UN environment CMS

MEMORANDUM OF UNDERSTANDING ON THE CONSERVATION AND MANAGEMENT OF MARINE TURTLES AND THEIR HABITATS OF THE INDIAN OCEAN AND SOUTH-EAST ASIA

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Agenda Item 9.1

UPDATES ON THE STATUS OF IOSEA NETWORK SITES

SIR BU NA'AIR ISLAND

(Prepared by the United Arab Emirates)

1. **Date of submission** The date on which the Site Information Sheet was completed (8th September 2019)

2. **Name and address of compiler(s), if not the IOSEA Focal Point**
Name and contact information (including affiliation) for the individual(s) who prepared this information sheet, for formal submission through the national IOSEA Focal Point.

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3. **Country:** *The name of the country in which the site is located.*

United Arab Emirates (UAE)

4. Name of site: *The name of the site (alternative names should be given in brackets).*

Sir Bu Na'air Island Protected Area (محمية جزيرة صير بونعير)

5. Decimal Degrees

25.235076^0 , 54.218633^0

6. Geographical coordinates
*The geographical coordinates (latitude and longitude) of the **approximate centre** of the site, expressed in 'decimal degrees'. For example, the location of the IOSEA Secretariat in Bangkok is 13.763483°, 100.508157°. If the site consists of two or more discrete units, the coordinates of the centres of each of these units should be given. (Add any additional coordinates in a separate annex.)*

7. General location

Describe the general location of the site. This should include the site's distance (in a straight line) and compass bearing from the nearest significant administrative centre, town or city. The human population of the listed centre and its administrative region should also be stated. (See also the information requested under point 24: Site Map)

Sir Bu Na'air Island is located in the South of the Arabian Gulf, 110km west of Sharjah and 85km to the north coast of Abu Dhabi (capital of UAE).

The island is currently administrated by the Emirate of Sharjah and managed by the Environment & Protected Areas Authority (EPAA) in Sharjah with the support of Sharjah Police.

7. In the remainder of this document, the codes that appear in square brackets alongside each of the titles below refer to sections of a separate document describing the evaluation criteria, which will be informed by the proponents' submission. ***Proponents are encouraged to consult the Evaluation Criteria document [1] for more explanation of the rationale behind each criterion and of the detailed information to be used for evaluation purposes.***

7. Area [N3]

The approximate surface area of the site to be included in the network (in hectares or square kilometers). If the site is an island, indicate also the total surface area of the coastline directly relevant to turtle conservation. Area should correspond to the map provided under point 24.)

The total terrestrial area of the island is 13.2km^2. The surrounding water is defined by 1,500 m (around 0.8 nautical mile) radiated from the island center.

8. Physical features of the site [EB1- 4, S5, S6, N1]

Describe the principal physical characteristics of the site, including the marine turtle habitat types occurring at the site. List the ecosystem types included in the site (nesting beach, foraging habitat, reproductive habitat, migratory habitat) and the approximate area in hectares (or km^2) of each habitat type included. Indicate whether the site's physical attributes are shared by other sites in the country, or are exceptional/unique.

The island has a central rocky outcrop, which is 60 m above sea level at its highest point. The rocky areas are characterized by ravines, rocky ridges, and shallow valleys. In the North and East there are flattish stony areas, while beach areas range from flat and sandy to rocky and steep.

In geological terms, this small, rocky offshore island is a salt dome; a circular or elongated 'Plug' commonly less than 2 km in diameter but often extending several kilometers below the earth surface. Salt domes are formed by the upward movement of buoyant and less evaporitic material (salt) into denser, overlying rock as a result of regional tectonic activity. Salt domes often boast significant mineral wealth and Sir Bu Nair is no exception.

Extensive and healthy coral reefs around the Island provide important ecosystem services. They serve as habitat for many marine invertebrates and vertebrates, as well as foraging habitat for at least two species of sea turtles, Green and Hawksbill turtles (EWS-WWF, 2013). The surrounding marine habitat consists of 0.05 km^2 halophytes, 0.17 km^2 beach, 0.87 km^2 hard bottom, 0.002 km^2

[1] Criteria for the Evaluation of Nominations to the Network of Sites of Importance for Marine Turtles in the Indian Ocean – South-East Asia Region, IOSEA Marine Turtle MoU Secretariat. http://ioseaturtles.org/sitenetwork-evaluation.php

hard bottom + macro algae, 2.34 km^2 hard bottom + Coral, 1.78 km^2 reef, 4.10 km^2 reef + coral, 2.09 km^2 unconsolidated bottom.

Sandy beaches make up a large part of the islands 14km shoreline. The widest areas of beach measure approximately 40 m from the high tide mark to the vegetation with the narrowest beaches only 20 m from the high tide mark to the vegetation. Hawksbill turtles nest on all the sandy beaches on the island. The total length of turtle nesting beach is 11.36 km, The beaches on the Island are the largest suitable turtle nesting habitat for the Sharjah Emirate. While it is not considered a large beach area, up to 351 hawksbill turtle nests are laid on the beaches every year.

In other areas wave action has exposed the hard coral-derived substrate and salt dome base resulting in stretches of rocky shoreline.

The largest number of nests is on beach 1, which is the widest and longest beach on the Island. Beaches 7, 9 and 19 have the highest concentration of nests with 1 or more nests for every 10m of beach (EMEG, 2011).

9. **Ecological resources [EB1- 4, S5, S6, N1]**
Describe the ecological resources at the site, including marine turtles and other noteworthy biodiversity. Describe the marine turtle species / management units occurring at the site, if they are known. Where possible, provide an abundance estimate for each marine turtle species/management unit (e.g. in terms of average number of turtles nesting annually or foraging). **Evaluation Criteria EB1a and EB1b** *offer guidance on how to describe the relative importance of a site frequented by one or more marine turtle species. Indicate whether the site's ecological resources are shared by other sites in the country or are exceptional/unique.*

The island was historically used as a gathering place for pearl divers during the pearl diving season in the Gulf. These visitors to the island reported that there were many nesting turtles visiting the island year after year. This cultural heritage and an increase in conservation awareness prompted the ruler of Sharjah to declare the island a protected area in 2000. Since then, EPAA in partnership with EMEG have conducted surveys on turtles, nesting bird colonies and coral diversity and abundance.

Turtles

Hawksbill turtles (*Eretmochelys imbricata*) are the primary species nesting on the Island apart from the only contemporary record of a green turtle (*Chelonia mydas*) nest (later recorded at an island in Abu Dhabi as well) confirmed by the IUCN Sea Turtle Specialist group, Co-Chairperson, Nick Pilcher in 2010 (May 15th and 26th). Yearly nest counts and inventories have been conducted since 2010. The highest number of hawksbill turtle nests was recorded in 2011 with 376 nests while the lowest number was recorded in 2014 with 305 nests. Based on inventories of nests after every season emergence rates range between 68 and 75%. The highest seasonal emergence rate for hawksbill turtle hatchlings was 75.07% in 2011. In 2010 the emergence rate was 73.23% (EMEG, 2011).

Table 1: Number of hawksbill turtle nests on the 19 nesting beaches (EMEG, 2011; EMEG 2015; EMEG, 2017). Note: 2019 report not ready so only final nest count added.

Beach No.	Beach Length (Km)	No. Nests recorded			
		2010	2011	2015	2019
1	2.14	52	45	72	-
1A	0.6	2	0	3	-
2	0.55	4	8	6	-
3	0.19	4	5	8	-
4	0.13	8	4	11	-
5	0.4	1	4	2	-
6	0.15	4	2	7	-
7	0.19	13	20	6	-
8	0.06	7	1	7	-
9	0.18	20	42	13	-
9A	0.83	2	22	4	-
10	0.2	10	21	1	-
11	0.34	26	15	10	-
12	0.31	30	27	4	-
13	0.21	10	9	7	-
14	0.09	14	5	5	-
15	0.1	12	6	15	-
15A	0.7	0	0	0	-
16	0.13	5	6	7	-
16A	0.32	4	2	1	-
17	0.92	37	45	29	-
18	0.36	26	38	19	-
19	2.26	33	49	23	-
Total:	**11.36**	**324**	**376**	**260**	**351**

Coral and marine environment

The coral community around the island is unique. The survey was conducted in different depths ranging from 5 to 20 meters with two sites as shallow as 2.5 meters. The highest coverage of coral was at a depth between 5 and 10 meters (40 to 58% dominated by *Acropora* Sp.) while *faviis* and *siderestrids* corals dominated at 15 meters by 22 to 44%. The total number of species of corals recorded was 40, identified based on the extensive coral surveys by Riegl *et al.* (2012) carried out during the late 1990s and early 2000s in the Arabian Gulf. Eight coral species were recorded as new records from the South-eastern Arabian Gulf including two species from the genus *Gonipora* which is a new genus recorded in the South-eastern Arabian Gulf. The two-year study through the intensive transects of monitoring shows that Sir Bu Na'air reef was unaffected by the El Niño-related mortality of corals in the Arabian Gulf in 1996, 1998 and 2002 especially with the finding of the Citron Goby fish (*Gobiodon citrinus*) in its commensal host (*Acropora* sp.), which is the only record of this species of fish in the Arabian Gulf. The coral occurrence supports a variety of both reef fishes and commercial fishes, as well as a few uncommon species in the Arabian Gulf (EMEG, 2011).

Nesting birds

The island is an important site for nesting birds. In 2012 an estimated 1% of the world's population of Sooty Gull (*Larus hemprichii*) nested on the island. In the central parts of the island an estimated 10000 Bridled Terns (*Onychoprion anaethetus*) breed each year. Confirmation of this number is planned using methods that do not result in unwarranted disturbance of the nesting birds (EMEG, 2011).

10. Cultural importance [S1]

Describe the cultural / religious / spiritual importance of the site (e.g. in terms of historical associations, spiritual traditions, religious significance etc.), as well as non-consumptive traditional beliefs/practices, in relation to marine turtles. If possible, provide references to published/unpublished historical or other accounts, which may give an indication of relative importance in a national context.

Historically, until about 2000, Sir Bu Na'air island was used as a shelter by fishermen and pearl divers. Culturally, it was the meeting point for fishermen, a place for pearl divers to rest, and a source of fresh water (single well), which was believed to have healing powers for divers. The Island was the starting point of a very popular dhow race to Dubai—a more modern form of this race still takes place each year. Current discoveries of pottery on the island date back 1,500 to 3,500 years, which confirms the prehistoric usage of the Island. (All excavation and discoveries have not been published yet.)

Every year in May, a festival is held on the island (Sir Bu Na'air cultural and environmental festival) to celebrate the traditional race (Sebag Elgaffal /Elgaffal race) and to introduce environmental aspects and information to participants to improve public awareness and emphasize the cultural links to a more sustained environment.

Turtle hunting and the collection of eggs, both for human consumption was common on the island. Both visiting pearl divers and visiting fishermen are believed to have taken part in harvesting. There have been no reports of egg harvesting or turtle collection for meat since the site was protected in 2000. Any person found to be taking part in such activities would be liable to a large fine issued to the EPAA (*Resolution of Executive council No. (9) Of 2012 on the prevention of environmental degradation in the emirate of Sharjah.)*

11. Jurisdiction [G1]

The name of the government authority with: (a) territorial jurisdiction over the site, e.g. state/province, region or municipality etc.; and the name/description of the authority with (b) functional jurisdiction for conservation purposes, e.g., Department of Environment, Department of Fisheries, traditional owners, etc.

Environment and Protected Areas Authority in Sharjah

Government of Sharjah

Ms. Hana Saif Alsuwaidi - Chairperson

P.O.Box: 2926 Sharjah

Phone: +97165311501

Fax: +97165311419

E-Mail: epaa@epaashj.ae

12. Management authority [G1]

Name, address and contact details of the body responsible for the direct <u>local</u> conservation and management of the site.

Abdel Aziz Alsuwaidi – Manager- Marine Sustainability Department

Environment and Protected Area Authority in Sharjah

P.O.Box: 2926 Sharjah

Phone: +971527666961

E-Mail: abdelaziz.alsuwaidi@epaa.shj.ae

13. **Current protected status and governance framework [G1, S4]**

Describe any applicable legislation / regulations (or traditional laws / norms) relevant to the protection / conservation of marine turtles and their habitats at this site, and comment on their effectiveness. Include details of how any incompatible human activities and/or uses of land and sea at the site are prohibited or mitigated.

Mention any nationally relevant protected area status, international conservation designations and, in the case of transboundary sites, bilateral or multilateral conservation measures which pertain to all or part of the site. If a protected area or reserve has been established (at a national/regional level), give the date of its establishment and size. If only a part of the site is included within a protected area, the area of marine turtle habitat that is protected should be noted.

International designations may include sites listed under the UNESCO/World Heritage Convention, Man and Biosphere Reserve Network, Ramsar Convention, other site conservation networks, etc. Where appropriate, list the IUCN (1994) protected areas management category(ies) that apply to the site.

Local Law and protection

The Island was declared a protected area under a decree, issued by the Ruler of Sharjah (Amiri Decree 25/2000, Ruler of Sharjah). At the same time a resolution preventing habitat loss was instated by the Ruler to prohibit activities that might result in habitat destruction (Resolution 3/2000, Ruler of Sharjah).

International affiliation and recognition

Sir Bu Na'air Island is also on UNESCO's preliminary list to attain world heritage status due to its environmental and cultural importance (UNESCO World Heritage Tentative List 2012).

Sir Bu Na'air was announced as a Ramsar Site (Wetland of international importance) on 2nd December 2013, matching the country's national day.

Its characteristics satisfy 6 of the 7 approved categories of protected areas defined by IUCN (Ia, Ib, II, IV, V, VI) (IUCN 2013).

14. Land/sea tenure/ownership [G1]

Provide details of ownership of the site and ownership of immediate surrounding areas (e.g., state, provincial, private, etc.) which may have a bearing on the conservation of the site. Describe any local or customary law relevant to the land / sea tenure, and explain any terms that have a special meaning in the country or region concerned.

Sir Bu Na'air Island falls in the UAE's territorial waters. The jurisdiction of the island and its surrounding water (roughly 1 Nautical mile from the shore line of the island falls under the Emirate of Sharjah.) falls under the governance and protection of the emirate of Sharjah.

15. Socio-economic values and land/ocean uses and activities within the vicinity of the site [EB4, G5, S2, S5, S6]

Describe, in general terms, the principal social and economic values of the site, including human activities and land uses (past, current and planned) within the vicinity of the site (e.g., agriculture, fishing, resource extraction, grazing, water supply, urban/industrial development, tourism, outdoor recreation, education and scientific research), irrespective of whether or not they are considered to directly impact the conservation of marine turtles. Some indication of the relative importance of each form of land use should be given, whenever possible.

A small airstrip and harbor are on the Eastern tip of the island. Island patrols are restricted to an existing gravel road network.

Historically, a fresh water well made the island an important stop-over place for pearl divers. During northern winds the Island was used by pearl divers and fishermen for shelter from rough seas. More recently, the Island is the starting point of a very popular traditional dhow race.

Photo: Dhow boats gathering at the entrance to the harbor as part of the festival held annually on the island. This is where the annual boat race to Dubai from the island begins.

Until the declaration of protection in the surrounding waters of the island were extensively fished. Under the current protection fishing is limited to personal use only. Fishing using artisanal methods (lines and Dome-shaped fish traps). Bottom trawlers and commercial fishing is banned in the surrounding waters, these methods aims for large fish catches regardless of any measurement or consideration of sustainability. A police unit based on the island is actively supporting EPAA rangers in monitoring activity and reporting any violation for further action to be taken by EPAA.

Its position in the heart of one of the world's major and prolific hydrocarbon basins gives Sir Bu Na'air island great value. The area surrounding the island have been explored and further mining development in the general area of the island has been discussed but no development has begun.

Currently the oil resources in the area do not contribute to the economic value of the island. Regardless of future development the island will remain a protected area.

An eco-tourism projects have been proposed in Sir Bu Na'air. EPAA will ensure that all operations meet the best environmental practices, i.e. that respect the nature of the Island and it's fragile habitat especially with the turtles. (For example, inward low lighting, minimum movement on fragile habitat, controlled tours, and closed areas during part of the season, etc.)

16. Factors adversely affecting the site's overall ecological character, as well as threats to marine turtles and their habitat at the site [EB4, S2]

Describe the human and natural factors negatively affecting the ecological character of the site, both within and in the vicinity of the site. These may include existing, new or changing activities/uses, major development projects etc., which have had, are having, or may have a detrimental effect on the natural ecological character of the site. For all adverse and change factors reported, supply measurable/quantifiable information (if such data exist), as well as information on the scale, extent and trend of the change factor and its impact. For example, describe in terms of the percentage of coastline (or other area) modified/affected by a particular threat; for egg collection, describe in terms of number of nests, per species, per year. Mention also data-deficient threats, where a threat is known to be present but is not quantified. Collectively, this information should provide a basis for monitoring of ecological character of the site.

Threats to the island's ecology are limited since most human activity is controlled. However, oil spills and hydrocarbon pollution are potential threats in the event of ship collisions close to the Island or within the current streams. The other threatening factor is the planned tourism project. However, those threats should be controlled through proper planning and paying due respect to EIA and EIS rules and guidelines. One other factor are alien and invasive species such as feral cats. A cat eradication project is set to start in 2015. None of the threats are likely to affect turtles and turtle nests.

17. Conservation and management interventions taken [G2, G3]

Describe conservation and management interventions already taken at the site to address threats. Note that some of this information may have been recorded in abbreviated form in the IOSEA Site Data Sheets, available online (www.ioseaturtles.org/reporting). Any application of coastal and marine spatial planning, or integrated coastal/marine zone management planning, involving or affecting the site should be noted.

Describe the management planning process for the site, including the state of implementation of any management plan that has been developed and approved for the site. Describe any other conservation measures taken at the site, such as restrictions on development, management practices beneficial to wildlife, closures of hunting, etc. (Note that information on any monitoring schemes and survey methods should be given under point 19, below.)

Where applicable, describe the involvement of local communities and indigenous people in the participatory management of the site, including co-management activities, surveillance and enforcement, and performance evaluation.

To date, several interventions regarding threats has taken place on the island. Any intervention activity has related to the specific surveys conducted on the Island, namely, turtle nests translocation, beach litter cleanups, coral translocation, ghost nets removal and prevention of illegal fishing.

Development on the island requires prior approval by the government of Sharjah and action is limited to governmental stakeholders only. In such cases the EPAA would be required to provide environmental guidelines and carry out site audits to ensure environmentally acceptable practice. The eco-tourism project is restricted to the most transformed area on the island and will only occupy a very small percentage of the total island area (less than 2% of the Island and away from nesting beaches). At present the Sharjah Police monitor the Island for prohibited activities. The EPAA will mobilize an environmental unit which will be responsible for environmental monitoring in the near future.

The protected area was declared a Ramsar site as of 2nd of December 2013, which gives better enforcement of environmental regulations with the support of Ramsar guidelines.

18. Conservation interventions proposed, but not yet implemented [G2, G3]

Provide details of any concrete conservation measures that have been proposed, or are in preparation, for the site, including any proposals for legislation, protection and management. Summarize the history of any longstanding proposals that have not yet been implemented, and differentiate between those proposals that have already been officially submitted to the appropriate government authorities and those which have not as yet received formal endorsement, e.g., recommendations in published reports and resolutions from specialist meetings. Also mention any management plan that is in preparation but has not yet been completed, approved or implemented.

Beach cleanups and alien and invasive species control is the only current intervention that is planned for the island. A cat control project will be carried out on the island. Traps will be dispersed throughout the island after the breeding population of sooty gulls and bridled terns leave their nest sites on the Island and move into surrounding pelagic areas.

Better environmental behavior enforcement is also to be deployed (on-site waste segregation and similar actions).

19. Current / proposed scientific research and monitoring [G4]

Describe any current and/or proposed scientific research on marine turtles and their habitats, as well as information on any special facilities for research. In particular, describe past and current marine turtle monitoring activities at the site (e.g., tagging, satellite tracking, genetic sampling, nesting and foraging ground surveys, ongoing beach monitoring, etc.). Describe the survey methodology in sufficient detail to allow for an assessment of its efficacy. Indicate the number of years of continuous monitoring, and whether data have been used to estimate trends in the size of the management unit. Cite relevant published papers in support of the submission.

Turtle monitoring has been carried out by the EPAA, in partnership with EMEG since 2010. Nesting turtles are monitored every season. Nest counts and monitoring are carried out between February and May. Nest inventories are done in August.

Turtle nest monitoring and inventory

Turtle nests counts and monitoring takes place for the entire duration of the nesting season. Monitoring involves a nest count and the collection of positional data. Nests are marked and in rare cases the decision is made to translocate a nest. Several nesting turtles have been flipper tagged on the island. This is done after the individual has finished laying her eggs.

Nest inventories take place in August. The nest and hatch success is examined in 20 – 30% of all nests on the island. The number of eggs laid, number of eggs hatched and unhatched are counted. From this nest success and emergence rates are calculated.

When hatching is observed data on emergence is collected (with additional data e.g. sex and size EMEG (2012)). Any misdirected hatchlings are directed towards the water.

Nest marking is done to monitor and count nest sites. Several hawksbill turtle nests on the island have been trans located. Eggs laid in nests that are below the high tide mark and close to the harbor entrance were translocated in 2014. Hatching success in relocated eggs was extremely poor (<2%).

Turtle stranding monitoring and research

Marine turtle standing monitoring began in the Emirate of Sharjah in 2015 on its eastern coast. The study focuses on the investigation of standings gastrointestinal tract content (diet component analysis and marine debris ingestion), liver kidney and muscle toxicity (organochlorine pesticides, polycyclic aromatic hydrocarbons and heavy metals). Data and samples collected also include morphometric measurements, genetic sampling, boat strike frequency and entanglement frequency. In 2019 the sample area was widened to include Sir Bu Na'ir Island.

Chemical characterization and toxicity testing of turtle nest remains

During nest inventory excavations eggs, embryos and hatchlings (all mortalities) were collected in 2018 and 2019 for toxicity testing (organochlorine pesticides, polycyclic aromatic hydrocarbons and heavy metals).

Additional Turtle Research

EPAA/EMEG/EWS-WWF satellite tagged five female hawksbill turtles for three years. The data revealed summer migration related to ocean temperature in the Arabian Gulf (EMEG, 2011 and EWS-WWF 2012; Pilcher *et al,* 2014).

Photo: Release of a satellite tagged hawksbill turtle as part of the EWS-WWF and EPAA partnership. Attended by television and print media

Coral Monitoring

A Coral Monitoring program recorded eight species of corals never before found in the southern Arabian Gulf. Citron goby sighting was a new observation for the region. The Coral communities in the vicinity of the Island tend to be much healthier than along UAE's west coastal reef which was severely impacted by El-Niño related effects (EMEG, 2011).

Photo: Coral monitoring program as part of the EMEG EPAA partnership.

Habitat Mapping
In 2018, Emirates Nature-WWF and Five Oceans Environmental Services LLC have conducted a survey to provide remote sensing-based habitat mapping and survey expertise. The original focus of the project was the northern emirates due to the lack of existing habitat maps, and considerable survey effort was allocated to help support the development of maps for Sharjah (including Sir Bu Nair, Ajman, Umm Al Quwain, and Ras Al Khaimah.

Frequency and Composition of Anthropogenic Debris in the Nests of Sooty Gulls Larus (Adelarus) hemprichii Bruch, 1853 from Sir Bu Na'ir Island, United Arab Emirates.
In this study, conducted in 2019, we investigate the qualitative and quantitative aspects of anthropogenic debris used in the construction of sooty gull nests Larus (Adelarus) hemprichii (Bruch, 1853) from Sir Bu Na'ir Island, United Arab Emirates. The numeric and gravimetric proportions of debris were documented following classification of type, color and presumed source..

Baited Remote Underwater Video Surveys in Sir Bu Nair Marine Protected Area
In this study, Emirates Nature-WWF, EPAA and EMEG have conducted BRUV surveys to provide data on the biodiversity and density of sharks and other fish assemblages from the waters surrounding Sir Bu Na'ir.

Proposed research include:

- Beach litter surveys
- Bird survey (including assessing the importance of the island to migratory species
- Terrestrial reptile surveys

20. Current / proposed communication, education, and public awareness activities [S3]
Give details of any existing and/or planned site-based programmes, activities and facilities for communication, education and public awareness, including training. Comment on potential opportunities for future educational and outreach activities at the site.

Courses and training
A variety of awareness and educational activities have been conducted on Sir Na'air. Best practice eco-friendly behavior and other environmental behavioral activities have been presented to the police and military. Topics include habitat destruction and waste management.
During 2010 and 2011 Emirates Environmental Services Centre (EESC) conducted an annual program (3 - 4 days) for national youth in an expedition style outing. During the outing students explore the island, learning about the habitats and conservation effects with activities that introduce the youth to environmental science (2011-2012).

Media
News articles are published online and in print to promote public awareness of the conservation efforts. Examples of such articles are attached as an appendix. Television and radio interviews with EPAA management are common and the importance of Sir Bu Na'air is regularly discussed.
The EPAA uses social media to create awareness. Instagram, Twitter and you tube are platforms easily accessible to most people. Images and conservation topics are regularly disseminated in this form of media.

Sir Bu Na'air cultural and environmental festival

The "Sir Bu Na'air cultural and environmental festival" is an annual festival that aims to build environmental awareness. EPAA displays information, offers question and answer sessions and holds competitions and sponsors prizes to promote awareness. Furthermore EPAA monitors the activities of the festival goers.

Photo: Tug of war game at the Festival

21. Financial resources available for management of the site and other activities [G5]
Identify human and financial resources (including in-kind contributions) available to support immediate and near-term activities, as well as resources available to sustain site-based activities in the longer-term (e.g. in relation to monitoring, management interventions, surveillance and enforcement, and performance evaluation).

Governmental support through the Emirate of Sharjah's budget is the primary source of financial support for EPAA activities.

The EPAA/EMEG research was supported by HSBC Bank for three years and other memoranda of understanding between the government and NGOs will be developed in future.

22. Additional resource needs at the site [G5]
Where specific needs are identified (e.g. skilled personnel, specialised training, facilities, field equipment etc.) indicate how marine turtle conservation activities are presently impaired on account of their unavailability (e.g. inability to carry out regular surveys, to conduct certain types of research,

to monitor certain parts of the range etc.) This information may be useful for compiling a general picture of deficiencies and resource needs that could be presented to potential programme sponsors.

Currently only one field technician is responsible for monitoring the turtle nesting on the island. He is unable to monitor activity on all the beaches in one night. Additional personnel would make simultaneous monitoring of beaches during the nesting season possible. Extra field assistants during the nesting season would improve the EPAA's ability to tag turtles after they have nested and check nesting turtles for existing tags. A plan is in place to deploy additional staff to the island. Included in the additional staff members are qualified divers.

The far proximity of the island from mainland Sharjah makes regular visits to the site by Protected Areas staff difficult. More regular visits would enable researchers to carry out more extensive beach surveys, nest inventories and turtle tagging. Other studies on birds, terrestrial and marine habitats could be conducted more easily.

23. References [e.g. S1, G2, G4]

List key references relevant to marine turtle records and to the site, including management plans, major scientific reports, and bibliographies. When a large body of published material on the site is available, only the most important references need be cited, with priority being given to recent literature containing extensive bibliographies. Reprints or copies of the most important literature should be appended whenever possible. Provide website addresses of references where available.

Emirates Marine Environmental Group (EMEG), 2011, Sir Bu Nair Turtle & Wildlife Monitoring (2010 Report).

Emirates Marine Environmental Group (EMEG), 2011, Sir Bu Nair Turtle & Wildlife Monitoring (2011 Report).

Ews-Wwf_Ae0025_Progress Report_11-08-2011

Ews-Wwf Turtles_Tagging Report_Sharjah_May 2012

EPAA 2014 Log Sheet (Report Not Issued Yet)

Unesco_Whtl-5661 "http://whc.unesco.org/en/tentativelists/5661/"

Sir Bu Nair Island Protected Area | RAMSAR "http://www.ramsar.org/sir-bu-nair-island-protected-area"

Dudley, N. (Editor) (2008). Guidelines for Applying Protected Area Management Categories. Gland, Switzerland: IUCN. x + 86pp. WITH Stolton, S., P. Shadie and N. Dudley (2013). IUCN WCPA Best Practice Guidance on Recognising Protected Areas and Assigning Management Categories and Governance Types, Best Practice Protected Area Guidelines Series No. 21, Gland, Switzerland: IUCN. xxpp.

Miller, J.D., Preen, A., Loughland, R.A., Youssef, A.M. and Darwisch, A.M., 2004. Marine turtles and sea snakes of Abu Dhabi Emirate In: Loughland, R.A., Al Muhairi, F.S., Fadel, S.S., Almehdi, A.M. and Hellyer, P. (eds), Marine Atlas of Abu Dhabi. Emirates Heritage Club. 2004.

Nicolas J. Pilcher A., Lisa Perry B., Marina Antonopoulou B., Mohamed A. Abdel-Moati c, Thabit Zahran Al Abdessalaamd, Mohammad Albeldawi e, Mehsin Al Ansi f, Salman Fahad Al-Mohannadi e,Robert Baldwin g,h, Ahmed Chikhi e, Himansu Sekhar Das d, Shafeeq Hamza f, Oliver J. Kerr b, Ali Al Kiyumi i,Asghar Mobaraki j, Hana Saif Al Suwaidi k, Ali Saqar Al Suweidi l, Moaz Sawaf b, Christophe Tourenqb,James Williams a, AndrewWillson g,h. 2014. Short-term behavioral responses to thermal stress by hawksbill turtles in the Arabian region. Journal of Experimental Marine Biology and Ecology. 457, 190-198.

Bernhard Riegl and Samuel J. Purkis. 2012. Coral Reefs of the Gulf: Adaptation to Climatic Extremes in the World's Hottest Sea.

24. Site map [N2, N3]

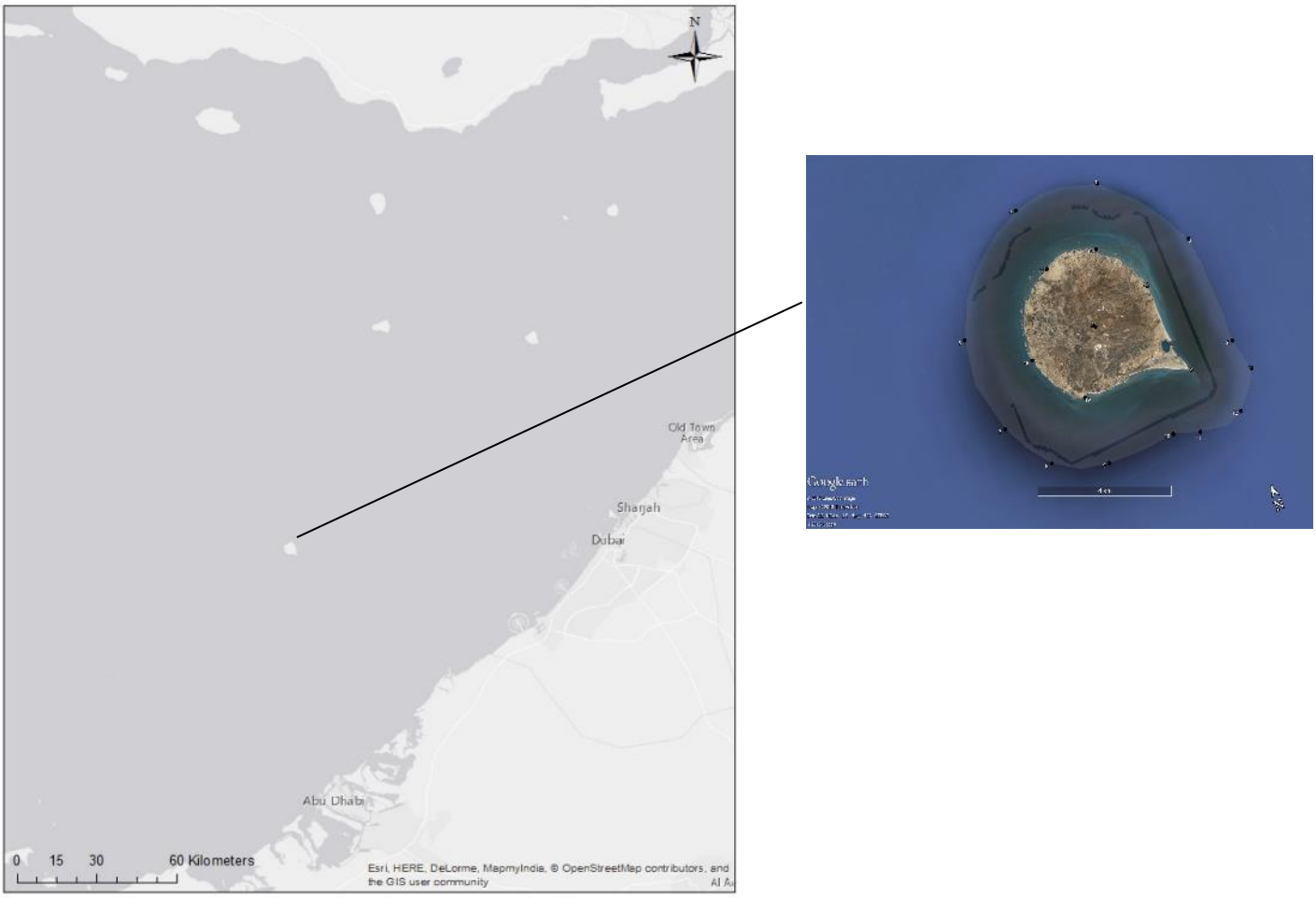
The most detailed and up-to-date map of the site available should be appended to the Site Information Sheet in digital and/or hardcopy format. The ideal site map will clearly show the area boundaries of the site, scale, latitude, longitude and compass bearing, administrative boundaries (e.g., province, district, etc.), and display basic topographical information, the distribution of the main site habitat types and notable hydrological features. It will also show major landmarks (towns, roads, etc.). Indications of land use activities are especially useful.

If applicable (and available), provide a zoning scheme to indicate areas where certain activities that might be incompatible with turtle conservation are permitted, buffer zones, and areas where such activities are not permitted (i.e. sanctuary areas).

The optimum scale for a map depends on the actual area of the site depicted. Generally the map should have a 1:25,000 or 1:50,000 scale for areas up to 10,000 ha; 1:100,000 scale for larger areas up to 100,000 ha; 1:250,000 for areas exceeding 100,000 ha. In simplest terms, the site should be depicted in some detail. For moderate to larger sites, it is often difficult to show detail on an A4 sheet

at the desired scale, so generally a sheet larger than this is more appropriate. While an original map is not absolutely necessary, a very clear image is desirable. A map exhibiting the above attributes will be more suitable for scanning.

Site Map.



Map 1: Location of Sir Bu Na’air Island in the Arabian Gulf with a satellite image of the island.