.01	0.06	0.03	0.07	
4	Ca (mg/L)	26	11	17	43	
5	Cl (mg/L)	13.3	8.8	10.9	56.7	
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	
7	F (mg/L)	0.52	0.52	0.09	0.15	
8	Fe (mg/L)	0.3	0.7	0.9	0.1	
9	HCO3 (mg/L)	71	71	83	169	
10	K (mg/L)	1.9	0.6	0.5	2.6	
11	Mg (mg/L)	2.9	10.7	4.7	16.0	
12	Na (mg/L)	7.4	4.7	8.1	40.1	
13	NO2+NO3 (mg N/L)	2.50	1.10	1.08	2.70	
14	NO2-N (mgN/L)	0.01	0.00	0.01	0.01	
15	NO3-N (mgN/L)	2.49	1.10	1.07	2.69	
16	P-Tot (mgP/L)	0.016	0.013	0.020	0.035	
17	SiO2 (mg/L)	2.9	3.3	1.6	4.2	
18	SO4 (mg/L)	7.3	8.7	8.8	62.9	
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	2.5	0.5	1.0	0.6	
2	COD (mg/L)	18.0	3.0	5.0	5.0	
3	DO (mg/L)	5.8	4.8	5.5	4.2	
4	DO_SAT% (%)	66	54	64	50	
5	FCol-MPN (MPN/100mL)	20	80	5000	700	
6	Tcol-MPN (MPN/100mL)	500	110	9000	16000	
	TRACE & TOXIC					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	64	28	43	106	
2	HAR_Total (mgCaCO3/L)	76	73	63	173	
3	Na% (%)	17	12	22	33	
4	RSC (-)	0.0	0.0	0.1	0.0	
5	SAR (-)	0.4	0.2	0.4	1.3	
	PESTICIDES					

Samples not collected during June and November due to Drybed / No flow condition.

Water Quality Summary for the period : 2018-2019

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)	184	1351	0.000	208.4
2	EC_FLD (µmho/cm)	4	581	185	295
3	EC_GEN (µmho/cm)	4	575	130	262
4	pH_FLD (pH units)	4	8.3	7.6	7.8
5	pH_GEN (pH units)	4	8.3	7.7	7.9
6	Temp (deg C)	4	24.0	21.5	22.9
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	4	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	4	138	58	81
3	B (mg/L)	4	0.07	0.01	0.04
4	Ca (mg/L)	4	43	11	24
5	Cl (mg/L)	4	56.7	8.8	22.4
6	CO3 (mg/L)	4	0.0	0.0	0
7	F (mg/L)	4	0.52	0.09	0.32
8	Fe (mg/L)	4	0.9	0.1	0.5
9	HCO3 (mg/L)	4	169	71	98
10	K (mg/L)	4	2.6	0.5	1.4
11	Mg (mg/L)	4	16.0	2.9	8.6
12	Na (mg/L)	4	40.1	4.7	15.1
13	NO2+NO3 (mg N/L)	4	2.70	1.08	1.84
14	NO2-N (mgN/L)	4	0.01	0.00	0.01
15	NO3-N (mgN/L)	4	2.69	1.07	1.84
16	P-Tot (mgP/L)	4	0.035	0.013	0.021
17	SiO2 (mg/L)	4	4.2	1.6	3
18	SO4 (mg/L)	4	62.9	7.3	21.9
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	4	2.5	0.5	1.2
2	COD (mg/L)	4	18.0	3.0	7.8
3	DO (mg/L)	4	5.8	4.2	5.1
4	DO_SAT% (%)	4	66	50	59
5	FCol-MPN (MPN/100mL)	4	5000	20	1450
6	Tcol-MPN (MPN/100mL)	4	16000	110	6403
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	4	106	28	60
2	HAR_Total (mgCaCO3/L)	4	173	63	96
3	Na% (%)	4	33	12	21
4	RSC (-)	4	0.1	0.0	0
5	SAR (-)	4	1.3	0.2	0.6
	PESTICIDES				

Water Quality Seasonal Average for the period: 2014-2019

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				
		Jun - Oct				
		2014	2015	2016	2017	2018
	PHYSICAL					
1	Q (cumec)	296.8	68.43	65.65	152.3	153.6
2	EC_FLD (µmho/cm)		324	319	284	295
3	EC_GEN (µmho/cm)	342	190	238	197	262
4	pH_FLD (pH units)		7.1	7.4	8.0	7.8
5	pH_GEN (pH units)	7.8	7.6	7.8	7.5	7.9
6	Temp (deg C)	21.3	25.6	25.0	27.2	22.9
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	142	57	69	51	81
2	B (mg/L)	0.04	0.06	0.06	0.08	0.04
3	Ca (mg/L)	48	20	23	18	24
4	Cl (mg/L)	44.7	29.3	25.9	19.6	22.4
5	F (mg/L)	0.29	0.41	0.33	0.45	0.32
6	Fe (mg/L)	2.0	2.3	1.9	1.9	0.5
7	HCO3 (mg/L)	173	70	84	62	98
8	K (mg/L)	0.5	0.7	0.7	0.7	1.4
9	Mg (mg/L)	10.7	6.8	6.8	6.4	8.6
10	Na (mg/L)	32.1	16.1	14.7	13.1	15.1
11	NO2+NO3 (mg N/L)	1.88	1.43	1.94	1.44	1.84
12	NO2-N (mgN/L)	0.00	0.00	0.01	0.01	0.01
13	NO3-N (mgN/L)	1.88	1.43	1.93	1.43	1.84
14	P-Tot (mgP/L)	0.018	0.014	0.023	0.029	0.021
15	SiO2 (mg/L)	12.8	10.1	8.4	9.2	3.0
16	SO4 (mg/L)	40.8	21.2	24.8	20.7	21.9
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	2.6	0.8	1.5	1.1	1.2
2	COD (mg/L)	22.5	5.3	10.5	8.3	7.8
3	DO (mg/L)		5.3	7.0	6.6	5.1
4	DO_SAT% (%)		65	85	82	59
5	FCol-MPN (MPN/100mL)	28000	6150	2203	180	1450
6	Tcol-MPN (MPN/100mL)	41000	8225	3650	6226	6403
	TRACE & TOXIC					
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	120	49	58	45	60
2	HAR_Total (mgCaCO3/L)	165	77	86	72	96
3	Na% (%)	30	29	28	28	21
4	RSC (-)	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	1.1	0.8	0.7	0.7	0.6
	PESTICIDES					

Water Quality Seasonal Average for the period: 2014-2019

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		Summer	
			Mar-May	
		2016-2017	2017	2019
	PHYSICAL			
1	Q (cumec)	Samples not collected during Winter season from 2014-2015 to 2018-2019 due to Drybed / No flow condition.		Seasonal from 01-06-2006.
2	EC_FLD (µmho/cm)		615	
3	EC_GEN (µmho/cm)		137	
4	pH_FLD (pH units)		8.3	
5	pH_GEN (pH units)		7.6	
6	Temp (deg C)		28.0	
	CHEMICAL			
1	ALK-TOT (mgCaCO3/L)		42	
2	B (mg/L)		0.21	
3	Ca (mg/L)		18	
4	Cl (mg/L)		23.2	
5	F (mg/L)		0.39	
6	Fe (mg/L)		0.9	
7	HCO3 (mg/L)		51	
8	K (mg/L)		0.7	
9	Mg (mg/L)		5.8	
10	Na (mg/L)		9.9	
11	NO2+NO3 (mg N/L)		3.51	
12	NO2-N (mgN/L)		0.01	
13	NO3-N (mgN/L)		3.50	
14	P-Tot (mgP/L)		0.200	
15	SiO2 (mg/L)		49.2	
16	SO4 (mg/L)		14.2	
	BIOLOGICAL/BACTERIOLOG			
1	BOD3-27 (mg/L)		0.6	
2	COD (mg/L)		5.3	
3	DO (mg/L)		5.6	
4	DO_SAT% (%)		72	
5	FCol-MPN (MPN/100mL)		20	
6	Tcol-MPN (MPN/100mL)		340	
	TRACE & TOXIC			
	CHEMICAL INDICES			
1	HAR_Ca (mgCaCO3/L)		44	
2	HAR_Total (mgCaCO3/L)		68	
3	Na% (%)		24	
4	RSC (-)		0.0	
5	SAR (-)		0.5	
	PESTICIDES			

HISTORY SHEET

			Water Year	:	**2018-2019**
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 : 2018-2019

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	03/07/2018	07/08/2018	05/09/2018	
		A	A	A	
	PHYSICAL				
1	Q (cumec)	169.5	280.1	195.9	
2	Colour_Cod (-)	Clear	Light Brown	Light Brown	
3	EC_FLD (µmho/cm)	356	226	235	
4	EC_GEN (µmho/cm)	140	95	94	
5	Odour_Code (-)	odour free	odour free	odour free	
6	pH_FLD (pH units)	7.9	7.8	7.8	
7	pH_GEN (pH units)	7.6	7.6	7.7	
8	Temp (deg C)	25.0	23.5	22.0	
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	
2	ALK-TOT (mgCaCO3/L)	50	42	40	
3	B (mg/L)	0.06	0.11	0.04	
4	Ca (mg/L)	16	14	7	
5	Cl (mg/L)	9.7	5.3	6.4	
6	CO3 (mg/L)	0.0	0.0	0.0	
7	F (mg/L)	0.49	0.50	0.05	
8	Fe (mg/L)	0.1	0.6	0.2	
9	HCO3 (mg/L)	61	51	49	
10	K (mg/L)	0.7	0.3	0.4	
11	Mg (mg/L)	1.0	1.0	5.2	
12	Na (mg/L)	7.1	3.5	4.1	
13	NO2+NO3 (mg N/L)	1.13	0.73	0.95	
14	NO2-N (mgN/L)	0.01	0.00	0.04	
15	NO3-N (mgN/L)	1.12	0.73	0.91	
16	P-Tot (mgP/L)	0.017	0.010	0.008	
17	SiO2 (mg/L)	0.8	0.6	1.2	
18	SO4 (mg/L)	5.3	2.7	2.6	
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	0.5	0.5	0.9	
2	COD (mg/L)	4.0	4.0	7.0	
3	DO (mg/L)	8.1	9.0	9.6	
4	DO_SAT% (%)	98	105	110	
5	FCol-MPN (MPN/100mL)	5000	2200	170	
6	Tcol-MPN (MPN/100mL)	16000	9000	16000	
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	40	36	18	
2	HAR_Total (mgCaCO3/L)	44	40	40	
3	Na% (%)	26	16	18	
4	RSC (-)	0.1	0.0	0.0	
5	SAR (-)	0.5	0.2	0.3	
	PESTICIDES				

Samples not collected during June, October and November due to Drybed / No flow condition.

Water Quality Summary for the period : 2018-2019

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	Observation	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	366	1089	0.000	78.47
2	EC_FLD (µmho/cm)	3	356	226	272
3	EC_GEN (µmho/cm)	3	140	94	110
4	pH_FLD (pH units)	3	7.9	7.8	7.8
5	pH_GEN (pH units)	3	7.7	7.6	7.6
6	Temp (deg C)	3	25.0	22.0	23.5
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	3	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	3	50	40	44
3	B (mg/L)	3	0.11	0.04	0.07
4	Ca (mg/L)	3	16	7	13
5	Cl (mg/L)	3	9.7	5.3	7.1
6	CO3 (mg/L)	3	0.0	0.0	0
7	F (mg/L)	3	0.50	0.05	0.35
8	Fe (mg/L)	3	0.6	0.1	0.3
9	HCO3 (mg/L)	3	61	49	54
10	K (mg/L)	3	0.7	0.3	0.5
11	Mg (mg/L)	3	5.2	1.0	2.4
12	Na (mg/L)	3	7.1	3.5	4.9
13	NO2+NO3 (mg N/L)	3	1.13	0.73	0.94
14	NO2-N (mgN/L)	3	0.04	0.00	0.02
15	NO3-N (mgN/L)	3	1.12	0.73	0.92
16	P-Tot (mgP/L)	3	0.017	0.008	0.012
17	SiO2 (mg/L)	3	1.2	0.6	0.9
18	SO4 (mg/L)	3	5.3	2.6	3.5
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	3	0.9	0.5	0.6
2	COD (mg/L)	3	7.0	4.0	5
3	DO (mg/L)	3	9.6	8.1	8.9
4	DO_SAT% (%)	3	110	98	104
5	FCol-MPN (MPN/100mL)	3	5000	170	2457
6	Tcol-MPN (MPN/100mL)	3	16000	9000	13667
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	3	40	18	31
2	HAR_Total (mgCaCO3/L)	3	44	40	41
3	Na% (%)	3	26	16	20
4	RSC (-)	3	0.1	0.0	0.1
5	SAR (-)	3	0.5	0.2	0.3
	PESTICIDES				

Water Quality Seasonal Average for the period: 2004-2019

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				
		2004	2005	2006	2007	2008
	PHYSICAL					
1	Q (cumec)	215.4	1470	1223	1140	179.0
2	EC_FLD (µmho/cm)	167	151	270	281	278
3	EC_GEN (µmho/cm)	174	162	183	116	189
4	pH_FLD (pH units)	7.9	8.0	7.7	7.8	7.7
5	pH_GEN (pH units)	7.7	7.7	7.7	7.7	7.6
6	Temp (deg C)	22.8	23.4	24.0	22.3	21.8
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.5	0.0
2	ALK-TOT (mgCaCO3/L)	53	65	155	33	54
3	B (mg/L)		0.23	0.12	0.06	0.05
4	Ca (mg/L)		14	26	10	15
5	Cl (mg/L)		10.1	13.3	12.3	11.0
6	CO3 (mg/L)	0.0	0.0	0.0	0.6	0.0
7	F (mg/L)		0.14	0.10	0.30	0.11
8	Fe (mg/L)		0.2	0.0	0.6	0.2
9	HCO3 (mg/L)	65	79	95	39	66
10	K (mg/L)		13.2	10.3	0.3	1.6
11	Mg (mg/L)		5.6	2.2	2.3	4.0
12	Na (mg/L)		12.9	12.3	7.4	7.7
13	NO2+NO3 (mg N/L)		1.15	0.56	0.43	0.30
14	NO2-N (mgN/L)		0.03	0.01	0.01	0.01
15	NO3-N (mgN/L)		1.12	0.55	0.42	0.30
16	P-Tot (mgP/L)		0.089	0.314	0.213	0.099
17	SiO2 (mg/L)		8.4	9.7	5.5	6.2
18	SO4 (mg/L)		15.6	12.4	3.9	4.8
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	2.1	0.7	1.2	1.0	1.9
2	COD (mg/L)	6.1	13.4	10.7	8.8	7.9
3	DO (mg/L)	6.7	6.1	6.2	6.2	6.2
4	DO_SAT% (%)	78	72	73	71	70
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)		36	65	26	38
2	HAR_Total (mgCaCO3/L)		59	74	35	55
3	Na% (%)		31	25	34	27
4	RSC (-)		0.1	0.1	0.0	0.0
5	SAR (-)		0.9	0.6	0.6	0.5
	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: 2004-2019

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				
		2009	2010	2011	2012	2013
	PHYSICAL					
1	Q (cumec)	142.5	280.5	247.3	382.1	1141
2	EC_FLD (µmho/cm)	266	314	294	292	289
3	EC_GEN (µmho/cm)	204	265	175	104	96
4	pH_FLD (pH units)	7.6	7.8	7.7	7.6	7.6
5	pH_GEN (pH units)	7.6	8.1	7.6	7.4	7.2
6	Temp (deg C)	23.0	23.8	22.7	24.0	24.3
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	69	75	49	34	41
3	B (mg/L)	0.10	0.12	0.05	0.07	0.09
4	Ca (mg/L)	21	26	18	10	11
5	Cl (mg/L)	9.2	14.0	9.7	5.9	8.2
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.30	0.18	0.32	0.31	0.31
8	Fe (mg/L)	0.1	0.8	0.5	0.1	0.3
9	HCO3 (mg/L)	84	92	59	41	50
10	K (mg/L)	0.8	1.1	1.0	0.6	0.7
11	Mg (mg/L)	5.6	6.1	4.1	1.5	8.7
12	Na (mg/L)	6.7	8.6	6.9	4.0	4.7
13	NO2+NO3 (mg N/L)	0.38	0.18	0.72	0.49	0.56
14	NO2-N (mgN/L)	0.00	0.01	0.00	0.00	0.00
15	NO3-N (mgN/L)	0.38	0.17	0.71	0.48	0.55
16	P-Tot (mgP/L)	0.044	0.016	0.009	0.015	0.058
17	SiO2 (mg/L)	6.8	14.1	11.1	8.0	19.8
18	SO4 (mg/L)	18.3	18.1	11.3	3.5	11.9
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.9	1.1	0.8	1.5	1.8
2	COD (mg/L)	8.4	7.9	4.2	6.0	16.5
3	DO (mg/L)	6.2	6.2	6.2	6.2	6.3
4	DO_SAT% (%)	72	73	72	73	75
5	FCol-MPN (MPN/100mL)	58723	46600	246250	580000	471500
6	Tcol-MPN (MPN/100mL)	58777	78800	386000	975000	824500
	TRACE & TOXIC					
1	As (µg/L)					2.31
2	Cd (µg/L)					0.28
3	Cr (µg/L)					27.30
4	Cu (µg/L)					22.11
5	Hg (µg/L)					0.11
6	Ni (µg/L)					9.86
7	Pb (µg/L)					-0.50
8	Zn (µg/L)					-0.05
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	52	66	45	26	28
2	HAR_Total (mgCaCO3/L)	75	91	62	32	64
3	Na% (%)	17	18	19	21	14
4	RSC (-)	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.3	0.4	0.4	0.3	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: 2004-2019

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				
		2014	2015	2016	2017	2018
	PHYSICAL					
1	Q (cumec)	560.9	269.4	217.7	223.9	215.2
2	EC_FLD (µmho/cm)	289	370	353	355	272
3	EC_GEN (µmho/cm)	175	112	90	84	110
4	pH_FLD (pH units)	7.8	7.7	7.7	7.7	7.8
5	pH_GEN (pH units)	7.6	7.7	7.5	7.6	7.6
6	Temp (deg C)	23.8	23.5	22.0	24.8	23.5
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	77	62	36	36	44
3	B (mg/L)	0.06	0.06	0.04	0.04	0.07
4	Ca (mg/L)	30	29	10	13	13
5	Cl (mg/L)	32.0	8.2	9.5	10.8	7.1
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.28	0.43	0.31	0.45	0.35
8	Fe (mg/L)	0.9	2.4	2.1	0.9	0.3
9	HCO3 (mg/L)	94	76	44	44	54
10	K (mg/L)	0.9	0.4	1.0	0.3	0.5
11	Mg (mg/L)	3.4	5.8	5.3	1.9	2.4
12	Na (mg/L)	23.9	4.7	5.4	5.8	4.9
13	NO2+NO3 (mg N/L)	0.94	1.28	1.62	0.64	0.94
14	NO2-N (mgN/L)	0.02	0.00	0.00	0.01	0.02
15	NO3-N (mgN/L)	0.93	1.28	1.62	0.63	0.92
16	P-Tot (mgP/L)	0.022	0.001	0.011	0.034	0.012
17	SiO2 (mg/L)	25.1	6.7	14.9	3.7	0.9
18	SO4 (mg/L)	11.8	17.5	15.0	7.6	3.5
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	2.3	0.8	0.7	1.6	0.6
2	COD (mg/L)	12.5	6.0	5.0	10.5	5.0
3	DO (mg/L)	6.2	6.2	6.2	6.1	8.9
4	DO_SAT% (%)	73	72	71	73	104
5	FCol-MPN (MPN/100mL)	920000	1700	468000	9000	2457
6	Tcol-MPN (MPN/100mL)	1600000	2200	808000	16000	13667
	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	72	26	32	31
2	HAR_Total (mgCaCO3/L)	88	96	48	40	41
3	Na% (%)	37	10	20	23	20
4	RSC (-)	0.0	0.0	0.0	0.0	0.1
5	SAR (-)	1.1	0.2	0.3	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: 2004-2019

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				
		2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
	PHYSICAL					
1	Q (cumec)	11.97	44.21	58.69	43.54	50.82
2	EC_FLD (µmho/cm)	522	91	299	312	267
3	EC_GEN (µmho/cm)	528	239	285	174	202
4	pH_FLD (pH units)	8.4	8.2	7.9	7.7	7.6
5	pH_GEN (pH units)	8.6	7.5	8.1	7.8	8.0
6	Temp (deg C)	23.0	22.0	19.8	20.7	22.6
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)		0.0	0.5	0.0	0.0
2	ALK-TOT (mgCaCO3/L)		78	192	56	84
3	B (mg/L)		0.16	0.18	0.07	0.16
4	Ca (mg/L)		30	25	14	20
5	Cl (mg/L)		13.7	21.5	8.6	14.7
6	CO3 (mg/L)		0.0	0.6	0.0	0.0
7	F (mg/L)		0.29	0.25	0.27	0.26
8	Fe (mg/L)		0.2	0.4	0.1	0.3
9	HCO3 (mg/L)		95	117	68	103
10	K (mg/L)		4.6	6.1	0.5	0.9
11	Mg (mg/L)		5.0	14.6	3.8	7.4
12	Na (mg/L)		7.6	8.8	10.5	9.9
13	NO2+NO3 (mg N/L)		0.86	0.43	0.53	0.45
14	NO2-N (mgN/L)		0.03	0.02	0.01	0.01
15	NO3-N (mgN/L)		0.83	0.41	0.52	0.44
16	P-Tot (mgP/L)		0.089	0.329	0.293	0.003
17	SiO2 (mg/L)		5.4	5.2	5.1	5.1
18	SO4 (mg/L)		21.5	30.4	7.6	7.6
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	2.9	0.9	0.9	1.4	0.7
2	COD (mg/L)	6.2	13.3	8.4	9.6	3.1
3	DO (mg/L)	7.1	6.1	6.2	6.1	5.6
4	DO_SAT% (%)	83	70	68	68	64
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)		76	62	35	51
2	HAR_Total (mgCaCO3/L)		97	123	51	82
3	Na% (%)		17	18	31	25
4	RSC (-)		0.0	0.1	0.1	0.1
5	SAR (-)		0.4	0.4	0.6	0.5
	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: 2004-2019

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			
		2009-2010	2010-2011	2011-2012	2018-2019
	PHYSICAL				
1	Q (cumec)	102.8	47.06	34.63	
2	EC_FLD (µmho/cm)	345	305	307	
3	EC_GEN (µmho/cm)	340	766	426	
4	pH_FLD (pH units)	7.7	7.6	7.5	
5	pH_GEN (pH units)	8.0	8.4	7.7	
6	Temp (deg C)	24.3	23.8	24.0	
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0	1.0	0.0	
2	ALK-TOT (mgCaCO3/L)	146	144	114	
3	B (mg/L)	0.20	0.12	0.04	
4	Ca (mg/L)	38	56	42	
5	Cl (mg/L)	19.3	17.6	17.9	
6	CO3 (mg/L)	0.0	1.2	0.0	
7	F (mg/L)	1.06	0.56	0.32	
8	Fe (mg/L)	0.0	0.2	0.2	
9	HCO3 (mg/L)	178	173	139	
10	K (mg/L)	1.1	1.2	1.3	
11	Mg (mg/L)	19.7	9.2	13.6	
12	Na (mg/L)	14.6	11.2	11.9	
13	NO2+NO3 (mg N/L)	1.85	0.48	1.11	
14	NO2-N (mgN/L)	0.01	0.01	0.00	
15	NO3-N (mgN/L)	1.85	0.47	1.11	
16	P-Tot (mgP/L)	0.058	0.039	0.030	
17	SiO2 (mg/L)	12.1	13.5	28.2	
18	SO4 (mg/L)	10.7	20.5	12.4	
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	1.7	1.0	2.1	
2	COD (mg/L)	4.0	7.3	7.6	
3	DO (mg/L)	6.1	6.1	6.2	
4	DO_SAT% (%)	73	72	74	
5	FCol-MPN (MPN/100mL)	50600	39000	350000	
6	Tcol-MPN (MPN/100mL)	88000	63500	540000	
	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)	96	140	104	
2	HAR_Total (mgCaCO3/L)	178	179	161	
3	Na% (%)	15	12	14	
4	RSC (-)	0.0	0.0	0.0	
5	SAR (-)	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)				

Samples not collected during Winter season from 2012-2013 to 2018-2019 due to Drybed / No flow condition.

Water Quality Seasonal Average for the period: 2004-2019

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				
		2006	2007	2008	2009	2019
	PHYSICAL					
1	Q (cumec)	66.85	0.000	18.51	58.79	Samples not collected during summer season 2010 to 2019 due to Drybed / No flow condition.
2	EC_FLD (µmho/cm)	82	322	316	296	
3	EC_GEN (µmho/cm)	103	210	139	90	
4	pH_FLD (pH units)	7.8	7.8	7.7	7.8	
5	pH_GEN (pH units)	7.5	7.8	7.9	7.5	
6	Temp (deg C)	24.7	23.0	24.0	23.3	
	CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	
2	ALK-TOT (mgCaCO3/L)	37	184	56	26	
3	B (mg/L)	0.15	0.14	0.06	0.02	
4	Ca (mg/L)	8	22	11	6	
5	Cl (mg/L)	7.2	11.7	8.1	11.1	
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	
7	F (mg/L)	0.23	0.15	0.14	0.77	
8	Fe (mg/L)	0.2	0.5	0.0	0.2	
9	HCO3 (mg/L)	46	112	68	32	
10	K (mg/L)	4.0	7.8	1.0	0.5	
11	Mg (mg/L)	1.3	2.4	4.9	2.8	
12	Na (mg/L)	9.5	11.1	7.8	8.5	
13	NO2+NO3 (mg N/L)	0.57	0.45	0.52	0.19	
14	NO2-N (mgN/L)	0.03	0.04	0.03	0.11	
15	NO3-N (mgN/L)	0.54	0.42	0.49	0.07	
16	P-Tot (mgP/L)	0.110	0.141	0.291	0.010	
17	SiO2 (mg/L)	4.7	3.0	0.5	8.1	
18	SO4 (mg/L)	6.2	2.2	3.8	7.5	
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	0.7	0.4	0.1	0.7	
2	COD (mg/L)	12.4	9.9	12.2	3.1	
3	DO (mg/L)	6.2	6.0	6.0	6.1	
4	DO_SAT% (%)	74	70	71	72	
5	FCol-MPN (MPN/100mL)					
6	Tcol-MPN (MPN/100mL)					
	TRACE & TOXIC					
1	As (µg/L)					
2	Cd (µg/L)	0.01			1.49	
3	Cr (µg/L)	2.00			2.00	
4	Cu (µg/L)					
5	Hg (µg/L)					
6	Ni (µg/L)	1.00			1.00	
7	Pb (µg/L)	29.00			11.00	
8	Zn (µg/L)	0.10			8.66	
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	20	55	27	16	
2	HAR_Total (mgCaCO3/L)	25	65	47	28	
3	Na% (%)	47	24	26	39	
4	RSC (-)	0.2	0.5	0.2	0.0	
5	SAR (-)	1.0	0.6	0.5	0.7	
	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)	0.053			0.010	
5	Endos (µg/L)	0.100			0.100	

HISTORY SHEET

			Water Year	:	**2018-2019**
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			

Water Quality Datasheet for the period : 2018-2019

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	03/07/2018	07/08/2018	05/09/2018	
		A	A	A	
	PHYSICAL				
1	Q (cumec)	67.74	211.6	180.8	
2	Colour_Cod (-)	Clear	Clear	Clear	
3	EC_FLD (µmho/cm)	232	236	228	
4	EC_GEN (µmho/cm)	103	93	82	
5	Odour_Code (-)	odour free	odour free	odour free	
6	pH_FLD (pH units)	6.9	6.9	6.9	
7	pH_GEN (pH units)	7.4	8.0	7.6	
8	Temp (deg C)	19.0	18.0	19.5	
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	
2	ALK-TOT (mgCaCO3/L)	38	36	24	
3	B (mg/L)	0.05	0.09	0.03	
4	Ca (mg/L)	13	11	9	
5	Cl (mg/L)	6.5	5.9	5.2	
6	CO3 (mg/L)	0.0	0.0	0.0	
7	F (mg/L)	0.50	0.50	0.06	
8	Fe (mg/L)	0.2	0.3	0.2	
9	HCO3 (mg/L)	46	44	29	
10	K (mg/L)	0.3	0.2	0.4	
11	Mg (mg/L)	1.0	4.9	0.9	
12	Na (mg/L)	3.8	3.2	2.9	
13	NO2+NO3 (mg N/L)	0.70	0.80	0.49	
14	NO2-N (mgN/L)	0.01	0.00	0.00	
15	NO3-N (mgN/L)	0.69	0.80	0.49	
16	P-Tot (mgP/L)	0.006	0.014	0.007	
17	SiO2 (mg/L)	0.6	2.3	1.9	
18	SO4 (mg/L)	4.3	3.1	1.8	
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	1.4	0.6	0.6	
2	COD (mg/L)	11.0	4.0	4.0	
3	DO (mg/L)	9.1	9.2	9.1	
4	DO_SAT% (%)	98	97	98	
5	FCol-MPN (MPN/100mL)	5000	2400	500	
6	Tcol-MPN (MPN/100mL)	9000	3000	2200	
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	32	28	23	
2	HAR_Total (mgCaCO3/L)	36	48	27	
3	Na% (%)	19	13	19	
4	RSC (-)	0.0	0.0	0.0	
5	SAR (-)	0.3	0.2	0.2	
	PESTICIDES				

Samples not collected during June, October and November due to Drybed / No flow condition.

Water Quality Summary for the period : 2018-2019

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	1653	0.000	103.4
2	EC_FLD (µmho/cm)	3	236	228	232
3	EC_GEN (µmho/cm)	3	103	82	93
4	pH_FLD (pH units)	3	6.9	6.9	6.9
5	pH_GEN (pH units)	3	8.0	7.4	7.7
6	Temp (deg C)	3	19.5	18.0	18.8
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	3	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	3	38	24	33
3	B (mg/L)	3	0.09	0.03	0.06
4	Ca (mg/L)	3	13	9	11
5	Cl (mg/L)	3	6.5	5.2	5.9
6	CO3 (mg/L)	3	0.0	0.0	0
7	F (mg/L)	3	0.50	0.06	0.35
8	Fe (mg/L)	3	0.3	0.2	0.3
9	HCO3 (mg/L)	3	46	29	40
10	K (mg/L)	3	0.4	0.2	0.3
11	Mg (mg/L)	3	4.9	0.9	2.2
12	Na (mg/L)	3	3.8	2.9	3.3
13	NO2+NO3 (mg N/L)	3	0.80	0.49	0.66
14	NO2-N (mgN/L)	3	0.01	0.00	0
15	NO3-N (mgN/L)	3	0.80	0.49	0.66
16	P-Tot (mgP/L)	3	0.014	0.006	0.009
17	SiO2 (mg/L)	3	2.3	0.6	1.6
18	SO4 (mg/L)	3	4.3	1.8	3.1
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	3	1.4	0.6	0.9
2	COD (mg/L)	3	11.0	4.0	6.3
3	DO (mg/L)	3	9.2	9.1	9.1
4	DO_SAT% (%)	3	98	97	98
5	FCol-MPN (MPN/100mL)	3	5000	500	2633
6	Tcol-MPN (MPN/100mL)	3	9000	2200	4733
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	3	32	23	28
2	HAR_Total (mgCaCO3/L)	3	48	27	37
3	Na% (%)	3	19	13	17
4	RSC (-)	3	0.0	0.0	0
5	SAR (-)	3	0.3	0.2	0.2
	PESTICIDES				

Water Quality Seasonal Average for the period: 2004-2019

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				
		2004	2005	2013	2014	
	PHYSICAL					
1	Q (cumec)	483.1	1169	661.6	386.6	
2	EC_FLD (µmho/cm)	86	83	985	353	
3	EC_GEN (µmho/cm)	107	94	101	111	
4	pH_FLD (pH units)	7.4	7.7	8.7	8.7	
5	pH_GEN (pH units)	7.6	7.4	6.9	7.5	
6	Temp (deg C)	24.0	23.0	24.1	21.5	
	CHEMICAL					
1	ALK-TOT (mgCaCO3/L)	39	38	30	59	
2	B (mg/L)		0.20	0.11	0.07	
3	Ca (mg/L)		7	10	30	
4	Cl (mg/L)		4.5	5.2	31.5	
5	F (mg/L)		0.11	0.29	0.25	
6	Fe (mg/L)		0.2	0.5	1.0	
7	HCO3 (mg/L)	47	46	37	71	
8	K (mg/L)		7.7	0.4	0.2	
9	Mg (mg/L)		3.3	4.9	6.3	
10	Na (mg/L)		7.4	3.3	23.6	
11	NO2+NO3 (mg N/L)		0.34	0.41	1.18	
12	NO2-N (mgN/L)		0.03	0.01	0.00	
13	NO3-N (mgN/L)		0.31	0.41	1.18	
14	P-Tot (mgP/L)		0.075	0.023	0.011	
15	SiO2 (mg/L)		3.9	32.0	22.7	
16	SO4 (mg/L)		12.9	17.0	22.6	
	BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	1.1	0.4	0.8	3.1	
2	COD (mg/L)	12.0	10.1	6.0	19.0	
3	DO (mg/L)	7.3	6.2	5.7	6.8	
4	DO_SAT% (%)	87	72	68	77	
5	FCol-MPN (MPN/100mL)			123900	18500	
6	Tcol-MPN (MPN/100mL)			275500	26000	
	TRACE & TOXIC					
1	Cd (µg/L)			0.22		
2	Cr (µg/L)			2.84		
3	Cu (µg/L)			2.75		
4	Hg (µg/L)			0.02		
5	Ni (µg/L)			7.15		
6	Pb (µg/L)			-0.50		
7	Zn (µg/L)			-0.05		
	CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)		17	24	74	
2	HAR_Total (mgCaCO3/L)		31	44	100	
3	Na% (%)		30	14	34	
4	RSC (-)		0.1	0.0	0.0	
5	SAR (-)		0.6	0.2	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 Observations suspended on 31-05-2006 and restarted on 02-07-2013.

Water Quality Seasonal Average for the period: 2004-2019

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			
		2015	2016	2017	2018
	PHYSICAL				
1	Q (cumec)	113.2	229.3	222.2	153.4
2	EC_FLD (µmho/cm)	785	445	381	232
3	EC_GEN (µmho/cm)	101	79	78	93
4	pH_FLD (pH units)	8.4	7.8	7.9	6.9
5	pH_GEN (pH units)	7.7	7.2	7.5	7.7
6	Temp (deg C)	20.0	19.8	25.5	18.8
	CHEMICAL				
1	ALK-TOT (mgCaCO3/L)	50	36	30	33
2	B (mg/L)	0.14	0.02	0.03	0.06
3	Ca (mg/L)	19	12	13	11
4	Cl (mg/L)	9.9	8.0	12.9	5.9
5	F (mg/L)	0.50	0.28	0.44	0.35
6	Fe (mg/L)	1.4	1.1	0.9	0.3
7	HCO3 (mg/L)	61	44	37	40
8	K (mg/L)	0.2	0.4	0.2	0.3
9	Mg (mg/L)	5.8	2.4	3.4	2.2
10	Na (mg/L)	6.4	5.2	7.7	3.3
11	NO2+NO3 (mg N/L)	0.79	1.17	0.66	0.66
12	NO2-N (mgN/L)	0.00	0.00	0.00	0.00
13	NO3-N (mgN/L)	0.79	1.17	0.65	0.66
14	P-Tot (mgP/L)	0.019	0.025	0.033	0.009
15	SiO2 (mg/L)	17.0	6.7	5.9	1.6
16	SO4 (mg/L)	15.6	8.2	10.1	3.1
	BIOLOGICAL/BACTERIOLOGICA				
1	BOD3-27 (mg/L)	1.0	2.4	1.2	0.9
2	COD (mg/L)	6.0	15.0	9.0	6.3
3	DO (mg/L)	5.9	6.4	6.5	9.1
4	DO_SAT% (%)	65	69	80	98
5	FCol-MPN (MPN/100mL)	7900	802500	3000	2633
6	Tcol-MPN (MPN/100mL)	11000	802500	16000	4733
	TRACE & TOXIC				
1	Cd (µg/L)				
2	Cr (µg/L)				
3	Cu (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)	48	30	32	28
2	HAR_Total (mgCaCO3/L)	72	40	46	37
3	Na% (%)	16	22	26	17
4	RSC (-)	0.0	0.0	0.0	0.0
5	SAR (-)	0.3	0.4	0.5	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: 2004-2019

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		Summer	
		Nov-Feb		Mar-May	
		2005-2006	2018-2019	2006	2019
	PHYSICAL				
1	Q (cumec)	60.25	Water Quality Observations suspended on 31-05-2006 and restarted on 02-07-2013. and 2013-2014 to 2018-2019 Dry Bed / No Flow condition.	61.19	Water Quality Observations suspended on 31-05-2006 and restarted on 02-07-2013. and 2013 to 2019 Dry Bed / No Flow condition.
2	EC_FLD (µmho/cm)	61		118	
3	EC_GEN (µmho/cm)	66		111	
4	pH_FLD (pH units)	7.8		8.1	
5	pH_GEN (pH units)	7.4		8.0	
6	Temp (deg C)	22.5		25.0	
	CHEMICAL				
1	ALK-TOT (mgCaCO3/L)	27		38	
2	B (mg/L)	0.18		0.17	
3	Ca (mg/L)	9		12	
4	Cl (mg/L)	9.4		6.8	
5	F (mg/L)	0.22		0.25	
6	Fe (mg/L)	0.2		0.2	
7	HCO3 (mg/L)	33		46	
8	K (mg/L)	6.2		1.6	
9	Mg (mg/L)	3.7		2.0	
10	Na (mg/L)	5.0		7.6	
11	NO2+NO3 (mg N/L)	0.75		0.41	
12	NO2-N (mgN/L)	0.03		0.03	
13	NO3-N (mgN/L)	0.72		0.38	
14	P-Tot (mgP/L)	0.084		0.096	
15	SiO2 (mg/L)	3.6		4.6	
16	SO4 (mg/L)	15.3		7.6	
	BIOLOGICAL/BACTERIOLOGICA				
1	BOD3-27 (mg/L)	0.9		1.0	
2	COD (mg/L)	13.1		11.4	
3	DO (mg/L)	6.1		6.2	
4	DO_SAT% (%)	70		75	
5	FCol-MPN (MPN/100mL)				
6	Tcol-MPN (MPN/100mL)				
	TRACE & TOXIC				
1	Cd (µg/L)			0.01	
2	Cr (µg/L)			2.00	
3	Cu (µg/L)				
4	Hg (µg/L)				
5	Ni (µg/L)			1.00	
6	Pb (µg/L)			23.00	
7	Zn (µg/L)			0.10	
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	22		29	
2	HAR_Total (mgCaCO3/L)	37		37	
3	Na% (%)	21		30	
4	RSC (-)	0.1		0.0	
5	SAR (-)	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	

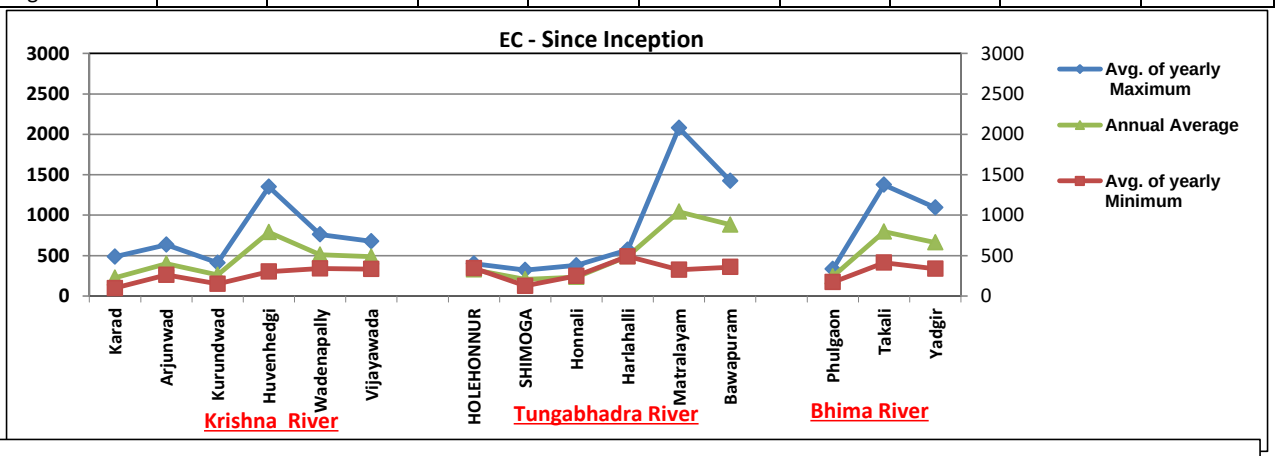
WATER QUALITY NET WORK IN KRISHNA BASIN

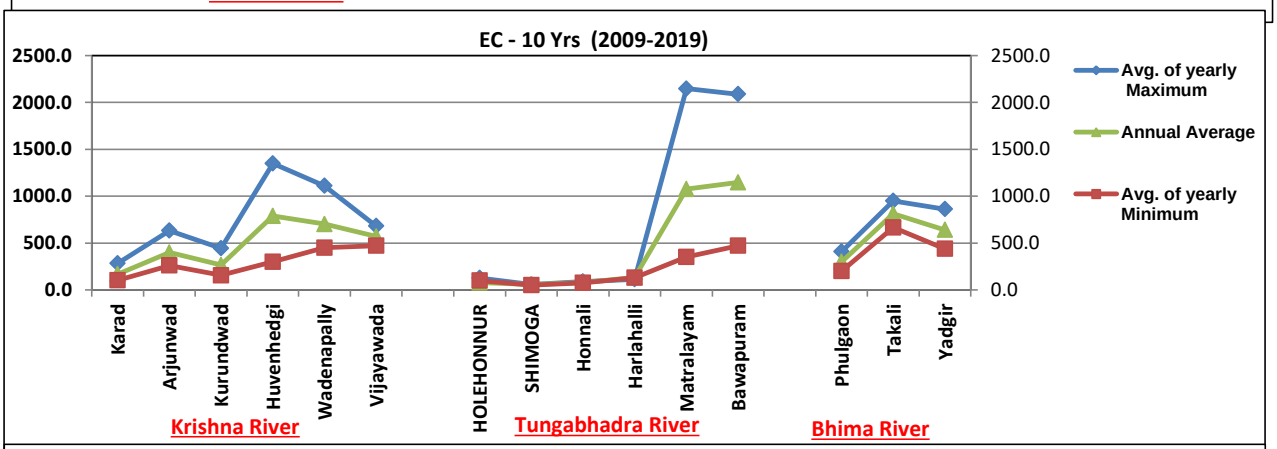
Water Quality Trend Analysis done for the following Sites in Level II Laboratory of Upper Krishna Division, CWC, Pune, Level II Laboratory of Cauvery Division, CWC, Bengaluru and Lower Krishna Division, CWC, Hyderabad in Level III Laboratory of Upper Godavari Division, CWC, Hyderabad.

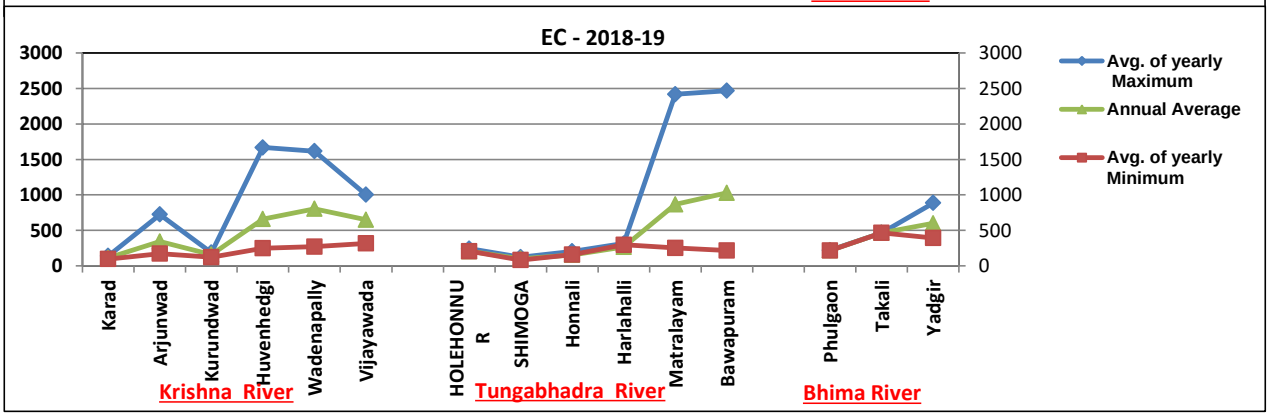
S.NO.	WATER QUALITY STATIONS	TRIBUTARY / STREAM	RIVER BASIN
1	Karad	Krishna	Krishna
2	Arjunwad	Krishna	Krishna
3	Kurundwad	Krishna	Krishna
4	Huvinhedgi	Krishna	Krishna
5	Wadenapally	Krishna	Krishna
6	Vijayawada	Krishna	Krishna
7	Holehonnur	Bhadra	Krishna
8	Shimoga	Tunga	Krishna
9	Honnali	Tungabhadra	Krishna
10	Harlahalli	Tungabhadra	Krishna
11	Mantralayam	Tungabhadra	Krishna
12	Bawapuram	Tungabhadra	Krishna
13	Phulgaon	Bhima	Krishna
14	Takli	Bhima	Krishna
15	Yadgir	Bhima	Krishna

1. Electric conductivity(EC)

Site Name (From U/s to D/s)	Avg. of yearly Maximum			Avg. of yearly Minimum			Annual Average		
	Since inception	*10 years (2009 -2019)*	*2018-19*	*Since inception*	*10 years (2009 -2019)*	*2018-19*	*Since inception*	*10 years (2009 -2019)*	*2018-19*
Karad	485	282.0	140	96	104.0	94	225.73	167.1	110
Arjunwad	633.0	633.0	723	260.0	260.0	171	398.4	398.4	341
Kurundwad	409.0	443.0	185	148.0	156.0	122	258.7	264.9	157
Huvenhedgi	1349	1349	1668	301	301	248	**788**	788	658
Wadenapally	760	1111	1616	338	449	269	510	702	802
Vijayawada	676	681	1003	332	470	315	485	569	648
HOLEHONNUR	399	128	241	342	99	205	325	79	205
SHIMOGA	321	57	120	124	51	80	206	58	98
Honnali	378	89	203	248	77	158	234	78	152
Harlahalli	571	113	312	489	130	296	490	132	264
Matralayam	2079	2147	2420	324	352	252	1042	1074	864
Bawapuram	1425	2088	**2469**	357	472	**215**	883	**1146**	1028
Phulgaon	333	409.0	218	170	202.0	216	242	300.0	217
Takali	1375	950.0	464	411	665.0	464	795.86	811.3	464
Yadgir	1093	862	885	335	438	392	661	640	598

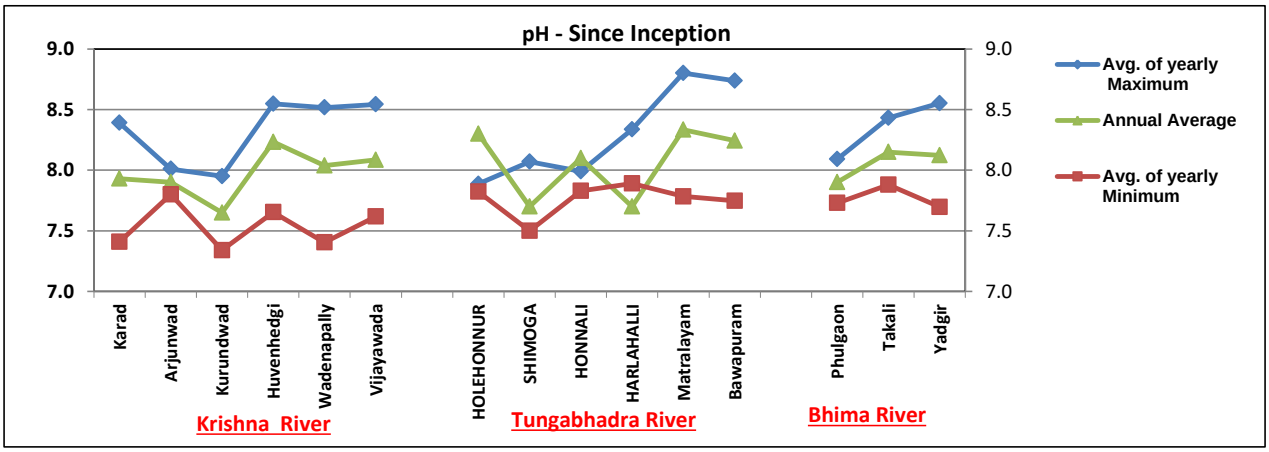


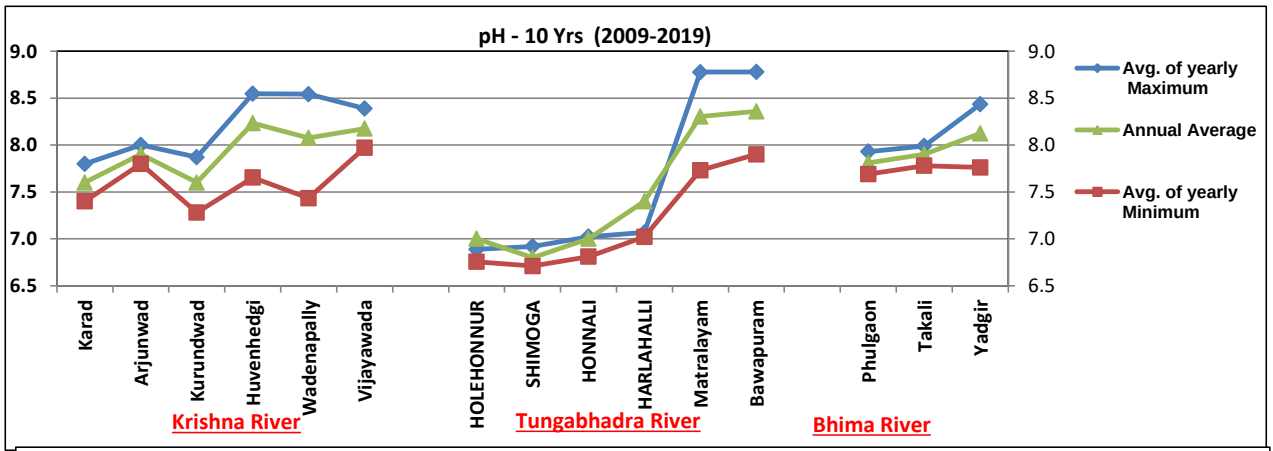


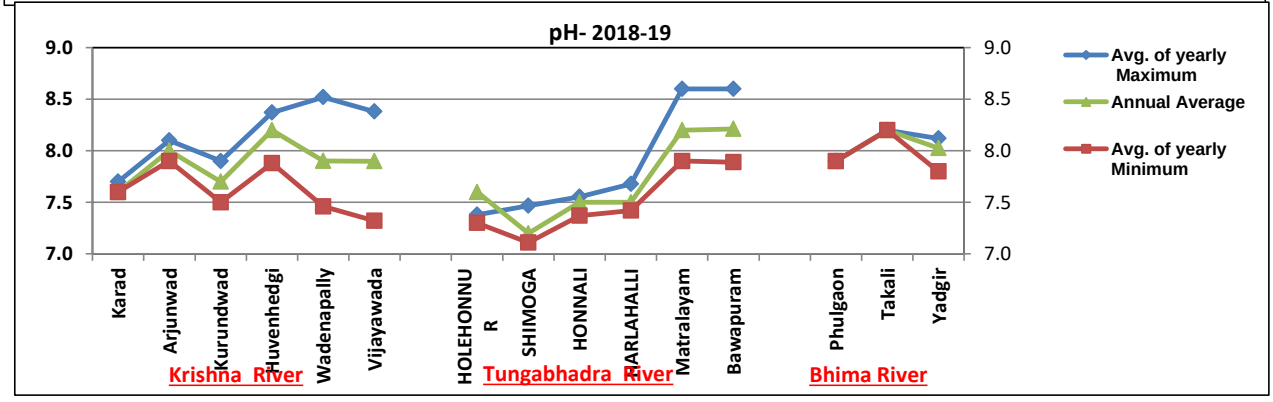


2. pH

Site Name (From U/s to D/s)	Avg. of yearly Maximum			Avg. of yearly Minimum			Annual Average		
	Since inception	*10 years (2009 -2019)*	*2018-19*	*Since inception*	*10 years (2009 -2019)*	*2018-19*	*Since inception*	*10 years (2009 -2019)*	*2018-19*
Karad	8.4	7.8	7.7	7.4	7.4	7.6	7.9	7.6	7.6
Arjunwad	8.0	8.0	8.1	7.8	7.8	7.9	7.9	7.9	8.0
Kurundwad	8.0	7.9	7.9	7.3	7.3	7.5	7.7	7.6	7.7
Huvenhedgi	8.5	8.5	8.4	7.7	7.7	7.9	8.2	8.2	8.2
Wadenapally	8.5	8.5	8.5	7.4	7.4	7.5	8.0	8.1	7.9
Vijayawada	8.5	8.4	8.4	7.6	8.0	7.3	8.1	8.2	7.9
HOLEHONNUR	7.9	6.9	7.4	7.8	6.8	7.3	8.3	7.0	7.6
SHIMOGA	8.1	6.9	7.5	7.5	6.7	7.1	7.7	6.8	7.2
HONNALI	8.0	7.0	7.6	7.8	6.8	7.4	8.1	7.0	7.5
HARLAHALLI	8.3	7.1	7.7	7.9	7.0	7.4	7.7	7.4	7.5
Matralayam	8.8	8.8	8.6	7.8	7.7	7.9	8.3	8.3	8.2
Bawapuram	8.7	8.8	8.6	7.7	7.9	7.9	8.2	8.4	8.2
Phulgaon	8.1	7.9	7.9	7.7	7.7	7.9	7.9	7.8	7.9
Takali	8.4	8.0	8.2	7.9	7.8	8.2	8.2	7.9	8.2
Yadgir	8.6	8.4	8.1	7.7	7.8	7.8	8.1	8.13	8.0

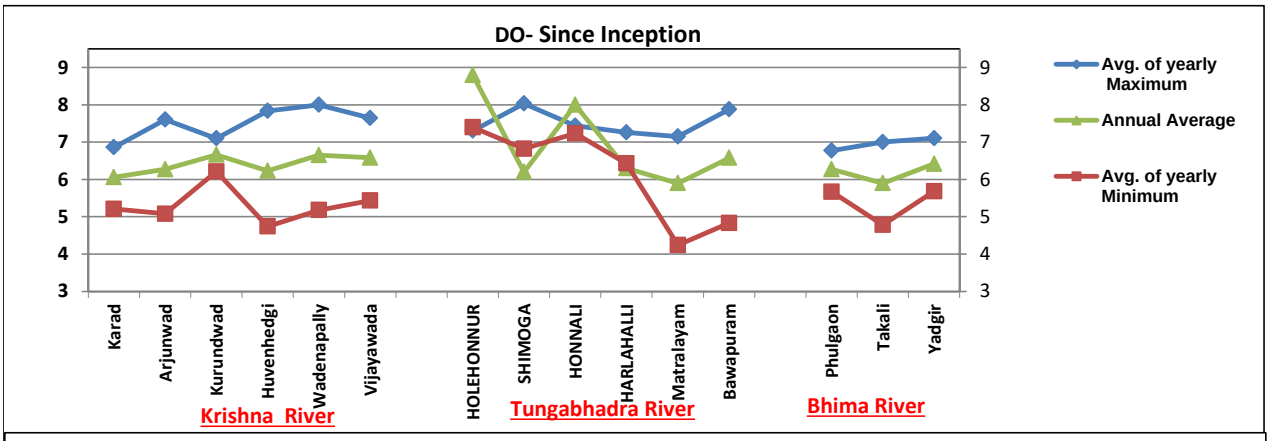


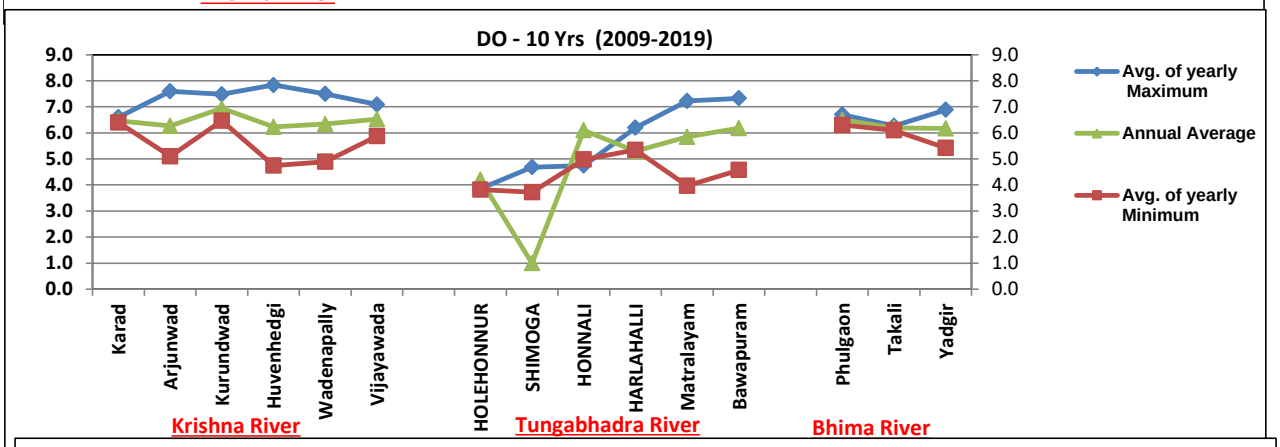


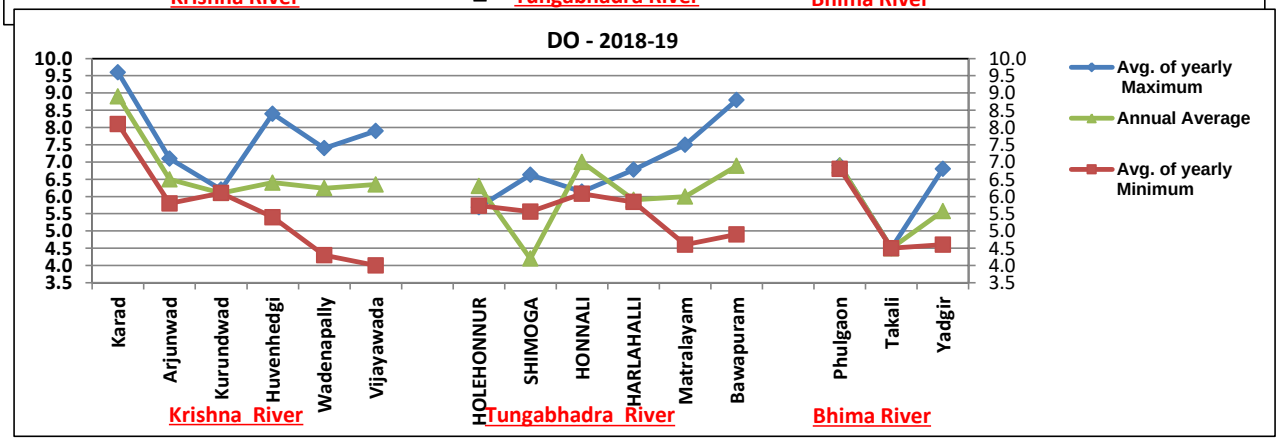


3. Dissolved Oxygen

Site Name (From U/s to D/s)	Avg. of yearly Maximum			Avg. of yearly Minimum			Annual Average		
	Since inception	*10 years (2009 -2019)*	*2018-19*	*Since inception*	*10 years (2009 -2019)*	*2018-19*	*Since inception*	*10 years (2009 -2019)*	*2018-19*
Karad	6.86	6.6	9.6	5.21	6.4	8.1	6.06	6.5	8.9
Arjunwad	7.6	7.6	7.1	5.1	5.1	5.8	6.3	6.3	6.5
Kurundwad	7.1	7.5	6.2	6.2	6.5	6.1	6.7	6.9	6.1
Huvenhedgi	7.8	7.8	8.4	4.7	4.7	5.4	**6.2**	6.2	6.4
Wadenapally	8.0	7.5	7.4	5.2	4.9	4.3	6.6	6.3	6.2
Vijayawada	7.6	7.1	7.9	5.4	5.9	4.0	6.6	6.5	6.3
HOLEHONNUR	7.3	3.9	5.7	7.4	3.8	5.7	8.8	4.2	6.3
SHIMOGA	8.0	4.7	6.6	6.8	3.7	5.6	6.2	1.0	4.2
HONNALI	7.4	4.7	6.1	7.2	5.0	6.1	8.0	6.1	7.0
HARLAHALLI	7.3	6.2	6.8	6.4	5.3	5.8	6.3	5.3	5.9
Matralayam	7.15	7.2	7.5	4.2	4.0	4.6	5.9	5.9	6.0
Bawapuram	7.9	7.3	**8.8**	4.8	4.6	**4.9**	6.6	**6.2**	**6.9**
Phulgaon	6.77	6.7	6.9	5.67	6.3	6.8	6.27	6.5	6.9
Takali	7	6.3	4.5	4.78	6.1	4.5	5.9	6.2	4.5
Yadgir	7.1	6.9	6.8	5.7	5.4	4.6	6.4	6.17	5.6

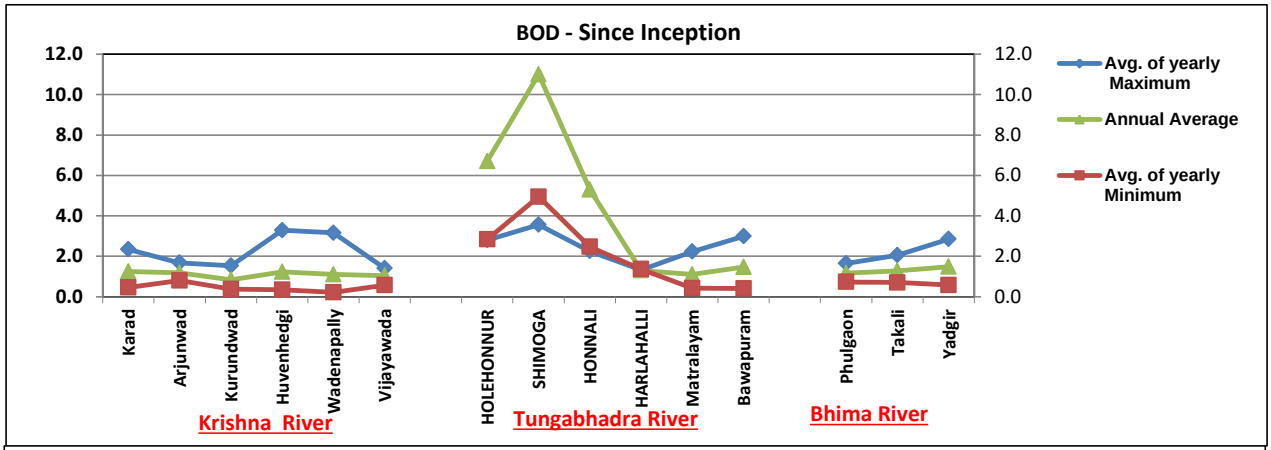


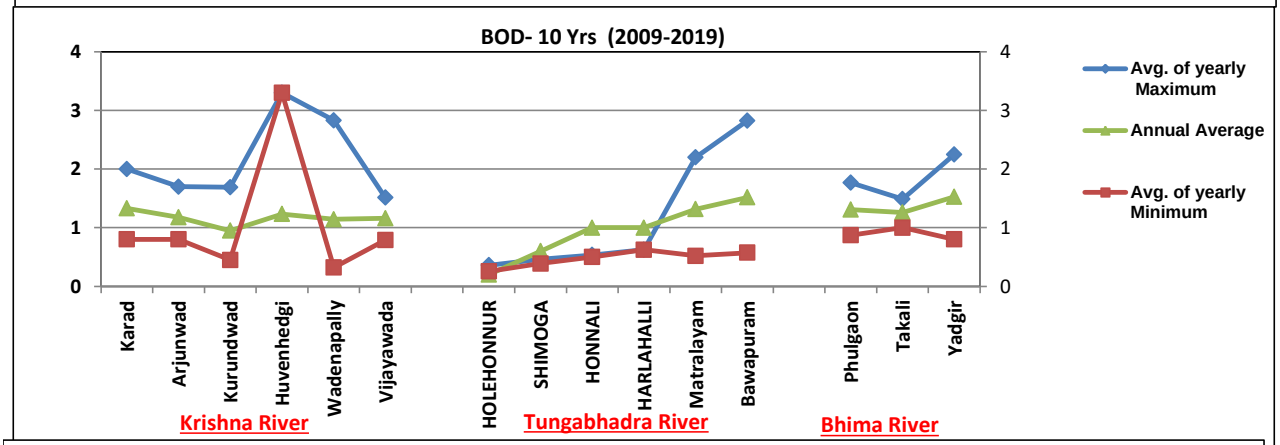


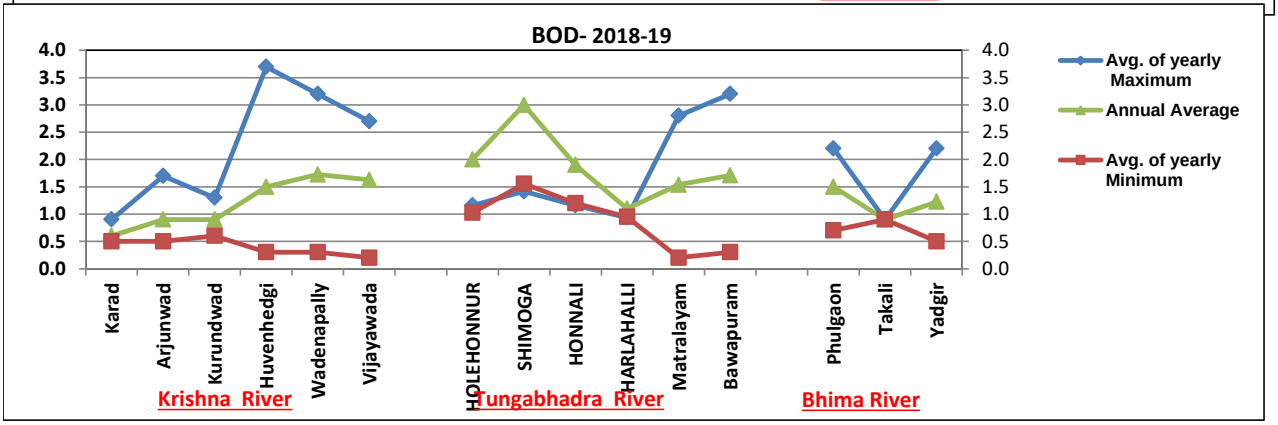


4. Bio-Chemical Oxygen Demand

Site Name (From U/s to D/s)	Avg. of yearly Maximum			Avg. of yearly Minimum			Annual Average		
	Since inception	*10 years (2009 -2019)*	*2018-19*	*Since inception*	*10 years (2009 -2019)*	*2018-19*	*Since inception*	*10 years (2009 -2019)*	*2018-19*
Karad	2.3	2	0.9	0.5	0.8	0.5	1.2	1.33	0.6
Arjunwad	1.7	1.7	1.7	0.8	0.8	0.5	1.2	1.18	0.9
Kurundwad	1.5	1.69	1.3	0.4	0.45	0.6	0.8	0.95	0.9
Huvenhedgi	3.3	3.3	3.7	0.3	3.3	0.3	**1.2**	1.2	1.5
Wadenapally	3.2	2.8	3.2	0.2	0.3	0.3	1.1	1.1	1.7
Vijayawada	1.4	1.5	2.7	0.6	0.8	0.2	1.0	1.2	1.6
HOLEHONNUR	2.8	0.4	1.2	2.8	0.3	1.0	6.7	0.2	2.0
SHIMOGA	3.6	0.5	1.4	4.9	0.4	1.6	11.0	0.6	3.0
HONNALI	2.3	0.5	1.2	2.5	0.5	1.2	5.3	1.0	1.9
HARLAHALLI	1.3	0.6	0.9	1.4	0.6	1.0	1.3	1.0	1.1
Matralayam	2.2	2.2	2.8	0.4	0.5	0.2	1.1	1.3	1.5
Bawapuram	3.0	2.8	**3.2**	0.4	0.6	**0.3**	1.5	**1.5**	**1.7**
Phulgaon	1.6	1.77	2.2	0.7	0.87	0.7	1.2	1.31	1.5
Takali	2.1	1.49	0.9	0.7	1	0.9	1.3	1.26	0.9
Yadgir	2.9	2.3	2.2	0.6	0.8	0.5	1.5	1.53	1.2

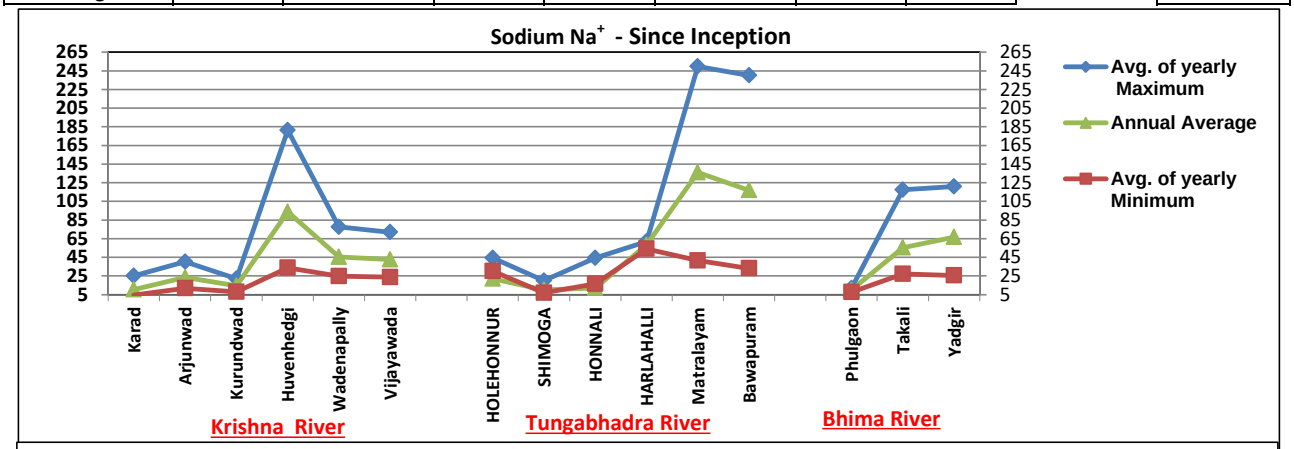


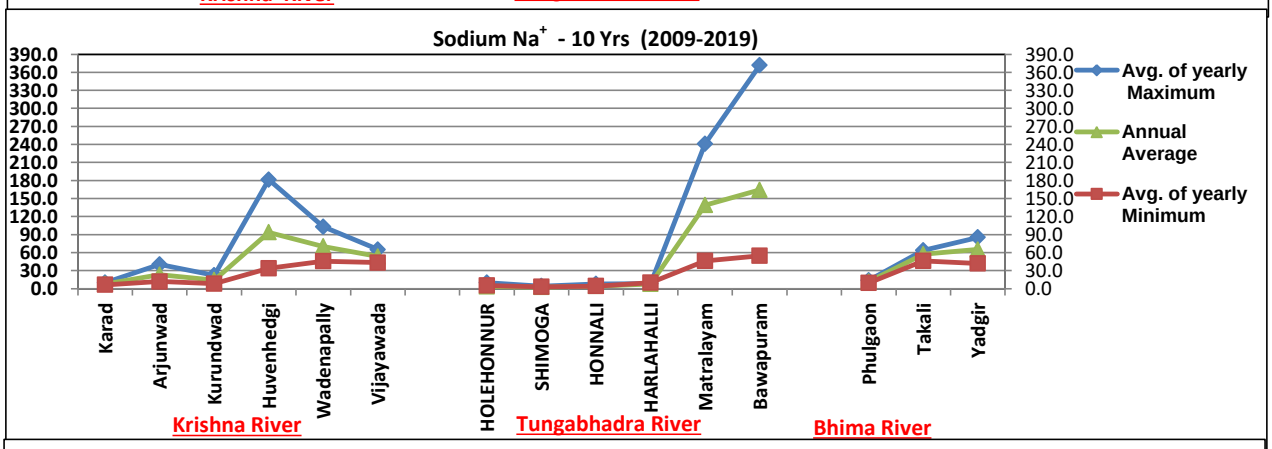


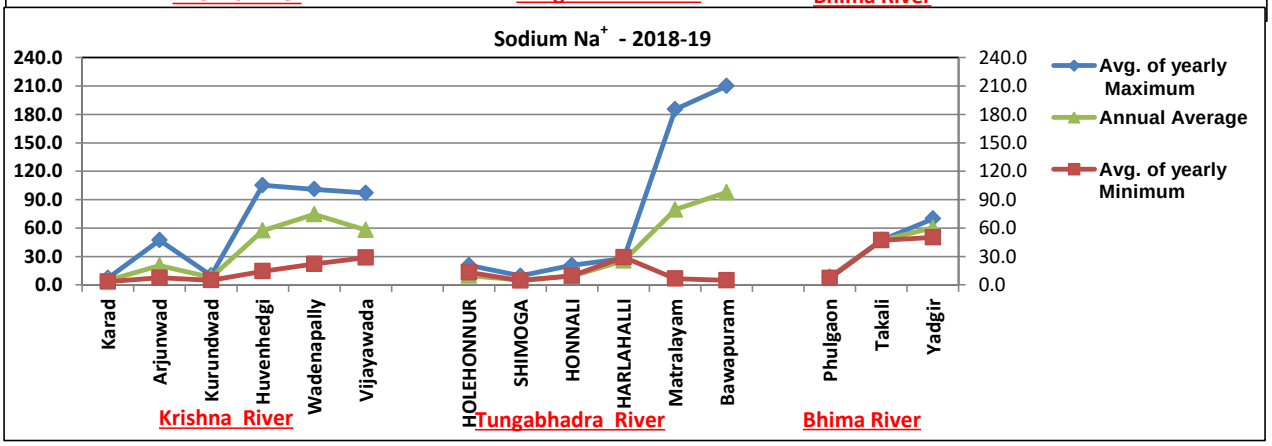


5. Sodium

Site Name (From U/s to D/s)	Avg. of yearly Maximum			Avg. of yearly Minimum			Annual Average		
	Since inception	*10 years (2009 -2019)*	*2018-19*	*Since inception*	*10 years (2009 -2019)*	*2018-19*	*Since inception*	*10 years (2009 -2019)*	*2018-19*
Karad	24.99	10.0	7.1	4.68	6.5	3.5	10.54	8.0	4.9
Arjunwad	40.3	40.3	47.2	11.9	11.9	7.6	23.4	23.4	20.4
Kurundwad	22.2	22.3	9.9	8.0	8.5	5.0	14.4	14.2	8
Huvenhedgi	181.3	181.3	105.1	33.7	33.7	14.5	**93.8**	93.8	57.4
Wadenapally	77.6	103.0	101.0	24.9	45.6	22.2	45.3	70.4	74.7
Vijayawada	72.0	65.1	97.0	23.8	43.4	28.8	42.7	53.7	57.9
HOLEHONNUR	44	10	21	30	5	13	22	4	10
SHIMOGA	20	4	9	7	3	5	10	3	5
HONNALI	44	8	21	17	4	10	12	4	9
HARLAHALLI	62	8	28	54	10	29	58	8	26
Matralayam	249.79	241.1	185.4	41.7	46.5	6.7	136.0	139.0	79.5
Bawapuram	240.0	371.8	**209.9**	33.2	54.6	**4.7**	116.9	**164.2**	**97.7**
Phulgaon	11.76	13.8	8.4	7.79	9.6	7.1	9.9	11.5	7.7
Takali	117.4	63.8	47.3	27.3	46.3	47.3	55.4	57.5	47.3
Yadgir	120.9	85.3	69.9	25.6	41.8	50.2	66.7	65.17	60.3

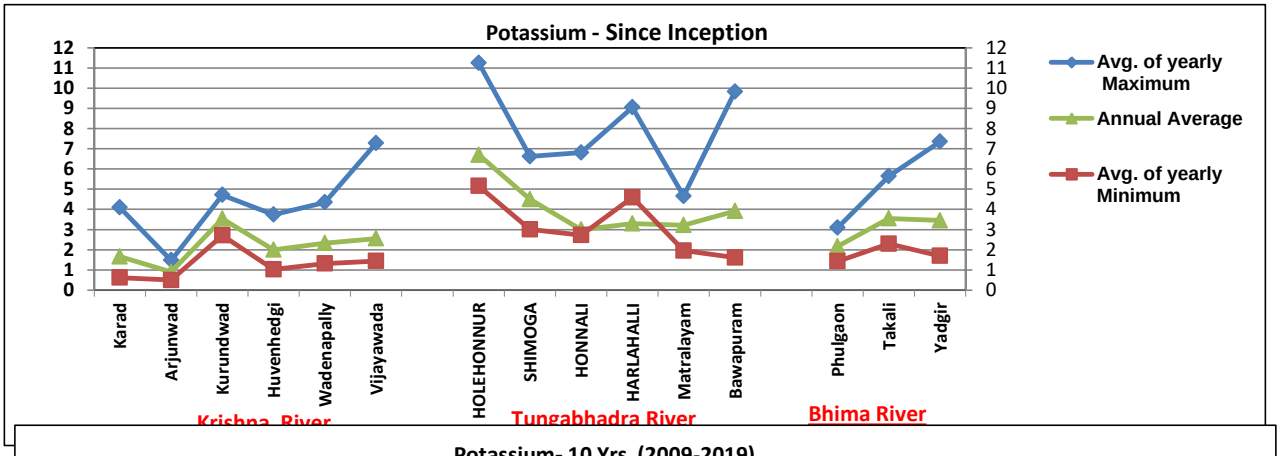


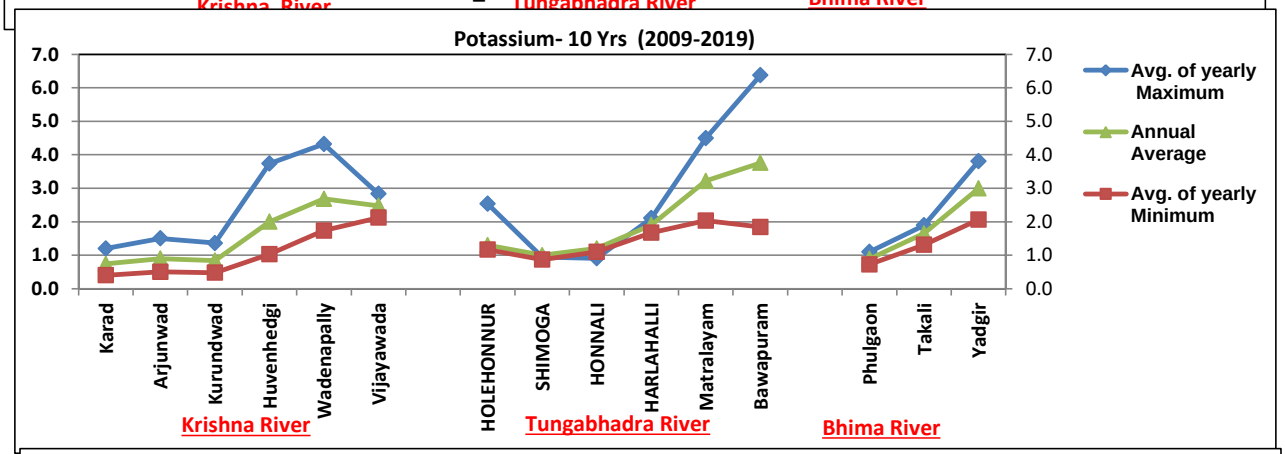


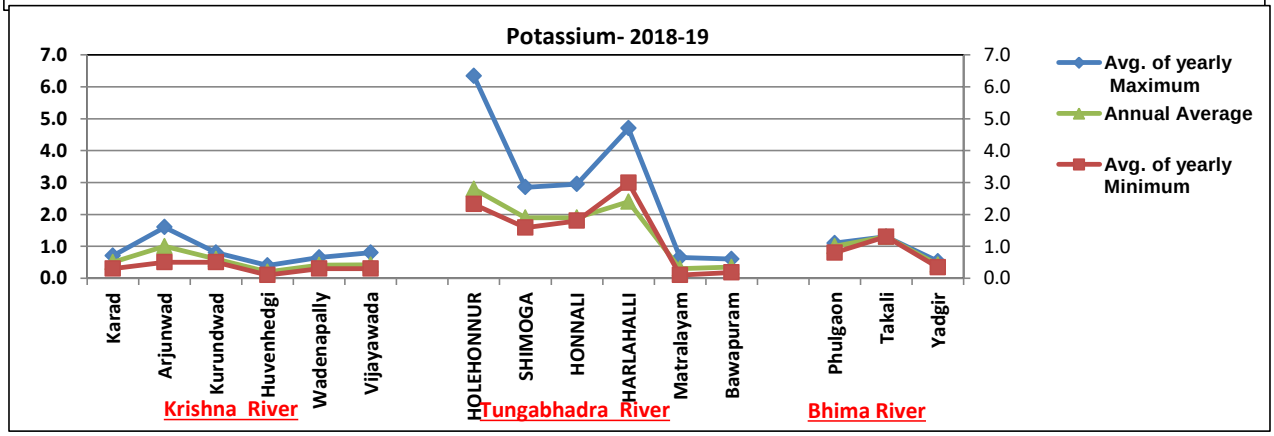


6. Potassium

Site Name (From U/s to D/s)	Avg. of yearly Maximum			Avg. of yearly Minimum			Annual Average		
	Since inception	*10 years (2009 -2019)*	*2018-19*	*Since inception*	*10 years (2009 -2019)*	*2018-19*	*Since inception*	*10 years (2009 -2019)*	*2018-19*
Karad	4.09	1.2	0.7	0.62	0.4	0.3	1.66	0.7	0.5
Arjunwad	1.5	1.5	1.6	0.5	0.5	0.5	0.9	0.9	1
Kurundwad	4.7	1.4	0.8	2.7	0.5	0.5	3.5	0.8	0.6
Huvenhedgi	3.7	3.7	0.4	1.0	1.0	0.1	**2.0**	2.0	0.2
Wadenapally	4.3	4.3	0.6	1.3	1.7	0.3	2.3	2.7	0.4
Vijayawada	7.3	2.8	0.8	1.4	2.1	0.3	2.6	2.5	0.4
HOLEHONNUR	11.2	2.5	6.3	5.2	1.2	2.3	6.7	1.3	2.8
SHIMOGA	6.6	0.9	2.9	3.0	0.9	1.6	4.5	1.0	1.9
HONNALI	6.8	0.9	3.0	2.7	1.1	1.8	3.0	1.2	1.9
HARLAHALLI	9.0	2.1	4.7	4.6	1.7	3.0	3.3	1.9	2.4
Matralayam	4.7	4.5	0.7	2.0	2.0	0.1	3.2	3.2	0.3
Bawapuram	9.8	6.4	**0.6**	1.6	1.8	**0.2**	3.9	**3.8**	**0.4**
Phulgaon	3.09	1.1	1.1	1.43	0.7	0.8	2.17	0.9	1
Takali	5.6	1.9	1.3	2.3	1.3	1.3	3.6	1.7	1.3
Yadgir	7.3	3.8	0.5	1.7	2.1	0.3	3.5	3.0	0.4

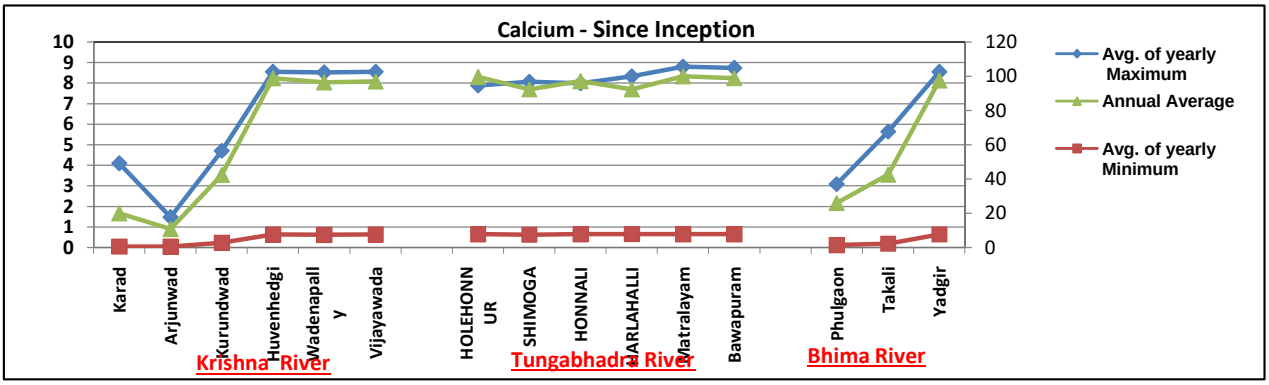


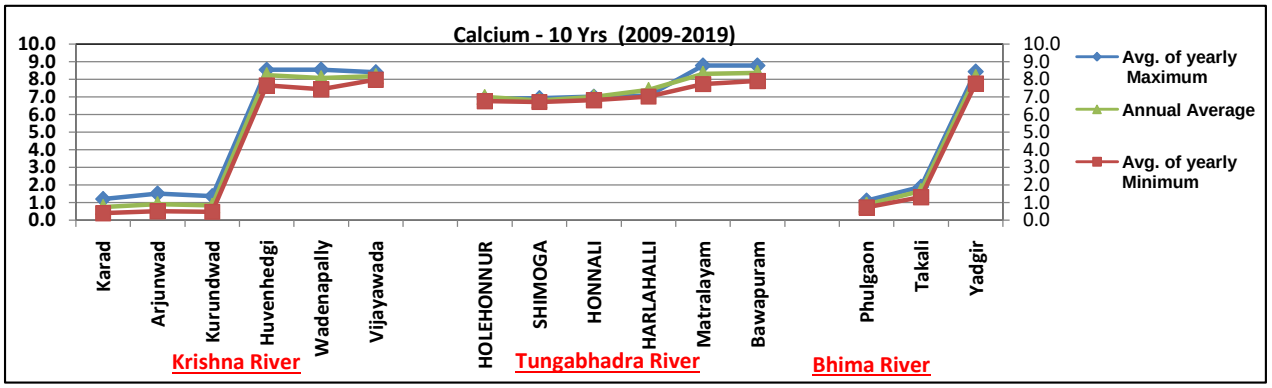


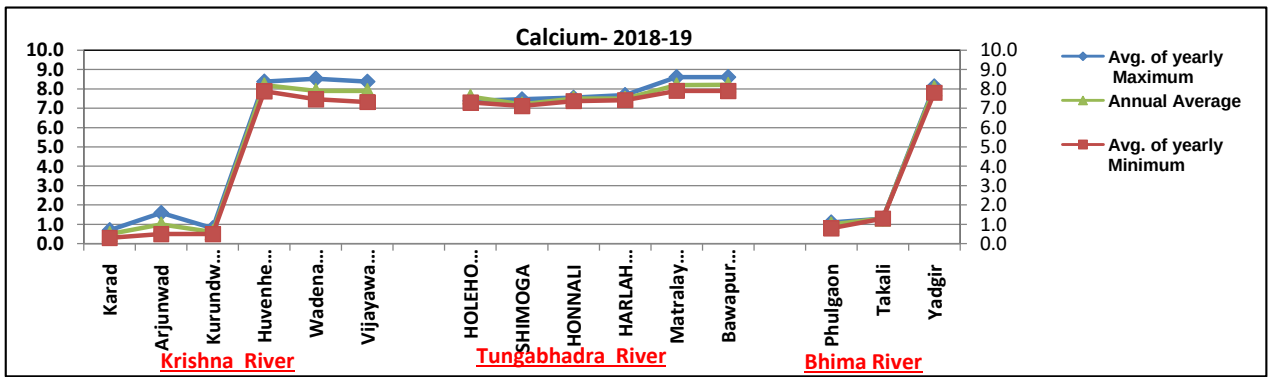


7. Calcium

Site Name (From U/s to D/s)	Avg. of yearly Maximum			Avg. of yearly Minimum			Annual Average		
	Since inception	10 years (2009 -2019)	2018-19	Since inception	10 years (2009 -2019)	2018-19	Since inception	10 years (2009 -2019)	2018-19
Karad	4.09	1.2	0.7	0.62	0.4	0.3	1.66	0.7	0.5
Arjunwad	1.5	1.5	1.6	0.5	0.5	0.5	0.9	0.9	1
Kurundwad	4.7	1.4	0.8	2.7	0.5	0.5	3.5	0.8	0.6
Huvenhedgi	8.5	8.5	8.4	7.7	7.7	7.9	8.2	8.2	8.2
Wadenapally	8.5	8.5	8.5	7.4	7.4	7.5	8.0	8.1	7.9
Vijayawada	8.5	8.4	8.4	7.6	8.0	7.3	8.1	8.2	7.9
HOLEHONNUR	7.9	6.9	7.4	7.8	6.8	7.3	8.3	7.0	7.6
SHIMOGA	8.1	6.9	7.5	7.5	6.7	7.1	7.7	6.8	7.2
HONNALI	8.0	7.0	7.6	7.8	6.8	7.4	8.1	7.0	7.5
HARLAHALLI	8.3	7.1	7.7	7.9	7.0	7.4	7.7	7.4	7.5
Matralayam	8.80	8.8	8.6	7.8	7.7	7.9	8.3	8.3	8.2
Bawapuram	8.7	8.8	8.6	7.7	7.9	7.9	8.2	8.4	8.2
Phulgaon	3.09	1.1	1.1	1.43	0.7	0.8	2.17	0.9	1
Takali	5.6	1.9	1.3	2.3	1.3	1.3	3.6	1.7	1.3
Yadgir	8.6	8.4	8.1	7.7	7.8	7.8	8.1	8.13	8.0

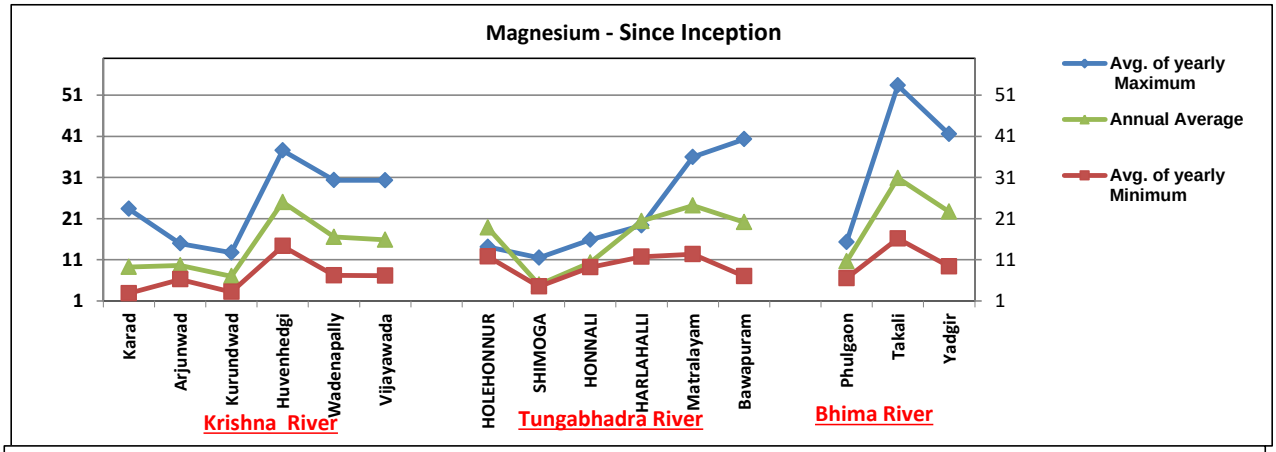


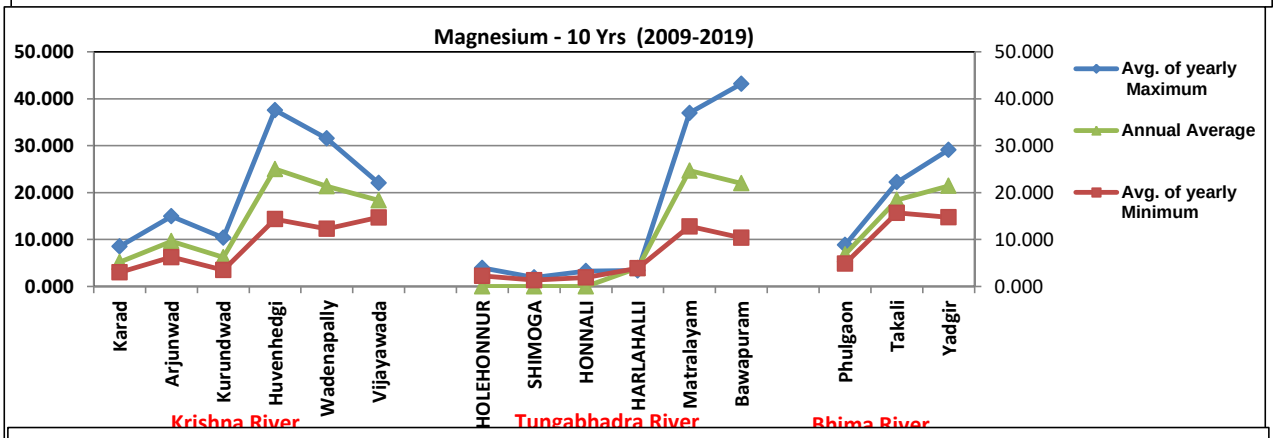


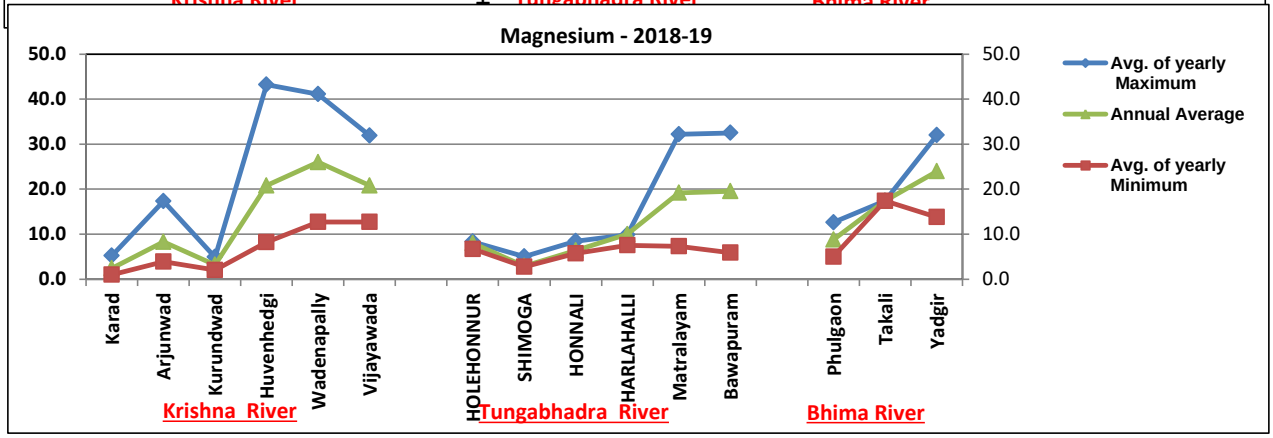


8. Magnesium

Site Name (From U/s to D/s)	Avg. of yearly Maximum			Avg. of yearly Minimum			Annual Average		
	Since inception	*10 years (2009 -2019)*	*2018-19*	*Since inception*	*10 years (2009 -2019)*	*2018-19*	*Since inception*	*10 years (2009 -2019)*	*2018-19*
Karad	23.35	8.500	5.2	2.82	2.964	1.0	9.25	5.180	2.4
Arjunwad	14.9	14.934	17.3	6.2	6.220	3.9	9.6	9.620	8.3
Kurundwad	12.7	10.351	4.9	3.2	3.451	2.0	7.0	6.210	3.2
Huvenhedgi	37.6	37.6	43.2	14.3	14.3	8.2	25.0	25.0	20.8
Wadenapally	30.3	31.5	41.1	7.2	12.2	12.7	16.5	21.3	26.0
Vijayawada	30.3	22.1	31.9	7.1	14.7	12.7	15.8	18.3	20.8
HOLEHONNUR	14.1	3.9	8.3	11.8	2.2	6.7	18.8	0.0	8.0
SHIMOGA	11.5	1.9	5.0	4.5	1.3	2.8	4.9	0.0	2.9
HONNALI	15.8	3.3	8.4	9.2	1.9	5.7	10.3	0.0	6.4
HARLAHALLI	19.3	3.4	9.9	11.7	3.9	7.5	20.4	3.9	10.0
Matralayam	36.0	37.0	32.2	12.3	12.8	7.3	24.2	24.7	19.2
Bawapuram	40.3	43.2	32.5	7.0	10.3	5.9	20.2	22.0	19.5
Phulgaon	15.28	8.803	12.6	6.49	4.816	5.0	10.57	6.810	8.8
Takali	53.4	22.182	17.4	16.2	15.656	17.4	30.8	18.437	17.4
Yadgir	41.5	29.1	32.0	9.3	14.7	13.8	22.7	21.4	24.0

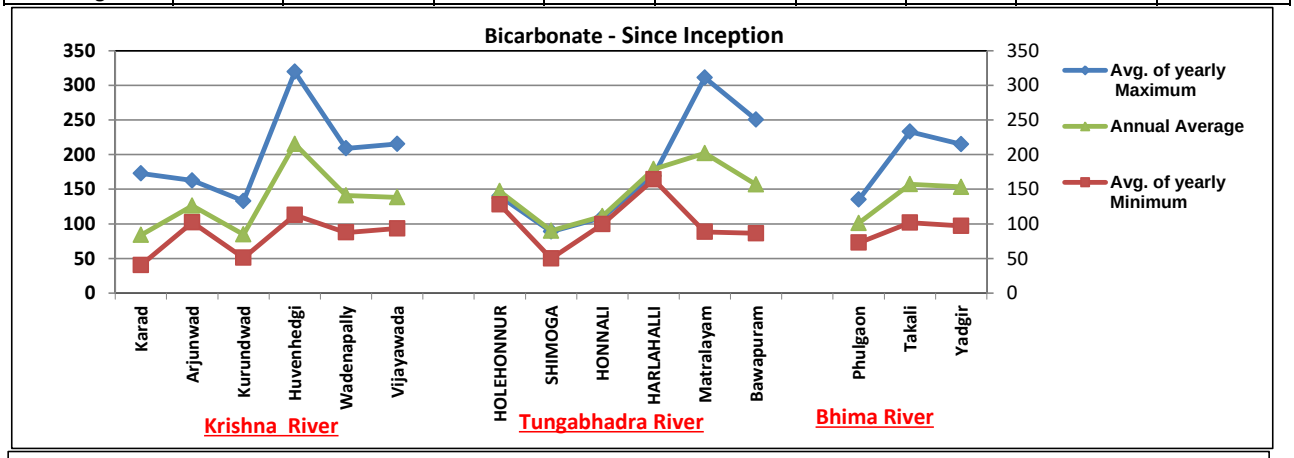


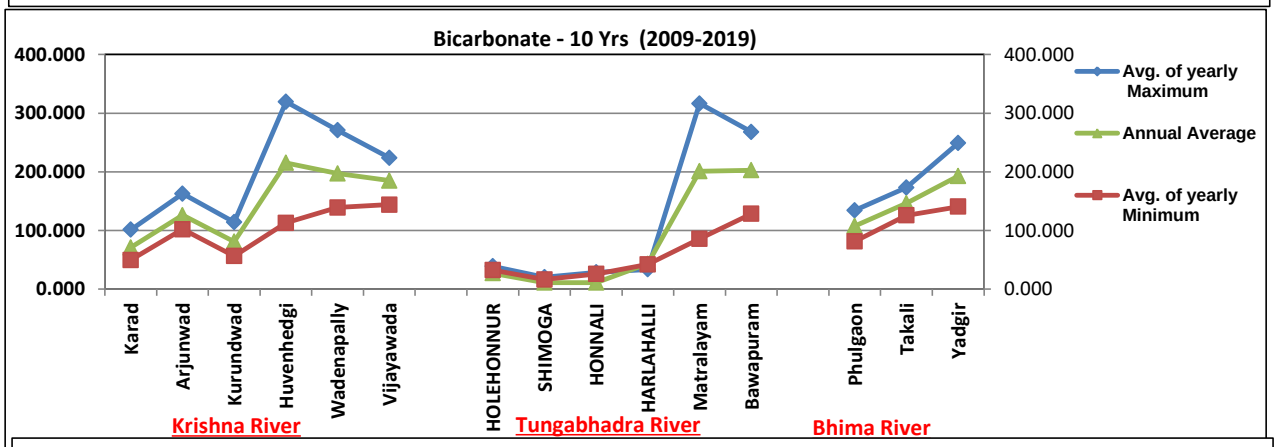


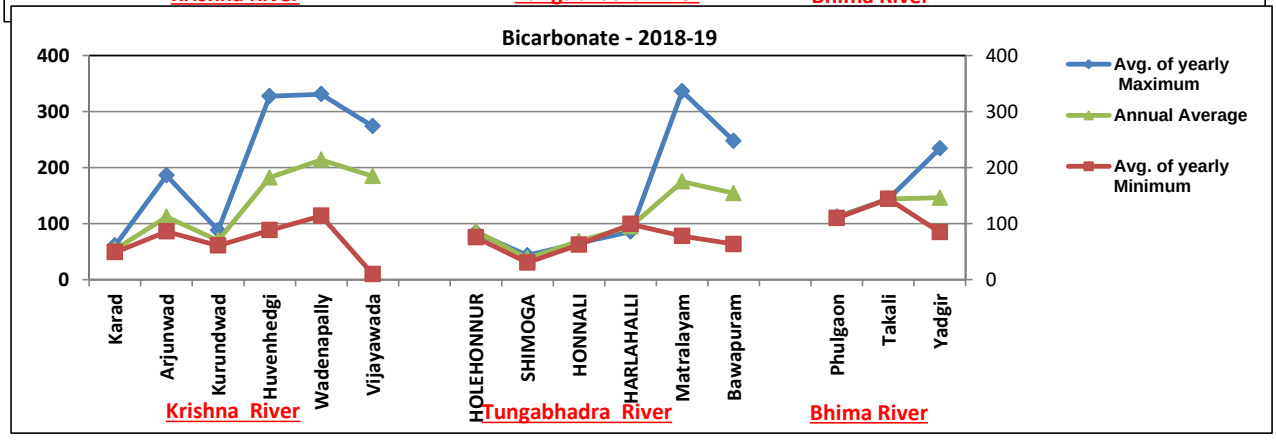


9. Bi-Carbonate

Site Name (From U/s to D/s)	Avg. of yearly Maximum			Avg. of yearly Minimum			Annual Average		
	Since inception	*10 years (2009 -2019)*	*2018-19*	*Since inception*	*10 years (2009 -2019)*	*2018-19*	*Since inception*	*10 years (2009 -2019)*	*2018-19*
Karad	172.7	101.260	61	40.13	49.566	49	83.77	70.800	54
Arjunwad	162.5	162.500	186	101.9	101.940	86	126.0	126.000	112
Kurundwad	132.9	113.884	88	51.0	56.392	61	84.6	80.900	70
Huvenhedgi	319.4	319.4	327.4	112.9	112.9	88.3	215.2	215.2	182.2
Wadenapally	208.9	270.9	331.1	87.5	139.1	113.9	140.8	197.2	213.9
Vijayawada	215.4	223.9	274.0	93.1	144.0	10.0	138.4	184.9	184.9
HOLEHONNUR	140	39	84	128	32	75	147	27	87
SHIMOGA	89	20	43	50	16	30	90	11	38
HONNALI	109	29	65	99	26	62	111	11	69
HARLAHALLI	169	34	86	164	42	99	179	43	95
Matralayam	311.07	316.4	336.1	88.3	85.7	78.0	201.8	201.1	175.1
Bawapuram	250.4	267.9	247.3	86.2	128.4	63.4	156.8	202.5	154.2
Phulgaon	134.92	134.280	112	72.74	81.467	110	101	107.440	111
Takali	232.9	173.163	144	101.6	125.810	144	157.1	146.370	144
Yadgir	214.9	249.2	234.4	97.0	140.6	84.8	153.3	192.6	146.1

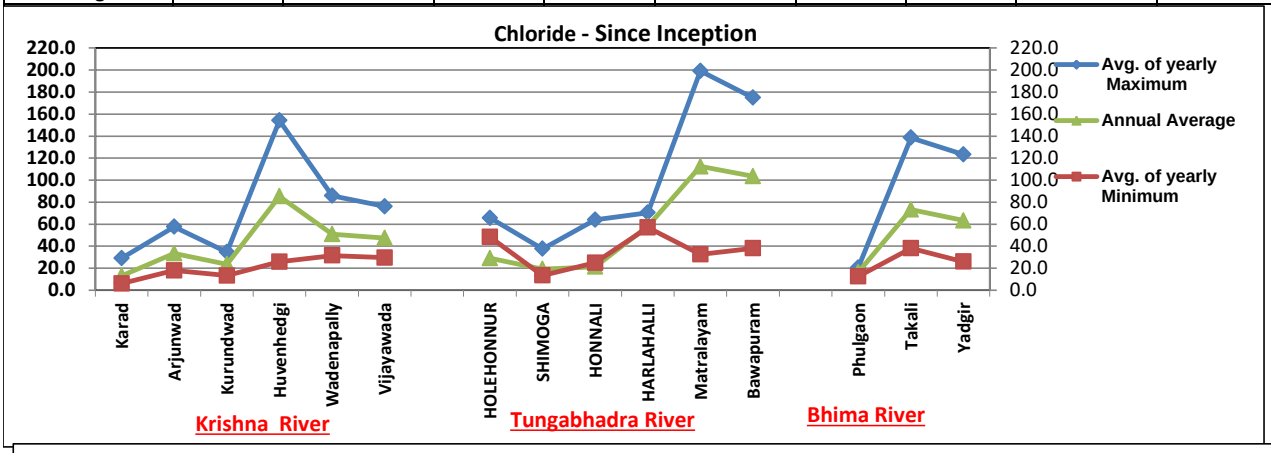


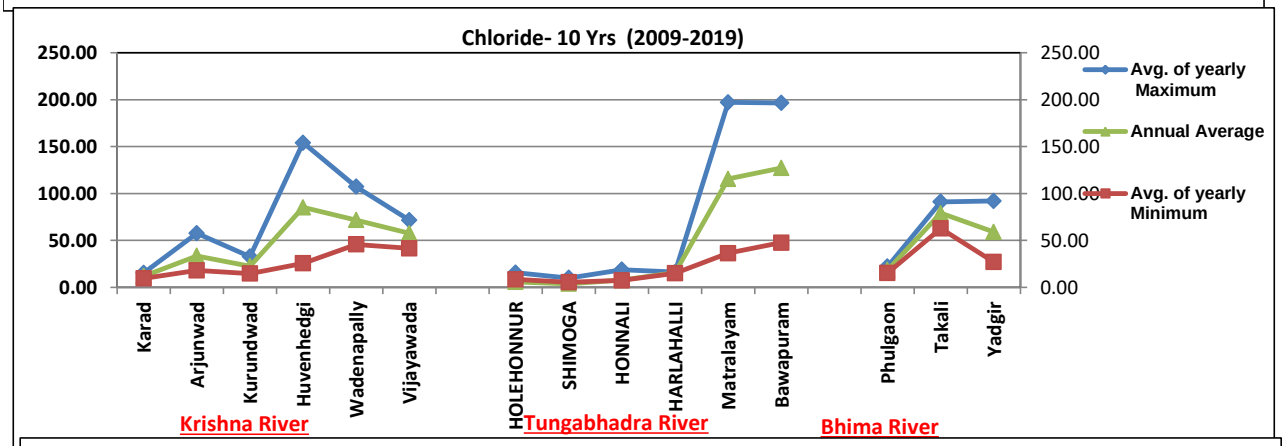


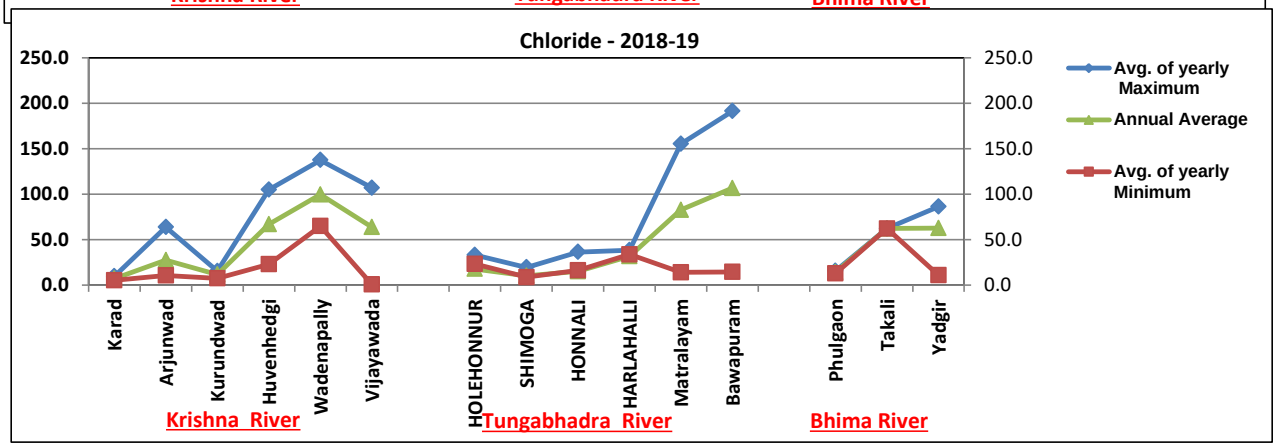


10. Chloride

Site Name (From U/s to D/s)	Avg. of yearly Maximum			Avg. of yearly Minimum			Annual Average		
	Since inception	10 years (2009 -2019)	2018-19	Since inception	10 years (2009 -2019)	2018-19	Since inception	10 years (2009 -2019)	2018-19
Karad	29.0	15.25	9.7	6.0	9.53	5.3	13.1	12.03	7.1
Arjunwad	57.6	57.64	63.9	18.0	17.96	10.5	33.5	33.54	27.4
Kurundwad	34.6	32.76	15.4	13.2	14.72	7.4	23.6	22.65	11.8
Huvenhedgi	154.1	154.1	104.8	25.7	25.7	22.9	85.2	85.2	67.0
Wadenapally	85.8	107.3	137.5	31.5	45.9	65.0	50.9	71.7	99.7
Vijayawada	76.1	71.6	107.0	29.6	41.6	0.8	47.4	57.7	63.8
HOLEHONNUR	66	16	33	48	9	23	29	6	18
SHIMOGA	38	10	20	13	5	9	19	4	10
HONNALI	64	19	36	25	8	16	21	8	15
HARLAHALLI	70	16	39	57	15	34	58	16	32
Matralayam	199.1	197.2	155.3	32.4	36.4	14.0	112.4	115.6	82.7
Bawapuram	174.8	196.6	191.4	38.1	47.6	14.4	103.4	127.4	106.6
Phulgaon	20.32	22.28	15.6	12.53	15.26	12.7	16.12	18.51	14.2
Takali	138.5	91.10	62.2	38.0	62.93	62.2	73.3	79.07	62.2
Yadgir	123.3	92.0	86.3	26.0	27.0	10.9	63.3	59.0	62.8

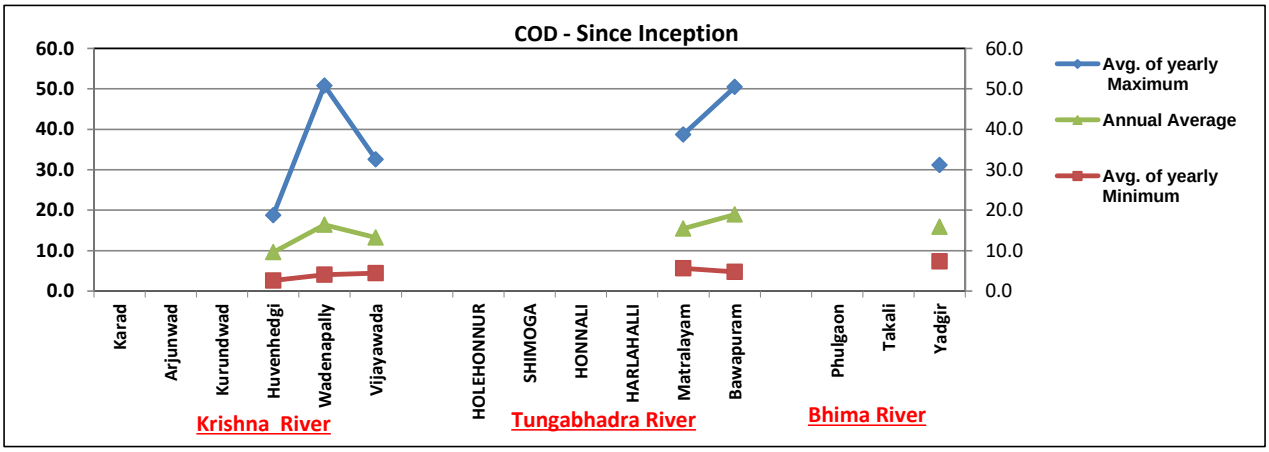


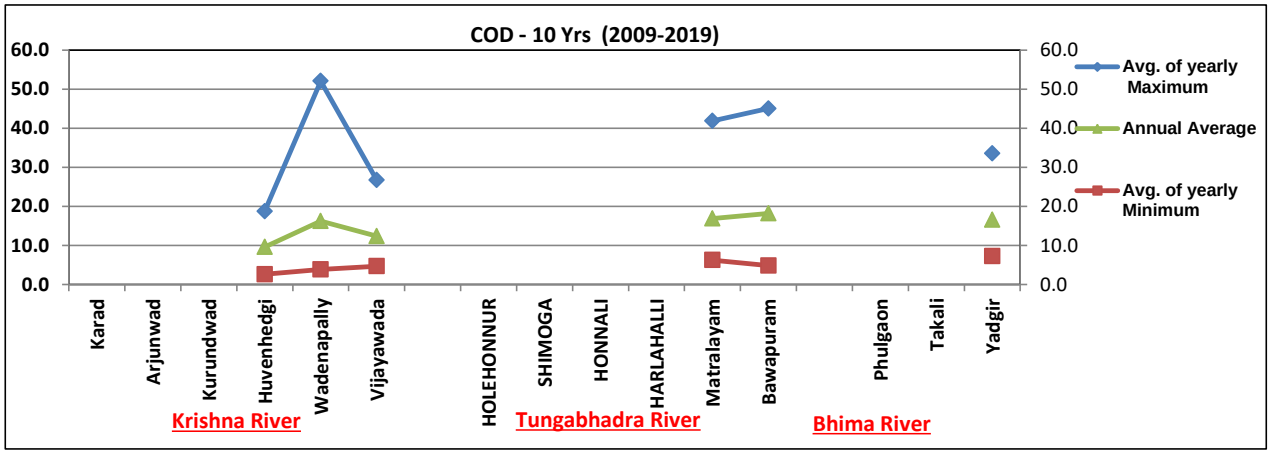


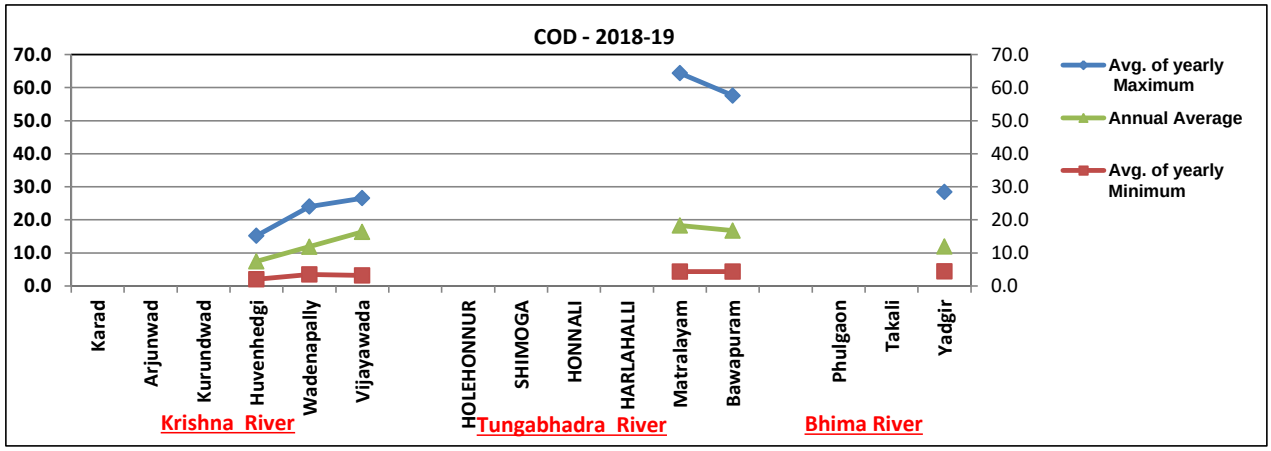


11. Chemical Oxygen Demand

Site Name (From U/s to D/s)	Avg. of yearly Maximum			Avg. of yearly Minimum			Annual Average		
	Since inception	*10 years (2009 -2019)*	*2018-19*	*Since inception*	*10 years (2009 -2019)*	*2018-19*	*Since inception*	*10 years (2009 -2019)*	*2018-19*
Karad									
Arjunwad									
Kurundwad									
Huvenhedgi	18.7	18.7	15.2	2.6	2.6	2.0	9.6	9.6	7.4
Wadenapally	50.8	52.1	24.0	4.0	3.8	3.5	16.4	16.2	11.9
Vijayawada	32.6	26.7	26.5	4.4	4.7	3.2	13.2	12.4	16.3
HOLEHONNUR									
SHIMOGA									
HONNALI									
HARLAHALLI									
Matralayam	38.7	41.9	64.4	5.6	6.3	4.4	15.5	16.9	18.3
Bawapuram	50.5	45.0	57.6	4.7	4.8	4.3	18.9	18.2	16.8
Phulgaon									
Takali									
Yadgir	31.1	33.5	28.4	7.4	7.2	4.4	15.9	16.5	11.9

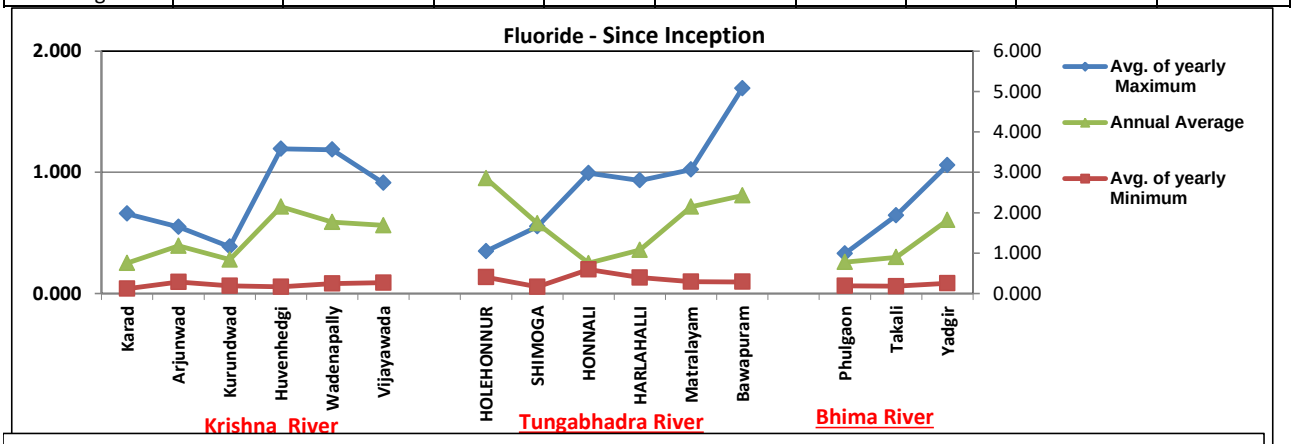


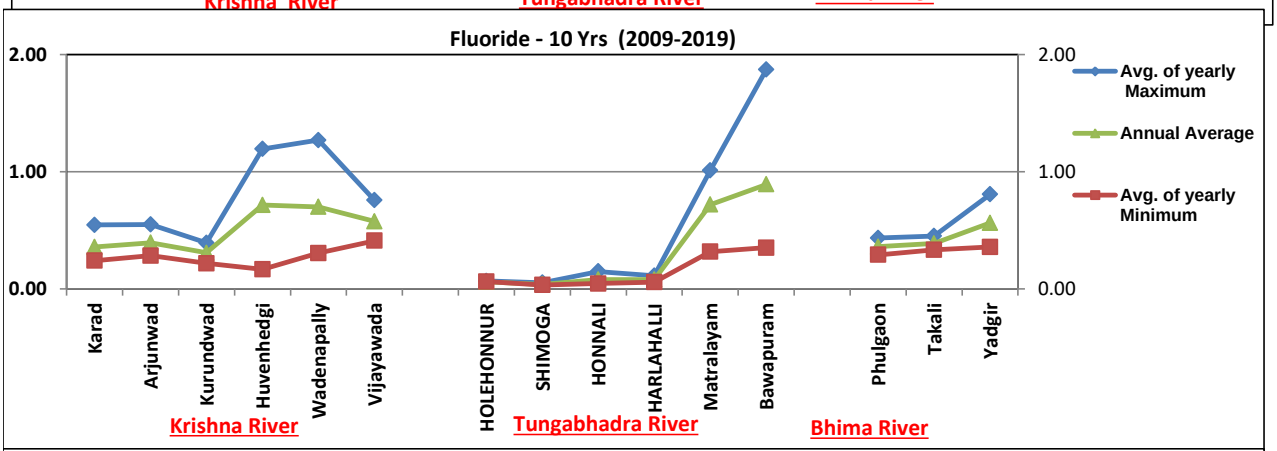


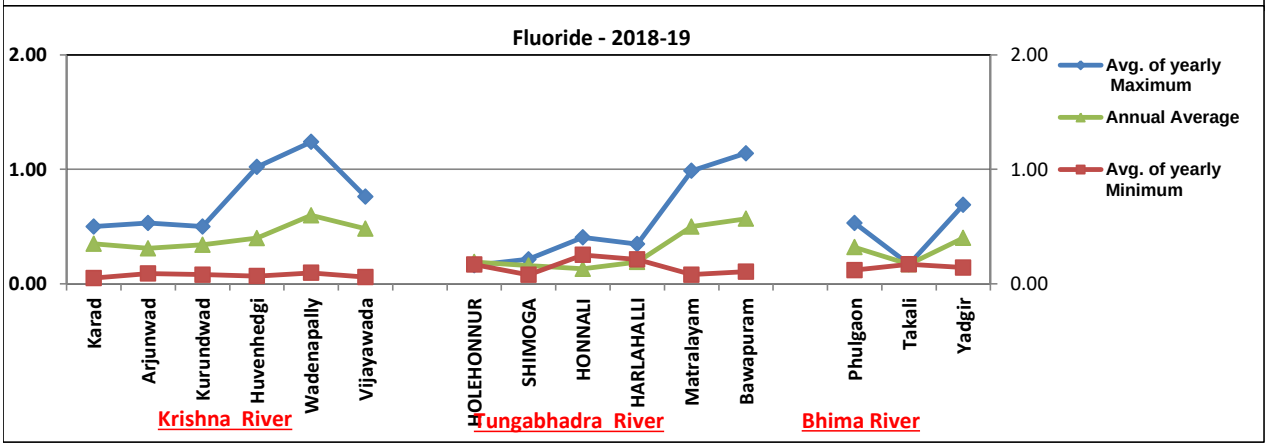


12. Fluoride

Site Name (From U/s to D/s)	Avg. of yearly Maximum			Avg. of yearly Minimum			Annual Average		
	Since inception	*10 years (2009 -2019)*	*2018-19*	*Since inception*	*10 years (2009 -2019)*	*2018-19*	*Since inception*	*10 years (2009 -2019)*	*2018-19*
Karad	0.659	0.55	0.50	0.118	0.24	0.05	0.252	0.36	0.35
Arjunwad	0.550	0.55	0.53	0.284	0.28	0.09	0.394	0.39	0.31
Kurundwad	0.387	0.39	0.50	0.191	0.22	0.08	0.280	0.31	0.34
Huvenhedgi	1.2	1.2	1.0	0.2	0.2	0.1	0.7	0.7	0.4
Wadenapally	1.2	1.3	1.2	0.2	0.3	0.1	0.6	0.7	0.6
Vijayawada	0.9	0.8	0.8	0.3	0.4	0.1	0.6	0.6	0.5
HOLEHONNUR	0.349	0.068	0.161	0.409	0.062	0.169	0.950	0.060	0.190
SHIMOGA	0.553	0.054	0.214	0.167	0.033	0.079	0.580	0.040	0.160
HONNALI	0.994	0.149	0.406	0.598	0.046	0.253	0.250	0.080	0.130
HARLAHALLI	0.934	0.112	0.348	0.394	0.059	0.213	0.360	0.080	0.190
Matralayam	1.02	1.0	1.0	0.3	0.3	0.1	0.7	0.7	0.5
Bawapuram	1.7	1.9	1.1	0.3	0.4	0.1	0.8	0.9	0.6
Phulgaon	0.330	0.44	0.53	0.190	0.29	0.12	0.260	0.36	0.32
Takali	0.644	0.45	0.17	0.180	0.33	0.17	0.300	0.39	0.17
Yadgir	1.1	0.8	0.7	0.3	0.4	0.1	0.6	0.6	0.4

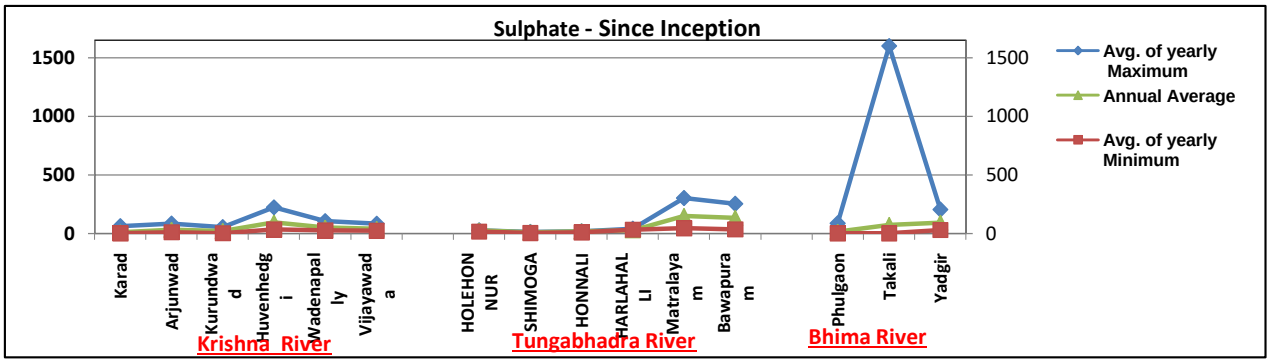


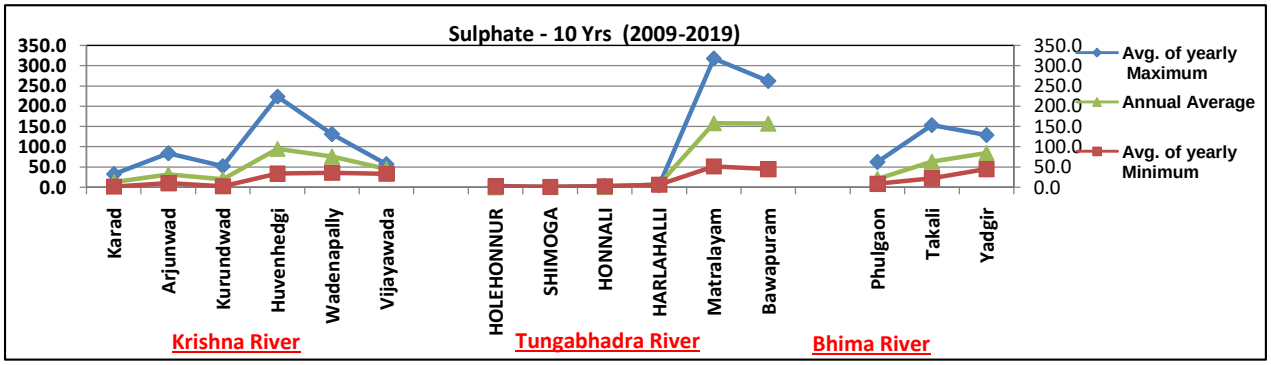


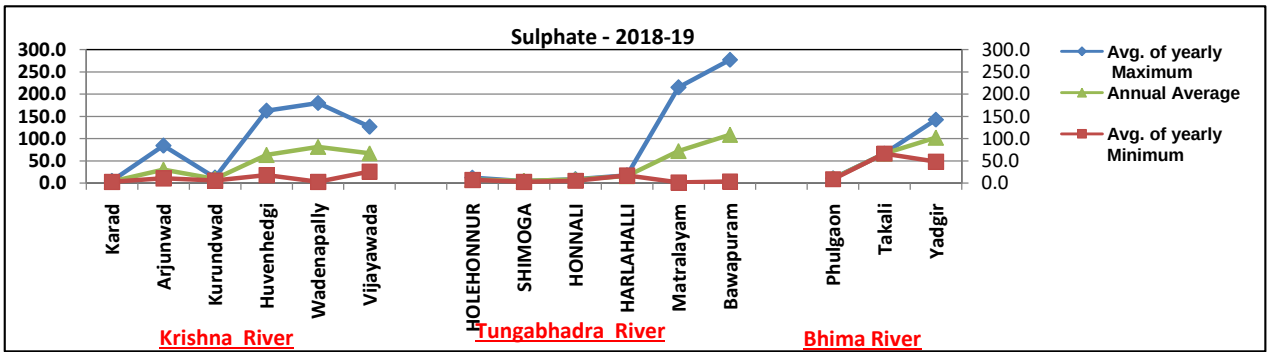


13. Sulphate

Site Name (From U/s to D/s)	Avg. of yearly Maximum			Avg. of yearly Minimum			Annual Average		
	Since inception	*10 years (2009 - 2019)*	*2018-19*	*Since inception*	*10 years (2009 - 2019)*	*2018-19*	*Since inception*	*10 years (2009 - 2019)*	*2018-19*
Karad	61.5	32.3	5.3	1	2.2	2.6	8.8	12.9	3.5
Arjunwad	84.0	84.0	84	10.6	10.6	10.8	31.8	31.8	30
Kurundwad	52.7	52.7	12.1	2.9	2.9	5.8	20.6	19.9	9.5
Huvenhedgi	223.6	223.6	162.5	33.9	33.9	18.1	95.3	95.3	63.2
Wadenapally	106.3	130.9	179.8	26.0	36.1	3.0	51.6	75.8	81.4
Vijayawada	85.1	56.8	126.6	22.7	33.7	25.9	40.6	45.3	67.0
HOLEHONNUR	26	4	12	16	2	7	28	0	8
SHIMOGA	13	1	4	4	1	3	9	1	5
HONNALI	18	3	9	9	3	5	17	1	8
HARLAHALLI	40	5	17	32	7	17	28	8	16
Matralayam	302.08	317.4	214.9	44.9	51.7	1.5	148.6	158.4	72.2
Bawapuram	252.0	262.0	277.0	35.9	45.0	3.7	132.0	157.3	108.3
Phulgaon	86.4	62.3	11.1	1	8.9	8.9	14.6	20.8	10
Takali	1602.2	153.6	66.5	1.0	22.4	66.5	73.2	63.0	66.5
Yadgir	204.0	128.6	142.6	30.3	44.9	48.2	90.9	84.3	101.9







National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)

CERTIFICATE OF ACCREDITATION

KRISHNA & GODAVARI RIVER WATER QUALITY LABORATORY, CENTRAL WATER COMMISSION, MINISTRY OF WATER RESOURCES, RD & GR

has been assessed and accredited in accordance with the standard

ISO/IEC 17025:2017

"General Requirements for the Competence of Testing & Calibration Laboratories"

for its facilities at

KRISHNA GODAVARI BHAVAN, 3RD FLOOR, 11-4-648 AC GUARDS, HYDERABAD, TELANGANA, INDIA

in the field of

TESTING

Certificate Number: TC-6055

Issue Date: 23/08/2019 **Valid Until:** 22/08/2021

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL.
(To see the scope of accreditation of this laboratory, you may also visit NABL website www.nabl-india.org)

Signed for and on behalf of NABL

N. Venkateswaran
Chief Executive Officer

National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)

SCOPE OF ACCREDITATION

Laboratory Name	KRISHNA & GODAVARI RIVER WATER QUALITY LABORATORY, CENTRAL WATER COMMISSION, MINISTRY OF WATER RESOURCES, RD & GR, KRISHNA GODAVARI BHAVAN, 3RD FLOOR, 11-4-648 AC GUARDS, HYDERABAD, TELANGANA , INDIA		
Accreditation Standard	ISO/IEC 17025:2017		
Certificate Number	TC-6055	Page No. :	1 / 2
Validity	23/08/2019 to 22/08/2021	Last Amended on	-

S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed
Permanent Facility				
1	CHEMICAL- WATER	River Water	Biological Oxygen Demand	APHA 23rd Edition : 2017
2	CHEMICAL- WATER	River Water	Calcium as Ca	APHA 23rd Edition : 2017
3	CHEMICAL- WATER	River Water	Chloride	APHA 23rd Edition : 2017
4	CHEMICAL- WATER	River Water	Conductivity	APHA 23rd Edition : 2017
5	CHEMICAL- WATER	River water	Copper	APHA 23rd Edition : 2017
6	CHEMICAL- WATER	River Water	Dissolved Oxygen	APHA 23rd Edition : 2017
7	CHEMICAL- WATER	river water	fluoride	APHA 23rd Edition : 2017
8	CHEMICAL- WATER	river water	iron	APHA 23rd Edition : 2017
9	CHEMICAL- WATER	River Water	Magnesium as Mg	APHA 23rd Edition : 2017
10	CHEMICAL- WATER	River Water	Nitrate	APHA 23rd Edition : 2017
11	CHEMICAL- WATER	river water	Nitrite	APHA 23rd Edition : 2017
12	CHEMICAL- WATER	river water	ortho phosphate	APHA 23rd Edition : 2017
13	CHEMICAL- WATER	River Water	pH	APHA 23rd Edition : 2017

National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)

SCOPE OF ACCREDITATION

Laboratory Name	KRISHNA & GODAVARI RIVER WATER QUALITY LABORATORY, CENTRAL WATER COMMISSION, MINISTRY OF WATER RESOURCES, RD & GR, KRISHNA GODAVARI BHAVAN, 3RD FLOOR, 11-4-648 AC GUARDS, HYDERABAD, TELANGANA , INDIA		
Accreditation Standard	ISO/IEC 17025:2017		
Certificate Number	TC-6055	Page No. :	2 / 2
Validity	23/08/2019 to 22/08/2021	Last Amended on	-

S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed
14	CHEMICAL- WATER	river water	potassium	APHA 23rd Edition : 2017
15	CHEMICAL- WATER	river water	sodium	APHA 23rd Edition : 2017
16	CHEMICAL- WATER	river water	sulphate	APHA 23rd Edition : 2017
17	CHEMICAL- WATER	River Water	Total Alkalinity as CaCO3	APHA 23rd Edition : 2017
18	CHEMICAL- WATER	River Water	Total Dissolved Solids	APHA 23rd Edition : 2017
19	CHEMICAL- WATER	River Water	Total Hardness as CaCO3	APHA 23rd Edition : 2017
20	CHEMICAL- WATER	river water	zinc	APHA 23rd Edition : 2017

National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)

CERTIFICATE OF ACCREDITATION

WAINGANGA WATER QUALITY LABORATORY CENTRAL WATER COMMISSION

has been assessed and accredited in accordance with the standard

ISO/IEC 17025:2017

"General Requirements for the Competence of Testing & Calibration Laboratories"

for its facilities at

WAINGANGA DIVISION, IIND FLOOR, BLOCK C, CGO COMPLEX, SEMINARY HILLS, NAGPUR, MAHARASHTRA, INDIA

in the field of

TESTING

Certificate Number: TC-8550

Issue Date: 28/06/2019 **Valid Until:** 27/06/2021

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL.

(To see the scope of accreditation of this laboratory, you may also visit NABL website www.nabl-india.org)

Signed for and on behalf of NABL

N. Venkateswaran
Chief Executive Officer

National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)

SCOPE OF ACCREDITATION

Laboratory Name	WAINGANGA WATER QUALITY LABORATORY CENTRAL WATER COMMISSION, WAINGANGA DIVISION, IIND FLOOR, BLOCK C, CGO COMPLEX, SEMINARY HILLS, NAGPUR, MAHARASHTRA , INDIA		
Accreditation Standard	ISO/IEC 17025:2017		
Certificate Number	TC-8550	Page No. :	1 / 2
Validity	28/06/2019 to 27/06/2021	Last Amended on	-

S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
Permanent Facility					
1	CHEMICAL- WATER	Surface Water	Ammonium Nitrogen as N	APHA (23rd Edition) 4500 NH3-D (Ion Selective Method): 2017	0.3 mg/L to 100 mg/L
2	CHEMICAL- WATER	Surface Water	Biochemical Oxygen Demand	APHA (23rd Edition,2017) 5210-B: (5 days BOD Test): 2017	0.1 mg/L to 500 mg/L
3	CHEMICAL- WATER	Surface Water	Calcium as Ca	APHA (23rd Edition,2017) 3500Ca-B: (EDTA Titrimetric): 2017	2 mg/L to 500 mg/L
4	CHEMICAL- WATER	Surface Water	Chloride as Cl-	APHA (23rd Edition,2017) 4500Cl- -B: (Argentometric): 2017	1 mg/L to 5000 mg/L
5	CHEMICAL- WATER	Surface Water	Conductivity	APHA (23rd Edition,2017) 2510-B: (Laboratry Method): 2017	1 µS/cm to 5000 µS/cm
6	CHEMICAL- WATER	Surface Water	Dissolved Oxygen	APHA (23rd Edition,2017) 4500DO-C: (Iodometric): 2017	1 mg/L to 20 mg/L
7	CHEMICAL- WATER	Surface Water	Fluoride as F	APHA (23rd Edition,2017) 4500F--C: (Ion selective electrode): 2017	0.1 mg/L to 25 mg/L
8	CHEMICAL- WATER	Surface Water	Magnesium as Mg	APHA (23rd Edition,2017) 3500Mg-B: (Calculation): 2017	2 mg/L to 500 mg/L

National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)

SCOPE OF ACCREDITATION

Laboratory Name	WAINGANGA WATER QUALITY LABORATORY CENTRAL WATER COMMISSION, WAINGANGA DIVISION, IIND FLOOR, BLOCK C, CGO COMPLEX, SEMINARY HILLS, NAGPUR, MAHARASHTRA , INDIA		
Accreditation Standard	ISO/IEC 17025:2017		
Certificate Number	TC-8550	Page No. :	2 / 2
Validity	28/06/2019 to 27/06/2021	Last Amended on	-

S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
9	CHEMICAL- WATER	Surface Water	pH	APHA (23rd Edition,2017) 4500H-B: (Electrometric): 2017	2.0 to 12
10	CHEMICAL- WATER	Surface Water	Potassium as K	APHA (23rd Edition,2017)3450K-D: (Flame emission Photometric) : 2017	0.1 mg/L to 1000 mg/L
11	CHEMICAL- WATER	Surface Water	Sodium as Na	APHA (23rd Edition,2017) 3450Na-B: (Flame emission Photometric : 2017	1 mg/L to 1000 mg/L
12	CHEMICAL- WATER	Surface Water	Sulphate as SO4- -	APHA (23rd Edition,2017) 4500 SO4 E (Nephelometric): 2017	1 mg/L to 1000 mg/L
13	CHEMICAL- WATER	Surface Water	Total alkalinity as CaCO3	APHA (23rd Edition,2017) 2320-B: (Titration): 2017	1 mg/L to 2000 mg/L
14	CHEMICAL- WATER	Surface Water	Total hardness as CaCO3	APHA (23rd Edition,2017) 2340-C: (EDTA Titrimetric): 2017	5 mg/L to 1500 mg/L
15	CHEMICAL- WATER	Surface Water	Turbidity	APHA (23rd Edition,2017) 2130-B: (Nephelometric): 2017	0.1 NTU to 1000 NTU

National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)

CERTIFICATE OF ACCREDITATION

UPPER CAUVERY WATER QUALITY LABORATORY, CENTRAL WATER COMMISSION

has been assessed and accredited in accordance with the standard

ISO/IEC 17025:2005

"General Requirements for the Competence of Testing & Calibration Laboratories"

for its facilities at

Cauvery Division, Jalasouda, Jalahalli, Bengaluru, Karnataka

in the field of

TESTING

Certificate Number TC-7793

Issue Date 30/08/2018 **Valid Until** 29/08/2020

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL.

(To see the scope of accreditation of this laboratory, you may also visit NABL website www.nabl-india.org)

Signed for and on behalf of NABL

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Anil Relia
Chief Executive Officer

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National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)

SCOPE OF ACCREDITATION

Laboratory	**Upper Cauvery Water Quality Laboratory, Central Water Commission, Cauvery Division, Jalasouda, Jalahalli, Bengaluru, Karnataka**
Accreditation Standard	**ISO/IEC 17025: 2005**
Certificate Number	**TC-7793** **Page 1 of 2**
Validity	**30.08.2018 to 29.08.2020** **Last Amended on --**

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		CHEMICAL TESTING		
I.	**WATER**			
1.	**Surface Water (River Water)**	pH	APHA23rd Edn.2017 -- 4500H^+ B (Electrometric Method)	2 to 12
		Conductivity	APHA23rd Edn.2017 -- 2510 B (Laboratory Method)	1 µS/cm to 5000 µS/cm
		Total Hardness as $CaCO_3$	APHA23rd Edn.2017 -- 2340 C (EDTA Titrimetric Method)	5 mg/L to 1500 mg/L
		Calcium as Ca^{+2}	APHA23rd Edn.2017 -- 3500Ca - B (EDTA Titrimetric Method)	2 mg/L to 500 mg/L
		Magnesium as Mg^{+2}	APHA23rd Edn.2017 -- 3500Mg - B (Calculation Method)	2 mg/L to 500 mg/L
		Total alkalinity as $CaCO_3$	APHA23rd Edn.2017 -- 2320 B (Titration Method)	10 mg/L to 1000 mg/L
		Chloride as Cl^-	APHA23rd Edn.2017 -- 4500Cl^- B (Argentometric Method)	5 mg/L to 2000 mg/L
		Biological Oxygen Demand	APHA23rd Edn.2017 -- 5210 B (@20^{0}C; 5 day BOD Test Method)	1 mg/L to 500 mg/L
		Dissolved Oxygen	APHA23rd Edn.2017 -- 4500, O-C (Azide Modification Method)	1 mg/L to 10 mg/L
		Nitrate as NO_3^-	APHA23rd Edn.2017 -- 4500 NO_3^- D (Nitrate Electrode Method)	0.5 mg/L to 250 mg/L

Amit Kumar
Convenor

Anuja Anand
Program Manager

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National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)

SCOPE OF ACCREDITATION

Laboratory Upper Cauvery Water Quality Laboratory, Central Water Commission, Cauvery Division, Jalasouda, Jalahalli, Bengaluru, Karnataka

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7793 **Page 2 of 2**

Validity 30.08.2018 to 29.08.2020 **Last Amended on** --

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Fluoride as F^-	APHA23rd Edn.2017 -- 4500 F^- C (ISE method)	0.1 mg/L to 20 mg/L
		Sodium as Na^+	APHA23rd Edn.2017 -- 3500 Na-B (Flame Emission Photometric Method)	5 mg/L to 500 mg/L
		Potassium as K^+	APHA23rd Edn.2017 -- 3500 K-B (Flame Emission Photometric Method)	1 mg/L to 200 mg/L
		Chemical Oxygen Demand	APHA23rd Edn.2017 – 5220 -D (Closed Reflux Colorimetric Method)	2 mg/L to 300 mg/L

Amit Kumar
Convenor

Anuja Anand
Program Manager

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National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)

CERTIFICATE OF ACCREDITATION

UPPER KRISHNA DIVISION WATER QUALITY LABORATORY, CENTRAL WATER COMMISSION

has been assessed and accredited in accordance with the standard

ISO/IEC 17025:2005

"General Requirements for the Competence of Testing & Calibration Laboratories"

for its facilities at

2nd Floor, National Water Academy Complex, Khadakwasla,
R. S. Pune, Maharashtra

in the field of

TESTING

Certificate Number TC-8138

Issue Date 26/11/2018 **Valid Until** 25/11/2020

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL.

(To see the scope of accreditation of this laboratory, you may also visit NABL website www.nabl-india.org)

Signed for and on behalf of NABL

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Anil Relia
Chief Executive Officer

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कृष्णा एवं समन्वय परिमंडल / KRISHNA & CO-ORDINATION CIRCLE

हैदराबाद / HYDERABAD

जून -2020

June-2020