



The State of Qaroun Protected Area

An Evaluation of Management Effectiveness





Document Information

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Table of Contents

Executive Summary.....	5
Introduction.....	7
Part I. Evaluation Framework and Objectives.....	8
Objectives for Site Level Management Effectiveness Evaluations in Egypt	8
Site Level Evaluation Process	9
Key Inputs for this Evaluation	10
Part II. Current Context: Qaroun Protected Area.....	12
Part III. Evaluation Results.....	15
1.0 Biodiversity, Natural and Cultural Resources	16
1.1 Gebel Qatrani Cultural/Natural	16
1.2 North Coast of Qaroun Lake (natural resources)	23
1.3 Golden Horn Island.....	25
1.4 Lake Qaroun	27
2.0 Ecotourism-Recreational Resources	30
2.1 North coast of Qaroun Lake	30
2.2 South of Qaroun Coast.....	32
3.0 Community Well-being.....	35
3.1 Villages on the South Coast of Qaroun Lake	35
3.2 Fishermen.....	38
Part IV. Effective Management	40
4.0 Threats.....	40
5.0 Outputs and outcomes	41
Part V. Toward the Future	44
6.0 Strategic considerations	44
Key References	47
Appendices	48
Appendix 1: List of Participants and Workshop Agenda	48
Appendix 2: Past 5 years Management Actions.....	49
Appendix 3: Summary of Recommended Actions	51
Appendix 4: Results of Stakeholder, Community and Visitor Surveys	55
Appendix 5: RAPPAM Questions and Results for Qaroun Protected Area.....	71
Appendix 6: Site Level Management Effectiveness Evaluation Procedure.....	84
Appendix 7: Participant Evaluation of the Qaroun Workshop	86
الملخص التنفيذي	90

Terms and Acronyms

EIECP	Egyptian-Italian Environmental Cooperation Programme
AWP	Annual Work Plan
BP	Business Plan
BioMAP	Monitoring and Assessing Biodiversity Project
CBD	Convention on Biodiversity
EEAA	Egyptian Environmental Affairs Agency
EIA	Environmental Impact Assessment
GoE	Government of Egypt
IUCN	World Conservation Union
MEE	Management Effectiveness Evaluation
MSEA	Minister of State for Environmental Affairs
NCSCB	Nature Conservation Sector Capacity Building Project
NCS	Nature Conservation Sector
PA	Protected Area
PAMU	Protected Area Management Unit
QPA	Qaroun Protected Area
RAPPAM	Rapid Assessment and Prioritisation of Protected Area Management
UNDP	United Nations Development Programme
Shareholder	A person or group who has demonstrated an interest in WRPA through financial or time donations. They are committed to the goals of the protected area.
Stakeholder	A person or group who derives social, economic or ecosystem services from WRPA. They have a direct connection through their work or activities.

Executive Summary

Qaroun Protected Area was established in 1989 with Wadi El-Rayan. It encompasses important natural and cultural sites. UNESCO is currently studying the North of Qaroun Lake for possible declaration as a World Heritage Site. Also Qaroun Lake has been identified as an International Bird Area by BirdLife International.

In 2006, site level management effectiveness of Egypt's protected areas was initiated by the Nature Conservation Capacity Building Project under the umbrella of EEAA, Nature Conservation Sector. A process was developed and tested in four national parks (protected areas) in Egypt. Two, Wadi El-Rayan and Saint Katherine, have a management plan whereas the other two, Ras Mohamed and Qaroun, are without a management plan document.

The management effectiveness evaluation has great value for decision makers, managers and the staff as well. This report shows the importance of the process which has resulted in a series of prioritized actions against a group of threats affecting the protected area's resources.

In this report, 8 key values were identified in Qaroun protected area. Their status and threats were assessed by the PA staff. The process was facilitated and managed by the management effectiveness evaluation team. Different inputs were obtained through visitor, stakeholder and community surveys and meetings.

The following table summarizes the current situation in QPA. Concern and actions should be primarily focused on addressing the high and very high threats, improving the conditions of the ecosystems and other values that are in a poor state, and on maintaining the values that are in a good state.

The Status of Qaroun Protected Area

Values	Threats	Status
1. Biodiversity/Natural Resources/Cultural Resources		
Gebel Qatrani Cultural/Natural (Qasr El-Sagha, Demaie, Ancient quarries, Basalt road, Fossils)	VH	S
North shore of Qaroun Lake	VH	S
Golden Horn Island	H	S
Lake Qaroun	H	W
2. Ecotourism/Recreational Resources:		
North shore of Qaroun Lake	M	S
South shore of Qaroun Lake	VH	W
3. Community Well-being (socio-economic)		
Local communities outside QPA; villages of the south coast.	M	S
Local communities inside QPA; mainly fishermen.	H	W

Key:

Threats Today	Status today compared to 5 years ago
Very High VH	Improved I
High H	Stable S
Medium M	Worsened W
Low L	

This assessment found the following: (see next table)

- Gebel Qatrani, a high value resource with a high degree of threat, should be the top priority for conservation. The site is currently under study by UNESCO for declaration as a World Heritage Site. The future management plan of the QPA should zone the site as a protected zone and have facilities to welcome national and international visitors.
- Further studies should be done to improve local economic benefits as an important eco-tourism destination in Fayoum Province, linked to Wadi El-Hitan Natural World Heritage Site.
- From the 8 key values of QPA, 5 are nearly in stable condition, while minimal efforts have been done for the development and protection of these resources. These resources have received ratings, ranging from very high degree of threats (Gebel Qatrani, the North Coast of Qaroun Lake as a natural resource, South Coast as an ecotourism value), high (Lake Qaroun, Golden Horn Island and local fishing community), and medium degree of threats (North coast as eco-tourism resource and the local communities along the south coast of Qaroun Lake).
- Three of the key resources, which are: Qaroun Lake, South Shore of Qaroun Lake and local communities inside the PA, show worsened situation today compared to 5 years ago. These resources have high or very high threats, which indicate a clear priority to take actions to stop their degradation.
- The condition of Qaroun Lake has worsened over the last five years due to inputs of pollutants of agricultural and domestic origins. The declining water quality, increasing rate of salinity and the increased level of the water are the main problems and threats facing the future of the lake as a natural and eco-tourism value and also as a source of direct economic benefits for the local fishermen and for the national income as a source of fish.
- The recreational and tourism infrastructure on the south shore of Qaroun Lake has worsened over the last five years due to the weak governmental services and low level of collaboration between the QPA and the relevant stakeholders.
- Finally, with an overall threat rating of very high and status ratings of stable and worsened (none showing improved conditions), it is clear that **QPA resources have declined over that last 5 years** and today face important challenges.

Arising from the close look at each of the 8 key values, presented in part III, 46 actions have been listed (appendix 3). A number of strategic considerations are described in part V, several of which may apply to other protected areas in Egypt.

Management Effectiveness in Egypt National Parks

In 2006, the Nature Conservation Sector Capacity Building Project, as part of the Egyptian-Italian Environmental Cooperation Programme, undertook a national level management effectiveness evaluation of Egypt National Parks (Fouda et. al., 2006, appendix 5). A recommendation of this national rapid assessment was to implement a pilot project to establish and test an approach for carrying out more detailed site level management effectiveness evaluations. The site level evaluation objectives (see part I) and process (appendix 6) were developed and the approach was tested at four protected areas in Egypt: Wadi El-Rayan, Qaroun, Ras Mohammed and Saint Katherine.

This work is in support of Egypt's commitment toward implementation of the Convention on Biological Diversity and the Programme of Work on Protected Areas (goal 4.2) to conduct management effectiveness evaluations in 30% of the nation's protected areas by 2010.

An assessment of management effectiveness is an important tool for politicians, senior managers and site level staff. With this, the financial needs can be properly rationalized from a strategic and operational perspective. The focus of budgets and work plans can be directed to the most important priorities. Openness and transparency can also garner additional support for management programmes as this demonstrates the care that is being invested in improving the effectiveness of protection and local economic development initiatives.

Introduction

World wide, protected area organizations have been focusing efforts on measuring conservation success. The effectiveness of management can be evaluated at many scales and in varying levels of details. In January 2006, the Nature Conservation Sector undertook a national workshop to evaluate the management effectiveness of Egypt's protected areas system. Following the framework of The World Conservation Union (IUCN) and World Wildlife Fund's rapid assessment methodology, a broad assessment was implemented through a questionnaire. In the resulting report, Fouda *et al* (2006) recommended that more detailed site evaluations be carried out at the protected area level. Accordingly, through the Nature Conservation Sector Capacity Building Project, a site level methodology was developed and tested first at Wadi El-Rayan Protected Area and secondly at Qaroun Protected Area.

Qaroun Protected Area (WRPA) is located in the western part of the Fayoum Governorate, about 100 km southwest of Cairo. The protected area was established in 1989, and today is 1,385 km². Qaroun Protected Area contains globally important fossil resources and is being considered for nomination by UNESCO and Egypt as a World Heritage Site. Consequently, this evaluation was timely as it provided a useful mechanism to examine threats and management needs.

This report provides a synthesis of evaluation information and aims to assess three aspects of effective management. Firstly, what is the condition of QPA key values related to biodiversity and natural resources, ecotourism resources, and community well-being? As this is the first report of this type for QPA, it isn't possible in all cases to determine if conditions are improving, remaining stable, or declining, however, a starting point has been established for evaluation, and to a limited extent, baseline indicators have been identified using best available information. Secondly, what are the key threats and underlying causes affecting these threats and the conservation (maintenance) of the key values? Thirdly, how has QPA done in implementing its work, what are the results of the actions, and what actions or changes are needed now to improve protection and management?

In general, the conditions of the key values were difficult to determine because of a number of limiting factors, including a) lack of a management plan and annual work plans, b) absence of a clear profile about the resources of QPA, and c) absence of documentation about work activities carried out in QPA. Despite these limitations, staff made this initial review and set forth a series of management objectives for consideration during the preparation of the management plan.

Information is Important

The information in this report is expected to help in the following ways:

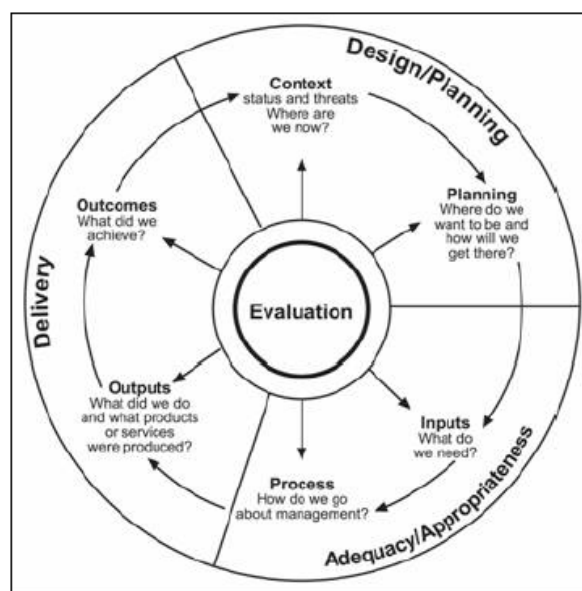
- Ensure productive ecosystems to support sustainable local economic benefits related to fish farms, land reclamation needs, tourism.
- Protect nature to ensure the long term survival of biodiversity and the integrity of natural resources.
- Support adaptive management of the protected area.
- Identify needs of local communities and stakeholders.
- Identify actions that people can take to maintain healthy, clean and productive ecosystems.

Part I. Evaluation Framework and Objectives

Many evaluation systems are based on the IUCN framework (see figure; Hockings et al., 2000). The framework has three main areas of focus:

1. How appropriate is the site's design?
2. How appropriate are the management systems and processes?
3. Are management objectives met and values conserved?

Whereas the national RAPPAM evaluation examined the first two elements for Egypt (i.e., context, planning, inputs, processes and to some extent, outputs), this site level evaluation aims to examine the third, with a focus on outputs (implementation of work programmes) and outcomes (state of the protected area's key values).



Objectives for Site Level Management Effectiveness Evaluations in Egypt

Through the NCSCB project, an approach to site level management effectiveness evaluation is being developed in response to recommendations arising from the first national RAPPAM evaluation in January 2006. The following objectives for site level evaluations have been proposed (Paleczny 2006a):

- Assess the conservation status of Egyptian National Parks (ENP). Are the key values (ecosystems/resources, ecotourism/recreation, community well-being) declining, remaining stable or improving?
- Identify the threats affecting protected area values, the underlying causes and possible solutions.
- Examine the site level track record in implementing management plans (where they exist) and taking positive action toward achievement of conservation. Did the protected areas implement their programme? Were the actions effective in addressing conservation objectives?
- Examine the underlying problems and possible solutions affecting the delivery of effective management and develop priorities and actions for implementation and integration into the protected area management plan or descriptive management plan.
- Disseminate information to managers and decision makers, stakeholders, collaborators and the public to improve awareness about the protected area and its management.
- Further advance a culture of transparency, learning and evaluation in Egyptian NCS. Aim to enhance continuous improvement and effectiveness (includes monitoring, research, reporting).
- Establish the basis for site level monitoring plans.
- Identify gaps in knowledge that hinder an accurate assessment. Substantiate assessments, as much as possible.

These objectives support Egypt's obligations under the World Heritage Convention to identify, protect, conserve, present, and transmit to future generations, world heritage values.

Site Level Evaluation Process

A three day workshop to initiate the evaluation of management effectiveness was carried out at the Panorama Hotel in Shakshouk Village from August 20-22, 2006. In addition to the workshop, a survey of stakeholders, local community and visitors was undertaken a few days before starting the workshop (appendix 4), and the national RAPPAM results were considered (appendix 5). Following the workshop, the authors continued to investigate topics and use available information as part of the evaluation in this report.

The procedure, illustrated in the diagram (and described in more detail in appendix 6) included the following main steps:

- The main natural, cultural, recreational and socio-economic values for QPA were determined. These main values were prepared by the staff during the workshop. The values are characterized in terms of key attributes: (a) size, (b) condition, (c) landscape context and (d) threats (see threat assessment below).
- Potential indicators and measures of status were identified and examined.
- A diagram of the key threats and underlying causes affecting the main values was prepared, including possible actions.
- An evaluation of the management plan implementation and its impact was undertaken (appendix 2).
- Recommended actions were identified.

Threats were assessed as very high, high, medium and low for their geographical extent and severity, using the following definitions.

Rank	Guideline for Severity (after TNC 2000)
<i>Very high</i>	<i>The threat is likely to eliminate the value.</i>
<i>High</i>	<i>The threat is likely to seriously degrade the value.</i>
<i>Medium</i>	<i>The threat is likely to moderately degrade the value.</i>
<i>Low</i>	<i>The threat is likely to only slightly impair the value.</i>

Rank	Guideline for Extent (after TNC 2000)
<i>Very high</i>	<i>Very widespread or pervasive for most of the value's area (>75% of the value's area).</i>
<i>High</i>	<i>Widespread area (40-75% of the value's area).</i>
<i>Medium</i>	<i>Localised area (10-40% of the value's area).</i>
<i>Low</i>	<i>Very localised (<10% of the value's area).</i>

Extent and severity were combined to determine the overall magnitude of the threat. The calculation of the threat magnitude is summarized in the following table:

		Extent			
		4-Very high	3-High	2-Medium	1-Low
Severity	4-Very high	4-Very high	3-High	2-Medium	1-Low
	3-High	3-High	3-High	2-Medium	1-Low
	2-Medium	2-Medium	2-Medium	2-Medium	1-Low
	1-Low	1-Low	1-Low	1-Low	1-Low

The evaluation methods employed in this process of evaluation were informed by three key sources. Firstly, the procedure for examining the implementation of management actions (outputs) was adapted

from the World Heritage Management Effectiveness Workbook (Hockings et al., 2004). Secondly, the evaluation of protected area values was adapted from The Nature Conservancy's Enhanced 5-S process for measuring conservation effectiveness (outcomes) and analyzing threats (TNC, 2000; Salzer et al., 2003). The E5-S approach was expanded to include ecotourism-recreational resources and community well-being (socio-economic) with new worksheets and processes. Thirdly, the elements of the ecosystem approach (Shepherd 2004, Smith and Maltby 2003) were considered and built into the respective worksheets and processes.

Completing all of this work is a large task, which at first may discourage staff from initiating this work. The key is to start with the priorities and build upon the system through future work. Salzer et al. (42, 2003) underline this point:

"We envision the assessment of focal target viability to be an iterative process – it is not realistic to develop comprehensive lists of all key attributes, indicators, and a full set of indicator ratings for all focal targets as part of an initial viability assessment. However, it is important to start with at least one key attribute and indicator and the classification of that indicator into one of the 4 indicator rating categories with sufficient detail that someone else could determine whether that indicator had shifted to another category. We recommend that the viability assessment go deeper for those targets and key attributes where there are known threats delivering uncertain impacts to the conservation target or where priority conservation actions are being implemented to improve certain target's viability status."

Accordingly, the assessments in the report focus on priority values (focal targets), using available information and experience. We acknowledge that some elements of this evaluation may not be rigorous in all respects; we accept the shortcomings as in interim step along the path toward improvement. For example, in some cases data presented is minimal and this should be kept in mind when drawing conclusions.

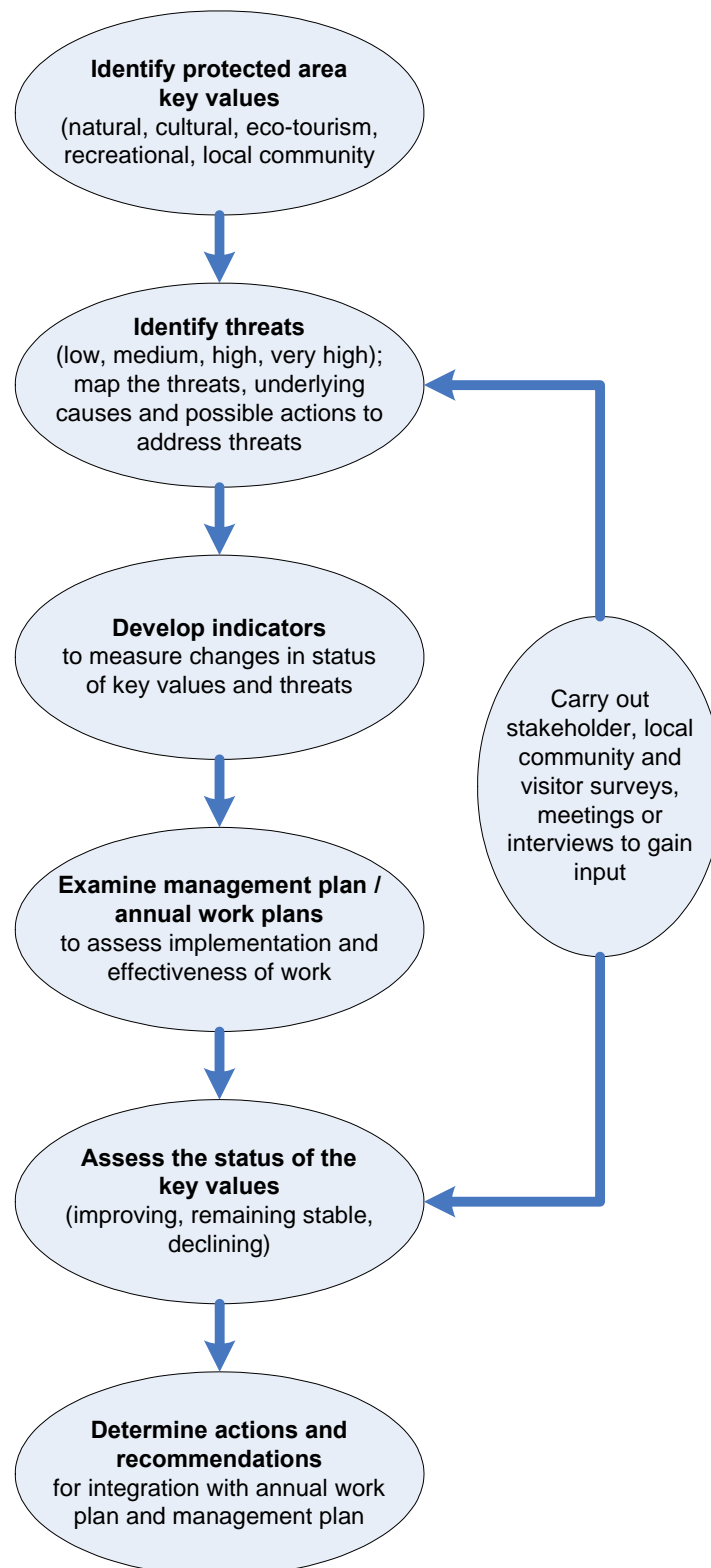
We have aimed to provide a credible report using best available information and to make a start at measuring conservation success. We also hope that this report will assist in identifying areas where more cooperation can be forged with research and technical institutions to improve the design and implementation of monitoring indicators and protocols.

Key Inputs for this Evaluation

Limited sources of information were available for the preparation of this evaluation and assessment of the state of QPA, which included:

1. Findings from the first national RAPPAM (Fouda *et al*, 2006) (appendix 5).
2. The results of the three day workshop with QPA rangers (section III).
3. Informal talks with the stakeholders.
4. Survey results administered with stakeholders, local community and visitors before the workshop (appendix 4).

Management Effectiveness Evaluation Process



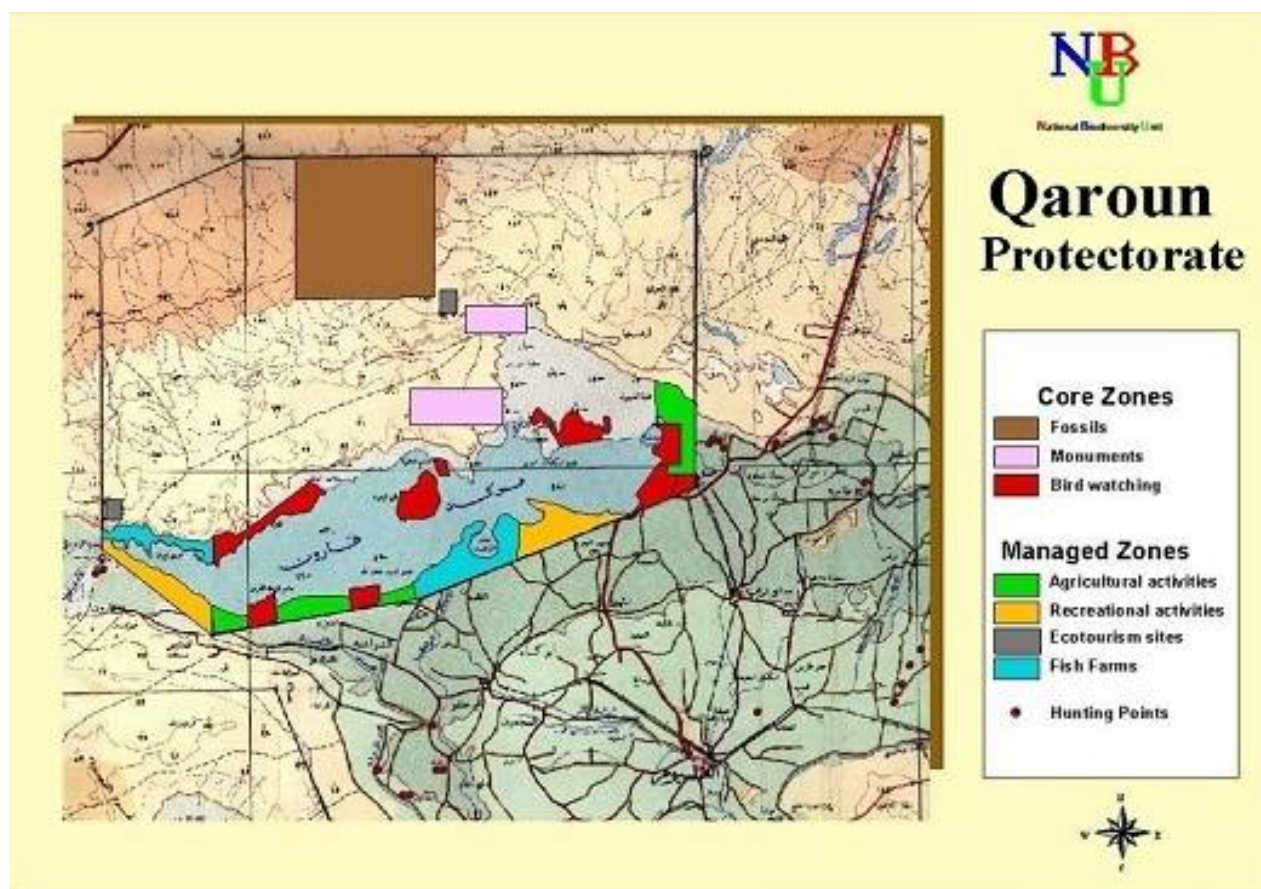
Part II. Current Context: Qaroun Protected Area

QPA is one of the wetland protected areas of Egypt. It has been established in 1989 by the Prime ministerial Decree 943/1989 with WRPA. It was mainly declared for its international bird importance and as a part of RAMSAR convention, and at the same time to protect the globally important fossil sites and the archeological sites from Roman and Greek eras.

The area of QPA is about 243 km² which is the area of Qaroun lake, 1100 km² which represents the area of terrestrial part of Gebel Qatrani and the north shore of Qaroun lake in addition to 50 km² that represents the area of the south coast of Qaroun lake.

The area is easily accessible by motor cars from Cairo situated to northeast and from Beni Suef in the southeast. Several desert tracks connect the Fayoum depression with the Bahariya Oasis crossing Wadi El Rayan (southwest of Fayoum). Another desert track trends southward from Qasr El Basel at the southern border of the Fayoum cultivated land to Shosha village west of Samalut City in the Nile Valley.

The QPA is of high recreational, scientific and educational importance. Outstanding scenic beauty, landscape variety and easy access to un-spoilt parts of the Lake Qaroun shoreline as well as to the upper part of Gebel Qatrani make it one of the most beautiful spots in the Fayoum governorate. Main different habitat types are found in the area, which hosts a unique representation of geological features and paleontological deposits, a wide variety of migratory bird species, and other natural and landscape features uniquely mixed with archaeological and prehistoric sites.



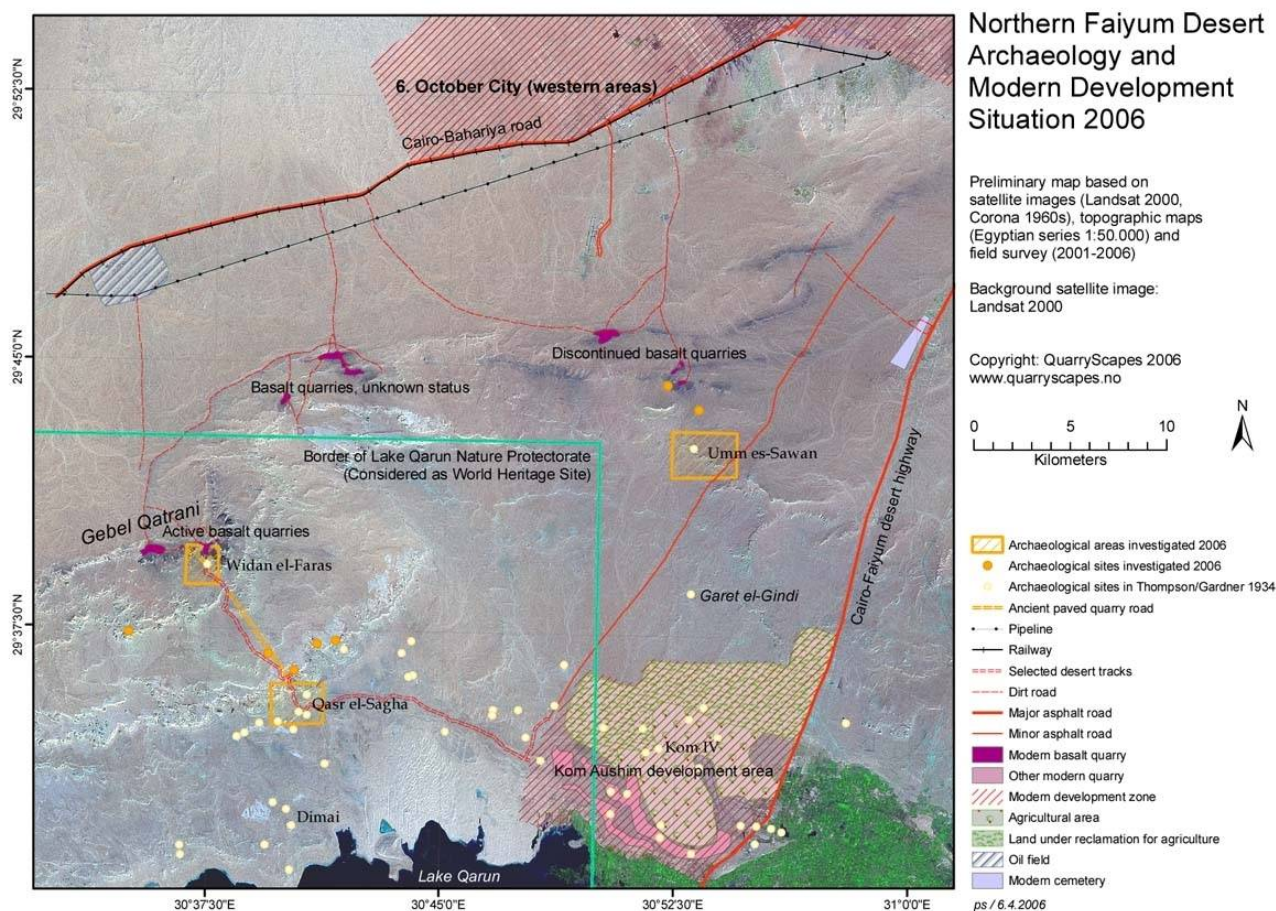
Gebel Qatrani

The most important part of the region is the area lying between Qaroun Lake and the summit of the Fayoum depression to the north, the uppermost escarpment well-known by the name Gebel Qatrani. Its eastern extremity is perhaps the most conspicuous point in the whole region, here the two conical black basalt-capped cliff- outliers, known as Widan El Faras (horse ears) stand side by side and from their summits the viewer commands the whole region.

Gebel Qatrani (tar hill), so named from a black cap rock representing an ancient lava flow which spread over the region after the deposition of the fossiliferous sediments.

Gebel Qatrani is the type locality of Qatrani Formation which is composed of fluvio-marine series of variegated alluvial rocks, fine to coarse sandstone, granule and pebbly conglomerate, sandy mudstone, carbonaceous mudstone and limestone, strongly burrowed and root-bearing, fluvial, point bar and flood clastics which grade laterally and vertically into each other. This formation is richly fossiliferous with vertebrate fauna that lived in this area in the late-Eocene and Early Oligocene ages. It overlies uncomfortably Qasr El Sagha Formation and underlies the Miocene basalt of Widan El Faras.

Qatrani Formation is divided into an upper sequence (formerly termed upper fossil wood zone) and a lower sequence (formerly termed lower fossil wood zone). These two sequences are separated by a very persistent 4-10m thick layer of barite sandstone



Lake Qaroun

This lake covers an area of about 234 km², with a length of 40 km along its east-west axis while its maximum width is less than 10 km in a north-south direction. The desert borders the lake from the north and partly eastward while cultivated land encircles it from the south, west and southeast direction. The lake receives most of the drainage from the cultivated lands coming through El Wadi drains. Birket Qaroun is the existing remnant of an ancient prehistoric lake, which covered a large part of the floor of the Fayoum depression, while in historic times Amenemhat I in the XII Dynasty converted it into an artificially controlled sheet of the water (Lake Moeris). Lake Moeris has been used as a regulator of excessively high and low Nile floods and was of the greatest importance in connection with the irrigation of the Nile Valley at that time. Lake Qaroun is located about 80-km southwest of Cairo, not very far from the Nile Valley. It is centered on 29° 30' N, and 30° 40' E. The average length of the lake from east to west is about 40 km, and the mean breadth is about 6.7 km. The maximum breadth is about 9.15 km. The lake has a surface area of 243.4 square km and a volume of 924 million cubic meters at -42.95 m B.S.L. The Lake is an enclosed, saline, inland lake, snuggling forty-five meters below sea level into the lowest, northern section of the Fayoum Depression, Egypt. Cultivation reaches down to its southern and eastern shores where freshwater can be brought from the irrigation system. The entire northern shore is bare desert.

The Surrounding Deserts

The desert surface encompassing the Fayoum cultivation to the southwest and south is nearly flat with a number of hills and hillocks e.g. El Mishigega. In this surface, small depressions were excavated e.g. Hattiyat El Boqirate. Further south and southwest, the floor of the depression merges into the general desert plain. To the east and southeast, the Fayoum depression is separated from the Nile Valley by nearly 10 km wide ridge near Bahr Yousef which narrows further south to 2.5 km due east at El Gharaq. Two prominent hills stand north and south of the Hawara channel, these are Gebel El Lahun and Gabel El Naalon respectively.

At present, tourism is the most important threat to the site. Although we cannot have exact figures about the numbers of visitors to the QPA coming from the north through the Bahariya road, we can confidently say that they could be several hundred in one day (mostly in winter), usually on weekends, and from what estimated by QPA staff. Visitors are of varied categories, in groups, or solitary, middle-aged or young, highly educated or of limited education, seeking to see the Petrified Forest, Qasr El-Sagha or Dimaie. Tourists may come in groups, sometimes in caravans of up to 20 cars, or singly in one or two cars, with local guides from Giza or from Bahariya Oasis.

At the time of the workshop, and with this report, there was no approved management plan for QPA except some short descriptive reports done by the local PA staff. However, as a part of the process to develop UNESCO World Heritage Submission, The NCS has since initiated preparation of the plan. The current governmental financing is not enough for the needed activities inside QPA. Sponsorship opportunities should be found for supporting the future activities such as the protection and development of the proposed North Qatrani site as a World Heritage Site. In addition to annual governmental budget, of about 60,000 LE, staff support from WRPA and some benefits derived from the Egyptian-Italian Environmental Cooperation program at WRPA has been directed to QPA. Many activities can be implemented with minimal funding including scientific monitoring programs, diversifying educational and awareness topics for the local communities inside the PA and some attention towards the basic infrastructures (defining tracks to the basic archeological and fossil sites, simple signage program, etc.). However, for sustained operations, including effective patrolling, adequate funding is needed. A management plan for the PA is needed based on the real needs and management priorities of the area.

Part III. Evaluation Results

The main values identified by the staff at QPA are:

1. Biodiversity/Natural Resources/Cultural Resources:
 - Gebel Qatrani Cultural/Natural (Qasr El-Sagha, Demaie, Ancient quarries, Basalt road/Fossils)
 - North shore of Qaroun Lake
 - Golden Horn Island
2. Ecotourism/Recreational Resources:
 - North shore of Qaroun Lake
 - South shore of Qaroun Lake
3. Community Well-being (socio-economic)
 - Local communities inside QPA are mainly fishermen.
 - Local communities outside QPA are represented in the surrounding villages of the south coast.

A description of these main values was prepared by QPA staff with support from the workshop facilitators. The key attributes (size, condition and landscape context for each value) were described of the values. This was followed by the preparation of a map of the key threats affecting these main values, and identification of possible actions, by the identification of potential indicators and measures of status. The results of the surveys have been integrated into the following sections. Upon completing this work, the rangers identified the key objectives to guide the management of the protected area.

Management objectives

1. Limiting of pollution sources for Qaroun Lake
2. Integrated Environmental management for tourism development sites inside Qaroun PA especially the northern coast
3. Development of local communities inside PA
4. Protection and development of Gebel Qatrani area, for future declaration as a world heritage site
5. Sustainable regulation of fishing process, and implementation of environmental laws
6. Public awareness framework for local communities and PA visitors
7. Conservation of biological diversity
8. Development of human resources of the PA in terms of training and capacity building to cope with protection and conservation needs
9. Optimizing the economic development for PA resources in a sustainable way for management goals and development of local communities
10. Protection of bird sanctuary in Al-Qarn Al-Zahaby island in Qaroun Lake.

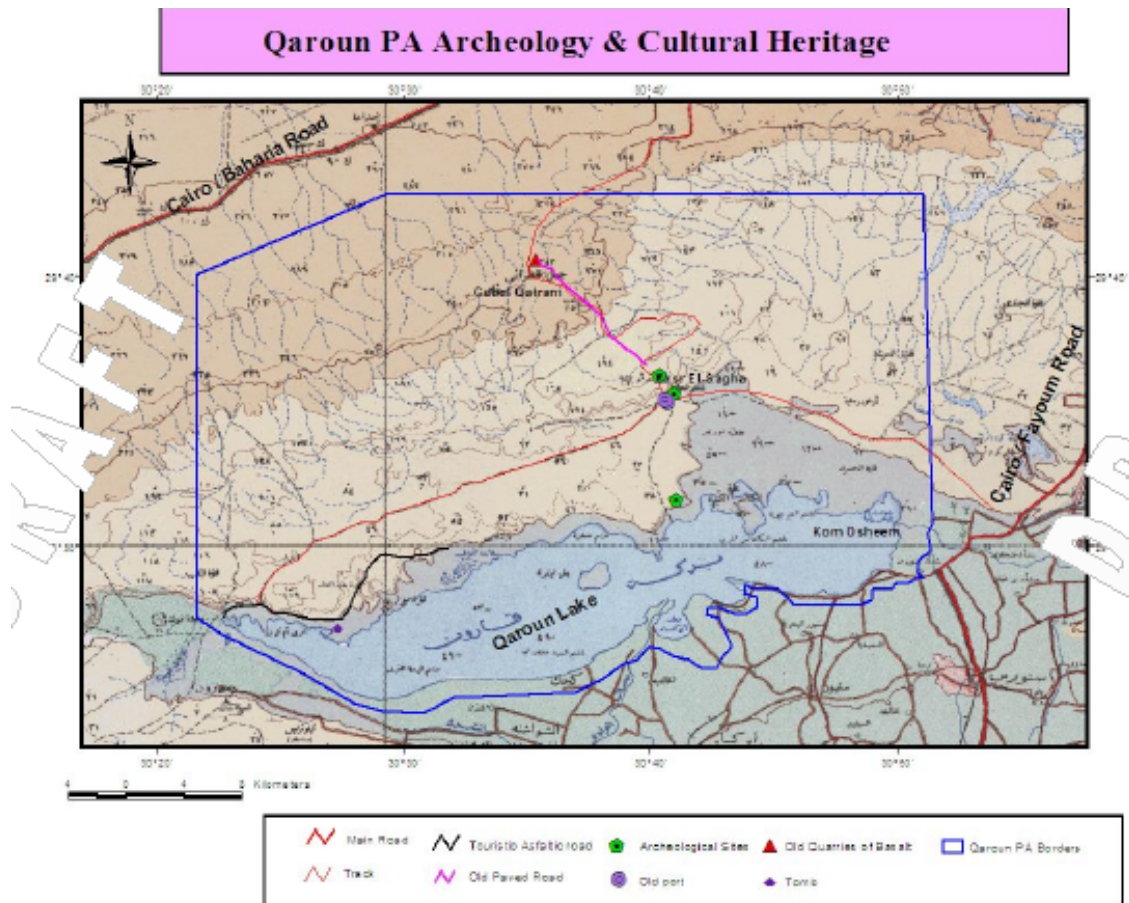
1.0 Biodiversity, Natural and Cultural Resources

1.1 Gebel Qatrani Cultural/Natural

(Qasr El-Sagha, Demaie, Dir Abu Lifa, Widan El-Faras, Ancient quarries, Basalt road/Fossils)

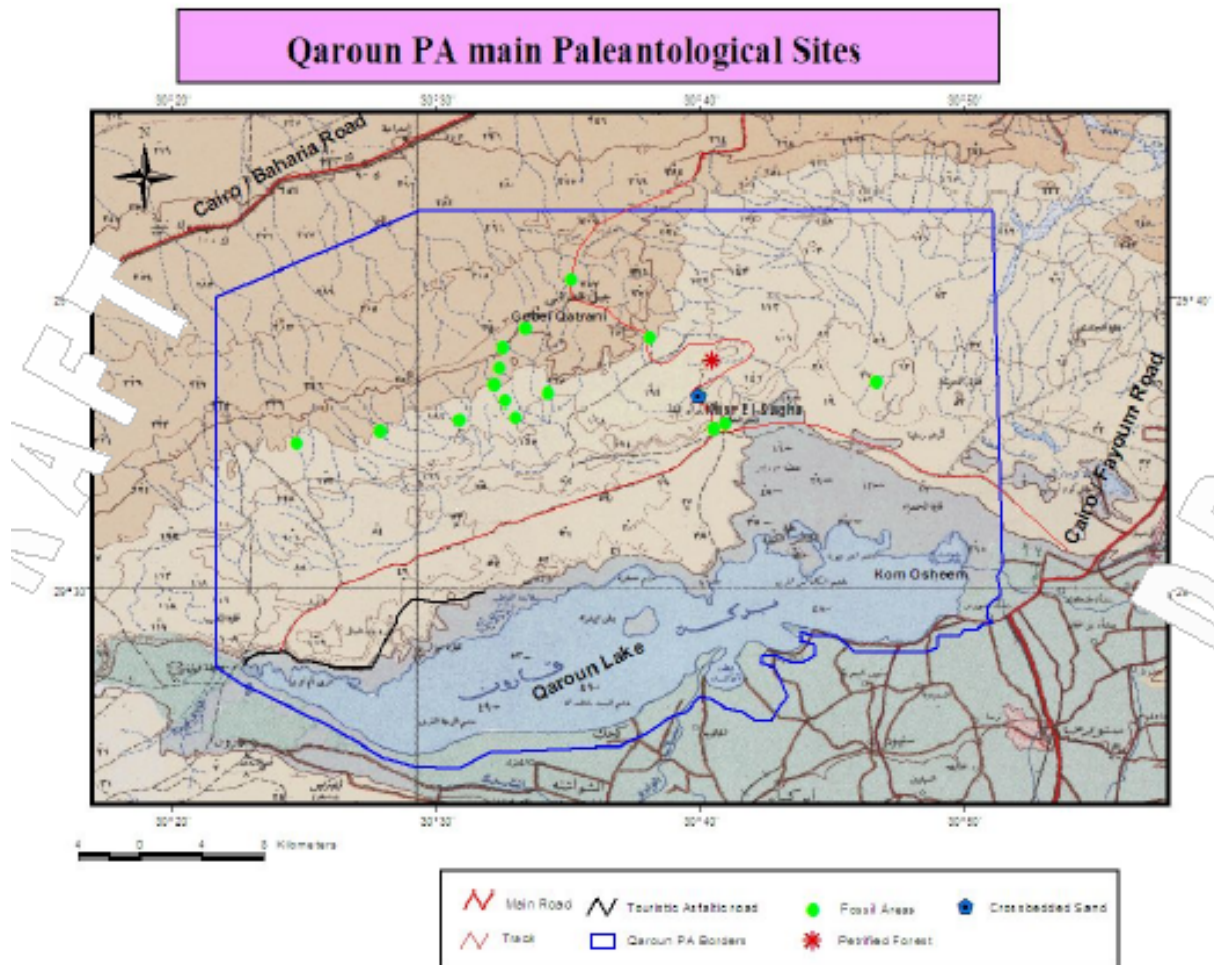
1.1.1 Description (after Dolson, *et. al*, 2002):

- Qasr El-Sagha. Caton-Thomson (1934) dates the ruins at Qasr El-Sagha as Middle kingdom, but possibly originating in late old kingdom. The name refers to the “crocodile temple”. According to legend, wild dogs chased a young pharaoh to the lake edge, where he was fortunate enough to find a friendly crocodile. The crocodile allowed him to ride on its back to an island in the lake, where he stayed until the dogs had left. As the story goes, he built the temple in honor of the crocodile. The building is unusual, made of sandy limestone with unique mortaring and jointing. Inside the temple are a number of rooms that held statues to various Egyptian gods. Caton-Thomson speculates that this temple was a significant funeral site, analogous to many of larger temples like karnak in Luxor. With the natural pyramid to the west, and at least one small pharonic burial site located about 700 yards southwest, she speculates that significant burial chambers remain to be discovered in this area. South of the temple are man-made caves of fishing villagers located along the maximum extent of the Lake Moeris (currently Lake Qaroun) shoreline.
- Ancient quarries. The 8 ancient basalt quarries at Widan El-Faras remain another un-protected historical landmark in Egypt. They currently threatened by renewed quarrying of the basalt for modern road material. Large man-made caves are present at the quarries, suggesting homes for workers. (beside Widan El-Faras at the top of Gebel Qatrani which was in the Dynastic and middle eras),
- Oldest Paved Road. Caton-Thomson and Gardner (1934) date the road and quarry activity as Old Kingdom, with a possibility of a Neolithic age. Doleritic basalt stone implements were part of the people’s Neolithic workings and it is clear that the Widan El-Faras were worked in Neolithic time. During the 4th and 5th dynasties (Early Kingdom), basalt was commonly used for construction, especially on the floors of mortuary temples in front of pyramids. During later periods it was used primarily for decorative items only. The road terminates at the shores of lake Moeris at a long narrow ridge capped by jumbled blocks of basalt about 800 meters south-southwest of Qasr El-Sagha. Caton-Thompson has definitively shown this to be a man-made pier and terminal dumping ground for the quarried basalt. The length is about 11.5 km.
- Widan El-Faras. An area of prominent basalt quarrying in Gebel Qatrani (3rd to 6th Dynasties). The presence of a quarry near Widan El-Faras had long been suspected because of the existence of an ancient road leading to it from the south with pieces of discarded basalt strewn along its length.
- Demaie (Greek Roman Eras)
- Dir Abu Lifa Monastery. Located 2 km northeast of the Qasr El-Sagha temple are the remains of Coptic Christian monasteries built about 686 A.D. Vivian (2000) indicated that the Dir Abu Lifa Monastery of Father Lifa, was probably found by St. Panoukhius and was in use from the 7th through the 9th centuries. It served as a haven for Christians seeking persecution. The typical monastery is primitive, consisting of small caves carved into cliff sides that can be difficult to reach.



Geology/Fossils. 3 formations characterize QPA which are Birkit Qaroun, Qasr El-Sagha, and Gebel Qatrani formations.

- Birkit Qaroun formation: the lower part yields fossils of whales (Dorudon and Basilosaurus), turtles, while the upper part shows Oyster and Turtella beds, fossils of vertebral animals such as Moeritherium and fishes as Pristigaster.
- Qasr El-Sagha formation: - Invertebrate fossils: Oysters and gastropods of the Eocene and – Vertebrate fossils such as Arctotherium, Moeritherium, paleomastodon, Phiomia, Trilophodon and Titanolophodon.
- Gebel Qatrani formation: characterized by Egyptopescus fossils in addition to petrified forests sites



(a) Size & Age:

about 20 km², Dynastic/Greek – Roman

about 500 km² are covered with fossil sites.

(b) Condition:

Composition/Significance: (e.g, describe the cultural/natural features at the site, its special or unique qualities for the country or region, etc.).

The Upper Eocene and Oligocene strata at Qasr El-Sagha are the sites of some of Egypt's oldest and most important geological expositions, which contains one of the most complete records of late Eocene through early Oligocene vertebrate evolution in Africa. Qasr El-Sagha temple, Dir Abu Lifa, Demaie, and the Ancient quarries all are linked with the natural formations of Gebel Qatrani and Qasr El-Sagha.

The archeological ruins are mainly represented in these stops:

- ❖ Qasr El-Sagha; Oldest paved Road; Basalt Quarries.....Middle Kingdom, 2125-1570 B.C.
- ❖ Demai ruins.....Greek period, 332-30 B.C.
- ❖ Demai ruins.....Roman period, 30 B.C. to 323 A.D.
- ❖ Dir Abu Lifa monastery.....Christian Era, 323 A.D.

- Shows a variant historical Eras components that attracting tourism and eco-tourists. In addition the fossil sites represents one of the most attracting sites for their contents of invertebrate/vertebrate fossils of marine and land animals. These resources can greatly enhance the income to the area.

Integrity: (e.g., quality/state of degradation, etc.)

The archeological sites shows different states of integrity from good state such as Qasr El-Sagha and Demaie, some parts of Dir Abu Lifa to highly vulnerable sites due to 1) vehicular access to/on the resources as in Demaie, and Basalt Road, 2) un-aware visitor behavior such as painting on the walls of the resource or moving some of its components as in Qasr EL-Sagha, and 3) investment from governmental side represented in the operating basalt Quarries.

Associated ecological, geological resources, ecotourism resources or communities: (describe)

All the cultural sites are located in the desert which may limit the tourism component, unless effective actions be taken toward constructing access tracks and other facilities encourage tourists to come.

(c) **Landscape Context:** (describe)

Ancient ruins which are located on the shore of Ancient Morris Lake are providing a striking picture of the past.

Dominant regimes and processes: (e.g., wind/water erosion, hydrology, geomorphology, climate, fire, other natural disturbances, etc.)

Arid climate with the erosion is the most significant factor. The area was hit by an earthquake in 1992 centered in Gebel Qatrani.

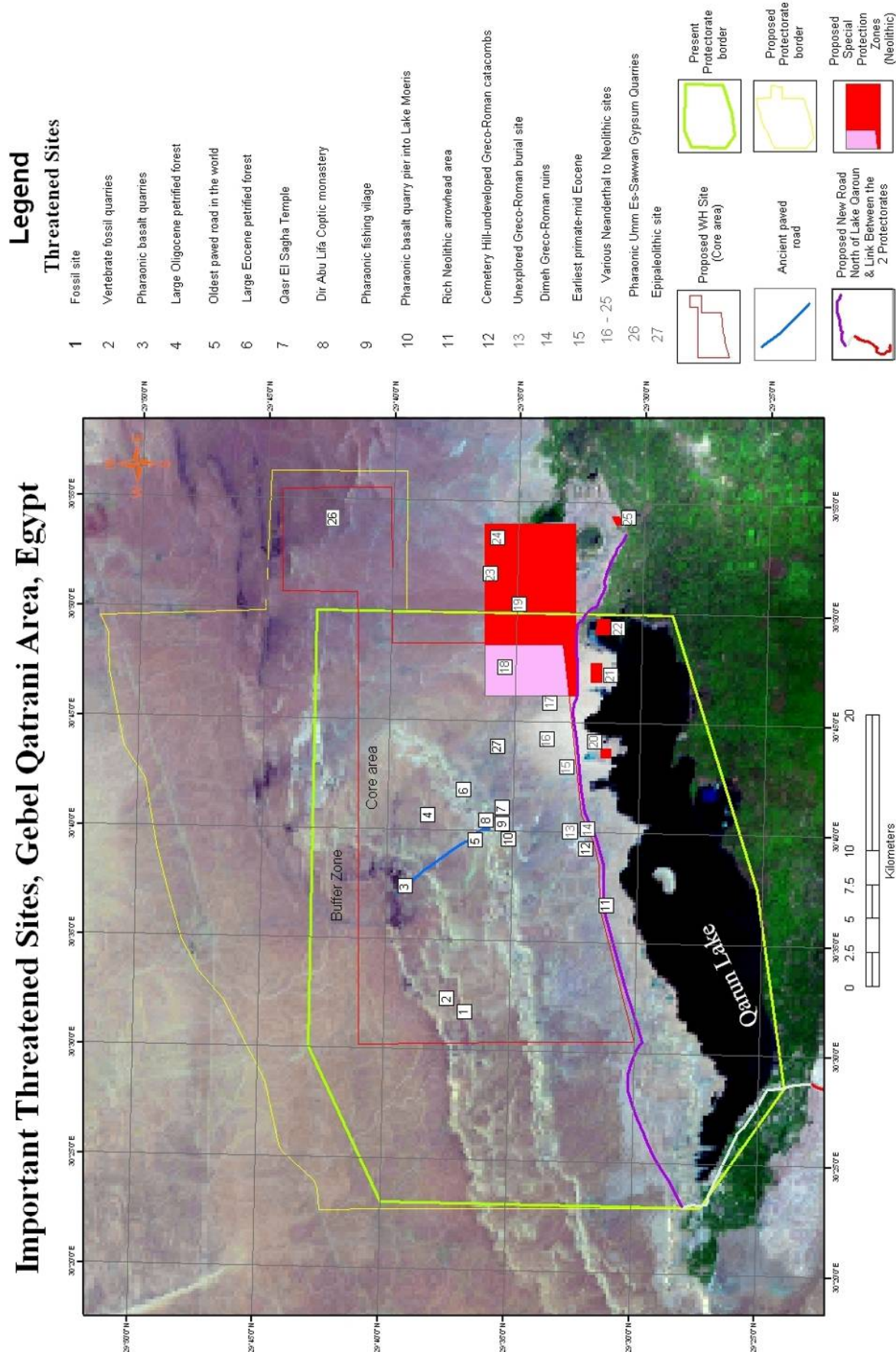
Connectivity: (e.g., linkages to other cultural/natural sites, etc.)

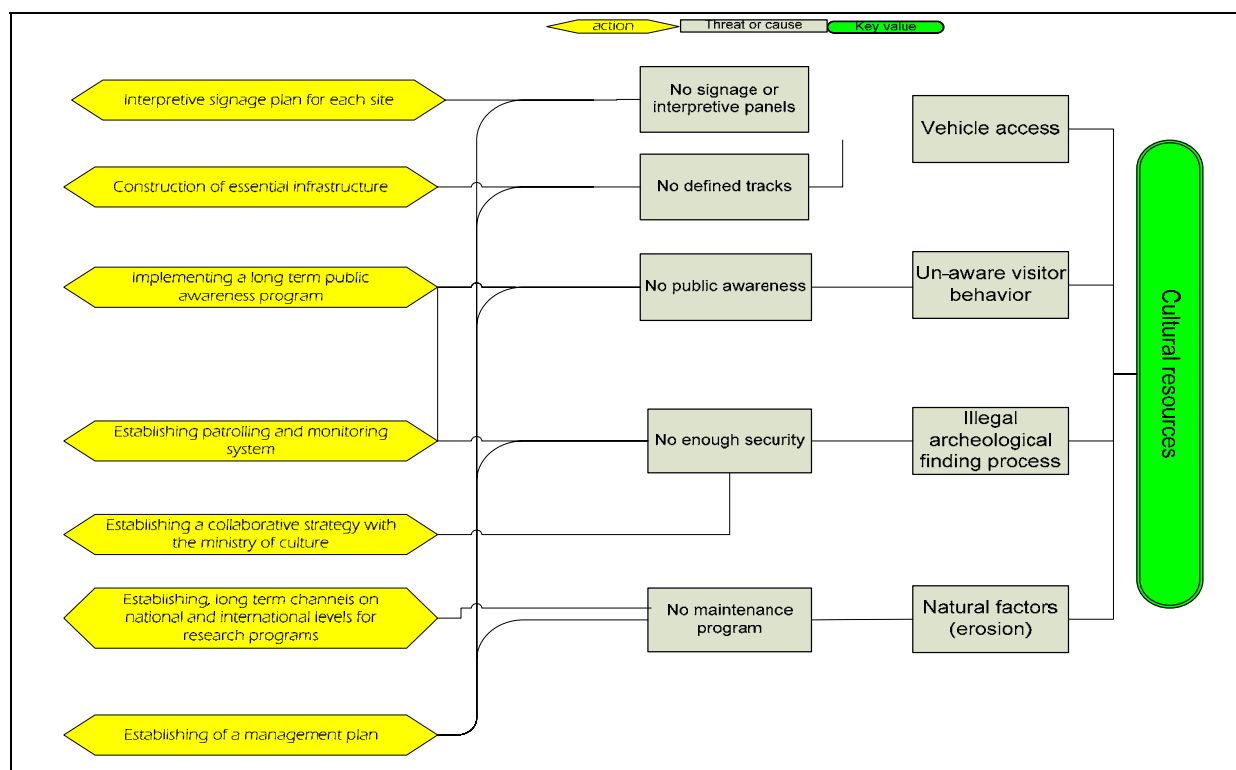
- The system was connected in the past. The basalt was transferred from the old quarries through the old road to the lake. The ancient city Demaie was linked by water travel to the other Roman ruins in the south coast of the old lake (Qaroun lake today).
- The stratigraphy of North of Qaroun is a natural extension for Wadi El-Hitan. The area in between the 2 parts has a valuable fossil remains

(d) **Threats:**

#	Threat	Extent (L, M, H, VH)	Severity (L, M, H, VH)	Threat Magnitude
1	Vehicles driving on resources	Very high	Very high	Very high
2	Un-aware visitor behavior	Very high	Very high	Very high
3	Illegal Archeological digging	Low	Medium	Low
4	Low security levels	Medium	High	Medium
5	Natural factors (Erosion)	Low	Low	Low
6	Proposed tourism development	High	High	High

Important Threatened Sites, Gebel Qatrani Area, Egypt



1.1.2 Threat Analysis:**1.1.3 Management Objectives and Actions:**

The main objective identified by the staff for this value was “protection and development of Gebel Qatrani area, for future declaration as a world heritage site”. The overall status of the resource today compared to five years ago is “stable”, for the reasons:

- The is no management plan established for developing the cultural sites and the entire PA (a plan is now in progress).
- Basic infrastructure such as tracks, signs, entrance control structures...etc are missing. While as some improvements of some tracks parts are taking place with some fossil site simple protection are made).
- Absence of clear monitoring schedule for the important sites
- Insufficient staff resources to secure and protect the resources through visitor management and patrolling and to combat the increased development pressure.
- The patrolling and management program by the staff is at a minimum and often done in case of presence of area visitors and accompanying the tour operations
- Despite challenges, staff has taken firm actions to stop basalt mining on a number of occasions.

1.1.4 Indicators:

Category	Key Attributes	Indicator	Indicator Ratings (current rating in bold)				Information source
			Poor	Fair	Good	Very Good	
Condition		Length of designated tracks (km)	0-20	21-30	31-40	> 40	
		Number of visitors/month	500-1000	200-499	100-199	<100	
		Number of basalt quarries in operation	6-7	3-5	1-2	0	

Notes:

- (1) The rating of these indicators are completely derived by the staff from their direct observations through simple patrolling activities, and not based on true monitoring program
- (2) These rating categories are based on existing level of management infrastructure (i.e. only low number of visitors can be managed with current level of funding).

1.1.5 Recommended Actions:

Based upon the previous consideration of threats, indicators and management objectives and actions, the following Recommended Actions are made to improve the status of this value:

- Interpretive signage plan for each site
- Construction of essential infrastructure such as: tracks, checkpoints, ticket collection stations
- Establishing a good patrolling and monitoring system (taken in consideration provision with the needed tools: enough vehicles, communication tools such as radio and mobile or satellite phones and basic staff training
- Establishing a collaborative strategy with the ministry of culture for implementing a regular maintenance program for the cultural sites of Gebel Qatrani
- Implementing a long term public awareness program targeting the local community to encourage protection of these important sites
- Establishing, long term channels on national and international levels for research programs, and supporting the current programs such as that with Duke University, USA.
- Establishing of a management plan for QPA, including expanding the boundary to connect Gebel Qatrani to Wadi El-Hitan to protect valuable fossil sites.
- Establishment of North of Qaroun and gebel Qatrani as a World Heritage Site.

1.2 North Coast of Qaroun Lake (natural resources)

1.2.1 Description:

The North coast of Qaroun Lake extends for 60 km, and contains a lot of salty inland invaginations of quiet lake water, which offer suitable habitat for migratory and resident birds. In addition, some vegetation spots can be found scattered along the coast. This section focuses on the natural aspects, while section 2.1. focuses on the recreational ones.

(a) Size:

1. Current size of the area: 60 sq km

2. i): there is no clear figure about the size occupied by living biota, but some observations about high bird community and little reptiles and desert life such as foxes.

ii): the total area of the resource is needed to sustain the existing wildlife.

(b) Condition:

1. Composition: (e.g., presence, absence of native and exotic species, recruitment, etc.)

- The wild life elements are dominated by the resident and migratory birds
- Few halophyte plant communities and some xerophytes are scarcely present

2. Structure: (e.g., ground/shrub/canopy vegetation, quality of habitat, etc.)

- The ecosystem has low diversity due to harsh conditions
- The poor salty soil and water quality are the most influencing factors

3. Biotic interactions: (e.g., competition, predation, disease, etc.)

Poor information; research and monitoring is needed.

Generally, there is poor information about the condition of the North coast.

(c) Landscape Context:

1. Dominant regimes and processes: (e.g., hydrology, water chemistry, geomorphology, climate, fire, other natural disturbances, etc.)

Dry weather, Aquatic environment is highly saline

2. Connectivity: (e.g., species access to habitats needed for their life cycle, fragmentation, etc.)

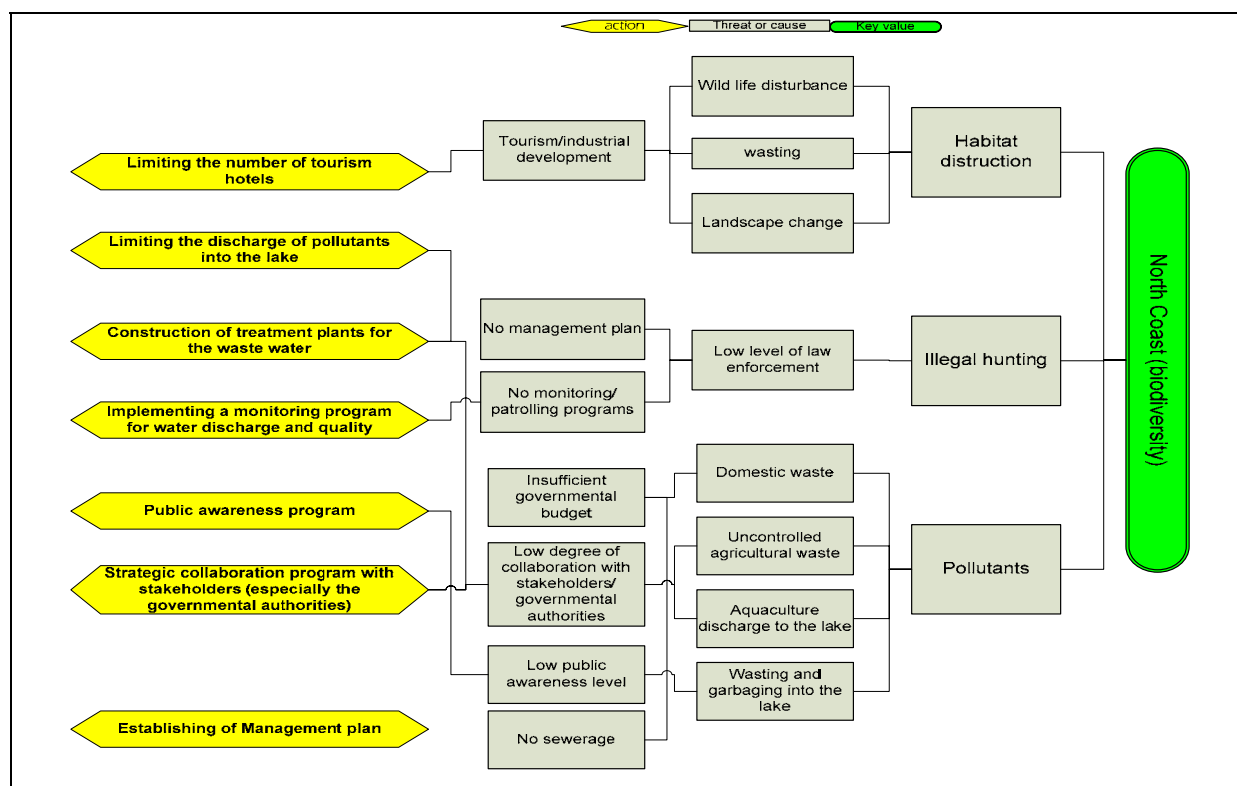
Poor information

(d) Threats:

#	Threat	Extent (L, M, H, VH)	Severity (L, M, H, VH)	Threat Magnitude
1.	Habitat destruction	Very high	Very high	Very high
2.	Hunting	Medium	High	Medium
3.	Pollutants	Very high	Very high	Very high
4.	Potential tourism + industrial development	Medium	High	Medium

Potential development is a looming threat. The extension/completion of the road (north coast of Qraoun lake) will open up the area for visitors and development. Since the protected area lacks sufficient capacity (staff, equipment....) to carry out patrols and law enforcement, this threat is very serious.

1.2.2 Threat Analysis:



1.2.3 Management Objectives and Actions:

The main objectives identified by the staff for the management of North coast are:

- Limiting pollution sources for Qaroun Lake
- Integrated Environmental management for tourism development sites inside Qaroun PA especially the northern coast
- Public awareness framework for local communities and PA visitors

1.2.4 Indicators:

Category	Key Attributes	Indicator	Indicator Ratings (current rating in bold)				Information Source
			Poor	Fair	Good	Very Good	
Condition	Composition	e. g. ...The area of development zones (% of 60 km size)	> 30%	25-29%	15-24%	< 15%	

Notes:

The North coast is currently going under investment in tourism sector. This indicator requires more work to establish a methodology for measurement.

1.2.5 Recommended Actions:

Based upon the previous consideration of threats, indicators and management objectives and actions, the following Recommended Actions are made to improve the status of this value:

- Limiting the number of new tourism hotels and facilities; alternatively encourage the re-development of existing facilities on the south shore, to raise the standards of the facilities and services.
- Limiting the reclamation areas for agriculture
- Limiting the discharge of pollutants into the lake through controlling the fertilizer and pesticide uses in agriculture
- Construction of treatment plants for the waste water before discharging into the lake through collaboration with Fayoum governorate. (the Governor of Fayoum has shown his intention towards the issue)
- Implementing a monitoring program for water discharge and quality
- Establishing a zoning plan as part of the management plan, to clarify the permitted activities in each zone.
- Encourage research, including the design of suitable indicators.

1.3 Golden Horn Island

1.3.1 Description:

Desert island located in Qaroun Lake. It is an important location for birds (especially Slender-billed Gull nesting), has geological importance, and contains a lot of reptile species.

(a) Size:

1. Current size of the area: 55 feddans
2. i) occupied by about 12.000 individual of resident Slender-billed Gulls and thousands of migratory birds
- ii) The total area of the island is needed to sustain the birds and other fauna elements

(b) Condition:

1. Composition: (e.g, presence, absence of native and exotic species, recruitment, etc.)
 - The natural communities which occupy the island include resident bird species (gulls, terns and herons), and reptiles (snakes, lizards).
 - Poor information
2. Structure: (e.g., ground/shrub/canopy vegetation, quality of habitat, etc.)

The island is rocky in nature (of compact clay) with different topographic aspects allowing suitable conditions for sheltering the birds

3. Biotic interactions: (e.g., competition, predation, disease, etc.)

Poor information

(c) Landscape Context:

a. Dominant regimes and processes: (e.g., hydrology, water chemistry, geomorphology, climate, fire, other natural disturbances, etc.)

Seasonal variation of aquatic communities

b. Connectivity: (e.g., species access to habitats needed for their life cycle, fragmentation, etc.)

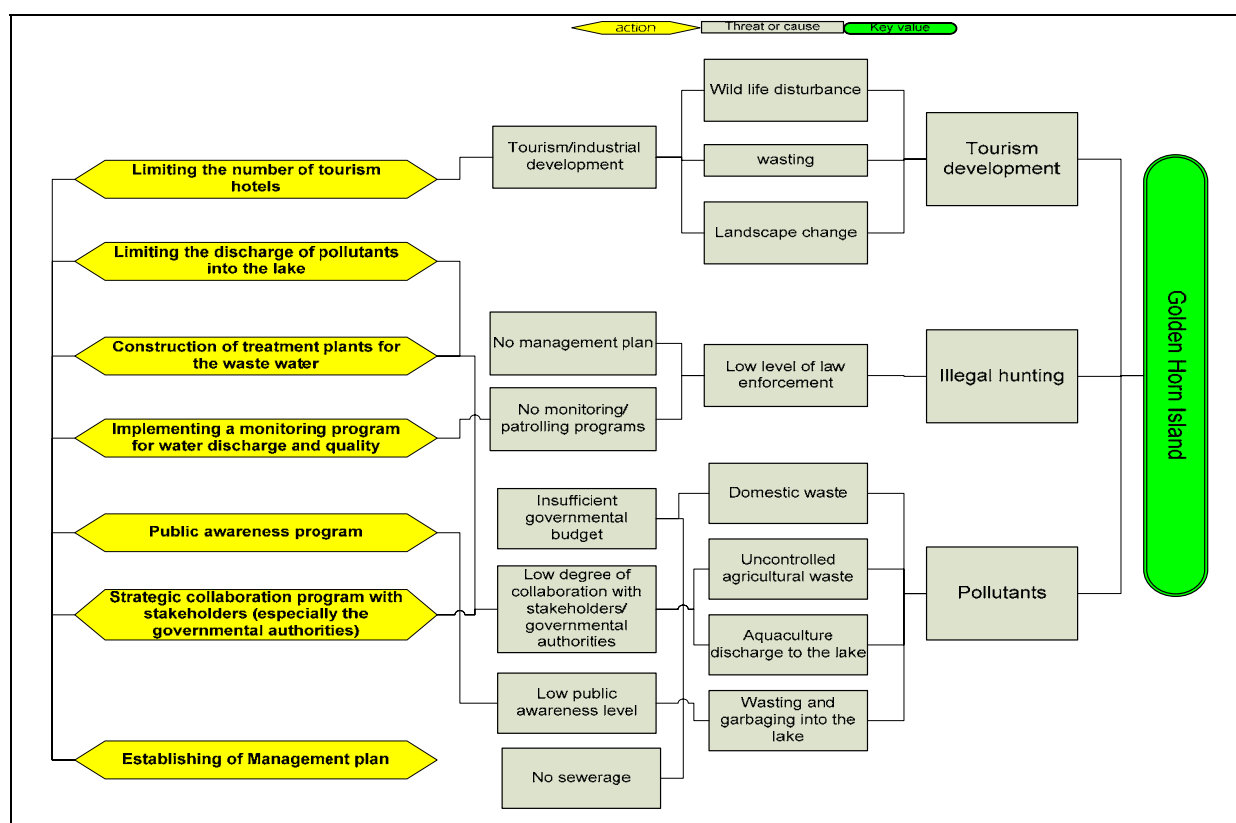
- Nesting and egg laying is a main feature on the island in winter
- Strongly connected with the lake through feeding behavior of the bird community
- Birds move between open water, shoreline and desert areas around

The information about the condition is poor

(d) Threats:

#	Threat	Extent (L, M, H, VH)	Severity (L, M, H, VH)	Threat Magnitude
1.	Hunting	High	Very high	High
2.	Pollutants	Very high	Very high	Very high
3.	Tourism development	Low	Very high	Low

1.3.2 Threat Analysis:



1.3.3 Management Objectives and Actions:

- Conservation of biological diversity
- Protection of bird sanctuary in Al-Qarn Al-Zahaby island in Qaroun Lake.

1.3.4 Indicators:

Category	Key Attributes	Indicator	Indicator Ratings				Information Source
			Poor	Fair	Good	Very Good	
Size	number	Number of birds/km ² /year	< 1000	1000-1500	1501-2000	> 2000	
Condition		Dead birds in breeding season	> 2000	2000-1501	1500-500	< 500	

These indicators need further study for methodology

1.3.5 Recommended Actions:

Based upon the previous consideration of threats, indicators and management objectives and actions, the following Recommended Actions are made to improve the status of this value:

- Public awareness program to act against illegal hunting
- Implementing effective monitoring and patrolling programs
- Collaboration with stakeholders
- Giving attention to the quality of the lake water through decreasing the pollutants discharge by recommending treatment plants at the main drains.
- Zone the island as a special protection zone
- Encouraging different study and research programs targeting the lake system and ecology to fill the information gaps related to future stability of the lake system.

1.4 Lake Qaroun**1.4.1 Description:**

Salty lake occupying about 55.000 feddans, of a salt concentration about 37,000 mg/L which support the economic operation of a salt factory EMISAL. It is the source of income through fishing processes for the majority of local villagers. Several kinds of fish exist such as Tilapia, mullets, shrimps...etc. The area is also classified as International Bird Area by Bird Life International. The lake is polluted as a result of the direct impact of agricultural drains carrying excess irrigation water and sewage (coming from illegal domestic waste from towns and villages).

(a) Size:

1. Current size of the area: 55,000 feddans

The total area of the lake is needed to sustain the fish life

(b) Condition:

1. Composition: (e.g., presence, absence of native and exotic species, recruitment, etc.)

- The lake supports a big fish community of native and artificially introduced fish species
- The lake also supports the presence of migratory and resident bird life

2. Structure: (e.g., ground/shrub/canopy vegetation, quality of habitat, etc.)

- The lake water is highly saline due to evaporation and the continuous receiving of agricultural wastewater. The lake is fed by 3 main agricultural drains which discharge their water directly into the lake without any kind of treatment
- The deepest point in the lake is about 7 meters.
- The silting process is high. Turbulence of the lake is high in the windy seasons which affects the fish life due to the presence of toxic nutrients accumulated on the lake bottom.
- Further studies and monitoring are needed.

3. Biotic interactions: (e.g., competition, predation, disease, etc.)

- Several processes such as feeding cycles of the birds on lake fauna, and fish community changes due to elevated salinity levels.
- Further investigations are needed

(c) Landscape Context:

a. Dominant regimes and processes: (e.g., hydrology, water chemistry, geomorphology, climate, fire, other natural disturbances, etc.)

Highly saline lake, and monitoring program is needed

b. Connectivity: (e.g., species access to habitats needed for their life cycle, fragmentation, etc.)

Poor information

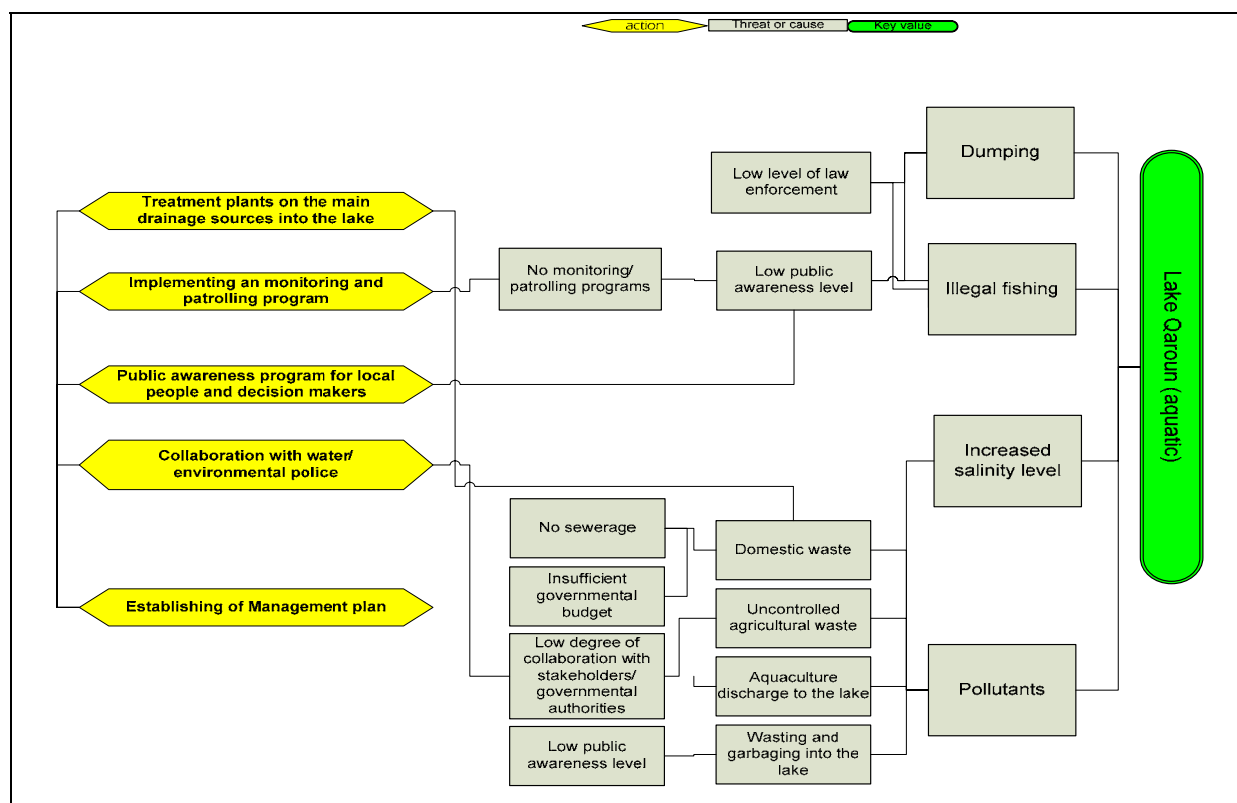
The information about the condition is poor

(d) Threats:

#	Threat	Extent (L, M, H, VH)	Severity (L, M, H, VH)	Threat Magnitude
1.	Illegal fishing	High	Very high	High
2.	Pollutants	Very high	Very high	Very high
3.	Land fill	Low	Very high	Low
4.	Shoreline development (industrial, residential, commercial/tourist)	Medium	Very high	High

Illegal fishing is a threat for the fish resources of the lake on the long run, so its magnitude has been identified as high.

1.4.2 Threat Analysis:



1.4.3 Management Objectives and Actions:

Presently, there is no management plan in place. However, actions in this area focus on the followings:

- Conservation of biological diversity
- Limiting of pollution sources for Qaroun Lake
- Sustainable regulation of fishing process, and implementation of environmental laws
- Public awareness framework for local communities and PA visitors
- Patrolling (with limited resources) to control unauthorized constructions.

1.4.4 Indicators:

Category	Key Attributes	Indicator	Indicator Ratings (current rating in bold)				Information Source
			Poor	Fair	Good	Very Good	
Condition		Number of tons of Fish production / year	< 1800	1801-2000	2001-2200	> 2200	
		Number of boat patrols/week	0	1	2	> 2	
		Lake* shoreline areas filled (fedans)	> 80	79-41	40-10	< 10	

* this indicator needs more work to define the limits of the areas being monitored.

1.4.5 Recommended Actions:

- Public awareness program to act against illegal fishing
- Implementing a monitoring and effective patrolling programs
- Collaboration with water and environmental police to strongly and effectively implement law enforcement
- Giving attention to the quality of the lake water through decreasing the pollutants discharge by recommending treatment plants at the main drains.
- Encourage research on designing and testing indicators

2.0 Ecotourism-Recreational Resources**2.1 North coast of Qaroun Lake****2.1.1 Description:**

It is a coastal belt extends 60 km long without human inhabitants in the north of Qaroun Lake. the beaches are quiet and clean. This section focuses on the recreational aspects of the north shore of Qaroun lake, while section 1.2. considers the natural aspects.

(a) Size/number:

The area is 60 km² . The current number of visitors is unavailable.

(b) Condition:**1. Naturalness: (e.g., has the area retained its natural qualities?)**

- The coast is naturally stable except for the small seasonal water fluctuations
- The area of the coast is plain desert with few vegetation spots.

2. Clean and safe: (e.g., garbage, glass, excrement, pollution, traffic hazards, etc.)

- The beach is mostly clean and free of garbage because there are no human inhabitants. No infrastructure exists (wc, garbage bins,.....) for the moment, but some infrastructure is proposed for the future development of the site
- The site is now under consideration for investment by the Tourism Development Authority which has give the rights of development along the shoreline. Investment zones are divided it into 3 categories from low level natural activities (ecolodges, camel riding, horsing...etc) in the north west side, to hotels and resourts in the middle, to industrial zone in the north east side.
- The water quality is better than the south coast because it is away from direct discharge points from drains or by villages surround the southern shore.

(c) Landscape Context:**1. Impacts on conservation priorities: (e.g., on key ecosystems, species, etc.)**

The impact of the proposed tourism facilities and industrial developments will have negative impacts on the surrounding resources such as the water quality of the lake and the biotic components that depend on the water and shoreline habitat of the lake (mainly bird communities)

A mitigation plan should be developed to minimize the impacts on the key natural resources and avoid their degradation and deterioration

Since the area is now under investigation from UNESCO to be declared as World Heritage Site, the activities must also be controlled to avoid the negative impact on the cultural and natural elements such as fossil sites.

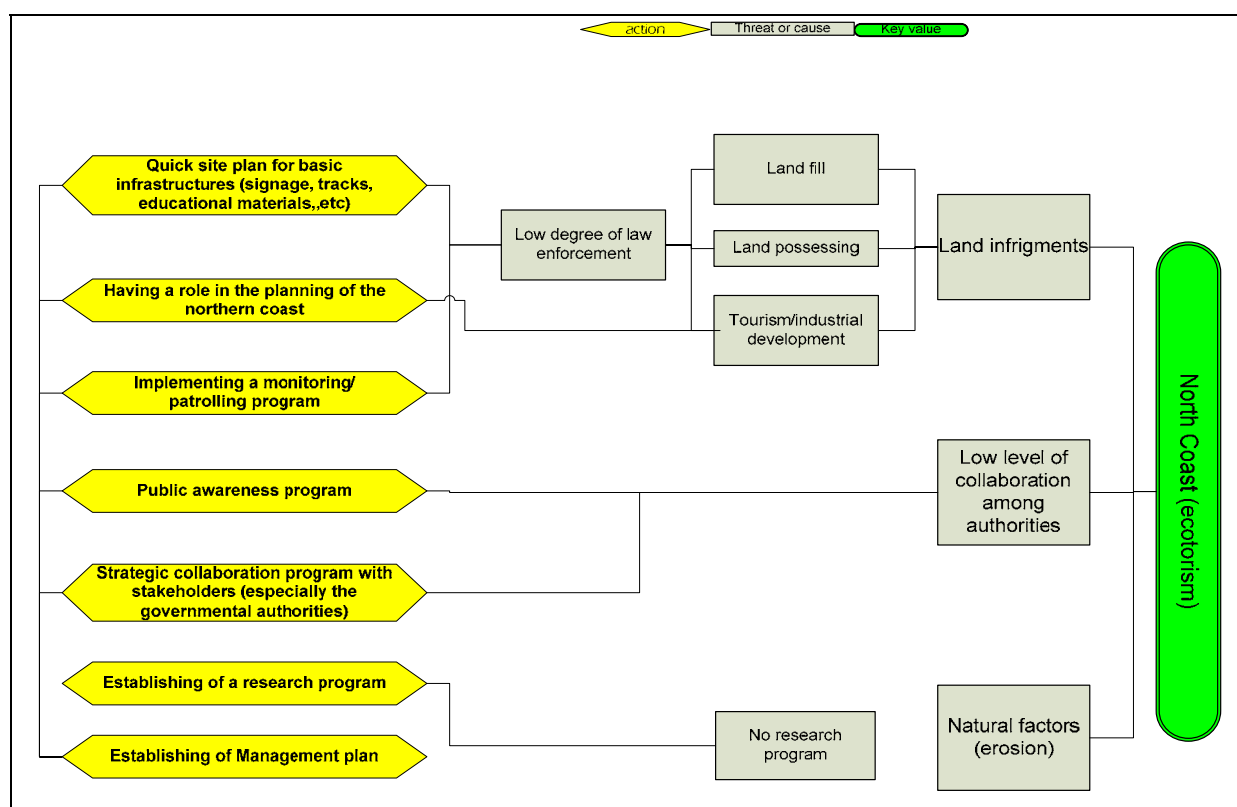
2. Impacts on adjacent land uses: (e.g., positive and negative impacts, etc.)

The effect of investment will be positive for developing local communities in and around the PA but it will have negative effects on the naturalness and beauty and landscape of the area due to investing infrastructure and human interference with the nature.

(d) Threats:

#	Threat	Extent (L, M, H, VH)	Severity (L, M, H, VH)	Threat Magnitude
1.	land infringement	Medium	Very high	Medium
2.	Desertification	High	Low	Low
3.	Tourism and industrial development	High	High	High

2.1.2. Threat Analysis:



2.1.3 Management Objectives and Actions:

The main objective for the north coast recreational resources is:

- Optimizing the economic development for PA resources in a sustainable way for management goals and development of local communities

2.1.4 Indicators:

Category	Key Attributes	Indicator	Indicator Ratings (current rating in bold)				Information Source
			Poor	Fair	Good	Very Good	
Condition		Number of police reports against land infringement /year on the north coast	> 24	12-24	2-11	0-1	Notes (1,2)
Condition		Area occupied by tourism development (%of 60 km strip)	> 30	25-29	15-24	< 15	

Notes:

(1) Based on what described by the staff during the workshop, most of illegal violations that happen inside QPA are mainly land infringements for agricultural reclamation, quarries, or land fill.

(2) These indicators above are closely related to the future management plan of the PA which will guide the future work toward the identified objectives for the area.

2.1.5 Recommended Actions:

- Collaboration with different parties and stakeholders such as Fayoum Governorate, Ministry of Agriculture and Ministry of Irrigation and Tourism Development Authority,..etc.
- Having a role in the planning process of the Northern Coast; strong participation in Fayoum ecotourism plan.
- Encourage re-development and upgrading of south-coast infrastructure while retaining the natural values on the north-coast.
- Implementing an effective schedule for patrolling, monitoring and evaluating the results.
- Quickly establishing a site plan for conserving the area through construction of basic infrastructure (tracks, signs, educational materials...etc.).
- Seek corporate and donor support for PA programs.

2.2 South of Qaroun Coast**2.2.1 Description:**

A coastal belt extending for 40 km south of Qaroun Lake. It contains different land uses (agricultural lands, villages, and tourism infrastructure) all beside the Cairo-Qaroun asphalt road. The south shore of the lake encompasses several inhabited villages and towns with inhabitants working mainly by fishing/agriculture, Agricultural lands, tourism structures (hotels, simple cafeterias with beach services such as shadows and umbrellas, and economic activities (mainly salt extraction factory EMISAL and aquacultures).

(a) Size/number:

- The size of the south coast is about 40 km² (with the width varying from 0-1 km)
- The current number of visitors is un-available

(b) Conditions:

1. Naturalness and Quality and suitability of the Ecotourism Resource: (e.g, has the area retained its natural qualities, quality of the facility such as the building, displays, etc.)

- Area is no longer keeping its naturalness because of a lot of investments represented in tourist constructions (hotels, cafeterias, beach clubs,.....), not all of them respecting the natural beauty.

Other economic activities that are not coping well with environment are also present such as aquacultures (fish farms) that discharge their effluents into the lake directly without any kind of filtration or treatment techniques. Traditional agriculture behavior also exists.

- Shoreline areas are filled for development from time to time, resulting in a loss of natural shoreline habitat.

2. Clean and safe: (e.g., garbage, glass, excrement, pollution, traffic hazards, etc.)

- The south coast has uncontrolled garbage and human wastes especially inside the villages such as Shakshouk, due to low public awareness level. Lack of garbage collection system, and lack of sewerage facilities. Also there are main points of wastewater discharge into the lake from the main drains of agricultural lands. These drains contain excess agricultural run-off and contain chemical pesticides and sewage

(c) Landscape Context:

1. Impacts on conservation priorities: (e.g., on key ecosystems, species, etc.)

- Negative impact is existing due to investment activities such as tourist places, traditional aquacultures and agricultural lands as well as the Cairo-Qaroun asphalt road. Low water quality directly affect fish quality/health and tourism.
- Corrosion of land reduces natural habitats (bird feeding and breeding and fish reproduction areas) which impacts on eco-tourism and the economy.

2. Impacts on adjacent land uses: (e.g., positive and negative impacts, etc.)

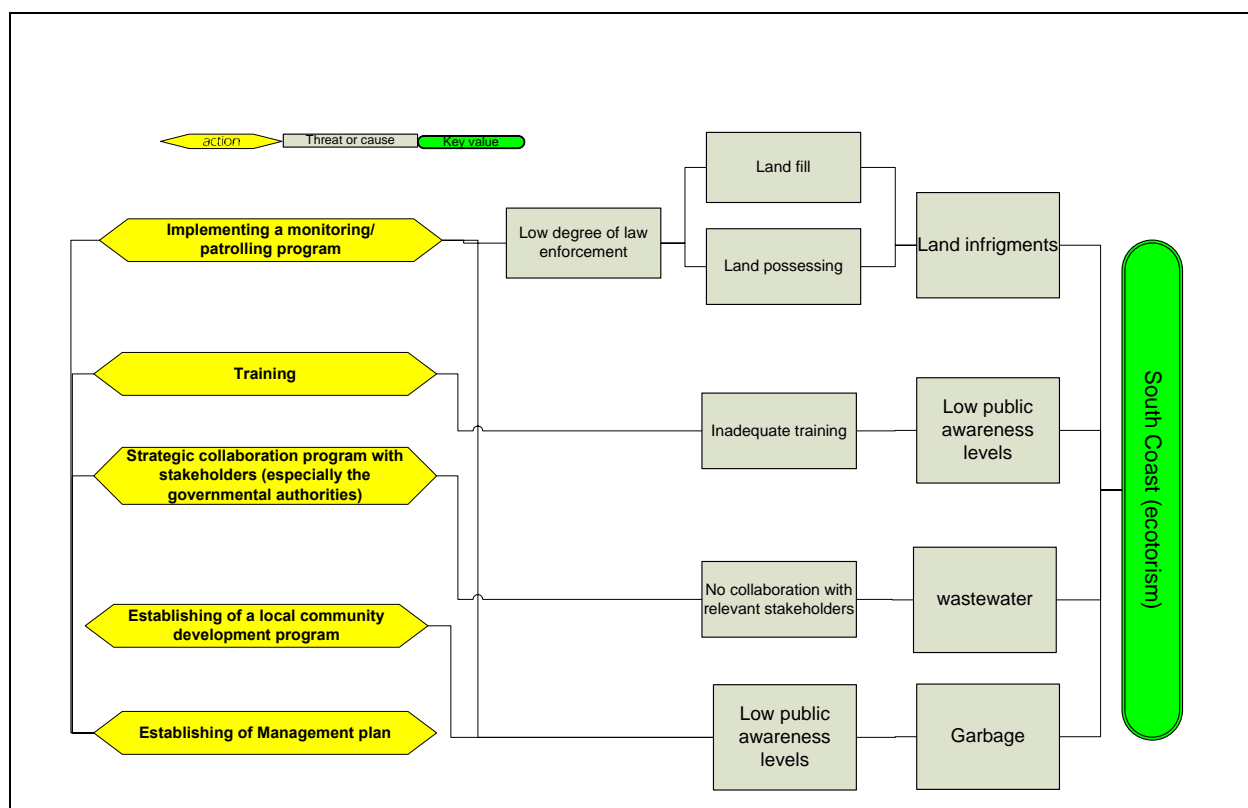
Poor information

(d) Threats:

Lack of money to maintain and operate facilities at an appropriate level is a strategic issue.

#	Threat	Extent (L, M, H, VH)	Severity (L, M, H, VH)	Threat Magnitude
1.	Wastewater (domestic/agricultural)	High	High	High
2.	Garbage	High	High	High
3.	Land infringement	Medium	Medium	Medium
4.	Low public awareness	Low	Medium	Low
5.	Low quality infrastructure and services for tourism	High	High	High

2.2.2 Threat Analysis:



2.2.3 Management Objectives and Actions:

- Limiting of pollution sources for Qaroun Lake
- Improving the state of life and services of the existing local communities inside PA
- Public awareness framework for local communities and PA visitors
- Optimizing the economic development for PA resources in a sustainable way for management goals and development of local communities

2.2.4 Indicators:

Category	Key Attributes	Indicator	Indicator Ratings (current rating in bold)				Information Source
			Poor	Fair	Good	Very Good	
Condition		Salinity level	<20,000	21,000-29,000	30,000-35,000	>36,000	
		How many times garbage transferred from villages inside PA/month	<8	9-10	11-15	> 15	
Landscape context		Number of police reports against infringements/year	> 24	23-12	11-5	< 5	
		Number of public awareness lectures or campaigns/year	< 2	3-8	9-12	> 12	

Notes: these indicators were developed based on the available information and observations of the PA staff

2.2.5 Recommended Actions:

- The actions are closely connected to those that should be taken for the lake and north coast. Special attention is needed to diversify and broaden the public awareness program, targeting the local inhabitants, tourism stakeholders, and local governmental units.
- Educational program should also initiated and implemented for the young local inhabitants in schools to introduce the concept of conservation in their behavior.
- More efforts must be given to develop the local community through attracting the poverty combating programs and women's development programs.
- Work closely on encouraging garbage collection system and waste/effluent systems, including filtration systems for fish farms.
- Work with environmental police to enforce the land use policies.
- Introduce new eco-tourism facilities in key areas (bird hides and information sites)
- The PAMU should work closely with the government to implement a tourism strategy for the re-development of the south coast to improve infrastructure and services, while protecting and keeping the naturalness of the coast. At the end, this strategy yields "product and business" for Fayoum.

3.0 Community Well-being

3.1 Villages on the South Coast of Qaroun Lake

3.1.1 Description:

A number of villages are located on the south coast of the lake, living on either fishing or agriculture activities with low income

(a) Size/number:

Current size inside PA is about 35 km². Estimated population size is about 3500.

- 25% less than 16 years old.
- 40% between the age of 16-35
- 20% between the age of 35-50
- 15% more than 50 years old

(b) Condition:

1. Economic benefits derived from PA: (e.g. direct employment, indirect tourism)

- The employment opportunities are not directly derived from the PA but rather from the tourism services located along the south coast (Fish restaurants, cafeterias, fish grilling ovens in addition to more advanced 4,3 and 2 stars hotels and tourist facilities)

2. Productive systems (e.g., fisheries, agriculture, livestock)

- Fish production from the lake and aquaculture (fish farms) on the south coast, which provide the Fayoum governorate with different fish species, such as Tilapia, Mullet, Shrimp,.....etc
- Agriculture: mainly olives, then maize and corn
- Livestock: poor and mainly represented in poultry and few cows and buffalos.

3. Use of natural resources (inside and outside protected area)

- The water of the lake is used by a special company (EMISAL) for 1) salt extraction (Sodium, Calcium, and Magnesium), 2) fishing and 3) aqua culture.
- The land is used for agriculture and exporting pure olives and production of corn

(c) Management Context:

1. Impacts of community on conservation priorities: (e.g., on key ecosystems, species, boundary, grazing, poaching, etc.)

- Agriculture that uses the pesticides can have an impact on the soil and the water of the lake
- Grazing is mainly dependent on the available fodder and wild reeds
- Over-fishing is the main threat for the fish community of the Lake
- Introduction of some invasive species and related disease into QPA.

2. Impacts of PA on the local community

- More involvement with the local community represented in 1) applying environmental laws, 2) awareness campaigns, 3) medical campaigns and 4) environmental festivals

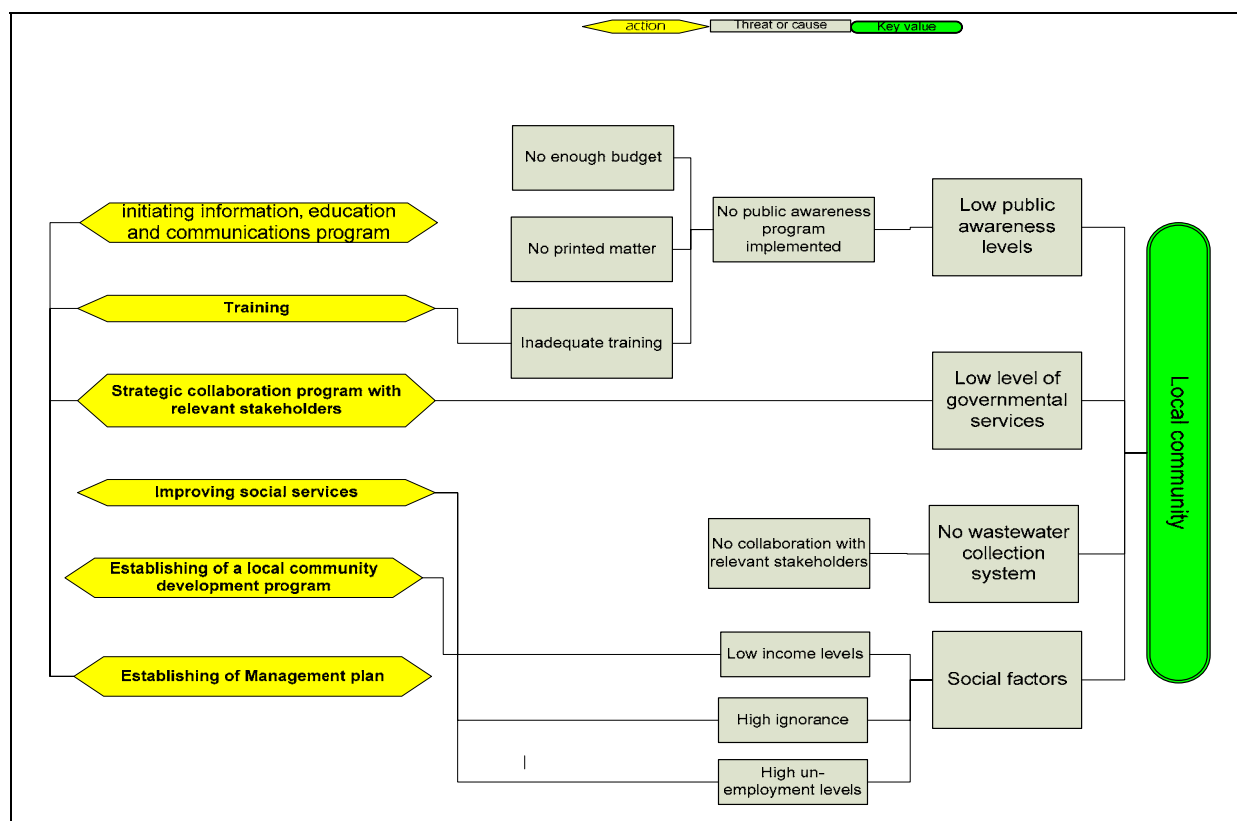
3. Involvement in PA management: (e.g., current situation, opportunities for participation, co-management, etc.)

- The involvement still confined to sharing some medical campaigns and free clinics.

(d) Threats:

#	Threat	Extent (L, M, H, VH)	Severity (L, M, H, VH)	Threat Magnitude
1.	Social/economic factors (ignorance, poverty)	High	High	High
2.	Wastewater discharge	High	Medium	Medium
3.	Weakness of governmental and security services	Medium	Low	Low
4.	Low public awareness level	Low	Low	Low

3.1.2 Threat Analysis:



3.1.3 Management Objectives and Actions:

- Optimizing the economic development for PA resources in a sustainable way for management goals and development of local communities
- Development of local communities both inside and outside PA.

3.1.4. Indicators:

Category	Key Attributes	Indicator	Indicator Ratings (current rating in bold)				Information Source
			Poor	Fair	Good	Very Good	
Condition		Number of public attending literacy classes/year	< 70	71-100	101-150	> 150	Note 1
		Number of public awareness lectures or campaigns/year	< 2	3-8	9-12	> 12	Note 2 Monitoring records
Management context		Number of visits to schools by rangers or from schools per year	< 4	4-8	9-12	> 12	Note 3 monthly reports

Notes:

1) The indicator is partly underway

2) Target is to hold one awareness event per month

3) Target is to hold one educational event per month

the indicators are so simple and direct, also for absence of monitoring and research data, but they still effective

3.1.5. Recommended Actions:

- The QPA should work intensively towards initiating information, education and communications program for local communities inside the PA. The local communities are mainly inhabiting the south coast of Qaroun Lake, so the actions taken are those aligned with the management priorities of the south coast. This work can be done at low cost, and has good potential for financial support from NGOs, corporate and donors
- Improving the social services (medical care, women's support programs, and other services that can improve the quality of life) and security services are among the priorities to develop these poor local communities.
- Work in close collaboration with the town of Shakshouk, and others, to find ways that QPA could assist the community and vise versa.
- QPA could play a role in promoting the marketing of fish restaurants (e.g. in WRPA could advise the visitors for returning to Cairo via Shakshouk)

3.2 Fishermen**3.2.1 Description:**

Fishing is main income source for the majority of local communities around the lake.

(a) Size/number:

1. Current size of the Lake: 55,000 fedan

2. Demographic Characteristics: (e.g., population, age structure, literacy, income levels, employment profile)

- Population size working for fishing is about 5500 fishermen in variable ages, with youth representing the majority (70%).
- Monthly revenue is about 200-250 LE/individual
- Number of authorized fishing boats is about 600

(b) Condition:

1. Economic benefits derived from PA: (e.g, direct employment, indirect tourism)

- The economic benefits from the PA for fishermen is minimal, because of the absence of clear management plan and community development program

2. Productive systems (e.g., fisheries, agriculture, livestock)

- The individual benefit of fish/day is equals to about 1-1.5 kg
- Nearly one third of fishermen work in agriculture and aquaculture fields

3. Use of natural resources (inside and outside protected area)

- The resource used by the fishermen is mainly the water of the lake for fish production as indicated above
- The aquaculture activities hardly impact the water quality of the lake affecting the fish life

(c) Management Context:

1. Impacts of community on conservation priorities: (e.g., on key ecosystems, species, boundary, grazing, poaching, etc.)

- Several kind of fish have been introduced to the lake to increase the fish production
- Using the illegal fishing net sizes is the most important threat on the fish life in the lake

2. The effect of PA presence on the local communities

- The PA is trying to limit the pollution sources to the lake to save the fish community and result in clean (unpolluted) fish.

3. Involvement in PA management: (e.g., opportunities for participation, co-management, etc.)

- No clear involvement, though there is a need and opportunities exist.

(d) Threats:

#	Threat	Extent (L, M, H, VH)	Severity (L, M, H, VH)	Threat Magnitude
1.	Over fishing	High	Medium	Medium
2.	Water quality	Very high	Very high	Very high
3.	Increasing salinity	Very high	High	High
4.	Lake infringements	Low	Low	Low

3.2.2 Threat Analysis:

See section 3.1.2

3.2.3 Management Objectives and Actions:

See section 3.1.2 & 3.1.3.

3.2.4 Indicators:

Category	Key Attributes	Indicator	Indicator Ratings (current rating in bold)				Information Source
			Poor	Fair	Good	Very Good	
Condition		Fish production / year (tons)	< 1800	1801-2000	2001-2200	> 2200	
		Number of boat patrols/week	< 2	2-3	4-5	> 6	Monthly reports
		Number of shoreline areas filled (fedans/year)	> 80	79-41	40-10	< 10	

Notes: (1) The current indicator ratings are based upon the available data from PA staff.

3.2.5 Recommended Actions:

- Encourage establishing of filtration ponds to buffer the effects of drainage ponds directly into the lake. Encourage research, testing and monitoring of filtration system suitable for this context.
- Encourage research to study and combat the phenomena of disappearing several fish kind which was yielded by the lake in the past
- Encourage a firm research collaboration with the Oceanographic institution in Shakhshouk
- See section 3.1.5 & 2.1.5

Part IV. Effective Management

The effective management of Qaroun Protected Area is hampered by the lack of a clear management plan and insufficient level of annual funding. Management challenges are associated with the villages along the Southern coast of Qaroun Lake with their associated activities (fishing, agriculture, fish farming). Such activities are of great impact on the lake ecosystem. Zoning is an essential tool in the management process of the area. QPA encompasses a range of areas that should be managed from strict protection to managed resource use areas. The strict protection sites include the petrified forest and other fossil sites at Gebel Qatrani, which is currently under extensive studies for declaration as natural/cultural World Heritage Sites. The managed resource use areas include the areas surrounding the lakes (both in North or South of Qaroun Lake). A clear plan should be adopted to avoid the identified existed and expected threats from tourism development projects in the North of Qaroun Lake.

4.0 Threats

Threats can be grouped in relation to their effects on the key values of the PA. The first group of threats as identified by the staff, affect the natural/cultural resource values:

- ❖ Vehicular access to the archeological and natural sites of paleontological importance
- ❖ Degradation of archeological sites
- ❖ Weathering factors

The second group of threats affect the biodiversity value:

- ❖ Habitat degradation
- ❖ Over hunting
- ❖ Tourism development
- ❖ Lake pollution

The third group of threats affect the ecotourism values:

- ❖ Tourism development
- ❖ Low public awareness levels
- ❖ Domestic and agricultural wastewater
- ❖ Garbage
- ❖ Desertification

The fourth group of threats affect the local community values:

- ❖ Low public awareness levels
- ❖ Domestic and agricultural wastewater
- ❖ Social aspects (ignorance and poverty)
- ❖ Weak governmental services

The severity and extent ratings were determined for each threat (part III) to identify its magnitude. This magnitude rating is presented in Table 1, which provides an overview of the threats affecting the PA's key values and the significance of each threat over the protected area. The Northern Coast of Qaroun Lake shows a very high degree of threat for habitat degradation and illegal hunting. The South Coast (as an

ecotourism value) shows a very high degree of threats for pollution, poor infrastructure and garbage. The Golden Horn Island shows high degree of threat for tourism development and illegal hunting. The remaining five key values are showing medium degree of threat. The threats that show very high ranks for the PA were the agricultural and communities' sewage pollution and habitat degradation, while the archeological sites degradation and the identified social factors (poverty and ignorance) have a high degree of threat. The remaining identified threats range between medium and low. Management actions should be focused upon threats of very high and high magnitudes.

The social factors (poverty and ignorance) in addition to the low public awareness levels are the cause of the very high magnitude threat: domestic and agricultural wasting. Communication and collaboration with governmental and local authorities are critically needed to increase the quality of services introduced to the public such as sewerage.

5.0 Outputs and Outcomes

In part III (sections 1, 2 and 3) the actions implemented by the staff (as presented in the workshop) were considered and assessment of the QPA status then was provided for each of the protected area key values. (table 2).

Table 2: Status of Key Values in Qaroun Protected Area

Key:

Improved condition or situation over the last five years



Stable condition or situation over the last five years



Worsened condition or situation over the last five years



Values	Status
1. Biodiversity/Natural Resources/Cultural Resources	
Gebel Qatrani Cultural/Natural (Qasr El-Sagha, Demaie, Ancient quarries, Basalt road/Fossils)	
North shore of Qaroun Lake	
Golden Horn Island	
Lake Qaroun	
2. Ecotourism/Recreational Resources:	
North shore of Qaroun Lake	
South shore of Qaroun Lake	
3. Community Well-being (socio-economic)	
Local communities outside QPA are represented in the surrounding villages of the south coast.	
Local communities inside QPA are mainly fishermen.	

In the case of QPA there is no management plan and no objectives to be monitored. The main action in the long last period was the monitoring of civil constructions which are mainly houses localized in Shakshouk and other villages on the Southern coast of Qaroun Lake. Patrolling activities of natural resources are limited and mainly linked to accompanying tourist groups to the natural and archeological sites on the Northern Coast and Gebel Qatrani area.

Public awareness has received some considerable actions over the last couple of years. Activities have included some health campaigns through the support of NGOs. Other activities have also included organizing awareness campaigns and a handicrafts training program for the local people; long term effort is needed in this work. Some local and national workshops and low scale English language training were conducted without any kind of preliminary assessment or follow up due to absence of financial support and action planning.

No educational materials were developed. Visitor management and fee collection are not yet applied. Signposting, tracks, guides, throughout the protected area are absent.

It is important to state that absence of management plan or operating plan limits the capacity of evaluation team to assess the outputs. Arising from that, actions have been identified to address the specific needs associated with the values and threats. These actions are compiled in appendix 3. If implemented, these should be expected to lead toward improved implementation of work plans and greater effectiveness. Clearly, there are significant challenges ahead if the conditions of the values are to be maintained at satisfactory levels or improved. The strategic considerations follow in the next section.

Table 1. Threat summary for QPA key values

Threat	Gebel Qatrani (Nat + cultural resource)	Golden Horn Island (bio-div)	North coast (natural res)	Lake Qaroun (aquatic)	North coast (eco-tourism)	South coast (eco-tourism)	South coast (local commun)	Fishermen	Overall threat rank
Pollutants (agric/domestic)		Very High	Vey High	Very High		High		Very High	Very high
Vehicles driving on resources	Very High								High
Un-aware visitor behavior	Very High								High
Archeological sites degradation	Low								Low
Natural factors (Erosion)	Low								Low
Habitat destruction			Very High						High
Potential tourism + industrial development	High	Low	Medium	High	High				Very high
Hunting		High	Medium						Medium
Illegal fishing				High				Medium	Medium
Lake infringements- Land fill				Low				Low	Low
land infringement					Medium	Medium			Medium
Desertification					Low				Low
Sewage							Medium		Low
Low public awareness						Low	Low		Low
Low quality infrastructure and services for tourism						High			Medium
Social/economic factors (ignorance, poverty)							High		Medium
Weakness of governmental and security services	Medium						Low		Low
Increasing salinity								High	Medium
Garbage						High			Medium
<i>Threat status for each value</i>	<i>Very High</i>	<i>High</i>	<i>Very high</i>	<i>High</i>	<i>Medium</i>	<i>Very high</i>	<i>Medium</i>	<i>High</i>	<i>Very high</i>

Notes: The following method was used for summing low, medium, high and very high ranks (per TNC, 2000) for the values(columns) and threats (rows):

(1) For the individual ranks in each column and each row (before summing the '**overall threat rank**' and '**threat status for each value**'), apply the following rules:

Less than 7 Low=Low; 7 Low = 1 Medium; 5 Medium = 1 High; 3 High = 1 Very High.

(2) Calculate the sum across each row to find the '**overall threat rank**' and down each column to find the '**threat status for each value**'. Apply the following rules when summing:

Less than 2 Medium=Low; 2 Medium or 1 High=Medium; 2 High or 1 Very High=High; 2 Very High=Very High.

Part V. Toward the Future

Concerning preparation of the management plan for QPA, in light of new development priorities especially in tourism sector, a management vision should be established.

A clear profile about QPA is needed, including:

- ❖ Natural resources and their scientific aspects
- ❖ Wildlife aspects
- ❖ Unique systems
- ❖ Economic activities and development
- ❖ Human settlements and development needs
- ❖ GIS based maps allocating the land use and economic development sites
- ❖ Zoning program and management objectives for each zone
- ❖ Capacity building and training needs
- ❖ Business Planning
- ❖ Effective collaboration with stakeholders in the area and their involvement in the management program
- ❖ Monitoring programs for 1) biodiversity and other natural resources, 2) economic activities and licensing procedure, 3) world heritage site management
- ❖ Other components such as 1) public awareness program, 2) eco-tourism development program, 3) local community development program.

6.0 Strategic considerations

6.1. Management planning and strategies

This evaluation has demonstrated the unsatisfactory status of QPA. The efforts carried out over the last 5 years appear to be resulting in a stable condition for some resource. Lack of funds and work plans is hampering effective management.

The stable ratings for the natural/cultural key values (Gebel Qatrani, Golden horn island, North shore of Qaroun Lake) and the North shore as an eco-tourism value and the local communities in the south of Qaroun Lake are a clear estimation in the absence of specific objectives and management plan actions against which to measure change and progress. A focus should be on poverty reduction and community development as a strategic development goal.

The poor condition of the lakes, south shore as a tourism resource and the local fishermen are substantially the result of declining quality of lake water as a result of uncontrolled waste dumping into the lake (agricultural/sewage) and the increased salinity. This threat is the expected result of lack of funds and missed collaboration with the relevant authorities to develop communities and offer a sewerage system for the towns and villages which produce their wastes directly to the drains. Collaboration is also missing to manage the water inputs and distribution into Qaroun Lake. This means that extra effort is required to establish collaborative mechanisms and a focused public awareness initiative.

Towards the declaration of North Gebel Qatrani as a world heritage site, several priorities should be taken in consideration.

Management planning should strongly consider the stakeholders especially the governmental ones. The management of Qaroun Protected Area should be linked to the tourism and industrial development processes planned for the North coast of QL. So, **collaboration** will be the primary focus in the future management of QPA.

The state of QPA as a development, tourist and inhabited site should be carefully dealt with through the management planning process which will lead again to the collaboration issue.

A stable and adequate level of governmental funding is urgently needed to address threats and secure protection. Fund raising mechanisms should be developed to enhance the basic level of governmental funding. However, this can not be expected to solve the financial needs in the long term.

Monitoring and research plan should be developed for the key resources of the protected area.

Collaborative management should be pursued with local key stakeholders.

6.2. General recommendations for actions

The management actions that identified by the staff during the workshop and should be implemented to improve the status of the resources in QPA were include the following:

1. Interpretive signage plan for each site.
2. Quickly establish a site plan for conserving the area through construction of basic infrastructure (tracks, signs, ticket collection stations and gates, educational materials...etc.).
3. Establish and implement an effective patrolling and monitoring system based on the available resources (physical and financial), and evaluating the results for follow up actions.
4. Establish a collaborative strategy with the key stakeholders and interested parties such as ministry of culture (for implementing a regular maintenance program for the cultural sites of Gebel Qatrani), ministry of agriculture, ministry of irrigation, ministry of interior, ministry of tourism, the government of Fayoum and other such bodies.
5. Initiate and encourage the work of NGOs to fill the gaps in different fields for development of the area and improving management effectiveness.
6. Implement a long term public awareness program targeting the local community to encourage self-protection of the important sites. Other targets such as stakeholders, visitors, ...etc should also be involved.
7. Limit the number of tourism hotels.
8. Limit the reclamation areas for agriculture.
9. Limit the discharge of pollutants into the lake through controlling the use of agricultural fertilizers and pesticides.
10. Encourage construction of waste water treatment plants before drains discharge into the lake, through collaboration with Fayoum governorate. (the Governor of Fayoum has indicated his intention towards this matter)
11. Manage the Golden Horn Island as a special protection zone.
12. Encourage research programs targeting the lake system and ecology, and the local communities. This research should include the design and testing of indicators to support evaluation of management effectiveness.
13. Play a strong role in the planning process of the northern coast by cooperating closely with the governorate TDA.

14. Enhance the educational efforts for the young local students to indoctrinate them on the conservation concept and good their behavior.
15. More efforts must be given to develop the local community through attracting the poverty combating programs and women's development programs.

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Appendices

1. List of Participants and Workshop Agenda
2. Evaluation of past 5 years actions in QPA
3. Summary of recommended actions after evaluation process
4. Results of stakeholder, community and visitor surveys
5. RAPPAM Results for Qaroun Protected Area
6. Site Level Management Effectiveness Evaluation Procedure Used in This Study
7. Participant Evaluation of the Qaroun Management Effectiveness Workshop

Appendix 1: List of Participants and Workshop Agenda

	Day 1	Day 2	Day 3
	Sunday, August 20	Monday, August 21	Tuesday, August 22
	Introduction to Management Effectiveness:	Examining Status and Threats of PA Values:	Summary of Threats for PA
morning	Looking Back Over the Last Few Years: Survey Results:	Working groups & presentation	Discussion of Actions and Recommendations
	PA Key Values:		
	Examining Status and Threats of PA Values:	Continue	Next Steps for Management Effectiveness
afternoon	(a) WRPA Case Study (b) Working groups & presentation	Working groups & presentation	Evaluation of the Workshop Methods and Survey

Participants

Environmental researchers/rangers: Osama, Ghada, Amr Sayed, Mohamed Hamed, Adel Fayez, Mohamed El-Sayed, Gebelly, Mahmoud Mokhtar

Park manger: Hossam Kamel

Facilitators: Khaled Allam, Mohmoud Fouad, Mohamed Talaat, Dan Paleczny

Appendix 2: Past 5 years Management Actions

For this evaluation, list the actions in the last 5 years and use the following codes to assess implementation progress.

Status codes:

- 1 = Completed or part of an ongoing programme
- 2 = Implementation underway but not yet completed
- 3 = Planning is in progress
- 4 = Not commenced, but action is still worthy of implementation
- 5 = Circumstances have changed; action is no longer appropriate or necessary

Evidence of Effectiveness:

- 1. Estimation
- 2. Expert opinion
- 3. Results of patrolling and monitoring
- 4. Results of technical or research study or other reports/products

Actions	Status Code	1+2: Description of Effectiveness, Needed Changes, Follow-up; 3+4: Note problems and/or reasons for status; 5: Rationale	Evidence of Effectiveness
Infrastructure		<ul style="list-style-type: none"> Completely done by a separate budget came directly from EEAA and out of annual budget 	
Headquarters	1	<ul style="list-style-type: none"> Renovation of the main HQ in Shakshouk 	
Signposts & tracks	2	<ul style="list-style-type: none"> No actions, while some parts of the track in Gebel Qatrani is currently under simple designation with wood sticks. 	
Maintenance		<ul style="list-style-type: none"> Maintaining the Mitsubishi car and some other little works 	
Research			
<ul style="list-style-type: none"> Annual research expedition of Duke University 	1,2	<ul style="list-style-type: none"> There is no definite research strategy for QPA, while being the protected area is a target focus for the national/international researchers, which enable the protected area staff to share some of these studies with different research institute. 	
Patrolling / law enforcement	1,2	<ul style="list-style-type: none"> 	

Actions	Status Code	1+2: Description of Effectiveness, Needed Changes, Follow-up; 3+4: Note problems and/or reasons for status; 5: Rationale	Evidence of Effectiveness
<u>Preventing of any sort of illegal hunting</u> <ul style="list-style-type: none"> Regular land patrolling Regular lake patrols seasonal desert patrolling for falcon hunting 		<ul style="list-style-type: none"> the most regular and effective tool conserving the natural resources. The patrolling and law enforcement system is recommended to continue and to increase its intensity. The capacity of the protected area need to be raised in terms of cars and motor boats. Collaboration with relevant authorities need to be enhanced and strengthened for supporting the law enforcement tool inside and around RMNP 	
<u>Preventing of any sort of resource collection</u>			
Limiting off track driving		<ul style="list-style-type: none"> They are not effective because the number of patrols is not quite enough 	
Public awareness		<ul style="list-style-type: none"> There is no Public awareness and education plan for QPA, Presence of education as well as awareness program will enhance the protection process especially with the targets of fishermen and villagers, and tour operators. 	
<u>Awareness Lectures</u>			
Volunteer work	2	<ul style="list-style-type: none"> Some health campaigns and support for poor families are existed via some NGOs (RESALA) Awareness through the volunteer work and health campaigns is strongly recommended to continue. 	
Monitoring		<ul style="list-style-type: none"> There are no monitoring or survey programs in QPA. some researches had done by research institute such as Oceanographic institution, but without any records with the PA staff. 	
Training		<ul style="list-style-type: none"> There is no training program in QPA, but the staff has joined several local conferences and workshops. Some of the staff had worked with some research expedition (Michigan, Duke....). 	
Economic activities			
Hotels, cafeterias located on the south shore of the lake, aquaculture, agricultural lands on the south shore,		<ul style="list-style-type: none"> There is no clear monitoring and filing for such activities. The monitoring is responsive after patrolling in case of violations. Even after having some kinds of 	

Actions	Status Code	1+2: Description of Effectiveness, Needed Changes, Follow-up; 3+4: Note problems and/or reasons for status; 5: Rationale	Evidence of Effectiveness
traditional fishing		violation, the staff is not oriented and trained how to deal with such violations	

Appendix 3: Summary of Recommended Actions

Value	Section	Action	Comment on Implementation
Gebel Qatrani Cultural/Natural	1.1.5.	Interpretive signage plan for each site	
	1.1.5.	Construction of essential infrastructure such as: tracks, checkpoints, ticket collection stations	
	1.1.5.	Establishing a good patrolling and monitoring system (taken in consideration provision with the needed tools: enough vehicles, communication tools such as radio and mobile or satellite phones and basic staff training	
	1.1.5.	Establishing a collaborative strategy with the ministry of culture for implementing a regular maintenance program for the cultural sites of Gebel Qatrani	
	1.1.5.	Implementing a long term public awareness program targeting the local community to encourage protection of these important sites	
	1.1.5.	Establishing, long term channels on national and international levels for research programs, and supporting the current programs such as that with Duke University, USA.	
	1.1.5.	Establishing of a management plan for QPA, including expanding the boundary to connect Gebel Qatrani to Wadi El-Hitan to protect valuable fossil sites.	
	1.1.5.	Establishment of North of Qaroun and Gebel Qatrani as a World Heritage Site.	
North Coast of Qaroun lake	1.2.5.	Limiting the number of new tourism hotels and facilities; alternatively encourage the re-development of existing facilities on the south shore, to raise the standards of the facilities and services.	

	1.2.5.	Limiting the reclamation areas for agriculture	
	1.2.5.	Limiting the discharge of pollutants into the lake through controlling the fertilizer and pesticide uses in agriculture	
	1.2.5.	Construction of treatment plants for the waste water before discharging into the lake through collaboration with Fayoum governorate. (the Governor of Fayoum has shown his intention towards the issue)	
	1.2.5.	Implementing a monitoring program for water discharge and quality	
	1.2.5.	Establishing a zoning plan as part of the management plan, to clarify the permitted activities in each zone.	
	1.2.5.	Encourage research, including the design of suitable indicators.	
Golden Horn Island	1.3.5.	Public awareness program to act against illegal hunting	
	1.3.5.	Implementing effective monitoring and patrolling programs	
	1.3.5.	Collaboration with stakeholders	
	1.3.5.	Giving attention to the quality of the lake water through decreasing the pollutants discharge by recommending treatment plants at the main drains.	
	1.3.5.	Zone the island as a special protection zone	
	1.3.5.	Encouraging different study and research programs targeting the lake system and ecology to fill the information gaps related to future stability of the lake system.	
Lake Qaroun	1.4.5.	Public awareness program to act against illegal fishing	
	1.4.5.	Implementing a monitoring and effective patrolling programs	
	1.4.5.	Collaboration with water and environmental police to strongly and effectively implement law enforcement	

	1.4.5.	Giving attention to the quality of the lake water through decreasing the pollutants discharge by recommending treatment plants at the main drains	
	1.4.5.	Encourage research on designing and testing indicators	
North Coast of Qaroun Lake (eco-tourism)	2.1.5.	Collaboration with different parties and stakeholders such as Fayoum Governorate, Ministry of Agriculture and Ministry of Irrigation and Tourism Development Authority,..etc.	
	2.1.5.	Having a role in the planning process of the Northern Coast; strong participation in Fayoum ecotourism plan	
	2.1.5.	Encourage re-development and upgrading of south-coast infrastructure while retaining the natural values on the north-coast	
	2.1.5.	Implementing an effective schedule for patrolling, monitoring and evaluating the results	
	2.1.5.	Quickly establishing a site plan for conserving the area through construction of basic infrastructure (tracks, signs, educational materials...etc.)	
	2.1.5.	Seek corporate and donor support for PA programs	
South Coast of Qaroun Lake (eco-tourism)	2.2.5.	The actions are closely connected to those that should be taken for the lake and north coast. Special attention is needed to diversify and broaden the public awareness program, targeting the local inhabitants, tourism stakeholders, and local governmental units	
	2.2.5.	Educational program should also initiated and implemented for the young local inhabitants in schools to introduce the concept of conservation in their behavior	
	2.2.5.	More efforts must be given to develop the local community through attracting the poverty combating programs and women's development programs	
	2.2.5.	Work closely on encouraging garbage collection system and waste/effluent systems, including filtration systems for fish farms	
	2.2.5.	Work with environmental police to enforce the land use policies	

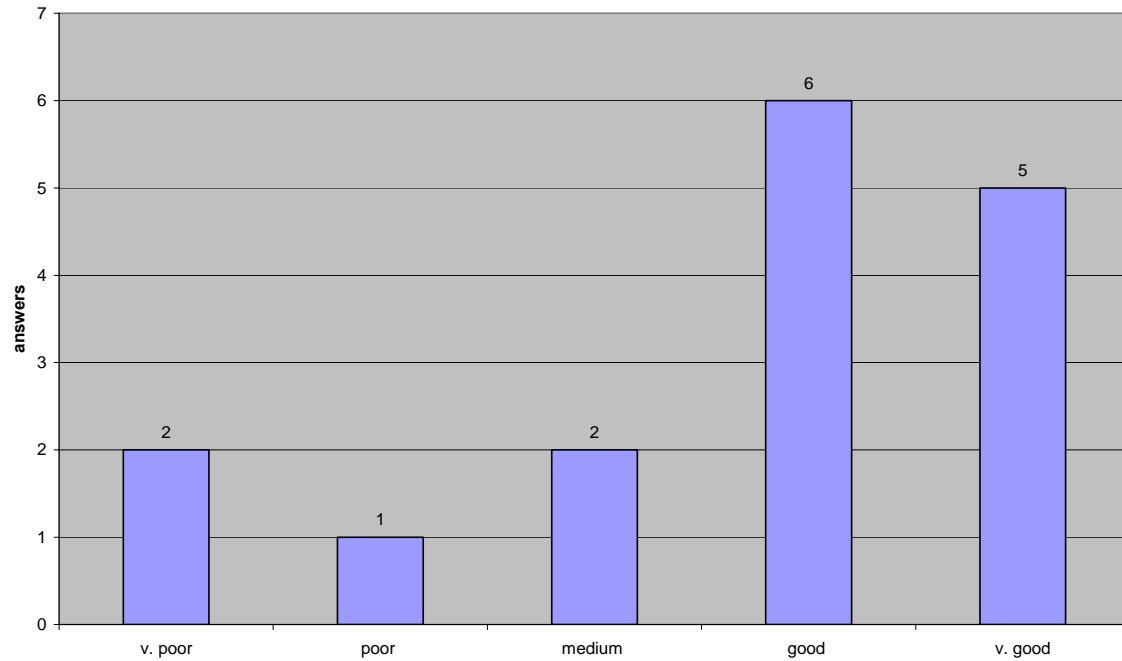
	2.2.5.	Introduce new eco-tourism facilities in key areas (bird hides and information sites)	
	2.2.5.	The PAMU should work closely with the government to implement a tourism strategy for the re-development of the south coast to improve infrastructure and services, while protecting and keeping the naturalness of the coast. At the end, this strategy yields "product and business" for Fayoum	
Villages on the South Coast of Qaroun lake	3.1.5.	The QPA should work intensively towards initiating information, education and communications program for local communities inside the PA. The local communities are mainly inhabiting the south coast of Qaroun Lake, so the actions taken are those aligned with the management priorities of the south coast. This work can be done at low cost, and has good potential for financial support from NGOs, corporate and donors	
	3.1.5.	Improving the social services (medical care, women's support programs, and other services that can improve the quality of life) and security services are among the priorities to develop these poor local communities	
	3.1.5.	Work in close collaboration with the town of Shakshouk, and others, to find ways that QPA could assist the community and vise versa	
	3.1.5.	QPA could play a role in promoting the marketing of fish restaurants (e.g. in WRPA could advise the visitors for returning to Cairo via Shakshouk)	
Fishermen	3.2.5.	Encourage establishing of filtration ponds to buffer the effects of drainage ponds directly into the lake. Encourage research, testing and monitoring of filtration system suitable for this context	
		Encourage research to study and combat the phenomena of disappearing several fish kind which was yielded by the lake in the past	
		Encourage a firm research collaboration with the Oceanographic institution in Shakshouk	

Appendix 4: Results of Stakeholder, Community and Visitor Surveys

Stakeholders

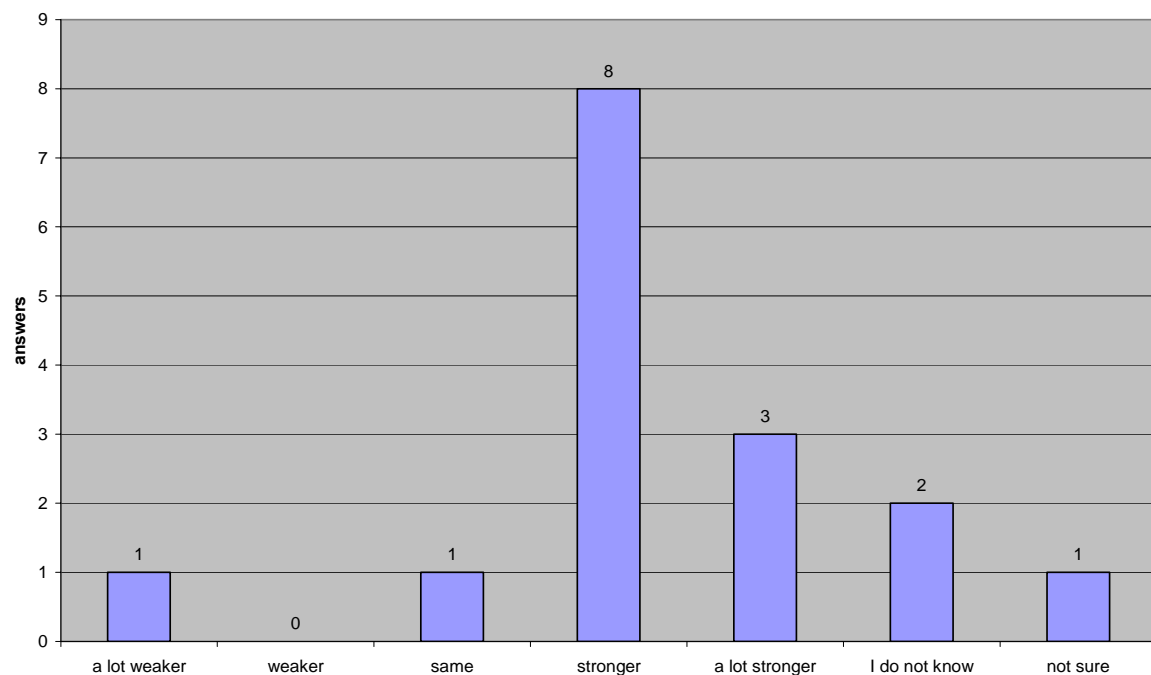
How is the Protected Area performing on protection of natural resources?

ما تقييمك لدور المحمية في حماية والحفاظ على الموارد الطبيعية بها ؟



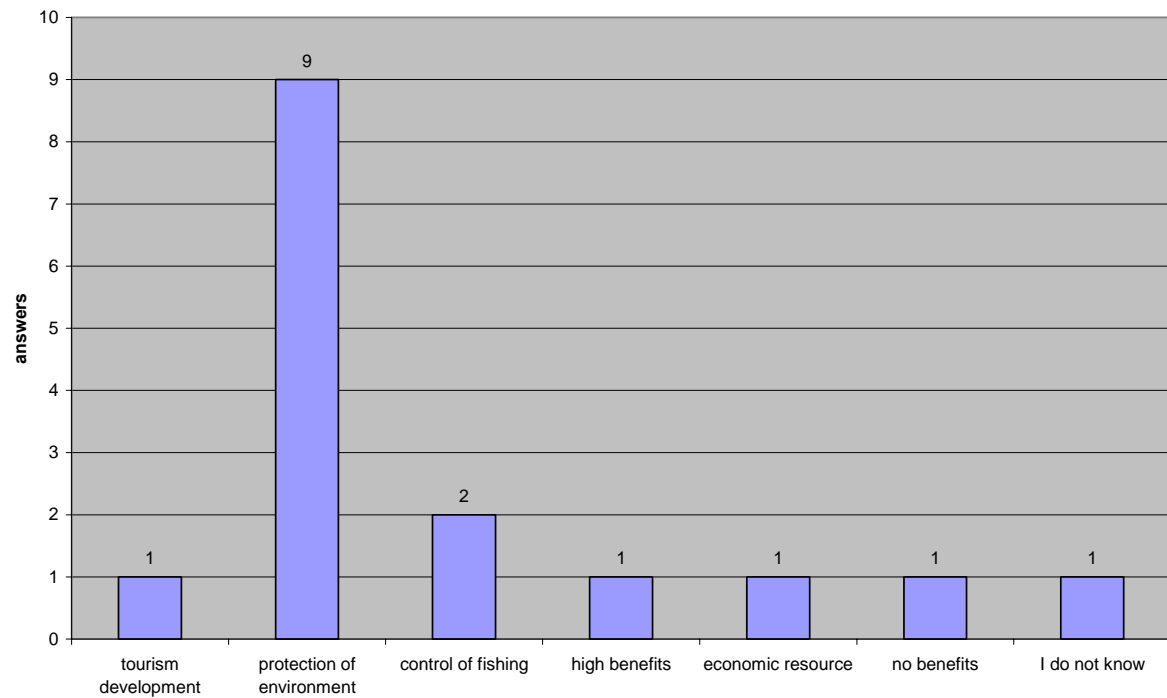
Has the management of the Protected Area become stronger or weaker over the last five years?

هل تعتقد أن إدارة المحمية لمواردها أصبحت تتم بصورة فعالة أم سئنة خلال الخمس سنوات الماضية؟

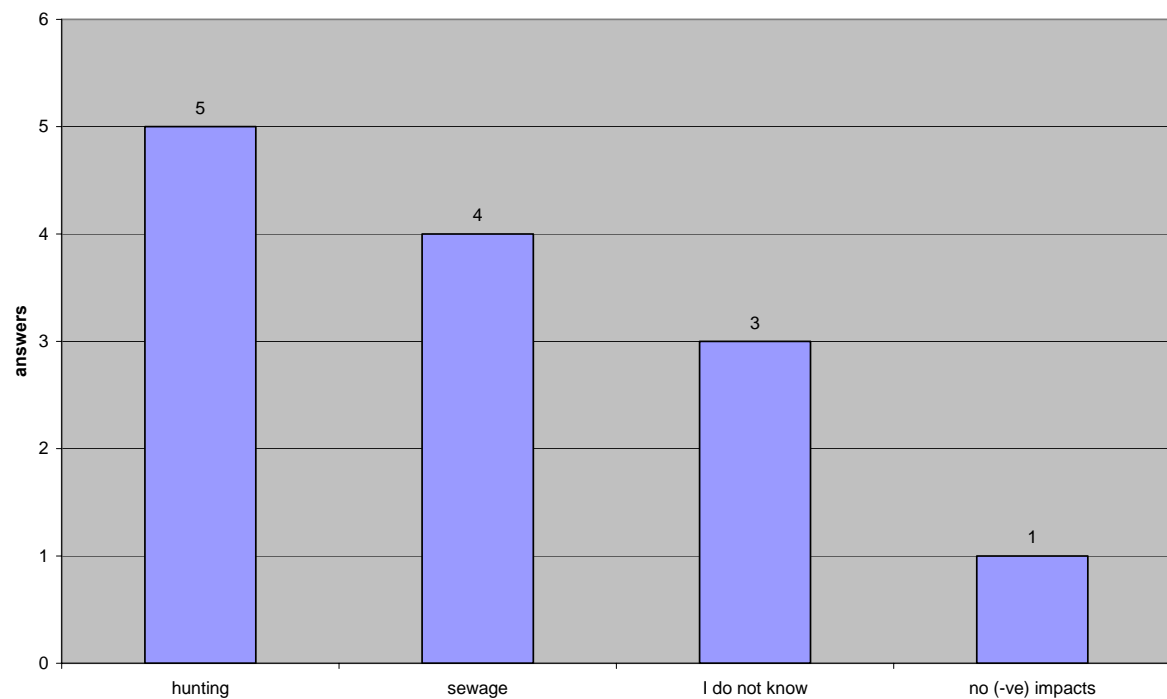


What factors contributed positively to the overall management of the Protected Area?

ما هي الاجابيات إنشاء/وجود المحمية بالمنطقة؟

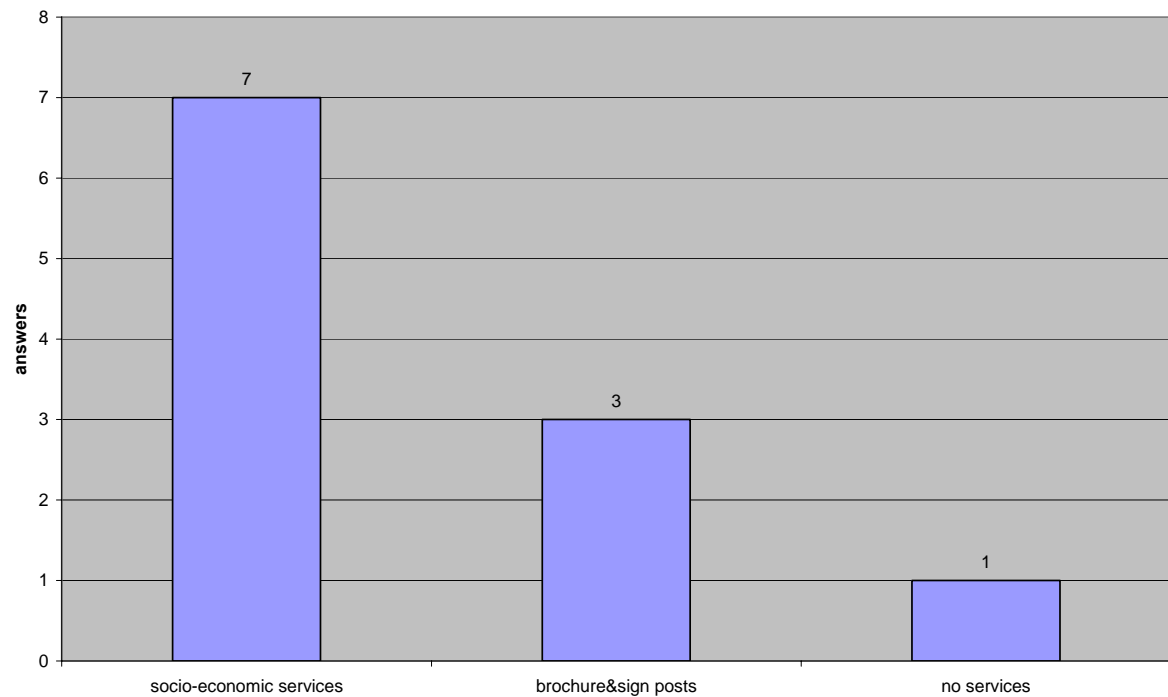
**What activities are happening (either legal or illegal) that you feel pose a threat to the Protected Area?**

ما هي الانشطة (المصرح بها والغير مصرح بها) والتي تعتقد انها تؤثر بالسلب علي المحمية؟

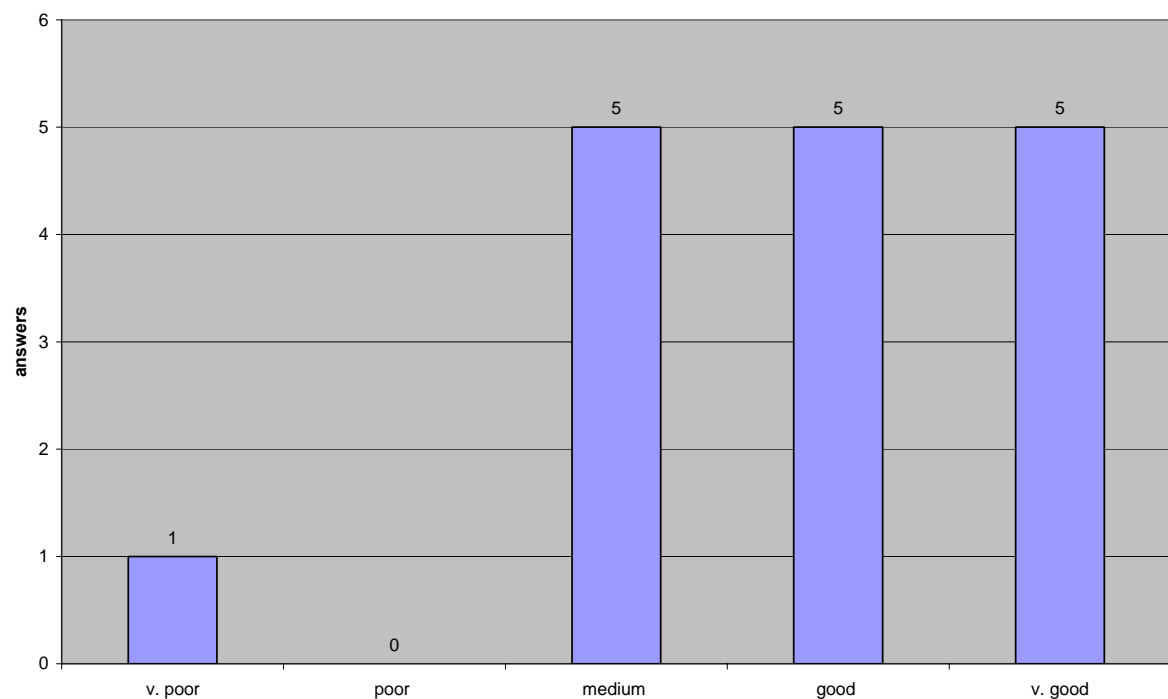


What benefits does the Protected Area provide to you?

ما هي الخدمات والأنشطة المفيدة التي تقدمها المحمية للمجتمعات المحلية؟

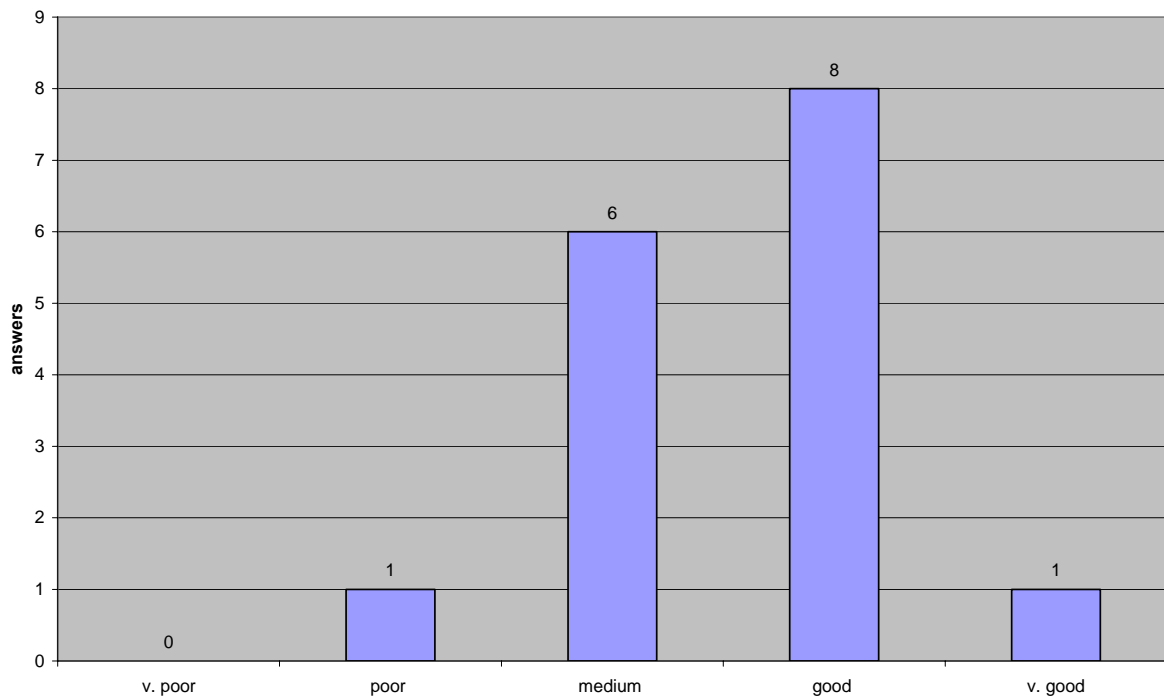
**How well does the Protected Area do in informing stakeholders about the PA?**

ما تقييمك لدور المحمية في نشر الوعي البيئي بين المجتمعات المحلية المحيطة بها؟



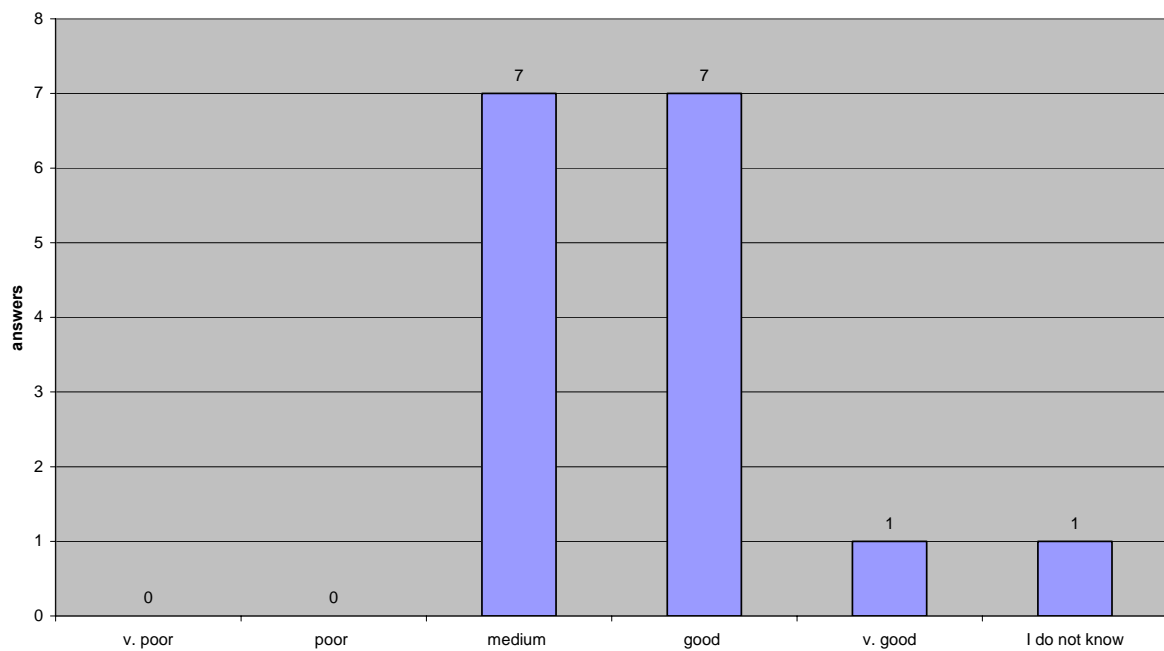
How would you rate the level of support by your stakeholder community for the Protected Area?

ما هو تقييمك لمستويات التعاون بين المجتمعات المحلية وإدارة المحمية؟



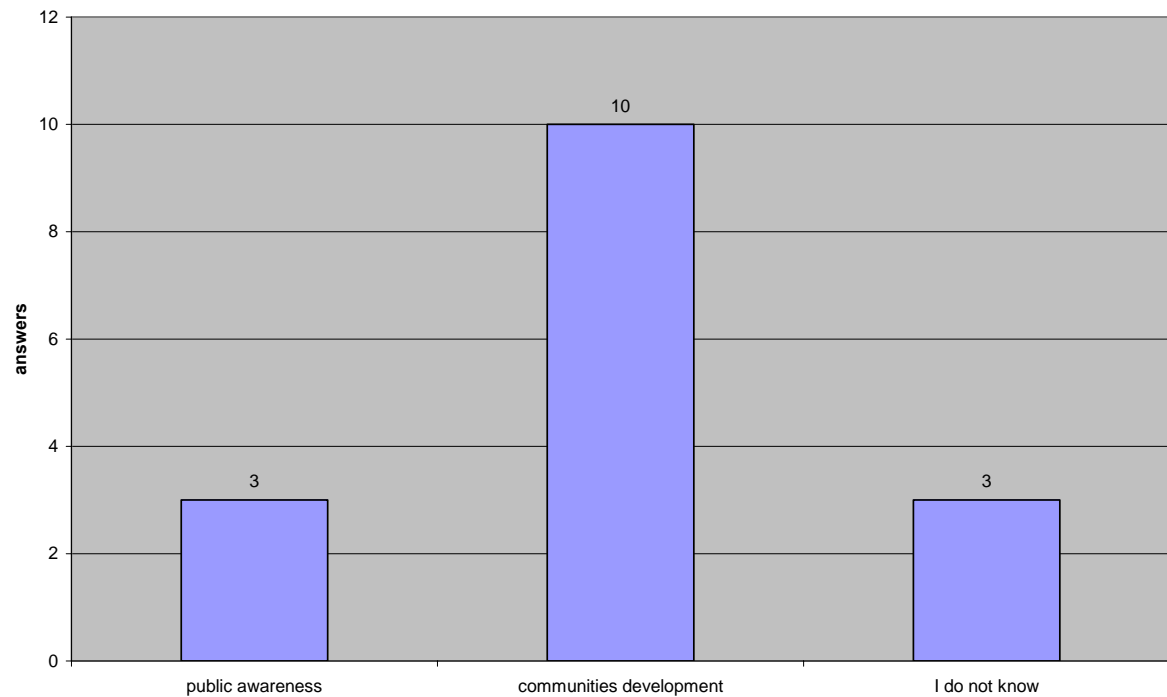
Is the current level of stakeholder support for the Protected Area stronger or weaker than 5 years ago?

هل مستويات التعاون بين المجتمعات المحلية وإدارة المحمية أصبحت تتم بصورة فعالة أم سئنة خلال الخمس سنوات الماضية؟

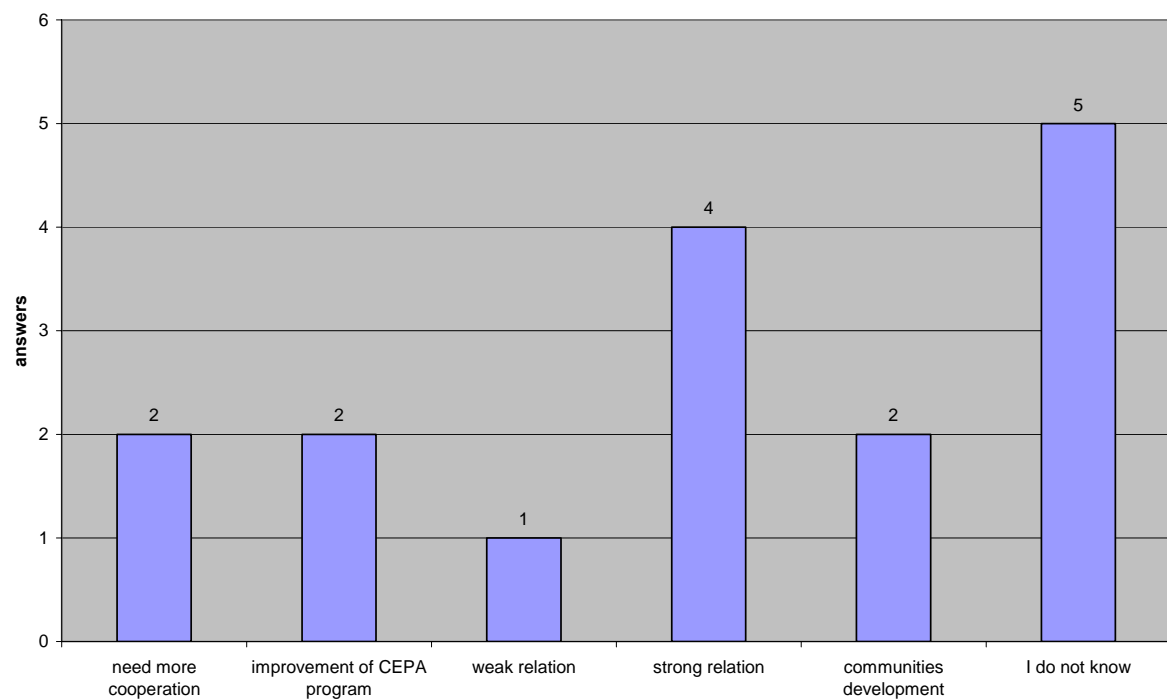


In what ways could the PA help your stakeholder community?

كيف يمكن لإدارة المحمية (وجود المحمية بالمنطقة) أن تخدم المجتمعات المحلية داخل - خارج المحمية؟

**What is your vision for the PA and your stakeholder community?**

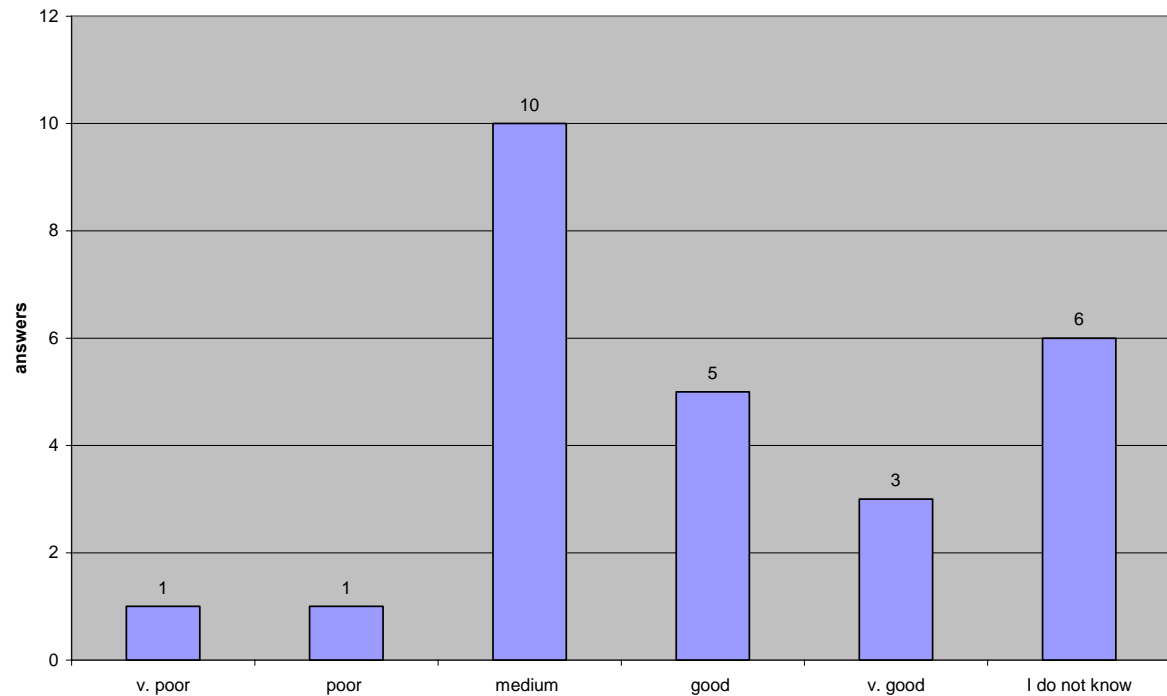
ما هي رؤيتك الشخصية لطبيعة العلاقة بين المحمية والمجتمعات المحلية؟



Community

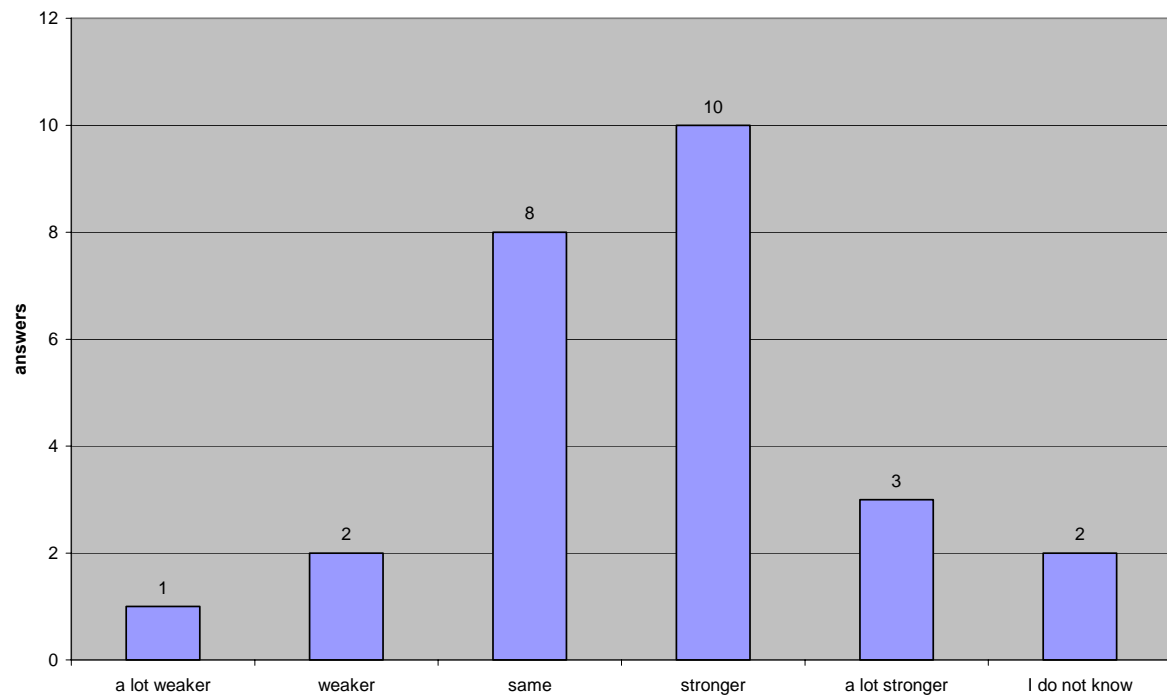
How is the Protected Area performing on protection of natural resources?

ما تقييمك لدور المحمية في حماية والحفاظ علي الموارد الطبيعية بها ؟



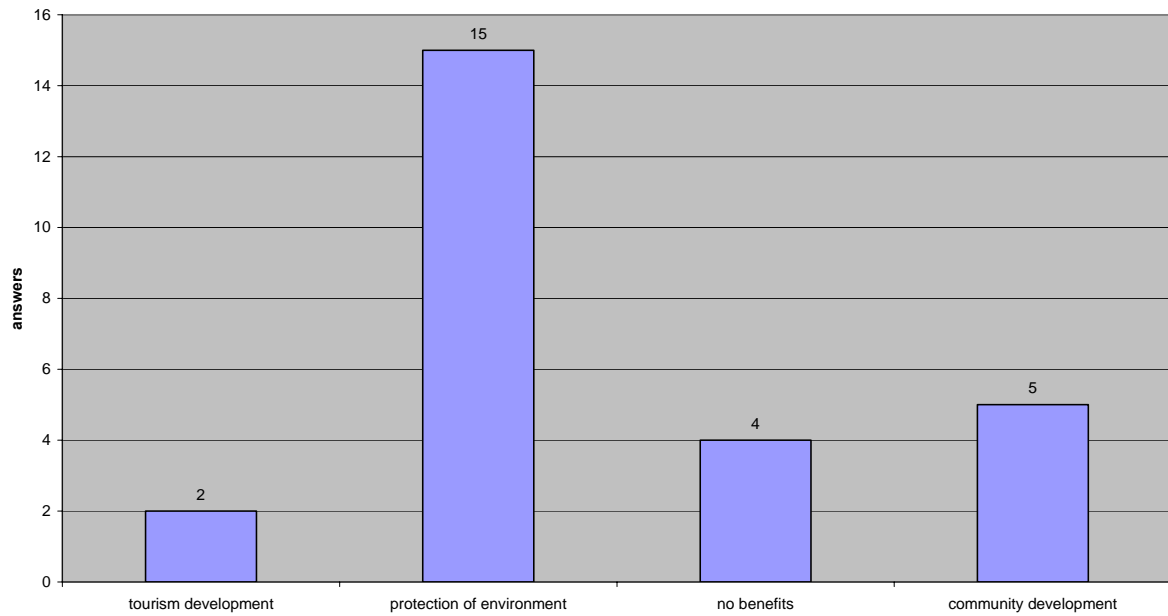
Has the management of the Protected Area become stronger or weaker over the last five years?

هل تعتقد أن إدارة المحمية لمواردها أصبحت تتم بصورة فعالة أم سينة خلال الخمس سنوات الماضية؟

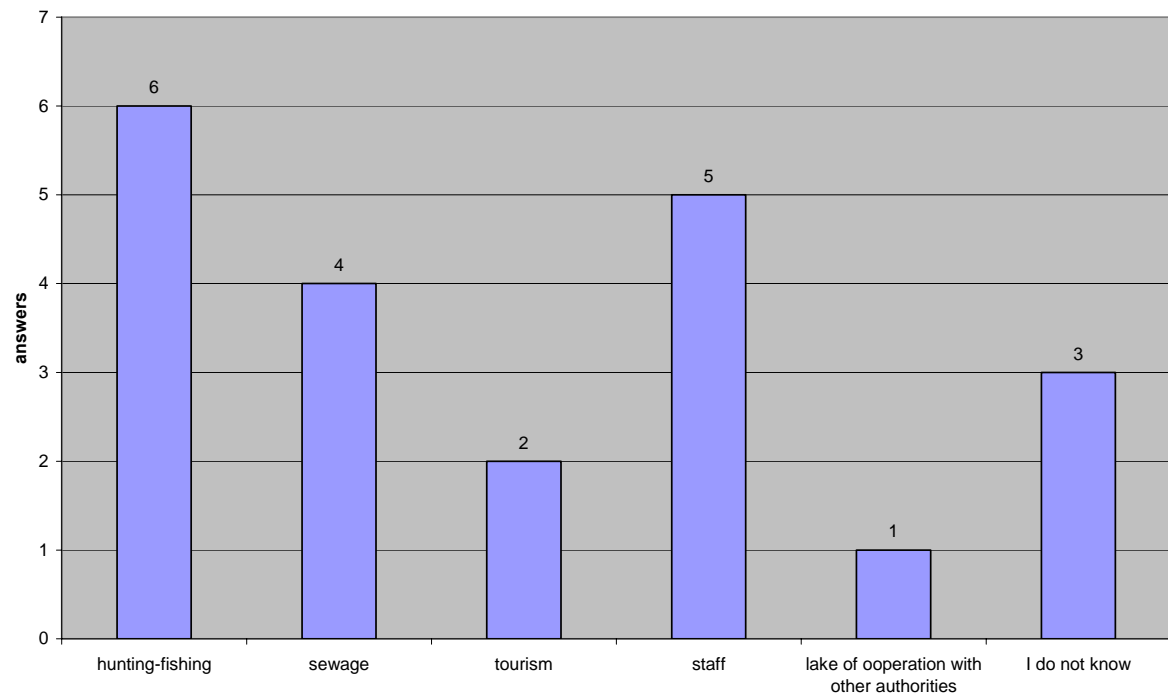


What factors contributed positively to the overall management of the Protected Area?
 إيجابيات إنشاء/وجود المحمية بالمنطقة؟

ما هي

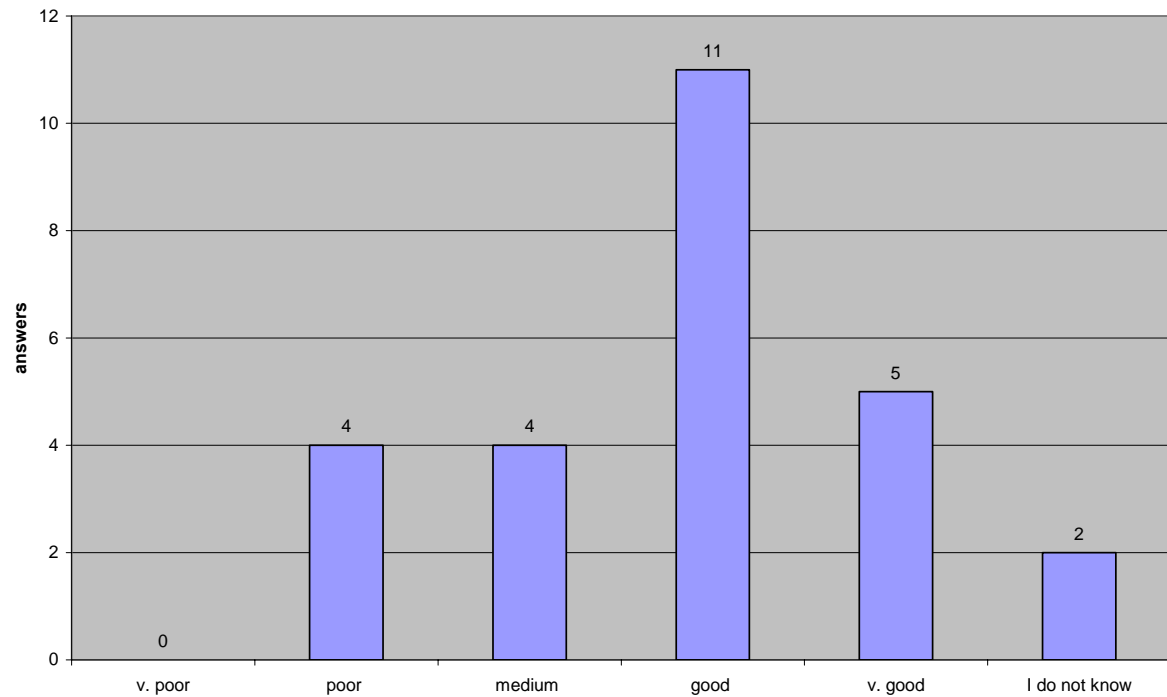


What activities are happening (either legal or illegal) that you feel pose a threat to the Protected Area?
 ما هي الأنشطة (المصرح بها والغير مصرح بها) والتي تعتقد انها تؤثر بالسلب علي المحمية؟



How well does the Protected Area do in informing stakeholders about the PA?

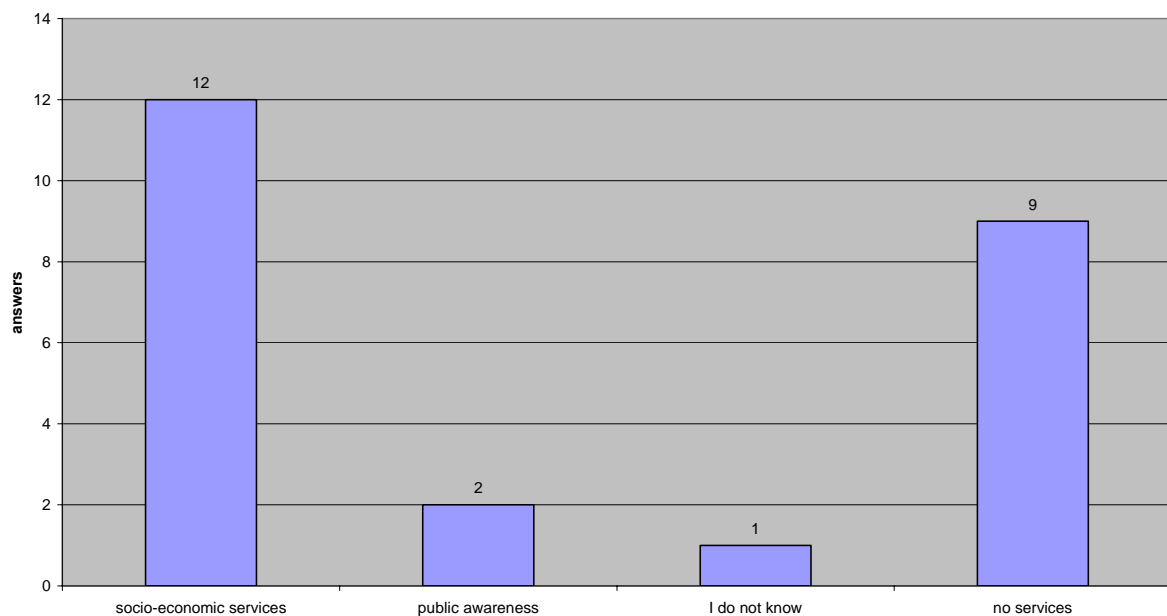
ما تقييمك لدور المحمية في نشر الوعي البيئي بين المجتمعات المحلية المحيطة بها؟



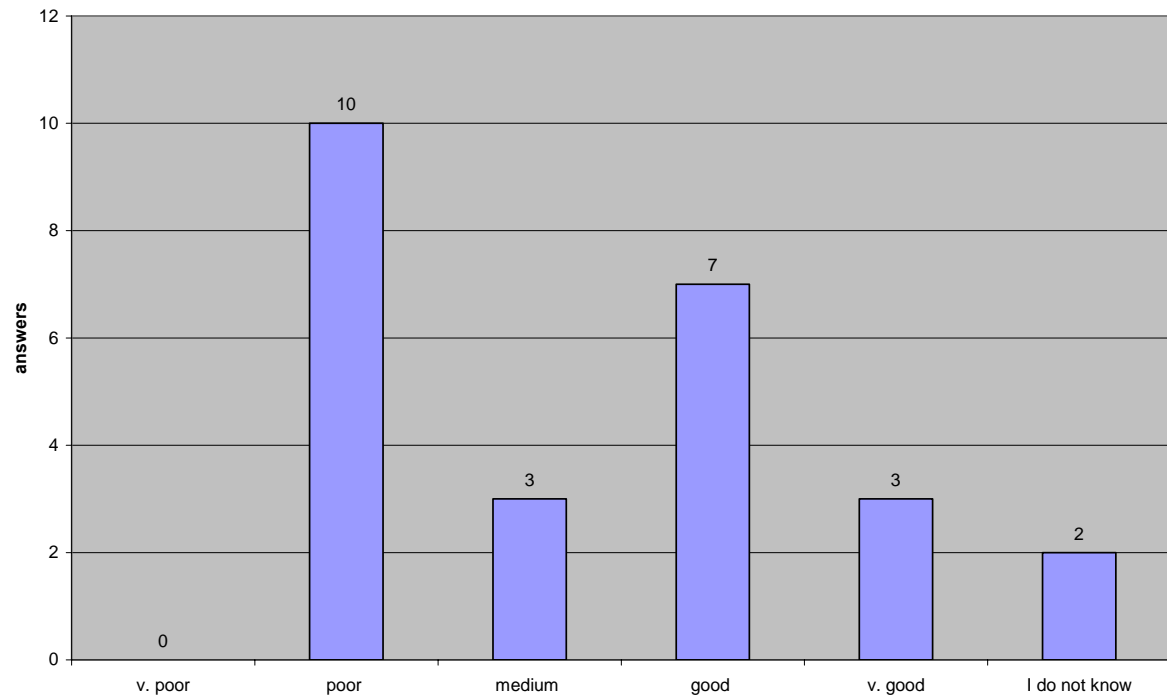
What benefits does the Protected Area provide to you?

ما

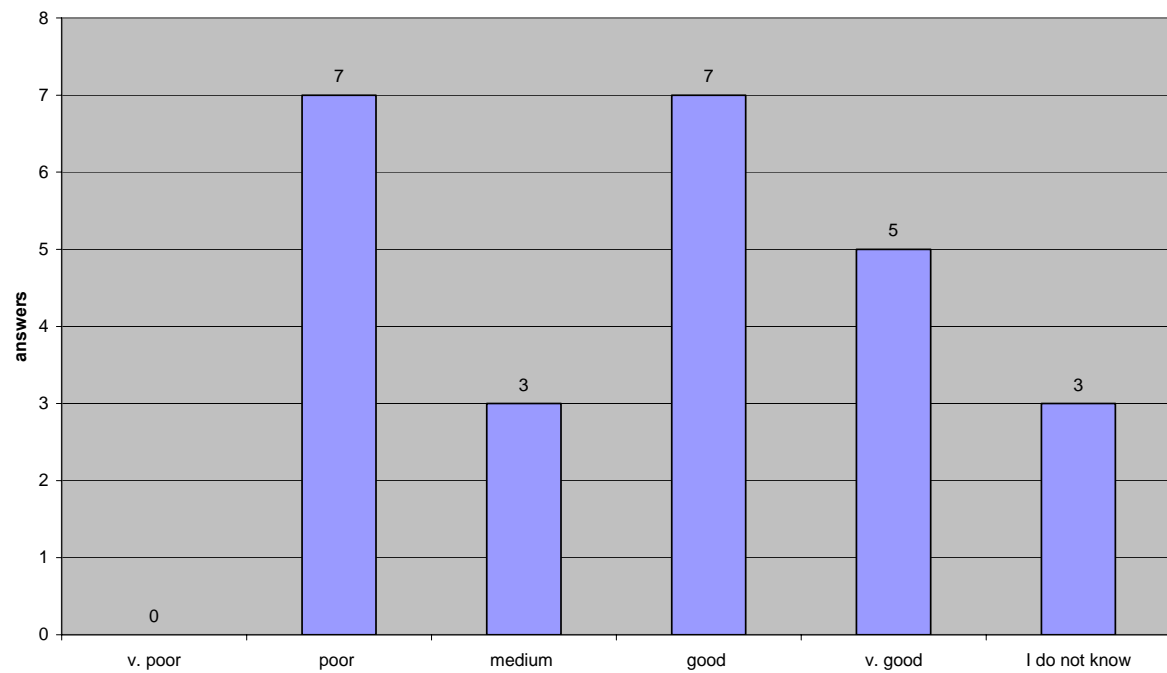
هي الخدمات والأنشطة المفيدة التي تقدمها المحمية للمجتمعات المحلية؟



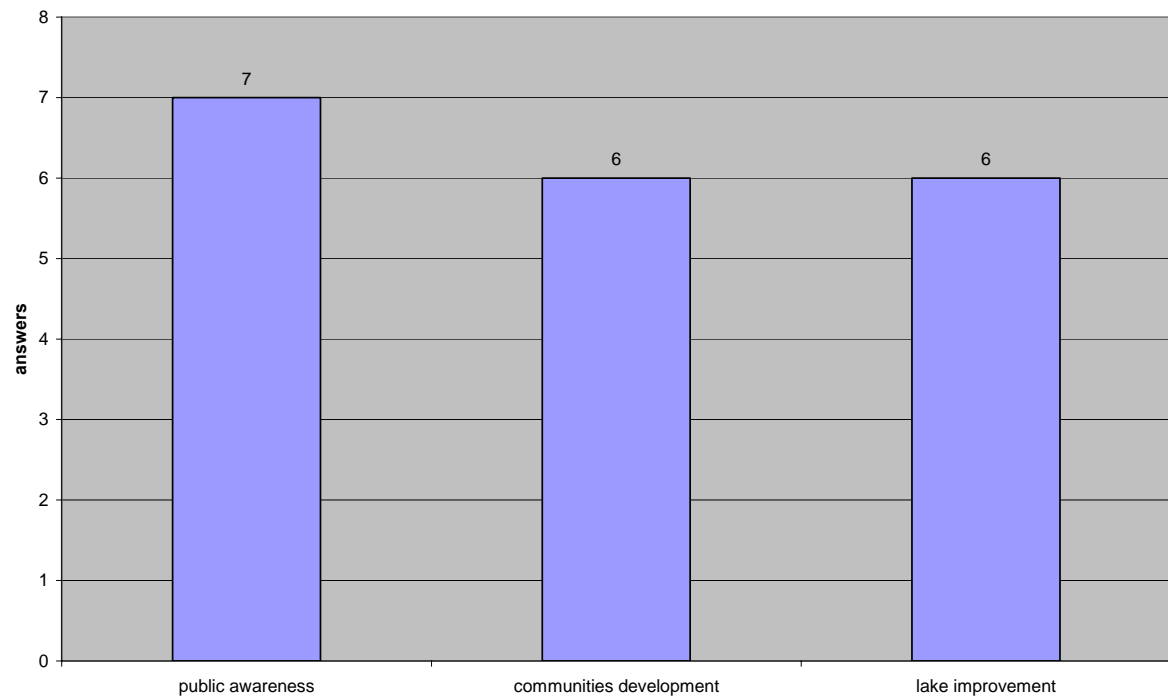
How would you rate the level of cooperation between your community and the Protected Area?
 ما هو تقييمك لمستويات التعاون بين المجتمعات المحلية وإدارة المحمية؟



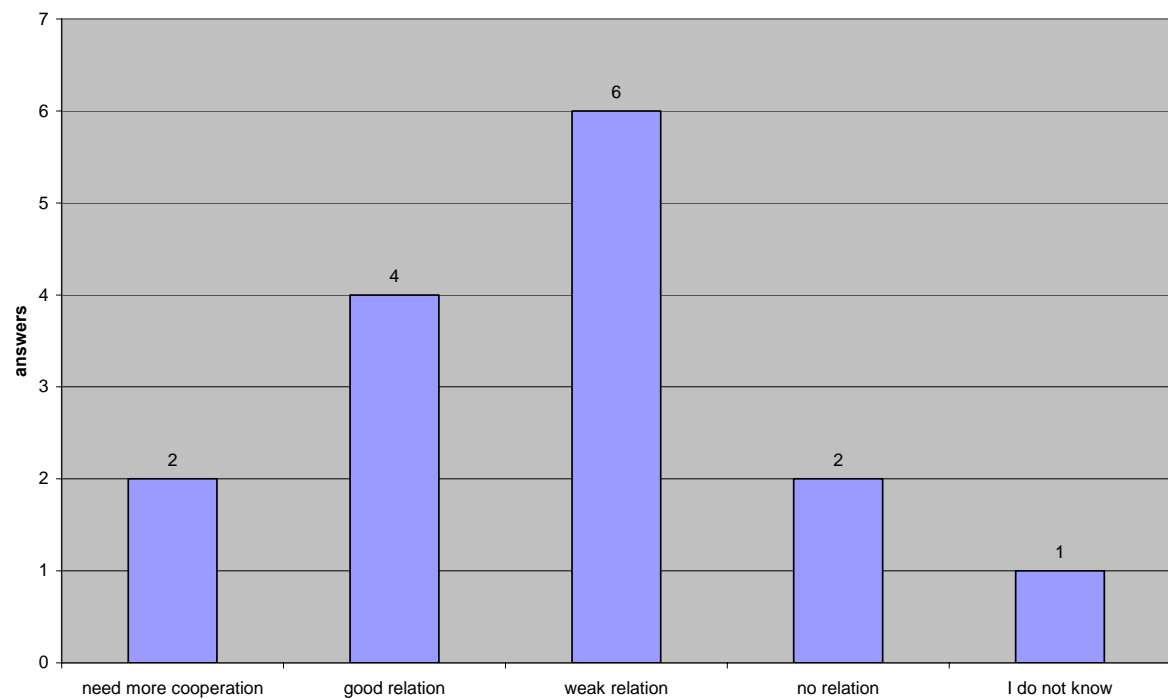
Is the current level of community cooperation for the Protected Area stronger or weaker than 5 years ago?
 هل مستويات التعاون بين المجتمعات المحلية وإدارة المحمية أصبحت تتم بصورة فعالة أم سينة خلال الخمس سنوات الماضية؟



In what ways could the PA help the community?
كيف يمكن لإدارة المحمية (وجود المحمية بالمنطقة) أن تخدم المجتمعات المحلية داخل - خارج المحمية؟

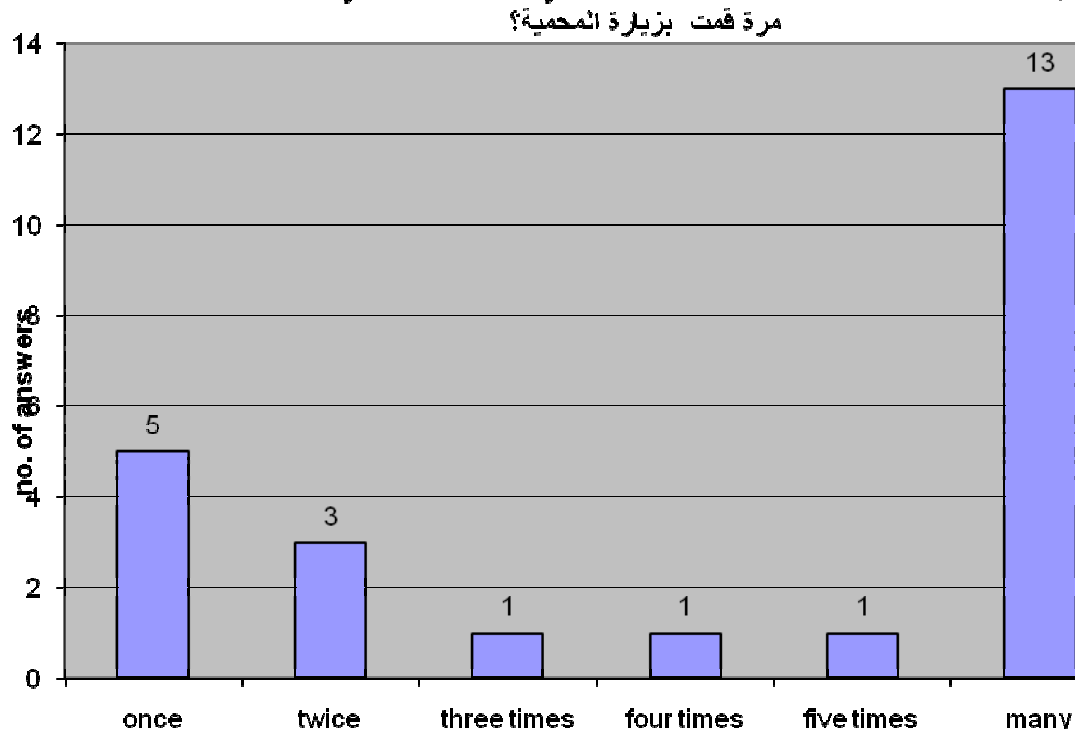


What is your vision for the PA and community?
ما هي رؤيتك الشخصية لطبيعة العلاقة بين المحمية والمجتمعات المحلية؟

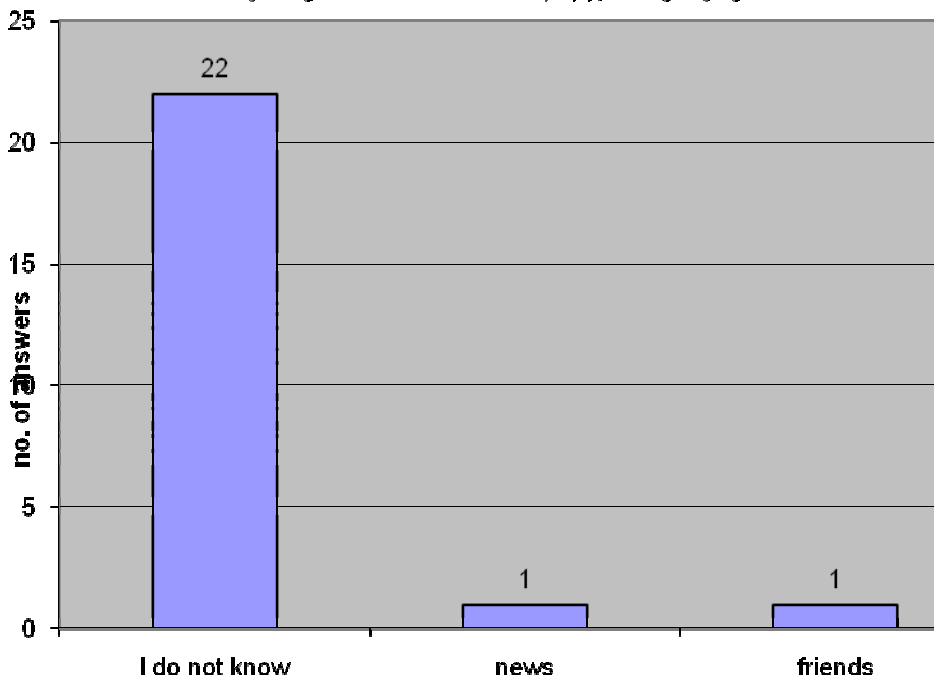


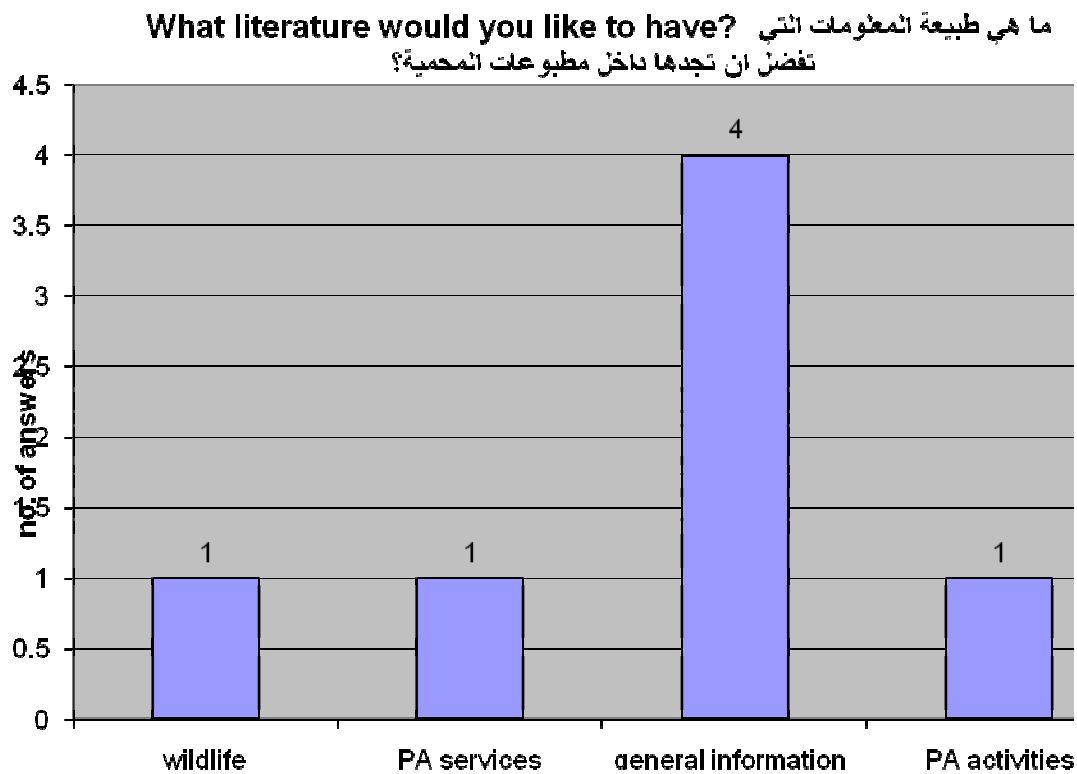
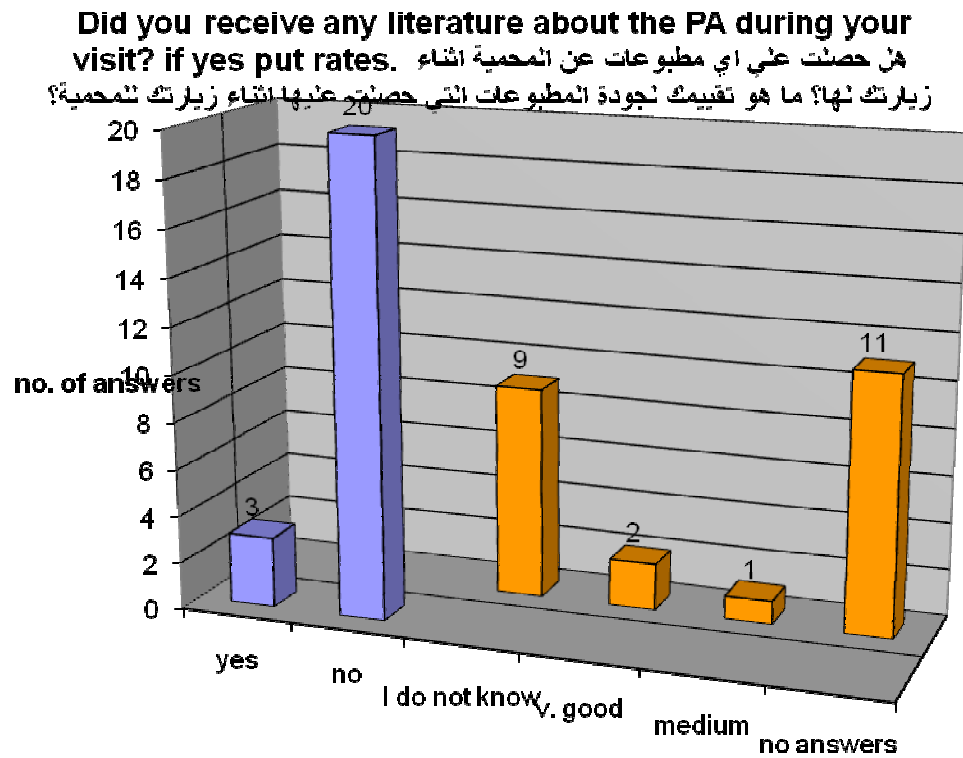
Visitor

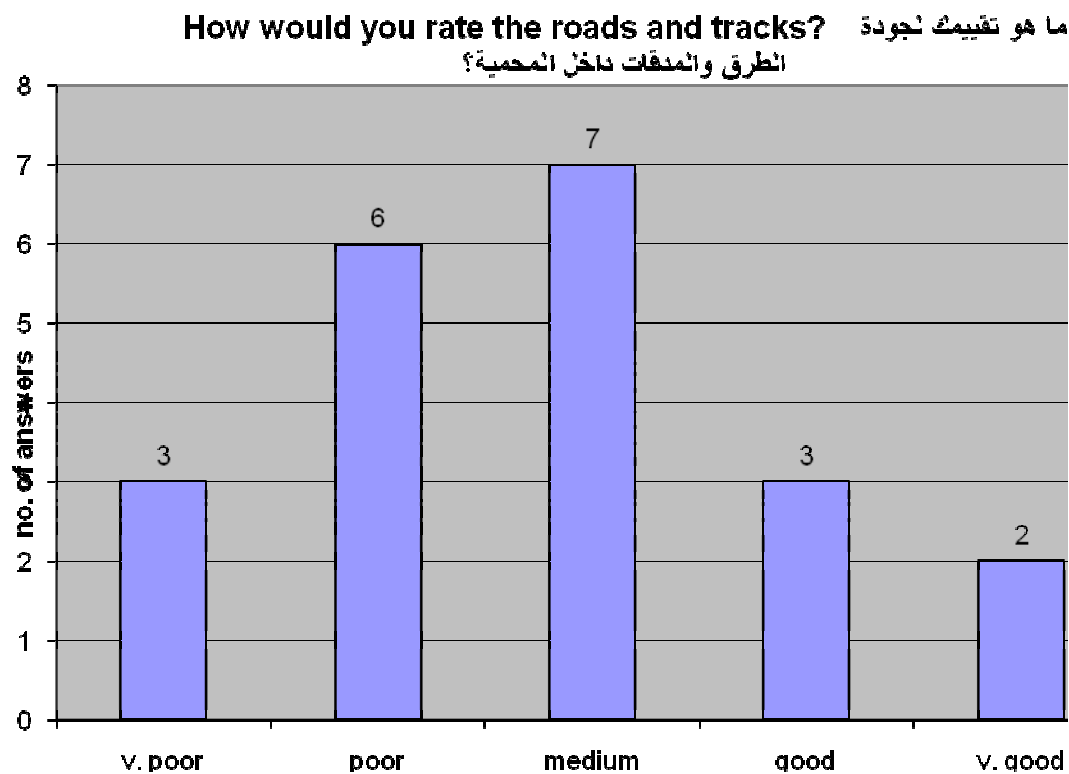
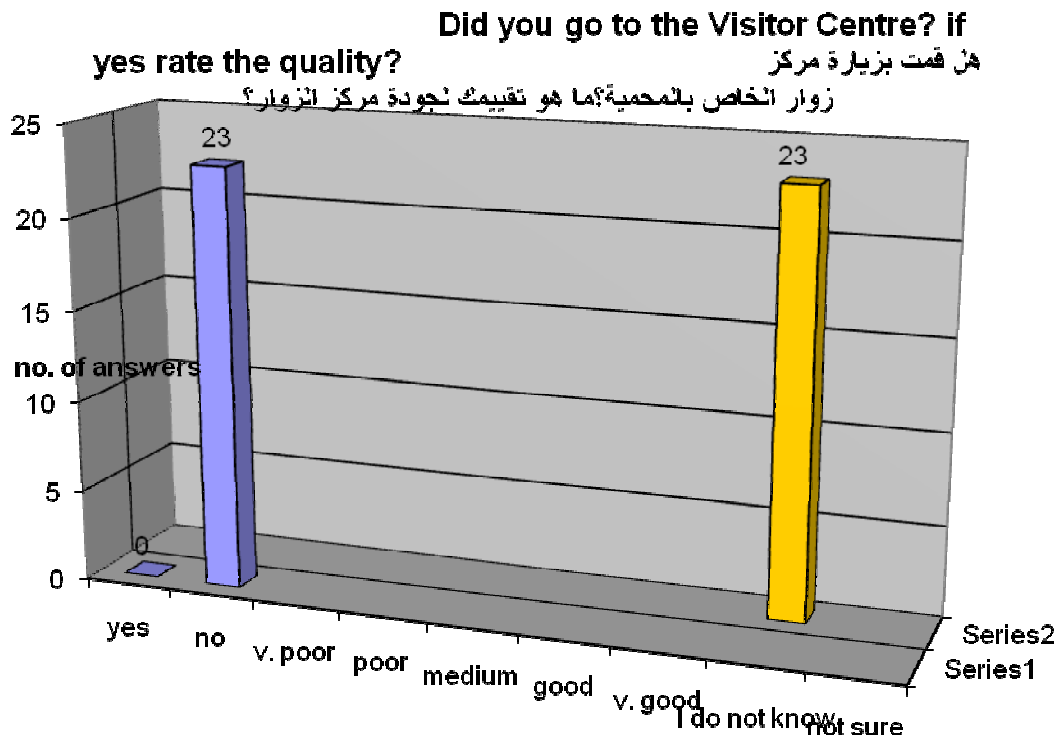
How many times have you visited the Protected Area? كم مرة قمت بزيارة المحمية؟



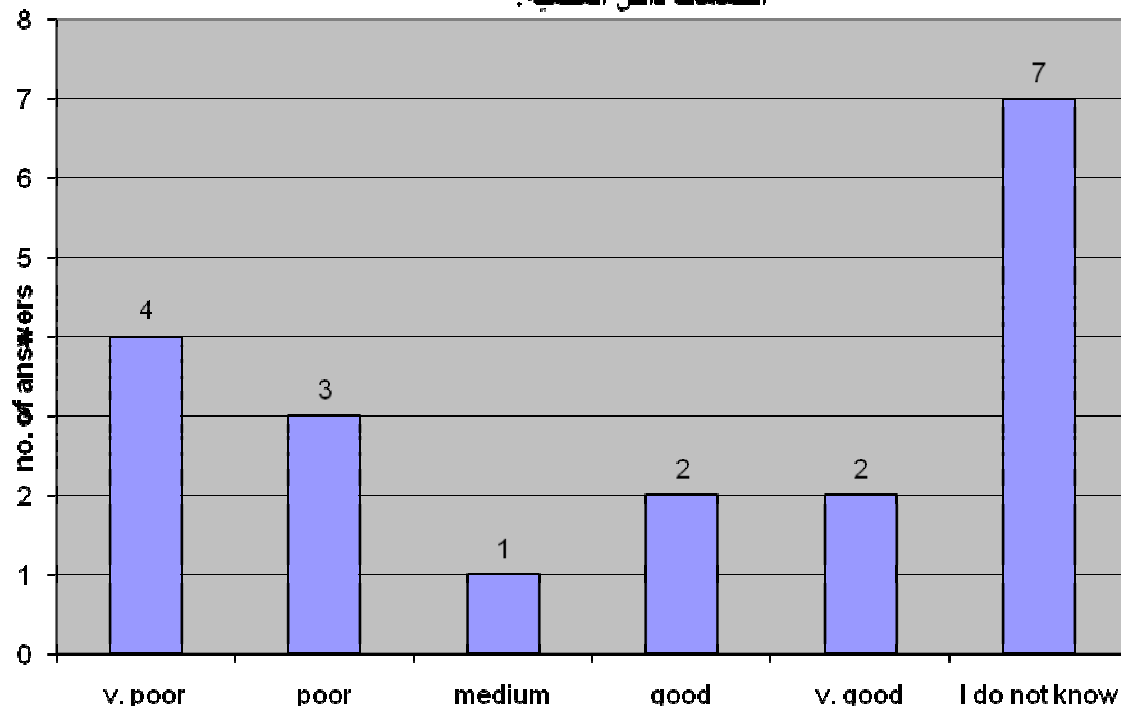
How do you know about the Protected Area? من أين تعلمت عن المحمية؟
على معلومات عن المحمية من رايك لها؟ أو كانت معلومة بالانجاب فكيف حصلت على تلك المعلومات؟



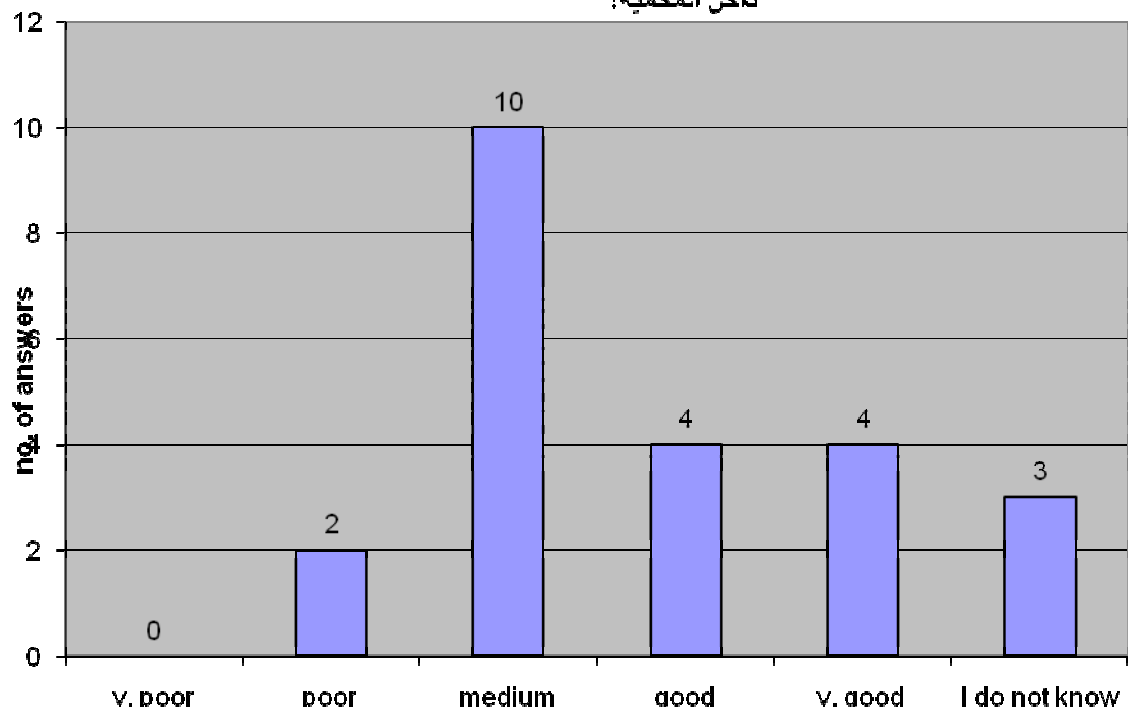




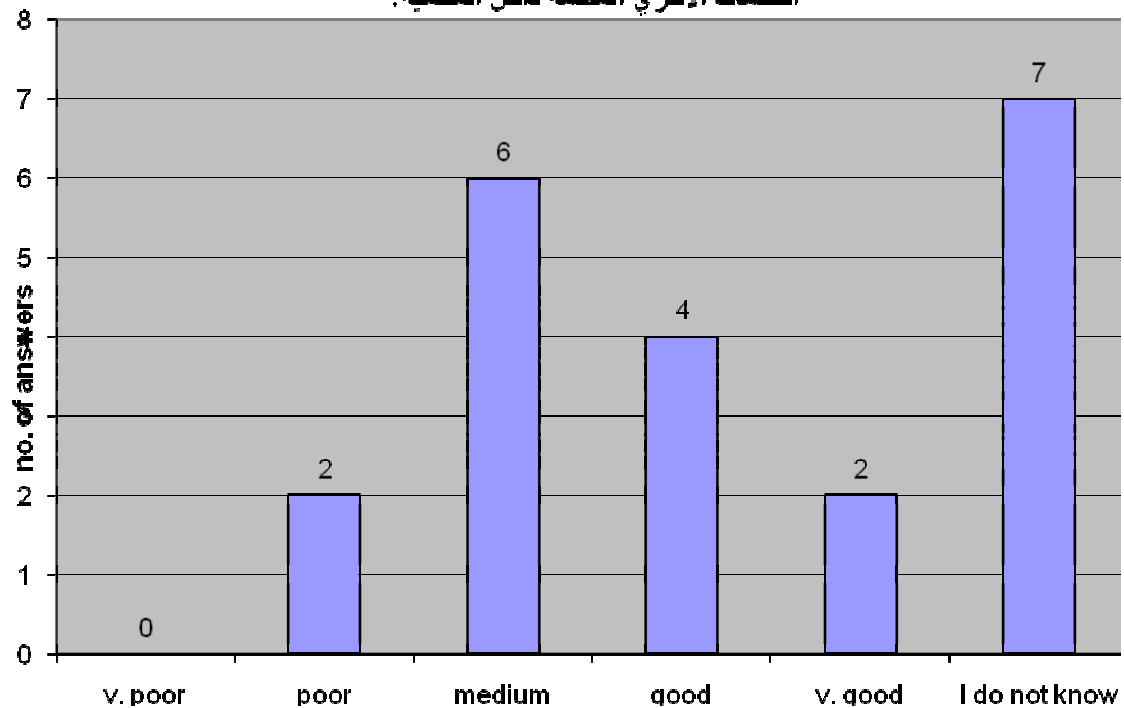
How would you rate the WCs (toilets)? ما هو تقييمك لجودة
الحمامات داخل المحمية؟



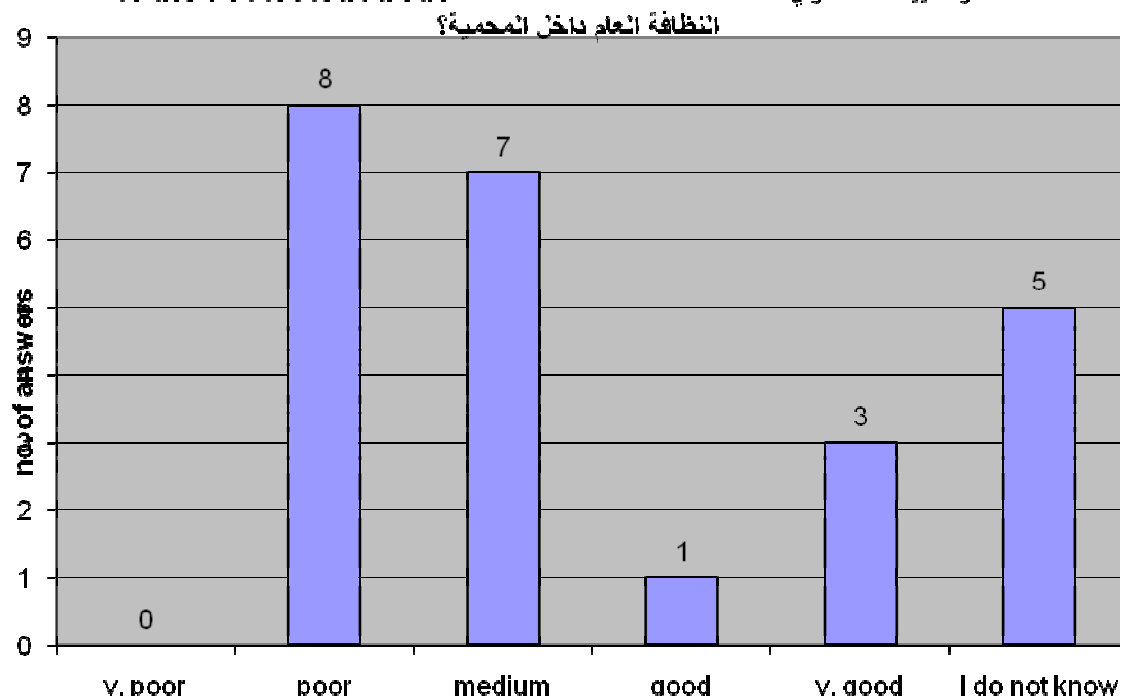
How would you rate the cafeterias? ما هو تقييمك لمستوي الكافيتريات
داخل المحمية؟

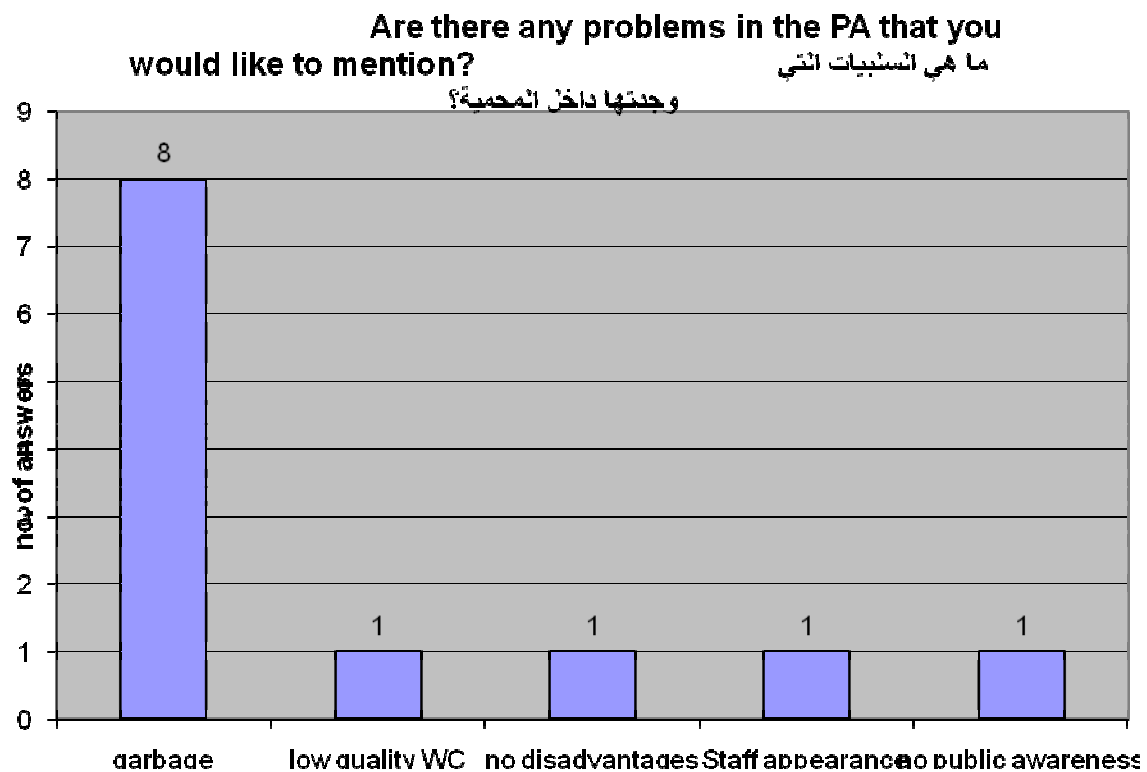
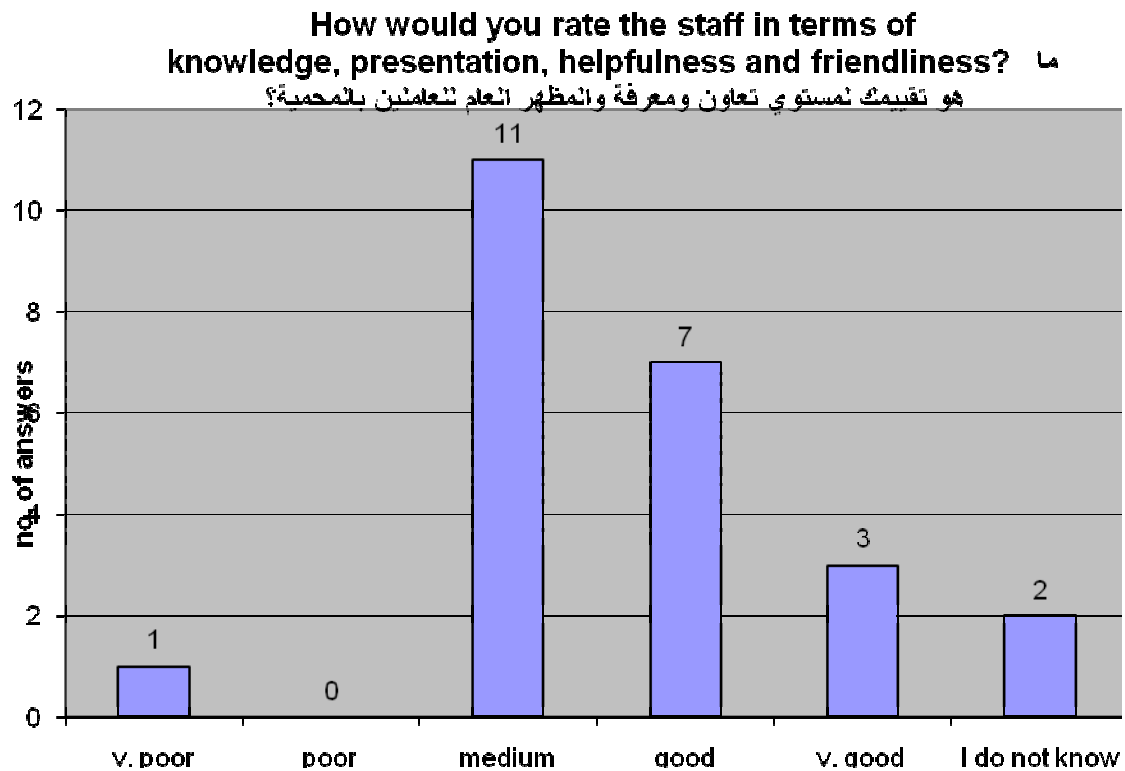


How would you rate the other facilities? ما هو تقييمك لجودة الخدمات الاخرى المقدمة داخل المحمية؟



How would you rate the overall cleanness of the Protected Area? ما هو تقييمك لمستوى النظافة العام داخل المحمية؟





Appendix 5: RAPPAM Questions and Results for Qaroun Protected Area

MANAGEMENT EFFECTIVENESS EVALUATION OF EGYPT'S PROTECTED AREA SYSTEM (Fouda et al., 2006)

Report Synopsis

This report, presents the results of a two day workshop held in January 2006 in which NCS staff undertook a rapid assessment of the management effectiveness of Egypt's system of Protected Areas. This was the first such evaluation of Egypt's Protected Areas, and is also the first such evaluation for Arab countries, and may serve as a model for the WESCANA region. The main findings from this exercise were:

- Egypt has declared a relatively good proportion of its land as PAs, and the ecological and social benefits offered by Egypt's PA system are high.
- In general the system contains a good representation of Egyptian habitats (but this needs quantitative verification) with high biological significance.
- The system appears to be equally important for most aspects of biodiversity conservation, i.e. representativeness, important species, full range of diversity, significant populations etc.
- The PAs generally are meeting their conservation objectives and the PAMU staff technical skills are generally good.
- The PA system is a vitally important socio-economic asset to Egypt but many benefits are unrealised.
- Egypt's Protected Areas are all chronically under-resourced, far below the norm for Developing Countries or even for Africa. In Egypt the total expenditure on PAs (including staff costs) averages 108 LE (\$19) per km² per year, approximately 11% of the average for developing countries. In order to match the regional or developing countries norms Egypt would need to invest between \$7.4 million and \$15.7 million annually in its national protected area system – a 4 to 9 fold increase on current expenditure.
- In administering the system, there is a marked disparity in the allocation of staff and budgets to areas as opposed to their needs and the national priorities in regard to biodiversity value.
- The conversion of land use, recreational use (especially tourism) and hunting are considered as the greatest pressures operating on the PA system. Since they will continue to threaten the system, coordinated national strategies will be required to address these issues.
- While there appear to be good local relations, local people don't necessarily support the PAs and they are not involved in management decisions.
- The system is vulnerable as a result of poor law enforcement, overexploitation of resources, and lack of resources.
- Site planning is generally poor; only one third of the protected areas have formal management plans or definitive work plans – this is a serious concern because it makes it difficult to implement proper management, track effectiveness or develop business plans.
- Inputs to the system are inadequate from all aspects. The main limitations to effective management are considered to be the very low levels of Government funding, the low staff levels, and the lack of training opportunities. Inadequate management resources (especially transport) and poor infrastructure facilities are also important constraints.
- PA staff have major concerns with staffing levels, salaries and funding for their many duties, especially transport. They also cite an unresponsive central office with administrative delays (in releasing funds, in approvals, etc) and uncoordinated requests for data and information.

1. Background Information

The results in this report come from the national RAPPAM exercise conducted in January 2006. They have been extracted from the full report for use by QPA staff during the site level management effectiveness workshop, August 20-22, 2006.

Name	Size (km ²)—RAPPAM Reported	Size-- NCS Records	Size-- System Plan	Date Establishment	Age as a PA (yrs)	GoE Budget RAPPAM Reported	Actual Budget 2004-5—NCS	Donor Budget (K_LE)	No. of staff RAPPAM Reported	No. of Staff (NCS)
Qaroun		1,385	250	1989	17	40	206	0	6	19
Wadi El Rayan		1,759	1,225	1989	17	100	149	3,000	42	41
Egypt PAs		100,152	94,183			1013	2,776		159	470

Staffing and Funding per km²

PA	Area NCS km ²	Area PA System km ²	Total Staff	Staff /km ²	Op and Mtc Expenditure 2004-2005 (LE) *	Exp/km ² (LE) *
Qaroun	1385	250	19	0.01	206,000	148.74
Wadi El Rayan	1759	1225	41	0.02	149,000	84.71

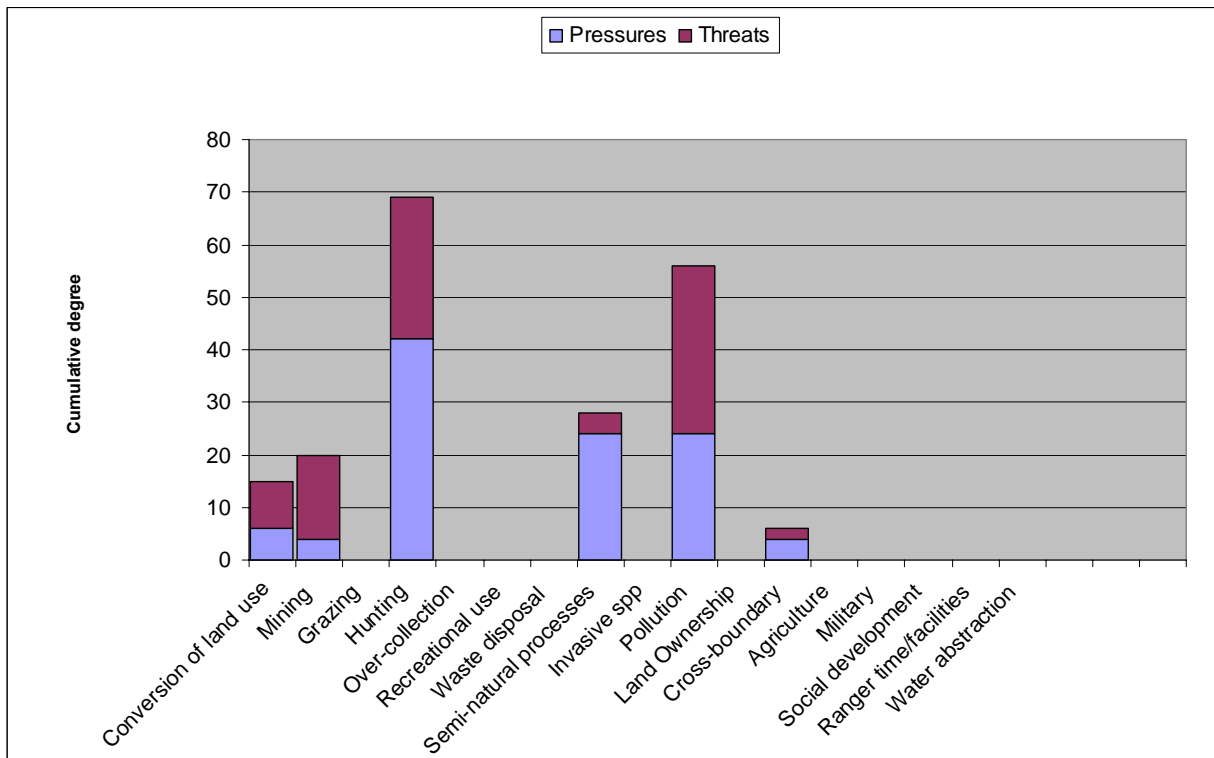
* Calculated on NCS supplied data

2. Pressures and Threats

Pressures describe forces, activities or events *that have already* impacted the area.

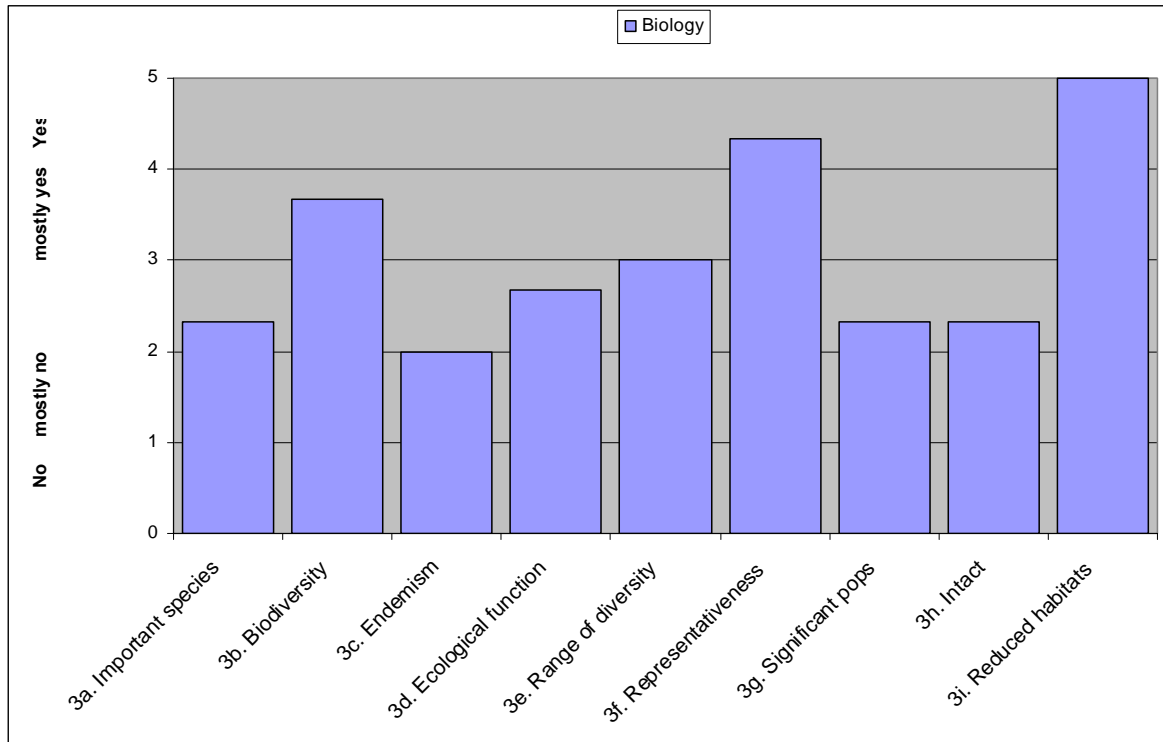
Threats describe *potential or future pressures* likely to impact area.

The “degree” of threat and pressure is the product of the three elements of Extent, Impact and Permanence, each rated on a scale of 1 to 4 (low to high). [Degree=E x I x P]



3. BIOLOGICAL IMPORTANCE – CONTEXT

- a) The PA contains a relatively high number of rare, threatened, or endangered species.
- b) The PA has relatively high levels of biodiversity.
- c) The PA has a relatively high degree of endemism.
- d) The PA provides a critical ecological function.
- e) The PA contains the full range of plant and animal diversity.
- f) The PA significantly contributes to the representativeness of the PA system.
- g) The PA sustains significant populations of key species.
- h) The structural diversity of the PA is largely intact, undamaged and unchanged.
- i) The PA includes ecosystems whose historic range has been greatly diminished.



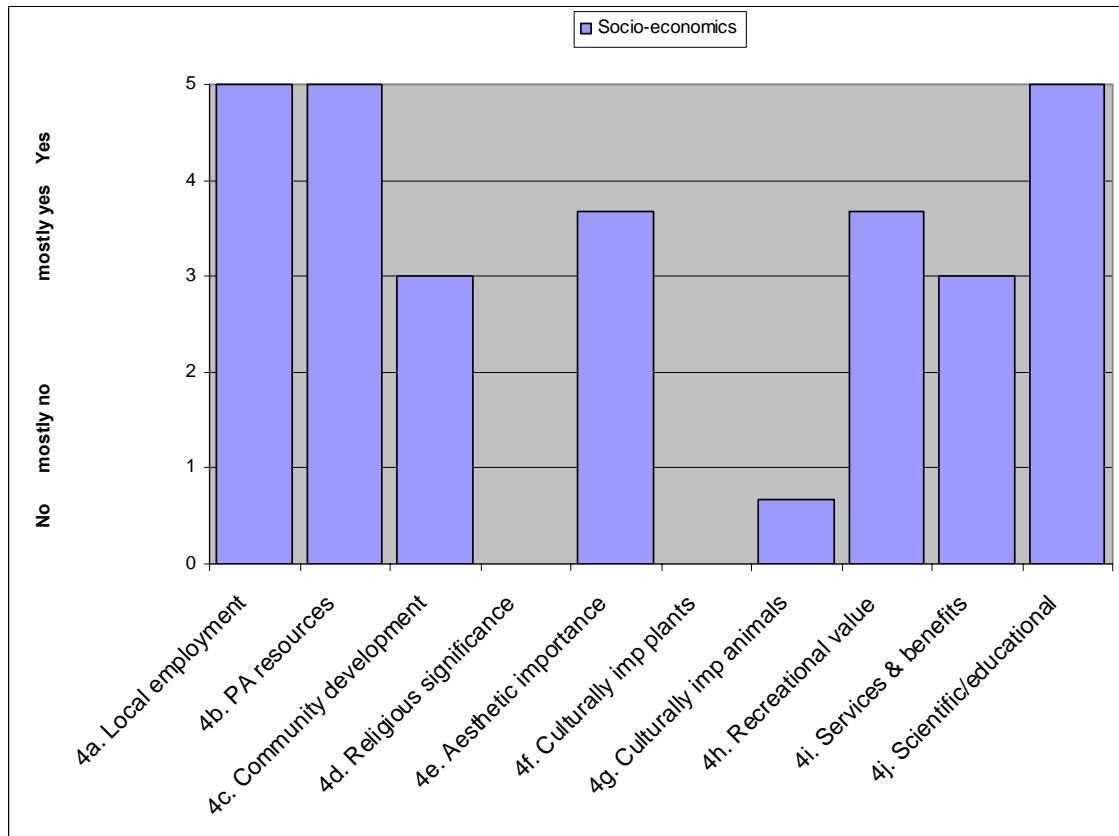
3. الأهمية البيولوجية (السياق)

- أ- تحتوي المحمية على عدد كبير نسبياً من الأنواع النادرة أو المهددة أو المعرضة لخطر الانقراض.
- ب- تمتلك المحمية درجة عالية نسبياً من التنوع البيولوجي.
- ج- تمتلك المحمية نسبة عالية إلى حد ما من الأنواع المتوطنة.
- د- للمحمية وظائف بيئية حرجية.
- هـ- تحتوي المحمية على مدى متكامل من التنوع للنباتات والحيوانات.
- و- تساهم المحمية بشكل ملحوظ في تمثيل نظام المحمية الطبيعية.
- ز- تحتوي المحمية على نسبة كبيرة من جماعات الأنواع الرئيسية.
- ح- الهيكل البنائي للمحمية سليم لم يتم إيداعه أو تغييره.
- ر- تتضمن المحمية أنظمة بيئية قد تغيرت كثيراً عبر التاريخ.

لقد ألغى السؤال (م)

4. SOCIO-ECONOMIC IMPORTANCE – CONTEXT

- a) The PA is an important source of employment for local communities.
- b) Local communities depend upon the PA resources for their subsistence.
- c) The PA provides community development opportunities through legalized sustainable resource use.
- d) The PA has religious or spiritual significance.
- e) The PA has unusual features of aesthetic importance.
- f) The PA contains plant species of high social, cultural, or economic importance.
- g) The PA contains animal species of high social, cultural, or economic importance.
- h) The PA has a high recreational value.
- i) The PA contributes significant ecosystem services and benefits to communities.
- j) The PA has a high educational and/or scientific value.

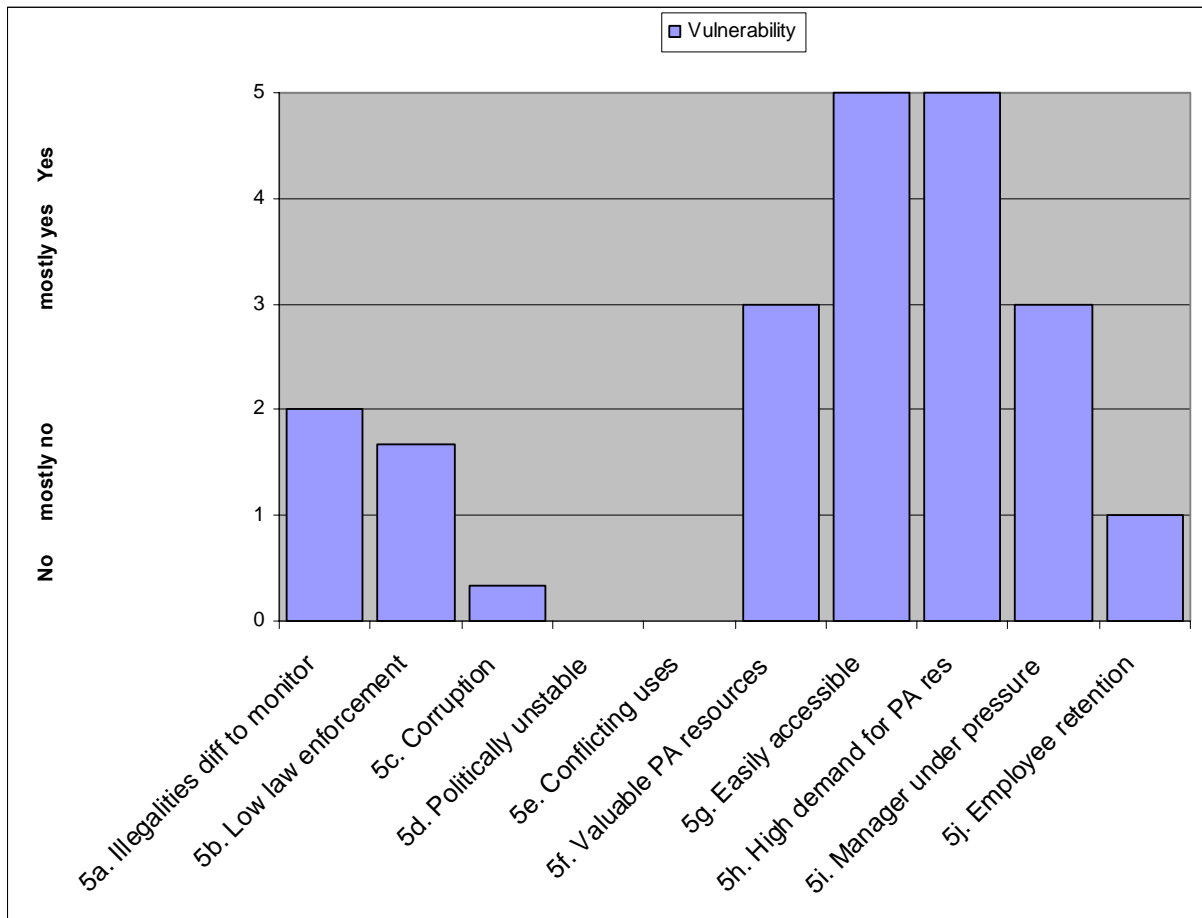


4. الأهمية الاقتصادية والاجتماعية (السياق)

- أ- تعتبر المحمية مصدر مهم للعمل بالنسبة للسكان المحليين.
- ب- يعتمد المجتمع المحلي على موارد المحمية للمعيشة.
- ج- تمنح المحمية السكان فرص للتنمية من خلال الاستغلال القانوني والمستمر للموارد.
- د- للمحمية أهمية دينية أو روحية.
- هـ- للمحمية أهمية غير عادية من حيث الخصائص الجمالية.
- و- تحتوي المحمية على أنواع نباتية ذات أهمية اجتماعية أو ثقافية أو اقتصادية عالية.
- ز- تحتوي المحمية على أنواع حيوانية ذات أهمية اجتماعية أو ثقافية أو اقتصادية عالية.
- ح- للمحمية قيمة ترفيهية عالية.
- ر- تساهم المحمية في تقديم خدمات ومنافع بيئية هامة للسكان.
- م- للمحمية قيمة تربية وعلمية هامة.

5. VULNERABILITY – CONTEXT

- a) Illegal activities within the PA are difficult to monitor.
- b) Law enforcement is low in the region.
- c) Bribery and corruption is common throughout the region.
- d) The area is experiencing civil unrest and/or political instability.
- e) Cultural practices, beliefs, and traditional uses conflict with the PA objectives.
- f) The market value of the PA resources is high.
- g) The area is easily accessible for illegal activities.
- h) There is a strong demand for vulnerable PA resources.
- i) The PA manager is under pressure to unduly exploit the PA resources.
- j) Recruitment and retention of employees is difficult.



5. نقاط الضعف (السياق)

- أ- أنشطة غير قانونية داخل المحمية ومن الصعب أن تراقب.
- ب- تطبيق القانون قليل بالمنطقة.
- ج- الرشوة والفساد منتشرين بالمنطقة.
- د- تواجه المنطقة إضطراب مدني مع عدم الإستقرار السياسي.
- هـ- ممارسات ثقافية ومعتقدات واستخدامات تقليدية تتنافي أهداف المحمية.
- و- سعر السوق لموارد المحمية عالي.
- ز- تعتبر المنطقة قابلة لإقامة أنشطة غير قانونية.
- ح- هناك مطلب قوي على موارد المحمية الضعيفة.
- ر- مدير المحمية تحت ضغط مما يؤدي للإفراط في إستغلال موارد المحمية.
- م- عدم القدرة على تطويع العاملين والإحتفاظ بهم.

6. OBJECTIVES – PLANNING

- a) PA objectives provide for the protection and maintenance of biodiversity.
- b) Specific biodiversity-related objectives are clearly stated in the management plan.
- c) Management policies and plans are consistent with the PA objectives.
- d) PA employees and administrators understand the PA objectives and policies.
- e) Local communities support the overall objectives of the PA.

6. الأهداف (التخطيط)

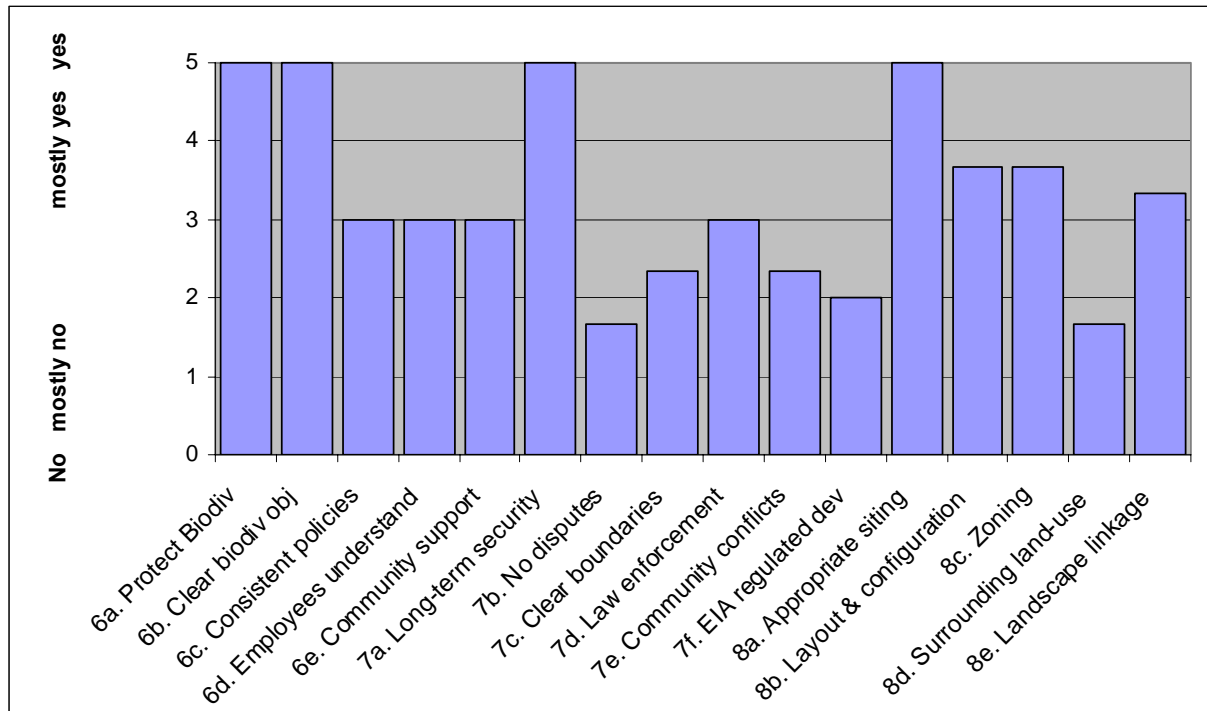
- أ- تسعى أهداف المحمية إلى حماية التنوع البيولوجي والإبقاء عليه.
- ب- توضع الأهداف الخاصة المتعلقة بالتنوع البيولوجي في مخطط الإدارة بشكل واضح.
- ج- تكون سياسات ومخططات الإدارة متنسقة مع أهداف المحمية.
- د- يكون الإداريين والعاملين بالمحمية متفهمين لأهدافها وسياساتها.
- هـ- يدعم المجتمع المحلي الأهداف العامة للمحمية.

7. LEGAL SECURITY – PLANNING

- a) The PA has long-term legally binding protection.
- b) There are no unsettled disputes regarding land tenure or use rights.
- c) Boundary demarcation is adequate to meet the PA objectives.
- d) Staff and financial resources are adequate to conduct critical law enforcement activities.
- e) Conflicts with the local community are resolved fairly and effectively.
- f) EIA arrangements to regulate development activities are adequate and enforced.

7. الحماية القانونية (التخطيط)

- أ- للمحمية حماية قانونية طويلة المدى.
- ب- ليس هناك نزاعات قائمة خاصة بامتلاك الأرض أو حقوق الاستغلال.
- ج- يكون تعيين حدود المحمية كافياً لمقابلة أهداف المحمية.
- د- تعتبر العمالة والموارد المالية كافية لإجراء الأنشطة الهامة لتطبيق القانون.
- هـ- تحل النزاعات مع السكان المحليين بطريقة عادلة وفعالة.
- و- إن الترتيبات الخاصة بتقييمات الوقع البيئي من أجل تنظيم الأنشطة التطويرية كافية ومطبقة.



8. SITE DESIGN AND PLANNING – PLANNING

- The siting of the PA is consistent with the PA objectives.
- The layout and configuration of the PA optimizes the conservation of biodiversity.
- The PA zoning system is adequate to achieve the PA objectives.
- The land use in the surrounding area enables effective PA management.
- The PA is linked to another area of conserved or protected land.

8. تصميم وتخطيط الموقع (التخطيط)

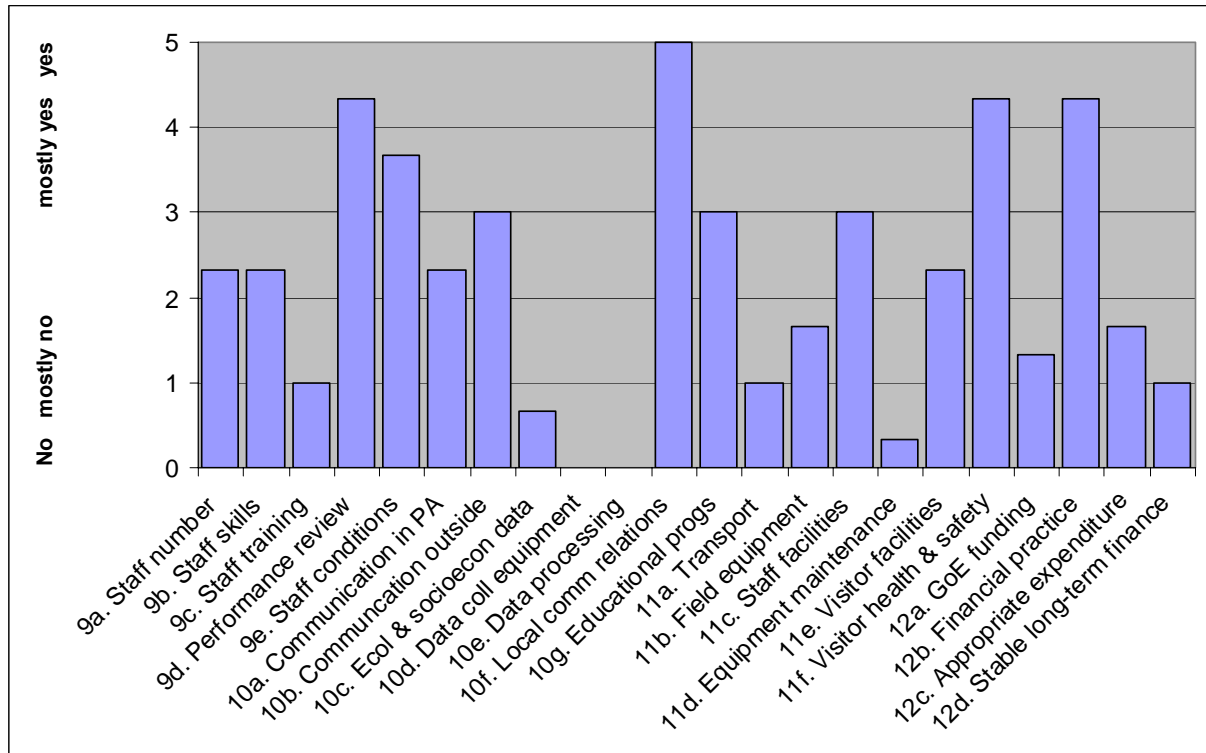
- أ- تحديد موقع المحمية متنسق مع أهدافها.
- ب- تخطيط وتشكيل المحمية يحسن من عملية الحفاظ على التنوع البيولوجي.
- ج- نظام تقسيم المحمية كافي لتحقيق أهدافها.
- د- استخدام الأرض في المنطقة المحيطة يمكن من إدارة فعالة للمحمية.
- هـ- ترتبط المحمية بمنطقة أخرى سواء كانت محمية أخرى أو أرض محفظة.

9. STAFFING – INPUTS

- The level of staffing is sufficient to effectively manage the area.
- Staff members have adequate skills to conduct critical management activities.
- Training and development opportunities are appropriate to the needs of the staff.
- Staff performance and progress on targets are periodically reviewed.
- Staff employment conditions are sufficient to retain high-quality staff.

9. العمالة (المدخلات)

- أ- مستوى العمالة كافي لإدارة المنطقة بفاعلية.
- ب- للعاملين مهارات كافية لإجراء أنشطة إدارية هامة.
- ج- تكون فرص التدريب والتطوير مناسبة لإحتياجات العاملين.
- د- يراجع أداء العاملين وتقدمهم بصفة دورية.
- هـ- ظروف العمل مناسبة للحصول على عمالة عالية الجودة.



10. COMMUNICATION AND INFORMATION – INPUTS

- There are adequate means of communication within the PA.
- There are adequate means of communication with the outside world.
- Existing ecological and socio economic data are adequate for management planning.
- There are adequate means of collecting new data.
- There are adequate systems for processing and analysing data.
- There is effective communication with local communities.
- There are effective educational and interpretative plans and programmes in place.

10. الإتصالات والمعلومات (المدخلات)

- أ- هناك وسائل إتصال كافية داخل المحمية.
- ب- هناك وسائل إتصال كافية مع العالم الخارجي.
- ج- التواجد الكافي للبيانات البيئية والاقتصادية والاجتماعية لاستخدامها في التخطيط الإداري.
- د- هناك وسائل كافية لتجميع بيانات جديدة.
- هـ- هناك أنظمة لمعالجة وتحليل البيانات.
- و- هناك إتصال فعال بين أفراد المجتمع المحلي.
- ز- هناك برامج وخطط تعليمية وتوضيحية فعالة بالمنطقة.

11. INFRASTRUCTURE – INPUTS

- Transportation infrastructure is adequate to perform critical management activities.
- Field equipment is adequate to perform critical management activities.
- Staff facilities are adequate to perform critical management activities.
- Maintenance and care of equipment is adequate to ensure long-term use.
- Visitor facilities are appropriate to the level of visitor use.
- Visitor health and safety requirements are adequately addressed.

11. البنية التحتية (المدخلات)

- أ- البنية التحتية للنقل والمواصلات كافية لأداء أنشطة المحمية الهامة.
- ب- المعدات الحقلية كافية لأداء الأنشطة الإدارية الهامة.
- ج- التسهيلات المقدمة للعاملين كافية لأداء الأنشطة الإدارية الهامة.
- د- صيانة المعدات ورعايتها كافية لضمان استخدام طويل المدى.
- هـ- التسهيلات المقدمة للزوار مناسبة لمستوى استخدام الزائر.
- و- الإهتمام بصحة وسلامة الزائرين.

12. FINANCES – INPUTS

- a) Funding from the GoE in the past 5 years has been adequate to conduct critical management activities.
- b) Financial management practices enable efficient and effective PA management.
- c) The allocation of expenditures is appropriate to PA priorities and objectives.
- d) The long-term financial (5 years) outlook for the PA is stable.

12. الموارد المالية (المدخلات)

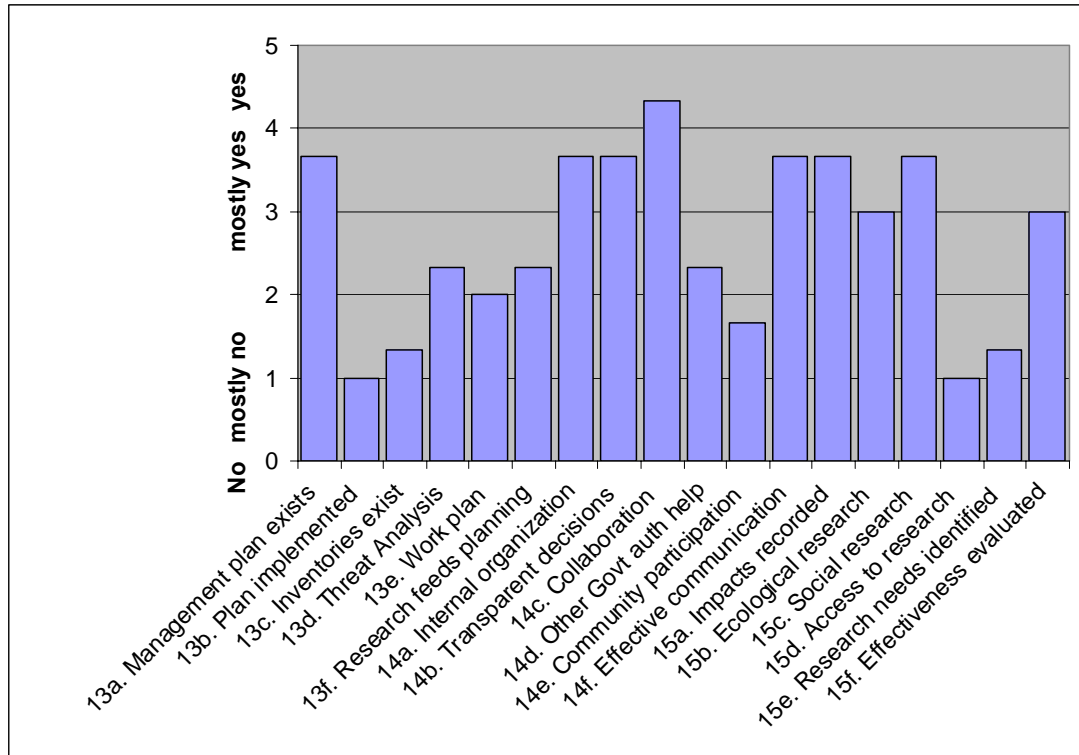
- أ- لقد كان الدعم المالي (المقدم من الحكومة الإيطالية) في الخمس سنوات الماضية كافياً لإجراء الأنشطة الإدارية الهامة.
- ب- تمكن الممارسات المالية الإدارية من إدارة كفاء وفعالة للمحمية.
- ج- تخصيص الإنفاق يناسب أولويات وأهداف المحمية.
- د- إستقرار الوضع المالي طويل المدى للمحمية.

13. MANAGEMENT PLANNING – PROCESSES

- a) There is a comprehensive, relatively recent written management plan.
- b) The management plan is largely implemented and effective.
- c) There is a comprehensive inventory of natural and cultural resources.
- d) There is an analysis of, and strategy for addressing, PA threats and pressures.
- e) A detailed work plan identifies specific targets for achieving management objectives.
- f) The results of research and monitoring are routinely incorporated into planning.

13. التخطيط الإداري (العمليات الإدارية)

- أ- هناك خطة إدارية مكتوبة شاملة وحديثة إلى حد ما.
- ب- تكون الخطة الإدارية فعالة ومطبقة لحد كبير.
- ج- هناك جرد شامل للموارد الطبيعية والثقافية.
- د- هناك تحليل للضغوط والتهديدات التي تواجه المحمية واستراتيجية لحصرهم.
- هـ- هناك خطة عمل لتحديد وسائل تحقيق أهداف الإدارة.
- و- تدمج نتائج البحث والمراقبة بشكل روتيني مع التخطيط.



14. MANAGEMENT DECISION MAKING – PROCESSES

- There is clear internal organization.
- Management decision making is transparent.
- PA staff regularly collaborate with partners, local communities, and other organizations.
- Other Government authorities endorse and enforce the decisions made
- Local communities participate in decisions that affect them.
- There is effective communication between all levels of PA staff and administration.

14. إتخاذ القرارات الإدارية (العمليات الإدارية)

- أ- هناك تنظيم داخلي واضح.
- ب- شفافية إتخاذ القرارات الإدارية.
- ج- يتعاون العاملون بالمحمية مع الشركاء والمجتمع المحلي ومع منظمات أخرى.
- د- تصدق السلطات الحكومية الأخرى على القرارات المتخذة وتنفذها.
- هـ- يشارك المجتمع المحلي في القرارات المؤثرة عليه.
- و- هناك إتصال فعال بين كل المستويات من العاملين بالمحمية والإداريين.

15. RESEARCH, MONITORING, AND EVALUATION – PROCESSES

- The impact of legal and illegal uses of the PA are accurately monitored and recorded.
- Research on key ecological issues is consistent with the needs of the PA.
- Research on key social issues is consistent with the needs of the PA.
- PA staff members have regular access to recent scientific research and advice.
- Critical research and monitoring needs are identified and prioritized.
- The PA management, including management effectiveness is routinely evaluated and reported.

15. البحث والمراقبة والتقييم (العمليات الإدارية)

- أ- تراقب وتسجل وقائع الاستخدامات القانونية والغير قانونية للمحمية بدقة.
- ب- يكون البحث في القضايا البيئية الرئيسية متنسق مع احتياجات المحمية.
- ج- يكون البحث في القضايا الاجتماعية الرئيسية متنسق مع احتياجات المحمية.
- د- لدى العاملين بالمحمية وسيلة وصول للأبحاث والنصائح العلمية الأخيرة.
- هـ- تكون الاحتياجات الهامة للبحث والمراقبة محددة ولها الأولوية.
- و- تقيم فاعلية إدارة المحمية بشكل روتيني مع كتابة تقارير عنها.

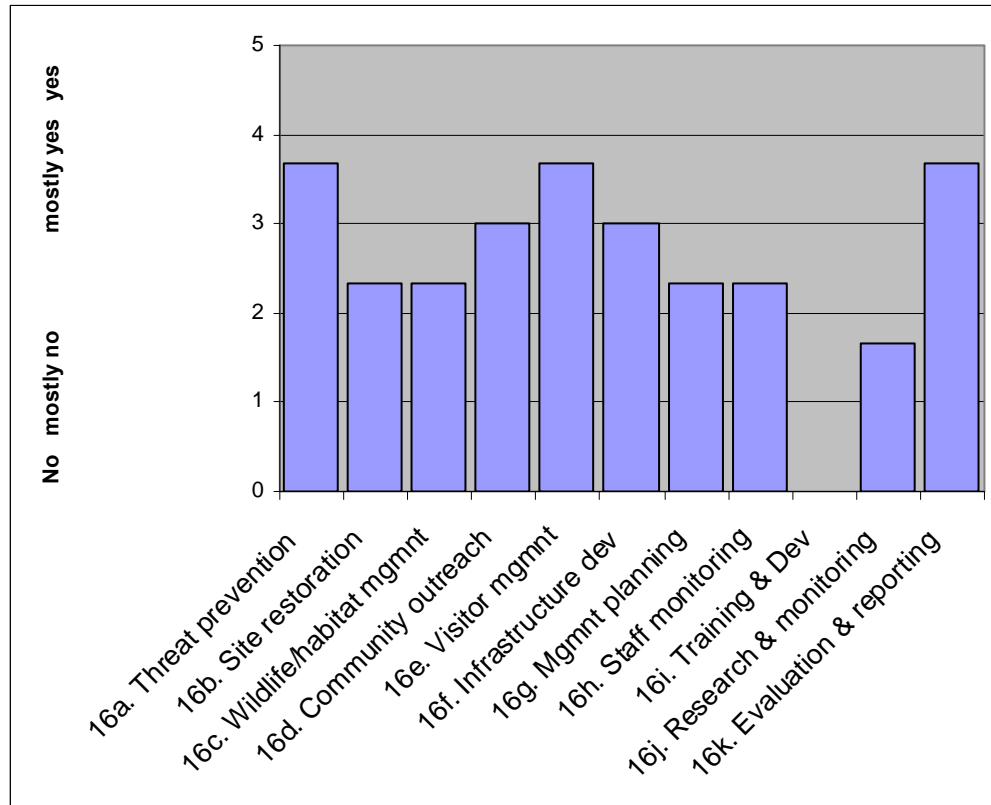
16. OUTPUTS

In the last 2 years, the following outputs have been consistent with the threats and pressures, PA objectives, and annual workplan:

- a) Threat prevention, detection and law enforcement.
- b) Site restoration and mitigation efforts.
- c) Wildlife or habitat management.
- d) Community outreach and education efforts.
- e) Visitor and tourist management.
- f) Infrastructure development.
- g) Management planning and inventorying.
- h) Staff monitoring, supervision, and evaluation.
- i) Staff training and development.
- j) Research and monitoring.
- k) Evaluation and reporting.

16. المخرجات

- في السنتين الماضيتين، كانت المخرجات التالية متسقة مع الضغوط والتهديدات، وأهداف المحمية، وخطة العمل السنوية:
- أ- إكتشاف التهديد ومنعه، وتطبيق القانون.
- ب- جهود إعادة تأهيل الموقع وتقليل الخطر الموجه له.
- ج- إدارة البيئة أو الحياة البرية.
- د- جهود تنمية وتعليم المجتمع.
- هـ- إدارة السياح والزائرين.
- و- تطوير البنية التحتية.
- ز- عمليات التخطيط والجرد الإدارية.
- ح- مراقبة وتقييم العاملين والإشراف عليهم.
- ر- تدريب وتطوير العاملين.
- م- عمليات البحث والمراقبة.
- ى- عمليات التقييم والتدوين.



Appendix 6: Site Level Management Effectiveness Evaluation Procedure

Introduction

This appendix summarizes the detailed process for conducting site level management effectiveness evaluations (Paleczny 2006b). A series of ‘worksheets’ were used to assist in completing the respective steps. This process was designed to focus on “outputs” and “outcomes” of management. Outputs include what actions the protected area has implemented and if the actions have resulted in positive changes. Outcomes include the status of the protected area. For example, are current conditions improving, remaining stable or declining? A thorough evaluation must also include an examination of threats and possible actions to address the problems.

This system should be applied with an understanding of the limitations related to available human, financial and technical resources. Over time, the evaluation can evolve with greater sophistication, as time and money and experience allow.

The Evaluation Process

1. Implementation of Management Objectives and Actions (e.g., Management Plan / Annual Work Plans)

- a) Review status of implementation and the effectiveness of past actions toward meeting objectives (see worksheet).

2. Status of Protected Area Resources

- a) Identify the key values of the protected area, in the following three groups. Then select the one or two priorities from each of these groups to examine in detail.

- *Biodiversity/Natural Resource*: Characterise each key ecosystem/resource in terms of its key attributes (see worksheet).
- *Ecotourism/Recreational Resources*: Characterise each ecotourism/recreational resource (see worksheet).
- *Community Well-being* (socio-economic): Characterise each community (see worksheet).

- b) For each key value being examined, choose at least one key attribute and one indicator for further assessment. (see worksheets).

3. Threats

- a) Revisit and confirm pressures and threats from RAPPAM, management plan, systems plan and participants’ experience.
- b) Draw a chart to show the relationship of the threats to each of the key values selected in part 2 (biodiversity, recreational resources, community well-being). Discuss the underlying causes and find possible solutions. (see worksheet).
- c) Rate the threats for each key value (see worksheet).
- d) Prepare a summary chart for all of the threats (see worksheet).

- e) Discuss and prepare initial list of possible actions.

4. Action Planning

a) Review, confirm, refine or establish goal and specific objectives for key values, taking into consideration the problems and needs to manage key values and threats. (Note that objectives should be stated as desired outcomes, not as actions).

b) Develop actions for each objective. Evaluate and prioritise the actions based on cost, practicality, and likelihood of achieving a desired impact.

c) Initiate* the development of indicators and a monitoring plan for tracking and measuring the following (* it is expected that this will take considerable effort beyond the initial evaluation):

- Status of key values (outcomes).
- Threats.
- Implementation of actions (outputs) and effectiveness of actions (outcomes).

Following the site Management Effectiveness Evaluation, additional steps are needed by the Protected Area Management Unit, as follows:

5. Management plan / descriptive plan

- a) Update the existing management plan or prepare descriptive plan.

6. Annual work plan and project plans

a) Integrate actions into work processes, such as Annual Work Plans and Environmental Impact Assessments.

7. Monitoring, assessment, reporting on MEE

- a) Monitor key indicators.

b) Prepare monthly reports, annual report on implementation of management plan, and status reports for stakeholders and communities.

- c) Adapt and change programmes and actions, as required, to improve effectiveness.

Appendix 7: Participant Evaluation of the Qaroun Workshop

Date this evaluation completed: August 20-22, 2006. **Comments by Rangers:** R1-R10

1. The management effectiveness evaluation can be carried out by the staff?

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree	No reply
0	1	1	6	2	0

Comments:

R3: But we should have the local community in the workshop.

R6: Like participation of stakeholders and community.

R9: The low experience and low number of specialists and lack of training are obstacles to implement this ME evaluation.

2. A facilitator is important to guide the participants through the process.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree	No reply
0	0	0	3	7	0

Comments:

R9: The organization team were very good and gave us a lot of information.

3. The survey of stakeholders, communities and visitors is useful to help understand their perspective about the protected area.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree	No reply
0	2	1	4	3	0

Comments:

R1: Let the community and stakeholders know about the Q in advance of filling it out.

R4: Useful if all of them know about the pa.

R6: Need to let them know about the questionnaire and use of the questionnaire before they complete it.

R7: Disagree because the community, stakeholder and even the staff don't understand the rules of the PA.

R8: Not useful because there is no strong relation between the protected area and all of them. (don't know very much about the pa)

R9: If they agree the role of the PA.

4. What methods would be suitable to get input from these groups?

Comments:

R1: Some of the questions in the quest need to be improved.

R3: I think it would better if we take one of the PA to be in the team work (implementation team) of the workshop.

R4: Open discussion and meeting.

R6: Agree but need people who are distributing the questionnaire should fully understand the questions and how to deal with the data at end.

R7: Needs someone to go before the workshop to train the staff on how to deal with the questions/questionnaire to be sure staff understand them.

R8: Need participation of community and stakeholders in preparation of the questionnaire.

R9: Meetings and workshops with stakeholders and community.

5. The workshop process was helpful to study problems and solutions, and other needs.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree	No reply
0	0	0	2	7	1

Comments:

R1: Workshop is very useful but the staff need to be able to implement the solutions coming out of the workshop. Staff are not capable of implementing.

6. How could the evaluation process be improved?

Comments:

R1: Evaluation is useful if you compare it to the low experience of the staff.

R2: A good evaluation process.

R3: Sharing the local community.[unclear] Increasing the time of the workshop.

R4: This is the first workshop so it is fine and the ME evaluation is useful.

R6: Need practical implementation of the evaluation process, eg. To increase understanding of staff of this evaluation. Don't stay inside; go out and practice.

R7: This is the best method because he doesn't know other methods.

R8: Need someone to explain the questionnaire before the workshop.

R9: Improve the ME evaluation by having applicable or implemented example that has been done.

R10: Participation of some stakeholders and local community, staff from other PA.

7. The results of the evaluation will be helpful to staff.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree	No reply
0	0	0	5	5	0

Comments:

R1: Yes it will be useful because it will be the first step for the staff to know the goals of the PA.

R7: Totally agrees because it increases the vision of the staff.

R8: Useful if we can implement it after.

8. I learned useful information or approaches from the process.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree	No reply
0	0	0	5	4	1

Comments:

R1: Yes, learned how to do define the problems, how to know the causes of the problems, how to put the actions and solutions for each problem, and how to put the desirable objective.

9. What did you like about the evaluation?

R1: liked the teamwork mechanism in the workshop.

R2: Good organization.

R3: Defining the threats and finding actions for the threats. Determining our target and workplan.

R4: Discussion.

R5: Open discussion to define the applicable main goals for Quarun and also that the integration between different opinions of the staff.

R6: Open discussion and teamwork spirit.

R7: Defining all the threats and solutions.

R8: Liked that he learned new information about the PA that didn't know before.

R9: Defining the threats and finding actions for the threats. Determining our target and workplan.

R10: Improved the teamwork between this staff and increased the vision of the staff.

10. Staff have had an adequate chance to input to the evaluation of management effectiveness.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree	No reply
0	0	0	3	7	0

Comments:

11. Stakeholders, community and visitors have had an adequate chance to input?

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree	No reply
0	0	4	4	1	1

Comments:

R1: Yes I think this was good because we received some comments from all of the them that help us to define the threats.

R8: The answers of the surveys are not a proper because they are either afraid of the PA or they don't know the PA at all.

R10: Some stakeholders and visitors refused to cooperate in completing the questionnaire.

12. The evaluation of management effectiveness has led to improved awareness, communications, collaboration or co-management with others (e.g., stakeholders, communities).

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree	No reply
0	0	5	3	0	2

Comments:

R7: The ME evaluation increased discussion between the staff only.

13. Overall, the evaluation of management effectiveness is a worthwhile exercise for protected areas staff.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree	No reply
0	0	0	3	7	0

Comments:

R8: strongly agree, especially because this is his first training

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الموارد الرئيسية	المهددات	الوضع الحالي
1. التنوع الحيوي / الموارد الطبيعية / الموارد الثقافية		
جبل قطراني	عالية جدا	ثابتة
الساحل الشمالي لبحيرة قارون	عالية جدا	ثابتة
جزيرة القرن الذهبي	عالية	ثابتة
بحيرة قارون	عالية جدا	تدهورت
2. الموارد السياحية والترفيهية		
الساحل الشمالي لبحيرة قارون	متوسطة	ثابتة
الساحل الجنوبي لبحيرة قارون	عالية جدا	تدهورت
3. الموارد الاجتماعية والاقتصادية		
المجتمعات المحلية خارج المحمية (القرى حول الساحل الجنوبي)	متوسطة	ثابتة
المجتمعات المحلية داخل المحمية (مجتمع الصيادين)	عالية	تدهورت

المهددات	الوضع الحالي مقارنة بـ 5 سنوات مضت
عالية جدا	تحسنت
عالية	مستقرة
متوسطة	تدهورت
منخفضة	



تقييم فاعلية الإدارة والوضع الحالي لمحمية قارون



