



**GOVERNMENT OF MAHARASHTRA**

**Revenue & Forest Department**

Madam Cama Marg, Hutatma Rajguru Chawk,  
Mantralaya, Mumbai- 400 032.

Email :- ms351@ifs.nic.in

No.WLP -1020/174/F-1.

Date :- 25th November, 2020.

To,

The Secretary,  
Ministry of Environment, Forest and Climate Change,  
Government of India, New Delhi.

Sub :- Regarding notification of Angria Bank as a 'Designated Area' under  
the Maritime Zones Act, 1976.

Ref :- PCCF (Wildlife), Maharashtra State, Nagpur letter dated 27.05.2020.

Sir,

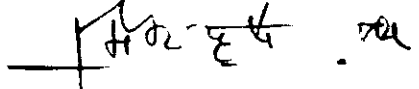
With reference to the above subject,

Angria Bank is a submerged plateau located 105 km (56.7 nautical miles) offshore from the Konkan coast of Maharashtra with an overall area of 2011 sq.km. It supports a large extent of coral reefs and algal habitats and also harbours a high diversity of associated marine fauna and flora. Also, there is a high probability that the surrounding waters are an important habitat for many marine mammals.

The Angria Bank has been identified by the Wildlife Institute of India as one of India's 106 Important Coastal and Marine Biodiversity Areas (ICMBAs). However, as it lies beyond the Indian Territorial Waters (12 nautical miles) of India, it is not possible to declare this site as a Protected Area (PA) under the Wildlife (Protection) Act, 1972. Therefore, being within the Exclusive Economic Zone (EEZ), the only way to provide legal protection to the area, is the notifying it as a 'Designated Area' for marine protection under the Territorial Waters, Continental Shelf, Exclusive Economic Zone and Other Maritime Zones Act (Maritime Zones Act) 1976 of the Ministry of External Affairs of India.

In this regard, the State Government recommends the proposal for the notification of Angria Bank as a 'Designated Area' under the Maritime Zones Act, 1976. Also, it is requested that the proposal may kindly be forwarded to the Ministry of External Affairs, Government of India along with the requisite documents for necessary action.

Your cooperation is solicited in this regard.

  
(Milind Mhaikar)  
Principal Secretary (Forests)  
Revenue and Forests Department

Copy:-

1. Secretary, Ministry of External Affairs, Government of India, New Delhi.
2. Principal Chief Conservator of Forests (Wildlife), Maharashtra State, Nagpur

09/05/20

**Principal Chief Conservator of Forest (Head of Forest Force) Maharashtra State**

"Van Bhavan", Ramgiri Road, Near Police Gym Khana, Civil Lines, Nagpur - 440 001.  
Third Floor, D-Wing, Phone No. 0712-2560953, Fax No. - 0712-2553018, E-mail ID- pccfwings@mahaforest.gov.in  
I.S.O. 9001 : 2015 Certified

Desk-23(2)/WL/Survey/CR.No.03(2020-21)/186 /2020-21, Date 27/05/2020

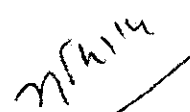
To,  
✓ The Additional Chief Secretary (Forest),  
Revenue and Forest Department,  
Mantralaya, Mumbai-32.

Sub :- Regarding notification of Angria Bank as a 'Designated Area' under the  
Maritime Zones Act - 1976.

Ref :- Additional Principal Chief Conservator of Forests, ( Mangrove Cell) Mumbai letter  
No. Outward/11/2020-1, dated 29/04/2020.

The Additional Principal Chief Conservator of Forests, ( Mangrove Cell) Mumbai  
has submitted the proposal regarding notification of Angria Bank as a 'Designated Area'  
under the Maritime Zones Act - 1976. This office agrees with the proposal & hereby submits  
the same to the Government of Maharashtra for perusal & approval & for further submission  
to the Ministry of Environment, Forest & Climate Change.

Encl : As above

  
(Nitin H. Kakodkar)  
Principal Chief Conservator of Forest (wildlife)  
Maharashtra State

Copy to : Additional Principal Chief Conservator of Forest, Mangrove Cell, Mumbai for  
information & follow up.



Office of the Additional Principal Chief Conservator of Forests, Mangrove Cell, Mumbai  
302, Wakefield House, 3<sup>rd</sup> Floor, Ballard Estate, Above Britannia & Co. Restaurant, Fort, Mumbai-01  
Ph: 022-22694984/85, Email: ccfmangrove@mahaforest.gov.in/ccfnunumbai@gmail.com/mangrovefn@gmail.com

Outward/ 11 /2020 - 21

Date: 29/04/2020.

To,  
The Principal Chief Conservator of Forests (Wildlife)  
Maharashtra State,  
Vanbhavan, Ramgiri Road,  
Civil Lines, Nagpur - 440 001

**Sub: Regarding notification of Angria Bank as a 'Designated Area' under the Maritime Zones Act-1976.**

Sir,

With reference to the above subject, I would like to submit as follows:

1. Angria Bank is a submerged plateau located 105 km (56.7 nautical miles) offshore from the Konkan coast of Maharashtra. This submerged bank has an overall area of 2011 km<sup>2</sup> and it supports a large extent of coral reefs and algal habitats and also harbours a high diversity of associated marine fauna and flora.
2. Furthermore, there is a high probability that the surrounding waters are an important habitat for many marine mammals. The Angria Bank has been identified by the Wildlife Institute of India as one of India's 106 Important Coastal and Marine Biodiversity Areas (ICMBAs).
3. The Mangrove Cell had conducted a survey of the Angria Bank jointly with the National Institute of Oceanography (NIO) as a part of the UNDP-Sindhudurg Project in 2014 and recently the Mangrove Foundation was a part of a survey conducted by the Wildlife Conservation Society-India (WCS-India) in the latter half of 2019 and these surveys have revealed the rich marine biodiversity of the area. Given that Angria Bank supports such a high diversity of marine life, it is imperative to conserve the area.
4. As the Angria Bank lies beyond the Indian Territorial Waters (Territorial Waters = 12 nautical miles from the coast of India) in the Exclusive Economic Zone (EEZ) of India, it is not possible to declare the site as a Protected Area (PA) under the Wildlife (Protection) Act-1972. Hence the only way to provide legal protection to the area, is the notification of the area as a 'Designated Area' for marine protection under the Territorial Waters, Continental Shelf, Exclusive Economic Zone and Other Maritime Zones Act (Maritime Zones Act) 1976 of the Ministry of External Affairs of India.

Thus, it is suggested that a proposal in this regard be submitted to the Govt. of Maharashtra through the Maharashtra Forest Dept. from where it may be forwarded to MoEFCC and thence to the Ministry of External Affairs. In this regard, kindly find attached the following documents herewith for your perusal and necessary action:

- > A proposal for the notification of Angria Bank as a
- Aug 1976
- > A draft of the said notification for
- > A short report on the recent W.C.S. In the
- > List of the species of Fauna and Flora found at Angria Bank (Appendix II).

Yours faithfully,

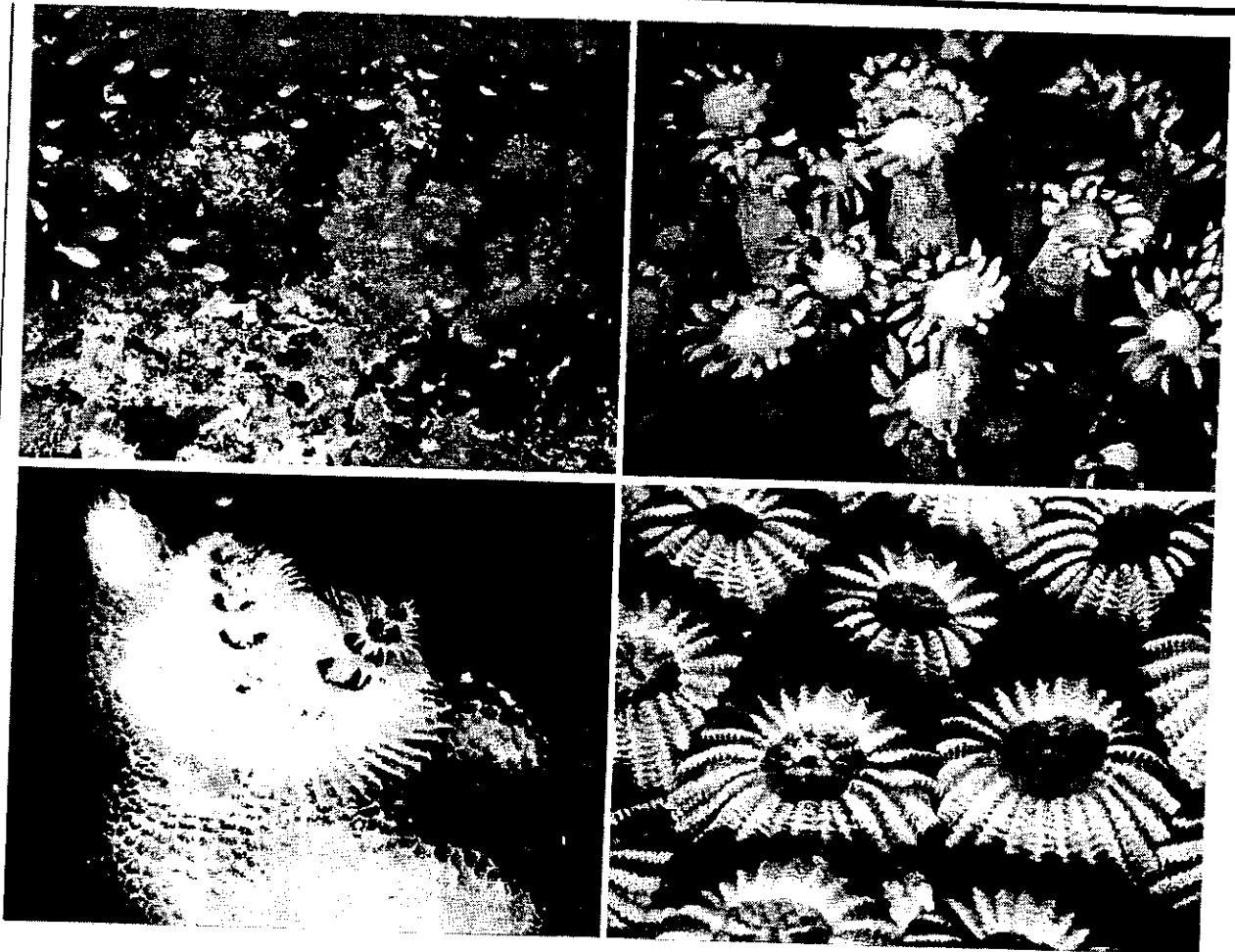
*[Signature]*

Adl. Principal Chief Conservator of Forests,  
Mangrove Cell, Mumbai

# **PROPOSAL FOR NOTIFICATION: ANGRIA BANK DESIGNATED AREA**

**UNDER**

**THE TERRITORIAL WATERS, CONTINENTAL SHELF, EXCLUSIVE  
ECONOMIC ZONE AND OTHER MARITIME ZONES ACT, 1976**



**Submitted to the Principal Chief Conservator of Forests (Wildlife),  
Maharashtra State, Maharashtra Forest Department**

**April 2020**

### ➤ Introduction to Angria Bank: A stronghold for Marine Life in India

Angria Bank is a submerged plateau located 105 km offshore from the Konkan coast of Maharashtra. It is suggested to have developed after the Holocene sea-level rise a few thousand years ago with coral communities dated 240 yrs BP (Sivakumar and Joshi 2015). Currently, this 2011 km<sup>2</sup> region ranges from depths of 20 m to 400 m and supports a large extent of coral reefs and algal habitats, spanning 650 km<sup>2</sup>, along with harbouring a high diversity of associated fauna and flora. These include diverse functional groups of organisms that are necessary for a stable ecosystem representing a resilient reef. This unique ecosystem makes it among the last strongholds of marine diversity in the northern Indian Ocean. It has rightfully been identified by the Wildlife Institute of India as one of India's 106 Important Coastal and Marine Biodiversity Areas (ICMBAs) (Saravanan et al., 2013). Given that Angria Bank supports such a high diversity of marine life, it is imperative to conserve the area.



Figure 1: Map of India's coastline showing its EEZ boundary and the location of Angria Bank

### ➤ **Historical significance of Angria Bank**

The name Angria Bank is derived from KanhojiAngre, who served as one of the most successful Admirals under the Maratha Emperor, Chhatrapati Shivaji. He was also known as '*Samudratla Shivaji*' viz. 'Shivaji of the Seas'. Considering the AngriaBank's significance from anchoring point of view, Angre developed the site as a navel base and fought with Dutch, British and Portuguese. As per the historical records it's believed that Angre never lost any battle in his life and using the AngriaBank along the west coast as a battleground, Angre never allowed enemy ships to enter inside the Maratha empire. Despite having technologically and militarily superior fleets, the European powers were unable to shake the hold of Angre. His name was spelt '*Cunhojee Angria*' in British documents, which led to the name, 'Angria Bank'.

In addition to Angria Bank, there are various other forms of tribute to KanhojiAngre in his honour. In 1951, the Indian Navy commemorated his naval prowess by naming the Western Command INS Angre. In this context, protection of Angria Bank will be a great homage to the Maratha Emperor, Chhatrapati Shivaji Maharaj and the submerged bank will act as a legacy for the great emperor Shivaji and his admiral KanhojiAngre and it can be used as a means to drive conservation of the natural environment, preservation of historical significance of the place and development of the local economy.

### ➤ **Supporting livelihoods through science-driven tourism**

Socio-economic benefits can be derived through a well-planned, Government-regulated and scientifically driven tourism industry where activities such as diving and marine mammal watching can be allowed at the site. This can help the local communities of Malvan, Vijaydurg and Goa who depend on the rising tourism industry to support their livelihood. Maharashtra Tourism Development Corporation is keen to develop tourism in the area. Notifying Angria Bank as a Designated Area and subsequently developing an integrated management plan for the site can preserve biological, historical and aesthetic importance of the site and can help in boosting livelihoods of local communities.

### ➤ **Geological significance of Angria Bank**

As per integrated interpretation of the available geophysical data, Angria Bank is an isolated feature that evolved due to the rifting between India and Seychelles-Laxmi ridge in the Late Cretaceous period. Further, this bank, with an undulating basalt seafloor, started developing after Holocene sea-level rise about a thousand years ago. However, there remains a paucity in the geological and geophysical data on this region.

### ➤ **Biological significance of Angria Bank**

Given its remote location within the country's Exclusive Economic Zone (EEZ), only two biological surveys were conducted before 2019 at Angria Bank.

The *first survey* was conducted by the National Institute of Oceanography (NIO) between December 1985 to October 1986. This survey involved three cruises, where a bucket dredge was used to collect samples at 13 stations. The survey reported 57 species of marine algae on the shallower portions of Angria Bank (Untawale et al., 1989). The marine algal flora observed at Angria Bank comprised various species belonging to Chlorophyta (18 species), Rhodophyta (30 species) and Phaeophyta (9 species).

The *second survey* was conducted jointly by NIO, Mangrove Cell (Maharashtra Forest Dept.) and Ministry of Environment, Forests and Climate Change (MoEF&CC) as a part of the United Nations Development Program (UNDP) – Sindhudurg Project in 2014. SCUBA divers conducted coral surveys using underwater video-log method across 15 dive locations. They also collected water, plankton and sediment samples to study the diversity of meio and macrofauna. These surveys added 9 species of algae, 8 species of sponge, 62 species of hard and soft corals, 18 species of fish and 32 species of invertebrates to the repository of faunal diversity of the area (CSIR-NIO, 2016).

In order to assess the current status and to build on the existing knowledge of the flora and fauna of Angria Bank, Wildlife Conservation Society-India (WCS-India), in partnership with the Centre for Marine Living Resources and Ecology (CMLRE) conducted a *third survey* from 18th-30th December 2019. WCS-India also collaborated with the Mangrove and Marine Biodiversity Conservation Foundation of Maharashtra (an autonomous body under the Maharashtra Forest Dept.), the Indian Institute of SCUBA Diving and Aquatic sports, India SCUBA Explorers and Jolchhobi Films during the said survey (Please refer to Appendix II for a report of the WCS-India survey and a full list of the participants).

The third survey included:

- 1) Biological assessments across 13 sites: A minimum of 26 fish and invertebrate transects, and 150 quadrats were conducted for assessing benthic characteristics (which include live coral, dead coral, macroalgae, turf algae, crustose coralline algae, turf algae) and coral genera present.
- 2) Depth profiling: Using the electronic depth profiling (EDP) facilities aboard the FORV Sagar Sampada, information was collected on the depths at different locations along the bank.
- 3) Documenting the ecosystem: The services of Jolchhobi Films were enlisted by WCS-India to document the region through photographs and footage.

### ***Findings of the third survey***



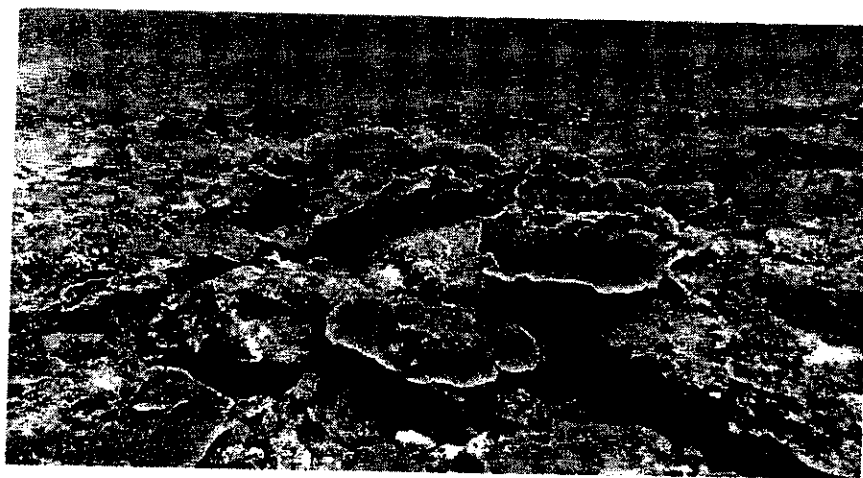
Preliminary results suggested a rich diversity of corals consisting of 29 genera and 39 species. These comprised scleractinians (hard corals) and alcyonacea (soft corals), represented by massive, submassive and plate coral life forms. The reefs showed no evident signs of bleaching (an aftermath of climate change and other stressors), physical damage or other forms of stress indicating excellent reef health and resilience in the face of climate change.

In addition to corals, 123 species of fish were observed during the survey. Important functional groups were represented by various trophic guilds: 1) Piscivores: predators - reef sharks, groupers; mesopredators - moray eels, sea snakes, trevally, jacks; 2) corallivores - butterflyfish, 3) macro-invertivores - triggerfish, wrasse, hawkfish, angelfish; 4) algal and plankton feeders- surgeonfish, fusiliers, damselfish etc.

Furthermore, 43 species of invertebrates were detected such as thorny sea star, swallowtail slug, comb jellies etc. during the survey. The presence of these thriving trophic guilds serve as indicators of stable ecosystem functioning. Please refer to the attached Appendix III for detailed information on these species. The biological data from the CMLRE - WCS-India expedition is currently being analysed and a technical report will be published in May 2020.

While no marine mammals were spotted during this survey at Angria Bank, four species of dolphin and potentially one species of whale were sighted within an area to the South of the bank. Further, the western edge of the region drops steeply to a depth of over 400m, forming a barrier for nutrient-rich upwelling from the depths of the Arabian Sea. This area could thus potentially support multiple species of marine mammals.

Angria Bank is thus a critically important marine area in the country. The area harbours rich coral reef (listed under Schedule I of WLPA) and is also hypothesised to provide a resting habitat for the Critically Endangered species of sawfish (listed under Schedule I of WPA-1972) and large myctophids (lanternfish) aggregations, making it an important fish spawning ground. Such habitats are critical as they provide security towards future population stocks.



**Figure 3:** Vast tracts of healthy coral reef ecosystems observed at Angria Bank

Having visited the area, several expedition participants suggest that Angria Bank is possibly the most undisturbed among India's marine ecosystems and will stand to benefit immensely from protection. Some of these divers included experienced scientists who have surveyed coral reefs all across Indian waters for over a decade. According to their accounts, the reefs like Angria Bank are unlike any other in the country, in terms of both- reef health and faunal diversity. Given the rate of habitat destruction across the country, it is imperative to put in place adequate measures to protect the region. Finally, the coral reefs of Angria Banks have not been impacted by coral bleaching and thus are of global importance for the long-term survival of coral reefs.

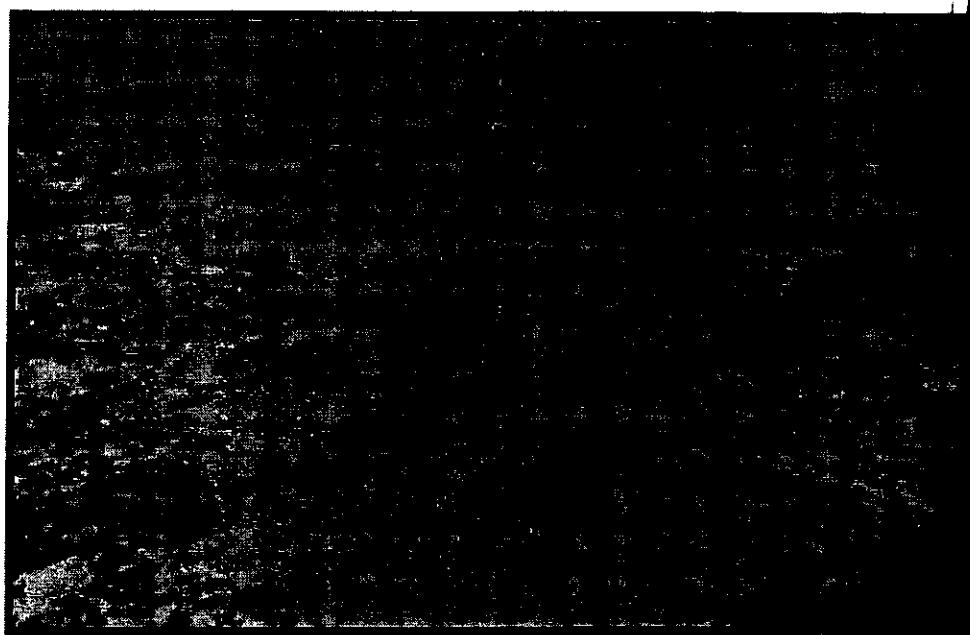


Figure 4: A stingray, *Pateobatis fai* (Vulnerable as per IUCN Red List) at Angria Bank.

### ➤ Imminent risks to the Angria Bank ecosystems

#### *Fishing*

Based on Global Fish Watch, a website that provides reliable data on fishing over the world (<https://globalfishingwatch.org/datasets-and-code/fishing-effort/>), it is known that there is some level of fishing traffic in the region. Moreover, discarded long-line nets entangled in corals were observed during the recent survey suggesting the presence of long-line fishing in the nearby region. Most long-liners target macro-invertivores and piscivores- important fish guilds which play an important role in functioning of the reef ecosystems. The removal of these species could have severe implications on the health of reefs and their resilience.



**Figure 5:** A Global Fish Watch map depicting fishing at Angria Bank and the surrounding waters. White dots represent a higher number of fishing vessels between January 2019 to July 2019, as opposed to the red dots.

### ***Oil, natural gas and mineral exploration***

Given that Angria Bank is relatively understudied, the region is unlikely to appear ecologically important, and may lead to oil and natural gas exploration in the area. Notifying Angria Bank as a 'Designated Area' will demarcate this region and its surrounding waters and protect this high-biodiversity region from potentially destructive oil, natural gas or mineral explorations.

### **➤ No hindrance to Naval activities**

The Indian Notice to Mariners, paired with independent, anecdotal reports confirm the use of regions South of Angria Bank for Naval firing practice. Our expedition and an inquiry revealed that this area is not directly on the bank. Therefore, naval activities do not pose a threat to the ecosystem at Angria Bank. However, any management plan for the region will account for these activities in order to be effective, without causing any hindrance to the activities of the Indian Navy or Indian Coast Guard.

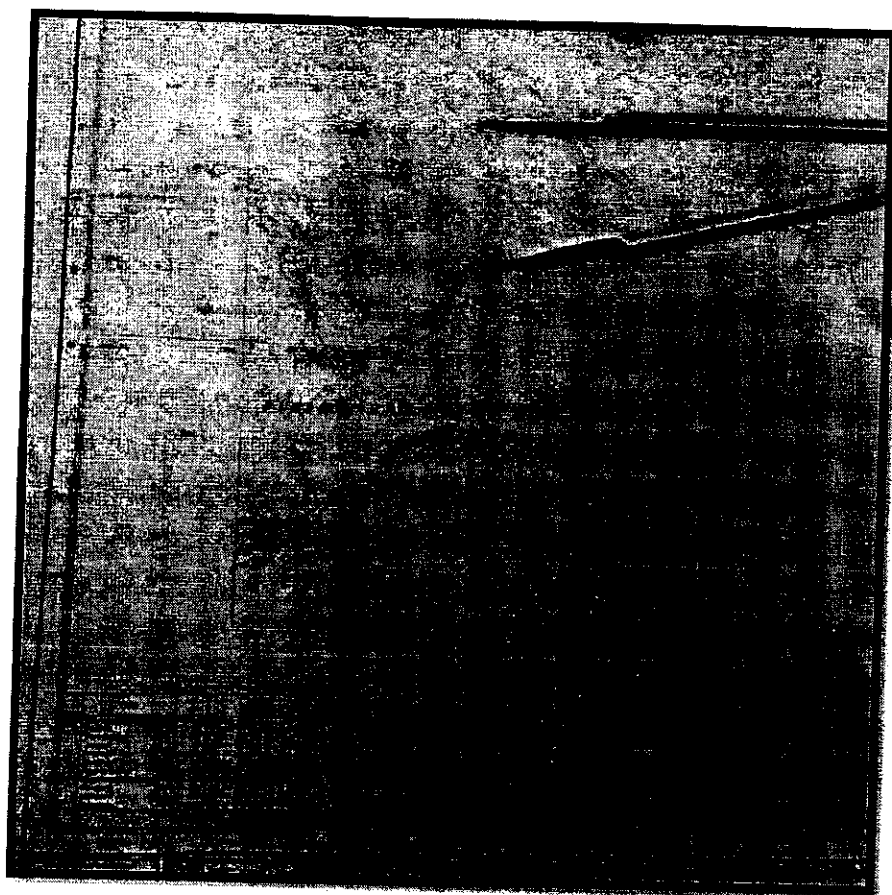


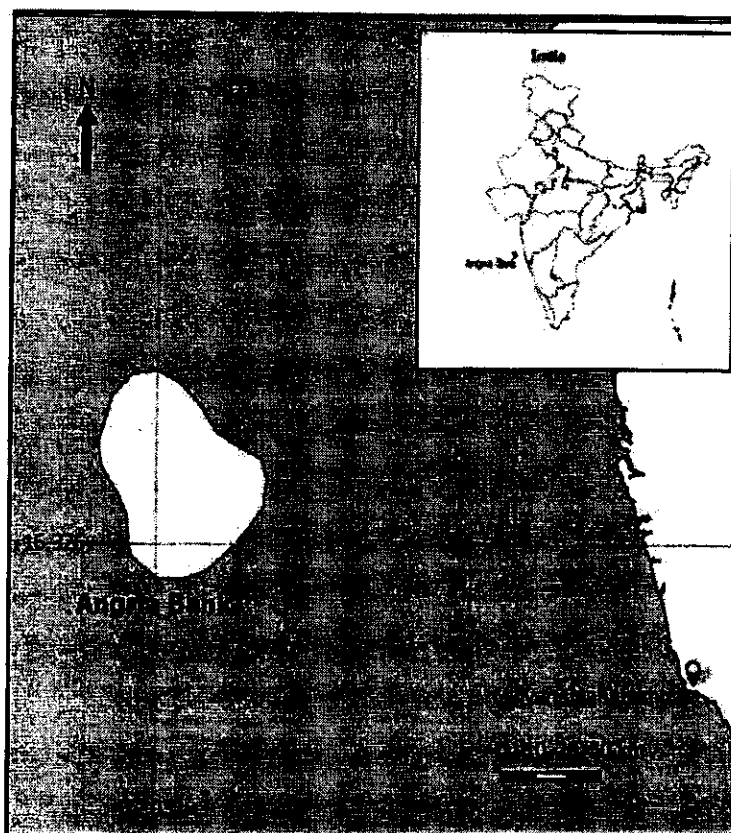
Figure 6: A nautical chart depicting the location of the Naval practice area near Angria Bank

➤ **Proposal to notify Angria Bank as a 'Designated Area' for marine protection**

Given that Angria Bank supports such a high diversity of marine life, it is imperative to conserve the area, while also developing a sustainable management plan that takes into account tourism, fishing and mineral exploration. Thus the Mangrove Cell (Maharashtra Forest Dept.) would like to propose the notification of the area as a "Designated Area" under the Territorial Waters, Continental Shelf, Exclusive Economic Zone and Other Maritime Zones Act (Maritime Zones Act), 1976.

In India, marine regions have been notified as sanctuaries or national parks under the WPA-1972. However, the MoEF&CC does not have powers to afford legal protection to a Marine Area beyond Indian territorial waters (12 nautical miles from the coast of India) due to jurisdictional constraints. Given that Angria Bank lies over 105 km (56.7 nautical miles) from the coast, protecting this area falls within the purview of the Maritime Zones Act, 1976.

***Description of the proposed Angria Bank Designated Area***



**Figure 7: Map of the proposed Designated Area at Angria Bank**

It is proposed that the 'Designated Area' for marine protection, notified under section 7(6)(a) of the Maritime Zones Act, be called the Angria Bank 'Designated Area'. Please refer to Appendix I for a draft notification for the area. It is proposed that this 'Designated Area' will span a total of 2011.43 square kilometer within a perimeter bound by:

16.7822°N, 72.0324°E in the North, to 16.2324°N, 72.1032°E in the South, and

16.4958°N, 72.3391°E in the East to 16.5870°N, 71.8789°E in the West

This proposed boundary is approximately 61 km in length and approximately 50 km in width.

The region bounded within the proposed perimeter contains a shallow, central area that houses coral reefs and algal ecosystems, and surrounding deeper waters that provide important habitat for pelagic species of fish and marine mammals. This proposed boundary therefore encompasses a

diversity of ecosystems crucial for protecting species, securing habitats and insuring against climate change.

➤ **Angria Bank 'Designated Area': Conserving nature, ensuring climate security and supporting livelihoods**

The protection of Angria Bank by notifying it as a 'Designated Area' will provide several benefits to the country such as:

***Fulfilling India's international commitments***

Notifying the region will assist India in achieving the Aichi Target 11 of the Convention on Biological Diversity (CBD) to protect at least 10% of its waters by 2020. Currently, as per the MoEF&CC database on marine protected areas (MPAs) within the country ([http://wiienviis.nic.in/Database/MPA\\_8098.aspx](http://wiienviis.nic.in/Database/MPA_8098.aspx)), only 0.5% of India's maritime zones have been afforded some degree of protection. The notification of the Angria Bank Designated Area could catalyse the expansion of India's MPA network, helping the country fulfill its commitments under international law. Further, conserving Angria Bank will also contribute towards achieving India's obligations of protecting marine environments under United Nations Convention for the Law of the Sea (UNCLOS), the international act that led to the inclusion of the Maritime Zones Act within the Constitution of India.

Presently, the obligations under UNCLOS have yet to be acted upon, and notifying Angria Bank as a 'Designated Area' for marine conservation would be a momentous first step and will help India and invariably Maharashtra State in showcasing its efforts to conserve marine biodiversity at global forums.

***Insurance against climate change***

Angria Bank harbours coral reefs and algal habitats that act as carbon sinks, pulling carbon from the ocean and ultimately the atmosphere. This helps maintain stable atmospheric and oceanic temperatures thereby safeguarding the health of the marine ecosystem. In the inevitable face of climate change, such a move could provide benefits not only to the entire country, but also the world.

***Conserving natural resources in perpetuity***

The proposed Angria Bank 'Designated Area' will protect the long-term ecological integrity of the marine biodiversity spectrum, from genetic variability of populations to ecosystem functioning, thereby providing goods and services for future generations.

***Providing a safe haven for hundreds of marine species***

9.1

It will ensure complete protection and conservation of the coral reef ecosystem, in turn garnering protection to reef associated species including groupers, snappers, reef sharks, and parrotfish. Further, it will protect important breeding and spawning grounds for hundreds of fish species, ensuring the longevity of species presence within the area. It will also safeguard an important habitat for wide-ranging and migratory species like marine mammals, sea turtles and sharks.

#### ***Fisheries benefits outside the proposed 'Designated Area'***

Currently, several regions within Indian waters face high degrees of fishing intensities, with fishermen across the coastline reporting diminishing catches over the years. Protecting regions and regulating fishing within them provides an opportunity for fish stocks to regenerate over time, rebuilding resources for the fishers. Further, this move could provide benefit to fishers operating offshore, at regions outside the proposed boundaries of the Designated Area, through a phenomenon called the spillover effect. As a result of protecting vast tracts of habitat, fish populations within the protected area could increase over time potentially resulting in the dispersal of these fish to adjacent areas.

#### ***Supporting livelihood needs through science-driven tourism***

Socio-economic benefits could be derived through a well-planned, Government-regulated and scientifically driven tourism industry where activities such as diving and marine mammal watching will be allowed. This can help the local communities of Malvan, Vijaydurg and Goa who depend on a rising tourism industry to support their livelihood.

Presently, there are very few tour operators or coastal communities relying on this bank as a tourism site due to the distance of the site from the mainland and also as the area is not recognized as an important area. However, the Maharashtra Tourism Development Corporation is keen to develop tourism in the area and there are attempts to explore the tourism potential in the area. Notifying the area and subsequently developing integrated management plan will allow for sound, regulated tourism and it can be used as means to drive conservation of the natural environment and development of local economy.

**Notifying Angria Bank as a 'Designated Area' will have minimal negative impacts on the local communities, Government or Defense forces of India.**

It is further proposed that after the notification of Angria Bank as a 'Designated Area', the Mangrove Cell (Maharashtra Forest Dept.) will work with Govt. research institutions and competent NGOs to draft a management plan in consultation with relevant stakeholders (including tour operators, fishers, Indian Navy, Indian Coast Guard and Forest, Fisheries and Tourism Departments) and also facilitate the necessary training to officers from the Indian Navy, the Indian

Coast Guard, the State Forest Departments and other nodal agencies tasked by the Government of India to protect the said Designated Area.

Going forward, this notification could set the precedent for expanding the MPA network of the country, thereby safeguarding the country's vast natural heritage and diverse livelihoods, while also fulfilling international commitments under the CBD.

### ➤ Literature Cited

Council for Scientific & Industrial Research-National Institute of Oceanography (2016) *First technical report on the preliminary findings of expedition for the Biodiversity of Angria Bank Ecosystem Off the Coast Of Maharashtra*, The Mangrove Cell, Department of Environment and Forests, Government of Maharashtra, Under the:GOI-GEF-UNDP Program, pp1-71.

Saravanan, K.R., Sivakumar K. and Choudhury, B.C. (2013) *Important Coastal and Marine Biodiversity Areas of India*, ENVIS Bulletin: Wildlife and Protected Areas, Wildlife Institute of India, 15: 134-188

Untawale, A.G., C.R.K. Reddy and V.D. Ambiyé (1989) Marine algal flora of submerged Angria Bank (Arabian Sea). *Indian Journal of Marine Sciences*, 18: 207-209.



# APPENDIX I

## DRAFT TO NOTIFY ANGRIA BANK AS A DESIGNATED AREA FOR MARINE PROTECTION - 2020

### THE MINISTRY OF EXTERNAL AFFAIRS

#### NOTIFICATION

Delhi, dated the xxx of xxx, 2020

No. xxx – Whereas the Government of India considers that the area specified in the Schedule hereto (hereinafter referred to as “the said area”) is, of adequate ecological, faunal and floral significance for the purpose of protecting, propagating and developing wildlife or its environment:

Now, therefore, in exercise of the powers conferred by sub-section (6)(a) of section 7 of The Territorial Waters, Continental Shelf, Exclusive Economic Zone and Other Maritime Zones Act, 1976, the Government of India hereby –

- (1) Declares the said area to be a Marine Protected Area to be known as the “Angria Bank Designated Area for Marine Protection”; and
- (2) Specifies the limits of the area thereof as set out in the Schedule appended hereto.

#### SCHEDULE

Situations and limits of the Angria Bank Designated Area

- (1) Name of the Marine Protected Area: Angria Bank Designated Area
- (2) Name of the Port and Coast: Malvan, Maharashtra
- (3) Particulars of the Area:

*Total area of 2011.43 square kilometers*

*Covering the perimeter of:*

16.7822°N, 72.0324°E in the North to 16.2324°N, 72.1032°E in the South, and

16.4958°N, 72.3391°E in the East to 16.5870°N, 71.8789°E in the West

(4) Boundaries of the area:

Location and description of the boundary of extended Angria Bank Designated Area	
The total area of ca 2011.43 sq. km. with a total area of 650 sq.km. coral cover is proposed to be constituted as Angria Bank Designated Area. The bank is approximately 61 km in length and approximately 49 km in width, with a water depth ranging from 20 m to 400 m. The submerged reef is reported to be 1-12 m high and 0.1-2.6 km wide (average 700 m).	
NORTH	An imaginary line starting from an imaginary point at 16.7822°North latitude, and 72.0324° East longitude in the Arabian Sea, the boundary then runs about 76 Km towards East direction upto an imaginary point at 16.4958°North latitude, and 72.3391° East longitude in the Arabian Sea.
EAST	An imaginary line starting from an imaginary point at 16.4958°North latitude, and 72.3391° East longitude in the Arabian Sea, the boundary then runs about 65 Km towards South direction upto an imaginary point at 16.2324°North latitude, and 72.1032° East longitude in the Arabian Sea.
SOUTH	An imaginary line starting from an imaginary point at 16.2324°North latitude, and 72.1032° East longitude in the Arabian Sea, the boundary then runs about 153 Km towards West direction upto an imaginary point at 16.5870°North latitude, and 71.8789° East longitude in the Arabian Sea.
WEST	An imaginary line starting from an imaginary point at 16.5870°North latitude, and 71.8789° East longitude in the Arabian Sea, the boundary then runs about 38 Km towards North direction upto an imaginary point at 16.7822°North latitude, and 72.0324° East longitude in the Arabian Sea.

(5) Total area of the Marine Protected Area: 2011.43 square kilometres

The vessels and the crafts of Indian Navy and Coast Guard will continue to have unhindered access into the area for surveillance/patrol without need of any prior permission and will not be affected by this Notification.

By order and in the name of the Ministry of External Affairs

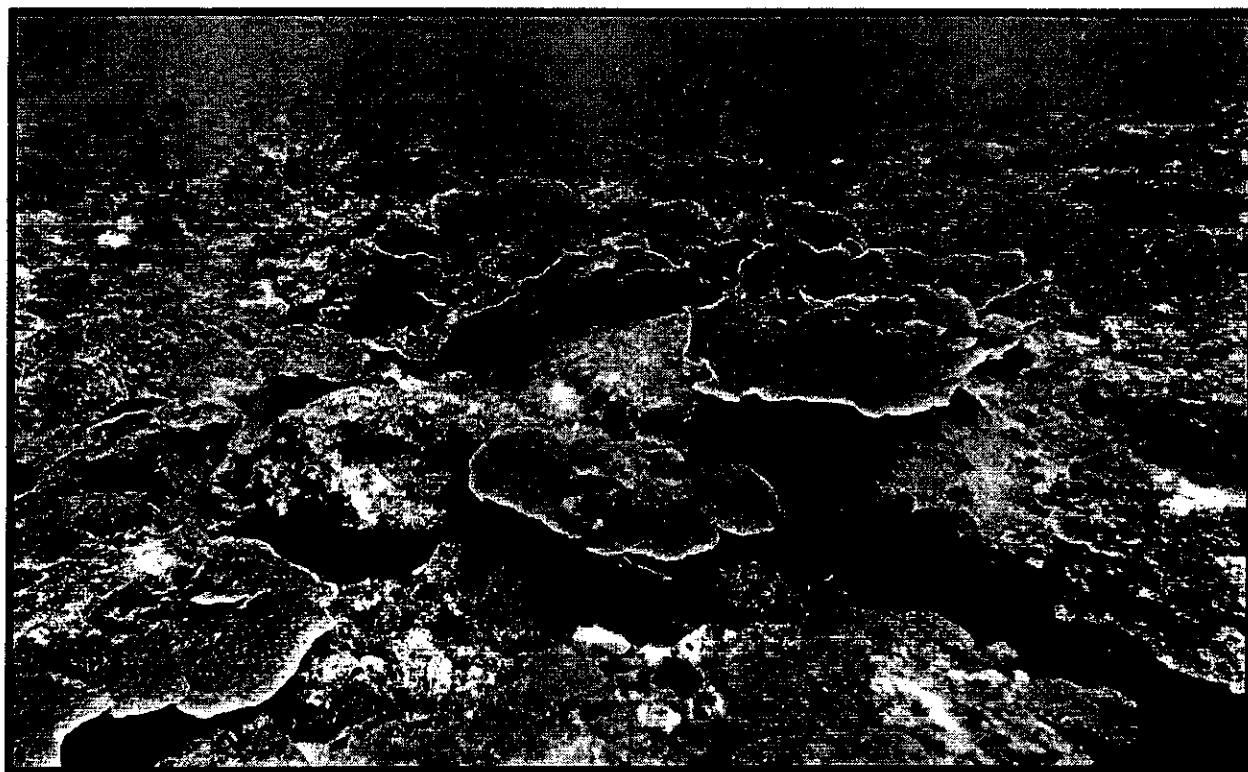
Deputy Secretary of the Government

## **APPENDIX II**

### **REPORT: ANGRIA BANK SITE VISIT**

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**18<sup>th</sup> - 30<sup>th</sup> December, 2019**



**FORV Sagar Sampada cruise number: 394**

## Acknowledgements

We wish to express our deepest gratitude to every person and institution that has contributed in making the Angria Bank site visit successful. This expedition was made possible only through the assistance rendered by every person- before and during the operation.

We thank Dr. Sudhakar, Director - Centre for Marine and Living Resources (CMLRE), for facilitating access to the FORV Sagar Sampada. Further, we thank Dr. A. Shivaji, Scientist-F and Vessel Manager, CMLRE, for productive discussions and suggestions towards operations aboard the vessel. We also convey our gratitude towards Shri. Subramanian, Scientist-C, CMLRE, for extending technical and logistic assistance.

We would like to thank Captain Pradeep K. Chanan, Mr. Akshil Narayan (2<sup>nd</sup> officer), Mr. Suresh Arvind (Chief Engineer), Chandan Kumar (3<sup>rd</sup> officer), and the crew of FORV Sagar Sampada for their assistance on board the vessel.

The success of any site visit hinges primarily on the efficiency and dedication of the team. The entire 14-member team of scientists and divers aboard cruise number 394 of the FORV Sagar Sampada went above and beyond to ensure that the operation occurred smoothly and safely, and for that we are extremely grateful.

We would like to take this opportunity to specially thank Mr. Gilbert Antony, Mr. Sidharth Saini, Mr. Venkat Charloo, Mr. Vishwanath, Mr. Umeed Mistry, Dr. Rohan Arthur, Dr. Dipani Sutar, Dr. Teresa Alcovero, Dr. Naveen Namboothri, and Dr. Kartik Shanker for their support and encouragement.

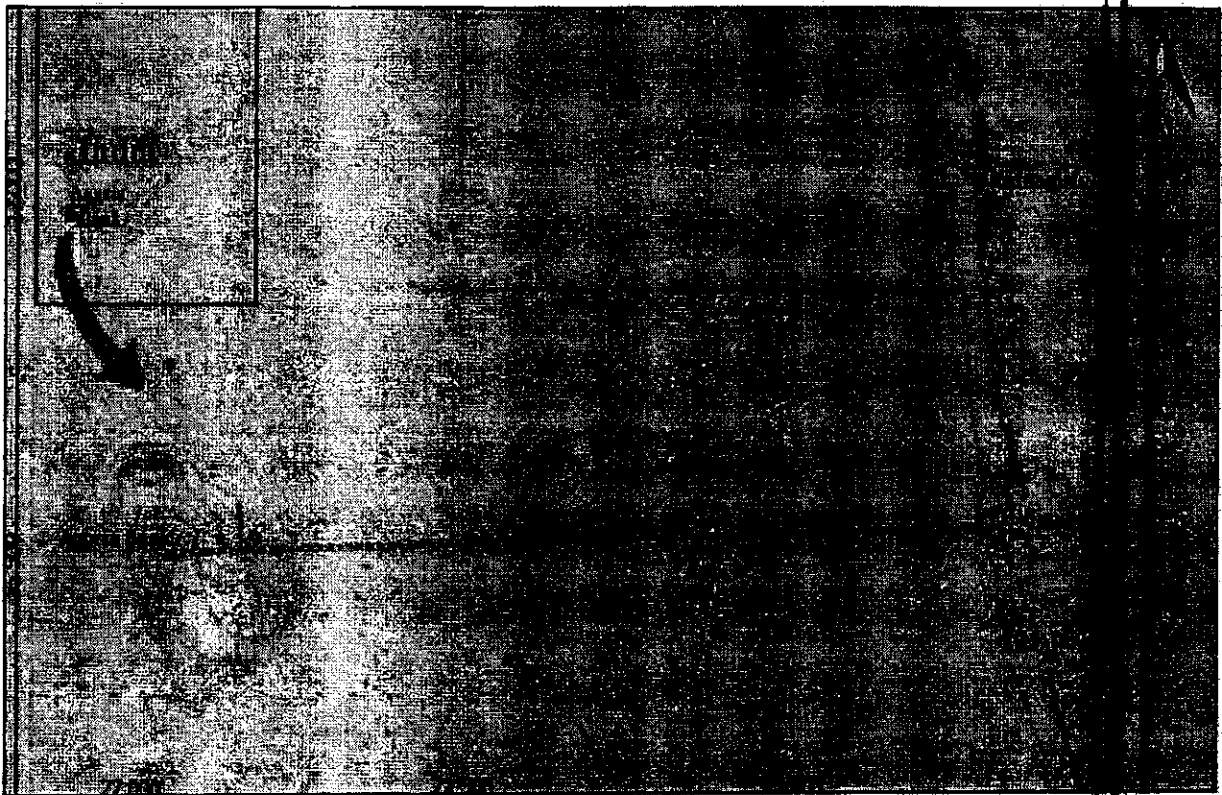
Finally, we would like to thank Ms. Prakriti Srivastava, IFS- Country Director, Wildlife Conservation Society - India (WCS-India), Mr. VenuParameshwar- Finance Director, WCS-India, Mr. Phaniraj- Manager for Finance and Administration, WCS-India, and the WCS Team for their support and encouragement.

### **Terms, conditions and ethics statement**

All participants were informed of the nature of the expedition and involved risks. A liability form was signed by all the participants. All participants agreed that their participation in the expedition was at their own risk.

## Introduction

Angria Bank is a submerged plateau located 105 kms offshore from the Konkarni coast of Maharashtra. This 2011 sq.km. region, ranging from depths of 20m to 400m, supports 650 sq.km. of coral reef and algal habitats. In addition to at least 20 species of coral, the bank hosts other marine life- over 50 different algae, 200 pelagic and benthic fish, at least five marine reptiles, several pelagic birds and potentially over eight species of marine mammals (Sivakumar & Joshi, 2015; Rao et al, 2003; Bineesh, et al. 2014; Ghosh and Fernandes, 2014; Kulkarni and Sivakumar, 2015; Sule et al., 2016; NIO, 2016).



**Angria Bank is located approximately 105 kms to the west of southern Maharashtra.**

Several species found here are threatened (Critically Endangered or Vulnerable), as per the IUCN Red List. Anecdotal reports of destructive trawling in some parts of Angria Bank (Saravanan et al., 2011), potential activities associated with the Indian Navy (K. Sivakumar, *pers comm.* in 2019), and oil and gas explorations near this site pose risks to the coral reef ecosystem. In addition, the Maharashtra Forest Department and the Maharashtra Tourism Development Corporation intend to develop tourism in this region (Saravanan et al., 2011). A thorough biological survey of the area will help develop a sustainable plan for fishing, tourism and mineral exploration, thereby helping conserve Angria Bank.

In this context, Wildlife Conservation Society – India (WCS – India) aimed to conduct a site visit to Angria Bank to collect biological and oceanographic data from the region. While the survey was formally a CMLRE – WCS-India partnership, several other institutions- the Mangrove and Marine Biodiversity Conservation Foundation of Maharashtra (an autonomous body under the Maharashtra Forest Department), the Indian Institute of SCUBA Diving and Aquatic Sports (IISDA), Jolchobbi Films, India SCUBA Explorers, and Purple Octopus- supported us in our endeavour by sharing technical expertise on the survey and lending equipment.

CMLRE gratuitously extended the support of the Fishery Oceanographic Research Vessel Sagar Sampada (FORV Sagar Sampada), thereby committing over 10 million INR (~140,000 USD) towards the entire operation. The vessel and her 42-member crew provided the backbone for the entire operation.

Further, we also collaborated with our program partners, the Mangrove Foundation for this site visit, securing an additional 1 million INR (~1400 USD) in Government resources. WCS-India thus successfully leveraged our partnerships, expertise and a relatively nominal contribution of just over 1 million INR (~1400 USD) to make over ten times the financial support available for the expedition.

### Objectives

The primary goal of the site visit was to build on our existing knowledge of the flora and fauna of Angria Bank with strategic, planned surveys- both boat-based and underwater. The objectives were:

- **Conducting a biodiversity assessment:** Using underwater and boat-based surveys, we collected information on the benthic substrate, pelagic life, marine mammals, pelagic birds and marine reptiles of the region.
- **Depth profiling:** Using the electronic depth profiling (EDP) facilities aboard the FORV Sagar Sampada, we collected information on the depths at different locations along the bank.
- **Documenting the ecosystem:** We enlisted the services of Jolchobbi Films to help us document the region through photographs and videos.

## **Methods and protocol**

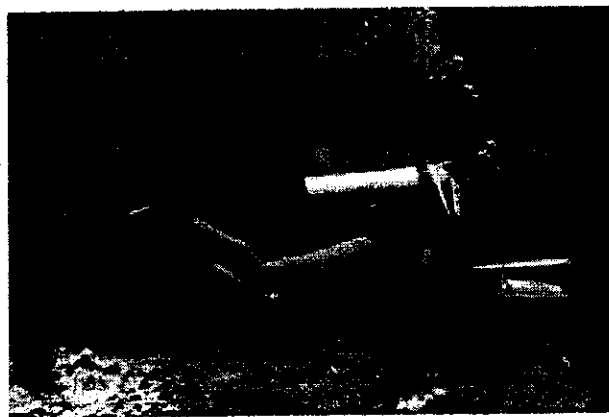
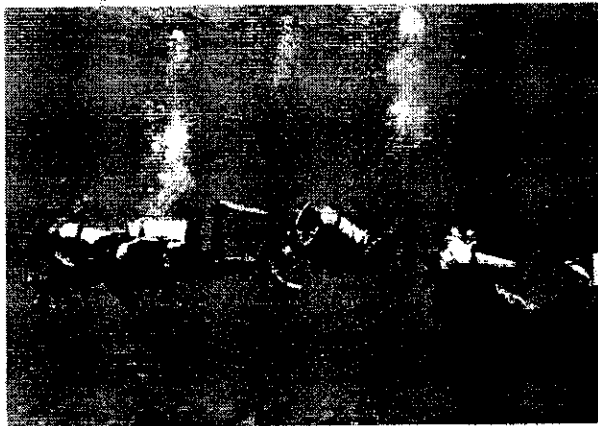
We collected data over nine days, from 21<sup>st</sup>-29<sup>th</sup> December, 2019. We employed underwater transect surveys to collect data on the benthic and pelagic species at Angria Bank. In addition, we implemented boat-based transect surveys to collect data on pelagic birds, marine reptiles and marine mammals. Finally, using boat-based equipment aboard the FORV Sagar Sampada, we collected data on the depth profile through acoustic sonar transects on the bank.

### ***Underwater surveys***

Using bathymetry maps and data from our acoustic transects, we pre-selected areas for dive surveys. After having identified these specific dive sites, we used a handheld depth-finder to select the shallower areas to maximise time underwater. We used an inflatable raft to travel between the sites and the FORV Sagar Sampada and always maintained a maximum distance of 2 nautical miles from the vessel. During each dive, a team of 5 or 6 divers (depending on both- weather and sea surface conditions) descended to collect information and record footage, while one person remained on the raft to maintain contact between the dive team and the vessel.

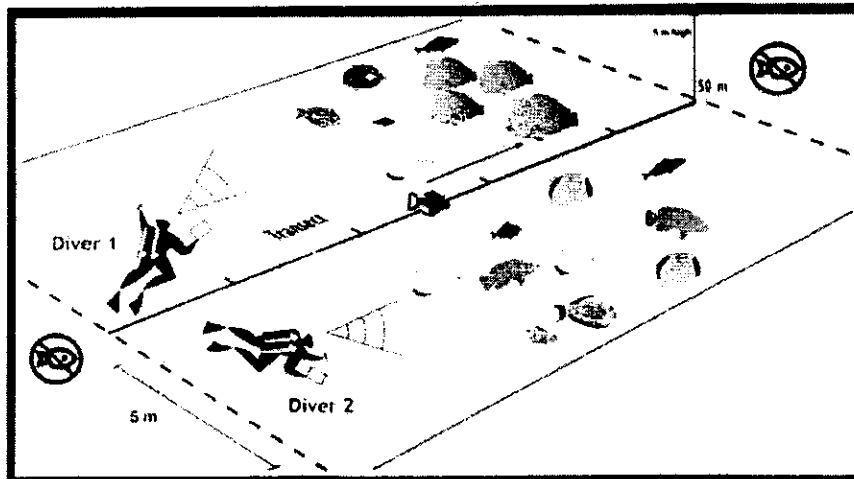
Each dive team was structured to ensure that 4 divers collected data and footage while 2 were experienced Divemasters or Dive Instructors to help uphold safety protocol.





**Members of the dive team collecting data at Angria Bank**

At each dive site, we laid one 10m wide transect, marked by a tape reel. We varied the transect length between 20 and 50m based on the amount of available dive time at each site. Along this transect, we conducted time swims to record data on pelagic fish. Additionally, we recorded benthic cover attributes using 1m<sup>2</sup> photographic quadrats at every five metres along the transect. We also recorded morphometric data of macro-invertebrates and aim to identify them post-hoc using published guides. One diver recorded footage of the team at work and of the dive sites on each dive.



**A graphic depicting the underwater protocol for fish transects**

### ***Boat-based surveys***

To report the presence of marine mammals, birds and reptiles, we conducted multiple boat-based line transect surveys at different locations enroute to Angria Bank.

During the transects, two primary observers (one each on the port and starboard sides) used Big Eye binoculars mounted on the vessel bridge to observe, identify and count birds, breaching marine mammals and reptiles. Three secondary observers used handheld binoculars to assist the primary observers on the port and starboard sides of the vessel.

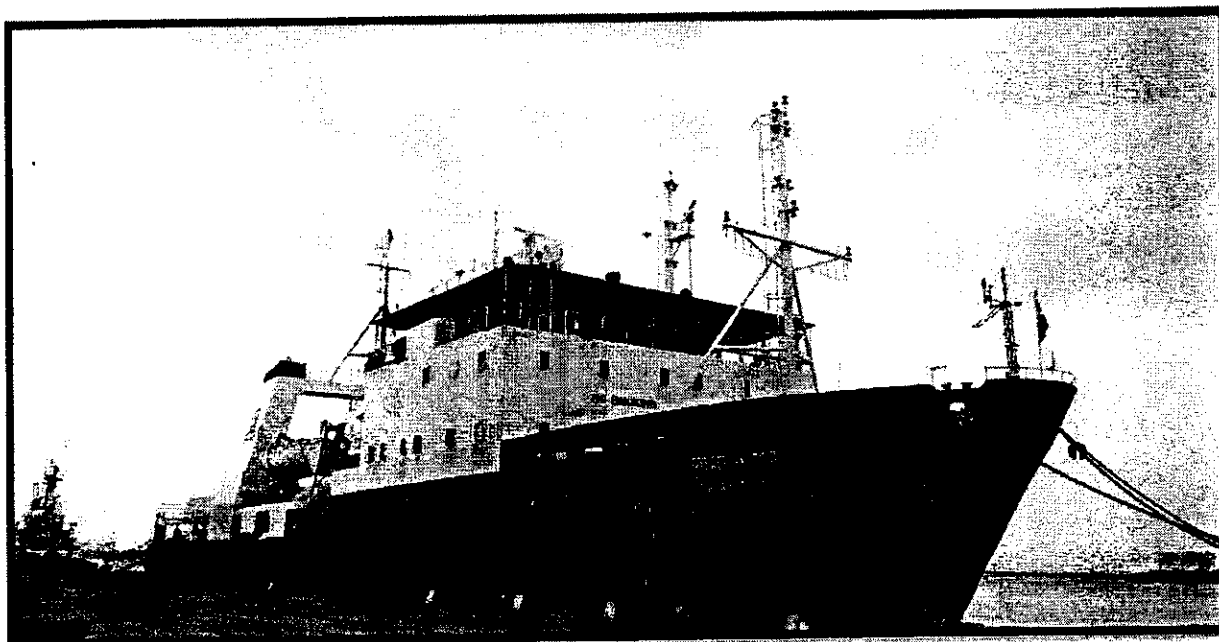


**A primary observer using the Big Eye binoculars**

### **The FORV Sagar Sampada**

The Fishery Oceanographic Research Vessel Sagar Sampada (FORV Sagar Sampada) is an Indian research vessel equipped to carry out multidisciplinary research in oceanography, marine biology and fisheries. The vessel is currently managed and operated by the Centre for Marine Living Resources & Ecology (CMLRE), Kochi, a research institute under the Ministry of Earth Sciences,

Government of India, and is operated from Kochi. The FORV Sagar Sampada is a platform for interdisciplinary expeditions in and around the Indian Exclusive Economic Zone, with participation from various institutions, from India and abroad. The vessel can accommodate 24 research personnel and 35 crew.

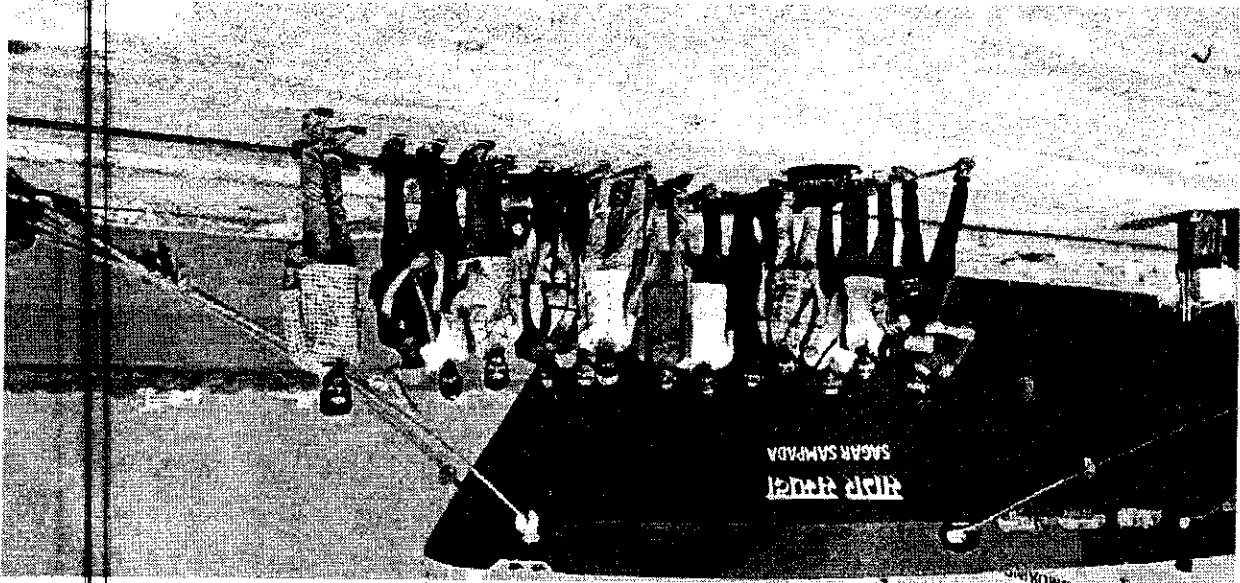


The FORV Sagar Sampada, a 72.5m long vessel, operates out of Kochi, under CMLRE

#### Team Members

S.no.	Name	Designation and Affiliation
1	Dr. Hashim Manjebrayakath	Chief Scientist, Scientist - D, CMLRE
2	Dr. Sudhanshu Dixit	Project Scientist - B, CMLRE
3	Dr. Vardhan Patankar	Program Head, Marine Conservation Program, WCS-India
4	Ms. Zoya Tyabji	Project Associate, Marine Conservation Program, WCS-India
5	Mr. Avik Banerjee	Project Associate, Marine Conservation Program, WCS-India
6	Mr. Karan Deshpande	Project Assistant, Marine Conservation Program, WCS-India
7	Mr. Abhishek Jamalabad	Independent Marine Biologist
8	Ms. Nefertiti Chakrabarty	Divemaster and Filmmaker, Jolchhobi Films
9	Mr. Arnav Kakar	Dive Instructor and Filmmaker, Jolchhobi Films

Members of the Angria Bank site visit



10	Mr. Rohit Sawani	Biodiversity and Livelihoods Specialist, Mangrove Foundation	
11	Mr. Navneet Gupta	Dive Instructor, India Scuba Explorers	
12	Dr. Sarang Kulkarni	Chief Instructor and General Manager, IISDA	
13	Mr. Nupur Rajesh	Dive Instructor, IISDA	
14	Mr. Jitesh Vast	Dive Instructor, IISDA	

## Daily Itinerary

Date	Activities
16/12/19	Reporting, pre-expedition briefing
17/12/19	Medical check-up
18/12/19	Immigrations procedures, boarded FORV Sagar Sampada
19/12/19	Customs clearance
20/12/19	Customs clearance
21/12/19	Set sail for Angria Bank, boat-based survey
22/12/19	Boat-based survey
23/12/19	Boat-based survey, 2 preliminary dives at Angria Bank
24/12/19	3 dives at Angria Bank
25/12/19	4 dives at Angria Bank
26/12/19	3 dives at Angria Bank
27/12/19	2 dives at Angria Bank
28/12/19	Set sail for Kochi, boat-based survey
29/12/19	Boat-based survey
30/12/19	Arrived at Kochi Harbour

## Daily log

**16<sup>th</sup> December, 2019:** The team convened at Kochi. The team members, comprising 2 Scientists from the CMLRE and 12 members of WCS-India, met to discuss impending procedures.

**17<sup>th</sup> December, 2019:** The team underwent a mandatory medical check-up at Gautham Hospital, Mattancheri. All team members received clearance for the cruise.

**18<sup>th</sup> December, 2019:** The team boarded the FORV Sagar Sampada in the evening, following Immigrations procedures.

**19<sup>th</sup>, 20<sup>th</sup> December, 2019:** The team was on standby, awaiting Customs clearances for equipment. Dr. Patankar conducted mock drills for underwater and boat-based surveys on both days to prepare the team for data collection.

**21<sup>st</sup> December, 2019:** Twelve scientists and four officials from the CMLRE, besides the crew of the ship set sail on board FORV Sagar Sampada from Kochi port to Angria Bank at 6 am in the morning. At 10 am pelagic bird and marine mammal surveys were initiated, and 4 hours of concentrated efforts were put in place to observe marine mammals using the big eye binoculars. All team members were simultaneously involved in the planning of biological surveys underwater.

**22<sup>nd</sup> December, 2019:** The team conducted pelagic bird and marine mammal surveys starting from 6 am in the morning. Several meetings were conducted during the day towards the planning of conducting underwater surveys at Angria Bank.

**23<sup>rd</sup> December, 2019:** FORV Sagar Sampada arrived on Angria Bank at approximately 11 am in the morning. A mock embarkation/disembarkation to Zodiac and back to mother ship was made following which an exploratory dive was made at 29 m depth inside the Bank. The divers were Dr. Vardhan, Dr. Sudhanshu, Mr. Navneet, Mr. Rohit, Mr. Karan and Mr. Jitesh. The boat was driven by Mr. Nupur. The operation was controlled from the deck by Dr. Hashim and Mr. Sarang.

**24<sup>th</sup> December, 2019:** The team conducted their first research dive at Angria Bank, in total two research dives were conducted in the South-East region. Divers collected data on fish and invertebrate abundances along with the benthic characteristics of every site (live coral cover, dead coral cover, turf algae, macroalgae, crustose coralline algae, sand and rubble). The team also collected data on the depth profile of Angria Bank using the Echo Depth Sounder of FORV Sagar Sampada later that evening.

**25<sup>th</sup> December, 2019:** The team conducted underwater surveys at four sites in the South west region and collected data on fish and invertebrate abundances along with the benthic characteristics of every site (live coral cover, dead coral cover, turf algae, macroalgae, crustose coralline algae, sand and rubble). Notable sightings included eagle rays and nurse sharks along the reef.

**26<sup>th</sup> December, 2019:** The team conducted underwater surveys at three sites on the western side of the bank and collected data on fish and invertebrate abundances along with the benthic characteristics of every site (live coral cover, dead coral cover, turf algae, macroalgae, crustose coralline algae, sand and rubble). The second unit attempted a shipwreck dive but were unable to locate the vessel underwater.

**27<sup>th</sup> December, 2019:** The team conducted underwater surveys at two sites on the north eastern edge of the bank and collected data on fish and invertebrate abundances along with the benthic characteristics of every site (live coral cover, dead coral cover, turf algae, macroalgae, crustose coralline algae, sand and rubble). The team also collected data on the depth profile of Angria Bank using the Echo Depth Sounder of FORV Sagar Sampada later that evening mapping the entire northern extent of Angria Bank

**28<sup>th</sup> December, 2019:** FORV Sagar Sampada set sail to return back to Kochi Harbour after a successful expedition to Angria Bank. On board pelagic bird and marine mammal surveys were conducted using the big eye binoculars. The team conducted several debrief meetings to summarise the activities at Angria Bank

**29<sup>th</sup> December, 2019:** The team conducted pelagic bird and marine mammal surveys using the big eye binoculars. The crew and the entire team cherished the last day of the expedition.

**30<sup>th</sup> December, 2019:** FORV Sagar Sampada docked at the Kochi Harbour at 6 am in the morning. Following customs and immigration procedures the team left the vessel. All team members were hosted at the CMLRE Headquarters in Kochi for a debrief meeting with Dr. M. Sudhakar, director of CMLRE.

## Discussion

### Findings:

The preliminary, qualitative analysis of the current survey suggested the presence of scleractinian (hard corals) and alcyonacea (soft corals) represented by massive/submassive and plate coral life forms. The predominant substrates at different sites were mainly corals; however, there was a substantial presence of algal diversity as well. These substrates are crucial as they serve as effective carbon sinks that combat climate change. Moreover, the coral reef showed no signs of bleaching, physical damage or indication of any other stressor indicating a resilient reef system.

In addition, benthic and pelagic fish, and associated invertebrate diversity was also observed during the survey. Presence of meso-predators such as groupers, nurse sharks and moray eels was also observed which indicates the presence of higher functional groups necessary for a stable ecosystem.

While no marine mammals were detected at Angria Bank, on-board surveys showed 4 identified species and 2 unidentified individuals enroute to the south of the area. The western edge of the bank showed a steep decline to a depth of approximately 400m, forming a barrier for nutrient-rich upwelling; such a region could thus serve as potential habitat for various marine mammal species.

### Known and potential threats:

- 1) Fishing activities- Anecdotal reports of trawling in the region (Sarvanan et al. 2011) and signs of discarded longline nets during the survey indicate the presence of fishing activities in or near Angria Bank. If ignored, it could prove to be detrimental to the region in the form of marine debris as well as damage caused by unregulated, large mechanised vessels.
- 2) Impacts of climate change- The survey revealed a pristine coral reef system that shows no sign of coral bleaching. However, as oceanic temperatures rise globally, the threat of climate change needs to be accounted for in the conservation of the coral reef ecosystem.
- 3) Developmental activities- Reports suggest potential mineral exploration in the region near Angria Bank. The exploration drilling for developmental purposes could result in damage to the coral reef. Moreover, it would present future risks in the form of pollution that could be further disastrous for the coral reef and associated marine organisms.

Angria Bank remains a relatively underexplored area apart from two previous studies and the recent expedition. Its pristine coral reef ecosystem promises a plethora of associated benthic and pelagic organisms that are yet unaccounted for. This increases the scientific significance of the area as it supports thriving marine life that could comprise of certain undetected species.

Moreover, it is crucial to ensure that the aforementioned threats are managed effectively before they pose a risk to the reef and associated flora and fauna. While defense activities do not present any real threat to Angria Bank, other unregulated activities such as fishing, mineral and oil exploration and potential tourism plans could jeopardise the fragile coral reefs at the bank.



### ***Ways forward:***

The Angria Bank provides a pristine reef ecosystem despite its proximity to the Indian mainland and impending threats. Therefore, it is crucial to devise an effective management plan for the preservation of the region. Moreover, the plan would be beneficial as it would integrate fishing regulation, tourism opportunities as well as unhindered defense activities in order to safeguard the interests of the country.

In collaboration with partners, WCS-India will use the results from the recently-concluded expedition to facilitate the notification of the region as a "Designated Area" under the Territorial Waters, Continental Shelf, Exclusive Economic Zone and Other Maritime Zones Act, 1976. The necessary documentation shall be submitted to the Ministry of External Affairs (MEA), the foremost authority on designating protected zones in EEZs. Moreover, long-term efforts towards protecting and monitoring this region will be undertaken along with relevant Government and Technical agencies in order to develop an effective management plan and form a protection force to ensure implementation of the plan.

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## APPENDIX III

### SPECIES LIST OF ANGRIA BANK

The list of species provided below is an outcome of all three biological expeditions to Angria Bank. The data from the CMLRE - WCS-India survey are currently being analysed, and this list will be appended to upon completion of the final technical report of the site visit.

Fish			
<i>Scientific name</i>	Common name	Status	Trophic guild
<i>Acanthurusalbipectoralis</i>	Whitefin surgeon	Common	Algal feeder
<i>Acanthurusgrammoptilus</i>	Fine lined surgeon	Common	Algal feeder
<i>Acanthurusfowleri</i>	Blackspine surgeon	Common	Algal feeder
<i>Acanthurustristis</i>	Indian mimic surgeon	Common	Algal feeder
<i>Acanthurustennentii</i>	Tennents surgeon	Uncommon	Algal feeder
<i>Acanthurusauranticavus</i>	Orange socket surgeon	Common	Algal feeder
<i>Acanthurusleucocheilus</i>	Pale lipped surgeon	Uncommon	Algal feeder
<i>Acanthurusmata</i>	Yellow mask surgeon	Uncommon	Algal feeder
<i>Aethlopercarogaa</i>	Redmouth grouper	Common	Piscivore
<i>Aluterusscriptus</i>	Scrawled filefish	Rare	Omnivore
<i>Amphiprionclarkii</i>	Clark's anemonefish	Uncommon	Plankton feeder
<i>Amphiprionsebae</i>	Sebae anemone fish	Uncommon	Plankton feeder
<i>Amphiprionakallopis</i>	Skunk anemonefish	Uncommon	Plankton feeder

<i>Arothronstellatus</i>	Star puffer	Fairly common	Omnivore
<i>Balistapusundulatus</i>	Orange line triggerfish	Common	Macroinvertivore
<i>Balistoidesviridescens</i>	Titan triggerfish	Common	Macroinvertivore
<i>Balistoidesconspicillum</i>	Clown triggerfish	Rare	Macroinvertivore
<i>Bodianusdiana</i>	Redfin hogfish	Common	Macroinvertivore
<i>Bodianus mesothorax</i>	Blackbelt hogfish	Uncommon	Macroinvertivore
<i>Caesiocuning</i>	Yellowtail fusilier	Common	Plankton feeder
<i>Caesioxanthonota</i>	Yellowback fusilier	Common	Plankton feeder
<i>Carangoides sp.</i>	Trevally	Common	Macroinvertivore
<i>Carangoidesferdau</i>	Blue trevally	Uncommon	Macroinvertivore
<i>Caranxmelampygus</i>	Bluefin trevally	Common	Piscivore
<i>Caranxignobilis</i>	Giant trevally	Rare	Piscivore
<i>Centropygemultispinis</i>	Brown pygmy angelfish	Common	Algal feeder
<i>Centropygeeibli</i>	Blacktail angelfish	Uncommon	Algal feeder
<i>Cephalopholisargus</i>	Peacock grouper	Common	Piscivore
<i>Cephalopholisminiata</i>	Coral grouper	Common	Piscivore
<i>Cephalopholis sp.</i>	Red grouper	Common	Piscivore
<i>Chaetodon meyeri</i>	Meyer's butterflyfish	Common	Corallivore
<i>Chaetodon vagabundus</i>	Vagabond butterflyfish	Fairly common	Omnivore

<i>Chaetodon mesoleucos</i>	White face butterflyfish	Uncommon	Corallivore
<i>Chaetodon lunulatus</i>	Lined butterflyfish	Common	Corallivore
<i>Chaetodon collare</i>	White collar butterflyfish	Common	Corallivore
<i>Chaetodon mertensii</i>	Atoll butterflyfish	Uncommon	Algal feeder + Macroinvertebrate
<i>Chaetodon trifasciatus</i>	Indian redfin butterflyfish	Fairly common	Corallivore
<i>Chaetodon triangulum</i>	Triangular butterflyfish	Rare	Corallivore
<i>Chaetodon decussatus</i>	Indian vagabond butterflyfish	Common	Omnivore
<i>Choerodon jordani</i>	Blackwedgetuskfish	Uncommon	Omnivore
<i>Cheilodactylus</i>	Cigar wrasse	Common	Macroinvertebrate
<i>Chlorurus strongylocephalus</i>	Roundhead parrotfish	Common	Herbivore + Corallivore
<i>Chlorurus bleekeri</i>	Bleekers parrotfish	Common	Herbivore + Corallivore
<i>Chlorurus sordidus</i>	Bullethead parrotfish	Common	Herbivore + Corallivore
<i>Chlorurus capistratoides</i>	Indian parrotfish	Common	Herbivore + Corallivore
<i>Chromis xanthura</i>	Pale tail chromis	Common	Plankton feeder
<i>Chromis sp.</i>	Damselfish	Common	Plankton feeder

<i>Cirrhitichthysfalco</i>	Dwarf hawkfish	Common	Macroinvertevore
<i>Cirrhitichthysaprinus</i>	Threadfin hawkfish	Common	Macroinvertevore
<i>Cirripectescastaneus</i>	Chestnut blenny	Common	Macroinvertevore
<i>Corisaygula</i>	Clown coris	Common	Macroinvertevore
<i>Ctenochaetusstriatus</i>	Lined bristletooth	Common	Algal feeder
<i>Pateobatisfai</i>	Common	Rare	Piscivore + Macroinvertevore
<i>Diodonliturosus</i>	Black blotched pufferfish	Common	Omnivore
<i>Epibulusinsidiator</i>	Slingjaw wrasse	Fairly common	Macroinvertevore
<i>Epinephelusundulosus</i>	Wavy lined grouper	Common	Piscivore + Macroinvertevore
<i>Epinephelusmalabaricus</i>	Malabar grouper	Common	Piscivore
<i>Epinephelusadscensionis</i>	Red hind grouper	Common	Piscivore + Macroinvertevore
<i>Epinepheluscoeruleopunctatus</i>	White spotted grouper	Common	Piscivore
<i>Epinephelusbontoides</i>	Pale margin grouper	Common	Piscivore
<i>Epinephelusareolatus</i>	Areolate grouper	Common	Piscivore
<i>Gymnothoraxmelanospinos</i>	Bream	Common	Piscivore
<i>Gnathodentexaureolineatus</i>	Striped large eye bream	Common	Macroinvertevore
<i>Gomphosusvarius</i>	Pacific bird wrasse	Common	Piscivore

<i>Graciaalbomarginata</i>	Masked grouper	Uncommon	Piscivore
<i>Gymnothoraxfavagineus</i>	Honeycomb moray	Uncommon	Piscivore
<i>Halichoereshortulanus</i>	Checkerboard wrasse	Common	Macroinvertivore
<i>Halichoeresnigrescens</i>	Bubblefin wrasse	Common	Macroinvertivore
<i>Halichoerespodostigma</i>	Axilspot wrasse	Common	Macroinvertivore
<i>Halichoeresmelanurus</i>	Pinstipped wrasse	Common	Macroinvertivore
<i>Halichoeres scapularis</i>	Zig zag wrasse	Uncommon	Macroinvertivore
<i>Halichoeressolorensis</i>	Yellowface wrasse	Common	Macroinvertivore
<i>Halichoeresmargaritaceus</i>	Weedy surge wrasse	Common	Macroinvertivore
<i>Halichoeresclaudia</i>	Claudia's wrasse	Rare	Macroinvertivore
<i>Halichoerespapilionaceus</i>	Weed wrasse	Rare	Macroinvertivore
<i>Halichoeresleucoxanthus</i>	Canarytop wrasse	Common	Macroinvertivore
<i>Heniochusdiphreutes</i>	Schooling bannerfish	Uncommon	Macroinvertivore
<i>Heniochusacuminatus</i>	Longfin bannerfish	Common	Macroinvertivore
<i>Labroidesdimidiatus</i>	Bluestreak cleaner wrasse	Common	Macroinvertivore
<i>Lethrinusrubrioperculatus</i>	Longface emperor	Common	Macroinvertivore
<i>Lutjanusquinclineatus</i>	Five-lined snapper	Common	Macroinvertivore
<i>Lutjanus gibbus</i>	Humpback snapper	Common	Piscivore

<i>Lutjanus bohar</i>	Red snapper	Common	Macroinvertevore
<i>Lutjanus fulvus</i>	Blacktail snapper	Common	Macroinvertevore
<i>Melichthus indicus</i>	Indian triggerfish	Common	Omnivore
<i>Myripristis violacea</i>	Violet soldierfish	Common	Plankton feeder
<i>Myripristis adusta</i>	Shadowfin soldierfish	Common	Plankton feeder
<i>Nasoceruleacauda</i>	Bluetail unicornfish	Common	Uncommon
<i>Nas unicornis</i>	Bluespineunicornfish	Common	Algal feeder
<i>Nasovlamingii</i>	Bignoseunicornfish	Common	Algal feeder
<i>Naso elegans</i>	Elegant unicornfish	Common	Algal feeder
<i>Nasocaesius</i>	Gray unicornfish	Uncommon	Algal feeder
<i>Nasolituratus</i>	Orangespineunicornfish	Common	Algal feeder
<i>Odonus niger</i>	Redtooth triggerfish	Common	Plankton feeder
<i>Ostracion cubicus</i>	Ostracioncubicus	Very common	Omnivore
<i>Parapercis lineopunctata</i>	Nose stripe sandperch	Uncommon	Macroinvertevore
<i>Parapercis clathrata</i>	Latticed sandperch	Common	Macroinvertevore
<i>Parupeneus macronema</i>	Long barbel goatfish	Common	Macroinvertevore
<i>Parupeneus indicus</i>	Indian goatfish	Common	Macroinvertevore
<i>Plectropomus areolatus</i>	Sweettail coral grouper	Common	Piscivore
<i>Plectorhincus vittatus</i>	Oriental sweetlips	Common	Macroinvertevore



<i>Variola louti</i>	Yellow edged lyretail	Common	Piscivore
<i>Zanclus cornutus</i>	Moorish idol	Common	Sponge feeder
<i>Zebrasomadesjardinii</i>	Indian sailfin tang	Uncommon	Algal feeder
<i>Zoramia viridiventer</i>	Fragile cardinalfish	Rare	Algal feeder

Invertebrates			
Genus	Common name	Status	Trophic
<i>Xestospongia sp.</i>	Sponge	Uncommon	Filter feeder
<i>Axinelladissimilis</i>	Sponge	Fairly Common	Filter feeder
<i>Haliclonasimulans</i>	Sponge	Common	Filter feeder
<i>Aplysina sp.</i>	Sponge	Common	Filter feeder
<i>Cladocroce sp.</i>	Sponge	Common	Filter feeder
<i>Phyllospongia lamellosa</i>	Sponge	Uncommon	Filter feeder
<i>Xestospongia muta</i>	Sponge	Uncommon	Filter feeder
<i>Bohadschiagraeffei</i>	Sea cucumber	Fairly Common	Detritivore
<i>Culcitano vaguineae</i>	Cushion star	Fairly Common	Corallivores

<i>Pomacanthus annularis</i>	Blue ringed angelfish	Common	Macroinvertevore
<i>Pomacanthus imperator</i>	Emperor angelfish	Common	Macroinvertevore
<i>Pomacentrus coelestis</i>	Neon damsel	Common	Algal feeder
<i>Pomacentrus alleni</i>	Andaman damsel	Common	Algal feeder
<i>Pomacentrus similis</i>	Similar damsel	Common	Algal feeder
<i>Sargocentron cornutum</i>	Threespot squirrelfish	Common	Plankton feeder
<i>Sargocentron praslin</i>	Dark spotted squirrelfish	Fairly common	Plankton feeder
<i>Sargocentron caudimaculatum</i>	Tailspot squirrelfish	Uncommon	Plankton feeder
<i>Scolopsis scilota</i>	Whitestreak monocle bream	Uncommon	Macroinvertevore
<i>Scomberoides commersonianus</i>	Talang queenfish	Rare	Piscivore
<i>Stethojulis trilineata</i>	Fourline wrasse	Uncommon	Macroinvertevore
<i>Stethojulis bandanensis</i>	Red shoulder wrasse	Rare	Macroinvertevore
<i>Sufflamen chrysopterum</i>	Flagtail triggerfish	Common	Macroinvertevore
<i>Sufflamen bursa</i>	Scythe triggerfish	Fairly common	Macroinvertevore
<i>Sufflamen fraenatum</i>	Bridled triggerfish	Fairly common	Macroinvertevore
<i>Synodus variegatus</i>	Reef lizardfish	Uncommon	Piscivore
<i>Thalassomania grofasciatum</i>	Blackbar wrasse	Common	Macroinvertevore
<i>Thalassoma lunare</i>	Crescent wrasse	Common	Macroinvertevore

<i>Diadema antillarum</i>	Sea urchin	Uncommon	Herbivore
<i>Eucidaris metularia</i>	Sea urchin	Uncommon	Herbivore
<i>Linckia laevigatus</i>	Sea star	Common	Macroinvertebrate + Planktivore
<i>Petasomera clareae</i>	Feather star	Common	Planktivores
<i>Protoreaster linckii</i>	Sea star	Fairly Uncommon	Macroinvertebrate + Planktivore
<i>Linckia multiflora</i>	Sea star	Fairly Common	Macroinvertebrate + Planktivore
<i>Hyatulus brockii</i>	Crustacean	Fairly Common	Planktivore + Herbivores
<i>Sereniusceylonicus</i>	Crustacean	Uncommon	Planktivore + Herbivores
<i>Pilodius flavus</i>	Crustacean	Uncommon	Planktivore + Herbivores
<i>Liomeramonticulosa</i>	Crustacean	Rare	Planktivore + Herbivores
<i>Trapezia tigrina</i>	Crustacean	Uncommon	Planktivore + Herbivores
<i>Tanaocheles bidentata</i>	Crustacean	Uncommon	Planktivore + Herbivores
<i>Cycloachelous granulatus</i>	Crustacean	Uncommon	Planktivore + Herbivores
<i>Portunus convexus</i>	Crustacean	Uncommon	Planktivore + Herbivores
<i>Portunus macropthalmus</i>	Crustacean	Uncommon	Planktivore + Herbivores
<i>Thalassidroma vakensis</i>	Crustacean	Uncommon	Planktivore + Herbivores
<i>Leucothea multicornis</i>	Ctenophora	Uncommon	Planktivores

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<i>Cestum veneris</i>	Ctenophora	Fairly Common	Planktivores
Sea anemone	Anthozoa	Common	Macroinvertebrate + Planktivore
<i>Condylactis gigantea</i>	Anthozoa	Fairly Common	Macroinvertebrate + Planktivore
<i>Entacmaea quadricolor</i>	Anthozoa	Fairly Common	Macroinvertebrate + Planktivore
<i>Heteractis aurora</i>	Anthozoa	Fairly Common	Macroinvertebrate + Planktivore
<i>Chrysaora</i> sp.	Scyphozoa	Uncommon	Macroinvertebrate + Planktivore
<i>Doliolittageogenbauri</i>	Tunicate	Fairly Common	Planktivores + Detritivore
<i>Chelidonura electra</i>	Nudibranch	Fairly Common	Microinvertebrate
<i>Spirobranchus giganteus</i>	Polychaeta	Fairly Common	Microinvertebrate + Planktivore
<i>Echinothrix diadema</i>	Sea urchin	Fairly Uncommon	Herbivore
<i>Holothurians cabra</i>	Sea cucumber	Uncommon	Detritivore
<i>Zoanthus sansibaricus</i>	Hexacorallia	Common	Planktivores
<i>Diadema setosum</i>	Sea urchin	Fairly Common	Herbivore
<i>Comasteridae</i>	Feather star	Common	Planktivores
<i>Palythoa</i> sp.	Zooanthid	Common	Macroinvertebrate + Planktivore
<i>Gorgonia</i>	Alcyonacea	Fairly common	Macroinvertebrate + Planktivore

<i>Palaemonetes sp.</i>	Crustacean	Uncommon	Planktivore + Herbivores
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Hard Corals			
<i>Acanthastreaechinata</i>	<i>Faviteschinensis</i>	<i>Pachyseriscaesia</i>	<i>Turbinaria sp.</i>
<i>Acanthastrea maxima</i>	<i>Galaxia sp.</i>	<i>Pectiniasulawesi</i>	<i>Zoanthussociatus</i>
<i>Astreopora sp.</i>	<i>Goniastreaaustralensis</i>	<i>Platygyrapini</i>	<i>Zoanthussansibaricus</i>
<i>Ctenactis sp.</i>	<i>Goniopora minor</i>	<i>Pocilloporaverrucosa</i>	<i>Heliofungiaactiniformis</i>
<i>Rhodactisrhodostoma</i>	<i>Helioporacoerulea</i>	<i>Porites lobate</i>	<i>Goniastrearotumana</i>
<i>Euphylliaancora</i>	<i>Leptastrea sp.</i>	<i>Porites lutea</i>	<i>Goniastreasperiosa</i>
<i>Goniastrea favus</i>	<i>Lobophylliacorymbosa</i>	<i>Porites solida</i>	<i>Montipora sp.</i>
<i>Pachyserispeciosa</i>	<i>Lobophyllia radians</i>	<i>Lobophylliaagaricia</i>	

Soft Corals			
<i>Clavulariaviridis</i>	<i>Junceella sp.</i>	<i>Sarcophytonehrenbergi</i>	<i>Sarcophytontrocheliophorum</i>
<i>Dendronephthya sp.</i>	<i>Lobophytum sp.</i>	<i>Sarcophytonglaucum</i>	<i>Sinulariapolydactyla</i>
Seaweed			
<i>Amphiroa sp.</i>	<i>Codium sp.</i>	<i>Halimeda tuna</i>	<i>Stoechospermum marginatum</i>
<i>Caulerpa sp.</i>	<i>Dictyota sp.</i>	<i>Padina sp.</i>	<i>Sargassum sp.</i>



**वन विभाग**

**प्रधान मुख्य वनसंरक्षक (वन बल प्रमुख) महाराष्ट्र राज्य, यांचे कार्यालय**  
**O/o Principal Chief Conservator of Forests (HoFF), Maharashtra State**

Phone No.- 0712-2560953

**प्रधान मुख्य वनसंरक्षक (वन्यजीव) महाराष्ट्र राज्य,**

E-mail - pccfwlmgp@mahaforest.gov.in

Principal Chief Conservator of Forest (Wildlife) Maharashtra State

Website - [www.mahaforest.gov.in](http://www.mahaforest.gov.in)

"Van Bhavan", 3<sup>rd</sup> Floor, Ramgiri Road, Civil Lines, Nagpur - 440 001.

क्रमांक कक्ष-२३(२)/वजी/सर्व्हे/प्र.क्र.०३(२०२०-२१)/१२४७/२०२०-२१, दिनांक २४/०९/२०२०

प्रति,

प्रधान सचिव (वने),  
महसूल व वनविभाग,  
मंत्रालय, मुंबई-३२.

**विषय :- Regarding notification of Angria Bank as a 'Designated Area' under the Maritime Zones Act - 1976.**

**संदर्भ :-** महाराष्ट्र शासन पत्र क्र. डब्ल्युएलपी ०७.२०/प्र.क्र.९३/फ-१, दिनांक ०९/०९/२०२०.

राज्य वन्यजीव मंडळाची १५ वी बैठक दिनांक ०७/०८/२०२० रोजी संपन्न झाली. सदर मंडळाचे बैठकीसमोर विषयांकित प्रकरणीचा प्रस्ताव निर्णयार्थ सादर करण्यात आलेला होता. सदर प्रस्तावास राज्य वन्यजीव मंडळाने, सागरी प्रदेश अधिनियम १९७६ अन्वये आंग्रीया पठाराला "संबोधित क्षेत्र" अधिसूचीत करण्यासाठी केंद्र शासनास शिफारस करण्याकरीता मान्यता प्रदान केलेली आहे. सदर बैठकीचे कार्यवृत्तांत संदर्भीय पत्रान्वये या कार्यालयास प्राप्त झालेले असून, वरील निर्णय कार्यवृत्तांतामध्ये नमूद आहे. (प्रत सहपत्रीत)

वरील बाबीचे अनुषंगाने राज्य वन्यजीव मंडळाने केलेली शिफारस शासन स्तरावरून केंद्र शासनास अवगत करून, प्रस्तुत प्रस्ताव केंद्र शासनाकडे सादर करण्याची कार्यवाही शासन स्तरावरून व्हावी, ही विनंती.

सहपत्र :- वरील प्रमाणे

(नितीन ह. काकोडकर)  
प्रधान मुख्य वनसंरक्षक (वन्यजीव)  
महाराष्ट्र राज्य

**प्रतिलिपी :-** अपर प्रधान मुख्य वनसंरक्षक, (कांदळवन कक्ष) मुंबई यांना माहिती व उचित कार्यवाहीस अग्रेषित. त्यांनी प्रस्तुत प्रकरणी त्यांचे स्तरावरून पाठपुरावा करावा.



महाराष्ट्र शासन

महसूल व वन विभाग

मंत्रालय, मुंबई-४०००३२.

मादाम कामा मार्ग, हुतात्मा राजगुरु चौक.

ईमेल:- ms351@ifs.nic.in

क्रमांक :- डब्ल्यूएलपी ०७.२०/प्र.क्र. ९३/फ-१

दिनांक : ०९.०९.२०२०.

प्रति,

प्रधान मुख्य वनसंरक्षक (वन्यजीव), तथा  
सदस्य सचिव, राज्य वन्यजीव मंडळ,  
महाराष्ट्र राज्य, नागपूर.

विषय : राज्य वन्यजीव मंडळाच्या १५ वी बैठक कार्यवृत्तांतास मान्यता देण्याबाबत.

संदर्भ : आपले पत्र क्र.कक्ष-२३(२)/वजी/सर्व्हे/प्र.क्र. ६७२ (२०२०)/९२७/२०२०-२१,

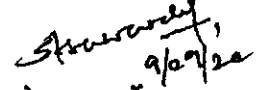
दिनांक : ११.०८.२०२०

महोदय,

शुक्रवार दिनांक ०७.०८.२०२० रोजी दूपारी १२.३० वाजता, NIC व्हिडीओ कॉन्फरन्सिंगद्वारे (VC) राज्य वन्यजीव मंडळाची १५ वी बैठक आयोजित करण्यात आली होती. संदर्भित पत्रान्वये आपण मान्यतेसाठी सादर केलेल्या सदर बैठकीचे मराठी व इंग्रजी कार्यवृत्तास आवश्यक त्या दुरुस्तीसह मा. मुख्यमंत्री तथा अध्यक्ष राज्य वन्यजीव मंडळ यांनी मान्यता दिली आहे.

मा. मुख्यमंत्री तथा अध्यक्ष राज्य वन्यजीव मंडळ यांनी मान्यता दिलेले राज्य वन्यजीव मंडळाच्या १५ व्या बैठकीचे मराठी व इंग्रजी कार्यवृत्तांत सोबत जोडून पाठविण्यात येत आहे. तरी दोन्ही कार्यवृत्तांत मंडळाच्या सदस्यांना तात्काळ उपलब्ध करून देण्यात यावे, ही विनंती.

सहपत्र :- वरील प्रमाणे.

  
(सिध्देश सावर्डेकर)  
विशेष कार्य अधिकारी  
महसूल व वन विभाग

अंडरपासेसच्या वन्यप्राण्यांकडून वापराचा अभ्यास केला असता, असे आढळून आले की, ११ वेगवेगळे वाघ व एकुण अंदाजे ५००० वेळा इतर वन्यप्राण्यांनी सदर उपशमन संरचनेचा उपयोग केलेला आहे, जे आता एकरेखीय प्रकल्प विकासामध्ये आदर्श उपशमन प्रयत्न म्हणून उदाहरणा दाखल देण्यात येत आहे.

• **महाराष्ट्र राज्यामधील दीर्घ मुदतीचे संशोधन प्रकल्पांच्या अंमलबजावणीबाबत:-**

मंडळाला माहिती देण्यात आली की, देशामधील महाराष्ट्र राज्य हे एकमेव असे राज्य आहे की, ज्याने भारतीय वन्यजीव संस्थेच्या सहकार्याने विविध व्यवस्थापन समस्यांबाबत (management issues) अभ्यास करण्याकरीता दीर्घ मुदतीचे संशोधन प्रकल्प सुरु केले आहेत. सदस्य सचिवांनी सुचविले की, भारतीय वन्यजीव संस्था, देहराडूनच्या धर्तीवर एक सर्वोच्च वन्यजीव प्रशिक्षण व व्यवस्थापन संस्थेकरीता ईमारत ईत्यादी सुविधा चंद्रपूर वन प्रबोधीनीमध्ये तयार आहे. सदर संस्था क्षेत्रीय कर्मचा-यांच्या व इतर भागधारकांच्या क्षमता वाढीची वाढती गरज भागविण्याची काळजी घेईल. अध्यक्षांनी निर्देश दिले की, सदर विषयामध्ये निर्माण होणारी वाढती गरज विचारात घेता सदर प्रशिक्षण सुविधा इतर अनेक ठिकाणी सुध्दा निर्माण करण्यात याव्यात.

- कांदळवन संवर्धन सहव्यवस्थापन समिती सुरु करण्यासह कांदळवन कक्षाअंतर्गत जिवनोपयोगी कार्यक्रम राबविण्याबाबत मंडळाला माहिती देण्यात आली.
- नागपूर येथील उपचार केंद्र (Transit Treatment Centre) व डहाणू येथील समुद्री कासव उपचार केंद्र, जे जखमी झालेल्या / बचाव केलेल्या वन्यप्राण्यांना सेवा पुरवित आहेत, त्यांचेबद्दल सुध्दा सदस्य सचिवांनी प्रकाश टाकला. मंडळाचे मा. उपाध्यक्षांनी मा. अध्यक्षांना अशा तऱ्हेचे क्षणिक उपचार केंद्र प्रत्येक वनवृत्तामध्ये स्थापन करण्यासाठी मंजूरी देण्याबद्दल विनंती केली.
- गाभा क्षेत्राचे पुनर्गठन करून ताडोबा-अंधारी व्याघ्र राखीव क्षेत्राचे संरक्षणाचे बळकटीकरण करणे.

विभिन्न संरक्षित क्षेत्रांमध्ये वाढत्या मानव व वन समस्यांबाबत, क्षेत्रीय स्तरावर परिणामकारक व्यवस्थापनाकरीता वनरक्षकांची वाढीव पदे निर्माण करण्याच्या गरजेबाबत सुचविण्यात आले.

• **संरक्षित क्षेत्रामधून गावांचे पुनर्वसन**

संरक्षित क्षेत्रामधून एकूण ६६ गावांचे पुनर्वसन करण्यात आलेले आहे, ज्यामुळे वन्यजीवांकरीता मोकळे क्षेत्र निर्माण झाले असून पुनर्वसित गावक-याकरीता उत्तम सोयी व विकास याकरीता समाधानकारक परिस्थिती निर्माण झालेली आहे. संरक्षित क्षेत्राच्या सिमेलगत निवडक गावांचे पुनर्वसन करण्याकरीता व आदिवासी बहुल गावांचे पुनर्वसन करण्याकरीता आदिवासी विकास विभागाचा निधी उपयोगात आणण्याबाबत धोरणात्मक निर्णय घेण्यात यावा, असे मंडळाने ठरविले.

*Amruth* विषय क्र. ४ : प्रादेशिक जलक्षेत्र, कॉन्टीनेन्टल शेल्फ, अनन्य साधारण आर्थिक क्षेत्र व इतर सागरी प्रदेश अधिनियम, १९७६ अंतर्गत सागरी संरक्षणाकरीता बुडीत आंग्रीया पठाराला (Angria Bank) "संबोधीत क्षेत्र" (Designated Area) म्हणून अधिसूचीत करण्याचा प्रस्ताव.

सागरी प्रदेश अधिनियम, १९७६ अन्वयेआंग्रीया पठाराला "संबोधीत क्षेत्र" अधिसूचीतकरण्यासाठी सदर प्रस्तावाची केंद्र शासनाकडे शिफारस करण्याकरीता मंडळाने मंजूरी दिली.

विषय क्र. ५ : महाराष्ट्र राज्यातील भारतीय जलक्षेत्रातील अरबी समुद्रीय हम्पबॅक व्हेल माशाचे पुनरुज्जीवन कार्यक्रमाचा प्रस्ताव.



मंडळाने सदर प्रस्ताव मंजूर केला व केंद्र शासनाकडे पुढील आवश्यक कार्यवाहीसाठी पाठविण्याबाबत शिफारस करण्याबाबत ठरविले. मंडळाला सांगण्यात आले की, सदर प्रस्ताव हा ५ वर्षांचा कालावधीसाठी आहे व रु. ६.१२ कोटीची मागणी प्रस्तावित करण्यात आली आहे.

विषय क्र. ६ : वन्यजीव (संरक्षण) अधिनियम, १९७२ चे कलम २९ व ३५(६) अन्वये संशोधन कार्याकरीता संरक्षित क्षेत्रामधून नमूने गोळा करण्याला परवानगी प्रदान करणे.

अ.क्र.	विषय	झालेली चर्चा	घेतलेला निर्णय
६.१	भारत सरकारच्या DST-SERB च्या अर्थसहाय्याने "Systematic and Phylogenetic study of genus Rotala in India" विषयाचे संशोधन प्रकल्पाकरीता डॉ. मिलिंद सरदेसाई, सावित्रीबाई फुले, पुणे विद्यापीठाचे वनस्पती शास्त्र विभागाला महाराष्ट्र राज्यातील संरक्षित क्षेत्राकरीता संशोधन परवाना जारी करण्याची विनंती.		
६.२	श्री. तेजस ठाकरे, श्री. अनिकेत मराठे, श्री. स्वप्नील पवार व श्री. अमृत भोसले, मुंबई, यांनी 'जमीन (भूमी) गोगलगाई (Landsnail) प्रजाती किंवा Taxon Cyclophorus sp., Theobaldius sp., Tortulosa sp., (genera Acavus, Oligospira and Corilla), Micro-mollusca genera: Philalanka, Microcystina and Cyathopoma या प्रजाती "Elevated based studies on land snail diversity from North Western Ghats, Maharashtra". या संशोधन प्रकल्पाकरीता महाराष्ट्राचे उत्तर-पश्चिम घाटातील संरक्षित क्षेत्रामधून गोळा करण्याकरीता परवानगी करिता प्रस्ताव.	राज्य वन्यजीव मंडळाच्या सदस्य सचिवांनी मंडळाला सदर दोन्ही प्रकल्पाबाबतचे महत्व सांगितले.	राष्ट्रीय वन्यजीव मंडळाकडे शिफारस करण्याकरीता दोन्ही प्रकल्प अनु. क्र. ६.१ व ६.२ यांना मंजूरी देण्यात आली. लहान वनस्पती व वन्यजीवांच्या अभ्यासामध्ये तरुण दाखवत असलेल्या रुचीबद्दल मंडळाने कौतुक व्यक्त केले.

विषय क्र. ७ : *Sonneratia alba* (पांढरी चिपी) या वृक्षाला महाराष्ट्र राज्य कांदळवन वृक्ष घोषित करण्याचा प्रस्ताव.

अ.क्र.	विषय	झालेली चर्चा	घेतलेला निर्णय
१.	<i>Sonneratia alba</i> (पांढरी चिपी) या वृक्षाला महाराष्ट्र राज्य कांदळवन वृक्ष घोषित करण्याचा प्रस्ताव.	मंडळाचे सदस्य सचिव यांनी मानव जातीला कांदळवनाचे महत्व समजण्याकरीता व कांदळवन संवर्धनाबाबत लोकांमध्ये जागृती निर्माण करण्याकरीता व सहयोग मिळण्याबाबत सदर प्रजातीला राज्य कांदळवन वृक्ष घोषित करण्याचे महत्व	मंडळाने <i>Sonneratia alba</i> (पांढरी चिपी) या वृक्षाला महाराष्ट्र राज्य कांदळवन वृक्ष घोषित करण्याला मंजूरी प्रदान केली. त्याच प्रमाणे मा. अध्यक्षांनी हवामानाच्या प्रक्षोभा पासून समृद्ध किनाऱ्याचे संरक्षण करण्यासाठी कांदळवनाचे महत्वाला प्रकाशझोतात

incidences of other wild animals using these mitigation structures which are now being cited as model mitigation efforts in the development of linear infrastructure.

- Implementation of long term research projects in the State of Maharashtra. The Board was apprised of the fact that Maharashtra is the only State in the country which has undertaken long term research projects in collaboration with the Wildlife Institute of India to study various management issues. The Member Secretary apprised the Board that an apex Wildlife training and management institute on lines of the Wildlife institute of India, Dehradun is now ready in terms of State of the Art infrastructure at the Chandrapur Forest Academy. This would take care of the growing needs of capacity building of the staff and other stakeholders. The Chairman directed that in view of the growing interests in this field such training facilities should be created at many other locations.
- The Board was apprised of the Livelihood activities under Mangrove Cell including the setting up of the Mangrove Conservation Management Committees.
- Transit Treatment Centre at Nagpur and Sea turtle transit treatment centre at Dahanu which are providing unique services to the injured/rescued wild animals was also highlighted by the Member Secretary.

The Hon'ble Vice Chairman of the Board requested the Hon'ble Chairman for granting approval for establishment of such Transit treatment centres in each Forest Circle.

- Strengthening of Protection in Tadoba Andhari Tiger Reserve by reorganization of the core.

It was discussed that more posts of Beat guards should be created for effective management at field level in various Protected Areas to take care of the increasing human forest interface.

- Relocation of villages from Protected areas.

A total of 66 villages have been relocated from the Protected areas which has resulted in a win-win situation creating inviolate space for wildlife and better facilities and development for the people. The Board decided that policy decision should be taken for relocation of selected villages from the fringes of the Protected Areas and that the Tribal Development Departments funds may be utilized for relocation of the tribal dominated villages.

#### **AGENDA No. 4 : Proposal for Notification of Angria Bank as a "Designated Area" for marine protection under the Territorial Waters, Continental Shelf, Exclusive Economic Zone and other Maritime Zones Act, 1976.**

The Board approved the proposal and decided to recommend it to the Central Government for the Notification of Angria Bank as a "Designated Area" under the Maritime Zones Act, 1976.