

**REPUBLIC OF LEBANON**

**MINISTRY OF ENVIRONMENT**

**PALM ISLANDS**  
**NATURE RESERVE**

**MANAGEMENT PLAN**  
**2000 - 2005**

**Prepared by the Palm Islands Planning Team of the Protected Areas Project:**

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NCSR, Lebanon	(For species inventories)
Greenline, Lebanon	(For maps)

# **REPUBLIC OF LEBANON**

## **MINISTRY OF ENVIRONMENT**

### **MANAGEMENT PLAN AUTHORIZATION**

#### **PALM ISLANDS NATURE RESERVE**

**2000-2005**

**I hereby AUTHORIZE the implementation of this MANAGEMENT PLAN for the Palm Islands Nature Reserve as the master plan for the protection and management of the nature reserve. The agency/committee responsible for the lawful management of this reserve is obliged to operate within this plan.**

**No development which is contrary to this plan may be approved. All subsidiary plans and decisions must comply with this plan. Copies of this plan are to be widely distributed and publicly available.**

**Any proponent of a significant activity or development which is contrary to this**

**plan may make submission calling upon the Minister to direct the Director General of the Ministry of Environment to prepare a draft plan and, following a period of Government and public consultation in (Arabic and English) of**

**not less than 90 days, such draft may be submitted for consideration.**

**This plan remains in force until replaced by another authorized plan.**

**Review of this plan is due before April 2005**

**Signed: .....**

**Minister of Environment**

**Republic of Lebanon**

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## **FOREWORD**

The formal establishment of protected areas to conserve important sites of natural heritage is recent and heralds a new age in Lebanon - the rediscovery of the natural landscape of this ancient land.

For thousands of years of its history Lebanon has been influenced and dominated by foreign powers as it passed from one empire to another. Lebanon's rich and varied culture is therefore the product of all these influences, from the Sumerian, Babylonian, Ancient Egyptian, Greek, Roman, Byzantine and Ottoman empires to the more recent French mandate.

What is remarkable is that despite the continuous use, and often abuse of all its natural resources, a few remaining areas still recall the natural splendor that was once Lebanon.

However, with the rapid modernization of Lebanon, these remaining natural areas are being destroyed through haphazard development. So it is now, with a sense of urgency, that we need to save the best examples of what is left of the original landscapes - the mountains, the forests, the wildlife, the beaches, the snow fed rivers, the caves, the valleys and the gorges.

The establishment of the first three natural protected areas namely Palm Islands Nature Reserve and Horsh Ehden Reserve (both established in 1992) and Al- Shouf Cedar Nature Reserve (established in 1996) is just the beginning of what is hoped will be a rediscovery and respect for the natural heritage of Lebanon. These areas are distinctly Lebanon. They do not need any foreign imports of plants or animals to "improve" them. All they need is for the Lebanese to adopt them, to help protect them, and to pass them on to their children as something to be proud of.

This management Plan was developed by the Protected Areas Project through the gradual process of management training workshops in 1997 1998. In these workshops the planning process was elaborated and information regarding the protected areas was collected. The draft plan was printed and distributed to stakeholders for their comments and suggestions on the future management of their protected area.

This final Management Plan, Palm Islands 2000-2005, is the product of an informed and considered process involving many experts and interested persons. Providing it is faithfully implemented, the Management Objectives for the reserve can be achieved.

Signed:.....

Date:.....

**DIRECTOR GENERAL  
MINISTRY OF ENVIRONMENT**

## **1.0 THE MANAGEMENT CONTEXT**

### **1.1 THE PROTECTED AREAS PROJECT**

LEB/95/G31/A/1G/99 – Strengthening of National Capacity and Grassroots In-Situ Conservation for Sustainable Biodiversity Protection, commonly known as the Protected Areas Project, commenced on 15 November 1996 and is scheduled to end on 15 November 2001.

The Protected Areas Project is financed by the Global Environment Facility (GEF) through the United Nations Development Program (UNDP) with the technical and administrative guidance of the World Conservation Union (IUCN) and under the execution of the Ministry of Environment (MOE) in Lebanon.

The project's overall development objective is to conserve endemic and endangered wildlife and their habitats, incorporate wildlife conservation as an integral part of sustainable human development, strengthen the institutional capacity of government agencies and non-governmental organizations and promote national reconciliation.

The day-to-day management of the Palm Islands Nature Reserve has been contracted by the Protected Areas Project to the Environment Protection Committee, a locally based non-governmental organization, thereby involving local citizens in management of the reserve on behalf of the people of Lebanon.

The role of the Palm Islands Nature Reserve in the Protected Areas Project will be achieved through recognized practices in planning and policy development for management of the reserve, the establishment of a trained professional staff to manage the reserve, the provision of appropriate facilities to protect the heritage values of the area and to facilitating appropriate public use and enjoyment of the reserve.

By bringing together a natural resource (Palm Islands Nature Reserve), a local management NGO (Environment Protection Committee), a supervisory Government Agency (Ministry of Environment) and the financial and technical inputs of international organizations and funds (GEF, UNDP, and IUCN) – the project is on its way to establishing a model partnership for the in-situ conservation of biodiversity.

## **1.2 ENVIRONMENT PROTECTION COMMITTEE**

### **1.2.1. Establishment**

The Environment Protection Committee is a non-governmental organization number 298/ad, dated 10/12/1986, working under the supervision of the Ministry of Interior and Ministry of the Environment.

The Environment Protection Committee aims at managing the reserve in a way to protect its wildlife, allow visitors to enjoy some of its attractions and acquire knowledge about it without causing damage to the resources of the reserve. It also aims at allowing the local people to benefit from current visitation activities and the environmental tourism in the future.

### **1.2.2. Activities**

The Environment Protection Committee undertakes many different activities. Particular projects have included:

- Removing garbage from the Abu Ali River. (1991).
- Planting "Palm Island" with palm trees (1991).
- Financing and implementing Al Bia'a roundabout (Al-Mina, Port Said Street).
- Planting of the Marine Chamber in Beirut Port (1990, 1991, 1999).
- Participation in the Annual Book Fair at Al-Rabita Al-Sakafiah.
- Participation in workshops organized by the Ministry of Environment.
- Organizing an Environmental Night on the deck of the boat "Mahmieh".
- Participation in the Lebanese Environment Forum meetings.
- Participation in the Environmental Fair organized by the Ministry of Environment during the Arab Environmental Day (1999).

### **1.2.3. Responsibilities**

Management of the Palm Islands Nature Reserve was contracted to the Tripoli based Environment Protection Committee (EPC) on 25-3-97 in accord with the Protected Areas Project document that was agreed to by the Lebanese Government. The responsibilities of the EPC include the following:

- Conservation and protection of bio-diversity with the help of political parties in the area.
- Implementation of the management plan in collaboration and help of the Government Appointed Committee.
- Conducting fundraising activities to insure the progress of the project after five years from the time it commences.
- Presentation of monthly progress reports on the Protected Areas Project.

The legal authority of the Environment Protection Committee and the management team will be regularly reviewed to ensure an adequate level of authority to implement this plan.



### **1.3. THE GOVERNMENT APPOINTED COMMITTEE**

#### **1.3.1 Establishment**

The Government Appointed Committee was established after the islands were declared a reserve according to the tenth article in the decree #121

*"A committee of seven volunteers should be assigned with the acceptance of the Minister of Environment. 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".*

#### **1.3.2 Responsibilities**

The responsibilities of the Government Appointed Committee were outlined in a letter from the Ministry of Environment # 85/B dated 25/3/1999. Its responsibilities include:

- Giving suggestions on long-term and short-term action plans for the reserve.
- Supervising scientific studies that are conducted during the project period by the National Council for Scientific Research (NCSR).
- Presenting an annual report to the Minister of Environment on the work progress in the reserve, expectations and suggestions that aim at protection of the reserve, in addition to the presentation of ongoing reports on work progress whenever needed.

### **1.4 THE MANAGEMENT TEAM**

The Environment Protection Committee (EPC), on April 24<sup>th</sup> 1997, appointed a team to manage the protected area. The team consisted of a manager, Dr. Ghassan Ramadan-Jaradi, two assistant managers/guides, Lina Kabbara and Mohamed Nour El-Deen Ghalayini and two rangers, Issam Sidawi and Ramzi Chahine.

Various conservation measures have been initiated, including management planning, cleaning campaigns, reduction of the number of rabbits and rats, protection of the few remaining young native palm trees, zoning of the island, construction of a visitors trail, building of a dock to facilitate landing of visitors and general surveillance of the islands and surrounding sea.

Ecological management will be complemented by education, community relations, fund raising and environmental extension programs in the wider community by training staff to undertake these activities.

Whenever possible, the management team will work in partnership with national and local government agencies and the community and actively seek assistance from all parties. The management team in collaboration with the Government Appointed Committee will actively solicit appropriate research and monitoring programs and projects.

## **2.0 THE MANAGEMENT PLAN**

### **Introduction**

This management plan is to guide the management of the Palm Islands Nature Reserve. It has formal application only to the publicly owned islands of Palm, Ramkine and Sanani, the sea surrounding them, and marine resources within the designated boundaries of the protected area. (See Appendix 1 for Decree.)

This plan is designed to provide all interested persons with a clear documentation of the future management of the Palm Islands Nature Reserve. This is based on the principle that the Palm Islands Nature Reserve is a part of the heritage of the people of Lebanon and that they have a right to know how their heritage is to be managed.

The main users of the plan will be the Environment Protection Committee and its Management Team, which are entrusted to manage the reserve on behalf of the people of Lebanon. The other main users of the plan will be the Ministry of Environment and the Government Appointed Committee.

This is the first plan for the Palm Islands Nature Reserve and is designed to apply for five years by which time its performance needs to be reviewed. If circumstances require, the plan can be reviewed at any time within the five years. That review will involve further public consultation to take into consideration the views of the Ministries of Environment and Agriculture, of local groups such as Municipalities and NGOs, as well as involved and informed individuals.

### **2.1. THE PLANNING PROCESS**

The planning process was developed following a series of training workshops which were held in 1997 and 1998 which covered a general survey of the natural and cultural values of the protected area, the development of a vision for the future of the area, setting of management objectives, the formulation of a set of rules or policies and then the programming of management initiatives aimed at achieving the adopted objectives.

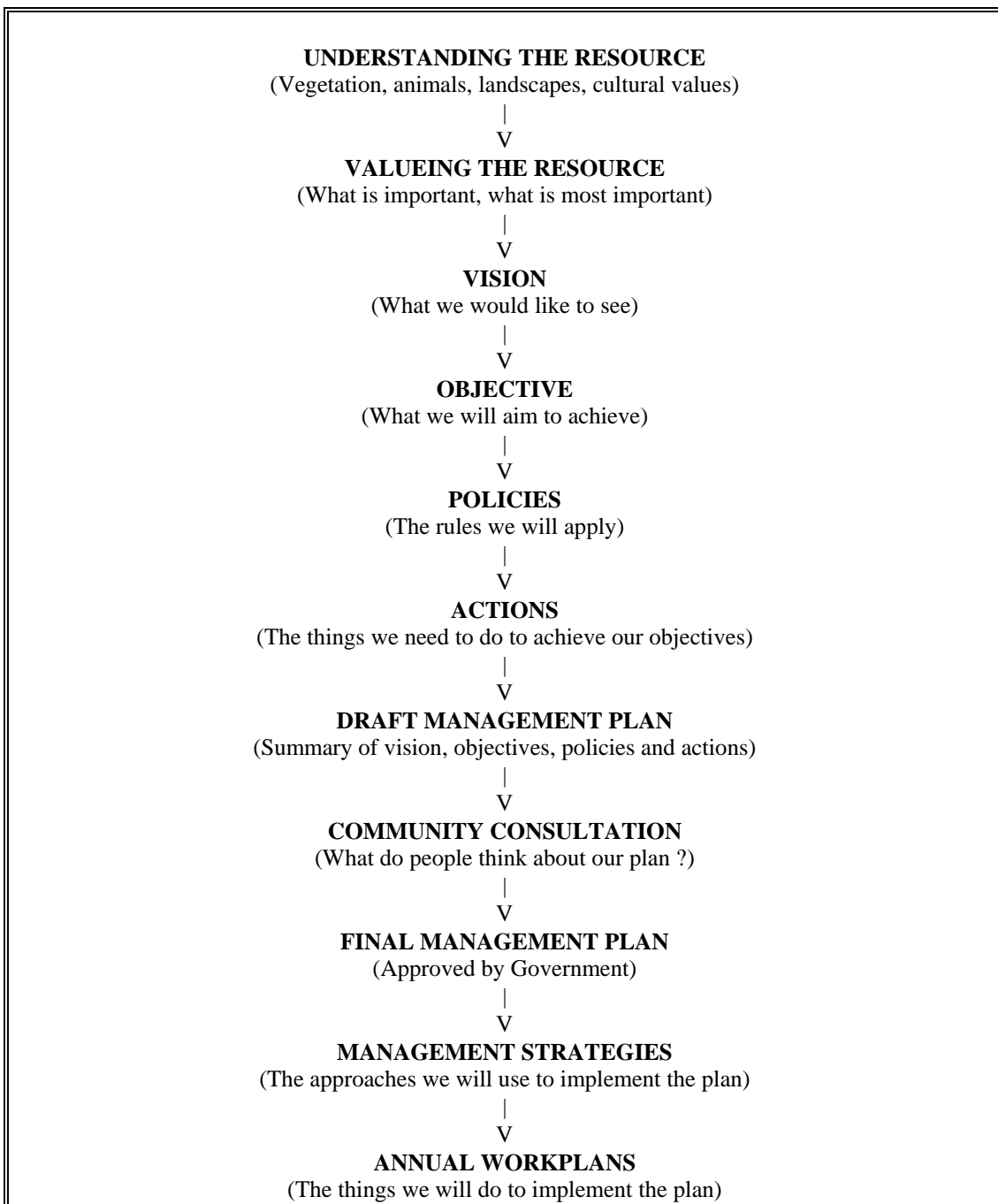
The planning process has also involved preliminary consultation with a range of key stake-holders to ensure that the plan is based on accurate information and where possible, accommodates the ideas contributed by others.

The planning process is documented in "Planning Guidelines", a printed document which was developed for the Protected Areas Project. A simplified outline of the process is presented in Diag.1.

### **2.2 RELATIONSHIP TO OTHER PLANS**

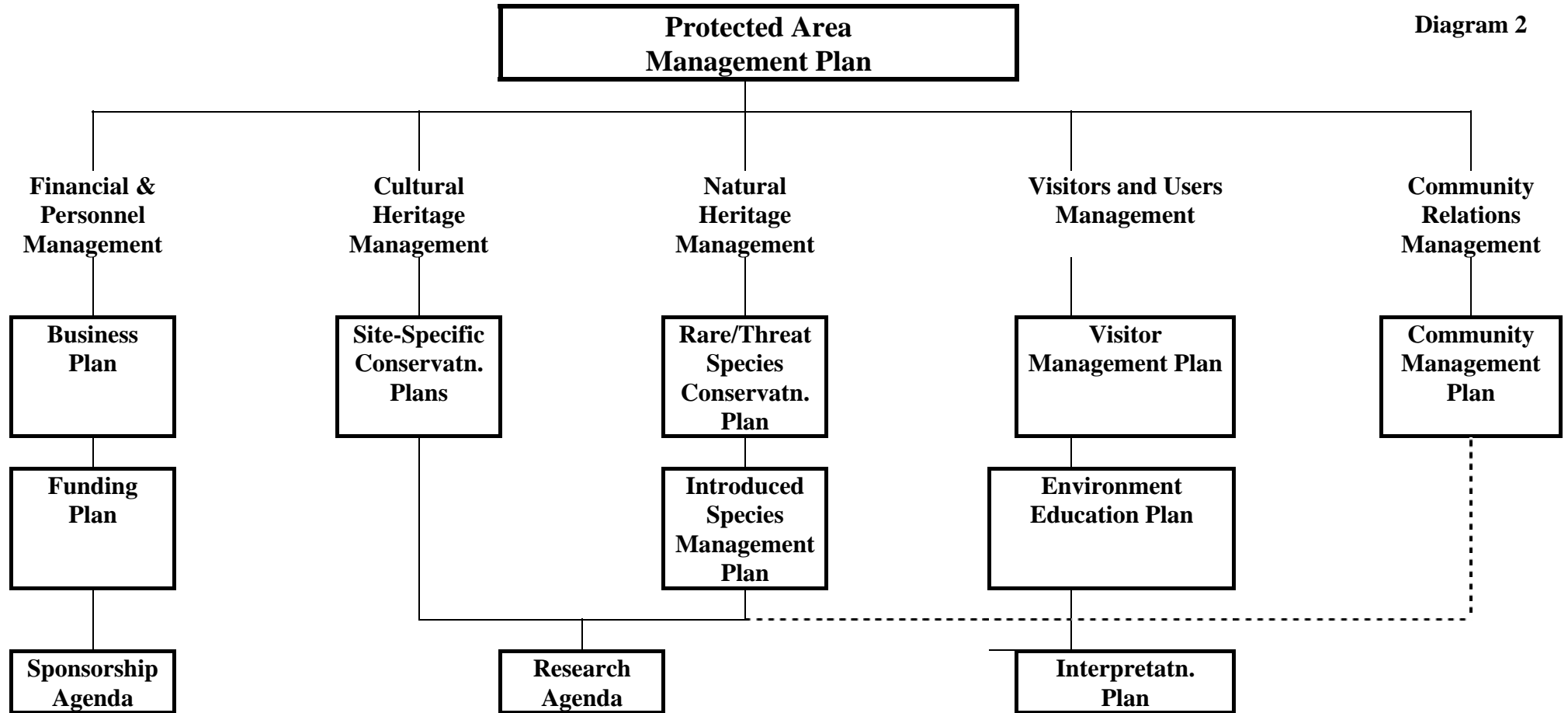
The Management Plan for Palm Islands Nature Reserve represents the "master plan" for management of the reserve and operation of the management team. A range of other management control and guidance plans have been or will be developed to facilitate the conservation and management of the reserves. The intention is that all such plans will be subsidiary to and consistent with the Management Plan. This relationship is presented diagrammatically in the following table.

Diagram 1

**THE PLANNING PROCESS**  
(Simplified)

**RELATIONSHIP BETWEEN MANAGEMENT PLAN AND OTHER PLANS**

**Diagram 2**



## 3.0 DESCRIPTION OF PALM ISLANDS

### NATURE RESERVE

#### 3.1. GEOGRAPHIC CONTEXT

Palm Islands Nature Reserve comprises a group of three flat, rocky islands of eroded limestone pavement, 5.5 km offshore and northwest of Tripoli, together with their surrounding seas. It lies at latitude 34°30' N and longitude 35°46' E. The overall area of the reserve is 5 km<sup>2</sup>.

The Palm Islands were declared a Nature Reserve according to Law 121 dated 9 March 1992 (see Decree at Appendix 1), and the reserve has recently been designated as a Mediterranean Specially Protected Area under the Barcelona Convention (1995). The islands were also identified as a Wetland of Special International Importance by Carp (1980), and have been identified as an Important Bird Area by BirdLife International (Evans, 1994).

##### **Palm Island** (also known as Rabbit Island)

Palm Island is the largest of the three islands, covering an area of 200.000 m<sup>2</sup> and is flat with no obvious relief; its highest point is only about 6m above sea level. The earthen middle separates a rocky shoreline extending from the northwest to south, and a sandy beach extending from the north to the east. The island contains evidence of past periods of human occupation in the form of a fresh water well, old salinas and the remains of an old church that date back to the Crusader period.

A lot of work has been done to rehabilitate the island. The well was cleaned and the water used to irrigate the 570 palm trees planted on the island. A walking trail and a dock for boats have been constructed and areas for research and recreation have been demarcated.

##### **Sanani Island**

Sanani Island covers an area of 40.000 m<sup>2</sup> southeast of Palm Island. It is mainly rocky with a partially sandy shore that resembles that of Palm Island. This island was cleaned of debris and temporarily opened for visitation in August and September 1998 and in July, August and September 1999.

##### **Ramkine Island**

The smallest island, with an area of 16,000 m<sup>2</sup> is located northwest of Palm Island. Ramkine Island is mostly rocky and rises to about 12 meters above sea level. The island contains the remains of a lighthouse in addition to cannon emplacements and underground galleries that were built early in the nineteenth century. Following negotiations with the Ministry of Transport, a solar powered navigation light has now been installed in the tower of the old lighthouse. The island was temporarily opened for visitation in July, August and September 1999.

#### 3.1.1 MAPS

The following three maps illustrate the

Geographic Location

General Features

Preliminary Conservation  
Zone

## **3.2 NATURAL HERITAGE**

### **3.2.1. PHYSIOGRAPHIC CHARACTERISTICS**

#### **3.2.1.1. GEOLOGY**

The rocky basement of the islands is mainly horizontally bedded marine limestone interpreted as Miocene deposits by M René Wetzel in the geological map of Tripoli.

However, no tectonic features are visible in this limestone to distinguish it from the Miocene limestones of Jabal Terbol, Nahr el Kalb, or Ashrafieh. With the lack of fossil evidence, and with its regular sedimentation, this limestone could be interpreted to be more likely from the Plio-Quaternary age.

The “sandy” shore and dunes of two of the islands has the peculiarity of a biological origin. It is mostly represented by the skeletons of marine benthic foraminifera, resulting in a very light “sand” with an admixture of tiny gastropod shells and parts of skeletons and spines of echinoderms. The “sandy” shore differs in extent throughout the year, being reduced during bad weather and influenced by the direction of water currents (Ghassan Ramadan-Jaradi pers. comm.).

#### **3.2.1.2. GEOMORPHOLOGY**

Geomorphologically, the limestone presents typical karstic features due to marine and emerged aerial erosion. In both cases open gutters can be seen, wide and open in the case of marine erosion, narrower in higher places. All around the islands there are bare rocky exposures as a result of marine erosion in the form of dissolution and physical action of the waves. ‘Sand’ dunes form the higher parts of Palm Island and are the location of evidence of human occupation.

#### **3.2.1.3. HYDROLOGY**

Marine waters are mainly represented in a lot of pools on the seaside of the rocky shore. During winter, sweet (fresh) water fills the narrow pools of the diaclasses and some larger pools within the dunes. By digging in the dunes some sweet water can be obtained even in summer.

#### **3.2.1.4. PEDOLOGY**

Lithosols are mainly represented in rocky sections of the islands, plants finding very few muddy particles at the bottom of gutters. Some muddy deposits maintain superficial sweet waters in the larger pools where dulci-aquatic plants develop in ephemeral wetlands formed from rainwater in winter and spring.

The only significant soil development on the islands is developed from aeolian and beach deposited calcareous sands. Much of the western part of Palm Island has significant depths of sandy soils. Soils elsewhere on the island range from non-existent to small-localized accumulations of sandy and organic soils.

### 3.2.2. BIOLOGICAL CHARACTERISTICS

On 12/11/1998, the Ministry of Environment contracted with the National Council for Scientific Research for the conduct of scientific biological studies in Palm Islands Nature Reserve. A summary of the results of the biological inventory of the NCSR are presented as appendices to the management plan. The NCSR results have provided a basis for revising earlier evaluation of conservation significance of the protected area.

#### 3.2.2.1. FAUNA

##### 3.2.2.1.1. MAMMALS

**Appendix 4**, Mammals Species List, summarizes the results of the survey and inventory work conducted by the National Council for Scientific Research (NCSR) on behalf of the Protected Areas Project. Additional species may occur but were not encountered on this survey. Further survey and inventory is likely to increase the number of officially recorded species.

#### Mammals

CATEGORY (After NCSR)	NUMBER OF SPECIES
Globally threatened species.	4
Locally threatened species.	2
Endemic sub-species	-
Species mainly or wholly restricted to the Middle East region.	4
Rare species	3
Species hunted by local people	6
Species requiring attention.	1*
Bio-indicator species.	1*
Species with economic value.(insectivorous)	5
Species extinct in Lebanon.	-
Species distributed elsewhere in the world or in Europe and around the Mediterranean.	2*

\*Introduced species

Palm Islands Nature Reserve is habitat for only 8 mammal species, 5 of which are flying mammals (bats). The two terrestrial species, the rabbit and the ship rat, are both introduced species. The rabbit was deliberately introduced by man and the rat probably arrived on boats, indeed may continue to be introduced from boats. The Monk Seal is an occasional visitor to the islands and surrounding waters.

All of the mammal species of conservation importance are flying mammals (5 bats) capable of regular passage to and from the mainland and one marine mammal (1 seal) are therefore not restricted to nor dependent on the islands. It follows that the survival of all native mammal inhabitants and visitors to the Palm Islands is in large part dependent upon their conservation in habitat elsewhere.

### 3.2.2.1.2 BIRDS

**Appendix 5** Bird Species List, summarizes the results of the survey and inventory work conducted by the National Council for Scientific Research (NCSR) on behalf of the Protected Areas Project. Additional species may occur but were not encountered on this survey. Further survey and inventory is likely to increase the number of officially recorded species.

#### Birds

	<b>Category (After NCSR, Lebanon)</b>	<b>Number of species</b>
A1	Globally threatened species	4
A2	Regionally threatened or declining species	7
B3	Endemic sub species + monospecific species	1+61
B4	Rare breeders + Former breeders	9
B5	Localized breeders	10
B6	Localized non-breeder	7
B7	Declining breeder	3
B8	Internationally important population passing through Lebanon	23
B9	Nationally threatened or declining species	57
C10	Extinct or probably extinct in Lebanon	1
C11	Introduced species	-
C12	Biological indicator species	19
C13	Species with economic value	35
D14	Species restricted wholly or largely to the Middle East	2
D15	Species mainly concentrated in Europe under unfavorable conditions	17
D16	Species mainly concentrated outside Europe under unfavorable conditions	42

Four of the bird species recorded in the NCSR inventory are classified as globally threatened species and 7 are regionally threatened or declining species.

One of the bird species is an endemic sub-species, 60 are mono-specific and only 2 are species restricted to the Middle East. This species representation indicates a high proportion of Mediterranean and European migratory species utilise Palm Islands Nature Reserve.

None of the bird species is restricted to the Palm Islands Nature Reserve. The conservation of all bird species inhabiting the islands significantly or substantially dependent on the conservation of those species elsewhere.



### 3.2.2.1.3. REPTILES

**Appendix 6** Reptile Species List, summarizes the results of the survey and inventory work conducted by the National Council for Scientific Research (NCSR) on behalf of the Protected Areas Project. Additional species may occur but were not encountered on this survey. Further survey and inventory is likely to increase the number of officially recorded species. No amphibians were recorded by NCSR.

#### Reptiles

CATEGORY (After NCSR, Lebanon)	NUMBER of SPECIES
Globally threatened species.	3
Regionally and nationally threatened species.	4
Endemic species/Unique sub-species.	1
Species rare in Lebanon.	1
Mono-specific species and/or restricted to PINR.	1
Species that are hunted and killed by local people.	6
Species that are extinct in Lebanon.	2?
Bio-indicator species.	-
Species of economic value	3
Common and widespread species	4
Species found around the Atlantic and Mediterranean.	

Of the total of 8 species of reptiles recorded for the islands, a total of 3, all turtles, are globally threatened. A total of 4 species, snakes and lizards, are threatened within Lebanon. Two of the snake species may already be extinct in Lebanon.

One (sub) species, a lizard, is a local endemic and another 1 is a rare species in Lebanon. Disappointingly, 6 of the 8 species of reptiles are known to be hunted and killed by local residents.

### 3.2.2.1.4. FISH

No official data held.

### 3.2.2.1.5 INSECTS

No official data held

### 3.2.2.1.6. MICRO -FAUNA AND MICRO-FLORA

**Foraminifers.** This group of marine benthic Protozoaires deserve special mention as they are mainly responsible for the sandy-like deposits of the islands of the reserve, and are also present in corresponding deposits in tiny islands nearer to the seashore. They have been studied by Dr Samira Charabati (U.L.) and will feature in a future paper. Already, not less than eight taxa have been recognized from five orders of Foraminifera, all of them living on the bottom of shallow marine waters of the Tripoli region. The reduced density of the skeleton of the dead foraminifer explains their accumulation on the island seashores, corresponding to local marine currents around the islands.

### 3.2.2.2. PLANTS

**Appendix 7** Plant Species List, summarizes the results of the survey and inventory work conducted by the National Council for Scientific Research (NCSR) on behalf of the Protected Areas Project. Additional species may occur but were not encountered on this survey. Further survey and inventory is likely to increase the number of officially recorded species.

<b>CATEGORY</b> (After NCSR, Lebanon)	<b>NUMBER OF SPECIES</b>
1. Species threatened at national level	2
2. Endemic species.	3
3. Rare species.	2
4. Species partially or wholly restricted to Eastern Mediterranean.	16
5. Species restricted to a specific area within the reserve.	8
6. Species harvested by local people.	7
7. Species specific to sandy shore or marine environment.	19
8. Bio-indicator species.	11
9. Economic species.	11
10. Species mentioned in the literature but not found.	2
11. Widespread species elsewhere in the world.	48

The Palm Islands Nature Reserve is habitat to 73 species of plants of which 2 are nationally threatened species, 3 are local endemic species and 2 are nationally rare species. Whilst 16 species are restricted to the Eastern Mediterranean, a total of 48 species are very widely distributed, reflecting the proximity of the islands to the mainland and probably also long term human introduction of species from other regions.

### 3.2.3 NCSR RECOMMENDATIONS.

Following completion of the biological survey, the NCSR made seven recommendations based on their results. The recommendations were for:

1. *“More control needs to be exercised regarding the unauthorized fishing and recreational activities that take place on the islands. Such activities need to be stopped so as not to affect the easily disturbed wildlife populations.*
2. *The sandy beaches of the islands need to be well protected during the marine turtle egg laying season. In practice the recreational and egg laying zones of the beach should be well separated.*
3. *The garbage dump on the mainland of Tripoli and Al-Mina needs to be stopped to reduce the amount of garbage carried by the sea currents to the islands. Periodic cleaning of the beaches of the islands should be maintained. It will help to reduce (the) number of yellow-legged gulls.*
4. *Increase of patrols during the breeding season both for birds and turtles.*

5. *Removal of all rabbits.*
6. *Control of rats on the islands after a careful evaluation on the effect of their removal on the snakes.*
7. *The presence of an introduced ornamental palm “Washingtonia” is not desirable. Close monitoring of this species is recommended.”*

**Management Response:**

All of the recommendations have been addressed in the Policies and Actions of the Management Plan. The implementation of recommendation 5 was well advanced at the time of finalisation of the plan. The Policy on introduced plants requires eventual removal of the Washingtonia palms from Palm Island.

Recommendation 3 is beyond the direct control of the Management Team but the plan calls for promoting action by the authorities responsible for the garbage dumps on the mainland.

### 3.3. CULTURAL HERITAGE

#### 3.3.1. HISTORIC SITES

The Palm Islands Nature Reserve contains various relics of past human occupation and activities. These include on Palm Island, the remains of a church from the time of the Crusades, approximately 1224 AD, a water well that is thought to date back to the same age as the church. Located on Ramkine Island, there are various buildings associated with an abandoned light-house and canon-mounting sites constructed early in the twentieth century.

Pottery shards are scattered throughout the sandy section of Palm Island, suggesting the possibility of as yet undiscovered archaeological sites on the island.

#### 3.3.2. CONTEMPORARY SITES

The Palm Islands contain an old salinas (salt works) that represents a cultural practice typical of the northern Lebanese shore that is diminishing nowadays. A modern, solar powered navigation light was installed in about 1998 on the lighthouse structure constructed in the 1960's.

#### 3.3.3. EDUCATIONAL SITES

Some of the noteworthy educational, nature study and scientific opportunities offered by the islands include:

- **Bird watching:** the island offers outstanding opportunities for bird watching, particularly seasonal viewing of nesting, migrating and wintering seabirds.
- **Turtle:** the islands provide outstanding opportunities for study of turtle breeding and behavior.
- **Salinas:** the old salinas found on Palm Island provide a place to explain the traditional process of salt extraction.
- **Historical:** Cultural sites on both Palm and Ramkine Islands provide a reference for some historic events.
- **Nature study:** the reserve as a whole is a natural laboratory to study various habitats and adapted species both on land and in the sea. The diversity of fauna, flora and ecosystems and proximity to the city of Tripoli could translate into high educational value for ecological field studies.

#### 3.3.4. RECREATIONAL SITES

Being 5.5km from the shore, with only a limited sign of habitation, the islands are a largely natural marine and island landscape in contrast to the highly modified and developed landscapes of the adjacent mainland. As such, the island landscape is recognized as an attractive recreational setting for visitors to escape the crowded coastal cities. There is a long tradition of people from Tripoli visiting the islands for recreation. Proposed management of the reserve will limit the range of acceptable recreational activities but the reserve will remain significant for water based activities.

### **3.3.5. SCENIC LANDSCAPES**

A number of aspects of the islands can be regarded as distinctive scenic landscapes including:

- The low elevation of Ramkine island together with the old lighthouse structure is said to resemble a ship sailing in the sea.
- The small rocky outcrop emerging from the sea behind the Ramkine island is considered to be a scenic feature of the islands.
- The snow-capped Mount Lebanon viewed from Palm Island's sandy beach is considered a nationally unique view.
- The gulls standing at sunset on the rocks of Sanani island appear like rows of teeth. (probably giving rise to the name of the island.)
- The sinking of the sun in the sea and the breaking of rays on the water surface during sunset while walking on the beach.

### 3.4 STATEMENT OF SIGNIFICANCE

Subsequent to the preparation of the Draft Management Plan, the National Council for Scientific Research(NCSR) was contracted to conduct a biological inventory of the Palm Islands Nature Reserve. The results of that inventory are contained in a number of Appendices of this plan.

Each of the main heritage attributes identified in the NCSR biological inventory were subjected to evaluation to establish their relative conservation significance.

A number of features of the reserve are clearly of great conservation importance, both at the local and national level, and in some cases at the regional (Middle East and/or Mediterranean) level.

The most significant heritage values of Palm Islands Nature Reserve are considered to be:

#### **Biodiversity:**

- The habitat of nationally and internationally significant birds which use the islands for resting, transiting and breeding.
- The habitat of an endemic sub-species of lizard.
- The habitat of turtles wintering, visiting and nesting during the summer period.
- The Mediterranean Monk Seal that may occasionally finds refuge in Ramkine caves.
- The habitat of bats using the well and the rocky caves of the islands for breeding.
- The habitat of threatened, rare and endemic plants, including species of medicinal plants.
- Sea grass beds for sheltering and breeding of fish around the islands.

#### **Cultural Heritage:**

- Church ruins and their historic-associations.
- Salinas ruins representing the traditional ways of extracting salt.
- Lighthouse ruins and associated canon mount site constructed by the French.

#### **Visitor Opportunities:**

- Recreational values and opportunities on the beach of Palm Island for swimming and enjoying the view to the mainland, which includes snow capped mountains in winter.
- Educational, recreational and research opportunities related to the natural and cultural values of the islands and surrounding seascape.
- The largely natural and scenic landscape in a region where coastal and shoreline environments are otherwise extensively developed.

#### **Most Important Values:**

The islands of Palm Islands Nature Reserve are of most importance because of the natural protection afforded as islands to various species of plants and animals. This

contrasts with mainland Lebanon where all coastal areas are very accessible and subject to considerable human and predator impacts.

The most important animal habitat value identified in the evaluation process is the importance as a **seabird breeding, transit and resting area**. This is of national significance and may also have international significance because of the number of rare and threatened species utilizing the islands. The islands are the main island group in Lebanese waters and as such represent the nationally most important sea bird breeding area in Lebanon.

At the regional (Mediterranean) level, the islands are valued for being an important area for visiting (Green Turtle and Leatherback Turtle) and summer nesting (Loggerhead Turtle). These species of marine turtles have been classified as endangered species at the meeting of contracting parties to the Barcelona Convention held in Greece in October 1998.

At the national level, the islands represent a unique opportunity for citizens to visit offshore islands and experience the island environment.

The evaluation results have been taken into full account in the planning process. Although care has been taken to seek protection of all heritage values, priority has been given to the most important and most vulnerable values on and surrounding the islands. On-going studies may justify a review of the relative importance of the various values.

## **4.0 A VISION FOR PALM ISLANDS NATURE RESERVE**

### **4.1. MANAGEMENT PRINCIPLES**

It is recognized that past use and inadequate management has resulted in degradation of the natural and cultural values of Palm Islands Nature Reserve. Therefore the vision and the objectives developed for this management plan seek an improvement in the environmental condition of these natural and cultural values.

Further, it will be necessary to ensure that any change, which is externally imposed, is managed to as far as possible achieve a positive outcome. Management of Palm Islands Nature Reserve is therefore essentially about initiating and managing change so that the changes achieve the management objectives set out in this plan.

It is also recognized that various changes may occur during the life of the five years of the plan. Some of these will occur naturally, some initiated as a part of management and some imposed from outside the area and the plan. Unless the net result of these changes is towards achieving the management objectives, those objectives will not be achieved.

To maximize the chances of achieving those objectives, five sets of guiding principles have been adopted in formulating a vision and policies for the future of the nature reserve.

#### **1. Natural Heritage Charter (NHC)**

This document contains a set of basic principles, which have been developed to guide the management of natural heritage sites to a standard adequate to maintain the heritage values in the longer term. It has received international endorsements and represents a convenient set of principles to guide the management of protected areas in Lebanon. (See copy of relevant extract at Appendix 2)

#### **2. Burra Charter**

The Burra Charter is a set of principles and standards, which have been developed to guide the management of cultural heritage sites to maintain the cultural heritage values. The Burra Charter has the endorsement of ICOMOS-the International Committee on Monuments. (See copy of relevant extract at Appendix 3)

#### **3. Principle of "No Net Detriment"**

The 'No Net Detriment' guiding principle is that all management or other activities, actions or decisions should, as far as is practicable, result in 'No net detriment' or deterioration to the environmental values or condition of the protected area. (See Glossary of Terms)



**4. "Net Benefit"**

The guiding principle of net benefit is that all management or other activities, actions or decisions should, as far as practicable, result in a 'net benefit' or net improvement in the environmental values, integrity or condition of the protected area. As such it represents a higher standard of management outcome than "No Net Detriment" (See Glossary of Terms)

**5. Precautionary Principle**

An internationally used environmental principle, which requires that lack of scientific certainty should not be used as an excuse for not taking action to address a known environmental problem.

## 4.2 A VISION FOR THE FUTURE


The vision for the year 2020 for the Palm Islands Nature Reserve is that it will be widely regarded in the Middle East and Mediterranean regions as an outstanding example of a marine protected area because of its success in sustainable conservation. Such a reputation can only be achieved if:

- ◆ Palm Islands Nature Reserve is recognized as an example of good conservation management in the region.
- ◆ All native species of plants and animals have been conserved and populations of formerly endangered species are more common.
- ◆ All non-native species of plants and animals have been eradicated, natural ecological processes operate and the islands are renowned for their contribution to the survival of birds, mammals and reptiles.
- ◆ The Palm Islands Nature Reserve is zoned so as to provide for a variety of levels of protection and of visitor opportunities.
- ◆ Visitor management has been refined to ensure that the ecological significance of the protected area is not compromised.
- ◆ All sources of pollution are controlled, and pertinent laws are enforced all along the coast of Lebanon.
- ◆ The visitor environment is clean, more beautiful and provided with appropriate visitor facilities.
- ◆ Cultural and historical sites are protected and appropriately managed under the guidance of specialists.
- ◆ Opportunities and facilities have been provided for appropriate visitor use and appreciation of the islands and surrounding waters.
- ◆ Visitors have access to comprehensive and easily understood information about the natural and cultural history of the islands.
- ◆ The Lebanese people are very supportive of the management and managers of the Palm Islands Nature Reserve.

- ◆ The EPC and its staff have demonstrated the cost effectiveness of protected area management by a non-governmental organization and is recognized as a model of delegated management to a local community.
- ◆ The NGO and staff are committed to the management of the reserve and work as a harmonious team with the Government Appointed Committee, and are supported by the local community and the Government.
- ◆ The business plan and fund raising plan for Palm Islands Nature Reserve proved to be adequate to support management consistent with the management plan.

### 4.3 CONSTRAINTS ON ACHIEVING THE VISION

A number of constraints to meeting the management objectives were identified. Some can be readily resolved and others may not be during the life of the plan. The most important constraints identified are listed below.

1. The marine component of the protected area is not large enough to prevent over-exploitation of fish breeding populations surrounding the islands.
  2. Confusion and uncertainty regarding the type and extent of responsibilities of various government agencies for the islands.
  3. Lack of certainty regarding the financial arrangements for post - project operation of the reserve.
  4. Lack of regulation to control activities occurring outside the managed area, which may adversely affect features, resources or activities within the protected islands.
  5. Funds limitation for research on marine population dynamics, especially of indicator species.
  6. The Decree on the protection of turtles and marine mammals has not yet been upgraded to legislation.
  7. The Bonn Convention on Conservation of Migratory Species of Wild Animals is not yet signed or ratified by the Government of Lebanon.
- 

## **5.0 OBJECTIVES, POLICIES and ACTIONS**

### **5.1. OBJECTIVES**

The following objectives will become the principle aims for the management of Palm Islands Nature Reserve during the five-year life of the Management Plan, and have been derived directly from the Vision (Part 4.0)

#### **OBJECTIVE 1 - NATURAL HERITAGE**

To restore and maintain the natural wildlife and ecological integrity of the Palm Islands Nature Reserve.

#### **OBJECTIVE 2 - CULTURAL HERITAGE**

To preserve, protect and manage historical, traditional and cultural sites and resources within the Palm Islands Nature Reserve.

#### **OBJECTIVE 3 - EXTERNAL THREATS**

To eliminate or minimize threat to the reserve from external activities.

#### **OBJECTIVE 4 - RESEARCH AND MONITORING**

To support research, training and monitoring on the environmental effects of human activities, including the effects of development and land - use on the mainland.

#### **OBJECTIVE 5 - EDUCATION**

To provide appropriate educational opportunities which benefit the reserve.

#### **OBJECTIVE 6 - INTERPRETATION**

To facilitate the interpretation of marine and island systems for the purpose of conservation, education and tourism.

#### **OBJECTIVE 7 - VISITORS**

To maintain a quality recreational environment for visitors.

#### **OBJECTIVE 8 - COMMUNITY SUPPORT**

To build community support by promoting the benefits to the local community of income from natural products and services, and to promote a sense of ownership of the islands by the people.

**OBJECTIVE 9 - CAPACITY BUILDING**

To build capacity and skills in the Management Team of the Environment Protection Committee and Government Appointed Committee.

**OBJECTIVE 10 - INFORMATION SERVICES**

To provide a system for handling and disseminating data about the reserve.

**OBJECTIVE 11 - FINANCIAL SUSTAINABILITY**

To raise funds from a number of sources to ensure the effective management of the Palm Islands Nature Reserve in the long term.

## 5.2. POLICIES and ACTIONS

**Policies** and related **Actions** are presented below. The actual effect of these policies on a range of **Activities** are illustrated in the Activities Table at Appendix 8.

### OBJECTIVE 1 - NATURAL HERITAGE

#### TO RESTORE AND MAINTAIN THE NATURAL WILDLIFE AND ECOLOGICAL INTEGRITY OF THE PALM ISLANDS NATURE RESERVE.

#### POLICIES

- POLICY 1.1            **Management Principles:** Management will be in accordance with the principles of the Natural Heritage Charter.
- POLICY 1.2            **Native species protection:** All species of native plants and animals will be protected and conserved.
- POLICY 1.3            **Rare and threatened species:** Management priority will be given to conservation of all rare and threatened species. Highest priority will be given to species which are globally rare or threatened.
- POLICY 1.4            **Rehabilitation:** All species of native plants and animals used in rehabilitation of the protected area will be propagated from local material or from sources which can be guaranteed genetically identical to populations in the reserve.
- POLICY 1.5            **Introduced species:** All introduced species of plants and animals will be eradicated where practicable, consistent with any cultural heritage considerations.
- POLICY 1.6            **Introduced species:** Prior to eradication activities, all reasonable efforts will be made to investigate, recognize and prevent threat to non - target species or individuals.
- POLICY 1.7            **Non - native species:** No species of plants or animals which are not native to the islands will be introduced to the reserve. No domestic animals will be permitted to visit or reside in the protected area.

- POLICY 1.8            **Soil:** No soil or other material which may contain organic material (especially seeds and bulbs) will be introduced to the reserve.
- POLICY 1.9            **Species records:** Permanent records of species recorded, eradicated or reintroduced will be maintained.
- POLICY 1.10          **Marine mammals and reptiles:** All native marine mammals and reptiles will be afforded strict protection within the reserve.
- POLICY 1.11          **Marine:** All marine organisms will be fully protected when resident within the reserve
- POLICY 1.12          **Excavation:** No rock or soil material will be excavated or removed from the reserve except where required for activities otherwise authorized under this plan (e.g. professional archaeological excavations, visitor facilities, removal of explosives, etc...)
- POLICY 1.13          **Import of material:** No rock, soil or other inorganic material will be introduced to the protected area except where authorized under this plan (e.g. material for visitor facilities)
- ACTIONS**
- ACTION 1.1            **Data Base:** Establish and maintain a data base system of species which inhabit the reserve.
- ACTION 1.2            **Monitoring:** Establish and maintain a monitoring system for species which inhabit the reserve. (See also Action 4.8)
- ACTION 1.3            **Rare and Threatened Species Conservation Plan:** Develop and implement a Rare and Threatened Species Plan.
- ACTION 1.4            **Marine Mammals:** Seek improved legal protection of the marine mammals and turtles cited by the relevant international Conventions.
- ACTION 1.5            **Rabbit Eradication:** Complete the eradication of rabbits.
- ACTION 1.6            **Rat Control:** Monitor rat population levels and take safe and effective control measures.



ACTION 1.7            **Introduced Plants:** Program the removal of identified introduced plants.

ACTION 1.8            **Staff training:** Conduct staff training workshops to ensure that all staff are familiar with the Management Plan, in particular the activities for the restoration and maintenance of the ecological integrity of the reserve.

## OBJECTIVE 2 - CULTURAL HERITAGE

**TO PRESERVE, PROTECT AND MANAGE HISTORICAL, TRADITIONAL AND OTHER CULTURAL SITES AND RESOURCES WITHIN THE PALM ISLANDS NATURE RESERVE.**

### POLICIES

- POLICY 2.1**                    **Management Standards:** Management will be in conformity with the principles of the Burra Charter. (See Glossary)
- POLICY 2.2**                    **Cultural item Protection:** All man-made objects and artifacts encountered within the reserve (on the island or submerged) are protected, shall not be collected or removed without authorization and will remain the property of the Government of Lebanon.
- POLICY 2.3**                    **Assessment of Values:** Internal procedures will be developed, in co-operation with the Directorate of Antiquities, to provide a routine process for assessment of cultural heritage values which may be encountered in management activities.
- POLICY 2.4**                    **Archeological Permits:** All groups/individuals wishing to conduct archeological investigations in the Palm Islands Nature Reserve will require a research permit.
- POLICY 2.5**                    **Research Agenda:** Incorporate cultural heritage research needs into the Preferred Research Agenda (See Objective 4 Research and Monitoring).
- POLICY 2.6**                    **Cultural Heritage Research:** Scientific research and investigation of cultural and historical sites and values will be promoted and facilitated.

### ACTIONS

- ACTION 2.1**                    **Promotion of Research:** Establish contact with relevant research institutions to promote scientific research and investigation of cultural and historical sites and values on Palm Islands Nature Reserve and in the surrounding waters.
- ACTION 2.2**                    **Visitor Access:** Identify and demarcate any vulnerable cultural sites which visitors should not be permitted to visit without a guide.

ACTION 2.3            **Interpretation/information:** In collaboration with the Department of Antiquities and other authorities, prepare information and interpretation on history, archeology and other cultural features of the reserve.

ACTION 2.4            **Training:** Conduct workshops to train all members of the management team and EPC on how to preserve, protect and manage historical, traditional and cultural sites and values.

### OBJECTIVE 3 - EXTERNAL THREATS

#### TO ELIMINATE OR MINIMIZE THREAT TO THE RESERVE FROM EXTERNAL ACTIVITIES.

#### POLICIES

- POLICY 3.1      **Garbage Pollution:** Priority will be given to promoting elimination of all dumps that discharge their garbage or toxic compounds into the sea from land-based sources.
- POLICY 3.2      **Shipping Pollution:** Priority will be given to promoting elimination of pollution from marine-based sources (boats).
- POLICY 3.3      **Municipal Cooperation:** Work cooperatively with local Municipalities and Government agencies to minimize marine pollution and other activities that may impact on the reserve.

#### ACTIONS

- ACTION 3.1      **Garbage Pollution:** Promote the adoption of a national strategy to phase-out the discharge of litter and toxic compounds in the Mediterranean Sea Area, giving priority to those substances contained in the black and gray lists of the protocol for the *Protection of the Mediterranean Sea Against Pollution from Land-Based Sources*. Highlight the importance of this action for Lebanon as a whole and Palm Islands Nature Reserve in particular.
- ACTION 3.2      **Shipping Pollution:** Promote the establishment of port reception facilities for the collection of ship and boat generated garbage and of bilge and ballast waters.
- ACTION 3.3      **Emergency Plans:** Promote the development of local and regional emergency plans to facilitate rapid and effective response to pollution accidents.

## OBJECTIVE 4 - RESEARCH AND MONITORING

**TO SUPPORT RESEARCH, TRAINING AND MONITORING ON THE ENVIRONMENTAL EFFECTS OF HUMAN ACTIVITIES IN THE NATURE RESERVE, INCLUDING THE EFFECTS OF DEVELOPMENT AND LAND - USE ON THE MAINLAND.**

### POLICIES

- POLICY 4.1            **Standard:** Management standards will be in accordance with the principles of the Natural Heritage Charter.
- POLICY 4.2            **Internal Development:** All proposals initiated by the management of the reserve will be subject to environmental impact assessment, and no development proposal will be approved where it can be demonstrated that wise and feasible alternative sites exist outside the protected area.
- POLICY 4.3            **No Net Detriment:** All development proposals will be subject to the test of 'No Net Detriment'. It will be the responsibility of the proponent to demonstrate how the principal of 'No Net Detriment' is to be met.
- POLICY 4.4            **Net Benefit:** All development proposals will be investigated and evaluated for possible contributions of "net benefit" to the protected area. All proposals for net benefit will be optional and negotiable.
- POLICY 4.5            **Development Compliance:** All development proposals are to be assessed for compliance with the management plan and such assessment is to be documented and publicly available on request.
- POLICY 4.6            **Preferred Research:** A Research Agenda will be maintained which details and prioritizes research needs to support the management objectives and priorities for the Palm Islands Nature Reserve.
- POLICY 4.7            **Promote Research:** The Government Appointed Committee and the Environment Protection Committee will promote and facilitate sound scientific research which
- Is a high priority on the Research Agenda.
  - Can be demonstrated to have a high probability of producing information of direct benefit to the reserve.
  - Will have no net detriment on the reserve.

- POLICY 4.8**                    **Other Research:** All proposals for research which are not on the endorsed Research Agenda will be evaluated according to:
- Probability of net benefit for the reserve
  - Environmental impact
  - Visitor impact
  - Ethics and community relations implications
  - Reputation of research personnel (particularly scientific credentials, ethics and performance in producing documentation of results)
- POLICY 4.9**                    **Research Permit:** All research projects within the reserve will require a research permit, with conditions attached. Permits may be terminated at any time where there has been a clear breach of permit conditions.
- POLICY 4.10**                **Permanent Records:** The Reserve Manager will maintain permanent collections of all research results and will annually prepare a summary of all research conducted under permit in the protected area
- ACTIONS**
- ACTION 4.1**                **Training:** Conduct workshops to train all members of the Government Appointed Committee, Management Team and Local Management NGO on theoretical and practical application of the policies applying to the achievement of this objective.
- ACTION 4.2**                **Workshops:** Conduct workshops for interested researchers to explain research policies and needs for the reserve.
- ACTION 4.3**                **Research Agenda:** Prepare a Research Agenda which prioritizes research needs for the reserve.
- ACTION 4.4**                **Promote the Research Agenda:** Promote the Research Agenda to research institutions and potential sponsors.
- ACTION 4.5**                **Research Assessment:** Develop processes for assessments of research permit applications.
- ACTION 4.6**                **Monitor Visitor Impacts:** Set up a monitoring program to monitor the impact of visitor activity on the islands.

- ACTION 4.7            **Monitor Pollution:** Establish monitoring of impact on reserve of industrial discharge and pollution from land-based sources with other parties such as the Ministry of Industry etc.
- ACTION 4.8            **Monitoring Species:** Establish and maintain a monitoring system for species which inhabit the reserve.

## OBJECTIVE 5 - EDUCATION

**TO PROVIDE APPROPRIATE EDUCATIONAL OPPORTUNITIES TO A WIDE SPECTRUM OF PEOPLE AND WHICH WILL ULTIMATELY BENEFIT THE RESERVE.**

### POLICIES

- POLICY 5.1**            **Education Preferred Use:** Environmental education is a preferred public use of the Palm Island Nature Reserve.
- POLICY 5.2**            **Education Focus:** Education programs will be developed with an emphasis on building community awareness and support for protected areas in general and the Palm Islands in particular.
- POLICY 5.3**            **Environmental Education Plan:** Education programs will be guided by an Environmental Education Plan(EEP)
- POLICY 5.4**            **Education - Non visitors:** Educational programs will not be limited to visitors, indeed may give priority to people who live in the adjacent communities but who do not actually visit the islands.
- POLICY 5.5**            **Education Quality Assurance:** All educational material produced or distributed by management personnel will be carefully tested for accuracy and effectiveness of communication.

### ACTIONS

- ACTION 5.1**            **Education:** Develop an Environmental Education Plan(EEP)
- ACTION 5.2**            **Wildlife Focus:** Promote the importance of islands for wildlife conservation as a prominent education theme.



## OBJECTIVE 6 - INTERPRETATION

**TO FACILITATE THE INTERPRETATION OF MARINE AND ISLAND SYSTEMS FOR THE PURPOSE OF CONSERVATION, EDUCATION AND TOURISM.**

### POLICIES

- POLICY 6.1            **The ‘Right to Know’:** The principle of “the community has the right to know” will be adopted.
- POLICY 6.2            **Locals a Priority:** Priority will be given in interpretation to developing awareness and support in the local community.
- POLICY 6.3            **Interpretation Planning:** Interpretation programs will be guided by the Environmental Education Plan (EEP) (See Objective 5, Policy 5.3) and complemented by an Interpretation Plan.

### ACTIONS

- ACTION 6.1            **Interpretive Plan:** Develop an Interpretation Plan which addresses the most effective way of communicating with the local community and outside visitors.
- ACTION 6.2            **Interpretation Themes:** Develop interpretation themes to guide all personnel engaged in interpretation.
- ACTION 6.3            **Training:** Conduct Interpretation training workshops for management personnel and tour guides.
- ACTION 6.4            **Accreditation:** Explore opportunities for delegating interpretation activities to others who may be accredited (teachers, tour operators etc.) as a cost effective way of increasing the amount of interpretation available.

## OBJECTIVE 7 - VISITORS

**TO MAINTAIN A HIGH QUALITY RECREATIONAL ENVIRONMENT FOR VISITORS.**

### POLICIES

- POLICY 7.1**      **Visitor Policy :** Visitor management will at all times be consistent with meeting conservation objectives and, as far as practicable, have some tangible ‘net benefit’ for the Palm Islands Nature Reserve.
- POLICY 7.2**      **Visitor Management Plan:** Visitor management will be guided by a Visitor Management Plan , ensuring a consistent and appropriate approach to management.
- POLICY 7.3**      **Local Visitors:** Visitor management planning will have regard for the special interests of local visitors and so will avoid promoting national and international tourism to the detriment of local visitor use. This may be manifest in reserving some sites, times or types of opportunities for local residents where appropriate.
- POLICY 7.4**      **Pollution Prevention:** Every effort will be made to prevent industrial or sewage derived marine pollution which could impact the reserve, particularly the waters and beach area.
- POLICY 7.5**      **Visitor Privileges:** As far as practicable, visitor use is to be represented as a privilege and not an unconditional right. Visitors will be encouraged to recognize that the privilege to visit is accompanied by certain obligations regarding behavior and minimization of environmental impact.
- POLICY 7.6**      **Visitor Experience:** Visitor management planning will have regard for the creation and maintenance of a quality experience to promote community support for the reserve.
- POLICY 7.7**      **Promotion:** Visitor opportunities will not be promoted to the detriment of the quality of the environment, visitor experience or in excess of the physical capacity of a site.
- POLICY 7.8**      **Access Regulation:** Access to the reserve will be regulated and may include a permit.
- POLICY 7.9**      **Access Limits:** The setting of limits on visitor levels on the islands will have regard for quality of visitor experience as well as environmental impact considerations.

- POLICY 7.10**            **Visitor Use zones:** Determine and clearly define the visitor use zones on the islands and create awareness of these with minimum of impact on the visitor experience.
- POLICY 7.11**            **Visitor Safety:** Promote visitor safety, both in the reserve and during travel to and from the reserve.
- POLICY 7.12**            **Cost Recovery:** The cost of providing visitor facilities and services will be, at least in part, recovered by the application of the ‘User Pays’ principle in the form of an appropriate of access fees on visitors where lawful.  
(The setting of such fees will take into account the cost of providing visitor services, local socio-economic circumstances and ability to pay, the relative priority of education and recreation, the cost of collection of fees, the ability of visitors to pay and the relative importance of facilitating education and recreation.)

## **ACTIONS**

- ACTION 7.1**            **Visitor Conduct:** Prepare and promote a Visitor Code of Conduct and promote in appropriate ways.
- ACTION 7.2**            **Visitor Amenities:** Provide drinking water source, environmentally appropriate toilet facilities and garbage disposal facilities on Palm Island.
- ACTION 7.3**            **Facilities Maintenance:** Schedule regular maintenance of facilities and litter removal to maintain a clean visitor environment.
- ACTION 7.4.**            **Tourist Information:** Promote establishment of a Tourist/Visitor Information Center on the mainland.
- ACTION 7.5**            **Guided Tours:** Develop a program of guided tours within the reserve.
- ACTION 7.6**            **Unexploded Bombs:** Identify, clearly demarcate and strictly prohibit visitor access to localities known or suspected to contain unexploded bombs or other explosive devices. Seek assistance of the Lebanese Army to advise on or remove any such devices.
- ACTION 7.7**            **First Aid:** Establish first aid services and emergency assistance on Palm Island.

- ACTION 7.8            **Boat Safety:** In partnership with boat owners and the Ministry of Transport develop a program to promote visitor safety on boats traveling to and from the reserve.
- ACTION 7.9            **Water Quality:** Schedule periodic monitoring of sea water quality with regard to *Streptococci* and fecal *coliform*.
- ACTION 7.10          **Handicapped Facilities:** Incorporate consideration of the needs of handicapped people in all planning of visitor amenities and facilities. Where such provisions are adopted, promote awareness of the existence of such facilities.

## OBJECTIVE 8 - COMMUNITY SUPPORT

**TO BUILD COMMUNITY SUPPORT FOR THE RESERVE BY PROMOTING AWARENESS OF THE ECONOMIC AND OTHER BENEFITS AND THROUGH PROMOTION OF A SENSE OF COMMUNITY PRIDE IN THE NATURE RESERVE.**

### POLICIES

**POLICY 8.1**                    **Community Benefits:** Any socio-economic benefits generated by the reserve which benefit the community should be promoted as such.

**POLICY 8.2**                    **Socio-economic benefits:** Generation of any socio-economic benefits to the local community, direct or indirect, must be the product of sound conservation management of the reserve and not an independent primary objective.

### ACTIONS

**ACTION 8.1**                    **Community Relations Plan :** Develop a Community Relations Plan which includes priority for channeling of socio-economic benefits to the local community.

**ACTION 8.2**                    **Local awareness:** Develop an awareness program for fishermen and local communities to improve public awareness of the need for marine conservation.

**ACTION 8.3**                    **Training:** Conduct training workshops to train staff and others in community relations and building of community support.

## OBJECTIVE 9 - CAPACITY BUILDING

**TO DEVELOP SKILLED AND EFFECTIVE PERSONNEL WHO ARE ABLE TO PROVIDE  
COST EFFECTIVE MANAGEMENT OF THE NATURE RESERVE.**

### POLICIES

- POLICY 9.1**            **Protected Areas Project:** The Environment Protection Committee and the management team will be mindful of the important responsibility they have in the remaining term of the Protected Areas Project in testing the model of protected area management by a non-government organization and be aware of the national and international implications of their performance.
- POLICY 9.2**            **Personnel Management:** Co-operation among management personnel, with maximum delegation, will be adopted as the most cost-effective personnel management model.
- POLICY 9.3**            **Employment Equal Opportunity:** Personnel management will embrace the principles of Employment Equal Opportunity (EEO)
- POLICY 9.4**            **Delegations:** A formal set of ‘terms of reference’ will be jointly developed by the Environment Protection Committee and the Management Team to clarify the roles of all personnel participating in management of the reserve.

### ACTIONS

- ACTION 9.1**            **Training:** Draft and implement a Training Program for Local Management NGO, Committee members and Management Team personnel.
- ACTION 9.2**            **EEO:** Provide all staff and committee members with a copy of a standard set of EEO guidelines.
- ACTION 9.3**            **Performance Agreement:** Develop a performance agreement between the Environment Protection Committee and the Reserve Manager.
- ACTION 9.4**            **Institution-building:** Develop an institution-building strategy for Environment Protection Committee and staff.
- ACTION 9.5**            **Training:** Develop and conduct training workshops for all personnel involved in the management of the reserve.

**OBJECTIVE 10 - INFORMATION SERVICES****TO PROVIDE A SYSTEM FOR HANDLING AND DISSEMINATING DATA ABOUT THE RESERVE.****POLICIES**

**POLICY 10.1**            **Research Records:** The Reserve Manager will maintain permanent collections of all research results and will annually prepare a summary of all research conducted under permit in the protected area.

**POLICY 10.2**            **Information Systems:** Information systems will be developed which facilitate rapid access to information and equally rapid delivery to potential users.

**ACTIONS**

**ACTION 10.1**            **GIS:** Develop and maintain a Geographic Information System (GIS)

**ACTION 10.2**            **Research Data Base:** Develop and maintain a register and data base of all research undertaken or being undertaken in the reserve.

## OBJECTIVE 11 - FINANCIAL SUSTAINABILITY

**TO RAISE FUNDS AND MANAGE EXPENDITURE TO ENSURE THE EFFECTIVE MANAGEMENT OF THE PALM ISLANDS NATURE RESERVE IN THE LONG TERM.**

### POLICIES

- POLICY 11.1      **Business Plan:** Sound financial management will be guided by a 10 year Business Plan which will be reviewed annually..
- POLICY 11.2      **Sustainable Funding:** Every effort will be made to secure a sustainable flow of funding and other resources to support the management program for the Palm Islands Nature Reserve.
- POLICY 11.3      **Funding Plan:** The generation of funding and other resources to support effective management of the reserve will be guided by a properly considered and documented Funding Plan.
- POLICY 11.4      **Funding Diversification:** Planning for financial support will adopt the principle of funding diversification to increase security of funding and will avoid dependence on one source from any one sector.
- POLICY 11.5      **User Pays Principle:** The ‘User-Pays Principle’ will be progressively introduced to ensure that the main beneficiaries of the reserve are contributing equitably towards the cost of the provision of any visitor services and facilities.
- POLICY 11.6      **Code of Conduct:** All fundraising and other resourcing will be undertaken in a totally lawful and ethical way, guided by a ‘Code of Conduct’, with all funds being publicly accountable.
- POLICY 11.7      **Funding Priority:** Priority will be given to establishing recurrent funding sources in preference to single or ‘one-off’ contributions.
- POLICY 11.8      **Donations:** Funding by donations for specific projects should as far as possible cover all costs of the project and preferably some component of the first years of maintenance.
- POLICY 11.9      **Non-financial Contributions:** Non-financial contributions to management will be sought to complement fund contributions. These may include goods, services and discounts. Volunteer services will be sought where appropriate. All non-funding contributions will be subject to the same public accountability as funding.



**ACTIONS**

- ACTION 11.1      **Business Plan:** Develop a 10 year business plan and review at least annually.
- ACTION 11.2      **Funding Plan:** Develop a Funding Plan for the Palm Islands Nature Reserve. (including income generation, sponsorship and donations of money, goods and services).
- ACTION 11.3      **Code of Conduct:** Develop a 'Code of Conduct' to guide fund raising and income generation to ensure that all such activities are ethical and responsible. The code should include identification of the circumstances in which it would be appropriate and inappropriate to accept funding and other contributions.
- ACTION 11.4      **Volunteers:** Develop a policy and program for the introduction of volunteers both as a means of providing opportunities for community involvement in management and to supplement financial resources.
- ACTION 11.5      **Sponsorship Agenda:** Develop and maintain a Sponsorship Agenda comprising a selection of projects of predetermined priority for which funding is sought.

## 6.0 IMPLEMENTATION OF THE MANAGEMENT PLAN

The Management **Objectives** specified in the management plan will be achieved when the Palm Islands Nature Reserve **Management Plan** is implemented. Implementation of the plan requires implementation of the **Actions** specified in the plan, using the **Policies** of Part 5.0 as a guide to implementation at all times.

The actions formulated for each of the Management Objectives have been extracted from Part 5.0 to form what is presented below as the “5 Year Work Plan”. The 5 Year Work Plan is in turn intended to provide the basis for separate preparation of Annual Work Plans by the extraction from the 5 Year Plan of the highest priority or most opportune actions.

In reality, the 5 Year Plan may take more than 5 years to complete or, resources permitting, could be completed sooner. One result from implementing some of the actions, may be the recruitment of additional actions to the 5 Year Plan. This may be the case especially where the action involves the preparation of subsidiary plans which themselves need to be implemented over longer than a one year period. Also, some actions are on-going so will be recurrent in the successive Annual Plans.

The Work Plans, both the 5 Year and Annual Plans, need in turn to be directly linked with budget planning through the **Business Plan** for the reserve. Only if there is direct engagement between the priority actions and funding will there be progress in implementation of the Management Plan.

The priority rating of all actions may be subject to change and should be reviewed annually at the time of preparation of the Annual Work Plan and annual review of the Business Plan.

## 6.1 THE 5 - YEAR WORK PLAN

A list of all actions identified, by objective and priority rating.  
(Very high, High, Medium, Low)

<b>ACTION NUMBER</b>	<b>ACTION REQUIRED</b>	<b>PRIORITY</b>
<b>OBJECTIVE 1</b>		
<b>NATURAL HERITAGE</b>		
<b>1.1 Data base:</b>	Establish and maintain a data base system of species which inhabit the reserve	On-going
<b>1.2. Monitoring:</b>	Establish and maintain a monitoring system for species which inhabit the reserve.	On-going
<b>1.3. Rare/Threat Species Conservation Plan:</b>	Develop and implement a Rare and Threatened Species Plan	Very High
<b>1.4. Marine Mammals:</b>	Seek legal protection of the marine mammals and turtles cited by the relevant international Conventions.	Medium
<b>1.5. Rabbit Control:</b>	Complete the eradication of rabbits.	Very High (Complete urgently)
<b>1.6. Rat Control</b>	Monitor rat population levels and take safe and effective control measures.	High
<b>1.7. Introduced plants:</b>	Program the removal of identified introduced plants.	High
<b>1.8 Staff Training:</b>	Conduct staff training workshops to ensure that all staff are familiar with the Management Plan, in particular the practical application of policies for the restoration and maintenance of the ecological integrity of the reserve.	Very High

OBJECTIVE 2		CULTURAL HERITAGE
<b>2.1 Promotion of Research</b>	Establish contact with relevant research institutions to promote scientific research and investigation of cultural and historical sites and values in Palm Islands Nature Reserve, both on the islands and in the surrounding waters.	Very High
<b>2.2 Visitor Access</b>	Identify and demarcate any vulnerable cultural sites which visitors may not be permitted to visit without a guide.	Very high (Review)
<b>.3 Interpretation /Information</b>	In collaboration with the Department of Antiquities and other authorities, prepare information and interpretation on history, archaeology and other cultural features of the reserve.	Medium
<b>2.4 Training</b>	Conduct workshops to train all members of the management team and EPC on how to preserve, protect and manage historical, traditional and cultural sites and values.	High
OBJECTIVE 3		EXTERNAL THREATS
<b>3.1 Garbage Pollution</b>	Promote the adoption of a national strategy to phase-out the discharge of litter and toxic compounds in the Mediterranean Sea Area, giving priority to those substances contained in the black and gray lists of the protocol for the <i>Protection of the Mediterranean Sea Against Pollution from Land-Based Sources</i> . Highlight the importance of this action for Lebanon as a whole and Palm Islands Nature Reserve in particular.	Medium
<b>3.2 Shipping Pollution</b>	Promote the establishment of port reception facilities for the collection of ship and boat generated garbage and of bilge and ballast waters.	Low
<b>3.3 Emergency Plans</b>	Promote the development of local and regional emergency plans to facilitate rapid and effective response to pollution accidents.	Low

<b>OBJECTIVE 4</b>		<b>RESEARCH AND MONITORING</b>
<b>4.1 Training</b>	Conduct workshops to train all members of the management team and Local Management NGO on theoretical and practical application of the policies applying to the achievement of this objective.	High
<b>4.2 Workshops:</b>	Conduct workshops for interested researchers to explain research policies and needs for the reserve.	Medium
<b>4.3 Research Agenda:</b>	Prepare a Research Agenda which prioritizes research needs for the reserve.	Very High
<b>4.4 Promote Research Agenda</b>	Promote the Research Agenda to research institutions and potential sponsors.	High
<b>4.5 Research assessment:</b>	Develop processes for assessment and determination of research permit applications.	Very High
<b>4.6 Monitor visitor impacts:</b>	Set up a monitoring program to monitor the impact of visitor activity on the islands.	High
<b>4.7 Monitor pollution:</b>	Establish monitoring of impact on reserve of industrial discharge and pollution from land-based sources with other parties such as the Ministry of Environment.	Medium
<b>4.8 Monitoring:</b>	Establish and maintain a monitoring system for species which inhabit the reserve.	On-going
<b>OBJECTIVE 5</b>		<b>EDUCATION</b>
<b>5.1 Education:</b>	Develop an Environmental Education Plan (EEP)	Very High
<b>5.2 Wildlife focus:</b>	Promote the importance of islands for wildlife conservation as a prominent education theme.	Very High
<b>OBJECTIVE 6</b>		<b>INTERPRETATION</b>
<b>6.1 Interpretive Plan:</b>	Develop an Interpretation Strategy which address the most effective way of communicating with the local community and visitors.	High

<b>.2 Interpretation themes</b>	Develop interpretation themes to guide all personnel engaged in interpretation.	High
<b>6.3 Training:</b>	Conduct Interpretation training workshops for management personnel and tour guides.	High
<b>6.4 Accreditation:</b>	Explore opportunities for delegating interpretation activities to others who may be accredited (teachers, tour operators etc.) as a cost effective way of increasing the amount of interpretation available.	High

**OBJECTIVE 7****VISITOR MANAGEMENT**

<b>7.1 Visitor Management:</b>	Prepare a Visitor Management Plan (VIMP)	Very High
<b>7.2 Zoning Plan:</b>	Develop a Zoning Plan for the reserve to facilitate protection and appropriate use.	Very High
<b>7.3 Visitor regulation:</b>	Following an appropriate period of experience, review the adequacy of any existing regulations for visitor management, particularly enforcement, and if a need is identified, make a submission to Government on need for new legislation or regulatory powers.	Medium
<b>7.4 Visitor conduct:</b>	Prepare and promote a Visitor Code of Conduct and promote in appropriate ways.	Very High
<b>7.5 Visitor amenities:</b>	Provide environmentally appropriate toilet facilities and garbage disposal facilities on Palm Island.	High
<b>7.6 Guided Tours:</b>	Develop a program of guided tours within the reserve.	High
<b>7.7 Facilities maintenance:</b>	Schedule regular maintenance of facilities and litter removal to maintain a clean visitor environment.	High
<b>7.8 Unexploded bombs:</b>	Identify, clearly demarcate and strictly prohibit visitor access to localities known or suspected to contain unexploded bombs or other explosive devices. Seek assistance of the Lebanese Army to remove any such devices	Very High

<b>7.9 First Aid:</b>	Establish first aid services and emergency assistance on Palm Island.	High
<b>7.10 Boat Safety:</b>	In partnership with boat owners and the Ministry of Transport develop a program to promote visitor safety on boats traveling to and from the reserve.	Medium
<b>7.11 Visitor Safety:</b>	Schedule periodic monitoring of sea water quality with regard to <i>Streptococci</i> and <i>coliform</i> .	Low
<b>7.12 Handicapped Facilities:</b>	Incorporate consideration of the needs of handicapped people in all planning of visitor amenities and facilities. Where such provisions are adopted, promote awareness of the existence of such facilities.	Medium
<b>7.13 Tourist Information:</b>	Promote establishment of a Tourist Information center on the mainland.	Low
<b>OBJECTIVE 8 COMMUNITY SUPPORT</b>		
<b>8.1 Community Relations Plan:</b>	Develop a Community Relations Plan which includes priority for channeling of any socio-economic benefits to the local community.	Very high
<b>8.2 Training:</b>	Conduct training workshops to train staff and others in community relations and building of community support.	High
<b>8.3 Local Awareness:</b>	Develop an awareness program for fishermen and local communities to improve public awareness of the need for marine conservation.	Medium
<b>OBJECTIVE 9 CAPACITY BUILDING</b>		
<b>9.1 Training:</b>	Draft and implement a Training Program for Local Management NGO Committee members and Management Team personnel.	High
<b>9.2 EEO:</b>	2.- Provide all staff and committee members with a copy of a standard set of EEO guidelines. Equal employment opportunity	Medium

<b>3 Performance Agreement:</b>	Develop a performance agreement between the Environment Protection Committee and the Reserve Manager.	Very high
<b>9.4 Institution Building:</b>	Develop an institution-building strategy for Environment Protection Committee and staff.	High
<b>9.5 Training:</b>	Develop and conduct training workshops for committee members and staff involved in the management of the reserve.	High

<b>OBJECTIVE 10</b>	<b>INFORMATION SERVICES</b>
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<b>10.1 GIS:</b>	Develop and maintain a Geographic Information System (GIS)	Very High
<b>10.2 Research Database:</b>	Develop and maintain a register and database of all research undertaken or being undertaken in the reserve.	High

<b>OBJECTIVE 11</b>	<b>FINANCIAL SUSTAINABILITY</b>
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<b>11.1 Business Plan:</b>	Develop a 10 year business plan and review at least annually.	
<b>11.2 Funding Plan:</b>	Develop a Funding Plan for the Palm Islands Nature Reserve. (including income generation, sponsorship and donations of money, goods and services).	Very high
<b>11.3 Code of Conduct:</b>	Develop a 'Code of Conduct' to guide fund raising and income generation to ensure that all such activities are ethical and responsible. The code should include identification of the circumstances in which it would be appropriate and inappropriate to accept funding and other contributions.	Very high
<b>11.4 Volunteers</b>	Develop a policy and program for the introduction of volunteers. (both as a means of providing opportunities for community involvement in management and to supplement financial resources).	High
<b>11.5 Sponsorship Agenda:</b>	Develop and maintain a Sponsorship Agenda comprising a selection of projects of predetermined priority for which funding is sought.	High




## 6.2 ANNUAL WORKPLAN

One of the important means by which the Management Plan will be implemented is by preparation of an **Annual** Work Plan for implementation by the Management Team. It is essential that these Work Plans are based on the Management Plan, in particular on the list of Actions contained in the 5 Year Work Plan which is part of the of the Management Plan.

Similarly, the budget process must closely conform with the Management Plan if the objectives of the plan are to be achieved. It is recognized that the budget and other constraints may necessitate temporary departure from the **order** in the list of actions. However, every endeavor should be made to maintain the order of activities set out in the plan. Integration and linking of actions to improve efficiency and cost effectiveness should be undertaken whenever funding and logistics allow.

The first annual work plan has not been included here because of the need to develop it in conjunction with a review of the Business Plan and budget forecasts.



## **7.0 FINANCIAL MANAGEMENT**

### **7.1 SOCIO-ECONOMIC CONTEXT**

Palm Islands are the only significant uninhabited islands in Lebanese waters and are within easy reach of Lebanon's second largest city (Tripoli/El Mina).

One of the aftermath's of the Lebanese civil war was unexploded bombs remaining on Palm Island. Not until year 2000 was the bomb removal largely completed. Notwithstanding, post-war visitation to the islands has developed with its main focus on the beach of Palm Island.

Lebanese citizens appear to be in the process of an increasing interest in discovering the remaining natural landscapes of their country for recreational and tourism purposes. As the larger cities become increasingly congested, that trend is likely to continue.

Many of the residents of Tripoli are working people with a limited disposable income in an otherwise very congested city. Residents have two directions to turn for their recreation and escape - west to the sea and islands and east towards the mountains. There is a long tradition of a strong interest in the sea. This places the Palm Islands very much in focus for residents, especially given the short distance to the islands and their visibility from the port area.

People have visited the Palm Islands over many years and there is no tradition of visitor regulation or payment of any fees. Visitor regulation has been in operation for several years and appears to have received at least a reluctant acceptance. However, the possibility of imposing an access fee in the future may well prove more difficult given the tradition of no payment and the socio-economic constraints on local visitors.

Fortunately, some of the smaller and closer islands to Tripoli satisfy the interests of some instead of the slightly longer trip to the Palm Islands. It is therefore in the interests of the Palm Islands to encourage visitors to satisfy their interests on these smaller islands with their very much lower wildlife value than the Palm Islands.

Management of the Palm Islands is in the context of a large local community with a relatively low economic status and which is likely to be more interested in seeking to protect the limited array of recreational opportunities than promoting tourists to compete with them.

## 7.2 TOURISM POTENTIAL

The Palm Islands Nature Reserve is perceived by some to have tourism potential. The islands are receiving an increasing number of visitors, primarily from Tripoli on the immediately adjacent part of the mainland. Some visitors also come from further afield. The latter are more likely to be visitors with a special interest such as seeing seabirds on the islands.

In reality the islands and waters of Palm Islands Nature Reserve have only limited tourism potential. They are of limited scenic appeal and the attractive beaches are of very limited extent. Furthermore, establishment of facilities to encourage tourism per se is not in the best interests of the conservation values of the reserve. This plan therefore strictly limits the type of tourism related development which may be undertaken.

The main international and national tourism market which may be compatible with the reserve management objectives is the bird-watching and environmental education niche market and to some lesser extent the dive market.

Great care will need to be exercised in avoiding creation of a tourism market which is not easily regulated and which could create conflict with the primary conservation objectives of the reserve. In particular, it is critically important to avoid acquiescence to establishment of any overnight accommodation on the islands for tourism or tourism related purposes.

There is also a risk of inappropriate tourism promotion leading to unmet expectations of visitors leading to public criticism of the reserve. It is therefore important that the managers of the reserve avoid promotion of undeliverable experiences.

Given the likely increasing demands from residents of Tripoli and El Mina, promotion of visitation from beyond the local area should be strictly limited. The local population deserves priority over national and international tourism to access the islands for a quality visitor experience.

The Palm Islands Nature Reserve, being a physically small area with important and vulnerable wildlife conservation values must always be subject to visitor regulation to preserve those values. This approach is also consistent with maintenance of an uncrowded quality visitor experience. As a consequence, there is likely to be an increasingly unmet demand to access the islands, something which will need to be carefully managed to avoid a corresponding loss of community support for the reserve.

### 7.3 BUSINESS PLAN

The Palm Islands Nature Reserve Management Plan 2000-2005 requires the preparation and annual review of a 10 year **Business Plan** (See Section 2.2 of this plan for relationship between the two plans)

The Business Plan makes a number of assumptions and predictions which may prove to be unachievable, at least in the shorter term. However, the Business Plan 2000-2010 should form the basis for a revised plan to be brought into operation as a matter of priority.

The need to regulate the level of visitation to the islands, together with the seasonality of the access means that the opportunity for revenue raising will be limited and will fluctuate with boating conditions. Placing too much emphasis on fund raising from visitor access fees is problematic and may lead to unfulfilled revenue estimates.

As indicated in the Management Policies, it is particularly important for the Palm Islands Nature Reserve to diversify the sources of funding, which includes avoiding a reliance on visitor entrance fees.

Similarly, much of the management work that needs to be undertaken in the reserve is bio-diversity conservation and not related to the provision of most visitor experiences. It is therefore arguable that visitors should not be expected to pay for conservation management aspects of the reserve.

The Funding Plan for the nature reserve needs to be regularly and carefully reviewed to ensure that the return on investment of staff time and any re-investment of funds is maximised and conversely that staff time commitment to fund raising is balanced against the management demands of the reserve.

To facilitate fine tuning of both the Business Plan and the Funding Plan, it will be important for management to accurately **monitor** performance of both plans from the very beginning of the plans being operational.

The Annual Review of the Business Plan should be conducted in conjunction with the annual review/preparation of the:

- Annual Workplan
- Budget and
- Funding Plan

## **7.4 FUNDING PLAN**

A Funding Plan has been prepared for Palm Islands Nature Reserve. This plan requires the regular review and implementation of the Funding Plan. (see 7.3 above)

The Funding Plan 2000 is to provide the basis for fund raising towards the financial sustainability of the reserve. However, it must be emphasised that all fund raising undertaken must be consistent with the Management Plan, in particular with the protection and maintenance of the important natural heritage values of the reserve.

Fund raising should not be limited to external funding but will of necessity include making a case for regular funding from Government to at least cover those conservation activities directed at protection and management of National Heritage values. Funding commitments and forecasts should be developed at least three years in advance to avoid short-term fund raising with the attendant uncertainty for management personnel.

The Management Plan requires the preparation of a Fundraising Code of Conduct to ensure that fund raising is guided by ethical considerations at all times. Part of that Code must include public accountability for funds raised in order to maintain public confidence in the fundraising personnel.

Management personnel are encouraged to recognize the importance of fund raising and effective financial management in overall achievement of management objectives.

## **8.0 REVIEW AND EVALUATION OF THE PLAN**

### **8.1 MONITORING OF IMPLEMENTATION**

The Government Appointed Committee (or other committee or agency lawfully appointed) for the reserve will be responsible for regular review of the implementation of the management plan approved by the Minister and to report to the Minister, advising the results of its assessment of progress and making any recommendations that they see as necessary to improve the progress in implementation.

The Government Appointed Committee (or other committee or agency lawfully appointed) for the reserve, in collaboration with the Ministry of Environment will be expected to:

- Periodically meet with the Environment Protection Committee and their Management Team (or other committee or agency lawfully responsible for the area) to establish progress and problems being encountered in implementation of the plan;
- Periodically, in the company of the Environment Protection Committee (or other committee or agency lawfully responsible) inspect the reserve to observe the condition of the reserve and compliance with the management plan;
- Prepare annual reports to the Minister, incorporating the report presented during the relevant year from the Environment Protection Committee (or other committee or agency lawfully responsible for the area) and any other information relevant to the implementation of the plan;
  - Make recommendations to the Minister on any changes necessary to improve the compliance with and implementation of the plan.

### **8.2. PLAN REVIEW PROCESS**

The preparation of this management plan was a requirement of the Protected Areas Project of Lebanon. Following the receipt of comments on the draft plan, the revised plan was submitted to the Minister of Environment for final approval.

In keeping with international practice, the authorized plan will be subject to extensive review within 5 years of Ministerial approval. That review will involve community consultation. Prior to review of the plan, the managing authority will have prepared an independent report on performance measured against the objectives and actions specified in the plan. That report will be made available as a part of the review process.

## GLOSSARY OF TERMS

<b>Bio-diversity</b>	The natural biological diversity, including, but not limited to the diversity of species, plant communities and natural associations of plants and animals. But see the Natural Heritage Charter.
<b>Burra Charter</b>	A document that provides a set of principles to guide the management of cultural heritage sites. It was developed by Australia ICOMOS and has been insured by the international organization of ICOMOS.
<b>Code of Conduct</b>	A set of rules to govern the conduct of a person or organization to ensure that conduct stays within pre-defined limits. Often relates to matters of ethics and proprietary. E.g. a visitor code of conduct would be a set of rules which should guide the behavior of visitors to a protected area. A code of conduct generally is a guide rather than an enforceable regulation.
<b>Community 'Right to Know'</b>	The right of a community to have information about activities and decisions that are supposedly being taken on their behalf. In the case of protected areas, which are described as being part of the community's heritage, the community is entitled to know that decisions are being taken about the management of their heritage.
<b>Cultural heritage</b>	Heritage may be defined as the places and things that a people or community regards as part of their inheritance and which they consider worthy of protection. Cultural heritage is mainly those places or objects which are man-made as distinct from natural.
<b>Eco-tourism</b>	A type of tourism which is primarily nature-based. Variously defined but the essential parts are: Minimal impact on the natural heritage Preferably positive benefits to protected areas Minimal detrimental impact on local community Preferably positive benefits to local community Increase visitor awareness, appreciation and support for ecological conservation
<b>Endemic species</b>	A species found only in a given area. For example, a Lebanon endemic is a species found only in Lebanon.

<b>EEO</b>	Equal Employment Opportunities - a set of guidelines for application of the merit principle in the workplace. The actual contents may vary from place to place but usually aim to ensure that all employees or staff are treated fairly and equally without regard to such things as race, religion, gender or marital status. The merit principle from which it is derived is simply that jobs, employment, tasks, promotions etc. are awarded on merit, to the person most qualified for a task, job etc.
<b>Geo-diversity</b>	The natural non-living geological and geographic diversity, by definition, exclusive of biodiversity. But see Natural Heritage Charter.
<b>GIS</b>	Geographic Information System. (GIS) Usually a computer based system for storing and processing geographic information. A GIS usually has the capability of presenting the information in a map form, including as interactive overlays of information. E.g. vegetation map over geology map.
<b>ICOMOS</b>	International Committee on Monuments and Sites
<b>Karst</b>	A term used to describe the distinctive surface and underground landscape associated with weathered limestone. Karst is characterized by such features as caves, underground, drainage, discharge of surface streams to underground voids and caves.
<b>Local managing NGO</b>	The locally based NGO which has been given official delegation or responsibility for day-to-day management of a protected area under the Protected Areas Project.
<b>MOU</b>	Memorandum of Understanding. A document negotiated between two or more organizations or individuals (commonly only two parties) to record any matter on which the parties have been able to 'come to an understanding' or agreement. An MOU may be a few lines or many pages in length. An MOU may be periodically updated to reflect any progress in additional matters of agreement.
<b>Natural Heritage</b>	Heritage may be defined as the places and things that a people or community regard as part of their inheritance and which they consider worthy of protection. Natural heritage is that part of heritage which is derived from a nature as distinct from man-made features or human contrived things.



<b>Natural Heritage Charter</b>	The Australian Natural Heritage Charter. A set of protected area management principles aimed at a precautionary approach to protection of natural heritage values. It has been internationally recognized and is available on the Internet.
<b>'Net Benefit'</b>	The protected area management principle by which any management action or decisions directed at delivering a net benefit to the protected area, preferably an improvement to the values, integrity or condition.
<b>Precautionary Principle</b>	An internationally used environmental principle, which requires that lack of scientific certainty should not be used as an excuse for not taking action to address a known environmental problem. For example, if a species is threatened with extinction, lack of certainty about what is causing the threat should not be a reason for inaction. It is often more widely interpreted in converse for management of protected areas - if you don't know or understand the impacts of a proposed action or development, avoid that action or decision. But see the Natural Heritage Charter.
<b>Rare Species</b>	A species which is very uncommon, either naturally or as a result of human impacts.
<b>Threatened Species</b>	A species which is seen to be threatened with possible extinction if the threat is not removed or controlled. A species may be classified as threatened, even if it is not yet rare.
<b>'User Pays Principle'</b>	The management principle that seeks to transfer the cost of provision of certain services of infrastructure (e.g. visitor facilities) to the people who use and/or receive the most benefit from those services. (e.g. visitors to protected area being expected to contribute financially to the services or facilities which they enjoy.

# **ANNEXES**

## **Appendix 1**

### **LAW #121**

#### **Article 1:**

The isle of “Birds and rabbits” in front of Tripoli’s seashore as well as the public domain of Ehden’s woodland are considered reserves.

The domain of Ehden’s woodland has its boundaries as follows:

East: Wadi El Kiama (Resurrection valley) separating the district of Zgharta and Danieh.

West: “jouit fountain” lands in Ehden.

North: ”el bououl” area lands in Ehden.

South: St. Sarkis evergreen cypress in Ehden.

#### **Article 2:**

For the purpose of preserving the woodland wealth for the above mentioned reserves, it is forbidden to cut, invest or manufacture all trees of all kinds that exists in the reserve.

#### **Article 3:**

The entrance of cattle into the reserves territories is forbidden in order to protect their raising and their plants and to prevent them from damage.

#### **Article 4:**

It is forbidden to take any yields from the reserves proceeds such as the extract or the removal of stones or sands or metal or earth or herbs or grass or green leaves or natural manure from the woodland ground or oak or various seeds or other fruits and all yields or contents of the reserves.

#### **Article 5:**

It is forbidden to perform any work or action, which infringes the natural equilibrium of the reserves particularly:

1. Setting fire to or burning herbs and other plants or garbage that exist within the reserves and also the same restrictions are enforced outside them and for a distance not less than 500 meters from the boundaries of both reserves.
2. Terrestrial hunting in the territories of both reserves and fishing on the seashore of the isle of rabbits.
3. Camping within the reserves territories or throwing garbage etc... and any other actions that harms the two reserves or deforms the natural sights.

#### **Article 6:**

Any legal term, current or future and all duly international agreements that focus and stress the protection of the environment and the natural, maritime, beautiful and woodland wealth.

## **In the penalties**

### **Article 7**

All herbs and cut or manufactured wood will be confiscated and sold at auction for the benefit of the committee of the reserves from which the herbs or wood are extracted.

The violators are sentenced from 3 month to 3 years of imprisonment and are fined between 50,000 and 100,000 LBP on every cut tree (depending on its hugeness) or 1,000LBP/Kg of wood or fire wood and 10,000LBP on every manufactured box and 5,000LBP on each Kg of all manufactured materials.

### **Article 8:**

Whoever makes the cattle enter the reserve is penalized with a fine of 5,000LBP on each animal and with imprisonment from 2 to 6 months or is penalized with on of these 2 penalties.

### **Article 9:**

Whoever breaks up or damages or removes any yields fro the reserves proceeds or eliminates any boundaries or divided stacks is fined from 5,00LBP to 50,000LBP and is penalized from 15 days to 6 months of imprisonment or is penalized with one of these two penalties.

Whoever sets fire in one of the reserves is penalized from one month to two years an is fined in proportion with the damages in process.

In case there are two penalties on the same delict the maximum penalty is implemented.

### **Article 10**

In all cases and in addition to all penalties shown above it is decided to recover all woodland materials taken or cut off from the woodland, and to confiscate the access, cutters, nets, machines, cutting equipment and other materials and the transport means that are used to commit the infraction.

These confiscated materials and the fines are vested in the the protectorate's committee which achieves the sequestration.

### **Article 11:**

A committee of seven members is appointed for a 3 year period by virtue of a decision taken by the competent minister for agriculture.

This committee performs forestation and protection works and takes precautions provided the municipality and the concerned on the ecological affairs be represented in Ehden's reserve's committee and also the municipalities of both Tripoli and El-Mina and the concerned on ecological affairs be represented in the committee in the isle of "birds and rabbits"

### **Article 12:**

This law is brought into effect immediately after being published in the official gazette.

**Attachment 2**

**AUSTRALIAN  
NATURAL HERITAGE  
CHARTER**

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# Preamble

IUCN (the International Union for the Conservation of Nature and Natural Resources) is now known as the World Conservation Union. The Charter is not intended to provide a detailed process for describing places for the purpose of listing them on heritage registers.

The Charter is not intended to provide a detailed process for describing places for the purpose of listing them on heritage registers.

The Australian Natural Heritage Charter was adopted in December 1996 following a two-year period of extensive national consultation. At that time the Australian Committee for IUCN accepted responsibility for the promotion, promulgation, administration and future review of the Charter. The Charter is for use by all Australian organisations and individuals.

## **PURPOSE**

The purpose of this Charter is to assist everyone with an interest in the significance and conservation of natural heritage to make soundly-based decisions on conservation of that heritage. It is intended to achieve a uniform approach to conservation of places of natural significance in Australia that can be applied to public and privately-owned places, to terrestrial, marine or freshwater areas, and to protected and unprotected areas.

## **ETHOS OF THE CHARTER**

This Charter encompasses a wide interpretation of natural heritage and is based on respect for that heritage. It acknowledges the principles of intergenerational equity, existence value, uncertainty and precaution.

**Intergenerational equity** means that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations.

The **principle of existence** value is that living organisms, earth processes and ecosystems may have value beyond the social, economic or cultural values held by humans.

The **principle of uncertainty** accepts that our knowledge of natural heritage and the processes affecting it is incomplete, and that the full potential significance or value of natural heritage remains unknown because of this uncertain state of knowledge.

The **precautionary principle** is that where there are threats or potential threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

Natural heritage incorporates a spectrum of values, ranging from existence value at one end through to socially-based values at the other. The fundamental concept of natural heritage, which most clearly differentiates it from cultural heritage, is that of dynamic ecological processes, ongoing natural evolution, and the ability of ecosystems to be self-perpetuating. At the cultural end of the spectrum, clear separation of cultural and natural values can be difficult, and more than one layer of values may apply to the same place.

The concept of natural heritage used here recognises the role Indigenous people have played in Australian landscapes for at least 50 000 years and possibly much longer.

# How to use the Australian Natural Heritage Charter

The definitions, conservation principles and conservation processes described in Parts A, B and C of the Charter provide the basis for conservation decisions. Part D draws these elements together to describe the procedure for conservation practice.

## Important

- ▮ The steps need to be taken in this order
- ▮ Each step is a discrete stage
- ▮ Monitoring is a fundamental element of conservation practice

### Obtain and study evidence about the place from:

- ▮ Documents and studies
- ▮ Local knowledge and experience

What do we know about the place?  
Articles 4, 24, 25, 26, 27, 28

### Identify and contact people or groups who know about, care for, or have an interest in the place.

Who else may be able to help?  
Article 32

### Determine the natural significance of the place.

Why is it significant?  
Articles 2, 5, 6, 7

### Assess the physical condition and management realities.

What are the constraints and opportunities which will influence conservation of the place?  
Article 2

### Develop a conservation policy.

What policies are needed to conserve the natural values of the place?  
How will they relate to other management issues?  
Articles 6, 7, 8, 9, 29

### Determine the conservation processes which will be used.

How will the conservation objectives be met?  
Articles 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23

### Decide on responsibilities for decisions, approvals and actions.

Article 30

### Formulate the conservation plan.

How will we make it happen?  
Article 30

### Implement the conservation plan.

What actions does the conservation plan require?  
Articles 30, 31, 32, 33, 34

### Monitor the results and consider any new information.

Have we been successful in our objectives?  
Can we make any changes to improve results?  
Have there been changes in the external environment or the management or use of the place which indicate a need to review the conservation plan?  
Article 34



# Definitions

# A

## ALPHABETICAL REFERENCE TO THE DEFINITIONS

In this Charter, words for which a definition is provided are printed in italics.

Biological diversity , biodiversity . . . .	1.3	Habitat . . . . .	1.13
Community . . . . .	1.14	Indigenous species . . . . .	1.10
Community diversity . . . . .	1.4	Introduced species . . . . .	1.11
Conservation . . . . .	1.22	Maintenance . . . . .	1.30
Conservation management measures . . . . .	1.31	Modification . . . . .	1.28
Degradation . . . . .	1.20	Monitoring . . . . .	1.32
Disturbance . . . . .	1.21	Natural integrity . . . . .	1.9
Earth processes . . . . .	1.17	Natural significance . . . . .	1.2
Ecological processes . . . . .	1.16	Organism . . . . .	1.12
Ecosystem . . . . .	1.15	Place . . . . .	1.1
Ecosystem diversity . . . . .	1.5	Preservation . . . . .	1.27
Enhancement . . . . .	1.25	Protection . . . . .	1.29
Evolutionary processes . . . . .	1.18	Regeneration . . . . .	1.23
Genetic diversity . . . . .		Reinstatement . . . . .	1.26
1.7		Restoration . . . . .	1.24
Geodiversity . . . . .		Species diversity . . . . .	1.6
1.8		Succession . . . . .	1.19

## GENERAL

**Article 1.** For the purpose of the Charter the following definitions apply.

1.1 *Place* means a site or area with associated ecosystems , which are the sum of its geo-diversity , biological diversity and natural processes.

## VALUES

1.3. This definition is essentially the same as that used in 'The National Strategy for the Conservation of Australia's Biodiversity' to which all Australian Governments are signatory.

1.10. Special classes of indigenous species, often defined in legislation by terms such as threatened species, vulnerable species, or endangered species, have not been defined in this Charter.

## VALUES

**1.2 *Natural significance*** means the importance of ecosystems, biological diversity and *geodiversity* for their existence value, or for present or future generations in terms of their scientific, social, aesthetic and life-support value.

**1.3 *Biological diversity***(also known as biodiversity ) means the variety of life forms: the different plants, animals and micro-organisms, the genes they contain, and the ecosystems they form. It is usually considered at four levels: genetic diversity , species diversity , ecosystem diversity and community diversity.

**1.4 *Community diversity*** means the variety of communities in an area.

**1.5 *Ecosystem diversity*** means the variety of ecosystems in an area.

**1.6 *Species diversity*** means the variety of species and their relative abundance in an area.

**1.7 *Genetic diversity*** means the variety of genetic information contained in the total genes of individual plants, animals and micro-organisms in an area.

**1.8 *Geodiversity*** means the range of earth features including geological, geomorphological, palaeontological, soil, hydrological and atmospheric features, systems and earth processes.

**1.9 *Natural integrity*** means the degree to which a natural system retains its condition and natural rate of change in terms of size, biological diversity , geo-diversity and habitat.

**1.10 *Indigenous species*** means a species that occurs at a place within its historically known natural range and that forms part of the natural biological diversity of a place.

**1.11 *Introduced species*** means a translocated or alien species occurring at a place outside its historically known natural range as a result of intentional or accidental dispersal by human activities.

**1.12 *Organism*** means any living being.

**1.13 *Habitat*** means the structural environments where an organism lives for all or part of its life.

**1.14 *Community*** means all the living parts of an ecosystem.

**1.15 *Ecosystem*** means the dynamic interaction between the complex of organisms that make up a community with their non-living environment and each other.

**1.16 *Ecological processes*** means all those processes that occur between organisms, and within and between populations and communities, including interactions with the non-living environment, that result in existing ecosystems and bring about changes in ecosystems over time.

**1.17 *Earth processes*** means the interactions, changes and evolutionary development of geodiversity over time.

**1.18 *Evolutionary processes*** means genetically-based processes by which life forms change and develop over generations.

**1.19 *Succession*** means the natural changes over time where one community is replaced by another.

**1.11.** Introduced species include those that have been translocated to a place from elsewhere in Australia, and those that are genetically modified.

**1.20.** A degraded ecosystem will usually require human intervention to recover.

**1.21.** Inclusion of the concept of natural disturbance is problematical, but it is necessary because conservation decisions are often needed after natural extreme ‘catastrophic’ events. Human modification of the natural environment often contributes to the ‘catastrophic’ effects.

The appropriate use of these processes is described in Part C. The term ‘rehabilitation’ has not been used in this Charter because it is widely used in other land management contexts which are not necessarily connected with natural heritage conservation.

**1.22** Conservation, may, according to circumstance, include conservation management measures, regeneration, restoration, enhancement, reinstatement, preservation or modification, or a combination of more than one of these.

**1.23.** Assisted regeneration, where there is some assistance by human intervention to accelerate the process of recovery, e.g., by removing threatening processes, may be justified under the same principles as those for restoration.

**1.24 and 1.26.**

The time frame that would apply to the past state as reference for restoration and reinstatement is not specified; this should be determined for each situation through the conservation policy.

## DEGRADATION AND DISTURBANCE

**1.20 *Degradation*** means any decline in the quality of natural resources or the viability of ecosystems , caused directly or indirectly by human activities.

**1.21 *Disturbance*** means accelerated change caused by human activity, or extreme natural events.

## CONSERVATION PROCESSES

**1.22 *Conservation*** means all the processes and actions of looking after a place so as to retain its natural significance and always includes protection , maintenance and monitoring .

**1.23 *Regeneration*** means the recovery of natural integrity following disturbance or degradation .

**1.24 *Restoration*** means returning existing habitats to a known past state or to an approximation of the natural condition by repairing degradation , by removing introduced species , or by reinstatement .

**1.25 *Enhancement*** means the introduction to a place of additional individuals of one or more organisms, species or elements of habitat or geo-diversity that naturally exist there.

**1.26 *Reinstatement*** means to introduce to a place one or more species or elements of habitat or geo-diversity that are known to have existed there naturally at a previous time but that can no longer be found at that place.

**1.27 *Preservation*** means maintaining the bio-diversity and/or an ecosystem of a place at the existing stage of succession, or maintaining existing geo-diversity .

**1.28 *Modification*** means altering a place to suit proposed uses which are compatible with the natural significance of the place.

## **ACTIONS**

**1.29 *Protection*** means taking care of a place by maintenance and by managing impacts to ensure that natural significance is retained.

**1.29 *Protection*** means taking care of a place by maintenance and by managing impacts to ensure that natural significance is retained.

**1.30 *Maintenance*** means the continuous protective care of the biological diversity and geo-diversity of a place and is to be distinguished from repair. Repair involves restoration and reinstatement .

**1.31 *Conservation management measures*** means the techniques for achieving conservation of biological diversity and geodiversity and may include physical intervention, binding legal agreements, planning instruments, land acquisition and the like.

**1.32 *Monitoring*** means ongoing review, evaluation and assessment to detect changes in condition of the natural integrity of a place, with reference to a baseline condition.

**1.32.** Monitoring is used to allow review of decisions assisted by knowledge of the effects of conservation processes and actions.

# B

# Conservation Principles

## BASIS OF CONSERVATION

**Article 3.** The best conservation often involves the least work, and conservation should not be undertaken unless adequate resources are available to ensure that the place is not left in a disturbed or vulnerable state.

**Article 5.** Conservation of rare, threatened or vulnerable species or declaration of a protected area for specific purposes may conflict with the conservation of other aspects of biological diversity or geo-diversity and decisions should be guided by a conservation policy based on the natural significance of a place.  
See also Article 10.

**Article 2.** The aim of *conservation* is to retain the natural *significance* of a *place*.

**Article 3.** *Conservation* is based on respect for *ecosystems, biological diversity* and *geo-diversity*, and should involve the least possible physical intervention to *ecological processes, evolutionary processes* and *earth processes* .

**Article 4.** *Conservation* should make use of all the disciplines and experience that can contribute to the study and safeguarding of a *place*. Techniques employed should have a firm scientific basis or be supported by relevant experience.

**Article 5.** *Conservation* of a place should take into consideration all aspects of its *natural significance* without unwarranted emphasis on any one aspect at the expense of others.

## CONSERVATION POLICY

- Article 6** The *conservation* policy appropriate to a *place* should first be determined by an understanding of its *natural significance* and should state the desired future condition of the place.
- Article 7** A statement of *natural significance* is central to the *conservation* policy and *conservation* strategy for a place. A statement of *natural significance* is central to the conservation policy and *conservation* strategy for a place.
- Article 8** The *conservation* policy should determine uses that are compatible with the *natural significance* of a *place*.
- Article 9** The *conservation* policy should include consideration of *ecological processes* that extend beyond the stated boundaries of a place.

## REMOVAL OF ELEMENTS

- Article 10** Elements of *geo-diversity*, habitat elements, *organisms* and species, which contribute to the *natural significance* of a *place* and its *ecosystems*, should not be removed from a place unless this is the sole means of ensuring their survival, security or *preservation* and is consistent with the conservation policy.
- Article 11** The destruction of elements of *habitat* or *geo-diversity*, which form part of the *natural significance* of a place, is unacceptable unless it is the sole means of ensuring the security of the wider *ecosystem*.

Article 10. Accepted protocols for scientific collecting should be observed where they exist, and provision for scientific collecting should be incorporated in the conservation plan where appropriate. Refer also to Articles 26 and 30.

**Article 11.** An example is poisoning or draining a water body to eliminate an introduced species of fish where the poisoning or draining may threaten downstream areas or the integrity or evolutionary processes of the ecosystem.

# C

## Article 12.

(i) See also the note at Article 1.23 concerning assisted regeneration.

(ii) 'Conservation management of a non-physical nature' may include actions such as placing a protective covenant on a title to land, reserving the place as a nature reserve or placing interpretative signs at the place about its natural significance.

**Articles 13 and 17.** In considering restoration and reinstatement, the length of time that has passed since the existence of the 'earlier state' will influence decisions on conservation policy and process and will be a matter of judgement by the practitioner for each place.

**Article 14.** Examples of enhancement include:

- raising the numbers of a species to that needed for a viable self-perpetuating community;
- returning an element of habitat that has been seriously depleted, e.g. adding gravel material to expand the shallows and riffles of a stream that has been deepened or mined.

**Article 15.** This means that genotypes different to the local genotype of a species at a place should not be introduced to it unless it is necessary for restoration or preservation of the natural significance.

**Article 16.** This refers to existing natural systems and is not an argument against the creation of new habitat following mining etc.

## REGENERATION

**Article 12.** *Regeneration* does not include physical intervention, but includes *monitoring* and may include *conservation management measures* of a non-physical nature.

## RESTORATION

**Article 13.** *Restoration* is appropriate only if there is sufficient evidence of an earlier state to guide the *conservation* process and if returning the ecosystem to that state reveals the *natural significance* of that *place*.

## ENHANCEMENT

**Article 14.** *Enhancement* is appropriate only if there is evidence that the introduction of additional *habitat* elements or individuals of a species which exist at that *place* are necessary for, or contribute to, the *conservation* of the *natural significance* of the place.

**Article 15.** Where organisms are introduced to a *place* for the purpose of enhancement the individuals introduced to the *place* should not alter the natural *species diversity* or *genetic diversity* of the place if that would reduce its *natural significance*.

**Article 16.** Enhancement should be limited to a minor part of *biological diversity* or *geo-diversity* of a place and should not constitute a majority of the *ecosystem*, or habitats or earth features of the *place*.



## REINSTATEMENT

**Article 17** Reinstatement is appropriate only if there is evidence that the species or habitat elements or earth features, which are to be introduced, have existed there naturally at a previous time, and if returning them to the place contributes to restoration of the natural significance of that place, and if processes threatening to their existence at that place have been discontinued.

**Article 17.** Reinstatement is similar in concept, but not the same as, reconstruction of a cultural place.

## PRESERVATION

**Article 18.** *Preservation* is appropriate where *the natural significance* of a place is its existing stage of natural succession or the existing state of its geo-diversity .

**Article 18.** There may be situations where the conservation strategy for protecting natural significance is to maintain the ecosystem of a place at a particular point in its succession, e.g. preservation may be an appropriate conservation process for the locality of the Wollemi pine in New South Wales, thought to be a surviving relic of a previous climatic environment.

**Article 19.** *Preservation* should be limited to the minimum intervention, or the change of maintenance actions, needed to suspend the natural *earth processes* or processes of *succession* and where that intervention or change will not adversely affect surrounding *ecosystems* .

## MODIFICATION

**Article 20.** *Modification* is acceptable where the conservation of a place cannot otherwise be achieved and where modification does not substantially detract from its natural significance and where the modification will not adversely affect surrounding ecosystems

**Article 21.** *Modification* should be limited to that which is essential to a use for the place, such use being determined in accordance with the *conservation* policy.

**Article 21.**  
See Articles 6-9.

**Article 22.** Records should be kept of those aspects of natural significance unavoidably damaged, lost or displaced in the process of modification of a place to allow their future reinstatement or to guide future restoration.

## MAINTENANCE

**Article 23.** *Maintenance* should be consistent with the *conservation* process(es) adopted for a place and should not detract from its natural significance.

# D

# Conservation Practice

## OBTAINING INFORMATION ABOUT A PLACE

### Article 24.

(i) The minimum information required before work or other conservation action or processes are commenced at a place is identification of its natural significance.

**Article 25.** If the place appears to have features of cultural heritage significance, reference may also be made to the Australia ICOMOS Charter for the Conservation of Places of Cultural Heritage Significance (known as the 'Burra Charter').

**Article 26.** The study should be designed so as to provide appropriate data.

**Article 24** Work or other conservation action or processes at a place should be preceded by research, and review of the available physical, oral, documentary and other evidence about the existing biological diversity, geo-diversity and ecosystems including evidence from Indigenous people.

**Article 25** Evidence of the existing biological diversity, geo-diversity, and any other significant features of the place (such as cultural heritage) should be recorded before any intervention in the place.

**Article 26.** Study of a place may require some intervention to provide the data essential for deciding the natural significance of a place and the conservation policy and strategy. In these cases the intervention should be carried out with minimal impact on the biological diversity and geo-diversity of the place and the intervention actions should be recorded.

**Article 27.** Intervention is justified where it is needed to secure evidence about to be lost or made inaccessible through necessary *conservation* or other unavoidable action.

**Article 28.** Investigation that requires physical disturbance of a place may be permitted if it will create, or add substantially to, a body of knowledge and provided that it is consistent with the conservation policy of a place.

## CONSERVATION POLICY

**Article 29** A written statement of the conservation policy should be prepared setting out the natural significance and the proposed conservation procedure together with the justification and supporting evidence.

**Article 29.** See also Articles 6-9. The statement of conservation policy should be of as high a quality as possible, and prepared or reviewed by a person with appropriate experience, knowledge or professional qualifications.

## CONSERVATION PLAN

**Article 30** A conservation plan should be prepared, incorporating the conservation policy, stating the conservation process(es) that will be used, naming the organisations and/or individuals responsible for policy decisions, stating the conservation outcomes that the conservation plan is intended to achieve, and outlining the monitoring program for the conservation .

**Article 30.** The conservation plan may be a component of a more broadly-based management plan for a range of land uses for the place, e.g., a farm plan, a plan of management for a reserve or a land or vegetation rehabilitation program.

**Article 31.** Appropriate expert direction and supervision should be maintained at all stages of the work, a log kept of new evidence, and additional decisions recorded as amendments to the conservation plan.

## CONSULTATION

**Article 32.** Consultation with individuals or organisations with an interest in the natural significance or future use of a place is always a desirable component of conservation practice.

**Article 32.** The benefits of consultation include the contribution of additional knowledge or experience concerning a place.

## RECORDS

**Article 33.** The records required by Articles in this Part and Article 22 should be placed in a permanent archive and made publicly available unless there is an over-riding indication that this may cause a potential threat to the natural significance of the place.

**Article 33.** Public knowledge of the natural significance of a place can cause degradation by an increase in visitors or illegal or inappropriate removal of items contributing to natural significance.

## MONITORING

**Article 34.** Monitoring , which allows review of the effectiveness of conservation programs and re-examination of the appropriateness of decisions, is a fundamental element of conservation practice.

**Article 34.** Monitoring should be designed and conducted so as to identify changes relevant to the conservation program.

# Background

## **DEVELOPMENT OF THE CHARTER**

This Charter was developed over a two-year period in consultation with key people and organisations in the nature conservation community around Australia. An initial round of consultation during 1995 resulted in the Interim Australian Natural Heritage Charter (January 1996). A second round of national consultation during 1996 further refined the Interim Charter. The Australian Natural Heritage Charter was adopted in December 1996.

The Charter was developed with funding from the Australian Heritage Commission. A national Steering Committee provided perspectives of the Australian Committee for IUCN (World Conservation Union), the Australian Heritage Commission, the Australian Local Government Association, the Australian Nature Conservation Agency, the Environment Institute of Australia and Indigenous people. Steering Committee members were Pam Eiser, John Heath, Theo Hooy, Mary Lou Morris, Meg Switzer, John Pritchard and Lisa Florian. The project consultant who developed the Charter was Lorraine Cairnes of Fathom Consulting, Sydney.

The Charter relates closely in its general structure and logic to that of the Australia ICOMOS Charter for the Conservation of Places of Cultural Significance ('Burra Charter')—and can be used in conjunction with the Burra Charter for places which have both natural and cultural values.

## **PURPOSE OF THE CHARTER**

The purpose of the Charter is to assist everyone with an interest in the significance and conservation of natural heritage in terrestrial and aquatic ecosystems. It can be applied to public and privately-owned places, to the land of traditional Indigenous owners, to very large or very small areas, to national parks and unprotected areas, to areas of international, national or local significance, and to farms and mining leases. It is for non-government and government organisations, land owners, land managers, decision makers, voluntary groups, professional practitioners and everyone with a role in conservation of Australia's natural heritage.

## **ADMINISTRATION AND FUTURE REVIEW**

This Charter is administered by the Australian Committee for IUCN which promulgates and distributes the Charter, monitors and collates the views of users, and will undertake a review and updating process of the Charter at periods not exceeding five years.

## **ADDRESS FOR COPIES AND COMMENTS**

The address for obtaining copies of the Charter or for submitting comments is:

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E-mail [aciucn@ozemail.com.au](mailto:aciucn@ozemail.com.au)

All comments received will be considered during the first five-yearly review in 2001.

### Attachment 3

## ICOMOS Australia Charter for the Conservation of Places of Cultural Significance

# THE “BURRA CHARTER”

The Burra Charter (Marquis-Kyle, Walker, 1992) offers the following conservation principles:

**Article 2:** The aim of conservation is to retain the cultural significance of a place and must include provision for its security, its maintenance and its future.

**Article 3:** Conservation is based on a respect for the existing fabric and should involve the least possible physical intervention. It should not distort the evidence provided by the fabric.

**Article 4:** Conservation should make use of all the disciplines which can contribute to the study and safeguarding of a place. Techniques employed should be traditional but in some circumstances they may be modern ones for which a firm scientific basis exists and which have been supported by a body of experience.

**Article 5:** Conservation of a place should take into consideration all aspects of its cultural significance without unwarranted emphasis on any one aspect at the expense of others.

**Article 6:** The conservation policy appropriate to a place must first be determined by an understanding of its cultural significance.

**Article 7:** The conservation policy will determine which uses are compatible.

**Article 8:** Conservation requires the maintenance of an appropriate visual setting: e.g., form, scale, colour, texture and materials. No new construction, demolition or modification which would adversely affect the setting should be allowed. Environmental intrusions which adversely affect appreciation or enjoyment of the place should be excluded.

**Article 9:** A building or work should remain in its historical location. The moving of all or part of a building or work is unacceptable unless this is the sole means of ensuring its survival.

**Article 10:** The removal of contents which form part of the cultural significance of the place is unacceptable unless it is the sole means of ensuring their security and preservation. Such contents must be returned should changed circumstances make this practicable.

**Article 11:** Preservation is appropriate where the existing state of the fabric itself constitutes evidence of specific cultural significance, or where insufficient evidence is available to allow other conservation processes to be carried out.

**Article 12:** Preservation is limited to the protection, maintenance and , where necessary, the stabilisation of the existing fabric but without the distortion of its cultural significance.

**Article 13:** Restoration is appropriate only if there is sufficient evidence of an earlier state of the fabric and only if returning the fabric to that state reveals the cultural significance of the place.

**Article 14:** Restoration should reveal anew culturally significant aspects of the place. It is based on respect for all the physical, documentary and other evidence and stops at the point where conjecture begins.

**Article 15:** Restoration is limited to the reassembling of displaced components or removal of accretions in accordance with Article 16.

**Article 16:** The contributions of all periods to the place must be respected. If a place includes the fabric of different periods, revealing the fabric of one period at the expense of another can only be justified when what is removed is of slight cultural significance and the fabric which is to be revealed is of much greater cultural significance.

**Article 17:** Reconstruction is appropriate only where a place is incomplete through damage or alteration and where it is necessary for its survival, or where it reveals the cultural significance of the place as a whole.

**Article 18:** Reconstruction is limited to the completion of a deleted entity and should not constitute the majority of the fabric of the place.

**Article 19:** Reconstruction is limited to the reproduction of fabric, the form of which is known from the physical and/or documentary evidence. It should be identifiable on close inspection as being new work.

**Article 20:** Adaptation is acceptable when the conservation of the place cannot otherwise be achieved, and where the adaptation does not substantially detract from its cultural significance.

**Article 21:** Adaptation must be limited to that which is essential to a use for the place determined in accordance with Articles 6 and 7.

**Article 22:** Fabric of cultural significance unavoidably removed in the process of adaptation must be kept safely to enable its future reinstatement.

**Article 23:** Work on a place must be preceded by professionally prepared studies of the physical, documentary and other evidence, and the existing fabric recorded before any intervention in the place.

**Article 24:** Study of a place by any disturbance of the fabric or by archaeological excavation should be undertaken where necessary to provide data essential for decisions on the conservation of the place and/or to secure evidence about to be lost or made inaccessible through necessary conservation or other unavoidable action. Investigation of a place for any other reason which requires physical disturbance and which adds substantially to a scientific body of knowledge may be permitted, provided that it is consistent with the conservation policy for the place.

**Article 25:** A written statement of conservation policy must be professionally prepared setting out the cultural significance and proposed conservation procedure together with justification and supporting evidence, including photographs, drawings and all appropriate samples.

**Article 26:** The organisation and individuals responsible for policy decisions must be named and specific responsibility taken for each such decision.

**Article 27:** Appropriate professional direction and supervision must be maintained at all stages of the work and a log kept of new evidence and additional decisions recorded as in Article 25 above.

**Article 28:** The records required by Articles 23, 25, 26 and 27 should be placed in a permanent archive and made publicly available.

**Article 29:** The items referred to in Articles 10 and 22 should be professionally catalogued and protected.

For further information, see “The Burra Charter - Illustrated”



## Appendix 4

# MAMMAL SPECIES LIST FOR PALM ISLANDS NATURE RESERVE

Based on inventories conducted by the National Council for Scientific Research.

Priorities	A	A	A		B	B	B		C	C	C		D	D
	1	2	3		4	5	6		7	8	9		10	11
<b>CHIROPTERA</b>														
<i>Rhinolophus euryale judaicus</i>	+				+		+				+			
<i>Myotis blythi omari</i>					+	+	+				+			
<i>Myotis capaccinii bureschi</i>	+					+	+				+			
<i>Myotis nattereri hovei</i>		+			+		+				+			
<i>Pipistrellus kuhli ikhawanius</i>	+				+		+				+			
<b>LAGOMORPHA</b>														
<i>Lepus domesticus</i>										+				+
<b>RODENTIA</b>														
<i>Rattus norvegicus norvegicus</i>											+			+
<b>CARNIVORES</b>														
<i>Monachus monachus</i>	+	+					+	+						

### Legend

**A1: GLOBALLY THREATENED SPECIES**

**A2: LOCALLY THREATENED SPECIES**

**A3: ENDEMIC SUBSPECIES**

**B4: SPECIES THAT ARE MAINLY OR WHOLLY RESTRICTED TO MIDDLE EAST**

**B5: RARE SPECIES**

**B6: SPECIES THAT ARE PERSECUTED BY LOCAL PEOPLE**

**C7: INTRODUCED SPECIES**

**C8: BIO-INDICATOR SPECIES**

**C9: ECONOMIC SPECIES (INSECTIVOROUS)**

**D10: EXTINCT SPECIES FROM LEBANON**

**D11: COMMON SPECIES**

## Appendix 5

# BIRD SPECIES LIST FOR PALM ISLANDS NATURE RESERVE

Based on inventories conducted by the National Council for Scientific Research.

### LEGEND

- A(1)**= Globally threatened species (Collar *et al.*, 1994)  
**A(2)**= Regionally threatened or declining species (Evans, 1994): species which are threatened or declining throughout all or large parts of their range in the Middle East  
**B(3)**= Endemic (sub species) + Monospecific species  
**B(4)**= Rare breeders +Former breeders (F) + possibly breeding species(P) (Ramadan-Jaradi & Ramadan-Jaradi, 1999)  
**B(5)**= Localized breeder (Ramadan-Jaradi & Ramadan-Jaradi, 1999).  
**B(6)**= Localized non breeder (Ramadan-Jaradi & Ramadan-Jaradi, 1999)  
**B(7)**= Declining breeder (Ramadan-Jaradi & Ramadan-Jaradi, 1999)  
**B(8)**= Internationally important population passing in Lebanon (Evans, 1994)  
**B(9)**= Nationally threatened or declining species.(Persecuted, Extirpated) (Ramadan-Jaradi & Ramadan-Jaradi, 1999)  
**C(10)**= Extinct or probably extinct from Lebanon (Tohmé & Neuschwander, 1974), (Ramadan-Jaradi & Ramadan-Jaradi, 1999).  
**C(11)**= Introduced species (Ramadan-Jaradi & Ramadan-Jaradi, 1997).  
**C(12)**= Bio-indicators (Ramadan-Jaradi & Ramadan-Jaradi, *in prep.*)  
**C(13)**= Economic species (Ramadan-Jaradi & Ramadan-Jaradi, *in prep.*)  
**D(14)**= Species restricted wholly or largely to the Middle East (Evans, 1994)  
**D(15)**= Species which are mainly concentrated in Europe but with unfavorable conditions (Tucker *et al.*, 1997).  
**D(16)**= Species which are mainly concentrated outside Europe but with unfavorable conditions in Europe (Tucker *et al.*, 1997).  
**Number following scientific name** =(1) Species on Appendix 1 of the Bonn Convention, (2)Species on Appendix 2 of the Bonn Convention  
**V**= vagrant species

### INVENTORY

D	D	D	C	C	C	C	B	B	B	B	B	B	B	A	A	Priorities
16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	
																<b>PODICIPEDIDAE</b>
							+		+		+	+				<i>Tachybaptus ruficollis</i>
							+			+						<i>Podiceps cristatus</i>
																<b>PROCELLARIIDAE</b>
	+						+									<i>Calonectris diomedea</i>
																<i>Puffinus yelkouan</i>
																<b>HYDROBATIDAE</b>
+							v									<i>Oceanodroma leucorhoa</i>









## Appendix 6

# REPTILE SPECIES LIST FOR PALM ISLANDS NATURE RESERVE

Based on inventories conducted by the National Council for Scientific Research.

### LEGEND

**A1: GLOBALLY THREATENED SPECIES**

**A2: REGIONALLY AND NATIONALLY THREATENED SPECIES**

**B3: ENDEMIC SPECIES**

**B4: RARE SPECIES IN LEBANON**

**B5: MONO-SPECIFIC SPECIES AND/ OR SPECIES RESTRICTED TO PALM ISLANDS RESERVE**

**B6: PERSECUTED SPECIES**

**C7: EXTINCT SPECIES FROM LEBANON**

**C8: BIO-INDICATOR SPECIES**

**C9: ECONOMIC SPECIES**

**D10: COMMON AND WIDESPREAD AND SPECIES**

**D11: SPECIES THAT ARE FOUND AROUND THE ATLANTIC OR THE MEDITERRANEAN**

Priorities	A	A	B	B	B	B	C	C	C	D	D
	1	2	3	4	5	6	7	8	9	10	11
<b>MOCHELYIDAE</b>											
<i>ochelys coriacea coriacea</i>	+				+	+	?+		+		+
<b>LONIIDAE</b>											
<i>Caretta caretta caretta</i>	+			+		+			+		+
<i>Chelonia mydas mydas</i>	+					+	+?		+		+
<b>KONIDAE</b>											
<i>Hemidactylus turcicus</i>		+				+				+	
<i>Ptyodactylus puiseuxi</i>		+				+					
<b>ERTIDAE</b>											
<i>Lacerta laevis laevis</i>		+	+							+	
<b>NCIDAE</b>											
<i>Mabuya vittata</i>										+	
<b>UBRIDAE</b>											
<i>Coluber jugularis asianus</i>		+				+				+	





<b>CHENOPODIACEAE</b>														
<i>Arthrocnemum macrostachyum</i>	+			+								+		+
<i>Halimione portulacoides</i>												+		+
<b>CARYOPHYLLACEAE</b>														
<i>Cerastium glomeratum</i>														+
<i>Minuartia mesogitana</i>												+		
<i>Minuartia thymifolia syriaca</i>												+		
<i>Silene colorata</i>														+
<b>RANUNCULACEAE</b>														
<i>Anemone coronaria cyanea</i>												+	+	
<i>Anemone coronaria phoenicea</i>												+	+	
<i>Ranunculus asiaticus</i>														+
<b>PAPAVERACEAE</b>														
<i>Fumaria densiflora</i>														+
<i>Fumaria gaillardotii</i>												+		
<i>Glaucum flavum</i>												+	+	
<i>Papaver rhoeas</i>														+
<i>Papaver syriacum</i>												+		
<b>CAPPARIDACEAE</b>														
<i>Capparis spinosa</i>													+	
<b>BRASSICACEAE (CRUCIFERAE)</b>														
<i>Matthiola tricuspidata</i>												+	+	+
<i>Cakile aegyptia</i>												+		+
<i>Enarthrocarpus arcuatus</i>												+		
<b>CRASSULACEAE</b>														
<i>Sedum sediforme</i>														+
<i>Sedum littoreum</i>												+		+
<b>ROSACEAE</b>														
<i>Poterium spinosum</i>														+
<b>FABACEAE (PAPILIONACEAE)</b>														
<i>Lotus cytisoides</i>												+		+
<i>Astragalus baeticus</i>												+		+
<i>Melilotus indicus</i>														+
<i>Ononis reclinata mollis</i>												+		
<i>Trifolium campestre</i>														+
<i>Trifolium resupinatum</i>														+
<b>OXALIDACEAE</b>														
<i>Oxalis pes-caprae</i>														+
<b>GERANIACEAE</b>														
<i>Geranium molle</i>														+
<b>EUPHORBIACEAE</b>														
<i>Euphorbia paralias</i>												+		+
<i>Euphorbia peploides</i>														+
<i>Mercurialis annua</i>												+		+
<b>MALVACEAE</b>														
<i>Lavatera trimestris</i>												+		+
<b>FRANKENIACEAE</b>														
<i>Frankenia hispida</i>												+		+
<b>LYTHRACEAE</b>														
<i>Lythrum hyssopifolia</i>												+		+
<b>APIACEAE (UMBELLIFERAE)</b>														
<i>Crithmum maritimum</i>												+	+	+
<i>Eryngium maritimum</i>												+		+





Appendix 8

**ACTIVITIES TABLE**

**PALM ISLAND NATURE RESERVE**

**MANAGEMENT PLAN 2000-2005**

Activity/Development	No Permit Required	Permit required	Prohibited by Plan
	(Note: Visitor Season Only. Public access <b>not</b> permitted at other times)		
<b>PALM ISLAND</b>			
Boat access to waters			
Docking of boat	On dock only.		
Birdwatching			
Walking on tracks			
Using beach	Visitor zone only		Turtle zone
Swimming			
Picnicking	Visitor zone only		Turtle zone
Fires and cooking stoves			
Educational group visits			
Research			
Camping			
Fishing - within 500 meters.			
Hunting			
Motorized Vehicles			

<b>Activity/Development</b>	<b>No Permit Required</b>	<b>Permit required</b>	<b>Prohibited by Plan</b>
Public toilets	Env. Assessment required.		
Buildings			

Activity/Development	No Permit Required	Permit required	Prohibited by Plan
<b>RAMKINE ISLAND</b>	(Note: Visitor Season Only. Public access not permitted at other times)		
Boat access to waters			
Docking of boat	On dock only.		
Bird-watching			
Walking on tracks			
Using beach			
Swimming			
Picnicking			
Fires and cooking stoves			
Educational group visits			
Research			
Fishing within 500 meters.			
Camping			
Hunting			
Motorized Vehicles			
Buildings			
Public toilets	Assessment reqd.		
Buildings - Overnight accom.			Except for emergency *shelter only.
* Within existing buildings.			

Activity/Development	No Permit Required	Permit required	Prohibited by Plan
<b>SANANI ISLAND</b>	(Note: Visitor Season Only. Public access not permitted at other times)		
(NOTE: Access subject to seasonal closure)			
Boat access to waters			
Docking of boat	On dock only		
Birdwatching			
Walking on tracks			
Using beach			
Swimming			
Picnicking			
Fires and cooking stoves			
Fishing within 500 meter			
Educational group visits			
Research			
Camping			
Hunting			
Motorized Vehicles			
New Buildings			Except sun shelters.
Public toilets	Env. Assessment. Required.		

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