

National Mission for Clean Ganga - NMCG

Format for submission of Monthly Progress Report (MPR) in the NGT Matter O.A.

No. 673 of 2018 (in compliance to NGT order dated 24.09.2020)

NGT has disposed-off the said matter vide its Order dated 22nd February 2021

State of GOA

Overall status of the State:

I. Total Population: Urban Population & Rural Population separately.

Urban Population:- 9,37,788 and Rural Population:-5,20,757. (Census 2011)

II. Estimated Sewage Generation (MLD): **112.53 MLD** (Urban area only)

III. Details of Sewage Treatment Plant:

- Existing no. of STPs and Treatment Capacity (in MLD): **09 STPs' with 78.35 MLD capacity**
- Capacity Utilization of existing STPs: **29.57 MLD**.
- MLD of sewage being treated through Alternate technology: In state of Goa where sewer network is not available, Septic-tank- Soak-pit arrangement is adopted. Many Hotels and residential buildings (with 50 rooms / flats & above) have their own Treatment Plant (as mandated under the TCP Act 2010). Sulabh toilets (PWD) are provided for group of houses/community and Bio-toilets have been provided under Open Defecation Free (ODF) policy in the State.
- Gap in Treatment Capacity in MLD: **Negligible**.
- No. of Operational STPs': **09 nos.**
- No. of Complying STPs': **09 nos.**
- No. of Non-complying STPs': **NIL**

Details of each existing STP in the State

No.	Location	Existing STP Capacity	Capacity Being Utilized	Operational Status of STP	Compliance Status of STP
1.	Shirvodem, Navelim.	20 - MLD	08 - MLD	Operational	Complied-with
2.	Vasco	20 – MLD	06.50 - MLD	Operational	Complied-with
3.	Durbhat	01 – MLD	0.4 – MLD	Operational	Complied-with
4.	Goa Medical College	1.35 MLD	0.5 – MLD	Operational	Complied-with

	(GMC)				
5.	Sancoale	01 – MLD	01 – MLD	Operational	Complied-with
6.	Sanquelim	0.8 – MLD	0.15 – MLD	Operational	Complied-with
7.	Tonca, Panaji	12.5 – MLD	10 – MLD	Operational	Complied-with
8.	Tonca, Panaji	15 – MLD	02 – MLD	Operational	Complied-with
9.	Shirvodem- Navelim	6.7 – MLD	1.2 – MLD	Operational	Complied-with
Total		78.35 MLD	29.57 MLD : Last-month, capacity being utilised was 29.75 MLD		

Details of under construction STPs in the State

No.	Location	Capacity of the plant in MLD	Physical Progress (in %)	Status of I&D or House sewer connections	Completion Timeline
1	Kavlem, Ponda	15 –MLD	96% (no change since last-month) of civil works STP completed and Electrical / Mechanical works 75% (+5% changes since last-month) completed. Around 95% (no change since last-month) of the sewer-network is completed.	House Sewer-connection works are Tendered and road-crossing work in in-progress.	May 2022 (revised from December 2021)
2	Colva	7.5 – MLD	85% (no change since last-month) of sewer-network is completed. STP trial-run completed and awaiting for the completion of work of effluent disposal line which is in-progress (2.8 kms. Completed).	House Sewer-connection works started.	
3	Patto, Panaji	02 – MLD	89% (no change since last-month) completed physical progress.	100% completed	
4	Mapusa	5.4 – MLD	96% (+1% change since last-month) progress	House Sewer-connection works in Mapusa are	

5	Baga	5.6 – MLD	100% completed during last-month only.	Tendered and Road-crossing yet to commence (awaiting road-cutting permission).	(revised from December 2021)
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Details of proposed STPs in the State

No.	Location	Capacity of the STP proposed in MLD	Status of Project (at DPR Stage/ Under Tendering/ Work to be Awarded)	Likely Date of Completion
1.	Undir, Bandora	15 – MLD	STP work could not be started due to local issues. Around 65% (no change since last-month) of the sewer-network is completed.	16-months time-period required from start of work.
2.	Curti, Ponda	08- MLD	STP work could not be started due to local issues. Around 92% (no change since last-month) of the sewer-network is completed.	
3.	Porvorim	20 – MLD	STP work could not be started due to local issues. Around 80% (no change since last-month) of the sewer-network is completed.	

* Above data does not include any packaged treatment plants /sulabh-toilets and Bio-toilets

IV. Details of Industrial Pollution:

- No. of industries in the State: 8,611
- No. of water polluting industries in the State: Nil
- Quantity of effluent generated from the industries in MLD:
- Quantity of Hazardous Sludge generated from the Industries in TPD:
- Number of industrial units having ETPs: 209
- Number of industrial units connected to CETP: State does not have any CETP
- Number and total capacity of ETPs (details of existing/ under construction / proposed)
- Compliance status of the ETPs: 207
- Number and total capacity of CETPs (details of existing/ under construction / proposed) : State does not have any CETP
- Status of compliance and operation of the CETPs : Not Applicable in view of above.

Town	No. of industries	Industrial discharge	Status of ETPs	Status of CETPs (existing, under construction & proposed)
Not Applicable				

V. Solid Waste Management:

- Total number of Urban Local Bodies and their Population: *As referred in MPR for the month ending December 2020.*
- Current Municipal Solid Waste Generation: **766 tons per day (TPD)** – *as per the waste characterization report, 2018.*
- Number, installed capacity and utilization of existing MSW processing facilities in TPD (*bifurcated by type of processing e.g.- Waste to Energy (Tonnage and Power Output), Compost Plants (Windrow, Vermi, decentralized pit composting), biomethanation, MRF etc., Refer Annexure - A.*
- Action plan to bridge gap between Installed Capacity and Current Utilization of processing facilities (if Gap > 20%): **Refer Annexure – B.**
- No. and capacity of C&D waste processing plants in TPD (*existing, proposed and under construction*): State has proposed 500-TPD capacity C & D waste processing plant at Cudchirem in Bicholim, North Goa district.
- Total no. of wards, no. of wards having door-to-door collection service, no. of wards practicing segregation at source: *As referred in MPR for the month ending November 2020.*
- Details of MSW treatment facilities proposed and under construction (*no., capacity, and technology*): **Refer Annexure – B.**
- No. and area (*in acres*) of uncontrolled garbage dumpsites and Sanitary Landfills.: **N.A.**
- No. and area (*in acres*) of legacy waste within 1-km buffer of both sides of the rivers: **Nil.**
- No. of drains falling into rivers and no. of drains having floating racks/screens installed to prevent solid waste from falling into the rivers: **Nil.**

Status of ULB wise Management of Solid Waste

ULB	Total MSW generation in TPD	Total MSW being processed in TPD	Existing MSW facilities	Utilization Capacity of the existing MSW facilities	Proposed MSW Facilities & Completion Timeline
As referred in MPR for the month ending-November 2020.					

VI. Bio-medical Waste Management: *As per Annual report*

- Total Bio-medical generation: 2,992 kgs. per day (*bio-medical waste*) / 17,179 kgs. per day (*sanitary waste*).
- No. of Hospitals and Health Care Facilities: **Refer Annexure – C.**
- Status of Treatment Facility/ CBMWTF: **Refer Annexure – B.**

VII. Hazardous Waste Management:

- Total Hazardous Waste generation:
 - (a) Incinerable waste : 39,379.80 TPA
 - (b) Land-fillable waste : 3,385.21 TPA
 - (c) Recyclable waste : 33,095,57 TPA
 - Total : 77,056.58 TPA.
- No. of Industries generating Hazardous waste : **1,628 nos.**
- Treatment Capacity of all TSDFs : **16,846 metric tons per year.**
- Avg. Quantity of Hazardous waste reaching the TSDFs and Treated: **Currently, majority of the HW-generated is disposed through Inter-State movement by recycling / utilization / disposal at common secured landfill site / common incinerator / co-processing to neighboring States under valid agreement.**
- Details of on-going or proposed TSDF : **The State has initiated the process to set-up Common Hazardous Waste Treatment Facility at Pissurlem Industrial Estate.**

VIII. Plastic Waste Management:

- Total Plastic Waste generation: **80.66 Tons per day (TPD)** – *as per the waste characterization report, 2018.*
- Treatment/ Measures adopted for reduction or management of plastic waste: **Establishment of Material Recovery facility (MRF) as well as Baling facilities (03 nos.).**

IX. Details of Alternate Treatment Technology being adopted by the State/UT: **The State has proposed to set-up Plastic-to-Fuel plant at Pernem Municipal Council (North Goa) on a trial-basis.**

X. Identification of polluting sources including drains contributing to river pollution and action as per NGT order on in-situ treatment: **There is no industrial discharge within any of the polluted river-stretches.**

XI. Details of Nodal Officer appointed by Chief Secretary in the State/UT: **Secretary, Environment is a Nodal Officer to be assisted by Director, Department of Environment & Climate Change (DoE & CC), Goa.**

XII. Details of meetings carried under the Chairmanship Chief of Secretary in the State/UT: **The State, in compliance to the NGT Order in a matter of 606 of 2018 (SWM-related matters & Ors.), has constituted the State Level Committee (SLC) under the Chairmanship of Chief Secretary who takes the review on regular-basis. Last such review was taken in the month of September 2021.**

- XIII.** Latest water quality of polluted river, its tributaries of polluted river; **refer Annexure – D.**
- XIV.** Ground water regulation: (a) Ground Water Act, 2002 is enacted in the State of Goa, (b) Ground water extraction is being monitored, (c) It is mandatory to register all the ground water structures in the State, (d) Commercial ground water extraction is levied with water tax, (e) Goa is declared as ‘Safe zone’ under the Ground water development by the Central Ground Water Board (CGWB), (f) guidelines issued by the Central Ground Water Board (CGWB) is implements. Expected level of compliance – 100%, **Actual compliance – 100%, Target – Target – achieved.**
- XV.** Good irrigation practices being adopted by the State: Water User Associations (WUAs’) are formed to economise the use of water. - Expected level of compliance: 80%, **Actual compliance: 65% (No change since September 2021), Target: May 2022** (target revised from December 2021 to May 2022 due to COVID-19 restrictions).
- XVI.** Rain Water Harvesting: Industries, through the Department of Industries, Trade & Commerce (DITC) are being encouraged to adopt to rainwater harvesting. Due to excessive rainfall (*i.e. 160 inches per year*) shortage of land and groundwater being in ample quantity. Not many takers. In addition, the Town and Country Planning (TCP) Department has made roof-top rainwater harvesting mandatory for multi-dwelling units as well as residential-cum-commercial complexes. - Expected level of compliance: 50%, **Actual compliance: 20% (no change since January 2021), Target: May 2022** (target revised from December 2021 to May 2022 due to COVID-19 restrictions).
- XVII.** Demarcation of Floodplain and removal of illegal encroachments - Expected level of compliance: 100%, **Actual compliance: 100%, (+ 2% increase since last-month), Target: Achieved** (Demarcation completed).
- XVIII.** Maintaining minimum e-flow of river: Rivers are perennial. **There is no issue of e-flow in major rivers.**
- XIX.** **Plantation activities along the rivers:** *No change since last-month.*
- XX.** **Development of Biodiversity Park:** *No change since last-month.*
- XXI.** **Reuse of Treated Water:** *No change since last-month.*
- XXII.** **Model River being adopted by the State & Action Proposed for achieving the bathing quality standards:** River Sal and River Valvonti. Polluting drains joining the river have been identified, treated / filtered. De-weeding and desilting is being proposed including aeration of the stored water. Expected level of compliance 100 %. **Actual Compliance - 100%. Target – achieved.**
- XXIII.** **Status of Preparation of Action Plan:** All the action plans prepared for eleven polluted river-stretches have been approved by CPCB (*i.e. in case of priority criteria – III : 01 stretch – Sal*

river) and RRC-Goa (*i.e. in case of priority criteria IV & V : remaining 10-stretches*). Accordingly, Action Plan Strategies (APSs'), *referred in these action plans*, are being regularly reviewed by the Secretary, Environment in the capacity as Chairman, RRC-Goa.

XXIV. Regulation of Mining Activities in the State/UT: It is being monitored as per Hon'ble Supreme Court Directives through the Department of Mines and Geology (DMG).

XXV. Action against identified polluters, law violators and officers responsible for failure for vigorous monitoring: Ground water and river waters are monitored under Goa Ground Water Act, 2002 and Goa Irrigation Act, 1973 respectively by Ground Water and Canal Officers respectively. : Expected level of compliance: 100%, **Actual compliance: 100%**, **Target – achieved.**

Annexure A

Number, installed capacity and utilization of existing GWMC MSWS sorting and baling processing facilities in TPD:

1. MRF facilities

- i. Verna MRF facility: ~**8 TPD** (*dry waste*)
- ii. Cacora MRF facility: ~**5 TPD** (*dry waste*)
- iii. Bicholim MRF facility: ~**8TPD** (*dry waste*)

2. **Integrated Solid Waste Management Facility (SWMF)** of 150 tons per day (TPD) at Saligao and currently work is in progress of enhancing from existing 150-TPD to 250-TPD (+20%), **present 98% (+13% change since last-month) is completed. Plant is inaugurated on 20th December 2021. Trial-runs are in progress for 02 months.**

Annexure B

Sr. No.	Project	Details		Status	Timeline
1	Enhancement of Integrated Solid Waste Management Facility – Saligao	Capacity : Catering to : Cost of the Project	250 TPD (+20%) Bardez, Pernem, Bicholim & Sattari Talukas 103.87 Cr	<p>Part enhancement of Integrated Solid Waste Management Facility (SWMF) from <i>100 tons per day (TPD)</i> to <i>150 tons TPD</i> is completed and currently is in process of enhancing from existing 150-TPD to 250-TPD (+20%).</p> <ul style="list-style-type: none"> • Electro-mechanical equipment installation is completed. • Current completion status is 98% (+13% change since last-month). • 250 TPD Plant inaugurated on 20th December 2021, and currently trial runs of plant are in progress for 2 months. 	December 2021
2	Integrated Solid Waste Management Facility – Cacora	Capacity : Catering to : Cost of the Project	100 TPD (+25%) Sanguem, Dharbandora, Quepem & Canacona Talukas 173.98 Cr	<ul style="list-style-type: none"> • Foundation works of MSRC shed, digester-tank, STP, gas-engine building completed. • Casting of both Digester-tanks completed and Construction of solar-drying shed completed. • Bag-opener and wind-sifter, digester-mixers, sedimentation-tanks received at site. • MSRC shed civil works in progress. • Current completion status is 70% of civil works (+7% change since last-month). • The concessionaire has sought extension in project completion timeline by 3 months due to incessant monsoons in 2021 in Goa and Covid-induced restrictions and lockdowns which resulted in disruptions in supply chain. Board of Directors have approved the extension till March-2022. 	Revised timeline is March 2022.
3	Integrated Solid Waste Management Facility- Bainguinim	Capacity : Catering to:	250 TPD (+20%) Tiswadi & Ponda Talukas	<ul style="list-style-type: none"> • Environmental Clearance (EC) has been granted. • RFQ has been floated on 21/09/2020 and RFQ bid opened on 15/02/2021. Three bids were received. However, none of the bids are fulfilling the minimum eligible criteria and / or have not submitted all mandatory documents. • Expert Committee meeting was held on 31/05/2021 to finalize the technical specification of the revised RFQ and minutes approved on 20th June 2021. After approval of revised RFQ by GWMC TASC on 20/07/2021, RFQ was floated on 28/07/2021. • Pre application conference was held on 20th August 2021 and minutes / clarification have been uploaded online on 28/09/2021. • RFQ opened on 22/10/2021 and scrutiny of Bidder-documents is in-process. • A Civil Appeal No. 4983 of 2021 with interlocutory application no. 105533 of 2021 (application for stay) has been instituted in Hon'ble Supreme Court of India by Bainguinim Citizen Forum V/s GWMC & others. Hearing was on 17/11/2021. Next hearing on 20 – 01 – 2022. 	Proposed timeline for completion is October 2022.

4	Solid Waste Management Facility – Verna (250 TPD + 20%)	Capacity 250 TPD (+20%)	<ul style="list-style-type: none"> • Work order to conduct Environment Impact Assessment (EIA) Studies for 250 TPD + 20% Integrated Solid Waste Management Facility & Waste-to-Energy has been issued to M/S Sadekar Enviro Engineers Pvt. Ltd., • Final EIA report submitted on 10-12-2021 and file has been sent to Internal Auditor for scrutiny • The proposal for appointment of IVL Swedish Environmental Research for carrying out pre-feasibility studies for setting up Waste to Energy Facility in Goa for the amount of 35,000 Euros (<i>exclusive of any value-added tax</i>) on nomination basis is approved in Cabinet meeting. • Agreement is placed for vetting from legal and treaties division of the Ministry of External Affairs. Vetting at L&T division of MEA has been done and NOC issued by the MEA on 01 – 12 – 2021. Agreement has been signed with IVL in December 2021 and IVL has started its pre-feasibility study. 	Upon grant of Environmental Clearance (EC), GWMC shall float tender for SWMF 250 TPD.
5	Construction & Demolition Waste Management Facility – Bicholim	Capacity: 500 TPD Land:44,478 sqm Catering to: State of Goa	<ul style="list-style-type: none"> • GWMC has taken the possession of revenue, land under survey no 146/2,3,4,6 and 148/2,6,7 at Curchirem Village in Bicholim taluka. • Whereas it has been observed that there are names in Form I & XIV of the aforementioned survey number under another rights column as lessee. Hence, the matter was placed before Collector North to grant the land free from all encumbrances. • Further matter regarding demarcation of this land is going on before the Dy. Collector Bicholim. Subsequently, <u>07 hearings (+2 since last-month)</u> have been conducted and out of 27 opponents only 2 opponents have been objected. Order to be passed by Dy. Collector of demarcation after which fencing, security-cabin will be set-up. • Meantime, GWMC has requested the District Magistrate, North Goa Collectorate to hand over the said land to GWMC without any encumbrances after following due procedure prescribed under law, the said matter has been forwarded to the Deputy Collector/SDO Bicholim for necessary action. Awaiting Order from Deputy Collector, Bicholim. • GWMC received objection from VP Ona-Maulinguem, Bicholim dated 23/06/2020 for setting up garbage/MSW facility. Hence, letter has been sent on 12/10/2020 to the VP informing that the plant is not for garbage/MSW and instead for C&D facility. • The Demarcation Order has been passed on 29th January 2021 by Dy. Collector & SDM (Bicholim). The demarcation order has been forwarded to ISLR, Bicholim for inspection and demarcation. The demarcation was fixed on 05/05/2021 at 10.30 a.m. However, due to section 144 imposed and implementation of curfew, the said work was postponed. Demarcation date is fixed on 2nd August 2021 by ISLR Bicholim. 	GWMC shall float tender for setting up C & D Waste Management Facility by December-2021 due to delay in site clearance from Revenue Department and construction work towards the same shall commence by May- 2022 and to be completed in 18 months i.e., December 2023 after getting the land without any encumbrances including trial operation.

				<ul style="list-style-type: none"> On 02/08/2021, however the demarcation had to be suspended due to the objection raised by local village residents during the demarcation process. Meantime GWMC office has requested ISLR, Bicholim to submit the work status and refix the demarcation date along with police protection. Re-demarcation date has been fixed by ISLR on 07-01-2022 along with necessary police protection. Final draft copy of DPR has been submitted by SINTEF on 04.02.2021 which has been approved in Board of Directors meeting held on 15/04/2021. Subsequently, DPR was before TASC for scrutiny and for technical clearance in July and queries raised by TASC committee have been forwarded to SINTEF for clarification. The District Collector (North) has identified quarry in Tuem for back-filling with inert Construction debris and Demolition wastes (<i>i.e. C & D waste</i>). GWMC had constructed portable cabinet at Tuem site and accordingly informed Corporation of Panaji (CCP) to start disposing C & D wastes with proper S.O.P. as issued by the Collector –North Goa district and GWMC. Also, solar based electrical connection provided at security cabin at Tuem. Deposition of C & D waste at Tuem quarry has started from November 2021. Regarding tender for fencing and security-cabin at Bicholim, the tender has been finalized and work order will be issued post demarcation. Re-demarcation date is not yet received by ISLR, Bicholim. 	
6	Common Bio-Medical Waste Treatment Management facility (CBMWTF)	Capacity	200 kgs. Per. hour incinerators	<ul style="list-style-type: none"> The concessionaire has installed and setup the Incinerator, Autoclave, Boiler, shredder, ETP, APCD, Chimney, Plastic Recycling plant to reduce/ recycle the treated plastic scrap and other machinery that are required for treatment of Bio-Medical Waste Plant has started operations and Bio-Medical waste collection will be started by plant operator within the state of Goa from October 2021. Trial-runs and signing of service-agreements with Health Care Facilities (HCFs’) are in-process. Currently 100% of project is completed. 	December 2021 <i>(Project completed within the timeline proposed)</i>
7	Common Hazardous Waste Treatment Storage and Disposal Facility (CHWTSD)	Capacity	25,000 TPA Secured Landfill (SLF) & 1.5 ton/hr incinerators	<ul style="list-style-type: none"> Phase 1: Completed, <i>i.e.</i> secured landfill - 1 (SLF1), storage shed - 1, weigh bridge, wheel washing, security cabin, laboratory. GSPCB has granted consent to operate of SLF1 on 31/03/2021. ETP ready for commissioning. Phase 2: 72%) completed (+2% since last-month). The operator has requested that as Ministry of Home Affairs had invoked force majeure clause and due to disruptions in supply chains during covid induced lockdowns, and also due to incessant monsoons in 2021 in Goa, operator has requested extension in timeline for completion of phase 2 till April-2022. 	Landfill - 1 commissioned on March 2021. Project was scheduled to be completed by December 2021. However, operator

					has requested extension in timeline till April-2022.
8	Design-Build and Operate an E-Waste Management (Collection, Storage and Dismantling)	Capacity	15 - TPD	<ul style="list-style-type: none"> • Tender for selection of service provider for Design-Build and Operate an E-Waste Management (<i>Collection, Storage and Dismantling</i>) for the State of Goa was floated on 06/07/2020. • Technical bid was opened on 30th November 2020. • Technical presentation before the TEC of technical proposal held on 27th January-2021. • Financial Bid of the single bid tender was opened on 11/03/2021 • Work Order is issued to the contractor dated 27/08/2021. • GWMC has executed Deed of Lease Agreement with Goa Industrial Development Corporation (GIDC) on 17-12-2021. Registration of the same with Sub-registrar Office Sattari is in process. 	March 2022

Annexure C

Total Number of Hospitals & healthcare facilities:

- The State of Goa has 50 public healthcare facilities (*excluding veterinary & dispensaries*) with a total bed capacity of 3159.
- Total number of non-bedded facilities under public healthcare systems are 14 dispensaries.
- Goa has 102 facilities under the category of private healthcare with a total bed capacity of 2443.
- The total beds currently available under both public and private sector are 5602.
- Goa has one dental college under public healthcare and 251 dental clinics across the state under private health care system.
- The state also has 5 veterinary hospitals and 25 clinics under public facilities and 27 pet clinics under the category of private facilities.
- Apart from bedded facilities in private sector the state also has approximately 482 non bedded facilities (excluding dental clinics) that cater to consultations, observation, diagnostics and select treatment.

Annexure D

DATA of 11 Polluted River Stretches for Major Rivers of December 2021

1.RIVER CHAPORA NEAR ALORNA FORT, PERNEM

Sr.No.	Parameters	Dec-21	Limit for class C rivers as per CPCB classification based on designated best use of rivers
1	pH	6.2	6.0-9.0
2	Dissolved Oxygen (mg/l)	7.4	4 mg/l or more
3	BOD (mg/l)	BDL	3 mg/l or less
4	Total Coliform (MPN/100ml)	2400	5000 or less MPN/100ml
5	Fecal Streptococci (MPN/100ml)	330	-

Remarks: All parameters are within permissible limits.

RIVER CHAPORA NEAR SIOLIM BRIDGE

Sr.No.	Parameters	Dec-21	Limit for SW II rivers as per CPCB classification based on designated best use of rivers
1	pH	8.28	6.5-8.5
2	Turbidity(NTU)	5.04	30 NTU
3	Dissolved Oxygen (mg/l)	6.1	4 mg/l or more
4	BOD (mg/l)	BDL	3 mg/l or less
5	Fecal Coliform (MPN/100ml)	2200	100 or less MPN/100ml
6	Fecal Streptococci (MPN/100ml)	280	-

Remarks: Fecal Coliform is exceeding the permissible limit for the month of December 21.

2.RIVER TIRACOL AT KERI, PERNEM

Sr.No.	Parameters	Dec-21	Limit for SW II rivers as per CPCB classification based on designated best use of rivers
1	pH	8.12	6.5-8.5
2	Turbidity(NTU)	4.12	30 NTU
3	Dissolved Oxygen (mg/l)	6.8	4 mg/l or more
4	BOD (mg/l)	BDL	3 mg/l or less
5	Fecal Coliform (MPN/100ml)	790	100 or less MPN/100ml
6	Fecal Streptococci (MPN/100ml)	79	-

Remarks: Fecal Coliform is exceeding the permissible limit for the month of December 21.

3.RIVER SINQUERIM, CANDOLIM SIDE

Sr.No.	Parameters	Dec-21	Limit for SW II rivers as per CPCB classification based on designated best use of rivers
1	pH	7.15	6.5-8.5
2	Turbidity(NTU)	5.73	30 NTU
3	Dissolved Oxygen (mg/l)	5.5	4 mg/l or more
4	BOD (mg/l)	BDL	3 mg/l or less
5	Fecal Coliform (MPN/100ml)	1300	100 or less MPN/100ml
6	Fecal Streptococci (MPN/100ml)	280	-

Remarks: Fecal Coliform is exceeding the permissible limit for the month of December 21.

RIVER SINQUERIM, NEAR GANPATI TEMPLE

Sr.No.	Parameters	Dec-21	Limit for SW II rivers as per CPCB classification based on designated best use of rivers
1	pH	7.22	6.5-8.5
2	Turbidity(NTU)	6.12	30 NTU
3	Dissolved Oxygen (mg/l)	5.3	4 mg/l or more
4	BOD (mg/l)	BDL	3 mg/l or less
5	Fecal Coliform (MPN/100ml)	1100	100 or less MPN/100ml

6	Fecal Streptococci (MPN/100ml)	170	-
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Remarks: Fecal Coliform is exceeding the permissible limit for the month of December 21.

4.RIVER ZUARI AT MADKAI JETTY

Sr.No.	Parameters	Dec-21	Limit for SW II rivers as per CPCB classification based on designated best use of rivers
1	pH	7.31	6.5-8.5
2	Turbidity(NTU)	7.33	30 NTU
3	Dissolved Oxygen (mg/l)	6.5	4 mg/l or more
4	BOD (mg/l)	BDL	3 mg/l or less
5	Fecal Coliform (MPN/100ml)	1300	100 or less MPN/100ml
6	Fecal Streptococci (MPN/100ml)	230	-

Remarks: Fecal Coliform is exceeding the permissible limit for the month of December 21.

RIVER ZUARI AT BORIM BRIDGE

Sr.No.	Parameters	Dec-21	Limit for SW II rivers as per CPCB classification based on designated best use of rivers
1	pH	6.85	6.5-8.5
2	Turbidity(NTU)	4.24	30 NTU
3	Dissolved Oxygen (mg/l)	6.5	4 mg/l or more
4	BOD (mg/l)	BDL	3 mg/l or less
5	Fecal Coliform (MPN/100ml)	2700	100 or less MPN/100ml
6	Fecal Streptococci (MPN/100ml)	700	-

Remarks: Fecal Coliform is exceeding the permissible limit for the month of December 21.

5.RIVER ASSANORA AT ASSANORA

Sr.No.	Parameters	Dec-21	Limit for class C rivers as per CPCB classification based on designated best use of rivers
1	pH	6.7	6.0-9.0
2	Dissolved Oxygen (mg/l)	6.9	4 mg/l or more
3	BOD (mg/l)	BDL	3 mg/l or less
4	Total Coliform (MPN/100ml)	790	5000 or less MPN/100ml
5	Fecal Streptococci (MPN/100ml)	49	-

Remarks: All parameters are within permissible limits.

6.RIVER VALVANTI AT SANQUELIM

Sr.No.	Parameters	Dec-21	Limit for class C rivers as per CPCB classification based on designated best use of rivers
1	pH	6.7	6.0-9.0
2	Dissolved Oxygen (mg/l)	8.2	4 mg/l or more
3	BOD (mg/l)	BDL	3 mg/l or less
4	Total Coliform (MPN/100ml)	1300	5000 or less MPN/100ml
5	Fecal Streptococci (MPN/100ml)	170	-

Remarks: All parameters are within permissible limits.

7.RIVER KHANDEPAR, OPA, PONDA

Sr.No.	Parameters	Dec-21	Limit for class C rivers as per CPCB classification based on designated best use of rivers
1	pH	7.14	6.0-9.0
2	Dissolved Oxygen (mg/l)	7.0	4 mg/l or more
3	BOD (mg/l)	BDL	3 mg/l or less
4	Total Coliform (MPN/100ml)	490	5000 or less MPN/100ml
5	Fecal Streptococci (MPN/100ml)	220	-

Remarks: All parameters are within permissible limits.

RIVER KHANDEPAR, CODLI

Sr.No.	Parameters	Dec-21	Limit for class C rivers as per CPCB classification based on designated best use of rivers
1	pH	7.19	6.0-9.0
2	Dissolved Oxygen (mg/l)	7.3	4 mg/l or more
3	BOD (mg/l)	BDL	3 mg/l or less
4	Total Coliform (MPN/100ml)	1400	5000 or less MPN/100ml
5	Fecal Streptococci (MPN/100ml)	350	-

Remarks: All parameters are within permissible limits.

8.RIVER BICHOLIM BARAZAN NAGAR, BICHOLIM

Sr.No.	Parameters	Dec-21	Limit for class C rivers as per CPCB classification based on designated best use of rivers
1	pH	6.89	6.0-9.0
2	Dissolved Oxygen (mg/l)	8.1	4 mg/l or more
3	BOD (mg/l)	BDL	3 mg/l or less
4	Total Coliform (MPN/100ml)	7000	5000 or less MPN/100ml
5	Fecal Streptococci (MPN/100ml)	790	-

Remarks: Total Coliform is exceeding the permissible limit for the month of December 21.

9.RIVER MANDOVI AT TONCA MARCELA

Sr.No.	Parameters	Dec-21	Limit for class SW II rivers as per CPCB classification based on designated best use of rivers
1	pH	7.18	6.5-8.5
2	Turbidity(NTU)	3.45	30 NTU
3	Dissolved Oxygen (mg/l)	6.3	4 mg/l or more
4	BOD (mg/l)	BDL	3 mg/l or less
5	Fecal Coliform (MPN/100ml)	790	100 or less MPN/100ml
6	Fecal Streptococci (MPN/100ml)	350	-

Remarks: Fecal Coliform is exceeding the permissible limit for the month of December 21.

10.RIVER TALPONA AT CANACONA

Sr.No.	Parameters	Dec-21	Limit for class C rivers as per CPCB classification based on designated best use of rivers
1	pH	7.11	6.0-9.0
2	Dissolved Oxygen (mg/l)	7.0	4 mg/l or more
3	BOD (mg/l)	BDL	3 mg/l or less
4	Total Coliform (MPN/100ml)	490	5000 or less MPN/100ml
5	Fecal Streptococci (MPN/100ml)	70	-

Remarks: All parameters are within permissible limits.

11.RIVER SAL AT KHAREBAND,MARGAO

Sr.No.	Parameters	Dec-21	Limit for class SW II rivers as per CPCB classification based on designated best use of rivers
1	pH	7.04	6.5-8.5
2	Turbidity(NTU)	21	30 NTU
3	Dissolved Oxygen (mg/l)	2.1	4 mg/l or more
4	BOD (mg/l)	BDL	3 mg/l or less
5	Fecal Coliform (MPN/100ml)	4900	100 or less MPN/100ml
6	Fecal Streptococci (MPN/100ml)	1400	-

Remarks: DO is below permissible limit and Fecal Coliform is exceeding the permissible limit for the month of December 21.

RIVER SAL AT MOBOR			
Sr.No.	Parameters	Dec-21	Limit for class SW II rivers as per CPCB classification based on designated best use of rivers
1	pH	7.04	6.5-8.5
2	Turbidity(NTU)	5.14	30 NTU
3	Dissolved Oxygen (mg/l)	5.6	4 mg/l or more
4	BOD (mg/l)	BDL	3 mg/l or less
5	Fecal Coliform (MPN/100ml)	790	100 or less MPN/100ml
6	Fecal Streptococci (MPN/100ml)	70	

Remarks: Fecal Coliform is exceeding the permissible limit for the month of December 21.

NOTE:

1)BDL- Below Detection Limit