வ.உ.சிதம்பரனார் துறைமுக ஆணையம்
वी.ओ. चिदम्बरनार पत्तन प्राधिकरण
V.O.CHIDAMBARANAR PORT AUTHORITY
पत्तन, पोत परिवहन और जलमार्ग मंत्रालय
MINISTRY OF PORTS, SHIPPING AND WATERWAYS
भारत सरकार GOVERNMENT OF INDIA
ADMINISTRATIVE OFFICE, HARBOUR ESTATE,
TUTICORIN 628 004, TAMIL NADU

IMS - ISO 9001:2015,
ISO 14001:2015,
ISO 45001:2018 &
ISPS COMPLIANT PORT

SAGARMALA
PORT-LED PROSPERITY

No.CIV-OFCQS-PLC-ENVIR-V1-19 Dated: 23.09.2022

To

The Director,
Regional Office,
Ministry of Environment, forest and Climate Change,
No 34 ,HEPC Building, No 34,
Cathedral Garden Road, Nungambakkam,
Chennai- 600034.

Sir,

Sub: Environmental Statement Form-V for the financial year ending 31st March 2022 – V.O.Chidambaranar Port Authority – reg.

Environment Statement, Form – V for the financial year ending 31st March 2022 as per Rule 14 of Environment Protection Rules 1986, pertaining to V.O.Chidambaranar Port Authority is enclosed herewith.

Yours faithfully,

CHIEF ENGINEER

FORM V

(See rule 14 of Environment (Protection) Rules, 1986)

Environmental statement for the financial year ending the 31st March 2022

PART – A

(i) Name and Address of the owner/occupier of the industry operation or process	:	Shri.T.K.Ramachandran, IAS V.O.ChidambaranarPort Authority, Ministry of Port Shipping and waterways, Trust, Bharathi Nagar, Harbor Estate, Tuticorin. Pin: 628004.
(ii) Industry category Primary – (STC Code) Secondary – (SIC Code)	:	Red Large
(iii) Production capacity – Units	:	Furnished in Annexure I Cargo handling during the year 2021-2022 is furnished vide Annexure-II
(iv) Year of Establishment	:	1979
(v) Date of last environmental statement submitted	:	29.09.2021

PART - B

Water and Raw Material Consumption

(i) Water consumption m^3/day

Process : NIL
Cooling : NIL
Domestic : 1958

Name of Products	**Process water consumption per unit of product output**	
	During the previous financial year2020-2021	**During the current financial year 2021-2022**
	(1)	(2)
Domestic/ Operational	777795 KL/year	714774 KL/year

(ii) Raw material consumption: Not applicable

Materials handling	Name of Products	Consumption of raw material per unit of output	
		During the previous financial year	During the current financial year
Not Applicable			

* Industry may use codes if disclosing details of raw material would violate contractual obligations, otherwise all industries have to name the raw materials used.

PART – C

Pollution discharged to environment/unit of output
(Parameter as specified in the consent issued)

(1) Pollutants	Quality of Pollutants discharged (mass/day)	Concentrations of pollutants discharges (Mass/volume)	Percentage of variation from prescribed standards with reasons
(a) Water		Analysis made on water, Air and Noise level monitoring through M/s Hubert Enviro care Pvt ltd, Chennai (Accredited to MoEF) is furnished as Annexure -VI	No Deviation
(b) Air		Analysis made on Air and Noise level monitoring through M/s Hubert Enviro care Pvt ltd, Chennai (Accredited to MoEF) is furnished as Annexure -VI	No Deviation
(c) Sea bed		Analysis made on Air and Noise level monitoring through M/s Hubert Enviro care Pvt ltd, Chennai (Accredited to MoEF) is furnished as Annexure -VI	No Deviation
(d) Noise		Analysis made on Air and Noise level monitoring through M/s Hubert Enviro care Pvt ltd, Chennai (Accredited to MoEF) is furnished as Annexure -VI	No Deviation

PART – D

Hazardous Wastes

(As specified under Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008)

Hazardous Wastes	**Total Quantity (MT)**	
	During the previous financial year 2020-2021	**During the current financial year 2021-2022**
3.1-Cargo residue, washing water and sludge containing oil	Nil	412
3.3-Sludge and filters contaminated with oil	Nil	21.66
3.4-Ballast water containing oil from ships	Nil	44.76
4.3-Slop oil	Nil	103.12
Used/spent oil (5.1)	20.180	Nil
5.2-Wastes or residues containing oil	Nil	171.66
Used batteries	25 Nos	41 Nos

PART – E

Solid Wastes

Solid Wastes	**Total Quantity**	
	During the previous financial year 2020-2021	**During the current financial year 2021-2022**
(a) From process (b) From pollution control facilities (c)(1) Quantity recycled or re-utilized within the unit (2) Sold (3) Disposed)	380 TPA	431 TPA

PART – F

Please specify the characteristics (in terms of consumption of quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes.

Waste Categories	Quantity/MT	Disposal Method
3.1-Cargo residue, washing water and sludge containing oil	412	Sold to TNPCB approved vendor
3.3-Sludge and filters contaminated with oil	21.66	Sold to TNPCB approved vendor
3.4-Ballast water containing oil from ships	44.76	Sold to TNPCB approved vendor
4.3-Slop oil	103.12	Sold to TNPCB approved vendor
Used/spent oil (5.1)	Nil	Sold to TNPCB approved vendor
5.2-Wastes or residues containing oil	171.66	Sold to TNPCB approved vendor
Used Batteries	41	Sold to TNPCB approved vendor
Electrical Waste	131 nos	Buy back system
Garbage	431	Composting adopted for organic waste (vermi compost)

PART – G

Impact of the pollution abatement measures taken on conservation of natural resources and on the cost of production.

Environmental Expenditure For the Year 2021-2022		
S.No	**Expenditure details**	**Amount (Rupees)**
1.	Sewage treatment plant Operation and maintenance charges	11,15,271.00
2.	wharf sewage transfer and area cleaning activity	27,95,785.00
3.	Manning, operation, Repair and Maintenance of water sprinkler system available at coal yard near green gate for a period of Three years	17,58,000.00
4.	Monitoring of Sea bed,sea water quality,ambient Air quality, noise Pollution & Potable water quality on V.O.Chidambaranar Port area.	4,88,976.00
5.	Operation & Maintenance of continuous online Ambient Air Quality Monitoring (CAAQM) stations at three different locations at V.O.C Port	18,87,996.00
6.	Green belt development at Port premises	66,50,000.00
7.	Clearing of Juliflora atV.O.Chidambaranar Port .	7,90,800.00
8.	Waste Management (garbage)	95,00,000.00
9.	Truck mounted fogging dust suppression system operation and maintenance	43,16,608.00
10.	Truck mounted sweeping machine operation and maintenance	1,38,80,000.00
11.	Corporate Social Responsibility	1,82,75,000.00
12.	Bio medical waste management	2,10,940.00
	Total	6,16,69,376.00

PART – H

Additional measures/investment proposal for environmental protection including Abetment of pollution prevention of pollution.

Port has entered into an agreement with CESL for wet leasing of e- Cars for a period of 6 years. Three numbers of e-cars have put into operation in by M/s Convergence Energy

V.O.Chidambaranar Port Authority is in the process of adoption of multi clean fuel vehicles in line with guidelines issued by MoPSW under MIV initiative.V.O.Chidambaranar Port Authority has entered into an agreement with CESL for wet leasing of e-Cars for the period 6 years. Three numbers of e-cars have put into operation through M/s Convergence Energy Services limited (CESL0 from August 2021 onwards. Based on the performance of the e-cars further port is willing to engage additional three numbers of e- cars.

PART – I

Any other particulars for improving the quality of the environment:

- V.O.C Port is the ISO certified port (ISO 9001:2008, ISO 14001:2015).
- Periodical Environmental monitoring is being done for air, water, noise and sea bed including of oily water through third party on monthly basis.
- Heavy Duty Road Sweeping machine 2 nos are provided for cleaning of road and cargo handling area to Minimize the dust emission.
- Heavy Duty Dust controller fogging machine truck mounted vehicle isprovided for the control of dust at coal yard, cargo handling area as well as road &street to minimize the air pollution.
- VOCPA has implemented Continuous Ambient Air Quality monitoring station in the Oil jetty, Coal yard, Center area of the port for continuous monitoring of Emission.
- Port hason-shore power supply to Ships to Ships calling at Port for reduction of emission at wharf area.
- Port has Installed 500 KW solar power plants atVOCPA port Building.
- Water Sprinkler, wind barrier, and truck based water spray had been implemented to minimize the Dustat wharf area as well as coal yard in and around.
- A full-fledged occupational health centre has been established in port Hospital.
- Environment, Health and Safety periodical training is being given to Employees as well as contract employees.
- Organic waste is being converted to Vermi compost at solid waste management yard
- V.O.C port has developed parks and green belts at portpremises.

Annexure I

Port Capacity As per the theoretical

S.No	Berth Name/No/Cargo Handling	Theoretical Capacity
I	**Oil Jetty**:	
	Oil Jetty-POL/Oth.Liq	2.30
	Sub Total (A)	2.30
II	Coal Jetties:	
1	Coal jetty NoI	3.13
2	Coal jetty NoII	3.13
3	North Cargo Berth I	6.30
	Sub Total (B)	
III	**Alongside berths:General Cargo**	
1	Berth No 1	1.01
2	Berth No 2	1.75
3	Berth No 3	3.60
4	Berth No 4	3.60
5	Addl.Berth No 1	1.50
6	Addl.Berth No 2	1.75
7	Berth No 9-General Cargo (including Mechanization)	13.42
8	Shallow Draught Berth I	-
	Sub Total (C)	26.63
IV	**Container Terminal**	
1	Berth No 7- Container (4.17 lakh TEUs)	5.00
2	Berth No 8- Container (3.11 lakh TEUs)	3.73
	Sub Total (C)	8.73
	Total	50.21

Annexure II

V.O. CHIDAMBARANAR PORT AUTHORITY / TRAFFIC DEPARTMENT

Statement showing the commodity wise Traffic Handled during
April 2021to March 2022

Month	Traffic Handled in MMT
April-2021	32.62562
May-2021	25.17497
June-2021	27.49146
July-2021	28.00506
August-2021	32.59925
September-2021	29.62661
October-2021	27.15038
November-2021	28.96304
December-2021	28.92529
January-2022	24.01446
February-2022	23.89227
March-2022	32.71575
Total	34.118416

Annexure III

WATER CONSUMPTION FOR THE YEAR 2021-2022

Month	Quantity of Water 2021-22
April-2021	68750
May-2021	68820
June-2021	68320
July-2021	69220
August-2021	67420
September-2021	62520
October-2021	6322
November-2021	59320
December-2021	59220
January-2022	60330
February-2022	61322
March-2022	63210
Total	**714774**

Water consumption : 714774 KL/Year

Average water consumption domestic :1958KL/Day

Operational Purpose :Nil

Annexure IV

Statement of Hazardous waste disposal for the year 2021-2022

Hazardous waste disposal detail

Month	3.1-Cargo residue, washing water and sludge containing oil (MT)	3.3-Sludge and filters contaminated with oil (MT)	3.4-Ballast water containing oil from ships(MT)	4.3-Slop oil(MT)	5.1 Used/spent oil (MT)	5.2-Wastes or residues containing oil(MT)	Used Battery (Nos)
Aprl-21	NIL	NIL	NIL	NIL	NIL	NIL	NIL
May-21	NIL	NIL	NIL	NIL	NIL	28.72	NIL
Jun-21	NIL	NIL	NIL	NIL	NIL	67.54	NIL
Jul-21	NIL	NIL	44.76	NIL	NIL	58.5	NIL
Aug-21	70.7	NIL	NIL	NIL	NIL	16.9	41
Sep-21	15.74	21.66	NIL	NIL	NIL	NIL	NIL
Oct-21	91.28	NIL	NIL	NIL	NIL	NIL	NIL
Nov-21	37.6	NIL	NIL	NIL	NIL	NIL	NIL
Dec-21	26.68	NIL	NIL	57.38	NIL	NIL	NIL
Jan-22	72.66	NIL	NIL	39.18	NIL	NIL	NIL
Feb-22	69.34	NIL	NIL	6.56	NIL	NIL	NIL
Mar-22	28.08	NIL	NIL	NIL	NIL	NIL	NIL
Total	412	21.66	44.76	103.12	NIL	171.66	41 Nos

Annexure V

Solid waste management disposal during the year 2021-2022

Month	Quantity of solid waste (Tones)
April-2021	31.46
May-2021	32.56
June-2021	29.56
July-2021	35.26
August-2021	36.24
September-2021	33.28
October-2021	31.46
November-2021	34.58
December-2021	39.63
January-2022	40.52
February-2022	47.25
March-2022	39.24
Total	431.04

TEST REPORT

AMBIENT AIR QUALITY

S.NO	PARAMETERS	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	MIN	MAX	AVERAGE
1.TTPS NEAR COAL DUMP/BEACH WATER TANK																
1	Sulphur Dioxide	13.85	13.33	13.34	12.58	13.22	11.86	8.12	9.63	10.28	10.54	12.61	11.7	8.12	13.85	11.76
2	Nitrogen Dioxide	22.49	23.96	24.96	23.63	24.58	22.53	19.34	20.26	21.39	20.93	25.39	22.31	19.34	25.39	22.65
3	Particulate Matter Size Less than 10 µm	52.98	51.36	50.37	56.12	53.34	51.3	47.88	51.36	53.97	51.46	52.47	50.71	47.88	56.12	51.94
4	Particulate Matter Size Less than 2.5 µm	28.46	31.41	25.63	26.63	24.57	23.19	19.33	22.58	24.63	23.44	24.18	26.53	19.33	31.41	25.05
2.CONTAINER LOADING AREA																
1	Sulphur Dioxide	12.01	11.02	8.51	9.67	10.34	8.72	9.45	12.31	11.65	10.43	11.49	12.06	8.51	12.31	10.64
2	Nitrogen Dioxide	22.96	21.36	19.32	20.29	21.57	19.53	20.86	23.63	22.39	21.59	23.58	23.48	19.32	23.63	21.71
3	Particulate Matter Size Less than 10 µm	53.05	51.84	48.58	52.49	54.87	46.28	48.33	52.92	55.74	52.37	50.97	46.6	46.28	55.74	51.17
4	Particulate Matter Size Less than 2.5 µm	29.47	24.89	25.74	24.1	25.36	21.36	20.52	21.85	24.31	22.61	24.66	24.73	20.52	29.47	24.13
3.VOC WHARF BETWEEN BERTH 3 & 4																
1	Sulphur Dioxide	14.68	11.93	12.74	11.89	13.53	12.38	7.22	9.12	8.54	9.87	10.49	13.07	7.22	14.68	11.29
2	Nitrogen Dioxide	22.99	22.98	23.55	22.36	23.67	24.37	18.35	20.36	19.33	21.43	20.63	25.68	18.35	25.68	22.14
3	Particulate Matter Size Less than 10 µm	58.43	55.21	55.93	51.28	52.59	50.63	46.54	48.77	53.67	55.82	52.1	55.16	46.54	58.43	53.01
4	Particulate Matter Size Less than 2.5 µm	28.97	25.14	26.77	24.89	25.32	24.15	19.02	20.31	24.07	25.74	21.55	27.82	19.02	28.97	24.48
4. INFRONT OF COAL JETTY-I																
1	Sulphur Dioxide	11.43	13.68	11.33	12.48	9.84	11.32	10.96	11.58	12.96	10.43	9.68	11.73	9.68	13.68	11.45
2	Nitrogen Dioxide	20.67	24.58	21.69	22.21	20.32	22.1	21.32	22.31	23.31	21.59	21.44	23.58	20.32	24.58	22.09
3	Particulate Matter Size Less than 10 µm	45.89	51.36	54.96	56.93	54.39	52.63	49.42	46.33	51.64	52.37	48.8	43.26	43.26	56.93	50.67
4	Particulate Matter Size Less than 2.5 µm	24.63	24.86	26.04	27.25	25.43	21.58	20.79	18.84	22.56	22.61	20.62	25.68	18.84	27.25	23.41
5.NORTH FIRE STATION																
1	Sulphur Dioxide	15.96	13.21	9.74	10.66	11.29	11.48	9.54	10.32	8.96	11.34	11.48	12.67	8.96	15.96	11.39
2	Nitrogen Dioxide	24.66	21.68	20.23	21.79	22.34	20.35	20.02	21.58	19.22	21.95	23.39	22.58	19.22	24.66	21.65
3	Particulate Matter Size Less than 10 µm	48.82	51.93	52.32	47.87	50.12	52.38	48.38	46.63	52.89	54.21	51.7	53.26	46.63	54.21	50.88
4	Particulate Matter Size Less than 2.5 µm	37.46	26.2	27.29	21.23	22.36	24.1	20.84	19.32	21.33	23.83	20.86	22.81	19.32	37.46	23.97
6.ADMINISTRATION OFFICE BUILDING																
1	Sulphur Dioxide	10.2	12.98	10.59	14.23	13.45	12.58	11.25	10.98	9.91	10.39	12.51	10.65	9.91	14.23	11.64
2	Nitrogen Dioxide	19.68	23.69	21.78	24.62	23.66	25.1	22.78	21.63	20.22	22.63	23.18	21.39	19.68	25.1	22.53

3	Particulate Matter Size Less than 10 µm	46.21	58.41	57.63	52.93	51.23	53.15	52.36	51.54	50.13	48.2	46.39	49.2	46.21	58.41	51.45
4	Particulate Matter Size Less than 2.5 µm	26.87	26.84	26.89	21.34	21.74	22.16	21.54	20.32	21.34	21.66	20.58	24.88	20.32	26.89	23.01
7. PORT HOSPITAL																
1	Sulphur Dioxide	13.35	12.63	13.54	9.28	8.22	9.62	11.86	9.24	11.57	9.31	10.73	12.95	8.22	13.54	11.03
2	Nitrogen Dioxide	21.62	21.84	24.79	20.17	19.57	21.18	22.31	20.67	22.33	20.45	19.85	21.46	19.57	24.79	21.35
3	Particulate Matter Size Less than 10 µm	58.47	56.12	56.74	55.65	54.63	50.36	52.78	50.27	51.75	49.33	47.2	45.77	45.77	58.47	52.42
4	Particulate Matter Size Less than 2.5 µm	29.65	27.39	25.37	24.32	23.32	22.52	23.54	21.39	20.34	22.85	21.67	21.67	20.34	29.65	23.67
8.BETWEEN BERTH 5 & 6																
1	Sulphur Dioxide	10.41	11.96	11.44	9.82	10.25	9.65	11.29	7.93	9.62	12.5	10.73	12.63	7.93	12.63	10.69
2	Nitrogen Dioxide	21.85	22.65	22.38	20.54	21.66	23.41	22.52	18.54	20.1	22.43	21.18	24.16	18.54	24.16	21.79
3	Particulate Matter Size Less than 10 µm	45.37	50.23	47.52	45.37	47.22	45.28	47.96	49.33	50.36	48.7	49.66	51.68	45.28	51.68	48.22
4	Particulate Matter Size Less than 2.5 µm	23.41	22.18	22.39	21.63	22.37	20.36	18.32	20.54	21.71	23.42	22.11	23.09	18.32	23.42	21.79
9.SIGNAL STATION (VOC WHARF)																
1	Sulphur Dioxide	11.36	13.69	10.84	13.75	11.27	10.53	9.83	8.89	11.88	10.43	11.83	12.47	8.89	13.75	11.40
2	Nitrogen Dioxide	20.69	24.81	19.37	22.19	22.45	21.62	20.21	19.21	22.31	22.9	20.48	23.15	19.21	24.81	21.62
3	Particulate Matter Size Less than 10 µm	50.47	52.21	52.84	53.69	54.36	52.65	50.86	47.32	51.23	53.63	55.27	52.39	47.32	55.27	52.24
4	Particulate Matter Size Less than 2.5 µm	28.96	26.89	27.63	26.12	25.89	22.58	21.32	20.86	22.39	22.49	23.4	24.15	20.86	28.96	24.39
10.PORT SCHOOL BUILDING																
1	Sulphur Dioxide	12.87	12.52	11.88	12.54	10.89	12.58	10.15	8.23	9.36	12.53	11.54	13.82	8.23	13.82	11.58
2	Nitrogen Dioxide	21.69	23.85	21.36	21.83	20.32	23.1	21.89	19.64	20.45	21.8	22.63	24.17	19.64	24.17	21.89
3	Particulate Matter Size Less than 10 µm	56.57	54.16	48.51	50.89	54.25	56.25	51.82	48.59	54.31	53.61	45.3	48.5	45.30	56.57	51.90
4	Particulate Matter Size Less than 2.5 µm	27.88	26.8	21.45	23.62	24.36	22.56	20.33	20.87	23.58	22.94	22.19	24.36	20.33	27.88	23.41
11.RAILWAY QUARTERS																
1	Sulphur Dioxide	11.91	12.23	10.48	13.86	11.28	10.72	12.84	10.33	12.73	11.49	11.84	10.87	10.33	13.86	11.72
2	Nitrogen Dioxide	22.82	22.04	21.85	24.17	23.66	20.13	23.71	21.96	23.45	23.58	23.44	21.72	20.13	24.17	22.71
3	Particulate Matter Size Less than 10 µm	59.75	48.36	46.32	49.63	46.79	48.32	50.56	45.58	49.67	50.97	50.16	48.29	45.58	59.75	49.53
4	Particulate Matter Size Less than 2.5 µm	28.39	23.19	23.49	21.71	20.33	20.33	21.97	18.36	20.31	24.66	20.58	24.83	18.36	28.39	22.35

TEST REPORT

NOISE MONITORING

S.NO	LOCATION	Apr-21-1		Apr-21-2		May-21-1		May-21-2		Jun-21-1		Jun-21-2	
		Day Time Noise level in dB (A)	Night Time Noise level in dB (A)	Day Time Noise level in dB (A)	Night Time Noise level in dB (A)	Day Time Noise level in dB (A)	Night Time Noise level in dB (A)	Day Time Noise level in dB (A)	Night Time Noise level in dB (A)	Day Time Noise level in dB (A)	Night Time Noise level in dB (A)	Day Time Noise level in dB (A)	Night Time Noise level in dB (A)
1	VOC Wharf Pump House	62.1	54.7	66.3	51.4	68.3	53.1	60.8	53.2	64.3	55.9	65.1	50.9
2	Coal Jetty	61.8	53.6	64.6	58.3	66.5	56.4	64	51.4	60.9	51.3	63.4	57.6
3	Field Workshop	64.5	56.9	62.5	55.7	61.4	53.2	62.2	52.4	65.6	57.7	61.7	55.4
4	VOC Wharf Between Barth 4	66.9	57.8	65.8	57.1	66.9	66.9	65.8	64.6	67.2	58.5	64.9	56.5
5	Container Loading Area	59.9	46.5	61.9	52.8	60.5	53.2	58.3	48.2	60.7	45.3	60.2	53.3
6	VOC Shopping Mall	58.2	49.7	64.1	59.3	62.9	54.3	56.9	48.7	57.5	48.1	63.8	58.6
7	Floating Vessel	60.2	52.1	67 .4	54.9	66.7	53.4	62.2	50.1	61.3	53.5	66.6	53.8

S.NO	LOCATION	Jul-21-1		Jul-21-2		Aug-21-1		Aug-21-2		Sep-21-1		Sep-21-2	
		Day Time Noise level in dB (A)	Night Time Noise level in dB (A)	Day Time Noise level in dB (A)	Night Time Noise level in dB (A)	Day Time Noise level in dB (A)	Night Time Noise level in dB (A)	Day Time Noise level in dB (A)	Night Time Noise level in dB (A)	Day Time Noise level in dB (A)	Night Time Noise level in dB (A)	Day Time Noise level in dB (A)	Night Time Noise level in dB (A)
1	VOC Wharf Pump House	61.5	54.9	64.9	51.3	62.6	52.7	63.2	50.1	63.5	53.6	62.9	52.3
2	Coal Jetty	64.1	50.4	62.3	54.4	63.9	49.6	60.8	53.8	64.1	48.3	59.4	51.9
3	Field Workshop	65.6	55.8	60.4	53.9	64.2	53.9	58.6	51.9	62.8	52.2	60.2	50.4
4	VOC Wharf Between Barth 4	68.5	57.3	63.7	55.7	67.3	55.6	64.9	53.4	66.9	54.6	63.6	52.7
5	Container Loading Area	66.1	47.6	61.5	50.2	65.5	51.2	59.1	48.6	65.3	50.9	58.3	49.5
6	VOC Shopping Mall	58.6	49.9	62.1	57.7	59.1	48.5	63.8	55.3	58.7	47.6	65.9	54.1
7	Floating Vessel	62.9	52.2	65.8	51.5	62	52.1	66	50.9	61.4	51.3	64.5	51.3

S.NO	LOCATION	Oct-21-1		Oct-21-2		Nov-21-1		Nov-21-2		Dec-21-1		Dec-21-2	
		Day Time Noise level in dB (A)	Night Time Noise level in dB (A)	Day Time Noise level in dB (A)	Night Time Noise level in dB (A)	Day Time Noise level in dB (A)	Night Time Noise level in dB (A)	Day Time Noise level in dB (A)	Night Time Noise level in dB (A)	Day Time Noise level in dB (A)	Night Time Noise level in dB (A)	Day Time Noise level in dB (A)	Night Time Noise level in dB (A)
1	VOC Wharf Pump House	62.6	51.5	60.8	51.2	63.1	55.2	61.2	52.7	63.1	55.2	60.9	51.4
2	Coal Jetty	65.9	50.4	57.6	49.7	60.8	52.6	63.7	55.9	60.8	52.6	64.3	56.5
3	Field Workshop	63.7	52.8	61.1	52.3	64.7	56.9	64.6	53.1	64.7	56.9	62.9	52.3
4	VOC Wharf Between Barth 4	64.4	53.2	63.4	50.5	66.9	57.8	57.2	48.4	66.9	57.8	58.3	49.6
5	Container Loading Area	66.2	54.7	59.9	48.5	59.2	44.1	60.9	51.3	59.2	44.1	65.1	53.8
6	VOC Shopping Mall	59.3	49.1	66.7	53.9	56.3	43.7	62.8	53.7	56.3	43.7	61.2	55.2
7	Floating Vessel	60.8	48.9	63.6	50.1	61.5	50.2	65.1	51.3	61.5	50.2	63.7	50.9

S.NO	LOCATION	Jan-22-1		Jan-22-2		Feb-22-1		Feb-22-2		Mar-22-1		Mar-22-2	
		Day Time Noise level in dB (A)	Night Time Noise level in dB (A)	Day Time Noise level in dB (A)	Night Time Noise level in dB (A)	Day Time Noise level in dB (A)	Night Time Noise level in dB (A)	Day Time Noise level in dB (A)	Night Time Noise level in dB (A)	Day Time Noise level in dB (A)	Night Time Noise level in dB (A)	Day Time Noise level in dB (A)	Night Time Noise level in dB (A)
1	VOC Wharf Pump House	64.5	57.2	65.3	55.2	60.2	55.4	58.4	52.5	52.5	50.5	58.7	58.7
2	Coal Jetty	68.3	59.5	58.9	52.8	70.1	53.8	54.9	51.4	51.4	58.9	53.9	53.9
3	Field Workshop	51.8	46.5	60.5	56.4	55.2	49.1	57.8	49.3	49.3	51.6	51.2	51.2
4	VOC Wharf Between Barth 4	73.6	65	56.4	48.1	68.5	61.7	62.2	55.8	55.8	60.2	58.7	58.7
5	Container Loading Area	66.7	52.4	67.1	56.8	62.1	56.8	65.9	61.2	61.2	53.4	58.2	58.2
6	VOC Shopping Mall	56.5	48.7	66.2	60.7	52.9	45.3	66.2	60.9	60.9	55.6	62.4	62.4
7	Floating Vessel	64.2	53.5	58.5	52.1	60.1	58.4	60.5	57.8	57.8	60.7	59.8	59.8

TEST REPORT

STP TREATED WATER QUALITY

S.NO	PARAMETERS	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22
	STP OUTLET												
1	Total suspended Solids	16.00	16.00	9.00	18.00	24.00	28.00	22.00	18.00	22.00	40.00	20.00	10.00
2	pH	7.46	7.74	7.14	7.62	7.45	7.31	8.50	7.90	8.35	8.19	7.37	8.15
3	BOD, 3 days @ 27°C as O2	4.00	4.00	18.00	16.00	22.00	16.00	12.00	10.00	46.00	25.00	18.00	14.00
4	COD as O2	32.00	28.00	88.00	72.00	78.00	54.00	68.00	56.00	235.00	152.00	82.00	70.00
5	Oil and Grease	BLQ(LOQ 4.0)	BLQ(LOQ 4.0)	BLQ(LOQ 4.0)	BLQ(LOQ 4.0)	BLQ(LOQ 4.0)	BLQ(LOQ 4.0)	BLQ(LOQ 4.0)	BLQ(LOQ 4.0)	BLQ(LOQ 4.0)	BLQ(LOQ 4.0)	BLQ(LOQ 4.0)	BLQ(LOQ 4.0)

TEST REPORT

MARINE WATER-BIOLOGICAL QUALITY

S.NO	PARAMETERS	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22
1.Approach Channel													
I. phytoplankton (64µm mesh)													
1	Total Cell Count (cells/L)	3200	3600	4500	4400	4500	5100	2500	3200	4400	4300	4800	5300
2	Total Genus (No's)	6	5	8	7	8	8	4	6	7	7	8	7
3	Genus	Dinoflagellates,Thalassisora Spp,Rhizoseleniaspp,Odontella Spp,Melosira Spp,CorethronSpp	Dinoflagellates, Rhizoselenia spp, Odontella spp, Melosira spp, Corethron spp	Gymnodinicum spp, Thalassiosira spp, Coscinodiscus spp , Navicula spp, Scripsiella spp, Rhizosolenia Spp, Triodesmium spp, Biddulphia spp	Dinoflagellates, Thalassisora Spp,Rhizoselenia spp,Odontella Spp,Melosira Spp, Biddulpia Spp,Naviculae Spp	Gymnodinicum spp, Thalassiosira spp, Coscinodiscus spp, Navicula spp, Scripsiella spp, Rhizosolenia Spp, Triodesmium spp, Biddulphia spp	Ceratiumspp, Peridinium spp, Chaetocerosspp, Triodesmiumspp, Pyroystisspp, Noctiluaspp, Biddulphiaspp, Odontellaspp	Dinoflagellates, ThalassisoraSpp, OdontellaSpp, MelosiraSpp	Dinoflagellates, Thalassisora Spp, Rhizoseleniaspp, Odontella Spp, MelosiraSpp, Corethron Spp	Dinoflagellates, Thalassisora Spp,Rhizoselenia spp,Odontella Spp,Melosira Spp,Biddulpia Spp,Naviculae Spp	Dinoflagellates, Thalassisora Spp,Rhizoselenia spp,Odontella Spp,Melosira Spp,Biddulpia Spp,Naviculae Spp	Dinoflagellates,Thalassisora Spp,Rhizoselenia spp,Odontella Spp,Melosira Spp,Biddulpia Spp,Naviculae Spp	Dinoflagellates, Thalassisora Spp,Rhizoselenia spp,Odontella Spp,Melosira Spp,Biddulpia Spp,Naviculae Spp
II. Zooplankton (200µm mesh)													
1	Total Cell Count (cells/L)	1400	1800	2400	1400	2400	1100	1500	1400	1400	1350	1900	2400

2	Total Genus (No's)	5	6	5	4	5	4	3	5	5	5	5	6
3	Genus	Titinopsis Spp,Obelia Spp, Copepod nauplii, Acartia spp,Eucalanus Spp	Titinopsis spp, Obelia spp, Copepodnauplii, Globigerina spp, Acartia spp, Eucalanus spp	Tintinnida spp, Acartia spp, Copepod nauplii, Eutinnus tenuis, Obelia spp.	Globigerina Spp,Titinopsis Spp,Eucalanus Spp,Acartia Spp	Tintinnida spp, Acartia spp, Copepod nauplii, Eutinnus tenuis Obelia sp.	Ceratiumspp,Thalassiosiraspp,Ceratiumspp,Rhizosolenia spp	EucalanusSpp,TitinopsisSpp,Acartiaspp	Titinopsis Spp,ObeliaSpp,Copepodnauplii,Acartia spp,Eucalanus Spp	Globigerina Spp,Titinopsis Spp,Eucalanus Spp,Acartia Spp,Copepod nauplii spp	Globigerina Spp,Titinopsis Spp,Eucalanus Spp,Acartia Spp,Copepod nauplii spp	Globigerina Spp,Titinopsis Spp,Eucalanus Spp,Acartia Spp,Copepod nauplii spp	Globigerina Spp,Titinopsis Spp,Eucalanus Spp,Acartia Spp,Copepod nauplii spp
III. Benthos													
1	Total Genus (No's)	7	5	6	5	6	7	6	7	6	6	13	11
2	Genus	Mussels, Clams, Crustaceans,Seaanemones,corals,sponges.Sponges	Mussels, Clams, Crustaceans, Corals, Sponges	Crustaceans, Ciliates, Echinoderms, Corals, Clams, Sponges.	Flagellates, nematodes ,Bivalves,Crustaceans, Mussels	Crustaceans , Ciliates, Echinoderms , corals, clams,Sponges	Mussels, Clams, Crustaceans,Seaanemones,corals ,sponges.Sponges	Turbellarians,SeaAquirts,Sponges, Corals,Bivalves,Copepods	Mussels, Clams, Crustaceans,Seaanemones,corals,sponges.Sponges	Flagellates,nematodes,Bivalves,Crustaceans,Mussels,Clams	Flagellates,nematodes,Bivalves,Crustaceans,Mussels,Clams	Flagellates,nematodes,Bivalves,Crustaceans,Mussels,Clams	Flagellates ,nematodes,Bivalves, Crustaceans,Mussels ,Clams
2. Dock basin Area Near Berth 3 & 4													
I. phytoplankton (64µm mesh)													
1	Total Cell Count (cells/L)	3000	3200	6200	6800	5800	4000	4600	5200	5400	5500	4900	5900

2	Total Genus (No's)	5	7	5	7	10	8	7	6	9	9	8	7
3	Genus	Odontella Spp,Dinoflagellates, Rhizosoleniaspp,Thalassiosira spp,NaviculaeSpp	Odontella spp, Dinoflagellates, Rhizosolenia spp, Phaeocystis spp, Thalassiosira spp, Naviculae spp, Dinoflagellates	Rhizoselenia Spp, Dinoflagellates, Naviculae Spp, Scrippsiella Spp, Corethron Spp	Dinoflagellates,Naviculae Spp, Scripsiella Spp,Gynnodium spp, Thalassiosira spp,Odontella Spp,Corethon spp	Odontella Spp,Biddulphia Spp,Phaeocystis Spp,Naviculae Spp,Thalassiosira Spp,Rhizoselenia Spp,Gymnodium Spp,Dinoflagellates,Melosira Spp	Dinoflagellates,Rhizosoleniaspp,Thalassiosira spp,NaviculaeSpp,PhaeocystisSpp, OdontellaSpp,MelosiraSpp,CorethronSpp	OdontellaSpp,Dinoflagellates,Rhizosoleniaspp,Thalassiosiraspp,NaviculaeSpp, MelosiraSpp,Corethronspp	Rhizoselenia spp, Naviculae Spp, Scripsiella Spp,Corethon spp, Gynnodium spp,Dinoflagellates.	Biddulphia Spp, Rhizoselenia spp, Naviculae Spp, Odontella Spp, Scripsiella Spp,Corethon spp, Gynnodium spp,Ceratum fuscus, Dinoflagellates.	Biddulphia Spp, Rhizoselenia spp, Naviculae Spp, Odontella Spp, Scripsiella Spp,Corethon spp, Gynnodium spp,Ceratum fuscus, Dinoflagellates.	Biddulphia Spp, Rhizoselenia spp, Naviculae Spp, Odontella Spp, Scripsiella Spp,Corethon spp, Gynnodium spp,Ceratum fuscus, Dinoflagellates.	Biddulphia Spp, Rhizoselenia spp, Naviculae Spp, Odontella Spp, Scripsiella Spp,Corethon spp, Gynnodium spp,Ceratum fuscus, Dinoflagellates.
II. Zooplankton (200µm mesh)													
1	Total Cell Count (cells/L)	1200	1400	3500	3000	3200	2000	3100	4000	2600	2500	2700	2900
2	Total Genus (No's)	4	5	6	3	6	6	7	4	7	7	6	5

3	Genus	Globigerina Spp,TitinopsisSpp,GlobigerinaSpp,Obelia Spp,	Globigerina spp, Titinopsis spp, Globigerina spp, Obelia spp, Copepodnauplii	Titinopis Spp, Acartis Spp, Globigerina Spp, Obelia Spp, Copepod nauplii, Eucalanus Spp.	Fish Larvae, Obelia Spp,Metacalanus Spp	Titinopsis Spp,Acartia Spp,Oithana rigida,Copepods,Obelia Spp,Fish Larvae,Eucalanus Spp	TitinopsisSpp,AcartiaSpp,Fishlarvae,CrabZoae,ShrimpZoea,ObeliaSpp	TitinopsisSpp,AcartiaSpp,Oithana rigida,Copepods,ObeliaSpp,FishLarvae,EucalanusSpp	Globegerina spp,Metacalanus Spp,Eucalanus Spp,Fish Larvae	Titinopsis spp,Globegerina spp,Metacalanus Spp,Eucalanus Spp,Acartia Spp,Copepod,Fish Larvae	Titinopsis spp,Globegerina spp,Metacalanus Spp,Eucalanus Spp,Acartia Spp,Copepod,Fish Larvae	Titinopsis spp,Globegerina spp,Metacalanus Spp,Eucalanus Spp,Acartia Spp,Copepod,Fish Larvae	Titinopsis spp,Globegerina spp,Metacalanus Spp,Eucalanus Spp,Acartia Spp,Copepod,Fish Larvae
III. Benthos													
1	Total Genus (No's)	8	6	4	5	9	8	9	5	6	6	10	9
2	Genus	Ciliates,Flagellates, Crustaceans,Copepods,Ostracodes,SeaSquirts,Bivalves,Echinoderms	Flagellates, Crustaceans, Copepods, Ostracodes, Bivalves, Echinoderms	Flagellates, Crusrtaceans, Copepods, Ostracodes.	Diatoms,Ciliates, Ostracodes,Bivalves, Turbellarians	Mussels, Clams, Crustaceans, Sea anemones,corals,sponges, Diatoms,ciliates,Ostracodes	Crustaceans,Turbellarians,SeaAquirts,Sponges,Corals,Echinoderms, Bivalves,Copepods	Mussels, Clams, Crustaceans,Seaanemones,corals,sponges,Diatoms,ciliates,Ostracodes	Diatoms, Mussels, Flagellates,corals,SeaSquirts	Mussels, Flagellates,corals,SeaSquirts, Diatoms,Echinoderms	Mussels, Flagellates,corals,SeaSquirts, Diatoms,Echinoderms	Mussels, Flagellates,corals,SeaSquirts, Diatoms,Echinoderms	Mussels, Flagellates,corals,SeaSquirts,Diatoms,Echinoderms
3. Dock basin Area Near Berth 5 & 6													
I. phytoplankton (64µm mesh)													
1	Total Cell Count (cells/L)	5900	4800	5600	5800	5100	4900	5900	5600	8700	7800	5100	5500

2	Total Genus (No's)	9	7	6	4	9	9	7	5	5	5	7	10
3	Genus	OdontellaSpp,BiddulphiaSpp,PhaeocystisSpp,ScrippssiellaSpp,NaviculaeSpp,ThalassiosiraSp,RhizoseleniaSpp,MelosiraSpp,Dinoflagellates	Odontellaspp, Biddulphiaspp, Phaeocystis spp, Scripsssiella spp, Naviculaespp, Rhizoseleniaspp, Dinoflagellates	Ceratium fuscus, Phaeocystis Spp, Scripsssiella Spp, Thalassiosira Spp, Melosira Spp, Biddulphia Spp, Naviculae Spp.	BiddulphiaSpp,NaviculaeSpp, RhizoseleniaSpp,GymnodiumSpp	OdontellaSp,BiddulphiaSpp,PhaeocystisSpp,,NaviculaeSpp,ThalassiosiraSpp, RhizoseleniaSpp,GymnodiumSpp,Dinoflagellates,MelosiraSpp	BiddulphiaSpp,PhaeocystisSpp,ScripsssiellaSp,NaviculaeSpp,ThalassiosiraSpp, RhizoseleniaSpp,GymnodiumSpp, Dinoflagellates	OdontellaSpp,BiddulphiaSpp,PhaeocystisSpp,ScripsssiellaSpp,NaviculaeSpp, ThalassiosiraSpp,RhizoseleniaSpp	RhizoseleniaSpp,Gymdonium Spp,Dinoflagellates, NaviculaeSpp,ScripsiellaSpp	Navicula spp, Rhizosolenia Spp, Ceratium spp, odontella spp, corethon spp	Navicula spp, Rhizosolenia Spp, Ceratium spp, odontella spp, corethon spp	Navicula spp, Rhizosolenia Spp, Ceratium spp, odontella spp, corethon spp	Navicula spp, Rhizosolenia Spp, Ceratium spp, odontella spp, corethon spp
II. Zooplankton (200µm mesh)													
1	Total Cell Count (cells/L)	3600	3300	1800	2200	3000	3600	3600	2100	5200	500	2900	2400
2	Total Genus (No's)	9	7	5	3	7	5	9	3	4	4	4	8

3	Genus	Titinopsis Spp,AcartiaSpp,Oithanarigida, Copepods, CrabZoae, FishLarvae, Rhincalanusspp,GlobigerinaSpp,ObeliaSpp	Titinopsis spp, Acartia spp, Oithanarigida, Fish Larvae, Rhincalanus spp, Globigerina spp, Obelia spp	Crab Zoea, Fish Larvae, Copepod nauplii, Metacalanus Spp, Titinopsis Spp.	Fish Larvae,Crab Zoea,Eucalanus Spp	TitinopsisSpp,AcartiaSpp, Oithanarigida,Copepods, ObeliaSpp,FishLarvae,EucalanusSpp	TitinopsisSpp,AcartiaSpp,Oithanarigida,Copepods,CrabZoae	TitinopsisSpp,AcartiaSpp,Oithanarigida,Copepods,CrabZoae,FishLarvae, Rhincalanusspp,GlobigerinaSpp,ObeliaSpp	ObeliaSpp,AcartiaSp,Fish Larvae	Metacalenus spp, Eucalanus spp, Copepod spp	Metacalenus spp, Eucalanus spp, Copepod spp	Metacalenus spp, Eucalanus spp, Copepod spp	Metacalenus spp, Eucalanus spp, Copepod spp
III. Benthos													
1	Total Genus (No's)	8	6	6	4	9	8	8	4	5	5	5	12
2	Genus	Ciliates,Flagellates, Crustaceans,Copepods,Ostracodes,Bivalves,Turbellarians, Echinoderms	Ciliates, Flagellates, Crustaceans, Copepods, Bivalves, Echinoderms	Crustaceans, Spomges, Tubellarians, Mussels, Polychaete worms, Diatoms.	Mussels, Clams, Crustaceans,Sea anemones	Mussels, Clams, Crustaceans, Seaanemones,corals,sponges,Diatoms, ciliates,Ostracodes	Mussels, Clams, Crustaceans,Seaanemones,corals,sponges,Diatoms,ciliates,Ostracodes	Ciliates,Flagellates,Crustaceans,Copepods,Ostracodes,Bivalves,Turbellarians, Echinoderms	Mussels, Clams, Crustaceans,Seaanemones	Bivalves ,Crustaceans, Amoeba , Ostracodes,Echinoderms	Bivalves ,Crustaceans, Amoeba , Ostracodes,Echinoderms	Bivalves ,Crustaceans, Amoeba , Ostracodes,Echinoderms	Bivalves ,Crustaceans, Amoeba , Ostracodes,Echinoderms
4. Dock basin Area Near Berth I&II													
I. phytoplankton (64µm mesh)													
1	Total Cell Count (cells/L)	4600	4100	5600	4600	6400	4600	4800	5200	5600	5000	4600	6300
2	Total Genus (No's)	9	7	8	6	12	9	8	5	8	8	8	10

3	Genus	Corethron Spp,OdontellaSpp,BiddulphiaSpp,ScripsssiellaSpp, NaviculaeSpp,ThalassiosiraSpp,RhizoseleniaSpp,GymnodiumSpp, Dinoflagellates	Corethron spp, Odontella spp, Scripsssiella spp, Naviculae spp, Thalassiosira spp, Gymnodium spp, Dinoflagellates	Chaetcerons Spp, Odontella Spp, Biddulphia Spp, Phaeocystis Spp, Scripsssiella Spp, Gymnodium Spp, Dinoflagellates, Melosira Spp	CorethronSpp,OdontelaSpp,BiddulphiaSpp,,Scripsssiella Spp, NaviculaeSpp,ThalassiosiraSpp	Corethron Spp,Melosira Spp,Chaetcerons Spp,Odontella Spp,Biddulphia Spp,Phaeocystis Spp,Scripsssiella Spp,Naviculae Spp,Thalassiosira Spp,Rhizoselenia Spp,Gymnodium Spp,Dinoflagellates	ChaetceronsSpp,OdontellaSpp,BiddulphiaSpp, PhaeocystisSpp,,NaviculaeSpp,ThalassiosiraSpp,RhizoseleniaSpp,GymnodiumSpp,Dinoflagellates	ScripsiellaSpp,NaviculaeSpp,ThalassiosiraSpp, RhizoseleniaSpp,GymnodiumSpp, Dinoflagellates,Coscinodiscusspp,Corethronspp	Odontella Spp,Biddulphia Spp,Scripsssiella Spp, Gymnodium Spp,Dinoflagellates	Chaetcerons Spp,Odontella Spp,Biddulphia Spp,Phaeocystis Spp,Scripsssiella Spp,Gymnodium Spp,Dinoflagellates, Melosira Spp	Chaetcerons Spp,Odontella Spp,Biddulphia Spp,Phaeocystis Spp,Scripsssiella Spp,Gymnodium Spp,Dinoflagellates, Melosira Spp	Chaetcerons Spp,Odontella Spp,Biddulphia Spp,Phaeocystis Spp,Scripsssiella Spp,Gymnodium Spp,Dinoflagellates, Melosira Spp	Chaetcerons Spp,Odontella Spp,Biddulphia Spp,Phaeocystis Spp,Scripsssiella Spp,Gymnodium Spp,Dinoflagellates, Melosira Spp
II. Zooplankton (200µm mesh)													
1	Total Cell Count (cells/L)	3500	3200	3500	3500	3400	2300	2200	2600	3500	3200	1600	3000
2	Total Genus (No's)	8	7	4	7	10	6	3	6	4	4	4	7

3	Genus	ObeliaSpp ,Fish Larvae ,EucalanusSpp,TitinopsisSpp, MetacalanusSppRhincalanusSp p, Oithanarigida,GlobigerinaSpp	Obelia spp, Fish Larvae ,Eucalanus spp, Titinopsis spp, Metacalanus spp, Rhincalanus spp, Globigerina spp	Acartia Spp, Metacalanus Spp, Fish Larvae, Rhincalanus Spp.	ObeliaSpp, Fish Larvae, EucalanusSpp,TitinopsisSpp,MetacalanusSpp, RhincalanusSpp, Oithanarigida	Obelia Spp,Fish Larvae,Crab Zoea,Acartia Spp,Eucalanus Spp,Titinopsis Spp,Metacalanus SppRhincalanus Spp,Oithanarigida,Globigerina Spp	ObeliaSpp, FishLarvae, CrabZoea,, EucalanusSpp,TitinopsisSpp, MetacalanusSpp	Oithanarigida,Copepods,CrabZoae	Copepod nauplii Spp,Obelia Spp,Acartia Spp,Metacalanus Spp, Fish Larvae,GlobigerinaSpp,	Acartia Spp,Metacalanus Spp, Fish Larvae,RhincalanusSpp	Acartia Spp,Metacalanus Spp, Fish Larvae,RhincalanusSpp	Acartia Spp,Metacalanus Spp, Fish Larvae,RhincalanusSpp	Acartia Spp,Metacalanus Spp, Fish Larvae,RhincalanusSpp
III. Benthos													
1	Total Genus (No's)	11	9	3	8	12	9	5	4	3	3	8	8
2	Genus	Mussels, Clams, Crustaceans,Seaanemones,corals,sponges,Diatoms, ciliates,Ostracodes, Flagellates ,Waterbears	Mussels, Clams, Crustaceans, corals, sponges, Diatoms, Ostracodes , Flagellates, Waterbears	Mussels, Clams, Crustaceans	Mussels, Clams, Crustaceans,Sea anemones, corals,sponges,Diatoms,ciliates	Mussels, Clams, Crustaceans, Sea anemones,corals,sponges, Diatoms,ciliates,Ostracodes,Flagellates ,Waterbears	Mussels, Clams, Crustaceans,Seaanemones,corals,sponges,Diatoms,ciliates,Ostracodes	Flagellates, Crustaceans,Copepods,Ostracodes,Bivalves	Diatoms,ciliates, Crustaceans,Sea anemones	Mussels, Clams, Crustaceans	Mussels, Clams, Crustaceans	Mussels, Clams, Crustaceans	Mussels, Clams, Crustaceans