

**Coastal Water Quality with respect to Criteria parameters during 2016(January-December)**

Sl. No	Sampling Location	No. of Obs.	Annual averagevalue (Range of values) Parameters					Frequency of violation (Percent of violation) from designated criteria value		Existing Class	Parameters responsible for downgrading the water quality	Possible Reason
			pH	DO (mg/l)	BOD (mg/l)	Turbidity, NTU	FC (MPN/100 ml)	BOD	FC			
			1.	Puri								
(a)	Swargadwara	12	8.0 (7.6-8.5)	6.2 (5.1-6.9)	1.3 (0.3-2.3)	23.2 (1.5-170.0)	1706 (<1.8 -16000)	0	5 (42)	Does not confirm to Class-SW-II	FC	Human activities
(b)	Bankimuhan	12	8.1 (7.8-8.6)	6.1 (5.6-6.7)	1.6 (0.7-2.9)	23.4 (1.7-180.0)	3427 (<1.8->16000)	0	5 (42)	Does not confirm to Class-SW-II	FC	Human activities
(c)	Baliapanda	12	8.0 (7.7-8.3)	6.3 (5.6-7.1)	1.3 (0.2-2.0)	12.5 (2.2-40.0)	338 (<1.8-1700)	0	9 (75)	Does not confirm to Class-SW-II	FC	Human activities
2.	Gopalpur	12	8.0 (7.7-8.5)	6.2 (5.5-6.7)	1.0 (0.5-1.4)	22.2 (2.4-100.0)	55 (<1.8-270)	0	2 (17)	Does not confirm to Class-SW-II	FC	Human activities
3.	Paradeep	12	8.0 (7.7-8.3)	6.4 (5.8-7.1)	1.4 (0.8-2.7)	28.0 (1.3-200.0)	42 (<1.8-230)	0	2 (17)	Does not confirm to Class-SW-II	FC	Human activities
<b>Water quality criteria for Class SW-II Waters (MOEF Notification G.S.R. No. 742(E) Dt. 25.09.2000)</b>			<b>6.5-8.5</b>	<b>4.0 or more</b>	<b>3.0 or less</b>	<b>30 or less</b>	<b>100 or less</b>			<b>For Bathing, Contact Water Sports and Commercial Fishing</b>		

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Sl. No	Sampling Location	No. of Obs.	Annual averagevalue (Range of values)					Frequency of violation (Percent of violation) from designated criteria value			Existing Class	Parameters responsible for downgrading the water quality	Possible Reason
			Parameters					BOD	O&G	FC			
			pH	DO (mg/l)	BOD (mg/l)	O&G, mg/l	FC (MPN/100 ml)						
1.	Gopalpur	12	8.0 (7.7-8.5)	6.2 (5.5-6.7)	1.0 (0.5-1.4)	0.5 (0.1-0.8)	55 (<1.8-270)	0	0	0	Class-SW-IV		
2.	Paradeep	12	8.0 (7.7-8.3)	6.4 (5.8-7.1)	1.4 (0.8-2.7)	0.5 (0.1-0.8)	42 (<1.8-230)	0	0	0	Class-SW-IV		
<b>Water quality criteria for Class SW-IV Waters (MOEF Notification G.S.R. No. 742(E) Dt. 25.09.2000)</b>			<b>6.5-9.0</b>	<b>3.0 or more</b>	<b>5.0 mg/l or less</b>	<b>10 or less</b>	<b>500 or less</b>				<b>For Harbour Waters</b>		

**Coastal Water Quality with respect to other parameters during 2016 (January- December)**

Sl. No.	Sampling Location	Physical parameters		Organic pollution Indicators				Bacteriological parameter	Mineral constituents							
		Annual average values (Range of values)														
		TSS	Total alkalinity	COD	NH <sub>4</sub> -N	Free NH <sub>3</sub> -N	TKN	TC	EC	SAR	B	TDS	TH	Cl	SO <sub>4</sub>	F
		(mg/l)		(mg/l)				(MPN/100 ml)	(µS/cm)	(mg/l)						
1.	Puri															
(a)	Swargadwara	140 (54-214)	117 (100-128)	33.9 (27.9-41.3)	0.061 (0.056-0.112)	0.004 (0.001-0.009)	0.97 (0.56-1.40)	2056 (<1.8 - 16000)	49795 (36000-63740)	86.16 (63-65-106.51)	2.371 (0.748-3.985)	41224 (28100-51030)	5119 (2800-6600)	22954 (15648-28866)	1928 (620-3296)	0.578 (0.250-0.900)
(b)	Bankimuhan	152 (81-224)	132 (104-236)	34.5 (24.5-47.4)	0.177 (0.056-0.672)	0.011 (0.002-0.029)	1.31 (0.56-2.80)	3666 (<1.8- >16000)	50261 (35940-63480)	95.53 (60-53-191.39)	2.649 (1.106-4.518)	41738 (28680-50690)	4732 (816-6100)	23114 (16137-28377)	2078 (895-3482)	0.657 (0.220-0.990)
(c)	Baliapanda	156 (74-244)	109 (48-132)	34.2 (23.7-54.5)	0.075 (0.056-0.280)	0.005 (0.002-0.018)	1.00 (0.56-1.40)	678 (<1.8-2800)	50131 (35950-63920)	85.40 (60.12-107.46)	2.912 (1.505-5.063)	41499 (26890-51400)	5089 (2650-6250)	23115 (15159-28866)	1956 (814-3028)	0.647 (0.270-0.980)
2.	Gopalpur	173 (64-450)	120 (92-140)	33.8 (24.1-44.6)	0.081 (0.056-0.336)	0.005 (0.002-0.013)	1.20 (0.56-1.96)	85 (<1.8-330)	52880 (31920-62680)	89.80 (53.17-131.05)	2.8 (0.119-4.048)	43670 (23760-53580)	5045 (2800-6800)	24379 (3692-30318)	2083 (842-3694)	0.709 (0.440-1.000)
3.	Paradeep	147 (13-305)	117 (92-146)	35.9 (25.2-51.4)	0.061 (0.056-0.112)	0.004 (0.002-0.005)	1.12 (0.56-1.68)	56 (<1.8-230)	46042 (30960-62670)	81.61 (52.77-113.82)	2.553 (0.534-4.304)	37876 (22690-51230)	4910 (2400-6300)	20681 (12720-28377)	2146 (1147-3250)	0.665 (0.410-1.100)

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Sl. No.	Sampling Location	Nutrients		Heavy metals								
		Annual average values (Range of values)										
		NO <sub>3</sub> <sup>-</sup>	PO <sub>4</sub> <sup>3-</sup> -P	Cr(VI)	T. Cr	Fe	Ni##	Cu##	Zn##	Cd##	Hg	Pb##
(mg/l)		(mg/l)										
1.	Puri											
(a)	Swargadwara	5.119 (2.441-15.989)	0.046 (0.011-0.079)	0.009 (<0.002-0.023)	0.027 (0.017-0.054)	0.751 (0.120-2.480)	0.008 (0.004-0.014)	0.005 (0.002-0.009)	0.013 (0.007-0.018)	0.0007 (0.0002-0.0013)	0.00001 (<0.00006-0.00006)	0.006 (0.004-0.009)
(b)	Bankimuhan	3.414 (2.180-5.186)	0.144 (0.010-0.616)	0.007 (<0.002-0.030)	0.024 (0.015-0.041)	1.141 (0.320-4.470)	0.008 (0.004-0.017)	0.005 (0.002-0.011)	0.014 (0.008-0.018)	0.0007 (0.0002-0.0011)	0.00009 (<0.00006-0.00038)	0.007 (0.003-0.011)
(c)	Baliapanda	4.195 (2.259-11.475)	0.113 (0.010-0.770)	0.011 (<0.002-0.031)	0.030 (0.013-0.045)	1.424 (0.240-7.120)	0.008 (0.004-0.017)	0.005 (0.002-0.012)	0.013 (0.006-0.018)	0.0008 (0.0002-0.0016)	0.00009 (<0.00006-0.00076)	0.007 (0.004-0.011)
2.	Gopalpur	4.869 (2.637-9.184)	0.049 (0.017-0.116)	0.011 (<0.003-0.025)	0.030 (0.013-0.059)	2.005 (0.150-9.510)	0.008 (0.004-0.016)	0.004 (0.002-0.009)	0.014 (0.004-0.024)	0.0007 (0.0002-0.0013)	0.00005 (<0.00006-0.00032)	0.007 (0.004-0.011)
3.	Paradeep	3.370 (0.258-8.024)	0.066 (0.30-0.135)	0.008 (<0.002-0.015)	0.026 (0.013-0.047)	0.976 (0.190-1.740)	0.007 (0.001-0.012)	0.004 (0.001-0.007)	0.013 (0.002-0.026)	0.0007 (0.0002-0.0013)	0.00006 (<0.00006-0.00032)	0.006 (0.002-0.012)

BDL = Below Detection Limit

## Data for the period January-December, 2016 excluding May and June, 2016

