



213904

# Information Sheet on Ramsar Wetlands (RIS)

Categories approved by Recommendation 4.7 of the Conference of the Contracting Parties.

1. Date this sheet was completed/updated: 14/4/2001

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Designation date

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Site Reference Number

2. Country:  
LEBANON

3. Name of wetland:  
Palm Islands Nature Reserve

4. Geographical coordinates: 34° 29' - 34° 30' 30" N and 35° 44' 30" - 35° 47' E.

5. Elevation: (average and/or max. & min.) 1-12 m.

6. Area: (in hectares) 415 ha

7. Overview: (general summary, in two or three sentences, of the wetland's principal characteristics)

Palm Islands Nature Reserve is a group of 3 flat, rocky islands of eroded limestone pavement (rising to 12 m), c. 5.5 km offshore, together with their surrounding seas. The islands' beaches support breeding Loggerhead Turtles and Green Turtles occur regularly in the surrounding seas. The reserve is unique by its physical environment and by its mixed continental and marine fauna and flora.

8. Wetland Type (please circle the applicable codes for wetland types; in the present document, the "Ramsar Classification System for Wetland Type" is found on page 9)

marine-coastal:  A •  B • C •  D •  E • F •  G • H • I • J • K • Zk(a)

inland: L • M • N • O • P • Q • R • Sp • Ss • Tp  
Ts • U • Va • Vt • W • Xf • Xp • Y • Zg • Zk(b)

human-made: 1 • 2 • 3 • 4 • 5 • 6 • 7 • 8 • 9 • Zk(c)

Please now rank these wetland types by listing them from the most to the least dominant:

ADEBG

9. Ramsar Criteria: (please circle the applicable Criteria; the Criteria for Identifying Wetlands of International Importance are reprinted beginning on page 11 of this document.)

1 •  2 • 3 •  4 • 5 • 6 • 7 •  8

Please specify the most significant criterion applicable to the site: 2

10. Map of site included?

Yes (the outer boundary of the Ramsar site is the same as that of the Conservation Zone shown on the map).

(Please refer to the Explanatory Note and Guidelines document for information regarding desirable map traits).

**11. Name and address of the compiler of this form:**

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Please provide additional information on each of the following categories by attaching extra pages (please limit extra pages to no more than 10):

**12. Justification of the criteria selected under point 9, on previous page.** (Please refer to the *Criteria for Identifying Wetlands of International Importance* appended to this document)

**Criterion 2:** The endangered Loggerhead Turtle *Caretta caretta* is at present a regular nesting species in summer time (egg laying time: early June) and the critically endangered Green Turtle *Chelonia mydas* is rare but regularly recorded in winter and it is occasional at other times. The critically endangered Leatherback Turtle is also occurring but observed only as an occasional captured species by fishermen.

There were old records of the critically endangered Mediterranean Monk Seal *Monachus monachus*, perhaps up until the late 1960s. More recently only one individual occasionally recorded on 17 May 1997 at near the Reserve and 2 individuals in September 2000 (observations by fishermen and the management team at the Environment Protection Committee/Lebanon).

According to the Directory of Important Bird Areas in Lebanon, the vulnerable Spotted Eagle *Aquila clanga* is a vagrant in the area and Corncrake *Crex crex* (also vulnerable species) is a regular passage migrant though in small numbers.

**Criterion 4:** The use of the reserve by many migrant birds as a suitable feeding and resting sites, including 42 species known to breed afterward on Lebanese mainland, together with the 6 species in the 2000 IUCN Red list (*Phalacrocorax pygmeus*, *Pelecanus crispus*, *Aquila clanga*, *Crex crex*, *Larus audouinii* and *Aythya nyroca*) (see Annex 2 for further information on the status of bird species).

**Criterion 8:** The site, which is formed from 3 islets with many caves and refuges, is well known by fishermen as an important spawning ground for fish and that the reserve is the reservoir which supply them with fish in the area surrounding the site.

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**13. General location:** (include the nearest large town and its administrative region)

Between the Latitudes 34° 29' – 34° 30' 30" N and the Longitudes 35° 44' 30" – 35° 47' E. Palm Islands Nature Reserve is a group of three flat, rocky islands of eroded limestone pavement (rising to 12 m), c.5.5 km offshore and north-west of Tripoli, together with their surrounding seas. It is composed of Palm Island 20ha, Sanani 4ha, and Ramkine 1.6ha. (all grouped under the name of PALM ISLAND NATURE RESERVE). Since the reserve includes a sea belt of 500 meters wide, the overall area of the reserve becomes 415 ha.

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**14. Physical features:** (e.g., geology; geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth, water permanence; fluctuations in water level; tidal variations; catchment area; downstream area; climate)

The rocky basement of the islands is marine limestone with shelves included interpreted as Miocene deposits by M René Wetzel in the geological map of Tripoli. No tectonic features are visible on this limestones differently from Miocene of Jabal Terbol, Nahr el Kalb, or Achrafieh. So, with the lack of fossil evidence, and with its regular sedimentation, this limestone could be interpreted more likely from Plio-Quaternary age.

The "sandy" shore and hills (dunes) of two of the islands has the particularity of its biological origin with a minute rocky origin. It is mostly represented by the test of marine benthic foraminifers, very light "sand" mixed up with tiny gastropod shells and parts of tests and spines of echinoderms. The "sandy" shore differs in extension through out the year, being reduced during bad weather in winter, with full extension in summer.

On the geomorphological approach, the limestone presents typical karstic features due to marine and emerged area erosion. In both cases open diachlases can be seen, widely open in case of marine erosion, narrower in higher places. All around the island on rocky places a rocky way is found, made by marine erosion: dissolution and physical action of the waves . The dunes are the higher parts of the Palm Island and the places of anthropologic evidences.

Marine waters are mainly represented in a lot of pools on the seaside of the rocky shore. During winter, sweet water is filling the narrow pools of the diachlases , and some larger pools at the inside bottom of the dunes. By digging the dunes some sweet water can be obtained even in summer. These sweet water pools are the reason of seasoning invasion of mosquitoes all through the island.

Lithosols are mainly represented in rocky sections of the islands, plants finding very few muddy particles at the bottom of diachlases. Some muddy deposits maintain superficial sweet waters in the larger pools where dulciaquatic plants develop in quasi swamp places in water from winter to spring. Two artificial water ducts may have reduced the areas of swamp places by draining sweet waters to the sea.

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**15. Hydrological values:** (groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc.)

There is a well on Palm Island. It was dug at the time of crusade and its water is fresh and potable. The over-extraction of water in summer time leads to increased salinity of the ground table.

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**16. Ecological features:** (main habitats and vegetation types)

Palm island (Jazirat al-Nakhl or Ile du Palmier or Rabbit Island) is the largest (20ha), and has a central depression where rainwater accumulates in winter. Parts of the islands are flooded with seawater during storms. There is some stunted garrigue-type vegetation in clefts in the limestone but the islands are otherwise relatively bare, except in spring and in summer when carpeted in wildflowers. On Palm Island there are also some small ponds, boggy areas and stands of reed *Phragmites*.

The Palm island offers three types of habitats: To the West, rocky habitat similar to that one of Ramkine and Sanani, to the East, sandy beach habitat lying from the north to the east, with dominance of *Euphorbia* sp., and the earthen middle separating the sandy beach from the rocky shoreline is made from low sand dunes, with dominance of *Pancratium maritimum*.

The two islands, Ramkine and Sanani, are almost entirely limestone rocky habitat

with scattered patches of saline scrubby and or shrubby vegetation. The overall vegetal formation is degraded garrigue-type vegetation with dominance of *Halimione portulacoides* and *Capparis spinosa*.

There is a population of bat on the islands. The species is not yet identified.

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**17. Noteworthy flora:** (indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc.)

Some wildflower species are nationally endangered or extinct along the mainland coast, or otherwise unusual, e.g. *Euphorbia pithyusa* and *Cressa cretica*,

The Red Algae group includes 2 endemic species to east Mediterranean area *Goniolithon byssoides* and *Tenarea tortuosa*, but they are limited in Lebanon to Palm Islands Reserve only (see Annex 1).

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**18. Noteworthy fauna:** (indicating, e.g., which species are unique, rare, endangered, abundant or biogeographically important; include count data, etc.)

See noteworthy birds in Annex 2.

The caves of Ramkine Island represent an important shelter for the critically endangered Mediterranean Monk Seal *Monachus monachus*.

Populations of Lizards (Lacerta, Gecko, Skink) genetically different from their relatives on the mainland.

And the sandy shores of the islands, especially that of Palm Island, represent a breeding area for the threatened Loggerhead Turtle *Caretta caretta caretta*. The recorded fish in the reserve include two species that are listed in the Red Data List of IUCN, 2000. One of which is near threatened *Epinephelus marginatus*, and one is "data deficient" *Mycteroperca rubra* species (see Annex 1).

While the benthos fauna encompasses two nationally threatened species of gastropod *Vermetus triquetrus* and *Dendropoma petraeum* (see Annex 1).

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**19. Social and cultural values:** (e.g., fisheries production, forestry, religious importance, archaeological site, etc.)

The palm island, the largest island of the reserve, has an archeological site represented by the remains of a church that date back to the Crusades period (approximately 1224 AD) and a fresh water well that is hand carved in stones as well as a cultural site represented by the Salinas which is used for the extraction of virgin salt which was wide spread along the Lebanese shore and now is being diminished due to urbanization. As well as the fisheries available on the shore.

There is an abandoned light-station and associated buildings canon-mounting sites on Ramkine island (from early this century).

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**20. Land tenure/ownership of:**

(a) site: The palm Islands Nature Reserve is a public property.

(b) surrounding area: none available.

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**21. Current land use:**

(a) site: none

(b) surroundings/catchment: Fishing and recreation.

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**22. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land use and development projects:**

(a) at the site: (b) around the site:

The Mediterranean Monk Seal is the global critically endangered species. Since long-line fishing nets are not used in Lebanon, persecution by fishermen and destruction of its habitats in Lebanon were the main reason for the extirpation of the species. In Palm Islands Reserve, persecution by fishermen was the main reason of its severe decline.

Accordingly, fishermen are in agreement to not fish within the site. Despite this, some poaching still occur.

During the period 1893-1998 certain changes have occurred in the islands' ornithological scene which deserve attention: Firstly, four species (*Larus audouini* [globally near threatened: 2000 IUCN Red List], *Sterna bengalensis*, *Sterna hirundo* and *Sterna albifrons*) were breeding but stopped to do so, at least from 1956 onward. Furthermore, one of these species (*S. bengalensis*) apparently ceased to appear in Lebanon. The extirpation of the four species of birds from the islands is not surprising knowing that insular communities are very susceptible to persecution, disturbance and development. All these factors: hunting, stealing eggs, feeding on nestling, recreational, commercial and agricultural activities, military occupation, fishing with dynamite near the islands, prevailed in the area prior to its declaration a protected area. However, the richness (10 breeding species such as *Larus cachinnans*, *Apus pallidus*, *Upupa epops* and *Anthus campestris*) of the reserve remains relatively low, most probably due to effects of insularity accentuated by the alteration of the vegetation cover by rabbits (the introduction of 14 rabbits by a misguided environmentalist in 1984, which proliferate to c.2000 individuals in early 1997). See Annex 2 for key species.

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**23. Conservation measures taken:** (national category and legal status of protected areas - including any boundary changes which have been made; management practices; whether an officially approved management plan exists and whether it has been implemented)

The site was listed as a Wetland of International Importance by Carp (1980), an Important Bird Area by Evans (1994), a Specially Protected area under Barcelona Convention (in Evans, 1994) and recently proposed as a Specially Protected Area of Mediterranean Importance (SPAMI).

The Palm Islands Nature Reserve has been declared a nature reserve according to the law 121 but the enforcement of the law began in 1995:

First article: The Palm, Sanani and Ramkine islands near the shores of Tripoli are protected areas.

Second Article: The cutting of trees or shrubs or any kind of plant is utterly forbidden on these islands. All grazing animals or cattle will not be allowed on these islands.

Third Article: Nothing is to be taken from the islands such as plants, rocks, water, ....etc. unless it is to be used for research purposes.

Forth Article: Any activity that will result in disturbing the natural environmental balance on these islands is forbidden, such as:

1. The burning of wood, hay or garbage and the building of fires of any kind.
2. Hunting and fishing within an area of 500 meters from the extremities of the islands.
3. Camping, littering or any other act that changes the state of the island.

Fifth Article: Any present or future law and all international agreements concerning environmental and biodiversity protection are applied on these protected areas.

Sixth Article: Any person who cuts trees or plants in any protected area is subject to a penalty of imprisonment ranging from three months to three years. He will also be fined two millions five hundred thousands Lebanese pounds (2,500,000) for every tree cut and one million five hundred thousands Lebanese pounds (1,500,000) for every kilogram of wood and one hundred thousands Lebanese pounds (100,000) for every kilogram of developed wood boxes and two hundred thousand Lebanese pounds (200,000) for every kilogram of other used product. All retrieved things will be sold in an auction to the favor of the committee responsible for that protected area.

Seventh Article: Any person who brings cattle to the protected area is subject to a penalty of imprisonment ranging from two to six months. He will also be fined two fifty hundred (250,000) thousands Lebanese pounds for each head of cattle.

Eighth Article: Any one who breaks or destroys any product of the protected area or removes anything is subject to a penalty of imprisonment ranging from fifteen days to six months. He will also be fined hundred thousands to one million Lebanese pounds. Any person who starts fire on these islands shall be subject to a penalty ranging from six months to two years imprisonment, and to a fine that coincides with the degree of harm incurred.

Ninth Article: In any case in addition to the punishment defined above, the things cut or taken from any protected area and the vehicles and instruments used will be retrieved. And the fines are in favor of the committee responsible for the protected area.

Tenth Article: A committee of seven volunteers should be assigned with the acceptance of the Minister of Environment. This committee is responsible throughout the three coming years to protect the area and allow researchers to conduct studies to rehabilitate the ecological status of the area. The committee should be composed of representatives of both Tripoli and Al-Mina municipalities and people who care for the environment. The municipalities are responsible for all financial supplies.

Eleventh Article: This decree is effective as of its publication in the official newspaper.

Beirut, March 9th 1992

The Reserve is managed by a management team working for the Environment Protection Committee (local NGO), under the support and supervision of the Ministry of Environment.

Critical problems presently are limited to scattered poaching activities.

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**24. Conservation measures proposed but not yet implemented:** (e.g., management plans in preparation; officially proposed as a protected area, etc.)

A draft management plan for the reserve is being prepared with the help of two consultants from IUCN.

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**25. Current scientific research and facilities:** (e.g., details of current projects; existence of field station, etc.)

The National Council for Scientific Research in Lebanon has been contracted to conduct scientific research on Palm Islands Nature Reserve concerning flora, fauna, geology and hydrology.

The site would make an excellent observatory for monitoring the large, visible migration of waterbirds along the coast (egrets, ducks, waders, gulls etc.) and for observation and ringing of passerine migrants, including vagrants such as *Oceanodroma leucorhoa*, *Mergus merganser* and *Rissa tridactyla*.

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**26. Current conservation education:** (e.g., visitors centre, hides, info booklet, facilities for school visits, etc.)

A Booklet has been prepared and now is being printed, awareness campaigns have been conducted for both teachers and students as well as guided tours in the reserve. Moreover, information could be obtained by visiting the web site at

HYPERLINK <http://www.sdn.org.lb>

HYPERLINK <http://www.sdn.org.lb>

(protected areas project).

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**27. Current recreation and tourism:** (state if wetland is used for recreation/tourism; indicate type and frequency/intensity)

Since 1998, the visitation season to the reserve is for three month (July - September) where activities are limited to swimming and guided tours, during other times visitors to the reserve are just the management team members and the researchers.

The law declaring Palm Islands a Nature Reserve in 1992 allows visitation. But for conservation purposes visitation was not allowed between March 1992 and June 1998 (only researchers were allowed during this period). The management team was appointed in April 1997 and in order to gain the local community, which was not accepting the idea of the reserve, the team opened Sanani Island for visitation during July-September 1998. He opened Sanani and Ramkine also for visitation during July-September 1999 and Sanani, Ramkine & a small zone of Palm island during July-September 2000. During other months only researchers and management team are allowed to visit the Reserve.

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**28. Jurisdiction:** (territorial, e.g. state/region, and functional, e.g. Dept of Agriculture/Dept. of Environment, etc.)

Ministry of Environment and Ministry of Transport.

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**29. Management authority:** (name and address of local body directly responsible for managing the wetland)

The management team of the reserve consists of one Manager (Dr. Ghassan RAMADAN-JARADI), two assistant managers (Lina KABBARA and Mohamed GHALAYINI), and two rangers (Ramzi CHAHINE and Issam SIDAWI).

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30. **Bibliographical references:** (scientific/technical only)

- Carp, E. (1980) *A directory of western palearctic wetlands*. Nairobi : United Nations Environment Programme/Gland(Switzerland) : International Union for Conservation of Nature and Natural Resources.
  - Evans (1994), *Directory of Important Bird Areas*, BirdLife International.
  - IUCN (2000). 2000 IUCN Red List of Threatened Animals. IUCN, Gland, Switzerland and Cambridge,UK.448pp.
  - RAMADAN-JARADI, G & RAMADAN-JARADI, M. (1997). Notes on some breeding birds in Lebanon. *Sandgrouse*, 19 (2): 122-125.
  - RAMADAN-JARADI, G & RAMADAN-JARADI, M. (1999). An updated checklist of the Birds of Lebanon. *Sandgrouse*, 21 (2): 132-170.
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