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**Government of India
Wildlife Institute of India, Dehradun
Wildlife Institute of India
Chandrabani, Dehradun, Uttarakhand**

Dated: 17/01/2019

To

Shri CHAUDHARI MITULKUMAR
A/403 PUSHPRAJ RESIDENCY
NR VANDEMATRAM TOWNSHIP
VISHWAKARMA TEMPLE, GOTA, AHMEDABAD
382481

Registration Number : WLIOI/R/2019/50001

Dear Sir/Madam

I am to refer to your Request for Information under RTI Act 2005, received vide letter dated 10/01/2019 and to say that *Sir*,
Please find attached the information sought by you under RTI.

In case, you want to go for an appeal in connection with the information provided, you may appeal to the Appellate Authority indicated below within *thirty days* from the date of receipt of this letter.

Dr. V. B. Mathur

FAA & Director

Address: Wildlife Institute of India Chandrabani Dehradun

Phone No.: 01352646101

Yours faithfully

(Anju Baroth)

CPIO & Scientist-C

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RTI-56

Coastal and Marine Protected Areas in India: Challenges and Way Forward

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Summary

India has an extensive coastline of 7517 km length, of which 5423 km is in peninsular India and 2094 km is in the Andaman & Nicobar and Lakshadweep islands. The EEZ has an extent of 2.02 million km². This coastline also supports a huge human population, which is dependent on the rich coastal and marine resources. Despite the tremendous ecological and economic importance and the existence of a policy and regulatory framework, India's coastal and marine ecosystems are under threat. Numerous direct and indirect pressures arising from different types of economic development and associated activities are having adverse impacts on the coastal and marine biodiversity across the country. The marine protected area network in India has been used as a tool to manage natural marine resources for biodiversity conservation and for the well-being of people dependent on it. Scientific monitoring and traditional observations confirm that depleted natural marine resources are getting restored and/or pristine ecological conditions have been sustained in well managed MPAs. There are 24 MPAs in peninsular India and more than 100 MPAs in the country's islands. The 24 MPAs of the mainland have a total area of about 8214 km², which is about 5% of the total protected area network of India and represents 0.25% of the total geographic area of the country. Dedicated efforts are required to secure and strengthen community participation in managing the marine protected area network in India.

Keywords : *Aichi target; conservation; India; marine biodiversity; marine protected area.*

Introduction

India represents 2.4% of the world's landmass and supports a population of over one billion people. India is also one of the 17 mega-biodiverse countries in the world, with 7.8% of the recorded species of the world, including 45,500 recorded species of plant and 91,000 recorded species of animal (MoEF 2014). The sea around India is part of the northern Indian Ocean, and the Indian subcontinent forms a major physical feature separating the Arabian Sea and the Bay of Bengal of the Indian Ocean. India has an extensive coastline of length 7517 km, of which 5423 km is in peninsular India and 2094 km is in the Andaman & Nicobar and Lakshadweep islands. The extent of the EEZ is 2.02 million km². This coastline also supports a huge human population, which is dependent on the rich coastal and marine resources. It is estimated that nearly 250 million people live within a 50 km wide swathe along the coastline of India (UNISDR/UNDP 2012). Therefore, the ecological services of the marine and coastal ecosystems of India play a vital role in sustaining India's economic growth.

Despite the tremendous ecological and economic importance and the existence of a policy and regulatory framework, India's coastal and marine ecosystems are under threat (Sivakumar et al 2012). Numerous direct and indirect pressures arising from different types of economic development and associated activities are having adverse impacts on coastal and marine biodiversity across the country. Human-driven impacts on coastal ecosystems due to population growth, economic development and urbanization are going to increase in the coming decades. In India, these pressures are major drivers of ecosystem degradation by habitat conversion to other forms of land use, overexploitation of species and associated destructive harvesting practices, the spread of invasive alien species and the impacts of agricultural, domestic and industrial sewage and waste. Mushrooming of ports and harbours all along the coasts is also threatening the coastal biodiversity. Further, natural phenomena such as tsunamis, cyclones, hurricanes and storms alter the habitats. Indirect drivers of ecosystem change include demographic, socio-political, cultural, economic and technological factors.

Direct impacts of human activities have been the major cause of the changes seen in the coastal zones in the world (Lotze et al. 2006), also leading to the observed changes in the climatic regime. These shifts include a likely increase in the



frequency of extreme weather events, a rise in the sea level, increased sea surface temperatures and ocean acidification (IPCC 2014). A rise in the sea level is likely to have significant implications for the coastal populations and productivity. For example, some of the islands in the Sundarbans, Gulf of Mannar and Nicobar Islands have already witnessed these changes. The largest mass nesting ground of the Olive Ridley turtle *Lepidochelys olivacea*, in Odisha, is undergoing dynamic changes probably due to climate change. Apart from this, climate change is also rapidly affecting the socio-economic condition of coastal communities, which in turn is intensifying pressure on the marine bio-resources. Demographic changes are also being witnessed among coastal communities due to a constant inflow of people due to droughts in adjoining coastal habitats. These are probably due to climate change. Therefore, it has become imperative to investigate, quantify and monitor the impacts of climate change on the marine biodiversity in certain sites in India.

Marine protected areas (MPAs) are regarded as one of the most potent conservation tools for protection of marine habitats and their resources (Agardy et al 2011). Studies have shown that designation of areas as MPAs has resulted in a significant increase in the biomass and densities of several species (Halpern 2003; Selig & Bruno 2010) over a short period of time (Halpern & Warner 2002). The Environment (Protection) Act, 1986, Coastal Regulation Zone Notification, 1991 and National Biodiversity Act, 2002 have been enacted in India for conservation of coastal and marine environment, along with the Wildlife (Protection) Act 1972, which also provides for establishment of protected areas (PAs) by state governments (Sivakumar et al 2012). The Gulf of Kachchh Marine National Park, Gulf of Mannar National Park, Sundarbans National Park and Wandoor Marine National Park are some of the important MPAs of India.

Coastal and Marine Protected Areas in India

The MPA network in India has been used as a tool to manage natural marine resources for biodiversity conservation and for the well-being of the people dependent on it. Scientific monitoring and traditional observations confirm that depleted natural marine resources are getting restored and/or pristine ecological conditions have been sustained in well managed MPAs (Halpern 2003). India has designated four legal categories of protected areas: National Park, Wildlife Sanctuary, Conservation Reserve and Community Reserve. India has created a network of PAs representing all its 10 biogeographic regions (Rodgers et al 2002). A total of 690 protected areas have been established in India as on 1 April 2014, including 102 national parks, 527 wildlife sanctuaries, 57 conservation reserves and 4 community reserves. Besides, 26 wetlands have been designated as Ramsar sites.

In India, PAs that fall entirely or partially within the swathe of 500 m from the high tide line and the marine environment are considered to be in the MPA network. There are 24 MPAs in peninsular India and more than 100 MPAs in the country's islands (see Table 1 & 2). The 24 MPAs of the mainland have a total area of about 8214 km², which is about 5 % of the total area under the entire PA network of India and less than 0.3% of the total land area of India. The Gulf of Mannar Marine National Park, Sundarbans National Park, Gulf of Kachchh National Park, Gahirmatha Marine Sanctuary, Coringa Wildlife Sanctuary and Chilika Wildlife Sanctuary, on the mainland, have unique marine biodiversity and provide a range of ecological services to the local communities. The total area of the Andaman and Nicobar Islands is 4947 km², of which 1510 km² is protected under the provisions of India's Wildlife (Protection) Act, 1972. There are 105 PAs in the Andaman and Nicobar Islands, and all are part of the MPA network of India. These MPAs cover about 60% of the terrestrial area of the islands and protect more than 40% of the coastal habitat. Mahatma Gandhi Marine National Park and Rani Jhansi Marine National Park are important MPAs here. In the Lakshadweep group of islands, Pitti Island (0.01 km²) is the only island having the status of an MPA.

India has also identified 12 protected areas as trans-boundary protected areas under the framework of the IUCN Trans-boundary Protected Area programme. Two of these sites are MPAs (Sundarbans National Park and Gulf of Mannar Biosphere Reserve). India has also designated six UNESCO World Heritage Natural sites, and Sundarbans National Park is one among them.

India has taken several steps towards achieving the Aichi Biodiversity Targets, especially Target No. 11 (at least 10% of coastal and marine areas are conserved in networks of protected areas) and Target No. 14 (ecosystems that provide water, health, livelihoods and well-being are restored and safeguarded). Towards achieving these two targets, 106 coastal and marine sites have been identified and prioritized as Important Coastal and Marine Areas (ICMBAs) by the Wildlife Institute of India. Sixty-two ICMBAs have been identified along the west coast of India, and 4 have been identified along the east coast (Table 3). These sites have also been proposed as conservation or communities reserves to increase participation of the local communities in governance. More efforts are required to secure and strengthen community participation in the management of the MPA network in India.

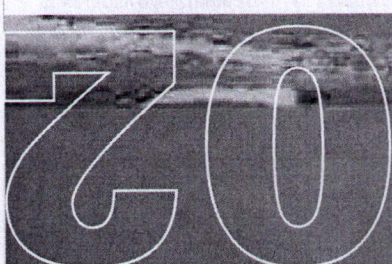


Fig 1 : Important coastal and marine protected areas of India

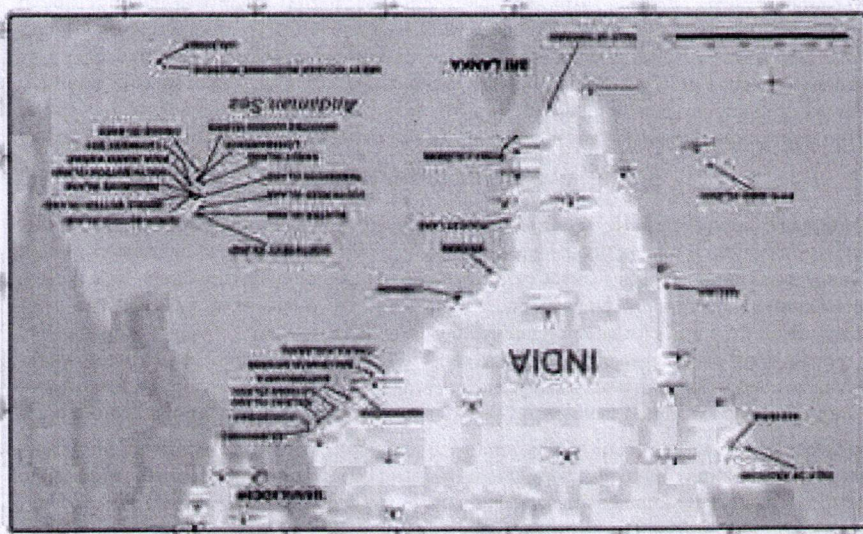


Table 1 : List of Marine Protected Areas in peninsular India

Sl. No.	Name of MPA	State	Category	IUCN category	Area (km ²)	Year of establishment
1.	Coringa	Andhra Pradesh	Sanctuary	IV	235.7	1978
2.	Krishna	Andhra Pradesh	Sanctuary	IV	194.81	1989
3.	Pulicat Lake	Andhra Pradesh	Sanctuary	IV	500	1980
4.	Dadra & Nagar Haveli	Dadra & Nagar Haveli	Sanctuary	IV	92.16	2000
5.	Fudam	Daman & Diu	Sanctuary	IV	2.18	1991
6.	Chorao Island	Goa	Sanctuary	IV	1.78	1988
7.	Marine (Gulf of Kachchh)	Gujarat	National park	II	162.89	1995
8.	Khijadia	Gujarat	Sanctuary	IV	6.05	1981
9.	Marine (Gulf of Kachchh)	Gujarat	Sanctuary	IV	295.03	1980
10.	Kadalundi Vallikkunnu Community Reserve	Kerala	Community reserve	NA	1.50	2007
11.	Malvan Marine	Maharashtra	Sanctuary	IV	29.12	1987
12.	Bhitarkanika	Odisha	National park	II	145	1998
13.	Bhitarkanika	Odisha	Sanctuary	IV	672	1975
14.	Chilika (Nalaban)	Odisha	Sanctuary	IV	15.53	1987
15.	Balukhand Konark	Odisha	Sanctuary	IV	71.72	1984
16.	Gahirmatha	Odisha	Sanctuary	IV	1435	1997
17.	Gulf of Mannar Marine	Tamil Nadu	National park	II	6.23	1980
18.	Point Callimere	Tamil Nadu	Sanctuary	IV	172.6	1967
19.	Pulicat Lake	Tamil Nadu	Sanctuary	IV	153.67	1980
20.	Sundarbans	West Bengal	National park	II	1330.1	1984
21.	Haliday Island	West Bengal	Sanctuary	IV	5.95	1976
22.	Sajnakhal	West Bengal	Sanctuary	IV	2091.12	1976
23.	Lothian Island	West Bengal	Sanctuary	IV	38	1976
24.	West Sundarban	West Bengal	Sanctuary	IV	556.45	2013

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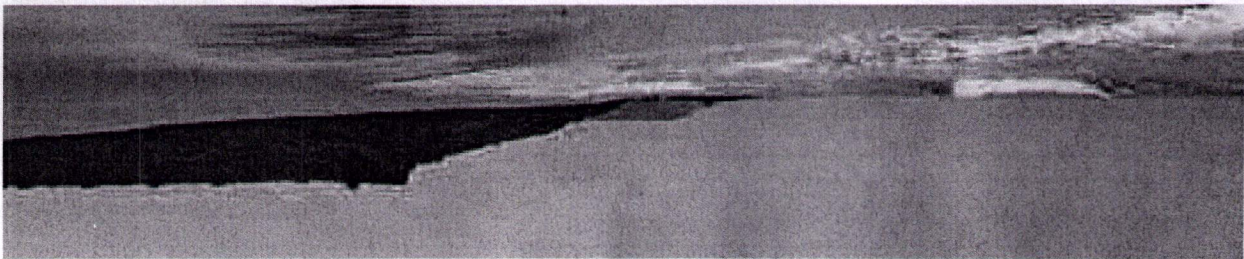


Table 2 : List of Marine Protected Areas in Islands India

Sl. No.	Name of MPA	Union Territory	Category	IUCN category	Area (km ²)	Year of establishment
1	Arial Island	Andaman & Nicobar	Sanctuary	IV	0.05	1977
2	Bamboo Island	Andaman & Nicobar	Sanctuary	IV	0.05	1977
3	Barren Island	Andaman & Nicobar	Sanctuary	IV	11.99	1977
4	Battimalv Island	Andaman & Nicobar	Sanctuary	IV	5.03	1977
5	Belle Island	Andaman & Nicobar	Sanctuary	IV	0.08	1977
6	Bennett Island	Andaman & Nicobar	Sanctuary	IV	3.46	1977
7	Bingham Island	Andaman & Nicobar	Sanctuary	IV	0.08	1977
8	Blister Island	Andaman & Nicobar	Sanctuary	IV	0.26	1977
9	Bluff Island	Andaman & Nicobar	Sanctuary	IV	1.14	1977
10	Bondoville Island	Andaman & Nicobar	Sanctuary	IV	2.55	1977
11	Brush Island	Andaman & Nicobar	Sanctuary	IV	0.23	1977
12	Buchanan Island	Andaman & Nicobar	Sanctuary	IV	9.33	1977
13	Campbell	Andaman & Nicobar	National park	II	426.23	1992
14	Channel Island	Andaman & Nicobar	Sanctuary	IV	0.13	1977
15	Cinque Islands	Andaman & Nicobar	Sanctuary	IV	9.51	1977
16	Clyde Island	Andaman & Nicobar	Sanctuary	IV	0.54	1977
17	Cone Island	Andaman & Nicobar	Sanctuary	IV	0.65	1977
18	Curlew (B.P.) Island	Andaman & Nicobar	Sanctuary	IV	0.16	1977
19	Curlew Island	Andaman & Nicobar	Sanctuary	IV	0.03	1977
20	Defence Island	Andaman & Nicobar	Sanctuary	IV	10.49	1977
21	Dot Island	Andaman & Nicobar	Sanctuary	IV	0.13	1977
22	Dortrell Island	Andaman & Nicobar	Sanctuary	IV	0.13	1977
23	Duncan Island	Andaman & Nicobar	Sanctuary	IV	0.73	1977
24	East Island	Andaman & Nicobar	Sanctuary	IV	6.11	1977
25	East of Inglis Island	Andaman & Nicobar	Sanctuary	IV	3.55	1977
26	Egg Island	Andaman & Nicobar	Sanctuary	IV	0.05	1977
27	Elat Island	Andaman & Nicobar	Sanctuary	IV	9.36	1977
28	Entrance Island	Andaman & Nicobar	Sanctuary	IV	0.96	1977
29	Galathea	Andaman & Nicobar	National park	II	110	1992
30	Gander Island	Andaman & Nicobar	Sanctuary	IV	0.05	1977
31	Girjan Island	Andaman & Nicobar	Sanctuary	IV	0.16	1977
32	Goose Island	Andaman & Nicobar	Sanctuary	IV	0.01	1977
33	Hump Island	Andaman & Nicobar	Sanctuary	IV	0.47	1977
34	Interview Island	Andaman & Nicobar	Sanctuary	IV	133.87	1977
35	James Island	Andaman & Nicobar	Sanctuary	IV	2.1	1977
36	Jungle Island	Andaman & Nicobar	Sanctuary	IV	0.52	1977
37	Kyd Island	Andaman & Nicobar	Sanctuary	IV	8	1977
38	Landfall Island	Andaman & Nicobar	Sanctuary	IV	29.48	1977
39	Latouche Island	Andaman & Nicobar	Sanctuary	IV	0.96	1977
40	Lohabarrack	Andaman & Nicobar	Sanctuary	IV	22.21	1977
41	Mahatma Gandhi Marine	Andaman & Nicobar	National park	II	281.5	1983
42	Mangrove Island	Andaman & Nicobar	Sanctuary	IV	0.39	1977
43	Mask Island	Andaman & Nicobar	Sanctuary	IV	0.78	1977

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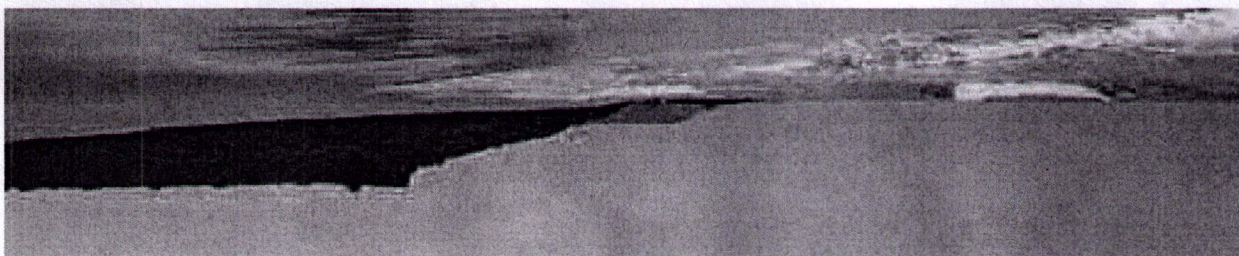


44	Mayo Island	Andaman & Nicobar	Sanctuary	IV	0.1	1977
45	Megapode Island	Andaman & Nicobar	Sanctuary	IV	0.12	1977
46	Middle Button Island	Andaman & Nicobar	National park	II	0.44	1987
47	Montgomery Island	Andaman & Nicobar	Sanctuary	IV	0.21	1977
48	Mount Harriett	Andaman & Nicobar	National park	II	46.62	1987
49	Narcondam Island	Andaman & Nicobar	Sanctuary	IV	6.81	1977
50	North Brother Island	Andaman & Nicobar	Sanctuary	IV	0.75	1977
51	North Button Island	Andaman & Nicobar	National park	II	0.44	1987
52	North Island	Andaman & Nicobar	Sanctuary	IV	0.49	1977
53	North Reef Island	Andaman & Nicobar	Sanctuary	IV	3.48	1977
54	Oliver Island	Andaman & Nicobar	Sanctuary	IV	0.16	1977
55	Orchid Island	Andaman & Nicobar	Sanctuary	IV	0.1	1977
56	Ox Island	Andaman & Nicobar	Sanctuary	IV	0.13	1977
57	Oyster Island-I	Andaman & Nicobar	Sanctuary	IV	0.08	1977
58	Oyster Island-II	Andaman & Nicobar	Sanctuary	IV	0.21	1977
59	Paget Island	Andaman & Nicobar	Sanctuary	IV	7.36	1977
60	Parkinson Island	Andaman & Nicobar	Sanctuary	IV	0.34	1977
61	Passage Island	Andaman & Nicobar	Sanctuary	IV	0.62	1977
62	Patric Island	Andaman & Nicobar	Sanctuary	IV	0.13	1977
63	Peacock Island	Andaman & Nicobar	Sanctuary	IV	0.62	1977
64	Pitman Island	Andaman & Nicobar	Sanctuary	IV	1.37	1977
65	Point Island	Andaman & Nicobar	Sanctuary	IV	3.07	1977
66	Potanma Islands	Andaman & Nicobar	Sanctuary	IV	0.16	1977
67	Ranger Island	Andaman & Nicobar	Sanctuary	IV	4.26	1977
68	Rani Jhansi	Andaman & Nicobar	National park	II	256.14	1996
69	Reef Island	Andaman & Nicobar	Sanctuary	IV	1.74	1977
70	Roper Island	Andaman & Nicobar	Sanctuary	IV	1.46	1977
71	Ross Island	Andaman & Nicobar	Sanctuary	IV	1.01	1977
72	Rowe Island	Andaman & Nicobar	Sanctuary	IV	0.01	1977
73	Saddle Peak	Andaman & Nicobar	National park	II	32.54	1987
74	Sandy Island	Andaman & Nicobar	Sanctuary	IV	1.58	1977
75	Sea Serpent Island	Andaman & Nicobar	Sanctuary	IV	0.78	1977
76	Shark Island	Andaman & Nicobar	Sanctuary	IV	0.6	1977
77	Shearme Island	Andaman & Nicobar	Sanctuary	IV	7.85	1977
78	Sir Hugh Rose Island	Andaman & Nicobar	Sanctuary	IV	1.06	1977
79	Sisters Island	Andaman & Nicobar	Sanctuary	IV	0.36	1977
80	Snake Island-I	Andaman & Nicobar	Sanctuary	IV	0.73	1977
81	Snake Island-II	Andaman & Nicobar	Sanctuary	IV	0.03	1977
82	South Brother Island	Andaman & Nicobar	Sanctuary	IV	1.24	1977
83	South Button Island	Andaman & Nicobar	National park	II	0.03	1987
84	South Reef Island	Andaman & Nicobar	Sanctuary	IV	1.17	1977
85	South Sentinel Island	Andaman & Nicobar	Sanctuary	IV	1.61	1977
86	Spike Island-I	Andaman & Nicobar	Sanctuary	IV	0.42	1977
87	Spike Island-II	Andaman & Nicobar	Sanctuary	IV	11.7	1977
88	Stoat Island	Andaman & Nicobar	Sanctuary	IV	0.44	1977
89	Surat Island	Andaman & Nicobar	Sanctuary	IV	0.31	1977

Table 3 : Important coastal and marine biodiversity areas of peninsular India

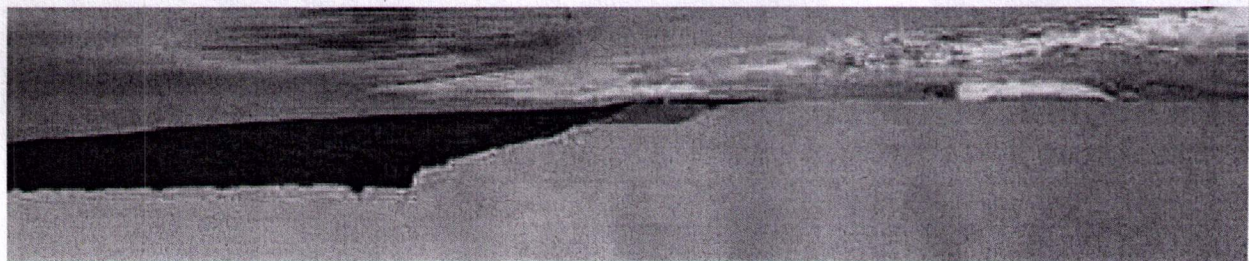
State	District	Identified Sites	Coordinates	Area (km ²)	Suggested Category
Gujarat (14)	Kachchh	1. Koleswar	23°40.363	68°33.614	146
	Kachchh	2. Jacau	23°14.245	68°36.602	403
	Kachchh	3. Gasabara	22°57.305	69°00.121	19
	Porbandar	4. Porbandar	21°39.150	69°36.629	261
	Porbandar	5. Madhavpur	21°15.717	69°57.057	19.6
	Diu-Daman	6. Diu	20°23.034	70°57.613	179
	Junagad	7. Gopnath	21°26.090	72°06.531	87
	Bhavnagar	8. Bhavnagar	21°45.678	72°11.502	816
	Anand	9. Wadgham	22°16.414	72°27.661	927
	Surat	10. Allibet	21°38.294	72°42.909	647
	Surat	11. Purna	20°56.254	72°48.201	147
	Valsad	12. Ambika	20°45.348	72°51.202	105
	Valsad	13. Darmganga	20°24.654	72°51.019	9
	Valsad	14. Umergaon	20°12.265	72°44.976	22.5

90	Swamp Island	Andaman & Nicobar	Sanctuary	IV	4.09	1977
91	Table (Delgarno) Island	Andaman & Nicobar	Sanctuary	IV	2.29	1977
92	Table (Excelstior) Island	Andaman & Nicobar	Sanctuary	IV	1.69	1977
93	Talabachha Island	Andaman & Nicobar	Sanctuary	IV	3.21	1977
94	Temple Island	Andaman & Nicobar	Sanctuary	IV	1.04	1977
95	Tilongchang Island	Andaman & Nicobar	Sanctuary	IV	36.43	1977
96	Tree Island	Andaman & Nicobar	Sanctuary	IV	0.03	1977
97	Trilby Island	Andaman & Nicobar	Sanctuary	IV	0.96	1977
98	Tuft Island	Andaman & Nicobar	Sanctuary	IV	0.29	1977
99	Turtle Island	Andaman & Nicobar	Sanctuary	IV	0.39	1977
100	Kwangtung Island	Andaman & Nicobar	Sanctuary	IV	0.57	1987
101	West Island	Andaman & Nicobar	Sanctuary	IV	6.4	1977
102	Wharf Island	Andaman & Nicobar	Sanctuary	IV	0.11	1977
103	White Cliff Island	Andaman & Nicobar	Sanctuary	IV	0.47	1977
104	Galathia Bay	Andaman & Nicobar	Sanctuary	IV	11.44	1997
105	Cuthbert Bay	Andaman & Nicobar	Sanctuary	IV	5.82	1997
106	Pitt	Lakshadweep	Sanctuary	IV	0.01	2002





State (number of sites)	District	Identified Sites	Coordinates North East	Area (km ²)	Suggested Category
Maharashtra (16)	Thane	15. Valterna Creek	19°31.623	72°51.116	132.4
	Thane	16. Bassein/ Vasai Creek	19°19.111	72°51.203	150
	Thane	17. Thane Creek	19°09.256	72°58.671	152
	Raigad	18. Dharamtar	18°41.865	73°01.625	340
	Raigad	19. Kundalika	18°32.690	72°55.915	98
	Raigad	20. Murud- Janjira/Mhasala	18°18.366	72°57.990	141.7
	Raigad	21. Shrivardhan	18°02.102	73°01.037	9.6
	Ratnagiri	22. Harthareswar -Saviti	17°59.455	73°01.136	21.77
	Ratnagiri	23. Dabhoi/Vasishiti	17°34.799	73°10.910	23
	Ratnagiri	24. Jaligad	17°17.545	73°13.402	40.75
	Ratnagiri	25. Purnagad	16°48.503	73°19.349	9.4
	Ratnagiri	26. Vijayadurg	16°33.592	73°20.116	48.45
	Sindhudurg	27. Devgad	16°22.475	73°22.278	14.4
	Sindhudurg	28. Angria Bank	16°21.323	72°08.083	400
	Sindhudurg	29. Achra-Malvan	16°12.326	73°26.518	62.74
	Sindhudurg	30. Terekhol	15°43.411	73°41.306	7.5
Goa (3)	North Goa	31. Morjim-Anjuna	15°37.019	73°44.007	11
	North Goa	32. Zuar-Mandovi Estuary	15°27.989	73°48.297	84.5
	South Goa	33. Galgibagh	14°57.877	74°03.201	3.5
Karnataka (10)	Uttara Kannada	34. Kaili Estuary	14°51.206	74°06.712	25.3
	Uttara Kannada	35. Gokarna/Tadri	14°50.521	74°08.503	46
	Uttara Kannada	36. Sharavati/ Hanovar	14°16.581	74°27.958	13.6
	Uttara Kannada	37. Murudeshwar	14°05.709	74°29.149	30
	Udupi	38. Netrani Island	14°01.048	74°19.559	5
	Udupi	39. Kundapur/ Haladi	13°38.865	74°42.317	16.7
	Udupi	40. Kodi Bengre/ Swarna-Sila	13°23.334	74°44.704	15
	Uttara Kannada	Conservation/ community reserve			
	Uttara Kannada	Conservation/ community reserve			
	Uttara Kannada	Conservation/ community reserve			



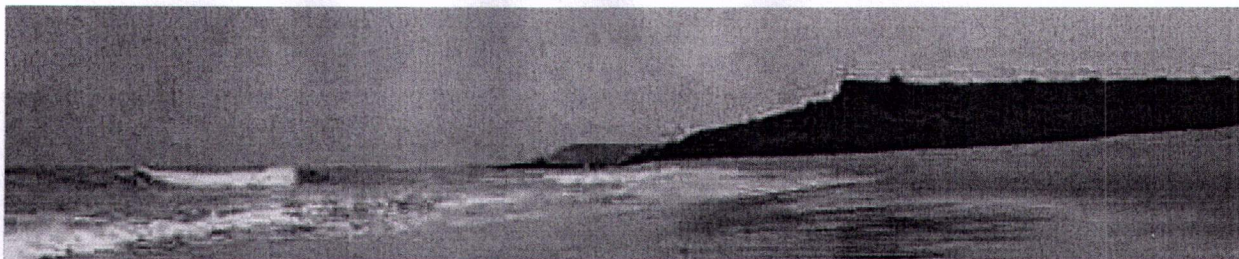
Coastal And Marine Protected Areas in India: Challenges And Way Forward

Coastal and
Marine Protected
Areas in India:
Challenges and
Way Forward

State (number of sites)	District	Identified Sites	Coordinates North East	Area (km ²)	Suggested Category
Kerala (18)	Udupi	41. Malpe	13°21.624	74°41.874	38 Conservation/ community reserve
	Dakshin	42. Mulik-Pavanje	13°05.835	74°47.267	3.5 Conservation/ community reserve
	Dakshin	43. Gurpur- Netravati	12°51.254	74°50.058	13.8 Conservation/ community reserve
	Kannada	44. Kumbala Estuary	12°35.876	74°56.457	4.7 Conservation/ community reserve
	Kasaragod	45. Mongrol	12°32.945	74°57.304	4.5 Conservation/ community reserve
	Kasaragod	46. Kasargod/ Chandragiri	12°29.244	74°59.372	8 Conservation/ community reserve
	Kasaragod	47. Edayilakkadu	12°08.144	75°09.391	38 Conservation/ community reserve
	Kannur	48. Azhikkal	11°56.199	75°28.277	25 conservation/ community reserve
	Kannur	49. Kadakavu/ Dharmadom	11°46.835	75°27.649	9.5 Conservation/ community reserve
	Kozhikode	50. Kolavipalem	11°33.812	75°35.481	4.5 Conservation reserve
	Kozhikode	51. Beypore	11°09.713	75°48.065	8 Conservation/ community reserve
	Malapuram	52. Kadalundi	11°07.592	75°49.951	4 Community reserve
West Bengal (3)	Thirissur	53. Edakazhyur beach	10°36.580	75°59.435	3.2 Conservation/ community reserve
	Thirissur	54. Kole wetlands	10°32.527	76°06.449	175 Community reserve
	Ernakulam	55. Vypin-Fort Kochi	09°58.381	76°14.394	110 Conservation/ community reserve
	Alapuzha	56. Kumbalanghi	09°51.502	76°16.795	59.5 Conservation/ community reserve
	Alapuzha	57. Vembadom/ Kunnarakom	09°37.882	76°25.125	230 Conservation/ community reserve
	Alapuzha	58. Kayamkulam/ Aylram	09°07.496	76°28.756	21 Conservation/ community reserve
	Kollam	59. Ashlamudi	08°56.306	76°32.384	75 Conservation/ community reserve
	Tiruvananthapuram	60. Paravur Kayal	08°48.762	76°38.924	12 Conservation/ community reserve
	Tiruvananthapuram	61. Kadinamkulam	08°38.150	76°47.722	9.5 Conservation/ community reserve
	24 Parganas	62. Jambudweep	21°35.126	88°11.152	5.12 Conservation/ community reserve
	Midnapur	63. Jambuchhar	21°59.976	88°07.025	130 Conservation/ community reserve
	Midnapur	64. Junput	21°45.596	87°51.816	57.6 Conservation/ community reserve
Orissa (12)	Balasore	65. Taiseni-Udaipur	21°36.340	87°28.842	3.5 Conservation/ community reserve
	Balasore	66. Subarnarekha	21°33.720	87°24.281	38 Conservation/ community reserve



State (number of sites)	District	Identified Sites	Coordinates North	East	Area (Km ²)	Suggested Category
	Balasore	67. Chandipur	21°27.071	87°02.413	81.56	Conservation/ community reserve
	Bhadrak	68. Dhamra/ Karanjmal	20°51.152	86°56.835	90	Conservation/ community reserve
	Kendrapara	69. Bhopal	20°29.600	86°44.584	30	Conservation/ community reserve
	Kendrapara	70. Jambudweep	20°24.075	86°43.260	95	Conservation/ community reserve
	Jagatsinghpur	71. Paradip	20°15.530	86°40.736	260	Conservation/ community reserve
	Puri	72. Devi	19°58.810	86°19.528	88.38	Conservation/ community reserve
	Puri	73. Chilika/ Nalabana Isle	19°41.336	85°17.659	1095	Wildlife sanctuary
	Ganjam	74. Rushikulya	19°22.799	85°04.355	18.85	Conservation/ community reserve
	Ganjam	75. Gopalpur	19°15.426	84°58.326	5.4	Conservation/ community reserve
	Ganjam	76. Bahuda swamp	19°13.720	84°50.458	18.55	Conservation/ community reserve
Andhra Pradesh (17)	Srikakulam	77. Sunapur/ Nilarevu/Ichchap	19°05.342	84°44.235	34.54	Conservation/ community reserve
	Srikakulam	78. Nuvularevu	18°40.754	84°26.460	10.32	Conservation/ community reserve
	Srikakulam	79. Naupada	18°33.740	84°20.875	28.98	Conservation/ community reserve
	Srikakulam	80. Kalinga- patnam	18°20.535	84°07.449	10	Conservation/ community reserve
	Vishakapatnam	81. Gangavaram	17°38.770	83°11.945	3	Conservation/ community reserve
	Vishakapatnam	82. Pudimadka	17°28.531	82°59.599	2	Conservation/ community reserve
	Vishakapatnam	83. Bangaram- palem	17°25'186	82°51'718	4.2	Conservation/ community reserve
	Puducherry	84. Yenam	16°43.513	82°12.565	8.4	Conservation reserve
	East Godavari	85. Vashisti/ Kothapalem	16°35.605	82°17.885	148	Conservation/ reserve
	Krishna	86. Bantumeli	16°20.628	81°20.410	28.44	Conservation reserve
	Krishna	87. Machilipatnam	16°07.919	81°10.827	26.38	Conservation reserve
	Krishna	88. Hamasaladevi	15°58.627	81°06.035	42	Conservation/ community reserve
	Guntur	89. Nizamapatnam	15°53.711	80°38.584	45.64	Conservation/ community reserve
	Guntur	90. Chinna Ganjam	15°40.120	80°15.331	14.85	Community reserve
	Prakasam	91. Pennar	14°34.881	80°10.155	23.5	Conservation/ community reserve
	Nellore	92. Krishnapatnam	14°15.341	80°75.182	48.6	Conservation/ community reserve



State (number of sites)	District	Identified Sites	Coordinates		Area (Km ²)	Suggested Category
			North	East		
Tamil Nadu & Puducherry (14)	Nellore	93. Pulicat	13°34.080	80°08.454	383	Wildlife sanctuary
	Thiruvallur	94. Pulicat	13°26.311	80°19.516	82.4	Conservation/ community reserve
	Kanchipuram	95. Muttukad/ Kovalam	12°48.343	80°14.576	32.42	Conservation/ community reserve
	Villupuram	96. Kaliveli	12°14.115	79°58.326	101.4	Conservation/ community reserve
	Puducherry	97. Ariyankuppam	11°54.308	79°49.553	4	Conservation/ community reserve
	Cuddalore	98. Cuddalore	11°41.490	79°46.215	9.567	Conservation/ community reserve
	Cuddalore	99. Vellar	11°30.103	79°46.332	8.2	Community reserve
	Cuddalore	100. Pichavaram	11°25.835	79°47.601	20	Wildlife sanctuary
	Cuddalore	101. Pazhayaar	11°21.220	79°49.531	10.5	Conservation/ community reserve
	Nagapatnam	102. Talaingnayar	10°31.060	79°43.634	37	Conservation reserve
	Nagapatnam	103. Vedaranyam swamp	10°18.993	79°44.737	210	Community reserve
	Thiruvarur	104. Muthupet	10°20.301	79°32.417	70	Wildlife sanctuary
	Thanjavur	105. Adiramapatnam	10°18.260	79°22.364	32.25	Conservation reserve
	Pudukotal- Ramnad	106. Palk Bay	09°38.813	78°56.373	725	Wildlife sanctuary
	Kanyakumari	107. Manakudy	08°06.129	77°29.019	4.41	Conservation/ community reserve

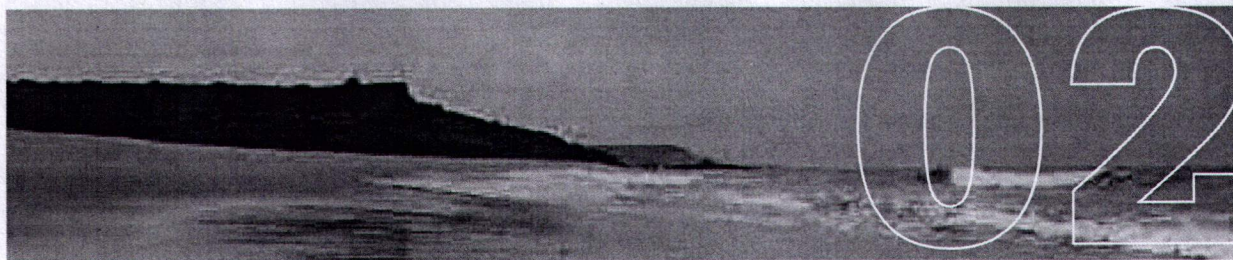
Challenges and Way forward

Considering the importance of coastal areas in India with respect to the prevailing socio-economic perspectives, it will be difficult to add further habitats of coastal and marine biodiversity in the existing MPA network as national parks or sanctuaries.

So far, there has been no systematic assessment of the conservation status of coastal and marine species of India using the IUCN Regional Red Listing Guidelines. This is largely due to a lack of required data on the status and distribution of most of the marine species in India. Currently, according to expert opinion, 10 species of shark and ray, including the Whale Shark, all species of sea horse, the Giant Grouper, all cetaceans, the Dugong, 9 species of shell, 5 species of sea turtle, one species of otter, all species of coral, all species of sponge and all holothurians that occur in the coastal and marine areas of India are considered to be under threat. Therefore, they have been protected under the Wildlife (Protection) Act, 1972 by being listed in Schedule I.

The highly threatened marine species of India need to be conserved on priority basis using special 'Species Recovery Plans'. In this connection, seven threatened marine taxa were selected for preparation of recovery plans: the Dugong, the Whale Shark, marine turtles (two species), giant clams, holothurians (sea cucumbers), horseshoe crabs and sea horses. The Ministry of Environment, Forests and Climate Change, Government of India has already chosen the threatened dugong, marine turtles, coral reefs and mangroves under its 'Integrated Development of Wildlife Habitats' programme on a priority basis (Anon 2009). Necessary conservation actions in this regard have already been initiated.

Coastal ecosystems are amongst some of the most vulnerable ecosystems to climate change. Therefore, it is of the greatest importance to have a climate change adaptation plan for the coastal and marine protected areas in the country. Coordination among all the organizations/institutions that work for conservation of threatened marine species and the welfare of coastal communities is required. Moreover, documentation and databases of information obtained through research on threatened marine species are also urgently required. It is also important to develop a specialized field-based



programme in marine ecosystem ecology at the higher education level with an emphasis on rigorous scientific research, hypothesis testing, taxonomy and conservation, based on the models established by the M.Sc. course in wildlife science at the Wildlife Institute of India and at the National Centre for Biological Science. Development of human resources to manage the MPAs of India is also essential.

Fisheries, aquaculture, seaweeds and mangroves are among the major areas of scientific research into coastal and marine biodiversity in India. Research on the culture of organisms of export value such as sea cucumbers, sea horses and ornamental fishes has also been carried out by institutions such as state and central fisheries departments and academic institutions. Research on corals, mangroves, sea grasses and certain threatened fauna has also been carried out, but in a sporadic manner and only in selected sites. So far, most of the research carried out in India has considered marine biodiversity as commercial products and largely failed to appreciate their ecological role. Moreover, recent threats such as climate change, invasive species and faster economic development are posing major challenges to conservation of marine biodiversity. These need to be addressed immediately through scientific research. Addressing these lacunae through long-term scientific research and generation of ecological information on the habitat and resource requirements of marine species are needed for successful management of MPAs in the country.

Acknowledgements

We are grateful to the National Wildlife Database of WII and Dr. J.S. Kathyat for providing data on protected areas in India. We thank Shri B.C. Choudhury and Dr. K.R. Saravanan, who helped us finalize the framework of this chapter.

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Marine NP
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Marine Sanctuary - Gujarat

No. 99

REGISTERED NO. G/GNR/2



the Gujarat Government Gazette

EXTRAORDINARY

PUBLISHED BY AUTHORITY

III] THURSDAY, JULY 24, 1982/SRAVANA 7, 1904

pageing is given to this Part in order that it may be filed as a
separate Compilation.

PART IV-A

es and orders (other then those published in Parts I, I-A and I-L)
made by the Government of Gujarat under the Central Acts,

AGRICULTURE AND FORESTS DEPARTMENT

Notification

Sachivalaya, Gandhinagar, 20th July, 1982.

WILD LIFE (PROTECTION) ACT, 1972.

No. AKH-138(1)/82-WLP-1081-126827-V-2.—Whereas the Govern-
of Gujarat considers that the area, the limits of which are defined
schedule annexed hereto is of adequate, ecological, faunal, floral,
raphological natural or zoological significance for the purpose of

protecting, propagating and developing wild life and its environment. Now, therefore, in exercise of the powers conferred by Section 18(1) of the Wild Life (Protection) Act, 1972 (53 of 1972), the Government of Gujarat hereby declares the Forest Areas in the Gulf of Kutch falling in Jamnagar Forests Division, Jamnagar District, Jamnagar specified in the schedule annexed hereto as a Marine Sanctuary, in addition to the areas already declared as "Marine Sanctuary" vide notification No. AKH-140-80-WLP-1079-109483-P2 of 12-8-1980.

SCHEDULE

Limits of the areas hereby declared as "Marine Sanctuary".

No.	Name of the Area	Area Hectares	Boundaries
1	2	3	4
1.	Coral area near Mithapur village.	56.00	North:- Gulf of Kutch towards Arambada reef. South:- Gulf of Kutch towards Mithapur village. East:- Revenue area of Mithapur village. West:- Gulf of Kutch.
2.	Coral area near Okha village.	56.00	North:- Gulf of Kutch towards Samiani Island. South:- Gulf of Kutch. East:- Gulf of Kutch towards shanbhodhar Island. West:- Gulf of Kutch towards Arambada reef.
3.	Coral area of Chundri Reef.	266.00	North:- Gulf of Kutch. South:- Gulf of Kutch. East:- Gulf of Kutch towards chunba reef. West:- Gulf of Kutch.

1	2	3	4
4.	Coral area near Shanbhodhar.	70.00	North:- Gulf of Kutch towards chundri reef. South:- Gulf of Kutch towards shanbhodhar Island. East:- Gulf of Kutch towards paga reef. West:- Gulf of Kutch towards Samiani Island.
5.	Boria Reef.	560.00	North:- Gulf of Kutch towards paga reef. South:- Gulf of Kutch towards Laja marodi and Man Murodi Islands. East:- Gulf of Kutch towards chusna. West:- Gulf of Kutch.
6.	Devdi and Dhabdhaba Islands nearly coral areas	49.00	North:- Gulf of Kutch towards Boria Reef. South:- Gulf of Kutch. East:- Gulf of Kutch towards Laja and Mammardi Island. West:- Gulf of Kutch.
7.	Coral area in the Western port of chunk reef.	224.00	North:- Gulf of Kutch. South:- Gulf of Kutch towards Bhaidar Island. East:- Gulf of Kutch towards Naru Island. West:- Gulf of Kutch.
8.	Coral area to the west of Bhaidar Island.	504.00	North:- Gulf of Kutch towards coral area of chunk reef. South:- Gulf of Kutch towards Chusna Island. East:- Bhaidar Island.

1	2	3	4
			West:- Gulf of Kutch towards Paga reef.
9.	Coral area near Chusna	70.00	North:- Gulf of Kutch towards Bhaidor Island. South:- Gulf of Kutch towards Marodi Island. East:- Gulf of Kutch towards Vudda Kaddas. West:- Gulf of Kutch towards Bori reef.
10.	Coral area to the East of Marodi Island.	203.00	North:- Gulf of Kutch of towards Chusna Island. South:- Gulf of Kutch. East:- Gulf of Kutch towards Ajad Island. West:- Gulf of Kutch.
11.	Coral area to the East of Narabet.	516.00	North:- Gulf of Kutch South:- Gulf of Kutch towards Bhaidar. East:- Gulf of Kutch towards Chuska Island. West:- Gulf of Kutch.
12.	Coral area to the West of Ajad Island.	182.00	North:- Gulf of Kutch. South:- Gulf of Kutch. East:- Gulf of Kutch. West:- Gulf of Kutch towards Marodi Island.
13.	Coral area near western side of Karumbhar island.	133.00	North:- Gulf of Kutch. South:- Gulf of Kutch. East:- Gulf of Kutch towards Karumbhar Island. West:- Gulf of Kutch.
14.	Coral area near Narara Reef.	84.00	North:- Gulf of Kutch. South:- Narara Reef. East:- Sikka Reef. West:- Gulf of Kutch.

1	2	3	4
15.	Coral area near sikka creek.	70.00	North:- Gulf of Kutch. South:- Gulf of Kutch. East:- Sikka creeks. West:- Gulf of Kutch.
16.	Coral area in the eastern part of goose reef.	56.00	North:- Gulf of Kutch. South:- Gulf of Kutch East:- Munda Reef. West:- Sikka creek.
17.	Coral area near Pirotan Island.	140.00	North:- Gulf of Kutch. South:- Pirotan Island. East:- Gulf of Kutch. West:- Gulf of Kutch.
18.	Additional area of Jindra bet.	770.00	North:- Gulf of Kutch. South:- Kathanu Jungle. East:- Gulf of Kutch. West:- Jindra cheer forest.
19.	Coral Island.	1043.00	North:- Gulf of Kutch towards pirotan island. South:- Gulf of Kutch. East:- Jindra cher forest. West:- Gulf of Kutch towards Bhed bid
20.	Dalika wet M. I. Island.	1314.00	North:- Gulf of Kutch. South:- Dera Reef. East:- Gulf of Kutch towards Bheshid. West:- Mundra Reef.
21.	Rozi Island.	332.00	North:- Rozi cher forest. South:- Gulf of Kutch. East:- Gulf of Kutch. West:- Gulf of Kutch.
22.	Khimra khat and Garu Island.	56.00	North:- Gulf of Kutch. South:- Garu cher forest. East:- Gulf of Kutch. West:- Gulf of Kutch

1	2	3	4
23.	Sambeli Island.	23.00	North:- Gulf of Kutch South:- Gulf of Kutch. East:- Gulf of Kutch. West:- Gulf of Kutch.
24.	Dia Marodi and Manmarodi.	5.00	North:- Galat Kutch towards Bora, i.e., South:- Gulf of Kutch. East:- Gulf of Kutch. West:- Gulf of Kutch towards Dhulbada Island.
25.	Gulf of Area near Ocha	1618.00	North:- Poshitra Bay South:- Bansur and Poshitra village boundary. East:- Boria reef, Marodi bet and Devdi Island. West:- Boundaries of Ocha and Arambhada village.
26.	Area to the South and west (Bay of Pindhara)	2161.13	North:- Okharcher forest & Bay of Pindhara & Land of Tata Chemicals Ltd. South:- Land of Tata chemicals Ltd. and village boundary of Pindhara. East:- Boundary of Pindhara village and Virpur. West:- Village boundary of Mulvelal Khatun La.
	Area to the South of Gadu and Rozi bet.	3195.20	North:- Boundary of Gadu and Rozi bet and land of Tata chemicals Ltd. South:- Tata chemicals Ltd and boundary of Mota Asoa, Bet and Athamda Bara. East:- Boundary of Mota Athamda Bara. West:- Sambeliya Bet.

1	2	3	4
28.	Area to the South Baraninar.	448.00	North:- Cher forest of Baraninar and Gorad. South:- Boundary of Athamnabara village. East:- Boundary of Kalavad and simani village. West:- Boundary of Athamnabara village.
29.	Area to the South of Chudeshwar Forest.	271.92	North:- Chudeshwar salt work & Chudeshwar Forest. South:- Boundary of chudeshwar village. East:- Chudeshwar salt work & Chudeshwar forest. West:- Kalachhadinar.
30.	Area to the East of Bhad.	420.00	North:- Narara Forest. South:- Boundary of Vadinar village. East:- Jakharkotho. West:- Bhad Forest.
31.	Area to the East and South of Jakharkotho.	484.77	North:- Jakharkotho Forest South:- Gagava salt works of Saurashtra chemicals. East:- Gagava salt works and Mungni village. West:- Boundary of Singachi village.
32.	Area to the East of Zanzarwadi	3057.35	North:- Zanzarwadi. South:- Sikka salt works and Boundary of Mungni and Bed Village. East:- Boundary of Sarimat village. West:- Sikkani nar.

1 2 3 4

33. Area to the South of Barajani Nar.

1290.43 North:- Boundary of Barajani Nar Forest

South:- Boundary of Sarnat, Kharval Raja and

Dhuldi ad. & Bodi village ad. Harvoday

Sahkari Mandli salt

works.

East:- Rozi Nar

West:- Boundary of Sarnat

village.

34. Area to the South of Nagar Nar Forest.

274.96

North:- Nagar Nar Forest.

South:- Boundary of Bodi,

Kamdar salt works,

Halar Salt works,

Navanagar Village,

Sanctuary Salt works,

Dhunvav, Khijadia,

Jambuda village.

East:- Boundary of Sayara

village

West:- Rozi Nar

TOTAL : . . 23721.06 Hect.

237.21 Sq. Kms.

By order and in the name of the Governor of Gujarat,

P. N. VASAVADA.

Under Secretary to Government.

મિતી અને વન વિભાગ

અધિકારી

સચિવાલય, મહેનગર, ૨૦મી જુલાઈ, ૧૯૮૨.

૧૫ પ્રાંતી (સંસ્કૃત) અધિકારી, ૧૯૭૨.

ક્રમાંક : અખ-૧૩૮/૧૯૮૨-૧૯૮૩-૧૨૬/૨૭૨૨-ગુલ્શન સરકારને સારી એમ લાગે છે કે આ સરકારે અધિકારીઓ દ્વારા વિસ્તારેલી ચતુર્થિયા નેમો દ્વારા છે તે વિસ્તાર નેમો અધિકારીઓ દ્વારા પ્રાપ્ત કરવા પત્રોપતિ કરવા, ભુપ્રદીપ પ્રાદીક અને પ્રાંતી વિજ્ઞાનની દ્રષ્ટિએ પત્રોપતિ કરવા તે સીતની સાચવણી, સંવર્ધન અને વેલસના વનસ્પતિ નેમો અધિકારી (મહેનગર) તરીકે સ્થાપવાનું જરૂરી લાગે છે.

આથી વનપ્રાંતી (સંસ્કૃત) અધિકારી, ૧૯૭૨ (સને ૧૯૭૨ના ૧૩મી)ની ક્રમાંક ૧૮(૧) થી મળેલ નેમોની ક્રમાંક ૧૯૮૨ના સરકારે આ સારી જાણી ચતુર્થિયામાં નિર્દિષ્ટ કરેલ કચ્છના અખાતમાં સ્થાપક સરકારે કચ્છમાં નોંધ દ્વારા વિસ્તારને "સામુદ્રિક અખાત" (મહેનગર) તરીકે નોંધ કરે છે.

અધિકારીના ક્રમાંક : અખ-૧૮૮/૮૨ સપ્તા/૧૦૮૮/૧૦૮૮૮૩-ની ૨ ના. ૧૨મી આંખ, ૧૯૮૨ થી અજાડે જાહેર કરેલ "સામુદ્રિક અખાત" ઉપરાંતના આ વિસ્તાર છે.

અનુસૂચિ

સામુદ્રિક અખાત તરીકે જાહેર કરેલ વિસ્તારોની વિગત.

અનુ.	વિસ્તારો નામ	વિસ્તાર (ચ.કીમી)	ચતુર્થિયા
૧	૨	૩	૪
૧.	મોદાપુર ગામ નજીક પરાવા વિસ્તાર	૧૬.૦૦	૩. આંદાબાદ તરફથી કચ્છના અખાત
			૪. મોદાપુર ગામ તરફના કચ્છના અખાત
			૫. મોદાપુર ગામનો રેવન્યુ વિસ્તાર
			૬. કચ્છના અખાત.

૨. ઓખા નજીકના વિસ્તાર

૩. સમીયાની ટાપુ તરફના કચ્છના અખાત
૪. કચ્છના અખાત
૫. શોમપુર ટાપુ તરફના કચ્છના અખાત
૬. આંદાબાદ તરફના કચ્છના અખાત

AGRICULTURE AND FORESTS DEPARTMENT

Notification

Sachivalaya, Gandhinagar, 20-7-1982.

WILD LIFE (PROTECTION) ACT, 1972.

No. AKH-138-(2)-82-WLP-1081-126827-V2.—Whereas it appears to the Govt. of Gujarat that the areas at Okha and Jamnagar bases in the Gulf of Kutch in Jamnagar District, the limits of which are defined in the schedule annexed hereto are by reason of their ecological, faunal and floral, geomorphological natural or zoological importance required to be constituted as a "Marine National Park" for the purpose of propagating and developing wild life therein.

Now, therefore, in exercise of powers conferred by sub-section (1) of section 35 of the Wild Life (Protection) Act, 1972 (53 of 1972), the Govt. of Gujarat hereby declares its intention to constitute the said area into a "Marine National Park".

Notification No. AKH-137-80-WLP-1079-109483-P-2, dated 1st August 1980 issued in this behalf stands superseded and deleted by this notification.

SCHEDULE

Limits of the areas intended to be declared as "Marine National Park".

National Park Okha Base

A : Marine National Park (Okha Base)

Sr. No.	Name of the Area	Area in Ha.	Boundary
1	2	3	4

1.	Coral area near Mithapur village.	56.00	North:—Gulf of Kutch towards Arambada. South:—Gulf of Kutch towards Mithapur village. East:—Revenue area of Mithapur village. West:—Gulf of Kutch.
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1	2	3	4
31. જામરકોઇ તથા પૂર્વ તરફનો વિસ્તાર	727-99	ઉ. જામરકોઇ દ. સીચાટ કેમીકલ્સ, ગાગવા સોલ્ટ વર્ક્સનો વિસ્તાર પૂ. મુંગણી ગામની હદ પ. સોજિય ગામની હદ	
32. જામરકોઇની દક્ષિણ તરફનો વિસ્તાર	3049-44	ઉ. જામરકોઇ દ. સીચાટ સોલ્ટ વર્ક્સ અને મુંગણીસીકા અને બેડ ગામની હદ પૂ. સરમત ગામની હદ પ. સીકાની નાળ	
33. બેસજની નાળની દક્ષિણ તરફનો વિસ્તાર	1200-73	ઉ. બેસજ ગામનું જંગલ દ. સરમત, ખાસબેસજ, ઘીંચ અને સર્વોદય સહ. મુ. લી. સોલ્ટ વર્ક્સનો વિસ્તાર અને બેડી ગામની હદ પૂ. શેજીનાર પ. સરમત ગામની હદ.	
34. નગરનાળની જંગલની દક્ષિણ તરફનો વિસ્તાર	294-66	ઉ. નગરનાળનું જંગલ દ. બેડી, કામદાર સોલ્ટ વર્ક્સનો વિસ્તાર હાલાર સોલ્ટ વર્ક્સનો વિસ્તાર, નવાનાગના, સેન્ડ્યુરી સોલ્ટ વર્ક્સનો વિસ્તાર પુંવાવ, ખીજડીયા તથા જાંબુડ ગામની હદ. પૂ. સપાણા ગામની હદ પ. શેજીની નાળ	
	23921-06	લેકટર્સ	

એલ્એ કે 239-21 ચે. કિ. મી.

ગુજરાતના સભ્યપાલકશ્રીના હુકમથી અને તેમના નામે,

પી. એન. વસાવડા,
સચ્ચારના ઉપ-સચિવ.

1	2	3	4
2.	Coral area near Okha village	56.00	North: Gulf of Kutch towards Samikun island. South: Gulf of Kutch. East: Gulf of Kutch towards shankhodhar island. West: Gulf of Kutch towards Arad lada.
3.	Coral area of Chandri tee	266.00	North: Gulf of Kutch. South: Gulf of Kutch. East: Gulf of Kutch. West: Gulf of Kutch.
4.	Coral area near shankhodhar	70.00	North: Gulf of Kutch towards chank reef. South: Gulf of Kutch towards shankhodhar island. East: Gulf of Kutch towards paga reef. West: Gulf of Kutch towards Samikun Island.
5.	Paga reef with its coral area	1267.86	North: Gulf of Kutch. South: Gulf of Kutch towards Baria reef. East: Gulf of Kutch towards Bhaidar Island. West: Gulf of Kutch towards shankhodhar Island.
6.	Baria reef	360.00	North: Gulf of Kutch towards paga reef. South: Gulf of Kutch towards lafa marudi and man marudi island. East: Gulf of Kutch towards Chusna. West: Gulf of Kutch.

1	2	3	4
7.	Devdi and Dhaba island near by coral area	49.00	North: Gulf of Kutch towards Baria reef. South: Gulf of Kutch. East: Gulf of Kutch towards lafa and man Marodi island. West: Gulf of Kutch.
8.	Lafa marudi and Man marudi.	5.00	North: Gulf of Kutch towards Baria reef. South: Gulf of Kutch. East: Gulf of Kutch towards Marodi island. West: Gulf of Kutch.
9.	Sanbelia bet	28.00	North: Gulf of Kutch towards Marodi island. South: Gulf of Kutch. East: Gulf of Kutch towards paduchher Forest. West: Gulf of Kutch.
10.	Khimrakhant and Garubet.	56.00	North: Gulf of Kutch towards Ajadbet. South: Paduchher forest. East: Gulf of Kutch. West: Gulf of Kutch.
11.	Coral area in the Western part of Chank reef.	224.00	North: Gulf of Kutch. South: Gulf of Kutch towards Bhaidar island. East: Gulf of Kutch towards Neru island. West: Gulf of Kutch.
12.	Bhaidar Bland and coral area to the east of Bhaidar.	1182.36	North: Gulf of Kutch towards coral area of chank reef. South: Gulf of Kutch towards Chusna island. East: Gulf of Kutch towards vidakuddi reef. West: Gulf of Kutch towards paga reef.

1	2	3	4
13.	Chusna island and near by coral area	74.33	North:—Gulf of Kutch towards Bhaidar Island. South:—Gulf of Kutch towards Marodi East:—Gulf of Kutch towards Vadda Kudda reef. West:—Gulf of Kutch.
14.	Coral area of the East of Marodi island	203.00	North:—Gulf of Kutch towards Chusna island. South:—Gulf of Kutch. East:—Gulf of Kutch towards Ajadbet. West:—Gulf of Kutch.
15.	Naru bet and coral area to the east of Naru bet	1330.63	North:—Gulf of Kutch. South:—Gulf of Kutch. East:—Gulf of Kutch towards chunk island. West:—Gulf of Kutch towards chunk reef.
16.	Ajad island and near by coral area.	255.72	North:—Gulf of Kutch. South:—Gulf of Kutch. East:—Gulf of Kutch towards panaro. West:—Gulf of Kutch towards Marodi island.
17.	Chunk Island	27.98	North:—Gulf of Kutch. South:—Gulf of Kutch. East:—Gulf of Kutch. West:—Gulf of Kutch towards Naru island.
18.	Gandia kado	118.79	North:—Gulf of Kutch. South:—Gulf of Kutch towards Kalandrinal. East:—Gulf of Kutch towards narafed cherforest.

1	2	3	4
			West:—Gulf of Kutch towards canji kaddo.
19.	Panaro	171.21	North:—Gulf of Kutch. South:—Gulf of Kutch. East:—Gulf of Kutch towards marangi cher forest. West:—Gulf of Kutch.
20.	Okhari	161.29	North:—Gulf of Kutch. South:—Revenue Boundary pin-doni village. East:—Revenue boundary of Pindora village. West:—Revenue boundary of Pindoni village.
21.	Morangi	162.06	North:—Gulf of Kutch towards panero island. South:—Gulf of Kutch. East:—Baraninar. West:—Rozi cher forest
22.	Baraninas	27.07	North:—Gulf of Kutch. South:—Revenue Area. East:—Morangi cher forest. West:—Rozi cher forest.
23.	Gorad	19.80	North:—Gulf of Kutch. South:—Revenue area. West:—Gulf of Kutch towards panero.
24.	Dani	267.41	North:—Gulf of Kutch. South:—Bhalaninar and nara-fedeh forest. East:—Gulf of Kutch. West:—Gulf of Kutch.
25.	Bhalaninar	117.80	North:—Dandher forest. South:—Khararani nar. East:—Gulf of Kutch. West:—Narafed cher forest.

1	2	3	4
26.	Khararainal	409.38	North:—Bhalanainar cher forest. South:—Nurufed cher forest. East:—Gulf of Kutch. West:—Narufed cher forest.
27.	Moshido	512.81	North:—Gulf of Kutch towards Karubhar island. South:—Salanar. East:—Gulf of Kutch towards Amblananu jungle. West:—Chudeshwar ni nar
28.	Kakarli	358.63	North:—Bhalani cher forest. South:—Chudeshwarni nar forest. East:—Gulf of Kutch towards karumbhar island. West:—Nara fodcher forest.
29.	Salayani Nar	92.21	North:—Ambalanu jungle. South:—Dwarkadas valji salt works East:—Boundary of Salaya and parodia village. West:—Rakhal cher.
30.	Raibet	43.82	North:—Gulf of Kutch towards Karambhar island. South:—Revenue area of Mota Ambla village. East:—Bhalarinarcher forest. West:—Gulf of Kutch.
31.	Bhalarinar	50.18	North:—Gulf of Kutch. South:—Revenue area of Mota Ambla village. East:—Bharana jungle. West:—Bai bet.
32.	Bharana jungle	22.81	North:—Gulf of Kutch. South:—Bhalanar. East:—Revenue area of Singach village. West:—Bhalarinar.

1	2	3	4
33.	Karambhar island	2468.05	North:—Gulf of Kutch. South:—Gulf of Kutch towards Ambalanunar East:—Gulf of Kutch towards Bhad cher forest. West:—Gulf of Kutch.
34.	Coral area near Western side of Karambhar island	133.00	North:—Gulf of Kutch. South:—Gulf of Kutch. East:—Gulf of Kutch towards Karumbhar island. West:—Gulf of Kutch.
35.	Bhad	117.19	North:—Naranu Jungle. South:—Revenue Area of Vadinar village. East:—Revenue area of Vadinar island. West:—Gulf of Kutch towards Karambhar island.
36.	Narara Jungle	792.36	North:—Narara reef. South:—Revenue area of Vadinar village. East:—Narara reef. West:—Gulf of Kutch towards Karambhar island.
37.	Narara Reef	84.00	North:—Gulf of Kutch. South:—Narara Reef. East:—Sikka creek. West:—Gulf of Kutch.
Total Area		12441.75 Hact.	

MARINE NATIONAL
PARK (OKHA BASE)

1	2	3	4
B. National Park (Jamnagar Base)			
38. Coral area near Sikka creek	70.00	North:—Gulf of Kutch. South:—Gulf of Kutch. East:—Sikka creek. West:—Gulf of Kutch.	
39. Coral area in the eastern part of goos reef.	56.00	North:—Gulf of Kutch. South:—Goos reef. East:—Munde reef. West:—Sikka creek.	
40. Jhanjharawadi	582.92	North:—Munde reef. South:—Gulf of Kutch. East:—Dera reef. West:—Sikka reef.	
41. Chakhadi (Navada)	79.19	North:—Mashuri creek. South:—Gulf of Kutch towards Barajaninar. East:—Gulf of Kutch towards Bhesbid. West:—Dedika island.	
42. Bhesbid	261.42	North:—Gulf of Kutch. South:—Gulf of Kutch towards Barajaninar. East:—Gulf of Kutch towards Chhad island. West:—Gulf of Kutch towards Dedika island.	
43. Sanero	36.60	North:—Gulf of Kutch towards Pirotan island. South:—Gulf of Kutch. East:—Chhad island. West:—Gulf of Kutch towards Bhesbid.	
44. Chhad island.	1064.00	North:—Gulf of Kutch towards pirotan island. South:—Gulf of Kutch. East:—Jindra island. West:—Gulf of Kutch towards Bhesbid.	

1	2	3	4
45. Pirotan island With coral area	300.54	North:—Gulf of Kutch. South:—Gulf of Kutch towards Chhad island. East:—Gulf of Kutch. West:—Gulf of Kutch.	
46. Jindro island	991.58	North:—Gulf of Kutch. South:—Kothanu jungle. East:—Gulf of Kutch. West:—Chhad island.	
47. Shikotrititadhora	118.87	North:—Gulf of Kutch. South:—Gulf of Kutch. East:—Gulf of Kutch. West:—Gulf of Kutch towards Baluchadi rocks.	
48. Raval Pirnu Jungle	283.33	North:—Gulf of Kutch towards Mungra reef. South:—Gulf of Kutch. East:—Gulf of Kutch. West:—Gulf of Kutch.	
Total		3847.45	(38.47 Kms.)
Total Area of Marine National Park (Okha Base)		12441.75	Hact.
Total Area of Marine National Park (Jamnagar Base)		3847.45	Hact.
Total		16289.20	Hact. (162.89 sq.km.)

By order and in the name of the Governor of Gujarat,

P. N. VASAVADA,
Under Secretary to Government.

AGRICULTURE AND FORESTS DEPARTMENT

Notification

Sachivalaya, Gandhinagar, 20th July 1982

WILD LIFE (PROTECTION) ACT, 1972.

No. AKH-138-(3)-82-WLP-1081-126827-V2.—In exercise of the powers conferred by sub-section 1 of section 18 of the Wild Life (Protection) Act, 1972 (53 of 1972) the Government of Gujarat had notified an area of 67,044-06 acres i.e. 27,132-18 hectares i.e. 271.32 sq.kms. as Marine Sanctuary vide Notification No. AKH/140-WLP-1079-109483-P2, dated 12th August 1980, The Government of Gujarat under the said powers hereby deletes following areas from the said marine Sanctuary :—

SCHEDULE

Details of the areas hereby deleted from Notified marine Sanctuary.

Sr. No. Original Notifi- cation	Name of the Jungle	Area Hectares	Boundary
1	2	3	4
29.	Ambalanu Jungle	217-15	North:—Bay of Kutch. South:—Salaya nar. East:—Voundary of Mota Ambla. West:—Bay of Kutch.
36.	Vadinar	287-48	North:—Bay of Kutch. South:—Boundary of Vadinar. East:—Bay of Kutch. West:—Boundary of Vadinar.
62.	Ashiya Dhoru	253-83	North:—Bay of Kutch. South:—Balambha. East:—Karodthoro. West:—Torania.
63.	Karodthora	248-88	North:—Bay of Kutch. South:—Boundary of Balambha. East:—Bay of Kutch. West:—Ashiya Dhoru

1	2	3	4
65.	Gandhvinu jungle 'j	150-41	North:—Lamba. South:—Arabian Sea. East:—Boundary of Gandhvi. West:—Arabian Sea.
66.	Dwarka Range	2000-02	North:—Gulf of Kutch. South:—Sea cost of Kachgadi Mojap, Mothapur, Okha and Positra. East:—Paga reef and Boria reef. West:—Aranda and Gulf of Kutch.
Total Area deleted		3157-77	

Details of the area modified from notified Marine Sanctuary.

Sr.No. in original notifi- cation	Name of Jungle	Area in [] place of original area in Hectares	Boundary in place of original boundary
1	2	3	4
16.	Kalavadinar	26-76	North:— Bay of Kutch. South:— Boundary of Chudeshvar salt work and kalavad village. East:— Bay of Kutch. West:— Bay of Kutch.
22.	Chudeshvar Jungle	24-88	North:— Dhanibet and Narochinar South:— Boundary of Chudeshvar salt work and Chudeshvar village. East:— Bay of Kutch. West:— Bay of Kutch.

1	2	3	4
1	2	3	4

28. Salayumar

83-61 South:- Dwaraka Das

East:-	West:-
Valji sale works.	Rakhali.
Boundary of	Posodi village.
Salya and	

North:- Bay of Kutch.
South:- Boundary of
Belapur industry
Mingach salt work
East:- Bay of Kutch.

37. Jaddurno kotho

notical Vadinat
halt work.

1543-64 North: Bay of Kutch.
South: Boundary of Sanctuary sale

East:- Boundary of Sachana village & Bay of Kutch.
West:- Lozin nar.

Total Modified area :- 2312-14 Hect.

After the above deletions and modification the total area of Marine Sanctuary as notified vide notification of 12th August, 1981 Now works out 22071.60 hectares and 220.71 Sq. kms.

P. N. VASAVADA,

Under Secretary to Government.