

Table-1 Coastal Water Quality with respect to Criteria parameters during 2012 (January-December)

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	12	8.0 (7.8-8.3)	7.1 (5.8-11.4)	1.3 (0.2-3.0)	18.2 (5.8-53.3)	399 (20-2400)	0	8 (67)	Does not confirm to Class-SW-II	FC	Human activities
2.	Gopalpur	12	7.9 (7.5-8.3)	7.0 (5.4-8.8)	1.6 (0.7-3.8)	14.3 (1.1-28.0)	92 (20-490)	0	2 (17)	Does not confirm to Class-SW-II		
3.	Paradeep	12	7.9 (7.7-8.4)	7.1 (5.7-8.4)	1.2 (0.3-2.8)	20 (1.1-47.3)	115 (20-230)	0	7 (58)	Does not confirm to Class-SW-II		
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 mg/l or less	30 or less	100 or less			For Bathing, Contact Water Sports and Commercial Fishing		

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	12	8.0 (7.8-8.3)	7.1 (5.8-11.4)	1.3 (0.2-3.0)	0.6 (0.2-0.9)	399 (20-2400)	0	0	SW-IV		
2.	Paradeep	12	7.9 (7.7-8.4)	7.1 (5.7-8.4)	1.2 (0.3-2.8)	0.8 (0.2-1.2)	115 (20-230)	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 2012 (January-December)

Sl. No.	Sampling Location	Physical parameters (mg/l)		Organic pollution Indicators (mg/l)				Bacteriological parameter	Mineral constituents (mg/l)							
		TSS	Total alkalinity	COD	NH ₄ -N	Free NH ₃ -N	TKN	TC (MPN/ 100 ml)	EC (μS/cm)	TDS	B	SAR	TH	Cl	SO ₄	F
1.	Puri	206 (13-338)	109 (92-148)	29.1 (18.8-36.9)	0.378 (0.112-1.176)	0.013 (0.004-0.029)	3.57 (1.12-7.84)	725 (20-3500)	40940 (28050-58400)	30927 (24811-37960)	1.147 (0.654-1.660)	50.0 (36.7-62.5)	6213 (4200-8400)	17128 (12537-20662)	2158 (1568-2972)	0.854 (0.470-1.080)
2.	Gopalpur	257 (36-456)	111 (60-134)	29.1 (18.7-43.4)	0.276 (0.112-0.448)	0.024 (0.004-0.076)	3.51 (1.40-10.10)	187 (45-790)	41660 (29980-57570)	31615 (23337-45506)	1.647 (0.782-2.990)	51.5 (40.8-65.8)	6392 (4400-8000)	18051 (12440-25968)	2083 (1422-2609)	0.844 (0.252-1.090)
3.	Paradeep	263 (18-642)	110 (96-124)	28.6 (8.1-41.4)	0.364 (0.112-0.120)	0.025 (0.004-0.073)	2.80 (1.12-7.28)	313 (45-490)	41072 (28110-57120)	31342 (22830-45628)	1.466 (0.108-2.736)	53.4 (40.1-69.0)	5954 (4600-7000)	17650 (11220-24968)	2126 (1322-2753)	0.837 (0.377-1.360)

Sl. No.	Sampling Location	Nutrients (mg/l)		Heavy metals (mg/l)								
		Nitrate NO ₃ ⁻	PO ₄ ³⁻⁻ P	Cr (VI)	T. Cr	Fe	Ni*	Cu*	Zn*	Cd*	Hg*	Pb*
1.	Puri	3.132 (2.077-4.655)	0.046 (0.006-0.093)	BDL	0.029 (0.015-0.044)	1.295 (0.270-2.808)	0.006 (0.001-0.010)	0.005 (0.003-0.007)	0.011 (0.003-0.019)	0.002 (0.001-0.003)	BDL	0.005 (0.001-0.009)
2.	Gopalpur	3.997 (0.648-8.309)	0.040 (0.001-0.089)	BDL	0.027 (0.007-0.047)	0.916 (0.18 0-2.150)	0.006 (0.001-0.010)	0.004 (0.002-0.006)	0.008 (0.003-0.015)	0.002 (0.001-0.002)	BDL	0.006 (0.005-0.007)
3.	Paradeep	4.550 (2.123-10.916)	0.065 (0.009-0.200)	BDL	0.038 (0.024-0.055)	1.338 (0.350-2.750)	0.007 (0.002-0.010)	0.004 (0.002-0.005)	0.010 (0.002-0.017)	0.001 (0.001-0.002)	BDL	0.007 (0.005-0.009)

BDL = Below Detection Limit

* Data for the period Jan-May, 2012