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Protected areas and tourism development: Case of the Dilijan National Park, Armenia

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ABSTRACT OF THESIS submitted by:
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The thesis analyzes and discusses various issues concerned with tourism development in protected areas of Armenia as different types of tourism in protected areas are becoming more and more popular in the country. This research attempts to collect and observe the information on tourism in protected areas and suggest sustainable tourism development in Armenia.

The major goal of the research is to examine current situation of tourism in protected areas of Armenia, to discover the key issues in this field, to analyze and discuss tourism potential of national parks, and to suggest recommendations for its development considering the outcome of the analysis.

Because of considerable lack of existing data, the collection of required information was supported by interviewing authorities in environmental field. The case study of Dilijan National park outlines tourism problems and its potential by evaluating tourism and recreation activities in the park, identifies threats to tourism and recreation, and develops recommendations for the sustainable tourism development.

The major result of the research is that tourism development in protected areas of Armenia is not sustainable. Its progress is being impeded by various issues such as insufficient infrastructure, low level of awareness and lack of financial support.

Keywords: Armenia, protected areas, biodiversity, Dilijan National Park, tourism

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List of Abbreviations

GRoA	Government of Republic of Armenia
IUCN	International Union for the Conservation of Nature
METT	Management Effectiveness Tracking Tool
MoNP	Ministry of Nature Protection
NGO	non-governmental organisation
NP	national park
NSSRA	National Statistical Service of the Republic of Armenia
SNCO	State non-commercial organization
WFTGA	World Federation of Tourist Guide Associations
WTO	World Tourism organisation
WWF	World Wildlife Fund

Introduction

Armenia is located in the heart of one of the world biodiversity hotspots and has a significantly high biodiversity. Occupying only 5% of the Caucasus area, Armenia includes almost a half of the Caucasian flora. Establishment of protected areas is one of the key strategies for biodiversity conservation. The history of protected areas in Armenia goes back to III-II century BC when extensive areas were protected to serve as hunting areas for kings and the nobility. The present system of specially protected areas was established in 1958 to protect ecosystems, habitats and threatened species. The system includes state reserves, state conservation areas, national parks, and natural monuments, and covers 10% of the territory of the country or 6% - if the surface of Lake Sevan excluded.

A significant potential for tourism, namely geological, biological, historical, cultural, and religious, is offered in this research on the case of the Dilijan National Park (Dilijan NP). However, very often visitors are not satisfied with the current touristic offers and services. The main reasons are the absence of a proper government body responsible for tourism and insufficiency of the current law on tourism and touristic activities (2003).

The thesis pursued the following aims:

- To present development trends of protected areas in the world and their categorization according to IUCN
- To present development trends of international tourism and the impacts of tourism in protected areas

- To describe the Armenian system of protected areas and the current state of tourism
- To discuss, analyze and evaluate tourism activities in protected areas of Armenia using the Dilijan NP as a case study identifying threats to tourism and recreation and issues of sustainable tourism development
- To elaborate recommendations for tourism development in the Dilijan NP on the basis of the made analyses.

Methodology used for the thesis involved a literature review and conducting interviews. The literature review included analysis of published and unpublished materials, namely books, articles, reports, management and action plans, laws, assessment reports and guidelines. The interviews were conducted to examine the current situation of tourism and its issues in protected areas of Armenia. Interviews were made with the representatives of the Ministry of Nature Protection, administration of the Dilijan NP, representatives of environmental non-governmental organizations, and scientists. Semi structured interviews were made on the basis of the assessment form of Management Effectiveness Tracking Tool (METT).

Chapter I. Tourism in protected areas

1.1. Development of the IUCN categories system for protected areas

According to the definition of the World Conservation Union (IUCN) a protected are is “a clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values” since May 2007 (Dudley 2008). Over the centuries natural resources have been priceless and unique value for human needs (Spellberg 1992). Being the cornerstones of all national and international conservation strategies, protected areas are crucial for biodiversity conservation and very often they are the only hope for keeping the threatened species alive (Dudley 2008). The establishment of legally protected areas is one of the safest means of habitat protection (Spellberg 1996).

A variety of management approaches is involved in the term “protected area”: from extremely protected territories where only specialists are allowed to enter and national parks where visitors are allowed and conservation is highlighted but to less limiting approaches (Dudley 2008). In some protected areas usage of natural resources is a required part of management, while in others it is prohibited (Dudley 2008).

Even more, if in the past local people were informed about governments’ decisions only later, now they are active participants in the discussions on management of protected areas. Based on management objectives, six categories of protected areas

are identified by IUCN (International Union for the Conservation of Nature). Taking into consideration that protected areas differ in size, location, management objectives and approaches, IUCN categorization can not be a “straitjacket” but “a framework to guide improved application of the categories” (Dudley 2008).

Different terms were used for the description of protected areas worldwide and there was no common terminology in the 20th century. As a first attempt the International Conference for the Protection of Fauna and Flora (1933) in London set up four categories of protected areas: national park; strict nature reserve; fauna and flora reserve; and reserve with prohibition for hunting and collecting. Nine years later, four types, namely national park; national reserve; nature monument; and strict wilderness reserve) were developed by Western Hemisphere Convention on Nature Protection and Wildlife Preservation (Holdgate 1999).

World List of National parks and Equivalent Reserves was produced in 1962 by IUCN’s Commission on National Parks and Protected Areas (CNPPA) that is called the World Commission on Protected Areas (WCPA) now (Dudley 2008). The second version called UN List of Protected Areas was created in 1966. It became a regular publication which used a simple system of classification: national parks, scientific reserves and natural monuments. In 1972 IUCN was called on by Second World Parks Conference to “define the various purposes for which protected areas are set aside; and develop suitable standards and nomenclature for such areas” (Elliott 1974). As a result of a working group report (IUCN 1978), three groups (A, B, C) with ten preliminary categories defined by management objectives were projected (Dudley 2008).

Group A:	**Group B**:	**Group C**:
I Scientific reserve	VI Resource reserve	IX Biosphere
II National park	VII Anthropological	reserve
III Natural	reserve	X World Heritage
monument/national landmark	VIII Multiple-use	site (natural)
IV Nature conservation	management area	
reserve		
V Protected landscape		

In 1984 a new attempt to update the categories was made by CNPPA which proposed a new system only around the I-V categories proposed in 1978 leaving categories VI-X (Eidsvik 1990). The new system was approved in 1994 at IUCN General Assembly meeting. The definition of protected area was set out in Guidelines published by IUCN in the same year (IUCN 1994) as well as six categories. According to the Guidelines, protected areas are managed mainly for:

I Strict protection

Ia) Strict nature reserve and Ib) Wilderness area

II Ecosystem conservation and protection (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/seascape)

VI Sustainable use of natural resources (i.e., Managed resource protected area).

IUCN system of protected areas categories was mainly introduced to standardize a composition of particular protected areas. The names of protected areas relate to the management objectives of categories. The only exception is the term “National park” which can be used in different categories as the majority of national parks differ in their objectives. Dudley (2008) notes that “the fact that a government has called, or wants to call, an area a national park does not mean that it has to be managed according to the guidelines under category II”. Governments should identify and apply the most suitable management system and name it.

1.2. Trends, number and extent of protected areas

Thorsell (1992) listed more than 30,000 protected areas worldwide covering 10% of the planet’s land surface. However, only 6,900 main protected areas had legal protection status at that time and covered 5% of the earth’s land which is equivalent to twice the area of India (McNeely 1992). According to the United Nations List of Protected Areas (Chape *et al.* 2003), there are 102,102 protected areas covering 12,65% of the planet’s land surface which is equivalent to the combined area of China, South Asia and Southeast Asia or 18.8 million sq km. Only terrestrial protected areas cover 11.5% of the earth’s land surface (17.1 million sq km) which is equivalent to the area of the South America continent (Chape *et al.* 2003) (Table 1).

Table 1. Global number and extent of protected areas.
Source: Chape *et al.* (2003)

Category	No. of sites	Proportion of total no. protected areas (%)	Area Covered (km^2)	**Proportion of total area protected (%)**
Ia	4,731	4.6	1,033,888	**5.5**
Ib	1,302	1.3	1,015,512	**5.4**
II	3,881	3.8	4,413,142	**23.6**
III	19,833	19.4	275,432	**1.5**
IV	27,641	27.1	3,022,515	**16.1**
V	6,555	6.4	1,056,008	**5.6**
VI	4,123	4.0	4,377,091	**23.3**
No Category	34,036	33.4	3,569,820	**19.0**
Total	102,102	**100.00**	18,763,407	**100.00**

1.3. Development trends of international tourism

It is important to use a standardized definition of tourism for measurement, statistics and reporting (Eagles *et al.* 2002). The World Tourism Organization (WTO) defines tourism as "the activities of persons travelling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business, and other purposes."

Social and environmental concerns are increasing with the rapid growth of international tourism. The growth of sustainable tourism and ecotourism can be a

response to such concerns. Protected areas can take advantage of the new tendency according to which more and more tourists avoid destinations with social and environmental problems and are attracted to areas with a good reputation (Eagles *et al.* 2002).

With the growth of tourism the number of people interested in active tourism is growing as well. In addition, growth in "soft" activities and ecotourism is being observed. The difference between "soft" adventure and "hard" adventure or ecotourism is a level of comfort which they desire to have while experiencing the activity (Eagles *et al.* 2002).

The number of tourists is growing worldwide: in 2008 it was 924 mln, which is 2% (16 mln) higher than in 2007, and in 2007 it was 7% higher than in 2006 (UNWTO 2009). According to the Tourism 2020 vision of World Tourism Organization, international visits are projected to reach 1.6 bln by the year 2020 (Figure 1).

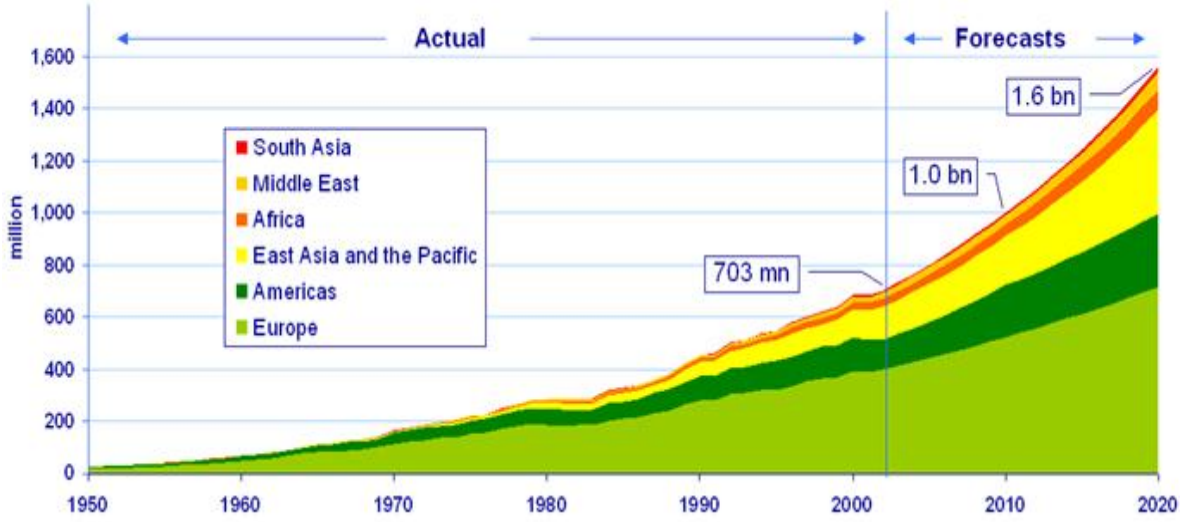

Figure 1. WTO's Tourism 2020 Vision forecasts.
Source: World Tourism Organization (2009)

1.4. Tourism in protected areas. Ecotourism: basic concepts and definitions

Ecotourism is the most high-speed growing sector within tourism which is in its turn the fastest growing industry worldwide (Chalker 1994). There is a considerable variety in definitions of ecotourism and its principles. In general, tourist activities taking place in protected areas are considered to be ecotourism.

The term ecotourism defined as “traveling to relatively undisturbed or uncontaminated areas with the specific objective of studying, admiring, and enjoying the scenery and its wild plants and animals, as well as any existing cultural manifestations (both past and present) found in these areas” was introduced by H. Ceballos-Lascurian in 1987 (Filion *et al.* 1994, Espinoza 2009). A number of related terms, such as adventure tourism, nature tourism, cultural tourism and others expanded the concept of ecotourism (Boo 1991).

According to the International Ecotourism Society, ecotourism is “responsible travel to natural areas that conserves the environment and improves the well-being of local people”. Many authors have tried to give their own definitions of ecotourism and its main principles. Very often these principles are similar as the ones identified by Fennel (1999) and Honey (1999):

Main principles of ecotourism

by Fennel (1999)	by Honey (1999)
Interest in nature	Involves travel to natural destinations
Adventure	
Contributes to conservation	Provides direct financial benefits for conservation
Benefits local people/long-term benefits	Provides financial benefits and empowerment for local people
Enjoyment and appreciation	Builds environmental awareness
Education and study	Minimizes impacts
Low impact/non-consumptive	
	Respects local culture
Ethics/responsibility	
Culture	

These points do give a clear understanding of what ecotourism is, though it is difficult to meet all of them. Meeting as many of these principles as possible can support an activity called ecotourism (Merg 1999).

The simplest definition of ecotourism is given by Shores (1992): “The proper definition of ecotourism is ecologically sound tourism”. A range from “relative ecotourism” to “absolute ecotourism” was also outlined by Shores:

> “The overall or net effect of the tourism experience can be environmentally sound -- relative ecotourism, or every component and

sub-component in the tourism web can be environmentally sound -- absolute ecotourism".

Lindberg et al (1997) reduced the basic conceptual definition of ecotourism to "tourism and recreation that is both nature-based and sustainable". Hence, the more positive benefits are produced by tourism the more sustainable it is.

1.5. The impacts of tourism in protected areas

The aim of the tourists visiting protected areas is to get acquainted with the area, as well as understand and appreciate its historical, cultural and natural values. So, tourists are getting their benefits. A protected area can also gain its own benefit. Tourism development in protected areas, established primarily to preserve habitat, natural landscape, wildlife and cultural heritage, can produce benefits namely:

- Enhancing economic opportunities,
- Protecting natural and cultural heritage,
- Enhancing quality of life of all concerned (Eagles *et al.* 2002).

An increase of the number and quality of products and services and the decrease of the amount that leaks out of the local territory are two main conditions to meet to gain economic benefits from tourism (Eagles *et al.* 2002).

By producing funds through service and entrance fees and taxes, well-managed tourism in protected areas can be in support of conservation of natural, cultural and

historical heritage. Protected areas are full of important historic, archeological and architectural resources, especially lived-in protected areas (Category V) and tourism can assist in maintaining such important resources by providing income. Eagles *et al.* (2002) suggest reestablishing main cultural traditions and events which can be also beneficial.

Protected areas, the "engines of sustainable development" (Eagles *et al.* 2002), supported by profits from tourism can support in turn such needs of local communities as improved communication, education, training and healthcare (IUCN 1999). Moreover, they are viewed not only as a "tool to help communities to improve their living standards and quality of life" (IUCN 1999), but also as a tool for enhancing the quality of life of a whole nation (Eagles *et al.* 2002).

Alongside benefits and funds, tourism development also has negative effects if protected areas are not well managed. Eagles *et al.* (2002) outline three types of the costs of tourism: economic, socio-cultural and environmental.

Together with increased demand for facilities, goods and services that tourism brings, increased costs and taxes for local people are possible. Foreign ownership and property value can increase so much that local people cannot have the funds to live there. Eagles *et al.* (2002) suggest minimizing leak of tourism expenditures. Otherwise, local people may try to find more beneficial types of land usage.

Very often tourism in protected areas has a seasonal character, and local people are employed only during the busy touristic seasons. Tourism management developed by protected area agencies may negatively affect local people, for example, by

prohibition on use of natural resources (Eagles *et al.* 2002). Eagles *et al.* (2002) claim that negative effects can take place when local residents are not involved in tourism; moreover, a dramatic difference between the poverty of hosts and the affluence of tourists can also lead to negative impacts.

"Zero impact" tourism does not exist. Even the best protected area managers and the most environmentally conscious tourists may cause some impacts. The following elements may experience environmental risks from tourism (Eagles *et al.* 2002):

- Ecosystems
- Soils
- Vegetation
- Water
- Air
- Wildlife

To minimize negative effects on the environment before they occur and to maximize benefits, sustainable tourism strategies should be planned and implemented.

Chapter II. Tourism in protected areas of Armenia

2.1. Protected areas of Armenia

The establishment of protected areas in the mountainous areas of Armenia, as well as other mountain regions of former Soviet Union, was based on the theory of "priority for unique high mountain ecosystems" (Price 2000). These areas were mainly alpine and subalpine ecosystems which are described by a large amount of endemic species of fauna and flora. As concerns "structural and functional indicators and genetic features" (Price 2000), these areas also differ from lowlands which have been modified by human activities to a great extent.

As a result of the abovementioned principle of priority, no reserves with strict protection regime have been established in middle mountain landscapes, especially in foothills and low hills (Price 2000). The belonging of the natural sanctuaries to the category of protected areas was formal and the use of natural resources was not debarred. Price (2000) also outlines the "arbitrary" demarcation of the boundaries of protected areas, which were usually matching with administrative boundaries and land use and not harmonious with natural boundaries.

Article 1 of the Law of the Republic of Armenia on "Specially Protected Nature Areas" (2006) defines specially protected nature areas as "designated by given law areas of terrestrial land (including surface and underground waters and ore) and the appropriate air space, and separate natural objects that have environmental,

scientific, educational, healthcare, cultural, historical, recreational, tourist, aesthetic value, and a special regime of protection is established for them".

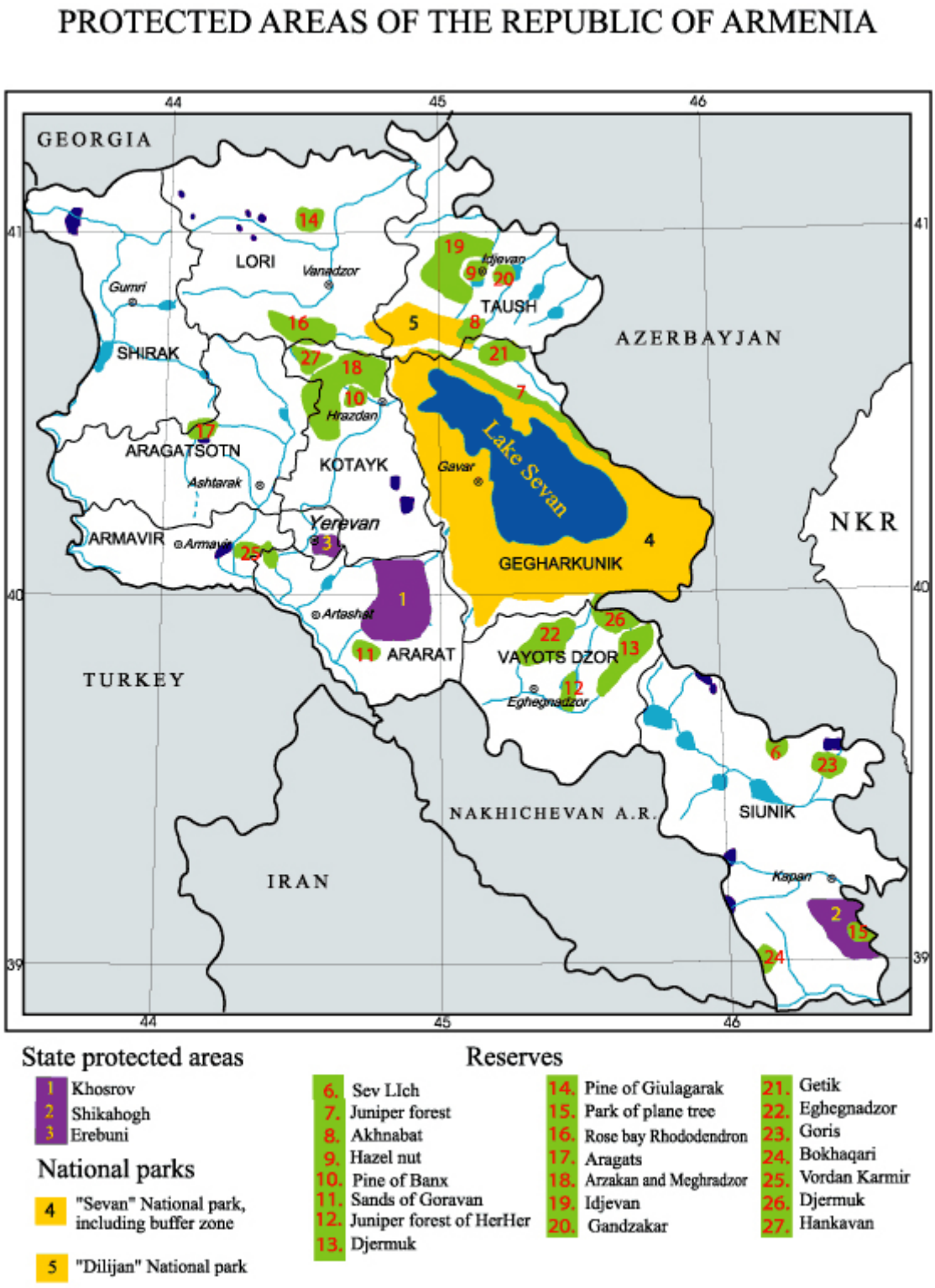

Figure 2. Protected areas of the Republic of Armenia.
Source: Plants Genetic Resources in Central Asia and Caucasus. Armenia (2003)

According to Article 4 of the Law on Specially Protected Nature Areas (2006), protected areas are qualified by importance (international, national and local) and by category (state reserves, national parks, state sanctuaries, and natural monuments). The existing system of specially protected areas of Armenia includes three state reserves, two national parks, and 25 state sanctuaries or reserves (Appendix 1) though the number of state sanctuaries/reserves was 22 in 2003 (Figure 2).

Table 2. Overview of the national protected area system.
Source: MoNP (2008b)

PA category/type	Quantity	Surface area, hectares	Corresponding IUCN category	Management authority
State Reserves	3	35229. 075	Ia	Ministry of Nature Protection of RA
National Parks	2	181108, out of which 125200 is the surface of the lake Sevan	II	Ministry of Nature Protection of RA
Sate Reservations	25	89506.47	IV	Ministry of Nature Protection and Ministry of Agriculture of RA
Natural Monuments	264	unknown	III	Have no management units currently, and can be managed by various authorities.

The list of natural monuments consists of 230 monuments (109 geological, 48 hydrogeological, 38 hydrological, 16 natural-historical and 19 biological objects). Natural monuments do not have a management mechanism yet (MoNP 2008a). However, the precise area covered by protected areas is not accurate as the review, modification and precise classification of boundaries (funded from the state budget

from 2005) is to be completed up to 2012 (MoNP 2008a). These works will include new established natural parks and natural monuments.

The Armenian protected area categories do not accurately match IUCN categories. Nevertheless, state reserve fits IUCN category Ia (strict nature reserves managed mainly for science), national park fits IUCN category II ((protected areas managed mainly for ecosystem protection and recreation), state sanctuary fits IUCN category IV (protected areas managed mainly for habitat or species conservation through management intervention), and natural monument partly fits IUCN category III (natural object of unique scientific, historico-cultural and aesthetic values) (Table 2).

2.2. The current state of tourism in Armenia and visitors

According to the National Statistical Service of the Republic of Armenia (2008), the average growth of tourism starting from 2001 has been 20-25%. However, only 9.4% growth in tourists was noted for 2008 (558 thousand) compared to 2007 (510 thousand) because of economic crisis worldwide (Table 3).

Table 3. Tourism dynamics of the Republic of Armenia.
Data source: NSSRA (2008)

	2004	2005	2006	2007	2008
Number of Arriving Tourists	262, 959	318, 563	382, 240	510, 622	558, 443

Although, there has been a significant growth in Armenia's tourism industry in the past years, the share of Armenia's tourism industry is only 0.08% in the European

market and 0.04% in the world market (GRoA 2007). Determined by the Republic of Armenia Law on Tourism and Tourism Activities (2003), the term “tourist” is in compliance with UNWTO methodology and EU Directive 95/97/EC:

> “a citizen traveling from his/her permanent place of residence (country) to another place (country) for a maximum term of one year with no intervals the main purpose of whose travel is not paid labor activity in the place (country) of destination and who receives no remuneration for his/her main labor activity in the place (country) of destination.”

The majority of tourists visiting Armenia are from Russia and CIS countries. An important characteristic of the visitor profile is Armenian heritage. According to the results of the Armenian International Visitor Survey (Reynolds 2007) conducted in September 2006 – August 2007, the majority of tourists (62.2%) visiting Armenia have Armenian ancestry (Table 4).

As it was revealed by market research on Armenian American community in the United States, the majority (86.1%) are interested in visiting Armenia and motivated mostly by travel interests such as sightseeing (87.2%) and visiting monasteries and churches (83.6%) (MCG 2007).

Table 4. Country of Residence – Highest Percentages of Tourists.

Source: Reynolds (2007)

Country	Total Number of Interviewed Tourists	Percentage of All Interviewed Tourists	Total Number of Interviewed Tourists with Armenian Ancestry	Percentage of All Interviewed Tourists with Armenian Ancestry	Percentage of Each Interviewed Residence with Armenian Ancestry
Canada	55	0.7	38	0.8	**69.1**
France	270	3.5	144	3.0	**53.3**
Georgia	2143	28.1	1470	31.0	**68.6**
Germany	222	2.9	59	1.2	**26.6**
Greece	64	0.8	37	0.8	**57.8**
Iran	592	7.8	177	3.7	**29.9**
Italy	65	0.9	10	0.2	**15.4**
Japan	40	0.5	1	0.0	**2.5**
Lebanon	37	0.5	33	0.7	**89.2**
Russian Federation	2660	34.9	2188	46.1	**82.3**
Syrian Arab Republic	88	1.2	63	1.3	**71.6**
United Kingdom	145	1.9	36	0.8	**24.8**
United States	347	4.5	186	3.9	**53.6**
Other SIS	235	3.1	136	2.9	**57.9**
Other Western Europe	231	3.0	67	1.4	**29.0**
All Other Countries	433	5.7	101	2.1	**23.3**
Total	**7627**	**100.0**	**4746**	**100.0**	**62.2**

2.3. Ecotourism in Armenia

Despite its being a relatively new concept in Armenia, ecotourism has a strong position in the Armenian tourism market and occupies the fourth place among reasons for selecting it as a tourist destination. Adventure tourism/ecotourism was stated as a reason for visiting Armenia by 12.4% of tourists (Appendix 2). Taking into account the fact that tourists visiting Armenia are mainly attracted by historical

and cultural monuments, ecotourism which is already popular in Armenia will become a more demanded type of tourism, as well as ethnotourism and agrotourism. Considering the world tourism market's rising demand for close to nature and wild life tourism products, such as tourism in protected areas, ecotourism, agrotourism, scientific and adventure tourism, Armenia is a place where numerous natural, historical and cultural monuments can be found on small areas (Figure 3). However, tourism priorities are not defined in the "Law on Tourism and Tourist Activities" (2003). In addition, the peculiarities of various types of tourism and the ways of their development are not specified and divided.

Figure 3 Map of Armenia with main architectural ensembles and monastery complexes. Source: Tourist Information Center (2009)

Although adventure tourism/ecotourism is one of the significant reasons for tourists visiting Armenia, there is a place for further development of this “niche market” in accordance with further development of natural, historical, and cultural tourist attractions (GRoA 2007). Dilijan is marked as “Armenia’s northern tourism hub” (GRoA 2007) in the near future that will be a center for nature exploration, recreation and historical sightseeing.

Chapter III. Case study: Dilijan National Park

Though the exact date of the establishment of Dilijan is unknown, human beings have been living here since the end of 2000 BC – the beginning of 1000 (Late Bronze and the Early Iron Ages) according to archeological excavations carried out in the 1870s. The majority of the findings are in the museums of Moscow, Saint Petersburg, Tbilisi and the rest is in Geological Museum of Dilijan. The name of Dilijan was first mentioned in the travel notes of the French traveler Jean Chardon in 1666. Dilijan NP is located in Aghstev valley 106km northeast of Yerevan. In ancient times, summer residence and hunting lands of Arshakuni kings dynasty were situated here.

3.1. History of establishment and legal framework

Dilijan and Kuybishev Forest Enterprises, subordinated to the health Resort Department of National Committee, have been formed in Dilijan surrounding area. Based on these Forest Enterprises, a forest production entity was established in 1937 (MoNP 2006) which was transformed to the Dilijan state reserve in 1958 (Armenian SSR Council of Ministers Decree No. P-341).

Since the establishment of the state reserves and sanctuaries, areas with nearly all types of natural vegetation have been transformed to economic use (Gabrielyan 1981). Gabrielyan state in her speech in Madrid (1981): “No corner is left in our small-sized republic where the natural phytocoenoses are preserved in their genuine

virgin state and protected from man's direct or indirect influence." Grigoryan (1978) argued that virgin woodlands, numerous orchards of fruit trees and shrubs are still found in the Dilijan state reserve. According to him, natural Yew Grove situated here is the biggest by scale in USSR.

The need to protect the mezophile oak and beech forests, relict species as *Taxus baccata* (berry yew), and Caucasian rhododendron dating from the third era (MoNP 2006) was the main reason for the establishment of the reserve. However, factors such as existence of Dilijan and five communities (Baloyan, Faivush pers.comm.) within the reserve and agricultural areas were not taken into account. Hence, wide usage of the land for economic purposes has always been in contradiction with the existing regime.

The area of the reserve was expanded in 1973 and in the 1980s (Grigoryan 2000). Once Dilijan was decreed a National Park (2002), the original boundaries were extended from 28000 to 36600 ha (MoNP 2006). In addition, buffer zone with the square of 8228 ha was added taking into account natural landscape peculiarities (watersheds, rivers, peaks, mountain slopes, etc.) (Baloyan pers.comm.).

3.2. Status change from state reserve to national park

Dilijan state reserve could not have reserve regime from the beginning, it was a state reserve only on paper (Danielyan, Fayfush, Tamanyan pers.comm.). According to interviewees (Baloyan, Fayvush, Danielyan pers.comm.), the idea of creating the Dilijan National Park was conceived in the early 1980s. However, growing concern

over forest degradation and loss of biodiversity resulted in the creation of the Dilijan National Park on the basis of the Dilijan State Reserve only in 2002.

The main reasons of the status change can be summarized as follows (Baloyan, pers.comm):

1. main highway through the state reserve connecting central parts of Armenia to the northern parts and Georgia, so the reserve status could not work
2. high-voltage lines through the whole territory of the reserve
3. existence of 8 communities on the territory of the reserve (Dilijan and 7 villages)
4. health resort during Soviet period
5. no difference from common forestry as it was under the supervision of "Hayantar"

3.3. Location and climate

Located in the northeast of mountainous Armenia, Dilijan NP is surrounded by a mountain range with the highest point of mountain Bovakar (3016m above sea level). The lowest point of the park (1070) is situated in Aghstev river valley (Gabrielyan 1990). The climate of the Dilijan NP is relatively warm and humid with absolute maximum temperature of 37^{o}C and absolute minimum of 26^{o}C. At 2000 meters above sea level the average temperature is -10-13° in January and 13-15° in August. The maximum amount of rainfall is in spring (35% of annual norm) and the minimum amount is in winter (about 12%). Snow depth varies from 5 to 50sm and more than 70sm on the northern slopes (Gabrielyan 1990; Grigoryan 1978; MP

2006). Soil cover in the Dilijan NP is mainly of two types: mountain-forest and mountain-grassland. Mountain-grassland brown soils prevail in the forest zone and have good fertility.

3.4. Flora

Forest is a prevailing vegetation type of the Dilijan NP with predominance of oak (45%), beech (24%), and hornbeam (9.5%) or their mixture (Grigoryan 1978). Protection of oak and beech forests was precisely the reason for the establishment of the state reserve in 1958 (Baloyan pers.comm.). Southern slopes of mid-altitudes are covered by oaks and northern slopes are covered by beech forests. There are also maples, ash, lime and other trees, as well as wild fruits and nuts. There are places in the Park where reforestation was done by planting hornbeam trees. Nowadays there are different versions of hornbeam forest with shrub and grass layers remained from native types (Gabrielyan 1990).

Flora of the Park and its buffer zone includes 1200 species of vascular plants with 977 species growing on the territory of the park, according to the data of the Dilijan NP Management plan (2006). Five of them are endemics of Armenia and 27 are registered in the Red book of Armenia. Flora of the national park also includes 54 medicinal and 41 edible plants. However, an inventory of the main natural resources has not been done till now (Faifush pers.comm.). According to Management plan, there are 480 fungi species and subspecies, 176 of which are edible. Local population use only 3 of them and avoids collection of others. Hence, these

“powerful natural resources” (Fayvush pers.comm.) are not collected though the prices are high in the world marked, especially because they are growing in ecological conditions.

3.5. Fauna

The fauna of the state reserve included 4 species of amphibians, 16 species of reptiles, 107 species of birds and 45 species of mammals (Gabrielyan 1990). Nowadays numbers, according to the Management Plan of the Dilijan NP are the following: 5 species of amphibians, 19 species of reptiles, 147 species of birds and 49 species of mammals. The difference in numbers can be explained by the extension of the territory of the National park and adding of the buffer zone.

The fauna of predatory mammals was comparatively big. Brown bear, wolf, fox, badger, wild cat are mentioned by Gabrielyan (1990), as well as rare appearance of leopard. From present list of 49 species of the mammals in the territory of the Park, seven are registered in the Red Book of Armenia.

From hoofed mammals there are wild boar, dappled deer and roe. The roe is aboriginal to the Dilijan woodlands. Concerning wild boar and dappled deer, 60 wild boars and 130 dappled deer were imported in 1969. Boars got acclimated In Aghartsin gorge, breed and even occupied neighboring areas of the reserve. According to the 1985 accounting information, there were 250 boars and 380 dappled deer (Gabrielyan 1990).

It is necessary to mention birds like the Caucasian grouse. According to accounting information of 1985, there were 80-90 Caucasian grouse on the territory of the reserve. The Aghstev river valley is one of the areas of golden eagle spreading. The golden eagle and bearded vulture (Gypaetus barbatus) were registered in the Red Book of USSR.

A rare type of otter registered in the Red Book of USSR could be found in the rivers of the reserve. The number of species decreased because of river pollution. Trout (Salmo trutta fario), an indicator of the purity of mountainous rivers, is found in the rivers of the national park.

The fauna of Dilijan reserve was more diverse in the past. No more than hundred years ago there were herds of Caucasian deer, wild boars and mountainous goats in southern parts of the forests. Hunting, deforestation and absence of simple conservation rules and regulations have led to the destruction of the above mentioned mammals. Till now one can see huge horns of the deer on the walls in the houses of the Dilijan inhabitants. In the 70s the biggest representative of the reserve's fauna was brown bear. The number of the species was almost twenty. The number of roe decreased in 70s to 80 species. They were in groups of 10-20 species and now in groups of 3-5. Caucasian deer were also brought here from Caucasian reserve in the 70s. So, big changes not only in the flora but also in the fauna were noticeable in the 70s. Among the fauna representatives disappeared at the end of 19th century were aurochs, big deer, bison and others (Grigoryan 1978).

3.6. Hydrology

The Aghstev River with a length of 121 km (MoNP 2006) is called “the main water artery of the Park” where all large and small rivers flow fed by a great number of springs. All these rivers and springs are typical of mountains with fast flow destroying the banks. In spring and early summer, during the snow thawing they are full-flowing. The main arms of the Aghstev are Bldan and Getik.

On the territory of the Park there are many mineral springs rich in hydro-carbonate, natrium, iron, magnesium and other elements. More than ten big and small lakes are mentioned in the “Dilijan reserve” (Grigoryan 1978). The biggest one is Parz Lich (Lake Pure) with a surface of 2 hectares. It has a landslide origin and situated on the northern slopes of the Areguni mountain range (MoNP 2006).

3.7. Zoning of the Dilijan National Park

Definition of the territorial-functional zones of the Dilijan NP was done in 2005-2006 in the framework of “Natural Resources Management and Poverty Reduction Project”. The present zoning of the Dilijan NP is based on filed surveys of the working groups of botanists, zoologists, hydrologists, foresters, cartographers implemented in the framework of “Natural Resources Management and Poverty Reduction Project”, taking into account recommendations of the Dilijan NP SNCO, Tavoush region administration, and other stakeholders (Baloyan pers.comm.).

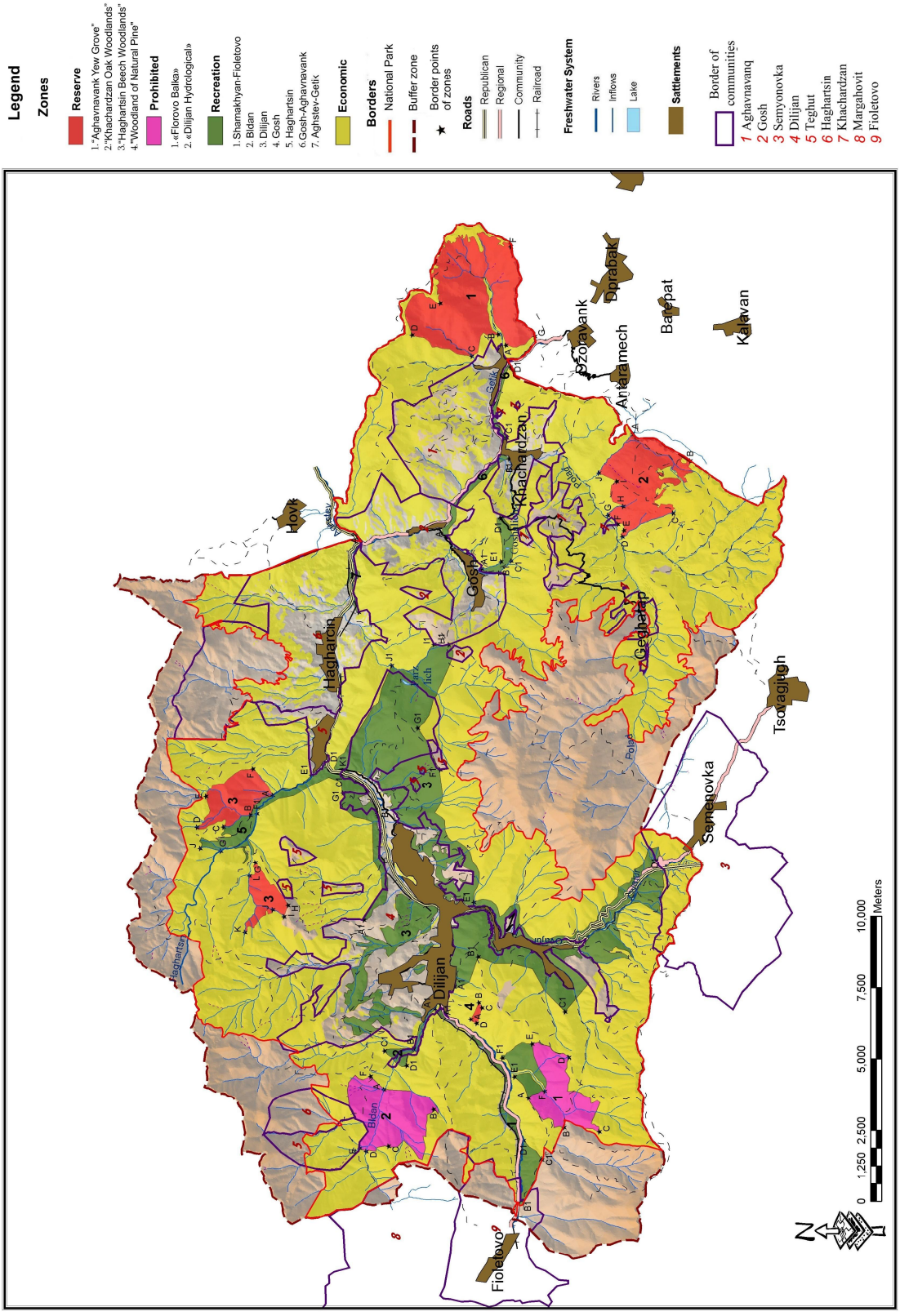

Figure 4 Territorial-Functional Zones of the Dilijan NP.
Source: MoNP 2006

The area of the Park is divided into 3 territorial-functional zones: protected (reserve and prohibited zones), recreational and economic areas (Figure 4).

The reserve zone of the Dilijan NP consists of four reserves with a total area of 2287 hectares or only 7% of the total area of the park (Table 5).

Table 5. Reserve zones of the Dilijan NP.
Source: Adopted from MP (2006)

Reserve zones	Main objective of the reserve	Area (ha)	Total length of the boundary (km)	Area forested (%)
Aghavnavank Yew Grove	conservation of unique relict species of yew (Taxus *Baccata*)	1192	25.7	95
Khachardzan Oak Woodlands	preservation of oak woodlands	615	19	98
Haghartsin Beech Woodlands	conservation of beech woodlands	455	15.8	97
Woodland of Natural Pine	conservation of natural pine woodlands	15	1.8	100
		2287		

Relic Yew Grove (Figure 5) consists of a mixture of yew (60-90%) and beech trees; the age of the yew trees is 400-500 years and an average height is about 230-260 m (Grigoryan 2000). Yew grove has been severely degraded and its condition is depressed (Galstyan pers.comm.).

Figure 5 Redwood in Yew Grove
(photo by author).

Prohibited zone covers an area of 935 hectares or only 3% of the total areas of the park and consists of two prohibited subzones (Table 6).

Table 6. Prohibited zoned of the Dilijan NP.
Source: Adopted from MP (2006)

Prohibited zones	Main objective	Area (ha)	Total length of the boundary (km)	Area forested (%)
Dilijan Hydrological	preservation of mineral springs and their environment	552	11.7 km	95
Florovo Balka	preservation of one of the main springs of drinking water of Dilijan city and its environment	383	11.4 km	98
		935		

Recreation zone consists of seven subzones with total area of 4194 hectares or 12% of the total area of the park (Figure 4):

1. The total area of the Shamakhyan-Fioletovo recreation zone lying on the right and left banks of the Aghstev River is 327 ha. This zone borders with "Woodlands of Natural Pine" reserve. Asphalt road and railway are adjacent to the zone.
2. The total area of the Bldan recreation zone lying on the right and left banks of the Bldan River is 59 ha. There is 1.6 km long asphalt road adjacent to this recreation zone. Joukhtak Vank (Monastery), St Astvatsatsin and St Grigor churches of 12-13 centuries are situated here.
3. The total area of the Dilijan recreation zone is 3191 ha with 114 km of total length of the boundary. This zone is lying on southern parts of Dilijan city.
4. The total area of the Gosh recreation zone is 82 ha and includes the intersection of Gosh village and Gosh Lake and adjacent areas. The area hosts Goshavank Monastery (12-13th centuries).
5. The total area of the Haghartsin recreation zone is 422 ha and includes middle and upper zones of the riverbed of the Haghartsin river.
6. The total area of the Gosh-Aghavnavank recreation zone is 85 ha and includes the Getik River valley from Gosh community to the adjacent Aghavnavank community riverbed.
7. The total area of the Aghstev-Getik recreation zone is only 28 ha and includes the southeastern part of the Haghartsin community and the right bank of the Aghstev River.

Economic zone has an area of 26359 ha, which is 78% of the total area of the national park. Hence, the current zoning of the Dilijan NP has been proved to be totally inappropriate (Danielyan, Galstyan, Fayvush, Tamanyan pers.comm.) and

evaluated by them as “weak” and needs to be reconsidered, as the reserve zone occupies very small proportion - 7% of the total area. There is a necessity for an improved zoning with the extension of the reserve zone. In addition, demarcation and fencing of the protected area is necessary as Dilijan NP has well identified and established boundaries which are not still fenced.

3.8. Usage of areas

The results of the management effectiveness assessment (MoNP 2008a) using the RAPPAM Methodology (Rapid Assessment and Prioritization of Protected Area Management) (Ervin 2003) showed that the main pressures and threats to protected areas are the following: water pollution, land use and construction, grazing, tourism and recreation, illegal land use, logging, fuel wood collection, hay making. The most unprotected from treats and pressures are national parks. Dilijan NP is mostly exposed to the following threats: tourism and recreation, grazing, usage of plant resources, and fuel wood collection.

The unstructured character of recreation activities on the territory of the Dilijan NP was mentioned by interviewees (Baloyan, Galyan pers.comm.). Resting place in the neighborhood of Parz Lake is the only exception of dealing with recreational activities. However, in comparison with other protected areas recreation threats are not so high in the Dilijan NP (MoNP 2008a) (Figure 6).

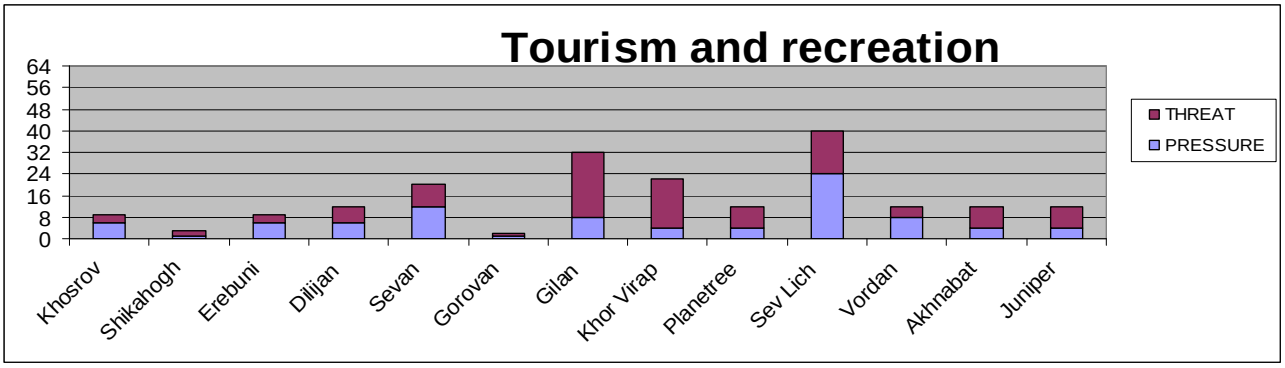

Figure 6. Tourism and recreation.
Source: MoNP 2008a

Lack of the community pastures and unawareness of the limitation on grazing on the territory of the national park leads to the usage of its territory, including forested areas, as pastures (Faivush, pers. comm.). Moreover, roads leading to the pastures pass through the territory of the national park (MoNP 2006). The pressure of grazing in the Dilijan NP is not as heavy as in other protected areas but it has its damaging influence (Figure 7).

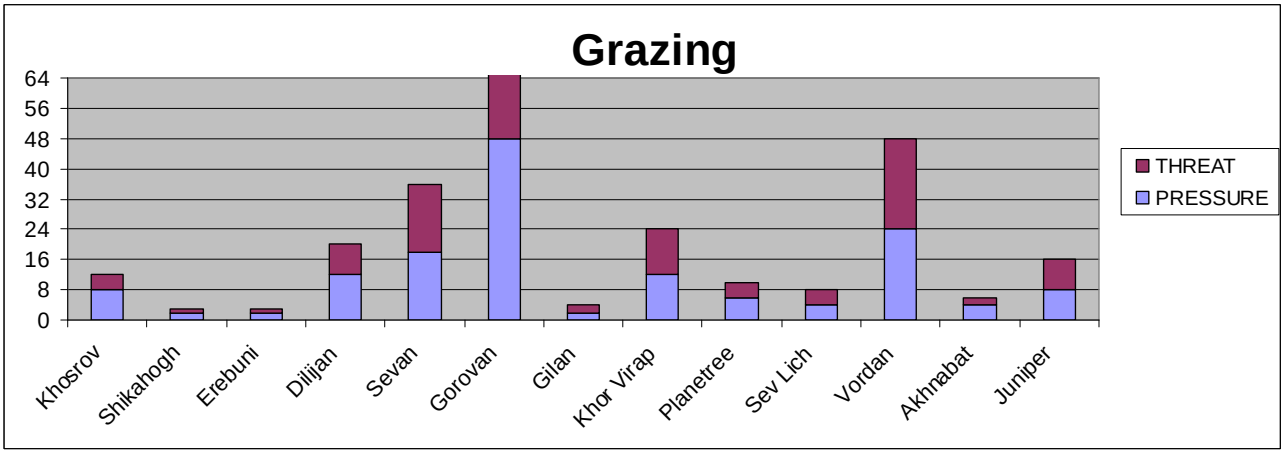

Figure 7. Grazing.
Source: MoNP 2008a

Due to control of the Dilijan NP SNCO a drop in illegal logging is being observed, though timber is still being used as fuel wood by locals. According to MP, consumption of fuel wood, mainly waste, by one household is 10 m^3 – 30 m^3. Dilijan

NP SNCO is coordinating the collection of waste. However, logging is a serious pressure for the Dilijan NP in comparison with other protected areas (Figure 8).

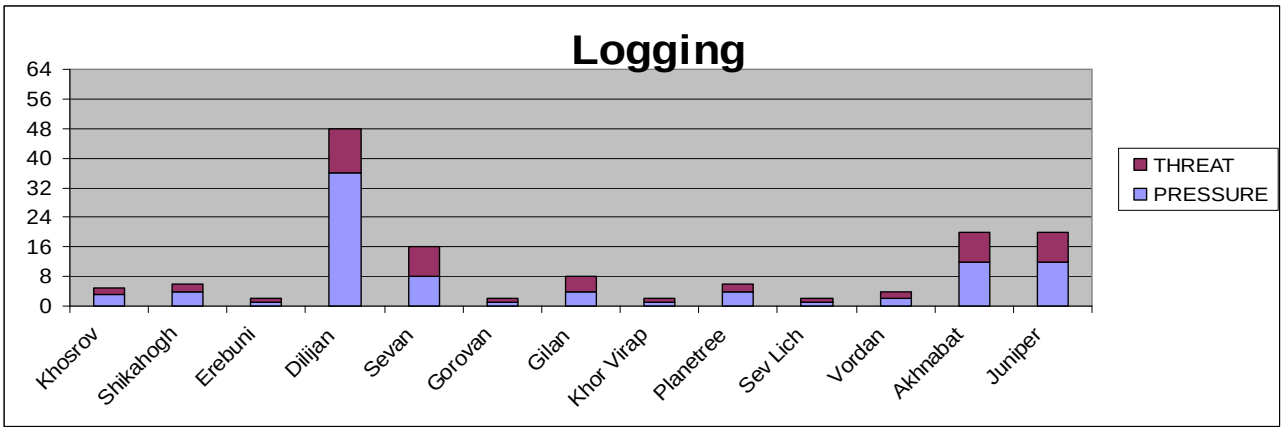

Figure 8. Logging.
Source: MoNP 2008a

Not being considered as a serious pressure on protected areas, fuel wood collection (Figure 9) is significant in the Dilijan NP in comparison with other protected areas.

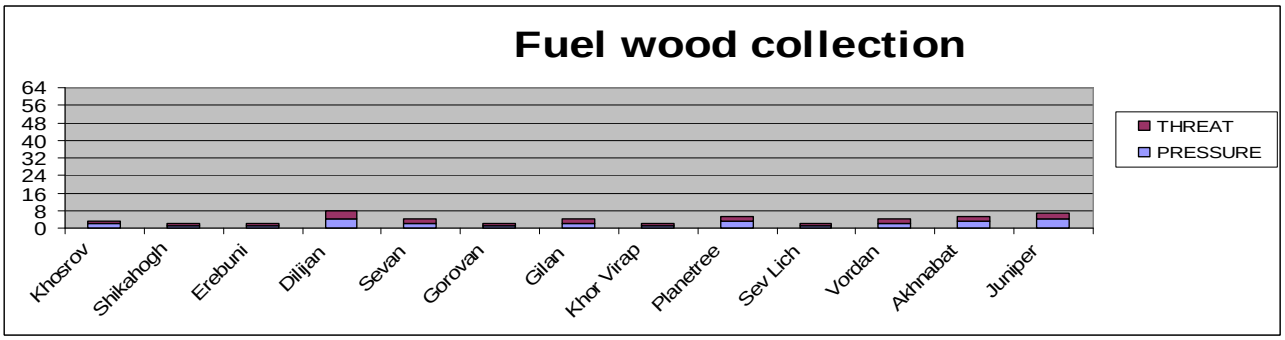

Figure 9. Fuel wood collection.
Source: MoNP 2008a

Chapter IV. Tourism in the Dilijan National Park

4.1. Current condition of natural and cultural monuments and suggestions for the tourism development

Parz Lake (Parz Lich) is located 9 km north-east of Dilijan town, access to it is easy and surrounding area is clean, though the road leading to it needs protection from landslides. The natural monument is important for tourism as the position of the lake can allow including it in tourist routes leading to the Haghartsin monastery.

The Haghartsin Monastery (Figure 10) is well preserved, it is in the process of reconstruction now and the surrounding area is clean. The road needs reconstruction as it is degraded by landslides. Together with Goshavank, the Haghartsin Monastery is one of the popular sightseeing places for the whole Armenia and amongst the major tourist areas in the national park.

Gosh Lake is located 1.5km south-west of the Gosh village, access to it is easy and surrounding area is clean. To accommodate big number of tourists, reconstruction of the road leading to the lake is required. The natural monument is important for tourism as its position is convenient for including it in tourist routes leading to Goshavank Monastery. Surrounded by forest covered hills, the monastery was significantly renovated in 1955-1968 and 1978 (MoNP 2006). There is also a small museum next to the monument founded in 1971. Existing facilities are far behind international standards.

Figure 10. Haghartsin Monastery
(photo by auhor).

Figure 11. Goshavank Monastery
(photo by auhor).

Together with Haghartsin, Goshavank Monastery (Figure 11) is one of the most popular sites for tourists within the National Park. It is also one of the most important and beautiful architectural and cultural monuments of Armenia.

Jukhtak Vank (Twin Monastery) and Matosavank (Figures 12-13) are situated on the banks of the river Bldan, opposite each other. The beautiful view of the Matosavank site has been altered by intensive deforestation of the surrounding area. Both monuments are located in an active landslide zone that may threaten the buildings some day. Some parts of the road leading to Jukhtak Vank are fully destroyed, and there are no signs along the road. In order to reveal the natural conditions of the landslides, it is necessary to study the geological situation of the areas and to develop protection activities. Both monuments can be included in tourist routes that include visiting of Goshavank and Haghartsin monasteries.

Basic restoration of the Sourb (Saint) Astvatsatsin Anapat Church of Aghavnavank monastery is necessary as it is relatively well preserved in spite of its age and only some decorated and polished stones of the roof and steeple have fallen. Inclusion of the Church in historical and cultural tourist routes is suggested because of the harmony of the monument with surrounding environment.

Sourb (Saint) Sargis Chapes of Haghartsin is in good condition and restoration is not required. The Chapel is included in the list of tourism sites, though it is not considered as an exceptional historical and cultural monument.

Figure 12. Jukhtak Monastery
(photo by auhor).

Figure 13. Matosavank
(photo by auhor).

The access to Aghavnavank smelting complex and Aghavnavank Bridge is easy. Aghavnavank smelting complex has scientific importance and presents medieval production facilities. The research and excavation of the monument will support its inclusion in archaeological tours. Reconstruction of the Aghavnavank Bridge is required as it is partially destroyed. After renovation it can be included in historical and cultural tourism routes as an example of medieval engineering facility.

Natural monuments like Hovk caves, Furrowed stones and Karablitner stone plates can also be included in tourist routes as they are in a good condition and the area is clean because of their remoteness from the villages.

4.2. Tourism and Recreation characteristics of the Dilijan National Park

Always being attracted by holiday-makers, Dilijan NP can suggest natural medicinal services like a number of mineral springs, as well as the fresh forest air and the warm sun. Yew Grove of Aghavnavank, Beech woodlands of Haghartsin, oak woodlands of Khachardzan, Parz and Gosh lakes are among exclusive tourism and recreational resources of the Dilijan NP.

The territory of the Dilijan NP and its buffer zone contain 257 unmovable historical and cultural monuments (Figure 14), including natural monuments, established in early ages of Stone Age up to our century (60-50 B.C to 20 century) (Map 13). The majority of the monuments (MoNP 2006) are situated on the territory of the national park with only 1 % located in its buffer zone.

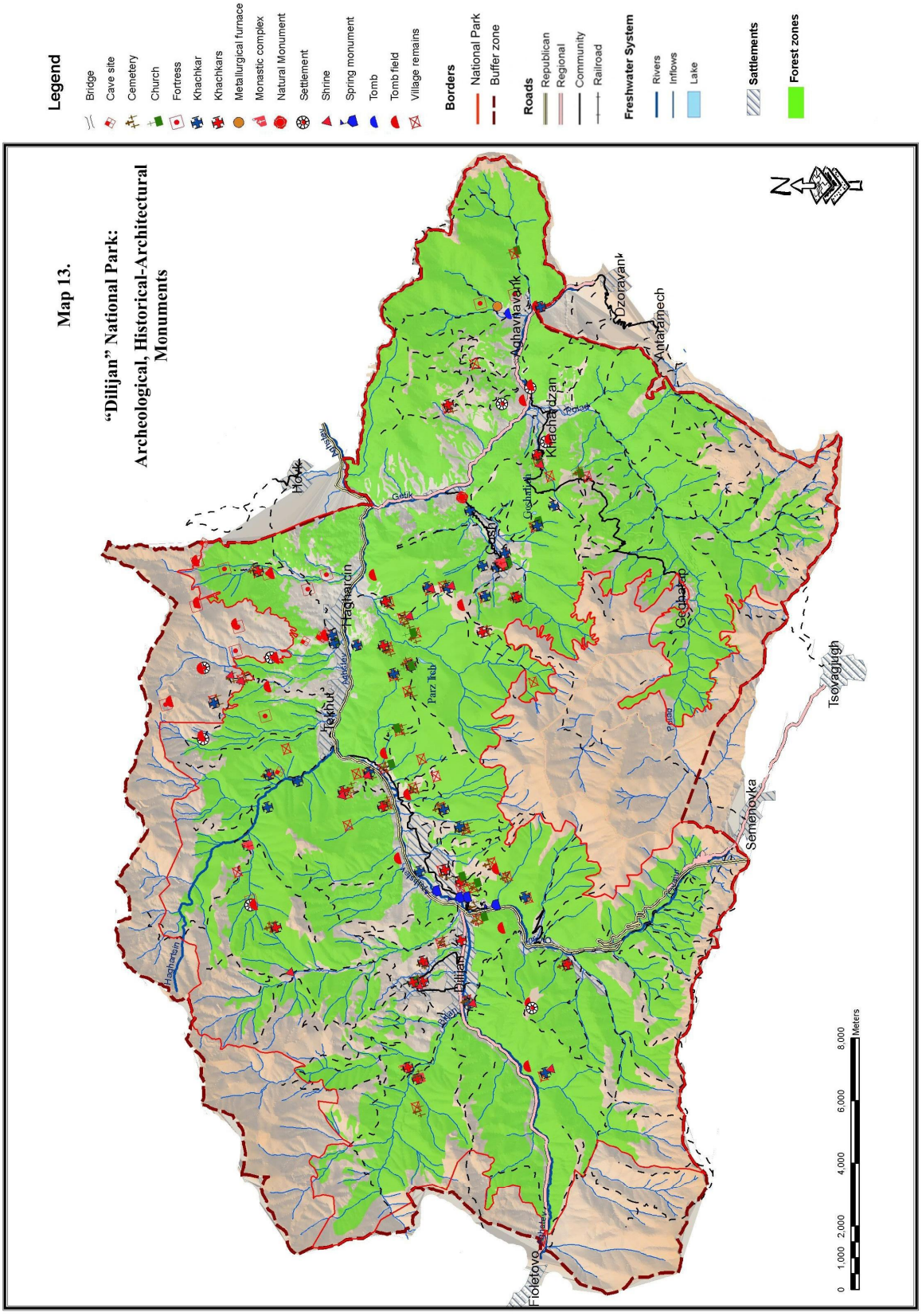

Figure 14. Archaeological, Historical-Architectural Monuments of the Dilijan NP.
Source: MoNP 2006

natural monuments	2
archeological sites of stone age	3
cave dwellings	9
residues of old city	8
village places	51
ethnographical houses	2
castles	13
bridges	4
metallurgical complexes	1
churches	4
monastery complexes	4
chapels	17
groups of cross stones (khachkars)	23
individual cross stones	26
spring monuments	4
memorials to the heroes of the Second World War	2
mausoleums	2
cemeteries	48

4.3. Tourism and recreation activities of the Dilijan NP

Because of the absence of professional knowledge, experience and skills the administration and staff of the Dilijan NP is not involved in any tourism or recreation activities. However, Dilijan NP and Armenian Guides Guild (AGG) with support of the USAID-funded Competitive Armenian Private Sector Project (CAPS) were the organizers of the training and certification of the tourist guides in 2008 (Davtyan pers.comm.). After passing theoretical and practical courses on communication, presentation, first aid and other skills, nine Dilijan inhabitants were certified as

professional tourist guides according to the standards of the World Federation of Tourist Guide Associations (WFTGA).

4.4. Development of tourism on the territory of the Dilijan NP and tourism itineraries

Clear dividing of tourism activities into general and specific interest ones does not exist.

The following tourist routes are proposed and outlined by the Administration of the national park but are not done yet (Figure 15):

- Dilijan- Jukhtak Vank – Matosavank;
- Dilijan area - higher Tahgta district towards Ttu Jur;
- Gosh village – Gosh lake
- Akhnabad Vank Monastery - Yew Park;
- Village Khachardzan – Akhqilisa (Spitak vank);
- Shamakhyan district : Dilijan – Karmir Qar – Haghartsin monastery;
- Haghartsin Monastery - source of the Haghartsin river tributary;
- Dilijan district: areas situated higher than Jukhtak Vank, towards Arevahovit (Anagyuneh);
- Dilijan - Parz Lich – Gosh village.

An Environmental Tourism guide-book published in 2006 includes eight walking itineraries with the description of the starting point, tourist rout, flora and fauna.

Specific or narrow professional tourism can involve research tours such as wildlife watching (bird watching), archeological, ethnographic and other tours.

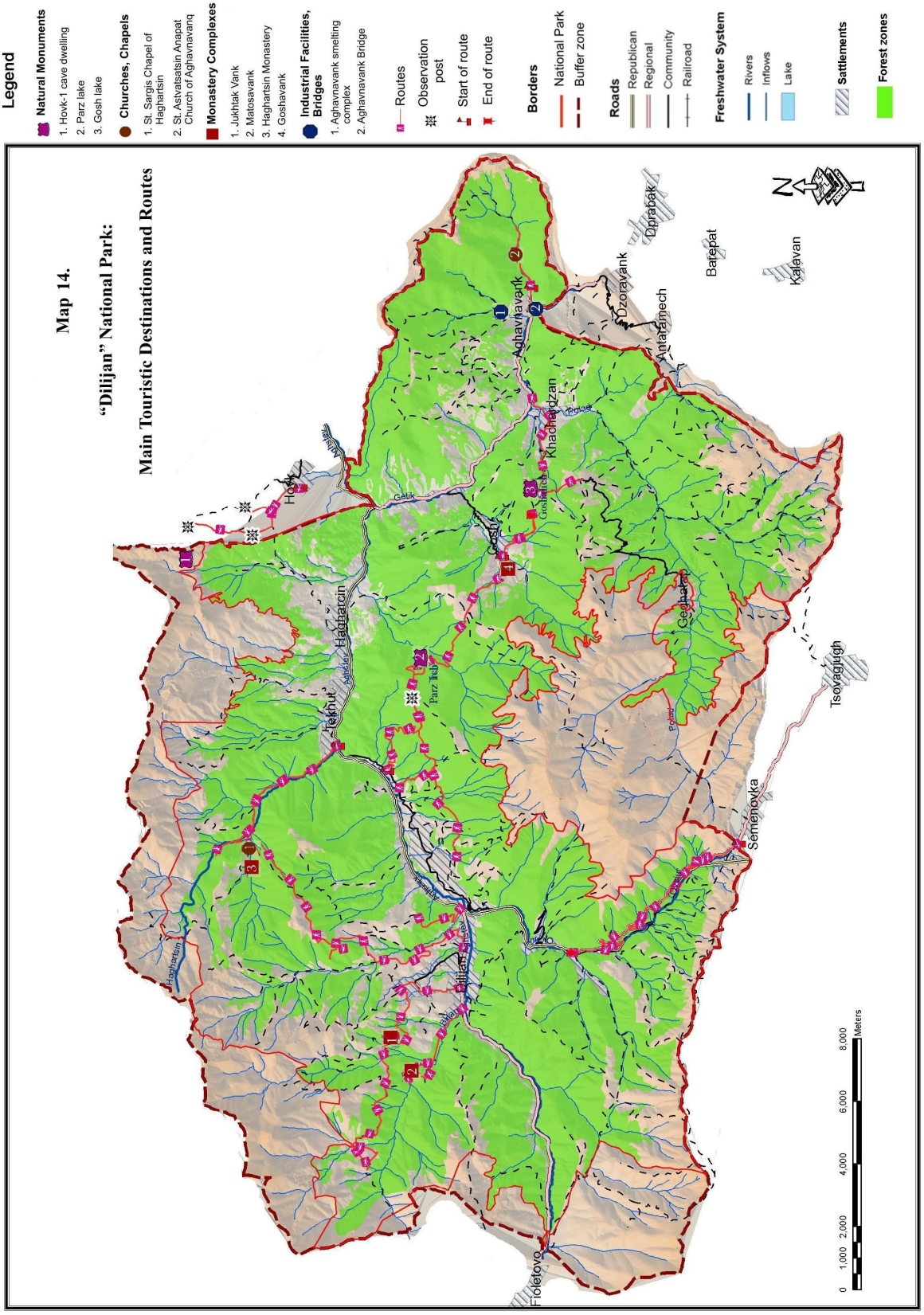

Figure 15. Main touristic destinations and routes of the Dilijan NP.
Source: MoNP 2006

Ecotourism in the Dilijan NP is in its development phase and consists of thematic tours such as wildlife observation, bird watching, landscape photography, and alpine meadow flora observation (MoNP 2006). The following forms of ecotourism can be developed on the territory of the national park:

- Specific wildlife observation tours focused on ecological itineraries;
- Cultural and historical study tours;
- Walking, horse riding and biking tours to the areas rich in diversity of natural landscapes;
- Flora and fauna study tours to observe the endemic and rare flora and fauna species in the Park and its buffer zones;
- Scientific research tours to the reserve areas;
- Adventurous and cognitive tourism.

Chapter V. Analysis of tourism in the Dilijan NP and recommendations

5.1. Evaluation of tourism and recreation activities of the Dilijan National Park.

In June – October of the year 2005, monitoring of 25 relevant organizations dealing with tourism and recreation activities on the territory of the national park was conducted to be presented to the Ministry of Nature protection and the “Dilijan National Park” SNCO. The results of the survey showed clearly that the majority of these organizations do not cooperate with the “Dilijan National Park” SNCO as they do not have a clear idea of payment and land use/lease mechanisms of environmental taxes though they do have significant knowledge of tax legislation. Low quality and high prices of the provided services, seasonality of the touristic activities, imperfect level of infrastructure and poor social situation of the population were outlined by the heads of those organizations as main obstructing factors. Insufficient marketing methods were also observed and mentioned as a result of the survey (Davtyan, Baloyan pers.comm.).

Interviews revealed that the most active touristic period in the Dilijan NP is August. It was calculated that the average tourist spends 4000 – 15000 AMD per day (1 Euro = 504.369 Armenian Dram as of 07.05.09). Only 10% of the visitors are foreigners, the rest are Armenians. The number of tourists staying for more than one day depends on season and location/hotel. Only a few economic units (Dilijan Resort, Getap Motel, Composers House and Mountainous Armenia holiday houses) offering year-

round services have whole-year demand, others are active only during the main tourist period. (Davtyan, Alikhanyan pers. comm.)

All interviewees pointed out the seasonal character of tourism activities on the territory of the Dilijan National Park. There is also a network of B&B services the owners of which provide quality services as they have passed training courses organized by USAID. Tourism and recreation in the Dilijan National Park have an unregulated character causing a number of negative impacts. First, special parking area is absent and it leads to the random parking of the vehicles causing damage to the vegetation and soil. Second, waste removal from the touristic zones has to be improved to prevent the discarding of rubbish into the watercourses.

Despite its rich natural, historical and cultural resources, Armenia's tourism product does not have a strong position in the global market as a tourism destination (GRoA 2007). Apresyan (pers.comm.) emphasized the efficiency of the cooperation between the state and private structures and stated that hotel construction has grown with the growth and development of tourism. There are about 70 hotels with more than 10000 beds which are in compliance with international standards. Armenia's resources for ecotourism have been evaluated by Apresyan as between sufficient and good. Increased quality of services will support ecotourism development.

However, there are concerns that many projects will be forgotten (as it was with the Sevan National Park) and will not go further than being just projects (Galyan pers.comm.). Concerning ecotourism, its development is possible only in case of proper management of nature (Galyan, pers.comm) as preservation and utilization of

natural resources in a proper way can be more profitable than damaging exploitation.

5.2. Threats to tourism and recreation in the Dilijan NP

The following threats to tourism and recreation have been outlined during the interviews with administration of the Dilijan NP:

1. Environmental pollution - There is no waste removal mechanism on terrestrial and aquatic areas of the national park. A simple system of garbage collection (covering with soil) may prevent environmental contamination and explosion of diseases.
2. Unplanned construction – Not all tourism and recreational infrastructure is harmonious with surrounding landscapes. Abandoned and semi constructed facilities in the vicinity of the national park have their impact on landscape beauty.
3. Landslides – 242 small and medium landslides with a total area of 2850.7 ha are registered on the territory of the national park (MoNP 2006). 40 monuments (15.6%) are registered in such zones. Grazing, logging, unregulated movement of cattle to the pastures intensify the problem, which leads to degradation of the cultural and historical monuments.

5.3. Current issues of the Dilijan NP and tourism development and recommendations

This chapter deals with present issues of the Dilijan NP management as tourism development, gives recommendations and suggests actions for their elimination and for the overall improvement of the existing situation. Identification of the current issues is done on the basis of the interviews for which questions from the Assessment form (Appendix 3) of the WWF's Management Effectiveness Tracking Tool (Stolton *et al.* 2007) were used.

Regulations of the Dllijan NP, staff numbers and law enforcement by staff

Dilijan NP is officially established and well documented. But there is a necessity for the further improvement of the research, monitoring, conservation, and management. There is a land use policy, but it needs strengthening with involvement of local communities. Since the establishment of the national park, staff capacities have increased, but there is still a necessity for the further development of capacity building. In addition, there is a necessity for staff training in biodiversity research and monitoring, as well as ecotourism management. Staff numbers are also insufficient for wildlife research, monitoring and ecotourism development.

Management plan, design and boundaries of the protected area

The management plan for 2007-2011 was approved in 2006, but it cannot be fully implemented because of insufficient funding and human capacities. Zoning of the area has well established and clear boundaries though the park is not fenced around. It is suggested that zoning should be reconsidered within the management plan by enlarging the reserve zone, as it occupies a very small part of the total area.

It is also suggested that fencing and demarcation activities should be implemented. In addition, all relevant stakeholders should be involved in the planning process of the new management plan.

Resource inventory, research and management

As it was mentioned in Chapter III, an inventory of the natural resources has not been compiled. The reason is the current budget of the Dilijan NP, which is insufficient not only for new initiatives but even for basic management needs. State and international financing can be a recommendation for the increase of the budget. In addition, some fees are collected but they do not help protected area management. Hence, an appropriate mechanism can be established and fees can contribute to the management of the Dilijan NP.

Biodiversity research, large-scale monitoring, and conservation programs are very limited. As a recommendation development of Chronicles of Nature (Letopis' prirodi) used in Russia can be suggested.

Tourism development

As it was mentioned in Chapter I (1.5), there is no tourism without impacts. These impacts can be positive and negative and the main purpose of the tourism development in protected areas should be development and implementation of sustainable tourism strategies in order to minimize effects on the environment together while maximizing benefits.

Establishment of the Dilijan NP on the basis of the state reserve should attract tourists and support tourism development. This in turn will lead to the creation of jobs for locals. However, the infrastructure for tourists does not exist. Ecotourism can be a complementary source of income for the protected area, all the more because the Dilijan NP has endless possibilities for the development of mild impact type of tourism. The administration of the Dilijan NP is not involved in such tourism, though some tourist routes and itineraries have already been built. So, there is a necessity

for the establishment of a state institution responsible for various types of tourism, especially ecotourism, which will then serve as a link between tourism organizations and the park.

The organization and implementation of the study and observation tours dedicated to the understanding of biodiversity and the discovery of its natural and cultural heritage is necessary for the promotion of tourism and recreation on the territory of the national park. Interpretive Communication Method (ICM) which allows obtaining information through a standardized information system can be suggested. It will include all available information about natural and cultural monuments, landscape, wildlife and footpaths and should take the form of booklets and visual materials. For both investments and tourist attraction, the national park has to elaborate a marketing strategy with the following components: identification of target groups, dissemination of advertising materials, and participation in national and international tourism events. Visual multilingual materials on the natural and cultural heritage of the DNP, rare and Red Book plants and animals should be disseminated.

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List of Interviewees

1. Tatyana Danielyan

Head of Biodiversity and Water Protection Division, Ministry of Nature Protection of Republic of Armenia

2. Samvel Baloyan, Ph.D., Professor

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3. Dr. George Fayvush, D.Sc.

Leading scientific researcher, Institute of Botany of National Academy of Science of Republic of Armenia

4. Dr. Kamilla Tamanyan, Ph.D.

Senior scientific researcher, Institute of Botany of National Academy of Science of Republic of Armenia

5. Siranush Galstyan

Head of Conservation, WWF Armenia

6. Ashot Davtyan

Director, Dilijan National Park

7. Zhanna Galyan

President, Armenian Ecotourism Association

8. Ararat Alikhanyan

Coordinator, Aarhus centre in Dilijan

9. Mekhak Apresyan

Head of Department of Tourism and Regional Development, Ministry of Economy of Republic of Armenia

Appendix 1. The list of Armenian protected areas*

Source: MoNP. 2008a

N	*Abbreviation*	*Full Name*
1	Akhnabat	“Akhnabat Yew Grove” State Sanctuary
2	Aragats	“Aragats Alpine” State Sanctuary
3	Arz & Meg	“Arzakan and Meghradzor” State Sanctuary
4	Banx	“Pine of Banx” State Sanctuary
5	Boghaqar	“Boghaqar” State Sanctuary
6	Dilijan	“Dilijan” National Park
7	Erebuni	“Erebuni” State Reserve
8	Gandzakar	”Gandzakar upper Aghdan” State Sanctuary
9	Getik	“Getik” State Sanctuary
10	Gilan	“Gilan” State Sanctuary
11	Goris	“Goris” State Sanctuary
12	Gorovan	“Gorovan Sands” State Sanctuary
13	Gyulagarak	“Gyulagarak Pine” State Sanctuary
14	Hankavan	“Hankavan Hydrological” State Sanctuary
15	Hazelnut	''Arjatkhleni’ Hazelnut” State Sanctuary
16	Her-her	“Her-her open Woodlands” State Sanctuary
17	Ijevan	“Ijevan” State Sanctuary
18	Jermuk	“Jermuk” State Sanctuary
19	JermukH	“Jermuk Hydrological” State Sanctuary
20	Juniper	“Juniper open Woodlands of Sevan” State Sanctuary

21	Khor Virap	“Khor Virap” State Sanctuary
22	Khosrov	“Khosrov Forest” State Reserve
23	Margaovit	“Margaovit” State Sanctuary
24	Planetree	“Plane Grove” State Sanctuary
25	Rose-bay	“Caucasian Rose-bay” State Sanctuary
26	Sev Lich	“Sev Lich” State Sanctuary
27	Sevan	Sevan National Park
28	Shikahogh	“Shikahogh” State Reserve
29	Vordan	”Ararat Vordan Karmir” State Sanctuary
30	Yeghegis	“Yeghegis” State Sanctuary

*except for national monuments

Appendix 2: Main Reasons for Holiday Tourists Choosing Armenia by Market Area (%)

Source: Reynolds (2007)

Reason for Holiday Travel	USA	Canada	Japan	Russia	Georgia	Other CIS	Greece	Italy	UK	France	Germany	Other Western	Lebanon	Syria	Iran	All Other Countries	Total Average
Nature	65.4	45.0	66.7	60.6	78.0	78.6	68.4	65.0	66.7	68.1	72.1	70.7	50.0	66.7	64.7	69.4	**68.6**
Historical /Cultural Attractions	67.9	55.0	66.7	39.4	39.0	50.0	73.7	65.0	66.7	84.0	77.9	62.7	41.7	50.0	38.2	72.9	**59.3**
Pilgrimage	6.4	35.0	5.6	3.2	15.1	7.1	26.3	5.0	3.3	14.9	1.5	1.3	8.3	27.8	0	4.7	**8.8**
Special Interest Tours	3.8	5.0	5.6	4.3	8.8	21.4	10.5	0	6.7	4.3	7.4	5.3	0	11.1	0	14.1	**6.8**
Ecotourism / Adventure Tourism	3.8	0.0	5.6	17.0	15.1	21.4	15.8	20.0	3.3	12.8	19.1	13.3	0	11.1	8.8	10.6	**12.4**
Armenian heritage	25.6	25.0	5.6	10.6	8.2	21.4	36.8	25.0	20.0	29.8	25.0	14.7	16.7	11.1	8.8	27.1	**18.6**
Other	9.0	45.0	5.6	20.2	6.3	14.3	5.3	0.0	6.7	1.1	2.9	6.7	50.0	16.7	17.6	5.9	**9.4**

Appendix 3: Management Effectiveness Tracking Tool

Assessment Form.

Source: Stolton *et al.* 2007

Issue	Criteria	Score: Tick only one box per question		Comment/Explanation	Next steps
1. Legal status Does the protected area have legal status (or in the case of private reserves is covered by a covenant or similar)? Context	The protected area is not gazetted/covenanted	0			
	There is agreement that the protected area should be gazetted/covenanted but the process has not yet begun	1			
	The protected area is in the process of being gazetted/covenanted but the process is still incomplete (includes sites designated under international conventions, such as Ramsar, or local/traditional law such as community conserved areas, which do not yet have national legal status or covenant)	2			
	The protected area has been formally gazetted/covenanted	3			
2. Protected area regulations Are appropriate regulations in place to control land use and activities (e.g. hunting)? Planning	There are no regulations for controlling land use and activities in the protected area	0			
	Some regulations for controlling land use and activities in the protected area exist but these are major weaknesses	1			
	Regulations for controlling land use and activities in the protected area exist but there are some weaknesses or gaps	2			
	Regulations for controlling inappropriate land use and activities in the protected area exist and provide an excellent basis for management	3			
3. Law enforcement Can staff (i.e. those with responsibility for managing the site) enforce protected	The staff have no effective capacity/resources to enforce protected area legislation and regulations	0			
	There are major deficiencies in staff capacity/resources to enforce protected area legislation and regulations (e.g. lack of skills, no patrol budget, lack of institutional support)	1			
	The staff have acceptable capacity/resources to enforce protected area legislation and regulations but some deficiencies remain	2			

Issue	Criteria	Score: Tick only one box per question		Comment/Explanation	Next steps
area rules well enough? Input	The staff have excellent capacity/resources to enforce protected area legislation and regulations	3			
4. Protected area objectives Is management undertaken according to agreed objectives? Planning	No firm objectives have been agreed for the protected area	0			
	The protected area has agreed objectives, but is not managed according to these objectives	1			
	The protected area has agreed objectives, but is only partially managed according to these objectives	2			
	The protected area has agreed objectives and is managed to meet these objectives	3			
5. Protected area design Is the protected area the right size and shape to protect species, habitats, ecological processes and water catchments of key conservation concern? Planning	Inadequacies in protected area design mean achieving the major objectives of the protected area is very difficult	0			
	Inadequacies in protected area design mean that achievement of major objectives is difficult but some mitigating actions are being taken (e.g. agreements with adjacent land owners for wildlife corridors or introduction of appropriate catchment management)	1			
	Protected area design is not significantly constraining achievement of objectives, but could be improved (e.g. with respect to larger scale ecological processes)	2			
	Protected area design helps achievement of objectives; it is appropriate for species and habitat conservation; and maintains ecological processes such as surface and groundwater flows at a catchment scale, natural disturbance patterns etc	3			
6. Protected area boundary demarcation Is the boundary known and	The boundary of the protected area is not known by the management authority or local residents/neighbouring land users	0			
	The boundary of the protected area is known by the management authority but is not known by local residents/neighbouring land users	1			

Issue	Criteria	Score: Tick only one box per question		Comment/Explanation	Next steps
demarcated? Process	The boundary of the protected area is known by both the management authority and local residents/neighbouring land users but is not appropriately demarcated	2			
	The boundary of the protected area is known by the management authority and local residents/neighbouring land users and is appropriately demarcated	3			
7. Management plan Is there a management plan and is it being implemented? Planning	There is no management plan for the protected area	0			
	A management plan is being prepared or has been prepared but is not being implemented	1			
	A management plan exists but it is only being partially implemented because of funding constraints or other problems	2			
	A management plan exists and is being implemented	3			
Additional points: Planning					
7a. Planning process	The planning process allows adequate opportunity for key stakeholders to influence the management plan	+1			
7b. Planning process	There is an established schedule and process for periodic review and updating of the management plan	+1			
7c. Planning process	The results of monitoring, research and evaluation are routinely incorporated into planning	+1			
8. Regular work plan Is there a regular work plan and is it being implemented Planning/Outputs	No regular work plan exists	0			
	A regular work plan exists but few of the activities are implemented	1			
	A regular work plan exists and many activities are implemented	2			
	A regular work plan exists and all activities are implemented	3			

Issue	Criteria	Score: Tick only one box per question		Comment/Explanation	Next steps
9. Resource inventory Do you have enough information to manage the area? Input	There is little or no information available on the critical habitats, species and cultural values of the protected area	0			
	Information on the critical habitats, species, ecological processes and cultural values of the protected area is not sufficient to support planning and decision making	1			
	Information on the critical habitats, species, ecological processes and cultural values of the protected area is sufficient for most key areas of planning and decision making	2			
	Information on the critical habitats, species, ecological processes and cultural values of the protected area is sufficient to support all areas of planning and decision making	3			
10. Protection systems Are systems in place to control access/resource use in the protected area? Process/Outcome	Protection systems (patrols, permits etc) do not exist or are not effective in controlling access/resource use	0			
	Protection systems are only partially effective in controlling access/resource use	1			
	Protection systems are moderately effective in controlling access/resource use	2			
	Protection systems are largely or wholly effective in controlling access/ resource use	3			
11. Research Is there a programme of management-orientated survey and research work? Process	There is no survey or research work taking place in the protected area	0			
	There is a small amount of survey and research work but it is not directed towards the needs of protected area management	1			
	There is considerable survey and research work but it is not directed towards the needs of protected area management	2			
	There is a comprehensive, integrated programme of survey and research work, which is relevant to management needs	3			
12. Resource management Is active resource	Active resource management is not being undertaken	0			
	Very few of the requirements for active management of critical habitats, species, ecological processes and cultural values are being implemented	1			

Issue	Criteria	Score: Tick only one box per question		Comment/Explanation	Next steps
management being undertaken? Process	Many of the requirements for active management of critical habitats, species, ecological processes and, cultural values are being implemented but some key issues are not being addressed	2			
	Requirements for active management of critical habitats, species, ecological processes and, cultural values are being substantially or fully implemented	3			
13. Staff numbers Are there enough people employed to manage the protected area? Inputs	There are no staff	0			
	Staff numbers are inadequate for critical management activities	1			
	Staff numbers are below optimum level for critical management activities	2			
	Staff numbers are adequate for the management needs of the protected area	3			
14. Staff training Are staff adequately trained to fulfil management objectives? Inputs/Process	Staff lack the skills needed for protected area management	0			
	Staff training and skills are low relative to the needs of the protected area	1			
	Staff training and skills are adequate, but could be further improved to fully achieve the objectives of management	2			
	Staff training and skills are aligned with the management needs of the protected area	3			
15. Current budget Is the current budget sufficient?	There is no budget for management of the protected area	0			
	The available budget is inadequate for basic management needs and presents a serious constraint to the capacity to manage	1			

Issue	Criteria	Score: Tick only one box per question		Comment/Explanation	Next steps
Inputs	The available budget is acceptable but could be further improved to fully achieve effective management	2			
	The available budget is sufficient and meets the full management needs of the protected area	3			
16. Security of budget Is the budget secure? Inputs	There is no secure budget for the protected area and management is wholly reliant on outside or highly variable funding	0			
	There is very little secure budget and the protected area could not function adequately without outside funding	1			
	There is a reasonably secure core budget for regular operation of the protected area but many innovations and initiatives are reliant on outside funding	2			
	There is a secure budget for the protected area and its management needs	3			
17. Management of budget Is the budget managed to meet critical management needs? Process	Budget management is very poor and significantly undermines effectiveness (e.g. late release of budget in financial year)	0			
	Budget management is poor and constrains effectiveness	1			
	Budget management is adequate but could be improved	2			
	Budget management is excellent and meets management needs	3			
18. Equipment Is equipment sufficient for management needs? Input	There are little or no equipment and facilities for management needs	0			
	There are some equipment and facilities but these are inadequate for most management needs	1			
	There are equipment and facilities, but still some gaps that constrain management	2			
	There are adequate equipment and facilities	3			
19. Maintenance of equipment	There is little or no maintenance of equipment and facilities	0			

Issue	Criteria	Score: Tick only one box per question		Comment/Explanation	Next steps
Is equipment adequately maintained? Process	There is some ad hoc maintenance of equipment and facilities	1			
	There is basic maintenance of equipment and facilities	2			
	Equipment and facilities are well maintained	3			
20. Education and awareness Is there a planned education programme linked to the objectives and needs? Process	There is no education and awareness programme	0			
	There is a limited and ad hoc education and awareness programme	1			
	There is an education and awareness programme but it only partly meets needs and could be improved	2			
	There is an appropriate and fully implemented education and awareness programme	3			
21. Planning for land and water use Does land and water use planning recognise the protected area and aid the achievement of objectives? Planning	Adjacent land and water use planning does not take into account the needs of the protected area and activities/policies are detrimental to the survival of the area	0			
	Adjacent land and water use planning does not takes into account the long term needs of the protected area, but activities are not detrimental the area	1			
	Adjacent land and water use planning partially takes into account the long term needs of the protected area	2			
	Adjacent land and water use planning fully takes into account the long term needs of the protected area	3			
Additional points: Land and water planning					
21a: Land and water planning for habitat conservation	Planning and management in the catchment or landscape containing the protected area incorporates provision for adequate environmental conditions (e.g. volume, quality and timing of water flow, air pollution levels etc) to sustain relevant habitats.	+1			

Issue	Criteria	Score: Tick only one box per question		Comment/Explanation	Next steps
21b: Land and water planning for connectivity	Management of corridors linking the protected area provides for wildlife passage to key habitats outside the protected area (e.g. to allow migratory fish to travel between freshwater spawning sites and the sea, or to allow animal migration).	+1			
21c: Land and water planning for ecosystem services & species conservation	"Planning adresses ecosystem-specific needs and/or the needs of particular species of concern at an ecosystem scale (e.g. volume, quality and timing of freshwater flow to sustain particular species, fire management to maintain savannah habitats etc.)"	+1			
22. State and commercial neighbours Is there co-operation with adjacent land and water users? Process	There is no contact between managers and neighbouring official or corporate land and water users	0			
	There is contact between managers and neighbouring official or corporate land and water users but little or no cooperation	1			
	There is contact between managers and neighbouring official or corporate land and water users, but only some co-operation	2			
	There is regular contact between managers and neighbouring official or corporate land and water users, and substantial co-operation on management	3			
23. Indigenous people Do indigenous and traditional peoples resident or regularly using the protected area have input to management decisions?	Indigenous and traditional peoples have no input into decisions relating to the management of the protected area	0			
	Indigenous and traditional peoples have some input into discussions relating to management but no direct role in management	1			
	Indigenous and traditional peoples directly contribute to some relevant decisions relating to management but their involvement could be improved	2			

Issue	Criteria	Score: Tick only one box per question		Comment/Explanation	Next steps
Process	Indigenous and traditional peoples directly participate in all relevant decisions relating to management, e.g. co-management	3			
24. Local communities Do local communities resident or near the protected area have input to management decisions? Process	Local communities have no input into decisions relating to the management of the protected area	0			
	Local communities have some input into discussions relating to management but no direct role in management	1			
	Local communities directly contribute to some relevant decisions relating to management but their involvement could be improved	2			
	Local communities directly participate in all relevant decisions relating to management, e.g. co-management	3			
Additional points Local communities/indigenous people					
24 a. Impact on communities	There is open communication and trust between local and/or indigenous people, stakeholders and protected area managers	+1			
24b. Impact on communities	Programmes to enhance community welfare, while conserving protected area resources, are being implemented	+1			
24c. Impact on communities	Local and/or indigenous people actively support the protected area	+1			
25. Economic benefit Is the protected area providing economic benefits	The protected area does not deliver any economic benefits to local communities	0			
	Potential economic benefits are recognised and plans to realise these are being developed	1			
	There is some flow of economic benefits to local communities	2			

Issue	Criteria	Score: Tick only one box per question		Comment/Explanation	Next steps
to local communities, e.g. income, employment, payment for environmental services? Outcomes	There is a major flow of economic benefits to local communities from activities associated with the protected area	3			
26. Monitoring and evaluation Are management activities monitored against performance? Planning/Process	There is no monitoring and evaluation in the protected area	0			
	There is some ad hoc monitoring and evaluation, but no overall strategy and/or no regular collection of results	1			
	There is an agreed and implemented monitoring and evaluation system but results do not feed back into management	2			
	A good monitoring and evaluation system exists, is well implemented and used in adaptive management	3			
27. Visitor facilities Are visitor facilities adequate? Outputs	There are no visitor facilities and services despite an identified need	0			
	Visitor facilities and services are inappropriate for current levels of visitation	1			
	Visitor facilities and services are adequate for current levels of visitation but could be improved	2			
	Visitor facilities and services are excellent for current levels of visitation	3			
28. Commercial tourism operators Do commercial tour operators contribute to protected area	There is little or no contact between managers and tourism operators using the protected area	0			
	There is contact between managers and tourism operators but this is largely confined to administrative or regulatory matters	1			
	There is limited co-operation between managers and tourism operators to enhance visitor experiences and maintain protected area values	2			

Issue	Criteria	Score: Tick only one box per question		Comment/Explanation	Next steps
management? Process	There is good co-operation between managers and tourism operators to enhance visitor experiences, and maintain protected area values	3			
29. Fees If fees (i.e. entry fees or fines) are applied, do they help protected area management? Inputs/Process	Although fees are theoretically applied, they are not collected	0			
	Fees are collected, but make no contribution to the protected area or its environs	1			
	Fees are collected, and make some contribution to the protected area and its environs	2			
	Fees are collected and make a substantial contribution to the protected area and its environs	3			
30. Condition of values What is the condition of the important values of the protected area as compared to when it was first designated? Outcomes	Many important biodiversity, ecological or cultural values are being severely degraded	0			
	Some biodiversity, ecological or cultural values are being severely degraded	1			
	Some biodiversity, ecological and cultural values are being partially degraded but the most important values have not been significantly impacted	2			
	Biodiversity, ecological and cultural values are predominantly intact	3			
Additional Points: Condition of values					
30a: Condition of values	The assessment of the condition of values is based on research and/or monitoring	+1			
30b: Condition of values	Specific management programmes are being implemented to address threats to biodiversity, ecological and cultural values	+1			

Issue	Criteria	Score: Tick only one box per question		Comment/Explanation	Next steps
30c: Condition of values	Activities to maintain key biodiversity, ecological and cultural values are a routine part of park management	+1			
TOTAL SCORE					