

Table-1 Coastal Water Quality with respect to Criteria parameters during 2013 (January-October)

Sl. No	Location	No. of Obs.	Annual average value (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	FC			
			pH	DO (mg/l)	BOD (mg/l)	Turbidity, NTU	FC (MPN/100 ml)					
1.	Puri											
(a)	Swargadwara	10	8.1 (7.9 – 8.4)	6.6 (5.7 – 7.8)	1.4 (0.6 – 2.6)	12.8 (1.5 – 29.0)	249 (20 – 790)	0	6 (60)	Does not confirm to Class-SW-II	FC	Human activities
(b)	Bankimuhan	10	7.9 (7.4-8.3)	6.4 (5.4-7.4)	1.7 (0.6-4.0)	11.0 (1.2-27.0)	152 (2-630)	2 (20)	6 (60)	Does not confirm to Class-SW-II	BOD,FC	Human activities
(c)	Baliapanda	10	8.0 (7.4-8.3)	6.5 (5.88-7.6)	1.3 (0.3-2.2)	15.3 (1.3-40.3)	201 (2-790)	0	4 (40)	Does not confirm to Class-SW-II	FC	Human activities
2.	Gopalpur	10	8 (7.5 – 8.4)	6.6 (5.8 – 7.9)	1.8 (0.7 – 3.6)	13.5 (1.2 – 33.0)	582 (2 – 5400)	1 (10)	2 (20)	Does not confirm to Class-SW-II	BOD, FC	Human activities
3.	Paradeep	10	8.0 (7.5 – 8.4)	6.8 (6.0 – 8.2)	1.0 (0.3 – 1.4)	19.8 (3.0 – 50.0)	16039 (2 – 160000)	0	2 (20)	Does not confirm to Class-SW-II	FC	Human activities
Water quality criteria for Class SW-II Waters (MOEF Notification G.S.R. No. 742(E) Dt. 25.09.2000)			6.5-8.5	4.0 or more	3.0 or less	30 or less	100 or less			For Bathing, Contact Water Sports and Commercial Fishing		

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Sl. No	Location	No. of Obs.	Annual average value (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			
			pH	DO (mg/l)	BOD (mg/l)	O&G, mg/l	FC (MPN/100 ml)					
1.	Gopalpur	10	8 (7.5 – 8.4)	6.6 (5.8 – 7.9)	1.8 (0.7 – 3.6)	0.9 (0.5 – 1.7)	582 (2 – 5400)	0	0	SW-IV		
2.	Paradeep	10	8.0 (7.5 – 8.4)	6.8 (6.0 – 8.2)	1.0 (0.3 – 1.4)	1.1 (0.8 – 1.6)	16039 (2 – 160000)	0	0	SW-IV		
Water quality criteria for Class SW-IV Waters (MOEF Notification G.S.R. No. 742(E) Dt. 25.09.2000)			6.5-9.0	3.0 or more	5.0 mg/l or less	10 or less	500 or less			For Harbour Waters		

Table-2 Coastal Water Quality with respect to other parameters during 2013 (January-October)

Sl. No.	Sampling Location	Physical parameters		Organic pollution Indicators				Bacteriological parameter	Mineral constituents							
		Annual average values (Range of values)														
		TSS	Total alkalinity	COD	NH ₄ -N	Free NH ₃ -N	TKN	TC	EC	SAR	B	TDS	TH	Cl	SO ₄	F
		(mg/l)		(mg/l)				(MPN/100 ml)	(µS/cm)	(mg/l)						
1.	Puri															
(a)	Swargadwara	285 (32-512)	108 (92-128)	28.0 (20.2-34.6)	0.257 (0.112-0.448)	0.018 (0.006-0.036)	3.63 (2.24-5.88)	641 (45-2200)	43868 (28760-52390)	62.03 (46.19-79.76)	2.771 (1.510-3.483)	34623 (22269-43854)	5590 (3900-7800)	18595 (11716-23600)	1784 (1064-2599)	0.691 (0.248-1.020)
(b)	Bankimuhan	260 (20-446)	109 (96-120)	31.2 (17.9-46.5)	0.364 (0.222-0.616)	0.019 (0.003-0.060)	3.16 (2.20-4.80)	506 (20-2100)	47761 (29340-55770)	64.17 (24.65-93.42)	2.651 (1.484-4.140)	37526 (22988-45648)	5570 (3900-6800)	20624 (11945-25136)	1676 (1072-2114)	0.728 (0.247-0.915)
(c)	Baliapanda	241 (28-488)	109 (92-124)	34.4 (19.9-46.6)	0.308 (0.112-0.504)	0.017 (0.004-0.033)	3.10 (1.12-5.04)	516 (78-2400)	43264 (28550-50580)	61.58 (42.20-77.62)	2.373 (1.484-3.672)	34527 (22129-40877)	5600 (3800-8000)	18710 (11746-22110)	1727 (1084-2177)	0.713 (0.262-0.911)
2.	Gopalpur	299 (52-644)	114 (88-128)	29.1 (9.7-42.9)	0.310 (0.112-0.560)	0.017 (0.007-0.036)	2.98 (1.96-5.60)	1679 (2-16000)	43732 (23624-52790)	64.40 (43.24-79.85)	2.775 (1.605-4.118)	35146 (17541-44672)	5560 (2400-9200)	19169 (9430-26034)	1859 (703-2879)	0.754 (0.268-0.937)
3.	Paradeep	281 (22-640)	108 (80-124)	28.8 (15.9-44.0)	0.307 (0.165-0.448)	0.019 (0.009-0.044)	2.90 (1.68-4.80)	16080 (2-160000)	44951 (18270-55660)	64.5 (39.20-82.69)	2.583 (1.824-3.668)	35789 (14561-45288)	5520 (2600-6800)	19545 (7544-24927)	1966 (715-2668)	0.704 (0.182-0.987)

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Sl. No.	Sampling Location	Nutrients		Heavy metals								
		Annual average values (Range of values)										
		Nitrate NO ₃ ⁻	PO ₄ ³⁻ -P	Cr (VI)	T. Cr	Fe	Ni*	Cu*	Zn*	Cd*	Hg*	Pb*
		(mg/l)		(mg/l)								
1.	Puri											
(a)	Swargadwara	6.354 (3.149-11.129)	0.075 (0.009-0.214)	BDL (BDL-0.002)	0.029 (0.013-0.060)	0.899 (0.376-2.179)	0.003	0.002	0.008	<0.001	BDL	0.007
(b)	Bankimuhan	4.737 (3.135-6.997)	0.114 (0.013-0.676)	0.002 (BDL-0.010)	0.039 (0.013-0.080)	1.160 (0.069-4.866)	0.002	0.002	0.008	<0.001	BDL	0.007
(c)	Baliapanda	4.361 (2.693-7.666)	0.305 (0.015-2.358)	0.004 (BDL-0.020)	0.032 (0.008-0.093)	0.987 (0.270-3.330)	0.003	0.002	0.008	<0.001	BDL	0.007
2.	Gopalpur	4.485 (0.740-6.582)	0.057 (0.010-0.221)	0.002 (BDL-0.010)	0.034 (0.013-0.080)	1.151 (0.067-3.726)	0.002	0.004	0.008	<0.001	BDL	0.007
3.	Paradeep	4.217 (0.385-7.511)	0.085 (0.020-0.171)	0.001 (BDL-0.005)	0.030 (0.002-0.072)	1.328 (0.120-3.983)	0.002	0.003	0.009	<0.001	BDL	0.006

BDL = Below Detection Limit

* Data for the period February.2013