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Agenda item 15

MARINE AND COASTAL BIODIVERSITY: ECOLOGICALLY OR BIOLOGICALLY SIGNIFICANT MARINE AREAS

Draft decision submitted by the Chair of Working Group II

Addendum

SUMMARY REPORT ON THE DESCRIPTION OF AREAS MEETING THE SCIENTIFIC CRITERIA FOR ECOLOGICALLY OR BIOLOGICALLY SIGNIFICANT MARINE AREAS

BACKGROUND

1. Pursuant to decision X/29, paragraph 36, decision XI/17, paragraph 12 and decision XII/22, paragraph 6, the following three additional regional workshops were convened by the Executive Secretary of the Convention on Biological Diversity:
 - (a) North-East Indian Ocean (Colombo, Sri Lanka, 23 to 27 March 2015);¹
 - (b) North-West Indian Ocean and Adjacent Gulf Areas (Dubai, United Arab Emirates, 20 to 25 April 2015);²
 - (c) Seas of East Asia (Xiamen, China, 14 to 18 December 2015);³
2. Pursuant to decision XI/17, paragraph 12, summaries of the results of these regional workshops are provided in tables 1 to 3 below, respectively, while full descriptions of how the areas meet the criteria for ecologically or biologically significant marine areas (EBSAs) are provided in the annexes to the respective reports of the workshops (UNEP/CBD/SBSTTA/20/INF/22, UNEP/CBD/SBSTTA/20/INF/23 and UNEP/CBD/SBSTTA/20/INF/24).
3. In decision X/29, paragraph 26, the Conference of Parties noted that the application of the EBSA criteria is a scientific and technical exercise, that areas found to meet the criteria may require enhanced conservation and management measures, and that this can be achieved through a variety of means, including marine protected areas and impact assessment. It also emphasized that the identification of ecologically or biologically significant marine areas and the selection of conservation and management measures is a matter for States and competent

¹ Report contained in UNEP/CBD/SBSTTA/20/INF/22.

² Report contained in UNEP/CBD/SBSTTA/20/INF/23.

³ Report contained in UNEP/CBD/SBSTTA/20/INF/24.

intergovernmental organizations, in accordance with international law, including the United Nations Convention on the Law of the Sea.⁴

4. The description of marine areas meeting the criteria for ecologically or biologically significant marine areas does not imply the expression of any opinion whatsoever concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Nor does it have economic or legal implications; it is strictly a scientific and technical exercise.

Key to the tables

RANKING OF EBSA CRITERIA

Relevance

H: High

M: Medium

L: Low

-: No information

CRITERIA

- **C1:** Uniqueness or rarity
- **C2:** Special importance for life-history stages of species
- **C3:** Importance for threatened, endangered or declining species and/or habitats
- **C4:** Vulnerability, fragility, sensitivity, or slow recovery
- **C5:** Biological productivity
- **C6:** Biological diversity
- **C7:** Naturalness

⁴ United Nations, *Treaty Series*, vol. 1833, No. 31363.

Table 1. Description of areas meeting the EBSA criteria in the North-East Indian Ocean

(Details are provided in the appendix to annex IV of the Report of the North-East Indian Ocean Regional Workshop to Facilitate the Description of Ecologically or Biologically Significant Marine Areas (EBSAs), UNEP/CBD/SBATT/20/INF/22)

Location and brief description of areas	C1	C2	C3	C4	C5	C6	C7
	For key to criteria, see page 2						
1. Shelf Break Front <ul style="list-style-type: none"> Location: The area is located between 9.683°N, 97.364°E and 6.089°N and 98.073°E, off the coast of Thailand, and covers 13,176 km². In the Shelf Break Front, a hydrodynamic process generated by internal waves plays an important role in transporting water that is rich in inorganic nutrients into the Andaman Shelf Sea. This process creates an area of elevated phytoplankton production related to fish larvae abundance due to the intrusion of deep water over the shelf. At the shelf front and its surrounding areas, phytoplankton biomass and production are three times greater than in shelf flat water, and fish larvae abundance is two times greater. The high biological productivity of the “Shelf Break Front” provides substantial spawning and feeding grounds, supporting, in particular, a potential fishery ground. 	H	H	-	-	H	H	H
2. Lower Western Coastal Sea <ul style="list-style-type: none"> Location: The centre of the area is 99.081°E and 7.213°N in coastal area of Thailand, covering 17,500 km² and including 643 km² of coastline. The area comprises diverse ecosystems covering 10 river mouths, 1,263 km² of mangroves, 80 km² of seagrass and 68 km² of coral reefs. All eleven species of seagrass in Thailand are found in the area. There are more than 269 species of corals and 96 species of reef fish. The area is also home to many endangered marine species, such as dugongs, sea turtles, whales, dolphins, whale sharks and manta rays. 	H	H	H	H	H	H	L
3. Trang, Home of the Dugongs <ul style="list-style-type: none"> Location: The area is located off the south-western coast of Thailand and covers 1,619 km². The area is centred at 99.349°E and 7.284°N. The area harbours the largest aggregation of dugongs in Thailand. There are about 150 dugongs in the area, with declining abundance. Over the past 10 years, there was an average of five dugong mortalities annually. This area is located within area no. 2 (above) but described separately as an individual area meeting the EBSA criteria as it focuses on the particular ecological importance of this system for dugongs. 	H	H	H	H	H	M	L
4. The Southern Coastal and Offshore Waters between Galle and Yala National Park <ul style="list-style-type: none"> Location: The area extends along the south coast of Sri Lanka from Galle to the furthestmost extent of Yala National Park (terrestrial) of Sri Lanka and offshore to the start of the abyssal plain. 	H	H	H	M	H	M	-

Location and brief description of areas	C1	C2	C3	C4	C5	C6	C7
	For key to criteria, see page 2						
<ul style="list-style-type: none"> This is an area of high primary productivity within the northern Indian Ocean. It encompasses two submarine canyons known for enhancing productivity off the southern coast of the island, hosts high numbers of blue whales throughout the year, supports a number of other species of marine megafauna, and covers a range of bathymetric contours ranging across the continental slope (important habitat for blue whales) to the abyssal plain. The region is of particular importance because it contains habitat supporting a year-round population of non-migratory blue whales. Furthermore, the area supports regular occurrences of 20 other cetacean species, five species of turtles, whale sharks, manta rays and four species of mobula ray. These include the critically endangered hawksbill, endangered green and loggerhead turtles, and vulnerable olive ridley and leatherback turtles. Furthermore, this area also supports other marine predators such as tuna, billfish species and a number of species of sharks, including the bull and silky sharks. 							
5. Coastal and Offshore Area of the Gulf of Mannar <ul style="list-style-type: none"> Location: The area is located off the coast of Sri Lanka, from Thalaimannar (9° 05' N, 79° 42' E) in the north to the Kalpitiya peninsula (8° 03' N, 79° 42' E), including Puttalam Lagoon. The Gulf of Mannar is one of the most biologically diverse coastal regions in the world. It is also among the largest remaining feeding grounds for the globally endangered dugong. Five different species of endangered marine turtles, mammals, innumerable fish, mollusks and crustaceans are also found here. The Gulf of Mannar region supports a variety of habitats within the main ecosystems of coastal lagoons, seagrass beds and coral reefs. Due to the high productivity of the area, it is an important fishing ground both for India and Sri Lanka. 	H	M	H	H	-	H	L
6. Trincomalee Canyon and Associated Ecosystems <ul style="list-style-type: none"> Location: The area is located between 81.17E 8.43N and 81.63E, 9.02N in nearshore waters adjoining the Trincomalee Harbour, in the Eastern Province of Sri Lanka. It covers 1,500 km². Trincomalee is a multiple submarine canyon complex, the largest in the country, and one of the 20 largest submarine canyons in the world. Trincomalee Bay is unique and hosts one of the world's largest natural harbours connected to a deep canyon located on the east coast of Sri Lanka. Trincomalee Canyon and associated ecosystems are biologically rich and important areas, especially for globally endangered sperm whales and blue whales. Adjacent ecosystems include coral reef ecosystems. 	H	-	H	-	-	H	M
7. Rasdhoo Atoll Reef <ul style="list-style-type: none"> Location: The area is located at the North-Eastern tip of Ari Atoll, Maldives, at 4°15'46"N, 72°59'29"E. Rasdhoo Atoll is among the few small atolls in Maldives with special ecological features. The atoll has four islands and three sandbanks. The channel between Rasdhoo Island and Madivaru Island is known as a famous diving site to spot hammerhead sharks, which can be seen in abundance throughout the year at depths of 25 to 60 metres. Since the atoll is isolated and surrounded by deep sea, it acts as a sanctuary for the 	H	H	H	H	H	-	M

Location and brief description of areas	C1	C2	C3	C4	C5	C6	C7
	For key to criteria, see page 2						
juvenile fishes to grow in safety at its shallow atoll rim. For this reason the atoll is famous for its large number of reef fish and frequent visits by their predators like the hammerhead shark. Due to its rich biodiversity and unique value, the Environmental Protection Agency of Maldives has also included this atoll on its list of Environmentally Sensitive Areas.							
8. Baa Atoll <ul style="list-style-type: none"> Location: The area is located in the western chain of atolls in the central part of the Maldives, just north of Kaashidhoo Kandu channel. The unique biophysical system of Baa Atoll and its core area, Hanifaru Bay, seasonally concentrates plankton, attracting large numbers of planktivorous megafauna. The area is of world class importance for endangered reef manta rays. This atoll has been a focus of an Atoll Ecosystem Conservation project (AEC) co-funded by GEF. The AEC work examined taxa inventories and yielded 178 species of macrophytes, 173 species of coral, 350 species of fish, 115 species of hydrozoans, 182 species of other selected invertebrates, for a total of 998 species combined on all 29 sites. On the 18 sites with exhaustive inventories, 941 species were recorded. A map of biodiversity for the entire atoll was created combining point biological census data with habitat maps. Baa Atoll was declared a UNESCO Biosphere Reserve in 2011. A core area, Hanifaru Island, was designated a Maldives MPA in 2009. 	H	M	H	H	M	M	M
9. Upwelling Zone of the Sumatra-Java Coast⁵ <ul style="list-style-type: none"> Location: The area runs along the western coast of Sumatra (Indonesia) to the southern coast of Java, where upwelling occurs seasonally, enhancing marine productivity in the area. This area extends beyond national jurisdiction off the coast of Sumatra-Java, based on the location of the seasonal upwelling. Wind-driven upwelling occurs in the coastal areas of Sumatra-Java during the southeast monsoon and is related to the <i>El Nino Southern Oscillation</i> (ENSO) and the Indian Ocean Dipole Mode (IODM). The upwelling zone is nutrient enriched, attracting fish and other marine animals to use this area as a feeding, spawning and nursery ground. The productive upwelled waters are expected to support high levels of marine biodiversity, including some endemic marine species such as sharks and rays, as well as new species that are still being discovered. The area supports an active pelagic fishery. This area off the Sumatra coast consists of a seismogenic zone in the subduction zone, the Sumatran Fault Zone, and the fracture zone contributing to earthquake and tsunami along the Sumatran margin. Corals in the area recovered quickly from the 2004 tsunami, suggesting the importance of the area to longer-term coral health. 	H	H	M	H	M	M	H
10. Olive Ridley Sea Turtle Migratory Corridor in the Bay of Bengal <ul style="list-style-type: none"> Location: The area is located beyond national jurisdiction, in the Bay of Bengal. 	H	H	H	H	-	L	M

⁵ Indonesia plans to undertake a national exercise to update the scientific and technical information for the description of this area.

Location and brief description of areas	C1	C2	C3	C4	C5	C6	C7
	For key to criteria, see page 2						
<ul style="list-style-type: none"> The coast of the Indian state of Odisha is the world's largest nesting site for olive ridley turtles. The mouths of the Devi, Rushikulya and Bhitarkanika rivers hold the world's largest nesting congregation of this species. Satellite telemetry studies have demonstrated that the majority of turtles migrate north-south/south-north to and from Sri Lanka. However, beyond this point no pattern has been established. The congregation and nesting of the olive ridley turtles within the Indian EEZ are protected by the environmental laws/acts of the country, however, the corridors in which they move for feeding and mating are unprotected. A major segment of the olive ridley population visiting the Odisha coast is from southern Sri Lanka. Genetic studies confirmed the results from tagging and satellite telemetry studies and showed that there is no genetic difference between nesting populations in each of the mass nesting beaches. More significantly, the results revealed the distinctiveness of the population on the east coast of India and Sri Lanka, and suggested that this population is the ancestral source of contemporary global populations of olive ridley sea turtles. 							

Table 2. Description of areas meeting the EBSA Criteria in the North-West Indian Ocean and Adjacent Gulf Areas

(Details are provided in the appendix to annex IV of the Report of the North-West Indian Ocean and Adjacent Gulf Areas Regional Workshop to Facilitate the Description of Ecologically or Biologically Significant Marine Areas (EBSAs), UNEP/CBD/SBSTTA/20/INF/23)

Location and brief description of areas	C1	C2	C3	C4	C5	C6	C7
	For key to criteria, see page 2						
1. South-west Waters of Abu Dhabi <ul style="list-style-type: none"> Location: The area is located to the south-west of Abu Dhabi Emirate, United Arab Emirates. The near-shore water is less than 15 metres deep and supports critical habitats of several important marine species. This area is rich in critical habitats, such as mangroves, seagrass beds, coral reefs, algal mats and salt flats. These habitats support an important spectrum of marine life, including seabirds and migratory waders, and a large population of critically endangered hawksbill turtles (<i>Eretmochelys imbricata</i>) and dugongs. 	M	H	H	M	M	M	M
2. Marawah <ul style="list-style-type: none"> Location: The area is located at a distance of 120 km west of Abu Dhabi Island. The central location is N24.43153 E53.24341, and it includes islands as well as shallow areas. The area comprises a range of unique marine and coastal habitats, including sand flats, mangroves, seagrass beds and coral reefs. These are especially important to migratory and endangered species. The area supports the second-largest population of dugongs (<i>Dugong dugon</i>) in the world after Australia. The area provides crucial nurseries and spawning grounds for a wide variety of fish species and is regionally important as a foraging habitat for the critically endangered hawksbill turtle (<i>Eretmochelys imbricata</i>) and the endangered green turtle (<i>Chelonia mydas</i>). Furthermore, the islands within the protected area provide important nesting sites for hawksbill sea turtles and a number of migratory birds, including about 5 per cent of the world population of the vulnerable Socotra cormorant (<i>Phalacrocorax nigrogularis</i>). 	H	H	H	M	M	M	M
3. Jabal Ali <ul style="list-style-type: none"> Location: The area is approximately 1.2 km from the Abu Dhabi-Dubai border, and 3.7 km from the Sheikh Zayed Highway (position 292020.0800 E, 2755066.7720 N). It extends on average 2.5 km into the Gulf, depending on the contour of the coastal line, and along approximately 15 km of the coastal area. The area covers a 2,185 ha shallow subtidal seabed, sloping gently offshore to depths up to 9 m. There is no accentuated bottom topography over most of the area, except some low ridges, which rise less than 2 m above the surrounding flat sea bed. The coastline is relatively straight, without major headlands or embayments. It is characterized by sandy beaches continuing into low sand dunes. At least 291 species of flora and fauna can be observed in the area. It is the only remaining nesting site of the 	H	H	H	H	-	M	M

Location and brief description of areas	C1	C2	C3	C4	C5	C6	C7
	For key to criteria, see page 2						
critically endangered hawksbill sea turtle (<i>Eretmochelys imbricata</i>) in Dubai.							
4. Khor Kalba <ul style="list-style-type: none"> Location: the area is located in Kalba town in Sharjah Emirate, on the east coast of the United Arab Emirates (UAE). The area extends one nautical mile from the shoreline edge in the East. The area covers a mangrove forest over the banks of a natural creek extending almost 2km and hosting rich biodiversity. It is home to endemic subspecies of avifauna, and the only place in the United Arab Emirates where certain species of crabs and molluscs exist. This area is a habitat for a sub-species of Arabian collared kingfisher (<i>Todiramphus chloris</i>) called kalbaensis; it is the only occurrence location of the giant mud creeper (<i>Terebralia palustris</i>) and the giant mud crab (<i>Scylla serrate</i>). More than 300 species of birds are there, some of them breeding species, including <i>Himantopus himantopus</i> (up to 10 pairs), <i>Merops superciliosus</i> (summer visitor, less than 100 pairs), and <i>Hippolais rama</i> (c.10 pairs; the only proven breeding site in the Arabian peninsula). Winter visitors include <i>Ardeola grayii</i> (max. 10; the only regular site in the UAE), and <i>Merops superciliosus</i> is also common on autumn passage (max. 500 at roost, September). Sea turtles (hawksbill, green and loggerhead) feed in the creek on the island. The area is the oldest and largest mangrove forest in the UAE, and holds the largest mangroves in diameter and height in the UAE. The area is richer in above- and below-ground carbon storage than any other site in the UAE. 	H	M	M	M	M	H	H
5. Sir Bu Na'air Island <ul style="list-style-type: none"> Location: The area is located in the Gulf, 65 km north of Abu Dhabi and 110 km north-west of Sharjah. The area is home to more than 300 nesting hawksbill turtles every year (largest nesting population in United Arab Emirates) with breeding seabirds that represent more than 1 per cent of the estimated global population and a very healthy coral reef system. 	H	H	H	H	-	M	M
6. Sulaibikhat Bay <ul style="list-style-type: none"> Location: Sulaibikhat Bay - Kuwait Bay with a position at 29.337169E, 47.857175N. The area covers critical habitats in the Gulf, such as coral reefs, mangroves, seagrass and algal beds. These habitats have received most scientific attention due to their biological productivity, provision of nutrients and high biodiversity. Microbial mats associated with the vast areas of intertidal flats of Sulaibikhat Bay (Kuwait Bay) contribute far more to intertidal productivity than other sources, particularly in the absence of seagrass and mangroves. Microbial mats are important in the dynamics of intertidal and subtidal regions of Sulaibikhat Bay, supporting a wide variety of intertidal and subtidal macrofauna. In Sulaibikhat Bay alone they form the base of the food web for 82 macrofaunal species, 49 of which occur within the accessible upper intertidal region (14 crustaceans, 2 molluscs, 1 sipunculoid, 8 fish species and 24 avian species) and 33 subtidal fish and shellfish species, of which 	H	H	M	M	H	H	L

Location and brief description of areas	C1	C2	C3	C4	C5	C6	C7
	For key to criteria, see page 2						
several are known to visit the intertidal region during high tide.							
7. Qaro and Umm Al-Maradem <ul style="list-style-type: none"> Location: Qaro Island 28.817253E, 48.776904N; Umm Al-Maradem Island 28.679059E, 48.654322N This area hosts 35 recorded species of Scleractinian corals from 12 families, with 27 species being hermatypic and eight species ahermatypic, and is considered to be important habitat for diverse species. Fish is the most diverse group of vertebrates found in the coral reefs, with a total of 124 recorded species. These reefs also offer a breeding site for turtles and provide food for species like seabirds and dolphins. The coral reef community suffers harsh environmental conditions, such as high temperatures and high salinity, which can affect the number of coral species in the area. 	H	H	H	M	H	H	M
8. Nayband Bay <ul style="list-style-type: none"> Location: The area is located in the northern part of the Gulf, extending from north-west to south-east along more than 90km of the mainland coastline of Iran, which includes Nayband marine-coastal national park. The area is located on the northern coast of the Gulf. This area has a wide range of terrestrial and marine habitats, including coastal sand dunes, rocky, muddy and sandy shores, coral reefs, mangrove forests, seagrass beds, intertidal marshes and estuaries. It is the only coral reef area of the mainland coastal waters of the northern Gulf and is one of the most important nesting sites and feeding grounds in the area for hawksbill, green sea and olive ridley sea turtles. The area has a high diversity of marine and coastal habitats and represents a unique area within the northern Gulf. 	H	H	H	H	-	M	L
9. Qeshm Island and adjacent marine and coastal areas <ul style="list-style-type: none"> Location: The area is located along 250 km of the mainland coast of Iran and extends from Tiab and Minab protected area in the north-east to the west end of Qeshm Island. The area comprises Qeshm, Hormuz, Larak and Hengam islands, as well as more than 250 km of mainland coastal areas of Iran. It includes several protected areas, wetlands of international importance (Ramsar sites), biosphere reserves and important bird areas (IBAs). Qeshm Island and adjacent marine and coastal areas have a wide range of coastal and marine habitats, including coral reefs, mangrove forests, seagrass beds, estuaries, and rocky, muddy and sandy shores, including the largest mangrove forest of the Gulf and Oman Sea. The coral reefs of the area are the richest and are among the healthiest ecosystems in the Gulf. This area supports significant feeding, breeding and nursery grounds for sea turtles, waterbirds, dolphins, reef fishes, sharks, rays and skates. 	H	H	H	H	-	H	H
10. Churna-Kaio Island Complex <ul style="list-style-type: none"> Location: The area is located west of Karachi, and covers about 400 sq. km. It is a medium-sized island facing the Hub River Delta, and an islet, Kaio Island, located near the town of Gaddani. . 	H	M	H	M	H	M	M

Location and brief description of areas	C1	C2	C3	C4	C5	C6	C7
	For key to criteria, see page 2						
<ul style="list-style-type: none"> The area is known for high biodiversity because of its variety of habitats. It has a diversified coral assemblage around Churna and Kaio Islands whereas at the mouth of the River hub there are rich mudflats and oyster reefs. Churna–Kaio Islands Complex is known to be an important basking and feeding area for marine megafauna, including baleen whales, whale shark, mobulids and sunfishes. 							
11. Khorī Great Bank <ul style="list-style-type: none"> Location: The area is located along southeast coast of Sindh province, Pakistan. It extends from the coast to offshore waters, covering an area of about 22,500 sq km, with a maximum depth of about 1,500 m. The unique physical feature of the area is Indus Canyon, known as the Swatch. Khorī Great Bank is known to be rich in biodiversity, including cetaceans, sharks, fish and invertebrates. A number of species of cetaceans, including rough-toothed dolphin (<i>Steno bredanensis</i>) and Longman's beaked whales (<i>Indopacetus pacificus</i>), have been reported in this area. It is an important fishing ground, particularly for large sharks, whose population has dwindled over the past 15 years. 	H	H	H	L	M	H	H
12. Malan-Gwader Complex <ul style="list-style-type: none"> Location: The area extends over an area of about 8,750 sq. km, and is located along the Balochistan coast of Pakistan. The area is known for its rocky headland located at Malan, Ormara, Pasni and Gwader, in addition to the largest island of Pakistan, which is also located within the complex. This complex is specifically known for presence of population of a number of cetacean species including dolphins and whales. Arabian humpback whale (<i>Megaptera novaeangliae indica</i>), blue whales (<i>Balaenoptera musculus</i>) and Bryde's whale (<i>Balaenoptera edeni</i>) are regularly recorded from the complex. The area covers two Ramsar sites: Ormara Turtle Beaches and Astola (Haft Talar) Island, as well as a large lagoon. 	H	H	H	H	H	H	M
13. Miani Hor <ul style="list-style-type: none"> Location: The area is a lagoon located about 95 km northwest of Karachi, Pakistan. It is 60 km long and 4 to 5 km wide, and connected to the sea through a 4 km wide mouth, located in the southeast of the lagoon. The area is known for high biodiversity with diversified mangrove flora and its rich population of both invertebrates and vertebrate animals. It is an important for migratory and non-migratory bird species as well as a resident population of Indo-pacific humpback dolphin (<i>Sousa plumbea</i>). 	H	H	M	H	H	H	M
14. Arabian Sea Oxygen Minimum Zone <ul style="list-style-type: none"> Location: The area is in the Arabian Sea spreading along India, Pakistan, Iran, Oman and Yemen. It is also present in Gulf of Oman between Iran and Pakistan. 	H	-	L	L	H	M	H

Location and brief description of areas	C1	C2	C3	C4	C5	C6	C7
	For key to criteria, see page 2						
<ul style="list-style-type: none"> The Arabian Sea is known to have a large oxygen minimum zone (OMZ) located between depths of 200 to 1000 m. Oxygen levels in this zone can be as low as 0.1 mg/l. The low oxygen zone contains nitrite maxima, suggesting active nitrate reduction and denitrification, which results in utilization of oxygen and thus oxygen-level drops. This low oxygen zone contains unique fauna predominantly consisting of lanternfishes (myctophids). Dominated by <i>Benthosema pterotum</i>, <i>B. fibulatum</i> and <i>Diaphus spp.</i> <i>Bolinichthy spp.</i>, the mesopelagic animals exhibit diurnal vertical migration. Myctophids are believed to form an important food for large predators, including large squids, ribbonfishes, tuna and billfish. The oxygen minimum zone of the Arabian Sea is a unique ecosystem, with distinctive biological features. 							
15. Indus Estuarine Area and Associated Creeks <ul style="list-style-type: none"> Location: The area is located in the south of Pakistan. The Indus River Delta forms where the Indus River flows into the Arabian Sea, creating a complex system of swamps, streams and mangrove forests. The delta covers an area of about 41,440 km² and is approximately 210 km across where it meets the sea. The Indus River discharges in the Arabian Sea through an elaborate system of creeks. This area has unique ecological and biological significance because of its variety of habitats and ecosystems. There are vast mudflats, which are important foraging areas for a variety of marine birds and also breeding and nesting grounds for a number of species of marine fishes and invertebrates. The lower reaches of the Indus River estuary has mangroves consisting of one species <i>Avicennia marina</i> and is considered to be the largest arid area mangrove forest of the world. The mangroves are known for their high biodiversity. The Indus estuarine area is an important area for migratory species of fish. The Indus estuarine area is known for its diversified bird fauna, which includes cranes, flamingos, pelicans, waders, coots, ducks, gulls and terns. The Indus estuary is inhabited by two cetaceans, i.e., the Indo-Pacific humpback dolphin (<i>Sousa chinensis</i>) and finless porpoise (<i>Neophocaena phocaenoides</i>). 	H	H	M	H	H	M	M
16. Sandspit/Hawks Bay and the Adjoining Backwaters <ul style="list-style-type: none"> Location: The area is located about 15 km southwest of Karachi, Pakistan. The backwaters of Sandspit are located at the extreme end of Manora Channel, on which Karachi Port is located. The coastline of Pakistan has a number of significant turtle-nesting beaches. They include the sandy beaches at Sandspit (Hawkes Bay), on the Karachi coast, which host the nesting of the green turtle (<i>Chelonia mydas</i>). Nesting takes place throughout the year, peaking from September to October. In the backwaters of Sandspit is a mangrove forest consisting of dense and sparse growth of <i>Avicennia marina</i>. The area is known to be a home for a variety of resident and migratory birds, especially flamingos, pelican, terns, gulls and a variety of waders. 	M	H	H	M	M	M	L

Location and brief description of areas	C1	C2	C3	C4	C5	C6	C7
	For key to criteria, see page 2						
•							
18. Socotra Archipelago <ul style="list-style-type: none"> Location: The area is located between 53°0'E and 54°35'E and 12°5'N and 12°43'N at the junction between the Gulf of Aden and the north-western Indian Ocean. The area includes the main island of Socotra, together with Samha, Darsa, Abd al Kuri and the small islets and rock outcrops Sabuniya and Kal Farun. The islands are separated from mainland Africa by a narrow strip of water known as the Socotra Passage, which is only 95 km wide, and from mainland Yemen by the 400 km wide Gulf of Aden. The islands support unusual coral communities and diverse assemblages of reef-associated fishes as well as megafauna including sharks, turtles, dolphins and whales. The islands are located at the epicentre of a highly productive upwelling region and the cross-road between three marine biogeographic provinces, which underpin the productivity and unique composition of the faunal assemblages. Species present include a mix of Arabian “endemics” and western Indian Ocean species, together with species characteristic of the wider Indo Pacific and rare species with restricted ranges (including Red Sea “endemics”) and/or highly disjunct global distributions, and a globally significant element of hybridizing fishes. The fish biomass productivity ranks among the highest in the Indian Ocean. 	H	H	H	M	H	H	M

Location and brief description of areas	C1	C2	C3	C4	C5	C6	C7
	For key to criteria, see page 2						
19. The Great Whirl and Gulf of Aden Upwelling Ecosystem <ul style="list-style-type: none"> Location: The area includes waters mostly within the national jurisdictions of Somalia and Yemen. The area extends several hundred nautical miles offshore. This is thus a transboundary area involving north-west Somalia, the Gulf of Aden (Yemen) and especially the Socotra archipelago, and at a lesser extent Oman. The system forms along the east coast of Somalia during the summer monsoon season when the Somali current turns northwards. The whole system then migrates northwards, until it reaches the southern coast of the Socotra Archipelago, where it arches out into the Indian Ocean and spreads between the islands and mainland Somalia into the Gulf of Aden. On reaching the Gulf of Aden, the systems merge with the upwelling along the south coast of Yemen, propagating a complex system of gyres and eddies. This large area encompasses the entire dynamic of the seasonal high productivity and related marine pelagic life associated with the Great Whirl, the Socotra Gyre and the North Socotra Warm Eddy. The confluence of the Great Whirl with the upwelling in the Gulf of Aden makes it one of the world's most productive regions in the world. The northwestern corner of the Indian Ocean is a highly dynamic and biodiverse region of the global oceans. Oceanic rossby waves and the seasonally reversing monsoonal winds drive an immense upwelling system during the summer months, known as the Great Whirl. It is the only major upwelling that occurs on the western boundary of an ocean. The Somali-Arabian sea upwelling system resulting from the Great Whirl and associated eddies increases planktonic productivity ten-fold in comparison with the surrounding oligotrophic water. This unique and complex feature supports rich meso-pelagic and pelagic ecosystems hosting plankton, fish, flag species of megafauna, especially sharks, cetaceans and turtles. The extreme environmental conditions create a uniquely season driven and transboundary pelagic ecosystem that has resulted in one of the most productive regions in the world. 	H	H	H	M	H	M	M
20. Îles des Sept Frères et Godorya (Seven Brothers Islands and Godorya) <ul style="list-style-type: none"> Location: The area is located on South-west between 12° 8' N, 43° 25' E and 12° 8' N, 43° 27.5' E; North-east 12° 29' N, 43° 27.5' E and 12° 29' N, 43° 16.9' E This area covers the Seven Brothers and Ras Siyyan marine protected area (MPA), the largest MPA in Djibouti (400 km²). It includes four mangrove forests, a portion of coastal habitats and the Sept Frères archipelago. It has high benthic and pelagic marine biodiversity, a mosaic of coastal, insular and marine habitats, and is also an important nesting site for sea turtles and sea birds. 	H	H	H	M	H	M	M

Location and brief description of areas	C1	C2	C3	C4	C5	C6	C7
	For key to criteria, see page 2						
21. Southern Red Sea Islands <ul style="list-style-type: none"> Location: The southern part of the Red Sea specific to this area includes all of the islands of both Eritrea and Yemen as a single ecosystem. This is an area of high productivity and high endemism, providing a migratory corridor for megafauna and birds and a nesting and breeding ground for both turtles and birds. It provides habitat for vulnerable coral and mangrove that support diverse marine organisms. It has high levels of biological diversity and is an important area for life history stage of species. 	H	H	H	H	H	H	H
22. Southern Red Sea Pelagic Ecosystems <ul style="list-style-type: none"> Location: The area is bounded approximately by the northern Eritrea border and the Bab Al-Mandab. This area has a high level of productivity (among the most productive in the Red Sea in terms of chlorophyll-a), which is likely due to the influx of nutrient-rich water from the Gulf of Aden. The high productivity of this area makes it an important habitat for a number of species, including cetaceans, whale sharks, manta and devil rays, and birds. The area is also an important migratory corridor between the Red Sea and the Gulf of Aden/Indian Ocean for various species. These features make the area biologically diverse. 	M	H	H	M	H	H	-
23. Sanganeb Atoll/Shab Rumi <ul style="list-style-type: none"> Location: The area is located in the central Red Sea, close to the Red Sea's centre of biodiversity, at approximately 30km north-east of Port Sudan city, with location of 19° 42' N, 37° 26' E. <i>Shab Rumi</i> is an annular reef situated north of Sanganeb (19°56.3'N 37°24.2'E), off the Red Sea coast of Sudan. The area is located in the north-western Indo-Pacific bio-geographic region. The Atoll encompasses an area of about 22km² (a rectangular block of 7.3km by 3.2km) and runs within 1km of the edge of the reef. The area of reef flat and shallow fore reef is approximately 2km², and the area of enclosed lagoon is approximately 4.6km². Shab Rumi is well known for large numbers of schooling threatened scalloped hammerhead and grey reef sharks (<i>Carcharhinus amblyrhynchos</i>). Sanganeb is a wonderful example (perhaps the best in the entire region) of the deep-water offshore reefs of the central Red Sea. Sanganeb Atoll/Shab Rumi contains one of the most unique reef structures in the Sudanese Red Sea, its steep slopes rising from a sea floor more than 800 m deep. It is characterized by a highly diverse coral fauna presenting 13 different bio-physiographic reef zones, each providing typical coral reef assemblages. The diverse population communities of flora and fauna are in a stable equilibrium with numerous endemic and endangered species such as sharks, bumphead parrotfish and groupers. A total of 86 coral species and over 251 species of fish have been recorded. 	H	M	H	H	M	H	H

Location and brief description of areas	C1	C2	C3	C4	C5	C6	C7
	For key to criteria, see page 2						
24. Dungonab Bay/Mukawar Island Area <ul style="list-style-type: none"> Location: Dungonab Bay is located approximately 125 km north of Port Sudan, encompassing Mukawar Island, which is 30km offshore of Dungonab Peninsula. The area covers a distance of approximately 70 km along the coast. The area contains extensive and diverse seagrass beds, a regionally important population of dugong, regionally or globally important nesting areas for marine turtles and seabirds, and seasonal aggregations of whale sharks and manta rays that are unique in the entire western Indian Ocean region. The area is known to be of particular significance for birds and is designated as an Important Bird Area. The eastern shore of Mukawar Island is a turtle nesting site of regional and possibly international significance. 	H	H	H	M	M	M	H
25. Suakin Archipelago and Sudanese Southern Red Sea <ul style="list-style-type: none"> Location: The area is situated in the southern waters of Sudan, which is on the extension of the continental shelf. Shubuk is a very unusual barrier reef complex while the Suakin archipelago is one of several important island groups within the Red Sea. The reefs and islands within this archipelago substantially increase the area of reef habitat available within Sudanese coastal waters and within this part of the Red Sea, which is known to support particularly high species diversity. The extension of these reefs offshore also greatly increases the biogeographical span and diversity of reef habitats. Furthermore, the inaccessibility of these reefs and islands enhances their significance, as they provide areas distant from direct human impacts on the mainland coast and refuges for some of the Red Sea's important bird and turtle nesting sites. The Sudanese Red Sea coast is 750 km long and contains numerous uninhabited islands and submerged offshore reef structures. The combination of well-developed fringing coral reefs and offshore reef complexes and islands in the Shubuk region and the Suakin archipelago provides a high diversity of habitats that span a wide environmental gradient. It is these diverse ecosystems and environments that underpin the high biodiversity found within Sudanese waters. The Suakin Archipelago is of marked importance nationally and regionally. 	H	M	H	M	H	H	M

Location and brief description of areas	C1	C2	C3	C4	C5	C6	C7
	For key to criteria, see page 2						
26. Wadi El-Gemal Elba <ul style="list-style-type: none"> Location: The area covers waters between Marsa Alam city of Egypt and the Egyptian-Sudanese border, with a coastline of approximately 300km and a total area of some 5000 km². The area is located within two protected areas, namely Wadi El Gemal-Hamata Protected Area and Gebel Elba National Park. The area also includes 20 offshore islands, from a few kilometres to more than 70km from the shoreline. The area features high biological diversity and natural beauty. More than 200 species of hard and soft corals and at least 400 fish species have been recorded in the area. Endemic species are evident among various groups of fishes and invertebrates. At least seven species of seagrasses and two species of mangroves are found in the area (a substantial proportion of the total mangrove resources of Egypt). The largest stand of <i>Avicennia marina</i> extends 12 km, in a semi-continuous fringe, located at Hamata, and <i>Rhizophora muncronata</i> exists only at Shelatin. The area has the largest seagrass meadows along the Egyptian coast that provide food for green turtles (<i>Chelonia mydas</i>) and dugongs (<i>Dugong dugon</i>). At least two species of marine turtles (out of five recorded species), the green and hawksbill (<i>Eretmochelys imbricata</i>), nest on islands and mainland beaches. The area accommodates the largest nesting population of green turtles in Egypt, on the beaches of Zabarged Island—about 600 females estimated in 2008. More than 100 species of birds have been recorded in the area, including 15 species of seabirds. The largest global colony of sooty falcons exists in Wadi El Gemal Island, whereas the white eyed gulls represent about 30 of the world population. The area supports a conspicuous cetacean fauna (15 species), as documented by recent dedicated surveys. Pantropical spotted dolphins, <i>Stenella attenuata</i>, represent the largest component with large groups found mostly in offshore waters, followed by spinner dolphins, <i>Stenella longirostris</i>, also found offshore but with part of the population moving inshore daily at daybreak to seek shelter in protected reefs (such as Samadai and Sattayah) to rest. The area also supports a very small remnant population of dugongs, <i>Dugong dugon</i>, mostly confined to the small coastal “marsas” where seagrass meadows cover the shallow sandy bottom. 	H	H	M	L	L	H	M

Location and brief description of areas	C1	C2	C3	C4	C5	C6	C7
	For key to criteria, see page 2						
27. Arabian Basin <ul style="list-style-type: none"> Location: The area is located entirely beyond national jurisdictions. The area is approximately bordered in the north by 64.46°E, 17.32°N; 67.36°E, 17.32°N; and in the south 67.36°E, 10.81°N; 64.46°E, 10.81°N. The area is located in waters over the abyssal plain. This area is a key feeding area for the Trindade petrel (<i>Pterodroma arminjoniana</i>), which in the Indian Ocean breeds on one single island, Round Island, off the north coast of Mauritius. The species is listed as vulnerable on the IUCN Red List, and an extensive, multi-year tracking dataset shows that birds travel into the Arabian Basin during migration (May-July) and following fledging (year round) to feed. A range of other marine mega-fauna may also occur here, including three species of turtle, five species of baleen whale, three species of toothed whale, and at least a dozen species of dolphins, though their exact distributions and abundance within the area are unknown. 	H	H	H	M	M	M	M
28. Daymaniyat Islands <ul style="list-style-type: none"> Location: The Daymaniyat Islands are located off the region of Al Batinah, Oman. The Daymaniyat Islands are an outstanding area of national and regional ecological and biogocial importance. The islands host high densities of a variety of nesting seabirds, and up to 400 female hawksbill turtles nest annually, representing possibly the densest rookery in the world for this critically endangered species. The coral communities and reefs are among the best developed nationally and host at least one species that is endemic to Oman. Other species routinely found within the area include marine turtles, cetaceans and seabirds. 	M	H	H	H	H	M	H

Location and brief description of areas	C1	C2	C3	C4	C5	C6	C7
	For key to criteria, see page 2						
29. Oman Arabian Sea <ul style="list-style-type: none"> Location: The area is located off southern Oman between the Ra's al Hadd peninsula to the north and the Oman-Yemen border to the south, and extends several hundred kilometres offshore. This area includes three core areas off the central and southern coast of Oman. It is situated at the heart of one of the five largest upwelling areas of the world, which occurs both coastally and up to 300 to 400 km offshore and influences the water column to a depth of about 250 m. The high primary productivity associated with the monsoon-driven upwelling in the Arabian Sea fuels the ecosystem of the wider region. It also creates conditions suitable for feeding by at least 20 species of cetaceans, including the world's most isolated whale, the endangered Arabian Sea humpback whale. Satellite tracking reveals preferred habitats of these whales as well as other taxa, such as endangered and critically endangered sea turtles. Shallow areas support important seagrass and macroalgae communities, and the unique co-existence of endemic macroalgae and coral communities. This unusual mix of tropical and neo-temperate species forms a community that is globally unique. One particular coral community represents perhaps the largest monospecific coral stand known on Earth, almost exclusively made up of an as yet undescribed species of cabbage coral. The unique conditions resulting from the south-west monsoon contribute to a high biodiversity of fish fauna, from the genetic, population and species level to the community and ecosystem levels. Demersal, pelagic and mesopelagic fishes all occur in relative abundance in the area compared to other parts of Oman. Birds are another important feature of the Arabian Sea, including some key populations of the regionally endemic near threatened Jouanin's petrel and vulnerable Socotra cormorant. In winter, the coastal wetlands host half a million birds or more, predominantly gulls, terns and shorebirds. 	H	H	H	H	H	H	M

Location and brief description of areas	C1	C2	C3	C4	C5	C6	C7
	For key to criteria, see page 2						
30. Shatt Al-Arab Delta <ul style="list-style-type: none"> Location: The area is located at the northern end of an elongate shallow sea forming a southwesterly triangular semi-island at the Iraqi Southern border at Faw city and extends northwesterly to form the marine territorial border with Kuwait at Knor Abdulla, ending in Knor Al-Zubair canal. The southern end of the river constitutes the border between Iraq and Iran down to the mouth of the river as it discharges into the Gulf. It has a length of 200 km. It varies in width from about 232 m at Basra to 800 m at its mouth. The Shatt al-Arab Delta is formed by the confluence of the Euphrates and the Tigris rivers in the town of al-Qurnah in the Basra Governorate of southern Iraq. This area contains numerous unique marine, coastal and tidal habitats, including muddy intertidal areas. This area, and especially the coastal waters of Khor Abdulla on the opposite side of the Kuwaiti Bubiyan island, serve as incubation and hatchery areas for many fishes and other economically important marine and brackish water crustaceans and mollusks, as well as other invertebrate groups. The Shatt al-Arab Delta exerts a unique impact on the entire Gulf. 	H	H	-	H	H	H	M
31. Makran/Daran-Jiwani Area <ul style="list-style-type: none"> Location: The area is a transboundary coastal area between Iran and Pakistan that extends from Ganz in Pakistan to Tang headland in Iran. The extensive sandy coasts of the area are particularly important as nesting grounds for both olive ridley and green sea turtles. The mugger crocodile (<i>Crocodylus palustris</i>) has its western-most distribution in riverine and estuarine waters of the area. The eastern part of Chabahar Bay has the only known coral reef in the northern Oman Sea. Finless porpoises have been recorded from Gwater and Chabahar Bay. Jiwani headland and adjacent areas are known for high biodiversity of marine invertebrates as well as cetaceans. The coastal waters of the area are known for high catches of fishes and lobsters. The area is also rich in diversity of shorebirds. 	H	H	H	H	H	-	M

Table 3. Description of areas meeting the EBSA criteria in the East Asian Seas

(Details are provided in the appendix to annex V of the Report of the CBD Regional Workshop to Facilitate the Description of Ecologically or Biologically Significant Marine Areas (EBSAs) in the Seas of East Asia, UNEP/CBD/SBSTTA/INF/24)

Location and brief description of areas	C1	C2	C3	C4	C5	C6	C7
	For key to criteria, see page 2						
1. Hainan Dongzhaigang Mangrove National Natural Reserve <ul style="list-style-type: none"> Location: The area is located in the northeast of the Meilan district, Haikou City (110°30'–110°37' E, 19°51'–20°01' N). It covers 5400 ha. The area covers an important coastal mangrove ecosystem and has most of the typical original natural mangroves in China. The area also has very rich biodiversity, especially various marine and coastal species, for example, mangrove forests, waterfowl, phytoplankton and zooplankton. This estuary and coastal mudflat ecosystem is on the edge of boreal tropics, and is also an important habitat for wintering birds. 	M	H	H	H	-	H	M
2. Shankou Mangrove National Nature Reserve <ul style="list-style-type: none"> Location: The area is located on either side of the Shatian Peninsula, southeast of Hepu County, Guangxi Zhuang Autonomous Region of China. It is centred at 21°28'N, 109°43'E. It covers a total area of 8,000 hectares and stretches along the coast for some 50 km. There are 14 species of mangrove and large populations of benthic diatoms, fish, shellfish, birds and insects in this area, and it has become one of the most typical coastal mangrove areas in China. 	M	-	H	M	M	M	M
3. Nanji Islands Marine Reserve <ul style="list-style-type: none"> Location: The area has a total coverage of 201.06 km², including land area of 11.13 km². It is located at 121°05'E and 27°27'N. The area contains a high level of biodiversity, including 427 species of shellfish and 178 species of macro-benthic algae. It is known as “a kingdom of shells and algae”. There are also 459 species of micro-algae, 397 species of fish, 257 species of crustaceans and 158 species of other marine creatures. Among these, nine species are listed as endangered or vulnerable species by IUCN. 	H	M	M	L	M	H	M
4. Cold Seeps <ul style="list-style-type: none"> Location: The area is located in the southwest Taiwan Basin at 21°12'N, 118°30'E; 21°12'N, 120°17'E; 22°19', 118°30'E; and 22°19', 120°17'E, and at a depth of 2900m-3000m. The area covers approximately 14,000 km². The deep-sea ecosystems of this area are unique not only for their communities of diverse bacteria, mussels, clams, hairy crabs and shrimps, but also for their habitats formed mainly by calcite, aragonite, dolomite, pyrite and authigenic minerals, including siderite, barite, gypsum, and natural sulphur, which support a high biomass of bacteria, mussels, clams, hairy crabs and shrimps. 	H	M	L	M	H	L	H

Location and brief description of areas	C1	C2	C3	C4	C5	C6	C7
	For key to criteria, see page 2						
5. Muan Tidal Flat <ul style="list-style-type: none"> Location: The area is located in the south-western coastal area of the Korean peninsula, from 35° 04'20"N to 35° 07'52"N and from 126° 21'2"E to 126° 27'9"E. It covers about 42 km². The area maintains its pristine condition with well-developed substrate for supporting numerous migratory waterbird species and fisheries resources. The sediments characteristically contain 30-40% clay content. The area has high value for conservation as there are many globally endangered and protected species that hatch, nurse and feed in the area. This is a particularly rich feeding area for waterbirds. Some 29,000 winter waterbirds belonging to 48 species have been observed. In addition, 47 species of halophyte are distributed in Muan tidal flat. The diversity of benthic animals is also very high. The tidal flat has been a protected area since 2001 and was designated as a Ramsar site in 2008. 	H	H	H	L	H	H	M
6. Intertidal Areas of East Asian Shallow Seas <ul style="list-style-type: none"> Location: This area encompasses 20 individual sites that form the basis of a Flyway-wide network within the East Asian seas. The sites are located in Japan, Republic of Korea, China, Vietnam, Thailand, Malaysia, Indonesia, Philippines and Myanmar. The intertidal zones of shallow coastal seas in East Asia are critically important for the survival of many migratory waterbird species that are dependent on these areas for different stages of their life cycle, mostly obviously during the migration periods, when some sites form critical bottlenecks, particularly in the Yellow Sea ecoregion (China, Republic of Korea, Democratic People's Republic of Korea), as well as for breeding and non-breeding populations. Different species have different migratory strategies that depend on a network of sites throughout the Flyway, to be able to complete their migration. Intertidal mudflats and sandflats have been disappearing at an alarming rate in recent decades (60 per cent for the Yellow Sea in 50 years) leaving migratory waterbirds dependent on an ever-decreasing number of sites. As a consequence the populations of migratory waterbirds have declined precipitously, with up to 30 species endangered or critically endangered, and depending on a handful of sites, often unprotected, for their survival. All remaining intertidal areas of the East Asian Seas are of vital importance to saving migratory waterbirds dependent on them. 	H	H	H	H	M	M	M
8. Redang Island Archipelago and Adjacent Area <ul style="list-style-type: none"> Location: Redang Island is located about 45 km or 24.28 nautical miles to the northeast of Kuala Terengganu. Redang Island has a surface area of about 2,483.58 ha — the largest of nine islands within the Redang Island archipelago. The archipelago area is approximately within the coordinates of 5° 43' 28.92N, 102° 59' 04.53"E and 5° 49' 10.49"N, 103° 03' 02.82E. The coral reefs in Pulau Redang are among the best on the East coast of Malaysia and are generally in good condition. A study by Reef Check Malaysia in 2014 shows that the reefs around Redang islands are considered to be in "Good" condition, with live coral cover of 58.13 per cent, which is slightly above the 	M	H	H	H	-	M	L

Location and brief description of areas	C1	C2	C3	C4	C5	C6	C7
	For key to criteria, see page 2						
average (56.38 per cent) for reefs within the Sunda Shelf region. The diversity of fish and invertebrates is average. Based on recent marine biological studies, Redang Island is believed to be the seed-source for most of the marine biodiversity of the eastern part of Peninsular Malaysia. The beaches in Terengganu offer nesting sites for the hawksbill turtle (<i>Eretmochelys imbricata</i>), the leatherback turtle (<i>Dermochelys coriacea</i>) and the endangered green turtle (<i>Chelonia mydas</i>). There are 36 turtle nesting sites on the beaches of Terengganu, out of a total of 78 nesting sites in Malaysia. Turtle landings occur at virtually every beach in Terengganu, but nesting is concentrated at Pulau Redang; Pulau Perhentian; Penarik; Rantau Abang; Paka; Geliga and Kijal.							
9. Southern Straits of Malacca <ul style="list-style-type: none"> Location: This area covers the waters and beaches from the Negeri Sembilan to the Riau Archipelago, Indonesia. The area encompasses the existing marine protected area, turtle-nesting and inter-nesting area, and turtle-feeding ground. The northern boundary of the area is 101.6°E 2.42°N, and the southern boundary is 104.98°E 0.57°N. The area is unique because it is a shallow, narrow water mass sandwiched between Sumatera Island and Peninsular Malaysia, and linked with the Straits of Singapore and Riau Archipelago. It is an important foraging and inter-nesting habitat for one of the few viable populations of hawksbill turtles. The beaches of Negeri Sembilan and Melaka are home to the highest nesting population of hawksbill turtle and in the adjacent area, Sungai Linggi provides a crucial habitat for endangered painted terappins and river terappins. It harbours diverse marine resources within its seagrass bed, estuaries and mangroves. 	H	H	H	H	M	M	L
10. Nino Konis Santana National Park <ul style="list-style-type: none"> Location: The area is located at 8°27'00"S and 127°20'00"E and covers 1,236 km². This area is rich in marine biodiversity, including sharks, coral trout (<i>Plectropomus</i> species), and the highly threatened Napoleon wrasse (<i>Cheilinus undulatus</i>) as well as other types of marine species that are densely concentrated around coral reefs in the area. The area also has a high level of productivity due to strong ocean mixing, which raises both nutrient concentrations in the area and supports the high level of biodiversity. 	M	M	H	M	M	H	M
11. The Upper Gulf of Thailand <ul style="list-style-type: none"> Location: The area is centered at N13° 2' 39.994", E100° 27' 50.783. The area covers 9,565 km², along 400 km of the coastline. The area covers the coastal area of Chon Buri, Chacheangsao, Samut Prakarn, Bangkok, Samut Sakhon, Samut Songkram and Phetchaburi provinces of Thailand. The area is characterized by a range of habitats and a high level of biodiversity. The area contains mangrove forests, macrobenthic fauna, phytoplankton and zooplankton, as well as fish, birds (mangrove birds and migratory birds) and endangered marine species, such as hawksbill turtles (<i>Eretmochelys imbricate</i>), green 	M	H	H	M	M	M	L

Location and brief description of areas	C1	C2	C3	C4	C5	C6	C7
	For key to criteria, see page 2						
turtles (<i>Chelonia mydas</i>), Irrawaddy dolphins (<i>Orcaella brevirostris</i>), finless porpoises (<i>Neophocaena phocaenoides</i>), Indo-Pacific humpback dolphins (<i>Sousa chinensis</i>), Indo-Pacific bottlenose dolphin (<i>Tursiops aduncus</i>) and Bryde's whales (<i>Balaenoptera edeni</i>). The coastal water of this area serves as feeding ground, mating ground and nursing ground for Bryde's whales.							
12. Halong Bay-Catba Limestone Island Cluster <ul style="list-style-type: none"> Location: The marine waters of Halong bay-Catba Limestone Island Cluster are situated in the nearshore area of the North-east Tonkin Gulf near Haiphong city, Vietnam. It includes Baitulong Bay National Park, Halong Bay World Natural Hetitage, Catba National Park, Catba Biosphere Reserve and Marine Park, as well as Longchau islands. Its total area is about 15.783 ha, with 9.658 ha in marine area. The marine waters of Halong Bay-Catba Limestone Island Cluster is a highly unique set of 2400 limestone islands and islets that are associated with special island fringing reefs. It contains a remarkable diversity of coastal and marine habitats and ecosystems, including coral reefs, seagrass beds, mangroves, sandy and coral beaches, hard and soft bottom and substrata, tidal marshes, karst saline lakes, embayments, coastal bays, karst caves, underwater karst valleys, karst funnels, karst wells, channel stones and shallow-water areas. It also has a high diversity of species, including phytoplankton, zooplankton, mollusca, crustacean, marine fish, reptiles, snakes, sea turtles and mammals. 	H	H	H	H	M	H	M
13. Tioman Marine Park <ul style="list-style-type: none"> Location: The Tioman Marine Park archipelago consists of nine islands, which are the largest of the 42 marine park islands of Peninsular Malaysia. It is located at 104° 11' E and 02° 47'N. The archipelago is 19km in length and 11km wide, and covers 25,115 hectares of sea area. The coral reefs in Tioman Marine Park are some of the best on the east coast of Malaysia. A study conducted in 2014 showed that this area's coral was in good condition, with 60 per cent live coral cover, 26 per cent in excellent condition and 37 per cent in good condition. A total of 326 species of coral reef fish from 55 families were observed from coral reefs in Tioman Marine Park. Tioman island subtidal seagrass meadows provide good refuge for dugong traveling between islands on the east coast of Peninsular Malaysia. Some rare and important species have been observed, such as the Black Stripe Coris (<i>Coris pictoides</i>), two rare and undescribed gobies (<i>Gobiidae</i>) <i>Amblyeleotris</i> sp. and the rare perch <i>parapercis</i> sp. in addition seventeen species that are categorized to be rare worldwide were found in Tioman. With its high biological diversity, Tioman is believed to be the seed-source for most of the marine biodiversity of the eastern part of Malaysia. 	H	H	H	M	M	H	M
14. Koh Rong Marine National Park <ul style="list-style-type: none"> Location: The area is located at at 10°35'7.49"N, 103°17'55.36"E. It encompasses approximately 78 km² around the Koh Rong Archipelago, which lies 25 km off the coastal town of Sihanoukville, Cambodia. 	L	M	H	H	M	M	M

Location and brief description of areas	C1	C2	C3	C4	C5	C6	C7
	For key to criteria, see page 2						
<ul style="list-style-type: none"> The area is located around a large island in the Gulf of Thailand off the Cambodian mainland. The island has about 43 km of coastline with 23 beaches of varying length and composition. The area contains coral reefs and seagrass habitats, and supports regionally significant populations of several marine mammals, including the dugong, the false killer whale (<i>Pseudorca crassidens</i>), a long-beaked form of common dolphin (<i>Delphinus capensis tropicalis</i>), pantropical spotted dolphin (<i>Stenella attenuata</i>), dwarf spinner dolphin (<i>S. Longirostris roseiventris</i>), Indo-Pacific bottlenose dolphin (<i>Tursiops aduncus</i>), and Indo-Pacific humpback dolphin. It also supports three globally threatened species of sea turtles, namely the green turtle (<i>Chelonia mydas</i>), the hawksbill (<i>Eretmochelys imbricata</i>) and the leatherback (<i>Dermochelys coriacea</i>). 							
15. Lampi Marine National Park <ul style="list-style-type: none"> Location: The area is located in Boke Pyin Township of Tanintharyi Division in Myanmar. This area is one of the 43 protected areas of Myanmar and its only national marine park. It is located in the Myeik Archipelago, which comprises more than 800 islands distributed along 600km of coastline in the Andaman Sea. The area contains a number of ecologically important habitats, including mangrove forests, coral reefs and seagrasses, which serve as critical habitats for molluscs, crustaceans, echinoderms and fishes, as well as threatened species such as the green turtle and the dugong that feed on seagrass and a variety of birds that feed in the intertidal zone and sublittoral zone. 	M	H	H	M	M	H	L
16. Raja Ampat and Northern Bird's Head⁶ <ul style="list-style-type: none"> Location: The area is located in the northwestern part of Papua in eastern Indonesia. Situated near the Equator in Southeast Asia, this area is at the heart of the Coral Triangle and encompasses myriad small islands and coral reefs. Raja Ampat consists of four main islands and hundreds of other small islands, located at the western side of the Bird's Head Seascape. The boundary of the globally outstanding area of Raja Ampat and Northern Bird's Head covers two adjacent areas within the Bismarck Solomon Seas Ecoregion. The Bird's Head Seascape is one of the world's most important biodiversity hotspots, covering a high diversity of geographical features, habitats and marine species. Situated in the heart of the Coral Triangle, it is the global epicenter of tropical shallow-water marine biodiversity, with over 600 coral species and 1,638 reef fish species. The area is known for particularly significant diverse reef habitat and species richness, providing foraging ground for tuna as well as breeding habitats for leatherback turtles. The local eddies and turbulence in Raja Ampat, generated by strong current flow, lead to good larval connectivity among the reefs, which contributes to high coral reef resilience. The importance for life history stages of various threatened species like turtles and cetaceans as well as high endemism, together with the above features, makes this a globally important area. 	H	H	H	M	H	H	H

⁶ Indonesia plans to undertake a national exercise to update the scientific and technical information for the description of this area.

Location and brief description of areas	C1	C2	C3	C4	C5	C6	C7
	For key to criteria, see page 2						
17. Atauro Island							
<ul style="list-style-type: none"> Location: The area is located about 27 km north of the city of Dili, Timor-Leste, and measures about 144 km² in area. This area is a home of marine megafauna in the ocean strait between Atauro and Timor-Leste. Atauro Island is a small island surrounded by a pristine marine area. A study shows that Atauro Island hosts high biodiversity, with a new species called Humann's Fairy-wrasse (<i>Cirrhitilabrus humanni</i>) found around Atauro Island towards Alor Island, Indonesia. Atauro marine area is also considered a hotspot for dugong populations living and migrating within Indian and the Pacific Ocean. 	M	M	M	M	M	H	L
18. Sulu-Sulawesi Marine Ecoregion							
<ul style="list-style-type: none"> Location: The Sulu-Sulawesi Marine Ecoregion (SSME) is located between 15° N / 116° E and 0° N / 127° just above the equator. It covers 1,003,526 km². The area is situated at the apex of the Coral Triangle region in the Indo-West Pacific, at the global centre of marine biodiversity. It is an area of maximum coral and tropical reef fish diversity, based on numerous scientific studies. The SSME is home to coral reefs, seagrass meadows and mangrove forests, which in turn support fishes, sea turtles, dolphins, whales, sharks, rays, and other less-known but equally important marine flora and fauna. 	H	H	H	H	H	H	L
19. Benham Rise							
<ul style="list-style-type: none"> Location: The area is bounded to the North and East by the West Philippine Basin, and to the West and South by the island of Luzon. It is enclosed by the coordinates 123° 30' E to 126° 00' E longitude and 17° 42' N to 15° 36' N latitude. The area is a relatively pristine 13-million-hectare undersea plateau off the eastern coast of Luzon Island. It is of critical ecological importance, including for offshore mesophotic coral reef biodiversity and for the sustainability of fisheries. Aside from being an important source of biodiversity and contributing to the resiliency of threatened ecosystems, it also forms part of the only known spawning area of the Pacific bluefin tuna, <i>Thunnus orientalis</i>. In addition, recent studies suggest that the interaction of the western boundary currents with the Benham Rise can lead to enhanced biological productivity. 	H	H	H	M	-	M	H
20. Eastern Hokkaido							
<ul style="list-style-type: none"> Location: The area is located between 42.9°N and 45.4°N latitude, and between 144.3°E and 145.8°E longitude. The area covers rocky shores around Shiretoko Peninsula; coastal and lagoonal areas along Nemuro Straits; rocky habitats around Nemuro Peninsula, Habomai Islands and Shikotan Island; and rocky 	H	H	M	H	H	M	H

Location and brief description of areas	C1	C2	C3	C4	C5	C6	C7
	For key to criteria, see page 2						
<p>shores and estuaries along the eastern Pacific coast.</p> <ul style="list-style-type: none"> The area covers the most pristine natural ecosystems of Japan. The marine ecosystem here is strongly influenced by the cold Oyashio currents and winter ice cover, making this area home to marine species specially adapted to a cold climate. The area contains various types of ecosystems, including brackish estuaries and a lagoon, intertidal flats, rocky intertidal shores, seagrass beds and kelp forests. 							
<p>21. Southwest Islands</p> <ul style="list-style-type: none"> Location: The area is located between 23.9°N and 28.7°N latitude, and between 122.8°E and 130.2°E longitude. It comprises Amami Island, Okinawa Island, Kerama Islands, Miyako Islands and Yaeyama Islands. The southwest islands of Japan, including Amami Islands, Okinawa Islands, Miyako Islands and Yaeyama Islands, belong to the subtropical region, characterized by the occurrence of fringing, barrier and atoll reefs. In most areas, mangrove and seagrass beds occur within the reef, and the continuous seascape by these habitats hosts a wide variety of associated flora and fauna, including many endemic species. 	H	H	H	H	H	H	H
<p>22. Inland Sea Areas of Western Kyushu</p> <ul style="list-style-type: none"> Location: The area is located between 31.9°N and 33.2°N latitude, and between 129.9°E and 130.7°E longitude. It covers the Ariake Sea, Amakusa and Yatsushiro Sea (Nagasaki, Saga, Kumamoto and Kagoshima Prefectures). This area is unique due to their large tidal amplitude. Extensive mud flats appear at inner parts of the waters in Ariake Sea and Yatsushiro Sea. In these intertidal flats, many benthic organisms belonging to diverse taxa occur, as do many endemic species. The outer coastal areas of this area hosts a variety of intertidal and subtidal habitats, including rocky shores, seaweed and seagrass beds, and temperate coral communities. 	H	H	H	M	M	H	M
<p>23. Southern Coastal Areas of Shikoku and Honshu Islands</p> <ul style="list-style-type: none"> Location: The area is located between 32.7°N and 35.4°N latitude, and between 132.2°E and 139.9°E longitude. It covers southwestern Shikoku Island (Kochi and Ehime Prefectures), Southern Kii Peninsula (Wakayama Prefecture), Shima Peninsula (Mie Prefectures), Izu Peninsula (Shizuoka Prefecture), Boso Peninsula (Chiba Prefecture) and Izu Shichito Islands. This area is heavily influenced by the Kuroshio current, which characterizes the benthic flora and fauna of these regions. Open coastal areas are mostly rocky shore, whereas semi-enclosed bays behind the exposed capes are suitable habitats for soft-bottom benthic organisms, including seagrass beds. Temperate coral communities are also observed in most of these areas. 	H	H	M	H	H	H	M

Location and brief description of areas	C1	C2	C3	C4	C5	C6	C7
	For key to criteria, see page 2						
24. South Kyushu including Yakushima and Tanegashima Islands <ul style="list-style-type: none"> Location: The area is located between 30.1°N and 31.8°N latitude, and between 130.3°E and 131.2°E longitude. It covers Tanegashima Island, Yakushima Island, Kinko Bay and surrounding coastal areas (Kagoshima Prefecture). The area is located at the southernmost part of the temperate zone. The southern limits of many temperate marine species are found around this region. The area comprises a variety of habitats, including rocky intertidal shores and subtidal seaweed beds at exposed coasts, seagrass beds at the inner part of the bay, and temperate coral reefs in Tanegashima and Yakushima Islands. 	M	M	M	M	M	H	M
25. Ogasawara Islands <ul style="list-style-type: none"> Location: The area is located between 27.8°N and 26.5°N latitude, and between 142.0°E and 142.3°E longitude. The Ogasawara Islands host a variety of endemic species. In 2011, the whole area was declared a UNESCO World Heritage Site. Located in the subtropical climate region, the coastal sea areas have well-developed coral reefs specific to oceanic islands, and the islands are also known as important breeding grounds for seabird colonies. 	H	H	H	L	H	H	H
26. Northern Coast of Hyogo, Kyoto, Fukui, Ishikawa and Toyama Prefectures <ul style="list-style-type: none"> Location: The area is located between 35.4°N and 37.6°N latitude, and between 134.5°E and 137.4°E longitude. It covers adjacent waters of Takeno coast and Maruyama River mouth, Wakasa-wan Bay, Echizen and Kaga coasts, outer coast of Noto Peninsula, and Nanao Bay and southern Toyama Bay. The northern coast of the middle of Honshu Island is largely affected by the warm Tsugaru Current. The tidal range is very small compared to other parts of the Pacific coast, inhibiting the development of intertidal flats and rocky shores. However, the area is diverse in topography, including sand flats, exposed rocky coast, complex rias coast, semi-closed inner bay, and most notably, a deep bottom in Toyama Bay, which causes local upwelling and highly productive zones around the coast. 	M	H	M	M	H	M	M
27. Ryukyu Trench <ul style="list-style-type: none"> Location: This area is located south of Ryukyu Islands, with a location between 26.6°N, 130.1°E and 22.7°N, 122.9°E. It corresponds to the intersection of the Philippine plate and Eurasian plate. The Ryukyu Trench contains important chemosynthetic ecosystems in the slope at depths of 5,802-5,808m, 1,400–1,500 m and 636–812 m, which are home to six endemic species. Studies have suggested that the fauna of this trench are distinct from the fauna of other trenches. 	H	H	M	H	L	L	H
28. West Kuril Trench, Japan Trench, Izu-Ogasawara Trench and North of Mariana Trench	H	H	M	H	L	L	H

Location and brief description of areas	C1	C2	C3	C4	C5	C6	C7
	For key to criteria, see page 2						
<ul style="list-style-type: none"> Location: This area is located between 42.1°N, 146.8°E and 23.2°N, 141.1°E. Ocean trenches (area exceeding water depths of 6000 m) are unique habitats. Trench habitats are especially well developed in the western Pacific region, from the Kuril to the Mariana trenches. The uniqueness of the biota inhabiting in this region has been recognized in many scientific articles. In some areas, chemosynthetic ecosystems are developing, and species living in such ecosystems have been known to be associated with only one or two seepages. Thus the species in the trench are endemic, very rare, vulnerable and prone to extinction. Fortunately, the naturalness of this trench environment is well-preserved, thus far, because it is extremely remote. 							
29. Nankai Trough <ul style="list-style-type: none"> Location: This area is located at south of Honshu Island, Japan, between 35.1°N, 138.8°E and 29.5°N, 130.4°E. The area is located along the convergent boundary between the Philippine Sea and Eurasian plates. This area is associated with great earthquakes along the subduction zone. Many chemosynthetic communities have been recognized in a wide depth range from 270 to 4,800 m due to the existence of numerous methane seeps. Although species richness is not as high as the productive areas, the occurrences of endemic species are high in this region: more than 50% of the total number of species in this region is endemic. The seepage fields harbour higher diversity of the endobenthic invertebrates such as the vesicomysid clams. 	H	H	M	H	-	H	L
30. Sagami Trough and Island and Seamount Chain of Izu-Ogasawara <ul style="list-style-type: none"> Location: This area is located in the western Pacific, South of Honshu Island, Japan, between 35.8°N, 141.6°E and 26.5°N, 138.6°E. This area includes the Tokyo Submarine Canyon and the submarine canyons that drop steeply from Sagami and Suruga bays as well as the Sagami Trough, spanning 330 km between Sagami Bay, the Boso Peninsula, and Ohshima, and extend to the south to Myojin-sho, the Suiyo Seamount, the Mokuyo Seamount and the Kaikata Seamount. These seamounts are often tectonically active, and many chemosynthetic vent communities area developing in this area. 	H	H	H	H	H	-	H
31. Convection Zone East of Honshu <ul style="list-style-type: none"> Location: The area is located in the east of the northern part of Honshu Island, Japan, between 41.2°N, 145.3°E and 35.9°N, 140.8°E. This is the area where the Oyashio Current (cold current) and the Kuroshio Current (warm current) mix. Such a complex front structure forms eddies of both warm and cold water. In addition, Tsugaru Current (warm current) flows in off the Sanriku coast, resulting in a very complex oceanographic features. Primary production is high in this area, and zooplankton, especially krill, is also rich. Consequently, pelagic fishes and mammals are present in very high in densities, as the area provides key feeding areas for these higher 	H	H	H	L	H	H	L

Location and brief description of areas	C1	C2	C3	C4	C5	C6	C7
	For key to criteria, see page 2						
trophic-level animals. This area is also important as a feeding area of seabirds.							
32. Bluefin Tuna Spawning Area <ul style="list-style-type: none"> Location: This area is located in the upper reaches of the Kuroshio warm current, which flows off southern Japan, extending between 30.1 °N, 130.7 °E and 23.0°N, 122.5°E The waters of the Kuroshio Current's subtropical zone from the Nansei (Okinawa) Islands, where the Kuroshio Current flows north to the waters off the coast of southern Kyushu, are connected to the Coral Triangle and provide a major spawning area for bluefin tuna. 	M	H	H	H	M	H	M
33. Kyushu Palau Ridge <ul style="list-style-type: none"> Location: The area starts from southeast off Cape Toi located in the southeast side of Kyushu Island, with southern extension near to Palau. It separates Shikoku and west Mariana Basins and Philippine Basin. It is located between 31.1°N - 17.0°N and 137.1°E- 132.4°E. Kyushu-Palau Ridge is an ocean floor feature. It comprises a chain of many extinct volcanos mostly below sea level. 213 fish species were found in this area, 14 of which were new to science. A unique deep-sea butterfly fish has also been discovered from this area. This area was found to be the spawning ground of the white spotted conger eel. 	H	H	-	-	-	H	H
34. Kuroshio Current South of Honshu <ul style="list-style-type: none"> Location : This area is located from the south and southeastern coast of Kyushu Island, south of Shikoku Island and south of Honshu Island, Japan, between 35.9°N, 141.8°E and 30.0°N, 129.9°E. The Kuroshio warm current runs in parallel to coasts of Kyushu Island, Shikoku Island and Honshu Island. This area consists of the waters of the Kuroshio Current's subtropical zone from the waters off the southern coast of Kyushu Island where the current turns into follow currents off the Boso Peninsula, and the waters on the inside (landward side) of these. Once the Kuroshio Current goes eastward, it will become weaken and merged with the convex area off east Honshu (please refer to the area no. 35 below). This area is high in biodiversity because the oceanographic setting is complex. It hosts a particularly important spawning ground for commercially important fish and squid species. This area is also used as a reproductive area of finless porpoise. Three endangered fish species have been reported from this area. 	H	H	M	L	H	H	L

Location and brief description of areas	C1	C2	C3	C4	C5	C6	C7
	For key to criteria, see page 2						
35. Northeastern Honshu <ul style="list-style-type: none"> Location: The area covers intertidal and subtidal bottoms of Mutsu Bay coast, coast of Ogawahara lagoons, and Sanriku rias coast of Japan. It is located at between 38.2°N and 41.6°N, and between 140.6°E and 142.2°E. The area is known as a highly productive marine area. The area is influenced by three different types of currents, such as cold Oyashio, warm Kuroshio and Tsugaru currents. Diverse marine biota in this area includes both cold-temperature and warm-temperature adapted species. The area covers various types of coastal habitats including tidal flats, lagoons and rocky intertidal shore in intertidal zone, and seagrass beds and seaweed beds (dominated by kelps and sargassums) in subtidal waters. 	H	H	H	H	H	M	H
36. Hydrothermal Vent Community on the Slope of the South West Islands <ul style="list-style-type: none"> Location: Western slope of the South West Islands, which is on the western side of the Okinawa Trough. Many chemosynthetic ecosystem sites harbouring both hydrothermal vent and seepage communities have been found in this area. The number of macro- and megafaunal species in the area is the highest among the several deep-sea chemosynthetic regions. The occurrence of endemic species is also high in this region: 68% of the species are endemic to this area. This area still possesses its natural landscape and environment due to its inaccessibility. 	H	H	-	H	H	H	H