

**Template for Submission of Scientific Information
to Describe Areas Meeting Scientific Criteria for
Ecologically or Biologically Significant Marine Areas**

Title/Name of the area: Churna Island, Karachi, Pakistan

**Presented by: Umair Shahid, WWF-Pakistan, North Indian Ocean Coordinator,
ushahid@wwf.org.pk**

Abstract (*in less than 150 words*)

Charna Island is a small inhabited island of Pakistan, in Arabian Sea. The island provides excellent habitat for coral reefs to grow and form a thriving ecosystem maintaining important ecological processes and flag ship species. The island is famous for Whale Sharks basking and has been reported to support reef communities. Marine life around Charna include poisonous sea snakes, barracuda, narrow-barred Spanish mackerel, cobia, dorado, tuna, angel fish, sea urchin, sea fan, oyster, ray fish and rare green turtles. They are also important for cetacean sightings. Charna island also hosts Pakistan game fishing association events and is popular for scuba diving activities. Moreover, it is important to conduct scientific research on a regular basis.

Introduction

(To include: feature type(s) presented, geographic description, depth range, oceanography, general information data reported, availability of models)

Churna Island, locally known “Cheerno”, is a small inhabited island of Pakistan, in Arabian Sea, about 9 km of the mouth of Hub River (7). It is approximately 1.2 km long and 0.5 km wide. The average depth of Churna Island is about to average 8 meters, with clear water. Churna Island constitute a productive ecosystem. It is rich in aquatic marine resources and sustains a dynamic web of marine life. Churna Island; has low water turbidity and hard rocky substrate and tectonically less active (Quddusi B. Kazmi and M. Afzal Kazmi).

Location

(Indicate the geographic location of the area/feature. This should include a location map. It should state if the area is within or outside national jurisdiction, or straddling both.)

Churna Island is located near Mubarak village (24°54'N 66°36'E) in the EEZ of Pakistan.

Feature description of the proposed area

(This should include information about the characteristics of the feature to be proposed, e.g. in terms of physical description (water column feature, benthic feature, or both), biological communities, role in ecosystem function, and then refer to the data/information that is available to support the proposal and whether models are available in the absence of data. This needs to be supported where possible with maps, models, reference to analysis, or the level of research in the area)

Coral reef ecosystem are found in tropical Oceans around the world (Abid Raza, S. Shahid Shaukat, Rukhsana Perveen and Rafiq Hussain). The ecosystem of reefs known as harbour for all reef communities such as Sea Snakes, Barracuda, Narrow-Barred Spanish Mackerel,

Cobia, Dorado, Tuna, Angel Fish, Sea Urchin, Sea Fan, Oyster, Ray Fish, Edible crabs, Ornamental Fishes and the Green Turtle(7) . Ecosystem, conversation, diversity and management of the coral reef are attractive and wanting research of the subjected area. corals of Churna Island are collecte by local fishermen for traditional medicines (kazumi).

Anthropogenic activities including land based pollution, sedimentation appear to be the main problems for the reefs in Pakistan coastal waters ((Arjan Rajasuriya, Maizan Hassan Maniku, BR Subramanian and Jason Rubens)). Degradation of marine environment near Churna Island is because of destructive fishing methods which contribute a threat for coral reefs community of Churna Island ((Arjan Rajasuriya, Maizan Hassan Maniku, BR Subramanian and Jason Rubens).

In Pakistan, Marine Reference Collection and Resources Centre, established in 1969 at University of Karachi, conducts most of the research on marine organisms. However, corals have not been studied to the same extent as other invertebrates such as molluscs, crustaceans and echinoderms ((Arjan Rajasuriya, Maizan Hassan Maniku, BR Subramanian and Jason Rubens))

Capacity building for coral reef resources management has not been initiated in Pakistan. although training in coastal zone management was recommended for government officials at regional workshop of IUCN/WWF and on the Biodiversity Action Plan ((Arjan Rajasuriya, Maizan Hassan Maniku, BR Subramanian and Jason Rubens))

In 1988, coral reefs were considered not favourable for the growth and formation of coral reefs, in Pakistan(Abid Raza, S. Shahid Shaukat, Rukhsana Perveen and Rafiq Hussain). the first records of living corals are reported from at the eastern part of Karachi in the gulf of Kuth (port Okha, Pirotan Island), Sindh(Abid Raza, S. Shahid Shaukat, Rukhsana Perveen and Rafiq Hussain). in 1995, according to the divers (Quddusi B. Kazmi and M. AfzalKazmi) observed in large amounts of living corals between the Churna Island (at the coast of Balochistan) and Cape Monze Island(east of Karachi, Sindh coast). The substrate is of limestone and water temperature does not drop 20 C with clear water except a few weeks of monsoons when water becomes turbulent by the input of fresh water by Hub River (Quddusi B. Kazmi and M. AfzalKazmi). patch reefs which found on rocky shoals of Churna waters, are of three kinds of corals; Hump corals at 5-15m, Leaf corals at 10-20 m, and star corals (Acropora) at 15 m(Abid Raza, S. Shahid Shaukat, Rukhsana Perveen and Rafiq Hussain). Although fossilized corals of late Pleistocene found at Churna are flourishing and more diversified than the recent ones (Quddusi B. Kazmi and M. AfzalKazmi).

In 2012, a total of 29 hard corals species (eight families and 14 genera) , one black coral species and eight soft coral species (three families and seven genra) were recorded from 18 dive sites at nine location along the Pakistan coastline(). moderately rich coral communities were recorded at Churna Island and at more exposed sites around Astola Island ().by contrast high;y diverse hard corals communities, with up to 80 % cover, were found only at the northern sheltered side of Astola Island where *Favites complanata* , *Favites pentagona*, *Coscinaraea monie* and *Porites nodifera* were the most abundant species. no true coral reef was found at an dive site. soft corals were dominant at most exposed sites, particularly at Ormara (Roadrigues Shoals) and Jiwani. by comparing diversity with other locations in the region , coral distribution and growth appear to be faily poor in Pakistan ((Amjad Ali, Rupert Ormond, Wera Leujak and Pirzada Jamal A. Siddiqui (2014)))

Feature condition and future outlook of the proposed area

(Description of the current condition of the area – is this static, declining, improving, what are the particular vulnerabilities? Any planned research/programmes/investigations?)

Churna Island, the main thing which makes Churna so fascinating icon (Size) is its rocky structure, which invites various rocky-sessile organisms ranging from sea anemones to the parrot fish, crabs and worms and molluscs to live within its ecological niches and interaction, and being protected from the wave action by which they remain in an ecologically limited and protected area. It is not just the three types of corals, but much more than just corals that is under the water world. Polyps which are responsible organisms for the formation of limestone substrate are the architects' home for marine life. Although reefs consist of one percent of oceans, but is the home of a quarter of aquatic life of oceans (Monty Halls, BBC). Harboring unimaginable kinds of fish; coral eaters, plankton eaters, hunters and the hunted (parrot fish, ornamental fishes, carangids, Mugiles, sole fish, catfish, rays, gropper) (Families; Ariidae, Clupeidae, Dasyatidae, Carangidae, Haemulidae, Nemipteridae, Serranidae, Sillaginidae, Sparidae, Sepiidae, Soleidae,) (Fishermen interviews).

Inhabiting of whale sharks have been reported between coastal and offshore water of Churna Island and Ras Malan (Muhammad Moazzam)

Assessment of the area against CBD EBSA Criteria

(Discuss the area in relation to each of the CBD criteria and relate the best available science. Note that a proposed area for EBSA description may qualify on the basis of one or more of the criteria, and that the polygons of the EBSA need not be defined with exact precision. And modeling may be used to estimate the presence of EBSA attributes. Please note where there are significant information gaps)

CBD EBSA Criteria (Annex I to decision IX/20)	Description (Annex I to decision IX/20)	Ranking of criterion relevance (please mark one column with an X)			
		No information	Low	Medium	High
Uniqueness or rarity	Area contains either (i) unique (“the only one of its kind”), rare (occurs only in few locations) or endemic species, populations or communities, and/or (ii) unique, rare or distinct, habitats or ecosystems; and/or (iii) unique or unusual geomorphological or oceanographic features.			X	
<i>Explanation for ranking</i>					
It is rich in aquatic marine resources and sustains a dynamic web of marine life. Churna Island; has low water turbidity and hard rocky substrate and tectonically less active (Quddusi B. Kazmi and M. Afzal Kazmi).					
Churna Island, the main thing which makes Churna so fascinating icon (Size) is its rocky structure, which invites various rocky-sessile organisms ranging from sea anemones to the parrot fish, crabs and worms and molluscs to live within its ecological niches and interaction, and being protected from the wave action by which they remain in an ecologically limited and protected area.					

Special importance for life-history stages of species	Areas that are required for a population to survive and thrive.			X	
<i>Explanation for ranking</i>					
Importance for threatened, endangered or declining species and/or habitats	Area containing habitat for the survival and recovery of endangered, threatened, declining species or area with significant assemblages of such species.			X	
<i>Explanation for ranking</i>					
Whale Sharks are endangered, as well as Green turtles which are often found to be foraging the area.					
Vulnerability, fragility, sensitivity, or slow recovery	Areas that contain a relatively high proportion of sensitive habitats, biotopes or species that are functionally fragile (highly susceptible to degradation or depletion by human activity or by natural events) or with slow recovery.			X	
<i>Explanation for ranking</i>					
Biological productivity	Area containing species, populations or communities with comparatively higher natural biological productivity.	X			
<i>Explanation for ranking</i>					
Biological diversity	Area contains comparatively higher diversity of ecosystems, habitats, communities, or species, or has higher genetic diversity.			X	
<i>Explanation for ranking</i>					
Naturalness	Area with a comparatively higher degree of naturalness as a result of the lack of or low level of human-induced disturbance or degradation.		X		
<i>Explanation for ranking</i>					

Sharing experiences and information applying other criteria (Optional)

Other Criteria	Description	Ranking of criterion relevance (please mark one column with an X)			
		Don't Know	Low	Medium	High
<i>Add relevant criteria</i>					
<i>Explanation for ranking</i>					

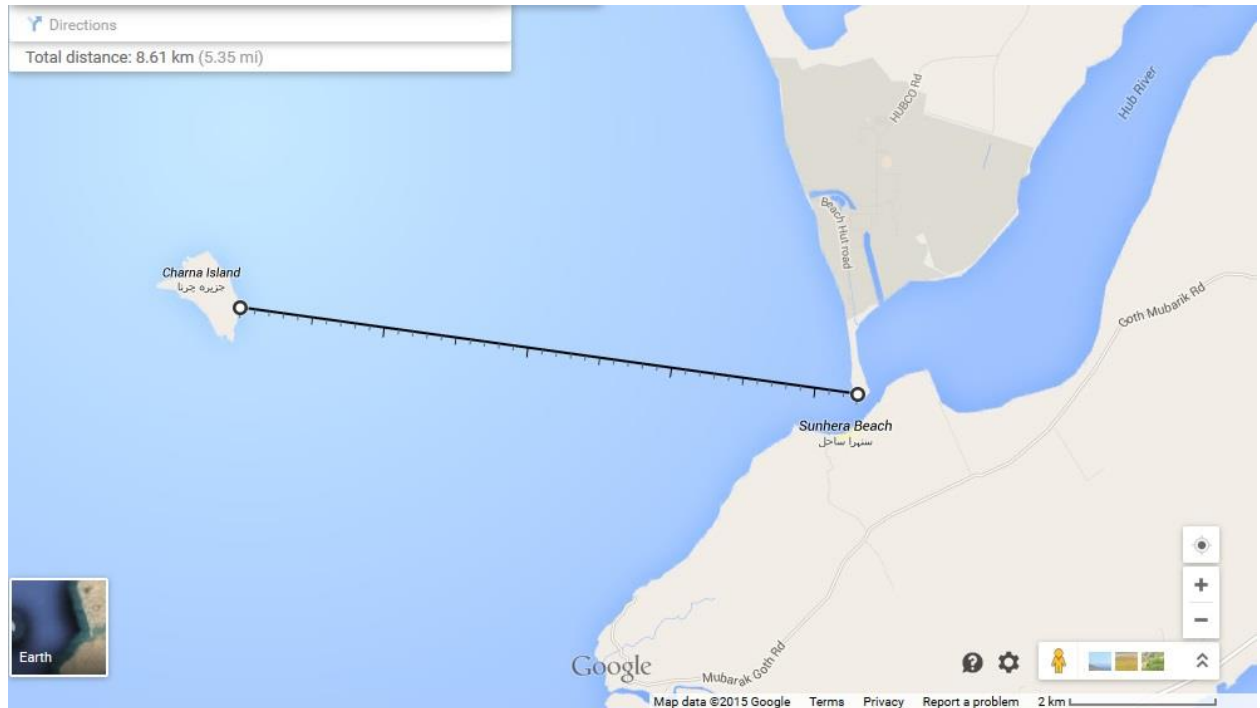
References

(e.g. relevant documents and publications, including URL where available; relevant data sets, including where these are located; information pertaining to relevant audio/visual material, video, models, etc.)

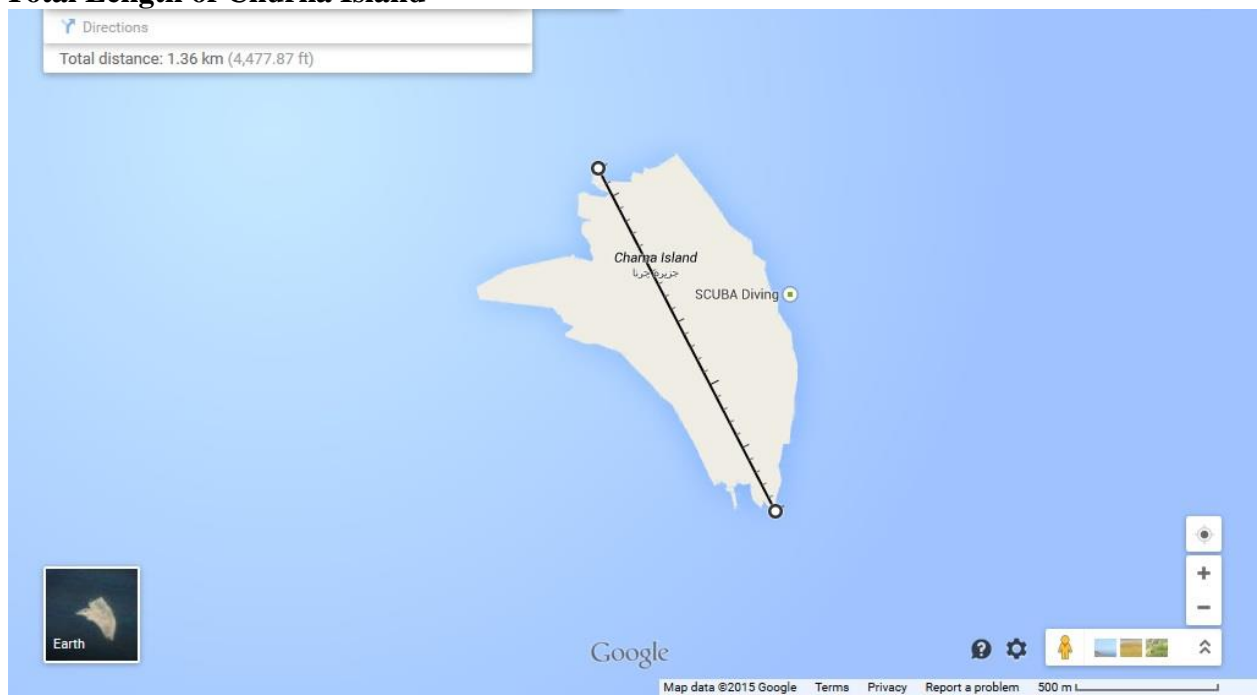
- 1- Amjad Ali, Rupert Ormond, Wera Leujak and Pirzada Jamal A. Siddiqui (2014). Distribution, diversity and abundance of coral communities in the coastal waters of Pakistan . Journal of the Marine Biological Association of the United Kingdom, 94, pp 75-84.
doi:10.1017/S0025315413001203.
- 2- Abid Raza, S. Shahid Shaukat, Rukhsana Perveen and Rafiq Hussain, Current status of Coral Research in Pakistan, International Journal of Fauna and Biological Studies 2014; 1 (6):105-107
- 3- Arjan Rajasuriya, Maizan Hassan Maniku, BR Subramanian and Jason Rubens, South Asia; a review of the progress in implementation of management actions for the conservation and sustainable development of coral reef ecosystem in South Asia, ITMEMS Proceedings 1998
- 4- Dr. Herman Cesar, Socio-Economic Aspects of the 1998 Coral Bleaching Event in the Indian Ocean, Coral Reef Degradation in the Indian Ocean Status Reports and Projects Presentations 1999; 80-83
- 5- Marcus C. Ohman, Coral Bleaching Effect on Reef Fish Communities and Fisheries, Coral Reef Degradation In The Indian Ocean Status Reports and Project Presentations 1999; 69-75
- 6- Muhammad Moazzam, IOTC 8th SESSION OF THE WORKING PARTY ON ECOSYSTEM AND BYCATCH (WPEB), Status report on bycatch of tuna gillnet operation in Pakistan, 2012
- 7- Quddusi B. Kazmi and M. Afzal Kazmi, Status of Research on Corals in Pakistan, Vineeta Hoon (1997) Regional Workshop on the Conervation and Sustainable Management of Coral Reefs. proceedings No.22, Madras; B-27
- 8- Fishermen interviews
- 9- The Great Barrier Reef- Natural Miracle by Monty Halls, BBC Productions Bristol, Serial producer James Brickell- bbc.co.uk/nature
- 10- Wikipedia, Churna Island- http://en.wikipedia.org/wiki/Churna_Island

Maps and Figures

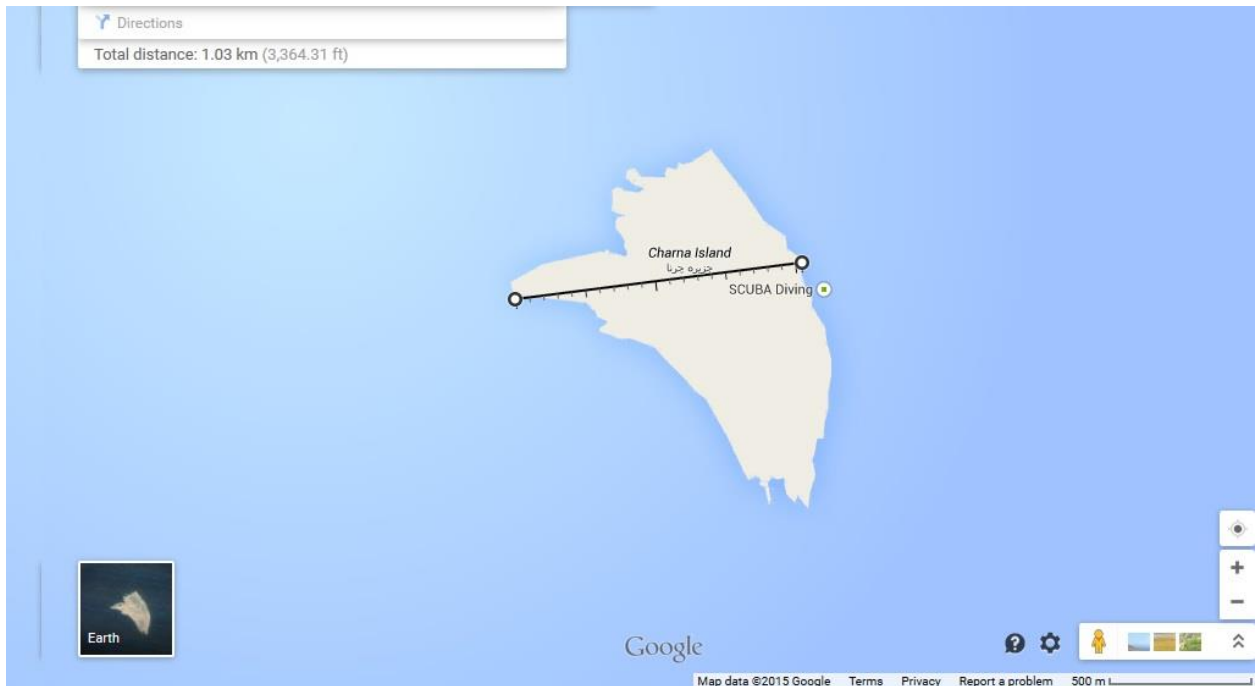
Distance from Churna Island to mouth of Hub River



Total Length of Churna Island



Width of Churna Island



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(Indicate if there are any known issues with giving permission to share or publish these data and what any conditions of publication might be; provide contact details for a contact person for this issue)

Rights and permission is provided for use of data. All data is published presented in this proposal. For further queries Rab Nawaz (Director WWF-Pakistan) may be contacted at rnawaz@wwf.org.pk.