REPUBLIC OF LEBANON

MINISTRY OF ENVIRONMENT

AL-SHOUF CEDAR NATURE RESERVE

MANAGEMENT PLAN 2000 - 2005

Prepared by the Al-Shouf Planning Team of the Protected Areas Project:

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REPUBLIC OF LEBANON

MINISTRY OF ENVIRONMENT

MANAGEMENT PLAN AUTHORIZATION

AL-SHOUF CEDARS NATURE RESERVE

2000-2005

I hereby AUTHORIZE the implementation of this MANAGEMENT PLAN for the Al-Shouf Cedars Nature Reserve as the master plan for the protection and management of the nature reserve. The agency/committee responsible for the lawful management of this reserve is obliged to operate within this plan.
No development which is contrary to this plan may be approved. All subsidiary plans and decisions must comply with this plan. Copies of this plan are to be widely distributed and publicly available.

Any proponent of a significant activity or development which is contrary to this
plan may make submission calling upon the Minister to direct the Director General of the Ministry of Environment to prepare a draft plan and, following a period of Government and public consultation in (Arabic and English) of
not less than 90 days, such draft may be submitted for consideration.

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

Review of this plan is due before April 2005

Signed: ……

Minister of Environment

Republic of Lebanon

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FOREWORD

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

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

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

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

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

This Draft Management Plan was developed by the Protected Areas Project, including through the gradual process of management training workshops in 1997, 1998 and 2000. In these workshops the planning process was elaborated and information regarding the protected areas was collected. After careful editing to make the document more readable, it was printed and distributed to stakeholders in the Shouf area for their comments and suggestions on the future management of their protected area.

Finally, in 2000, the Draft Plan for Al-Shouf Cedar Nature Reserve was reviewed and revised and submitted for adoption by Government as the master plan for the management of the Nature Reserve.

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Director General
Ministry of Environment

1.0 THE MANAGEMENT CONTEXT

1.1 THE PROTECTED AREAS PROJECT

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

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

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

The day-to-day management of the Al-Shouf Cedar Nature Reserve has been contracted by the Protected Areas Project to the Al-Shouf Cedar Society, a locally based non-governmental organization, thereby involving local citizens in management of the reserve on behalf of the people of Lebanon.

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

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

2.0 THE MANAGEMENT PLAN

2.1 INTRODUCTION

This plan is to guide the management of the Al-Shouf Cedar Nature Reserve. It has formal application only to publicly owned lands within the designated boundaries of the protected area. The Al-Shouf Cedar Nature Reserve comprises Government owned lands and communal lands owned by the local Municipal Councils.

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

The main users of the plan will be the Al-Shouf Cedar Society and its Management Team who are entrusted to manage the reserve on behalf of the people of Lebanon. The other main users of the plan will be the Ministry of Environment and the Government Appointed Committee which the Governor is entitled to appoint, as provided for in Article 11 of Law 532 of 24 July, 1996.

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

2.2. PLANNING PROCESS

The plan has been prepared following a series of Training Workshops which were held in 1997 and 1998 which covered a general survey of the natural and cultural values of the protected area, the development of a vision for the future of the area, setting of management objectives, the formulation of a set of rules or policies and the programming of management initiatives aimed at achieving the adopted objectives.

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

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

2.3 RELATIONSHIP TO OTHER PLANS

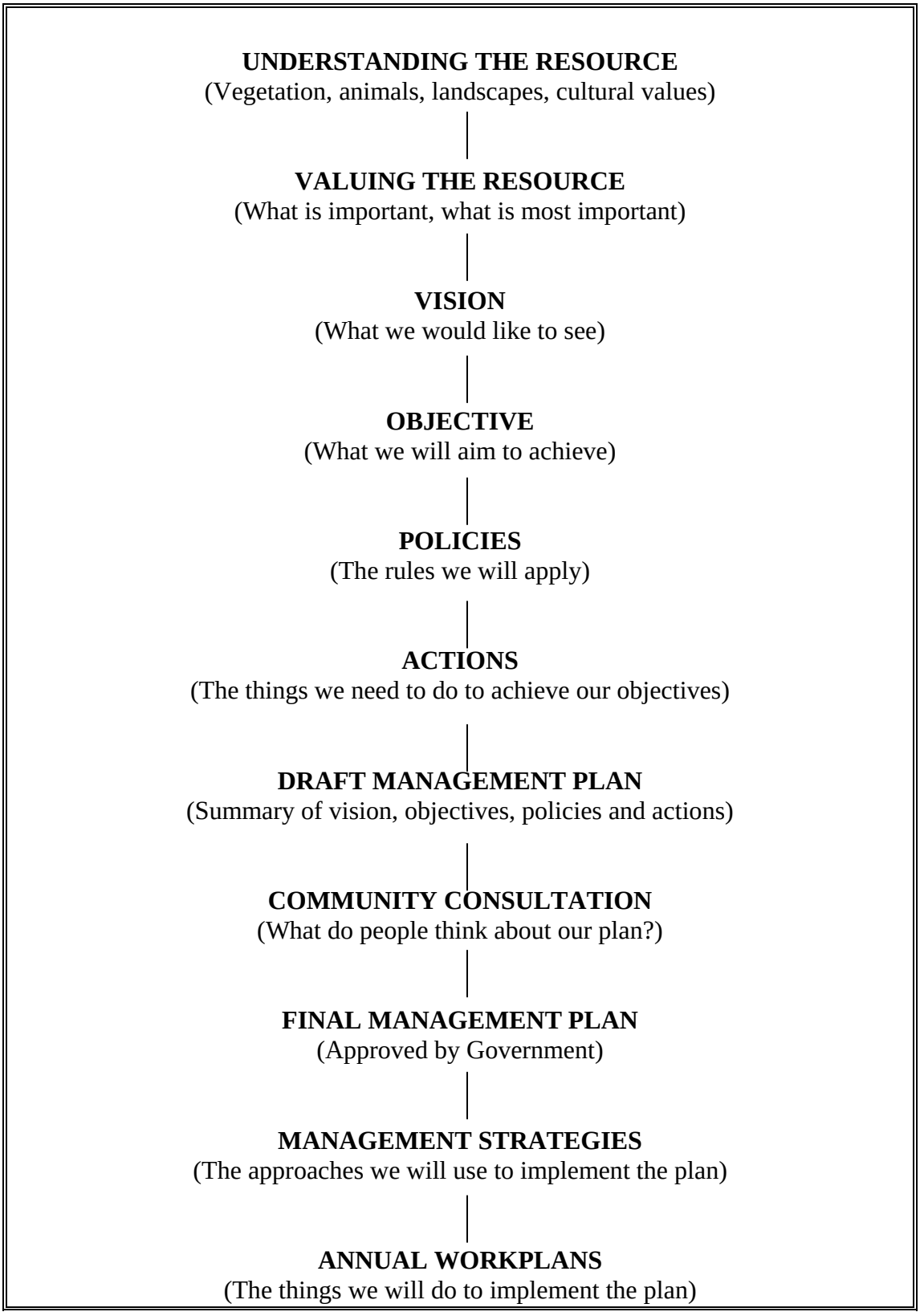
The Management Plan for Al-Shouf Cedar Nature Reserve represents the “master plan” for management of the reserve and operation of the management team. A range of other management control and guidance plans have been or will be developed to

facilitate the conservation and management of the reserves. The intention is that all such plans will be subsidiary to and consistent with the Management Plan. This relationship is presented diagrammatically in the following table.

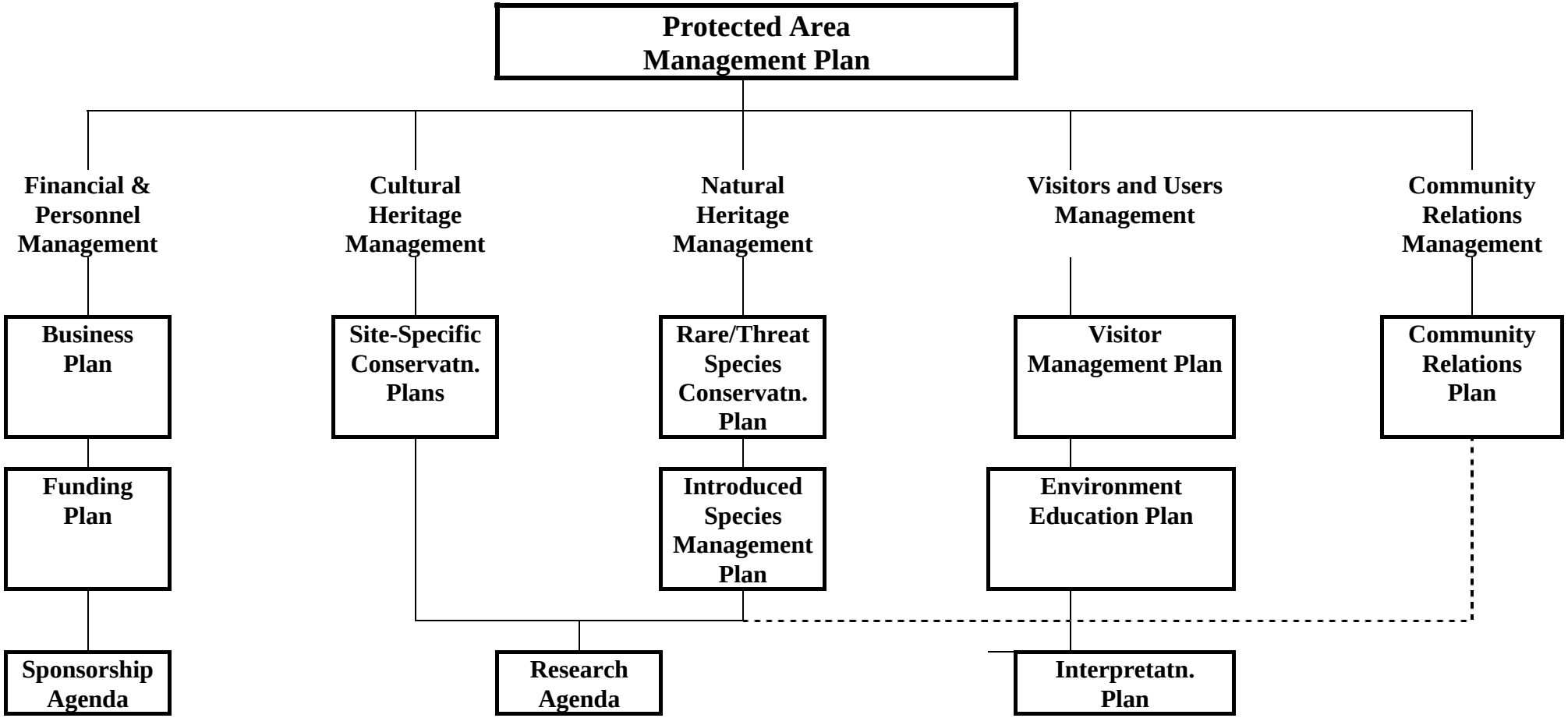
Diagram 1

THE PLANNING PROCESS

(Simplified)



RELATIONSHIP BETWEEN MANAGEMENT PLAN AND OTHER PLANS



3.0 DESCRIPTION OF AL-SHOUF CEDAR NATURE RESERVE

3.1 GEOGRAPHIC CONTEXT

The dominant geographic feature of Lebanon is Mount Lebanon, a high mountain range running north-south the length of Lebanon paralleling the Mediterranean coast. The range reaches its highest point of over 3,000 meters at Qornet Al-Sawda.

The north-south orientation of the range maximizes the potential for precipitation from the moist air streams from the Mediterranean. A classic orographic precipitation pattern results with most of the rain falling on the Mediterranean approach side of the range becoming snow at higher altitudes in winter, and with a rain shadow on the eastern (Bekaa) side of the range. Snow may persist at altitudes above 2,000 meters for up to 6 months of the year. Several small patches of permanent snow remains through summer in the vicinity of Qornet el Sawda.

The steep western slopes of the southern extension of the Mount Lebanon range, that includes the Al-Shouf Cedar Nature Reserve, ensures that much of the precipitation is gathered by fast flowing surface streams running directly to the Mediterranean. However, the Mount Lebanon range comprises porous and cavernous limestone so that a large proportion of the net precipitation percolates into the substratum to eventually discharge as springs on the lower slopes. These spring discharges are especially important on the eastern Bekaa Valley side of the mountains where there are few permanent surface streams.

The precipitation on the western slopes of the Mount Lebanon range is adequate to support a range of forest vegetation, including tall coniferous forest, whereas the lower rainfall on the eastern slope (Bekaa) supports only low forest or woodland and scrub of mainly broadleaf species. Precipitation as rainfall and snow on the western fall is enhanced by atmospheric moisture and mist backing up against the range as a result of on-shore air movement. The surface discharge of some perennial subterranean streams is likely to have a local modifying effect on vegetation patterns and species composition. Another major factor that influences the vegetation is the altitude of Al-Shouf Cedar Nature Reserve, the altitude of the reserve ranging from 1150 meters to over2000 meters.

The mostly treeless summit of the Al-Shouf Cedar Nature Reserve forms the skyline of a large part of southern Lebanon and gains additional attention in winter with a mantle of snow. The undeveloped landscape of the Al-Shouf Cedar Reserve contrasts with the highly developed landscapes of the Bekaa Valley to the east and the Shouf to the west.

Although much of the Al-Shouf Cedar Nature Reserve is grassland or shrubland, it is likely that forest cover was more extensive in historic times. Rejuvenation of the deforested areas is evident in some localities where withdrawal of grazing seems to have been accompanied by the natural regeneration of cedars.

3.2 MAPS TO BE INSERTED IN PLACE OF THIS PAGE

3.3 LEGAL STATUS

Government legislation, Law No. 532 of 24 July 1996 (See Appendix 1) declared "The communal lands of Niha, Jbeih, Mreste, Khraibe, Maasser, Barouk, Bmohreh, Ain Dara, Ain Zahalta villages, in addition to the Government owned lands on the eastern side of Barouk Mountain, a Nature Reserve."

According to Al-Shouf Cedar Reserve Law 532, dated 24 July 1996, the legal authority for managing the reserve is the Government Appointed Committee comprised of volunteers and representatives of the municipalities who are appointed for three years by the Governor of Mount Lebanon in consultation with the Minister of Environment.

The Protected Areas Project document signed by the Council for Development and Reconstruction (CDR) on behalf of the Government of Lebanon, dated 8th February 1996, gives the management responsibility of the reserve to the Al-Shouf Cedar Society under the supervision of the Ministry of Environment.

The Kefraya-Maaser Shouf road, which passes through the reserve, is under the authority of the Ministry of Public Works.

The presence of ancient ruins will require the assistance of the Department of Antiquities.

The T.V. transmitters in the reserve are the subject of contracts with the Maaser Municipality and are under the authority of the Ministry of Information.

The water rights, especially the Barouk water, are under the authority of Barouk Water Office.

3.4 NATURAL HERITAGE

3.4.1. PHYSIOGRAPHIC CHARACTERISTICS

3.4.1.1. Geology

The Al-Shouf Cedar Nature Reserve is located along a mountain range known as the Barouk Mountain, which is a southern extension of the Mount Lebanon Range. The range runs parallel to the Mediterranean coast. The Beirut-Damascus highway and the town of Jezzine define the north and south borders of the reserve.

The western slopes of the range face the Shouf region, the eastern slopes face Mount Hermon and form the western escarpment of the Bekaa Valley.

The Bekaa Valley is considered to be the northern extension of the Great Rift Valley in Africa.

The Barouk Mountain comprises rocks from the third geological era (Pliocene) which has undergone major tectonic movement that divided Mount Lebanon into 2 parallel parts; the eastern range is called the Anti-Lebanon, and the western range is called Mount Lebanon. The two mountain ranges are separated by the Bekaa Valley, which is composed of recent infill sediments. The main rocks are limestone.

3.4.1.2. Geomorphology

Further south from Dahr El Baidar is the highest peak on the range at 2000 meters.
The trend from north to south is for the eastern slopes to change from very steep to less steep and for the western slopes to become increasingly steep. The top of the Barouk range becomes increasingly narrow towards the south.

3.4.1.3. Soils

Physical characteristics of the soils are:

- Homogenous, belonging to the red brown Mediterranean soils formed on hard marl limestone.
- derived from Jurassic, Balthonian, Callovian to Oxfordien – Portlandian marl limestone
- Stone contents ranges from 80 – 90 %

From an erosion point of view these soils are in a state of equilibrium due to:

- High permeability
- Mask of calcareous fragments
- Good vegetative cover
- Good drainage

3.4.1.4. Hydrology

Precipitation in the watershed is the source of both surface streamflow and groundwater. The major portion of this occurs as rain. Snowfall often occurs at the upper elevations but snow seldom persists more than a few days and disappears before the end of the rainy season.

Normally snow has little overall direct effect on stream-flow within the watershed. However, on rare occasions warm rains falling on the snow-pack may result in rapid melting and release of large quantities of water at a time when the soils are already fully saturated. These conditions result in rapid runoff and floods.

A large proportion of the exposed surface rock in the Barouk region is cavernous, fissured and broken limestone, and its porous condition makes it very permeable. This results in much of the precipitation infiltrating with minimum surface runoff despite the often-shallow soils and sparse vegetative cover. Water percolates downward through the various formations and feeds the many large springs found on lower slopes in the area. Such springs help maintain stream-flow during the April to November dry season.
Surface water flows originating on the range are mostly seasonal but some are perennial.

Underground water generates outflow rivers such as:

- Al Awali River, more commonly known as Al-Barouk river
- Damour River, known as Al-Safa river

The summit of the range is considered as a divide between two hydrological systems because of the difference between the two slopes of the mountain. The eastern slope is much steeper and favors surface stream flows, whereas the western slope is less steep and favors ground water aquifers.

The rivers that flow in the valleys are the major source of agriculture irrigation and supply a dozen Shouf villages with domestic water and some of the western Bekaa villages. It is also the main source of water for the Ammiq Swamp in the Bekaa.

3.4.1.5. Karst
The whole of the Barouk Mountain is cavernous limestone, with many surface features such as dolines indicating the underlying cavernous form of the mountain range. One particularly noteworthy cave, estimated to be 700 meters long, is located near Niha village. Villagers report an abundance of stalactites and stalagmites and that there is an underground body of water.

3.4.1.6. Scenic Landscapes
Various elements of the Al-Shouf Cedar Nature Reserve are clearly valued as scenic landscapes. At the macro level, the rugged undeveloped ridge system which forms a distinct skyline is seen from many areas outside the protected area. The scenic landscape significance of this is greatly enhanced in winter with a cover of snow, and is enhanced by the natural foreground of the protected area. To the east the grandeur of the Bekaa valley, vividly patterned by the agricultural fields, contrasts with the rugged starkness of the Anti-Lebanon Mountains further to the east. The Qaraoun Lake punctuates the agriculturally patterned valley in the south.

At the local/precinct level several of the cedar stands, in particular the Maaser Al-Shouf, are recognized as outstanding scenic landscapes, the larger cedars contributing in a most distinctive way to the landscape. Individual trees can and do attract a lot of

positive response from visitors to the area. The aesthetic experience of seeing some of the larger cedars is undoubtedly enhanced for the visitor by awareness of the important part they played in the history of Lebanon.

Some of the rugged rocky karst topography of the upper montane areas has a distinctive scenic beauty of its own. In summer, small grassy meadows persist in doline depressions, and contrast with the surrounding starkness of the white and gray limestone.

The western slope of the mountain, with the different patches of cedar forests gives way to the surrounding villages with red tile roofs. On some days the Mediterranean Sea may be seen from the summit of the mountain range.

3.4.2 BIOLOGICAL CHARACTERISTICS

3.4.2.1 PLANTS

Appendix 5, Plant Species List, summarizes the results of the survey and inventory work conducted by the National Council for Scientific Research (NCSR) on behalf of the Protected Areas Project. Additional species may occur and future survey and inventory is likely to increase the number of officially recorded species. A summary of the inventory is provided in the table below.

Plants

Categories (After NCSR, Lebanon)	**Number of species**
A1 Nationally and globally threatened species	25
A2 Endemic species	50
B3 Rare species	12
B4 Species wholly or partly restricted to the eastern Mediterranean region.	211
B5 Species restricted to specific areas in the reserve	10
B6 Species cut by local people	15
C7 Highland species	82
C8 Biological indicator species	70
C9 Species with economic value	65
D10 Common species	25
D11 Species found globally, or in Europe, Asia and Mediterranean	176

Of a total of 471 species recorded by the NCSR survey, 25 species are nationally or globally threatened and 12 species are classed as rare. A significant proportion (13%) of species are Lebanon endemics and more than half (211) of the species are restricted to the Eastern Mediterranean region. Some 20% of species are ‘highland’ species, indicating the significance of the mountain tops for plant species conservation.

Forests in Al-Shouf Cedar Nature Reserve represents only 5% of the total area of the reserve and comprise mainly cedar and oak forests. With minor exceptions, the cedar forests are located on the upper western slopes, oak occurring at lower elevations on both aspects.

The main cedar forests cover a total area of 556 hectares, comprising:

- Maasser Al-Shouf 6 hectares
- Barouk 400 hectares
- Ain Zahalta / Bmohrai 100 hectares

and three smaller scattered cedar patches :

- Northeast near Ain Zahalta is to be found the only stand on the Bekaa Valley side of the mountain range.
- South of Maasser Al-Shouf forest, known as Ibhul
- Further south in Niha Mountain.

The Al-Shouf Cedar Nature Reserve is the southern limit of Cedrus libani (Cedar of Lebanon).

3.4.2.2. MAMMALS

Appendix 6, Mammals Species List, summarizes the results of the survey and inventory work conducted by the National Council for Scientific Research (NCSR) on behalf of the Protected Areas Project. Additional species may occur and future survey and inventory is likely to increase the number of officially recorded species.

Mammals

Categories (After NCSR, Lebanon)	Numbers of Species
A1 Globally threatened species.	12
A2 Locally threatened and in the process of local extinction.	3
A3 Unique sub-species.	-
B4 Species largely or entirely in the Middle East region.	20
B5 Rare species.	9
B6 Species hunted.	21
C7 Species specific to Al-Shouf Cedar Reserve.	-
C8 Biological indicator species.	6
C9 Species with economic value.	11
D10 Locally extinct species.	1
D11 Abundant species.	5

33 species of mammals were recorded by the NCSR as inhabiting the reserve.

Rare and threatened mammals

- 12 species are globally threatened.
- 3 are considered rare and threatened in Lebanon
- 6 are listed in the IUCN Red List of threatened species

A total of 21 of the 33 species of mammal are regularly hunted in Lebanon, including 9 of the 12 that are globally threatened.

3.4.2.3 BIRDS

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

Birds

Categories (After NCSR, Lebanon)	**Number of species**
A1 Globally threatened species	4
A2 Regionally threatened or declining species	10
B3 Endemic sub species + monospecific species	42
B4 Rare breeders + Former breeders + possibly breeding species	17p 10f, 10+
B5 Localized breeders	10
B6 Localized non-breeder	3
B7 Declining breeder	1
B8 Internationally important population passing through Lebanon.	4
B9 Nationally threatened or declining species	59
C10 Extinct or probably extinct in Lebanon	-
C11 Introduced species	1
C12 Biological indicator species	36
C13 Species of economic value	71
D14 Species restricted wholly or largely to the Middle East	7
D15 Species mainly concentrated in Europe under unfavorable conditions	19
D16 Species mainly concentrated outside Europe under unfavorable conditions	41

Of the 160 species of birds recorded by the NCSR, 4 are globally threatened species and 10 are regionally or nationally threatened. 42 species are monospecific species. A large number of species (59) are nationally threatened or declining species. Not

withstanding a national hunting ban, almost all bird species are regularly the subject of substantial hunting pressure.

A bird feature of special note is that the Al-Shouf Cedar Nature Reserve is on a major migratory bird corridor between Africa and Europe/Asia. The reserve is not only important for these birds in transit but is an excellent mountain site for observing the migration.

3.4.2.4. REPTILES AND AMPHIBIANS

Appendix 8 Reptile Species List, summarizes the results of the survey and inventory work conducted by the National Council for Scientific Research (NCSR) on behalf of the Protected Areas Project. Further survey and inventory is likely to increase the number of officially recorded species.

Reptiles and Amphibians

Categories (After NCSR, Lebanon)	Number of Species
A1 Globally threatened species	1
A2 Regional and local species threatened in Lebanon	17
B3 Endemic species	2
B4 Rare species in Lebanon	2
B5 Only species of family, or only found in Al-Shouf	-
B6 Species hunted and killed	11
C7 Species extinct in Lebanon	-
C8 Biological indicator species	9
C9 Species with economic value	1
D10 Abundant species	19
D11 Species found around the Mediterranean or Atlantic ocean	-

Of the total 24 species of Reptile and Amphibian Species recorded by the NCSR, 2 are globally threatened species (a chameleon and a snake) and a total of 17 are regional and local species which are threatened in Lebanon. Two are local endemic species.

One noteworthy species of snake recently recorded is *Elaphe quatuorlineata,* which was the first record for Lebanon.

3.5. CULTURAL HERITAGE

3.5.1. The Historic Significance of the Cedars of Lebanon

The Cedars of Lebanon have an almost magical place in history, not just in the history of Lebanon, but of a number of neighboring countries and conquering empires.

The cedar forests of Lebanon enjoy the unique distinction as the oldest documented forests in history. The cedars were important enough in the history of man to be traceable to the very earliest written records, that of the Sumerians in the third millennium BC. In the ancient Sumerian story, “The Epic of Gilgamesh”, one of the oldest pieces of literature in the world, the Cedars feature prominently. Gilgamesh has since been recognized as King Gilgamesh of history and in probability visited Mount Lebanon.

It was the Phoenicians along the coast of present-day Lebanon and from such ancient cities as Byblos, Tyre and Sidon who became the principal dealers in the timber of the cedar. Indeed, the cedars made a special contribution to the development of the Phoenician civilization by providing the timbers with which they developed their famous sea-going merchant boats thus becoming one of the first, if not the first major sea-going trading nation in the world.

The Phoenicians traded the cedar to Egypt, until Egypt in turn conquered the land of the cedars and gained direct access to the forests, which were highly prized in the building of temples and boats. Later the Babylonians took a similar interest in the cedars and obtained them for use in building the fabled city of Babylon.

People around the world know of the cedars of Lebanon because of the numerous references in the Hebrew texts of the Old Testament. The Bible records in some detail how King Solomon, King of Israel, requested of King Hiram of Tyre to supply cedar and to build a temple and a palace in Jerusalem.

In the 6th Century BC, Persian control of the Phoenician ports provided the Persians with the means of assembling a navy for use against their enemies the Greeks who were already embarrassing the Persians with their mobility in the Mediterranean as they leased and copied the Phoenician triremes.

The expansion of the Roman Empire into Syria and Lebanon had its detrimental effect on the cedars until the Emperor Hadrian installed the markers around the boundary of the remaining forests and declared them as Imperial Domain. Specimens of these markers have been preserved and held in museum collections.

The Ottoman Turks deforested all of the cedar growing areas within easy transport distance of their Hijaz railway to provide fuel for their wood-burning engines. Only the highest and most remote groves escaped damage.

In the modern day Lebanon the legendary cedar is still revered and remains prominent in the minds of all Lebanese. The cedar features on the national flag, the national airline, Government logos, the Lebanese currency and innumerable commercial logos.

It is the feature of books, poetry, post cards, posters and art. The Cedars of Lebanon are truly an important part of the cultural heritage of the people of Lebanon.

3.5.2 Historic Cultural Sites

The setting of the Shouf is a nexus of many cultures, religions, and historical events, all of which have left an imprint which makes the area's cultural heritage as rich as its ecosystems. The following are some major landmarks:

Qalaat Niha
The cave castle of Tyron Niha relates to one of the closing episodes of Prince Fakhreddin II's epic history and are the only remaining vestiges of a once powerful fortress which was successively used by the Arabs, Crusaders, and a number of princes of Mount Lebanon.

El Nabi Ayoub
A feretory was built on the hill above the village of Niha to honor Job's memory and hold his relics. Ayoub is the Arabic name of the prophet Job.

Qab Elias Castle
This once powerful Druze fortress served as a guardian outpost controlling the road that linked Beirut to Damascus, and a marching post for the Druze and Chehab rulers of the South Bekaa or Wadi Taym.

Mazar El Sit Cha'wane
El Sit Cha'wane is a famous figure in the Druze religion. Like Job in the Old Testament, she was held up as a model of virtue and devotion. A feretory was erected in her name.

3.5.3. Contemporary cultural sites and items.

In the Quercus forest of Dalboun, traces from the civil war remain and may be interesting for future generations.

In the heights of the mountain, traces of old shelters for cattle and goats can be seen, and can be of interest for visitors.

Summary
The Al-Shouf Cedar Nature Reserve, comprising 55,000 hectares represents the largest protected area in Lebanon. Approximately 5% of the protected area is forest, including 550 hectares of Cedrus libani, or about 25% of the total remaining cedar forests in the country.

The whole of the protected area has been subject to a long history of grazing by domestic stock and timber extraction. Despite the history of exploitation, the forest communities are in relatively good condition and impacts of past use are not always evident. Since grazing was halted in 1997, a spectacular regeneration of trees, flowers and shrubs has occurred.

The Shouf has seen many cultures, religions, and historical events, all of which have left an imprint on the landscape. The educational potential of the reserve is very significant both for teaching natural history and human impacts on the landscape.

3.6. STATEMENT OF SIGNIFICANCE

Each of the main heritage values identified in the inventory was subjected to evaluation to establish their relative conservation significance. The evaluation process highlighted the scarcity of information at the national level for a number of natural resources, particularly for the animal species. Not withstanding the patchiness of the data available, a number of features of the reserve are clearly of great conservation value, both at the national and in some cases at the regional (Middle East) level. Of particular importance for the purpose of conservation management is:

- Cedar forests representing 25% of the remaining cedar forests in Lebanon.
- Mammal species of which 36% are globally rare or threatened.
- Located on the important intercontinental migratory route for birds.
- 5 % of plants are globally or nationally rare and threatened species.

At the landscape level, the reserve offers protection from urbanisation and development of a mountain ridge which is a prominent part of the scenic landscape of southern Lebanon and the Bekaa Valley. With the spread of housing and urban development and associated quarrying throughout much of Lebanon, the value of the reserve as a protected landscape will continue to grow. The scenic landscape values of the reserve are a legitimate cultural heritage value deserving protection and which is totally compatible with protection of the natural ecological values of the reserve.

Given the relative accessibility of Al-Shouf, the area has been subject to a long history of landuse activity, though little has been subject to cultivation. Traditional uses have been primarily wood harvesting and sheep and goat herding. Goat herding was allowed up to 1997 when the reserve was closed to this use.

As a product of past landuse and patterns that misused the environment, including recent warfare, the landscape of Al-Shouf Cedar Reserve is extensively degraded. The cedar forest remnants are largely confined to the steeper and less accessible areas, particularly towards the higher altitude of the cedar range where trees tend to be wider spaced and less attractive for timber harvesting. Many of the oak forests have been subject to regular harvesting for firewood and charcoal production, resulting in extensive areas of coppiced oak woodland and low forest.

In the 1960’s, some extensive reforestation was undertaken on some of the upper western slopes. Reforestation was mainly with seedling cedars planted on artificial terraces. The genetic origins of those plantings have been questioned and are subject to ongoing research.

To capitalize on Al-Shouf Cedar Nature Reserve as a protected area, a major effort in rehabilitation will be needed. Without such rehabilitation existing rare and threatened species may not survive and re-introduction of locally extinct species will not be possible. Al-Shouf Cedar Nature Reserve offers excellent opportunities for expansion of the area of cedar forest by rehabilitation of previously forested areas. In the absence of grazing by domestic stock, much of this rehabilitation can be achieved by natural regeneration at minimal cost.

As the largest protected area in Lebanon, the Al-Shouf Cedar Nature Reserve has special significance for the maintenance of natural processes and wildlife habitat. In the context of the present protected area system, it represents the best prospect for the long term conservation of the larger mammal species such as the wolf and striped hyena. It also has the potential for re-introduction of some locally extinct species of mammal such as the mountain gazelle.

The relatively large size of the reserve is not only an asset for wildlife conservation but also offers the opportunity for providing for eco-tourism visitor use with a low environmental impact. However, visitor use must at all times be carefully planned and managed to have an acceptable low level of impact.

The Al-Shouf Cedar Nature Reserve provides one of the more accessible opportunities to visit and experience cedar forests in a natural landscape setting and is already proving to be the most popular venue for such experiences.

4.0 A VISION FOR AL-SHOUF CEDAR NATURE RESERVE

4.1 MANAGEMENT PRINCIPLES

Past use and inadequate management has resulted in degradation of the natural and cultural values of Al-Shouf Cedar Nature Reserve. Therefore the vision and the objectives developed for this management plan require an improvement in the environmental condition of these natural and cultural values.

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

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

To maximize the chances of achieving those objectives, five guiding principles have been adopted.

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

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

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

4. "Net Benefit"
The guiding principle of net benefit is that all management or other activities, actions or decisions should, as far as practicable result in a 'net benefit' or net improvement in the environmental values, integrity or condition of the protected area. (See Glossary)

5. Precautionary Principle
An internationally used environmental principle, which requires that lack of scientific certainty should not be used as an excuse for not taking action to address a known environmental problem. (See definition in Appendix 2)

4.2 A VISION FOR THE FUTURE

The vision for the year 2020 for the Al-Shouf Cedar Nature Reserve is that it will be widely regarded in the Middle East and Mediterranean regions as the premier protected area because of its success in sustainable conservation. Such a reputation can only be achieved by:

1. Conservation of Biodiversity

- No loss of species in 20 years of management
- Populations of all rare and threatened species are increased or sustained. Some locally extinct species successfully reintroduced.
- Natural ecological processes are operating with minimal need for management intervention.
- The landscape of the reserve is perceived as natural and is largely devoid of evidence of human presence.

2. Management Excellence

- The managers of the reserve are known for their professional skills and effectiveness in achieving conservation and management outcomes in a cost-effective way.

3. Community Support

- The reserve has achieved a high level of community support. The immediate surrounding communities are proud of their reserve and the prestige and income that it has brought to their communities.

4. Financial Sustainability

- The managers of the reserve have developed a very successful model of financial sustainability without compromising the heritage values of the reserve.

5. Visitors

- The reserve receives a high level of visitors but the quality of visitor experience and satisfaction remains high and this is achieved with a minimal impact on the values and integrity of the reserve.
- Independent evaluation has established that the visitor use of the reserve has been achieved with a net benefit to the reserve and is seen as a model for other protected areas.

6. Contribution to a National Protected Area System

- The success of the Al-Shouf Cedar Nature Reserve has contributed to the political and community support for the development of a comprehensive protected area system for the whole of Lebanon.

4.3 CONSTRAINTS ON ACHIEVING THE VISION

The following is a list of the main constraints on realization of the vision for the Al-Shouf Cedar Nature Reserve.

1. Funding

- Funds to pay the salaries for the Management Team.
- Funds to purchase equipment, vehicle facilities and their maintenance.
- Funds for on-going surveillance and monitoring of flora and fauna.
- Funds to reintroduce locally extinct species.

2. Research

- Incompleteness of resource inventories.
- No prior experience in captive breeding and release of mammals.
- Delay in the demarcation of reserve boundaries.

3. Community

- Uncertainty regarding private land ownership within and around the reserve.
- Increase of development pressures.
- Rise of community opposition.
- Increase of flora harvest for food and medicine.
- Return of illegal goat grazing.
- Return of wildlife poaching.
- Incompatible agricultural practices around the reserve boundaries.

4. Political

- Potential political instability in Lebanon and the region.
- Threat from existing and planned rock quarries
- Lack of enforcement of ban on hunting.
- Potential for lack of clarity of roles of Management Team, NGO and any future Government appointed committee.

5. Natural

- Fires and their threat to the ecology of the area.
- Water scarcity within reserve resulting in wildlife movement to outside the reserve and exposing wildlife to hunters.

6. Personnel

- Maaser Shouf-Kefraya road is inside the reserve and requires rangers to patrol it.
- T.V. station and building constructed inside the reserve.
- Skills, education, language, experience of reserve team.
- Tourism pressure is on the increase.

5.0. OBJECTIVES, POLICIES AND ACTIONS

5.1 OBJECTIVES

The following objectives represent the principle aims for the management of Al-Shouf Cedar Nature Reserve during the five-year life of the Management Plan, and are a based on the preceding "Vision for the Future".

Objective 1 - Natural Heritage.
To achieve a high level of protection, conservation, rehabilitation and management of bio-diversity, scenic landscape ecosystems, habitats and natural processes essential to their preservation as natural heritage resources for future generations.

Objective 2 - Cultural Heritage.
To achieve a high level of protection, conservation and management of cultural heritage resources within the Al-Shouf Cedar Nature Reserve.

Objective 3 - Community Support
To build community support for the Al-Shouf Cedar Nature Reserve and its management plan.

Objective 4 - Education and Research
To build long term support for the protected area by provision of appropriate educational and research opportunities and services.

Objective 5 - Recreation and Visitor Management
To facilitate a rewarding visitor experience by the provision of recreational opportunities and experiences, consistent with no degradation or net loss of heritage values of the reserve.

Objective 6 - Financial Sustainability
To develop long term sources of funding that will allow Al-Shouf Cedar Nature Reserve to support its management programs.

Objective 7 - Staff Training and Institution Building
To achieve efficient and effective management of the Al-Shouf Cedar Nature Reserve by a professional and well trained management team as well as institution building of the Al-Shouf Cedar Society.

Objective 8 - Planning and Controlling Development
To adopt effective and responsible development plans and controls in Al-Shouf Cedar Nature Reserve.

Objective 9 - Research and Monitoring
To facilitate informed and responsible management by undertaking, promoting and supporting appropriate scientific research and monitoring.

5.2 POLICIES and ACTIONS

Policies and related **Actions** are presented below. The actual effect of these policies on a range of **Activities** are illustrated in the Activities Table at Appendix 4.

OBJECTIVE 1 - NATURAL HERITAGE

TO ACHIEVE A HIGH LEVEL OF PROTECTION, CONSERVATION, REHABILITATION AND MANAGEMENT OF BIODIVERSITY, SCENIC LANDSCAPE ECOSYSTEMS, HABITATS AND NATURAL PROCESSES ESSENTIAL TO THE CONTINUED WELL BEING OF AL-SHOUF CEDAR NATURE RESERVE.

POLICIES

POLICY 1.1	**Management Principles:** Management will be in accordance with the principles of the Natural Heritage Charter . (See Appendix 2)
POLICY 1.2	**Inventory Database:** An inventory of all plants and animals recorded in the reserve will be compiled and classified and entered in a Geographic Information System (GIS).
POLICY 1.3	**Native Species Protection:** All native species and communities of plants and animals will be protected and conserved, priority being given to the most threatened and rarest species. In the case of native animal species which become pests for neighboring landholders, a culling program may be implemented on the boundaries of the reserve.
POLICY 1.4	**Species in Rehabilitation:** All native species of plants and animals used in landscaping and rehabilitation of the reserve will be propagated from local material or from sources which can be guaranteed genetically identical to populations in the reserve.
POLICY 1.5	**Introduced species:** All introduced species of plants and animals will be eradicated where practicable, consistent with any cultural heritage considerations.
POLICY 1.6	**Non-target Species:** Prior to eradication activities of introduced species all reasonable efforts will be made to investigate, recognize and prevent threat to non - target species or individuals.

POLICY 1.7	**Non-native species:** No species of plants or animals which are not native to the protected area will be introduced to the protected area. No domestic animals will be permitted to visit, graze or reside in the reserve. Horses on approved trail rides may be allowed by permit.
POLICY 1.8	**Import of soil:** No soil or other material which may contain organic matter, especially seeds, will be introduced to the protected area.
POLICY 1.9	**Geo-diversity:** No rock or soil material will be excavated or removed from the reserve except where required for activities authorized under this plan, such as professional archaeological excavations and visitor facilities.
POLICY 1.10	**Import of materials:** No rock, soil or other inorganic material will be introduced to the protected area except where authorized under this plan (e.g. building material for visitor facilities)
POLICY 1.11	**Excavation:** Major excavation in soil will be undertaken only subject to prior archaeological investigation or presence of an archaeological professional at the time of excavation.
POLICY 1.12	**Archaeological excavations:** All archaeological excavations will be undertaken in accordance with this management plan.
POLICY 1.13	**Boundary marking:** Priority will be given to permanent marking of the boundary of Al-Shouf Cedar Nature Reserve, with particular urgency being given to those sections of the boundary adjacent to proposed public access points or proposed private development outside the reserve.
POLICY 1.14	**Rehabilitation:** All damaged landscape and vegetation will, where practicable, be rehabilitated subject to appropriate evaluation of cultural heritage and other values.
POLICY 1.15	**Rehabilitation:** Rehabilitation priority will be given to those areas where the benefits of rehabilitation are greatest from a conservation perspective, such as damaged vegetation which is habitat to threatened species.
POLICY 1.16	**Reforestation:** Reforestation of the vegetative cover will utilize natural processes instead of mechanical intervention such as the natural regeneration of cedars into cleared lands instead of planting seedlings.

POLICY 1.17	**Development control:** No development which is not essential to the management of the reserve will be permitted within the reserve, except where there are no feasible alternatives outside the reserve and the level of environmental impact is acceptable.

ACTIONS

ACTION 1.1	**Management Plan**: Give priority to implementation of this management plan**.**
ACTION 1.2	**Training:** Conduct training workshops for all participants in management of Al-Shouf Cedar Nature Reserve on the theory and practical application of the policies and standards applying to the achievement of Objective 1 (Natural Heritage)
ACTION 1.3	**Rare or Threatened Species:** Develop and implement a Rare and Threatened Species Conservation Plan.
ACTION 1.4	**Introduced Species:** Develop and implement Introduced Species Management Plan.
ACTION 1.5	**Boundary Delineation:** Complete boundary demarcation and marking of Al-Shouf Cedar Nature Reserve.
ACTION 1.6	**Rehabilitation:** Develop and implement a “Rehabilitation Plan” which sets relative priorities for rehabilitation and reforestation of the reserve.
ACTION 1.7	**Rehabilitation of Quarries:** Develop and implement a Quarry Closure and Rehabilitation Plan for the quarries in the North Zone of the reserve.
ACTION 1.8	**GIS:** Develop and maintain a Geographic Information System (GIS) for data management.

OBJECTIVE 2 - CULTURAL HERITAGE

TO ACHIEVE A HIGH LEVEL OF PROTECTION, CONSERVATION AND MANAGEMENT OF CULTURAL HERITAGE RESOURCES WITHIN THE AL-SHOUF CEDAR RESERVE.

POLICIES

POLICY 2.1 **Management principles:** Cultural heritage management will be in conformity with the principles of the Burra Charter.

POLICY 2.2 **Cultural item protection:** All man-made structures, objects and artifacts dating from before 1920 encountered within the reserve are protected, shall not be collected or removed without authorization and will remain the property of the Government of Lebanon.

POLICY 2.3 **Cultural item rehabilitation:** No existing or past building or structure dating from before 1920 will be repaired, rehabilitated, restored, resurfaced or painted without prior professional investigation and overall compliance with the Burra Charter.

POLICY 2.4 **Objects and artifacts:** All objects and artifacts dating from before 1920 encountered in authorized and unauthorized excavations will be assumed to be the property of the Government of Lebanon, through the Director of Antiquities, unless and until proven otherwise.

POLICY 2.5 **Internal procedures:** The Reserve Manager will be responsible for developing an internal procedure, in consultation with the Director of Antiquities and the Ministry of Environment, which will provide for a routine process for assessment of cultural heritage values which may be encountered in proposed management activities such as the construction of a footpath or road.

POLICY 2.6 **Archaeological permit:** All archaeological investigations in the Al-Shouf Cedar Nature Reserve will require an application in writing for a Research Permit. (see policies on research)

ACTIONS

ACTION 2.1	**Conservation Plan:** Prepare a Cultural Heritage Conservation Plan and determine priorities for conservation.
ACTION 2.2	**Research Agenda:** Incorporate cultural heritage research needs in the Preferred Research Agenda (See Objective 8).
ACTION 2.3	**Promotion of Research:** Establish contact with relevant research institutions to promote scientific research and investigation of cultural and historical sites and values in Al-Shouf Cedar Nature Reserve.

OBJECTIVE 3 - COMMUNITY SUPPORT

TO BUILD COMMUNITY SUPPORT FOR THE AL-SHOUF CEDAR NATURE RESERVE AND ITS MANAGEMENT PLAN.

POLICIES

POLICY 3.1	**Community Relations Strategy:** All community relations activities and programs will be guided by a Community Relations Strategy.
POLICY 3.2	**Sense of Pride:** Community relations strategies and activities will promote a sense of local and national pride in the Al-Shouf Cedar Nature Reserve.
POLICY 3.3	**Promotion:** All promotions of the reserve in the community will be consistent with the management plan and avoid creating unrealistic and undeliverable expectations.
POLICY 3.4	**Neighbors:** High priority will be given to maintaining ongoing communications with neighbors of the protected area.
POLICY 3.5	**Right to Know:** The principle of "the community has the right to know" will be adopted.
POLICY 3.6	**Ethical Communications:** All communications with individuals and organizations in the community will be ethical and non-discriminatory at all times.
POLICY 3.7	**Partnership with Community:** The concept of working with the community in partnership will as far as practicable be the basis of all dealings with the community, especially the local community. The current community development programs initiated by the Al-Shouf Cedar Society, in partnership with local communities, to create and promote alternative employment in local communities, will be continued and adapted as needed.
POLICY 3.8	**Local priority:** Where appropriate and cost effective, priority will be given to purchasing of goods and services and employment recruitment from the local community.

ACTIONS

ACTION 3.1	**Community Relations Plan:** Develop a Community Relations Plan (CRP) to guide and prioritize work with and in the community. This should include partnership with the community in developing economic benefits from the reserve, addressing of problems perceived to be caused by the reserve such as damage by wild boars, etc…
ACTION 3.2	**MOU with Municipalities:** Negotiate Memoranda of Understanding (MOU) with all local Municipal Councils for the purpose of establishing a working partnership on matters relating to the reserve.

OBJECTIVE 4 - ENVIRONMENTAL EDUCATION

TO BUILD LONG TERM SUPPORT FOR THE PROTECTED AREA BY PROVISION OF APPROPRIATE ENVIRONMENTAL EDUCATIONAL OPPORTUNITIES AND SERVICES.

POLICIES

POLICY 4.1 **Environmental Education:** The provision of environmental education facilities and services in Al-Shouf Cedar Nature Reserve will be guided by an Environmental Education Plan prepared in consultation with professional educators.

POLICY 4.2 **Educational Resources :** Continue to upgrade the educational resources component of the Protected Areas Project including preparation of training manuals and the conduct of teacher training seminars.

ACTIONS

ACTION 4.1 **Environmental Education Plan:** Prepare an environmental education program in consultation with professional educators and review at least annually.

ACTION 4.2 **Educational Resources:** Construct and install infrastructure and acquire materials needed to support the Environmental Education Plan.

ACTION 4.3 **Educational resources:** Finalize the educational materials with Friends of Nature and distribute to educators in Lebanon.

OBJECTIVE 5 - RECREATION AND VISITOR MANAGEMENT

TO PROVIDE A REWARDING VISITOR EXPERIENCE BY THE PROVISION OF RECREATIONAL OPPORTUNITIES AND VISITOR EXPERIENCES, CONSISTENT WITH NO DEGRADATION OR NET LOSS OF HERITAGE VALUES OF THE RESERVE.

POLICIES

POLICY 5.1	**Recreation and Tourism:** Recreational and tourism use in Al-Shouf Cedar Nature Reserve will be guided by a Visitor Management Plan
POLICY 5.2	**Recreation and Visitor Management:** Visitor management will at all times be consistent with meeting conservation objectives and at no time will contravene key conservation policies and objectives. Recreational activities will be managed to have minimal environmental impact and, as far as practicable, contribute to conservation programs for the Al-Shouf Cedar Nature Reserve in some tangible way.
POLICY 5.3	**Access as a Privilege:** As far as practicable, visitor use is to be represented as a privilege and not an unconditional right. Visitors will be encouraged to recognize that the privilege to visit is accompanied by certain obligations regarding behavior and minimization of environmental impact.
POLICY 5.4	**Visitor Regulation:** Visitor access and activities may be regulated in accordance with conservation objectives and policies, including where necessary, periodic closure of access.
POLICY 5.5	**Promotion of Use:** Promotion of the Al-Shouf Cedar Nature Reserve will be consistent with the management plan and the type of recreational activities preferred under the plan.

ACTIONS

ACTION 5.1	**Visitor Management Plan:** Develop a Visitor Management Plan which includes eco-tourism management.
ACTION 5.2	**Maaser Shouf Entrance:** In consultation with the local community implement the Maaser Al-Shouf Entrance as per the plans and guide lines prepared by the landscape architect.

ACTION 5.3	**Plan New Entrances:** In consultation with the local community, conduct planning and feasibility studies for the opening of new visitor entrances at Barouk Ain Zahalta / Bmohraii Ain Zahalta Victoria Horsh Dalboun Kefraya
ACTION 5.4	**Information Center Study:** Conduct planning and feasibility studies for establishment of an Information Center in Barouk village.
ACTION 5.5	**Visitor Conduct:** Prepare a Visitor Code of Conduct and promote in appropriate ways.
ACTION 5.6	**Socio-economic Study:** Conduct a study to document the socio-economic benefits of recreation and eco-tourism and promote awareness of the results to build support for the reserve.

OBJECTIVE 6 - FINANCIAL SUSTAINABILITY

TO DEVELOP LONG TERM SOURCES OF FUNDING THAT WILL ALLOW OF THE AL-SHOUF CEDAR RESERVE TO SUPPORT ITS MANAGEMENT PROGRAM.

POLICIES

POLICY 6.1	**Business Plan:** To ensure that Income and Expenditure management is soundly based, a Business Plan will be developed and maintained.
POLICY 6.2	**Sustainable Funding:** Every effort will be made to secure a sustainable flow of funding to support the management program for the Al-Shouf Cedar Nature Reserve.
POLICY 6.3	**Strategy:** The generation of funding and other resources will be guided by a properly considered and documented Funding Strategy.
POLICY 6.4	**Funding Diversification:** Planning for financial support will adopt the principle of funding diversification to increase the security of such funding by avoiding dependence alone on one source from either the public or private sector.
POLICY 6.5	**User pays Principle:** The 'User-pays principle' will be progressively introduced to ensure that the main beneficiaries of the protected area are contributing equitably towards the cost of the provision of services and facilities.
POLICY 6.6	**Cost-benefit Analysis:** All proposals for commercial activities and income generation by the Local Management NGO will be subject to a cost/benefit analysis which includes the costing of staff time.
POLICY 6.7	**Code of Conduct:** All fundraising and other resourcing will be undertaken in a totally lawful and ethical way, guided by a 'Code of Conduct', with all funds being publicly accountable.
POLICY 6.8	**Funding Priority:** Priority will be given to establishing recurrent funding sources in preference to single contributions.
POLICY 6.9	**Donations:** Donations for specific projects should as far as possible cover all costs of the project and a component of its operation and maintenance during the first year.

POLICY 6.10 **Non-financial contributions:** Non-financial contributions to management will be sought to complement fund contributions. These may include goods, services and discounts. All non-financial contributions will be subject to the same public accountability as financial contribution.

POLICY 6.11 **Volunteers:** The services of volunteers, whether as individuals or as groups, will be encouraged. The time that such volunteers spend in the reserve is to be considered as a non-financial contribution.

ACTIONS

ACTION 6.1 **Business Plan:** Develop a 10 year Business Plan to provide a sound basis for financial management. Review annually.

ACTION 6.2 **Resources and Income Plan:** Develop a Funding Plan for the Al-Shouf Cedar Nature Reserve which includes income generation, sponsorship and donations of money, goods and services.

ACTION 6.3 **Code of Conduct:** Develop a 'Code of Conduct' to guide fund raising and income generation to ensure that all such activities are ethical and responsible. The code should include identification of the circumstances in which it would be appropriate and inappropriate to accept funding and other contributions.

ACTION 6.4 **Volunteers:** Develop a policy and program for the introduction of volunteers both as a means of providing opportunities for community involvement and to supplement financial resources.

ACTION 6.5 **Sponsorship Agenda:** Develop and maintain an "Agenda" for sponsors that lists, explains, and estimates the cost of projects that are important for Al-Shouf Cedar Nature Reserve.

OBJECTIVE 7 - STAFF TRAINING AND INSTITUTION BUILDING

TO ACHIEVE EFFICIENT AND EFFECTIVE MANAGEMENT OF THE AL-SHOUF CEDAR NATURE RESERVE THROUGH A WELL TRAINED MANAGEMENT TEAM AND INSTITUTION BUILDING OF THE AL-SHOUF CEDAR SOCIETY.

POLICIES

POLICY 7.1 **Protected Areas Project:** The Al-Shouf Cedar Society and the management team will be mindful of the important responsibility they have in the Protected Areas Project in testing the model of protected area management by a non-governmental organization, and be aware of the national and international implications of their performance.

POLICY 7.2 **Staff Recruitment:** As far as is practicable, staff recruitment will be conducted with the objective of recruiting the best qualified persons available.

POLICY 7.3 **Team Management:**, Co-operation among the team members, with maximum delegation, will be adopted as the most cost-effective management model.

POLICY 7.4 **Terms of Reference:** The roles of all personnel participating in management of the reserve will be formalized in a set of "terms of reference" to be jointly developed and maintained by the Al-Shouf Cedar Society and the Management Team

POLICY 7.5 **Employment Equal Opportunity:** Personnel management will adopt the merit principle for employment and have regard for the principles of Employment Equal Opportunity

POLICY 7.6 **Health and Safety:** Occupational health and safety issues relating to staff will be given high priority.

ACTIONS

ACTION 7.1 **Training:** Draft and implement a Training Program for the AL-Shouf Cedar Society and management team personnel

ACTION 7.2 **Performance Agreement:** Develop a performance agreement between the Al-Shouf Cedar Society and the Manager of the Management Team to clarify the respective roles of all personnel participating in management of the reserve.

ACTION 7.3 **Training Workshops:** Design a series of training workshops for selected members of the Ministry of Environment, Ministry of Agriculture, Management Teams of the protected areas, and participating researchers to upgrade their basic skills and assist them in the preparation of management plans.

ACTION 7.4 **Institution building:** Develop an "Institution Building Plan" for Al-Shouf Cedar Society and staff.

OBJECTIVE 8 - PLANNING AND CONTROLLING DEVELOPMENT

TO ADOPT EFFECTIVE AND RESPONSIBLE DEVELOPMENT PLANS AND CONTROLS IN AL-SHOUF CEDAR NATURE RESERVE.

POLICIES

POLICY 8.1 **Management Principles:** Management will be in accordance with the principles of the Natural Heritage Charter and the Burra Charter.(see Appendices 2 and 3)

POLICY 8.2 **Planning:** Priority will be given to implementation of this Management Plan.

POLICY 8.3 **Planning Methodology:** Planning methodology will be adopted wherever practicable to achieve optimum outcomes to management problem-solving.

POLICY 8.4 **Monitoring:** Monitoring will be designed to facilitate informed periodic review of this management plan.

POLICY 8.5 **Subsidiary Plans:** The management plan will be complemented by the preparation of soundly developed plans, programs and actions.

POLICY 8.6 **Development Controls:** No development will be permitted in Al-Shouf Cedar Nature Reserve, except where consistent with the approved management plan.

POLICY 8.7 **Applications for Development:** No externally initiated development proposal will be approved unless it can be demonstrated that no feasible alternative sites exist outside the protected area and that the environmental impact is acceptable. The proponents of such proposals must evaluate alternative locations outside the reserve prior to formally making application for access to the reserve.

POLICY 8.8 **Environmental Impact Assessment:** (EIA). All proposals for development will be subject to environmental impact assessment. For externally initiated proposals it will be the responsibility of the proponent to arrange for the preparation of the initial impact assessment. For internally initiated proposals it will be the responsibility of the managing agency (Local Management NGO) to arrange for the preparation of the EIA.

POLICY 8.9 **No Net Detriment:** All development proposals will require the proponent to address how the principle of "No Net Detriment" is to be achieved.

POLICY8.10 **Net Benefit:** All development proposals will be investigated and evaluated for the potential to provide "Net Benefit" to the Al-Shouf Cedar Nature Reserve..

POLICY 8.11 **Compliance with Plan:** All development proposals are to be assessed for compliance with the management plan and such assessment is to be documented and made available on request.

POLICY 8.12 **Minister has Final Word:** If for any reason a development is proposed which is inconsistent with the management plan, that development cannot be approved prior to the Minister of Environment making a decision about whether she/he is prepared to amend the management plan to allow the proposed development.

POLICY 8.13 **Appeal Against Decision:** Any appeal against a decision by the Local Management NGO in respect of a development, by the proponent or a third party, will be made to the Minister of Environment.

ACTIONS

ACTION 8.1 **Training:** Conduct training workshops for staff on management methodologies in particular on strategic planning, the fundamentals of scientific methodology, environmental impact assessment and project management.

ACTION 8.2 **Monitoring plan Implementation:** Establish a simple monitoring program to monitor the implementation of the Management Plan.

ACTION 8.3 **Process:** Develop and document a simple process to guide response to development proposals (internal and external) which would include the conduct of environmental impact assessment.

ACTION 8.4 **Development Control Plan:** Prepare a "Development Control Plan", listing prohibited and preferred landuses and developments for the reserve and adjacent lands. This would be primarily for the purpose of guiding the local Municipal Council.

OBJECTIVE 9 - RESEARCH AND MONITORING

TO FACILITATE INFORMED AND RESPONSIBLE MANAGEMENT BY UNDERTAKING, PROMOTING AND SUPPORTING APPROPRIATE SCIENTIFIC RESEARCH AND MONITORING

POLICIES

POLICY 9.1 **Management Principles:** Research will be in accordance with the principles of the Natural Heritage Charter and the Burra Charter.(see Glossary)

POLICY 9.2 **Research Permit:** All research projects within the reserve will require a research permit that is issued by the reserve manager. The application for such a permit should describe the objectives, research methodology, field operations, and on-site environmental impact.

POLICY 9.3 **Permit Conditions:** A set of core conditions will be developed and will apply to all research permits. The Manager of Al-Shouf Cedar Nature Reserve may negotiate changes to the proposed research to achieve a greater level of acceptability and benefit for the nature reserve.

POLICY 9.4 **Research Agenda:** A Research Agenda will be developed and maintained for the Al-Shouf Cedar Nature Reserve. The Research Agenda will detail and prioritize research needs to support the management objectives and priorities of the reserve

POLICY 9.5 **Unauthorized Research:** All research conducted in the protected areas without a permit is unauthorized. Any researcher responsible for unauthorized research activities in the protected area may forego the right to be granted a research permit on other occasions.

POLICY 9.6 **Termination:** Permits may be terminated at any time where there has been a clear breach of permit conditions.

POLICY 9.7 **Permanent records:** The Reserve Manager will maintain permanent collections of all research results and will annually prepare a summary of all research conducted under permit in the protected area

POLICY 9.8 **Monitoring Program:** A monitoring program that is closely linked with the Field Studies component will measure progress on the flora and fauna of each of the protected areas for the duration of the Protected Areas Project. This Monitoring Program will be executed by Green Line (GL) utilizing both the GIS and GPS tools available to them.

POLICY 9.9 **Assistance to Researchers:** Financial and other assistance for research may be offered for research projects listed on the Preferred Research Agenda.

POLICY 9.10 **Research Dispute:** Any disputation regarding a decision about an application for a research permit will be referred to the Ministry of Environment.. If the dispute remains unresolved, the applicant may appeal for arbitration to the National Council of Scientific Research.

POLICY 9.11 **Socio-economic studies:** In order to measure the direct and indirect benefits to local communities as a result of the presence of protected areas, it is necessary for qualified economist / graduate students to conduct socio-economic studies.

ACTIONS

ACTION 9.1 **Procedures:** Develop and implement Procedures and Permit forms for research activities.

ACTION 9.2 **Preferred Research Agenda:** Prepare a Research Agenda which prioritizes research needs for the reserve.

ACTION 9.3 **Promote the Research Agenda:** Promote the Research Agenda to research institutions and potential sponsors.

ACTION 9.4 **Workshops:** Conduct workshops for interested researchers to explain research policies for the reserve.

ACTION 9.5 **dies**: Assist the economists/graduate
g the necessary surveys to determine the
ed areas to the local economy.

ACTION 9.6 **n:** Assist the staff of Greenline to
toring of. Al-Shouf Cedar Nature
Reserve.

5.3 THE 5 - YEAR WORK PLAN

A list of all actions identified, by objective and priority rated. (very high, high, medium, low)

ACTION No.	ACTION REQUIRED	PRIORITY
OBJECTIVE 1 - NATURAL HERITAGE		
1 Management Plan:	ve priority to implementation of this ıanagement plan**.**	Very High
2 Training:	ɔnduct training workshops for all rticipants in management of Al-Shouf Cedar ıture Reserve members of the Local anagement NGO and Management Team on e theory and practical application of the licies and standards applying to the hievement of Objective 1 (Natural eritage).	Very High
3 Rare or Threatened Species:	evelop and implement a “Rare and ıreatened Species Conservation Plan”.	Very High
4 Introduced Species:	Develop and implement “Introduced Species Management Plan”.	High
5 Boundary Delineation:	ɔmplete boundary demarcation and marking Al-Shouf Cedar Nature Reserve.	Very High
6 Rehabilitation	evelop and implement a Rehabilitation Plan hich sets relative priorities for rehabilitation and reforestation of the reserve.	Medium
1.7 Rehabilitation of Quarries:	Develop and implement a ‘Quarry Closure and Rehabilitation Plan’ for the quarries in the North Zone of the reserve.	High
1.8 GIS:	Develop and maintain a Geographic Information System (GIS) for data management.	Very High

OBJECTIVE 2 - CULTURAL HERITAGE		
l **Conservation Plan:**	epare a Cultural Heritage Conservation an and determine priorities for nservation.	Low
2 **Research Agenda:**	corporate cultural heritage research needs the Preferred Research Agenda (See ojective 8).	Medium
3 **Promotion of Research**:	tablish contact with relevant research stitutions to promote scientific research d investigation of cultural and historical es and values in Al-Shouf Cedar Nature serve.	Medium
OBJECTIVE 3 – COMMUNITY SUPPORT		
l **Community Relations Plan:**	velop a Community Relations Plan to uide and prioritize work with and in the mmunity. This should include rtnership with the community in veloping economic benefits from the serve, addressing of problems perceived be caused by the reserve such as damage wild boars, etc…	Very High
2 **MOU with Municipalities**	egotiate Memoranda of Understanding IOU) with all local Municipal Councils the purpose of establishing a working rtnership on matters relating to the serve.	Very High

OBJECTIVE 4 – EDUCATION AND RESEARCH		
1 **Environmental Education Plan:**	epare an environmental education ogram in consultation with professional ucators and review at least annually.	Very High
2 **Educational Resources:**	Construct and install infrastructure and acquire materials needed to support the Environmental Education Plan.	Very High
3 **Educational Resources:**	Finalize the educational materials with iends of Nature and distribute to ucators in Lebanon.	Very High
4 **Field Studies:**	Assist researchers from the NCSR to conduct and complete their flora and fauna surveys	Very High
5 **Monitoring Program:**	Assist the staff of GL to conduct regular monitoring of all the protected areas	Very High
6 **Socio-Economic Study:**	Assist the economists/graduate students in conducting the necessary surveys to determine the benefit of the protected areas to the local economy	Very High
OBJECTIVE 5 – RECREATION AND VISITOR MANAGEMENT		
1 **Visitor Management Plan:**	evelop a Visitor Management an which includes eco-tourism anagement.	Very High
2 **Maaser Shouf Entrance:**	consultation with the local community plement the Maaser Al-Shouf ntrance.	Done
3 **Plan New Entrances:**	consultation with the local community, nduct planning and feasibility studies the possible opening of new visitor trances at Barouk Ain Zahalta Victoria n Zahalta/Bmohraii Horsh Dalboun d Kefraya.	Very High
4 **Information Center Study:**	nduct planning and feasibility studies an Information Center in Barouk lage.	High

5 **Visitor Conduct:**	epare a Visitor Code of Conduct and omote in appropriate ways.	High
6 **Socio-Economic Study:**	nduct a socio-economic study to cument the socio-economic benefits of creation, eco-tourism and research and omote awareness of the results for the rpose of building support for the serve.	High

OBJECTIVE 6 – FINANCIAL SUSTAINABILITY

1 **Business Plan:**	velop a 10 year Business Plan to ovide a sound basis for financial nagement. Review annually.	Very High
2 **Resources and Income Plan:**	velop a Resources and Income a nding Plan for the Al-Shouf Cedar ture Reserve. Which includes income neration, sponsorship and donations of oney, goods and services.	Very High
3 **Code of Conduct:**	velop a 'Code of Conduct' to guide nd raising and income generation to sure that all such activities are ethical d responsible. The code should include ntification of the circumstances in nich it would be appropriate and appropriate to accept funding and other ntributions.	Very High
4 **Volunteers:**	velop a policy and program for the introduction of volunteers both as a means of providing opportunities for community involvement and to supplement financial resources.	High
5 **Sponsorship Brochure:**	velop and maintain a "brochure" for onsors that lists, explains, and imates the cost of projects that are portant for Al-Shouf Cedar Nature serve.	Very High

OBJECTIVE 7 – STAFF TRAINING AND INSTITUTION BUILDING		
7.1 Training:	Draft and implement a Training Program for the AL-Shouf Cedar Society and the management team personnel	High
7.2 **Performance Agreement**	Develop a performance agreement between the Al-Shouf Cedar Nature Reserve and the Manager of the Management Team to clarify the respective roles of all personnel participating in management of the reserve.	Medium
3 Training Workshops:	Design a series of training workshops for selected members of the Ministry of Environment, Ministry of Agriculture, Management Teams of the protected areas, and participating researchers to upgrade their basic skills and assist them in the preparation of management plans.	High
7.4 Institution Building:	Develop an "Institution Building Plan" for Al-Shouf Cedar Society and staff.	High
OBJECTIVE 8 – PLANNING AND CONTROLLING DEVELOPMENT		
1 Training:	onduct training workshops for staff on anagement methodologies in rticular on strategic planning, the ndamentals of scientific methodology, vironmental impact assessment and oject management.	Very High
2 Monitoring Plan Implementation:	tablish a simple monitoring program monitor the implementation of the anagement Plan.	Very High
3 Development Assessment Process:	evelop and document a simple process guide response to development oposals (internal and external) which ould include the conduct of vironmental impact assessment)	High

OBJECTIVE 9- RESEARCH AND DEVELOPMENT		
9.1 Procedures:	Develop and implement Procedures and Permit forms for research activities.	On-going
2 Research Agenda:	epare a Preferred Research Agenda RA) which prioritizes research needs the reserve.	Very High
3 Promote Research Agenda:	omote the Research Agenda to search institutions and potential onsors (as part of Sponsorship ospectus)	Very High
4 Workshops:	nduct workshops for interested searchers to explain research policies the reserve.	High
5 Socio-economic Studies:	sist the economists/graduate students in conducting the necessary surveys to determine the benefit of the protected areas to the local economy.	High
	eenline to nduct regular monitoring of Al-ouf Cedar Nature Reserve.	Medium

5.4 ANNUAL WORKPLAN

One of the important means by which the Management Plan will be implemented is by preparation of an Annual Workplan for implementation by the Management Team. It is essential that these Workplans are based on the Management Plan.

The budget process will closely conform to the Management Plan, in particular with the Actions section of Part III. It is recognized that the budget and other constraints may necessitate temporary departure from the order in the list of actions. However, every endeavor will be made to maintain the order of activities set out in the plan.

6.0 FINANCIAL MANAGEMENT

6.1 SOCIO-ECONOMIC CONTEXT

In the relatively short time since the end of the Lebanese civil war there has been a major pulse of development, especially in the rebuilding and modernisation of Beirut. Many Lebanese nationals have returned from overseas to contribute to the re-building of Lebanese society. Lebanese citizens are now enjoying a new degree of affluence and a degree of freedom to travel around the country unknown during the civil war. One consequence is that the Lebanese rural landscape is now much more accessible from the cities, both for exploitation and aesthetic and recreational appreciation.

The economic expansionism of Lebanon has brought with it many threats to the natural landscape, especially the threat from urban development and major quarries. The Al-Shouf Cedar Nature Reserve has already been impacted by several such quarries. Indeed, there are large quarries in the northern section of the Al-Shouf Cedar Nature Reserve, all established prior to the establishment of the reserve but continuing to operate. Additional quarries will continue to represent an on-going threat to the Lebanese rural landscape and in particular the Al-Shouf.

One of the aftermath's of the Lebanese civil war was unexploded mines in parts of the country, including parts of the Al-Shouf. The limited placement of mines north of the Maaser Shouf - Kefraya road had been removed by 2000. However, reportedly extensive mine placements in the Niha Mountain (south of the Maaser Shouf-Kefraya) remain, a factor that will limit public access to the Niha Mountain section for the foreseeable future.

Lebanese citizens appear to be in the process of an increasing interest in re-discovering the remaining natural landscapes of their country for recreational and tourism purposes. This is particularly the case with the remnant cedar forests, the cedar being such a hallowed icon of Lebanon. As the larger cities become increasingly congested, that trend towards re-discovery of the rural landscape is likely to continue.

Subject to political stability, it is likely that Lebanon will continue to enjoy an expanding economy and with it an expanding tourism and recreation industry.

6.2 TOURISM POTENTIAL

The mostly treeless summit of the Al-Shouf Cedar Nature Reserve forms the skyline of a large part of southern Lebanon and gains additional attention in winter with its mantle of snow. The undeveloped landscape of the Al-Shouf Cedar Reserve contrasts with the highly developed landscapes of the Bekaa Valley to the east and the Shouf to the west. The mountains also contain small remnants of forest, especially cedar forests. Public roads provide ready access to several parts of the Al-Shouf.

As such, the mountains provide an attraction for people seeking out the undeveloped landscape. The most accessible of the cedar forests is the small but attractive Maaser Shouf forest on the Maaser Shouf - Kefraya road which was opened to limited public access in the late nineteen nineties. Since then, visitation has grown rapidly to in excess of 50,000 in the 1999 season.

The rate of increase in the level of visitation is just one indicator of the visitor demand for recreational and tourism access to public lands in Lebanon, in particular to cedar forests. There is every reason to believe that the Al - Shouf Cedar Nature Reserve will continue to have appeal to visitors, including as tourists, both national and international.

The challenges for the management of the Al-Shouf Cedar Nature Reserve will be not how to attract visitors but how to manage the anticipated increased visitation in such a way that the **ecology** of the reserve is not impaired and similarly, that **the quality of the visitor experience** is not impaired but is enhanced. Only in this way can tourism to the reserve be managed to the long term benefit of the reserve. Sound planning and sound management will be the means by which tourism will be demonstrated to benefit the reserve.

Great care will need to be taken to avoid conflicts between tourism, especially international tourism, and other legitimate local and national uses such as environmental education and specialised nature based activities such as bird-watching. These issues will be addressed in the preparation and periodic review of a Visitor Management Plan.

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

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

6.3 BUSINESS PLAN

The Al-Shouf Cedar Reserve Management Plan 2000-2005 requires the preparation and annual review of a 10 year **Business Plan** (See Section 2.3 of this plan for relationship between the two plans)

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

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

As indicated in the Management Policies, it is particularly important for the Al-Shouf Cedar Nature Reserve to diversify the sources of funding, which includes avoiding heavy reliance on visitor entrance fees.

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

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

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

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

- Annual Workplan
- Budget and
- Funding Plan

6.4 FUNDING PLAN

A Funding Plan has been prepared for Al-Shouf Cedar Nature Reserve. This plan requires the regular review and implementation of the Funding Plan.

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

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

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

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

7.0 IMPLEMENTATION OF THE MANAGEMENT PLAN

7.1. PLAN REVIEW PROCESS

The preparation of this draft management plan is a requirement of the Protected Areas Project of Lebanon. Following the receipt of comments on this Draft Management Plan, the revised plan will be submitted for Minister of Environment approval in 1999.

In keeping with international practice, the plan will be subject to extensive review within 5 years of ministerial approval. That review will involve community consultation. Prior to review of the plan, the managing authority will have prepared an independent report on performance measured against the objectives.

7.2. MONITORING OF IMPLEMENTATION

The Al-Shouf Cedar Society (or other committee or agency lawfully responsible for the area) will be responsible for regular review of the implementation of the management plan approved by the Minister. They also need to report to the Minister the results of their assessment of progress and make any recommendations they see necessary to improve progress in implementation.

If the Governor of Mount Lebanon during the term of this plan, appoints a Government Committee for the reserve (or other committee or agency lawfully appointed), will be expected to, in collaboration with the Ministry of Environment to:

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

GLOSSARY OF TERMS

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

EEO	Equal Employment Opportunities - a set of guidelines for application of the merit principle in the workplace. The actual contents may vary from place to place but usually aim to ensure that all employees or staff are treated fairly and equally without regard to such things as race, religion, gender or marital status. The merit principle from which it is derived is simply that jobs, employment, tasks, promotions etc. are awarded on merit, to the person most qualified for a task, job etc.
Geo-diversity	The natural non-living geological and geographic diversity, by definition, exclusive of biodiversity. But see Natural Heritage Charter.
GIS	Geographic Information System. (GIS) Usually a computer based system for storing and processing geographic information. A GIS usually has the capability of presenting the information in a map form, including as interactive overlays of information. E.g. vegetation map over geology map.
ICOMOS	International Committee on Monuments and Sites [CHECK]
Karst	A term used to describe the distinctive surface and underground landscape associated with weathered limestone. Karst is characterized by such features as caves, underground drainage, discharge of surface streams to underground voids and caves.
Local Managing NGO	The locally based NGO which has been given official delegation or responsibility for day-to-day management of a protected area under the Protected Areas Program.
MOU	**Memorandum of Understanding:** A document negotiated between two or more organizations or individuals (commonly only 2 parties) to record any matter on which the parties have been able to ‘come to an understanding’ or agreement. An MOU may be a few lines or many pages in length. An MOU may be periodically updated to reflect any progress in additional matters of agreement.
Natural Heritage	Heritage may be defined as the places and things that a people or community regard as part of their inheritance and which they consider worthy of protection. Natural heritage is that part of heritage which is derived from nature as distinct from man-made features or human contrived things.

Natural Heritage Charter	The Australian Natural Heritage Charter. A set of protected area management principles aimed at a precautionary approach to protection of natural heritage values. It has been internationally recognized and is available on the Internet. Copy is at Attachment2
'Net Benefit' Principle	The protected area management principle by which any management action or decision is directed at delivering a net benefit to the protected area, preferably an improvement to the values, integrity or condition.
Precautionary Principle	An internationally used environmental principle which requires that lack of scientific certainty should not be used as an excuse for not taking action to address a know environmental problem. For example, if a species is threatened with extinction, lack of certainty about what is causing the threat should not be a reason for inaction. It is often more widely interpreted in converse for management of protected areas - if you don't know or understand the impacts of a proposed action or development, avoid that action or decision. But see the Natural Heritage Charter.
Rare Species	A species which is very uncommon, either naturally or as a result of human impacts.
Threatened Species	A species which is seen to be threatened with possible extinction if the threat is not removed or controlled. A species may be classified as threatened, even if it is not yet rare.
'User-pays Principle'	The management principle that seeks to transfer the cost of provision of certain services or infrastructure (e.g. visitor facilities) to the people who use and/or receive the most benefit from those services.(e.g. visitors to a protected area being expected to contribute financially to the services or facilities which they enjoy.

Appendix 1

LAW 532

1850 - Official Gazette - No. 33
Dated 29/7/1996
Law No. 532
Establishing a natural protected area (Al-Shouf Cedar)
The Cabinet has ratified and the President has issued the following law.

Single Article - The proposed law that aims to establish a natural protected area (Al-Shouf Cedar) has been legalized as it has been amended by the Committee of Administration and Justice.

This law is considered valid as soon as it is published in the official gazette.

Baabda on July 24, 1996
Signature: Elias Hirawi

Issued by: The President of the Republic
President of the Cabinet
Rafik Al-Hariri (signature)

President of the Cabinet
Rafik Al-Hariri (signature)
Law

Establishing a Natural Protected Area "Al-Shouf Cedar"

First Article:
The public properties of the villages of Niha, Jbaa, Mresti, Khreibeh, Maaser, Barouk, Bmohray, Ain Darah and Ain Zhalta are considered as Natural Protected Area in addition to the properties of the east side of Barouk Mountain, the mentioned public properties are located within the borders shown below:

North: Public properties of Ain Darah town
East: The borders of the public properties of the following villages:
Niha, Jbaa, Mresti, Maaser, Barouk, Bmohray, Ain Zhalta and Ain Darah of the east side of Barouk Mountain.
South: Borders of the public properties of Niha town via Jezzine.
East: Borders of the private properties of the villages of Niha, Jbaa, Mresti, Khreibeh, Maaser, Barouk, Bmohray, Ain Darah and Ain Zhalta

Second Article:
Aiming to preserve the wood, plant and animal wealth in the natural protected area; hence cutting , investing or industrializing trees of seedlings within the protected area is prohibited by law whatever their kinds.

The Third Article:
Livestock (cattle) are not allowed to enter the protected area aiming to protect its soil and plants.

The Fourth Article:
It is prohibited to take away and remove any yields or produces from the protected area such as removing or drawing out stones or sand or metal or water, or grass or flowers or herbage or green leaves or natural fertilizers from the wood land , or the various seeds or other fruits and the other produces or contents of the protected area unless for scientific research which aims to improve the ecology of the protected area.

The Fifth Article:
It is prohibited to do or perform any act that may lead to trouble in the protected area ecosystem and in particular:

1. Setting fire or burning the grass and others such as plants and natural wastes which exist in the protected area or (within) less than 500 meters of its border.
2. Wild hunting in the protected area or within a distance less than 500 meters of its border.
3. Camping in the protected lands or throwing the wastes etc…….
4. Every act that may damage the protected area or deforms its natural sights or destroys its resources.

The Sixth Article:
Every text law and all the operative international agreements are applied within the protected area, and in particular those which focus on the environment protection, the wood values and the natural beauty.

The Seventh Article:
The grass (herbs) and the cut or industrialized wood are confiscated and sold by auction to the benefit of the protected area committee where those materials are extracted. The violators are judged and taken to prison for a period ranging between three months and three years and with a fine equal to two million five hundred Lebanese pounds for each cut tree and one hundred thousand Lebanese pounds for each kilogram of wood or firewood and two hundred thousand for each industrialized box and one hundred and fifty thousand Lebanese pounds for each kilogram of any industrialized substances.

The Eighth Article:
Each person who permits cattle to get into the protected area is punished by a fine equal to two hundred fifty thousand Lebanese pounds per head and put into jail for a period ranging from two to six months.

The Ninth Article:
Each person that breaks, spoils or transfers any of the protected land produce or removes the border signs is punished by a fine ranging from one hundred thousand Lebanese pounds to one million Lebanese pounds and enter the prison for fifteen days to six months.

Each person who sets fire in the protected area is punished by entering the prison for a juration ranging from one month to two years. Punishment must meet with the damages estimated by the court. In the case of there being two punishments for the same offense with different texts, the extreme punishment is applied.

The Tenth Article:
In all circumstances, and in addition to the above mentioned punishments it is judged that, the taken or cut wood material that was used to commit the breach must be returned and the saws, axes, cutters, the other devices, materials and the transportation means must be confiscated. The confiscated materials and fines are to be returned to the mentioned protected area committee.

The Eleventh Article:
By a resolution issued by the Governor of Mount Lebanon (Mouhafez) and after consulting the Minister for Environment a committee of seven volunteer members is appointed for three years to insure the protection and controlling works and make available the studies and scientific research in order to ecologically rehabilitate the land.

Appointing the members of the protected land must take into consideration the representation of the area municipalities and those who have in-depth experience in ecology.

The Twelfth Article:
This law is considered valid as soon as published in the official gazette.

Appendix 2

AUSTRALIAN NATURAL HERITAGE CHARTER

Published by the Australian Heritage Commission in association with the Australian Committee for IUCN
GPO Box 528
SYDNEY NSW 2001
Australia

National Library of Australia cataloguing-in-publication data:

Australian Natural Heritage Charter for the conservation of places of natural heritage significance: standards and principles.

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Production art by David Heacock
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Contents

Preamble

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

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

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

U R P O S E

PURPOSE

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

ETHOS OF THE CHARTER

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

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

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

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

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

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

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

C O N S E R V A T I O N P R A C T I C E

How to use the Australian Natural Heritage Charter

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

Important

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

Obtain and study evidence about the place from:
- Documents and studies
- Local knowledge and experience

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

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

Who else may be able to help?
Article 32

Determine the natural significance of the place.

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

Assess the physical condition and management realities.
What are the constraints and opportunities which will influence conservation of the place?
Article 2

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

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

Decide on responsibilities for decisions, approvals and actions.
Article 30

Formulate the conservation plan.
How will we make it happen?
Article 30

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

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

Definitions A

ALPHABETICAL REFERENCE TO THE DEFINITIONS

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

G E N E R A L

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

GENERAL

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

VALUES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

DEGRADATION AND DISTURBANCE

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

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

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

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

CONSERVATION PROCESSES

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

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

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

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

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

1.24 and 1.26.
The time frame that would apply to the past state as reference for restoration and reinstatement is not specified; this should be determined for each situation through the conservation policy.

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

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

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

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

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

ACTIONS

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

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

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

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

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

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

B Conservation Principles

BASIS OF CONSERVATION

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

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

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

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

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

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

CONSERVATION POLICY

Article 6 The *conservation* policy appropriate to a *place* should first be determined by an understanding of its *natural significance* and should state the desired future condition of the place.

Article 7 A statement of *natural significance* is central to the *conservation* policy and *conservation* strategy for a place. A statement of *natural significance* is central to the conservation policy and *conservation* strategy for a place.

Article 8 The *conservation* policy should determine uses that are compatible with the *natural significance* of a *place*.

Article 9 The *conservation* policy should include consideration of *ecological processes* that extend beyond the stated boundaries of a place.

REMOVAL OF ELEMENTS

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

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

Article 11 The destruction of elements of *habitat* or *geo-diversity*, which form part of the *natural significance* of a place, is unacceptable unless it is the sole means of ensuring the security of the wider *ecosystem*.

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

C

REGENERATION

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

Article 12.
(i) See also the note at Article 1.23 concerning assisted regeneration.
(ii) 'Conservation management of a non-physical nature' may include actions such as placing a protective covenant on a title to land, reserving the place as a nature reserve or placing interpretative signs at the place about its natural significance.

RESTORATION

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

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

ENHANCEMENT

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

Article 14. Examples of enhancement include:
- raising the numbers of a species to that needed for a viable self-perpetuating community;
- returning an element of habitat that has been seriously depleted, e.g. adding gravel material to expand the shallows and riffles of a stream that has been deepened or mined.

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

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

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

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

REINSTATEMENT

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

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

PRESERVATION

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

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

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

MODIFICATION

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

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

Article 21.
See Articles 6-9.

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

MAINTENANCE

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

D Conservation Practice

OBTAINING INFORMATION ABOUT A PLACE

Article 24.
(i) The minimum information required before work or other conservation action or processes are commenced at a place is identification of its natural significance.
Article 25. If the place appears to have features of cultural heritage significance, reference may also be made to the Australia ICOMOS Charter for the Conservation of Places of Cultural Heritage Significance (known as the 'Burra Charter').

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

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

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

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

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

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

CONSERVATION POLICY

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

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

CONSERVATION PLAN

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

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

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

CONSULTATION

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

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

RECORDS

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

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

MONITORING

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

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

C O

Background

DEVELOPMENT OF THE CHARTER

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

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

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

PURPOSE OF THE CHARTER

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

ADMINISTRATION AND FUTURE REVIEW

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

ADDRESS FOR COPIES AND COMMENTS

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

Australian Committee for IUCN

Postal GPO Box 528, Sydney, New South Wales 2001, Australia

Fax (02) 9262 3768; Int: +61 2 9262 3768

E-mail aciucn@ozemail.com.au

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

Appendix 3

THE 'BURRA CHARTER'

ICOMOS Australia Charter for the Conservation of Places of Cultural Significance

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Appendix 4

ACTIVITIES TABLE

AL-SHOUF CEDAR NATURE RESERVE

MANAGEMENT PLAN 2000-2005

NORTH ZONE
(North Of Maaser Shouf - Kefraya Road)

Activity/Development	No Permit Required	Permit required	Prohibited by Plan
Photography - Amateur			
Photography - Professional			
Bird-watching			
Walking - tracks/off tracks			
Picnicking			
Skiing			
Mountain biking	On formed roads		Off roads
Educational group visits	Booking needed		
Camping			
Fires (all fires)			Except for mgt. purposes
Research			
Wood, soil, rock collecting			
Grazing of domestic animals		Fire managmt. purposes only	

Quarrying - new		
Roads - new		
Roads - minor upgrade	Impact Assess.	
Hunting and trapping		
Private vehicles	Public roads only	
Commercial bus concessions		
Buildings		
Buildings- public overnight.		

AL-SHOUF CEDAR NATURE RESERVE (Contd.)

NIHA MOUNTAIN (SOUTH) ZONE
(south of Maaser Shouf - Kefraya Road)

Activity/Development	No Permit Required	Permit required	Prohibited by Plan
All Walking Access		**DANGER* MINES**	
Photography - Amateur			
Photography - Professional			
Birdwatching			
Walking on tracks			
Picnicking			
Skiing			**DANGER***
Mountain biking		On roads	Off roads
Educational group visits			
Camping			
Fire (light or maintain)			
Wood, soil, rock collecting			
Grazing of domestic stock		Short term fire management.	
New Quarrying			
Roads - minor upgrade		Impact Assess.	
Roads - new			
Hunting and trapping			

NIHA MOUNTAIN (SOUTH) ZONE (contd.)

Motorized private vehicles	Public roads only		
Commercial bus concessions			
New buildings - Private			
Buildings- public overnight.			
Research			

* Extensive parts of the Niha Mountain section of Al-Shouf Nature Reserve contain buried land mines.

Appendix 5

PLANT SPECIES LIST
FOR AL-SHOUF CEDAR NATURE RESERVE

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

LEGEND

A1: THREATENED SPECIES AT NATIONAL AND INTERNATIONAL LEVELS
A2: ENDEMIC SPECIES
B3: RARE SPECIES
B4: SPECIES THAT ARE WHOLLY OR PARTIALLY RESTRICTED TO EAST MEDITERRANEAN REGION
B5: LOCALISED SPECIES WITHIN THE RESERVE
B6: SPECIES THAT ARE PREFERABLY CUT BY LOCAL PEOPLE
C7: HIGHLAND SPECIES
C8: BIO-INDICATOR SPECIES
C9: ECONOMIC SPECIES (MEDICINAL (M), FODDER (F))
D10: COMMON SPECIES
D11: WIDESPREAD SPECIES IN THE WORLD OR EUROPE OR ASIA AND AROUND THE MEDITERRANEAN.

INVENTORY

PRIORITIES	A	A		B	B	B	B		C	C	C		D	D
	1	2		3	4	5	6		7	8	9		10	11
PINACEAE														
Cedrus libani					+		+		+					
CUPRESSACEAE														
Juniperus oxycedrus							+		+		M		+	+
Arceuthos drupacea	+				+	+	+		+					
POACEAE (GRAMINEAE)														
Themeda trianda syriaca					+									
Hyparrhenia hirta	+										F			+
Phalaris brachystachys														+
Phalaris bulbosa										+				+
Stipa bromoides										+	F			+
Stipa barbata	+										F			+
Oryzopsis miliacea											F		+	+
Oryzopsis holciformis blancheana					+								+	
Milium pedicellare					+								+	
Milium trichopodum					+					+				
Heleochloa acutiglumis		+								+				
Alopecurus anthoxanthoides					+									+
Phleum montanum					+				+	+	F			
Phleum nodosum										+				+
Gastridium ventricosum										+	F			+
Eragrostis pilosa	+			+										+
Corynphorus deschampsioides		+								+				
Pilgerochloa blanchei	+	+									F			

Trisetaria flavescens											F			+
Arrhenatherum elatius	+			+			+		+		F			+
Arrhenatherum palaestinum					+						F		+	
Arrhenatherum kotschyi	+			+	+		+							
Melica inaequiglumis	+			+							F			+
Melica ciliata laxiflora	+										F			+
Cynosurus coloratus										+	F			+
Dactylis glomerata hispanica										+	F			+
Poa diversifolia					+				+		F			
Poa silvicola										+				+
Poa persica alpina					+									
Briza maxima										+	F			+
Bromus tomentellus					+				+		F			
Bromus tectorum													+	+
Bromus japonicus				+										+
Agropyron panormitanum									+		F			+
Agropyron libanoticum		+									F		+	
Heteranthelium piliferum					+				+					
Aegilops ovata														+
Taeniatherium crinitum					+						F			
CYPERACEAE														
Cyperus flavescens										+				+
Scirpus holoschoenus														+
Blysmus compressus										+				+
Carex stenophylla														+
Carex divisa										+				+
Carex flacca										+				+
JUNCACEAE														
Juncus capitatus										+				+
LILIACEAE														
Colchicum decaisnei +					+					+				
Colchicum hierosolymitanum					+									
Colchicum brachyphyllum					+									
Asphodelus microcarpus +											M			+
Asphodeline brevicaulis druzorum					+									
Gagea anisanthos					+									
Gagea peduncularis					+									
Gagea micrantha		+												
Gagea reticulata														+
Tulipa aucheriana westii		+												
Tulipa lownei		+												
Tulipa montana					+									
Fritillaria crassifolia	+					+								
Fritillaria libanotica					+									
Scilla hyacinthoides						+								+
Scilla cilicica					+									
Ornithogalum billardieri					+				+					
Ornithogalum neurostegium					+						F			
Puschkinia scilloides libanotica		+												
Hyacinthus orientalis					+									
Bellavalia macrobotrys					+									
Bellavalia hermonis		+												
Bellavalia flexuosa					+									

Muscari neglectum														+
Muscari commutatum											F			+
Allium rotundum														+
Allium affine					+				+					
Allium arvense													+	+
Allium stamineum					+									
Allium rupicolum				+	+				+					
Allium feinbergii		+												
Allium libani		+												
Allium trifoliatum														+
AMARYLLIDACEAE														
Sternbergia clusiana +					+									
Ixiolirion tataricum B									+					+
IRIDACEAE														
Iris histrio					+									
Romulea bulbocodium														+
Romulea nivalis		+												
ORCHIDACEAE														
Cephalanthera longifolia	+													+
Epipactis consimilis	+				+					+				
Ophrys fuciflora	+													+
Orchis anatolica +	+				+									
Orchis tridentata +	+													+
Orchis romana libanotica +	+	+					+							
Anacamptis pyramidalis	+													+
Himantoglossum affine	+			+	+		+							
SALICACEAE														
Salix libani					+									
BETULACEAE														
Alnus orientalis					+									
FAGACEAE														
Quercus infectoria latifolia					+									
Quercus brantii look					+		+							
Quercus calliprinos													+	+
SANTALACEAE														
Osyris alba														+
ARISTOLOCHIACEAE														
Aristolochia altissima				+		+	+							+
Aristolochia poecilantha +					+									
Aristolochia scabridula +		+												
POLYGONACEAE														
Rumex nepalensis														+
Polygonum kitaibelianum					+						F			
Polygonum cognatum														+
Polygonum cedrorum		+												
Atraphaxis billardieri					+									
CHENOPODIACEAE														
Chenopodium foliosum														+
Atriplex lasiantha									+					+
AMARYNTHACEAE														
Amarynthus retroflexus														+
PHYTOLACCACEAE														
Phytolacca pruinosa					+	+								

CARYOPHYLLACEAE														
Telephium imperati orientale					+					+				
Herniaria incana														+
Paronychia echinata										+				+
Minuartia meyeri					+									
Minuartia globulosa					+									
Minuartia intermedia														+
Minuartia hamata									+					+
Arenaria leptoclados														+
Holosteum umbellatum														+
Cerastium dichotomum														+
Cerastium inflatum					+									
Cerastium brachypetalum roeseri														+
Silene aegyptiaca +										+			+	+
Silene italica														+
Silene longipetala					+									
Silene damascena +		+							+					
Silene makmeliana		+												
Silene libanotica					+				+					
Velezia rigida														+
Dianthus strictus multipunctatus					+								+	+
Dianthus strictus subenervis					+									
Dianthus micranthus					+				+					
Dianthus libanotis					+				+					
Dianthus karami		+												
BERBERIDACEAE														
Berberis libanotica									+		M		+	+
PAEONIACEAE														
Paeonia mascula	+			+			+							+
RANUNCULACEAE														
Delphinium peregrinum +					+									
Consolida rigida +					+									
Anemone blanda					+									
Myosurus minimus														+
Ficaria ficaroides					+					+	M			
Ranunculus hierosolymitanus +					+									
Ranunculus cuneatus					+				+					
Ranunculus schweinfurthii		+												
PAPAVERACEAE														
Glaucium leiocarpum					+				+					
Fumaria asepala +					+									
Papaver umbonatum						+								
Hypecoum imberbe					+									
Corydalis rutifolia					+				+					
Corydalis solida brachyloba		+												
BRASSICACEAE (CRUCIFERAE)														
Gardaria chalepensis					+									
Biscutella ciliata +														+
Thlaspi brevicaule		+												
Thlaspi microstylum					+				+					
Isatis lusitanica (aleppica) +					+									
Peltaria angustifolia					+								+	
Barbarea minor					+				+	+				
Nasturtium macrocarpum		+												

Cardamine graeca										+				+
Erophila setulosa +					+								+	
Arabis verna										+				+
Arabis aucheri					+					+				
Arabis caucasica					+				+					
Erysimum repandum														+
Erysimum goniocaulon					+									
Anchonium billardieri		+												
Alyssum contemptum					+				+					
Alyssum mouradicum					+				+					
Alyssum repens					+				+					
Alyssum stribrnyi										+				+
Alyssum baumgartnerianum					+				+					
Alyssum condensatum					+				+					
Alyssum murale									+		F			+
Fibigia eriocarpa					+					+				
Clypeola jonthlaspi														+
Hesperis pendula					+					+				
CRASSULACEAE														
Umbilicus erectus					+									
Sedum tenuifolium +										+				+
Rosularia libanotica													+	+
ROSACEAE														
Rosa canina											M			+
Rosa glutinosa									+					+
Rubus tomentosus														+
Rubus collinus														+
Prunus ursina					+									
Prunus mahaleb														+
Prunus prostrata														+
Prunus microcarpa					+									
Amygdalus korschinskii					+				+					
Pirus syriaca					+									
Sorbus flabellifolia					+				+					
Sorbus torminalis														+
Crataegus azarolus					+									
Crataegus monogyna											M		+	+
Potentilla geranioides syriaca		+												
Geum urbanum									+		M			+
Poterium spinosum														+
FABACEAE (PAPILIONACEAE)														
Lupinus hirsutus														+
Spartium junceum											M			+
Cytisus syriacus		+								+			+	
Ononis natrix											F		+	+
Ononis adenotricha					+						F			
Ononis pusilla									+					+
Trigonella berythea					+					+				
Trigonella spinosa					+								+	
Trigonella brachycarpa aucheri					+				+					
Medicago minima											F			+
Medicago falcata +														+
Medicago sativa +	+										F			+
Medicago x varia														+

Medicago lupulina										F			+

Trifolium plebium		+							+	+				
Trifolium pauciflorum					+									
Trifolium medusaeum		+												
Trifolium fragiferum										+				+
Trifolium physodes	+									+	F			+
Trifolium speciosum										+				+
Trifolium boissieri					+									
Trifolium campestre										+				+
Anthyllis maura						+			+					+
Hymenocarpus circinatus														+
Lotus tenuis +										+				+
Lotus corniculatus alpinus									+		M			+
Lotus gebelia					+						F			
Lotus angustissimus										+				+
Securigera securidaca														+
Colutea cilicica +					+				+		M			
Astragalus emarginatus		+												
Astragalus pinetorum					+				+					
Astragalus gummifer											M		+	+
Astragalus echinus					+				+		F			
Astragalus zachlensis		+												
Astragalus cruentiflorus		+												
Astragalus drusorum maroniticus					+									
Astragalus sofarensis		+							+					
Astragalus coluteoides		+							+					
Astragalus hermoneus		+												
Hippocrepis unisiliquosa														+
Vicia narbonensis +										+				+
Vicia tenuifolia														+
Ervum orientale					+									
Lathyrus nissolia				+										+
Lathyrus hierosolymitanus +					+									
Lathyrus digitatus +	+				+						F			
Lathyrus inermis					+					+				
Lathyrus libani		+		+						+				
GERANIACEAE														
Erodium acaule +										+				+
Erodium cicutarium +														+
Erodium gruinum +					+									
Geranium libanoticum		+												
Geranium libani					+									
LINACEAE														
Linum nodiflorum														+
Linum pubescens					+								+	
Linum bienne											M		+	+
POLYGALACEAE														
Polygala supina					+									
ANACARDIACEAE														
Rhus coriaria											M			+
ACERACEAE														
Acer tauricolum					+									
EUPHORBIACEAE														
Euphorbia aulacosperma					+									

MALVACEAE														
Alcea kurdica coelesyriaca					+									
Alcea digitata +					+									
HYPERICACEAE (GUTTIFERAE)														
Hypericum hircinum										+				+
Hypericum thymifolium					+									
Hypericum scabrum					+				+					
Hypericum libanoticum		+												
Hypericum montbretii					+					+				
CISTACEAE														
Helianthemum ledifolium														+
Halimium umbellatum syriacum		+												
RHAMNACEAE														
Rhamnus punctata					+									
Rhamnus cathartica											M			+
THYMELAEACEAE														
Daphne oleoides +									+					+
APIACEAE (UMBELLIFERAE)														
Chaerophyllum macrospermum						+			+					+
Anthriscus lamprocarpa					+									
Scandix pecten-veneris										+				+
Scandix stellata														+
Torilis leptophylla													+	+
Turgeniopsis foeniculacea					+									
Turgenia latifolia											F			+
Pimpinella tragium														+
Danaa cornubiensis										+				+
Hippomararthrum boissieri					+									
Lecoquia cretica					+									
Sison exaltatum		+												
Foeniculum vulgare +											M			+
Cnidium orientale					+				+					
Bupleurum gerardii														+
Bupleurum linearifolium irregulare					+				+					
Peucedanum depauperatum					+				+					
ERICACEAE														
Rhododendron ponticum brachycarpum		+					+			+				
PRIMULACEAE														
Cyclamen coum					+					+				
Cyclamen persicum														+
Androsace maxima														+
PLUMBAGINACEAE														
Acantholimon libanoticum		+							+					
Acantholimon ulicinum					+				+					
STYRACACEAE														
Styrax officinalis					+						M			
APOCYNACEAE														
Vinca libanotica					+						M			
GENTIANACEAE														
Blackcstonia perfoliata										+				+
CONVOLVULACEAE														
Convolvulus dorycnium oxysepalus					+									
Convolvulus scammonia +					+						M			

Convolvulus libanoticus		+								F			

CUSCUTACEAE														
Cuscuta approximata														+
Cuscuta planiflora														+
Cuscuta balansae					+									
Cuscuta monogyna														+
BORAGINACEAE														
Cynoglossum nebrodense									+					+
Onosma frutescens					+									
Onosma sericia +					+									
Brunnera orientalis					+				+					
Myosotis refracta										+				+
Symphytum palaestinum					+									
LAMIACEAE (LABIATAE)														
Ajuga tridactylites palaestina +					+				+					
Teucrium stachyophyllum					+									
Teucrium scordioides														+
Teucrium polium										+	M			+
Scutellaria tomentosa					+									
Scutellaria brevibracteata					+					+				
Scutellaria utriculata		+												
Lavandula stoechas											M			+
Marrubium radiatum					+									
Nepeta italica														+
Nepeta curviflora					+					+				
Nepeta cilicica					+				+					
Sideritis libanotica					+				+					
Lallemantia iberica					+					+				
Prunella vulgaris										+	M			+
Prunella orientalis					+					+				
Eremostachys laciniata					+					+	M			
Phlomis brevilabris		+												
Phlomis chrysophylla					+									
Phlomis rigida					+									
Lamium striatum +					+				+					
Lamium amplexicaule														+
Lamium truncatum					+					+				
Ballota saxatilis					+									
Stachys hydrophylla		+												
Stachys distans					+						F		+	
Salvia multicaulis +					+									
Salvia tomentosa					+									
Salvia microstegia					+				+					
Salvia viscosa					+									
Micromeria myrtifolia							+				M			+
Micromeria graeca														+
Calamintha rotundifolia							+							+
Ziziphora canescens					+				+					
Ziziphora capitata														+
Origanum ehrenbergii	+	+					+							
Origanum syriacum	+						+				M			+
SOLANACEAE														
Solanum dulcamara +											M			+
Datura stramonium										+	M			+
Hyoscyamus reticulatus					+									

SCROPHULARIACEAE														
Verbascum orientale														+
Verbascum tiberiadis					+									
Verbascum cedreti					+									
Verbascum tripolitanum					+									
Verbascum gaillardotii					+					+				
Verbascum leptostachyum		+												
Anarrhinum orientale					+									
Kickxia sieberi														+
Linaria chalepensis +														+
Scrophularia rubricaulis					+									
Veronica polifolia					+				+					
Veronica syriaca +					+									
Veronica cymbalaria +														+
Veronica orientalis					+									
Parentucellia latifolia +														+
OROBANCHACEAE														
Orobanche camptolepis					+									
RUBIACEAE														
Rubia aucheri					+									
Sherardia arvensis +														+
Crucianella macrostachya					+									
Crucianella ciliata					+				+					
Asperula arvensis														+
Asperula glareosa					+				+					
Asperula libanotica		+												
Asperula breviflora		+												
Galium incanum					+				+					
Galium libanoticum					+				+					
Galium verum											M			+
Galium peplidifolium					+				+	+				
Galium hierosolymitanum					+									
Galium murale														+
Galium verticillatum														+
Cruciata coronata					+									
CAPRIFOLIACEAE														
Lonicera etrusca														+
Lonicera nummulariifolia									+					+
VALERIANACEAE														
Valeriana dioscoridis +					+									
Centranthus longiflorus					+				+					
Valerianella dactylophylla +					+									
Valerianella echinata														+
DIPSACACEAE														
Morina persica					+				+	+				
Cephalaria stellipilis					+									
Cephalaria cedrorum		+												
Scabiosa argentea														+
Scabiosa palaestina					+									
CUCURBUTACEAE														
Bryonia multiflora					+									
Bryonia syriaca					+									

CAMPANULACEAE														
Campanula cymbalaria					+					+				
Campanula stricta libanotica					+				+					
Campanula peregrina					+					+				
Asyneuma rigidum					+				+					
Legousia pentagonia					+									
ASTERACEAE (COMPOSITAE)														
Eupatorium cannabinum											M			+
Pulicaria auranitica					+	+			+					
Gnaphalium luteo-album										+				+
Helichrysum c. conglobatum +	+			+					+					
Helichrysum pallasii					+				+					
Filago anatolica					+				+					
Tagetes minuta														+
Achillea kotschyi														+
Anthemis tinctoria discoidea														+
Anthemis cretica cassia					+				+					
Tanacetum cilicium					+									
Tanacetum aucheri					+					+				
Doronicum orientale									+					+
Senecio vernalis +														+
Senecio doriiformis doriiformis					+				+					
Siebera pungens					+									
Carlina involucrata libanotica					+									
Notobasis syriaca													+	+
Ptilostemon diacantha		+												
Onopordum cynarocephalum					+									
Serratula pusilla					+									
Centaurea triumfetti					+									
Lapsana communis ramosissima					+									
Leontodon tuberosus														+
Leontodon asperrimus					+									
Picris strigosa					+									
Tragopogon longirostris					+									
Tragopogon buphthalmoides					+								+	
Scorzonera cana														+
Scorzonera mollis														+
Taraxacum syriacum									+					+
Taraxacum officinale +									+	+	M			+
Taraxacum aleppicum					+									
Steptorhamphus tuberosus					+									
Cicerbita mulgedioides					+	+								
Cephalorrhynchus tuberosus					+					+				
Crepis hierosolymitanum					+									
Crepis reuteriana					+									

Appendix 6

MAMMAL SPECIES LIST FOR AL-SHOUF NATURE RESERVE

LEGEND

A1: GLOBALLY THREATENED SPECIES
A2: LOCALLY THREATENED SPECIES
A3: ENDEMIC SUBSPECIES
B4: SPECIES THAT ARE MAINLY OR WHOLLY RESTRICTED TO MIDDLE EAST
B5: RARE SPECIES
B6: SPECIES THAT ARE PERSECUTED BY LOCAL PEOPLE
C7: SPECIES RESTRICTED TO AL-SHOUF CEDAR RESERVE
C8: BIO-INDICATOR SPECIES
C9: ECONOMIC SPECIES
D10: EXTINCT SPECIES
D11: COMMON SPECIES

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

Priorities	A	A	A		B	B	B		C	C	C		D	D
	1	**2**	**3**		**4**	**5**	**6**		**7**	**8**	**9**		**10**	**11**
INSECTIVORES														
Erinaceus europaeus concolor					+		+			+	+			+
Crocidura russula							+				+			
CHIROPTERA														
Rhinolophus ferrumequinum ferrumequinum	+					+	+				+			
Rhinolophus hipposideros minimus	+				+	+	+				+			
Tadarida teniotis						+	+				+			
Myotis blythi omari					+	+	+				+			
Pipistrellus pipistrellus pipistrellus	+					+	+				+			
Pipistrellus kuhli ikhawanius	+				+		+				+			
CARNIVORES														
Canis aureus syriacus					+		+			+				+
Canis lupus pallipes	+	+			+	+	+							
Vulpus vulpus palaestina					+		+			+				+
Martes foina syriaca					+		+							
Vormela peregusna syriaca	+				+		+							
Mustela nivalis						+								
Meles meles canescens	+						+							
Hyaena hyaena syriaca	+				+		+			+				
Felis silvestris tristrami		+				+	+							
Felis chaus		+					+							
Caracal caracal schmitzi ?	+				+	+								
ARTIODACTYLS														
Sus scrofa lybicus					+						+			
Dama dama ?													+	
LAGOMORPHA														
Lepus capensis syriacus					+		+				+			
RODENTIA														
Sciurus anomalus syriacus	+				+		+							
Hystrix indica indica							+				+			
Eliomys melanurus	+				+									
Spalax leucodon ehrenbergi					+					+				+
Apodemus mystacinus mystacinus					+									
Apodemus sylvaticus							+							
Cricetulus migratorius cinerascens	+													
Meriones tristrami tristrami					+									
Microtus nivalis hermonis					+									
Microtus guentheri guentheri					+					+				+

Appendix 7

AMPHIBIANS AND REPTILE LIST FOR AL-SHOUF CEDAR NATURE RESERVE

LEGEND

A1: GLOBALLY THREATENED SPECIES
A2: REGIONALLY AND NATIONALLY THREATENED SPECIES
B3: ENDEMIC SPECIES
B4: RARE SPECIES IN LEBANON
B5: MONOSPECIFIC SPECIES AND/ OR RESTRICTED SPECIES TO AL SHOUF CEDAR NATURE RESERVE
B6: PERSECUTED SPECIES
C7: EXTINCT SPECIES FROM LEBANON
C8: BIO-INDICATOR SPECIES
C9: ECONOMIC SPECIES
D10: COMMON AND WIDESPREAD SPECIES
D11: SPECIES THAT ARE FOUND AROUND THE ATLANTIC OR THE MEDITERRANEAN

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

Priorities	A	A		B	B	B	B		C	C	C		D	D
	1	2		3	4	5	6		7	8	9		10	11
PHIBIA														
lela														
Salamandra infraimmaculata infraimmaculata		+								+			+	
ra														
viridis		+								+			+	
Rana levantina		+								+	+		+	
Hyla savignyi		+								+			+	
TILIA														
Testudinidae														
Testudo graeca terrestris		+											+	
konidae														
Hemidactylus turcicus ?		+					+						+	
Ptyodactylus puiseuxi ?		+					+						+	
naeleonidae														
naeleo chamaeleon	+	+					+			+				
nidae														
akia stellio stellio							+						+	
rtidae														
Lacerta laevis laevis		+											+	
Lacerta kulzeri				+	+									
Lacerta media				+						+			+	
Ophisops elegans										+			+	
cidae														
Ablepharus budaki budaki ?										+				
Mabuya vittata													+	

bridae														
Coluber jugularis asianus		+					+						+	
Coluber najadum ?		+					+							
Coluber rubriceps		+					+						+	
Elaphe quatuorlineata		+			+								+	
Malpolon monspessulana		+					+						+	
Natrix tessellata tessellata		+					+			+			+	
ridae														
a palestinea ?		+					+						+	
a libetina ?		+					+						+	

Appendix 8

BIRD LIST FOR AL-SHOUF CEDAR NATURE RESERVE

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

Priorities	D	D	D	C	C	C	C	B	B	B	B	B	B	B	A	A
PELECANIDAE	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
Pelecanus onocrotalus(1)	+								+					+		
CICONIIDAE																
Ciconia ciconia(2)		+			+			+	+						+	
Ciconia nigra(2)	+				+			+	+					+		
ACCIPITRIDAE																
Aquila clanga				+	+			+						+		+
Aquila heliaca(2)				+				+					P	+		+
Falco naumanni(2)				+	+			+					F	+		+
Aegypius monachus(2)	+			+				+						+	+	
Accipiter brevipes(2)		+		+	+			+					F	+	+	
Pernis apivorus(2)								+						+	+	
Neophron percnopterus(2)	+			+				+					F		+	
Gyps fulvus(2)	+			+	+			+					pF		+	
Aquila pomarina(2)	+			+				+							+	
Falco cherrug(2)	+			+				+							+	
Falco biarmicus(2)	+			+				+					p		+	
Hieraaetus pennatus	+			+				+				+	+	+		
Circaetus gallicus	+			+				+					+	+		
Falco eleonorae		+		+				+						+		
Circus aeruginosus				+				+					p			
Accipiter nisus				+	+			+					p			
Aquila chrysaetos	+			+				+					pF			

Hieraaetus fasciatus	+			+				+					+			
Falco peregrinus	+			+				+					p			
Milvus migrans	+			+				+								
Circus pygargus				+				+								
Accipiter gentilis				+				+								
Buteo rufinus	+			+				+								
Falco columbarius				+				+								
Falco tinnunculus	+			+												
Aquila nipalensis	+			+												
Buteo buteo				+												
Falco subbuteo				+												
PHASIANIDAE																
Alectoris chukar	+			+										+		
Alectoris graecea		+		+		+										
Coturnix coturnix		+		+												
GRUIDAE																
Anthropoides virgo(2)								+						+	+	
Grus grus(2)	+							+	+							
SCOLOPACIDAE																
Scolopax rusticola	+			+				+						+		
COLUMBIDAE																
Columba palumbus				+				+					p			
Streptopelia turtur	+			+				+								
Columba livia				+												
CUCULIDAE																
Clamator glandarius				+	+			+					+			
Cuculus canorus				+	+			+					+			
TYTONIDAE																
Tyto alba	+			+	+			+								
STRIGIDAE																
Asio otus				+				+					p			
Strix aluco				+	+			+								
Athene noctua	+			+												
Otus scops		+		+												
CAPRIMULGIDAE																
Caprimulgus europaeus		+		+												
APODIDAE																
Apus pallidus				+				+				+	+			
Apus melba				+								+				
Apus affinis				+									F			
Apus apus				+												
ALCEDINIDAE																
Halcyon smyrnensis								+					p			
MEROPIDAE																
Merops apiaster	+												p	+		
CORACIIDAE																
Coracias garrulus		+						+					p			
UPUPIDAE																
Upupa epops				+												
PICIDAE																
Dendrocopus syriacus				+	+			+								
Jynx torquilla	+							+								

ALAUDIDAE																
Melanocorypha calandra	+							+				+				
Calandrella rufescens	+							+				+				
Melanocorypha bimaculata								+				+				
Calandrella brachydactyla	+							+								
Alauda arvensis	+												F			
Galerida cristata	+															
Lullula arborea		+														
Eremophila alpestris																
HIRUNDINIDAE																
Ptyonoprogne rupestris				+										+		
Riparia riparia	+			+									p			
Hirundo rustica	+			+												
Hirundo daurica				+												
Delichon urbica				+												
MOTACILLIDAE																
Anthus cervinus														+		
Motacilla flava				+								+	+			
Motacilla cinerea				+								+	+			
Anthus similis								+								
Motacilla alba				+												
Anthus campestris	+															
Motacilla alba				+												
Anthus trivialis																
Anthus pratensis																
Anthus spinoletta																
PYCNONOTIDAE																
Pycnonotus xanthopygos			+		+									+		
TROGLODYTIDAE																
Troglodytes troglodytes																
PRUNELLIDAE																
Prunella modularis																
TURDIDAE																
Oenanthe pleschanka					+								p	+		
Oenanthe isabellina					+									+		
Turdus pilaris				+										+		
Monticola saxatilis	+													+		
Luscinia luscinia														+		
Saxicola rubetra														+		
Irania gutturalis			+					+			+		F			
Oenanthe lugens					+								p			
Turdus philomelos				+				+								
Turdus iliacus				+				+								
Turdus viscivorus				+				+								
Oenanthe hispanica		+			+											
Oenanthe finschii			+		+											
Oenanthe oenanthe					+											
Oenanthe deserti					+											
Turdus torquatus				+												
Turdus merula				+												
Phoenicurus phoenicurus		+														
Saxicola torquata	+															
Monticola solitarius	+															

Cercotrichas galactotes																
Erithacus rubecula																
Luscinia megarhynchos																
Phoenicurus ochruros																
SYLVIDAE																
Sylvia melanothorax		+			+									+		
Sylvia rueppelli					+								p	+		
Phylloscopus sibilatrix													F	+		
Hippolais languida			+											+		
Hippolais olivetorum		+												+		
Phylloscopus sibilatrix													F	+		
Hippolais icterina														+		
Regulus regulus								+			+					
Sylvia borin					+			+								
Sylvia hortensis	+				+											
Sylvia conspicillata					+											
Sylvia cantillans					+											
Sylvia melanocephala					+											
Sylvia nisoria					+											
Sylvia curruca					+											
Sylvia communis					+											
Hippolais pallida	+															
Sylvia atricapilla																
Phylloscopus bonelli																
Phylloscopus collybita																
Phylloscopus trochilus																
MUSCICAPIDAE																
Ficedula albicollis														+		
Muscicapa striata	+															
Ficedula hypoleuca																
PARIDAE																
Parus lugubris				+	+			+								
Parus ater				+	+											
Parus major				+												
SITTIDAE																
Sitta neumayer																
TICHODROMADIDAE																
Tichodroma muraria								+			+		p			
ORIOLIDAE																
Oriolus oriolus				+				+		+		+	+			
LANIIDAE																
Lanius nubicus		+												+		
Lanius minor		+														
Lanius senator		+														
Lanius collurio	+															
Lanius isabellinus																
CORVIDAE																
Garrulus glandarius				+	+											
Corvus corone cornix				+												
PASSERIDAE																
Passer hispaniolensis												+	+			
Passer domesticus					+											
Petronia petronia																

FRINGILLIDAE																
Fringilla montifringilla								+						+		
Serinus pusillus														+		
Serinus serinus														+		
Serinus syriacus(1)			+		+									+		
Carduelis spinus														+		
Rhodopechys sanguinea			+					+								
Carduelis carduelis								+								
Carduelis cannabina					+											
Carduelis chloris																
Fringilla coelebs																
C.coccothraustes																
Emberizidae																
Emberiza cineracea		+	+													+
Emberiza hortulana		+						+						+		
Emberiza melanocephala		+												+		
Emberiza caesia														+		
Miliaria calandra														+		
Emberiza cia	+															
Emberiza citrinella																

Appendix 9

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