



8TH ANNUAL
CONSERVATION
WORKSHOP FOR
THE FAUNA OF
ARABIA

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TO THE
1ST FEBRUARY 2007



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حيوانات شبه الجزيرة العربية



PROTECTED AREAS
FINAL REPORT

CONSERVATION WORKSHOP FOR THE FAUNA OF ARABIA

30th January - 1st February, 2007
Sharjah, United Arab Emirates

Development of Terrestrial Protected Areas
in the Arabian Peninsula



Environment Protected Areas Authority
Government of Sharjah
PO Box 2926, Sharjah
United Arab Emirates

tel. +971 (0)6 531 1501 / fax. +971 (0)6 531 1419 / email. epaa@epaashj.ae
<http://www.epaa-shj.gov.ae>

FORWARD

Dear colleagues, participants and distinguished guests,

During the past 6 years, we have discussed and assessed the status and distribution of a very large number of vertebrate and invertebrate species on the Arabian Peninsula. One of the recurrent recommendations was that urgent conservation measures are necessary for a large number of species. One of the measures proposed was the creation of protected areas.

During the 2007 meeting we made a first attempt to make an inventory of the existing and proposed protected areas on the Arabian Peninsula and establish the format of legal protection and management under which they were operating. We explored examples of traditional management but also new developments and international transfrontier cooperation.

Dr. Anthony Hall-Martin and Dr. Philip Seddon provided the international framework through the presentation of the IUCN criteria for Protected Areas and it was clear that a lot of work is still needed.

Although this was our first attempt to discuss this topic, we felt a considerable support and interest from everyone present in these matters and we are looking forward to continuing our discussions over the next years.

Thank you for your efforts.

Regards,

Mr. Abdulaziz al Midfa
Director General of the EPAA, Sharjah

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PRESENTATIONS



PROGRESS IN ESTABLISHING SUSTAINABLE PROTECTED AREA NETWORKS IN ARABIA

Dr Anthony Hall-Martin

Hall-Martin Consulting CC, Cape Town, South Africa

INTRODUCTION

The countries of the Arabian Peninsula present a paradox to the outside observer. They have established protected areas in which representative examples of their rich fauna and flora remain; all of them have environmental management and protection authorities of some kind; the status and distribution of most groups of vertebrate fauna and many invertebrate groups is well known; the distribution and status of the flora is also well known. Yet there are still gaps in the representivity of important natural ecosystems in protected areas, not all important plant communities are safe, and some of the most distinctive endemic large mammals are highly endangered in the wild.

The conservation effort in Arabia is, however, progressing rapidly and most of the countries of the Region are currently engaged in developing new protected areas and entire protected area networks for countries where none yet exist (eg. Ras al Kaimah in the United Arab Emirates). In the case of Jordan and the Kingdom of Saudi Arabia the formal conservation authorities have been established for relatively longer than other countries. The National Commission for Wildlife, Conservation and Development (NCWCD) of Saudi Arabia is currently completing a review of its protected areas network and proposing many more in accordance with internationally recognized criteria. In some other countries, however, there is no adherence to such criteria or terminology and comparisons between the status and management objectives of different protected areas can not easily be made.

As the conservation effort in the Arabian Peninsula gathers momentum it is apparent that a re-emphasis of international best practice in the establishment and management of protected areas will not be amiss. Furthermore, there are clear opportunities to facilitate and engage Arabian countries in transfrontier conservation cooperation. Eco-tourism, and in particular international eco-tourism is not yet well established in all countries and there are, therefore, opportunities to examine international best-practice and incorporate these into developing structures. There is also a clear opportunity to re-look at community issues in protected area management from a local and unique cultural/historical perspective.

CURRENT STATUS OF BIODIVERSITY CONSERVATION IN ARABIA

Arabia has a diverse, mostly arid-adapted fauna including many endemic or near-endemic forms. This unique fauna which shows many linkages to the African and the Asian biogeographic regions is under pressure from human population increase and from development of various kinds.

The large ungulates, with the possible exception of the sand gazelle and mountain gazelle, are endangered. The wild ass, if it ever definitely occurred, is extinct. Wild Arabian tahr and the ibex are close to extinction in most areas of their former occurrence and the Saudi gazelle is extinct in the wild. Some of the largest populations of gazelles have grown from populations translocated to offshore islands in the Arabian Gulf. In some cases, however, there has been an unfortunate mixing of different populations or subspecies and some populations are now considered to be hybrids. Of the large carnivores lion and cheetah are extinct; Arabian leopard, Arabian wolf, striped hyaena, sand fox and Blanford's fox are now extremely rare, and only the red fox appears to be safe. Some small mammal species, as well as some of the larger bird species (eg. Houbara bustards), are also threatened.

Information on the biodiversity of Arabia, as well as the distribution and status of most of the important groups of vertebrate animals is of a very high standard and freely available. This is thanks largely to the work done by many professional zoologists and academics over the past decade and more. The series of Conservation Workshops held in Sharjah, of which the current one is the eighth, has provided a valuable forum for the discussion and dissemination of this information. There is an active network of conservation scientists in Arabia with links to IUCN Specialist Groups who have contributed to action plans for the conservation of various groups of animals and endangered species. The Arabian Plant Specialist Group (APSG) is well established and growing and a program for identifying and conserving botanically rich areas in the region is far advanced.

CONSERVATION PREPAREDNESS

While the conservation status of many of the larger animals is precarious, and many vegetation types are under increasing threat from overgrazing by livestock and feral animal populations as well as from infrastructure developments, there is a growing awareness of the situation in the conservation fraternity of the Arabian countries. Every Arabian country has a formal wildlife/environmental management and protection agency of some kind.

Trained and experienced scientists in several research institutes as well as managers are spread throughout the Peninsula in protected areas as well as in Government and privately funded institutions. Even commercial tourism ventures like the Dubai Desert Conservation Reserve have active scientific sections that ensure a high standard of research, monitoring and management.

The role of captive breeding institutions and private animal collections in Arabian conservation is particularly well appreciated. The outstanding success of the efforts to preserve the Arabian oryx in captivity in the 1960s still ranks among the great success stories of ex situ conservation. Most countries of the Arabian Peninsula today have free ranging, as well as captive populations of this flagship species. In addition there are a number of active and well-funded captive breeding facilities where breeding nuclei of all the larger and charismatic animals are kept. A particularly well known example, which is accessible to the public, is the Sharjah Desert Park which is the main centre for the Arabian leopard. Other breeding centres specialize in different species such as the Arabian tahr, ibex and bustards. Clearly these captive populations can play a critical part in the survival of a number of species, and also in making possible the rehabilitation into the wild of some of these species.

There are a number of active local conservation NGOs, as well as some international ones that have played an important role in the conservation of national biodiversity in several countries. Among the best known local groups are the Royal Society for Conservation of Nature of Jordan, and the Society for the Protection of Nature in Lebanon.

PROTECTED AREA NETWORKS

Several countries already have well developed protected area systems, the largest and best known of which is that of the Kingdom of Saudi Arabia. While other countries do not have such long established protected area systems, some individual parks like Shaumari in Jordan are long-standing and internationally well known. There are, however, initiatives to establish protected area networks in virtually all the countries of the Arabian Peninsula.

Marine conservation in the Red Sea and in the Arabian Gulf is also well established and many islands, estuaries and reefs have been identified for protection. While recognizing the importance of marine reserves as nurseries for commercially utilized fish species, there is also adequate emphasis on the conservation needs of marine turtles, dugongs, seabirds and insular populations of gazelles. Of these the most important is the Farasan Islands gazelle in the Red Sea. While overfishing is a problem in these waters, as elsewhere in the world, the Arabian Gulf is also subject to the unique, localized impacts of the construction of offshore islands for residential and tourism developments.

INTERNATIONAL COOPERATION

There are several well established regional conservation and scientific networks that cross international boundaries, and the boundaries of individual Emirates within the United Arab Emirates. Among these are the networking among scientists that have contributed annually to the Conservation Workshops held in Sharjah each year since 2000, the membership of the Arabian Plant Specialist Group, the members of the Cat Specialist Group and several ornithological groupings. At Government level there are also several examples of cooperation

such as the assistance provided by Sharjah to Yemen on specific conservation projects. The exchange or loan of various endangered animals for breeding purposes such as the Arabian leopard between breeding institutions is another such example. Cooperation within the region as a whole, therefore, is good or likely to be reasonably easy to implement.

A future development might be to take the international cooperation a step further where protected areas under different jurisdictions have common boundaries being adjacent to one another. Several examples of this situation exist within the Emirates, and elsewhere within the Region. Of particular importance to the Arabian leopard would be the possibility of cooperation between the management of the Jabal Samhan Nature Reserve of Oman and the proposed protected area in the Hawf monsoon forests across the international border in Yemen. This may be one way of ensuring a larger range for what may be one of the potentially most viable populations of leopards in the Peninsula. The highly endangered Arabian tahr occurs on Jebel Hafit in Abu Dhabi, and possibly across the border in Oman, again cooperation between the authorities of the two countries might make a significant difference to the survival and increase of this species in the wild.

REPRESENTATION AND RETENTION

As the countries of the Arabian Peninsula evaluate their protected area systems, or develop them from scratch, they will find much in the field of conservation science that can provide guidelines for this process. There are many principles that have been long established and are now well understood that assist in making decisions on the potential viability of protected areas.

One of the questions that arise is the minimum size of a protected area. The IUCN definition of a national park for example, requires a “relatively large area”. How large such an area should be is, however, determined by whether the protected area is required to encompass examples of a biome, or an entire ecosystem. In practice the biome or vegetation type is used as a broad scale biodiversity surrogate. The requirement of size is in most cases related to the space or habitat necessary for the functioning of ecosystems and ecological processes. Where such systems accommodate large mammals in an arid environment like Arabia where rainfall varies spatially and animals need to be mobile or nomadic to be able to seek out better areas of habitat, these size requirements are large. Theories of island biogeography, when applied to protected areas in zones dominated by human activity, helps us to understand the issue and much of the debate was summed up long ago. Among the useful guidelines to emerge are that extinction rates in habitat patches are area dependant; the smaller the patch of habitat (or national park) the higher the rates of extinction will be. The reasons for this are linked to the ecological niches required by species, genetic qualities of species, size of the founder populations and many other factors. Insular populations lack the genetic variability and flexibility to cope with environmental and climate change and they are vulnerable to inbreeding. Much of the research on the subject points to the importance of understanding the interactions of rainfall, soils, plant productivity and the biota.

The minimum viable population size (MPS) is important, as is –for some species- social space or behavioural density. There is no firm rule on MPS in the absence of a detailed population viability analysis, but the '50-500' rule of thumb for genetic viability is a useful guide. This refers to the number of genetically active breeders, which in most cases is smaller than the total population size. On the basis of such considerations, and considerations of carrying capacity, it is possible to give an indication of the optimal size of a national park in different biomes where the objective is to maintain not only species numbers but also ecological processes like predator-prey systems.

There are, furthermore, many other elements to take into account when determining the suitability and location of protected areas, and protected area systems. Among these are shape, edge effect and orientation of an area. Hard edges between protected areas and urban areas may result in many undesirable impacts on the functioning of the park. Some important ecological processes depend on spatio-temporal variations in the life cycles of species. Most common are feeding guilds, especially of birds and insects that depend on keystone species of plants for their survival at critical times of the year. Habitat heterogeneity, in the form of geological, topographic, aspect, vegetation and altitudinal variation enhances the value of a protected area. This is not only because of the greater biodiversity to be found in such situations, but also because of the micro- and meso-level changes in biodiversity associated with transitional areas.

TECHNIQUE FOR CONSERVATION PLANNING

There are many modern data collection and data processing technologies that can be used to improve conservation planning. Among these are remote imagery techniques such as satellite images from which information on biome categories, vegetation types, landscapes and land cover can be derived to levels of accuracy undreamed of a few years ago. Furthermore geo-referenced data and community data sets can be manipulated by increasingly powerful software in various GIS formats. Even mundane taxonomic data arranged in grid squares can be used to identify biodiversity hotspots at different taxonomic levels. Conservation mapping of various kinds can also be used to design protected areas. The tools are, therefore, available for the Arabian countries to improve their protected area networks, or create superior systems to what might have been.

CULTURAL ISSUES

There is a broad consensus in the conservation world that protected area creation and management need to be done in harmony with the people whose lives are most likely to be affected by them. Whether neighbors are urban dwellers, or nomadic pastoralists, it is now taken as a truism that planning with people has a better chance of delivering a product that has popular, and therefore political, support than planning in the absence of consultation.

The Arab world has its own traditions of land husbandry and stewardship, perhaps best represented in the ancient Islamic concept of hima. An area set aside specifically for the sustainable use of natural resources by and for communities. This suggests a more sympathetic attitude to conservation could be engendered if appropriate note is taken of the history and culture of Arab people. While there are many well known basic tenets of community collaboration, there is clearly scope for seeking out new concepts that may be more appropriate for local circumstances.

POTENTIAL IMPACT OF NATURE-BASED TOURISM ON PROTECTED AREAS

Dr Philip Seddon

Zoology Department, University of Otago, New Zealand

INTRODUCTION

Tourism is a huge industry of global significance. Ranging from highly structured mass tourism through to “free and independent travellers”, tourism is one of the main contributors to the gross national product of many countries. One of the fastest growing sectors is nature-based tourism, defined as tourism focussed on the enjoyment of nature and natural settings. A subset of nature-based tourism is ecotourism, in the strictest sense referring to tourism that has a minimal impact on the environment and which benefits both conservation and local communities.

Low impact nature-based tourism appears to offer great potential to be used as a conservation tool. Such tourism can provide incentives for the protection of important ecosystems and relatively pristine habitats; it can generate funds for environmental NGOs and parks agencies, and it can engage the visiting public in environmental awareness, perhaps even influencing post-tour lifestyles. However, it is a challenge to realise these benefits since in reality tourism is a business with business priorities and the actual contribution of the industry to conservation is small. While good examples exist, these tend to be undercut, bought out, and swamped. The lessons learned to date indicate the critical need for there to be a strong conservation framework in place to dictate the type and scale of appropriate tourism.

There is a very real danger that tourism in natural areas will create more problems than benefits. Any tourism will have an impact on the environment, the goal is to minimise and mitigate these. While some impacts are obvious, easily measured, localised and self-limiting, for example trampling of vegetation by off-trail hiking, other impacts may be hidden, hard to measure, diffuse and self propagating. An example of subtle impacts may be the introduction of pathogens, or invasive species. In New Zealand the invasive algae *Didymo* was introduced to South Island river systems by recreational fishing and boating; its blooms now clog waterways and its spread to unspoiled systems seems inevitable.

There are three foci for managing impacts: (1) by the activity causing the impact, e.g. wildlife viewing, tramping, camping; (2) by the ecosystem component affected, e.g. water quality, and (3) by the mechanism of impact, e.g. specific organism. While there exist a number of environmental and visitor management tools whereby the industry seeks to reduce tourism impacts, in general these are poorly applied, untested and their application under-funded.

Eco-certification programmes that aim to identify and recognise best practice low impact nature-based tourism have been criticised for being weak, misleading and misdirected.

A major challenge is that of monitoring and measuring the appropriate indicators to enable impacts to be identified and managed within acceptable limits. While it is relatively easy to focus on obvious impacts, subtle impacts may be more significant. In wildlife tourism, for example, animal behaviour may be a poor indicator of physiological stress. The cumulative and long-term stress experienced by some species as a result of human disturbance can have survival and reproductive consequences. By the time obvious signals such as declines in wildlife abundance and changes in animal distributions become evident it may be too late to act.

Protected areas globally tend to be chronically underfunded. This is in part because they can be seen as unproductive, representing a loss of agricultural, mineral exploitation or urban development potential. Protected areas must strive to be sustainable, not only environmentally, but also financially and socially. While in some protected areas there may be possibilities to generate resources, such as the sale of surplus wildlife to game ranches in southern Africa, for many protected areas tourism provides the only feasible means to generate funds and engender public support. Tourism is compatible with the primary goals of several types of protected area, for example IUCN Category II National Parks and Category III Natural Monuments specifically allow for public access and recreation opportunities. Tourism can give a protected area an economic value to compete with other, potentially much more damaging uses.

The challenge is to ensure that tourism within protected areas does not jeopardise the primary objectives of ecosystem, habitat, site or species protection in perpetuity. Tourism is the only industry that can operate in areas protected from other industries. To ensure that impacts of tourism are minimised requires careful integration between protected area management planning and tourism planning, and a balance between enforcement of rules for tourists and tour operators on one hand, and guiding tourist behaviour through appropriate signage and interpretation facilities on the other.

Some key questions that need to be addressed include:

- (1) Who benefits from tourism revenue? Conservation gains may be minimal if there is leakage of funds out of the region, or if funds accrue disproportionately to tourism concessionaires operating in protected areas, or even if funds are pooled centrally by government authorities and not made available for management of the area concerned.
- (2) Who visits and why? Impact minimisation requires that the tourism sector and protected area managers set and meet appropriate visitor expectations, for example, tourist visitors need to understand what they may or may not see within a protected area, how close they can approach wildlife, and what types of activities and facilities are appropriate for the area. These expectations must be dictated by site needs, not by tourist demands.

- (3) Who is responsible and who pays: for planning and for approving tourism ventures in a protected area; for undertaking environmental impact assessments; for monitoring tourism impacts; for developing and producing and maintaining interpretation and signage and associated infrastructure; and for creating and enforcing rules and regulations?

Application of IUCN Criteria for National Parks and other Protected Areas in the Arabian Peninsula

Dr Anthony Hall-Martin¹ and Dr Peter Novellie²

¹ *Hall-Martin Consulting CC, Cape Town*

² *South African National Parks, Pretoria, South Africa*

INTRODUCTION

A cursory review of the literature, and of the IUCN Database of 2005 shows no shortage of protected areas in the various countries of the Arabian Peninsula. Closer examination, however, shows that norms and standards of allowable human use and the terminology employed in naming the areas are extremely diverse. In some countries, such as Saudi Arabia there is a policy to implement IUCN criteria while in some other countries this is apparently not the case. Comparisons based on terminology alone can sometimes be misleading as a “park” can be anything from a private owned game ranch with planted vegetation stocked with exotic species to an area of great ecological diversity that complies with international criteria.

Through its World Commission on Protected Areas (formerly known as the Commission on National Parks and Protected Areas or CNPPA) the IUCN aims to give international guidance on the categorization of protected areas. Among the most important purposes of this is to reduce the confusion that has arisen from the adoption of many different terms to describe the different kinds of protected areas, and to provide international standards to help global accounting and comparisons between countries. A categorization of the protected areas of the Arabian countries according to the same criteria would be of great use in allowing an objective assessment of the state of conservation and the future prospects for many unique Arabian ecosystems and habitats.

The first preliminary set of international guidelines for protected area categories was published by the IUCN in 1973, and this was followed by a revised version in 1978. The 1978 categories were later subjected to a wide-ranging review by the international protected area constituency over a number of years. The review resulted in the guidelines which were published by the IUCN in 1994 and has subsequently been widely used (eg. Chape et al 2003).

THE CATEGORIES OF PROTECTED AREAS

The starting point in the 1994 categorization is the basic definition of a protected area:

An area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means.

All categories of protected areas conform to this global definition. However, the purpose for which protected areas are managed may differ greatly. It is on the basis of primary management objective that the IUCN (1994) recognizes the following six categories:

- I Strict protection (i.e. Strict Nature Reserve/Wilderness Area)
- II Ecosystem conservation and recreation (i.e. National Park)
- III Conservation of natural features (i.e. Natural Monument)
- IV Conservation through active management (i.e. Habitat/Species Management Area)
- V Landscape/seascape conservation and recreation (i.e. Protected Landscape or Seascape)
- VI Sustainable use of natural ecosystems (i.e. Managed Resource Protected Area)

These categories are increasingly recognized as the basis of distinction between different forms of use of protected areas. The IUCN (1994) emphasizes that assignment to a category is not a commentary on management effectiveness.

DEFINITION OF A NATIONAL PARK

The following description of Category II, a National Park, is given by IUCN (1994):

Definition

Natural area of land and or/sea, designated to (a) protect the ecological integrity of one or more ecosystems for present and future generations, (b) exclude exploitation or occupation inimical to the purposes of designation of the area and (c) provide a foundation for spiritual, scientific, educational, recreational and visitor opportunities, all of which must be environmentally and culturally compatible.

Objectives of Management

1. to protect natural* and scenic areas of national and international significance for spiritual, scientific, educational, recreational or tourist purposes;
2. to perpetuate, in as natural a state as possible, representative examples of physiographic regions, biotic communities, genetic resources, and species, to provide ecological stability and diversity;

* Definitions of 'natural' are inherently controversial. IUCN (1994) defines natural as: "Ecosystems where since the industrial revolution (1750) human impact (a) has been no greater than that of any other native species, and (b) has not affected the ecosystem's structure. Climate change is excluded from this definition."

3. to manage visitor use for inspirational, educational, cultural and recreational purposes at a level which will maintain the area in a natural or near natural state;
4. to eliminate and thereafter prevent exploitation or occupation inimical to the purposes of designation;
5. to maintain respect for the ecological, geomorphologic, sacred or aesthetic attributes which warranted designation;
6. to take into account the needs of indigenous people, including subsistence resource use, in so far as these will not adversely affect the other objectives of management.

Guidance for selection

- The area should contain a representative sample of major natural regions, features or scenery, where plant and animal species, habitats and geomorphological sites are of special spiritual, scientific, educational, recreational and tourist significance.
- The area should be large enough to contain one or more entire ecosystems not materially altered by current human occupation or exploitation.

ORGANISATIONAL RESPONSIBILITY

Ownership and management should normally be by the highest competent authority of the nation having jurisdiction over it. However, they may also be vested in another level of government, council of indigenous people, foundation or other legally established body which has dedicated the area to long-term conservation.

In some countries, notably South Africa, there has also been a stiff debate over the status of the management authority. In the South African system only Category II areas are supposed to be managed by the South African National Parks (SANParks) an independent agency reporting to the national parliament. Other categories of protected areas are managed by provincial conservation agencies of which there are nine in South Africa. A similar distinction between “National” or “Federal” agencies, and “State or “Provincial” entities, is also made in many other countries. This is the case in countries with a Federal government structure like Nigeria, Ethiopia, Russia and the USA. This system of devolved responsibility seems also to apply to the different Emirates within the United Arab Emirates. In unitary states like Botswana and Malawi different categories of protected areas are managed by one national conservation management agency, but the different categories are recognized by different nomenclature. In the case of Malawi the Category II areas are “National Parks” and Category IV areas are “Wildlife Reserves”.

APPLICATION OF THE IUCN CATEGORIES TO ARABIA

The categorization of protected areas in the various Arabian countries is clearly a large undertaking, and would be best done by experts with local knowledge. Much of the work has

already been done as has been reported in various publications of the IUCN and also available online eg the Earth Trends website. Some extant protected areas could be fitted in to one or even more IUCN criteria, and some authorities even use a “Category Other” to accommodate forms of protected areas that do not fit into the IUCN Categories for some reason or other. It may be necessary to make provision for a formal recognition of game ranches as a category given their importance in maintaining some endangered species like Arabian oryx. Such a category would be an extension of the basic concepts of Category IV which recognises management interventions of various kinds. The “game ranch” category could account for areas where extensive manipulation of the habitat and wildlife over relatively large areas is undertaken. Examples of such areas are where planting and irrigating trees is done, where exotic animal species are introduced and where animals are dependant on artificial sources of food and water. While not always contributing as much to the conservation of the Arabian fauna and wild places as they could, some of these areas make a significant contribution to the preservation of some rare Arabian mammals and also provide significant tourism attractions.

The recognized zoological entities and breeding centres make an invaluable contribution to the preservation of the gene pools of some of the rarest and most endangered mammals on earth, such as the Arabian leopard and Arabian tahr. Their true value will however only be realized when animals from these institutions are used to establish free ranging populations in properly constituted, protected, and ecologically functioning national parks.

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THE ROLE OF THE PEACE PARKS FOUNDATION IN FACILITATING TRANSFRONTIER CONSERVATION IN SOUTHERN AFRICA

Dr Anthony Hall-Martin

Biodiversity Specialist Consultant, Peace Parks Foundation, Stellenbosch, South Africa

INTRODUCTION

To date, throughout the world, no less than 169 complexes of internationally adjoining protected areas have been identified as potential transboundary parks (Zbicz, 2001). These complexes are made up of 666 individual protected areas in 113 countries. A total of 415 separate protected areas of different status in 98 countries are already involved in some kind of transboundary agreement. These can be across national borders, regional borders or provincial borders –in fact any situation where two or more authorities of different legal status form an agreement to cooperatively manage an area. In Southern Africa, no less than 21 existing and potential transboundary parks in 14 countries have been identified (Hall-Martin & Modise, 2002). One particular area, the Maloti-Drakensberg involves two countries (Lesotho and South Africa), but also three provinces of South Africa and the national conservation body (South African National Parks).

The concept of cross-border protected area management is well-known internationally (Sandwith et al 2001) and is also formulated in the protocol on Wildlife Conservation and Law Enforcement of the Southern African Development Community (SADC). All 12 member states of SADC are signatories to this convention. In the Protocol such a cross-border protected area is referred to as a Transfrontier Conservation Area (TFCA). The broad objectives of management are defined in the Protocol and there are now 11 TFCAs at different stages of development. The most recent project, the Kavango-Zambezi TFCA, is an endeavour in which no less than five countries are partners.

Some TFCAs are more advanced than others, some are functioning on a day to day level, while others are still being planned, but in all cases the underlying objective remains the same.

REASONS FOR CREATION OF TFCAs

The creation of TFCAs can be justified for biodiversity conservation reasons, as socio-economic drivers of development and as promoters of regional co-operation. In some exceptional situations such as between formerly warring neighbours like North Korea and South Korea the peace building element justifies the colloquial name of “Peace Parks” for a transboundary protected area like the Demilitarized Zone. The objectives of management, simply put, are to

jointly manage and/or develop a single ecological system that extends across an international border in order to promote the conservation of biodiversity through sustainable utilisation of the natural resources and to improve livelihoods of rural communities that live within or adjacent to these areas. In the African situation many boundaries between territories were drawn in colonial times without regard for the history, ethnic and cultural linkages of people. The creation of TFCAs also contributes towards strengthening such cultural links across modern political boundaries.

The biological and ecological reasons for the creation of TFCAs will vary in different locations. However, most protected areas are usually only small examples of once larger systems that have been compressed through human population pressure, agricultural development, land degradation, urban sprawl and even industrial pollution. Many species of animals are directly threatened because the extended ranges that were once occupied have been disrupted and fragmented. Species that occupy large ranges, like large cats and the larger birds of prey and species that are nomadic or migratory are among those most directly affected.

Populations that are confined to small areas, and small gene pools, are more likely to suffer from the negative effects of inbreeding and are more vulnerable to disease. Populations of animals in restricted areas are also less able to exploit changing environmental conditions by, for example, migrating elsewhere to avoid the worst effects of drought or of harsh weather. These considerations are particularly important in desert or arid environments such as in the Arabian Peninsula. Examples could probably be found of movements of animals across not only international boundaries in Arabia, but also over the boundaries of individual Emirates within the UAE. Most ungulates that live in deserts have adopted a nomadic or migratory lifestyle so that they can utilise the most productive patches of habitat over a large area and move elsewhere when conditions deteriorate. In many places the constraints of confined populations and population fragmentation have been made worse by competition with growing numbers of domestic livestock for grazing and for water, and by the predators of wild ungulates switching their attention to domestic animals. By increasing the area within which wildlife populations can freely move, transfrontier parks can enhance the long-term viability and survival prospects for a variety of species. The example of the Kgalagadi Transfrontier Park that covers 38 000 km² of the Kalahari Desert between South Africa and Botswana is an example of what can be achieved where ungulates are free to move over a large area. Of course, both partner countries accept that at times most animals are in one country, and at other times in the other country.

Some ecosystem processes, such as the relationship between large mammal predators and prey, have evolved to function over large areas and over long periods of time. If protected areas are too small, the ecological health of an area can be compromised. Numerous examples of this situation can be cited from experience in Africa.

There is growing evidence that global climate change is a reality that affects all countries and parts of the world. As this becomes more advanced it is likely that the vegetation will also change over large parts of the world as well. While some species of animals and plants may

benefit, many others will be forced to retreat to even smaller pockets or patches of suitable habitat to avoid extinction. Thus the larger the protected area, and particularly where altitudinal gradients are secured through large size, the more likely it is that there will be a larger range of refuges available in which vulnerable species, of all animal groups as well as plants, can survive.

The maintenance of ecological systems, with their intact populations of wildlife, has direct socio-economic benefits for the tourism industry which in most African protected areas is the main generator of revenues. Ecological viability is therefore the chief generator of security for numerous community level enterprises based on protected areas that channel benefits directly to local people.

THE PEACE PARKS FOUNDATION (PPF)

The PPF is a non-governmental organisation, based in South Africa but operating throughout the SADC Region and has taken on the role of facilitating the development of transfrontier conservation areas (Pabst 2002). The PPF is involved in the process of identifying, planning, creating and developing TFCAs by promoting the necessary political and consultative processes between governments, government agencies and other stakeholders. A further important, and to date very successful, role of the PPF is to assist in attracting donor funding for TFCA development.

The Foundation has also been involved in the development of a Peace Park in the Korean Peninsula, has advised on transfrontier conservation in the Balkans, and also between Chile and Argentina. The PPF has recently also been in a dialogue with the Embassies of Saudi Arabia, the United Arab Emirates and Qatar about the kind of facilitation work that it does.

THE TFCA PROJECT PLAN -THE STARTING POINT

The starting point of all projects developed to date has been some form of descriptive memoir which has evolved into what is now referred to as a TFCA Project Plan (eg. Hall-Martin et al 2005). These have mostly been commissioned, facilitated and funded by the PPF. As presently envisaged the Project Plan provides an adequate, though not necessarily comprehensive description of the TFCA and its component protected areas or parts. The most important natural features are described and the importance of the proposed TFCA for the conservation of biodiversity at the national and international level is assessed. The plan also addresses opportunities and constraints within the political, socio-economic, institutional and development spheres, and outlines the main organisational and funding requirements for a successful and sustainable TFCA. The TFCA Project Plan is not intended to be a management plan for the protected areas and its neighbouring communities, though a joint management plan will of necessity be required to guide its development. Equally important is a business plan and tourism development plan. It is, in most cases, intended that tourism will be the

main revenue generator for the sustainability of the TFCA, though trophy hunting and other forms of sustainable natural resource use may also be a feature of some areas.

The overriding rationale of the TFCA Project Plan is to produce a document that in essence describes the project, assesses its feasibility in general terms, and provides estimates of the immediate funding requirements for development. The plan should ideally also serve as an important support document for fund raising proposals.

GENERIC MILESTONES IN TFCA DEVELOPMENT

Although there are no formal guidelines or standard format for establishing and developing TFCAs in the SADC¹ Region the following generic milestones have been identified as key steps in the TFCA process:

- (i) Demonstration of political will and support by governments and their conservation agencies for the TFCA concept;
- (ii) Constitution of multi-lateral planning teams consisting of government and non-government technical expertise to develop a Memorandum of Understanding (MoU) between the participating countries. This is a crucial step in the process as it not only mandates institutions/bodies/committees to enter into negotiations on behalf of government, but also formalises the intention of the participating countries to be supportive of the TFCA process;
- (iii) Signing of MoU by participating governments to facilitate the establishment of the TFCA and initiate a formal negotiation process and constitution of an institutional framework. This includes the formal appointment of a TFCA Co-ordinator and the various multilateral and national technical committees;
- (iv) Development of an International Treaty on the establishment of the TFCA. This process is usually facilitated by the independent Co-ordinator mutually appointed by the participating countries. The Co-ordinator is responsible for managing the various committees/bodies as mandated by the MoU in (iii) above to deal with issues such as customs and immigration, finance (co-ordination of donors and aid agencies), communities, veterinary issues and wildlife diseases, legislation, security, tourism management, etc.;
- (v) Signing of International Treaty and implementation of institutional framework as mandated by the Treaty such as the formation of a Joint Management Board;
- (vi) Launching/opening ceremony (formal opening of Transfrontier Park and/or Conservation Area); and,
- (vii) Implementation of accepted conservation and economic principles in order to develop the TFCA into a sustainable entity.

¹ The Southern African Development Community Member States entered into a Treaty to develop southern Africa as a region and are engaging in a process to facilitate free movement of goods and services throughout the region. The Member States are: Angola, Botswana, Democratic Republic of Congo, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe.

INSTITUTIONAL ARRANGEMENTS

In the recently developed TFCAs in Southern Africa, the following structures, which are all identified and described in the draft Memorandum of Understanding between the partner countries, are used:

Ministerial Committee – This committee consists of the Ministers responsible for TFCA matters in the participating countries. They are variously the Ministers of Environment, Parks and Wildlife or Tourism. The Ministerial Committee meets at least once a year and all decisions are made by consensus. The Committee is responsible for:

- Overall policy guidance in the establishment and development of TFCAs.
- Monitoring progress in the establishment and development of TFCAs.

Bilateral Technical Committee (BTC) – This committee consists of senior representatives of the implementing agencies and/or senior representatives of the relevant ministries of the participating countries and their respective stakeholders. The BTC is chaired by rotation, usually by the country hosting the meeting, and meets at least twice a year. The BTC is responsible for:

- Translating decisions of the Ministerial Committee into operational guidelines and policies.
- Developing area specific action plans for the establishment, development and management of TFCAs.
- Harmonizing the expectations and aims of the participating countries with respect to the establishment, development and management of TFCAs.

Upon signing of a Treaty by the Heads of State of the participating countries, once the TFCA has developed to a point where it can be jointly managed, the BTC will be replaced by a Joint Management Board (JMB), which fulfils the same functions as indicated above, but operates at a park management level.

National Technical Committees (NTC) – These consist of representatives appointed by the implementing agencies of the participating countries. The NTCs are responsible for:

- Implementing action plans developed by the BTC.
- Ensuring stakeholder participation in the overall planning and development of the TFCAs, especially in policy formulation, preparation of management and development plans and production of other documents associated with TFCAs.
- Liaising and collaborating with other relevant development initiatives.
- Providing feedback and progress reports to the BTC.

Working Groups – The establishment and development of TFCAs cuts across the portfolio responsibility of other institutions outside the sphere of natural resources management.

Among these are the authorities or agencies responsible for customs, immigration, veterinary services, defence, security, tourism, transport, boundary demarcation etc. These institutions are important role players in the establishment and development of TFCAs and should therefore have forums to meet with counterparts from the participating countries to discuss TFCA matters relevant to their sectors.

TFCA Co-ordinator – This individual is jointly appointed by the participating countries to facilitate the establishment of the TFCA. The TFCA co-ordinator is responsible for:

- Driving activities associated with planning and developing the TFCAs.
- Ensuring that effective and representative Committees are established and that a program to achieve the objectives of the TFCA is sustained.
- Facilitating the convening of meetings of the different committees.
- Ensuring that TFCA negotiations comply with relevant international treaties and regional protocols.
- Preparing reports on key resolutions and directives emanating from the Ministerial and Technical Committees.
- Providing a secretariat for the BTC and later the JMB.

CONCLUSION

The experience of establishing Transfrontier Parks in Southern Africa has proved to be a time-consuming and complex process. They will only be successful if there are clear objectives for their establishment, and clear benefits to be derived from them. The basic requirements are that there must be a conservation imperative, political will on the part of the government, and ample space for involving numerous stakeholders in the process.

The protection of biodiversity needs to be paramount and benefits to conservation must be the major outcome of the TFCA process. To ensure that this happens, TFCAs have Joint Management Plans that include consultation and decision making among all parties, including affected local communities and people. While each TFCA is different, one common factor is that governments –usually including a number of cabinet portfolios and various tiers within those government structures- are involved and need to address sovereignty issues. These relate to state security of various kinds and in various fields, the sanctity of borders, and the practical arrangements that need to be made to ensure that the impact of borders on wildlife populations are minimised. People in the region of a TFCA, particularly rural communities, need to be enthusiastic about the project and to be benefited by them.

The transfrontier parks created in the Kalahari Desert between Botswana and South Africa; and in the Namib Desert between Namibia and South Africa in the south as well as a developing Namib TFCA between Namibia and Angola in the north could serve as practical examples for the Arabian countries. The similarities of the desert ecosystems, as well as the interests of the pastoral people involved, are greater than the differences.

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NATURE-BASED TOURISM IN THE PROTECTED AREAS OF THE ARABIAN PENINSULA

Dr Philip Seddon

Zoology Department, University of Otago, New Zealand

INTRODUCTION

Some countries within the Arabian Peninsula have well developed tourism, but this tends towards commercial, sporting and other mass tourism activities. Other countries have or are developing rational networks of protected areas, but have not yet developed nature-based tourism within protected sites to any great extent. There are however, countries that have both a well established network of protected areas, and ecotourism development that is site specific and appropriate. Clearly there exist within the region useful models of fruitful approaches and examples of best practice in the sustainable development of protected area tourism, just as there are useful lessons to be learned from the experiences of others.

Five countries in particular; Jordan, Yemen, Saudi Arabia, Lebanon, and the United Arab Emirates, can provide valuable examples of the types of protected area tourism and the institutional arrangements that are used to regulate this.

COUNTRY: JORDAN

Current and proposed Protected Area Tourism Sites

The development of nature-based tourism in protected areas is well advanced in Jordan. There are seven established protected areas in the Kingdom and all are a focus for some form of nature-based tourism.

Existing sites are:

Shaumari

Shaumari is the oldest reserve in Jordan, established for the reintroduction of Arabian oryx. The site has simple accommodation and can cater for overnight stays, night safaris and day visits. Several visitor activities are possible and the site supports a schools environmental education programme.

Azraq Wetland

Shaumari has a joint visitor management programme with Azraq, an important wetland

site and official Important Bird Area (IBA) where the focus of visitor activities is primarily centred on bird-watching opportunities. The site offers one day visits, but also has an ecolodge for overnight stays. There are marked trails, bird-watching hides, and guided walks. Azraq lies at a tourism hub; the joint programme with Shaumari includes a single ticket for entry to both sites. With approximately 10,000 visitors per year, Azraq's tourism revenue covers ~20% of the reserve's annual operating expenses.

Mujib (Ibex Reserve)

On the Red Sea coast Mujib provides visitors with a lodge and camp for overnight stays, hiking trails and guided walks, and water-related activities, including a river trek. The site received over 20,000 visitors per year and tourism revenue covers 50-80% of operating costs.

Dana

Dana is Jordan's oldest ecotourism site. The area encompasses a significant elevation gradient, thus offering a range of habitat types. The site has a visitor centre situated in an ancient village, with interpretation facilities and displays. Overnight stays are possible within a camp in the centre of the reserve. The lodge at Araba offers a unique desert experience for tourists. In addition to guided walks, tourists may also visit workshops to observe the production of local handicrafts.

Rum

Wadi Rum is Jordan's second most significant tourism site, after Petra. It is administered not by RSCN, but by ASEZA (see below). The site attracts in excess of 250,000 visitors per year, and all revenue thus generated accrues to local co-operatives to distribute the benefits equitably. Under the site's tourism plan three zones are delineated: wilderness zone (scientific research only); semi-intensive use zone (hiking trails), and an intensive use zone (camps). Overnight stays are possible in a Bedouin camp. There are hiking and driving trails, and opportunities for rock climbing.

Two northern reserves

Ajloon: Oak forest site: containing an ecolodge. This reserve is open for visitors in summer only.

Dibeen: Pine forest site: close to Amman this site offers day trips and caters for up to 8,000 visitors per day.

Institutional Arrangements

Protected areas in Jordan come under the management of the Royal Society for the Conservation of Nature (RSCN), with the exception of the Wadi Rhum protected area that is administered by the Aqaba Special Economic Zone Authority (ASEZA). Each reserve will have an on-site manager responsible for implementation of the site's management plan. The type, focus and scale of tourism within each reserve is directed by an Ecotourism Plan that, inter alia, identifies suitable zones for different types of activity in order to minimise the

potential for environmental impacts. Ecotourism plans include visitor guidelines to ensure cultural sensitivity and mitigate possible undesirable social impacts. Environmental impact monitoring is undertaken by an on-site ecologist, and uses non-use sites as experimental controls to assess ecological change in visitor use zones.

Strengths:

- Single responsible authority (RSCN)
- Reserves managed by local staff
- Good examples of the integration of conservation and ecotourism

Weaknesses:

- Zonation means the sacrifice of some areas in order to protect others
- High volumes of international visitors means that some social/cultural impact is inevitable
- Economic sustainability that is reliant on international visitor arrivals is subject to marked fluctuations due to outside perception of the political stability of the region; downturn in numbers of international tourists will result in reduced revenue to support site management
- There are significant training and experience needs required for appropriate site management

Possible Case Study

Site: Dahna
Contact: Dr Mohammed Yousef, RSCN, Amman
Email: mohammedyousef@rscn.org.jo

COUNTRY: YEMEN**Current and Proposed Protected Area Tourism Sites**

Yemen has six protected areas declared or in the process of designation, with nature-based tourism operating in two, but potential for appropriate scaled tourism in other sites. In addition, there are another eight sites that have been proposed for protection.

Existing sites are:

(* indicates that the site supports nature-based tourism)

*Socotra Archipelago**

A globally significant site for unique floral biodiversity and high plant endemism, Socotra consists of four islands – some with heavy human occupation, one unoccupied. There is a visitor centre and museum forming the focus of tourism activity. The centre was established with funding from the Czech Republic. Socotra is Yemen's most significant nature-based tourism site, receiving up to 450 visitors per week, mostly coming from outside Yemen. These

modest visitor numbers are insufficient to make a significant contribution to the costs of protected area management at this stage.

Otuma (Utmah)

*Bura'a National Park**

This park in the western mountains of Yemen is a popular site for day visitors.

Hawf Forest

This 30 000 ha protected area on the border with Oman is a potential candidate for a transboundary park linked to Jabhal Samhan Nature Reserve which probably holds the last viable, and largest, Arabian leopard population in the Peninsula.

Belhaf-Bir Ali-Burum

Coastal site, covering 1466 km², with important coral reef ecosystem and nesting beaches for turtles.

Sharma-Jethmun

This coastal area stretches along 35 km of coastline and has great potential for development of tourism.

Proposed sites are:

Wadi Hadhramawt 'Ibex' (Hadhramawt)

Jabal Al Araes (Abyan)

Jabal Milhan (Al Mahweet)

Eraf (Lahej)

Halamlam and Midi (Hajja)

Al Luhaiya (Al Hudaidah)

Wetland sites (e.g. in Aden)

Karaman and other Red Sea islands

Institutional Arrangements

Tourism in protected areas in Yemen is under the approval of the Environmental Protection Agency (EPA) working in collaboration with the Ministry of Culture and Tourism. These agencies work closely with private tourism operators, who play a lead role in organizing, marketing and running tours and visits. Tour operators receive specific permission to operate from the Ministry of Culture and Tourism. Tourism impact monitoring and the enforcement of tourism regulations are undertaken at Socotra and Bura'a by EPA staff and guards, but also by the local community.

Strengths:

- Tourism development in the two protected areas is guided by site management plans and specific ecotourism plans, and informed by socio-economic studies conducted by consulting companies.
- There is good cooperation between local communities and EPA staff
- There is provision for developing revenue-generating tourism opportunities, mainly through start-up funding from international agencies, such as the Global Environment Facility's Small Grant Programme (SGP). The SGP has funded eight projects on Socotra, including the development of local handicraft production.

Weaknesses:

- Most existing protected areas lack adequate provisions for law enforcement
- A lack of public awareness of environmental impacts results in significant damage from such activities as wood-cutting and over grazing.
- There is a lack of adequate funding to manage protected areas for tourism.
- There is a lack of promotion of ecotourism opportunities that is limiting the amount of revenue gained from tourism; the media, for example, has not been well engaged.

Potential Case Study

Site: Socotra Archipelago

Contact: Dr Abdul Karim Nasher, Faculty of Sciences, Sana University

Email: karimnasher@yahoo.com

COUNTRY: KINGDOM OF SAUDI ARABIA**Current and Proposed Protected Area Tourism Sites**

Saudi Arabia has a well-established network of protected areas derived in part from a protected area system plan produced in 1990. To a significant extent this system plan was overly ambitious, calling for a total of 105 protected areas to be created over a ten-year period. Currently however, there are 15 protected areas administered by the National Commission for Wildlife Conservation and Development (NCWCD); and another 18 sites administered by partner agencies. Under recent revisions to the system plan the objective is to boost the number of sites to 20 plus two extensions administered by the NCWCD, and 22 run by partner agencies. Currently six sites have or are planned to have some form of nature-based tourism. The revised system plan would include 9-10 proposed sites with a high potential for ecotourism.

Existing NCWCD sites with tourism are:

Mahazat as-Sayd

Mahazat as-Sayd is the NCWCD's only fully fenced reserve; the 220 km fence encloses 2,244km² of acacia and grassland desert in central Saudi Arabia. The protected area was the

first reintroduction site for Arabian oryx in the Kingdom. Day visits by privately guided tours are monitored by NCWCD rangers.

Jubail Marine Sanctuary

Farasan Islands

The Frasan Islands lie off the coastal town of Jizan in the Tihama region of the southwest. The site has important mangrove habitats and coral reefs. There are permanent human settlements on many of the islands and unregulated access to many areas. The NCWCD is currently planning for appropriate tourism development in cooperation with the SCT.

Ibex Reserve

The Ibex Reserve lies to the south of Riyadh and is home to one of the most significant wild populations of Nubian Ibex. The wadi canyon systems are subject to unregulated visitor access in outer zones, but local community interest in the site and the ibex have to some extent prevented the poaching that has all but extirpated ibex populations elsewhere.

Uruq Bani Ma'arid

UBM is the only protected area within the Saudi portion of the Rub Al Khali and is a reintroduction site for Arabian oryx, sand and mountain gazelle. Small scale visits by private tour operators takes place, usually day trips although there is the potential for overnight stays in NCWCD wildlife ranger camps. Tourist activities are closely regulated by NCWCD rangers.

Raydah

This a 9km² escarpment reserve near Abha in the southwest. The reserve protects juniper woodland and is one of the very few current or proposed protected areas in the Asir mountains. The site supports largely unregulated day visits and picnicking.

In addition, tourism takes place in a number of sites administered by NCWCD partner agencies, such as Al Ha'ir wetland near Ar Riyadh, and Sabkhat Al Fasl.

Institutional Arrangements

NCWCD is the lead agency responsible for approving, monitoring and regulating all tourism operations within NCWCD-administered protected areas. In addition, in some situations the NCWCD may play an advisory role in the management of tourism in areas managed by partner agencies such as the Ministry of Agriculture. Tourism development, promotion and marketing within the Kingdom is the responsibility of the Supreme Commission for Tourism (SCT). The NCWCD and the SCT have joint ventures in three protected areas: Mahazat as-Sayd, Jubail Marine Sanctuary, and Farasan Islands.

Strengths:

- Good information exists about sites and wildlife
- The NCWCD has an enlightened partner in the SCT
- The NCWCD has clear legal authority over its protected areas
- Several NCWCD sites have outstanding potential for ecotourism
- The 'Leave No Trace' training and environmental awareness programme has started

Weaknesses:

- The concept of protected areas is not well understood by government authorities and have no sanctity and are thus threatened by other, unsustainable exploitative uses such as road cutting and mineral exploration
- There is weakness in the EIA process
- There are multiple and conflicting visions within NCWCD and its partner agencies
- There is a lack of firm policies relating to protected area tourism
- NCWCD has no legal authority over proposed protected areas
- Entrepreneurs may be more powerful than NCWCD and SCT
- Summer is the main period for domestic tourism; a period that is unsuitable for some protected areas
- Marketing skills are lacking within conservation agencies
- There is a lack of awareness of protected area needs among the general public and among decision makers

Potential Case Studies

Sites: Mahazat as-Sayd
Farasan Islands

Contacts: Dr Mohammed Shobrak, Mahazat as-Sayd Coordinator, NWRC, Taif

Email: shobrak@nwrc-sa.org

Mr Abdullah Al Wataid, Farasan Coordinator, NCWCD, Riyadh

Email: ?

Mr Othman Llewellyn, NCWCD, Riyadh

Email: othmanaishah@awalnet.net.sa

COUNTRY: LEBANON**Current and proposed Protected Area Tourism Sites**

Lebanon is a small country, covering only 10450 km², yet it has a significant number of protected areas of various kinds and is actively working towards the creation of a formal network. The Ministry of Environment is currently preparing a new categories system for Protected Areas. This will define the criteria for the establishment of each category in addition to the management objectives and model to ensure a better PA network in Lebanon. At the present time there are 8 nature reserves, 24 natural sites, 5 Himas, 12 protected forests and 14 touristic sites. Most of these areas are probably too small to support large-scale tourism.

Another significant characteristic of the protected areas of Lebanon is the fact that the country lies on the main migration route for birds from the Palaearctic to Africa and Asia. At least 12 of the protected areas have been identified as Important Bird Areas (IBA). In the absence of any large mammals the tourism product of Lebanon's protected areas is largely limited to landscapes, vegetation, birds and historical sites.

Of particular interest in Lebanon, however, is the fact that the Hima system of community based natural resource management is being promoted in practice.

Three of the major nature-based tourist attractions are:

Shouf Cedar Nature Reserve

This is by far the largest protected area in Lebanon and at close to 50 000 ha amounts to almost 5% of the country. Apart from the obvious botanical interest it is a prime destination for watching migrating birds and currently has 25 000 visitors per year. These generate an income of \$70 000 which amounts to 70% of the running costs of the reserve.

Ehden Forest Nature Reserve

Like Shouf Cedar NR this protected area also has a strong botanical interest as well as birds. The reserve is situated between 1200-2000m on the upper slopes of Mount Lebanon and is highly regarded for raptors like Imperial eagle, Steppe eagle, Bonelli's eagle and others. Most visitors hike through the forests.

Ammiq Wetlands

This is the largest remaining, well preserved and managed wetland in Lebanon. It is situated on the western boundary of the Bekaa Valley and is fed by springs rising from the slopes of the nearby Shouf Cedar Nature Reserve. Although not yet formally declared as a protected area, Ammiq is on the list of potential PA's of Lebanon, and was declared an IBA by BirdLife International in 1994.

Institutional Arrangements

Protection of natural areas in Lebanon can be legalized by Parliamentary decree, or by decrees from various ministries of the Government. Protection measures can then be put in place by the Protected Areas Unit of the Ministry of Environment, or by staff of the other ministries. Ancillary services around some of the protected areas that are IBAs are provided by an NGO, the Society for the Protection of Nature in Lebanon (the BirdLife partner in Lebanon). The SPNL is particularly active in involving local communities in conservation through promoting the training of guides, running bird identification courses and promoting bed & breakfast establishments run by local people so as to ensure a spin off to local communities from tourism to the protected areas.

The nature reserves established under parliamentary law and natural sites are managed by the Ministry of Environment, while the himas and protected forests are managed by the Ministry of Agriculture. The touristic sites are mostly historical monuments and natural landscapes.

Strengths:

- There is strong political support for protected areas in Lebanon.
- The SPNL is a strong partner of Government in promoting, developing and managing protected areas.
- There is a strong appeal to cultural sensitivity through the promotion of the hima system of conservation with five sites already recognized and functioning.
- The media outreach to the public by NGOs and Government is strong and the protected areas are actively marketed.

Weaknesses:

- The impact of recent war and conflict is still keenly felt, with refugees occupying some protected areas.
- The Government is currently unstable, and this impacts on efficiency and decision making.

Potential case study

Sites: Development of the hima principle in managing protected areas

Contact: Assad Serhal, Director General, Society for the Protection of Nature in Lebanon, Beirut

Email: spnlorg@cyberia.net.lb

FEDERATION: UNITED ARAB EMIRATES

Current and proposed Protected Area Tourism Sites

The UAE is unique in the region in functioning like many small countries, with autonomous but mutually cooperating governmental structures. The region is characterised by rapid urban development and equally rapid expansion of international tourism in many Emirates. Tourism to date however, has been primarily focussed around commercial activity, international sporting events, and cultural events. There is relatively little emphasis on nature-based tourism beyond selected sites and a number of desert 4WD tours. There is no systematic UAE-wide planning for protected areas, with area conservation proceeding variously within each Emirate. Existing protected areas are a mix of government initiatives and private ventures.

Provisional list of current ad proposed protected areas by Emirate
(* indicates that the site supports tourism of some kind currently)

Dubai

*Dubai Desert Conservation Reserve (DDCR), including Al Maha Lodge**

The DDCR is situated in the sand desert region of Dubai and extends over an area of 225km². At its centre is the Al Maha luxury lodge, within a fenced reserve of 27km². Al Maha is owned and operated by Emirates Airlines and caters for top end nature-based tourists, providing desert tours, and cultural and other interactive activities in a luxury setting. The wider DDCR is administered by the Dubai Municipality, which allows a limited number of private tour operators to run tours within the protected area under strict controls. The area supports a reintroduced population of Arabian oryx and other native wildlife.

*Ras Al Khor Bird Sanctuary (Dubai City)**

Situated within the Dubai City area, this reserve consists of 6km² of Dubai Creek and associated mangroves and wetland habitats that support a high diversity of migratory birds on stopover. Bird hides are available to facilitate bird watching by day visitors. Currently the area is subject to development in the form of the creation of diversion channels in the areas surrounding Khor, with unknown implications for water flow and associated impacts on habitats.

Jebel Ali Marine Reserve (protection status may have been compromised by recent development)

Sharjah

*Sir Bu Nuayr Island, offshore island protected area**

Situated offshore in the Arabian Gulf, this area serves as sanctuary and breeding grounds for seabirds, and for commercially important fish species, along with non-commercial species and corals. While it is open to casual, unregulated tourism, due to the distance from the mainland the site is not heavily used.

*Khor Kalba Mangrove Swamp (proposed)**

About 5km² in extent, this site sits on the coastal border with northern Oman and is home to the Kalba endemic species of kingfisher. It is currently open to unregulated day visits for picnicking, etc. The region supports commercial fisheries.

Abu Dhabi

Marawa Island, marine protected area

Um Al Zumoul Protected Area

Al Whatba Protected Area

Ras Al Khaimah

No sites available for review

Um Al Quwain

No known protected areas, although the Emirate contains sites of importance as stopovers for migratory birds

Fujairah

*Jazerat Al Tuyur; Dhadna; Al Aqqa; Al Bidhiya**

Four adjacent marine reserves on the east coast between Dibba and Fujairah City. This chain of very small sites on the east coast encompasses significant coral reefs. The sites are heavily used by day visits from tourists accommodated at nearby hotels, and during weekend visits by locals. The sites are popular for diving, snorkelling and other water-based activities, with attendant impacts evident in the form of coral destruction. The carrying capacity of these shallow water reefs is much less than the carrying capacity of the hotels in the region.

*Wadi Wurayah (proposed by WWF for protection)**

This long wadi system on the eastern watershed of the Hajar mountains is significant in containing perennial water. It has a total area of 113km² and supports populations of significant species such as caracal and Arabian tahr. Tourism activity is currently unregulated and takes the form of weekend picnicking in the lower reaches. There has been a trend recently for visitors to penetrate higher, more pristine reaches of the wadi, taking with them the problems of littering, water pollution and poaching that currently have an impact in the lower reaches.

Institutional Arrangements

Institutional arrangements for the management of protected area tourism vary from Emirate to Emirate, but in general, with some exceptions (see Table below), the protected area authority will be the Municipality, while tourism is overseen by a Department of Tourism.

<u>Emirate</u>	<u>PA Authority</u>	<u>Tourism Authority</u>
Sharjah	EPAA	Tourism Department
Um Al Quwain	Municipality	Tourism Department
Fujairah	Municipality	Tourism Department
Ajman	Municipality	Tourism Department
Ras Al Khaimah	Municipality	RAK Tourism Office
Abu Dhabi	EAD (Federal body)	Tourism Department
Dubai	Municipality	Dept. of Tourism, Commerce & Marketing

Strengths:

- Specific local decision-making results in tailor-made adaptations to the protected area concerned.
- Current processes are fast and involve little red tape

Weaknesses:

- Few sites have adequate (or any) protected area management plans
- Overall there are few designated areas
- There is room to improve interagency coordination, both intra- and inter-Emirate
- Institutional structures and process need revision and refinement

- There is rapid development in environmentally sensitive areas
- Awareness of the value of and need for protection of ecologically important areas is lacking in decision-makers
- There is a lack of information available to the public regarding the purpose and function of protected areas
- There is a need to clearly establish a definition of a protected area using available international standards.

Potential Case Study:

Site: Dubai Desert Conservation Reserve

Contact: Mr Greg Simpkins, Conservation Manager DDCR

Email: greg.simpkins@emirates.com

CONCLUSIONS AND RECOMMENDATIONS



REPORTS ON GROUP DISCUSSIONS

A strong feature of the Workshop was the time allocated to group discussions and plenary sessions so as to maximize exchange of information among participants. Three groups were formed after each presentation and after adequate discussion time spokespersons for each group reported to plenary sessions. Important topics or questions for consideration were identified for each group discussion, but there was also adequate scope for participants to raise other matters of interest or importance.

Though various topics relevant to the development of protected areas were discussed it was clear by the last day of the Workshop that all the discussions could be reduced to four main themes. These are:

1. The establishment and management of protected areas;
2. Eco-tourism in protected areas.
3. Cooperation in transboundary or transfrontier conservation;
4. Local communities and protected areas.

During the final session group spokespersons summarized the outcome of all the discussions and put forward recommendations from the groups for consideration by the various management authorities and workshop organizers. The verbatim record of the main points, conclusions and recommendations as approved by the meeting (and taken from the flip chart records) is given as Appendix 1, while a consolidated summary follows:

Protected Area Establishment and Management

1. Conservation and management objectives should be set for each protected area within a national system for each country, according to international criteria.
2. Representation of different ecosystems, unique cultural or biological sites, biodiversity hotspots as determined by plant and animal species, and the level of threat to systems, sites and species should be taken into account when preparing the Protected Area System Plan.
3. The institutions and agencies that manage protected areas should have broad general policies that take account of the needs of all stakeholders, as well as comprehensive legislation to underpin their management, control and protection functions.
4. Each protected area should have a comprehensive but realistic and usable management plan that takes conservation objectives, local community needs and tourism opportunities into account.
5. To ensure sustainability the best possible use should be made of limited resources, expertise, manpower and funding opportunities as an objective of protected area management.

Eco-tourism in Protected Areas

1. The potential for nature-based tourism or eco-tourism, and whether management objectives allow visitor access, should be assessed for each protected area.

2. The objectives of eco-tourism in a protected area, the benefits and beneficiaries, site capacity and the role of local communities should be clearly understood.
3. Regional and national strategies and development plans for eco-tourism at the national and local level should adopt a businesslike and best practice approach.
4. Opportunities for environmental awareness and training programmes for local communities, visitors and staff that enhance communication should be exploited.
5. Eco-tourism should cater for, and provide opportunities for different segments of the potential tourism market.
6. Suitable indicators of eco-tourism impacts, with a feedback system for identified regulatory or other actions, should be part of the management plan of every protected area.

Cooperation in Transfrontier or Cross-border Conservation

1. Potential transboundary partner countries or agencies should examine their political relations and situations so as to identify opportunities for cooperation and to address obstacles to collaboration.
2. Partner countries or agencies should agree on standards for the management of strategic areas so that there is sovereignty of management within their own sphere, and agreed common policies that are formalized in a Joint Management Plan where there is a cross-border influence.
3. It was agreed that the Arabian Peninsula could benefit from cross-border conservation cooperation, that this concept should be advocated among relevant stakeholders, and that the Region could benefit from the experiences of countries in Southern Africa in this regard.
4. It was proposed that the next, or a future Conservation Workshop for the Fauna of Arabia should focus on transfrontier conservation.

Protected areas and local communities

1. Different levels and kinds of local community involvement, that enhance common and equitable benefits for communities and protected areas, should be identified and cultivated so as to encourage local support for protected area development from the start.
2. Community involvement should be placed within an appropriate social and cultural context, with attention being given to gender equity as well as local issues.
3. In the context of the Arabian Peninsula there may be situations where a revival of some form of the Islamic hima system may be appropriate.
4. An important facet of community development is to develop outreach and awareness programmes that focus on youth

CONCLUSIONS AND RECOMMENDATIONS OF THE FINAL PLENARY SESSION

PROTECTED AREA ESTABLISHMENT AND MANAGEMENT

- Identify objectives and justification for PAs.
- Assess potential in the country for different PA sites.
- Representative and unique sites must be identified and prioritised.
- General policies must be formulated.
- Who are the stakeholders?
- What resources are available?
- Require sound legislation and effective law enforcement.
- Each country requires a PA System Plan.
- Apply international standards.
- Each PA requires a management plan.
- Involve local communities from the start.
- Ensure representation of different ecosystems.

ECO-TOURISM IN PROTECTED AREAS

- Establish whether objectives of a particular PA allow for eco-tourism.
- Investigate the potential for eco-tourism in each of the PAs in the national system.
- Objectives of eco-tourism in a PA must be clearly understood:
 - What are the benefits and for whom?
 - What is the site capacity?
 - What is the role, if any, for local communities?
- Develop a Regional eco-tourism strategy as well as a strategy for each country.
- Establish a development plan for eco-tourism at the national level as well as at the level of individual PAs.
- Adopt a business planning, management and best practice approach.
- Identify opportunities for environmental awareness (eg Leave no Trace) & training programmes for visitors, guides and other staff.
- Cater for different segments of the potential tourism market as appropriate.
- Encourage interagency tourism within the Region.
- Encourage tourists to contribute to monitoring programmes (eg report back and use of species check lists).
- Identify suitable indicators to monitor impacts of eco-tourism and a feedback system to management.

TRANSFRONTIER CONSERVATION COOPERATION

- Identify the common interests of potential partner countries or agencies.
- Examine the political situations or relations between the potential partners:
 - Identify the opportunities for cooperation
 - Identify the obstacles to cooperation flowing from these relations
- Agree on ideal institutional arrangements:
 - Sovereignty of management within own sphere or zone
 - Common policies where there is a cross-border influence
 - Formalise commonalities through Joint Management Plan
- Identify strategic areas according to agreed standards.
- Proposal that next Conservation Workshop should focus on this issue.
- The Arabian region could benefit from the experience of transfrontier conservation projects in Southern Africa.
- Advocacy of this concept among relevant stakeholders is recommended.

PROTECTED AREAS AND LOCAL COMMUNITIES

- Recognise different levels and types of local community involvement.
- Identify common benefits for both the local community and the PA.
- Pay attention to gender equity issues.
- Seek full support for PA.
- Consider social and cultural context.
- Involve locals in PA creation and management.
- Develop outreach programmes that focus on youth.
- Revive *hima* system where appropriate.
- Ensure equitable distribution of income.
- Consider WCPA Regional Action Plan.

PARTICIPANTS LIST



Bahrain

Dr. Adel M. Al-Awadhi
Public Commission for the Protection of Marine
Resources
Environment and Wildlife
PO Box 28690, Bahrain
dr.alawadhi@hotmail.com

Dr. Mohammed Aladin Ashour
Public Commission for the Protection of Marine
Resources
Environment and Wildlife
PO Box 28690, Bahrain
myaladin@batelco.com.bh

Jordan

Mr. Mohammed Abdul Fatah
The Royal Society for the Conservation of Nature
PO Box 1215, Amman 11941
mohammedyonsef@sa.org.jo

Mr. Nashat Hamidan
The Royal Society for the Conservation of Nature
Amman 11942
nashat@rscn.org.jo

Mr. Mahdi Quatrameez
The Royal Society for the Conservation of Nature
PO Box 1215, Amman 11941
mahdi@rscn.org.jo
wenforcement@rscn.org.jo

Kingdom of Saudi Arabia

Mr. Abulaziz Al Muhana
National Commission for Wildlife Conservation &
Development
PO Box 61681, Riyadh 11575
kam.sa@hotmail.com

Othman Llewellyn
National Commission for Wildlife Conservation &
Development
PO Box 61681, Riyadh 11575
othmanaishah@awalnet.net.sa

Mr. Abdulrahman Khoja
National Wildlife Research Centre
PO Box 1086, Ta'if
ark@nwrc-sa.org

Mr. Ahmed Boug
National Wildlife Research Centre
PO Box 1086, Ta'if
bouga@nwrc-sa.org

Dr. Iyad Nader
King Khalid Wildlife Research Centre
PO box 61681, Riyadh 11575
nadar_iyad@yahoo.com

Dr. Mohammed Shobrak
National Wildlife Research Centre
PO Box 1086, Ta'if
shobrak@nwrc-sa.org

Lebanon

Mr. Assad Sarhal
P.O.Box 11-5665, Beirut
spnlorg@cyberia.net.lb

Sultanate of Oman

Mr. Hadi Musalam Al Hikmani
Office of the Advisor for Conservation of the
Environment, Diwan of Royal Court
PO Box 246, Muscat 113
acedrc@omantel.net.om

Qatar

Mr. Fawaz Abdulla Al-sowaidi
Supreme Council for the Environment and Natural
Reserves
PO Box 80265, Doha
aleny@qayar.net.qa

United Arab Emirates

Mr. Brian Neubert
Endangered Wildlife Breeding & Conservation
Centre
PO Box 64634, Al-Ain
brian@ewbcc.ae

Dr. Azhar Abbas
Al Ain Zoo and Aquarium
PO Box 1204, Al Ain
drazhar51@hotmail.com

Mr. Hussam EL Alqamy
Dubai Desert Conservation Reserve
PO Box 7631

Dr. Eduardo A. Dias
Endangered Wildlife Breeding & Conservation
Centre
PO Box 64634, Al-Ain
eduardo.dias@ewbcc.ae

Dr. Vladimir M Korshunov
Endangered Wildlife Breeding & Conservation
Centre
PO Box 64634, Al-Ain
korshunov.vlad@ewbcc.ae

Mr. Jacky Judas
National Avian Research Centre
Environment Agency Abu Dhabi,
PO Box 45553, Abu Dhabi
jjudas@ead.ae
<http://www.ead.ae>

Mr. Willie Labuschagne
Mgmt. of Nature Conservation
Dept. of Preseident's Affairs
PO Box 64634, Al Ain
willie@ewbcc.ae

Robert Llewellyn-Smith
Environmental Protection and Development
Commission
PO Box 11377, Ras al Khaimah
rllewellynsmith@yahoo.co.uk

Mr. Sean McKeown
H.E. Sheikh Butti bin Juma al Maktoum's Wildlife
Centre
PO Box 7237, Dubai
smckeown@emirates.net.ae

Mr. Gavin Nel
Dubai Desert Conservation Reserve
PO Box 7631, Dubai
gavin.nel@emirates.com

Mr. Declan O' Donovan
Wadi al Safa Wildlife Centre
PO Box 27875, Dubai
cianod@emirates.net.ae

Mr. Mayyas Qarqaz
Environment Agency - Abu Dhabi
PO Box 45553, Abu Dhabi
malqarqaz@ead.ae

Mr. Maral Khaled Shurikie
Environment Protection and Development Department
Fujairah Municipality
PO Box 7, Fujairah
1geologist@gmail.com

Mr. Greg Simkins
Dubai Desert Conservation Reserve
PO Box 7631, Dubai
greg.simkins@emirates.com

Dr. Christophe Tourenq
WWF
PO Box 45977, Dubai
ctourenq@wwfuae.ae

Mr. Mohamad Imranul Hoque
MNC

Mr. Abdul Rahman Mubarak

Mrs. Sana Bashir Allouse
Baghdad University

United Kingdom

Dr. David Mallon
Species Survival Commission (IUCN)
3 Acre Street, Glossop Derbyshire, SK13 8JS
d.mallon@zoo.co.uk

Yemen

Dr. Masa'a Al Jumaily
Sana'a University
PO Box 12231, Sana'a
karimnasher@yahoo.com

Mr. Abdullah Hamod A Abo Al-Futooh
P.O.Box 18280, Sana'a
ALFOTOOH@yahoo.com
ALFOTOOH@hotmail.com

Mr. Saad Ahmed Al Ward

Mr. Khaled Abdullah Ali al Makban
Sana'a Zoo

Mr. Omer Ahmed Baeshen
Environment Protection Authority
PO Box 19719, Sana'a
rubatbaeschen@yahoo.com
citesunit@hotmail.com

Dr. Abdul Karim Nasher,
Sana'a University
PO Box 12231, Sana'a
karimnasher@yahoo.com