

GOA STATE POLLUTION CONTROL BOARD

गोंय राज्य प्रदूषण नियंत्रण मंडळ

(An ISO 9001-2015, ISO 14001:2015, ISO 45001:2018 Certified Board)

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No. 2022/GSPCB/Other/10889/lab/ 16388

dated: 10 /12/2021

To,
The Director,
Department of Environment & Climate Change,
4th Floor, Dempo Towers,
Panaji- Goa- 403001.

Sub: Sal river water quality data.

Sir,

With reference to above, please find enclosed herewith the Sal river water-quality data for further needful action at your end.

Yours faithfully,


(Dr. Shamila Monteiro)
Member Secretary
Goa State Pollution Control Board

CC to

- 1) The Chief Engineer, Water Resource Department, Sinchai Bhavan, Porvorim
Goa
- 2) The Managing Director, Sewerage Infrastructure Development Corporation
Goa Ltd, Ishan Building, Opp. CCP, Panaji- Goa
- 3) The District Collector, Collectorate Building, South Goa, Mathany Saldanha
Administrative Complex, Margao, Salcete - Goa.
- 4) Guard file

DATA INTERPRETATION OF RIVER SAL FOR YEAR 2018-2021

From the water quality data analysis of River Sal at two locations (Khareband and Mobor) for the year 2018 to 2021, it has been observed that:

1. River Sal at Khareband

In year 2018 – DO is below permissible limit for the whole year whereas BOD is exceeding limits occasionally and fecal coliform exceeds the permissible limits throughout the year.

However in year 2019 & 2020 - D.O. is below permissible limit occasionally so also BOD is exceeding permissible limits occasionally, pH is below permissible limits in June and July 2019. Fecal coliform exceeding the permissible limits throughout the years.

In year 2021 upto September – DO is below permissible limit for half yearly so also BOD is exceeding permissible limits half yearly. Turbidity exceeding permissible limits for 4 months and also fecal coliform exceeds the permissible limits for all months.

2. River Sal at Mobor

Year 2018-2021 upto Sept – All parameters are within permissible limits except fecal coliform is exceeding permissible limits throughout all years and BOD is exceeding permissible limit only once in Sept 2018 and turbidity exceeds permissible limits twice in March 2020 and July 2020

MONITORING LOCATION no.1 RIVER SAL AT KHAREBAND (2018-2021)

RIVER SAL AT KHAREBAND,MARGAO	
Parameters	Limit for class SW II rivers as per CPCB classification based on designated best use of rivers
pH	6.5-8.5
Turbidity (NTU)	30 NTU
Dissolved Oxygen (mg/l)	4 mg/l or more
BOD (mg/l)	3 mg/l or less
Fecal Coliform (MPN/100ml)	100 or less MPN/100ml
Fecal Streptococci (MPN/100ml)	-

January 2018- December 2018

RIVER SAL AT KHAREBAND,MARGAO Jan 18- May 18						
	pH	Turbidity (NTU)	Dissolved Oxygen (mg/l)	BOD (mg/l)	Fecal Coliform (MPN/100ml)	Fecal Streptococci (MPN/100ml)
Jan-18	6.91	7.0	2.0	5.8	24000	-
Feb-18	6.69	26	BDL	4.0	24000	-
Mar-18	Sample Not collected due to excessive growth of Water Hyacint					
Apr-18						
May-18						
Inference : DO is below permissible limit from Jan-Feb , BOD is exceeding the permissible limit for the month of Jan-Feb . Fecal Coliform is exceeding the permissible limit from Jan -Feb						

RIVER SAL AT KHAREBAND,MARGAO June 18-Sep 18						
	Sample Not collected due to excessive growth of Water Hyacint					
Jun-18	Sample Not collected due to excessive growth of Water Hyacint					
Jul-18	7.31	2.74	2.7	BDL	17000	-
Aug-18	6.77	4.18	3.6	2.7	-	-
Sep-18	6.95	12.06	2.2	BDL	35000	-
Inference : DO is below permissible limit from July-Sep ,Fecal Coliform is exceeding the permissible limit from July-Sep						

RIVER SAL AT KHAREBAND,MARGAO Oct 18-Dec 18						
Oct-18	6.6	10.16	1.8	2.0	35000	-
Nov-18	6.86	4.2	1.9	BDL	35000	-
Dec-18	7.48	5.8	BDL	5.0	17000	-

Inference : DO is below permissible limit from Oct-Dec , BOD is exceeding the permissible limit for the month Dec , Fecal Coliform is exceeding the permissible limit from Oct-Dec

January 2019- December 2019

RIVER SAL AT KHAREBAND,MARGAO Jan 19- May 19						
Jan-19	Dry					
Feb-19	7.9	25.2	BDL	6.0	35000	-
Mar-19	Sample Not collected due to excessive growth of Water Hyacint					
Apr-19						
May-19						
Inference : DO is below permissible limit for the month of Feb, BOD and Fecal Coliform is exceeding the permissible limit for the month of Feb						
RIVER SAL AT KHAREBAND,MARGAO June 19-Sep 19						
Jun-19	6.4	7.02	2.5	BDL	-	-
Jul-19	6.3	7.2	2.3	BDL	7900	-
Aug-19	7.8	BDL	4.1	BDL	7900	-
Sep-19	6.8	2.79	4.0	2.0	7900	-
Inference : pH is below permissible limit for the month of June and July , DO is below permissible limit for the month of June and July ,Fecal Coliform is exceeding the permissible limit from July to Sep						
RIVER SAL AT KHAREBAND,MARGAO Oct 19-Dec 19						
Oct-19	7.2	1.31	1.2	3.6	4900	>1601
Nov-19	6.7	4.63	BDL	3.4	11000	33
Dec-19	6.7	4.01	BDL	5.0	17000	>1601
Inference : DO is below permissible limit for the month of Oct- Dec , BOD and Fecal Coliform is exceeding the permissible limit from Oct - Dec						

January 2020- December 2020

RIVER SAL AT KHAREBAND, MARGAO Jan 20- May 20						
Jan-20	6.6	10.41	BDL	6.0	13000	>1601
Feb-20	6.7	6.95	BDL	3.6	7900	>1601
Mar-20	Sample Not collected due to excessive growth of Water Hyacinth					
Apr-20						
May-20						
Inference : DO is below permissible limit for the month of Jan and Feb , BOD and Fecal Coliform is exceeding the permissible limit from Jan and Feb						
RIVER SAL AT KHAREBAND, MARGAO June 20-Sep 20						
Jun-20	Sample Not collected due to excessive growth of Water Hyacinth					
Jul-20	6.80	7.87	4.7	BDL	7000	48
Aug-20	7.23	3.64	4.3	BDL	4900	541
Sep-20	6.86	6.87	4.0	BDL	5800	47
Inference : Fecal Coliform is exceeding the permissible limit from July to Sep						
RIVER SAL AT KHAREBAND, MARGAO Oct 20-Dec 20						
Oct-20	6.72	7.23	2.8	3.1	4900	1601
Nov-20	6.77	16.79	2.5	BDL	4900	>1601
Dec-20	6.67	17.19	5.6	BDL	4900	541
Inference : DO is below permissible limit for the month of Oct and Nov , BOD is exceeding the permissible for Oct . Fecal Coliform is exceeding the permissible limit from Oct to Dec						

January 2021- september 2021	RIVER SAL AT KHAREBAND, MARGAO Jan 21- May 21						
	Jan-21	6.82	4.38	BDL	6.0	2300	541
	Feb-21	6.80	8.37	BDL	3.9	35000	541
	Mar-21	6.53	51.4	1.3	4.2	17000	921
	Apr-21	7.02	59.5	BDL	4.8	4900	1601
	May-21	7.80	22.7	BDL	5.8	7900	>1601
	Inference : Turbidity is exceeding the permissible limit from March to Apr . DO is below permissible limit from Jan to May, BOD is exceeding the permissible limit from Jan to May, Fecal Coliform is exceeding the permissible limit from Jan to May						
	RIVER SAL AT KHAREBAND, MARGAO June 21-Sep 21						
	Jun-21	7.50	70.5	1.2	4.8	4900	>1601
	Jul-21	6.90	88.8	3.9	BDL	7900	790
	Aug-21	6.52	17.38	4.6	BDL	7000	1300
	Sep-21	7.37	19.21	4.4	BDL	4900	790
	Inference : Turbidity is exceeding the permissible limit from June to July . DO is below permissible limit from June to July, BOD is exceeding the permissible limit for June, Fecal Coliform is exceeding the permissible limit from June to Sep						

BDL- BELOW DETECTION LIMIT

MONITORING LOCATION no.2 RIVER SAL AT MOBOR (2018-2021)

RIVER SAL AT MOBOR	
Parameters	Limit for class SW II rivers as per CPCB classification based on designated best use of rivers
pH	6.5-8.5
Turbidity (NTU)	30 NTU
Dissolved Oxygen (mg/l)	4 mg/l or more
BOD (mg/l)	3 mg/l or less
Fecal Coliform (MPN/100ml)	100 or less MPN/100ml
Fecal Streptococci (MPN/100ml)	-

January 2018- December 2018

RIVER SAL AT MOBOR Jan 18- May 18

	pH	Turbidity (NTU)	Dissolved Oxygen (mg/l)	BOD (mg/l)	Fecal Coliform (MPN/100ml)	Fecal Streptococci (MPN/100ml)
Jan-18	7.98	5.0	6.2	BDL	200	-
Feb-18	7.04	12.0	4.8	BDL	3300	-
Mar-18	8.1	4.0	5.8	BDL	1300	-
Apr-18	7.9	2.93	5.7	BDL	200	-
May-18	7.61	3.16	6.4	BDL	200	-

Inference : Fecal Coliform is exceeding the permissible limit from Jan -May

RIVER SAL AT MOBOR June 18-Sep 18

Jun-18	7.48	11.04	5.9	BDL	4900	-
Jul-18	7.28	7.43	6.3	BDL	4900	-
Aug-18	7.4	3.89	5.8	BDL	-	-
Sep-18	7.95	5.57	5.5	4.8	780	-

Inference : BOD is exceeding the permissible limit for the month of Sep.Fecal Coliform is exceeding the permissible limit from June -Sep

RIVER SAL AT MOBOR Oct 18-Dec 18

Oct-18	8.0	3.16	5.0	BDL	1300	-
Nov-18	7.18	2.05	8.0	3.0	1300	-
Dec-18	7.57	4.45	6.8	BDL	1300	-

Inference : Fecal Coliform is exceeding the permissible limit from Oct - Dec

January 2019- December 2019

RIVER SAL AT MOBOR Jan 19- May 19

Jan-19	8.0	2.42	6.4	BDL	330	-
Feb-19	7.8	1.84	7.2	2.5	230	-
Mar-19	7.5	4.45	6.8	BDL	1300	-
Apr-19	7.75	1.05	5.4	BDL	170	-
May-19	8.0	5.27	6.4	BDL	78	-

Inference : Fecal Coliform is exceeding the permissible limit from Jan - May

RIVER SAL AT MOBOR June 19-Sep 19

Jun-19	6.9	5.13	5.1	2.8	-	-
Jul-19	6.8	5.3	5.7	BDL	790	-
Aug-19	7.9	1.1	6.7	2.5	1300	-
Sep-19	7.5	1.23	7.2	2.6	130	-

Inference : Fecal Coliform is exceeding the permissible limit from July - Sept

RIVER SAL AT MOBOR Oct 19-Dec 19

Oct-19	7.7	1.29	5.1	BDL	790	15
Nov-19	7.5	5.3	5.5	BDL	3300	71
Dec-19	7.5	2.28	6.2	BDL	3300	541

Inference : Fecal Coliform is exceeding the permissible limit from Oct- Dec

January 2020- December 2020

RIVER SAL AT MOBOR Jan 20- May 20

Jan-20	7.9	6.61	6.0	BDL	3300	131
Feb-20	7.6	7.49	5.3	BDL	2200	241
Mar-20	7.1	64.1	4.9	BDL	2100	>1601
Apr-20	7.91	2.33	5.6	BDL	1300	-
May-20	7.72	16.73	5.0	BDL	1300	-

Inference : Turbidity is exceeding the permissible limit for March. Fecal Coliform is exceeding the permissible limit from Jan- May

RIVER SAL AT MOBOR June 20-Sep 20

Jun-20	7.82	13.78	6.0	BDL	1700	-
Jul-20	7.8	38.1	6.5	BDL	2700	351
Aug-20	6.89	25.81	6.4	BDL	1300	241
Sep-20	7.34	5.33	5.6	BDL	1100	>1601

Inference : Turbidity is exceeding the permissible limit for July. Fecal Coliform is exceeding the permissible limit from June- Sep

RIVER SAL AT MOBOR Oct 20-Dec 20

Oct-20	7.21	3.07	6.0	BDL	1700	921
Nov-20	7.70	2.72	4.3	BDL	2200	281
Dec-20	7.19	2.91	5.5	BDL	2200	80

Inference : Fecal Coliform is exceeding the permissible limit from Oct - Dec

January 2021- september 2021	RIVER SAL AT MOBOR Jan 21- May 21						
	Jan-21	7.56	4.79	4.8	BDL	2200	351
	Feb-21	7.65	4.53	7.1	BDL	780	111
	Mar-21	7.60	2.59	5.7	2.2	1100	431
	Apr-21	7.36	11.74	5.3	BDL	1100	541
	May-21	6.1	9.54	4.0	2.5	1300	351
	Inference : Fecal Coliform is exceeding the permissible limit from Jan -May						
	RIVER SAL AT MOBOR June 21- Sep 21						
	Jun-21	7.6	7.74	5.8	BDL	2200	281
	Jul-21	6.9	8.95	6.9	BDL	490	130
	Aug-21	7.08	4.86	7.5	BDL	790	130
	Sep-21	7.39	10.41	6.3	BDL	790	140
	Inference : Fecal Coliform is exceeding the permissible limit from June- Sep						

BDL- BELOW DETECTION LIMIT