MINISTRY OF THE ENVIRONMENT AND WATERS

BULAGRIAN-SWISS BIODIVERSITY CONSERVATION PEOGRAMME

Pirin National Park Management Plan

Ministri of the Environment and Waters; Bulgarian Biodiversiti Fondation

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2004

PREFACE

In historical aspect the boundaries, the regime and the management of the territory of the Pirin National Park have undergone a number of changes. In 1963 the park was first designated as People's Park "Vihren", with an area of 6736,0 ha. In 1974 the People's Park Pirin was designated with an area of 26 413,8 ha. With this area it was included in the Convention Concerning the Protection of the World Cultural and Natural Heritage by UNESCO's order of 1983. 1979 was an important year in the park's history – an independent Directorate, subordinated to the Ministry of Forests and Forestry industry and seated in the town of Bansko, was formed.

In the last several years the idea of establishing a "good management practice" as a necessary condition for achieving sustainable development of the protected areas acquired a global recognition. After 1996-1997 this became a major issue in Bulgaria too. The sense of the good management practice is the involvement of the people, who define its goals and priorities and participate in their fulfillment. To make this possible it is necessary to establish a management system, which allows everybody to live a long, healthy and creative life.

In international aspect, there is a new structure of people's motivation. Except the good food, rest and recreation, care for the body and the health, the people favour a combination of intact natural environment with cultural and historical resources, which satisfies their spiritual needs as well. Because of these reasons the national parks become tourist focal points, which together with their adjacent territories, if managed in a coordinated manner, represent functionally linked elements of the sustainable development.
The Pirin NP management plan proposes specific measures and mechanisms, which may contribute to the changing of people's thinking and way of life.
The plan's main message is that the overcoming of the people's isolation and the establishing of conditions for their effective interaction with the park administration are necessary prerequisites for the achieving of sustainable development.

On behalf of the Pirin National Park Directorate, I would like to express our gratitude to the authors of the management plan and to all, who participated in its elaboration. We hope that the conclusions and recommendations made will lead to a wider and more active participation of the people in the protection of the Pirin NP as a World Heritage site.

Georgi Grancharov, eng.
Director of the Pirin National Park

ACKNOWLEDGEMENTS

The elaboration of the Pirin NP management plan required the involvement of an utmost wide circle of citizens and experts, who, with their comments and recommendations, became committed co-authors.

In the process of work we had the chance to use the professional advice of permanent international consultants with experience in the management of protected areas, like Peter Hislaire and Pierre Galland from Switzerland and Andrej Bibic from Slovenia.

Closest to the authors' team were the employees of the Pirin NPD. The Directorate's staff provided support in the form of transport, information, logistics, etc.

Employees of the municipalities of Razlog, Bansko, Gotse Delchev, Sandanski, Strumiani, Kresna and Simitly also showed understanding and provided support for the elaboration of the plan.

Special thanks deserve the BSBCP Executive Director Rossen Vassilev and the foundation's staff, which provided technical support and created favorable work conditions throughout the whole period.

The tasks, related to the Pirin NP management plan were fulfilled in close relationship with the BSBCP Pirin Project team in Bansko, with coordinator Petko Tsvetkov.

I would like to thank for the co-operation, provided by RIEW – Blagoevgard, the district and municipal administrations, with which we hope to continue working together in the future.

And last but not least, the team thanks all members of NGOs and educational institutions in the region and the representatives of the local mass media for the expressed interest and cooperation.

Acknowledging the support obtained, the team assumes full responsibility for the data, opinions and positions, expressed in this plan.

Ljudmila Dimitrova, Landscape architect
MP Coordinator

ABBREVIATIONS

PAA	Protected Areas Act
REMPPA	Regulation for Elaboration of Management Plans for Protected Areas
SDC	Swiss Agency for Development and Cooperation
MOEW	Ministry of Environment and Water
NNPS	National Nature Protection Service
SG	State Gazette
BAS	Bulgarian Academy of Sciences
MAF	Ministry of Agriculture and Forestry
NFB	National Forestry Board
MRDPW	Ministry of Regional Development and Public Works
RFB	Regional Forestry Board
MRS	Mountain Rescue Service
NGOs	Non-Governmental Organizations
BTU	Bulgarian Tourist Union
PTF	Pirin Tourism Forum
BSPB	Bulgarian Society for Protection of Birds
NPD	National Park Directorate
NP	National Park
MP	Management Plan
GIS	Geographic Information System
v.	village
CM	Council of Ministers
MFNP	Ministry of Forestry and Nature Protection
PA	Protected Area
PAs	Protected Areas
BSBCP	Bulgarian Swiss Biodiversity Conservation Programme
MFFI	Ministry of Forestry and Forest Industry
ATS	Administrative and technical sections
CE	Capital equipment
PR	Park region
PR	Public relations
MI	Ministry of Interior
RSFAS	Regional Service for Fire and Accidents Security
SWOT analysis	Strengths Weaknesses Opportunities Threats analysis
Mt.	mountain
EIA	Environmental Impact Assessment
HEC	Higher Expert Council
JOBS	Jobs Opportunities by Business Support Project
UNDP	United Nations Development Programme
SFB	State Forestry Board
N	North
NE	North - East
NW	North – West
E	East
SE	South – East
SW	South – West
W	West

S	South
WEPS	Water Electric Power Station
vol.	volume
fam.	family
NPA	Nature Protection Act
RIEW	Regional Inspectorate of Environment and Water
DIR	Directive
PL	Power line
HEPS	Hydroelectric Power Station
PDU	Power distribution unit
Co	Company
p.	point
FAO	Food and Agriculture Organization
dka	dekar
GDP	Gross Domestic Product
NSI	National Statistical Institute
TIHD	Total index of human development
SGS	State Game Station
CHH	Cultural and Historical Heritage
Ldi	Landscape diversity index
PDP	Park Development Project
RSFAS	Regional Service for Fire and Accidents
IUCN	The World Conservation Union
SC	Scientific Council
BA	Biodiversity Act
MPA	Medicinal Plants Act
HGPA	Hunting and Game Protection Act
MD	Ministry of Defense
MI	Ministry of Interior
FACA	Fishery and Aquatic Cultures Act
PCC	Public Consultative Council
FB	Forestry Board
UNESCO	United Nations Educational, Scientific and Cultural Organization
COD	Chemical Oxygen Demand
BOD	Biochemical Oxygen Demand

C O N T E N T S

TABLES,
to the respective texts in the Management Plan

FIGURES
to the respective texts in the Management Plan

MAPPING, annexed in the Management Plan in scale 1:100 000

Map #	**THEME**
3	Cadastral and Administrative Affiliation
4	Designation of the Park and the reserves in it and boundaries changes
5	Geology and petrography map
6	Relief
7	Hydrographic network
9	Soils
19	Functional zoning

MAPPING, annexed separately to the Management Plan in scale 1: 75 000 и 1: 25 000

Map #	**THEME**
2	Park's boundaries, adjacent settlements, main sites
8	Precipitation
10	Habitats
11	Plant communities
12	Forest tree vegetation - species
13	Forest tree vegetation - age classes
14	Localities of vascular plants of conservation value
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16	Habitats of animal species of conservation value
17	Technical infrastructure, built areas and buildings
18	Landscapes
19	Functional zoning

SUMMARY

The nature protection, the biodiversity and the protected areas conservation are global and European priorities. With the adoption of the Protected Areas Act in 1998 the Pirin NP acquired a national park statute and became directly dependent on the Ministry of Environment and Waters (MoEW).
The park's area is 40356,0 ha. It is exclusive state property and includes the territories of the municipalities of Razlog, Bansko, Gotse Delchev, Sandanski, Strumyani, Kresna and Simitli. The Park is designated as a UNESCO World Heritage site.

The Pirin NP management plan is specialized plan for: nature protection and landscape protection, balanced uses of the recreation capacities and natural resources of the territory and turning the protected areas into a socio – economic factor for regional development.

Management Plan Preparation
The Memorandum of Understanding, signed by the governments of the Republic of Bulgaria and the Swiss Confederation in 1994 resulted in the origination of the Bulgarian-Swiss Biodiversity Conservation Programme (BSBCP). An Amendment to the Memorandum was signed in 2001 and a new project, named "The Pirin National Park Component" was added to the Programme. The main element of this project is the elaboration of the Pirin NP management plan.

Terms of Reference
The elaboration of the management plan was preceded by Terms-of reference, prepared by the National Nature Protection Service (NNPS) and endorsed by the Minister of the Environment and Waters in July 2001. This document defined its scope and contents. The contents and structure of the management plan comply with the Ordinance on the elaboration of management plans and the general European standards for planning protected areas.

Studies
The Pirin NP management plan is a result of purposeful preliminary studies and planning in the period August 2001- August 2002.
According to the requirements of the Terms-of-reference, the plan's different parts include short, synthesized texts and the detailed reports on the studies made are annexed in separate Scroll – annexes. For convenience in using the plan on the terrain and for facilitating communication to a larger public, a shortened version, including the zones, norms, regimes and recommendations for carrying out the activities, was prepared.

Shareholders' participation
The participation of the interested institutions and persons in the planning process was ensured: the District and Municipal Administrations, RIEW – Blagoevgrad, RFB – Blagoevgrad, different users. Representatives of the different tourist, sports, conservation and other non-governmental organizations also took part.

MAIN CHARACTERISTICS AND EVALUATIONS

Abiotic factors
This chapter includes data about the climate, geology and geomorphology, hydrology and hydrobiology, soils.

Ecosystems and biotopes

The habitat diversity is presented in a form, accessible both for the park officers and other interested persons. The description and the mapping are done on the basis of the Classification of palearctic habitats; /CE; Nature and environment # 78/96/.

Flora and vegetation

The park's flora has preserved to a great extent its original character. A total of 1315 species and intraspecific taxa have been established on the territory of Pirin NP. This number represents about 30% of the Bulgarian flora as a whole. Descriptions of the vegetation in sections have been made for all park regions. Mapping of phyto-cenoses is done for each of the sections and sub-sections defined in the Park.
The description of plant communities (associations) is made according to dominant method.
The plant communities established could be classified into 6 main groups. The forested area of the park, including the area of the Mountain dwarf pine, is 57,3% of its total area.
Additional information is collected regarding the level of conservation, degradation processes, presence of species of conservation importance in the communities etc.

Fauna

Studies, analyses and mapping of the fauna habitats and species have been made. 2091 invertebrate animal species, 6 fish species, 8 amphibian species and 11 reptile and 159 bird species have been established. The mammal fauna includes 45 species, including 12 bat species.

Landscape

The landscape structure of the National Park includes 5 landscape types with high aesthetic qualities. Measures for protection, management and planning of the landscape, aiming at the decrease of the man-made landscape influence on the visitors, have been defined.

Technical infrastructure

The information about the total number of different buildings, facilities and their capacities has been updated. Descriptions and evaluations of the buildings on the park's territory, the available technical and transport infrastructure, etc. have been made.

Use of resources

Pasture: The pastures' capacities have been defined on the basis of their productiveness. All grazing plots are located in territories with traditional regimes of agricultural use. There is a tendency of domestic animals' decrease. In the Pirin NP and its adjacent territories 11 indigenous breeds and sub-breeds have been found. Seven of them are included in the "Red Register of the Autochthonic forms of domestic animals" (threatened breeds).
Forestry: Of all the 73 sub-sections of the park, where forestry activities have been fulfilled, 15, or 21% were checked in 2001. A decrease of the total use of timber is noticed compared to previous periods, the used timber being mainly dry or collapsed mass.
Fishing: The Balkan trout has been established in 32 lakes and 21 rivers. Many of the lakes and rivers are being stocked with non-typical fish species.

Tourism and recreation

The park's capacities and conditions for recreational activities, tourism, and sports, have been made as well as a list of the existing tourist trails and other tourist facilities.
The places of interest for practicing specific sports and tourist activities - rock climbing, speleology, organized nature tourism, horse back riding, etc. have been described.
The collected information shows that the Pirin NP features in 70% of the international programs for active and adventure tourism in Bulgaria.
The adjacent territories have a huge potential for eco-tourism and human resources, but high-quality additional tourist services are missing. It is necessary to optimize the tourist infrastructure.

Public knowledge of the site

A sociological study of the public opinion in the Pirin region was made in February 2002. The mass concern about the forest felling is great. The local people expect programs for development of small and family businesses and for more substantial binding of the settlements in the region with the already established resort centers - Sandanski and Bansko.

A brochure "About the people and the nature of the Pirin region", showing the results of the public opinion study, has been elaborated and annexed to the management plan.

Cultural and historical heritage

Beside intact nature, the cultural and historical heritage is a key element for the development of eco-tourism. The management plan describes cultural and historical heritage sites in the municipalities of Razlog, Bansko, Gotse Delchev, Sandanski, Strumiani, Kresna, Simitli and Hadgidimovo, which, combined with the unique natural features, may contribute significantly to the sustainable development of the Pirin region.

Environmental issues

The state of the environmental components has been described and analyzed on the basis of the collected information. Data about the waste-waters, the pollution sources and the solid waste have been included. Summarized assessments of the necessary measures for protection of the water-supply zones have been made. An inventory of all the sites, which are sources of water and air pollution, has been made too. The ways of treating the communal waste have been studied.

LONG-TERM OBJECTIVES AND CONSTRAINTS

Long-term objectives

The goals have been defined according to the requirements of the Protected Areas Act and the adopted categorization system of the International Union for Conservation of Nature (IUCN). On the basis of the characteristics and evaluations made, the following long-term objectives have been formulated:

- **I.** Conservation, protection and maintenance of the ecosystems' and landscape's naturalness and intactness
- **II.** Providing opportunities for conservation education and interpretation
- **III.** Stimulation of scientific studies
- **IV.** Incomes generating for the local communities as a result of the opportunities and advantages of the national park
- **V.** Improving the management policy and the specialized warding of the national park
- **VI.** Observing the legal and institutional framework

Constraints

The levels of impact of the constraints/ threats on the goals were defined by the experts, who have elaborated the different parts of the Pirin NP management plan. The evaluation is made according to the point system, concerning their impact on the achieving of the main goals and their territorial scope in the park.

Potentials of the park

The evaluation of the Park's potentials was made according to the goals defined. It is the basis for setting the programs and projects in Part 4. The Pirin NP may offer an example of natural succession processes a key element of a regional ecological network, a model site for development of sustainable tourism, a model site for public management of a protected area, a case study for achieving sustainable economic development in connection with the adjacent territories.

NORMS, REGIMES, CONDITIONS AND RECOMMENDATIONS FOR THE IMPLEMENTATION OF ACTIVITIES

The following zones are defined in the Pirin NP:

Zone	Management goals	Main activities allowed	% of park territory
Reserve zone	Preserving the natural succession processes in the ecosystems	Scientific research and passing along the marked trails	14,8
Zone of limited human impact	Preserving of locations where threatened habitats have been established	Scientific research and passing along the marked trails	19,4
Zone of conservation and restoration of forest ecosystems and recreation	Ensuring conditions for the natural development of the forest ecosystems; Creating conditions for recreational use	Scientific research, hiking and recreation; collecting mushrooms, herbs and wild fruits for personal needs; maintenance and restoration activities, regulating the numbers of animal species; angling	48,7
Zone of sustainable use of open areas an recreation	Stimulation of responsible and purpose-oriented ways of long-term sustainable use of resources; Supporting the regional development.	Scientific research, hiking and recreation; collecting mushrooms, herbs and wild fruits for personal needs; maintenance and restoration activities, regulating the numbers of animal species; angling, grazing	13,8
Tourism zone	Creating conditions for sports, tourist and recreational use and for the development of specialized tourism	Scientific research, hiking and recreation; collecting mushrooms, herbs and wild fruits for personal needs; maintenance and restoration activities, regulating the numbers of animal species; angling, grazing, sports activities	2,6
Zone of buildings and facilities	Providing conditions for visitor recreation, for shepherds' staying in the area; Providing opportunities to the park guards for optimum management; for providing visitor information and interpretation	Scientific research, hiking and recreation; collecting mushrooms, herbs and wild fruits for personal needs; maintenance and restoration activities, regulating the numbers of animal species; angling; construction, repair and reconstruction	0,7

The proposed regimes and norms aim at the overcoming or limiting the impact of the threats, identified in Part 2, ensuring conditions for control and managerial decision making. Regimes of using the natural resources for recreation and for the development of the traditional stock-breeding are defined.

OPERATIONAL TASKS AND RECOMMENDATIONS FOR USE AND PROTECTION

Defining priorities

The following priority directions for the plan's 10-year period of action have been defined on the basis of the characteristics and evaluations made and the goals set:

Priority directions for conservation, protection and maintenance of the ecosystems' and landscape's naturalness and intactness

Observing the defined regimes and norms

Sustainable use of natural resources
Protection of the fish and game fauna
Optimum protection and management of habitats with high conservation value after natural disasters or unregulated human interference
Regulated pasture use and control

Priority directions for providing opportunities for conservation education and interpretation
Studying the visitors
Informing the local people and the visitors about the biodiversity and the park's value
Carrying out conservation training initiatives

Priority directions for stimulation of scientific studies
Coordination of scientific studies and publications about the park

Priority directions for incomes generation for the local communities as a result of the opportunities and advantages of the national park
Improving the sanitary – hygienic state of visitor servicing sites
Development of sustainable tourism
Supporting the traditional stock-breeding on the park's territory
Introducing a concession regime

Priority directions for improving the management policy and the specialized warding of the national park
Management re-structuring
Work in partnership
Increasing the staff qualification and the guard's effectiveness

Priority directions for observing the legal and institutional framework
Clarifying the ownership status of sites on the park's territory
Effective applying of the legislation
Establishing a legal base for financial revenues from other users' profits from the park.

Programs and projects

The programs and projects are defined with the goal of establishing a wide support for the park, as well as motivating a responsible and nature-conservation behaviour of the park's users.
The following groups of programs and projects are planned to be implemented in the plan's period of action on the basis of the evaluation of the NPD responsibilities:

I. Complex long-term monitoring for the conservation and maintenance of the biodiversity in Pirin NP;
II. Sustainable use of resources;
III. Information provision;
IV. Public relations, interpretation and promotion;
V. Conservation education;
VI. Coordination of scientific studies and publications;
VII. Improving the conditions for tourism and the tourist infrastructure;
VIII. Supporting the development of the adjacent territories;
IX. Institutional development of the NPD and training;
X. Applying the legislation and the active statutory base

Some of the planned projects and activities, which are to be implemented directly by NPD employees as a part of their work obligations, are included in p.4.2., "Operational tasks".

The work of the Park Directorate is a main guarantee for the applying of the management plan. For this reason special attention is paid on its development and the increasing of its staff's qualification.

Work plan
A Work Plan, including activities and projects for the first 3 years of the plan's action has been elaborated. It involves the projects of all programs, which should be implemented since the very beginning of the plan's action. Exemplary implementation costs are given for the first year.

REVIEW OF THE FULFILLMENT OF GOALS AND TASKS

Monitoring, reporting
A review of the goals, set in the national park's management plan, is planned for 2008, based on the permanent monitoring performed by the Park administration and the annual reports. A scheme, pointing out the participants in the review, a list of projects and activities, which should obligatorily be subjected to evaluation, the goals and projects' evaluation criteria, etc. is proposed for this review.

Geographic Information System
A Geographic Information System /GIS/, which can combine 20 GIS layers, is elaborated for the park's territory.

Mapping, annexed to the respective parts of the Management plan
In the management plan are annexed 7 maps in scale 1: 100 000.
Separately, on the basis of the elaborated information GIS-layers, 12 maps in scale 1:25 000 or 1:75 000 are annexed to the plan. For every park region, maps in two copies have been elaborated, which contain the necessary information for the work of the employees.

SCROLLS, annexed to the Pirin NP management plan
SCROLL I: Annexes, described in the text of the management plan – they add to the characteristics and evaluations made and are an indivisible part of the MP. They are annexed on magnetic bearer and a hard copy.
SCROLL II: Statutory documents, letters, statements and minutes of work meetings. They are annexed on magnetic bearer and a hard copy.
SCROLL III: Reports of studies and research, made in the process of elaboration of the MP. They are annexed on a magnetic bearer.
SCROLL IV: Geographic Information System for the territory of Pirin NP, containing: the real geodesic coordinates in meters /coordinate system of 1970/ for the park boundaries and the two reserves, 2 pieces of Digital Model of the Territory on magnetic bearer.

PART: 0
INTRODUCTION

0.1. JUSTIFICATION FOR THE ELABORATION OF THE MANAGEMENT PLAN

The main precondition for elaboration of the present Plan is the necessity of contemporary management of the category *national park* in accordance with the European requirements for conservation of a protected area.

0.1.1. Grounds arising from the Protected Areas Act /PAA/:

Art. 55. (1) Management plans shall be developed for protected areas, following conditions and procedures set forth in a regulation approved by the Council of Ministers

(2) The national and nature park management plans shall be developed within a three-year period, and for reserves and maintained reserves, within two years as of their declaration. The management plans shall be updated every 10 years.

PAA SG, issue 133/11.11.98, amended SG, issue 98/99, amended SG, issue 28/04.04.2000, SG, issue 48/13.06.2000, SG, issue 78/26.09.2000.

0.1.2. Grounds arising from the Ordinance for Elaboration of Management Plans for Protected Areas /OEMPPA/:

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Art. 4. The management plans shall be developed for an effective period of 10 years and shall be updated after the expiring of this term.

Regulation # 7 of the Council of Ministers of 8. 02. 2000. Promulgated, SG, issue 13/15.02.2000

0.1.3. Grounds arising from the Memorandum of Understanding

between the Swiss Federal Government represented by the Swiss Agency for Development and Cooperation (SDC) and the Government of the Republic of Bulgaria represented by the Ministry of Environment and Water (MoEW) concerning the III Phase of the Bulgarian Swiss Biodiversity Conservation Programme (BSBCP) - 01.01.2002 – 30.06.2004

Strategic goal:
To provide a lasting basis for the conservation of the biodiversity of the Pirin National Park and World Heritage site
Specific objectives:
1) Prepare a Management Plan for Pirin and facilitate its approval
2) Create conditions and promote support for the implementation of priority activities underlying the Management Plan
3) Concrete measures to improve the interaction of the local communities and the general public with Pirin National Park

The MoEW bears the general responsibility for the contents and the approval of the Pirin NP Management Plan. Through NNPS, they are responsible for the allocation of the tasks of elaboration of the MP (Chapter II of the Ordinance, promulgated in SG 13 / 2000), for the approval of the plan's draft version and for submitting it to the Council of Ministers for final adoption…
The Director of the park and his team will be entrusted with the applying of the Plan."

0.1.4. **Grounds arising from the Terms of Reference for the elaboration of the Management Plan for Pirin NP** - approved by the Ministry of Environment and Water acoording to art. 11 of OEMPPA

A Management Plan for Pirin National Park designated by Order # RD-395/15.10.1999 of the Ministry of Environment and Water (State Gazette, issue 28. of 04.04.2000), should be elaborated.
The subject of the Management Plan for Pirin National Park should be:

⇒ The lands, the forests and the aquatic areas in the Park's boundaries, covering a total area of 40 332,4 ha;

⇒ The diversity of ecosystems, habitats and species of the flora and the fauna;

⇒ The sites and activities related to tourism, to the maintenance and the use of the resources;

⇒ The management prescriptions, measures and activities concerning the Park according to the goals set for a period of 10 years.

June 2001

0.2. THE PROCESS OF ELABORATION - PARTICIPANTS, PUBLIC HEARINGS

In the process of elaboration of the Plan 45 experts took part. A core team of consultants was constituted. They combined the data from the research and the previous ones concerning the main parts of the Plan. Advisors from the SDC methodologically guided the integral process of its development as well as Swiss NGOs and experts from the National Nature Protection Service in the MoEW

0.2.1. Participants in the core team that elaborated the Management Plan:

Name	Place of work	Position in the MP development
Landscape arch. Ljudmila Dimitrova	ECO- Innovations Ltd	Leader of the MP and coordinator of the team
Eng. Georgi Gruev	PROLES- Engineering Ltd	Geographic Information System /GIS/
Assoc. prof. Dr. Petar Jelev	University of Forestry	Flora and vegetation
Eng. Dobromira Dimova	University of Forestry	Flora and vegetation habitats, zoning
Senior assoc. Dr. Christo Delchev	Institute of Zoology, BAS	Invertebrate fauna
Senior assoc. Dr. Vasil Popov	Institute of Zoology, BAS	Vertebrate fauna
Eng. Toma Belev	Directorate of Vitosha Nature Park	Management structure, regimes, norms, regulations
Assoc. prof. Dr. Roumjana Stoilova	Institute of Sociology, BAS	Public information
Simana Markovska	Pirin Tourism Forum	Tourism, recreation, sport, public utility services in the National Park

0.2.2. Foreign experts with international experience in Protected Area Management

Pierre Galland - Switzerland
Peter Hislaire – Sitzerland
Andrej Bibic – Slovenia

The complete list of participants in the team that elaborated the Management Plan for Pirin National Park is enclosed in SCROLL1, Annex 1.1.

0.2.3. Stakeholders that participated in formulating and taking the decisions in the Plan:

⇒ Central authorities
- Ministry of Environment and Water /MoEW/
- Ministry of Agriculture and Forestry- National Forestry Board /MAF- NFB/
- Ministry of Regional Development and Public Works /MRDPW/

⇒ Local and regional authorities
- District Administration Blagoevgrad
- Municipalities of Razlog, Bansko, Gotze Delchev, Sandansky, Strumyani, Kresna, Simitly
- Land redistribution commission Bansko
- Directorate of Pirin National Park
- Regional Forestry Board /RFB/, Blagoevgrad
- State forestry boards

⇒ Non-governmental organizations /NGOs/
- Mountain Rescue Service /MRS/
- Bulgarian Tourist Union /BTU/ and tourist associations in the region
- Pirin Tourism Forum /PTF/
- BALKANI Wildlife Society
- University rescue squad
- EKO-OKO
- Slunchev sviat /Sunny world/- Razlog
- Bulgarian Society for Protection of Birds /BSPB/

0.2.4. Workshops and public hearings

In the process of elaboration of the Plan the following workshops and discussions were held:

A workshop on:
Management Plan for Pirin National Park – objectives and peculiarities - Sofia, 03 October 2001
Main goals of the meeting:
- To announce publicly the beginning of elaboration of the MP for Pirin NP;
- To ensure the procedure for active participation of the concerned authorities, organizations and persons in formulation and taking the decisions even during the initial phase of planning;
- To provide the necessary information to the stakeholders connected with the objectives, specific characteristics and purpose of the Management plan for Pirin NP, the legal and normative basis for its elaboration, as well as for the process of its development, discussions and approval.

A workshop on:
Current results from the development of the Management Plan for Pirin NP – Blagoevgrad, 07 March 2002
Main goals of the meeting:
- To announce publicly the results of the stages of development of the Management Plan for Pirin NP;
- To continue the procedure of active participation of the concerned authorities, organizations and persons in formulating and taking the decisions;
- To inform the stakeholders of particular activities, which took place and should be held during the development of the Management Plan for Pirin NP;
- To present "the Information System Concept for Pirin NP".

A travelling seminar with journalists on:
Elaboration of the Management Plan for Pirin NP – a challenging task – Razlog, 05- 06 July 2002
Main goals of the meeting:
- Work with the media for unified strategy for promoting the Pirin NP;
- Establish contacts with the journalists covering the nature protection and sustainable tourism development for the local and national mass media.

A seminar on: Classification of the habitats in Pirin NP – Bansko, 08 July 2002

Main goals of the meeting:
- Develop unified classification system of habitats in collaboration with the core experts, participating in the Project and Mr. P. Galland;
- Achieve maximum applicability of the MP and its objective and future implementation.

A workshop with the core experts elaborating the MP – Bansko, 09- 10 July 2002:
Main problems discussed in the meeting:
- Consultations with Andrej Bibic – adviser on the MP
- How will the MP meet the requirements of NATURA 2000
- What are the tools to reduce the visitors' pressure /example: Bavarian Forest NP /

A workshop for discussing Sections 1 and 2 of the Management Plan- Sofia, 16. 10. 2002:
Main goals of the meeting:
- Discuss the overall and specific objectives;
- Formulate priority activities in the Management Plan for the 2003-2013 period on the basis of the evaluations, constraints and threats identified by the experts.

Public Information Desks at the municipal centers of Sandanski, Strumyani, Kresna, Simitly, Razlog, Bansko
Main goals:
- Use the occasion of the 40th Anniversary of the Pirin National Park to present in public the goal and the objectives of the MP once again.

Workshops for defining a concept for zoning the territory of the Pirin NP – Sofia, 11. 11. - 18. 11. 2002
- Carry out a number of meetings with the experts and consultations with the core team, the National Park Directorate, and MoEW to determine the zones and their functions on the basis of the results of the existing evaluations.

Workshop for discussing Part 3 of the Management Plan – Blagoevgrad, 24 January 2003
Main goal of the workshop:
- Acquainting the whole staff of the NPD with the zones, norms and regimes planned in Part 3 of the MP;
- Ensuring the active participation of all NPD employees in the decision-making concerning the future management of the Pirin NP.

Workshop for discussing Part 3 of the Management Plan – MOEW, Sofia,
21 April 2003
Main goal of the workshop:
- Acquainting MoEW, Rila NP, Central Balkan NP and Pirin NP representatives with the zones, norms and regimes planned in Part 3 of the MP.

The data mentioned in point 0.2.3. are annexed in SCROLL 3: Letters, statements and minutes from workshops.

0.3. PURPOSE AND PECULIARITIES OF THE PLAN

⇒ Provides the necessary information on the types of habitats, localities and species, which are subjects of European directives.
⇒ Resolves the complex tasks for protection of the biodiversity and landscape diversity, as well as the recreation activities.
⇒ Develops the database and the geographic information system /GIS/ of Pirin NP.
⇒ Identifies the responsible persons for different aspects of the management of the protected area and the zones included.
⇒ Determines the regimes and the relevant norms for use of the zones and areas within the park territory.

⇒ Determines the priorities and measures for development and use, and the activities for implementation of the prescribed tasks.
⇒ Provides the necessary information for applying for funding of priority programs and projects.
⇒ Determines the participants, partners and their position in the realization of the Plan.

PART 1
DESCRIPTION AND EVALUATION OF THE PARK

GENERAL INFORMATION

1.0. LOCATION AND BOUNDARIES

1.0.1. Location of Pirin NP according to the physical - geographic zoning of Bulgaria.

It belongs to the Rila-Rhodopean region, the subregion of Rila Mt. and Pirin Mt. and the Mesta River basin, the Rila-Pirin region (Geography of Bulgaria, 1997)
According to the administrative division of Republic of Bulgaria the territory of Pirin NP falls within the district Blagoevgrad and in 7 Municipalities: Razlog, Bansko, Gotze Delchev, Sandansky, Strumyani, Kresna and Simitly.
The Blagoevgrad District is in the southwest planning region according to the National Plan for regional development.

Map # 1 shows the park's location within the borders of the Republic of Bulgaria and the country's administrative division.

1.0.2. Boundaries

Map # 2, annexed separately to the Management Plan, shows the park's boundaries and the reserves according to the orders for their designation, the adjacent settlements and other major sites.

The real geodesic coordinates in meters /coordinate system of 1970/ for the park boundaries and the two reserves are annexed to the plan on a magnetic bearer.

GIS - the following layers are generated: park boundaries, adjacent settlements, boundaries of the reserves within the Park, main tourist facilities – chalets, shelters, installations, sport facilities, main peaks with their altitude, national road network around the Park, including IV class roads, main water streams and lakes, the locality of the Pirin National Park Directorate (NPD), boundaries of the park regions and their offices.

1.0.3. Adjacent territories and objects

From the adjacent territories a subject of research to the Plan are the territories bordering with the National Park and the surrounding settlements, which affect it socially, economically, culturally and ecologically.
From the ecological, social and economic point of view the parameters used for determining of their range are dependent on the characteristics of the problems, which result in considerably different in range areas.
⇒ Built up areas in the municipalities of: Razlog, Bansko, Gotse Delchev, Sandansky, Strumjani, Kresna and Simitly the development of which influences directly or indirectly the Park;
⇒ Priority habitats of protected species;
⇒ Objects of cultural and historical heritage;
⇒ Traditional places for recreation- places for fairs etc.

⇒ Objects and buildings in adjacent territories – summer houses, holiday homes, chalets, fish-breeding ponds, etc.
⇒ Territories/ villages located close to Central and Southern Pirin.

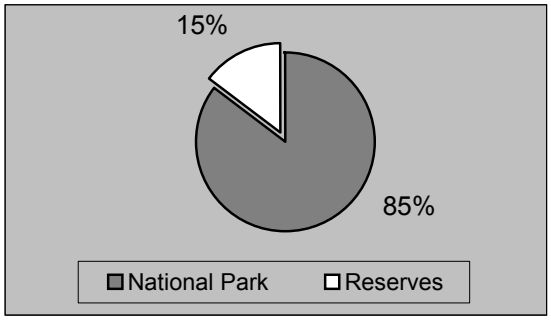
1.1. AREA OF THE PARK AND THE PROTECTED TERRITORIES WITHIN IT

Table 1. Area of the Park and the Protected Areas within it.

№	Name category	Order #	Area according to the Order in ha	Area according to the digital model in ha	% of the NP area	Difference in ha
1.	Pirin National Park	RD–395/15.10.1999 of MoEW Forests – 29 999,4 ha High mountain pastures– 10 333,0 ha	40332,4	40356,0	100,0	+ 23,6
2.	Bajuvi dupki-Djindjiritza Reserve	976/26.12.1979 Forests 2873,0 ha according to Forest Development Project of SF-Razlog from 1978	2873,0	2841,9	7,1	- 31,1
3.	Julen Reserve	223/26.08.1994 of MoE Forests – 2385,0 ha Agricultural lands - 771,2 ha	3156,2	3149,9	7,8	- 6,3

Note: The differences in the size of the quoted areas are a result of their more precise measurement on the basis of the used by the Land redistribution commissions compatible digital models.

Fig.1. Percentage ratio of the park's areas with different status according to the PAA



1.2. CADASTRAL AND ADMINISTRATIVE AFFILIATION

Table 2.
Distribution of the area by municipalities, settlements and land purposes

Municipality, **Settlement**	**Forest lands according to digital model /ha/**	**Forest lands according to order /ha/**	**Agricultural lands according to digital model /ha/**	**Agricultural lands according to order /ha/**	**Total according to digital model /ha/**	**%**
Razlog Municipality	**3872.7**	**4201.4**	**249.7**	**248.8**	**4122.4**	**10.2**
Settlement, town of Razlog	3872.7		249.7		4122.4	10.2
Bansko Municipality	**12404.4**	**12234.0**	**2355.6**	**2485.3**	**14760.0**	**36.6**
Settlement, town of Bansko	8022.3		2210.4		10232.7	25.4
Settlement, Dobrinishte village	2161.6		110.9		2272.5	5.6
Settlement, Obidim village	1339.4		15.1		1354.5	3.4
Settlement, Kremen village	881.1		19.2		900.3	2.2
Gotze Delchev Municipality	**1809.4**	**1501.3**	**185.5**	**22.1**	**1994.9**	**4.9**
Settlement, Breznitsa village	936.3		160.1		1096.4	2.7
Settlement, Kornitsa village	873.1		25.4		898.5	2.2
Sandanski Municipality	**6234.1**	**6231.4**	**6120.3**	**6130.8**	**12354.4**	**30.7**
Settlement, Pirin village	1559.7		2306.7		3866.4	9.6
Settlement, Liljanovo village	2703.9		2166.2		4870.1	12.1
Settlement, G. Sushitza village	229.0		101.9		330.9	0.8
Settlement, Sugarevo village	253.8		22.6		276.4	0.7
Settlement, Plosky village	1487.7		1522.9		3010.6	7.5
Strumjani Municipality	**176.7**	**179.2**	**0.0**	**0.0**	**176.7**	**0.4**
Settlement, Ilindentsi village	176.7		0.0		176.7	0.4
Kresna Municipality	**4567.5**	**4568.5**	**1443.1**	**1446.0**	**6010.6**	**14.9**
Settlement, Stara Kresna village	637.6		33.9		671.5	1.7
Settlement, Vlahi village	3929.9		1409.2		5339.1	13.2
Simitly Municipality	**937.0**	**1083.6**	**0.0**	**0.0**	**937.0**	**2.3**
Settlement, Gradevo village	109.4		0.0		109.4	0.3
Settlement, Senokos village	692.1		0.0		692.1	1.7
Settlement, Brejani village	135.5		0.0		135.5	0.3
Total:	**30001.8**	**29999.4**	**10354.2**	**10333.0**	**40356.0**	**100.0**
%	**74.3**		**25.7**		**100.0**	

Note: The differences in the numbers are a result of the precision of the boundaries of the settlements' territories after combing the digital models of the land redistribution commissions.

On Map # 3 Cadastral and Administrative Affiliation, the distribution of the areas according to the type of land use and the administrative affiliation is shown

1.3. LEGAL STATUS

1.3.1. Development and legal status of the Park till its re-categorization according to the Protected Areas Act

Order # 3074/ 08. 11.1962 of the Forestry Board of the Council of Ministers /CM/ - declaration of Vihren People's Park with an area of 6736 ha,
"…Includes the watersheds of the rivers of Banderitza and Damjanitza, sections 18-54 of the Bansko forestry board with an area of 2908 ha and 3828 ha of the alpine zone of Pirin…"

Order # 3011/ 30. 09.1974 of the Ministry of Forests and Nature Protection - designation of Pirin People's Park with an area of 26413.8 ha:
"…For the conservation of the specific character of the central parts of Pirin mountain massif, where the alpine character, the existing habitats and the endemic and relict plant and animal species are of scientific and cultural value and because of the possibilities for development of national and international tourism, outlined by the approved general principles of the territorial planning of "Ski region Pirin"…
… The reserves of Bayuvi dupki, Seimen tepe and Malka Dzindziritza must be included within Pirin People's Park, preserving their already defined reserve regime according to the Law on Nature Protection…"

Order # 594/ 03. 03. 1976 of the Ministry of Forests and Nature Protection /MFNP/ - Determining an area of 26479.8 ha of Pirin People's Park
"… Because of the exploitation of recently discovered resources of marble and under art. 22 of the Law on Nature Protection, the following subsections are excluded from the territory of Pirin People's Park: 306-a, b, c, 1, c, g, s- Pirin railway station with a total area of 34.0 ha …"

Order # 1036/ 17. 11. 1987 of the Nature Protection Committee of the Council of Ministers – New 12639 ha are included into the territory of People's Park Pirin:
"… of which:
1. Forested lands with a total area of 4369,9 ha.
2. Agricultural lands – highland pastures located between the forested lands, included in People's Park with a total area of 8276 ha.
III. Excludes from the borders of People's Park Pirin 16,1 ha from:
1. Dobriniste Forestry board - sections: 36- g (part), 39- b (part), 3 with total area 10,1 ha.
2. Sandansky Forestry board - sections 177-a with area of 6,0 ha.
The grazing of domestic animals except goats is allowed within the high mountain pastures …."

1.3.2. Legal status of Pirin National Park and the reserves of Bayuvi dupki-Dzindziritza and Julen included in it

By an **Order # 395/ 15. 10. 1999** of the Minister of Environment and Water Pirin People's Park was re-categorized as a National Park according paragraph 2 of the Transitory and concluding regulations of the PAA.

Art. 18. (1) Designated as national parks shall be areas without any settlements within their boundaries and which include natural ecosystems with large diversity of plant and animal species and habitats, with typical and remarkable landscapes and abiotic objects of nature.
(2) The national parks shall be managed for the purpose of:
1. maintenance of the diversity of the ecosystems and wild nature protection;
2. conservation and maintenance of the biological diversity within the ecosystems;

3. providing of opportunities for development of scientific, educational and recreational activities;
4. creation of prerequisites for development of tourism, environmentally friendly livelihood of the population and other activities in harmony with the goals under the preceding items.

Art. 20. The reserves and managed reserves within the national parks shall retain their regimes defined with the declaration orders thereof.

PAA SG, issue 133/11.11.98, amended SG, issue 98/99, amended SG, issue 28/04.04.2000, SG, issue 48/13.06.2000, SG issue 78/26.09.2000.

By a **Governmental Decree # 1388/ 29. 01. 1934** of the Ministry of Agriculture also the state property Bayuvi dupki was declared a reserve. In 1977 the Bayuvi dupki reserve was included in the list of the biosphere reserves of the UNESCO Man and the Biosphere Programme.
By an **Order # 976/ 26. 12. 1979** of the Nature Protection Committee of the Council of Ministers the territories of the Bayuvi dupki and Malka Dzindziritza reserves were enlarged and formed one reserve - *Bayuvi dupki-Dzindziritza* with a total area of 2873 ha.
By an **Order # RD- 223/ 26. 08. 1994** of the Ministry of Environment and Water the reserve Julen with an area of 3156,2 ha was designated on the territory of Bansko municipality.
By an **Order** # **225/09.12.1982 of UNESCO,** the Pirin NP was designated as a World Heritage site with an area of 26 423,8 ha.

The historical development and the changes in the boundaries of the park and the reserves in it from its designation to the present moment are illustrated by Map # 4, annexed to the Management Plan.

1.3.3. Legal frames of the Park's Management

The management of the National Park is carried out by the Ministry of Environment and Water /MoEW/.
The National Nature Protection Service /NNPS/ with the Ministry plays coordinating and controlling role related to the management of the protected areas.
The direct management and the implementation of the state policy are realized by the Pirin National Park Directorate.

⇒ Other Laws implemented in the management of the National Park:

- *Biodiversity Act* – the National Park Director controls the activity of the owners and users of land, forest and water areas included in the National Ecological Network with respect to the biodiversity conservation; controls the protection of the plant and animal species; maintains BA registers.
- *Hunting and Game Protection Act* – defines methods and means for regulation of the animal species numbers. This act is applied in the NP by the Minister of Environment and Waters.
- *Act on limiting the harmful impact of waste on the environment* – this act does not oblige the NP Director, but the PAA provides that the Director may stop activities, damaging or polluting the environment in the National Park, thus bridging the gap in the regulations of this act.
- *Fishing and Aquatic Cultures Act* – defines methods and means for sport fishing at the places defined by the MP. This act is applied in the NP by the Minister of Environment and Waters.
- *Concessions Act* – right of usage, valid for a 35-year period. The Concessions Act explicitly provides for the possibility of conceding parks with national importance.
- *Medicinal Plants Act* – the way of usage is defined with an ordinance on the rules and requirements for collecting herbs or generic material from medicinal plants, issued by the Minister of Environment and Water.

In Annex, SCROLL II, are enclosed the acts, regulations and other statutory documents, necessary for the management of the Protected Area.

1.3.4. Status of the Park and the reserves included in it according to international legislation, agreements and standarts.

The mentioned conventions and European directives are the starting points for determining of the main purposes and measures of the current Management Plan.

International conventions of which Bulgaria is a party and European Directives:

⇒ **Convention Concerning the Protection of the World Cultural and Natural Heritage** - it requires undertaking of general policy for inclusion of the cultural and natural heritage in the public life and for its integration into programs for general planning; establishment of administrations for protection, conservation and evaluation of the cultural and natural heritage, which should be sufficiently staffed and have adequate resources allowing them to realize their purposes; development of scientific and technical research and surveys and improvement of the methods of interference allowing the Country to prevent activities, which endanger its cultural or natural heritage. The State Parties are obliged to undertake the necessary legal, scientific, technical, administrative and financial measures to identify, protect, preserve and regenerate this heritage.

⇒ **European Landscape Convention** – each country should: legally define the landscape as a considerable component of the living space of people, as an expression of the diversity of shared by them cultural and natural heritage and a base for their identity; establish and implement a landscape policy, aiming at its protection, management and planning by relevant measures; define and establish procedures for participation of public, local and regional authorities and other concerned parties in the implementation of the policy with respect to the landscape.

⇒ **Convention on Biological Diversity** – it requires undertaking special measures for rehabilitation of degraded ecosystems and ensuring the regeneration of endangered species by development and implementation of strategies and management plans. The parties are called to avoid the introduction of alien species, which endanger the ecosystems, habitats and the local ones.

⇒ **Convention on International Trade in Endangered Species of Wild Fauna and Flora** – it requires protection of some defined species from excessive exploitation by international trade. The countries- members are obliged to undertake special and urgent measures to accomplish these demands.

⇒ **Convention on the Conservation of European Wildlife and Natural Habitats /Bern/** – it requires undertaking of special measures for ensuring protection of the natural habitats of wild flora and fauna species, as well as for conservation of endangered – facing extinction, natural habitats. The parties are obliged to pay special attention to the protection of regions of importance for the migratory species like wintering, mating, breeding and feeding places.

⇒ **Convention on the Conservation of Migratory Species of Wild Animals /Bonn/** – it requires conservation and regeneration of the habitats of the migratory species. The parties to avoid and eliminate the negative influence of activities or obstacles, preventing species' migration.

⇒ **Council Directive 92/43/EEC on the conservation of natural habitats of wild fauna and flora** – it aims at ensuring species diversity by protection of the natural habitats, as well as by restoring their optimal status. The Directive underlines the responsibilities of the parties for conservation of priority natural habitats in their natural state. These habitats must be protected in the frames of one integral ecological network, protected areas should be designated and their management plans should be developed and implemented.

⇒ **Council Directive 79/409/EEC on the conservation of wild birds** – the oldest European nature protection directive. It requires measures for protection, maintenance and restoration of the adequate, in terms of diversity and area habitats for all bird species.

⇒ **Seville Strategy for Biosphere Reserves, March 1995 – Man and the Biosphere Programme of UNESCO**. Its general guidelines include enhancement of the contribution of biosphere reserves to the practical implementation of the international conventions concerning nature protection and sustainable development and mostly the Convention on Biological Diversity. The biosphere reserves are viewed as investment for the future. They should sustain and generate natural and cultural values by scientifically, culturally, constructively and functionally sustainable management.

The Bayuvi Dupki – Dzhindzhirtza Reserve was designated as a biosphere reserve in 1977. Like the other biosphere reserves in Bulgaria, it does not meet the international criteria for biosphere reserves.

In Annex, SCROLL III: "Reports from studies and researches, carried out in the process of elaboration of the Plan" a report is presented on the Bayuvi dupki – Dzhindzhiritza biosphere reserve.

1.4. OWNERSHIP

1.4.1. Exclusive state property defined by the Constitution of Republic of Bulgaria and the PAA

The property on the territory of the national parks is exceptionally state property, including the terrain where sites and facilities have been constructed regardless of their ownership, i.e. it cannot be disowned or transformed into another kind of property.

Art. 18. (1) The mineral resources, the coastal beaches, the republican roads, as well as the water, the forests and the parks of national importance, the nature reserves and the archaeological reserves defined by law shall be exclusive state property.

Art. 18 of the Constitution of Republic of Bulgaria

1.4.2. Ownership on Facilities in the Park

About 30% of the sites have proper ownership documents.

Table 3. Distribution of the sites in Pirin NP according to the ownership

Kind of the site	State property number	Municipal property number	Physical persons number	Legal bodies acc to the TL number	Legal bodies acc. to the LLBNO number	Total
Chalets					12	12
Hotels	1				3	4
Lifts; rope-ways	1	5		1		7
Vacation homes	3	2		3	1	9
Commercial facilities		1		12	3	16
Summer houses			6	3	1	10
Bungalows	2	7		10	31	50
Ski-runs	1	7				8
Diary farm			1			1
Warehouse					1	1
Picnic site	1					1
Power transformation post	12					12
Parking lot	3					3

Camping site					2	2
Total	25	22	7	29	54	**137**

1.4.3. Legal status of the existing land use rights for construction of facilities and use of natural resources

Art. 50. In observation of their powers, the directors of the regional authorities of the Ministry of Environment and Water shall, within the territory of their regions:
control the activities of owners or users of forests, lands and aquatic areas;
PAA-SG, issue 133/ 11.11.98; amended SG, issue 98/99, amended SG, issue 28/04.04.2000, SG, issue 48/13.06.2000, SG, issue 78/26.09. 2000

Existing rights for use of buildings:

- The biggest share of a site owner on the territory of the Pirin NP belongs to the company ULEN: with Decree № 514/03.07.2001 the company has received a concession for 30 years on exclusive state property for "Ski zone with center Bansko". The conceded area is 99,55 ha.
- The second biggest owner of sites on the territory of the Pirin NP is the Bulgarian Tourist Society (BTS): the sites are managed by local BTS structures. The Pirin NPD has not received yet the necessary documents for the legalization of these sites.
- Third come the sites owned by legal persons according to the Trade Act: according to the available data these sites are managed personally by their owners. The ownership and usage mode documentation has not been provided to the Pirin NPD.
- Facilities that are municipal property – they represent private communal property, as more of them are for rent. The relevant contracts are not made directly available to the Pirin NP Directorate, and there is no actual information about the rights and the obligations of the renters.
- State owned facilities. The relevant data are not made directly available to the Pirin NP Directorate, as well as no information is available to it on the state structure to which the rights are delegated to manage the facilities and how to manage them.

In SCROLL 1, Annex 1.2. List of the sites on the territory of the Park with data about the existing use rights is annexed.

Illegal construction and sites – according to § 14 of the PAA, the illegal buildings in the PA as defined by the PAA or in the water supply zones should be obligatorily removed and the terrain should be re-cultivated at the expense of the violator. Buildings or parts of constructions in protected areas or water supply zones established without a permit or in contradiction with the approved projects and the other construction documents or violating the Protected Areas Act, should not be legalized.
Art § 15. entrusts the Minister of Environment and Water, The Minister of Finance and the mayors of municipalities with the implementation of this Act.
Possibility for granting concessions - the Concessions Act provides a possibility for using the NP resources through granting concessions for 35-year period. The order of granting a concession is the following: a decision of the Council of Ministers for granting the concession is adopted, a competition or tender is organized or the concessionaire is defined without a tender or competition in the cases, specified by the law, after which one of the ministers and the chosen concessionaire conclude a concession contract. However, the Act explicitly prohibits granting of concessions in cases of danger for the environment or the protected areas. In order to judge if such a danger exists, an ecological analysis of the concession is prepared for the adoption of the CM decision. The Act also provides for the possibility of changing the concession contract clauses, as well as its pre-term termination on condition that a danger for the environment or the protected areas arises. The concession possibilities, provided by the Act are limited with

a view to the protection of the environment and the preventing of an unreasonable use of the national park resources.

1.5. MANAGEMENT STRUCTURE

1.5.1. The management of Pirin NP - a historical review.

During the period 1980- 1995 Pirin People's Park was the only Protected Area, which possessed an independent and acting on the entire area administration which managed to gain enough experience and to establish itself as a competent authority accepted by the local municipalities.
Created by the Order of MFFI 54- 25/ 19. 12. 1979, the Park Administration has undergone different transformations, including considerable changes in staff number and duties.
The last Park Development Project for Pirin NP of 1993 offers a model structure including 1 director, 2 chief engineers, 6 chiefs of administrative and technical sections /ATS/, 6 foresters, 6 assistant foresters, 39 forest rangers, 5 workers, information and design specialists, 12 employees in visitors centers, 2 – in the Park museum, 6 research workers, 3 accountants, a secretary, a specialist "Labor and Salaries", 2 logistics and a lawyer. This structure comprises staff of 92 persons and is recommendable in an independent management of the territory.

1.5.2. Organizational structure and administration

⇒ **Total number of the staff and its division by positions of equal functions**
According to the results of the studies performed in September 2001 the administration of Pirin NP includes 41 full-time employees, of which 13 are civil servants/state officials. The levels of subordination are shown in point 1.5.2.2. This administrative structure coresponds to the philosophy of the PAA and the legal regulations for its implementation. All the activities for management of the natural resources and the tourist services are contracted for management by the park administration to different business entities. There is part time staff hired on temporary contracts by the park administration, of which 4 additional park-guards and 9 fire prevention staff.

⇒ According to **the educational background** the permanent staff includes 16 people with master degrees and 25 high-school graduates.

Table 4. Presents administrative and territorial dividing of the Park

Park region	Area ha	Park guard specialists Number	Average area of a guard section ha	Address	Phone/ fax
1. Vihren	9807,0	6	1634,5	4 "Bulgaria" Str. 2770 Bansko	07443-82-04
2. Kamenitza	12 352,4	4	3088,0	A Base for Erosion Control 2800 Sandanski	0746-21-629
3. Bajuvi dupki	4842,1	3	1614,0	1 "Stephan Stambolov" St. 2760 Razlog	0747-23-64
4. Bezbog	6445,5	4	1611,0	State Forestry 2777 Dobrinishte	07447-32-06
5. Sinanitza	6885,4	3	2295,0	State Forestry Kresna	07433-35-42

The average guarding area for a guard specialist is 1948,0 ha (the total warded area being 40 931,1 ha and the total number of guards – 21).

Every park region is managed by a chief inspector, which is the head of the guard specialists.
To the Park region Sinanitza is joined the Tisata guarding region with and area of 575,1 ha, including the reserve with the same name guarded by 1 employee.

Fig. 2. Functional structure of the Pirin NP Directorate. Organizational relations and the staff subordination relations at the different levels.

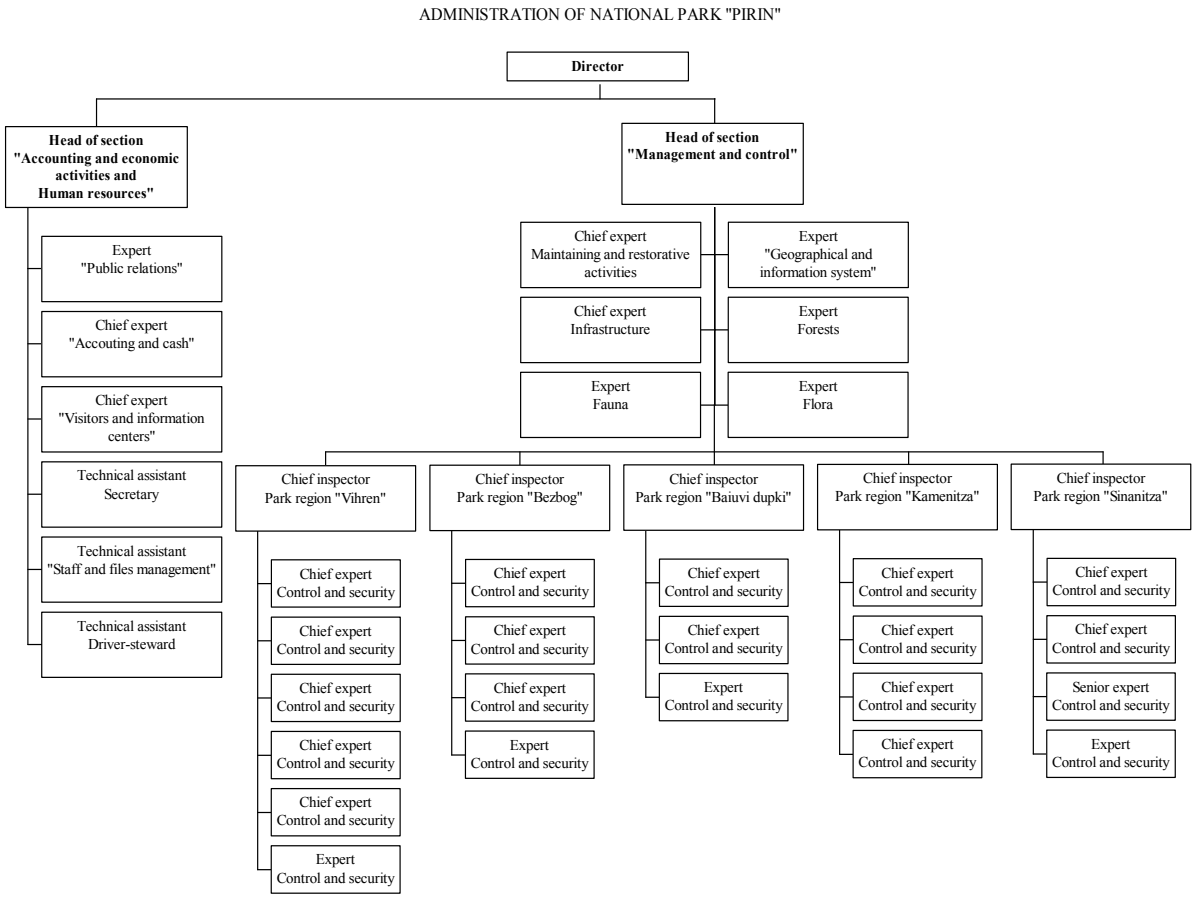


Table 5. Staff – main functions of the different positions

POSITION	MAIN FUNCTIONS
Head of *Accounting and economic activities and Human Resources Department*	Organizes, controls and is responsible for the accounting and financial activities of the Directorate and performs internal financial control.
Head of *Management and Control Department*	Plans, organizes and controls the general guarding operations on the territory of the Park, the safety and fire-prevention activities on the territory of the NP and the regional divisions.
Chief Inspector	Organizes and carries out the guarding activities. Represents the Park Directorate on a local level.
Experts *Control and security*	Follow the keeping of the regime in the protected areas, defined by the Order for their declaration and by the MP. Accompany visitor groups.

	Perform activities related to the monitoring of the qualities of the components of the environment.
Chief Expert *Maintenance and regeneration/restoration activities*	Plans, organizes and controls the execution of activities, related to the realization of maintenance, regeneration and other activities on the Park territory. Prepares vision-papers, plans and projects and sends them for approval following the defined administrative order.
Chief Expert *Geographic information system /GIS/*	Responsible for developing, maintaining and updating of the GIS and the web site of the Park. Participates in the training of the staff on GIS.
Chief Expert *Infrastructure*	Responsible for the planning and carrying out of the bids. Controls the making and positioning of the tourist and other infrastructure.
Junior Expert *Forests*	Provides methodological guidance in organizing and carrying out of specific activities in the NP with priority on the protection of the biodiversity and the landscape. Supports the preparation of the relevant documentation.
Junior Expert *Fauna*	Develops programs and plans for protection of the animal species of high nature conservation value in the Park. Controls the activities concerning the diversity of the animal species in the Park. Monitors the viability of the animal populations with a special accent on the critical and the indicator species.
Junior Expert *Flora*	Develops programs and plans for protection of the plant species of high nature conservation value in the Park. Performs quantitative determination of the resources of the medicinal plants and forest fruit species, allowed for collection, performs quantitative determination of the capacity of the pastures and the number of the grazing livestock on the territory of the relevant park regions.
Junior Expert *Public Relations*	Develops public awareness programs about the Park and the activities in it. Develops tools for environmental education of the residents living in neighborhood of the Park.
Chief Specialist *Accounting and cash*	Performs cash operations on the basis of preliminarily prepared debit and credit documents. Keeps the cash – book, takes, keeps and provides cash and securities. Responsible for the ready cash. Collects the taxes for use in the Park. Accounts the passes and the transport and fuel consumption documents. Makes statistical reports for salaries and long-lived tangible assets.
Technical assistant *Staff and files management*	Maintains and keeps the log-books and the personal files, advises the employees about their rights and duties. Registers the official and the internal correspondence.
Technical assistant *Driver and logistics*	Keeps the park car in good working order. Drives the staff towards the places of their work. Helps in delivering the materials necessary for the work of the Directorate. Participates in the activities in extreme situations like terrain checks up, natural disasters and accidents.

In Annex, SCROLL III: "Reports from the studies and researches, carried out in the process of elaboration of the Plan", the terms of references of the staff are described.

1.5.3. Material and technical provision /2003/

⇒ Buildings

- *The Pirin NP Directorate* possesses a solid administrative building in the town of Bansko, a farm building, adjacent to the main one and additional land also adjacent to the main building with an area of 1,5 decares and the right for construction;

- For the needs of the *Vihren Park region* /PR/ a two storey bungalow is constructed within the boundaries of the Park, near the Bansko access point. It executes the functions of a regional office;
- The administration of the *Bayuvi dupki PR* is situated in a rented room in the old building of the Razlog municipality. For the needs of the region a bungalow is purchased. It is necessary as support point and it is situated in the Betalovoto site;
- The administration of the *Kamenitza PR* is situated in two rented room in the building of the Service for anti-erosion operations in Sandanski;
- The administration of the *Bezbog PR* is situated in a rented room in the building of the State Forestry Board in the village of Dobrinishte. For the needs of the region a bungalow is purchased. It is necessary as a support point and it will be situated in the region of Gotse Delchev chalet;
- For the needs of *Sinanitza PR* a bungalow is constructed in the town of Kresna, on land let free of charge. It is expected to perform the functions of a regional office. The bungalow doesn't suit to the needs and the park region is situated in a rented room in the Kresna State Forestry Board. A bungalow owned by the park is used as a support point for the needs of the region. It is situated in the Varbite site.

⇒ Existing technical equipment

- The Directorate is provided with 4 four-wheel drive vehicles - UAZ (9- places), 4 Lada Niva (1 of them should be discarded), 12 motorbikes, 1 KAMAZ heavy truck and other tangible assets;
- The individual communication between the Park personnel is realized by mobile phones – only the park guards and the chief inspectors are equipped;
- A computer network is established in the buildings of the headquaters;

In SCROLL 1, Annex 1.3. is presented the Existing material and technical provision of the NP Directorate as of the end of the year 2000.

⇒ Fires prevention

- A specialized for steep and hardly accessible forest terrains and light for carrying equipment is bought- 4 water pumps and pipes will be immediately used when there is a signal for fire.

1.5.4. Other state, municipal and public organizations which implement functions on the territory of the Park

Table 6. Partner organizations and their functions on the territory of the park

PARTNER ORGANIZATION	FUNCTIONS
Regional Inspectorate of Environment and Water Blagoevgrad and the laboratory complex of the Executive Agency of Environment – Sofia	Monitoring of the components of the environment
Regional units of the MI /Ministry of Interior/	Guarding of the park territory and its resources
Regional Emergency and Security Services	Fires prevention and fire management
Blue Link Foundation	Provides Internet information concerning the NP
Bulgarian Tourist Union	Maintaining of the tourist chalets and shelters and helps in the maintenance of the tourist marking and cleaning of the regions around the tourist chalets
Mountain Rescue Service with the Bulgarian Red Cross Organization	Prevention and protection of the health and live of the visitors in the Park
BALKANI Wildlife Society	Monitoring on the status of the populations of the large carnivores in the Park – wolf, bear, and carrying out ecological educational programs for the role and the protection of the large carnivores
Bulgarian Biodiversity Preservation Society SEMPERVIVA	Protection of ancient local breeds of domestic animals in the region of Kresna

Bulgarian Association Mountains and People in collaboration with the Odysseia - IN company	Training of mountain guides in the region of the Park
Pirin Tourism Forum - association of the municipalities in the region	Promotion of the Park and the region, education of the private owners for tourist activities, making an inventory of the tourist resources in the region and preparation of tourist products related to the wild nature, the local crafts and products
Wild Flora and Fauna Fund in Blagoevgrad	Organizes educational activities in the settlements around the Park aiming at the protection of the biodiversity and protection of some species of birds of prey
Wilderness Fund	Realizes educational campaigns in the region of the Park and research activities related to the wild nature and the large carnivores conservation and the development of ecological and village tourism.
Local organizations – Eco-Oko - Gotse Delchev, Eco-Team - Bansko, Sunny world – Razlog, Community Center Slovo – the village of Petrovo, the Otez Paisii Primary School - Bansko and the Technical School of Farming - Sandansky	Environmental education programs among the young people and the local population
BALKANI Wildlife Society, For the Earth, IEEC, Green Balkans, BSPB and 29 other ecological NGOs	Campaigns aiming at the nature protection in the Park on a national level

1.5.5. Financing – Table 7. shows the costs of NP Directorate per funding sources reported for the period of 1999-2002

Table # 7
Costs per funding sources reported for the period of 1999-2002

Years	Staff Number incl. staff according to Council of Ministers' decree 66/96	COSTS:									FUNDING SOURCES:			
		Salaries, additional pays and social security	Business trips	Training and seminars	Running costs (phone, rents, transport, consulting services, clothing, stationery, taxes, insurances, etc.)	Fuel and lubricating materials, electricity, heating	Costs for repair of vehicles and office equipment	Costs according to the Activities Plan	Capital expenditure (major repairs, new constructions, equipment purchases, etc.)	Costs total:	State budget	NEF	BSBCP	Total
1999	21	170986	3630		30445	12033	3781	16259	8166	245300		245300	-	245300
2000	41	153561	4876		59493	23532	5048	170075	56402	472987	237242	235745	-	235745
2001	44	202177	4025		53425	39372	11534	100382	107573	518488	373599	144889	-	144889
2002	44	245050	8304	1280	53604	41956	14460	171403	231913	767970	522797	233175	11998	767970

1.6. EXISTING PROJECTS

1.6.3. Projects approved during the last 15 years and related to the construction, resources use and other activities on the Park's territory

Territorial development plans of the municipalities: a special attention is paid to the possibilities for establishment of a North Pirin tourist region on the basis of the "*rich recreation resources*", which are underused and underdeveloped because of the poor transport communications. The perspectives for development of the accommodation are defined. The trends for organization of public services in already constructed buildings and the harmonious construction of new buildings by keeping of large green areas are determined.

Strategies for development of the municipalities on the territory of Pirin NP – developed and approved in accordance with the demands of the National plan for regional development for the 2000-2006 period.
The defined mission of the municipality administrations is – to ensure conditions for social, economical and cultural development in favor of attraction of foreign investments and improvement of the living standards of the population.

⇒ Priority areas for the municipalities are:
- Preservation and increasing the human potential
- Improvement of the social status of the population
- Protection of the ecological balance
- Reformation of the local government by innovation practices
- Economic development through encouraging of small and middle enterprises
- Rehabilitation of the agriculture
- Conservation and restoration of the historical monuments
- Preservation and development of the traditional culture
- Construction of a modern dump for household solid wastes
- Organizing the settlements and improvement and optimization of the road network

⇒ Structural Strengths Weaknesses Opportunities Threats analysis (SWOT) of municipalities

Strengths:
- Favorable climate and beautiful nature, rich in resources

Weaknesses:
- Migratory processes
- The region is not popular amongst foreign investors
- Insufficient municipal subsidies from the state budget
- Relatively poor population and high rate of unemployment

⇒ Environment
- Regeneration measures for the cut down forest areas
- Implementation of management programs for the household solid wastes

⇒ Agriculture
- Support for development of private farms equipped by modern technologies
- Rehabilitation and construction of irrigation system
- Encouraging the development of herbs and mushrooms cultivation
- Encouraging of the greenhouses on the basis of existing thermal springs.

⇒ Tourism
- Attracting the investments in the tourism
- Improvement of the material and technical base and the quality of the services;
- Development of information centers.

Regional plans for development of Blagoevgrad District

Main objectives:
- Development of alternative branches of the district economy where natural preconditions exist – spa resorts and tourism, environmentally sound energy;
- Development of trans-boundary cooperation;

- Development and improvement of the transport communications and the public services.

Sociological polls of public opinion for environment conservation and economic use of Pirin

The objective of the study is:

- The attitude of the population of the country and Blagoevgrad district towards the Project for Statute of Pirin NP
- Construction of the Mesta cascade
- Evaluation of the ecological awareness of the population

On the basis of the sociological study presented, the following recommendations are made:

- The construction of the Mesta cascade will bluntly disrupt the ecological equilibrium of Pirin Mountain.
- The boundaries of Pirin NP are close to the optimal. Changes shouldn't target decreasing of the area of the Park.
- The administration and management of the Park must be assigned to the state authority of environment and the local municipal administrations.
- The activities on the territory of the Park and the mountain have to be orientated towards environmentally sound use.

Park Development Project for Pirin People's Park

Objectives and principles:

- The conservation objectives are of priority and the area is viewed as a II category according to the criteria and the regimes of the national park
- The People's park has scientific, educational, recreation and tourist functions
- For the long-term conservation of the ecosystems and their genetic pool reserves are declared, as well as for protection of the greatest biodiversity
- Main and supplementary information centers are to be developed

Projects concerning the Ski zone with center the town of Bansko

⇒ Territorial development studies (October, 1998) – AgrolesProekt, Ltd – Sofia; Investor: Bansko municipality.

The investigations of the authors concluded the following:

- The tourism became a leading branch of the local economy;
- The development of the winter tourism related to the skiing has no alternative as a source of incomes and working places in the near future;
- The number of beds in the town is assessed to 5000 beds. It is accepted that 70-80% of them should be skiers. Because the capacity of the existing ski runs is 2000- 2200 skiers, hence shortage of tracks for 1500- 2000 skiers was registered;
- The main reason for the inadequate use of the mountain during the winter is the lack of public transport to the ski zone and the inconvenient technical parameters of the Bansko-Shiligarnika road for winter conditions. The parking lot has no capacity to cover the peak hours;
- The rope-ways system not finalized and linked;
- There is no lift to service the tourist and the skiers' flow from the town.

The project includes the following decisions:

- Cabin lift connecting Bansko and the Shiligarnika site with a capacity of 1500 persons per hour;
- Chair lift connecting the Shiligarnika site with the Banderishka poljana site with a capacity 500 person per hour.
- Chair lift Shiligarnika-Platoto with a capacity of 900 persons per hour
- Ski run Platoto- Shiligarnika with a capacity of 427 persons per hour
- Rope-way Balkaniada – capacity of 800 persons per hour
- Enlargement of the ski run Starata pista – the capacity is increased by 20 skiers and becomes total of 243 skiers
- Rope-way Platoto – capacity of 900 persons per hour
- Ski run Platoto – capacity of 235 persons per hour. The run should be traced south of the existing rope-way and it is an extension of the existing ski run

- Children ski run and rope-way in the Shiligarnika site
- Ski run Todorka peak-Banderishka poljana – with a capacity of 319 skiers
- Chair lift Banderishka polyana-Todorka peak – with a capacity of 900 persons per hour
- Proposal for safety improvement measures of the upper part of the ski run Tsurna mogila.

⇒ General urban development plan of the ski zone with center the town of Bansko (1999) – Final project. Investor: Julen Corporation.

⇒ Park development project (1999), AgrolesProekt Ltd, Draft project. Investor: Bansko municipality

⇒ Territorial development plan of tourist and ski zone with center the town of Bansko (November, 2000) – Final project. Investor: Julen Corporation.

Changes following the recommendations of the records of the Higher Expert Council of 20. 07. 1999 for enforcement of the Order RD–02–14–1353/ 13. 07. 1999 of the Minister of Regional Development and Public Works.

- An additional investigation of the territories adjacent to Bansko to the south has been made to get principal permission for changes in the status of some of the agricultural lands adjacent to the urban border and including a 100 m wide strip of land along the future east-west ring-road and south of the Motikata restaurant within the boundaries of Pirin NP.
- The recommendation to develop the lower cabin lift station as a multifunctional complex (information facilities, primary health care center, commercial complex, a catering public complex, cultural and entertainment center, service center) has been realized. The constructions part of the site is 1200 m^2 and the total built up area is 2500 m^2.
- The project proposes a new connection between Ikrishchanska poljana site, Shiligarnika site and Banderishka polyana site by a tourist trail, long 1400 m and with an area of 0.99 ha.
- Corrections of the new ski run in the region of Platoto. The run is situated to the south of the existing rope-way and is an extension of the existing ski run.
- According to the building decisions each zone has clearly defined boundaries and parameters. These zones have no status of urban formations.
- It is declared that there will be no facilities controversial to the purposes defined by the acting legislation (PAA) and changes in the status of the existing facilities are not necessary.

The recommendations from the recoreds of the Higher Expert Council of 19. 07. 2000 in consequence of art. 20, par. 1, p.1 of Regulation 4/98 for Environmental Impact Assessment /EIA/

- The trails of the ski runs Banderitza and Shiligarnika underwent correction
- The trails and parts of trails of existing ski runs were dropped out
- The length and the final part of the ski run Tsurna mogila underwent correction
- The Children ski run underwent correction
- Reforestation of the dropped out sections of the ski runs Chalin valog-west, Todorka and Starata pista is envisaged
- The newly planned parking places were dropped out
- It is declared that the revised plan doesn't provide increasing of the accommodation within the Park. Only refurbishment of the existing buildings is acceptable.
- It is declared that the capacity of the ski runs and facilities is based on the economic potential of Bansko and its reconstitution with the priority of tourism as an alternative of the ineffective industrial development. This capacity takes also into account the permissible anthropogenic pressure on nature and environment.
- It is recommended that the number of the beds in Bansko for serving the tourist flow should not exceed 7800;
- The proposal for management of the territory by concession was dropped out.

The recommendations under the Annex to the record of the HEC are the following:

- The territorial development plan shows the obligatory conditions, restrictions and recommendations concerning the ski runs and the ski paths, the chair lifts and rope ways and the built up zones.
- The project doesn't envisage creation of a holiday village in the Banderishka polyana site.
- The existing 10 bungalows in the region of the upper station of the lift shall not be removed.

The Ministry of Environment and Water does not approve the requirements, which are indicated as fulfilled. By note # 26-00-10751 from 22.01.2001, signed by Minister Maneva, the above materials are not approved and actions cannot be undertaken for making the Resolution # 57-13/ 2000 of Environmental Impact Assessment (EIA) effective. In the closing part of the note addressed to the stakeholders it is said that after the elaboration of the management plan for Pirin NP and according to its decisions measures will be undertaken for changing the territorial development plan.

Other projects

⇒ Projects for the water supply infrastructure of the Park and the adjacent zone.
⇒ Building and regulation plans concerning the zone adjacent to the Park:
- General urban plan for the resort and tourist locality Predel
- Construction and regulation plan of the resort Popovi livadi
- Cadastral plan of the sites Popina laka and Tourichka cherkva
- Construction and regulation plan of the summer houses in the place Varbite, town of Kresna

⇒ Forest development projects for the State forestry boards in the zone adjacent to Pirin National park for the last 10- years' revision period.
⇒ Investigation of the potential for economic development of the municipality of Gotse Deltchev – under the Project Jobs Opportunities by business support (JOBS), Ministry of Labor and Social Policy, UNDP
⇒ Developments and programs related to the regional development and tourism connected with the occurrence of the Park
- Investigation of the tourist development of municipalities Bansko and Razlog. UNDP in Bulgaria, 1996
- Management plan for the environment of the resorts zones BANSKO and BOROVETZ – Program PHARE - MOEW, 1996
- Strategy for development of the tourism in the municipality Gotse Delchev and the region
- Municipal program for proposing projects for funding by the European Union – Sandanski municipality

In SCROLL 1, Annex 1.4. the described projects are presented by summarized information concerning their objectives and contents.

1.7. EXISTING FUNCTIONAL ZONING AND REGIMES

1.7.1. Functional purpose and regimes of the zones defined by the Park Development Project for Pirin People's Park of 1993

Table 8. Zones, regimes and norms, defined by the Park Development Project of the Pirin People's Park of 1993.

Main zones	Area ha	% of the total park area	Regimes
1. Territories of strict protection regime – include the reserves	**6092,8**	**16,0**	Reserve regime
2. Territories with temporary regime of strict protection – defined in the alpine and sub alpine zones	**1178,8**	**3,1**	A ten-year period of reserve regime is determined and it could be changed only in extreme situations: fires, calamities, mass wind-throws
3. Territories with managed regime:	**30 901,7**	**80,9**	
3.1. Protected areas maintaining their existing status – includes the announced by the Order natural monuments, historical places and old trees	*51,1*	*0,2*	
3.2. Territories with functions of protection – includes areas with water supply functions	*3182,5*	*10,3*	*In some of them sections are defined where limited grazing is permitted*
3.3. Territories with recreation and tourist functions of the natural landscape – defined in the regions with already developed accommodation, sports equipment, and traditional tourist itineraries	*15988,6*	*51,7*	*The traditional character of the skiing zone Bansko is maintained as an object of mass sport. The development of new skiing runs is not permitted.*
3.4. Territories with traditional regime of agricultural use – include the terrains of the highland pastures	*2333,6*	*7,6*	*The grazing is allowed*

Additional zones	Range and regimes
Park buffer zone	Includes the adjacent areas bordering the People's Park
Transition zone	Includes the neighboring territories, which are economically and socially related to the Park. The regime of this zone is recommendable and includes the demands for sustainable use and development.

1.7.2. Established violations of the regimes

⇒ Poacher felling near the northwestern border of the biosphere Bajuvi dupki-Djindjiritza reserve. In these places the biosphere reserve borders the Razlog SFB.

⇒ The sanitary and water-protection zones and the requirements for them for catchments and reservoirs are not respected in a lot of places.

⇒ Trespassing by cars and illegal parking in the region of Picknika place, Banderitza and Vihren chalets are registered
⇒ Construction in the Bezbog PR.

CHARACTERISTICS OF THE ABIOTIC FEATURES

1.8. CLIMATE

1.8.1. Factors, forming the local climate

⇒ **Location of the Park according to the climatic zoning of Bulgaria**
The territory of Pirin NP is situated on three different in their characteristics climatic regions (St. Stanev, 1991).
Maleshevsko-Pirin low mountain sub-region - the southern section of the Park with altitudes up to 1000 m is situated there.
The sub-region along the Mesta river valley - the eastern and some of the northern slopes of the mountain with an altitude up to 1000 m are situated here.
Mountain climatic sub-region – including the central part of Pirin Mt where the National Park is located and the altitude there is above 1000 m.

⇒ **Impact of the continental and the Mediterranean climate on the formation of the local climate**
Pirin Mountain belongs to the continental-Mediterranean climatic zone where the frequent and abundant rainfalls are characteristic. The character of the climate is defined mostly by the Mediterranean cyclones. They appear most frequently in the late autumn and winter. The summer here is very often under the influence of the "Azores maximum" and that's why it is dry and hot.

⇒ **Impact of the relief on the climate of the Park**
- The low mountain zone with an altitude of 600- 1000 m covers about 16% of the total area of the mountain;
- The middle mountain zone with an altitude of 1000- 1800 m covers about 40% of the area;
- The high mountain zone with an altitude above 1800 m covers about 44% of the total area of Pirin Mt.

The main climate characteristics for the whole mountain are lowering of the temperature with increasing of the altitude and increase of the quantity of rainfalls. The drop in the temperature following the increasing of the altitude is better outlined during the summer and that is the reason for smaller annual amplitudes of the temperature in comparison to this tendency in the valleys situated near by.

1.8.2. Elements of the climate
The numeral values of the characteristics are defined by the data from observations made in total of 16 rainfall measuring and meteorological stations. Among them only 5 are located within the borders of Pirin NP and 1 of them is meteorological. 11 stations are positioned out of the Park but in the same climatic region.

⇒ Air temperature
The annual temperature varies within the ranges of about 9-10°C in the low mountain zone, 5-7°C in the middle mountain zone and within 2-3°C in the highest parts of the mountain (Bansko – 9.3°C, Popina laka – 7.1°C, Vihren chalet – 3.5°C).
The coldest month is January with an average temperature of about – 2°C to – 5°C.
The hottest month is July - the average monthly maximum temperatures in July and August are almost equal and are about 20°C at the altitude of 1600 m and about 15°C at the altitude of 2000 m..

The monthly amplitude (the difference between the average monthly maximal and minimal temperatures) is characterized by small seasonal variation in comparison to this one in the lower parts. The free atmosphere in altitude and the inclination of the terrain are the factors, which prevent the considerable overheating of the air during the day and the significant drop in its temperature while becomes lower in the night.
The annual course of the temperature amplitude is with minimum during December and January (when the cloudiness is the greatest) and maximum in July and August (when the cloudiness is the lowest).
In about 75% of the winter days inversions in the air temperature up to the altitude of 2000 m are observed.

⇒ Rainfall
The annual rainfalls vary in the range of 600-700 mm in the low mountain to 1000-1200 mm in the highest zones. Greater portion of the rainfalls in the winter is of snow as in the altitude up to 1000 m the solid falls are about 70- 90% of the total rainfall quantity and in the highest zones they reach 100% of the total rainfall quantity.

Table 9. Average annual rainfall measured in the meteorological and rainfall measuring stations in Pirin Mountain during the 1936-2000 period

Stations	**Altitude in m**	**Average annual rainfall in mm**
Kresna	180	470
Gotze Delchev	508	593
Papaz chair *	1400	721
v. Gradevo	466	668
Bansko	936	577
Razlog	780	550
Predel	1142	876
Popina laka *	1203	685
Gotze Delchev hut *	1600	676
Damjanitza *	1894	1003
Vihren *	1970	1050

** rainfall measurement stations situated in Pirin NP*

The most abundant are the rainfalls in the winter and the beginning of the spring and the summer (mostly its second half) is the season with the lowest rainfalls.
The annual rainfall amplitude is lesser than the one in the other mountains. The average maximum rainfalls are 30- 50 mm.

⇒ Air humidity
The air is the driest during the summer (August) - from 60 to 75% with the change of the altitude. Maximum monthly values are observed in December (in some places in November) and are about 80 to 85%.

⇒ Snow cover
The average *number of the days with snow-cover* varies from 20-30 in the lowest zones of the mountain to 120-160 days in the highest zones.
The average thickness of the snow cover varies in wide ranges. The maximum snow thickness is:
- In lower parts (with an altitude 700-800 m) is during January – 10-13 cm;
- For the altitudes of 1000-1800 m is in February – about 40-60 cm;
- Above 1800 m it is at the end of March-beginning of April - about 140-160 cm (Vihren – 190 cm).

In some winters the maximum snow cover could reach 250-350 cm.

⇒ Wind

During the spring the prevalent direction is W-NW but the frequency of the south winds becomes more prominent. In the summer the north-west winds become stronger and they predominate along the mountain peaks. In this season also a mountain valley circulation appears.
In the beginning of the autumn the winds are still as in the summer but in the middle of the season the north-east winds become occasional.
The greatest wind velocity is during the February-March period and is the least in August-September. The average monthly wind velocity reaches 10 m/s and even more. At the same time in the orographically closed relief forms it is about 1 m/s (Bansko 0.8 m/s). In the summer and autumn the number of the quiet days raises to 30-40% in the lower zones of the mountain and to 10-15% in higher ones. In the highest ones during the entire year the days of quiet weather are about 5-7%.

⇒ Sun shining
The maximum of the monthly sun shining duration coincides with the minimum of the cloudiness in August and it is 220-240 h.
The annual amplitude of the sun shining duration is lesser in higher parts of the mountain 130- 150 h in comparison with this one in the lower zones (to 1000 m), where it is about 180- 200 h. That is due to increase of the sun shining duration in winter and its decreasing in the summer.

Table 10.
Temperature conditions during the vegetation period

	Average starting date of air temperature transition of more than 10°C	**Average end date of stable air temperature above 10 °C**	**Period with constant retention of the air temperature above 10°C**
Low mountain zone with an altitude of 600- 1000 m	25 April	15 October	173
Middle mountain zone with an altitude of 1000- 1800 m	05 May	5 October	153
High mountain zone with an altitude above 1800	21 June	29 August	69

1.9. GEOLOGY AND GEOMORPHOLOGY

1.9.1. Geological structure, morphological structures and morphometry

1.9.1.1. Main morphological structures and rock formations composing them

Pirin Mountain as a morphological unit represents a complex horst high mountain structure, rising in the middle part of the Rila-Rhodopes massif between the graben valleys of the Struma and Mesta Rivers. The main orographic and hydrographic ridge stretches from northwest to south – southeast and lies closer to the northeastern parts of the mountain. Pirin is devided from Rila by Predel saddle (1140 m) and in the south it ends at the Parilska saddle (1170 m), which divides it from the border mountains Slavianka and Stargach. In morphographic aspect Pirin Mountain is divided into three parts: Northern, Middle and Southern.
The Pirin National Park covers the high elevation areas in its northern part, which is distinguished by well-developed alpine relief.

⇒ In morphological aspect two parts are differenciated here: *northern part* – sharp, marble Vihren ridge (including Vihren peak – 2915 m, Kutelo – 2908 m, Banski and Razlozhki Suhodol), along the eastern slope of which the deep and waterless cirques Banski Suhodol, Bayuvi dupki and Kazanite are curved into, and *a southern part* – a granite ridge along which the Banderishki chukar (2737 m), Momin dvor and other peaks rise. These two parts of Northern Pirin, too different in their aspect, are divided by

Kabite saddle and the valleys of the opposite rivers Vlahina and Banderitza. The deeply curved into valleys of the Vlahina, Sandanska Bistritsa and Pirinska Bistritsa rivers (tributaries of Struma) and Demyanitsa and Retidze rivers (tributaries of Mesta) divide this part of Pirin into several lateral elevations – the marble Sinanitza ridge and the granite Kamenitza ridge to southwest and the granite Poledzan ridge to the northeast.

⇒ Middle Pirin is located between the Todorova polyana and Popovi livadi saddles. It is comparatively lower (the highest is Oreliak peak – 2099 m).

⇒ Southern Pirin is the lowest part of the mountain. It stretches between the Popovi livadi saddle and the Parila saddle. Its rounded ridge is almost at the level of the saddles in Northern Pirin (Sveshtnik peak 1973 m).

⇒ The geological fundament of the mountain belongs to the Rhodopian Supergroup – metamorphic rocks. Biotite schists and gneisses, amphibolites, quartzites and marbles are the predominant rocks. They appear in the northern parts of the park as the marbles of the Dobrostan formation occupy the largest area (about 25% of the territory).

⇒ Paleozoic granitoids cover small areas around the borders of the park. Late Cretaceous granitoids build up two clearly distinguishable structures: the North-Pirin and the Bezbog plutons. The first one consists of medium-grained granites. It appears in the northwestern parts of the park. The second one consists almost entirely of porphyric biotite granites to leucogranites. It covers large areas of the Yulen Nature Reserve and Kamenitza ridge.

- The Central-Pirin pluton covers almost the whole southern part of the park. It is thought to be of Early Oligocene age. It consists of granites. Altogether granitoids cover about 55% of the territory of the park. Proluvial Quaternary fans occur only in the lowest part of the park, close to the town of Bansko.
- Glacial deposits are concentrated in the cirques and the glacial valleys. They consist of gravel and blocks of granite, gneiss and marble.

Table # 11. Distribution of the main morphologic structures and the constituent rock formations in the Park by area and percentage proportion

TYPE	Area (ha) /	% of the total area of the Park
Proluvial formations – sediment cones (gravels and sands)	461,4	1,1
Glacier formations (boulders, gravels and sands)	2092,0	5,2
River-glacier formations – sediment cones (boulders, gravel and sands)	19,0	0,05
Nevrokop group (breccia-conglomerates, conglomerates, sandstone)	5,3	0,01
Central Pirin pluton (granites)	15308,3	37,9
Northern Pirin pluton (granites)	2512,7	6,2
Bezbog pluton (granites)	6538,4	16,2
Spanchevo pluton (granitoids)	522,8	1,3
Zmeevo pluton (granitoids)	230,6	0,6
Dobrostan marbles group (marbles)	4762,1	11,8
Lukovitsa gneisses-schists, schists and schits group (gneisses, gneisses-schists, schists, marbles, amphibolites);	2012,9	5,0
Boykovo gneisses group (thin-stripped biotite gneisses) and Bachkovo leptinite group (leptinoid gneisses, leptinites)	5431,0	13,5
Vucha diverse group (amphibolite-biotite, biotite and bi-micaseous gneisses, gneisses-schists, marbles, calcyphites, etc.)	459,5	1,1
Total	**40356,0**	**100,0**

GIS – a layer of the basic rocks is generated of the polygone type as well as Map # 5 Geologic-petrographic Map

1.9.1.2. Main morphometric indicators:

Average and absolute altitude

The relief of Pirin National Park is notable for its alpine character – strong segmentation, steep slopes, high ridges and deep river valleys. Its highest point is peak Vihren (2914 m. –the third highest on the Balkan Peninsula). The lowest point is situated at the entrance of the park at Bansko (950 m.) /*Table 12*/.

Table # 12. Distribution of the territory of the Park by elevations and areas

Altitude	Area (ha) /	% of the total area of the Park
from 600 to 1000 meters	163,6	0,4
from 1000 to 1600 meters	5108.9	12,7
from 1600 to 2000 meters	12108,0	30,0
from 2000 to 2500 meters	19830,8	49,1
above 2500 meters	3144,7	7,8
Total	40356,0	100,0

Of the data exposed in the table it becomes clear the predominant section of the areas are located in the hypsometrical belt of the elevation range of 2000-2500 meters, which covers 49% of Pirin NP. The second – by some 30% - ranks the belt located between 1600 and 2000 meters, i.e. around 60% of the territory of the Park is above 2000 m of elevation

Table #13. Distribution of the Park area by the exposure of the terrain

Exposure		Area (ha)	Total areas by evaluation (ha)	% of the total area	Total in % by evaluation
Directions	Evaluation				
N	Shadowed	6013,9	22488,5	14,9	55,7
NE		5144,6		12,7	
NW		5381,8		13,4	
E		5947,8		14,7	
SE	Sunny	3198,9	17867,5	7,9	44,3
SW		3944,8		9,8	
W		5358,8		13,3	
S		5365,4		13,3	
Total:			40356,0		100

Of the data in the table # 13 it becomes clear that the predominant sites are of sunny exposures – they cover 22488,5 ha or 55,7% of the total area of the Park. The largest is the area of northern exposure totaling 6013,9 ha, while the most limited – that of southeastern exposure – only 3198,9 ha.

Inclinations

The slopes gradient in the lower sections is 11^{o} per 1 km, while in their upper parts this decreases to 4^{o}-5^{o}

Table # 14. Distribution of the Park area by the slope of the terrain

Slope of the terrain	Degrees	Area (ha)	% of the total area of the Park
Flat	0 - 5	121,6	0,3
Sloping	6 – 10	231,6	0,6
Inclining	11 – 20	3466,4	8,6
Steep	21 – 30	17629,7	43,6
Very Steep	above 31	18906,7	46,9
Total			100,0

Of the data in the table it becomes evident that the predominating areas are very steep – 46.9%. The second rank the steep areas 43,6%. i.e. the steep slopes are characteristic to some 90,5% of the territory of the Park.

Relief segmentation

The horizontal fragmentation of the faulted slopes of the Pirin mountain is some 3 km per 1 km^2, while the vertical cutting of the river-valley network reaches 600-700 m per 1 km^2 discovering the deepest sections of the fundament. The average slopes are outlined by 30-35 to 40 degrees isoclines.

1.9.2. Geomorphology of the relief

Geo-morphological development of the mountain
The tectonic structure of the Pirin Mountain is mainly a result of Precambrian, Hercynian, Alpine and Neotectonic movements. The main Precambrian fold structures of Northern Pirin exhibit north-northwestern – south-southeastern trends. The Alpine structure of the mountain is dominated by faults and tectonic magma phenomena. A period of planation in the Early Miocene leads to the formation of the main denudation surface (peneplain). The Neo-tectonic movements lead to the destruction of the peneplain and complete development of all faulting zones that divide the Pirin horst from the surrounding grabens.

Relief forms
The contemporary relief of the Pirin Mountain is formed during the Pleistocene. At this time the mountain is a subject to an Alpine-like glaciating. It is linked to the global cooling of the climate and takes place simultaneously with the glaciating of the Alps. The snow line reaches down to 2200-2300 m. Today, all glacial forms of the relief are situated within the borders of Pirin National Park.
There are 35 cirques in the highest parts of Pirin. The largest are the Popovoezeren, Vasilashki, Valyavishki and Banderishki. Numerous high mountain lakes (186) occupy the bottoms and the terraced slopes of the cirques. The cirques in the marble part of Northern Pirin are smaller but deeper. There are no lakes due to the carbonate geological substrate. Snow patches consisting of perennial firn are found on shadowy sites on the slopes of the cirques that have northern exposition – Golemiya Kazan, Kutelo, Banski Suhodol.
As a result of the lateral erosion of the glaciers the ridges between them turn into narrow and sharp saddles – Koncheto, Strazhite, etc. Pyramidal and conic peaks are formed above the highest parts of neighboring cirques – Vihren, Kutelo, Kamenitza, etc. Relatively short alpine glaciers descend below the snow line during the Pleistocene. They transform the previously existing river valleys into U-shaped glacier valleys.
Northern Pirin exhibits a clearly distinguishable central ridge and several lateral ridges. From northwest to southeast the peaks Pirin (2593 m.), Bayuvi dupki (2820 m.), Banski Suhodol (2884 m.), Kutelo (2907 m.), Vihren (2914 m.) tower above the central ridge. This is the highest part of the park. Its characteristic feature is the karst developed in the Proterozoic marbles. Tens of pot-holes, precipices and caves are scattered on the bottoms of the cirques. Karst terrains cover large areas.
The Sinanitza ridge (Georgiytza, 2598 m.) branches off westwards of the Graniten peak (2669 m.). The Todorin ridge (Todorin vrah, 2764 m.) is formed to the north of the Vazela peak (2620 m.). To the south

the central ridge descends to an altitude of about 2600 m. The Polezhan ridge (Polezhan, 2851 m.) located in the north of peak Momin dvor (2715 m.) is very high and split. The Kamenitza ridge (Kamenitza, 2822 m.) is situated in the south of peak Kralev dvor (2680 m.). Further southwards the central ridge is dominated by the peaks Orlovetz (2668 m.), Zheleznik (2673 m.), Hleven (2645 m.) and Cherni vrah (2345 m.). Altogether about 60 peaks above 2600 m. are located on the territory of the national park.
The central ridge plays the role of a main hydrological divide of the mountain. In the east all rivers are tributaries of Mesta. In the west the rivers flow towards Struma.

Places of avalanche activity in the park
The combination of steep and high slopes and thick snow cover in winter is a prerequisite for the formation of avalanches. They occur very often in February and March along the slopes of the high marble ridge, Tipitzite, Voivodski vrah and Strazhite.
⇒ Risky sites, dangerous for tourists, the places of which should be marked according to data from Mountain Rescue Service /MRS/:
Bezbog Chalet – Pirin Chalet; the area of Popovo Lake, Dzhengalska porta, Kralevdvorska porta, Mozgovishka porta, Solishteto, Kornishki preval, Begovishka porta, Southeast side of Todorin peak, Vinarska porta, Bashlijska porta, Mecha poliana – Banderitza Chalet, Banderitza Chalet – Vihren Chalet, the Gullies crossing the road below Banderitza Chalet and below Vihren Chalet – total number of 12; after Muratovo Lake – 1 in number, at Banderishka porta – 1 in number, Sinanishka porta, Yavorov Chalet - Peshterata – Sinanitza FB, Suhodolski preval, Yavorov Chalet until going downhill from the ridge of Ushitsite, Suhodolski preval to the region of Vihrenski preslap, Chernata voda to Sinanitza Chalet.

GIS – a layer of the relief was generated; it is of the line type for the horizontals of 50 and 100 m sections, as in the attribute file the respective heights are entered. Map # 6 on Relief and Avalanche Hazardous Sites

1.9.3. Karst and caves in Pirin NP

The development of the karst in the Pirin including in the Pirin NP is connected with the distribution of the Pre-Cambrian marbles on the territory of the mountain. The intensive neo-tectonic movements and the chemical composition of the marbles, as well as their jointing and the substantial rain-falls sum have predetermined the development of a large number of predominantly vertical caves. According to the regional division of the caves in Bulgaria (Popov, 1976) the territory of the Park within the so called Vihren-Sinanitsa cave region (402), which covers an area of 57.2 km^2 and could be divided into two sub-regions – Vihren and Sinanitsa. As a result of the long-term expeditions carried out by the Bulgarian cave-divers a total of 113 precipices and precipice caves have been studied, mapped and classified till now in this region.

⇒ Caves in the Vihren-Sinanitsa cave region

Vihren sub-region
The Vihren sub-region covers the caves along the so-called karst ridge of Northern Pirin. It falls completely within the boundaries of the Park. The caves here are vertical and are mainly concentrated in the cirques of: Kazanite; Bunderishki; Kamenititsa; Banski Suhodol and Bayuvi Dupki.

Sinanitsa sub-region

It is associated to the distribution of the narrow strip of marbles between the so-called Vulchi Rid and the peak of Sinanitsa. It covers mainly the N-NW slopes of the Sharalya peak. The caves are located in the range of 1650 and 1800 m of elevation. They are of a natural origin but cut through ore ledges because of which, geologists have described them as medieval cave mines. Specific archeological studies to clarify this problem were not carried out.

In SCROLL1, Annex 2. 1. are represented tables on the location of the caves by sub-regions and cirques, containing also data on names, lengths, depths and numbers.

1.10. HYDROLOGY AND HYDROBIOLOGY

1.10.1. Hydrology and hydrography

Hydrographic characteristics
Pirin NP is situated on a territory of the basins of rivers Struma and Mesta. Both rivers flow into the Mediterranean Sea and their basins are respectively parts of the Mediterranean Sea basin. The total area of the basins of the rivers Struma and Mesta is 13564 km^2.

- *Main watershed:*

It passes along the main crest of Pirin Mountain and its direction is northwest southeast. It divides the watersheds of the Struma and Mesta rivers

- *Area of the watersheds*

Table # 15. Main River Catchment

Main River Catchment Areas	Total Area	NP Pirin Area	in % of the NP Pirin Area	in % of the total area
-	km^2	km^2	%	%
Struma	10797	206.065	51.06	1.52
Mesta	2767	197.495	48.94	1.46
Total	13564	403.560	100.00	2.98

The total area of the surface basin is 404.665 km^2 as 204.120 km^2 of them belong to the river Struma watershed and 200.545 km^2 - to the river Mesta watershed. Both watersheds cover relatively equal area- 50.44%- Struma, 49.56%- Mesta. The Park occupies 1.89% of the Struma river watershed and 7.25% of the Mesta watershed.

- *Rivers and river systems* - on the territory of Pirin NP 10 tributaries of Struma river and 10 tributaries of Mesta river occur and their springs are within the territory of the Park.
- *Hydrographic characteristics of the river watersheds in the stations of the basic hydrological network* - on the territory of Pirin NP only one station for supporting hydrological network is situated. In the close proximity to the boundaries of the Park are situated another 7 stations – 2 in the watershed of river Mesta and 5 in the watershed of river Struma.

Lakes
On the territory of Pirin NP are situated 118 lakes with permanent water surface. They are provisionally divided in 17 lake groups. The total area of the water surface in the conditions of average water levels is 2085 km^2. This area forms 0.51% of the Park territory. The areas of Popovi and Banderishki lakes are the largest ones. Popovo lake is the largest – 124 000 m^2 and the deepest one is Popovo lake from the group of Popovi lakes.

Flow characteristics

The results from the survey show that for Pirin NP the average annual flow is 355.6 million m^3 of water. 188.5 million m^3 of them go towards Struma River and 167.1 million m^3 flow into Mesta river. Among the rivers, which flow into Struma the one with the greatest flow is Sandaska Bistritza River and among these ones, which flow into Mesta – it is Bjala reka River (East). With the largest in specific flow among the tributaries of Struma River is Mozgovitza River and among the tributaries of Mesta – it is Disilitza River.
The flow from Pirin NP represents 40.5% of the flow of Pirin Mt, as the area of the Park is scarcely 17.9% of the territory of the mountain (Table 19). In comparison to the territory of the country the area of the Park is scarcely 0.36% but it gives 2.07% of the flow of the rivers in Bulgaria. The flow per unit of the Park area is 2.3 times greater than the average flow of Pirin Mountain and 5.6 times greater than this one from the territory of the country.

GIS- layers of the hydrographic network are created as follows: "line" for the river network; "polygone" for the lakes; "point" for the water sources.
Map 7 Hydrographic network and water flow, annexed to the Management Plan
Map 8 Rainfalls, annexed to the Management Plan

Water balance
The calculated rainfall and flow characteristics for the 1936-2000 period give favorable possibility for evaluation of the elements of the water balance of the basins of all principal rivers which begin in Pirin NP.

- The summary evaporation is 238 mm, which corresponds properly to the average altitude in the Park- 1214 m. Along the main basins the summarized evaporation is respectively 233 mm for the watershed of Struma river tributaries and 243 mm for Mesta river watershed. The average annual volume of evaporated water from the Park territory is 96.4 million m^3 and it represents 0.19% of the evaporation from the country territory and 11.9% from the evaporated volume of Pirin Mountain.
- The rainfalls over a unit of Park area are 1.5 times greater in comparison to these ones over the territory of Pirin Mt and are 1.8 times greater than this one over the territory of the country.
- The flow from a unit of Park area is 2.3 times greater than this one from Pirin Mountain and 5.6 times greater than the flow from the territory of the country.

Water use
Drinking and households water supply:
A number of catchments installations for drinking and households water supply for local facilities – chalets, vacation homes, etc., are developed on the territory of the Park. The waters are used mainly on the territory of the Park. The irreversible water loss of the drinking and households water represent 8-12% of the waters caught. The used waters flow back in the river currents following surface and underground way and they don't represent considerable disturbance of the flow. Waters from the territory of the Park are also used for supplying small villages situated out of the Park. The caught waters flow back in the river network out of the Park territory. At present there is no sufficiently detailed survey of all the catchment installations with their characteristics, but if the small number of the population on the close proximity to the Park (less than 100 000 persons) is taken into account it could be evaluated that the annual volume of the drinking and households water doesn't exceed 2 million m^3 which represents 0.56% of the surface flow from the territory of the Park and the irreversible loss is respectively about 0.06% of the flow, formed on the Park territory.

Hydro-energy
On the territory of Pirin NP are situated the facilities of the Sandanska Bistritza cascade. 8 catchments with built up water quantity of 6.48 m^3/s are developed. The caught waters in an annual cross-section represent usually about 20% of the built up water quantity or 1.3 m^3/s. The average perennial volume of the caught waters could be estimated of about 41 million m^3 or of about 50% of Sandanska Bistritza river flow, which is formed on the Park territory. After processing of these waters in the water electric power station /WEPS/ Liljanovo they enter into a derivation where together with another caught waters they proceed to the WEPS Sandansky and after the processing they flow again into the Sandanska Bistritza river.

In SCROLL 1, Annex 2.2. are enclosed 20 tables representing the hydrographic characteristics of Pirin NP territory

1.10.2. Hydrochemistry

Subjects and strategy of the investigation:

- 9 rivers of the Mesta watershed - rivers Bela, Banderitza, Demjanitza, Disilitza, Bezbog, Retije, Kamenitza and Tufcha;
- 3 rivers of the Struma watershed - rivers Vlahinska, Mozgovitza and Demirkapijska
- Additionally, the small river Ikrishcha in the Shiligarnika place (right feeder of Banderitza river) is also investigated in August 2001. This river is used for drinking water supply for the Shiligarnika complex and at the same time is drainage for the waste water of the complex. The only water sample of fecal and household waste waters on the territory of the Park is taken from this river. This exception is made because of the significance of this small river for the tourist industry in the region of Bansko and the recorded pollution effects.
- 16 considerable lakes from the main lake groups in the Park in 2001 – Dalgo Banderishko, Ribno Banderishko, Dzhabeshko, Okoto, Tevno Vasilashko, Gorno Vasilashko, Ribno Vasilashko, Tevno, Golyamo Valiavishko, Bezbog, Popovo, Gorno Ribno, Dolno Kremensko, Sinanitza, Argirovo, Mitrovo.
- 13 lakes in 2002 – Dalgo Banderishko, Ribno Banderishko, Dzhabeshko, Okoto, Gorno Vasilashko, Ribno Vasilashko, Tevno, Lake under Tevno, Bezbog, Popovo, Sinanitza, Argirovo, Mitrovo.

Analysis of the results

The performed investigations of the water quality during 2001 and 2002 show the status of the surface waters on the territory of the Park during the most representative periods of the year – the one of low water level (August 2001) which shows the worst ecological conditions which could be seen from the physical, chemical and hydro-biological point of view during the years and the period of high water (June 2002) after the snow melting when the conditions in the water ecosystems are completely different (high opacity of the river waters and possibilities for so called secondary pollution/ load).

Table 16. Quality of the river waters on the territory of the Pirin NP in 2001 and 2002

Indicators	Period of low waters august 2001	Period of high waters June 2002
Hydro-chemistry		
Water temperature	11.69 ^{0}C varies between 9.8-14.3 ^{0}C	11.1 ^{0}C varies between 9.0-13.0 ^{0}C
Dissolved oxygen	8.7 mg/l and 95.08% varies between 7.44–11.35 mg/l; 81-119%	8.88 mg/l and 95% varies between 7.6–11.9 mg/l; 80-124%
PH	7.68 varies between 7,02 and 8,43	7.21 varies between 6,15 and 8,26
Conductivity	75.45 µS/cm varies between 42,4-219 µS/cm	38.82 µS/cm varies between 18.2-148 µS/cm
Dissolved substances	51.56 mg/l varies between 28-146 mg/l	26 mg/l varies between 12-98 mg/l
Irresolved substances and turbidity	1 mg/l vary between <1 and 5 mg/l	3.15 mg/l vary between 1 and 7 mg/l
Non-organic nitrogen forms (ammonia, nitrites, nitrates)	Non-organic nitrogen and phosphorus are practically absent from the waters, except of small quantities of ammoniac nitrogen in spring due to the washing of decaying coniferous cover (a natural process)	
Phosphates (PO_4-P):		

COD and BOD_5	Any organic loading of the river waters on the park territory is missing	
Hydro-biology		
Trophic Index RETI (TI):	80.46% (59 – 99 %);	value 85.73 % (47 – 95 %
Biotic Index (BI)	Corresponds to waters with the highest quality	

All rivers mentioned in the Investigation are characterized by clean waters of high quality.

In SCROLL 1, Annex 2.3. is enclosed an Analysis on indices comparing the period of dryness/ low water level in 2001 and the period of high water in 2002

Table 17. Quality of the lakes waters on the territory of the Pirin NP in 2001 and 2002

Indicators	Period of low waters august 2001	Period of high waters June 2002
Hydro-chemistry		
Water temperature	14.24 ^{0}C varies between 8.5-17.8 ^{0}C	11.58 ^{0}C varies between 4.6-22.9 ^{0}C
Dissolved oxygen	7.88 mg/l and 100.38% varies between 6.67–9.6 mg/l; 77.5-121%)	9.11 mg/l and 108.04% varies between 7.5–11.8 mg/l; 84-137%
PH	7.5 varies between 5,72 and 8,82	7.01 varies between 5,99 and 7,77
Conductivity	34.63 µS/cm (7,8-76,9 µS/cm	18.55 µS/cm 8,3-109,4 µS/cm
Dissolved substances	22.86 mg/l vary between 5,2-50,75 mg/l	12,43 mg/l vary between 5,6-73,3 mg/l
Irresolved substances and turbidity	<1 mg/l vary between <1 and 2 mg/l	32.62 mg/l vary between 1 and 6 mg/l
Non-organic nitrogen forms (ammonia, nitrites, nitrates)	Non-organic nitrogen and phosphorus are practically absent from the waters, except of small quantities of ammoniac nitrogen in spring due to the washing of decaying coniferous cover (a natural process)	
Phosphates (PO_4-P):		
COD and BOD_5	Any organic loading of the lake waters on the park territory is missing	
Hydro-biology		
Chlorophyll A	6.39 mg/m^3 varies between 2.79 –9.61 mg/m^3	1.31 mg/m^3 varies between 0.4– 3.49 mg/m^3
Phytoplancton	1816.37 cell numbers/l varies between 131 –7786 cell	3636.62 cell numbers/l varies between 191– 10436 cell

	numbers/l	numbers/l

The quality of the lake waters is very high.

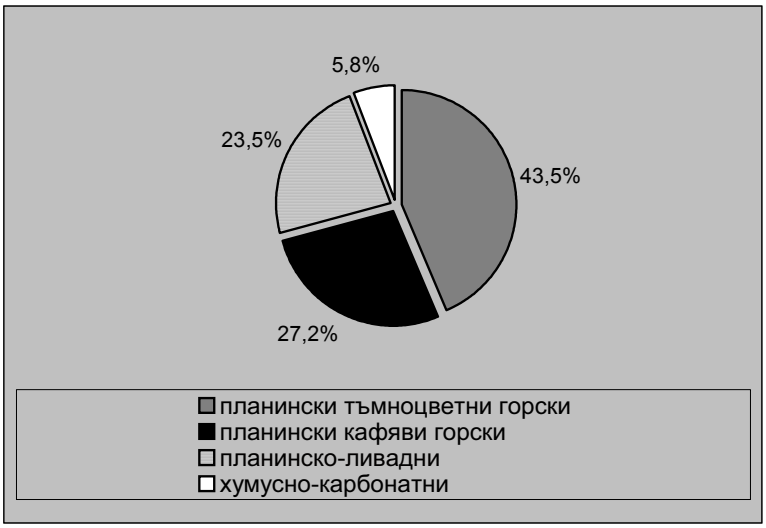
In SCROLL 1, Annex 2.4. is enclosed an Analysis on indices comparing the period of dryness/ low water level in 2001 and the period of high water in 2002 for Pirin glacial lakes.

In SCROLL 1, Annex 2.5. are enclosed tables from 1 to 14- Quality of waters- hydrochemistry and hydrobiology.

1.11. SOILS

1.11.1. Distribution and characteristics of the soils (according to the actual soil classification in Bulgaria)

Figure 3. Percentage distribution of the Park areas according to the soil types:



Mountain dark colored forest soils Mountain brown forest soils
Mountain- meadow soils Humus- calcareous soils

⇒ Mountain brown forest soils (Cambisols)
Distribution- in the middle mountain zone of beech and coniferous forests (800- 1800 m in altitude). There are represented also the three subtypes- dark, intermediate and light as following:

- Brown forest soil , dark (Humnic Cambisols) – 5315,3 ha (66,0%)
- Brown forest soil, intermediate(Eutric Cambisols) – 2598,6 ha (32,3%)
- Brown forest soil, light (Disric Cambisols) – 139,1ha (1,7%)

Totally: 8053,0 ha (100, 0%)

⇒ Mountain dark colored forest soils (Umbric Cambisols):

Distribution- in the middle mountain and to lesser extend in the high mountain forest zone of Pirin Mt. They are the relation to the mountain meadow soils over the upper border of the forest and the pine- scrub formations. The soil parent materials usually are granites carbonates free.
The fertility of the soils is high. There are some of the best stands of *Pinus peuce* (over the skeleton soils) and *Picea abies*.

⇒ Mountain- meadow (humus- siliceous) soils (Rankers):
Distribution- almost entirely in the alpine part of the high mountain zone (over 2500 m) where they could be found often in a complex with rock and screes. In the sub alpine sub zone (up to 2500 m in altitude) they are in a complex with mountain forest dark colored soils. High- mountain grasslands are developed over these soils. The granite rock is the main soil parent material.

⇒ Humus- calcareous soils (Rendzinas):
Distribution- to the north- west of Banderitza River to the Predel place. Of the main importance for their development are the presence of hard calcareous rocks and the products of the wethering. Mainly *Pinus nigra, Pinus helderichii, Pinus mugo* and *Juniperus communis alpina* grow over these soils.

For characterization of the soils an information of the Soil Map of Republic of Bulgaria/ 2000 as well as data from 18 cross- sections made during previous survey of that object are used.

In SCROLL 1, Annex 2.6. are enclosed the soil cross sections and the results of the laboratory investigation.

1.11.2. Erosion processes

For evaluation of the erosion processes on the territory of Pirin NP topographic maps in a scale 1: 50000 and the available in the Directorate technical information are used. The object is investigated on terrain additionally during August- September 2001.

⇒ First to Third stage are eroded 102,3 ha or 0,6% of the wood producing area of the forests. The following sections and subsections have been affected by erosion: 52 “b”; 53 “b”; 39 “a”, “b”, “c”; 329 “a”; 419 “c”; 438 “a”. Now these subsections are occupied mainly by dense plantations /density- 0,6- 0,8/ which have good erosion control effect.

⇒ Data for active development of erosion processes or endangered by them with small exceptions are not recorded.

⇒ The forest erosion advances very slowly and does not cause practical damages.

⇒ New erosion processes

- Along the ski- run Dobriniste (Bezbojka poljana) on close proximity to the middle lift station to the north on an area of 0,25 ha are executed excavation and embankment works for shaping the ski layout. The area is covered by sheet erosion as 20% of its surface are affected by formed streams and furrows with depth of 0,1- 0,4 m.
- Along the ski- run “Balkaniada” in front of the lower lift station on an area of 0,3 ha the sod is affected by an anthropogenic overloading as the soil is exposed to water erosion. Along the layout of the ski- run there are some other patches like this one and each of them is with an area of 50- 70 m^2. Here the soil erosion develops faster because the slopes of the terrain are considerable (more than 35%).
- As a result of passing of machineries along the “Starata pista” and Parkinga place wheel tracks are developed and as consequence- sheet erosion.
- In the section 247 “g” (Bezbojka poljana place) along an old truck road and the adjacent terrain is developed a new one with length 600 m. The width of this road is 7- 9 m and the total width together with the excavations and embankments varies from 8 to 15 m. In the process of the road extension are affected about 0,5 ha of forests of *Pinus peuce*. The average slope longitude of the road is 14% and there is a danger for intensive development of erosion.

⇒ Erosion control equipment:

- There are no developed large sized technical and strengthening installations as barrages and shoots in the hydrographic network.
- Along Damjanitza river on the border between the section 148 and 186 is constructed a shore strengthening concrete wall on its left side against the current with length of about 30 m. Its function is bank protection from wash out and overflaw. The wall is destroyed in some places and its height is not enough for shore protection if these processes are frequent. The wooden bridge built on its lower end has a small outlet and it is often the reason for clogging and primming, which cause damages of the bridge. The waters proceed towards Bansko and endanger the town with a flood. This part of the Park is one of the most visited and the bridge connects great number of holiday homes with the main road network.
- Along the end branches of the hydrographic network a gully erosion is seen occasionally and that is the reason for development on the Park territory of some small sized installations for erosion control as well. Shoots of dry stony walling are built in an active gully (subsection 473- c) about 80 m^3 and into gullies formed during transportation of wood (sections 435, 436 and 437) are made jams in an area of 250- 300 m^2. The developed fortifications strengthen and obstruct the gullies.

GIS- a layer of the soils of type "poligon" and the map 9 " Soils" are developed and are annexed to the Management Plan. All the eroded, eroding and endangered by erosion terrains are marked on the soil map.

BIOLOGICAL FEATURES

1.12. ECOSYSTEMS AND BIOTOPES

1.12.1. Description and mapping of the park ecosystems on the basis of the Classification of Palearctic habitats; CE; Nature and environment # 78/96.

/Considering some terminological differences the concepts "ecosystem" and "biotope" are provisionally made equal to the concept "habitat"/

The developed classification of the habitats in Pirin NP is on the base of the Order of MoEW and is in straight relation to the European classification. The partial modification is a result of the recommendations of the meeting in Bansko (2002) of the experts elaborationg the MP. The aim is to present the habitat diversity in the most accessible way, to be used by the Park Directorate and the other concerned institutions.

The field studies include two model sections:

- In the surroundings of Bezbog chalet – around the peaks Bezbog, Polejan, Momin dvor, Ostretz and the lakes Popovo and Ribni;
- In the surroundings of Vihren chalet – peaks Vihren, Kazanite, Muratov and lakes Ribni and Banderishki.

Table 18. Habitats

#				Name	Area (ha) State 2002	Nomenclature code under the Palearctic classification
1				Waters	177.50	2
1	1			Running water	11.60	24
1	1	1		Rivers	11.60	24.1
				• Moraine type	-	-

				• Rock bed type	-	-
				• Bog (peat bog) type	-	-
				• Meadow type	-	-
				• Forest type	-	-
1	1	2		Waterfalls	-	24.17
1	2			Standing water	165.90	22
1	2	1		Permanent lakes	165.90	22.1
				• Moraine type	-	-
				• Dwarf pine or dwarf pine – meadow type	-	-
				• Macrophyte and peat-bog type	-	-
				• Lakes running dry	-	-
1	2	2		Standing temporary waters	-	22.2
2				Shrub and grassland	17812.30	3
2	1			Temperate heath and shrub	10321.90	31
2	1	1		*Pinus mugo* communities	6231.90	31.58
2	1	2		*Juniperus sibirica* communities	3563.40	-
2	1	3		*Chamaecytisus absinthioides* communities	285.30	31.4B2
2	1	4		Communities of small shrubs (*Vaccinium, Bruckenthalia, Salix and Dryas octopetala)*	241.30	31.4 (31.4A2, 31.461, 31.4917)
2	2			Grasslands	7490.40	-
2	2	1		Grassland vegetation in the forest zone	506.30	-
2	2	2		High-mountain grassland vegetation on siliceous soils	5873.60	36.39
2	2	3		High-mountain grassland vegetation on calcareous soils	1110.50	36.4172
3				Forests	17325.50	4
3	1			Temperate broad-leaved deciduous forests	1211.90	41
3	1	1		Beech forests	1186.20	41.1
3	1	1	1	Pure *Fagus sylvatica* forests	486.50	41.19221
3	1	1	2	Forests dominated by *Fagus sylvatica*	699.70	41.19222
3	1	2		Aspen forests	21.10	-
3	1	3		Riverine alder forests	4.60	
3	2			Coniferous forests	13949.20	42
3	2	1		Fir forests	917.9	42.1
3	2	1	1	Pure *Abies alba* forests	172.30	42.1613
3	2	1	2	Forests dominated by *Abies alba*	745.60	-
3	2	2		Spruce forests	1654.40	42.2
3	2	2	1	Pure *Picea abies* forests	421.50	42.2412
3	2	2	2	Forests dominated by *Picea abies*	1232.90	-
3	2	3		Scots pine forests	4215.50	42.5
3	2	3	1	Pure *Pinus sylvestris* forests	2752.00	42.5C2
3	2	3	2	Forests dominated by *Pinus sylvestris*	1463.50	-
3	2	4		Austrian pine forests	809.80	42.6
3	2	4	1	Pure *Pinus nigra* forests	440.70	42.6618
3	2	4	2	Forests dominated by *Pinus nigra*	369.10	-
3	2	5		Macedonian pine forests	5346.90	42.723
3	2	5	1	Pure *Pinus peuce* forests	3564.70	42.723
3	2	5	2	Forests dominated by *Pinus peuce*	1782.20	-
3	2	6		Bosnian pine forests	1004.70	42.716
3	2	6	1	Pure *Pinus heldreichii* forests	498.60	42.716
3	2	6	2	Forests dominated by *Pinus heldreichii*	506.10	-
3	3			Mixed forests	839.20	-

3	3	1		Mixed forests dominated by broad-leaved deciduous trees	26.90	-
3	3	2		Mixed forests dominated by coniferous trees	812.30	-
3	4			Tree plantations	1325.20	83.3
3	4	1		Coniferous plantations	1318.90	83.31
3	4	1	1	Silver fir (*Abies alba*) plantations	62.10	-
3	4	1	2	Scots pine (*Pinus sylvestris*) plantations	910.50	-
3	4	1	3	Norway spruce (*Picea abies*) plantations	171.60	-
3	4	1	4	Macedonian pine (*Pinus peuce*) plantations	148.20	-
3	4	1	5	Austrian pine (*Pinus nigra*) plantations	22.10	-
3	4	1	6	Bosnian pine (*Pinus heldreichii*) plantations	2.70	-
3	4	1	7	Atlas cedar plantations	0.30	-
3	4	1	8	Douglas fir plantations	1.40	-
3	4	2		Plantations of broad-leaved deciduous trees	5.10	83.32
3	4	2	1	Poplar (*Populus*) plantations	0.70	83.321
3	4	2	2	Birch plantations	4,40	
3	4	2	2	Beech (*Fagus sylvatica*) plantations	1.20	-
4				Bogs	-	5
4	1			Bogs in the forest zone	-	-
4	2			High-mountain bogs	-	-
5				Rocks, screes and caves	4866.60	6
5	1			Rocks	2988.30	62
5	1	1		Siliceous rocks	2011.90	62.252
5	1	2		Calcareous rocks	976.40	62.1A121
5	2			Screes	1878.30	61.1
5	2	1		Siliceous screes	1060.70	61.11
5	2	2		Calcareous screes	817.60	61.25
5	3			Caves	-	65
6				Anthropogenic habitats	174.10	8
6	1			Felling areas	66.00	-
6	2			Forest openings, yards, skiing runs, parking lots, roads, quarries	108.10	-

1.12.2. Specific for the Park's hydrological network river and lake habitats.

/They are additionally included in the table without hierarchical number/

⇒ *General types of river habitats registered on the territory of the Park:*

- Moraine type: rivers Retidje and Kamenitza;
- Rock bed type. This type is relatively rarely distributed in some canyon like river sections- Banderitza river below Banderitza chalet;
- Peat-bog type. Usually these are small rivers in the high-mountain lake regions – Damjanitza river in the section after the inflow of its left tributary Preslavska river;
- Meadow type: widely distributed river habitat;
- Forest type: widely distributed habitat in the lower parts of Pirin NP.

⇒ *General types of lake habitats registered on the territory of the Park:*

- Moraine type: lakes Tevno, Vasilashko, Tevno Vasilashko, Goljamo Valjavishko, Kremenski, Argirovo, etc. They could be divided on: shallow and deep ones; with strongly varying water level (Sinantza); on siliceous and calcareous base and extremely various in shape.
- Pine-scrub and pine-scrub-meadow type: Ribno Vasilashko lake, Bezbog, Okoto etc. Both types are similar as the main difference between them is quantitative – the pine-scrub type is defined when more than 30% of the lakeside is covered by pine-scrub.

- Macrophyte and peat-bog type: Along the advanced stages of lake succession - Ribni lakes, the lake near the shelter Tevno ezero, some of the small Valjavishki lakes etc.
- Drying up lakes: last stage of lake succession. Typical example is Dautovo Lake.

Near the Gorno Vasilashko Lake there are simultaneously two habitats- moraine of greater part of the lake and swamp- peat- bog type in the region of the left flow.
The most characteristic features of all Pirin lake habitats are: existence of stony moraine material as bottom substrate, the weak overgrown of the lakesides by wood and other vegetation, exclusively high transparency of the water (till 20 m), low productivity of the ecosystem, very often considerable depth (more than 10 m) and very low concentration of hydro-carbonates in the water because of the snow feeding up.

1.12.3. Map of the habitats

The developed habitat map is an integral part of the existing analysis. The legend consists of 70 units of different hierarchical stage. The pointed on the map 45 map units comprise the lowest hierarchical levels of the previously chosen system. Without exhausting the general diversity of the existing habitats in the Park territory, in the developed volume they could be considered as answering the requirements of the Park Directorate and other users who could easily get an idea of the considerable habitat diversity. The data presented in this way are accessible even for non-specialists.

GIS - a layer of habitats of polygon type is developed as well as Map # 10 Habitats, annexed to the Management Plan.

1.12.4. Habitats requiring special conservation measures, included in the Annex I of the Resolution # 4 / 1996

22.31 Euro Siberian perennial amphibian complexes

31.1 European moist complexes with dominance of *Molinia coerulea*

31.46 Complexes with dominance of *Bruckenthalia spiculifolia*

35.7 Mediterranean- mountain complexes of *Nardus stricta*

42.16 South- Balkan fir forests

42.5C South- East European *Pinus sylvestris* forests

42.66 *Pinus nigra* forests

42.7 High mountain-Mediterranean *Pinus peuce* and *P. heldreichii* forests

54.12 Calcareous spring waters

65. Caves

In SCROLL I, Annex 3.1. is enclosed "Distribution of plant species of nature conservation value in the different habitats in Pirin NP".

1.13. VEGETATION

1.13.1. Classification of the vegetation

The inventory of the vegetation of Pirin National Park took place during the 2001-2002 period. Geobotanical descriptions of the vegetation in all units of the Park sectors have been made for this purpose. The description of plant communities (associations) was performed according to dominant method. This method is easier for application in the field and is sufficiently informative for the purposes of nature conservation, and is, therefore, convenient for implementation in relation to nature conservation activities in the national parks. Determining of the edificator species was related to their role and effect on the formation of the vegetation environment.
Additional information was collected regarding the level of conservation, degradation processes, presence of species of conservation importance in the communities etc. The mapping of phyto-cenoses was performed for each of the sections and sub-sections defined in the Park.
Pirin NP is distinguished in a separate Pirin district, due to well-expressed specificity of the flora and vegetation (Bondev, 1991).
The plant communities established could be classified into several main groups, according to *Table 18.*, *p.1.12.*:

1) Communities around water basins;
2) Shrub communities in the sub-alpine zone;
3) Herbaceous and grass communities – forest meadows, sub-alpine and alpine pastures;
4) Forest plant communities;
5) Communities on rock habitats;
6) Secondary plant communities – result of anthropogenic activity.

1) Communities around water basins
The ecosystems depending on the presence of water are of azonal character. They could be found in all zones. The most typical of them are the hygrophyte and hydrophyte communities in the sub-alpine and alpine belts of the Park.

⇒ **The communities around the small streams and humid habitats** consist mainly of *Heracleum verticillatum* and *Cirsium appendiculatum,* rarely *Eriophorum latifolium, Cardamine rivularis.* Micro-groups of *Plantago gentianoides* and *Parnassia palustris* could be found in the surroundings, and on stony habitats – of *Saxifraga stellaris* and *Silene pusilla.*

⇒ **The communities around the small lakes and marshes** have different composition. The representatives of the genus *Carex* dominate here, like *Carex nigra* and *Carex distans*. *Trichophorum caespitosum* forms particular micro-cenoses.

⇒ The composition within the small mountain lakes is determined by *Ranunculus aquatilis, Sparganium angustifolium*, or by a combination of the two species. *Isoetes lacustris* and *Subularia aquatica* form also very interesting communities.

⇒ **The communities arising along the river streams** are composed by hygrophyllous species and are, as a rule, narrow belts along the small streams and rivers in the mountain. Their area is in most cases insignificant, and they are, therefore, included within the composition of the adjacent phytocoenoses. Predominant species are *Cirsium appendiculatum*, *Heracleum verticillatum*, *Doronicum hungaricum*, *Petasites albus*, *Parnassia palustris,* different species of the genus *Juncus,* and in the valley of Demyanitza river, on limestone terrains one could find the local endemic *Petasites kablickianus*. The willow formations along the rivers are practically lacking.

2) Shrub communities in the sub-alpine belt

⇒ **The communities of Dwarf Pine** (*Pinus mugo)* are situated between the alpine timber line and roughly 2500 m a.s.l. Twelve mono-edificator communities were established. Predominating species in the aboveground layer are the species of genus *Vaccinium, Luzula sylvatica* and often the Mosses are well represented. The higher elevations are characterized by increased ratio of cereals and sedges, like *Sesleria comosa* and *Nardus stricta*. The herbaceous layer in some communities is dominated by Sesleria coerulans and Agrostis rupestris, with Carex curvula being co-dominant.

⇒ **The communities of** *Juniperus sibirica* occupy large areas in the sub-alpine belt too. Their area increases through colonization of new territories. The most frequent dominant in the herbaceous layer are *Vaccinium myrtillus* and *V. uliginosum*, sometimes *Lerchenfeldia flexuosa* participates as a co-dominant. Some associations are dominated by *Festuca valida*, *Nardus stricta, Festuca nigrescens, Sesleria coerulans, and Sesleria comosa*. The association *Juniperus sibisrica - Sesleria comosa* is the most representative for the Park territory, in comparison with the others mono-dominant associations.

⇒ **The communities of** *Chamaecytisus absinthioides* are of secondary character and they occupy new territories, especially after decreasing of pasture pressure, after windfalls, fires and other phenomena, leading to the changes in the environment. These communities occur in the sub-alpine belt and on some clear places within the forest formations. Five associations have been established. The herbaceous layer is dominated mostly by *Festuca nigrescens* and *Agrostis capillaris*.

⇒ **The communities dominated by low shrubs**, such as the species of genera *Vaccinium, Bruckenthalia, Dryas* and some others, are of limited importance in the formation of ecosystems.

3) Herbaceous plant communities

These communities are distributed mainly in the sub-alpine and alpine belt, rarely in the forest meadows. They are dominated mostly by cereals and sedges.

⇒ **Communities of *Sesleria comosa***. This species forms 10 associations, and one of them is mono-dominant. These associations occupy dry and open areas in the higher parts of the Park. This is the most widely distributed community of all herbaceous communities in the Park territory.

⇒ **Communities of *Nardus stricta*.** These communities are in most cases of secondary origin and occupy territories of former *Pinus mugo* formations and coniferous forests. One mono-dominant and four poly-dominant associations have been recorded.

⇒ **The communities of *Festuca valida*** are interesting because of the endemic nature of edificator. They occupy small areas, mostly dispersed among the plant communities of *Juniperus sibirica*. Seven associations were established and one of them is mono-dominant.

⇒ **The communities of *Deschampsia caespitosa*** occupy limited area and are situated mostly around the peat-bog complexes, on moist meadows and along the small streams. Their distribution is regular and is closely related to the site conditions. Five associations were described, one of them being mono-dominant. In some places, mostly on humid sites, the communities are invaded by representatives of the genus *Carex*.

⇒ **The communities of *Festuca nigrescens*** occupy larger territories and fall both into the forest-less zone and in the forest area. Three associations were recorded and all of them have other species as co-dominants. The most widely distributed association is *Festuca nigrescens-Nardus stricta*. This community occupies large territories in the lower part of the sub-alpine belt and penetrates into the open and clear areas of the coniferous zone.

⇒ **The communities of *Agrostis capillaris*** occupy the meadows and the open areas in the forest ecosystems. The areas occupied by these communities are small and dispersed, and depend on the site characteristics. These communities are scattered mostly within the formations of Macedonian Pine, Scots Pine and Norway Spruce. Five associations have been described and one of them is mono-dominant.

⇒ **The communities of *Calamagrostis arundinacea*** cover limited and dispersed territories in the peripheral part of the forests. The most frequent dominant in the second layer is *Vaccinium myrtillus*.

4) Forest plant communities

The great diversity of the conditions in Pirin NP determined remarkable plant diversity. The plant communities established could serve as main units for mapping, management, directing of the processes and monitoring.

Communities dominated by the representatives of the genus *Pinus*

⇒ **The Austrian Pine (Pinus nigra) communities** cover the lowest part of the National Park and are situated mainly in the northern part (Bayuvi Dupki Park Region). They were established up to 1400 m a.s.l. The Austrian Pine is typical calciphyte and is growing well on limestone terrain. The species forms mesoxerophylous communities, pure in most cases, but Scots Pine and Bosnian Pine (*Pinus heldreichii*), rarely Silver Fir, participate as co-edificators. The herbaceous layer in the Black Pine communities consists of relatively drought resistant species, like *Festuca dalmatica, Brachypodium pinnatum* and some others. Three mono-edificator and 5 poly-edificator communities of the species have been described on the territory of the National Park.

⇒ **The Scots Pine (*Pinus sylvestris*) communities** cover mostly sunny exposition (southern or having southern component) and poorer sites. The associations described are 23 – 9 mono-dominant and 14 poly-dominant. The most widely distributed are *Pinus sylvestris-Vaccinium myrtillus* and *Pinus sylvestris-Calamagrostis arundinacea*. Other two mono-edificator associations are situated in the lower parts of the Park territory, mainly in the southwestern parts: *Pinus sylvestris - Brachipodium pinnatum + Calamagrostis arundinacea* and *Pinus sylvestris–Festuca heterophylla*. The association with mixed herbaceous belt (mixtoherbosa) occupies the southern border areas of the Park. Main co-edificators in the poly-edificator associations are Pinus peuce and Picea abies. The species dominating in the herbaceous layer are mostly *Vaccinium myrtillus* and *Luzula sylvatica*, while in the mixed communities with beech, such species is *Poa nemoralis*. Dominants in several associations could be hardly defined. The ground cover in these communities is relatively high and the floristic composition is rich. Most of these associations belong to mixtoherbosa type.

⇒ **The communities of Macedonian Pine** *(Pinis peuce*) are of particular interest from conservation point of view, because of the endemic nature of this pine and the species occurring in the communities. Thirty-six associations of *P. peuce* have been described in Pirin NP. Among them 13 are mono-edificator and frequently the second layer consists of *Pinus mugo* or *Juniperus sibirica*. The most frequent dominants in the herbaceous layer are the following species: *Vaccinium myrtillus, Calamagrostis arundinacea* and *Luzula sylvatica*. The associations with Picea abies as a co-edificator predominate among the poly-edificator plant communities – 14 associations. Again *Vaccinium myrtillus* and *Calamagrostis arundinacea* are dominating species in the herbaceous coenoses. The communities with Scots Pine and Beech as co-edificators occur rarely, and they occupy the lower part of *P. peuce* complex. An interesting community with two endemic species was established: *Pinus peuce + Pinus heldreichii – Festuca penzesi.* It is situated on a limited area in the northern part of the Park.

⇒ **The communities of Bosnian Pine** (*Pinus heldreichii*) occupy mainly the limestone areas in Bayuvi Dupki Park Region. They grow on well-drained habitats, due in most cases to protruding sites and very steep slopes. Seven mono-edificator and 7 poly-edificator communities have been recorded. The mountain dwarf pine (*Pinus mugo*) participates in some of the mono-edificator associations, and the herbaceous belt physiognomy is determined by grasses, like *Calamagrostis arundinacea, Brachypodium pinnatum, Festuca penzesii* and some others. The predominant part of the communities has Festuca penzesii as dominant species in the herbaceous layer, while *Brachypodium pinnatum* and *Sesleria coerulans* being co-dominants. The most frequent satellites of P. heldreichii in the mono-edificator associations are *Pinus nigra* and *Pinus heldreichii*, and rarely – the Silver Fir and Norway Spruce. Dominant species in the herbaceous layer are mostly cereals, followed by *Vaccinium myrtillus* and *Geranium macrorrhizum*.

Mixed communities dominated by the Norway Spruce, Silver Fir and Common Beech

⇒ **The communities of Norway Spruce** (*Picea abies*) occupy humid sites, which fact concords with the mesophyte nature of the species. Total 21 communities have been distinguished and four of them are mono-dominant. The dominant species in the herbaceous layer are *Vaccinium myrtillus, Calamagrostis arundinacea* and *Luzula sylvatica*. The poly-dominant communities include Beech and Silver Fir as co-

dominants. In these communities Oxalis acetosella and Galium odoratum dominate the herbaceous layer. The number of coenoses with *Pinus sylvestris* and *Pinus peuce* as co-dominants is smaller.

⇒ **The communities of Silver Fir** (*Abies alba*) resemble these of Norway Spruce. These communities represent another element of the coniferous phytosociological complex, even though limited in area, and of transitional character. One mono-edificator and 14 poly-edificator associations have been established. Main co-edificators are Norway Spruce and Beech. In most cases the species forming the herbaceous layer are similar to these in the Spruce coenoses. The poly-dominant communities with participation of the Scots Pine, Macedonian Pine and Black Pine are scarcely distributed.

⇒ **The communities of the Common Beech** (*Fagus sylvatica*) occupy relatively limited area in the Park. Six mono-edificator and 18 poly-edificator associations have been recorded. The most frequent dominant species in the herbaceous layer are *Luzula sylvatica* and *Poa nemoralis*, followed by *Luzula luzuloides* and *Festuca nigrescens*. Major part of the Beech communities had reached their climax phase, but some penetration of coniferous species could be also observed. Co-edificators in the Beech communities are the Silver Fir, Norway Spruce, and rarely Scots Pine and Macedonian Pine. The predominating species in the herbaceous layer are typical sciophytes – *Luzula sylvatica, Poa nemoralis, Calamagrostis arundinacea, Sanicula europaea.*

⇒ **Communities of the Aspen** (*Populus tremula)*
These communities have scarce distribution on limited areas in the Park.

5) Communities of rock habitats

These communities are distributed mainly in the alpine belt. There is a great diversity, sometimes on limited area, and therefore, these communities are classified as series. The series of communities allow enough clear representation of the diversity of micro-groups and their characteristics. Widely represented are, for example, the species of genus Saxifraga; some endemic species are typical representatives of the series, like *Thymus perinicus, Papaver degenii, Arabis ferdinandi-coburgii, Potentilla appenina ssp. Stojanovii, Dianthus microlepis*, some typical alpine species, like *Androsace villosa, Rhodax alpestris, Silene acaulis* and many others.

6) Anthropogenic communities

The secondary mobile species appear in most cases in the places affected by human influence. The so-called "pen" communities are typical for the Balkan Peninsula. They occupy usually relatively small areas and are a result of concentrated presence of domestic animals. These communities are situated mostly in the sub-alpine zone, but occur rarely in the lowermost zone of the alpine belt. There are some differences among them. In most cases these communities are dominated by *Verbascum longifolium* ssp, *pannosum* and *Rumex alpinus*. Co-dominants in some cases are *Veratrum album*, sometimes *Deschamptia caespitosa*. There are also micro-groups of *Polygonum arenastrum*, *Galeopsis bifida*, *Chenopodium bonus-henricus* and other mobile and ruderal species. The "pen" communities occupied larger areas in the past, but after decreasing the pasture use of the areas, these communities gradually decreased and have become invaded by the indigenous vegetation.

GIS – a layer of type "polygon" has been elaborated for the plant communities, and Map # 11 "Plant communities", annexed to the Management Plan.

In SCROLL I, Annex 3.2., a list "Plant communities"is presented, which is an integral part of the map.

1.13.2. Characteristics of the forest tree vegetation

Distribution of the tree species in terms of area and their percentage ratio

The forested area of the Park, incl. the area of dwarf pine stands, is 23110,3 ha, or 57,3% of its total area, and includes coniferous forests, broad-leaved seed forests and off-shoot forests for transformation.
The non-forested area of the Park is 17222,1 ha, or 42,7% of its total area and includes:

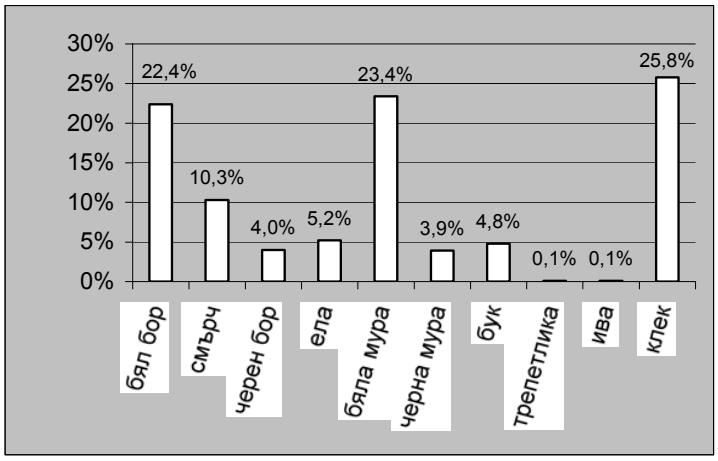
- high-mountain pastures 6438,9 ha
- rocks 3071,5 ha
- open areas, unfavorable for forestation 2977,1 ha
- screes 2027,9 ha
- meadows 1591,5 ha
- areas, unfavorable for forestation 521,7 ha
- denuded terrain 172,4 ha
- lakes 148,8 ha
- felling clearings 78,6 ha, and others

Figure 4. Percentage distribution of the park's forested area according to forest types

Text to the figure: coniferous forests; broad-leaved seed forests, off-shoot forests for transformation

A total of 16 species determine the main composition of the forests. The largest areas are occupied by dwarf pine – 5962,0 ha, followed by Macedonian pine – 5415,8 ha, Norway Spruce – 2379,2 ha, Common Beech – 1098,4 ha, Bosnian pine – 893,4 ha etc., and the lowest area is occupied by *Robinia pseudoacacia* – 0,7 ha and *Cedrus libani* – 0,3 ha. The areas of Macedonian and Bosnian pine in the Park are about 42% and 52% of their total area in Bulgaria.

Figure 5. Percentage distribution of the forested area in the Park by tree species



Text to the figure: Scots Pine, Norway Spruce, Austrian Pine, Silver Fir, Macedonian Pine, Bosnian Pine, Beech, Aspen, Goat Willow, Dwarf Pine

Distribution of the forests by tree species and age classes

The average age of the forests in Pirin NP is 85 years. The largest area is occupied by the forests of the eight-age class (over 140 years) – 34,3% of the total forest area, followed by these of the fifth age class (81-100 years) – 24,5% of the total forested area. The remaining age classes are represented by 5-6% of the total area. The eight-age class includes the stands of *Pinus mugo* that occupy 2/3 of the area of the class.

Distribution of the tree species by origin

Major part of the forest vegetation in the Park is represented by natural seed forests, typical to the region – 21749,3 ha, or 94,1% of the forest area, incl. *P. mugo*. The remaining part amounts to 1307,7 ha, or 5,7% artificial forest plantations, composed by local species and 48,0 ha, or 0,2% off-shoot forests.

Total 5.3 ha plantations of exotic tree species have been established on the Park territory: Hybrid Poplars – 2,9 ha; Douglas Fir – 1,4 ha; Robinia pseudoacacia – 0,7 ha and Cedrus libani – 0,3 ha. The plantations of exotic species are situated in the peripheral parts of the Park. Their total area in the Park is below 0,1 %.

GIS – layers of polygon type are elaborated for the forests, as well as Map # 12 Tree forest vegetation – by species and Map # 13 Forest tree vegetation – by age classes

SCROLL I , Annex 3.3., the following Tables about the biometrical characteristics of the forests in Pirin NP are presented:

***Table 1** of the distribution of the total area in Pirin NP by land type and forest type*

***Table 2** of the distribution of the forested area and total growing stock in Pirin NP by age classes and sub-classes*

***Table 3** of the distribution of the forested area in Pirin NP by tree species and age classes*

***Table 4** of the distribution of the growing stock (without branches) in Pirin NP by tree species and age classes*

***Table 5** of the distribution of the forested area in Pirin NP by tree species and origin*

Table 6 *of the distribution of the forested area in Pirin NP by tree species and growth classes*

1.14. FLORA

Pirin is among the most original Bulgarian mountains regarding its flora. It is characterized by exceptional plant diversity and high percentage of the endemic component. This is due to the very variable conditions determined by the combination of southern latitude and high altitude. Also the orography of the mountain and particularly of the National Park are very variable and allow for the existence of a great number of ecological niches that are habitats of many plant species. The type of the rock background is of crucial importance for the spatial distribution of the different species. Both silicate and limestone areas could be found on the Park territory, and the lakes and different water streams create wetter habitats of hygrophyllous species.

1.14.1. Lower plants and fungi

1.14.1.1. Algae

Number of species and taxonomic richness	Species of nature conservation value	Species that must be subject of special measures	Knowledge gaps
165 species 13 orders, 25 families and 62 genera	very rare species – 1 species Endemic taxa - 2	the most important sites regarding the algae biodiversity are the lakes of Popovi and Kremenski, situated in the central part of the mountain	the less studied plant group in the Park. It is due to their great diversity and their laborious collecting and identification.

IN SCROLL 1, Annex 4.1. A list is presented of all algae species established and the species of nature conservation value

1.14.1.2. Mosses

Number of species and taxonomic richness	Species of nature conservation value	Knowledge gaps
329 species 4 classes 64 families 138 genera	1 species is included in the Appendix 1 of the Bern Convention 2 species are included in the Directive 92/43 of the Council of EU for the conservation of nature habitats of wild flora and fauna	The Bryoflora of Pirin NP was not studied in detail

IN SCROLL 1, Annex 4.2. A list of the established moss species is presented

1.14.1.3. Fungi (Macromycetes)

Number of species and taxonomic richness	Species of nature conservation value	Species that must be subject of special measures	Economically important species	Knowledge gaps
375 species 3 отдела, 3 classes 28 orders 67 families 152 genera	6 species presented in the Red List of the fungi in Bulgaria, preliminary European Red List of the threatened macromycetes and in Appendix 1 of the Bern Convention	Threatened species; Species of economic importance that are collected without control and this endangers their populations.	*Agaricus arvensis*, *A. silvaticus*, *Boletus edulis*, *B. pinophillus*, *Cantharellus cibarius* , *Lepista nuda* , *Macrolepiota procera* , *Marasmius oreades* etc.	Modern taxonomic basis about the macromycetes in the Park; Resource characteristics as a basis of long-term strategy for using of economically important species; Evaluation of the resource, the degree of anthropogenic pressure and the necessity of temporary prohibition of collecting or appropriate regulation.

During the current study, out of the established 375 species of macromycetes, 71 species (19%!) are new for the mycota of Pirin.

The Annexes 4.3, 4.4. and 4.5 of the SCROLL 1 contain:
4.3. Taxonomic structure of the macromycetes in the Pirin NP
4.4. Threatened macromycetes in the Pirin NP
4.5 New species for the Pirin NP

1.14.1.4. Lichens

Number of species and taxonomic richness	Species of nature conservation value	Species that must be subject of special measures	Economically important species	Knowledge gaps

367 species, this is about 52% of the species of Bulgarian lichen flora 101 genera 36 families 8 orders 209 species, or 52%, could be found in the coniferous forests belt 156 species occur mainly on siliceous substrate	25 rare species are listed in the National strategy for Biodiversity conservation	The fallen old trees and the old trees, especially in the beech forests must be conserved as habitats of a number of rare species.	*Cetraria islandica* (L.) Ach., - it accumulates heavy metals and radioactive isotopes and its collection from polluted areas is unacceptable *Pseudevernia furfuracea* (L.) Zopf., - is the most abundant between 1000 and 2200 m altitude, , in the forests of beech, Spruce, Scots Pine and Silver Fir.	The great potential of lichens as indicators of environmental pollution was not used. They could be very useful in the study of atmosphere pollution, as well as of accumulation of heavy metals and radioactive isotopes.

SCROLL 1. Annex 4.6 contains list of the lichen species in Pirin NP

1.14.2. Vascular plants

Number of species and taxonomic richness

A total of 1315 species and intraspecific taxa have been established on the territory of Pirin NP. This number represents about one third of the Bulgarian flora as a whole.

The species belong to 484 genera and 94 families.

Large part of the genera and species of the respective families in Bulgaria are represented in Pirin NP. About half of the families is represented by 100% of the genera occurring in Bulgaria. Seventeen families are represented by all their species. It should be noted, however, that these are the families containing lower number of species, distributed mostly in the mountains (*Taxaceae*, *Adoxaceae*, *Monotropaceae* etc.).

The analysis of the floral elements showes that the plant taxa established belongs to 60 floristic centers and combinations between them. The sub-Mediterranean and Euro-Asiatic floristic elements participate almost equally. Also EuroMediterranean and Boreal floristic elements are widely represented. Another group would join the European, Euro-Siberian, Balkan and sub-Boreal floral geo-elements. The Mediterranean, Pontic-Mediterranean, cosmopolitan, Carpathian-Balkan elements and Bulgarian endemics share less than 2-3 % of the flora. The remaining elements are not well represented and 42 categories are below 1 % of participation ratio. The Arctic-Alpine floral geo-elements that are typical for the highest part of the mountain are not numerous. The ruderal species and weeds are relatively few in number.

This analysis shows that the flora of Pirin NP still keeps its natural character to a good extent.

Total number of vascular plants of nature conservation value

A total of 149 taxa among all established in Pirin NP do have some conservation importance. They could be divided into four groups. These groups are conditional and there is at least partial overlapping among them. Since some rare species are not subjects of the conservation legislation, and others, for example, protected species are not included in the Red Data Book etc., a special analysis is necessary for each group.

1) Species included in the Red Data Book of Bulgaria, vol. I (1984)

A total of 114 species growing in Pirin NP are included in the Red Data Book. They belong to the categories “extinct” – one species (*Carex rupestris*), “threatened” – 15 species, and “rare” – 98 species. In fact the species marked as “extinct” was found on the Park territory.

2) Protected species

The total number of protected species is 54.

3) Endemic species

One of the most important speciation spots in Bulgaria is situated in Pirin. Here the endemic component is widely represented, and is the most abundant in the limestone part.

- Local (Pirin) endemics

According to the current knowledge fourteen species and four subspecies have their area of distribution only in Pirin.

- Bulgarian endemics

The Bulgarian endemics are 17 species. In fact, the local (Pirin) endemics are also Bulgarian endemics, but they are listed in the above category. If they are also considered, the total number of Bulgarian endemics is 35 taxa.

- Balkan endemics

Total number of the Balkan endemics is 86 species. Twenty-two among them have some conservation importance. Also three Balkan sub-endemics are noted. The remaining part of the endemics (more than 60 species) have wide areas of distribution and do not require strict conservation measures.

4) Species protected by International Conventions

- Species protected by the Bern Convention – four species
- Species included in the Red List of IUCN of 1997 – 21 species. Only one species – *Pinus peuce* Griseb., is included in the last version of this List.
- Species included in the Directive 92/43 – four species
- Species included in the CITES convention. Twenty-one species of these in Annex 6 are considered by this Convention. In fact all the species belonging to fam. *Orchidaceae* and *Amarylidaceae* growing in the Park, are included in the Convention. The noted 21 species are considered as vulnerable and rarely occurring in Pirin NP and need measures for conservation.

Species, subject to special measures

The species listed in the *Scroll 1, Annex 4.10* should be subjected to special conservation measures. Some other species have to be included also, because of the status of their populations in the Park. They are not protected by the National legislation, because they are widely distributed in other parts of the country, or due to other reasons. In Pirin NP the following species should be mentioned: *Crataegus orientalis* Pall., *Sorbus chamaemespilus* Crantz, *Swertia perennis* L., *Geum coccineum* S. et S., *Alyssum orbelicum* Ancev et Uzunov, *Campanula jordanovii* Ancev et Kovanda and *Erysimum slavjankae* Ancev & Polatschek. The first two species are rare for the country as a whole. The other two species – *Swertia perennis* and *Geum coccineum* are vulnerable, being collected by the tourists as flowers, and the last three species have been described recently as new for the science, and are not, therefore, considered by the Bulgarian nature conservation legislation.

Economically important species

Many of the plants on the Park territory could be considered as economically important. Such species are most of the woody species, forest fruit species (berries of genus *Vaccinium*, strawberry, raspberry, rowan etc.) and all medicinal plants.

Knowledge gaps

In spite of the large number of species, listed in *Scroll 1, Annex 4.7*., the full list of the Pirin NP flora cannot be considered as a final one. A detailed inventory could yield some new species for the Park, especially in the lowermost border area, where penetration of some heat-demanding and non-typical for the Park species is quite possible.

The populations of some rare and endangered species were not studied in details, especially in their localities close to tourist trails and centers. Critical decrease of the number of individuals is possible in such places and necessity of urgent measures could arise.

GIS – a layer of "point" type, and Map # 14 Habitats of vascular plants having conservation value have been elaborated

The SCROLL 1, Annnexes 4.7. – 4.11.present:
4.7. Species of vascular flora established in Pirin NP
4.8. Number of genera and species in the plant families established on the territory of Pirin NP

4.9.Percentage ratio of the genera and species of the plant families established on the territory of Pirin NP, regarding the total number of genera and species of the respective families in Bulgaria
4.10. Plant species having conservation importance
4.11. Balkan endemics with wide distribution

1.14.3. Medicinal plants

Number of species and taxonomic richness	Species of nature conservation value	Species that must be subject of special measures	Economically important species	Knowledge gaps
182 species belonging to 59 families 1 species belonging to lower plants	2 species are endemics 1 species is relic, 10 species are included in the Red Data Book of Bulgaria, 6 species are protected by the Medicinal Plants Act and 17 species are under special management regime 4 species are included in CITES list, 3 species are included in the list of endangered medicinal plants indicated by EU in the annex of Regulation (EC) # 338/97	*Arctostapjylos uva-ursi* L. Spreng *Gentiana lutea* *Rhodiola rosea* L. subjected to negative influence, resulting from illegal harvesting, erosion processes and other factors	*Vaccinium myrthillus L.*, *Thymus sp. diversa* *Euphrasia officinalis complex*. *Rumex alpinus L.*, *Chenopodium bonus-henricus L.* и *Verbascum longifolium ssp panosum.*	The phytosociologic characteristic of the populations of medicinal plants is still poorly known, especially regarding their vertical and horizontal structure; Age structure of the populations of medicinal plants still remains to be studied. The same concerns the possibilities for their restoration and regeneration after harvesting; Lack of information regarding the effect of the forest management systems on the resource characteristics of medicinal plants.

Status, habitats and distribution of the medicinal plants.
1) Herbaceous plant communities in forest meadows, openings, forest edges, along the roads and other open areas near the lowermost border of the Park near Bansko, Razlog and Dobrinishte. Total 101 species occur in this zone, or 56 % of all medicinal plants in the Park. Most of these species are distributed across the whole country, and some of them are rarely used in the phytotherapy.
Mass species are *Trifolium pratense, Achillea millefolium, Belis perennis, Berberis vulgaris, Eryngium campestre, Genista tinctoria, Thymus* spp.
The protected species in this zone is *Galanthus nivalis*.
Popular species that are widely collected by the local people and tourists and attracting long-term interest of the users are the following ones: *Ononis spinosa* complex, *Centaurium erythraea Rafin*, *Hypericum perforatum L.*, *Melissa officinalis L.*, *Galega officinalis L.*, *Origanum vulgare* L. ssp. *vulgare*, *Thymus sp. diversa*, *Plantago lanceolata L.*, *Primula veris L.*, *Agrimonia eupatoria L.*, *Rosa canina complex*,

Crataegus monogina Jacq., *Fragaria vesca* L., *Berberis vulgaris* L. and some others. This zone is subjected to the strongest pressure by the collectors and industrial users.
Three species are under *limited regime of use*.

2) Forest communities in the beech zone.
A total of 42 species that are typical of this zone have been established, which is 23 % of all medicinal species of the Park. Several species occupy relatively large areas. These species are dominants and co-dominants in the communities: *Sanicula europaea* L., *Galium odoratum* (L.) Scop. *Geranium macrorrhizym* L., *Dryopteris filix-mas* (L.) Schott and some others.
There are some other species typical only of this type of mesic forests, like *Atropa belladonna L*., *Phyllitis scolopendriun* (L.) Neum., *Allium ursinum* L., *Asarum europaeum* L*., Gentiana asclepiadea* L and some others.
Only one species of this zone is includedin the Red Data Book of Bulgaria - *Atropa belladonna*. No protected species have been established.
Seven species are under special management regime and are, according to their ecological requirements, typical of this forest type only.

3) Herbaceous communities on forest meadows in the zone of beech and conifers
A total of 75 species, or 41 % of the total number of medicinal plants have been recorded. The most typical species are *Juniperus sibirica* L., *Juniperus communis* L., *Galium verum* L., *Achillea millefolium* complex, *Viola tricolor* L., *Hypericum perforatum* L., *Hypericum maculatum* L., *Plantago lanceolata* L., *Fragaria vesca* and some others. The highest number of species offering possibility for collection is concentrated in this zone.
Two species are included in the Red Data Book of Bulgaria.
One species (*Gentiana lutea* L.) is protected and six species are under special management regime.

4) Forest communities in the coniferous zone
In the formations of Scots Pine, Black Pine and Bosnian Pine
The main resource species in this zone is Vaccinium myrtillus. Here it reaches maximum fruit productivity. Other species of economic importance are *Sorbus aucuparia* (fruits) and *Pteridium aquilinum*. Twenty-seven species have been established in this zone (15 % of medicinal species). One species is included in the Red Data Book of Bulgaria and two species are under special management regime.
In the formations of the Norway Spruce and Silver Fir
Nineteen species have been established or 10 % of all medicinal species established. The following species are considered to be economicaly important: *Vaccinium myrtillus, Geranium macrorrhizum, Sorbus aucuparia, Rubus idaeus, Oxalis acetosella* and *Pteridium aquilinum*. Four species are under special management regime.
In the formations of Macedonian pine
This zone is one of the largest in the Park. Sixteen species (or 9% of all medicinal species) have been established. The species of economic importance are: *Vaccinium myrtillus, Oxalis acetosella, Geranium macrorrhizum* and *Rubus idaeus*. Two species have nature conservation status.
Forest communities in the zone of Mountain Dwarf Pine
Twelve medicinal species have been established in this zone (7%). Only the leaves of *Vaccinium myrtillus* are considered as economically important, because species does not fructify regularly in this zone. However, collection of leaves is technically difficult. No species of nature conservation value have been established.
Herbaceous plant communities in the zone of Juniperus sibirica
Eight species (or 4% of all medicinal species) have been found in this zone. Only *Thymus* spp. has economic importance. No species having conservation value have been established.
Herbaceous communities in the sub-alpine and alpine pastures
Sixteen species (or 9 %of all medicinal species) have been found in this zone. Only *Thymus* spp. and *Euphrasia* spp. do have economic importance. One species is included in the Red Data Book of Bulgaria, one species is protected and two species are under special management regime. The growing stocks of Euphrasia that have economic importance are concentrated in the region of Glavinitza lakes. The

populations of *Thymus perinicus* around Vihren and Sinanitza are important from conservation point of view.

5) Intrazonal communities in marches and along the rivers

The total number of species in this zone is 14, or 8% of all the medicinal plants. The following species are of economic importance: *Petasites* spp*., Tussilago farfara, Caltha palustris, and Geranium macrorrhizum*. Two species – *Angelica pancicii* and *Frangula alnus* deserve conservation attention. The latter species is not considered for protection.

These are species of limited (4-6 floristic regions) or local distribution (1-3 floristic regions) (Hardalova et al., 1994).

6) Intrazonal ruderal ("pen") communities

These communities are of anthropogenic character and are at different stages of their development and structuring, depending on the period of acting of the factor causing their occurrence. Eleven species (or 6%) have been established here, and each species could be a subject of collection and use. The main resource species are *Rumex alpinus* and *Verbascum longifolium* ssp. *pannosum*. No species of nature conservation value have been found.

7) Intrazonal communities on rock habitats

Fourteen species, or 8% of all medicinal species have been found on such habitats. No species of economic importance have been identified. Three species are included in the Red Data Book of Bulgaria, two species are protected and three are under special management regime. In this zone special attention deserve the populations of *Rhodiola rosea* L.

State of the resources

⇒ Species that are widely distributed in the whole country, and especially around the settlements, which were seldom found on the Park territory – about 70%. Such species are: *Plantago* spp*., Tilia* spp*., Chelidonium majus, Achillea* spp*. complex, Artemissia* spp*., Clematis vitalba, Coryllus avellana., Malva* spp*.* and some others. These species are subjected only to weak anthropogenic pressure on the Park territory, due to the lack of interest of the industrial users. They are collected mostly in small quantities by tourists and are used in the traditional phytotherapy and homeopathy.

⇒ Species distributed in the forests of Pirin, as well as in all the forests of the country – about 20 % of the medicinal plants. For example, characteristic species for the beech forests are: *Asarum europaeum, Sanicula europaea, Arctostaphylos uva-ursi, Cetraria islandica, Vaccinium myrtillus, Rubus idaeus, Polypodium vulgare* etc.

⇒ Species, typical for the sub-alpine parts of the Park and occurring in the other high mountains of the country. Examples are *Thymus* sp*. diversa, Euphrasia* sp*. diversa, Juniperus sibirica* and some others. These species are of particular interest because they form large and compact massifs on the Park territory. They are subjected to moderate anthropogenic pressure.

⇒ Characteristic species for the Park, which are rare in the other Bulgarian mountains (distributed mostly in Rila and Central Balkan National Parks). Here we include almost all species under special management regime or under protection.

⇒ Species, typical for the ruderal "pen" communities. Their list includes *Rumex alpinus, Chenopodium bonus-henricus* and *Verbascum longifolium* ssp. *pannosum*.

The evaluation of potential of the localities allows distinguishing of the following groups:

- Species under limited regime of use.
- Species having high potential productivity and forming compact massifs on the Park territory. These are *Juniperus sibirica*, *Thymus* spp., *Primula veris*, *Euphrasia* spp., *Hypericum perforatum*, *Hypericum maculatum*, and the species typical of the "pen" communities.
- Species of diffusion (do not form compact massifs) on the Park territory. Examples are: *Solidago virga-aurea, Gentiana asclepiadea, Geranium macrorrhizum. Sorbus aucuparia, Scrophularia nodosa, Veronica officinalis, Cornus mas* and some others.

- Species of rare distribution or concentrated in one part only. These are the species typical of the beech forests: *Allium ursinum, Atropa bella-donna, Sanicula europaea, Origanum vulgare, Geum coccineum* and some others.

GIS – a layer of polygon and point type for the species and localities of medicinal plants has been developed, as well as a Map # 15 Medicinal Plants

SCROLL 1, Annexes 5.1. to 5.4. present:
5.1.List of medicinal plants established in Pirin NP
5.2. List of medicinal plants having conservation value
5.3. Description of the natural localities of the medicinal plants
5.4.Medicinal plants established, classified by zones of distribution

1.15. FAUNA

1.15.1. Invertebrate animals

Number of species and taxonomic richness	Species of conservation value	Economically important species	Knowledge gaps
2091 species and subspecies 6 classes, 15 orders, and 205 families	294 rare species, 216 endemics, 176 relicts and 15 species from European and World conservation lists. *Helix pomatia* is included in ESC, BC-III, HD-V and CORINE	Two species of land snails from the genus Helix are subjects of trading in Bulgaria *Helix pomatia* and *Helix lucorum*. In the months of April - May the breeding specimens contain eggs and their collection will strongly diminish the reproductive abilities of the populations. The two species of resource land snails are widely distributed in Pirin National Park.	The number of the established species is about 40 % of the expected 4500 species for this region; The collected data on phenology, behavior and habitat demands of the species from these groups are scarce and cannot be used for assessment; There are no enough data on the quantity and quality of the parameters of the main populations of the relict and endemic rare species; There are no enough data on the anthropological influence on the biodiversity of the mountain.

⇒ **Invertebrate animal species, typical of the territory of the park:**

Araneae – 321 species from 28 families, which is 35% of the species in Bulgaria. The richest of species are the following families: *Liniphiidae* – 80 (25 %), *Lycosidae* – 33 (10,28%), *Gnaphosidae* – 26 (8%), and the genus: *Leptyphantes* (18), *Pardosa* (16), *Philodromus* (10), *Clubiona*, *Zelotes*, and *Xysticus* – 9 species.
The distribution of the spiders in different parts of the Park shows that they prefer mainly northeastern slopes of the silicate and calcareous parts. The richest of species is the coniferous zone of the Park.
Myriapoda – 36 species and subspecies from 10 families and 8 orders (*Chilopoda* – 21 species and subspecies from 5 families and 3 orders; *Diplopoda* – 15 species and subspecies from 7 families and 6 orders). This is about 20% of the species found in Bulgaria.
The species of this group are distributed mainly in the woodland parts of the Park and less in the alpine and sub-alpine zones of the mountain.
Ephemeroptera – 2 species from one family, which is about 2% from the species established in Bulgaria.

Odonata – The territory of Pirin National Park is not well investigated regarding its dragon-flies fauna. The implemented investigations show that the dragonflies reach some glacial lakes placed in a high altitude such as Belemetsko lake (2400 m), Dolno Todorino lake (2400 m) and Tevno lake (2512 m).
Orthoptera – 63 species (Orthoptera – 60, Blattaria – 3), which is about 30% of the species in Bulgaria. The richest of species are the valleys of the rivers Banderitza and Damjanitza. Representatives of this group are found from the lower border of the Park to the highest peaks of the mountain (2850 m) and they inhabit all plant zones of the territory. The richest of species is the coniferous zone, but most of them are not connected with the coniferous trees and inhabit wood glades. The territory of the Park is the only one in Bulgaria in which on the highest altitude for the group (2850 m) a complex from four species can be found: *Anterastes serbicus*, *Bohemanella frigida*, *Gomphocerus sibiricus* and *Aeropedellus variegates*. These are the relict species of the Park.
Plecoptera – 40 species from 6 families, or 40% of the species found in Bulgaria. The richest of species are two families – *Nemouridae* (16 species) and *Leuctridae* (10 species).
The distribution of the plecopters is connected with the waters of the Park. For this reason they are least distributed horizontally in the arid calcareous terrains of the northwestern part of the Park. Richest of species and most numerous are the zones between 1500-1600 to 2000 m altitude.
Heteroptera – 323 species from 28 families include 7 rare species, 6 endemics, 67 relict species. This is about 32% of the species found in Bulgaria. The richest of species is the Northern part of the Park in the region of Bayovi dupki–Dzhindzhiritza Reserve that is the best-investigated part of the Pirin National Park. With the increasing of altitude there's an impoverishment in biodiversity.
Coleoptera – 639 species and subspecies (195 from *Adephaga* and 444 from *Polyphaga*) from 37 families. The richest of species are the families *Carabidae* (137), *Chrysomelidae* (55), *Staphylinidae* (35) and Curcu*l*ionidae (32). The best examined groups, with over 50 % of the species in the region are *Carabidae*, *Dytiscidae* and *Silphidae*. Probably, the territory of the Pirin National Park is inhabited by 1800 – 1900 species and subspecies belonging to at least 50 families of *Coleoptera*.
Neuropterida – 25 species (*Neuroptera* – 22, *Raphidioptera* – 1 species, *Megaloptera* - 2 species), which is 20% of the species in Bulgaria. Relatively rich of species families in the group of Lacewings are *Hemerobiidae*, with 9 species and *Chrysopidae* with 7 species. The richest of species is genus *Hemerobius* – 5 species.
Most species are known from the valleys of the Banderitza and Damjanitza rivers. The preferred habitats are the beech, spruce and Bosnian pine forests.
Hymenoptera – 36 species from 11 families. The richest of species is *Ichneumonidae* with 17 species contained in 16 genera. On the second place is *Formicidae* with 4 genus and 6 species.
A peculiarity for the horizontal distribution of the order is the occuring of its representatives in the adjacent zones of the park, equally from all geographic directions. As a function of this, the vertical distribution of the group is characterized by the largest number of species in the lower parts of the park at an altitude up to 1500-1700 m.
Trichoptera – 59 species of 9 families, which is 24% of the species found in Bulgaria.
The distribution of the Caddyd flies in Pirin depends on the existence of the suitable habitats. As typical water insects they spend most of their life cycle in fresh water – lakes, the system of springs connecting them and the main rivers and their tributaries. The territory of the Park is abundant in suitable habitats and the horizontal distribution is more or less regular, excluding the NW part (Baiuvi Dupki-Djindjirica Reserve), where carbonate terrain is prevailing and the water system is highly reduced.
Lepidoptera – 449 species (116 species of butterflies and 333 species of moths) from 24 families. The level of the investigation of this group in the Park is about 40%. The group of butterflies is distributed in all plant zones and habitats in PirinNational Park. With the increasing of the altitude the number of species decreases. The group inhabits mainly open lands without being bound to any zone.
Mollusca – 89 species contained in two classes, 4 orders and 27 families. The established taxa are 27,3% of the species (without marine) in Bulgaria. Considering that Pirin hasn't got suitable habitats for most of the freshwater mollusks this percent taken to the terrestrial species (82 species) is considerably higher – 34,7%. Freshwater mollusks are represented in all plant zones of Pirin but the terrestrial forms prevail.

⇒ Cave fauna

The limited areas of distribution, the low numbers of the populations, the high vulnerability of the troglophillous and troglobionts forms in case of destruction of the habitats or changing the conditions in them, make this group of animals of higher conservation importance. Some caves are investigated in the territory of the Pirin National Park, situated mainly in the cirques Baiuvi dupki, Kamenititza, Banski suhodol and Razlojki suhodol.
Typical cave inhabitant is the spider *Anthrohyphantes rhodopensis* known only from the highland caves in Pirin, Rila and Rhodopes mountains.
Six species of snails (2 troglophillous и 4 trogloxene forms) are known from the investigated territory. They are a typical element of the cave communities and so they are under protection. They are also in the list of species with conservation importance.

GIS – a layer of the polygon type is generated and Map # 16 Habitats of animal species of conservation value is elaborated

In SCROLL I, Annexes 6. 1. – 6.3. are presented:
6.1. Faunal richness and level of knowledge of the groups studied in Bulgaria and in Pirin NP
6.2. Summarized data on the reviewed invertebrate groups in the Pirin national park
6.3. Invertebrate taxa of conservation significance, characteristic of Pirin NP

1.15.2. Fish

Number of species and taxonomic richness	Species of nature conservation value	Species that must be subject of special measures	Economically important species	Knowledge gaps
6 species 3 families, 3 orders – only about 5 % of the freshwater ichtiofauna in Bulgaria	6 species are of conservation value 2 species are glacial relicts, 1 species is in Red Data Book of Bulgaria as a threatened species 1 is included in Appendix III of the Bern Convention and Annex II of Directive 92/43	*Leuciscus souffia* and the relict populations of brown trout *(Salmo trutta)*	*Salmo trutta*, *Salvelinus fontinallis* and *Oncorhynchus mykiss*) are subject of freshwater angling and they are important for the development of the angling tourism	Poorly investigated are Kremenski lakes – the only location of blageon (*Leuciscus souffia*) in Bulgaria. Poorly investigated are also the adjacent group of lakes – Kamenishki, Kornishki and Breznishki and other lakes situated far from the tourist infrastructure – Malenkoto, Kuklenoto, Pleshkoto, Pleshivoto and Strajishki lakes. Researches up to now are insufficient to determinate the local (relict) populations of Brown trout (*Salmo trutta*)

⇒ **Fish species characteristic of the territory of the Park:**
- Rainbow trout *(Oncorhynchus mykiss)* – introduced North American species
- Brook trout (*Salvelinus fontinallis*) - introduced North American species
- The European eel (*Anguilla anguilla*) – considered to be extinct

- Balkan trout (*Salmo trutta*) – glacial relict
- Common minnow (*Phoxinus phoxinus*)

In SCROLL I, Annex 2. 4. are presented: Vertebrate animals in Pirin NP – species composition and conservation value

1.15.3. Amphibians and Reptiles

Number of species and taxonomic richness	Species of nature conservation value	Knowledge gaps
Class *Amphibia* 8 species 2 orders 5 families Class *Reptilia*: 11 species	3 species are glacial relicts 1 Balkan endemic subspecies	The available data (until 2002) refer only to certain localities; Incomplete data about the species composition and the distribution of the herpetofauna in the park, about the population parameters of all species, present in the park, about the daily and seasonal activity of the different animals and their nutritious spectre; On the Balkans, Alpine Newt (*Triturus alpestris*), reaches Greece to the south, and occurs in most of the high mountains of Bulgaria. The only place that seems to provide favorable conditions for this species, but has not yielded it yet, is the Pirin mountain. Future investigations could possibly prove this species in Pirin too.

There is one species from Caudata – *Salamandra salamandra* from the family Salamandridae, which is 25% of the species diversity in the country. Order Anura is represented by 7 species from 4 families (*Discoglossidae*, *Bufonidae*, *Ranidae*, *Hylidae*), which is 58,3% of the species in Bulgaria.

In SCROLL I, Annex 6. 4. are presented: Vertebrate animals in Pirin NP – species composition and conservation value

1.15.4. Birds

Number of species and richness of taxa

The established 159 species of birds are about 40% of the species diversity in class Aves in Bulgaria, which is represented by 399 species (Nankinov, 1992).

The established species belong to 16 orders and 38 families, as follows:

Order	Family	Number of species
Podicipediformes	*Podicepidae*	1
Pelecaniformes	Phalacrocoracidae	1
Ciconiformes	*Ardeidae*	3
Anseriformes	*Anatidae*	2
Falconiformes	*Accipitridae* *Falconidae*	16 6

Galiformes	*Phasianidae*	5
Gruiformes	*Rallidae*	2
Charadriformes	*Charadriidae*	1
	Scolopacidae	2
	Laridae	1
Columbiformes	*Columbidae*	4
Cuculiformes	*Cuculidae*	1
Caprimulgiformes	*Caprimulgidae*	1
Strigiformes	*Strigidae*	6
Apodiformes	*Apodidae*	3
Coraciformes	*Meropidae*	1
	Upupidae	1
	Picidae	11
Piciformes	*Alaudidae*	3
	Hirundinidae	4
	Motacillidae	7
Passeriformes	*Lanidae*	4
	Cinclidae	1
	Troglodytidae	1
	Prunellidae	2
	Bombicillidae	1
	Muscicapidae	26
	Aegithalidae	1
	Paridae	7
	Sittidae	3
	Certhidae	2
	Emberizidae	5
	Fringilidae	12
	Sturnidae	2
	Oriolidae	1
	Ploceidae	3
	Corvidae	6

Order *Passeriformes* is the most represented order in the Park with 19 families, which is 50% of all 38 families. This order is also the richest of species – 91 species, which is 57% of all 159 species established in the studied area.

Number of species of conservation value or of conservation interest.

⇒ Relicts

Three species are glacial relicts – Tengmalm's owl, white-backed woodpecker and three-toed woodpecker.

⇒ Endemics

There are 5 Balkan endemic subspecies of white-backed woodpecker, shore lark, alpine accentor, crested tit and rock nuthatch.

⇒ Species of conservation value

The conservation status (according to Bulgarian and International legislation and criteria) of the 159 species of birds found in the Park is as follows:

Species protected by NPA	143 species
Red Data Book of Bulgaria	31 species
Threatened species	22 species
IUCN Red List	2 species

BONN	54 species
BERN	148 species
CITES	29 species
DIR 79/409	40 species
EMERALD	37 species

GIS – a layer of the polygon type is generated and Map # 16 Habitats of animal species of conservation value is elaborated

In SCROLL I, Annex 6. 4. are presented: Vertebrate animals in Pirin NP – species composition and conservation value

Species, which should be a subject of special measures and reasons for this.

Lesser spotted eagle (*Aquila pomarina*)
There is information from last few years for one breeding pair. Probably it nests in the adjacent territories. Literature data show that after 1960 the species has never been presented with more than 1 –2 pairs in the Park.
Conservation measures:
- Localization of its territories and stricter guarding of the respective forest sections, which appear to be the species nesting habitats;
- Poaching control;
- Control of the use of different chemicals in the open agricultural areas near the park borders; This is necessary because of the fact that several times birds hunting in the fields to the east and west of Bansko have been recorded. These are birds, breeding on the territory of he Pirin NP and looking for food in the adjacent regions.

Booted eagle (*Hieraaetus pennatus*)
On the 23rd of April 2002, one bird was observed on the territory of Pirin NP, above the village of Dobrinishte. This specimen is probably a spring migrant but the possibility of nesting should not be discounted. Simeonov (1986) established the breeding of Booted Eagle in Pirin.

Golden eagle (*Aquila chrysaetos*)
The species is in critical condition. It is rarely seen in small numbers in the breeding period. There is a clear tendency of decreasing of the pairs nesting in Pirin NP during the last 2-3 decades. In the near past 3-4 pairs were nesting in the Park and other 3-4 pairs were nesting near the Park. During the present investigation the Golden Eagle was found in two regions of the Pirin NP's territory where probably two pairs are nesting (Baiuvi dupki-Djindjiritza Reserve and Julen Reserve) and probably 3 other pairs are nesting in the adjacent territories (above the village of Vlahi, Kresna, Southern Pirin).
Conservation measures:
- Clarifying the reasons for the decreasing of the species in the park;
- Strict protection of the teritories, occupied by nesting pairs; including these territories in zones with strict regimes;
- Poachig and bird stuffing control;

Short-toed eagle (*Circaetus gallicus*)
It is a very rare species in the Park. During the breeding period one pair has been observed below the Vasilashki lakes (Kolchagov data) and one near the Park (between Kresna and Sinanitza chalet).
Conservation measures: same as for the Lesser-spotted eagle.

Saker (*Falco cherrug*)

S. Simeonov reported the presence of this species in the areas of Goliamo spano pole and Donchovi karauli in the period of 1966 – 1972. Now the species was found in the same areas too. The species is under extinction in Pirin NP and Bulgaria. The saker and Peregrine are birds of prey, which are often subject of poaching.

Conservation measures:

- Proving the species' nesting and localizing its nesting territory; declaring a very strict regime on this territory without mentioning the exact nesting locations. The practice shows that the poachers of raptors use the scientific literature and other information sources, listing the nesting locations of the rare species from order *Falconiformes*.
- Permanent guarding of the nest during the nesting season;
- Poaching control.

Peregrine (*Falco peregrinus*)

There are about 3 breeding pairs in the Park. The species can be also observed during the breeding period in the adjacent territories of the Park where the nesting of another 4-5 pairs is possible. This species inhabits mainly the middle and lower zones of Pirin Mountain. The information from the past about this species is very scarce. It is under extinction in some parts of its area. It is observed that in Bulgaria during the 90's of XX century this species increases its number. If this tendency remains constant, some increase of the number of the nesting pairs can be expected.

Conservation measures:

- As for the Saker falcon;
- Designating different protected territories in the species' nesting regions near the park or including some of these territories in the Pirin NP.

Capercaillie (*Tetrao urogallus*)

In 2002 it was a priority species in the field studies. After collecting some information from local people, who spend most of the time of the year on the territory of Pirin NP (employees of the Park, foresters, shepherds, etc.) a preliminary information was received about 15 localities, in which capercaillies were found in the last two years. In three of them 72 capercaillies were registered. According to the literature and the last census made by foresters it becomes clear that the number of the capercaille decreases compare to the middle years of the last century but maintains steady for the last ten years.

Conservation measures:

- All the display and feeding places of the capercaille, most of which are well known, should be declared as zones with special regime and the access to them should be limited to the maximum. All activities, which may disturb the capercailles should be stopped or limited to the maximum;
- The poaching control and the checks of the bird stuffers in the settlements around the Pirin NP, made by RIEW and the other controlling bodies should be increased;
- The human pressure in its different forms has led to the disappearance of the capercaille in the Central Balkan and Vitosha. Negative tendencies are observed in the Pirin as well – illegal felling, poaching, increased human presence, construction of the "Bansko ski zone", etc. This results in the gradual decrease and disappearing of the capercaille in big areas of the Pirin NP and the whole mountain because of the isolation and the constantly depleting genetic fund of the species;
- Poaching control;
- Removing of the stray dogs;
- Banning, limiting and controlling the different activities in the months of May and June, when the species broods and hatches.

Hazel grouse (*Tetrastes bonasia*)

The number of this species in Pirin NP as well as everywhere in Bulgaria is not very clear. The data from the local people, the literature data and our observations show that the population of the species in Pirin Mountain is stable. The number of the species is not high.

Conservation measures:

- Poaching control;
- Removing the stray dogs;

- Banning, limiting and controlling the different activities in the months of May and June, when the species broods and hatches.

Rock partridge (*Alectoris graeca*)
In the last years there is an abrupt decrease of the number of this species in Bulgaria. This also refers to Pirin NP. It is distributed in separate, remote nesting territories in alpine and sub-alpine zones mainly in N and NW parts of the Park.
Conservation measures:
- Controlling, limiting or stopping the grazing of big cattle in the regions, inhabited by rock partridges. A negative example is the area of Spano pole, where in 2001 big plots dug up by the dozens of unattended grazing animals were established. This reflects adversely not only on the Rock partridge, but on all ground nesting species there, as this is the biggest open area in the zone, covered with high-mountain grass associations. The region is also an important feeding ground for the birds of prey in this part of the Pirin NP; it hosts some of the most considerable parts of the populations of the Balkan lark, the Mountain pipit, etc.
- Poaching control;
- Removing the stray dogs;

Corncrake (*Crex crex*)
Globally threatened species – category SPEC 1! During the field surveys this species was recorded once on 25th of June 2002 at about 1700 m altitude on the southern slopes of Sharalia peak (2172 m). According to Delov (in press) this species has been found twice in Pirin Mountain between 2000 and 2500 m altitude in the months of July and August. This author shows that birds from this species reach the highest parts of the mountains at the end of the breeding period.
Conservation measures:
- Studying and clarifying the status, distribution and nature of stay of the Corncrake. This would clarify the importance of the Pirin NP for this globally threatened species.

Woodcock (*Scolopax rusticola*)
The population of this species decreases in the whole part of the country and now it is rare as a breeding species. It was fount during the autumn of 2001 in Julen Reserve. During 2002 it was find a breeding of this species on the territory of Pirin NP above Jane Sandansky chalet in the destination to Kamenitza chalet. This is an interesting find because there is no information for the breeding of this species for more than 50 years. This is one of the southern points of nesting for this species in Europe and the first evidence for the nesting of the woodcock in Pirin.
Conservation measures:
- Removing of the stray dogs (from chalets, hotels, etc.) and the shepherd dogs, coming from the adjacent settlements;
- Carrying out a separate detailed study on the species in the NP and the adjacent territories in the Pirin; clarifying the reasons for the species' decline.

Stock dove (*Columba oenas*)
In many parts of the country this species is already extinct. On the territory of Pirin this species has become very rare too. It is not established in the area of the Park, but only in the adjacent territories without sure evidence for nesting. According to the local employees this species still inhabits the forests of the Park, but it is very rare.
Conservation measures:
- Stopping the sanitary and any other felling in the old forests in and around the park, suitable for the species' nesting;
- Poaching control.

Tengmalm's owl (*Aegolius funereus*)
There is only one piece of information of finding this species in Pirin mountain (Baumgart, 1987). It was in the year of 1971 without information about the exact locality. The data from 2001 shows that the Tengmalm's Owl is distributed with high numbers in almost all of the proper for this species forests in NE

slopes of Pirin from the area of Malka Djindjiritza to Bezbog chalet. In 2002 the species was found in some regions in the SW and S parts of the NP- in the regions of the Pirin and Kamenitza chalets. It is most common in the regions of Banderishka poliana and Yavorov and Pirin chalets.
Conservation measures: same as for the Stock dove *(Columba oenas)*.

White-backed woodpecker (*Dendrocopus leucotos lilfordi*)
Rare, endemic subspecies for the Balcan peninsula. The number of this species in Pirin is too low. It inhabits beech and some coniferous forests mainly in N and NE parts of the Park – above Predela and Yavorov chalet.
Conservation measures: same as for the Stock dove *(Columba oenas)*.

Three-toed woodpecker (*Picoides tridactylus*)
This species is very rare in Bulgaria. Glacial relict. In Pirin NP it is very rare and under extinction. It is established in the forests below Banderitza chalet and in Baiuvi dupki Reserve. This species used to be numerous in the past (Simeonov, 1971; Simeonov, 1986).
Conservation measures: same as for the Stock dove *(Columba oenas)*.

Knowledge gaps
⇒ The field research has accidental character but not systematic
⇒ The changes in the populations are not investigated in the time. Some of the regions in the Park are frequently visited by the researchers, but others are almost uninvestigated.
⇒ Data about migration activity of the species in the regions with well-developed migration routes and points for resting are low (or totally lacking).
⇒ Investigations on the synopsis and number of populations of the nocturnal raptors are not implemented.
⇒ The investigations on the birds in Pirin are quite irregular. The main survey was implemented by Simeonov (1986) – the information was collected in the period – 1964-1983. This is the main work on birds in Pirin Mountain.
⇒ Gaps in surveys carried out in 2001-2002
- The data from 2002 are only from the first part of the breeding period and do not include the months of July and August.
- The period between 1 and 15th of July, which is quite important for the nesting, was not investigated.
- For the surveys on the long-term trends in population dynamics of the birds in the Park a minimum of 3 years are needed.

1.15.5. Mammals

Number of species and richness of taxa
According to the literature and the implemented field surveys during the years of 2001 and 2002, 45 species of mammals were established on the territory of Pirin NP. This is about 50 % of the terrestrial mammals in Bulgaria, without including the introduced and the twin-species.

Order	Family	Number of species
Insectivora	Talpidae Soricidae	5
Chiroptrera	Rhinolophidae Vespertilionidae	3 13

Lagomorpha	Sciuridae Gliridae	1 2
Rodentia	Muridae Arvicolidae	2 5
Carnivora	Mustelidae Felidae Canidae Ursidae	5 1 2 1
Artiodactyla	Suidae Cervidae Bovidae	1 2 1

The present research gives information about the presence of 12 bat species in the researched region for the first time.

Number of species of conservation value:
⇒ Relicts
One species is glacial relict – the snow vole.
⇒ Endemics
There are two Balkan endemic subspecies – Bank vole (*Clethrionomys glareolus pirinus*) and Balkan chamois (*Rupicapra rupicapra balcanica*).
⇒ Species of conservation value
The conservation status (according to Bulgarian and International legislation and criteria) of the mammals found in the Park is as follows:

Protected by PAA	- 19 species
Red Data Book of Bulgaria	- 5 species
Threatened species	-3 species
IUCN Red List	- 12 species
BONN	- 14 species
BERN	- 37 species
CITES	- 3 species
DIR 79/409	- 24 species
EMERALD	will be further specified

Species, which should be a subject of special measures and reasons for this.

Pine marten (*Martes martes*)
Included in Bulgarian Red Data Book as an endangered species. As a whole, deforestation has an extremely negative influence on this species. The main part of the local population (including the employers in the Park security) does not make the difference between pine-marten and beech-marten. The absence of recognition between the two species is a threat for the pine-marten it can be mistaken with the beech-marten which is a subject of hunting outside the Park territory.

Wild cat (*Felis silvestris*)

The data about the presence of the wild cat on the territory of Pirin NP are extremely scarce. It was considered as a "pest" and hunted for many years. During the spring census of 2002 8 specimens were established. The species is extremely rare. Footprints of wild cat are observed only in locations rarely visited by people and never in the tourist regions. Relatively highest frequency of findings of footprints was established in the western part of the Park (and outside) in the region of Sinanitza which is one of the rarely visited by tourists in the Park. The increasing of the illegal felling in Pirin Mountain during the last years has an extremely negative influence on the habitats of the species.
A serious threat for the species in Pirin is hybridization with domestic cats. In some of the chalets domestic cats are often kept and they inhabit the forests around, which is a serious treat for the protection of the genetic purity of the species in Bulgaria.

Wolf (*Canis lupus*)
The wolf is globally threatened species! It inhabits the Park's territory permenantly. The data about the numbers of the wolf in the different years are incomplete. Since 1992 its presence becomes more evident by the seen trails, animals and fur from eaten deer, wild boars and chamois. In 1995 the official data mention 47 wolfs, after which this number decreases and in 2002 they are again the same number.
In the winter it goes down in the lower parts of the mountain following undulates and the domestic animals. The leaving of the Park in the winter just in the hunting period makes it vulnerable. Bulgaria is one of the few European countries with stable populations of the species.
Wolf attacks on flocks are frequent in the summer and in many cases – successful. The reason for this is lack of reliable methods of protection (lack of massive, steady buildings for animals and shepherd dogs). This situation stimulates the local people to use forbidden methods against the wolf.
There are no data about damages on domestic animals on the park's territory.

Brown bear (*Ursus arctos*)
The species is strongly connected with its habitats. For its nutrition the species needs old forests with many wild-berries and acorns. No scientific research on the Pirin sub-population of the Brown bear has been done until now. The data about it have been received by employees of the NP, the SFB or accidental sightings by tourists, people collecting mushrooms or forest fruits, fishermen, cattle-keepers and bee-keepers. Regardless of the fact, that it is a protected species its numbers have not increased since 1992. The sharp decline from 94 to 57 individuals in 1993 and 1994 respectively is due to the over-estimated number in PR Kamenitsa. Since then the species number keeps about 60 until 2002.
For the time being there are no records of bear attacks on people. The cases of attacks on domestic animals are very rare, but the bears on the park's territory do not miss the chance to feed on dead horses, cows or sheep. In summer they use to strip the bark of the Bosnian pines in the base to feed. They do not cause damages on the forest this way, since only individual trees die. There are no records of bear visits to waste bins with food remains near the chalets, neither for artificial feeding of bears.
There are data about bears, which have become victims of poachers. There are some cases of setting poisonous lures.

Wild boar (*Sus scrofa*)
It occurs all-year-round in the protected area. During the year its numbers increase in the April-May period, because it moves from the territories, adjacent to the Park to the upper forest line and the dwarf pine belt. In June 2002 a mother with 5-6 piglets was established in Kamentsa PR in the Konski Plostad site, 4-5 mothers with some 25 yearling were established in Sinanitsa PR by the Sinanitsa shelter, a male and a female with 4 piglets were established along the upper stream of Byala Reka river and a mother with yearling was established in the Yulen reserve.
Their number decreases three times from 1992 to 1995, after which gradually begins to rise. The reasons have been the poaching, the increased wolf population and the wrong hunting practices in the territories out of the park.

Red Deer (*Cervus elaphus)*
Despite that it is not disturbed in the NP, this species occurs rarely. The feeding conditions in the park do not allow for the increase of its numbers. It is most often occurring in the beech forests of Bayuvi Dupki PR. In summer individual specimens were observed along the upper forest line of the Yulen and Bayuvi Dupki-Djindjiritsa reserves. In May 1993 the park employees discovered fur and part of the hoof of two red deer, at a distance of 50 m from each other, that were eaten by wolves on the trail to the Malka Djindjiritsa site.

Roe-dear (*Capreolus capreolus*)
It occurs commonly, except in the alpine zone. Its numbers have decreased almost twice compared to the year 1992. In the last 10 years dozens of roe deer eaten by wolves were discovered, especially in winter and spring /April 2002 - 3 specimens found in Kalyov Borikatch site /. It has been the main target for poaching in the park regions of Bayuvi Dupki, Vihren and Bezbog and less often in Kamentsa PR around Pirin chalet, predominantly in October and November. On the territory of Pirin NP the species is rare and needs of special measures for conservation. The hunting outside the Park and poaching are the main factors influencing the number of roe-dear.

Chamois (*Rupicapra rupicapra*)
The chamois in Pirin is representative of the local for the S part of Balkan Peninsula sub-species – *R. r. balcanica*. If the mortality caused by man is reduced the population of the species would increases its number (Tufectchiev, 1983).
In his doctoral thesis Studies on the chamois in the region of Pirin mountain, Ph.D. Angel Tufekchiev in 1978 had used the data from the census carried out in the Blagoevgrad RFB in 8 local forestry boards for the period between 1966 and 1976. For 1969 number was 794, after this it has decreased to 315 for 1970, while for the year 1971 it reached 237specimen, for the years 1975 and 1976 the chamois numbers were respectively 235 and 255.
In October 1991 eng. Rumen Kolchagov made a complete census in the region from Pirin Peak to the Todorova Ployana and the number of the animals spotted was 316. The cases of observing herds of more than 30 animals were not rare. The male/ female correlation was 1: 2.
The census data of 1992 are comparatively correct and indicate for a constant reduction of the species numbers till the year 1999. The most precise are the data of 1998, which were received with the participation of more than 40 people in the census for one day. The participants were preliminarily instructed on the methodology and the organization of this activity. In the following years the numbers were increasing, which is a result of the above-mentioned mistakes in the carrying out of the census – in 2002 the officially reported number is 277 and after the census in June it turned out that the chamois were 157.
The main threat for this species is poaching. Parallel to this, the numbers of the wolf increase, stray dogs around the chalets are frequent, and the dogs accompanying the livestock herds in the highland pastures are without clogs.
The losses due to avalanches and diseases are comparatively small. According to eng. A. Obretenov (1993), the chamois number could increase to 600 without damaging the upper forest line when getting together in winter.
The control is weak and ineffective because of shortage of resources, equipment and guarding staff.
The procedure is often an obstacle for applying the legal measures against the poachers.

Economically valuable species
Economically valuable are the species of large mammals, which are attractive to the eco-tourism. These are the brown bear and wolf, which are extinct in many parts of Europe. In the neighboring countries these species attract a great number of tourists and bring proven economic benefit in the regions where this kind of tourism is well developed.

The chamois, as a typical species in Pirin Mountain also is attractive for observation. Reducing the human pressure over these species will increase the chances for their successful use in the sphere of eco-tourism.

Knowledge gaps

⇒ **Small mammals**

- The available data concern only separate localities. The main part of the information concerns the regions near the chalets of Vihren and Banderitza and investigations on many other places are missing
- There are no data about the distribution of the species in their habitats, about the relative number of the species, about the factors determining the distribution of the species in Pirin NP.
- Some species, which should be found here, are not established, such as the mole rat – a species of IUCN Red list (VU).
- There are no enough data about many species with specific ecological requirements which would be useful as bio-indicators and for monitoring – water shrew, snow vole and others.
- Some comparative investigations are necessary about the condition of the populations and communities of small mammals in the regions of high level of human pressure and in those of reserve regime.

⇒ **Bats**

- Irregularly investigated area.
- There are no data about the presence of the breeding colonies within the borders of the Park.
- There are almost no data about the synopsis of the species and the distribution of the bats in the alpine zone (above 2200 m altitude).
- According to the reports of a cave-diver, who was working in the caves of Banski suhodol and Razlojki Suhodol, "there are a lot of bats, flying in the nights" but up to now a concrete data about them is missing.

⇒ **Large mammals**

- There is no actual and detailed information about the vertical and horizontal distribution, as well as information about the population density of the species.

GIS – a layer of the polygon type is generated and Map # 16 Habitats of animal species of conservation value is elaborated

In SCROLL I, Annex 6. 4. are presented: Vertebrate animals in Pirin NP –species composition and conservation value

CULTURAL AND SOCIO-ECONOMIC CHARACTERISTICS

1.16. USE OF THE PARK AND SOCIO-ECONOMIC ASPECTS

1.16.1. Kinds of activities currently implemented in the Park /according to data of NPD of 2002/

⇒ Conservation and maintenance, restaurant and hotel-keeping, facility maintenance, ski-wardrobes, trade;
⇒ The implementation of these activities involves 136 persons, who are employed throughout the year, and 91 persons, employed on a seasonal basis.

IN SCROLL I, Annex 7.1. the Kinds of activities currently implemented in the Park are presented by regions and the following information is provided: the site name, location, manager, telephone and number of employees.

1.16.2. Settlements
There is not a developed settlement network in the Park.

1.16.3. Technical infrastructure, built areas and buildings

1.16.3.1. Available Technical Infrastructure

Electrification.
The electric transmission network in the region – 220, 110, 20 kW – consists mainly of overhead power lines.
⇒ *Razlog Municipality:*
Predela power line (PL) of 20 kW supplies consumers in the National Park and the contact zone.
⇒ *Bansko Municipality:*
This municipality is power-supplied by 110/20 kW sub-station and the key station near the park area, supplying also sub-sites within the park.
Vihren chalet has a separate small hydroelectric power station (HEPS). Bunderitsa chalet has an emergency power source consisting of a water turbine and a diesel aggregate. Damianitsa chalet is not power-supplied. Its consumption with installed capacity of about 40 kWh is covered by a dynamo and a diesel aggregate.
Remains of a former wind power station, currently non-functioning, are to be found on the bank of the Demyanitsa river at 1200 m altitude.
⇒ *Gotse Delchev Municipality:*
This area is supplied by Gotse Delchev sub-station (110/20 kW).
⇒ *Sandanski Municipality:*
This municipality is supplied by five operational power stations.
Pirin chalet and Spano Pole bungalows are not power-supplied. The chalet uses electricity supplied by a small local hydroelectric station and a diesel aggregate of 18 kWh. A restaurant is built next to the chalet, which is also not power-supplied.
⇒ *Kresna Municipality:*
Sinanitsa chalet is not power-supplied due to its remoteness. The site uses electricity supplied by an aggregate.
⇒ *Simitli Municipality:*
The area is power-supplied by 20 kW overhead power-lines from Simitli sub-station of 110/20 kW, with installed capacity of 2x25 MW.

Water Supply.
Water Sources
The cold and clear Pirin waters – springs and rivers – provide the water supply for the chalets, hotels, and rest houses within the park and its contact zone. Spring waters are captured in the following areas:

- Kalugeritsa locality to supply Razlog;
- The springs of Tsigansko Kladenche, Pelevi Izvori, Usina, and drainage catchments and drilling wells to supply Bansko;
- A spring near Bunderitsa river to supply Akademika rest house and Bunderitsa chalet;
- The springs of Kruntiata, Studenia Chuchur, Shiroka Poliana, to supply Obidim and Mesta villages;
- The springs of Perlesh and Shulai to supply Dobrinishte village;
- Springs near Melnishka river below Stefanov peak to supply Sugarevo village and Melnik;
- Springs at Sinanishka river in Mandrata locality, Studenata Voda spring at Razkolska river and Chernata Voda spring at Vlahina river to supply Kresna;
- Local catchments to supply the chalets of Yavorov, Pirin, Vihren, etc.;
- River catchments at Struzhka river and Valevitsa river to supply Simitli;
- Alexova river catchment to supply Predela locality and Razlog.

The waters of Sandanska Bistritsa River – its larger tributaries like Bashliiska river (collecting the waters of Bashliitsa, Chaira, Beklemeto and Begovishka circuses), Surchaliitsa river (collecting the waters of Goliamo Spano Pole and Malko Spano Pole circuses), and other smaller tributaries – are captured into the Sandanska Bistritsa hydro-power cascade (Popina Luka HEPS, Lilianovo HEPS and Sandanski HEPS). The catchments at Mozgovitsa, Kriva Reka, Razslankovitsa and Tremoshtnitsa rivers are also connected to this cascade. After the Sandanski HEPS, these waters are used to supply the town of Sandanski.

Water Supply Networks and Facilities

⇒ *Razlog Municipality:*

A pipeline of 200 mm in diameter takes the water from a captured spring at 1200 meters of altitude in Kalugeritsa locality to a 50,000 m3 dam located below Suhodolskoto Lake to supply Razlog. The same water supply system delivers water to the Council of Ministers' rest house in the park region, and the facilities in the surrounding contact zone. The water supply for the Predela resort complex and Kulinoto recreation area is provided by catchments in Zaseko locality and at Alexova River.

Yavorov chalet is supplied by a local water source from Stupalata locality.

⇒ *Bansko Municipality:*

The springs of Karamanitsa, Usipa, Tsigansko Kladenche, Pelevi Izvori are captured to supply the town of Bansko. A drainage catchment and drilling wells have been established in the Damianishka river basin. A pipeline of 200 mm in diameter takes the waters to a 5000 m3 reservoir, from where they are supplied to the town and the rest houses in the lower park region. A new water main was established in Usipo locality for additional supply of Bansko. Its designation is to provide additional amounts of potable water (Q=30 l/sec) to Bansko and the rest houses.

- Vihren chalet is supplied by its own water sources – a catchment located above the chalet.
- Bunderitsa chalet and the campsite are supplied by a catchment located at Bunderitsa River prior to Vihren chalet. Pipelines and a reservoir are installed.
- Damianitsa chalet is supplied through a catchment from the Vasilashkite lakes. For that purpose, a dam was built after the junction of Vasilashka, Strazhishka and Valiavitsa rivers.
- Bezbog chalet is supplied by a captured spring in Dushevandika locality.

⇒ *Sandanski Municipality:*

The springs of Melnishka River (which is formed by the junction of Sugarevska and Biala Reka rivers) are caught below Stefanov peak, and supply water to Sugarevo and Karlanovo villages and Melnik through a pipeline. Popina Luka has local supply established, but the trend is to start taking its water from Sandanski-Tremoshnitsa river group. The exurb areas of Lilianovo, Sandanski, Fourth Kilometer, and Tenth Kilometer, Popina Luka and Turichka Cherkva localities, and Yane Sandanski and Kamenitsa chalets are also part of Sandanski group.

Catchments are established on the rivers of Spanopolska, Glavnitsa, Mozgovitsa, Kozya Reka, Kriva Reka, and Razslankovitsa. A collector channel takes the waters into a water tower from where they are directed to Popina Luka HEPS and Lilianovo HEPS. A catchment is also established on Tremoshtnitsa river with a massive dam, and side catchments exist on Mozgovitsa river at Popina Luka HEPS, on Raszlankovitsa and Bozhdovska rivers.

Pirin chalet is water supplied by a pipeline of 80 mm in diameter and a catchment on a spring located at about 2 km above the chalet, in Bash Mandra locality.

⇒ *Kresna Municipality:*

The water supply of Kresna is provided by captured springs located within Pirin NP: 3 springs in Studena Voda locality near Razkolska river, 2 springs in Mandrata locality on Sinanishka river, Chernata Voda spring on Vlahinska river (about 10 km to the east from Kresna).
Sinanitsa chalet is supplied by a water source of its own.

Sewerage.
The establishment of a centralized sewerage is obstructed by the fact that the sites are scattered and far from each other. There are two forms of treating the waste waters from the sites:
- Grouping the sites into a common sewerage (in a given area) – ViK Rest House, Ribarnika villa, DZI Rest House, Izvorite Hotel, PSS Rest House (Vihren PR);
- All the rest buildings within the park are serviced by septic pits, which are in poor condition.

IN SCROLL 1, Annex 7.2. the available treatment facilities by settlements are presented, with details about their discard location, capacity and condition.

Telephone Lines
Razlog Telecommunications Co covers four municipalities from the region – Razlog, Bansko, Belitsa and Yakoruda (a total of 18 automatic telephone stations with 17,700 users).
Local units from the nearby villages have provided lines to some regions within the park, and the buildings in Vihren PR are equipped with telephone communications, although scarcely.

Radio Connections and Telecommunication Equipment
Radio stations are established in the tourist sites and the Mountain Rescue Service centers, including the chalets, managed by the Bulgarian Tourist Union.
There is a satellite communication at the hotels located in Chalin Valog locality and at the Council of Ministers' Rest House.

1.16.3.2. Available Transport Infrastructure
The studied transport infrastructure covers the Pirin NP territory and the region between the Park boundary and the ring of roads connecting the settlements of Razlog, Bansko, Dobrinishte, Mesta, Gotse Delchev, Katuntsi, Sandanski, Kresna, and Simitli.

⇒ **Automobile Roads:**
State Road Network

Road Number	Section	Length in Kilometers
Road # 84041	Bansko – Vihren chalet	16.8 km
Road # 10075	Branch of road N 1 – Popina Luka locality	20.3 km

Only Road # 84041 with a total length of 16.8 km enters into the park, and Road # 10075 ends at the park border.

⇒ **Forest Road Network and Roads of Other Organizations:**
The forest road network density within the park is 3.96 m/ha. Forest roads dominate, while the roads built by other agencies are just single sections – the road to Marble Quarries (Ilindentsi-Murata) and those built for energetic purposes in the region of Pirin village, Popina Luka and Turichka Cherkva localities. The forest road dimensions are as follows:
- 4-5 m width for the dirt roads and
- 3-3.5 m width for the macadam and asphalt roads.

The relatively large longitudinal inclinations prevail, and the horizontal curve radiuses seldom exceed 60 meters.
There are no restrictions on use and passing along the forest roads on the territory of the park.

⇒ **Parking lots:**
The parking in the ski-area above Bansko is organized on three slots:

- The road fork to Bunderishka Poliana with a capacity of up to 100 cars;
- The road fork to Bunderitsa chalet with a capacity of about 40 cars;
- The slot at the ski-run start/finish with a capacity of about 20 cars.

The remaining part of the tourist vehicle flow relies on parking along the road. Local parking areas are established at the chalets of Vihren, Bunderitsa, Pirin, Begovitsa, and Yavorov, as well as at the hotels and rest houses in Shiligarnika and Chalin Valog localities. These parking areas are with capacity of 5-10 cars each, or a total of 80-100 cars.
The total capacity of the parking sites within the park is 260-270 cars.

⇒ **Rope-ways:**

Table 19. Existing rope-ways

Type, locality	Length m	Denivalation m	Capacity persons per hour	Purpose
Three-seat chair lift "Todorka" Ikrishte- Todorka peak	2336	700	800, can be increased to 1800 persons per hour by adding extra seats	Services Todorka and Balkaniada ski-runs and Platoto ski-run and tow-lift
Two-seat chair lift "Lednika" Bunderishka Poliana locality- Tsurna Mogila peak	2412	887	500	Services Tsurna Mogila ski-run and Academika student rest house
Platoto tow-lift Ovchi Kladenets locality- Todorka peak	13,400	320	900	Services Platoto ski-run
Chalin Valog tow-lift DZI Rest House-Rashkov Chukar locality	1290	320	700	Services the ski-runs in Chalin Valog locality
Starata Pista tow-lift near the parking at the road fork to Bunderishka Poliana				
Two-seat chair lift Gotse Delchev chalet – Bezbog chalet	2530	640	500	Services Bezbog ski-run and Bezbog chalet
Portable junior tow-lifts – three in Ikrishte locality; two at Bezbog chalet; one at each of the chalets of Bunderitsa, Kamenitsa and Yavorov, and one at the Council of Ministers' Rest House				

Table 20. Number, Type and Capacity of the New Sites and Facilities Planned for Construction in the Park according to Approved Plans and Projects

TYPE	Capacity persons per hour
Gondola lift from the town of Bansko to Bunderishka Poliana locality	1500
Chair lift from Shiligarnika locality to Bunderishka Poliana locality	500
Chair lift Shiligarnika – Platoto	900
Ski-run Platoto - Shiligarnika	427
Tow-lift "Balkaniada"	800
Extension to the Starata Pista ski-run	the capacity is increased by 20 skiers

	and becomes 243 skiers in total
Tow-lift "Platoto"	900
Ski-run "Platoto"	235
Junior ski-run and tow-lift in Shiligarnika locality	319
Ski-run "Todorka peak – Bunderishka Poliana"	
Chair lift "Bunderishka Poliana – Todorka peak"	900

⇒ **Hiking Tourist Trails**

- Main trails – 13 routes are developed, one of which is part of the E-4 International route (the Pyrenees–the Alps–Rila–Pirin–Pelopones). The trails are marked in accordance with the Bulgarian Tourist Union standards;
- Secondary trails – 17 routes are developed under the Park Development Project. Those trails facilitate the access to the Park area from the surrounding settlements. They are not marked.
- Guided routes – cross the reserves of Bayuvi Dupki-Djindjiritsa and Julen. Guides are required and the groups should not exceed 10-15 people.

In point 1.16.7., Table 26, the most frequently used main tourist trails on the Pirin NP's territory are described

⇒ **Connections with different kinds of transport means out of the Park /transport accessibility/:**

- automobile – through all roads to the settlements in the region;
- bus – only to the towns from the contact zone;
- minivan – organized by private companies (to the ski-zone above Bansko);
- railways – Sofia–Sandanski;
- narrow-gauge railroad – Dobrinishte village – Septemvri.

Built-Up Areas and Buildings

⇒ There are 1837 beds within the Pirin NP area, which are distributed as follows:

- chalets - 885 beds;
- hotels - 214 beds;
- bungalows - 123 beds;
- company rest facilities - 615 beds (of these, 163 beds are in bungalows).

⇒ At Bunderishka Poliana near Yavorov, Pirin and Kamenitsa chalets, there are regulated tent camps with a total capacity of 160 tents;

⇒ The dining facilities are represented by 11 independent diners, 6 hotel restaurants and 2 rest house restaurants. They are concentrated in Vihren PR;

⇒ The Central Office of the Mountain Rescue Service is located in Bansko. There are 9 MRS stations within Pirin NP: Vihren chalet, Demianitsa chalet, Tevno Ezero shelter, Bezbog chalet, Kamenitsa chalet, Yavorov chalet, two stations in Shiligarnika locality and one at the main entrance to the park from Bansko;

⇒ According to data from 2001, Pirin NPD information stations exist in the following locations:

- Bansko headquarters (a solid building);
- The main entrance to the park from Bansko (a solid building);
- Information office in Dobrinishte village;
- Information and guard section at Vihren chalet (a bungalow);
- Information and guard section at Demianitsa chalet (a bungalow);
- Information and guard section at Yavorov chalet (a bungalow);
- Guard section at Gotse Delchev chalet (a caravan);
- Information and guard section at Pirin chalet (a bungalow);
- Information and guard section at Kamenitsa chalet (a bungalow);
- Sandanski Office (a solid building);
- Office in Kresna ;
- Information and guard station in Vurbite locality (a bungalow).

GIS – a line and spot layers were developed, as well as Map # 17 "Buildings and Infrastructure"

IN SCROLL 1, Annex # 7.3. a list of buildings within the Park is presented, with indication of building location, ownership, use, number of floors, built-up area, number of beds, structure, availability of power supply, water supply, sewerage, telephone, etc.

1.16.4. Agriculture

1.16.4.1. The spatial distribution of the agricultural lands in the park by municipalities and settlements is presented in Section I, p. 1. 2.
In the boundaries of Pirin NP/as in 2002/ the territories designated for grazing are 9300.8 ha, of which 5029.1 ha belong to the agricultural and 4271.7 ha areas belong to the forested areas. All the grazing regions are located in territories of traditional regime of agriculture use, and have been divided in 5 park regions.

1.16.4.2. Correlation between the carrying capacity of the pastures and the actual number of the domestic animals
The carrying capacity of pastures was calculated on the basis of the pastures' productiveness, the daily need of nutritive substance (in fodder units) and the continuity of the grazing period.
The data in table 21 show that in the period 1995 – 2001 the number of animals, which have grazed in pastures of the park's different regions has been smaller than the pastures' capacity, which is an indicator that the park's pastures have not been overloaded. Certain, but not excessive overloading of the pasture territories has been registered only in Vihren PR in the period 1995 - 1998, where more animals have grazed than the pasture capacity allows. In the following years in the region of Kamenitsa, which has the biggest capacity, the actual number of grazing animals has been 3-4 times smaller than the pasture's capacity allows. This is an indicator that a future increase of the number of animals using this territory is not likely to disturb the plant diversity.

Table 21. Actual number of livestock, which used the territories for grazing by park regions for the 1995-2001 period

Park region	**Bayuvi Dupki**		**Vihren**		**Bezbog**		**Sinanitsa**		**Kamentsa**		**Total number**	
Year	Animal unit		Animal unit		Animal unit		Animal unit		Animal unit		Animal unit	
	1*	2**	1*	2**	1*	2**	1*	2**	1*	2**	1*	2**
1995	40	40	302	175	225	247	456	614	610	1878	1633	2954
1996	40	40	262	175	239	247	348	614	582	1878	2360	2954
1997	30	40	211	175	234	247	536	614	359	1878	1370	2954
1998	30	40	152	175	210	247	434	614	538	1878	1364	2954
1999	34	40	120	175	203	247	284	614	521	1878	1162	2954
2000	30	40	116	175	198	247	417	614	516	1878	1277	2954
2001	-	40	76	175	193	247	541	614	457	1878	1267	2954

*Real number of animal units (R)
**Potential number of animal units (P)

The number of animals, which have really used the pastures, has been calculated in conditional animal units / big cattle
* 1 animal unit = cow with 500 kg weight and daily need of 60 kg of green mass (nutrient)
1 animal unit = 5 sheep; 0.8 horses

Table 22
Ratio between the real number of animals, which have used the pastures and the pastures' capacities

Park region	Bayuvi Dupki	Vihren	Bezbog	Sinanitsa	Kamentsa	Total number
Year	R:P	R:P	R:P	R:P	R:P	R:P
1995	1:1	1:1.72	1:0.91	1:0.74	1:0.32	1:0.55
1996	1:1	1:1.49	1:0.96	1:0.56	1:0.30	1:0.79
1997	1:0.75	1:1.2	1:0.94	1:0.78	1:0.19	1:0.46
1998	1:0.75	1:0.86	1:0.85	1:0.70	1:0.28	1:0.46
1999	1:0.85	1:0.68	1:0.82	1:0.46	1:0.27	1:0.39
2000	1:0.75	1:0.66	1:0.80	1:0.67	1:0.27	1:0.43
2001	-	1:0.43	1:0.78	1:0.88	1:0.24	1:0.42

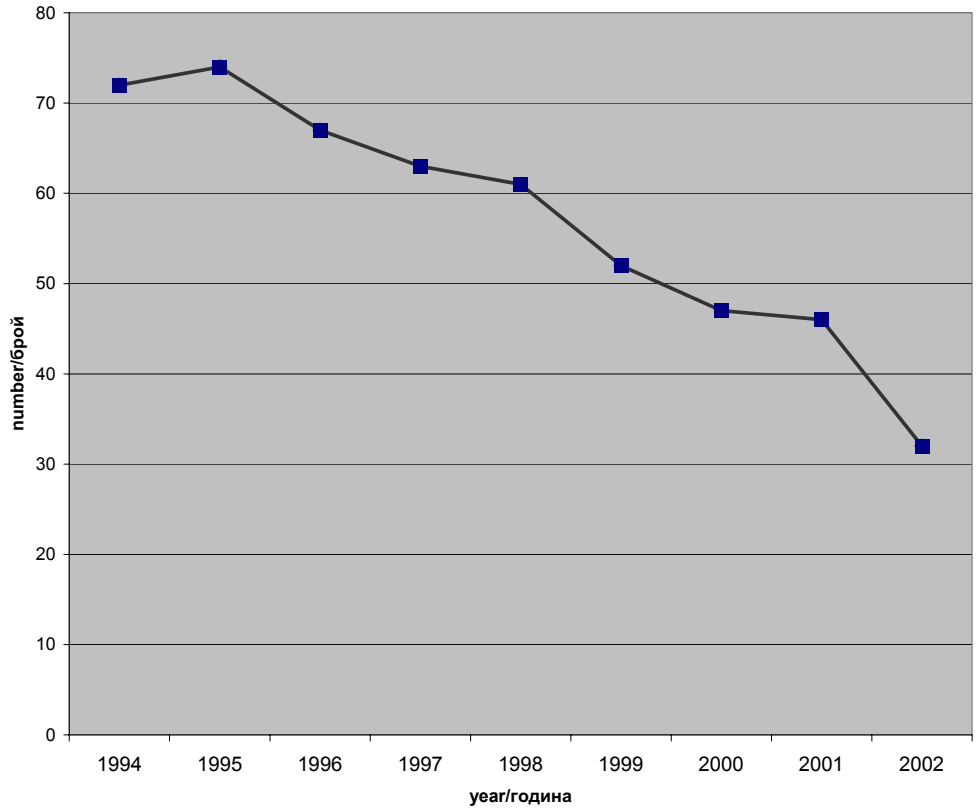
No special regime of pasture use is applied in the park regions, which means that the free (non-systematic) grazing is practiced – the animals are left grazing from spring to autumn, almost without control. Regardless of the fact that the herds are accompanied by shepherds, no consecutiveness in the grazing in different habitats is observed, since the animals move unrestricted and choose the most valuable grasses and parts of them. The type *Nardus stricta* ensures the most abundant grazing because of the presence of species well accepted by the animals – *Agrostis vulgaris With., Festuca valida Uechtr.Penzes*, *Poa usrina Velen*, *Festuca nigrescens* L, *Poa alpina L*, *Festuca fallax Thnil*, *Phleum alpinum L, Deschapmsia caespitosa (L.)P.B*. The grazing in this type of pastures lasts longest. Since the grazing is not regulated, there is no requirement for the territory, used by the herd for one day. This territory depends on the grass-stand's productiveness and whether the daily needs of the animals for green mass are satisfied. The using of the pasture territories starts from the lowest parts and gradually continues upwards, depending on the state of the grass cover. In autumn the herds move back.

1.16.4.3. Use of the agricultural lands
There is no information on the green mass yield during the last years and because of this it is impossible to determine the general productivity.
A trend for reduction of the livestock is registered and therefore there is no serious danger of overloading the grazing areas.

Table 23. Fees for 1 animal by years

Domestic animals type	Fees for 1 animal by years (in levs):		
	1994-1998	1999	200-2003
Cattle	10	1,50	0,75
Horses	8	0,80	0,40
Sheep	5	0,30	0,15

Fig. 6. Number of grazing permits given by years:



1.16.4.4. Available facilities connected to the agriculture

No permanent shelters and watering places for animals are established in the Park. Temporary shelters, which are in fact pens fenced by stones or branches, exist in the regions where the sheep are grazing.

1.16.4.5. Violations registered in the last years

In the 1993-2000 period 63 cases of violations – illegal grazing were registered.

The largest number of violations was registered in the Sinanitsa PR, followed by Kamentsa PR and Vihren PR – 3 cases each.

No infringements were established on the territory of Bayuvi Dupki PR and Bezbog PR. The reasons for the penalty tickets issued are mostly the grazing at regions not specified in the permit and for setting of shelters at sites, which are not suitable for this. No tickets were issued in 2001.

1.16.4.6. Rare and threatened native livestock breeds bred in the Park – present

The following local breeds and races were identified by the field studies in Pirin NP and its adjacent territories:

Cattle (*Bos taurus)*:	local grey cattle
Water buffalo (*Bubalus bubalis)*:	local Water buffalo
Sheep (*Ovis musimon f. aries)*:	Karakachan sheep local race of tsakel sheep
Goat (*Capra hircus)*:	local mountain goat
Horse (*Equus cabbalus)*:	Karakachan horse local mountain horse
Dog (*Canis lupus f. familiaris)*:	Karakachan dog Barachesto shepherd dog Barak beagle Three-colored beagle

A total of 11 native breeds and races are bred in the Pirin NP and the adjacent territories. Of them 7 are included in the "Red Register of the native forms of livestock" Y. Danchev (1994) published in the "National Biodiversity Conservation Strategy"; four breeds are classified in the category "Forms in extinction", two are in the category "Threatened forms" and one is in the category "Potentially threatened forms". Of the total of eleven Pirin breeds and races, three have found their place in the World Watch List for domestic animal diversity of FAO (2000). There the local gray cattle and the Karakachan horse are determined as having a risk status of critical and the Karakachan sheep – threatened.

In SCROLL 1, Annex 7. 4. are represented The present status and distribution of the local breeds on the territory of Pirin NP.

1.16.5. Forestry

1.16.5.1. Results of the field checks on the status of the forests

Out of the total of 73 forests sub-sections in the Park where forest management activities were implemented in 2001 15 sub-sections or 21% were checked.

⇒ The following types of felling were accomplished:

- landscape formation /selective felling or thinning/ felling was accomplished in 67 forests sub-sections;
- only in five forests sub-sections was accomplished landscape-regeneration felling;
- sanitation felling was accomplished in four sub-sections;
- planning felling was accomplished in one forests sub-section;

⇒ A total of 93014 m^3 of timber /standing volume/ was extracted from the Park, which is 5679 m^3 more than the planned. Compared to the previous period /1980-1992/ a decrease of the general use of the timber by 26% is registered. In both periods instead of carrying out selective and regeneration felling predominantly dry and fallen timber was collected.

⇒ The reforestation in the Park was carried out on 52,3 ha instead of on the 100,2 ha envisaged by the maintenance project.

Table 24. Results of the comparative analysis of the envisaged and implemented landscape-management activities in Pirin NP, by type and volume for the 1993-2000 period.

# by order	Landscape-management Activity	According to the 1993 technical plan		Accomplishment till December 2000		Difference in the accomplishment "+" or "-"	
		Area (ha) /	Envisaged felling m^3/	Area (ha) /	Logged m^3/	Area (ha) /	Logged m3/
1.	Landscape forming felling	2500,6	58705	490,1	6660	-2010,5	-52066
2.	Landscape regeneration felling	257,7	17830	34,1	2009	-223,6	-15621
3.	Sanitation felling	410,7	10800	42,1	1310	-368,6	-9490
4.	Selective felling	663,7	-	115,1	9676	-549,0	+9697
5.	Planning felling	-	-	5,1	159	+5,1	+159
6.	Collection of dry and fallen timber	-	-	4498,9	73200	+4498,9	+73200
	TOTAL	**3832,7**	**87335**	**5185,4**	**93014**		**+5679**
7.	Reforestation	100,2		52,3		-47,9	

⇒ Stands and forest plantations of accomplished planned activities:

- In most cases the thinning are carried out with reduced intensity and are from 25 to 50% less than the envisaged;
- The planned thinning felling is exceeded in 91-b by 77%, 95-z by 32%, 433-a by 145% and 433-b by 100%;
- In 433-a and b it was concluded that the increase of the use is a result of the sanitation character of the felling – the logged timber is dry or damaged by wind-throw;
- Subsections 201-a, b, g; 243-b; 244-a; 378-a, b; 244-a, etc, were not thinned below the forests density of 0,7 and have optimal protection, water-preserving and recreational indicators;
- In some of the forests sections and sub-sections /433-a, etc./ classical thinning was carried out, which despite of the low intensity has brought to the formation of stands of the same age, stands dominated by one tree species;
- The cutting down of the trees that have grown taller, of the crooked, of the double, of triple and whisk-like branching out trees has resulted in decline in the intraspecific biological diversity of the tolerated species;
- In the accomplishment of the landscape-regeneration felling /group-selective/, because of the worsened sanitary state, the use exceeds the planned only in the forests sub-section 240-b by some 40%;
- In the stands that were checked the use is much less than the planned one, as the offspring were not seriously damaged during the logging and have eventually increased their forests density;
- Sanitation felling of intensity lesser than the planned were carried out in forests sub-section 367-a, g.

⇒ Stands and forest plantations of unaccomplished planned activities:

- In some of the stands and plantations – 200-k; 371-e, etc., of forests density above 0,9 cases of snow-break were registered;
- In the section 138 the planned group-selection felling was not carried out, but in view of its location on a bank, in case of necessity only the maintenance activities should be carried out.

⇒ Forest plantations of alien and non-typical to the Park tree species:

- The birch, inventoried in 1989 in some forest plantations with a total area of 4,3 ha, is a tree species non-typical to the region of the Park, as far as it is not described for the composition of the natural stands. Given the high reproductive potential of the birch it is necessary to undertake measures to eliminate the exiting plantations.
- According the park development project a poplar (Euro-American) plantation is described on an area of 0,6 ha into the forests sub-section 147-b. In fact it covers less than 0,1 ha and drying is registered in 30%.
- Plantation of a cedar of Lebanon with an area of 0,3 ha has been established on a wind-throw site 433-b/section/ in 1998, individual Atlas cedars are also part of its composition. Irregularly on groups or individually seedlings of Scots pine and spruce settle among the cedars.

In SCROLL1, Annex 7.5. is presented the list of the forest sub-sections with the planned and accomplished forestry activities, as well as the checks in the field

1.16.5.2. Reforestation and regeneration

A total of 52,3 ha of new forests were planted in the 1993-2000 period.

⇒ Predominate the territories reforested by Scots pine - 54,7% and spruce - 27,5%, etc. Limited was the reforestation by beech, fir, Macedonian pine and cedar.

⇒ The most reforestation activities were carried out in 1997 (31,5% of the total reforested area), after clearing the areas from the wind-thrown trees. Characteristic of the reforestation after wind throws is that in most plantations, seedlings from the neighboring stands have settled. Thus forming stands of mixed origin.

⇒ In the preliminary processes hand-made terraces 40-50/35 cm were used, in rare cases only the grass cover was removed.

⇒ An average of 500 seedlings per dekar were planted.

In SCROLL I, Annex 7. 5. is presented Table 1 on the distribution of the artificially planted areas for the 1993-2000 period by years and tree species.

1.16.5.3. Timber extracted in the 1993-2000 period.

⇒ A total of 93014 m^3 of standing volume were extracted. The larger section (87%) was extracted after 1997. This has mostly been the collected fallen tree-mass from the wind-thrown territories formed by the tornado in the Sinanitsa PR, in the same year;

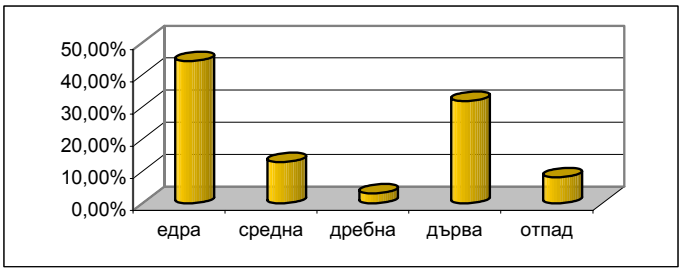
⇒ The extracted construction timber from the forests of the Park is 55883 m^3 (60,1% of the standing tree volume), including: large-sized timber – 41080 m^3 м, average-sized timber - 11933 m^3 and small-sized timber 2870 m^3;

⇒ In addition, 29601 m^3 (31,8% of the standing tree volume) of fire wood were extracted;

⇒ Out of the timber extracted in the Park, 8777 m^3 (9,4% of the standing tree volume) were made available to the local population, including: large-sized 1117 m^3, average-sized 715 m^3, small-sized 4333 m^3 and fire wood - 4702 m^3;

⇒ For specific needs of the Park administration in 2000 a total of 87 m^3 of the standing tree volume were made available, including: large-sized 40 m^3, average-sized 23 m^3, small-sized 1 m^3 and fire wood - 3 m^3;

Figure 7. Percentage distribution of the extracted timber by sort types in the 1993-2000 period



Text to the figure: large-sized, average-sized, small-sized, firewood, waste

In SCROLL I, Annex 7. 5. is presented Table 2 on the distribution of the areas of the landscape felling carried out and the extracted timber by sort types for the 1993-2000 period

1.16.5.4. Timber Transporting Technologies.

⇒ The logging in the park was carried out by cable lines, tractors, and trucks for the region of Kresna, by tractors and horses for the region of Bansko and predominantly by animal power for the other regions.

⇒ Use of tractors for the wood extraction in forest sections # 435, 436 and 437 has activated the erosion processes, as a result of which furrows and ditches were formed In part of the anti-erosion measures were taken – filling up

⇒ Usually the old road network has been used for the timber extraction. New one with a length of around 400 m has been built in section 196.

1.16.5.5. Diseases and Pests in Forests.

⇒ Results of previous studies

The complex studies on the health status of the forests in Pirin NP carried out in the 1989-1990 period by expert team lead by prof. Boyan Rosnev, have proven that some 40,4% are not damaged and another 33,0% of the forests stands are in a very good state (with 1 to 10% damaged trees of the total).

The main phyto-sanitary problems are due to the root fungus *(Heterobasidium annosum, Armillaria mellea, Viscum album*, and on the Macedonian pine of *Phaeolus Schweinitzii, Ar. mellea, Het. annosum, Stereum sp*., etc.).

Of the insect species the most damaging seem to be the representatives of Ipsidae (*Ips typographus* – typograph, *Pityogenes chalcographus* – chalcograph, on the spruce *Pityogenes curvidens* and *P. spinidens* on the fir, the large pine bast beetle Blastophagus piniperda L., the lesser bast beetle *Bl. minor L.* and *Ips acuminatus Gyll*. on the pine).

In the lowest sections of the Park and mostly in the region of Razlog the European processionary moth occurs (*Thaumatopoea pithyocampa Schiff.*). During the last years it has been established at elevations of 1500 m. In case of massive occurrence of the pest treatment by ultra-small volume of the biological compound Forey 48B dozed 150 ml/ dka is applied to fight it.

⇒ Results of the studies carried out in August 2002:

A special attention was paid to the damages on trees cut down for the tracing of the new skiing runs and skiing lifts. These facilities cut through forest sections: 120-b; 121б-e; 130-a,b,d,e,j; 132-d; 133-v,g,d,z; 139-a,b,z; 149-a; 148-v,d,j; 147-k,i,j; 186-a,v,g,d and form as serious threat to their health status.

⇒ Health status of the forests stands and plantations:

- At certain sites were found individual trees and whole groups affected by bark beetles, which is an evidence of the weakening of the forest stands;
- No visible damages by insect pests were registered on the Macedonian and Bosnian pine;
- In the forest stands where the fir is the dominant species were established strong invasions of the semi-parasite bush Viseum album;
- Almost 100% of the forests affected by natural calamities are of a high forests density and are very seriously affected by the root fungus and are in the high age classes, i.e. there are natural succession processes undergoing in them;

- At the more accessible places around the wind-throws and the snow throws the bark beetle affected trees are regularly extracted and this has brought to a natural regeneration of the open basins.
- The health status of the poplar plantations is very bad because of the unfavorable for the poplar ecological conditions;
- The plantations of Lebanon cedar established on an area of 0,3 ha (section 433-b) are in a good condition.

In SCROLL I, Annex 7. 5. is represented Table 6 on the health status of the forest stands and plantations

1.16.5.6. Forest Fires.

⇒ A total of 11 fires were registered in the last 9 years and a total of 205,0 dka were burned down.
⇒ In 2000 6 fires were kindled as well as 2 low fires.
⇒ The most frequent causes for the fires are the lightening and the disregarding of the fire prevention regulations. According to the data of the Directorate cases of intentional kindling of fires are also registered. The Administration had difficulties in finding people to put down the fires and in transporting the people to the higher sections of the Park.
⇒ In 2000 in the region of the Park were built 2 km of new mineralized ditches, 22 km of exiting ditches were maintained, 12 fire-fighting facilities were equipped and 8 fire monitoring stations were established.

In SCROLL I, Annex 7. 5. is presented Table 3 on the distribution of the fires by types and area for the 1993-2000 period by years
Table 4 on the distribution of the road network by park regions

1.16.5.7. Violations.

⇒ The violations registered in the 1993-2000 period are 500.
⇒ The main part of them is connected with illegal logging – 286 (57,2% of the total number) as the largest has been the number of such violations in 1997 /123/.
⇒ The second in terms of number for the 1993-2000 period comes the illegal grazing - 63 cases of 12,6%.
⇒ The violations like illegal hunting, fishing, kindling of fire, illegal construction, etc., are 1-4,2%.

Table 25. Distribution, kind and number of registered violations in the Pirin NP for the period 1993-2000

Violation	Year									%
	1993	1994	1995	1996	1997	1998	1999	2000	Total	
	Number									
Illegal hunting	7	5	-	-	3	2	-	-	17	3,4
Illegal fishing	-	7	-	-	14	-	-	-	21	4,2
Illegal felling	34	31	15	-	123	13	-	70	286	57,2
Illegal grazing	36	13	2	-	5	2	-	5	63	12,6
Pollution	6	1	-	-	-	-	-	3	10	2,0
Damaged soil	3	-	2	-	-	-	-	-	5	1,0
Cultivated areas	-	2	-	-	8	-	-	-	10	2,0

Lighting fires	5	1	-	-	-	-	-	-	6	1,2
Violations of the NPA	-	-	-	-	11	1	-	-	12	2,4
Illegal construction	-	-	-	-	2	-	-	6	8	1,6
Illegal trade activity	-	-	-	-	-	-	-	13	13	2,6
Others	1	10	5	-	32	1	-	-	49	9,8
TOTAL	92	70	24	-	198	19	-	97	500	100,0
%	18,4	14,0	4,8	-	39,6	3,8	-	19,4	100,0	

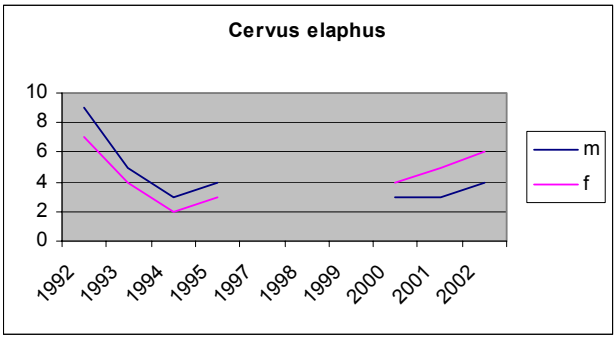
***Note**: There are no data available about established violations in the Pirin NP for the period 1996- 1999.*

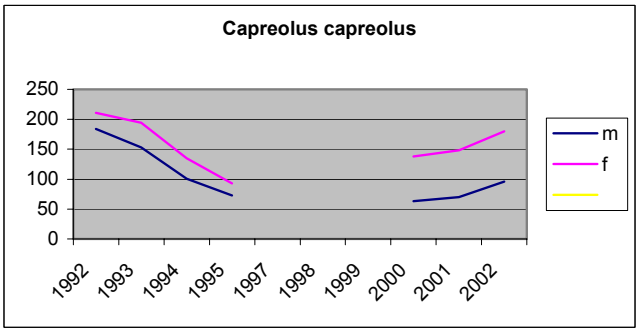
1.16.6. Hunting and fishing

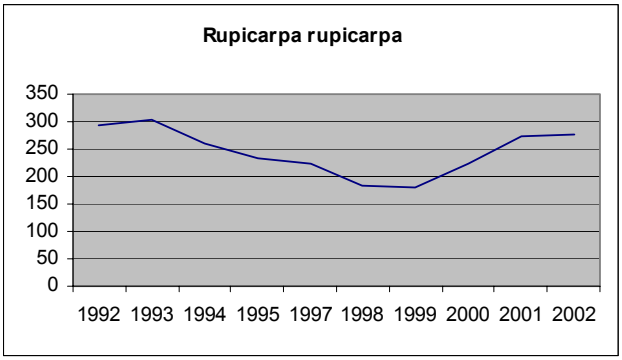
1.16.6.1. Number and dynamics of the game populations for the last 10 years

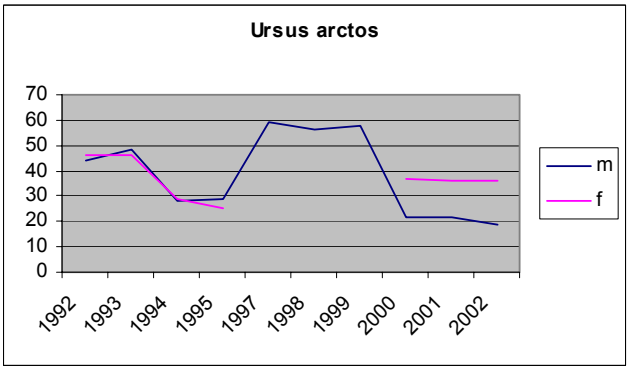
The territory of the Pirin NP is inhabited by 17 mammals and birds that represent a hunting object according to the enforcement of the article 5 paragraph 2 p. 1 and paragraph 5 of the Hunting and Game Protection Act. Despite that the hunting on the territory of the NP has been forbidden for dozens of years the stock of main game species has not increased.

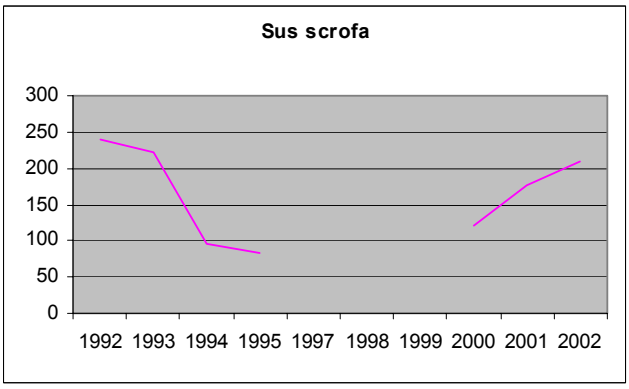
Fig. 8. Dynamics of the game populations for the last 10 years

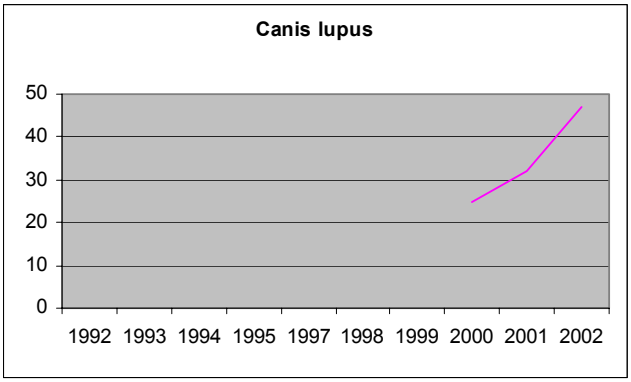


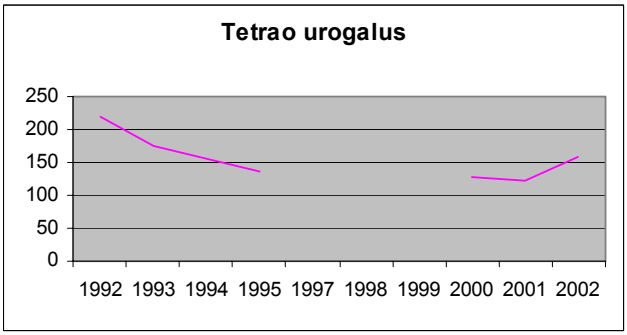



Rupicarpa rupicarpa
350
300
250
200
150
100
50
0
1992 1993 1994 1995 1997 1998 1999 2000 2001 2002


Ursus arctos
70
60
50
40
30
20
10
0
1992 1993 1994 1995 1997 1998 1999 2000 2001 2002
m
f


Sus scrofa
300
250
200
150
100
50
0
1992 1993 1994 1995 1997 1998 1999 2000 2001 2002





1.16.6.2. Violations registered.

Roe deer – Poaching with beagles and by stalking behind trees;
Chamois – poaching is the main factor for the decreasing of this species;
Wild boar – poaching and illegal hunting out of the park territory;
Bear - Bears are shot on the territory of the park in cases of hunters poaching on deer or wild boar. There are cases when a shepherd calls a hunter to wait for the bear near a dead animal. Sometimes poisonous baits are set in the eastern and southeastern parts of the mountain. In 2000 a poisoned female bear and her two cubs were found near the village of Koprivlen. In the beginning of June 2002 a bear was killed over the village of Obidim (near the "Gotse Delchev" chalet). A male bear was caught and killed in a snare set by poachers from the village of Breznitsa.
Capercaille – poached and stuffed by people from Bansko and Dobrinishte;
Small game – poaching is practiced with the help of beagles and by stalking in the lowest parts of Vihren PR.

1.16.6.3. Angling on the territory of Pirin NP.

⇒ Fish stocking

There has been angling within the present territories of Pirin NP since the beginning of last century. As of 2001 the fishermen visiting the mountain are around one thousand. To satisfy the increasing demand of this group of people, artificial stocking with fish of rivers and lakes begun.
In some of the lakes there was no fish in the past. Such are the lakes of Strijko, Todorini Ochi, Gorno Prevalsko, Kremenski, Tevno Ezero, Okoto, etc.
One of the first stocking with fish in the end of the fifties was carried out with rainbow trout in the Strijko Lake. Latter on, in the end of the seventies the brook trout (Salvelinus fontinalis) was massively introduced in the lakes and European grayling (Thymallus thymallus) was introduced in the Muratovo Lake.

Some 15 years ago, the common minnow (Phoxinus phoxinus) appeared in the lakes. Preliminarily caught in the lower currents of the rivers it was used as living bait. The remaining living fishes from the buckets were released in the water basins.

⇒ Fish species, subject to amateur fishing

The water basins fall within the trout zone.There are trout fish in 39 lakes. In 32 of them Balkan trout has been established, brook trout was established in 17 and rainbow trout – in one; brook trout and Balkan trout together – in 10; brook trout and rainbow trout together – in one.

The common minnow has been established in 29 lakes, and the European grayling in 1.

Of the rivers of Pirin NP in 21 Balkan trout occurs, as in the Demyanishka brook trout and rainbow trout were also established. The last was also registered in the Ikrishka River.

⇒ Use of the water basins

Tourist trails are located in proximity to all the rivers and lakes and their banks are tramped by the fishermen.

The most intensively used for amateur fishing are the rivers of Demyanishka, Banderishka, Byala river, Chernata Voda, Retidje, Begovitsa, Demirkapyiska, Spanopolska, Mozgovitsa, Kozyata river. Because of the greater water flow in them the fish stock is higher than in the rest of the rivers.

Of the lakes the most visited are the lakes of Ribnoto, Muratovo, Vlahini, Georgiiski, Kurkumski , Dolnoto Vasilashko, Prevalskite, Valyavishkite, Popovo, Ribni lakes, Kremenski, Chairski, Spanopolskite, Todorini Ochi and Bezbojko.

The main exits for the fishermen are the chalets Vihren, Banderitsa, Damyanitsa, Bezbog, Pirin, Begovitsa. Less used are the Sinanitsa chalet, the resort area of Popina Luka, the bungalows of the Bulgarian Tourist Union in Malko Spano Pole and the Tevno Ezero shelter. Usually they make one-day excursions and come to spend the night in the tourist sites, but in individual cases they remain to camp by the lakes.

1.16.6.4. Violations registered.

⇒ The most often occurring violations in terms of fishing in the park is the catching of small-sized fish, fishing without a permit, permit which is not marked for the present excursion, exceeding the norms of 8 fish or 2 kg, fishing in the Ribnoto Vasilashko lake, falling within Yulen reserve, pollution by household litter around the lakes and kindling fires.

⇒ Lesser but of a greater negative effect on the ecosystems and the fishing stock are violations of the type of – fishing during the spawning period of the trout in the lakes, catching by nets, stocking with fish with inappropriate species and without document on the health conditions and origin of the stocking material, fishing in the Pleshkoto lake, also falling within the Yulen reserve.

In SCROLL 1, Annex 7. 6. is presented Table with data on the type of the water basin and the fish species

1.16.7. Tourism, Recreation, Sports and Services

Table 26. Main tourist trails used within the Pirin NP according to data from 2001

TRAIL	Duration of the hiking in hours
Predel chalet – Yavorov chalet	6.00
The town of Razlog– Yavorov chalet	4.00

Yavorov chalet – Vihren chalet	9.00
The town of Bansko – Bunderishka river – Bunderitsa chalet – Vihren chalet	4.00
Vihren chalet – Demianitsa chalet through Todorina Porta	4.30
The town of Bansko – Karierata locality - Demianitsa chalet	4.00
Vihren chalet – Bunderishka Porta – Sinanitsa chalet	4.00
Vihren chalet – Bunderishka Porta – Yane Sandanski chalet	5.30-6.00
Vihren chalet – Tipitsite – Tevno Lake shelter	5.30
Vihren chalet – Vihren peak – the passage between Vihren and Kutelo peaks – Bunderitsa chalet	5.30
Demianitsa chalet – Tevno Lake shelter	3.00
Demianitsa chalet – Samodivska Porta – Bezbog chalet	4.30
Gotse Delchev chalet – Bezbog chalet	by a lift - 30 minutes
Dobrinishte village – Gotse Delchev chalet	2.30
Bezbog chalet – Pirin chalet	6.00
Bezbog chalet – Tevno Ezero shelter	3.30
Tevno Ezero shelter – Pirin chalet	3.30
Tevno Ezero shelter – Kamenitsa chalet	3.00
Tevno Ezero shelter – Spano Pole shelter	2.30
Sinanitsa chalet – Spano Pole shelter – Kamenitsa chalet	3.30
Sinanitsa chalet – Yane Sandanski chalet	3.00
Kresna – Peshterata locality - Sinanitsa chalet	8.00
Kamenitsa chalet – Sandanski	5.00
Kamenitsa chalet – Solishteto site – Starata Mandra– Pirin chalet	5.00
Pirin chalet – Rozhen village	5.00
Pirin chalet – Malina chalet	2.00
Pirin chalet – Pirin village	4.00
Malina chalet – Popovi Livadi chalet	6.00
Popovi Livadi chalet – Delchevo village - Gotse Delchev	3.30

In SCROLL I, Annex 7.7. A List of Existing Tourist Routes is presented with the following information: start and end location; category; walking time; availability of chalets or shelters along the route; dangerous sections and safety measures; information tools (marking, etc.)

1.16.7.2. Capacity of Sites and Facilities.

⇒ The capacity of the chalets in Pirin is estimated at about 1800 beds, most of which are in unsatisfactory condition with regard to the modern requirements for hygiene and comfort;
⇒ The accommodation capacity of the Sandanski-Melnik tourism center is also part of the Pirin product. The tourists coming to the region also visit the mountain, mainly during the summer months;
⇒ Campsites – in Pirin there are no campsites corresponding to the European standards. Most sites are simply glades that are appropriate for tenting, with a source of drinking water nearby and fireplaces. No proper lavatories are established near them. Such sites are the campground near Bunderitsa chalet and the one below Demianitsa chalet.
⇒ The lifts and tow-lifts within the Park are described under item 1.16.3.2. Rope Lines

In SCROLLI, Annex 7.8., The List of Chalets and Shelters within Pirin NP is presented with the following information: contacts with the chalet and chalet-keeper, opening time of the chalet, possibilities for catering and buying package food, services offered by the chalet, number of beds and rooms, occupation

during the differet seasons, prices for accommodation, state of the toilets and bathrooms, state of the waste deposit site, availability of water supply, number of foreign tourists, proposals of the chalet-keeper.

1.16.7.3. Information about the Dynamics of the Number of Nights Spent in the Park, by type of Facilities.

Bunderitsa chalet
- 2000 total – 2628 nights, of these – 55 foreigners;
- Between November and April – 189 nights; between May and October – 2439 nights;
- Tourist nationality – Germany, Czech Republic, Belgium, Poland, France, Great Britain.

Vihren chalet
- 2000 total – 2904 nights, of these – 270 foreigners;
- Between November and April – 77 nights; between May and October – 2827 nights;
- Tourist nationality – Germany, Czech Republic, Belgium, Poland, France, Great Britain.

Demianitsa chalet
- 2000 total – 2274 nights, of these – 65 foreigners;
- Between the November and April – 32 nights; between May and October – 2242 nights;
- Tourist nationality – Germany, Czech Republic, Belgium, Poland, France, Great Britain.

Tevno Ezero shelter
- 2000 total – 1755 nights, of these – 75 foreigners;
- Tourist nationality – Germany, Czech Republic, Belgium, Poland, France, Great Britain.

Sinanitsa chalet
- 2000 total –1650 nights, of these – 1322 BTU members, 321 not members of BTU, 7 foreigners

Popovi Livadi chalet
- 2000 total – 500 nights;
- Peak months: May – 40 people, June – 30 people, July – 170 people, August – 100 people, January – 40 people;
- In 2001 the chalet was visited by 440 people;
- The period after 1990 is typical for the constant decrease of the number of chalet visitors.

Pirin chalet
- 1994 – nights/Bulgarians – 2997, nights/foreigners – 1013.
- 1995 – nights/Bulgarians – 4865, nights/foreigners – 421.
- 1996 – nights/Bulgarians – 4212, nights/foreigners – 306.
- 1997 – nights/Bulgarians – 3305, nights/foreigners – 326.
- 1998 – nights/Bulgarians – 2956, nights/foreigners – 789.
- 1999 – nights/Bulgarians – 4261, nights/foreigners – 923.
- 2000 – nights/Bulgarians – 3946, nights/foreigners – 791.
- By September 30, 2001– nights/Bulgarians– 1227, nights/foreigners – 231.

Yavorov chalet
- From 28.01.2000 to 30.12.2000 – 150 nights; on 31.12.2000 and 01.01.2001 – 66 nights;
- In 2001 – January – 39 nights, February – 10 nights, June – 35 nights, July – 377 nights, and by August 19 – 307 nights.

Malina chalet
- 2000 total – 250 nights, in 2001 – 275 nights/Bulgarians, 20 nights/foreigners.

Yane Sandanski chalet
- 2000 total – 1300 nights, in 2001 – 950 nights.

Begovitsa chalet
- 2000 total – 2750 nights, in 2001 – 2655 nights.

Spano Pole shelter
- 2000 total – 175 nights, in 2002 – 170 nights.

Fourth Kilometer campsite
- 2000 total – 525 nights, in 2001 – 430 nights.

In 2001, a total of 150 foreigners were registered, who spent the night at the chalets of Malina, Yane Sandanski, Begovitsa, Spano Pole shelter and Fourth Kilometer campsite.

1.16.7.4. Types of Sports that can be practiced in the Park.

In the winter: skiing occupies more than 95% of the programs involving stay of up to 7 days. In its capacity of a ski center, Bansko holds over 90% of the total volume of tourists and turnover.

In the summer: there is much larger number of trips – more than 70% of all trips and nights in Pirin and the NP. Unlike in the winter, mostly the main tourist services are used in this season.

⇒ *Hiking*

The most common type of tourism. It is practiced by more than 70% of all visitors to Pirin Mountain and the NP. Over 95% of the visits are conducted during the summer months. The following types of walking tourism exist:

- Trail walking (from one chalet to another, or from a certain starting point to a settlement);
- One-day roundabout tours, staying overnight outside the Park;
- Educational/topical trails: watching plant and animal species in their natural habitats; the brown bear watching is especially attractive;
- Combined trails and programs of up to one week dedicated to wine, crafts, traditional folklore;
- Artists' sessions;
- Festivals and fairs;

⇒ *Winter trails*

Accessible only to the most experienced and physically fit mountaineers and alpinists, people equipped with snow-cars and ski with hinges, who are familiar with the terrain and the avalanches.

⇒ *Mountaineering*

A limited number of appropriately equipped and secure tours and trails exist. Winter and summer alpine traversing is organized in the localities of Strazhite, Kamenitsa-Yalovarnika, Koteshkia Chal, Donchovi Karauli. The skiing tours, using alpine equipment, are also part of the tourist services, offered in Pirin. The first routes in Pirin NP, professionally equipped with cotters, were designed by Borislav Dimitrov (the organizer of expeditions to the Himalayas). These are several tours along the Northern face of Vihren peak and along the face of Atmegdan peak. The most prospective and preferred for climbing are the peaks of Vihren, Atmegdan, Samodivski, Razlozhki Suhodol, etc.

⇒ *Cave-Diving*

With regard to their accessibility, the caves can be divided into two major groups:

- For general tourist visits – caves, which do not require special training ant equipment;
- For specialized visits – caves that are only accessible to people with speleological training and specialized equipment.

In view of their significant size and complex morphology, several Pirin caves can be the focus of organized sport expeditions (hobby tourism):

- Bunderitsa precipice (-125 m)
- Vihren precipice (-170 m)
- Banski Suhodol # 30 precipice (25 anniversary of Academik Sport Club) – (118 m)
- Banski Suhodol # 9 precipice - (-170 m)
- Kamenititsa # 14 precipice (-103 m)
- Chelyustnitsa # 17 precipice (Bayuvi Dupki circus) - (-103 m)
- Aleko precipice (Sinanitsa sub-region) - (-130 m)

⇒ *Biking and Horseback Riding Tourism*

These types of tourism can only be practiced in the park periphery and in the adjacent areas, due to the characteristics of the relief and trails – too stony and risky. The forest and dirt roads are very appropriate, since they form an almost complete circle at an altitude of 1000-1400 meters, and connect chalets and villages. Usually the horseback riding trails are also fit for mountain bikes. Biking can be practiced along the asphalt roads around Pirin and those reaching some of the chalets (Vihren, Gitse Delchev, Yane Sandanski).

⇒ *Topical/Educational Tourism*

It is limited to the watching of birds and animals, tourist trails for getting acquainted with the flora, forests, hydrobiology, and geology of the region. The old wine trail can also be restored, which used to connect Bansko and Melnik through the Demianishka river valley.

⇒ *Opportunities for Practicing other Forms of Alternative Tourism*

Such opportunities exist in the villages at the foot of Pirin. Developing this type of tourism only within the Park lacks perspective and it is not justified either with respect to the settlements capacity, or with regard to the tourism market. The regions' strength is in the large concentration of various resources, including cultural and historic sites in the settlements, traditions, fairs, festivals, new alternative accommodation and animation facilities.

1.16.7.5. Sites for Practicing of Specific Types of Sports, Tourism, etc.

⇒ *Rock-Climbing Sites:*

Equipped climbing trails were developed on the northern face of Vihren peak, on the faces of Samodivski and Glavnishki Chukar peaks. Climbing trails exist below Razlozhki Suhodol peak (in Bayuvi Dupki – Djindjiritsa reserve), at Stupalata rock formation, on the faces of Sinanitsa, Georgiitsa, and Dautov peaks (in Bayuvi Dupki – Djindjiritsa reserve).

⇒ *Cave-Diving Sites:*

Cave-diving is mainly practiced in the caves at the Banski Suhodol circus. They can be reached through the shortcut from Bansko to Bunderitsa chalet. Other sites visited by speleologists are the caves at Kamenititsa and Bayuvi Dupki circuses. There are no trails leading to them. The deepest cave is Vihrenska cave on the eastern slope of Vihren peak. Bunderitsa is a very famous cave, which is located at the river below the chalet of the same name. There are several accessible sites in the region of Betalovoto (point 1.9.3.).

⇒ *Organized Educational Tourism:*

Such tourism is only offered by several Bulgarian tourism agencies that do not employ local people. They organize mainly groups of foreigners (and Bulgarian groups as well), and the guides provide information about the biological diversity of the mountain, and about historic events in the region.

⇒ *Biking Routes:*

- Kresna – Vurbite locality – Ilindentsi village
- Dobrinishte village – Gotse Delchev chalet – Breznitsa and/or Kornitsa village
- Sandanski – Lilianovo village – Popina Luka locality – Kamenitsa chalet
- Sandanski – Tremoshnitsa locality – Govedarnika locality – Ploski village
- Kresna – Vlahi village – Oshtava village – Stara Kresna village – Kresnenski gorge – Kresna
- Brezhani village – Mechkul village – Senokos village – Stara Kresna village
- Pirin village – Pirin chalet
- Gotse Delchev – Popovi Livadi locality – Pirin village

Of all biking routes offered, only several kilometers of the sections before Kamenitsa and Pirin chalets fall within the National Park.

⇒ *Horseback Riding Routes:*

- Kresna – Vurbite locality – Ilindentsi village
- Dobrinishte village – Gotse Delchev chalet – Breznitsa and/or Kornitsa village
- Kresna – Vlahi village – Oshtava village – Stara Kresna village – Kresnenski gorge – Kresna
- Yane Sandanski chalet – Begovitsa chalet – Tevno Ezero shelter – Vinarska Porta – Demianitsa chalet – Bansko (another option is to go directly through Spano Pole-Vinarska Porta)
- Pirin village– Malina chalet –Pirin chalet – Rozhen village – Zlatolist village – Melnik.

1.16.8. Industry

There is no industry on the territory of the park

1.16.9. Public knowledge of the site and attitude to it

In February 2002 a sociological research of the public opinion was conducted in 7 settlements – municipality centers in park Pirin. The sample is representative for the region. The number of interviewed

is as follows: Bansko 56, Kresna 24, Goce Delchev 128, Razlog 80, Sandanski 176, Simitli 56, Strumiani 8 - total 528 people. Of them 21 are students, 127 pensioners, 36 unemployed, 246 on a full work day, 79 partialy employed and 19 housewives. As an educational structure are interviewed – 84 with academic degreee, 25 semi-academic degree, 286 with high-school education and 132 with elementary education or lower.

In SCROLLI, Annex # 7.9. is given the questionnaire used in the sociological research carried out.

⇒ **Awareness of the activity of the park's administration.**

The number of people unaware of the location of the parks' administration is almost equal to the number of those who know that it is situated in Bansko. The level of awareness of the institution depends on the settlement. People from Bansko are more acquainted with the activity of the park's administration. There is a strong interest toward a Visitor-information center. Relatively small part of the interviewed knows an employee of the park's administration.

⇒ **Awareness of the Management Plan for Pirin National Park.**

Media:

One third of the interviewed have acquired information about the Management Plan from the media. Media stand on a first place among the institutions for which the interviewed claim to pay enough attention for the preservation of the environment. For this reason in July 2002 a seminar was conducted presenting to the media the results from the questionnaire.

The trust toward electronic media is higher than that toward printed media – this is because live broadcasting reduces opportunities for mischief with opinions and their manipulative usage.

People's activity is very low. Only 1,7% would report to the media in case of violations regarding nature.

Ecological associations:

Negative attitudes toward ecological associations are lower as compared to those toward the media. Cumulatively with highest trust and lowest values of distrust are researchers and ecologists.

⇒ **Responsibility of institutions in environmental conservation.**

On first place is the municipality, followed by the government, by people's efforts, and on the last place are employers and firms and companies owners. The activity of the employers is determined as the most insufficient with regards to the environment. Higher positive evaluation is given to the representatives of the local authorities above that given to the government.

That is and the tendency of change, getting the opportunities for decision and actions closer to the single settlement and individual.

⇒ **The passive behavioral attitude.**

People are not that much uninformed as they are not ready to do something themselves. The forms of activity from the past are more popular than those borne in the last years – speaking with a parliament member, initiating petition, etc.

⇒ **Risks for the Pirin region.**

The ordering is: *Cutting down trees, Water pollution, Fires in the forests, ineffective legislature.*

The greatest mass concern is toward the *cutting down of the trees.* Extinction of plants and animals is realized as extremely insignificant.

Negligible is the part of people who doesn't have opinion on the alternative "conservation of forests – wood industry as a means of living". Today, in comparison with the beginning of the change, twice as many are the interviewed that support the introduction of prohibition in the park, since violations are increasingly larger and striking. In the same time twice less are the people supporting restrictions of the wood industry in the whole mountain. This is explained by the fact that wood industry in the past period has turned itself as a means of living for the population in the region. Today, the opinions for putting restrictions only in the park are three times more. The extremely low number of people who think that no restrictions should be put has remained the same and the share of people who doesn't have opinion has decreased almost three times.

The last fact gives evidence that the problem with wood industry sharpens and that it engages large part of the population.
Another conflict point is the building of resorts for elite ski-sport. Almost half of the interviewed are for keeping up with the norms and restrictions that follow from the status of national park Pirin. The people who oppose the restrictions that are for the building of ski-resorts in the whole mountain is among the high, with large income groups; men; university graduates. There are considerable differences between the settlements in terms of their attitude toward continuing the buildings of equipment for elite ski-sport in Pirin. The opinion for continuing the building in the whole mountain is shared by 48.2% of the interviewed in Bansko, but from 15% in Razlog, 11.4% in Sandanski, 12.5% in Strumiani, and 9.4% in Goce Delchev.

⇒ **Regional identity**.
Results show high level of *involvement in the region.*
Local people expect development programs for the small and family business and more significant relation between the settlements from the region and the already established resort centers such as Sandanski and Bansko. Among the young and educated people can be found the adherents to the way of life close to nature, its preservers respectively. People with higher education are more concerned about the environment in the concrete settlement. Among the university graduates there are less people that do not have opinion or cannot determine the future development of nature's condition. Among the university graduates there is the highest share of people who would look for the cooperation of ecological associations in order to protect the nature in their settlement.

⇒ **Direct use of nature.**
It increases drastically with the presence of places for buying up herbs and mushrooms. Those who know about such place and in the same time are aware of the prices are one third of the interviewed. Men are twice as many as women. Most of them are fully employed – nearly half of them. This means that they use the gathering of herbs and mushrooms for complementing their earnings. The second significant category is pensioners followed by people with partial and temporary employment.
Places for buying up herbs and mushrooms are more popular where people rely more on the income from gathering healing plants, herbs and mushrooms. 100% from the interviewed in Kresna are aware of such places. 83.9% from the living in Bansko, 81.3% from the people in Goce Delchev, 66.3% from the interviewed in Razlog, 55.1% from those in Sandanski, 48.2% of the interviewed in Simitli, and none from the people living in Strumiani.

⇒ **Differences between the municipalities.**
The differences between the municipalities are differences between the local people. Incomes from tourist activities are unequally distributed. The greatest share of people who form their income from such kind of activity is from Bansko. In the rest of the 6 settlements this percentage is four times lower. Kresna is in fact completely excluded from forming an income from tourist activity.

A brochure "About the people and the nature of the Pirin region", showing the results of the public opinion poll, is annexed to the Management Plan.

1.17. CURRENT USE OF THE ADJACENT TERRITORIES

1.17.1. Population and demographic features
/According to data from UNDP, United Nations Development Program, 2001./

Ranking the seven municipalities according to the total index of human development is between 11 for Goce Delchev and 94 for Strumiani in a total of 262 municipalities in Bulgaria. The lowest position of Strumiani is due to the lower, in comparison to the other 6 municipalities, life expectancy, lower literacy rate, lower GDP per capita, and the presence of Roma population. The greatest share of Roma population

has Razlog 3.9%, lowest is in Kresna – 0.8%. The greatest amount of Turk population is concentrated in Goce Delchev – 22.5%.

⇒ **Population growth and migration.**

The population in the region of Pirin continuously decreases, due to aging and migration

- From the 7 municipalities adjacent to the park, 6 are characterized with a negative population growth - the number of lively borne is less than that of the death. In 1999 only in Goce Delchev municipality there is a positive population growth (15).
- The mechanical movement of the population has negative value in most of the settlements. The greatest settlements are registered in Sandanski municipality – 140 people. The strongest emigration stream is from Strumiani municipality – 131. The mechanical movement relates more to towns rather than villages.

⇒ **Work Resources.**

Aging of the population:

The working people are forced to provide for directly – in their own household, or indirectly – through taxes a large number of people that are in the age under or above the age of the active population. The distribution of the population with age above and under the working active age has worse indicators in the villages. In the Bansko municipality the population living in villages in working active age is 820 people against 7 341 people under and above this age.

Unemployment:

The unemployment coefficient for Blagoevgrad district in November 1999 is 16.9%. It varies significantly depending on the variables town-village. Its value in towns is 19.7% and in villages – 13%. Aging in the villages is a hard social and demographic problem. For the towns the insufficiency of working places is a problem.

In the category of the unemployment there is a tendency of increase in comparison with the years 1999 and 2000. This are the most mobile parts of the population who if unable to organize their lives most easily leave the settlement. In the same time these two characteristics are described as typical for eco-bio-optimists or the local people who appreciate the nature. Their behavior is most significant with respect to the stable development of the natural environment. For the year 2002 the number of unemployed university graduates has increased by 34 people in Bansko and by 60 people in Sandasnki.

Employment:

The number of private firms is twice as large as the number of governmental and municipality firms. The number of employed in the private and public sector is almost equal in Bansko. In Gotse Delchev and Razlog there is a slight majority of the employed in private firms. The number of the announced working places is negligible in all municipalities except Sandasnki.

⇒ **Industry related to direct use of nature**

The number of people employed in the sectors: hunting, fishing, and wood industry has an immediate effect to the direct usage of the nature.

- The data for the employed in the sectors hunting and fishing show the people employed in the governmental inspections that must execute the policies of environmental preservation.
- The data only for the wood industry is clearer for analysis – it is only private firms that use nature for business purposes. This process requires efficient and continuous control from the nature preserving institutions.
- Building is another industry branch with large contribution to the employment of the local population and with direct relation to the nature preserving. This branch is characterized with a quick growth in the last 10 years. Only the firms in Bansko grow from 2 in 1990 to 42 in 1999. At present this branch provides 100 working places in the town.
- Tourism has strategic significance for the economic and social development of Bansko municipality. Bansko has the highest intensity of private investment in tourism in Bulgaria. This fact has to be taken into consideration from the nature preservers. From the data of sector “Trade and Tourism” in Bansko municipality 900 people form more than 80% of their incomes from tourism. For them the problems of

preserving the natural environment shift to the serious enough problems related with the tourist business:

- The lack of modern infrastructure, including lack of gondola lift;
- Insufficient number of ski-runs for the tourists
- Low solvent demand from the Bulgarian population who are the major consumer segment.

⇒ **Incomes:**

- In the municipalities – in the incomes of the municipality budget majority have taxes from individuals and the national budget.
- Average salary – the average salary in the seven municipalities is significantly lower than the average salary in Blagoevgrad. There are significant differences between the seven municipalities as well. The highest average salary is in Simitly 198.75lv. The lowest is in Kresna 141.08lv.

⇒ **Consumer Segment.**

The data for Goce Delchev is as follows: Bulgarians 85%, foreigners 15%; families – 60%, couples – 30%, single visitors – 10%; reason of visit: closeness – 50%, calm environment and undisturbed nature – 40%, business –10%; duration of the visit: 3 days – 30%, 7 days – 60%, 14 days – 10%; seasonality – I –III – 30%, IV – VI – 15%, VII –IX – 40%, X-XI I- 15%; average year employment – 40%.

For Bansko the total number of visitors in 1999 is 51 924 people. The indicators for the consumer segment of the tourism are as follows: Bulgarians- 41 784 or approximately 80%, followed by tourist groups from the neighbor countries – Greece, Macedonia, Yugoslavia. Germany and Russia participate with almost equal shares of approximately 1200 people.

In SCROLL1, Annex # 7.10. "Population and demographic features" are presented:

Table 1 *Marriages, divorces, lively borne, death and natural growth of the population in 1999 by municipalities, NSI (National Statistical Institute)*
Table 2 *Natural and Mechanical migration of the population in 2000 by settlements*
Table 3 *Population in under and above the working age by municipalities until 31.12.2000, NSI*
Table 4 *Population at the age of 15 and more according to economic activity. Economic activity, employment and unemployment in 1999 according to place of living for Blagoevgrad district*
Table 5 *Coefficient of economic activity, employment and unemployment in 1999*
Table 6 *Unemployed people according to education in seven municipalities in Blagoevgrad district until 31.12.2000*
Table 7 *Unemployment according to age groups in Blagoevgrad district until 31.12.2000*
Table 8 *Active subjects included in BULSTAT until 31.12.2000*
Table 9 *Employment and unemployment by municipalities and gender until 31.12.1999*
Table 10 *Number of economic units, of employed and hired in the year 2000 in the wood industry, hunting, and fishing*
Table 11 *Number of economic units, of employed and hired in the year 2000 in the woodworking industry*
Table 12 *Relationships between the central national budget and the municipalities' budgets in 1998, NSI*
Table 13 *Employed people and average working salary by municipality in the year 1999*
Table 14 *Order of the municipalities according to the Total index of human development /TIHD/*
Table 15 *Components and compositional indexes of the index of human development*

1.17.2. Agriculture

In the areas right next to the park there are no agricultural practices established, related to plant and animal breeding, that may be a threat to the achievement of the management objectives with respect to the park's adjacent territories.

1.17.3. Forestry

There are very few cases of planting with untypical, including foreign wood species registered in a close proximity to the park.

1.17.4. Hunting and fishing

1.17.4.1. Hunting.

The number of the animal populations on the territory of the park is to a very large extend dependant on the hunting and the traditions in the territories around the park.
In the settlements around the park from last year there have been more than 1200 hunters registered and with the newly accepted hunters this year they will exceed 1500.
⇒ *Game breeding*:
The game in the national park's adjacent areas is managed by the State Game Station /SGS/ in the town of Razlog and by the hunting associations.
The Dobrinishte Forestry Board has a fenced area in the Harami bunar countryside for game breeding where there are about 60 wild boars and 4-5 deer. There is a continuous veterinary control and the health of the animals is checked by the staff.
At the moment there is no breeding of foreign game species for introducing them in the mountain. Along the valley of Struma river there is a tradition of periodically releasing of Thracian quails by the hunting associations in Kresna and Sandanski which gives opportunities for its mixing with the Balkan one.
⇒ *Major hunting methods*:
Single or in groups with the use of dogs - beagles. A very small percentage uses dogs for bird hunting. Very often the method of awaiting is used.
⇒ *Violations*:
The most common violations that influence the number of the game are:
- Violating the hunting time periods;
- Killing of female wild boars used for breeding;
- Hunting of deer with beagles.

Although rarely, sometimes there is poaching of rabbits during the night with cars suitable for high terrains- predominantly around Bansko, Kresna and Dobriniste.
Everywhere the dogs guarding the herds are without clogs.
The increase in the weapons in the hunters makes the interest toward the chamois stronger. Precondition for poaching is the presence of places where animals can be stuffed in the settlements around the national park, where trophies from chamois, deer, fur from bear, capercaillie, and protected wild birds can be found. There are cases of killed bears that attack apiaries. In the menus of some of the places for public food in Bansko game meat, very often without certificate for origin, can be found
The increased number of violations in Vihren PR is based on the fact that the hunting group from Bansko has small area – 382,0 hectares forest and 1619,8 hectares land area. On the other hand, no measures have been taken for increasing the number of the game in those areas and also there are hunting traditions in some parts of the territories of the national park.

1.17.4. 2. Fishing and aquatic cultures

⇒ *Fish breeding:*
Struma and Mesta with their numerous tributaries are among the three conditional regions – of the trout, barbell, and carp. There are artificial water places such as rubble excavations, reservoirs for irrigation, and technical reservoirs, in which fish is breed and are used for amateur fishing.

The registered fishers around the territory of the park until the end of June are over 900 and it is expected that their number will exceed 1000 in 2002. Major part of them does not have fishing ticket. People from other parts of the country very often fish in the region. At the foot of the mountain there are three places specialized in industrial fishing (breeding ponds) with rainbow trout, two of them being potential producers of material for multiplying fish – near Sandasnki and near Razlog. Genetic material is produced in the breeding ponds near Bachevo village and Biala Mesta near Yakoruda.

⇒ Violations that influence the park:

- There is no breed pond in the region that produces material for multiplying the Balkan trout. For this reason some people willfully and without any choice let only rainbow trout in the mountain's rivers, sometimes in the national park as well.
- On the rivers Sandaska Bistrica, Pirinska Bistrica, Retize, and Valdahina Water Power Plants are built where below the water catchment areas the flow of the rivers reaches the allowed minimum during the summer and autumn period. This has negative impact on the fish reserves. The same impact has also the diverting of the water in the lower flows of the rivers for watering agricultural crops.
- Along the Mesta River exploding materials, nets and electricity are used for catching greater amount of fish. In the artificial reservoirs multiplying of fish is rarely done, either due to financial reasons or due to insecurity of preserving the fish.
- In some restaurants Balkan trout is bought up which is a precondition for catching greater amounts predominantly from the national park.
- During the banned period for carp fishes many of the fishermen go to the Protected Area during the spring-summer season.

1.17.5. Tourism, sports and services

For the purposes of the current Management plan as "territories of the park" concerning tourism, sport, and services are scrutinized parts of the municipalities Razlog, Bansko, Gotse Delchev, Sandasnki, Strumiani, Kresna, Simitli, and Hadjidimovo, where development of tourism has direct or indirect influence on the Park and vice verse. Included are territories and settlements that are near to Middle and South Pirin because of the potential opportunity for enlargement of the park southward and due to the fact that Pirin mountain is perceived and should be perceived as one whole.

1.17.5.1. Types of tourism practiced at the moment

⇒ Ski tourism – Kulinoto countryside (Predela countryside).

⇒ Spa resorts – developed mostly in Sandasnki. With potential are Dobrinishte village (there are problems with the pools – awaiting for concessionaire), Bania Village in the Razlog municipality. There are mineral waters – underused or with small baths of local importance built near the villages Ostava and Dolna Gradestnica, in the Kresna municipality as well as the municipal centers Bansko and Simitli.

⇒ Culture-discovering tourism – places included in the round trips around Bulgaria. These are Bansko and Sandasnki-Melnik. Most of the cultural monuments are not maintained as tourist sightseeing; the potential of the museum is used under 20%.

⇒ Village tourism – there are attempts in Delchevo village (Goce Delchev municipality), Bania village (Razlog municipality) and others. From one year the Pirin Tourism Forum /PTF/ works on the program "28 weekends in a village" for development of the village tourism in the whole district. The first tourist product is expected in 2002-2003.

⇒ Eco-tourism - it is practiced sporadically as a part of other tourist products – village and holiday. PTF has developed a program "Eco-routes along the southwestern border", which will begin in 2003.

⇒ Hobby tourism – there are single attempts for taking foreign groups in place like Bansko for learning Bulgarian folklore – songs, dances, instruments. Usually this is related to the assembly "Pirin sings", that is held on every two years in the Predela countryside. The next one will be in 2003.

⇒ Summer holiday tourism – Bansko, Sandanski, Melnik; with local importance are the resort country sides Predela, Popovi livadi, Popina laka, Sinanica, and others.

⇒ Summer walking tourism – an encouraging tendency is the coming back of hikers from the ex-socialist block. A big problem is the condition of the mountain chalets and shelters and the fact that the Bulgarian Tourist Union does not exercise any control over their maintenance.
⇒ Congress tourism – in Sandanski and Bansko.

The tourism that has future in the settlements is a combination between village, ecological, cultural-cognitive, hobby, and etc – in other words not a narrowly specialized product but rather such that can attract wilder market segments.

1.17.5.2. Major tourist services.
The major tourist services – accommodation, food and transport are much better developed than the additional services. On one side this is connected to the essence of the available supply in the region but on the other side it is connected with the notion of tourism that exists among the larger part of the population – namely tourism as a well arranged sleeping places.
This leads to:
⇒ Monotony and repetition of the tourist product, which at the end becomes non-competitive.
⇒ Excessive enlargement of the accommodation base to such extent that demand is much larger than the supply.
⇒ Seasonality of the tourism is clearly seen, low percentage of base fulfillment, and disloyal rivalry in Bansko – the biggest tourist center in the Pirin region.

1.17.5.3. Total capacity of the tourist bases in the settlements.
The total bed capacity of the accommodation bases on the territories to the north of the national park /Predel-Razlog-Bansko-Dobriniste/ is no more than 7000 beds. These beds are divided into different categories with more than 1/3 of them being private lodgings or small family boarding houses, part of which /over 400 work in the gray economy only during the holidays at the end of the year/.
⇒ Problems in the management and the offering of this base
- Seasonal orientation suggesting lack of ideas for profitableness;
- Lack of trained personnel and lack of motivated stuff, major part of which works in Bansko only for 3-4 months.
- Shortage of tape water and the undetermined question with waste waters

The development of the tourist infrastructure and of the major tourist services is concentrated in Bansko-Dobriniste, Sandanski-Melnik, and Goce Delchev. With the purpose of recreational tourism are used the bases in Bansko, Dobriniste, Melnik and partly Sandanski. Many of the visitors of the bases in Sandanski and Goce Delchev come for business purposes or particularly in Sandanski for shopping. With the exception of Dobriniste, in the villages around national park Pirin in fact there isn't categorized bed accommodation base. There are predominantly houses and rooms for guests.
Table 27. Capacity of accommodation bases by settlements according to data of PTF of 2002

Type of base:	Number of bases	Total number of beds
BANSKO		
Four star hotels	5	444
Three star hotels	5	391
Two star hotels	3	115
One star hotels	3	117
Two star family hotels	14	309
Three star family hotles	5	250
One star private lodgings	16	90
Two star private lodgings	38	299

Tourist bedroom	1	62
DOBRINISTE – data from Bansko municipality		
"Rodina" hotel with three stars	1	95
BDZ holiday home	1	80
Three stars private lodgings	9	85
GOCE DELCHEV		
2-3 stars family hotels	3	50
SANDANSKI		
Four star hotels and family hotels	1	596
Three star hotels and family hotels	1	160
Two star hotels and family hotels	12	314
Two star motels	3	54
MELNIK		
Two star hotels and family hotels	6	160
POLENITSA village		
Four star hotels and family hotels	2	60

Above Bansko, on the territory of the National park, there are around 10 bases with total capacity of approximately 630 beds but major part of them has undetermined ownership status.
During the time of holidays – 8 of December, Christmas, New Year, the number of beds in Bansko and Dobriniste increases with approximately 1000 in private houses that are not categorized.
In Sandanski there are two accommodation information offices.

Restaurants and other:
The number of places for food is much higher than the number of the accommodation bases. They are concentrated in tourist centers such as Bansko, Sandanski, Melnik and in the centers of the municipalities. The categorized restaurants in the Sandanski Municipality are 200.

Sports:
In general on the territories of the Pirin National Park there are very good natural conditions for active rest that includes opportunities for practicing specific sport. The problem is that the infrastructure available is highly insufficient and in not very good condition.

- In Bansko the public sport equipments (besides the ski) are limited to the towns stadium. There are swimming pools in the hotels "Bansko", "Glazne", "Balgaria", "Pirin", "Tane", "Karol", holiday village "Piri"; big hotels have fitness equipment and sauna have almost all hotels including the family ones.
- In Sandanski there is a city complex with outdoor swimming pools, the Sport boarding school and the "Sveti Vrach" hotel have indoor pools and "Sandanski" hotel has indoor and outdoor pool. There is a stadium with abilities for athletics, tennis courts and outdoor sport places.
- In Goce Delchev since 2001 there is also a swimming pool.
- In the villages the stadiums and sport places left are usable.

Transportation service in the region:
There is regular, comfortable, predominantly private transport between the major lines – Sofia-Blagoevgrad-Kulata and Sofia-Blagoevgrad-Bansko-Goce Delchev. The public transport that makes the connection between the villages is uncomfortable and not regular. In the municipality centers there are private taxies but their prices by rule are higher than those in Sofia or Blagoevgrad. After the electrification of the railway road Dupnica-Kulata, Sandanski can be reached relatively quickly and by railway transport but the trains are old and the hygiene is not on a very good level. For these reasons most tourists in the region arrive with their own transport or use (when they are a group) the hotels' transport – all larger hotels have their own vans.

1.17.5.4. Total capacity of the tourist bases outside the settlements.

In areas near Pirin National Park there is an accommodation base in several resort places with local significance: Predel, Popovi livadi, Popina laka, Turichka cherkva. The bases are predominantly property of certain administration and part of them are abandoned and are not used. The others take tourists but illegally because they do not have hotel license and are not categorized in the Ministry of Economy.

Table 28. Recreation and tourist places in the Pirin NP's adjacent territories:

Recreation and tourism places	Type of bases	Capacity	Peculiarities
Predel – comprises the localities of Kulinoto, Betolovoto, Charkovete and Boikov Rid and Shepoka rest sites.	80 recreation facilities, 14 rest houses, 160 bungalows, and 230 villas	2200 beds	The general urban project envisages increasing this number to 4810 beds.
Dobrinishte village – Gotse Delchev chalet	There are mainly bungalows owned by various companies	580 beds	Of these, only about 160 beds can be used.
Popovi Livadi – the town of Gotse Delchev	1 base in Popovi Livadi locality, private villas and bungalows	1014 beds	The final draft of the general urban project for this zone envisages another 1300 beds in hotels, rest houses, resort village, youth stations, campgrounds, etc.
Popina Luka – Turichka Cherkva		1120 beds	
Vurbite exurb area	Company-owned and private villas	100 beds	
Predel chalet Gotse Delchev chalet Malina chalet Yane Sandanski chalet Minior chalet	Chalets	35 beds 70 beds 40 beds 70 beds 40 beds	

In SCROLL I, Annex # 7.11. are presented Total capacities of the tourist sites in the park's adjacent territories with data for type of base, location and etc.

1.17.5.5. Additional tourist services.

The diversity and quality of the additional services becomes more and more important in respect to the preservation of the nature and the cultural-historical heritage, as well as in respect to the social functions of the alternative forms of tourism – this type of tourism is among the few alternatives for economic revival of the village regions in Bulgaria.

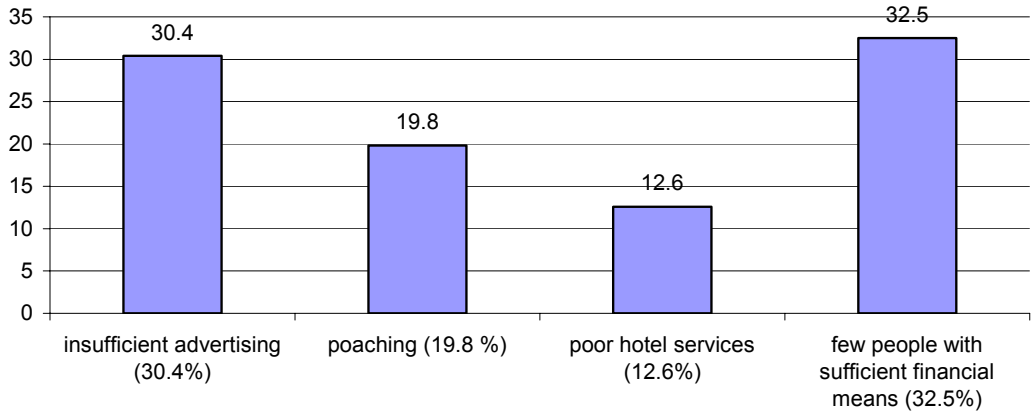
The major economic resources on the territories of the Pirin National Park are the Park and the mountain.

⇒ There is an increase in the interest toward additional tourist services that include:

- Visiting the local church, monastery, chapel, consecrated ground, sacred places (or even those in the neighboring village); information about the history of the place, legends related to it;
- Walks to close natural sightseeings – centuries-old trees, waterfalls, rock phenomena and etc, walking, riding horse or a cart;
- Short or long walking routes along the beautiful countryside;

- Riding horse/cart to more distant countryside where herbs, mushrooms, or forest fruits can be gathered; for the guest it will be a pleasure if they can have as a desert a homemade yogurt with fruits that they have picked up themselves;
- Picnic in the countryside – if there are rivers/artificial pools with fish in that area, the lunch can be with fish caught by the tourists themselves.
- Visiting traditional local holyday (it may be out of the village) – celebration of the days of different saints with boiled mutton and folklore program or more specific holidays such as the Mummer games on Easter in the Eleshnitsa village;
- Demonstrations of how local foods/drinks are prepared – "trying out" home recipes, distilling rakia, grape picking and making of wine;
- Demonstration of local crafts – pottery making, wood-carving, weaving and etc; the attraction for the foreigners is an opportunity for them to make a small souvenir by themselves;
- Demonstration of the local folklore – songs, dances, rituals, tales and legends.

Fig. 9 Obstacles for Tourism Development in the Pirin Region



1.17.5.6. Attitude of the people living in the Pirin National Park's adjacent territories towards the tourism and enterprise in general and towards the alternative forms of tourism in particular.

Three major types of attitudes are observed:

⇒ *Over- commercial* (Bansko, Dobriniste, Melnik): people who have some experience with tourism and relate it with the idea of quick profit. Great attention is paid to the basic tourist services with a strong tendency of putting unrealistically high prices. It is considered that the tourist offering should be enlarged not by diversifying of the product and developing means of attractive and unique additional tourist services and increasing the quality of service but rather by enlarging the volume of the basic tourist services.

⇒ *Commercial* (usually places near the upper tourist centers): there is no considerable experience in tourism but there is the idea of the quick and easy profit from it. Following the example of the tourist centers next to them attention is paid only to the basic tourist services and there is a regret that the same price level cannot be reached.

⇒ *Vague* (relatively isolated places without experience in tourism): the people have vague idea of the tourism in general as a means of basic tourist services but not as something that may happen in their village. The attitudes vary from skepticism to pure pessimism and lack of enterprise spirit. There is not

only a lack of clear notion of price making but also there is the understanding "how am I going to ask money from people who are guests in my house?".

1.18. CULTURAL AND HISTORICAL HERRITAGE

The cultural and historical heritage (CHH) is a major prerequisite and resource for the development of educational tourism, which becomes increasingly popular. This Plan describes those CHH sites in the municipalities of Razlog, Bansko, Gotse Delchev, Sandanski, Strumiani, Kresna, Simitli, and Hadjidimovo, which in combination with the unique natural resources can significantly influence the sustainable development of Pirin region.

Two types of the ancient Bulgarian crafts are preserved:

⇒ Those needed to support the life in the small villages from the zone around the park (curriers, blacksmiths, farriers, carpenters, etc.) - relatively modernized, but still close to the tradition;

⇒ Those related to the development of tourism in the larger tourist centers (wood-carvers, coppersmiths, goldsmiths, icon-painters, craftsmen, etc.) – very modernized and commercialized

Traditional holidays and customs are still alive. In most cases, especially in the towns, they are modernized and modified, but even so they attract significant amount of interest and are considerable tourist resource

In the smaller villages, the traditions are closer to their roots; the holidays are more authentic and spontaneous. The big problem in these areas is the depopulation because traditions disappear together with the people.

IN SCROLL I, Annex 7.12 brief information is presented about the CHH sites by municipalities, comprising, including:

⇒ *Churches and monasteries;*
⇒ *Archeological sites and localities;*
⇒ *Ethnographic sites and museums;*
⇒ *Traditional holidays and customs;*
⇒ *Traditional crafts.*

1.19. LANDSCAPE

1.19.1. Landscape Structure.

The systematic landscape structure of the National Park comprises 5 types of landscape:

⇒ Forest Landscapes
- Coniferous forest landscapes of natural forests;
- Coniferous forest landscapes of artificial forests;
- Deciduous forest landscapes of natural forests;
- Deciduous forest landscapes of natural off-shoot forests;
- Forest landscapes of dwarf pine scrub forests;

⇒ Meadow Landscapes – represented mainly by the high-mountain pastures
- Landscapes of scattered vegetation and high-mountain grass communities;
- Landscapes of high-mountain grass communities.

⇒ Aquatic Landscapes
- Lake landscapes – single lakes and lake groups are present, which form extremely impressive landscapes. There are 164 lakes within the Pirin NP. They are located between 2100 and 2500 meters of altitude, in the spring areas of Bunderitsa, Demianitsa, Begovitsa, Vlahinska, Tufcha, Sandanska Bistritsa, and Pirinska Bistritsa rivers;

- River-valley landscapes – the valleys of Bunderitsa, Demianitsa, Vlahinska and Biala Reka rivers are the deepest and the most picturesque ones.

⇒ Rock Landscapes – comprise rock landscapes of magma rocks and rock landscapes of metamorphic rocks. The following types of rock landscapes were identified depending upon their geo-morphological structure:

- Landscapes of denudation ridge plains;
- Landscapes of ridges consisting of rock peaks, carlings, etc.;
- Landscapes of circus walls;
- Landscapes of circus beds;
- Landscapes of screes, avalanche cones, ditches, forest openings;
- Landscapes of stone-rivers.

⇒ Anthropogenic Landscapes

- Comprise landscapes of built-up areas and linear sites of the recreation and technical infrastructure.

The Pirin NP landscapes differ in structure and can be divided into elevation belts depending upon the altitude and the adopted Forest Vegetation Zoning of the Republic of Bulgaria, developed specifically for Pirin Mountain. The following types of landscape can be identified:

- Lower-Mountain Landscapes – the belt between 800 and 1500 m;
- Medium-Mountain Landscapes – the belt between 1500 and 1900 m;
- Upper-Mountain Landscapes – the belt between 1900 and 2200 m;
- High-Mountain Landscapes – the belt between 2200 and 2500 m;
- Sub-Alpine Landscapes – the belt between 2500 and 2700 m;
- Alpine Landscapes – the belt above 2700 m.

There are 32 landscape groups, marked with an outline on the National Park Landscape Map, scale 1:25 000. The calculated landscape diversity index (Ldi) shows the relatively high value of 0.41.

In SCROLL I, Annex 7.13. Lists of Landscapes within the Pirin NP are presented, according to the Regional Landscape Zoning of Bulgaria, and in compliance with the Typological Landscape Zoning of the Country.

1.19.2. Aesthetic qualities

The term “Landscape Scene” means the external look of nature and landscape, which people perceive. It comprises all people’s rational perceptions of nature. This look is the key moment of the visual contact, especially in the perception of large areas. This term also comprises nature and landscape diversity, uniqueness, and beauty, which are significant factors for ensuring lasting impression upon people during their vacation.

In a distant perspective, the rich landscape structure with the typical and unique Pirin views, comprises countless panoramas, small and large translucent forest and scattered vegetation views, circus valleys, and peaks hiding lake waters.

In a close perspective, green and blossoming meadows stand out, with numerous forest massive outlinings, screes, stone-rivers, and rock walls, designed by nature in varying color, light and shadow, depending upon the season, altitude, relief, rock substrate, and the time of the day.

⇒ Excellent mark is assigned to all preserved landscapes, with none or insignificant human impact that does not affect the landscape. These are landscapes at more than 1900 meters, where the impact is only demonstrated by the existing shelters and the tracks of tourists along the traditional routes;

⇒ Average mark is assigned to anthropogenic landscapes in areas, where single constructions are built with appropriately, environmentally-friendly designed surroundings – rest houses, some chalets, hotels, etc.;

⇒ Poor aesthetic mark is assigned to regions of excessive urbanized impact on the natural complex and mountain features, with consecutive environment degradation and visible negative perceptions by the visitors. These marks apply to the seasons without snow cover, and affect negatively the summer tourism.

⇒ Places of special aesthetic features:
- *sites*: Malko Spano Pole, Tevnoto lake, Bezbozhkoto lake, Todorini Ochi lakes, Vasilashkite lakes, Muratovoto lake, Georgiiskite lakes circus, Sinanishkoto lake, Sinanitsa peak, Sinanitsa shelter, Demianishka meadow, Yavorova meadow, Julenski Skok waterfall, etc.
- *overview sites*: Pogledets in Bayuvi Dupki-Djindjiritsa reserve, Maluk Pogledets along the route to Yavorov chalet, Razlozhki Zavoi, Bunderitsa river valley from Vihren chalet, from Okoto lake, Georgiiskite lakes circus from the route to Sinanitsa chalet, to Begovitsa peak, from Tevnoto lake, from Todorka peak, views from all ridges and gates, etc.

Note: The above listing is based upon the personal impressions of the author of this section, without covering all magnificent views of the majestic of Pirin Mountain.

⇒ The following sites harm and modify the landscape scene:

Sites and facilities of rough construction with ecological consequences:
- Lower and middle lift stations of the lift from Gotse Delchev chalet to Bezbog chalet;
- Ski-run from Gotse Delchev chalet to Bezbog chalet.

Landscape destroying construction with expected ecological consequences:
- Construction of ski-runs and tow-lifts, Bunderishka Poliana locality – Todorka.

Abandoned ski-runs, designer errors:
- Tsurna Mogila ski-run;
- Expansion of Kulinoto ski-run.

Abandoned facilities spoiling the landscape and chalet surroundings:
- Abandoned metal containers from treatment facilities;
- Abandoned metal farms from cable power supply.

Anthropogenic causes of landscape damage:
- Intensified tearing of the forest cover integrity on the slopes and spoiling the landscape aesthetic quality;
- Illegal felling of dwarf pine formations and breaking the integrity of dwarf pine massifs – Bezbog PR;
- Eroded areas along the ski-runs caused by the vehicles – Starata Pista, Todorka ski-run, Bezbog ski-run;
- Erosion processes, resulting from recreational load along the tourist trails and sites – in the region of Baikusheva Mura, Piknika, Bunderitsa chalet yard;
- Illegal felling of high intensity in the Park surroundings;
- Altered water regime as a result from the construction of hydrological facilities.

Natural causes:
- Changes in the water levels and lake landscapes' biota and overgrowing with vegetation due to the lack of water exchange caused by the global climate change;
- Wind-throws, snow-breaks, avalanches, fires.

1.19.3. Measures for landscape protection, management and planning, aimed at reducing the influence of anthropogenic landscapes on the visitors

⇒ Destruction and removal or reconstruction of abandoned and unused buildings – former cattle-sheds, abandoned state forestry service facilities, old wooden bungalows, shepherd shelters – Zagaza and Ikrishte localities, around Yavorov chalet, above Pirin chalet, etc.;

⇒ Design, repairs and reconstruction of tourism and visitor servicing sites and architecture. Introduction of restrictive regimes:
- Shepherd shelters to be made of natural materials and to blend with the environment;
- Aesthetic design of the chalet surroundings and organizing the areas to correspond to the visitor flow needs. Improving the sanitary and hygienic conditions;
- Supplying the trails, recreation centers and rest facilities with unified architecture elements from the overall Park Information System;

- Introducing a restrictive motor vehicle access regime, except for the park administration and guards' vehicles, ambulances and fire department vehicles. Visitors to be services by organized park minivan transport to Vihren PR, until the gondola lift becomes operational;
- Restoration activities in the areas, which have degraded as a result from vehicle access – the localities of Piknika, Pri Cheshmata, Mosta, etc.;
- Introducing a 5-year restrictive regime for accessing the Baikushevata Bosnian pine, Vihren PR. Carrying out restoration activities to mend the tourism degradation of soil, trampling and baring of the tree root system;
- Restoration activities in Bezbog Park Region at certain road and ski-run sections.

⇒ Dispersing the recreation, sport and other sites in order to limit the tourism load to the traditionally visited areas;

⇒ Specifying the parking locations, tent campgrounds, and picnic areas.

1.20. STATE OF THE ENVIRONMENTAL COMPONENTS

1.20.1. Waste water

The water flow (spring, surface and waste) from the territory of the Pirin NP and its adjacent territories flows into the rivers – Mesta and Struma

⇒ Mesta River

Until the year 1990 the main polluters by organic matter of the valley have been the industrial factories in the region of the town of Razlog. Since 1990 because of the closing of the Plant /for ecological reasons/ and the reduction of the production of the Cellulose and Paper Plant the character of the pollution of the river valley changed.
Of the total of 16952 m³/ daily sewage water, 10419 m³/ daily or 61.5% of the total volume of the waste water flows into Mesta River without treatment.
The treatment effect of the exiting treatment facilities is low and none of the municipalities has a treatment station for the of households sewage water.
The building of a town water treatment station is planned in the *Razlog Municipality*, it will be funded through the PHARE programme. There is no time-schedule. The terrain for is allotted and the necessary pre-investment studies are made. The budget to finalize the sewerage system is spent.
A project is elaborated in the phase of the preliminary studies for the building of a town water treatment station in *Bansko Municipality*.
The problem of treatment of the sewage water is not tackled in *Gotse Delchev Municipality*.
Thanks to the influx down the stream of the crystal clean water of the tributaries and the great self-purifying potential of the river, the waters of Mesta River close to the border are very slightly polluted and leave the Bulgarian territory almost clean.

⇒ Struma River

The main sources of pollution of its waters by industrial and household waste waters are the towns of: Pernik, Radomir, Kyustendil, Dupnitsa, Blagoevgrad, Sandanski and Petritch.
Of the total of 13 603 m³/ daily sewage water, 11 404 m³/ daily or 83,8% of the total volume of the waste water flows into Struma River without treatment (this concerns the territories adjacent to Pirin NP).
The pollution of the river waters by organic matter of household-fecal origin is high. All the household waste water of the region flow into the river without treatment, which is an indirect sign of the presence of bacterial pollution.
At present there is a decision for planning of a town water treatment station in the *Simitli Municipality*.
Municipality Sandanski already has elaborated a plan for the building of a town water treatment station for the town of Sandanski, but the constructions are not scheduled.

1.20.2. Sources of air pollution

There are 7 static sources /emissions/ of air pollution established in the territories adjacent to the Park.
The 1999-2000 data of the more characteristic indicators of polluting substances, emitted in air were analyzed:

⇒ The fuel used by all the polluting sources is sulfur containing (2,5%) black oil.
⇒ Polluting substances in the air:

- The measurements carried out by a mobile automatic station in 1996 and 2000 in the towns of Razlog, Bansko, Gotse Delchev and Sandanski proved that the indicators for dust, sulfur dioxide, nitrogen oxide, ozone, sulphur hydroxide, carbon oxide, ammonia, methane and non-methane hydrocarbons are within the MAL for settlements, according to the norms approved by the MoEW;
- The aberrations of the emission norms of the emitters depend on the quality of the burned black oil, the conditions of the facilities and the observation of the technological regime.

1.20.3. Solid Waste

The table # 29 presents the solid waste dumps by municipalities. Only the dump in Gotse Delchev meets the requirements of Regulation #13. The treatment of all the dumps is by soil covering.

Table 29.
Solid waste dumps by municipalities

MUNICIPALITY	LOCATION OF THE DUMP	AREA	CHARACTERISTICS AND PROBLEMS
Razlog	6 km north-west of the town of Razlog in the Sedrach site; *agricultural lands*	Total area 68 dka, currently covered area 26 dka	In exploitation since 1996. Not in accordance with Regulation # 13 on the conditions and requirements for building and exploitation of the wastes dumps.
Bansko	8 km south-west of the town of Bansko in the Vakovia site; Agricultural lands	7,5 dka	The municipality has a programme for management of the wastes which is updated annually Not in accordance with Regulation # 13 on the conditions and requirements for building and exploitation of the wastes dumps.
Gotse Delchev	6 to the north-east from the town of Gotse Delchev in the Mokra polyana site	Covered area 19 dka	Until February 2001 an old dump was used. Regeneration is pending. Since February 2001 a new dump has been in exploitation, which meets all the requirements of Regulation # 13/ 06. 11. 98
Sandanski	Along the road 2 km south-west of town of Simitli in the Dinov Andak site Agricultural and forested areas	Covered area 10 dka	At the moment the construction of a new dump meeting the requirements of Regulation # 13, is finalized. It will service the municipalities of Sandanski and Strumiani.
Strumiani	on the territory of Mikrevo Village, 5 km west of Strumiani Village in the Vinka site; Agricultural lands		Not in accordance with Regulation #13 on the conditions and requirements for building and exploitation of the wastes dumps.
Kresna	3 km to the north-east of	Covered area 9 dka	Not in accordance with Regulation #13 on the

	the town of Kresna in the site of Padina; Agricultural lands		conditions and requirements for building and exploitation of the wastes dumps.
Simitli	2 km south-west of the town of Simitli in the Dinov Andak site; Agricultural and forested areas	Covered area 10 dka	The capacity of the dump is exhausted. The construction of a new dump on a regional principle is pending. It will be meeting the requirements of Regulation # 13 /06. 11. 98.

In SCROLL I, Annex # 7. 14. is presented State of the Environmental Components:
Table 1 *Sources of sewage water along the valley of Mesta River*
Table 2 *The maximum and the minimum values of the analysed main indicators in мgr/ l for the valley of Mesta River in three plots located in the adjacent territory of the Pirin NP, for the years 1999 and 2000 by trimesters.*
Table 3 *Sources of sewage water along the valley of Struma River*
Table 4 *Polluters with indicators for contaminating substances for the 1999, 2000 and 2001 in the adjacent territories by municipalities.*
Table 5 *The industrial waste deposit sites with some of their characteristics.*

1.20.4. Water-supply zones

The water-supply zones on the territory of Pirin NP have a total area of 5 850,6 ha – 4781,2 ha of which are forested and 1 069,4 ha – non-forested area.

⇒ In the territory of the town of Bansko there are water-supplying facilities with defined sanitary zones with an area of 28,5 dka.

⇒ Larger part of the facilities in the water-supply zones are not established in accordance with the Regulation # 3/16. 10. 2000 and are maintained in an unsatisfactory state.
/Regulation # 3 of 16. 10. 2000, promulgated in State Gazette # 88/27. 10. 2000 on the conditions and the terms for studies, planning, approval and exploitation of the sanitary-protection zones around the mineral water reservoirs used for curing, prophylactic, drinking and hygiene needs. /

In SCROLL I, Annex # 7.15. are presented the water supply zones of the municipalities in the adjacent territories, defined by the respective order

FIRST EVALUATION

1.21. ECOLOGICAL EVALUATION

This evaluation defines the importance of selected features in the park. These are species or groups of species, habitat types and landscapes. The importance of these features is defined by checking their **vulnerability, rarity, naturalness, typicality, sizes, biological diversity, stability and instability.**
The selection of habitats and species in need of protection is based on global, European or national importance. The evaluation is based on species identified in the Pirin NP that are**: endemic, relict, threatened – threatened globally, threatened in Europe and threatened in Bulgaria**.
The tables presented show the regular presence of species and habitat types of conservation significance in the park. They are based on the information presented in Scroll 1, Annexes 4.5, 4.10., 4.11., 5.2., 6.3., and 6.4. They are structured by habitat types, which include species, threatened by habitat loss or degradation. Then species follow, by taxonomic groups, as an evaluation of the conservation importance of the park is given.
Evaluations are made of:

⇒ **Habitats, in accordance with p.1.12.:**
Water
Bush and grass vegetation
Forests
Peat-bogs
Rocks, screes and caves
Anthropogenic habitats

⇒ **Flora, in accordance with the features considered in p. 1.14.:**
Algae
Mosses
Fungi
Lichens
Vascular Plants

⇒ **Medicinal plants by habitat types, in accordance with p. 1.14.3., and include:**
Forest communities within the boundaries of the Park
Forest communities in the adjacent territories
Grass and bush communities
Intrazonal riverine, peat, pen and rock communities

⇒ **Fauna, in accordance with p. 1.15.:**
Fish
Amphibians and Reptiles
Birds
Mammals

1.21.1. Vulnarability

The water, peat bogs and the anthropogenic habitats are the most vulnerable. The main reasons are the stocking of the lakes with fish, unregulated grazing, inadequate qualification of the rangers, anthropogenic pressure over certain areas, illegal felling in the park's adjacent areas, lack of information for the visitors, improper use of the resources.
Most habitats and species are of medium vulnerability level. This requires monitoring on their future succession and undertaking measures that lead to their natural regeneration.
The basic measures for habitats and species conservation are:

⇒ Non - intervention in the hydrologic regime on the territory of the Park
⇒ Determining rules and norms for stocking with fish and fishing on the territory of the NP

⇒ Applying of targeted grazing regime
⇒ Gradual removal of the non-native species
⇒ Park Rangers training
⇒ Looking for public support for resolving the problems with the illegal logging
⇒ Raising the awareness of the tourists

LEVEL: **+** - low **++** - medium **+++** - high

TYPE	LEVEL	REASONS / JUSTIFICATION	MEASURES NEEDED
HABITATS			
Water	**++** to **+++**	⇒ Their occurrence depends on the general climatic conditions ⇒ Changes in the hydrological regime may result in the formation of peats and the subsequent drying up of some lakes, which in practice means extinction of the habitat ⇒ The data show that the mineralizing of the water of the lakes is low, while the oxygen saturation is high, which makes them especially vulnerable in terms of pollution and europhication ⇒ The surface waters in Pirin NP are a zone that is sensitive and vulnerable to human intervention, because of the slow self-purifying processes and of the practically impossible restoration of the ecological status (especially of the lakes). ⇒ A main problem of the smaller lakes of Pirin NP is the gradual shallowing as a result of the precipitation of driftage materials (coming from avalanches) and the overgrowing by aquatic macrophytes. This is a natural process, slightly influenced by anthropogenic activities in some individual lakes through the stocking with fish.	⇒ Measures for preventing the pollution ⇒ Defining of rules and norms for stocking with fish and fishing on the territory of the NP
Bush and grass vegetation	**++**	⇒ The expansion of the areas of the communities of Siberian juniper and the invasion of secondary bush vegetation at certain territories is due to the decreased grazing or the lack of grazing ⇒ The grass vegetation in the forest zone is of a secondary origin and has developed at the place of forests felled in the past ⇒ The status of the grass cenoses is comparatively good.	⇒ Applying targeted grazing regime ⇒ Defining the territories for grazing and rotation of the pastures
Forests	**++**	*Broad-leaved forests* They cover the lower sections of the Park, in a proximity to the zone of a higher anthropogenic influence *Coniferous forests, Mixed forests and Forest plantations* Potentially vulnerable to parasites, snow-breaks, wind throws and drying up *Anthropogenic factors*: ⇒ Excessive thinning of the forest stands and of the plantations in the implementatin of logging ⇒ Implemention of planned logging for openings, ski runs and constructions in areas with slope inclination over 20^0 and sizes above 0,1 ha ⇒ Intervention in dwarf pine forest stands	⇒ Gradual removal of the non-native species ⇒ Determining regimes and norms regulating the use of the forests ⇒ Inventorying of the areas and elaboration of a maintenance project

		⇒ Use of tractors for the wood extraction activities has activated the erosion processes and the formation of furrows and ditches ⇒ Unregulated grazing of livestock threatens the off-shoots ⇒ Recreational overuse – breaking of branches, stamping over or denuding tree-roots along the tourist trails and in the resting sites. ⇒ The illegal extraction of timber in the park's adjacent territories, especially within the boundaries of Bayuvi Dupki-Dzhindzhiritsa park region and the Razlog SFB, will also impact the forest ecosystems in the periphery of the Park. *Natural factors:* ⇒ Damages by animals (bear, nutcracker, rodents, etc.) and damages by diseases and pests (European processionary moth, mistletoe, root fungus, etc.) ⇒ The fires, the avalanches and the wind throws are of a sporadic character and their influence within the territory of the Park is limited to comparatively small and localized areas	⇒ Involvement of all responsible institutions at the national and regional level ⇒ Looking for public support on the side of the NPD for resolving the problems with the illegal logging
Peat-bogs	**+++**	⇒ In the conditions of general xerophytisation there are prerequisites for worsening of the water regime ⇒ The available information on their distribution and state is incomplete	⇒ Additional studies
Rocks, screes and caves	**+** to **++**	They are located mainly in the alpine and the subalpine belts, which makes them more difficult to access	⇒ Additional studies
Anthropogenic habitats	**+++**	⇒ They cover limited areas and because of this are not significant for the park territory ⇒ In most cases at sites influenced by human activities, mobile plant species of a secondary distribution occur ⇒ A main problem are the waste waters	⇒ Regeneration activities ⇒ Development of a system of measures for maintenace of the equipments for waste waters treatment and control over its applying
FLORA			
Algae	**++**	⇒ The algae flora is influenced by the pollution of the water basins	⇒ Study of the algae diversity in the Popovite and Kremenskite lakes
Mosses	**++**	⇒ The moss flora is poorly studied ⇒ Predominate species occurring in forest communities and associated with forest vegetation either directly or indirectly, because of the shadowing and the specific humidity regime connected with it ⇒ The moss flora is influenced by the changes in the water regime	⇒ Additional studies
Fungi	**++**	⇒ The inventory and the risk assessment of the fungi in the Pirin NP are at a level, at which it is hard to define the exact status of the threatened macromycetes.	⇒ Complex assessment and conservation of the

		⇒ The unregulated collecting has resulted in reduction of the populations of the valuable edible fungi, such as boletuses, chanterelle, horn of plenty, etc. ⇒ The method of collecting the mushrooms – they are uprooted and not cut with knives. In this way the mycelium is destroyed and the reproduction of the population is frustrated	fungi diversity of the Park ⇒ Raising the public awareness of ways for sustainable and environmentally sound use ⇒ Monitoring in representative communities
Lichens	**+++**	⇒ The lichens are very slow-growing organisms and the disturbances of their cenoses regenerate very slowly.	⇒ Park Rangers training
Vascular Plants	**++**	⇒ Vulnerable are mainly species of a high ornamental value or the ones popular for their medicinal qualities, the populations of which are limited and the numbers decrease ⇒ Subject of tourists' interest are the edelweiss */Leontoprdium alpinum/*, the Pirin poppy */Papaver degenii/*, rhodiola */Rhodiola rosea/*, banewort */Atropa belladonna/*.	⇒ Protection of the habitats ⇒ Park Rangers training
MEDICINAL PLANTS			
Forest communities within the boundaries of the Park	**++**	⇒ The main threats of a natural character are the change in the structure of the forest communities caused by fires, avalanches, wind throws and illegal logging. They are of a local character on comparatively limited areas	⇒ Raising the awareness of people of the norms and ways for sustainable and environmentally sound use
Forest communities in the adjacent territories	**++**	⇒ In the territories adjacent to the Park the anthropogenic pressure on these resources is much stronger because a larger part of the attractive resources occur in the lower sections of the mountain and around the settlements ⇒ A serious problem is the illegal extraction of timber, which leads to disturbances in the structure of the communities and to subsequent change of the conditions of the habitats and the numbers of certain species – especially of the vulnerable ones – bearberry, asarabacca, spotted cuckoo pint.	⇒ Guarding of the peripheral zones ⇒ Raising of public support against the illegal logging and the unregulated collecting of medicinal plants
Grass and bush communities	**++**	⇒ There are problems with the common primrose, the snowdrop, the scotch thistle, the goldenrod, the common centaury, the wild marjoram, the St. John's wort, the resources of which are low at the national scale or the interest to them is very high ⇒ A main factor influencing their status is the grazing – the increase of the density of the grazing animals leads to worsening of the hydrotermic regime of the soils and worsening of the conditions of the habitat of the wild thyme and the eyebright	⇒ Introduction of norms of use and rotation of the yields ⇒ Park Rangers training ⇒ Raising the awareness of the tourists ⇒ Introduction of grazing norms, rotation of the grazing and summer grazing
Intrazonal riverine, peat,	**+**	⇒ These communities do not suffer serious anthropogenic pressure in the park	

pen and rock communities			
FAUNA			
Invertebrates	**+++**	⇒ Vulnerable are all the local endemic species, a part of the rare species and the ancient relict species /Annex 6.3./ ⇒ The vulnerability of the troglobiont and the troglophillous forms is very high – even to the slightest changes in the conditions of the caves (*Antrohyphantes rhodopensis*). ⇒ Among the most vulnerable hydrobionts are the crenophilous gastropodans of the family of *Hydrobiidae* – their biotopes are destroyed by the catchment of water supply sources.	⇒ Non-intervention in the hydrologic regime of the Park ⇒ Park Rangers training ⇒ Study of the phenology, the behaviour and the habitat preferences of the species of the concerned groups
Fish	**+++**	⇒ The major negative factor is the fish stocking with alien species – rainbow trout (*Oncorhynchus mykiss*) and brook trout (*Salvelinus fontinalis*), the unregulated introduction of Balkan trout of unknown origin. ⇒ Other factors are the poaching, the disturbance of the water regime of the rivers, the pollution and the felling of the tree vegetation	⇒ Determining rules and norms for stocking with fish and fishing on the territory of the NP
Amphibians and Reptiles	**+++**	⇒ Objective reasons for the high vulnerability lever are their small sizes, low mobility, direct dependence of many species on certain habitat conditions /local water basins, in separate cases singe ones/, especially in terms of reproduction ⇒ Subjective – the negative attitude to a large part of the representatives of these groups ⇒ In the highest and less visited territories the level of vulnerability can be assessed as relatively low ⇒ In the lower areas and especially around chalets, shelters, bivouacking sites, etc., it is higher ⇒ Critical are the regions around the lower boundary of the park territory	⇒ Park Rangers training ⇒ Raising the awareness of the tourists
Birds	**++** to **+++**	⇒ 42 species (26%) could be included in the category vulnerable (golden eagle, saker falcon, peregrine falcon, capercaillie, rock partridge, corncrake, woodcock, stock dove, rock dove, Tengmalm's owl, white-backed woodpecker, three-toed woodpecker, shore lark, alpine chough, rock thrush, etc.) ⇒ The changes in the populations have not been followed in time	⇒ Study of the long-term trends of the population dynamics of the birds
Mammals	**+++**	⇒ Main negative factor is the poaching ⇒ The main part of the local population (including also some of the staff of the park rangers) do not make the difference between the pine marten and the stone marten, which is allowed for hunting out of the territory of the park ⇒ The cross-breeding with the domestic cat is a threat to the wild cat on the territory of Pirin ⇒ The local population applies forbidden methods to control the wolf and the bear – most often in the eastern and the south-eastern parts of the mountain	⇒ Park Rangers training ⇒ Raising the awareness of the tourists ⇒ Comparative studies of the status of the populations and the habitats of the mammals in the areas of

		⇒ Poor and ineffective control because of the shortage of funds, equipment and staff of the park administration	anthropogenic pressure and in those of strict reserve regime

1.21.2. Rarity

The IUCN Red Lists of globally threatened animals and plants consider rarity as an element of threat. This is true also for the lists of species and habitat types, threatened at European and national level.
The lakes, the communities of dwarf pine, the peat-bogs, the rocks, the screes and caves, the forest stands of Macedonian pine are exclusively rare at the national and international scale. A large number of local endemics, protected and rare species of the flora and the fauna occurs in the park. /Annexes 4.4., 4.10., 5.2., 6.3., and 6.4./
The geomorphologic characteristics of Pirin NP make it unique in both national and international aspect.

LEVEL: **+** - low **++** - medium **+++** - high

TYPE	LEVEL	REASONS/ JUSTIFICATION
LANDSCAPE		
Geomorphologic Features	**+++**	⇒ There are 35 cirques in the high elevation parts of Pirin ⇒ On the bottoms and the terraced cirques' slopes are located 186 high-mountain lakes ⇒ Along the shadowed slopes of the cirques of a northern exposure snowdrifts of permanent firn snow have been formed – Golyemia Kazan, Kutelo, Banski Suhodol ⇒ Resulting from the curving inwards of the cirques, the ridges between them have formed narrow and sharp saddles – Koncheto, Strajite, etc. Above the highest sections of the neighbouring cirques, cone or pyramidal peaks have been shaped – Vihren, Kutelo, Kamentsa, etc. ⇒ During the Pleistocene comparatively short valley glaciers dropped down below the snow boundary, thus turning the river valleys into glacier valleys with the U-shaped horizontal profile characteristic of them ⇒ Along the bottoms of the cirques dozens of pot-holes, precipices and caves have been formed ⇒ The denuded karst covers large areas
HABITATS		
Water	**++** to **+++**	⇒ Rivers – the river habitats are characteristic of the high-mountain zone of all mountains. ⇒ Lakes - over 119 lakes of a glacial origin and of an average depth between 0.5 and 5.0 m
Bush and grass vegetation	**+++** **++**	⇒ The communities of the dwarf pine *Pinus mugo* are listed as an individual type in the European classification of the habitats (Communities of dwarf pine in the Balkan-Rila-Rhodopes system) ⇒ The communities of *Chamaecytisus absinthioides* in the Rila-Rhodopes massif are classified as an individual habitat in the Palearctic Habitat Classification, which makes them unique at the European scale ⇒ The highland grass vegetation on silicate soil covers vast territories within the Park; it occurs in the highland zone of all our mountains

Forests	+++	*Broad-leaved forests* ⇒ Forests with predominance of beech is a combination characteristic of the conditions of the park and it rarely occurs in the other Bulgarian mountains
	+++	*Coniferous Forests* ⇒ The pure spruce forests are a habitat specific to the Central Rila-Rhodopean massif of the European classification ⇒ Pure Scots pine forests, pure Austrian pine forests and forests dominated by spruce occur only in the Central Rila-Rhodopean massif ⇒ The endemic character of the Macedonian and Bosnian pines justifies the high conservation significance of the habitats formed by them in the Park.
	+	*Mixed forests and forest plantations* are widely distributed ecosystems in both national and international aspect
Peat-bogs	+++	⇒ They are of exclusively high conservation significance because of the rich biological diversity and the occurrence of rare plants and animals
Rocks, screes and caves	++ to +++	⇒ Granite rocks – they cover significant areas within the Park and shape the specific landscape of the alpine zone ⇒ Marble rocks - a unique habitat at the European and the global scale
FLORA		
Algae	+	⇒ Eight species of the algae flora of Bulgaria occur only in Pirin ⇒ One species – *Cylindrospermum urumoffii* is endemic
Mosses	+	⇒ They are not characterised by a large number of species of conservation significance ⇒ One species is listed in the Bern Convention /*Buxbaumia viridis*/, two species are listed in the Appendix II of the Council Directive on the conservation of natural habitats and of wild fauna and flora /*Buxbaumia viridis* and *Dicranum viride/*
Fungi	+++	⇒ The occurrence of a very large number of rare species and species of high conservation significance /Annex 4.4./
Vascular Plants	+++	⇒ At the national scale Pirin is one of the areas of the highest number of rare, protected and endemic species ⇒ The number of the local endemic species /18 species/ and of the rare plant species /103 species/ is exclusively high ⇒ Sintaxa of completely endemic vertical structure have been registered /Balkan chamaecytisus- Balkan fescue/ or monodominant sintaxa of rare species /Pirin fescue/
MEDICINAL PLANTS		
Forest communities within the boundaries of the Park	++	⇒ Endemic medicinal plants occur on the territory of Pirin NP /Annex 5.2./ ⇒ Some species distributed in the remaining parts of the country are rare on the territory of the Park – red whortleberry, bearberry, European asarabacca, etc.
Grass and bush communities	+	⇒ Comparatively rare for the territory of the Park are: snowdrop, lily-of-the-valley, orchids, common valerian ⇒ The composition of these communities includes some species protected and rare for the territory of the Park, as well as for the whole country, such as the yellow gentian, the Pirin thyme, the blue gentian, etc.
Intrazonal	+	⇒ Their composition includes the endemic Balkan angelica and also some rare

riverine, peat, pen and rock communities		plants like *Rodiola rosea* and yellow gentian ⇒ The group of the lady's mantle includes some Balkan endemic and sub-endemic species. The population of the lady's mantle does not suffer anthropogenic pressure
FAUNA		
Invertebrates	**+++**	⇒ The populations of the species that occur only in Pirin are characterised by a high level of rarity. The reason is their strongly expressed stenotype character. ⇒ Among *Araneae* the rare species are 41% of all the species in the Park, among *Neuropterida* – 24%, while among *Orthopterida* – these are 21%
Fish	**+**	⇒ The contemporary ichtiofauna of the Park includes the introduced North American species - *Rainbow trout* (Oncorhynchus mykiss) and *Brook trout (*Salvelinus fontinallis*)*
Amphibians and Reptiles	**+**	⇒ The species occur in a number of other regions of the country ⇒ The conditions in the Park offer optimal habitats to the glacial relict species typical of Bulgaria: common frog, viviparous lizard and viper
Birds	**++**	⇒ 53 species (33% of all the 159 bird species found in NP) are rare: golden and lesser spotted eagle, saker falcon, peregrine falcon, hobby, corncrake, rock partridge, woodcock, stock dove, nightjar, three-toed and white-backed woodpecker, redstart, raven, etc. ⇒ The rare bird species for the territory of Bulgaria are 30 species (19% of all the 159 bird species found in NP): saker falcon, Tengmalm's owl, three-toed woodpecker, capercaillie etc. ⇒ The rare for Europe species (included in the Council Directive 79/409/EEC on the conservation of wild birds) are 39 species (25%): golden eagle, Levant sparrow hawk, saker falcon, nightjar, grey-headed woodpecker, wood lark, barred warbler, red-backed shrike, etc.
Mammals	**++**	⇒ Most of the mammal species occur in favourable habitats all over the country and on vast territories of Eurasia ⇒ Rare bats species – Bechstein's bat (*Myotis bechsteinii*), Natterer's bat (*Myotis nattereri*) and the barbastelle (*Barbastella barbastellus)* ⇒ Some of the large mammal species are rare in Europe as well as in our country because of the increased anthropogenic influence

The SCROLLI, Annexes include:
4.10. Plant species of nature conservation value
5.2. List of medicinal plant species of nature conservation value
6.3. Invertebrates taxa of conservation value characteristic of Pirin NP
6.4. Vertebrate animals in Pirin NP – species composition and nature conservation value

1.21.3. Naturalness

The naturalness and typicalness have been evaluated by assessing the occurrence of the species and importance of their populations in the Pirin NP.
The larger part of the habitats and the species in the Park are characterized by a high level of naturalness. This requires monitoring and defines the need of measures that ensure their further natural evolution and regeneration.

The assessed level of naturalness is low for the openings for ski runs and technical infrastructure, the built up territories, the plantations created, the secondary grass and bush communities formed as a result of human interventions or under the influence of the natural factors, the water basins in the region because of the stocking with fish carried out in them.
The main measures for preservation of habitats and species naturalness are:

⇒ Defining zones of strict conservation regime
⇒ Restoration of degraded areas
⇒ Monitoring on the state of the forest ecosystems
⇒ Gradual removal of the non-native species
⇒ Allowing the use of the species of the pen communities
⇒ Determining rules and norms for stocking with fish and fishing on the territory of the NP
⇒ Ban on new construction

LEVEL: **+** - low **++** - medium **+++** - high

TYPE	LEVEL	REASONS / JUSTIFICATION	MEASURES NEEDED
LANDSCAPE	**++**	⇒ The naturalness of the forest, the rocks and the meadows landscapes in general is preserved in the Park ⇒ Non-natural are the openings for ski runs and for the technical infrastructure, as well as buildings with architecture sharply outlined against the landscape – Academica, the anthropogenic landscapes, predominantly located in the park regions Vihren, Bezbog and immediately on the boundary of Bayuvi Dupki-Dzhindzhiritsa Park Region	⇒ Realising architectural plans adequate to the environment ⇒ Regeneration activities for degraded territories
HABITATS			
Water	**+++**		
Bush and grass vegitation	**+++** to **++**	⇒ Occurrence of secondarily formed grass and bush communities as a result of anthropogenic influence or natural factors.	
Forests	**+++**	⇒ Of a high level of naturalness are the forest stands in the reserves (around 40% of the area of the forests), the dwarf pine stands, the forests at the upper forest line, the ones on ravines and rock areas and the territories unsuitable for forestry that are overgrown by tree and bush vegetation, in which there is no human intervention ⇒ Low is the level of naturalness of the plantations of Douglas fir, American poplar in the Vihren PR and of cedar of Lebanon in the Sinanitsa PR, which cover only 5,3 ha (0,02%) of the area of forests in the Park ⇒ Being Balkan endemic species both the Macedonian and the Bosnian pine form specific habitats, which deserve special conservation effort. Of an exclusive value are the oldest trees ageing over 200 years.	⇒ Gradual removal of the non-native species and replacing them by native ones adapted to the habitat conditions ⇒ Monitoring on the state of the forest ecosystems
Peat-bogs	**+++**	The peat-bogs have preserved their natural character	⇒ Monitoring on the state
Rocks, screes and	**+++**	They have preserved their natural character	⇒ Monitoring on

caves			the state
FLORA	**+++**	⇒ Insignificant number of anthropophythe and ruderal species have been registered at limited, small sized areas, mainly around the tourist centres	
MEDICINAL PLANTS	**+++**	⇒ The medicinal plants have preserved their natural character, they are represented by native species of a larger or more limited distribution in our country	⇒ Permitting the use of the species of the pen communities
FAUNA			
Invertebrates	**+++**	⇒ In the Park there are no introduced invertebrates that form individual populations ⇒ All the established species are autochtonous. Certain part of them have evolved in the specific for the Northern Pirin species formation centres thus contributing to the high level of uniqueness of the fauna	⇒ Monitoring on certain groups of conservation significance
Fish	**+**	⇒ In terms of the ichtiofauna the water basins in the region of the Park are characterised by a "low" level of naturalness because of the regular stocking with fish carried out in them	⇒ Determining rules and norms for stocking with fish and fishing on the territory of the NP
Amphibians and Reptiles	**+++**	⇒ The widely spread Central European species occur in the Park - fire salamander /*Salamandra salamandra/*, yellow-bellied toad /*Bombina variegata/*, smooth snake /*Coronella austriaca*/, as well as the Palaearctic species – common toad /*Bufo bufo/*, common frog /*Rana temporaria*/, such are also the southern Palaearctic species – green toad /*Bufo viridis*/ and the Euro-Siberian ones – Grecian toad /*Hyla arborea/*, viper /*Vipera berus/,* viviparous lizard /*Lacerta vivipara*/ and grass snake /*Natrix natrix*/. Frequent faunal elements are the Mediterranean iranoturanic big water frog /*Rana ridibunda*/, the southern European agile frog /*Rana dalmatina*/, the Euro-Mediterranean green lizard /*Lacerta viridis*/, the Mediterranean common wall lizard /*Podarcis muralis*/ and the Balkan Erhard's wall lizard /*Podarcis erhardi riveti*/. ⇒ The vertical zoning of the individual species is also well-expessed, as in the lowest and the warmest parts (about 1000 m of elevation) the penetration of warmth-preferring species-Herman's tortoise /*Testudo hermanni/* is registered, while the subalpine and the alpine zones are inhabited mainly by species regarded as glacial relict species in our country	
Birds	**+++**	⇒ On the territory of the Pirin NP 3 relict bird species have been registered – Tengmalm's owl, white-backed woodpecker and three-toed woodpecker	⇒ Ban on new construction ⇒ Determining zones of strict protection regime
Mammals	**+++**	⇒ The species composition of the mammal fauna corresponds completely to the landscape character of the mountain ⇒ Some non-typical species penetrate in certain regions under the influence of the anthropogenic changes of the habitats	

1.21.4. Typicalness

Pirin NP is of exclusive importance as a territory which conserves typical of the region habitats and species - forest stands of Macedonian and Bosnian pine endemic to the Balkan Peninsular, habitats and species of the micota, medicinal plants, all the representatives of the fauna.
The significance of the Park in terms of the typicalness of the landscapes is also high.
The significance of the Park is not so high in view of the algae and the moss flora.
Untypical of the natural complex of the Pirin NP are the forest plantations of alien species.
The evaluation shows levels of typicalness of the habitats and the species of the Pirin region.

LEVEL: **+** - low **++** - medium **+++** - high

TYPE	LEVEL	REASONS / JUSTIFICATION
LANDSCAPE	**+++**	⇒ The coniferous forests and the single specimens of aged trees of Macedonian pine, Bosnian pine, the cirques' rock walls and bottoms, the stone rivers and the screes, the great richness of lake landscapes and the rock granite and marble peaks and pinnacles along the main crest are characterized by a high level of typicalness
HABITATS		
Water	**+++**	
Grass and bush communities	**++**	⇒ In general, the grass and the bush communities are typical of the high parts of most of the Bulgarian mountains. ⇒ The species included in them are characteristic of the region
Forests	**+++** **++** **+**	⇒ Typical of the Pirin NP are the forest stands of Macedonian pine, endemic species for the Balkan Peninsular, occurring predominantly on silicate terrain ⇒ Typical are the forest stands of Bosnian pine, endemic species for the Balkan Peninsular and Southern Italy occurring on carbonate terrain ⇒ The pure and mixed stands of dwarf pine, Scots pine, spruce, fir, beech and Austrian pine are of a medium level of typicalness. ⇒ Untypical of this natural complex are the forest plantations of alien species covering 0,02% of the territory
Peat-bogs	**+++**	
Rocks, screes and caves	**+++**	
FLORA		
Algae	**+**	⇒ The representatives of the algae flora are spread also outside the boundaries of Bulgaria
Mosses	**+**	⇒ The representatives of the moss flora are typical of the whole country
Fungi	**+++**	⇒ Global importance of the Park for the conservation of the typical of the region habitats and species of the micota
Vascular Plants	**++**	⇒ Around 1315 vascular plant species have been registered in the Park, most of which are typical of the region and the habitat conditions
MEDICINAL PLANTS	**+++**	⇒ Typical of their character and the habitat conditions ⇒ The following species could be conserved within the boundaries of the Park in

		terms of the protection of their genetic resources: banewort, bearberry, asarabacca, forest gentian
FAUNA		
Invertebrates	**+++**	⇒ The populations of the invertebrate animals form typical communities for the different habitats in the karst and silicate terrains in the mountain (*Diplocephalus altimontanus, Drepanotylus pirinicus, Metopobactrus orbelicus*)
Fish	**+++**	⇒ The Park is of a great importance for the conservation of the typical habitats of the region, such are the glacial lakes and the upper streams of the rivers, as well as of their ichtiofauna
Amphibians and Reptiles	**+++**	⇒ The conditions in the Park offer optimal habitats to the glacial relict species typical of Bulgaria: common frog, viviparous lizard and viper
Birds	**++**	⇒ The birds species typical of the following habitats in the region are well represented: - Broad-leaved forests – tawny owl, nuthatch, great and blue tit, jay, common buzzard. - Coniferous forests – nutcracker, crested tit and coal tit, crossbill, goldcrest, Tengmalm's owl, capercaillie. - Open grasslands in the lower and average elevation mountain belts – whinchat, sky lark and wood lark. - Open grasslands in the sub-alpine and alpine zone – water pipit, shore lark. - The different types of rock areas – black redstart, alpine chough, alpine accentor, wall creeper, wheateater. - Species inhabiting the running and standing water reservoirs –dipper, grey wagtail; during the migrations also some waterfowl species – grey heron, common sandpiper, etc. ⇒ The constructions in the Park are a prerequisite for the penetration of synanthropic bird species - house martin and swallow, swift, white wagtail. ⇒ The anthropogenic activities in their different forms lead to the reduction of the species diversity and to changes in the species composition
Mammals	**+**	⇒ The mammal fauna is very similar to that of the other Bulgarian high mountains ⇒ The species typical of the following habitat types occur here: - mesophillous broad-leaved and mixed forests: common srew /*Sorex araneus*/, pygmy srew /*S. minutus*/, Mediterranean water srew /*Neomys anomalus*/, Bechstein's bat /*Myotis bechsteinii/*, Natterer's bat /*Myotis nattereri*/, barbastelle /*Barbastella barbastellus/,* long-eared bats */Plecotus spp*./; - the high sections of the Bulgarian mountains: water srew /*Neomys fodiens/*, paricoloured bat /*Vespertilio murinus*/, European pine vole */Microtus subterraneus*/; - the rocks – Savi's pippistrelle /*Hypsugo savii*/, common vole */Chionomys nivalis*/, Balkan chamois /*Rupicapra rupicapra*)

1.21.5. Size

In general, the sizes of the Park and the two reserves ensure the necessary prerequisites for achieving their conservation purpose, as well as the management objectives. The main reasons justifying the need of changes of their boundaries are the lack of buffer zones for the protection of the forest stands at the northern side of the Bayuvi Dupki-Dzhindzhiritsa reserve, as well as the areas of high specific diversity

outside the Park, which at the present remain isolated and for which it is recommended to be connected with the Park by suitable territorial corridors.

LEVEL: **+** - insufficient **+++** - sufficient

TYPE	LEVEL	REASONS / JUSTIFICATION	NEED OF CHANGES IN THE BOUNDARIES OF THE PARK
HABITATS			
Water			
Grass and bush vegitation	**+++**	⇒ They cover vast territories of the high-mountain section of the Park and the reserves. The sizes of the territories covered and the existing regimes are a sufficient prerequisite for their conservation	
Forests	**+** **+++**	⇒ The area of the Park and the reserve territories at the present correspond to their management objectives ⇒ As a result of exclusion of areas covered by forests for other purposes, the anthropogenic pressure on the National Park and especially on the Bayuvi Doupki - Dzhindzhiritsa reserve increases ⇒ The species of conservation concern are distributed mainly in the high-mauntain parts of the Park and in the reserves and in this way the existing boundaries ensure good protection and conservation of the species.	⇒ Expanding the boundaries of the Park ⇒ Special protection regime in the adjacent territories, especially within the boundaries of the park regions Vihren and Bayuvi Doupki – Dzhindzhiritsa
Rocks, screes and caves	**+++**	⇒ In terms of size the rock plant communities preserved within the Park are amongst the most numerous and most significant at the national scale. They cover a significant part of the high-mountain territories of the Park and the two reserves ⇒ The size of the Park and the two reserves is sufficient for their conservation	
MEDICINAL PLANTS	**+++**	⇒ The medicinal plants in the Park are represented by sufficient areas in terms of size, ensuring their natural succession, reproduction and productivity ⇒ Some of the largest natural bilberry complexes of the country are conserved within the boundaries of the Park	
FAUNA			
Fish	**+++**	⇒ All the glacial lakes of Pirin fall within the boundaries of the Park	
Amphibians and Reptiles	**+**	⇒ Outside the Park there are areas interesting in many aspects, which at the present remain isolated – they should be adjoined to the Park by suitable territorial corridors	⇒ Inclusion of the rock massifs above the villages of Ilindentsy and the reserve of Orelyak
Birds	**+**	Some areas of rich ornithofauna are located in the lower and medium elevation zones of the mountain, out of the NP ⇒ Areas important in terms of ornithology are: - The region to the south of the NP by the Chernata	⇒ The inclusion of the mentioned regions into the territory of Pirin NP will increase

		Skala peak (1239) – Popovi Livadi site. In this way the NP will be connected with the Orelyak reserve – well conserved natural forest massifs - The region to the southwest of the Sharalya peak (2172) along Vulchi Rid to Ilindentsy village- Plosky village – locally distributed Mediterranean bird species - The inclusion of the rock complex in the area of Tremoshtnitsa (Gutevi skali, Sinite skali) – above the right geographic bank of the Sandanska Bistritsa river, will contribute to the conservation of some rare pertophilous bird species	the species diversity and will increase the role of the NP for the conservation of the birds
Mammals	**+** **+++**	⇒ Many of the species of bats and large mammals migrate seasonally, thus inhabiting ranges exceeding the boundaries of the Park ⇒ The territory of the Park is sufficient for the survival of the populations of the small terrestrial mammals	⇒ The enlargement of the boundaries of the Park will contribute to the conservation of the large mammals and the bats

1.21.6. Biological Diversity and Conservation Value

Pirin NP is an area of a high level of biological diversity, compared as a whole to that of the country and the other montains in Bulgaria.
This defines the tremendous importance of the Park for the conservation of the biological diversity at the national and international scale.
Pirin NP is of a *national importance* in terms of some of the occurring within it species of mammals, birds, amphibians and reptiles, fish, as well as species of the flora and the vegetation.
The Park is of *European importance* as a centre for the conservation of a number of rare, protected and endemic species of European significance with regard to a large part of the representatives of the flora and the vegetation, the medicinal plants, as well as of some fish.
The *global importance* of Pirin NP is defined by its role as a major species-formation centre of the vascular flora at the international scale, as well as a main centre for the conservation of a number of rare, protected and endemic floral taxa and sintaxa of a global significance. A large part of the representatives of the birds are also of a global importance.

LEVEL: **+** - low **++** - medium **+++** - high

TYPE	LEVEL	REASONS / JUSTIFICATION
HABITATS	**+++**	⇒ From the point of view of the biodiversity of the macrobenthos taxa, especially distinguished is the Demirkapyiska river with 37 taxa registered (in the year 2002), which is the highest biodiversity registered in Bulgaria ⇒ 10 species are included in the list of the European habitats, needing special protection measures – Annex I of Directive # 4 / 1996 ⇒ The total number of the Bulgarian endemic species is 35, of them 14 floral species and 4 sub-species have localities only in Pirin
		⇒ The largest natural complexes of the Balkan endemic Macedonian pine and the Balkan sub-endemic Bosnian pine are located on the territory of Pirin NP. ⇒ The natural forest complexes on the territory of the Park are amongst the largest in terms of area and the best conserved, compared to the other natural forests in

		Bulgaria
FLORA AND VEGITATION	**+++**	⇒ Pirin NP falls within an independent Pirin district, because of the strongly manifested specificity of the flora and the vegetation (Bondev, 1991) ⇒ The total number of algae species is 165 ⇒ The total number of the moss species is 329 ⇒ 52% of the species of the Bulgarian lichen flora occur in the Park ⇒ The number of the registered representatives of the vascular flora in the Park is 1315, which is about 1/3 of the flora of Bulgaria. Of them the species and sub-species of conservation significance come to a total of 149 ⇒ The registered plant communities number 260 in total, of which 155 have been formed under the environment forming role of the forest species, and a part of the sintaxa are endemic ⇒ The total number of the registered Balkan endemic species is 86 species, and the ones of conservation importance are 22 species. Three Balkan sub-endemic species are also registered.
MEDICINAL PLANTS	**+++**	⇒ Pirin NP conserves high biological diversity of medicinal plants compared to the country and to the other Bulgarian protected areas ⇒ The role of the Park for the protection and the conservation of the medicinal plant diversity is also high at the global scale. ⇒ The registered medicinal plant species are 182 ⇒ The largest natural complexes of bilberry, yellow gentian and *Rhodiola rosea* occur on the territory of Pirin NP. ⇒ 2 species are inscribed in the list of the endemic species (Balkan angelica and Pirin wild thyme), one is a relict species – *Orchis pallens*, 10 species are listed in the Red Data Book of Bulgaria, 6 are protected by the Medicinal Plants Act and 17 are under a special regime of use ⇒ The bearberry (*Arctostaphylos uva-ursi* (L.) Spreng.), Iceland moss (*Cetraria islandica* L.) and the yellow gentian (*Gentiana lutea* L.) are included in the list of the threatened medicinal plants of the European Union Regulation (EC) # 338/97
FAUNA		
Invertebrates	**+++**	⇒ Within the whole territory of the Park the group of the invertebrate animals is represented by almost 30% of all species occurring in Bulgaria ⇒ Taking into account that the level of knowledge on the invertebrate fauna of the mountains does not exceed 40%, the taxa diversity could be estimated as high
Fish	**+**	⇒ The European eel (*Anguilla anguilla*) is listed in the Red Data Book of Bulgaria ⇒ Two species are glacial relict species – blageon and Balkan trout
Birds	**+++**	⇒ The registered 159 bird species in Pirin NP form 40% of the species diversity of the Class *Aves* for the territory of Bulgaria, which for the country comes to 399 species ⇒ Endemic species – 5 Balkan sub-species ⇒ Three species are glacial relict species
Mammals	**+++**	⇒ 45 mammal species are registered on the territory of the Pirin NP, which represent around 50% of the terrestrial mammals in our country, excluding the introduced species and the duplicate species, which cannot be distinguished by morphological features ⇒ The bat fauna of the Park is still insufficiently studied – it could be presumed that this percentage is even higher ⇒ Species of the Red Data Book of Bulgaria – wolf, bear, pine marten, chamois, occur in the Park and are represented by significant populations

1.21.7. Stability and Instability

Most of the habitats and populations of the species in the Park are assessed to have a medium stability level.
Unstable is the state of the peat - bog complexes and the damp areas communities, the intrazonal riverine, peat-bog, pen and rock communities, the forest ecosystems along the northern boundary sections of the Park, as well as the populations of the typical of the Park species such as the chamois, the Balkan trout, etc.
The measures for eliminating or reducing the impact of the factors leading to the instability of the habitats or populations are:

⇒ Limitting the tourist flow in proximity to the localities of species of conservation significance
⇒ Monitoring on the rivers and the glacial lakes
⇒ Reintroduction activities carried out by the NPD for the species in critical state
⇒ Rotation of the pastures
⇒ Ban on the construction
⇒ Determinig zones of strict protection regime

LEVEL: **+** - low level or unstable **++** - medium **+++** - high level or stable

TYPE	LEVEL	REASONS / JUSTIFICATION	MEASURES NEEDED
LANDSCAPE	**++**	⇒ High anthropogenic pressure on certain sites ⇒ Erosion processes resulting from the recreation pressure along the tourist trails and sites	⇒ Limitting the motor vehicles access ⇒ Determining parking lots
HABITATS			
Water	**++**	⇒ According to data from the literature about 40 smaller lakes in Pirin have changeable water cover and dry up in the droughty years ⇒ The river and lake water in Pirin NP is not polluted and is of a very high quality, corresponding to Water Category I according to Regulation # 7/1986	⇒ Monitoring on the rivers and the glacial lakes
Bush and grass vegetation	**++**	⇒ Comparatively stable – in part of them secondary succession processes take place, which result from the anthropogenic intervention ⇒ The insufficient degree of grazing creates conditions for succession changes	⇒ Rotation of the pastures
Forests	**++**	⇒ They are a subject of a more intensive economic use and a large part of them are of off-shoot origin ⇒ The succession processes in the coniferous forests develop in the direction of replacing the coniferous by broad-leaved (beech or aspen) species ⇒ They are in a comparatively stable condition – characterized by typical species composition and optimal structure ⇒ The factors leading to instability are mainly of a natural character – avalanches, wind throws, natural fires ⇒ The forest ecosystems along the northern boundary parts	⇒ Cleaning of the felling areas and implementing of regeneration activities ⇒ Special management regime for the adjacent territories

		of the Park are strongly affected as a result of the anthropogenic intervention and illegal logging	
Peat-bogs	+	⇒ The peat-bog complexes and the communities on damp areas are unstable and are strongly influenced by the changes in the water regime. ⇒ Change in the species composition – from hygrophillous to hygromesophillous and mesoxerophytic species – is registered	⇒ Study of their status and localization
FLORA	++	⇒ Evaluated as a whole, the floral complex is in a stable state ⇒ Unstable are the populations of certain species of high conservation value: edelweiss, *Rhodiola rosea*, some of the mosses.	⇒ Limitting the tourist flow in proximity to unstable habitats ⇒ Regeneration activities for the species in critical state
MEDICINAL PLANTS			
	++	⇒ The medicinal plants are represented on areas ensuring their regeneration. They are influenced only by some extreme natural factors – fires, wind throws and avalanches ⇒ The bigger part of the medicinal plants represented in grass communities on forest meadows and openings are strongly mobile anthropophytic species. ⇒ The medicinal plants represented in riverine, peat, pen and rock communities have been strongly influenced by the changes of the hydrological regime – this leads to changes from hygrophillous to hygromesophillous and mesoxerophytic species. (Example: the replacing of the Balkan wild angelica by the willow-herb after the water-catchments)	⇒ Identification of the communities influenced by these factors ⇒ Regulating the anthropogenic factors which influence the hydrological regime
FAUNA			
Invertebrates	+++	⇒ Because of the natural character of the communities and the slightly exercised anthropogenic influence the populations of these species are stable	
Fish	+	⇒ The native elements of the ichtiofauna are characterised by a high level of instability	⇒ Identification of the local populations of the Balkan trout and conservation of them at the sites, where they are not influenced by the artificial stocking with fish
Amphibians and Reptiles	++	⇒ Some publications from the past give reasons to consider that there is a considerable decline in the number and the density of the populations of the common frog (*Rana temporaria)* ⇒ In the high sections the populations are stable	⇒ Additional studies in the zones identified by the MP ⇒ Ban on constructions, water-catchments
Birds	++ to	⇒ Most of the species typical of the region are numerous and stable	

	+++	⇒ Many rare and threatened bird species are of low, varying or declining population numbers: saker falcon, hobby, golden eagle, rock partridge, three-toed woodpecker, white-backed woodpecker ⇒ Some of the species of the birds of prey have a lower number in Pirin NP, compared to other similar (comparable) mountain areas in Bulgaria: golden eagle, peregrine falcon, goshawk, etc.	
Mammals	**++** to **+++**	⇒ As a whole, their stability is from medium (for some of the rare species) to high – for the common species	

1.22. SOCIAL AND ECONOMIC EVALUATION

1.22.1. Urbanization

1.22.1.1. Functional Zoning

INDICATOR	ASSESSMENT	MEASURES / RECOMMENDATIONS
Zones defined under the Park Development Project	⇒ Correspond to the criteria, declaration and objectives of a National Park, defined by the PAA; ⇒ Defined in compliance with the National Park category under the effective at that time National Nature Protection Act and in accordance with the determining role of the park's international status; ⇒ The bans and the allowed activities defined by the regimes of the functional zones reflect definitely stricter and more restrictive measures related to construction of buildings and facilities, compared to those defined by the PAA.	⇒ The zones, regimes and norms, defined by the MP, should: - allow certain flexibility when taking management decisions in response to changing conditions; - not contradict requirements defined by legislative documents.
Planning documents, approved after the PDP, and their zoning regarding its implementation and in accordance with the PAA	⇒ The planning documents for the management of Pirin NP, approved before 1996, define the regimes and the activities in accordance with the strategic goals for the development of the protected areas and the responsibilities of the Republic of Bulgaria; ⇒ The defined strict regimes have been observed by the managing bodies and the local authorities: ⇒ The major part of the additionally assigned and approved plans and technical projects after 1996 have not been elaborated in accordance with the zones, regimes and norms, defined by the PDP.	

1.22.1.2. Built Territories

INDICATOR	ASSESSMENT	MEASURES / RECOMMENDATIONS
Extent of construction	⇒ The accommodation facilities are unevenly distributed: the largest concentration is present in Vihren PR. No accommodation is provided in Bayuvi Dupki and Trite reki park regions ⇒ In general, the built-up areas are in poor condition – they are neglected, and may have problems with the water sources, wastewater disposal systems, lack of proper lavatories.	⇒ Optimizing the existing accommodation facilities, improving the access, attractiveness and information.
Admissibility of new construction	⇒ There is no need for new construction, or for increasing the capacity of and expanding the existing buildings in any respect.	

Need for removal of existing sites	⇒ There are abandoned, useless buildings – former cattle-sheds, abandoned servicing facilities of the State forestry boards, old wooden bungalows, frame-built shepherd shelters – in the localities of Zagaza and Ikrishte, and near Yavorov and Pirin chalets, that spoil the look of the landscape and should be removed.	⇒ Removing the unusable buildings and facilities that spoil the look of the landscape. ⇒ Reconstructing the shepherd shelters, as specified in the MP.

1.22.1.3. Technical Infrastructure

INDICATOR	ASSESSMENT	MEASURES / RECOMMENDATIONS
Power supply	⇒ Electricity of 20 kV is supplied to the contact zone villages and tourist centers, and from there to the separate sites inside the park. This creates problems and leads to disturbances in the power supply.	⇒ A major task in the development of the 20 kV network is separating the terminals for the mountain sites from those supplying the adjacent territories.
Water supply	⇒ The established and exploited catchments have not displayed any harm to the ecological balance; ⇒ The Ikrishte locality catchment, supplying the Shiligarnika locality, contradicts the legislative provisions for the sanitary protection zones – strict protection belt A has been assigned to this area.	⇒ The marking, exploitation, guarding and control of the sanitary protection zones shall be carried out in compliance with the requirements of Regulation # 3 of 16.10.2000, promulgated in SG # 88 of 27.10.2000
Sewerage	⇒ The existing general sewerage collector, flowing into the sewerage system of the town of Bansko is in good condition; ⇒ All the other waste waters are taken to local septic pits, which are not in good condition; ⇒ There are no treatment facilities at the chalets of Vihren, Bunderitsa, and others.	⇒ Construction of new separate treatment facilities, which use modern technologies and are suitable for mountain conditions, is necessary.
Telephones	⇒ The telephone network is insufficient. There are no public telephones; ⇒ The Mountain Rescue Service (MRS) radio coverage within the NP is unreliable in the winter– only the modern mobile communications can be counted upon.	⇒ Phones shall be installed in all hotels, rest houses, lift stations, restaurants, etc.

State road network	⇒ 413 km in length, the state road network is sufficient. Main designation: communication between the settlements from the contact zone; ⇒ Condition assessment: - Good condition – asphalt covering, standard dimensions, good leveling and situation: # 19, 198, 19832, 109, 1, 19042, 19044, 19046, 19052, 10065 – a section with a total length of 234.3 km; - Satisfactory – macadam or asphalt covering, minimum dimensions, maximum leveling inclination values, and minimum radius of the horizontal situation curves, according to the state legislation: # 19012, 84041, 19032, 10903 – section, 19036, 19814, 10907 – section, 0079, 10071 – section, 10075, 10069, 10067, 10063, 10061 with a total length of 166.1 km; - Poor – no covering, small dimensions, extreme inclinations and radiuses: # 10907 – section, 10903 – section, 10073, 10071 – section, 10065 – section with a total length of 19.5 km, or 5% of the total length; ⇒ Traffic safety: - The necessary vertical signaling and vertical marking is not present everywhere; - The correlation between the good, satisfactory and poor condition of the total road length is 55.1%-40.1%-4.7%.	⇒ Improving the access through renovating the following roads: - Dobrinishte – Gotse Delchev chalet; - Lilianovo – Yane Sandanski chalet; - Katuntsi – Popovi Livadi chalet; - Kresna to the dairy farm on the way to Sinanitsa chalet; - Pirin – Malina chalet; - To the villages of Brezhani, Kremen, Breznitsa, Kornitsa.
Automobile access	⇒ Conditions exist only at the approaches from Bansko, Dobrinishte and Razlog, and only to limited locations, due to lack of parking spaces; ⇒ In all other zones, access is only possible by 4 WD vehicles.	
Forest road network	⇒ Its total length and density are less that those of other similar regions in Bulgaria; ⇒ In some areas within the park there is no forest road network (Mesta, Gotse Delchev, Ilindentsi and Simitli), and in Dobrinishte it is twice larger than the average; ⇒ The correlation between roads in good condition and those in satisfactory and poor condition is 60:40 (in comparable areas the optimum correlation between asphalt, macadam and dirt roads is 25:15:60); ⇒ The wooden bridges are worn out and unsuitable for motor vehicles; ⇒ Increasing the length and density of the existing forest road network is not necessary.	⇒ Reconstruction, repairs and maintenance of the existing forest road network; ⇒ Urgent repairs of the following bridges: - Demirkapiiska river – Kamenitsa PR; - 2 bridges on Zagazo river – Sinanitsa PR; - 2 bridges on Vlahinska river – Sinanitsa PR.
Existing parking lots	⇒ The parking lot at Shiligarnika is insufficient for the peak use periods – this leads to illegitimate parking along the road over the weekends and in the winter; ⇒ There are not enough parking spaces – an accommodation facility of 1822 beds needs about 460 parking spaces, but only 260-270 spaces are available.	⇒ Technical and organizational measures to arrange additional parking lots at appropriate locations.

Rope-ways	⇒ The construction of the new lift will lead to adjusting the capacity of the ski runs and lifts to the accommodation capacity of Bansko, which is significantly larger.	⇒ Measures for restoration of ecosystems around the existing and the envisaged new facilities and infrastructure.
Walking tourist routes	⇒ The existing hiking tourist trails are adequate for ensuring the even distribution of visitors and taking them to all park regions; ⇒ The following approaches to the park are not marked on site: - From Simitli and Brezhani village (from North-West); - From Stara Kresna and Oshtava villages (West); - From Strumiani village (South-West); - From Mesta village through Haidushki Kladenets locality (East).	⇒ Designing perspective routes with a view of diversifying the entry and exit points in villages with preserved authentic atmosphere and customs.
Transport communications	⇒ There is no suitable transport to the approaches to Pirin NP.	⇒ Technical and organizational measures to arrange transport to the park approaches.

1.22.1.4. Cultural and Historical Heritage

INDICATOR	ASSESSMENT	MEASURES / RECOMMENDATIONS
Preservation level	⇒ The necessary restoration and conservation activities are not carried out due to lack of funds; ⇒ Archaeological surveys are only carried out where extremely needed (e.g. near Koprivlen village, at the construction site on the road Gotse Delchev - Drama); ⇒ Treasure-hunting has become an occupation for groups coming from all over the country, and a hobby for most relatively younger residents of the villages near the park; ⇒ There is a trend for an increase in the number of robberies of valuable icons and church plates.	⇒ Supporting initiatives related to adding "real value" to the CHH sites through modern interpretation and integration in tourist products.

Preservation of local customs and crafts, and need of support	⇒ Traditional holidays and customs are still alive. In most cases, and especially in the towns, they are modernized and modified, but even so they attract significant amount of interest and are a considerable tourist resource; ⇒ In the smaller villages, the traditions are closer to their roots; the holidays are more authentic and spontaneous. The big problem in these areas is depopulation, because traditions disappear together with the people.	⇒ Tourism products developed should encourage the participation of people, practicing traditional crafts, through demonstrations, hobby-courses, exhibitions, etc. ⇒ Promoting the traditional crafts through creating and popularizing a "Made in Pirin" trademark of origin and quality; ⇒ Providing information about the CHH sites through the Pirin NP information and visitor centers.

1.22.1.5. Sanitary and Hygienic Conditions

INDICATOR	ASSESSMENT	MEASURES / RECOMMENDATIONS
Waste-water treatment	⇒ Considerable pollution has only been registered at the Shiligarnika complex, where fecal and domestic waste-water from the new septic pit flows into Ikrishcha river; ⇒ The open potable water catchment at the Shiligarnika complex does not comply with the sanitary requirements, and ammonium nitrogen has been found in the water, which is a sign of some pollution of Ikrishcha river waters from the upstream sites – buildings and ski-runs; ⇒ The river and lake waters within Pirin NP are clear and of very high quality, corresponding to category I waters under Regulation # 7 of 1986; ⇒ The septic and absorbing pits at the chalets and rest houses, as well as the open lavatories, which periodically or permanently discard untreated fecal waters, carry risks for the human health. The most typical cases are Tevno Ezero shelter, and the chalets of Vihren, Bunderitsa and Bezbog; ⇒ In the spring and summer season (high waters), small concentrations of ammonium nitrogen have been registered in most rivers and lakes. This is a result of the natural secondary pollution from the decaying soil cover leaching in the coniferous forest belt (the dwarf pine zone inclusive). This does not affect the water ecosystems, but should be considered when using surface waters as a source for drinking water in the spring, since the presence of ammonium in the potable water is undesirable and does not comply with the standards; ⇒ Of the total waste-waters of 30555 m^3/day, only 8732 m^3/day are treated, i.e. 71.4% of the total quantity are discarded in the rivers of Mesta and Struma untreated; ⇒ Pollution at certain sections of the two rivers exceeds the admissible standards for category III, i.e. they cannot be used for irrigation, industrial or domestic water supply.	⇒ Small modular waste-water treatment stations should be installed at sites with capacity of more than 50 people; ⇒ The existing septic pits within the park should be emptied in the presence of a park administration representative in view of preventing potential violations and discard of waste-water into the nearest water basin.

Solid waste treatment	⇒ For the exception of shelters, the issue of waste treatment – mostly domestic – has been adequately resolved and does not create ecological problems; ⇒ The town solid waste depots are located in the adjacent areas – this requires permanent control over their condition, in accordance with the requirements of Regulation # 13 of 06.11.1998.	⇒ At the locations, unreachable by motor vehicles – Tevnoto Lake and Sinanitsa and Spano Pole localities – it is appropriate to use horses for removing the bags with solid waste.
Visitor facilities	⇒ The sanitary and hygienic conditions at the rest houses and hotels are good; ⇒ The conditions at the chalets and shelters are unsatisfactory; - The sanitary facilities are poorly equipped; - The hygiene in the sleeping and sanitary premises is poor. ⇒ The chalet surroundings are notable for being neglected, as well as for the water supply problems, unsettled waste-water discard, lack of proper lavatories. The employees are undereducated and poorly motivated;	⇒ Measures for improving the conditions at the visitor facilities; ⇒ Improving aesthetically the surroundings of the facilities.
Water-supply zones	⇒ At the present stage, only for the lands of Bansko there are hydro-economic facilities with sanitary zones at an area of 28.5 decares; ⇒ In the remaining areas, the water supply zone facilities do not possess the required sanitary protection zones, or if they do, those zones are in poor condition.	⇒ Water supply zones should be structured in accordance with the requirements of the Instructions on the sanitary protection zones.

1.22.2. Socio-economic Conditions

1.22.2.1. Assessment of the Recreation Activities

INDICATOR	ASSESSMENT	MEASURES / RECOMMENDATIONS

Opportunities and conditions	⇒ The nature of the National Park is a source of positive emotional experience and a support of the physical and psychical health that are most threatened nowadays; ⇒ The Pirin NP resources, as well as the numerous resources in the adjacent areas require new interpretation in order to allow the region to get maximum benefit from the modern consumption and visitor preferences; ⇒ There is a striving for conducting projects, trips and holidays in a preserved non-urbanized, sufficiently wild, and at the same time accessible environment; people are interested in activities and skiing in affordable and well-structured settlements and resorts, where traditional architecture is in harmony with the latest novelties in infrastructure quality and services level; ⇒ The "wild" camping is a dangerous trend. There are locations, designated for camping, but actually there are no modern camping sites developed; ⇒ Opportunities exist for year-round programs, combining successfully recreation and tourism, e.g. balneological packages.	⇒ Greater attention should be paid to routes, leading to villages with preserved authentic environment, customs, architecture; ⇒ Opportunities need to be developed for capturing the increasing interest and walking tourist flow in the southern park regions; ⇒ Tent camps with modern equipment and chemical lavatories need to be established in Kamenitza PR– near Begovitsa chalet and Mosgovitsa locality, and in Trite Reki PR – near Pirin chalet.
Caves as a tourism resource	⇒ Most of the caves in the park can only be subject to specialized expeditions, i.e. they are only suitable for people with speleological training, using specialized equipment. ⇒ Several Pirin precipices are of interest and can be subject to organized sport expeditions (hobby-tourism): - Bunderitsa precipice (-125 m); - Vihren precipice (-170 m); - Banski Suhodol # 30 precipice (25th Anniversary of Academik) (-118 m); - Banski Suhodol # 9 precipice (-170 m); - Kamenititsa # 14 precipice (-103 m); - Chelyustnitsa # 17precipice (B. Dupki circus) (-103 m); - Aleko precipice (Sinanishki sub-region) (-130 m); ⇒ The mine-caves in the Sinanishki sub-region can be subject to organized visits by specialists – historians and archaeologists, working on issues related to antiquity and medieval mining.	⇒ The caves are concentrated in the karst section of the NP, and therefore the expeditions into them need to be consistent with the nature protection activities

Opportunities and conditions for development of tourism, sports and services in the territories adjacent to the Pirin NP	⇒ Natural resources exist that are favorable for practicing active tourism, but there are no adequate infrastructure (sport facilities inclusive) and accompanying services, such as renting equipment, bicycles, horses, etc.; ⇒ The general infrastructure, for minor exceptions, is not at a sufficiently good level. Some villages have problems with the access, sewerage, potable water, telephone communications. The waste disposal problem is common; ⇒ The adjacent areas as a whole have an enormous natural and anthropogenic tourism potential, but lack quality additional tourist services, as well as the necessary specialized tourism infrastructure; ⇒ Mineral waters are actually not used as a tourism resource; ⇒ There is no permanently open office, providing up-to-date, detailed and thorough information about the existing tourism opportunities; ⇒ The promotion of the region is scattered. There is no concept for creating a common image of the region as a tourist destination; ⇒ The settlements possess sufficient human resources to start tourism activities, but a lot needs to be done with regard to people's motivation, training, and education.	⇒ Adequate interpretation of Park's heritage ⇒ Establishing Park partnership networks between all stakeholders from the adjacent areas; ⇒ Provoking the attention and the direct participation of the local people for attracting tourists; ⇒ Information services; ⇒ Developing a set of information and interpretation packages that will be used both for tourism organization in the Park and the adjacent areas, and for environmental education for children and adults; ⇒ Interpreters training.
Park capacity	⇒ The pressure on ecosystems between January and March in the region of Shiligarnika and at Vihren chalet between July and August is high. The correlation between the capacity and the resources is critical; ⇒ The increasing hotel capacity and the opening of new accommodation, amusement and dining facilities is alarming; ⇒ The hotels, family hostels, and private lodgings in the region of Predela-Razlog-Bansko-Dobrinishte have not conducted preliminary marketing surveys about the actual capacity of all new facilities.	⇒ There is a need to study the number of visits, the visitor interests, age groups, and a database needs to be set up, related to the visitor services and feedback.

New projects, approved after the PDP	⇒ The new constructions that have to be completed in 2005 will make the region accessible year-round. In the near future the marketability of the ski-product in Bansko is expected to improve, provided there is snow, and if the population of the region tries to understand better the modern ethics and environmental attitudes; ⇒ The approved projects for a ski-zone, centered in Bansko, modify the capacities, defined by the PDP, involve construction of new facilities and buildings, which contradicts to the international commitments of the Republic of Bulgaria under the Convention Concerning the Protection of the World Cultural and Natural Heritage.	⇒ Limiting the access by motor vehicles; ⇒ Regulating the rights and responsibilities of the companies and authorities that run the ski facilities.
Visitor safety and information	⇒ A Concept for Information System within Pirin NP was developed. The goals of the Concept are: - Facilitating the visitor flow in order to ensure safe access to the park; - Defining the types of recreation activities; - Stimulating the visitor interest in preserving the unique landscape and floral and faunal diversity; - Achieving instructive and educational effects; - Establishment of information visitor centers; - Opening new smaller approaches to the park; - Providing information about the pre-park zone.	⇒ Developing a safety plan, compulsory for all users of the area.

1.22.2.2. Assessment of the Resource Use Activities

INDICATOR	ASSESSMENT	MEASURES / RECOMMENDATIONS
Forestry activities envisaged by the PDP	⇒ The fellings within the park have been carried out carefully, in strict observance of the legislative provisions, concerning the special functions of the forests; ⇒ The current data about the forests differ from the PDP data of 1993, and the activities, envisaged by this project are currently inapplicable; ⇒ Most of the measures, envisaged by the PDP, related to improving the health status of the forest stands and plantations have been completed. They do not contradict the national park declaration and management objectives.	⇒ When developing the guidelines for the restoration activities in the forests, the leading trend should be the process of forming stands of varied age structure that has already started owing to the good regeneration capacity of the forests.

Carrying out maintenance and restoration activities in the forests	⇒ The excellent regeneration capacity of the local tree species and the condition of the undergrowth show that there is a significant potential for forming stands of varied age structure over the next 50-70 years; ⇒ There is a real threat of windthrows (windbreaks) or snowthrows (snow-breaks) in the sections, adjacent to the newly cut ski-run and tow-lift openings: 120b; 121b,f; 130a,b,e,f,g; 132l; 133c,d,e,h; 129a,b,h; 149a; 148c,e,g; 147k,i,h; 186a,b,d; ⇒ The classic landscape restoration fellings, carried out in the past in some plantations, have led to forming stands of the same age, dominated by one species and specimens with similar genetic codes – the species and intra-species biological diversity has decreased.	⇒ Maintenance and restoration activities in the areas under section 3 of the MP should be applied if needed.
Plantations of alien and untypical tree species	⇒ Limited number of untypical and alien species can be found in the park periphery. The acacia and poplar are expected to die out in the next 10 years, and the cedar will be overgrown by the Scots pine. The fir grows well and could reach mature age for our conditions (80-100 years).	⇒ Gradual removal of alien species.
Need for timber production	⇒ The PDP has not been fully implemented with regard to the uses by type of felling: - Landscape-forming felling – 27.8% of the planned volume; - Landscape-restoration felling – 11.3 of the planned volume; - Sanitary felling – 12.2% of the planned volume; ⇒ Over the period 1993-2000, a total of 93,014 cubic meters of standing mass was yielded – this exceeds the mass envisaged in the project by 5,679 cubic meters (6.5%); ⇒ A total of 73,200 cubic meters of dried and fallen mass has been collected, which represents 78.7% of the park produce. It consists mainly of timber, brought down by a tornado on February 26 and 27, 1997, and small amounts by snow-breaks, snow-throws, and windbreaks; ⇒ The timber yielded in the period 1993-2000 represents only about 15% of the forest growth in the park over the same period; ⇒ According to data of the park administration, 250 cubic meters of wood is extracted annually: - Timber for construction – 100 cubic meters; - Firewood – 150 cubic meters.	⇒ Identifying norms for regulated use in the lower park regions and near settlements; ⇒ Defining conditions and norms for utilizing the windthrown and dried timber from the park.
Forest health status	⇒ The presence of significant forest areas, destroyed by illegal felling, close to the park carries a risk of conflagrations with unpredictable consequences and an opportunity for calamity development of bark beetles and timber-attacking insects; ⇒ 95% of the forests of the Park are of class A (high) fire risk.	⇒ The significant visitor flow to the mountain in the fire-risk season and the increasing number of fires in the past years require urgent measures for ensuring fire safety in specific park regions

Herbs	⇒ No intense use of the allowed resources has been recorded; ⇒ Poaching of gentian roots was established near Kremenski Lakes; ⇒ The fruits of bilberry, hazel, raspberry, blackberry, St. Johan's wort, wild marjoram, wild thyme, etc., are used for personal needs.	⇒ The legislation, regulating the use of these resources, needs to be improved.
Mushrooms	⇒ Mushroom collection is not regulated legally and is performed inconsistently; ⇒ According to data, provided by the foresters and chalet-keepers, the uncontrolled collection has resulted in dramatic decrease in the numbers of the populations of valuable edible mushrooms, such as boletus, chanterelle, horn of plenty, etc. Numerous private companies offer to the local population extremely high (for our standards) purchase prices; ⇒ The common practice is to uproot the mushrooms, instead of cutting them with a knife, since the purchasing stations have established the requirement for providing only uncut mushrooms. Thus, the mycelium is destroyed and the population reproduction is impeded.	⇒ Defining standards, regimes, conditions and recommendations for activities, related to mushroom collection.
Grazing	⇒ The vegetation of all pasture types found in the park is relatively poor in valuable forage species, and still they are intensely used in the summer months as a cheap forage source; ⇒ No special regime of pasture using has been applied in the park. Unregulated use on some places has negative impact on the present biological diversity; ⇒ Due to the excessive grazing in the past, many of the valuable corn and leguminous species have almost dropped out of the grass communities. On the other hand, the share of the harmful, poisonous, and weed species has increased, since they are not grazed by the animals, spread faster and often dominate the communities; ⇒ In the period 1995-2001, changes were observed in the numbers and type of animals that use the pastures, which is related with the general decrease in the number of animals throughout the country. For the park in general, there is no trend for increase in the number of animals, and at present, no actual threat exists to the plant diversity in the alpine and sub-alpine pastures;	⇒ Identifying the areas with weak and torn turf and threatened with erosion, where grazing should be prohibited; ⇒ Developing a targeted grazing project. ⇒ Monitoring on the distribution of Juniperus sibirica ⇒ There is no information about the yield of green mass per region for the last several years – next year the total productivity should be determined for each grazing area.

Aboriginal domestic animal breeds	⇒ A common negative factor for all local breeds is the lack of legislative provisions, through which they can obtain conservation status and legal protection by the state; ⇒ Breeding them is less profitable than breeding non-local breeds and hybrids, resulting from intensive selection. Breeding of some local breeds may even be unprofitable.	⇒ Measures for supporting the stock-breeders, who had taken the risk to raise them.
Hunting and fishing	⇒ The main factors restricting the increase of the number of hunt species are insufficient natural nutrition basis and the poaching; ⇒ There is a threat of a growing interest in the capercaillie for having it stuffed and for the exciting hunting.	⇒ Increasing the guarding in April and May at the easily accessible locations near Bezbog, Pirin and Yavorov chalets, the localities of Koritoto, Medkovoto and Ovchi Kladenets below Todorka peak.
Water resources	⇒ Within Pirin NP there are no special systems established for monitoring of natural processes, incl. meteorological, hydrological, and hydro-geological; ⇒ The potable and domestic water supply does not harm significantly the river flow within Pirin NP; ⇒ The hydro-energetic treatment of waters does not cause any irreversible water losses. ⇒ No mapping and surveys exist with regard to the sources of potable water within Pirin NP, nor are there clear rules for the management of catchments facilities within the park area; ⇒ The park karst zones are not sufficiently studied;	⇒ Assessment of the water volumes taken ⇒ Studying the catchments of the following rivers directly related to the karst regions' water regime: Iztok, Dobrinishka and Breznishka from the Mesta river basin, and Vlahinska from the Struma river basin.

1.22.3. Ownership

INDICATOR	ASSESSMENT	MEASURES / RECOMMENDATIONS
Existing rights of use	*With expired procedure deadlines* ⇒ The ownership of many sites has not been established due to the exceptional state property on the Park's territory ⇒ The relations with the NPD have been disconnected; ⇒ The users are not interested in investing in improvement of the sites condition, and therefore they are in extremely poor condition, including the BTU facilities. *With procedure deadlines expiring over the next 10 years* ⇒ The data about the owners and users are incomplete; ⇒ For most sites within Pirin NP no ownership documents and lease contracts have been provided to the Pirin NPD. *Users have been changed over the past 10 years* ⇒ Partial ownership inventory exists; ⇒ The NPD control in case of inobservance of the sanitary and hygienic standards in the regions of the sites is extremely impeded.	⇒ It is necessary to clarify the status of the existing buildings and facilities on the Park's territory; ⇒ In order to fulfill its obligations under Article 50, Paragraph 7 of the PAA, the Pirin NPD needs to have the ownership documents and lease or concession contracts for all sites within Pirin NP.

1.22.4. Management

INDICATOR	ASSESSMENT	MEASURES / RECOMMENDATIONS
Availability of materials and equipment for the NPD	⇒ The lack of separate park offices and the lack of equipment, as well as the poor communications do not allow the proper implementation of the responsibilities of the small in number staff; ⇒ The minimum office equipment required includes computer configurations for each park region and for the experts in the headquarters; ⇒ All staff members need to be supplied with mobile telephone communications.	⇒ The headquarters and the park region offices urgently have to be equipped with the necessary software, copying and fax machines, stationary and mobile telephone communications for each of the experts.
Staff and human resources development	⇒ The limited number of employees impedes the implementation of all necessary park activities. ⇒ There is no system for increasing the staff qualification.	⇒ Providing Internet connection on every PC available. ⇒ Increasing staff qualification
Park area guarding system	⇒ The defined average area per park guard expert is 1948 hectares (the total guarding area of Pirin NP is 40,907.6 hectares and there are only 21 guards). This contradicts the provisions of Article 68 of the PAA, according to which the area of the separate guarding sections should not exceed 1500 hectares.	⇒ The guarding system needs to be developed by increasing the park regions and decreasing the guarding sections area to the legally defined size ⇒ The number of park guards should be increased from the present 21 to 28.
Interactions and cooperation of the NPD and other agencies	⇒ There are no lasting relations with the municipal administrations and nature-protection NGOs at the national level; ⇒ Good relations with the regional bodies at the local level: the Regional Service for Fire and Accidents Security /RSFAS/, the Regional Directorate of the Ministry of Interior, and the Regional Inspectorate of Environment and Waters.	⇒ Establishing a Park partnership network between all stakeholders from the adjacent areas.
Conditions for participation of the local authorities and community in taking the decisions related to the park management and activities	⇒ There is no consultative and scientific council for the park; ⇒ Sociological researches show that the public in some municipalities is not acquainted with the issues related to the national park management.	⇒ Establishing a Consultative Council; ⇒ Nature protection should be carried out in terms of continuous dialog with and encouraging the interest of the professional organizations, which are directly related to the use of nature.

In SCROLL I, Annex 8.1. A list of the materials and equipment needed by NPD is presented.

1.22.5. Formulating the main and the specific problems of the area

PROBLEMS ESTABLISHED	FACTORS AND REASONS, LEADING TO THE ARISING OF THE ESTABLISHED PROBLEMS
Vulnerability of species and habitats due to human activity	⇒ The lakes' stocking with fish leads to changes in the water quality and quantity ⇒ Inappropriate ways of collecting mushrooms, herbs and others ⇒ Poaching, illegal fishing and stuffing animals ⇒ No special regime for pasture use has been applied ⇒ Negative impact on forest ecosystems in the periphery of the Park due to illegal logging in the adjacent territories ⇒ Carrying out planned felling for clearings, ski runs and construction
Forest resources management	⇒ Lack of up-to-date forest inventory data ⇒ Removing the bigger part of the dry and fallen trees ⇒ Presence of non-typical, alien tree species
Recreation pressure on certain parts of the park	⇒ Big preassure in January – Mach in the region of Shiligarnika and in July – August at the chalets of Vihren, Pirin, Tevnoto ezero, etc. ⇒ Breaking branches, trampling and baring tree roots along the trails and the recreation spots ⇒ Lack of a system of tourist flow management ⇒ Lack of enough parking places ⇒ Unregulated camping – no camping sites, meeting the necessary conditions ⇒ The road network and hiking tourist trails maintenance is not at the necessary level
State of the built territories and the tourist service sites	⇒ The regions around the chalets are not well maintained, there are problems with the water sources and the removal of waste-waters, there are no normal toilets. The people working there are not well educated, nor motivated ⇒ There are abandoned and unnecessary buildings, which spoil the landscape ⇒ The waste-waters are led to septic pits, which are in a bad state; normal toilets are lacking ⇒ Insufficient number of phone posts ⇒ The water-supply zones are not provided with sanitary protection zones, or if there are such, they are in a bad state ⇒ There is no visitor information about the possible links to the public transport or access points to the park ⇒ Lack of preliminary marketing studies on the real capacity of the new sites
Ownership on buildings and facilities and relationships with the users	⇒ Lack of data about users ⇒ Elapsed procedure terms ⇒ Lack of motivation for investments ⇒ Non-observance of contract obligations ⇒ Different kinds of ownership on buildings and facilities

Management, warding and maintenance of the territory of the National Park	⇒ Insufficient material and technical provision of the NPD and its offices ⇒ Low personnel number ⇒ Insufficient qualification of the NPD staff ⇒ Lack of long-term relations with the municipal administrations and the national nature conservation NGOs ⇒ Insufficiently developed partnership system for sustainable tourism between the NPD and all the stakeholders in the territories, adjacent to the Pirin NP ⇒ Low public support for the park.
Development of the adjacent settlements	⇒ Lack of information visitor centres and information points ⇒ Insufficient information and promotion of the park ⇒ The adjacent settlements are not sufficiently used as a sports, recreation and tourist resource, or bases for environmental education and scientific research activities ⇒ Insufficiently developed transport and tourist infrastructure ⇒ Insufficient funds for preservation of cultural and historical heritage sites and for conservation of local customs and crafts
Necessity of territorial link of the Park with other protected areas	⇒ Priority habitats and areas, established out of the park (Orelyak Reserve, etc.) ⇒ Some areas with great species diversity are located in the low and average-height zones of Pirin, out of the NP territory

1.23. POTENTIAL VALUE OF THE PROTECTED AREA

INDEX EVALUATION	REASON
Biological diversity Pirin National park is an area of high level of biological diversity as related to the whole country.	⇒ The plant sub-communities found are 260 in total, 155 of which are formed under the dominant role of the tree species, part of the sintaxa are endemic ⇒ The total number of algae found on the territory of the park is 165, which is approximately 30% of the species that occur in Bulgaria ⇒ On the territory of the park are established 367 species of lichens, which is around 52% of the species of the Bulgarian lichen vegetation. ⇒ The number of the representatives of the vascular flora is about 1315 species, which is about 30% of the flora of Bulgaria. Of them the species and sub-species of conservation importance are 149: - *114 species are included in the Red Data Book of Bulgaria* - *54 species are protected* - *14 plant species and 4 sub-species are local endemics* - *17 species are Bulgarian endemics* - *86 species are Balkan endemics* ⇒ The medicinal plants found are 182 species ⇒ The group of the invertebrate animals is represented by nearly 30% of the species in Bulgaria ⇒ The 159 bird species occurring form 40% of the species diversity on the territory of Bulgaria ⇒ The species diversity of mammals on the territory of the park is about 50% of the mammal fauna in Bulgaria
Landscape diversity The appearance of nature and landscape of the Pirin National park offers diversity, uniqueness, and beauty that are an important factor for providing long-lasting influence on people in their recreation	⇒ 16 landscape groups are determined ⇒ The rich landscape structure with the typical unique scenery of Pirin includes many small - and large-scale panoramas, diversity of scenery of forest and wilderness, cirque valleys and pinnacles ⇒ The large number of lakes forms the typical of Pirin lake landscapes, most attractive for the tourists ⇒ In the near sight are seen green and blooming meadows with numerous outskirts of forests, screes, gullies and rock walls, formed by nature in changing colors, lights and shadows, depending on the period of the year, on the sea level, the forms of relief, the rock substrate, and the time of the day
The place of the National Park in the ecological network of Bulgaria and Europe Concerning the national network of Protected Areas Pirin National Park has high value as a site from NATURE 2000	⇒ In the Directive 92/43/EEC are included: Four plants species: *Artemisia eriantha* Ten, *Galanthus nivalis* L, *Gentiana lutea* L., *Ligularia sibirica* (L.) Cass Vertebrate animals – blageon (*Leuciscus souffia*) and 24 mammal species ⇒ Directive 79/409/EEC includes 40 bird species occurring in Pirin NP
Area for conservation of habitats and species of European and global conservation significance The global and European importance of Pirin National Park is determined by its role as a basic morphological unit for the formation of the vascular flora at the international scale,	⇒ 10 types of natural habitats are included in the list of the European Habitats, that need special conservation measures, Annex I of Resolution # 4 /1996 ⇒ The largest natural complex of the Balkan endemic species – the Macedonian pine and the Balkan sub-endemic species – the Bosnian pine, occurs on the territory of the park ⇒ Pirin National Park is a major center for the conservation of several rare, protected and endemic species of European and global significance - *Species included in the 1997 Red List of IUCN – 21 species* - *Species included in the Directive 92/43 – 4 species*

as well as a major center for conservation of habitats of several rare, protected and endemic plant and animal taxa and sintaxa	- *All representatives of the families of the Orchids and Snow drops, occurring in the park are included in the CITES Appendix 6 – a total of 21 species* ⇒ *Arctostaphylos uva-ursi* (L.) Spreng., *Cetraria islandica* L., and *Gentiana lutea* L. are included in the list of endangered medicinal plants determined by the European Union by Regulation (EC) # 338/97 (Medicinal species, listed in the Annex of Regulation (EC) # 338/97) ⇒ *Leuciscus souffia* is included in Appendix III of the Bern Convention and Appendix II of Directive 92/43 ⇒ The birds listed in the Red List of IUCN include – 1 nesting species (corncrake), BONN - 54 species, BERN - 148 species, CITES – 29 species, DIR 79/409 – 40 species, EMERALD – 37 species ⇒ Species of the Red Data Book of Bulgaria – wolf, bear, pine marten, chamois find habitats and are represented by significant populations.
Centre for educational and scientific research activities The interests in using the territory of Pirin National Park that run in opposing objectives determine its importance as a place for educational programs and research activities connected to the long-term effects on the conservation of the natural complex	Objectives favoring scientific research activities: ⇒ Conservation and maintenance of biodiversity - *Study the processes in the ecosystems and territories after violation of natural and anthropogenic character* - *Monitor the succession processes in the main types of sub-communities* - *Clarify the population parameters of the species of conservation importance and their vulnerability to negative anthropogenic influences* - *Conserve the current species richness of autochtonous animals, local breeds and varieties* ⇒ Long-term monitoring of the global changes related to the waters and the trans-border pollution Objectives favoring the implementation of educational programs: ⇒ Knowledge of and protection of rare and protected at the European and global scale species in the region ⇒ Promote the wild nature and the rules of behavior in the Park ⇒ Use of different kinds of timber and non-timber resources ⇒ Increase the awareness and knowledge of local people of the value and significance of the natural complex
Phenomena in the landscape and geo-morphological aspects The geo-morphological features of Pirin National Park make it unique at national and international level	⇒ Granite rocks – covering considerable areas over the whole park and the specific alpine zone landscape ⇒ Marble rocks – natural habitats unique at the European and global scale ⇒ Typical of Pirin glacial forms of relief - cirques, glacier beds, gregue terraces ⇒ Pyramidal, needle or cone shaped inaccessible mountain peaks

Resources Pirin National Park is very important for the formation of a permanent policy for sustainable and environmentally friendly use of natural resources	⇒ The alpine and sub-alpine pastures are used as cheap source of fodder in the summer months ⇒ Several species of mushrooms with excellent taste occur in Pirin National Park (anice mushroom, brown forest mushroom, edible boletus, pine boletus, chanterelle, wood blewit, field parasol, fairy ring agaric etc.) ⇒ There are 182 medicinal plants occurring. For personal needs are used bilberry, hazel bush, raspberry, dewberry, St. John's wort, wild marjoram, wild thyme, etc. ⇒ The largest natural complexes of bilberry are found on the territory of the Pirin National Park ⇒ Wide spread in Pirin are two species of snails that are collected ⇒ Pirin National Park is used as a source of water for drinking and household water supply
Area with opportunities for development of tourism and recreation The territory of the Pirin National Park offers conditions for development of sustainable tourism that meets the demands and expectations of the Bulgarian and foreign tourists	⇒ Certain types of landscape are perceived in a distant view of the e nvironment and serve as a natural background for tourism, sports, and recreation ⇒ Pirin is the most preferred mountain in Bulgaria – appears in more than 70% of the programs for active and adventurous tourism ⇒ Accessibility and available infrastructure, many opportunities for interesting, authentic and enriching trip, as well as relatively rich amount of information, printed materials and programs ⇒ The existing hiking trails are sufficient for equitable distribution of visitors and their directing toward all parts of the park ⇒ Many types of sports can be developed in the park: hiking, skiing, alpine climbing, cave diving, biking and horse-back riding tourism, topical/cognitive tourism, related to the settlements in the foot of the mountain ⇒ Conditions exist for new winter tourist activities: snowshoes hiking and randonee skiing ⇒ There are opportunities for year round programs that combine recreation and tourism with the use of the spa resorts. ⇒ The Cultural and Historical Heritage /CHH/ is a major precondition and resource for the development of cognitive tourism that acquires greater and greater popularity
Source of benefits for the local people The opportunities and advantages that the National park offers are of great importance for generating revenues to the local municipalities	⇒ For the managing and maintaining institutions – guiding, selling of maps and informational materials, use of resources, and etc. ⇒ For the commercial entities from the tourist service branch – offering of a variety of high quality additional services, development of alternative forms of tourism for the economic revival of the village regions ⇒ Opportunities for offering ecological products through development of the traditional farming

PART 2:
LONG-TERM OBJECTIVES AND CONSTRAINTS

2.0. PRINCIPLES IN DEFINING THE OBJECTIVES

The definition of objectives has been done according to the requirements of the Protected Areas Act and the adopted categorization system of the World Conservation Union (IUCN).

> **Art. 18**. (2) The national parks are managed with the goals of:
> 1. maintaining the diversity of ecosystems and wild nature conservation;
> 2. protecting and maintaining the biodiversity in the ecosystems;
> 3. providing opportunities for the development of scientific, education and recreation activities;
> 4. creating prerequisites for the development of tourism, nature-friendly occupation for the local people and other activities in compliance with the above mentioned goals (p.1 – 3).
>
> *Protected Areas Act*

According to the management objectives of the IUCN categorization system, the Pirin National Park includes the following categories of protected areas:

> **Categories** **Ia –** protected area, managed mainly for scientific purposes, and
> **Ib –** protected area, managed mainly for the purposes of wilderness nature conservation
>
> **Category II –** National Park – protected area, managed mainly for the purposes of protection and restoring of the ecosystems
>
> *IUCN – Guidelines for Protected Area Management Categories*

The main principle is the area to be managed in a way, ensuring the conservation and maintaining of the biodiversity in the long term.

2.1. LONG-TERM OBJECTIVES

The long-term objectives defined in this part aim at:

⇒ Establishing a simple, consistent zoning system with clearly defined regimes (Part 3), which can be applied by the stakeholders;

⇒ Establishing a park management system, which complies with the international standards and allows the use of the Pirin National Park image as a World Heritage Site.

On the basis of the statements and evaluations made in Part 1, primary and secondary objectives have been formulated to set the basis of the definition of management decisions and specific activities of the park administration in the next 10 years *(Table 18).*

2.2. CONSTRAINTS

The evaluation in *Table 18* has been done according to a point system, which refers to the intensity of the efforts for removing a threat and the realistic possibility for doing so, as follows:

3 p. - the removing of constraints / threats is the task of the National Park Management and it is necessary the NP Directorate to undertake obligatory measures to this effect.

2 p. - the removing of constraints / threats is not a task of the National Park Management only, but it is necessary the NP Directorate to undertake initiatives to this effect.

1 p. - the removing of constraints / threats is not a task of the National Park Management and requires additional studies and involving other institutions and partners in order to undertake the necessary measures.

SECOND EVALUATION

2.3. EFFECT OF THE CONSTRAINTS ON THE LONG-TERM OBJECTIVES

The levels of impact of the constraint / threat on the objectives have been defined by the experts, who have elaborated the different parts of the Pirin NP management plan. The evaluation has been formed by using a point system as follows:

2.3.1. Concerning the impact of the constraints and threats on achieving the primary objectives:

3 p. Considerable

2 p. Medium

1 p. Negligible

2.3.2. Concerning the territorial scope of the constraints' and threats' impact in the park:

3 p. Everywhere – influences the whole park

2 p. Local – influences a certain part of the park

1 p. Potential – may influence the park on certain conditions

2.3.3. Evaluation of the constraints and threats for undertaking measures in the framework of the 10-year management plan for the Pirin NP

The evaluation given in *Table 30* has taken into account:

⇒ Whether the removing of the pointed constraints / threats is a task of the National Park Management and whether it can be done by them according to the criteria, described in p.2.2.;

⇒ The effect of the constraint, resp. threat, on the objectives according to the criteria, described in p. 2.3.1. and 2.3.2.

The constraints and threats with the greatest number of points form the basis for defining the priorities, descried in p. 4.1.

Table 30.
Evaluation of the constraints and threats

Objectives	Objectives Guidelines for achieving them	Constraints and threats and their impact on the achieving of objectives	NPD responsibility acc. to p.2.2.	Impact on the objecti-ves acc. to p. 2.3.1	Scope of the impact acc. to p.2.3.2	General impact evaluation
I. Conservation, protection and maintenance of the ecosystems' and landscape's naturalness and intactness	**1. Conserving the natural features of the forest ecosystems and the succession processes going on in them** ⇒ Non-interference in the forest ecosystems in the reserve zone ⇒ Interference in the wholeness and structure of the forest ecosystems out of the reserves only in cases of proven necessity *(p. 1.11.2.2.)* ⇒ Gradual replacing of the non-local tree species with appropriate local species *(p. 1.13.2.3.)* ⇒ Monitoring of the state **2. Maintaining and restoring the naturalness of the alpine and sub-alpine associations** ⇒ Regulation of the grazing *(p. 1.22.2.2.)* ⇒ Monitoring of the state **3. Conserving of the natural rock associations, including the caves** ⇒ Regulation of the places for extreme sports and control of their impact on the state of the natural complex ⇒ Monitoring of the state	**Natural trends** **Global warming of the climate –** influences the species diversity and the resources **Avalanches, snowstorms, windstorms** – result in the change of the habitats for a certain period **Naturally originated fires** – result in origination of secondary post-fire succession processes **Man-induced trends** **Violation of the defined regimes in the zones** – results in erosion and disturbing of the ecosystems' naturalness and the succession processes in them */p.1.22.1.1./* **Excessive pressure on certain sports and recreation places** – results in erosion and damages in the ecosystems and the landscape **Lack of a waste and waste water treatment system**	 3 3 3	 1 1 1 3 2 2	 1 1 1 2 2 2	 2 2 2 8 7 7

	4. Conserving the naturalness of the river and lake ecosystems ⇒ Non-admission of water diversion from lakes and rivers */p.1.10.1.6./* ⇒ Elimination of the pollution of the lake ecosystems and the riverine associations */p.1.22.1.5./* ⇒ Monitoring of the state **5. Protection of species threatened by direct destruction** ⇒ Protection from poaching and picking up protected pant species ⇒ Maintenance of associations of conservation value and such with participation of species of conservation importance /p.*1.14. and 1.15./* ⇒ Conservation of the chamois and other wild animals typical of the park */p.1.15.5.3./* ⇒ Monitoring of the populations' state **6. Preserving the naturalness of the typical landscape elements and restoring damaged terrain** ⇒ Monitoring of the natural processes after windstorms, fires, avalanches or previous human interference; ⇒ Defining measures for the regions mostly affected by changes (built territories, eroded terrain, etc.) ⇒ Limiting the infrastructure development */p. 1.22.1.2. and 1.22.1.3./*	**Unsustainable use of natural resources–** results in decreasing of the species diversity and poor regeneration of species, important from conservation viewpoint **Direct species destruction** – results in decreasing of the biodiversity of species of conservation value */p.1.15.5.3./* **Unregulated grazing -** leads to changes in the grass species composition and loss of species **Fires due to visitor negligence –** lead to disturbances in the conditions of habitats and the landscape */p.1.16.5.6./* **Fish-stocking with alien species (not typical of Pirin) and uncontrolled angling–** lead to disturbance of the river and lake ecosystems' naturalness (refers to the greatest extent to the Balkan trout) */p.1.16.6.2./* **Interests in water capturing and construction of water power stations –** lead to danger from changes in the water regime and instability of the wet habitats	3 2 3 3 3 2	3 3 2 3 3 3	3 3 2 2 2 1	9 8 7 8 8 6

Objectives	Objectives Guidelines for achieving them	Constraints and threats and their impact on the achieving of objectives	NPD responsibility acc. to p.2.2.	Impact on the objecti-ves acc. to p. 2.3.1	Scope of the impact acc. to p.2.3.2	General impact evaluation
II. **Providing opportunities for environmental education and interpretation**	**1. Assisting the park visitors to get acquainted with the interesting habitats and species in the park** ⇒ Training guides ⇒ Training target groups with priority on the training in conservation of the natural habitats */p.1.16.9.3./* **2. Increasing the local people's awareness and knowledge about the value and importance of the natural complex** ⇒ Interpretative presentation of information about the Pirin NP as a national park and a World Heritage Site */p.1.16.9.6./*	**Constraints and trends out of the park** **Insufficient information for the local people and the park's visitors about the biodiversity and the value of the ecosystems -** leads to instability of the natural habitats **Insufficient investigation of the tourists' interests –** impedes the change of the visitors' attitude towards the protected areas **Lack of information and visitor centres**	3 3 3	2 3 2	1 2 3	6 8 8
III. **Stimulation of scientific studies**	**1. Studying the natural ecological processes in ecosystems and territories after disturbances of natural or human nature** ⇒ Evaluation in cases of interference or changes in the species diversity */p.1.21./* **2. Clarifying the population dynamics of species of conservation importance and their sensitivity to the negative human impacts**	**Constraints and trends out of the park** **Lack of systematic research planning and publishing of the scientific results in** the protected area by the institutes of BAS, the universities and NGOs **Insufficient initiative for looking for additional funding** by programs	1 1	1 1	1 1	3 3

	/p.1.14. and 1.15./ ⇒ Creating a database on the biodiversity in the park ⇒ Preparing photo documentation					

Objectives	**Objectives** Guidelines for achieving them	**Constraints and threats and their impact on the achieving of objectives**	**NPD responsibility acc. to** **p.2.2.**	**Impact on the objecti-ves acc. to p. 2.3.1**	**Scope of the impact acc. to** **p.2.3.2**	**General impact evaluation**

Objectives	Objectives Guidelines for achieving them	Constraints and threats and their impact on the achieving of objectives	NPD responsibility acc. to p.2.2.	Impact on the objecti-ves acc. to p. 2.3.1	Scope of the impact acc. to p.2.3.2	General impact evaluation
IV. **Incomes generation for the local communities as a result of the opportunities and advantages of the National park**	**1. Increasing the economic benefits for the local people without influencing negatively the natural complex** ⇒ Developing a strategy for stopping the pollution and for permanent control over it ⇒ Defining new forms of use of natural resources and values of biodiversity, which do not affect the wholeness and productiveness of the ecosystems – eco-tourism, cultivation of some wild herb species, etc. **2. Achieving greater demand and higher prices for local products and services** ⇒ Using the park's international value for attracting tourists ⇒ Developing a brand/patent for the products and services offered in the region of the park **3. Conserving of the available species diversity of indigenous animal species** ⇒ Maintaining the high-mountain pastures with the help of disappearing and endangered local breeds */p.1.16.4.9./* ⇒ Developing alternative tourism (eco,	**Man-induced trends** **Poor sanitary – hygienic conditions in the chalets and shelters and difficulties in the collecting and transporting of hard waste –** result in pollution of the adjacent territories and water basins */p.1.22.1.5./* **Ineffective use of the existing tourist resources and lack of interpretation of the natural, cultural and historical heritage –** results in decreasing of the opportunities for increasing the economic benefits for the local population */p.1.22.1.4./* **Lack of coordination of the services related to the park and control over them** */p.1.22.2.1./* **Constraints and trends out of the park** **Bad sanitary – hygienic conditions and lack of specialized tourist infrastructure** in the territories adjacent to the Pirin NP*/p.1.22.2.1./*	2 2 2 1	3 3 3 3	3 3 2 2	8 8 7 6

	rural, agrarian) by using the qualities and history of the local breeds and the traditional ways of stock-breeding */p.1.22.2.2./* **3. Involving the local population, the municipalities and the NGOs in the development of small and middle-sized businesses**	**Lack of state policy for promotion of Bulgaria as an alternative tourism destination**	1	2	1	4
Objectives	**Objectives** Guidelines for achieving them	**Constraints and threats and their impact on the achieving of objectives**	**NPD responsibility acc. to** **p.2.2.**	**Impact on the objecti-ves acc. to** **p. 2.3.1**	**Scope of the impact acc. to** **p.2.3.2**	**General impact evaluation**
V. Improving the management policy and the specialized warding of the national park	**1. Creating broad public support for the National Park** ⇒ Establishing a working system of partnerships for sustainable activities between all the stakeholders in the territories, adjacent to the Pirin NP **2. Carrying out long-term monitoring, maintaining and periodical up-dating of a database on:** ⇒ The state of the hygrophylic associations on wet terrain and the peat-bog associations ⇒ The state of the forest ecosystems and the processes in them ⇒ The associations including rare, protected and endemic species **3. Systematic training of the park wardens** ⇒ Training of the ranger for the purpose of carrying out monitoring ⇒ Elaborating a training program for the park wardens for distinguishing the	**Ineffective management structure and insufficient staff of the NPD –** results in ineffective warding of the park territory **Insufficient budget for rangers' and staff training –** leads to difficulties in the management and servicing of visitors **Lack of established local structures for work in partnership –** impedes the formation of a broader public support for the park	3 2 2	3 3 3	3 1 3	9 6 8

	plant, animal and fungi species of conservation value and applying the legal framework and regimes in the protected area */p.1.22.4./* **4. Changing the park wardens' image of "policemen"** ⇒ Ensuring regular access to information for the local people by the Park Directorate ⇒ Establishing good communication between the park administration, the park wardens and the local people **5. Tourist flow management** ⇒ Establishing and maintaining an information system on the park's territory */p.1.22.2.1./*					
Objectives	**Objectives** Guidelines for achieving them	**Constraints and threats and their impact on the achieving of objectives**	**NPD responsibility acc. to** **p.2.2.**	**Impact on the objecti-ves acc. to p. 2.3.1**	**Scope of the impact acc. to** **p.2.3.2**	**General impact evaluation**
VI. Observing the legal and institutional framework	**1. Arranging the ownership of buildings and equipment according to the active legal base** */p.1.22.3./* **2. Effective applying of the legislation** ⇒ Removing illegal buildings and equipment */1.19.2. and 1.19.3./* ⇒ Control on: - The implementation of the concession contracts - The fish stocking and angling - The car access - The pollution with hard waste - The water, air, etc. pollution ⇒ Fighting the practice of poaching	**Unclear ownership of buildings and infrastructure –** results in hindered control on the users' activities and lack of interests in investment for improving the state of the sites **Lack of legal base for fundraising** from the profits of other park users **The ineffective legislation** hinders the fighting with the poaching	3 2 2	3 2 3	3 1 3	9 5 8

2.4. POTENTIALS OF THE PARK

The potential ways of using the park, which have been defined, practically exist and their observation in the management of the Pirin NP is important for the achieving of the objectives set. Currently these potentials are not adequately utilized. The reasons are mainly institutional, but an increased motivation on behalf of the park administration for qualitative changes in the management and a desire for broader cooperation with the stakeholders for the implementation of the long-term objectives are noted. Concerning its potentials, the Pirin NP is a multi-functional subject.
The evaluation of the listed potentials is done for each of the park functions in compliance with the defined objectives. It forms the basis of defining the programs and projects of Part 4, aiming at the balanced development of the park potentials.

2.4.1. The Pirin National Park is exemplary of the natural succession processes in Southeast Europe
The park territory provides conditions for conservation of the typical of the park habitats and species: Macedonian and Bosnian pine, Balkan Chamois, Balkan Trout, etc.
The park in general sustains a serious base for carrying out scientific research activities and long-term monitoring, which may support the conservation and maintenance of the biodiversity and the sustainable development on scientific grounds.

2.4.2. The Pirin National Park is a focal point for establishing relations with the other protected areas in the region, aiming at the conservation of wild nature and the species and genetic diversity
The park territory provides conditions for the protection, conservation and maintenance of the ecosystems' and landscape's naturalness and intactness. During the field studies regions with maximally conserved habitats, as well as valley, lake and rock landscapes with negligible human impact on them have been mapped.
The park's location and the proximity of other protected areas, like the Rila NP, the reserves Tisata, Orelyak and Ali Botush, allow the establishing of relation between well-conserved natural habitats and landscape structures, exchange of genetic material and conservation of the mammal and bird populations.

2.4.3. The Pirin National Park is a subject of implementation of environmental education and interpretative programs
The Pirin NP provides rich and interesting information about the plant and animal world, about habitats and species typical of the region, as well as conditions for information interpretation. An increased interest at local, national and international level in the training of target groups, aiming at the acquaintance with and protection of species of conservation significance from the park region, as well as with the behavior rules in the park, etc., has been observed.
The park management needs to be more closely interconnected with the local population and non-governmental organizations, which may change the public opinion about the protected areas in economic and social aspect. There is still a lack of managerial expertise in the involving of the public in the nature conservation and ensuring its responsible attitude to nature.

2.4.4. The Pirin National Park is a model of sustainable development of the tourism at local, national and international level
The Pirin NP is an attractive place for tourists from the settlements around. The existing visitor interest in the park is justified by the great potential the park territory provides together with the adjacent territories:

⇒ Comparatively evenly spread interesting trails, directing the visitors in all parts of the park;
⇒ Specialized trails, connecting places with rich biodiversity, sites of the cultural and historical heritage, tourist sites, panoramic view points and other protected areas in the region;
⇒ Places for rest and different sports;
⇒ Accommodation base;
⇒ Rich information, printed materials and programs;
⇒ Rich cultural and historical heritage in the adjacent territories.

The more effective use of the existing tourist resources may ensure an increase of the economic benefits for the local population and users.

2.4.5. The Pirin National Park is an example for public management of a protected area

The Directorate's long years of experience are a prerequisite for the future coordinated management of the Pirin NP. The NPD, in partnership with the municipalities, the local non-governmental organizations and state structures, can play an important role in the management of the territory of the Pirin NP, since they have gained the thrust of the local people, can provide different information and may combine the interests of the different stakeholders.

Currently the Directorate's activity is not favored by sufficient public support and understanding. In many settlements in the vicinity of the park its existence is unknown. The present managerial body of the NPD puts a great deal of efforts to achieve transparency in the park's management and its opening to the wide public in the region. This allows raising the image of the NPD, changing the people's thinking and stimulating their desire to participate in the conservation of nature.

2.4.6. The Pirin National Park is an instrument for sustainable economic development of the adjacent territories

The park, as a World Heritage site, provides real opportunities for greater demand and higher prices for local products and services.

The development of alternative forms of tourism combined with the development of traditional stock-breeding provides opportunities for supplying ecologically clean production and is a prerequisite for the economic revival of the rural regions.

The alternatives of increasing the economic benefits without influencing negatively the natural complex are currently used in a very limited way. At the same time this is exceptionally important for the formation of the right attitude of the local people to the conservation of the natural complex.

Without entering in contradiction with the defined main management objectives, the park territory provides possibilities for bioregional planning according to the "***Man and the Biosphere"*** Programme and its ***Biosphere Reserve Concept*** /*p.1.3.4*/. The Pirin NP territory, together with the reserves it covers – Bayuvi dupki – Dzhinzhiritsa and Yulen – may be connected to neighboring reserves and protected areas /*p.2.4.2.*/ and included in the Bulgarian and international network of biosphere reserves, with a view to increasing the capacities for biodiversity conservation and sustainable regional development.

In SCROLL III, in the annexed "Reports of studies and research, carried out in the process of the plan's elaboration" there is a report on the Bayuvi dupki – Dzhinzhiritsa Biosphere Reserve and guidelines for the park's zoning according to the "Man and the Biosphere" Programme. It may serve as a basis for specific actions to this effect.

PART 3:

NORMS, REGIMES, CONDITIONS AND RECOMMENDATIONS FOR THE IMPLEMENTATION OF ACTIVITIES

The zoning of the Pirin NP territory is made according to the requirements of the Protected Areas Act and the adopted categorization system of the World Conservation Union /IUCN/. The system of categories is established to provide a base for international comparison and is intended to all countries. According to it the regimes and norms in the national park *"concern mainly the conservation of natural habitats, where the direct human interference and the changes in the environment are limited"*.
According to the IUCN requirements, the area has to meet the following conditions:
⇒ At least two thirds of the territory should be and should remain in its natural state in the future;
⇒ It should not include big constructed areas with economic functions;
⇒ A local management structure has to exist.
The Pirin National Park covers the following categories of protected areas with a view to the management objectives of the IUCN system:
I. Strict protection – corresponding to categories Ia and Ib;
II. Ecosystems' conservation and restoration - category II.
The zones' borders are set on the basis of the existing cadastre information – the defined forest sections and sub-sections. The sites where the cadastre units do not correspond completely to the defined boundary of the zones, the division follows the characteristics of the terrain.
The proposed regimes and norms are defined on the basis of normatively defined requirements and the analytical information and evaluations presented in Part 1. Their imposing aims at eliminating or reducing the influence of the threats, identified in Part 2, as well as at ensuring conditions for control and management decision taking.
Especially for the purposes of zoning a new layer of the polygons type is added to the Geographic Information System of the Park. Map # 19 "Functional zoning" in a scale 1: 25 000 is also elaborated.
To improve the effectiveness of the guarding of the Park maps are elaborated for each park region including: boundaries of the cadastre units, hydro-geographic network, roads, buildings and facilities, tourist trails, boundaries of zones, the sites of resource use, etc.

Note: The numeration is done in sections from I to VII, all major positions following the numbers from 1 to 140.

I. GENERAL PRINCIPLES

1. The Pirin NP is designated as a World Heritage site and is acknowledged as a protected area of category II according to IUCN (The World Conservation Union).
2. The following general principles should apply for the park and its management:
1) Hunting is not allowed, except for regulation and control of animal populations, the need of which is proven by scientific surveys and approved by the Scientific Council (SC). Regulation may be done with the permission of the MoEW or the Park Directorate, depending on the requirements for the respective species, subject to shooting, set in the statutory acts that apply.
2) The use of natural resources (timber, medicinal plants, mushrooms, fruits, etc.) for commercial purposes is not allowed.
3) Motorized activities out of the existing tourist zones are not allowed, except for rescue operations and park's maintenance activities, coordinated with the NPD.
4) Extending of the tourist zones is not allowed with a view to preserving the Pirin NP's status as a World Heritage site.

5) Flying below 100 m over the ground with any flying device (helicopter, delta-planes, para-gliders, etc.) and landing outside of the tourist zone, defined by the MP, are not allowed. Exceptions may be made for rescue operations and activities for maintaining the park, which should be authorized by the NP Directorate.

6) New construction in zones Ia, Ib, IIa and IIb, defined in art. 5, is not allowed, except for the construction of tourist and shepherd shelters and facilities, needed for the visitors' safety.

7) Extending the existing network of trails and opening new sports areas (rock climbing, cave-diving, etc.) is not allowed without duly approved projects and a statement of the SC.

8) Intervention in cases of natural disasters (avalanches, soil slides, floods, etc.) is not allowed, except when there is a threat to the communication infrastructure (roads, trails, etc.) or buildings.

9) A sufficiently big area should be defined and left to the natural processes without any intervention (including in the cases of natural disasters). Limited intervention may be allowed in case of a large-scale natural disaster after permission by MoEW and a recommendation by the SC.

II. REGIMES AND NORMS, VALID FOR THE WHOLE AREA OF THE NATIONAL PARK

REGIMES

Arising from the Protected Areas Act /PAA/:

3. Activities, prohibited on the whole area of the Pirin NP:

1) Production activities, excluding the maintenance and restoration activities in the forests, the lands and the water basins;
2) Use of chemical fertilizers and other chemicals;
3) Introduction of plant and animal species alien to the region;
4) Collecting fossils and minerals and destruction of rock formations;
5) Disturbance of the natural state of the aquatic areas, the aquatic currents, their banks and adjacent territories;
6) Game-breeding and hunting, except for regulating the number of the animal species;
7) Polluting the water and the terrain by house-hold, industrial and other waste;
8) Bivouacking and making fires, except at the specially designated sites;
9) Intervention in the biological diversity;
10) Collecting of rare, endemic, relict and protected species, except for scientific purposes;

Arising from the Biodiversity Act (BA):

4. The Biodiversity Act (BA) provisions apply for the conservation of all plant and animal species on the park's territory.

Defined by the Management Plan

5. The following additional restrictions are introduced for the whole area of the Pirin NP:

1) Construction of new and extending of existing ski-runs and facilities;
2) Destruction, damaging or moving sites and facilities of the administrative, tourist or information infrastructure;
3) Mounting of any type of signs and designations without getting the agreement of the NPD about their precise location, design and means.
4) Using areas in the park without the approval of the NPD;
5) Picking of flowers;
6) Driving and parking of motor vehicles out of the designated and specifically marked by permit signs sites, except for maintenance and regeneration activities, permitted by NPD;
7) Any activities, which are a source of noise pollution disturbing people's recreation or the normal conditions in the animal species habitats on the park's territory, are prohibited. An exception may be made for the park's maintenance activities, which should be allowed by the NP Directorate, as well as for life rescuing operations.
8) Artificial lighting of territories out of the defined zone for buildings and facilities.
9) Jumping and swimming in aquatic areas;
10) Using vessels such as boats, rafts, water-wheels, inflatable tires and mattresses, etc. in the water basins, except for maintenance and regeneration activities, official activities, scientific research, monitoring and rescue operations after the permission of the NPD;
11) Washing and bathing in the rivers and the lakes with detergents and soap;
12) Using flying devices for visitors' attraction out of the places defined by the MP, except for implementing

urgent activities in the forests and for rescue operations;
13) Skiing out of the marked ski-runs and trails, defined by the MP;
14) Shooting movies with commercial purposes without the approval of the NPD;
15) Carrying out scientific research and ecological monitoring on the park's territory without the approval of the NPD, except for observations from marked trails and accessible roads and places.

CONDITIONS
Defined by the Management Plan
6. The marking, exploiting, guarding and the control in the sanitary-protection zones should be carried out following the requirements of Regulation # 3/16. 10. 2000 (promulgated in State Gazette # 88/27. 10. 2000) on the conditions and the terms for study, planning, designation and exploitation of sanitary-protection zones around the springs of mineral water used for curing, prophylactic, drinking and hygiene needs.
7. The construction of fire-prevention facilities is carried out according to the approved fire management plan.
8. The establishment of the visual communication system in the Park related to the marking, the information boards, the signs and the printed information should follow the Information System Concept of Pirin NP of the year 2002.

III. ZONING AND FUNCTIONAL PURPOSE OF THE ZONES

9. The following zones are defined in the Pirin NP:
1) Defined in the sense of art. 19 of PAA – Reserve zone, Tourism zone, Zone of buildings and facilities.
2) Defined by the Management Plan, according to art.19, p.4 of the PAA – Zone of limited human impact, Zone of conservation of the forest ecosystems and recreation and Zone of sustainable use of the open areas and recreation.

Table 31
Allocation of the zones according to their area

Designation of the zone	Name of the zone	According to PAA, Art.19	According to IUCN Categories	Area ha	% of the total park area
Ia	Reserve zone	p. 1	Ia	5991,8	14,8
Ib	Zone of limited human impact	p. 4	Ib	8198,5	20,3
IIa	Zone of conservation of forest ecosystems and recreation	p. 4	II	18245,0	45,2
IIb	Zone of sustainable use of open areas an recreation	p. 4	II	6806,8	16,9
III	Tourism zone	p. 2		891,8	2,2
IV	Zone of buildings and facilities	p. 3		222,1	0,6
Total				**40356,0**	**100**

10. As zone **Ia - Reserve Zone,** the territories of the Yulen and Bayuvi Dupki-Dzhindzhiritsa reserves are defined according to the Orders for their designation.
1) The zone's area is 5991 ha, or 14,8 % of the total area of the Park
2) The Reserve zone is managed with the goals of:
   a) Preserving the natural succession processes in the ecosystems;
   b) Preserving of samples of natural ecosystems, including characteristic and/or remarkable wild plant and animal species and their habitats;
   c) Preserving of structural landscape peculiarities;
   d) Encouraging the scientific research and ecological monitoring activities.

3) The zone meets the following criteria for defining regimes and norms:
a) It is almost entirely free of direct human impact;
b) The biodiversity conservation in this zone is achievable only through protection and does not require active habitat management or manipulation;
c) It is sufficiently big and allows the achievement of its conservation objectives.

11. As zone **Ib - Zone of limited human impact,** are defined territories without changed or with only slightly changed habitats with preserved natural features and processes, localities of threatened habitats of species of conservation significance.

1) The zone's area is 8198,5 ha, or 20,3 % of the total park area.
2) The Zone of limited human impact is managed with the goals of:
a) Maintaining the natural processes and qualities of the environment over a long period of time;
b) Preserving the natural state of localities, where threatened habitats of flora or fauna species with conservation importance have been established and where stricter access and use regimes are needed;
c) Ensuring access in a way, providing physical and spiritual pleasure for the visitors and simultaneously maintaining the wild nature of the area for the present and future generations;
d) Establishing connections with natural habitats of conservation value and protected areas in and out of the park's boundaries.
3) The zone meets the following criteria for defining regimes and norms:
a) It has natural qualities of high conservation value and allows stopping of the human interference, which guarantees management sustainability.
b) It has typical ecological, geological and exceptional landscape features, which are of great importance for the scientific and educational goals.
c) It is sufficiently large and allows both the conservation and the applying of the described ways of management.

12. As zone **IIa - Zone of conservation of forest ecosystems and recreation**, are defined the territories of the Pirin NP occupied by forest vegetation, including dwarf-pine.

1) The zone's area is 18245,0 ha, or 45,2% of the total park area.
2) The Zone of conservation of forest ecosystems and recreation is managed with the goals of:
a) Conservation of the ecological intactness of the forest ecosystems for the present and future generations;
b) Preserving the ecological, geo-morphological and aesthetic features;
c) Ensuring conditions for the natural development of the forest ecosystems;
d) Maintaining the most possible natural state of the representative territories, providing examples of the existing physical-geographic regions, natural habitats, genetic resources and species;
e) Ensuring nutrition base for the animal species;
f) Establishing conditions and directing the visitors to such forms of spiritual, educational, cultural and recreational use, which allow the conservation of the area in its natural or close to natural state;
3) The zone meets the following criteria for defining regimes and norms:
a) It covers considerable representative natural regions, where the plant and animal species, the habitats and geo-morphological features are of special spiritual, scientific, educational and recreation value;
b) It is sufficiently large and covers entire ecosystems, which are not changed or are slightly influenced by man.

13. As zone **IIb - Zone of sustainable use of open areas and recreation** are defined the pasture areas of the Pirin NP, traditionally related to the pasture stock-breeding and maintained by this activity.

1) The zone's area is 6806,8 ha, or 16,9 % of the total park area.
2) The Zone of sustainable use of open areas and recreation is managed with the goals of:
a) Long-term conservation and maintenance of the biodiversity and landscapes within the territory;
b) Stimulation of responsible and purpose-oriented ways of long-term sustainable use of resources;
c) Protection of the natural resources from ways of use destroying the area's biodiversity;
d) Using resources through measures, which do not contradict the management goals.
e) Supporting the regional development.
3) The zone is sufficiently large and allows determining of norms and regimes for a long-term use of resources without damaging the natural values.

14. As zone **III - Tourism zone**, are defined territories of the Pirin NP in the regions of Bansko and Dobrinishte with existing intensive tourist pressure and existing sports facilities

1) The zone's area is 891,8 ha, or 2,2% of the total park area.

2) The Tourism zone is managed with the goals of:
a) Maximum protection of the ecological, geo-morphological and aesthetic features;
b) Establishing conditions and directing the visitors to such forms of sports, tourism and recreational use, which allow the preservation of the territory in its close to natural state;
c) Protection of the natural resources from tourism and sports practices, which damage the biodiversity on the park's territory out of the zone;
d) Ensuring conditions for development of specialized tourism and sports activities.
3) The zone meets the following criteria for defining regimes and norms:
a) It is clearly differentiated and covers ecosystems, which are influenced by man;
b) It is sufficiently large and allows the long-term use of the existing tourist resources and sports facilities without additional destruction of the natural values.

15. As zone **IV - Zone of buildings and facilities**, are defined the regions of the exiting chalets, lodgings, bungalows, buildings of the Park administration, transformation stations, water catchments, openings for air electric power lines, fire-prevention openings, roads, existing ski-runs and facilities, as well as the ones that are under constructions according to the approved projects, the sites of new construction envisaged by the projects and included in the Management Plan, and constructions for the purposes of the National Park determined by the Plan.
1) The zone's area is 222,1 ha, or 0,6 % of the total park area**.**
2) The Zone of buildings and facilities is managed with the goals of:
a) Protection of the natural resources from methods of using and maintaining the facilities, which damage the biodiversity on the park's territory;
b) Removing illegal buildings and facilities;
c) Improving and keeping the necessary sanitary – hygienic conditions in the accommodation buildings;
d) Defining limited territories, suitable for visitor recreation and rest – picnic sites, shelters, tent camps and other tourist sites.
e) Ensuring conditions for shepherds' staying in the area;
f) Providing opportunities to the park guards for optimum management;
g) Establishing conditions for providing visitor information and interpretation.
3) The zone allows the long-term use of the existing tourist resources and sports facilities with maximum preservation of the landscape qualities.

IV. REGIMES AND NORNS BY ZONES

16. In zone **Ia – Reserve zone**, any human activity is prohibited, except:
1) Guarding;
2) Life-rescuing operations;
3) Visits with scientific purposes;
4) Passing of people along the marked trails, including with education purposes;
5) Collecting seed material, wild plants and animals for scientific purposes or for their reintroduction at other places, in quantities, mode and time excluding the disturbance of the ecosystems;
6) Carrying out of sanitary activities only with the permission of the Ministry of Environment and Water, issued after receipt of a positive scientific reference of the Bulgarian Academy of Sciences and positive decision of the National Council on the Biological Diversity;

17. In zone **I b – Zone of limited human impact,** any human activity is prohibited, except:
1) Guarding;
2) Life-rescuing operations;
3) Scientific research;
4) Hiking tourism only along the marked trails, including with education purposes;
5) Collecting seed material, wild plants and animals for scientific purposes or for their reintroduction at other places, in quantities, mode and time excluding the disturbance of the ecosystems;
6) Extinguishing fires and carrying out of sanitary activities in the forests, damaged as a result of natural disasters and calamities with the permission of the NPD, issued after the approval of the Scientific Council;

18. In zone **II a – Zone of conservation of the forest ecosystems and recreation,** any human activity is prohibited, except:

1) Guarding;
2) Life- rescuing operations;
3) Extinguishing fires and fire-safety activities according to the action plan of the NPD;
4) Maintaining the tourist trails and the safety facilities;
5) Passing of domestic animals on trails defined by a project;
6) Scientific research;
7) Hiking and recreation;
8) Ski-hiking only on marked trails;
9) Collecting mushrooms, herbs and wild fruits for personal needs;
10) Maintenance and restoration activities in the forests in cases of strictly proven necessity;
11) Regulating the numbers of certain animal species;
12) Angling.

19. In zone **II b – zone of sustainable use of open areas and recreation,** any human activity is prohibited, except:

1) Guarding;
2) Life- rescuing operations;
3) Extinguishing fires and fire-safety activities according to the action plan of the NPD;
4) Maintaining the tourist trails and the safety facilities;
5) Scientific research;
6) Hiking and recreation;
7) Collecting mushrooms, herbs and wild fruits for personal needs;
8) Maintenance and restoration activities in cases of strictly proven necessity;
9) Regulating the numbers of certain animal species;
10) Stocking with Balkan Trout and angling at places, defined by the NPD;
11) Grazing of sheep, cows and horses with a permit from the NPD.

20. In zone **III – Tourism zone,** any human activity is prohibited, except:

1) Guarding;
2) Life- rescuing operations;
3) Extinguishing fires and fire-safety activities according to the action plan of the NPD;
4) Waste collecting and transporting the hard refuse, coordinated with the NPD;
5) Scientific research;
6) Hiking and recreation;
7) Specialized tourism (horse-back riding, cycling, skiing, etc.)
8) Collecting mushrooms, herbs and wild fruits for personal needs;
9) Maintenance and restoration activities;
10) Regulating the numbers of certain animal species;
11) Stocking with Balkan Trout and angling at places, defined by the NPD;
12) Grazing of sheep, cows and horses with a permit from the NPD;
13) Sports.

21. In zone **IV – Zone of buildings and facilities,** any human activity is prohibited, except:

1) Guarding;
2) Extinguishing fires and fire-safety activities according to the action plan of the NPD;
3) Waste collecting and transporting the hard refuse, coordinated with the NPD;
4) Scientific research;
5) Hiking and recreation;
6) Collecting mushrooms, herbs and wild fruits for personal needs;
7) Maintenance and restoration activities;
8) Regulating the numbers of certain animal species;
9) Stocking with Balkan Trout and angling at places, defined by the NPD;
10) Grazing of sheep, cows and horses with a permit from the NPD;
11) Sports;
12) Construction, repair and reconstruction of buildings, roads and facilities.

Table 32
Activities permitted in the different zones of the park's territory

Zone / Activity	I a Reserve zone	I b Zone of limited human impact	II a Zone of conservation of the forest ecosystems and recreation	II b Zone of sustainable use of open areas and recreation	III Tourism zone	IV Zone of buildings and facilities
Scientific research and passing along marked trails **p.V.1.**	**1**	**1**	**1**	**2**	**3**	**3**
Hiking and recreation **p.V..2.**	–	–	**1**	**1**	**1**	**2**
Collecting mushrooms, herbs and forest fruits for personal needs **p.V.3.**	–	–	**3**	**3**	**3**	**3**
Maintenance and restoration activities **p.V.4.**	–	–	**2**	**2**	**1**	**1**
Regulating animal species' numbers **p.V.5.**	–	–	**2**	**2**	**3**	**3**
Angling **p.V.6.**	–	–	**3**	**3**	**3**	**3**
Grazing **p.V.7.**	–	–	–	**1**	**3**	**3**
Sports **p.V.8.**	–	–	–	–	**1**	**1**
Construction, repair and reconstruction **p.V.9.**	–	–	–	–	–	**1**

1. Primary activity
2. Secondary activity
3. Potentially feasible activity
– Prohibited activity

V. REGIMES AND NORMS IN KINDS OF ACTIVITIES

V.1. SCIENTIFIC RESEARCH AND PASSING ALONG MARKED TRAILS

REGIMES
Defined by the Management Plan
22. Scientific research may be done in all zones.
23. Scientific research and ecological monitoring on the territory of the park is not allowed without the permission of the NPD, except for observations from marked and accessible roads and spots.

CONDITIONS
Arising from the Protected Areas Act /PAA/ :
24. Visits for scientific or educational purposes out of the marked trails in the reserves are carried out with the permission of the Ministry of Environment and Waters.
Defined by the Management Plan
25. Visits for scientific or educational purposes out of the marked trails in the zone of limited human impact are carried out with the permission of the NPD.
26. The proposals for scientific research activities contain the following information:
- In case of already running projects an idea of the results, already achieved, should be presented;
- The project's subject should be precisely formulated and the way it meets the conservation goals should be pointed out;
- Kind of the data and methods of their study;

27. In case the study is done in a specific zone, the reason why only there work on a certain problem is possible should be given
28. The use of equipment is limited.
29. After the end of the studies all equipment should be dismantled and the initial state of the area - restored.

NORMS
Defined by the Management Plan
30. The groups for scientific and education activities outside the marked trails in the reserves should not exceed 10 people.
31. When seed material, wild plants or animals are collected with scientific purpose or for their reintroduction in other places, their quantity or numbers, methods or ways of collecting are defined by a permit from:
- MoEW – for the reserve areas;
- NPD – for the rest of the park areas.

RECOMMENDATIONS
Defined by the Management Plan
32. The scientific visits to the reserve territories out of the marked trails should be coordinated with the park administration.
33. The organized groups on the marked trails of the reserves should not exceed 20 people.
34. When scientific research or monitoring is done, a copy of the results report should be submitted to the NPD.
35. The necessary control surveys are done on foot.

V.2. HIKING TOURISM AND RECREATION

REGIMES

Defined by the Management Plan

36. Hiking tourism and recreation may be practiced in the following zones:

1) II a – Zone of conservation of the forest ecosystems and recreation;
2) IIb – Zone of sustainable use of open areas and recreation;
3) III – Tourism zone;
4) IV – Zone of buildings and facilities.

CONDITIONS

Arising from the Protected Areas Act /PAA/ :

37. The trails in the reserve territories are defined by an Order of the Minister of Environment and Water, according to the designation orders.

Defined by the Management Plan

38. The trails in the zone of limited human impact are defined by the NPD with the approval of the Scientific Council.

39. The formation of additional trails and routes is done by the decision of the NPD, according to "The Information System Concept of the Pirin NP" adopted in 2002.

40. The defining of the precise sites for providing conditions for picnics and short-term recreation are defined by the park administration.

41. The design and the furniture of the resting sites, as well as the elements themselves should follow individual projects.

42. All the architectural elements and facilities should be planned and build in natural materials – stone and tree.

NORMS

Defined by the Management Plan

43. For the purposes of the future planning the carrying capacity of the sites for recreational activities should be calculated in a differentiated method by expert evaluation, as follows:

1) For artificially planted forest ecosystems – 8 people/ha;
2) For grass ecosystems on well-developed soil (meadows, mowed meadows) – 12 people/ ha;
3) For high-mountain grass ecosystems on shallow soil – 6 people/ha;
4) Lump pressure of up to 180 man-days annually for the high sections of the zone /above 1600 m/ and up to 240 man-days annually for the recreation sites in the remaining sections of the zone (Douglass. R, Forest Recreation, 42-44)

44. The following numbers are defined for establishing the sites for picnic and short-term recreation by regions:

1) Vihren PR –15 numbers;
2) Bezbog PR – 2 numbers;
3) Trite Reki PR – 5 numbers;
4) Kamentsa PR – 15 numbers;
5) Sinanitsa PR – 10 numbers;
6) Bayuvi dupki PR – 5 numbers.

RECOMMENDATIONS

Defined by the Management Plan

45. Limiting the access to the Baykusheva Mura in the Vihren PR for 5 years is recommended.

V.3. COLLECTING MUSHROOMS, HERBS AND WILD FRUITS

REGIMES

Defined by the Management Plan

46. The collecting of mushrooms, herbs and wild fruits may be practiced in the following zones:

1) II a – Zone of conservation of the forest ecosystems and recreation;
2) IIb – Zone of sustainable use of open areas and recreation;
3) III – Tourism zone;
4) IV – Zone of buildings and facilities.

47. The collecting of mushrooms, herbs and wild fruits may be practiced in the frame of the quotas, defined by the Park Directorate and as far as it does not infringe the provisions of the Medicinal Plants Act (MPA).

48. The collecting of mushrooms, herbs and wild fruits may be practiced after duly receiving of a permit from the Park Directorate.

CONDITIONS

Defined by the Management Plan

49. If necessary, the NPD may stop the collecting and using of resources from the park's territory and duly informs the interested persons and the public.

NORMS

Defined by the Management Plan

50. The norms of using non-timber products – wild fruits, herbs and mushrooms – are as follows:

1) Wild fruits for personal needs, excluding these of the medicinal plants list – quantities of fresh fruits collected by one person within one day – up to 4 kg;
2) Herbs for personal use – the quantities of fresh fruits collected by one person within one day are as follows:
   a) roots, rootage, bulbs or tubers – up to 1 kg;
   b) stems – up to 1 kg;
   c) leaves – up to 0.5 kg;
   d) bark – up to 0.25 kg;
   e) blossoms – up to 0.1 kg
   f) seeds – up to 0.1 kg;
   g) fruits – up to 4 kg
   h) buds – up to 0.25 kg;
   i) talus – up to 0.5 kg.
3) Mushrooms for personal needs – quantities of fresh mushrooms collected by one person within one day – up to 3 kg;
4) The collecting of mushrooms, herbs and wild fruits for commercial purposes is practiced according to an annual plan of the NPD, approved by MoEW.

RECOMMENDATIONS

Defined by the Management Plan

51. The use of stinging nettle (roots and leaves), monk's rhubarb (roots) and the Panonian mullein (blossoms) should be carried out without limitations in the pen communities, shown on Map # 11 "Plant communities".

V.4. MAINTENANCE AND RESTORATION ACTIVITIES

REGIMES

Defined with the Management Plan

52. Maintenance and restoration activities may be practiced in the following zones:

1) IIa – Zone of conservation of the forest ecosystems and recreation;
2) IIb – Zone of sustainable use of open areas and recreation;
3) III – Tourism zone;
4) IV – Zone of buildings and facilities.

Arising from the Protected Areas Act /PAA/:

53. Prohibited activities:

1) Clear felling;

Defined by the Management Plan

2) Cutting down trees and bush species not marked with a stamp of the Pirin NPD.
3) Cutting down trees and bush species without timber use permit issued by the NPD.
4) Trucking and transporting timber obtained in Pirin NP without a permit issued by the NPD and without a mark of the Pirin NPD stamped on the front of the logged timber.
5) Using seed material for forest regeneration purposes, acquired out of the park territory or the adjacent areas.

CONDITIONS

Arising from the Protected Areas Act /PAA/:

54. In his capacity of such, the NPD Director issues annual permits for timber use by the local population in the frame of the maintenance and restoration activities in the forests and in compliance with the accordingly approved plans and projects.

Defined by the Management Plan

55. When maintenance and restoration activities in the forests are accompanied with timber yielding, the timber is transported by animal draught.

56. The maintenance and restoratin measures should be obligatorily coordinated with the management goals for the respective zone, listed in Chapter III.

NORMS

Defined by the Management Plan

57. No sanitary activities are allowed in case of damages or drying of less than 5 % of the growing stock of the forest stand.

58. In cases of damages or drying of more than 25% of the growing stock of the forest stands the carrying out of sanitary activities should be decided upon by the Park administration, after the approval of the Scientific Council.

59. In cases of damages or drying of 5% to 25 % of the growing stock of the forest stands the carrying out of sanitary activities should be decided upon by the Park administration, but at least 5 m^3/ ha of the damaged timber should be left on the spot.

60. In carrying out of the maintenance activities in forests no more than 20 % of the growing stock of the forest stands can be yielded.

61. In carrying out of the regeneration activities in forests no more than 10% of the growing stock of the forest stands can be yielded.

62. Growing plantations of local origin is practiced up to the fifth year of their establishing.

RECOMMENDATIONS

Defined by the Management Plan

63. The kind and range of the maintenance and restoration activities are defined by the respective development project, according to p.137 and p. 138.

64. The NPD Director issues an Order for carrying out maintenance and restoration activities, which specifies:

1) The grounds for its issuing;
2) The total area and description of the forests, lands and water areas, included in the territory subject to these activities;

65. The development projects should comply with the management goals for the respective zone, listed in p. III.

V.5. REGULATING THE NUMBERS OF ANIMAL SPECIES ON THE TERRITORY OF THE PARK

REGIMES

Defined by the Management Plan

66. Regulating the numbers of animal species on the park's territory may be practiced in the following zones:

1) IIa – Zone of conservation of the forest ecosystems and recreation;
2) IIb – Zone of sustainable use of open areas and recreation;
3) III – Tourism zone;
4) IV – Zone of buildings and facilities.

67. Regulating the numbers of animal species is practiced according to the requirements of the *Hunting and Game Protection Act (HGPA)*

68. Regulating the numbers of animal species is prohibited, except:

1) when they pose threats to the health of their own population or the populations of other species;
2) for maintaining the populations of the Balkan trout or other species by the opinion of the NPD;
3) when they cause damages to domestic livestock or present threat to the visitors;
4) for the removal of stray dogs and cats and cross-breads between wild and domestic animals.

69. Carrying and transportation of or the presence of persons with guns or rifles, regardless assembled or disassembled is prohibited, with exceptions made for the employees of the NPD and MI in execution of their duties or for shooting for scientific purposes after the permission of the NPD.

CONDITIONS

Defined by the Management Plan

70. Regulation and control on animal populations, the need of which is proven by scientific research and which is admitted by the Scientific Council (SC), is done only by permanent or part-time employees of the Park Directorate.

71. Animals proven to be dangerous are shot with the permission of the MoEW or the Park Directorate, depending on the requirements for the respective species, subject to shooting, set in the statutory acts that apply.

RECOMMENDATIONS

72. Regulating the numbers of wild animals or removing problematic individuals from the park territory is done, if possible, by catching and transporting the animal /s/ to regions of the country with small numbers of the respective species.

73. The individual/s/ is shot only if it is not possible to apply the methods of p.72.

V.6. ANGLING

REGIMES

Defined by the Management Plan

74. Angling may be practiced in the following zones:

1) IIa – Zone of conservation of the forest ecosystems and recreation;
2) IIb – Zone of sustainable use of open areas and recreation;
3) III – Tourism zone;
4) IV – Zone of buildings and facilities.

75. Angling should be practiced in keeping with the requirements of the *Fishery and Aquatic Cultures Act (FACA).*

76. Activities, prohibited while angling:

1) Moving, transporting and staying of persons with spears.
2) Carrying and transporting of stocking material and stocking with fish of rivers and lakes without the permission of the NPD.
3) Angling in the following rivers and river sections:
   - -Vasilashka – from the Dolno Vasilashko Lake to its influx into Demyanitsa River;
   - -Demyanitsa – from Tiyacite (including) to the Dolno Valyavishko Lake;
   - -Srednata – from the Pirin chalet and upwards;
   - -Kraynata – from the Park boundary and upwards;
   - -Polenitsa;
   - -Konska reka;
   - -Malka Spanopolska;
   - -Banderishka – the section crossing the Ravnaka site;
   - -Georgiiska;
   - -Sinanishka.
4) Angling and fish breeding out of the places, defined by the NPD annual plans.

CONDITIONS

Defined by the Management Plan

77. Reglation and control on the fish populations is done by the NPD.

78. Every year the NPD, with the help of experts, defines which lakes on the park's territory may be stocked and used for angling.

79. The stocking with fish should be done only with Balkan trout.

NORMS

Defined by the Management Plan

80. The following restrictions are introduced for the anglers:

1) Allowed time of the day – the light part of the day;
2) Allowed days of the week – Saturday, Sunday and the official holidays;
3) Allowed tools – one fishing line with one hook mounted on it;
4) Allowed quantities – for one-day excursion for personal needs 2 kg of fish could be kept, but not more than 8 fishes or one specimen heavier than 2 kg – does not apply to the Rainbow Trout and the Brook Trout.
5) Allowed bait – only artificial.

RECOMMENDATIONS

defined by the Management Plan

81. For the first two years of the plan's action the following lakes are proposed for fish stocking and angling: Okoto (The Eye), Muratovo Lake, Ribno and Banderishko Lakes, Spanolopski lakes, Golyamo Viljavishko, Sinanishko, Tevno, Bezbozhko and Popovo lakes.

V.7. GRAZING ON THE PARK'S AREA

REGIMES

Defined by the Management Plan

82. Grazing on the park's territory may be practiced only in the following zones:

1) IIb – Zone of sustainable use of open areas and recreation;
2) III – Tourism zone;
3) IV – Zone of buildings and facilities.

Arising from the Protected Areas Act /PAA/ :

83. Grazing of goats, as well as grazing in the forests surrounding the meadows and pastures, are prohibited.

CONDITIONS

Arising from the Protected Areas Act /PAA/ :

84. In his capacity of such, the NPD Director issues annual permits for grazing in compliance with the accordingly adopted plans and projects.

Defined by the Management Plan

85. Issuing the grazing permits, the employees of the Park should instruct the shepherds about the regime of use of the pastures in the concrete region.

86. Before bringing the livestock herds and the accompanying dogs to the pastures, they should pass veterinary control and have the respective document.

87. The trails for bringing animals up on the pastures are defined by the Pirin NPD according to the Grazing Project.

88. The following requirements should be included in the issued grazing permits:

1) The grazing animals should be kept at least 100 m off the tourist trails;
2) The dogs accompanying the herds should wear clogs.

89. No fees are to be collected for grazing of rare and threatened native livestock breeds;

90. The shepherds may stay in the shelters with the permission of the NPD.

NORMS

Defined by the Management Plan

91. For grazing in one grazing season (*calculated on the basis of the state of the pastures in 2002 – the average green mass yield, the daily need of nutritive substances and the continuation of the grazing period*):

- for big cattle – 0.5 heads per 1 ha;
- for sheep – 2,5 heads per 1 ha.

Note: In the calculations the big cattle is related to the sheep in a ratio of 1:5.

RECOMMENDATIONS

Defined by the Management Plan

92. The period of use of each specific pasture should be defined in accordance with the vegetation cover, the productivity and meteorological conditions, after expert evaluation of an expert or employee of the park;

93. The grazing should begin when the grasses are 8-10 cm if the pasture is to be used by sheep, and 15-30 cm if it is to be used by cows;

94. Targeted grazing should be carried out in the beginning of the vegetation in the sites where the bush cover is the densest;

95. Rotation of pastures should be introduced at certain pasture territories when the grass cover is reduced below 60%;

96. The steep pastures in the areas of Mandrishte and Solishteto should be used every second year to allow restoration of their natural sod.

V.8. SPORTS

REGIMES
Defined by the Management Plan
97. Sports may be practiced in the following zones:
1) III – Tourism zone;
2) IV – Zone of buildings and facilities;

98. Prohibited activities:
1) Using technologies for producing artificial snow, which pollute the environment;
2) Moving machines and technical equipment over the ski-runs when they are not covered with snow;
3) Exceeding the determined tourist accommodation capacity of the tent camps;
4) Cycling and horse-back riding out of the defined trails;

99. Speleological visits, except to the following sites:
- Banderitsa precipice;
- Vihren precipice;
- Banski suhodol precipice;
- Aleko precipice – northwestern slope of peak Sharaliya.

100. Practicing alpine and rock-climbing, except:
- on the northern face of Vihren Peak;
- the peaks Kamenitza, Banski Suhodol, Bandershki chukar, Bashliiski chukar, Sinanitza, Kuklite, Sabat, Djengal, Jalowarnika;
- in the areas Pesterite and Zhaltite skali (between chalets Banderitza and Vihren);

101. Using flying devices as a tourist attraction is allowed only in the winter season, in the region of Todorka peak – the upper lift station.

CONDITIONS
Defined by the Management Plan
102. Speleological visits should be preliminarily agreed with the NPD.
103. The safe proofing of the rock climbing trails should be made according to the international safety standards.
104. The horseback riding and cycling trails in the tourist zone are defined by the NPD.
105. The design and the furniture of the resting sites, as well as the elements themselves should follow individual projects.

NORMS
Defined by the Management Plan
106. In defining the biking routes and the horse-back riding routes the following norms should be observed:
1) For horse-back riding – width of the path 1.80 to 2.80 m;
2) For mountain biking – width of the path 1.30 to 2.50 m.

RECOMMENDATIONS
Defined with the Management Plan
107. The horseback riding and cycling routes should not coincide.

V.9. COSTRUCTION, REPAIR AND RECONSTRUCTION

REGIMES

Defined by the Management Plan

108. Construction, repair and reconstruction on the park's territory may be done only in zone IV– Zone of buildings and facilities, in keeping with the provisions of the PAA and the regulations for the park's management.

109. Any construction activities are prohibited on the park's territory, except:

1) Fencing Belt 1 of the sanitary – protection zones at the water sources and drinking water-supply facilities;
2) Refurbishment, repair and maintenance of the existing chalets, resting facilities and catering bases and facilities without changing their purpose and increasing their capacity, as well as their built up area;
3) Enlargement of the built up area of the Sinanitsa chalet and Tevno Ezero shelter for sanitary premises;
4) Mounting bungalows by the Begovitsa chalet;
5) Reconstruction, repair and maintenance of the existing forest road network without changing its purpose and without increasing its width and density;
6) Building of meteorological stations according to the projects approved in the due order
7) Building of networks for mobile-phone operators as the sites and the conditions will be determined by the NPD;
8) Refurbishment of the high-mountain shepherd shelters at the following sites:
   - Vihren PR – forests sub-sections: 124-3, 162-7,1147-1;
   - Bezbog PR – forests sub-sections: 264-2, 290-2, 309-2, 118-2, 1220-1;
   - Kamentsa PR – forests sub-sections: 339-1,1241-1, 348-1, 364-a, 376-3, 1302-1, 1302-1;
   - Sinanitsa PR – forests sub-sections: 1341-1, 1355-1, 1359-1, 473-9, 1371-1, 1374-1, sites Konski kladenez, Wlashki rid and Plesha.
9) Construction of tourist shelters according to plans approved in the due order at the following sites:
   - Spano pole
   - Chernata woda – sub-section 1374 – 1;
   - Kornishki esera – sub-section – 314 – 1.
10) Establishment of camping grounds according to individual plans in:
   - Trite Reki PR – in the region of Pirin chalet, forests sub-section 339-5;
   - Sinanitsa PR – in the region of Sinanitsa chalet, forests sub-section 455-a;
   - Kamentsa PR – in the region of Mozgovitsa, forests sub-section 381-3;
11) Construction of a collector next to the site Shiligarnika and its inclusion in the city sewerage system of Bansko.
12) Establishing a ski-run along the existing ski lift from Bezbozhna poliana to the park boundary in order to use it instead of the existing steep opening.

CONDITIONS

Defined by the Protected Areas Act (PAA):

110. For defining the kind ad volume of activities of natural resources use, structuring, construction, etc., management and technical plans and projects are to be elaborated.

Defined by the Management Plan

111. The servicing of the existing septic pits on the park's territory is done in the presence of a park administration representative and protocols are drawn up.

112. The non-functioning buildings and facilities are removed and sanitation measures for them are taken by decision of the park administration.

113. The boundaries of the yards of all the buildings, transformation stations, water capturing points should be determined and marked on the ground according to the orders for conceding their territories in two years' term after the adoption of the MP.

114. Information kiosks should be established in all mountain chalets.

115. The buildings and facilities, which are illegal and have no proper ownership documents, should be classified as ownership of the Pirin NPD.

116. The movement of vehicles should be ceased if the capacity of the parking lots in Vihren PR is exhausted.

117. The existing steep opening from Bezbozhna poliana to the park boundary should be rehabilitated.

NORMS
Defined by the Management Plan
118. Increasing of the build up area of the Sinanitsa chalet and Tevno Ezero shelter by up to 15 %.
119. Mounting of 5 bungalows at the Begovitsa chalet, each with an area of up to 25 m^2.
120. Building of meteorological stations at a norm of 1 item per 80 km^2 .
121. The acceptable use of area for setting high-mountain shepherd shelters is up to 30 m^2 per shelter, including the fireplace and place to keep the fire-wood.
122. For the defined new tourist shelters:
- spread built area – up to 30 m^2 for one shelter;
- to be built on one storey, at the level of the terrain;
- to be constructed of natural materials;

123. The capacity of the defined tent campsites is 60 people and area of 0,2 ha.
124. The maintenance of the exiting openings for air power lines should comply with the regulation for technical exploitation of the power stations and networks of existing facilities /published in State Gazette # 81 of 16. 10. 2000/.
125. The measures of ski run from Bezbozhka poliana to the park boundary are: length 800 m and width 20 m.

RECOMMENDATIONS
Defined by the Management Plan
126. The campsites should be supplied with shelters /water-supplied and supplied with electricity/ and chemical toilets, and their maintenance should be organized.
127. The meteorological stations should be built in proximity to the exiting chalets, at open and accessible places, which are at the same time representative in terms of the changeability of the meteorological elements. Suitable for this purpose are: Gotse Delchev chalet, Demyanitsa chalet, Vihren chalet, Bezbog chalet, Yavorov chalet, Sinanitsa chalet, Banderitsa chalet, Pirin chalet, Tevno Ezero shelter and Begovitsa chalet.
128. The reconstruction of the exiting electric power lines should consider ground construction works.
129. The check-points of the park guards should be established in the exiting buildings:
- In the exiting forest buildings;
- In buildings by the tourist chalets;
- In rooms offered by the chalets.

130. The derivations of the electric power lines of 20 kV to the facilities in the park should be separated from these in the adjacent areas.
131. For facilities of capacity over 50 people modular sewage water treatment stations should be planned.
132. The transportation servicing of the visitors should be done by organized park transport at the conditions determined by the NPD.

VI. RECOMMENDATIONS ON THE MODE OF USE OF THE ADJACENT TERRITORIES

133. The information and visitor centres and the information kiosks should be planned according to the Information System Concept of Pirin NP of the year 2002.
134. Parking lots should be established at the main access points to the NP, considering the norm of 15 m^2 per car.
135. At certain places, agreed with the NPD and the traffic police, road signs for limiting the speed and warning for crossing animals should be mounted.
136. The NPD should look for public support to resolve the problems of the illegal logging.
137. Annual meetings should be carried out to discuss the problems of the poaching and the increase of the game stock outside the Park territory with representatives of NP, hunting units, Municipalities, SFB, NGOs, Regional Police Departments, RIEW and the Rila DNP.

VII. ADDITIONAL PROVISIONS

138. In the sense of this plan, **"maintenance activities"** means activities, undertaken in order to:
- Prevent the deterioration of the types of natural habitats and the habitats of species;
- Avoid predictable unfavorable events;
- Limit the negative human impact on the ecosystems and species of the park;
- Control and regulation of non-local species, which have been purposefully or accidentally introduced in nature and threaten the naturally spread species.

139. In the sense of this plan, **"restoration activities"** are those, which are undertaken in order to:
- Restore disturbed natural habitats;
- Develop and apply action plans for species, endangered to a different degree;
- Reintroduction of extinct species in nature and supporting the populations of rare and endangered species with hindered reproduction.

140. To qualify as "maintenance" or "restoration", the activities in the forests should answer the following conditions:

1) The funding is ensured by the park administration, which manages the products or the results of them.
2) In activities, related to removing biological production out of the park's territory or using it on the spot with utilitarian purpose, the assignee does not make use of the products or the results of their realization
3) The incomes from the realization of the production or the results of the activity do not exceed twice the expenses for their acquisition. Exceptions may be made only for controlling non-local species and thinning felling in forest plantations up to 50 years old.

PART 4:

OPERATIONAL TASKS AND PRESCRIPTIONS FOR PROTECTION AND USE

4.1. DEFINING THE PRIORITIES

Priority targets for the 10-year period of the Plan's action have been set on the basis of the analyses and evaluations made, the defined potential value and possibilities for realization of the objectives set in correspondence with national and international documents.
The rating of the described park management directions in priority order is done according to the evaluation, respectively the number of points, given to the constraints / threats in *Table 30*, p. 2.3.

Related to achieving main goal I:

Conservation, protection and maintenance of the ecosystems' and landscape's naturalness and intactness

1) **Observing the defined regimes and norms –** control on the conceded sites, interference in the forest ecosystems only in cases of strictly proven necessity, control on the sites for sports and intensive tourist practices.
2) **Sustainable use of natural resources** – defining places and appropriate technologies in the use of the resources, gradual replacing of the non-local tree species with local ones, protection from poaching and picking prohibited plant species, preventing the diversion of water quantities from lakes and rivers.
3) **Protection of the fish and game fauna** – protection form poaching and illegal stocking with fish, maintaining conservation important habitats, and creating peaceful conditions for the animals through providing information, training and control.
4) **Optimum protection and management of habitats of high conservation value after natural disasters or unregulated human intervention** – defining prevention measures for safety and monitoring on the state of the affected areas.
5) **Regulated pasture use and control** – conservation of the grass species composition and maintaining of rare and threatened local animal breeds, control on the pollution, monitoring on the pastures' state.

Related to achieving main goal II:

Providing opportunities for conservation education and interpretation

6) **Studying the visitors** – interests, preferences, types of behavior harmful for nature, etc.
7) **Informing the local people and the visitors about the biodiversity and the park's value –** establishing a network of information centres and points, producing information materials, maintaining the existing and establishing new elements of the tourist infrastructure, regulating and directing the visitor flow to the places, defined for sports and recreation.
8) **Carrying out nature conservation training initiatives** – elaboration of educational programs for increasing the ecological culture of certain target groups and interests, training mountain guides, etc.

Related to achieving man goal III:

Stimulation of scientific studies

9) **Coordination of scientific research and publications about the park –** providing logistic support and cooperation, control on their implementation, maintaining databases.

Related to achieving main goal IV:

Incomes generation for the local communities as a result of the opportunities and advantages of the national park

10) **Improving the sanitary – hygienic state of visitor servicing sites** – establishing a system of waste and waste water management and systematic control on the pollution
11) **Development of sustainable tourism** – interpretation of the natural heritage of the park for the purpose of more effective use of the existing tourist resources, coordination of the park-related services and controlling them, ensuring conditions for exchange of tourists and services, aiming at the development of family businesses in the small settlements.
12) **Supporting the traditional stockbreeding on the park's territory** – reconstruction of shepherd shelters, simulating the breeding of local breeds, etc.
13) **Introducing a concession regime** of using sites in the park.

Related to achieving main goal V:

Improving the management policy and the specialized warding of the national park

14) **Management re-structuring** – forming and organizing the functioning of a Public Consultative Council, a Scientific Council and a moving Park Guard Ward.
15) **Work in partnership** – elaboration of a partnership system for sustainable activities, involving all stakeholders in the territories, adjacent to the Pirin NP, joint initiatives with other park administrations, regular information exchange with journalists and local people, maintaining an Internet site of the park, involving responsible institutions, organizations and persons in the forest poaching fight on a local and national scale.
16) **Increasing the staff qualification and the guarding effectiveness** – a program for systematic training of the park guards and administration, exchange of experience with Bulgarian and international park administrations.

Related to achieving main goal VI:

Observing the legal and institutional framework

17) **Clarifying the ownership** of buildings and sites on the park's territory.
18) **Effective applying of the legislation –** control on the implementation of concession contracts, the pollution and poaching.
19) **Establishing a legal base for financial revenues from other users' profits from the park.**

4.2. OPERATIONAL TASKS

The operational tasks listed below refer to the responsibilities of the Pirin NP Directorate to implement the programs and projects, included in the Management Plan – p.4.3. They are implemented every year in the framework of the Directorate staff responsibilities, ensuing from their terms-of–references, described in p.1.5.3. "Staff – main functions by positions".

4.2.1. Ensuring the functioning of the Public Consultative Council /PCC/

The technical and organizational support to the PCC is to be provided by the NP Pirin Directorate. The PCC meets at least twice a year and the time and place of the meetings are to be defined according to the its Activity Regulations. In cases of emergency the PCC may be called by the Park Director.

Directions on the foundation of Pirin NP Consultative Council

The Consultative Council of Pirin National park is an independent body that is a part of the Administration of the national park. It is formed on the basis of quota principle by keeping the proportion between the different quotas and the inner-quota representativeness. Four target groups determine the quotas:

1. ***Government administration*** *including the administration of the park. This is where it is appropriate to be invited representatives of the district administration, the fire department and emergency services, the regional police departments and other sub-divisions of the central state administration;*
2. ***Local administration*** *that consists of authorized representatives of the municipalities on the territory of the park;*
3. ***The business*** *– represented by different firms whose interests are connected with the development of the park – tour operators, hotel-keepers, restaurant-keepers or their associations, water supply and electricity companies, transport companies, private owners who use the resources of the park (pasture, gathering of forest fruits, herbs), owners or managers of buildings in the park;*
4. ***Non-governmental organizations****. This is where it is necessary to be included representatives of nature conservation organizations, the regional tourist association, organizations concentrated on the regional development, the mountain rescue service and etc.*

The consultative council should not exceed 30 members. It functions on the basis of Activity Regulations and name list of its members discussed on the first meeting and approved by the Minister of the environment and water. The consultative council meets at least twice per year, the dates and places of meeting being determined by its Activity Regulations. The functioning expenditures are a part of the annual budget of the park.

The Consultative Council prepares statements regarding the park's Management plan implementation and all the problems related to the conservation, protection, maintenance, and use of the lands, forests, and waters on the territory of Pirin National park. The statements of the Consultative Council support the Directorate of Pirin National park and all other concerned private or juridical persons regarding: the work with the public, informational activities, organization of recreational and tourist activity, conservation of the biological diversity, the sustainable use and preservation of the natural resources, visitors' services and security in the park. The consultative council scrutinizes and expresses its opinion on the organizational policy, maintenance and development of the Park according to its goals and purposes and on all other matters it is appointed to be in charge by the present Management Plan. The Consultative Council discusses and gives standpoints on research activities, awareness and educational programs, informational service, and other activities of the park's administration.

The Consultative Council is a collective body that consists of a chairman, a deputy chairman, a secretary, and members. The chairman, the deputy chairman, and the secretary are chosen out of the members of the Consultative Council. The Directorate of Pirin National Park does the technical and organizational provisions. Participation in the Consultative Council is unpaid.

4.2.2. Functioning of the Scientific Council /SC/

The SC functions according to Activity Regulations. It meets at least once a year, the time and place of the meetings being determined by the Pirin NP Directorate. For urgent solution of specific problems the Park Director may call the members to an extraordinary session.

Directions on the foundation of the Scientific Council

The existence of a Scientific Council as a part of the national park is one of the recommendations of the IUCN/UNESCO mission from 2002.

The Scientific Council has consultative functions and is concentrated on the provision of the necessary scientific basis in the taking of decision by the park's administration or on the solving of concrete problems. The Scientific Council expresses its opinion on the quality of the scientific and science-applicable developments assigned by the administration of the park to different experts and research teams financed by the national budget. The Scientific Council may give recommendations concerning the improvement of the park's management and may execute part of the system for evaluation and monitoring of the current plan's implementation.

The Scientific council consists of experts on the conservation and management of the separate components of the biological diversity, on the regional development, on the tourism development, on the protected areas and etc. The minimum number of members is 12, whereas the maximum should not exceed 20.

The Scientific Council of the park functions according to its Activity Regulations and according to a name list of the members discussed on the first meeting of the council and approved by the Minister of the environment and water. The Scientific Council meets at least once per year, the dates and places of meeting being determined by the administration of the park. The functioning expenditures and the rewards to the members of the council are a part of the annual budget of the park.

4.2.3. Periodical checks or monitoring of sites

The applying of the monitoring programmes is done by the whole staff depending on their competence and according to preliminary schedules and the Programme for Complex long-term monitoring for the purposes of conservation and maintaining of the biodiversity in the Pirin NP – p. 4.3.

To get a more objective idea about the state of the populations of rare and threatened animals, subject to illegal hunting, annual census is done, especially of species like the Balkan Chamois, the Brown Bear and the Capercaillie. The behavior of the big mammals and the potential appearance of epizoa are monitored all year round. The state and numbers of the *Martes fiona, Mustela nivalis, Mustela putarius* are additional subjects of observation. For this purpose a database is maintained and updated.

The implementation and results of projects funded by foreign donors, are monitored by an expert from the Directorate, chosen according to the internal regulations. At the end of each project or project stage, this expert up-dates the GIS data as well. The establishing and maintaining of such database allows the use of the data both by the immediate users and by the experts, dealing with the extending and upgrading of the information system.

4.2.4. Fire-safety

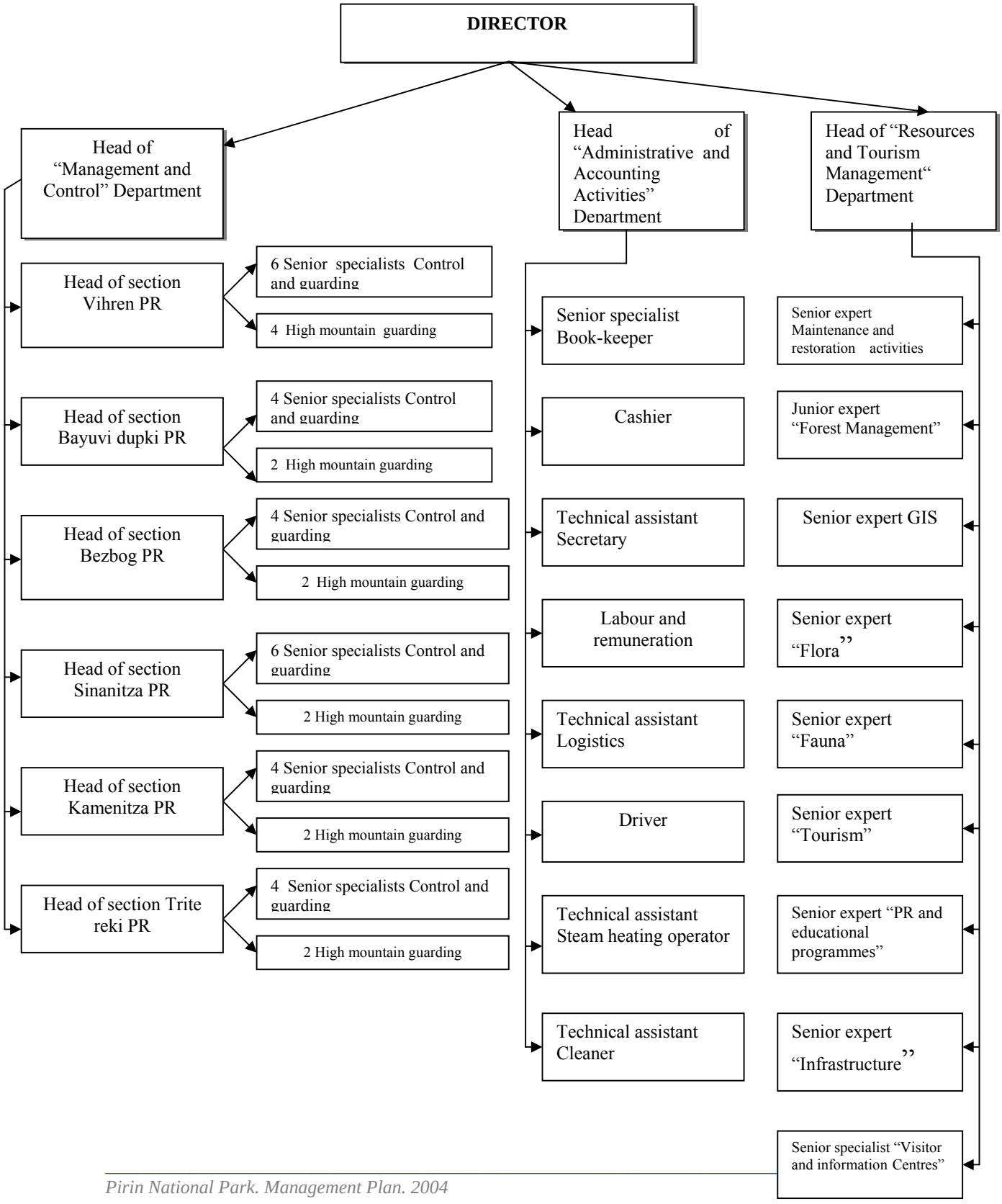
The operational activities are related to the implementation of a "Technical project for fire-safety and action in cases of fire" – p.4.3., VII Programme, Project #3.

When the annual fire-safety plans are elaborated, relevant information for each park region is collected. It includes the potential fire spots, the state of the existing equipment and the necessity for establishing new depots, etc.

Training of the staff and volunteers is organized every year by the NP Directorate before the beginning of the fire hazardous season. It is done together with the local authorities and the relevant services of the National Fire-fighting and Prevention Service, the Ministry of Interior, Civil protection, etc.

The users of the Park are also involved in the fire-fighting actions if necessary

Fig. 10 New management structure of Pirin NP



4.2.5. Improving the structure for management and warding of the park territory

The new management structure of the park's administration is shown on *fig. 10.*

One of the main objectives is the establishing of a "Moving Park Guard Ward" and dividing the park region Kamenitza in two by establishing a new park region – "Trite reki" (The tree rivers). The goal is the warding of the high-mountain and more remote park regions , improving the guarding, and decreasing the number of violations within the park, as well as achieving higher effectiveness of the punitive measures applied by the park wardens.

One of the main operational tasks of the officers from the moving Park Guard Ward in spring, summer and autumn is the protection of the game and the fish. The number of guards should increase from the existing 21 to a minimum of 28.

The activities of the park wardens are described in art. 70 of the PAA and are allocated in the following way:

- Informing the visitors and raising the awareness of the fauna and flora, the goals and development of the National park and the sites of cultural and historical heritage in the adjacent territories (for instance by guiding small groups) – 50% of the occupation;
- Control on observing the requirements for behavior in the National Park, fines for breaking the rules – 20 % of the occupation;
- Control and monitoring of the activities done in the Nature Park – 10% of the occupation;
- Maintaining the information system – 10 % of the occupation;
- Support for activities, related to habitats and species protection, processing sample plots for scientific research and monitoring – 10% of the occupation.

4.2.6. Elaborating time-tables and budget for organizing the assignment of the activities of the work plan

The schedules of the activities funded by MoEW are elaborated according to the *Regulations for assigning activities in protected areas, exclusively state property.* In cases of another funding of projects, relevant to the regimes, norms and recommendations, defined in Part 3, the schedule is up-dated and an expert from the NP Directorate is appointed, who is to be responsible for the respective project.

Periodical checks on projects of the work plan are done by the senior park region officers according to the form, described in Part 5.

The schedules include activities related to organizing competitions, maintaining the existing tourist infrastructure, removing the waste, controlling septic pits, etc.

4.2.7. Planning and reporting the activities on the different levels of the Directorate

To be done according to the *Regulations for assigning activities in protected areas, exclusively state property, "The main functions by positions",* described in p. 1.5.3 and the *"Reporting form",* given in Part 5. Every expert makes proposals according to his/her competence and responsibilities. The planning for the coming year is done by the end of the current year. The report for the preceding year is prepared and presented by the end of January in the current year.

4.2.8. Organizational, procedure and operational links between the Directorate and MoEW/ NNPS

Implemented according to the *Regulations for structuring and activity of the national park directorates.*

In SCROLL II is annexed "Regulations for assigning activities in protected areas, exclusively state property" and "Regulations for structuring and activity of the national park directorates".

4.2.9. Material and technical equipment of the NPD

Secured according to the "List of the necessary material and technical equipment for the NPD", proposed in p. 1.22.4. It includes the providing of the central office and the park region offices with the necessary software, copy and fax machines, stationary and mobile communication equipment for each of the experts in the office.

The stages and the kind of the equipment depend on the specific need of the officers in a given park region. For this purpose every inspector makes a justified request for the most necessary equipment. If possible, part of the equipment should be shared between 2-3 or more park regions, according to a preliminary schedule, approved by the Park Director.

4.2.10. Information policy and public involvement

Every year a schedule is elaborated of the specific tasks and activities, which meet the regimes, norms and recommendations of Part 3 and for which partners and resources have been secured. The activity of informing the public is the task of the NPD expert, responsible for the public relations, and is done on the basis of:

- Work with journalists, who reflect the news related to the park in the local and national mass media;
- Providing information to the mass media, maintaining and regular up-dating of the information boards;
- Producing information materials;
- Dissemination of actual and well-interpreted information about the plans and programs of the park administration, about the problems of the park management and the ways of solving them;
- Maintaining the park's web site, featuring the park's natural and historical heritage, the activity of the park administration (annual reports and plans, including financial, the management plan, scientific research reports, etc.)
- Promotion of the effective proposals or solutions, which have come out as a result of sociological research.

4.2.11. Providing for the functioning of information and visitor centres

The establishing and equipping of information centres is an important element of the overall activity of the NPD, which will play more and more important role in the determining of the strategies for tourism development in the region of the park. It is coordinated and controlled by an expert of the park administration, specially assigned this task. It is advisable to work in partnership with the municipalities, local NGOs and others.

Guidlines and requirements for place selection, contents, etc. are presented in the elaborated Information System Concept of Pirin NP.

4.2.12. Educational policy of the NPD

NPD submits information and, if necessary, controls the execution of the educational programs.
The education is done together with the schools, cultural community centres, other parks' directorates, the Ministry of Education and its structures and the nature conservation NGOs. The kind of activities and programs is defined according to the Programs and projects, described in p. 4.2.

4.2.13. Looking for additional funding sources

A detailed terms-of-reference is prepared on the basis of the potential funding sources and priority of the project. It contains:

Description (What, how and where):

Justification of the necessity of the project's implementation, respectively description of threats, which necessitate the project implementation:

The implementation will be sub-contracted: O *yes* O *no* O *partially*

Expected results:

Preliminary distribution of costs:

№	Staff	Travel and per diem	Acquiring information	Equip-ment	Buying/ renting plots/ Legal services	Office materials	Others	Total

The proposed scheme should obligatorily take into account the donor's requirements.

4.2.14. Maintaining regular contacts with local bodies and organizations

The partnership with local state and non-governmental organizations allows the sharing of experience, knowledge and ideas and may serve as a basis for establishing a "Club of the park's friends" (the experience of the other national parks in this aspect may be used) – p.4.3., IX programme, project #3. The goal is to adopt common action plans, to exchange experience, to distribute printed or electronic periodicals, etc. The activity is done in every park region and is coordinated by the public relations exert.

The main partners are the municipal administrations, the nature conservation and ecological NGOs, the forestry boards, representatives of the commercial and social tourism, the regional structures of the Ministry of Regional Development and Public Works, the Ministry of the Interior and the Ministry of Environment and Water.

4.3. PROGRAMS AND PROJECTS

The programs are related to the primary and secondary objectives and comprise a number of projects and activities, which:

⇒ Have been selected on the basis of priority criteria set in 4.1;
⇒ Lead to the overcoming of threats and constraints for achivement of the management goals set in *Table 30*;
⇒ Ensure park's development in line with its purposes as a whole and of individual zones.

The programs and projects are grouped according to their goals, each project included in the programs having a name, goal and object of implementation, expected result, method, implementer and term.

All the mentioned data serve as a basis for the elaboration of detailed terms-of-references of the projects after the necessary funding is ensured. When a certain project starts a NPD expert is defined to participate in the long-term monitoring programs and to control the achieving of the project's goals. Some of the planned projects and activities to be implemented directly by the Directorate's employees are included in "Operational tasks", p.4.2.

The following programs and projects are defined to be implemented in the Plan's period of action:

Related to achieving main goal I: ***Conservation, protection and maintenance of the ecosystems' and landscape's naturalness and intactness***

I. Complex long-term monitoring for the purposes of conservation and maintaining of the biodiversity in the Pirin NP
II. Sustainable use and management of natural resources

Related to achieving main goal II: ***Providing opportunities for conservation education and interpretation***

III. Information provision
IV. Public relations and interpretation
V. Environmental education

Related to achieving main goal III: ***Stimulation of scientific studies***

VI. Scientific research coordination and publication

Related to achieving main goal IV: ***Incomes generation for the local communities as a result of the opportunities and advantages of the national park***

VII. Improving the conditions for tourism and the tourist infrastructure**.**
VIII. Supporting the development of the adjacent territories

Related to achieving main goal V: ***Improving the management policy and the specialized warding of the national park***

IX. Institutional development of the NPD and trainng**.**

Related to achieving main goal VI: ***Observing the legal and institutional framework***

X. Applying the legislation and the active statutory base

I PROGRAM:

COMPLEX LONG-TERM MONITORING FOR THE PURPOSES OF CONSERVATION AND MAINTAINING OF THE BIODIVERSITY IN THE PIRIN NP

The further natural development of the ecosystems in the national park has to be ensured. This necessitates studying the possibility for the running of succession processes in the park. The achieved results may be used as a comparative evaluation for assessing the naturalness of the other landscapes and ecosystems.
Subjects of surveys and documentation:

⇒ The processes of natural development of ecosystems, habitats and species;
⇒ The natural processes of restoring ecosystems, damaged in the past;
⇒ The socio-economic processes in the region – economic activity, tourism, settlement development;

The monitoring aims at preventing violations, respectively species', associations' or habitats' destruction, maintenance and periodic up-dating of the database.

The program is related to the achiving of the following goals:

⇒ Conservation of the forest ecosystems' natural features and the succession processes, running in them;
⇒ Conservation and restoration of the alpine and sub-alpine associations' naturalness;
⇒ Conservation and protection of the natural rock associations, including the caves;
⇒ Preserving the naturalness of the river and lake ecosystems;
⇒ Conservation of species threatened with direct destruction;
⇒ Monitoring the processes in ecosystems and territories, which have undergone disturbances of natural or human character;
⇒ Studying the socio-economic factors and evaluation of their impact on the park's ecosystems.

Monitoring guidelines and requirements:
The monitoring has to be done at three levels:

I. Surveys done by the park guards – to be carried out daily
The monitoring schedules and forms are elaborated by experts under the supervision of the Scientific Council. Defining survey methods and reporting the results is a hard and responsible task, since these need to be as simple as possible and convenient for rangers, students, volunteers, etc. Therefore this kind of monitoring is developed with the direct involvement of the rangers and experts of the park administration in the very first year of the adoption of the MP.
Its implementation does not require additional funds – it is a part of the operational obligations of the NPD employees.

II. Monitoring on a limited number of key elements – to be done annually
This kind of monitoring is done under the control of the NPD in the framework of the MP. It requires a more profound analysis of the factors for certain trends in the park. The sites to be monitored, the ways and period of reporting the results are defined for each element separately with the help of the Scientific Council or experts designated by it. The conclusions of this monitoring have a direct bearing on the conservation and management of the park (ex. For closing certain trails, for defining water pools for angling, etc.)
Depending on the subject of monitoring, this kind of monitoring may require a specific budget.
The funding comes mainly from the MoEW.

III. Inventories and Monitoring of scientific interest– to be done whenever possible
These are mainly scientific research observations and studies, which are not of primary importance for the park's management. The NPD ensures support and a framework for their practical implications.
Their funding is not a responsibility of the park administration, but their coordination, the collection of the data and their incorporation into a database is under its responsibility.

The results of the three levels of monitoring are bound. On the basis of conclusions from the I-st level of monitoring, certain element may have to be monitored on the II-nd level as a key one. At SC decision some of the elements of the III-rd level may be moved to the II-nd level of monitoring.

Note: The systems, elaborated by the Rila NP and the Central Balkan NP may be used in the monitoring.

Projects, related to the program "Complex long-term monitoring for the purposes of conservation and maintaining of the biodiversity in the Pirin NP"

№	Project	Goal and Object of implementation	Expected result	Method	Implementer	Term
1	Elaboration of monitoring systems and methods	Supporting the park's management and warding.	Clear, easy to implement, simplified information systems for the three levels of monitoring	Analysis of key elements and preparing forms for filling in monitoring data; *The systems elaborated by the Rila NP and the Central Balkan NP may be used.*	NPD, external experts	2004
2	Monitoring of natural restoration processes in forests and lands	Maximum conservation of the natural character of the forest ecosystems and the succession processes in them, Supporting the forest's management and warding	Defining measures, maintaining and periodical updating of a database on the state of the forest ecosystems	Taxation of the areas, control checks on certain territories and updating the information	NPD	ongoing
3	Monitoring of processes in ecosystems and territories after disturbances of natural and anthropogenic character	Study succession processes in disturbed eco systems after fires, windthrows, avalanches or unregulated human interference.	Definition of effective restoration measures for areas disturbed by recreational pressure and construction of ski-runs and facilities or due to natural disasters	Organized monitoring stations or permanent sample plots for following the succession processes in the main types of associations. Report results after recultivation in disturbed park areas, Regular updating of the GIS data.	NPD, external experts	ongoing
4	Local monitoring of the quality of on-ground waters on the territory of Pirin NP	Supporting the management of the water basins on the park's territory	Full sampling of the waters of 12 basic rivers and about 30 lakes and evaluation of the waters' quality (acidification, warming, succession level)	Monitoring and defining the ecological and chemical status; once a year for TI and once every two years for BI; Following the main physico-chemical indicators	NPD, external experts	ongoing
5	Monitoring on the pastures' overgrowing with shrubs	Prevention of pastures from bushing	Definition of effective restoration measures in line with project a grazing	Photos of the same place, done every year in the same week; the material is collected and the distribution of *bushes* estimated	NPD, external experts	ongoing
6	Monitoring of the population development of mammals, typical of the Pirin	Take timely and effective action for species protection; determine the reasons for the lower numbers of species in comparison to the	Comparative results on the condition of population and habitats, use in the sphere of eco-tourism	Census of numbers in different seasons	NPD, external experts	ongoing

		optimum for Pirin				
7	Monitoring of the populations of Balkan trout in water basins of Pirin NP	Conservation of the populations of Balkan trout, blageon *(Leuciscus souffia)* in the water basins where no fish breeding has been done – on the territory of the Yulen Reserve and the lakes of Kremenski, Breznishki, Kornishki, Malenkoto, Koukleno, Mitrovo, Argirovo, Malokamenishki, Strezhishki, Tipitski, Strazhishki, Disilishko, Pleshko, Pleshivo	Additional data on the biology of species in explored territories	Annually between June 15 and September 15 collection of ichthyologic material within a week per month, Morphometric procession etc.	NPD, external experts	ongoing
8	Monitoring of conflicts	Amelioration of the main conflicts between different groups of visitors - owners of guest houses and hotels; Bulgarian and foreign visitors; owners of timber-processing enterprises And their attitude to nature conservation and use.	Outline controversial interests in regard to the future utilization of Pirin NP	Standard inquiry, extensive interviews	NPD	ongoing
9	Visitor flows monitoring	Help visitor management, register and evaluate visits to the park; report the number, type, interests and ways of use of different park zones	Define recreational pressure on different zones;	Inquiring the visitors - standard inquiry, interviews, database, updating the database	NPD	ongoing
10	Monitoring of violations	Establishing the kinds of violations and the trend in their number	Defining management measures for decreasing the number of violations	Comparative data analysis from the park guard	NPD	ongoing

II PROGRAM:

SUSTAINABLE USE AND MANAGEMENT OF NATURAL RESOURCES

The changes caused by economic, social or ecological needs require the defining of conservation and maintenance measures, targeting the communities in case of worsened state or poor reproduction. These measures should result in stability of the ecosystems and simultaneously establish conditions for limited use of the natural resources.
In connection with the above, grazing, collecting mushrooms, herbs and wild fruits for personal needs and angling in certain water pools are allowed on the park's territory.
The implementation of this program is directly influenced by the monitoring results.

The program is related to the achieving of the following goals:

⇒ Conservation, protection and maintenance of the ecosystems' and the landscape's naturalness and intactness;
⇒ Protection of the available diversity of indigenous animal and plant species, while allowing their sustainable use for local communities;
⇒ Participatory management of natural resources.

Guidelines and requirements for sustainable use of resources

The places, regimes and norms for using resources are defined with the MP.
The sustainable use of resources on the territory of the Pirin NP requires:

⇒ Defining a regime for regular use of pasture territories;
⇒ Elaborating and applying a concept, determining proper ways and technologies for collecting and using resources. This concept should be elaborated with the direct participation of the park guards and experts of the park administration in the very first year after the adoption of the MP;
⇒ Applying the planned sanctions and control measures by the park guard;
⇒ Carrying out joint actions with companies and buy-out points for controlling species, which may be cultivated and used out of the park territories;

The funding of the projects is ensured mainly by the MoEW.

Projects, related to the program "Sustainable use and management of natural resources"

№	Project	Goal and Object of implementation	Expected result	Method	Implementer	Term
1	Concept for participatory management of natural resources	Defining practices for sustainable use of natural resources, supporting the information and education policy of the Park Directorate	Involving the users and the people around the park in the evaluation of resources, in the decision-making concerning the ways, places and quantities subject to use, as well as in activities of their protection	Identifying all stakeholders, training them in the ways of using resources, the ensuing control and sanction measures, etc.; Producing identification guides with color illustrations of the economically valuable, the rare and the threatened species, etc.	NPD, Companies using natural	2004-2005
2	Project for using and control of pasture territories in Pirin NP	Application of special regime of regulated use of pasture territories	Select passage-ways; define general productivity of each grazing zone for each region; restoration of places with weak and destroyed turf, Following the trends of the numbers of sheep, cows, horses, statistic data about the pastures' use	Establishing the impact of free grazing on the species composition and productiveness (general and factual); monitoring the development of the shrub and pest vegetation; periodical monitoring of the biggest, typical for the park pastures	NPD, municipalities, external experts	2004-2006
3	Creation of plantations outside park borders for growing endangered and rare plants	Conservation of *Atropa belladonna* *Gentiana lutea* natural populations	Reduction of anthropogenic pressure on the species' sources within the park	Biological and agronomic	NPD, external experts	When funding is ensured
4	Variety of fungi in Pirin NP – opportunities for its rational use as a natural resource	Study of fungi on the territory of the park, support for the information and educational policy of the NPD; raising public awareness on the opportunities for sustainable use of the resources of fungi	Regional list of endangered fungi; evaluation of anthropogenic pressure on economically significant species of fungi and their reproductivity;	Trail and stationary methods with testing sites at Yavorov Chalet, Kamenitsa Chalet and Haidoushki Kladenets locality; routine methods of taxonomic and resource studies	NPD, external experts	2006

III PROGRAM:

INFORMATION PROVISION

The big visitor flow – extreme for some parts of the park, and the high interest for it's natural resources, leads to great pressure and necessitates management of the visitor flow including a comprehensive information system. Simultaneously with the development of the MP, an **Information System Concept** for the park's territory was also elaborated with the following goals:

⇒ Facilitating the movement of visitors to ensure safe access to the park;

⇒ Defining suitable forms of recreation activities;

⇒ Stimulating the visitors' interest in the conservation of the unique landscape and the diverse flora and fauna of the park;

⇒ Achieving an educational effect through an information system, establishing information visitor centres and opening new access points to the park;

⇒ Providing interesting and accessible information about the zone around the park and the opportunities for spending one's free time in and around the villages, in order to form a positive attitude of the local people to the park;

⇒ Ensuring future development and renovation of information system.

Guidelines and requirements for the information provision:

In the establishing of the overall information system for the territory of the Pirin NP, the general strategy for promoting the PT should be taken into account. On a local level, it should define:

⇒ Which features of the park should be promoted;

⇒ What is the potential for development of sustainable tourism in the region;

⇒ How and in front of whom should the region be promoted;

In this way the local people will be able to really influence the development of tourism and not simply to comply with what is imposed.

The Concept defines the guidelines for:

⇒ Information marking – national, road, tourist, ray-trail and mountain lifeguard service markings;

⇒ Specialized marking of the Pirin NP – a general information board (with advertising and directing character), an information board about species (flora and fauna) and an information board about behaviour (to serve for providing information about the biodiversity and the species with conservation status, directing boards, etc.)

⇒ Defining the places and way of installing the boards;

⇒ Control points of the park guard;

⇒ Information and visitor centres, information points;

⇒ Consecutiveness in the establishing of the information system and its maintenance;

⇒ Printed information;

⇒ Institutional security in the projects' realization;

The places for the necessary roadside panels, information centres, as well as the model villages of the program "28 weekends in a village" are more or less defined.

The implementation of projects, related to the information provision should obligatorily be coordinated and controlled by the NPD in the framework of the employees' obligations. The funding is provided mainly by MoEW. Additional funding sources may be looked for on mutually accepted conditions, defined by the NPD.

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Projects, related to the program "Information provision"

№	Project	Goal and Object of implementation	Expected result	Method	Implementer	Term
1	Standartization of names of localities and sites in Pirin NP	Using one and the same names of localities and sites in the park by all stakeholders relating to the information system, scientific research, printed materials, etc.	Better orientation for the visitors, facilitating the management	Forming a working group. Carrying out consultations with the local municipal administrations and people.	NPD, Tourist companies, municipalities	
2	Groung marking	Designation of the park's and reserves' boundaries, zones, etc.	Marking the park's boundaries, the reserves, etc., according to the adopted digital models	Band marking	NPD	2004-2005
3	General information board with advertising and directing character	General tourist interpretation of the park and its value	Visitor information about main features of the park for those visiting the park without a guide or information materials provided in advance	Project for illustrated presentation of the information	NPD, external experts	2004-2005
4	Information board about species (flora and fauna) and information board about behaviour	Providing information about the biodiversity and species with conservation status, occurring in a certain region	Informing about the behaviour requirements, related to the biodiversity conservation and about sanctions for violations	Project for illustrated presentation of the information	NPD, external experts	2004-2006
5	Boards, indicating direction with information	Providing brief directing information, referring to nearby sites	Designating places and spots for recreation, springs, shelters, waterfalls, fire-lighting spots, etc.		NPD, external experts	2004-2006
6	Tourist marking	Marking tourist paths, trails, sites and sports facilities	Facilitating and safeguarding the movement of tourists	It is regulated with a Regulation of the Tourist Marking in the Republic of Bulgaria, May 1991	NPD, BTU, University Rescue Squad, etc.	ongoing
7	Marking of the Mountain Rescue Service (MRS)	Designation of risk spots on the route of the trails	Facilitating and safeguarding the movement of tourists	Signs are put in potentially dangerous sections together with designation signs, pointing to the possible winter alternative of the trail	NPD, FB, MRS, URS, municipality and others	ongoing

8	Marking ray-routes */start from and end in one and the same point/*	Concentrating the tourist flow in the zone around the park	Economic development of the adjacent settlements	Identification and marking around the existing tourist centres, like Bansko and Sandanski	NPD, PTF, municipality	When funding is ensured
9	Road marking	Information about the possibilities, which the Pirin NP and the adjacent territories provide, should exist in the whole region	Promoting the information about the Pirin NP, which is under the UNESCO aegis, and the closest information centre, which is an access point to the park	Installing boards at the entrances to the region, along the two main roads, where there are access and information points	NPD, municipality	When funding is ensured
10	Information centers	Provision of information for both Pirin NP and the tourist resources/services of the precise place and surrounding areas as a whole	Up-to-date information for tourists about accommodation, services, guides; contact point for tour operators; bookings; sale of advertisement materials and souvenirs	In specially designed buildings and premises	NPD, municipality	6-12 months after ensuring the funding
11	Information points	Provision of information for both Pirin NP and the tourist resources/services of the precise place and surrounding areas as a whole	Up-to-date information for tourists about accommodation, services, guides; information boards or panels, maps, full set of the park's printed materials	Use local store, shop, pub, town hall (in villages); stands or kiosks outside settlements	NPD, municipality	3-6 months after ensuring the funding

IV PROGRAM:

PUBLIC RELATIONS AND INTERPRETATION

The public relations suppose first of all communication. The goal is to establish broad support for the park. Therefore it is necessary to motivate the local people and those, who come for tourism and recreation, to have a positive attitude and responsible nature-friendly behavior.
The priority targets of the public relations concerning the park are: the tourists, the local people, the municipal and administrative structures in the adjacent settlements, representatives of other institutions and non-governmental organizations with relevance to the park, the mass-media – newspapers, radio stations, TVs.
The interpretation is the best public relations and region promotion tool. It is of highest importance each settlement in the region to be able to present its history and way of life on the background of the national park. The site interpretations should not repeat each other, in order to keep the tourists' interest to visit different places in different periods of the year. This is also a way to attract investments in the settlements.

The program is related to the achieving of the following goals:

⇒ Helping the park visitors to get acquainted with the interesting habitats and species in the park;
⇒ Increasing the local people's knowledge about the value and importance of the park as natural landscape and ecosystem complex;
⇒ Promoting local products and services achieving an increased demand and opening new market opporunities;
⇒ Changing the park guards' image and attitude from "policemen" to useful resource persons;
⇒ Establishing broad public support for the national park, including among politician and decision makers at regional and national level.
⇒ Stimulation of local NGOs interested to the Park and creation of a « Friends of the Park » organisation

Interpretation guidelines:

⇒ It should be clear who the visitors are, what are their interests and which is th eprefered language of communication;
⇒ Accessible and understandable style of expression should be used – most f the visitors are not specialists;
⇒ It is recommendable to select the stories and follow a strict consecutiveness;
⇒ Interesting live presentation should be used – stories, citations, references to real people and events, guided tours, demonstrations of the local way of life, etc.
⇒ Messaged, awakening the people's emotions should be used;
⇒ The guides should be able to adapt the routes to the needs of the respective group, to have a differentiated approach to the visitors and very good language skills.

The interpretation elements are:

⇒ Good visual information;
⇒ Properly designed maps, travel guides, leaflets, etc.;
⇒ Panoramic view platforms with information on the spot;
⇒ Exhibitions and presentations at the museums;
⇒ Birdwatching and observing other animals;
⇒ Guided tours;
⇒ Trails for individual tours;
⇒ Thematic celebrations in the open, crafts demonstrations;
⇒ Competitions and contests, for instance on the historical past, art projects, nature, etc.
⇒ Local guest houses.

The projects and activities are the task of the NPD.

Projects, related to the program "Public relations and interpretation"

№	Project	Goal and Object of implementation	Expected result	Method	Implementer	Term
1	Visualization of tourist trails and sites	Provide opportunities for virtual 'use' of existing trails and introduction to the interesting objects (tress, animals, rocks, etc.)	Bigger attention of Bulgarian and foreign tour operators to alternative tourism	Multimedia	NPD, tourist companies	2005-2006
2	Training of local tourism providers on the park territory and around /*as far as the park is concerned/*	Raise quality of tourism supply by the hotel owners, hut hosts, guides, and others.	Providing information about the park as a site, which is an exceptional resource for sustainable economic activities (mostly tourism) and which should be valued for economic reasons as well, strategic business planning applied by present and potential entrepreneurs in alternative tourism.	Identification and training of local 'development agents' – 1 or 2 in each tourist village, who will act as the organizers of tourist services and contacts with NPD and tourist companies.	NPD, tourist companies	ongoing
3	Information and interpretation packages	Stimulation the development of eco-tourism, environmental education for children and adults, training of interpreters	Packages of interpretative lectures and printed (audio, video) materials that can be used by guides, trainers, teachers, etc., Develop tourist packages in the park and surrounding areas, packages of interpretative lectures and printed (audio, video) materials that can be used by guides, trainers, teachers, etc.,	Two approaches to information structuring: by place (village, group of villages, larger area) or by resources (most typical species, protected species, natural phenomena, etc.)	NPD, tourist companies	ongoing
4	Days of the Pirin National Park	Establishing a tradition for annual presentation and promotion of the park	Shape public attitudes within the region and in Bulgaria as a whole, draw the attention and involve local people, attract tourists and raise the awarness of the politicians at local and national level.	Organization of competitions for children's drawings, essays, newspaper, photography, etc., on topics related to the park; traveling exhibitions; musical shows; media campaigns: competitions, contests, inquiries; village celebrations (Holiday of milk, wine, bread, etc.); art/sculpture shows on environmental topics; campaigns for cleaning major tourist routes in the mountain	NPD, tourist companies and NGO's	ongoing

V PROGRAM:

ENVIRONMENTAL EDUCATION

The promotion of the landscape beauty and diversity provides the opportunity of acquainting many people with the ecological integrity and vulnerability of nature.
The Pirin NP provides opportunities for the implementation of diverse conservation education initiatives. The conservation projects, implemented with the different schools and teachers, are one of the most important tools for the understanding and achieving the park's goals. The students exchange their pinion on the NP impartially and critically. They transfer the information to their families, clubs, etc. On the other hand, the teachers in the region value highly the conservation initiatives and thus they are among the most important partners in spreading the idea of the park's conservation.

The program is related to the following goals:

⇒ Training park guides to assist visitors in the exploring of interesting habitats and species in the park;
⇒ Presenting the behavior rules, applying in the park;
⇒ Presenting the natural heritage and the needs for its conservation;
⇒ Training target groups with emphasis on the natural habitats' conservation and maintenance training.

Guidelines and requirements for the conservation education:

The conservation education initiatives include:

⇒ Elaboration of training programs for different target groups;
⇒ Conducting lectures, field trips, etc. to acquaint the local people and the park visitors with the natural heritage and the needs for its conservation;
⇒ Noting the change in people's attitude and thinking through inquiries every four years, including the same questions.

Some of the conservation education programs may be organized jointly with the structures of the Ministry of Education and in cooperation with the other NPs and Nature Parks of the country. The NPD should support the education initiatives of the regional schools, NGOs, etc., including in the looking for funding for their implementation.

Projects, related to the program "Environmental education"

№	Project	Goal and object of implementation	Expected result	Method	Implementer	Term
1	Educational program on Pirin NP for schools	Include a certain number of lessons on Pirin NP as part of the world's natural and cultural heritage in the curriculum at national level, in coordination with Rila NP and Central Balkan NP.	Raise environmental awareness among young people and strengthen their interest for Bulgarian nature and its protection	Joint action with the Ministry of Education and its regional structures (might be combined with the other two NPs)	NPD, MOH	2005-2006
2	Training of target groups for protection and conservation of natural heritage	Spread information about the park and promote its values among as many stakeholders as possible – Territories rich in biodiversity, where practical courses with students, parents, and others can be held with no threat to populations	Raised public awareness and protection of rare and endangered species (precious landscapes) in the region of NP and Pirin Mountains as a whole	Training different age groups, training of guides who could help visitors enjoy better and learn more about interesting habitats and species in the park; lectures and lessons; publications; video shows, photo exhibitions, etc.	NPD, external experts, schools	ongoing
3	Cognitive trails	Raise awareness of visitors about specific species of plants and animals, and elements of landscape, typical for the Pirin NP – interesting habitats of selected species, panoramic view points	Concentration of visitor flows to less vulnerable areas, reduction of anthropogenic pressure on species, aesthetic enjoyment for visitors	Signing and information provision of trails, view points, etc	NPD, external experts, schools	2004-2006
4	Green schools	Introduce students and parents to wild nature, rules of behaviour within the park and how to survive in nature, the connection between the mountain and the life of local people – peripheral park zones and villages around the park	Development of themed interpretative programs related to the natural heritage of the park, cultural and historical sites, local mode of life	"*Walking with wild animals"* program, where children will learn to recognize the prints and sounds of wild life; "*Week-end for children and parents"* program, in which families will be trained in basic rules for survival in nature; "*The path of cheese*" program, showing children how to milk a cow and prepare home-made cheese; "*Treasure quest"* program, where children will have to find a prize hidden somewhere in a forest, acquiring knowledge about wild nature and rules of behaviour, etc.	NPD, NGO's schools	ongoing

VI PROGRAM:

SCIENTIFIC RESEARCH COORDINATION AND PUBLICATION

The National Park, like any big protected territory, represents a unique laboratory in the open for diverse scientific studies on regional, national and international scale.
The listed projects may be implemented if funding is ensured anytime during the period of action of the Plan. Depending on the available means the projects may be implemented state by stage in different parts of the park territory.
They may be supported by the NPD by means of providing guiding, transport, office, ensuring additional funding sources, etc. The NPD will ensure the incorporation of all data collected from the Park into a national database and make sure that there are available free of charge to anybody.

The program is related to the achievement of the following goals:

⇒ Filling in the gaps in the knowledge about habitats and species;
⇒ Maintaining databases about the biodiversity and comparative analysis of the state of its elements;
⇒ Long-term monitoring of the global changes, related to the modification of water regime, global climate change and the trans-border transfer of pollutants;
⇒ Establishing the current distribution and numbers of the different species;
⇒ Establishing the impact of abiotic and biotic factors on the species biology and ecology;
⇒ Clarifying the population parameters of species with conservation value and their sensitivity to the negative human impacts;
⇒ Establishing the real state of the populations of disappearing and threatened species on the park's territory.
⇒ Study on the socio-economic processes having relation to the park, such as economic activities, tourism, transport, development of the small villages, etc.

The funding of the projects is not t a task of the NPD, but it is necessary the NPD employees to assist their implementation. The Directorate should coordinate the planning and publishing of the scientific research activity results by the BAS institutes, the higher education institutions, NGOs, etc.

Projects, related to the program "Scientific research coordination and publication"

<u>Abiotic features</u>

1. Preliminary biological and socio-economic researches outside the boundaries of the Pirin NP for the purpose of designating protected areas out of the boundaries of the NP
2. Local monitoring of the quality of on-ground waters on the territory of Pirin NP
3. Caves within Pirin NP – part of the region's biodiversity
4. Research and design of monitoring networks for hydrological and hydrogeological processes in the Pirin NP
5. Research and design of a local meteorological network on the territory of Pirin NP
6. Construction and exploitation of local meteorological, hydrological and hydrogeological networks
7. Study on the water balance of Pirin lakes
8. Study on the water regime of Karst regions

<u>Flora and vegitation</u>

1. Mapping and studying species in peat complexes
2. Mapping and studying species in rock communities
3. Study on algae diversity in the Popovi and Kremenski lakes
4. Environmental status of moss on the territory of the Park
5. Potential use of lichen as biological indicators of environment pollution
6. Maintenance of the populations of *Leontopodium alpinum*
7. Maintenance of the populations of *Rhodiola rhosea*

Invertebrates

1. Inventory of entomological fauna using relic plant species within the park
2. Inventory of invertebrates in Karst terrains and park caves
3. Monitoring of dryland invertebrates
4. Inventory of conservationally important groups of non-insect invertebrates
5. Inventory of conservationally important groups of entomo-fauna in the park
6. Monitoring of crustacea and insects in lakes and running waters in the sub-Alpine parts of Pirin NP

Amphibian and reptilian fauna

1. **Study on and protection of newt populations**

Birds

1. Study on predatory birds and on the impact of pasture stock-breeding on the birds in the high-mountainous zone of Pirin
2. Study on owls
3. Study on the nesting sites of woodcock and the migration zones of the species
4. Study on current numbers and spreading of the wood-grouse
5. Study on the nesting sites and seasonal dynamics of Corncrake *(*Crex crex*)*– endangered species of world significance!

Mammals

1. Study on the present condition of marten population in Pirin NP and Pirin Mountains
2. Study on otter habitats
3. Study on the present condition of wildcat population in Pirin NP and Pirin Mountains
4. Study on various aspects of the biology and ecology of the wolf and on the impact of socio-economic factors on its existence.
5. Study on the impact of abiotic and biotic factors on the biology and ecology of the brown bear
6. Evaluation of suitable habitats for the red deer
7. Study on the trends of population development of doe in Pirin in different seasons
8. Monitoring on the bats' distribution
9. Monitoring of bat colonies spending winter in underground shelters
10. Monitoring of small mammal communities

Local breeds

1. Conservation of indigenous local breeds on the mountain pastures
2. Monitoring of endangered indigenous breeds and breeds near extinction in Pirin

In Annex, SCROLL III "Reports from studies and research work carried out during the drafting", data and requirements for the described projects are provided in the different reports. The reports may be used also as a basis for scientific research and interpretative programs.

VII PROGRAM:

IMPROVING THE CONDITIONS FOR TOURISM AND THE TOURIST INFRASTRUCTURE IN THE PARK

The NPD, in partnership with the municipalities, the local NGOs and the local state structures, can do the planning, establishing and maintenance of the tourist infrastructure on the territory of the Pirin NP.
The collecting of information about the infrastructure's feasibility is a priority both of the NPD and the local and regional organizations and municipalities. The goal is to create an accessible database, containing information about:

⇒ The economic cost-effectiveness of the tourist infrastructure;
⇒ The positive and the negative sides of the already existing infrastructure;
⇒ Th expectations and requirements of the users and visitors.

This information could be collected through the maintenance of visitor registers – where do they come from, how much time do they spend in the region, what problems and difficulties have they encountered, etc.
Once established and maintained, such a database may be used both by the visitors and by the experts, involved in the future maintenance and development of the infrastructure on the park's territory.

The program is related to the following goals:

⇒ More effective use of the existing tourist resources on the park's territory;
⇒ Improving the quality of the infrastructure of the park territory;
⇒ Improving the sanitary-hygienic state of the visitor service sites;
⇒ Stimulation of the development of environmental friendly tourism;
⇒ Controlling the pollution with scraps and waste water.
⇒ Use of environmental friendly technology.

Projects, related to the program "Improving the conditions for tourism and the tourist infrastructure in the park"

№	Project	Goal and Object of implementation	Expected result	Method	Implementer	Term
1	Design and operation of camping sites (for tents) on the territory of Pirin NP *The sites are defined in Part 3, p.109.*	Prevent unregulated camping, especially during the summer; facilitate the maintenance of sanitary and hygienic conditions through the provision of accessible and modern facilities	Sustainable tourism use of park resources through the provision of additional options for choice and dispersion of tourist flows, as well as additional income	Individual project proposal	NPD, users	2004-2006
2	Construction of tourist shelters *The sites are defined in Part 3, p.109.*	Provision of shelter for tourists in the park along the long signed trails.	Sustainable tourism use of park resources through the provision of additional options for choice and dispersion of tourist flows	Individual project proposal	NPD, tourist associations, users	When funding is ensured
3	Technical project for prevention of fires and action in case of fire	Prevention of the danger of fires fires and decrease of their negative impact on the Park's ecosystems	Decrease number of forest fires; Measures for the restoration of areas affected, plan for systematic training of staff and volunteers, system for coordination and joint action with partners (police, National Service for Anti-Fire and Emergency Safety, Civil Protection Service, the University Emergency Squads, National Forestry Management Unit, and others)	Mapping dangerous sites, evaluation of the degree of negative impact, lectures and outdoor training, meetings with partners	NPD, fire experts	2004-2005
4	Strategy for safeguarding the visitors during their visits to the park	Decreasing the number of accidents with visitors	A system for maintaining and periodical controlling of the dangerous places in the different regions	Fencing ski-runs, sins, bridges, safety ropes, etc.	NPD, external experts	2004

5	Strategy for management and control on solid waste pollution	Reduce solid waste pollution in the park	Elaboration of a system of measures and methods to collect solid waste along: tourist trails and paths, sites for one-day relaxation, chalets and other visitor servicing sites. Cleaning of old dump places and installing thenecessary equipment and information.	Development of timetables for waste removal and control on their implementation	NPD, municipalities	2004-2005
6	Strategy for waste waters management and control	Reduce the pollution of water basins in the park as a result of uncontrolled flow of wastewaters	Elaboration of a system of measures and methods to maintain wastewater treatment facilities in visitor sites; control over its implementation	Lead wastewaters into towns' treatment stations, systematic cleaning of septic pits by specialized vehicles, installation of chemical toilets and module treatment stations	NPD, municipalities	2004-2005
7	Aesthetization of the surroundings of chalets and other accommodation and tourist servicing sites	Improving the sanitary-hygienic conditions and increasing the opportunities for revenues of the users. An object of the project are the areas around the chalets and shelters	Concrete measures to design space around the objects and guidelines for maintenance and control	Photograph surroundings, prepare schemes	NPD, users, external experts	2004-2006

VIII PROGRAM:

SUPPORTING THE DEVELOPMENT OF TOURISM IN THE PARK AND ADJACENT TERRITORIES

The park administration should support the development of activities and services in the zone around the park for the purpose of concentrating the main tourist flows there by providing them with interesting and accessible information about the park and the many possibilities for spending their free time in and around the villages. This will help the formation of a positive attitude towards the Park among the local people.
This requires the formation of working groups by municipalities and carrying out discussions in order to define the way of partnership between NPD and concerned persons and institutions on this matter.
The program corresponds entirely to the defined goal of generating incomes for the local communities as a result of the opportunities and advantages the national park provides.
The National Park Directorate has to support different initiatives in the adjacent territories, related to the park. It is also necessary to move activities to the access points to the Pirin mountain in general – the towns of Bansko, Razlog, Gotse Delchev, Sandanski, Kresna, Simitli, Strumjani and the villages of Dobrinishte, Melnik, Pirin, Rozhen, Delchevo, Petrovo, as well as to the new exit points, which may be formed towards the valleys of the Mesta and Struma rivers.
This is the way to increase the respect for the NPD, to change the people's thinking and to bring forth their desire to participate in the conservation of the Pirin for the future generations.

Projects, related to the program "Supporting the development of tourism in the park and adjacent territories"

№	Project	Goal and Object of implementation	Expected result	Method	Implementer	Term
1	Concept for encouraging sustainable tourism	Identify activities, services, crafts, and others, specific of each individual settlement or resort	Tourist packages, developed jointly with local authorities, tourist companies, etc.; New kinds of park related services introduced - guiding, thematic trails, products bearing the trademark of the Pirin, etc.	Training of "local development agents" – 1 or 2 persons in each tourist settlement, who keep the contacts with the NPD and the tourist companies	NPD, municipalities, tourist companies and users	2004-2005
2	Establishment of the Pirin Brand of origin	Register the Pirin Brand, which will be awarded to environmentally-friendly local productions (dairy products, wine, etc.), guest houses, traditional handicrafts, etc.	Economic revival of rural surrounding areas of the NP through the development of alternative tourism in combination with traditional stock-breeding and ecological farming	Village Days (Celebrations of Milk, Wine, Bread, etc.), where the Pirin Brand can be awarded	NPD, municipalities, tourist companies and users	2005
3	Marketing strategy for development of tourism in Pirin NP and surrounding areas	Growth of tourism sales	Stimulate entrepreneurship of population, especially in small settlements, towards family business, establishment of a tourism database and photo library of the park	Professional advertisement materials: souvenirs with the logo of the park, calendars, series of posters, post cards, image brochures, CD, Web-pages, etc	NPD, municipalities, tourist companies and users	If funding is provided
4	The colourful paths of Pirin ***Note**: This project has been awarded at the First National Ecotourism Forum in Bulgaria (2001) and is in compliance with the National Eco Tourism Strategy*	Develop a system of longer and shorter walking, cycling and other tourist trails connected to the surrounding areas of Pirin NP	Identified and signed circular walks (also for riding, cart driving, etc.) near settlements from the surrounding areas of Pirin NP	Designation of picnic places, securing of dangerous parts of trails, connect signing around villages and inside the park, preparation of interpretative boards and maps of trails in all tourist villages around the NP	NPD, municipalities, tourist companies and users	If funding is provided

5	Joint initiatives of the park and private entrepreneurs for tourist attractions	Identify activities, services, crafts, and others, specific of each individual settlement or resort: the park will provide expert help or in-kind support (materials, labour), while the entrepreneur will pay back his 'debt' by supporting activities for the park	Stimulate entrepreneurship of population, especially in small settlements, towards family business	Sale of park souvenirs, provision of information about the park, interpretation of its heritage, joint projects of interested individuals and legal entities in nearby tourist centers	NPD, tourist companies	ongoing

IX PROGRAM:

INSTITUTIONAL DEVELOPMENT OF THE NPD

The Park Directorate activity is the main guarantee for the applying of the MP. Therefore its efficient operation, as well as the increasing of the staff's qualification, have exceptional importance for achieving the defined goals. The NPD has to ensure real opportunities and financial support for the Pirin NP nature in order to meet the challenges of the future in terms of visitor flow, violations and usage.

The program is also related to the following goals:

⇒ Carrying out long-term monitoring, maintaining and periodical updating of the database;
⇒ Systematic training of the park guard;
⇒ Changing the image of "policemen" of the park guard officers;
⇒ Establishing a partnership network for the park between all the concerned bodies in the adjacent territories;
⇒ Creation of a regional association (or similar body) to operate the tourist and commercial activities in the Park through a concesson system controlled by the NPD

Guidelines and requirements for the institutional development of the NPD:

Annual carrying out of training classes – a frame plan, including periods, number of classes, participants, budget
Precise identifying of the groups and subjects of training: for guides, for wardens, for the administration, common for the whole staff
Experience exchange – within the country and in other countries
Foreign language training
Basic projects with partners
Multidisciplinary researches

This program is related to establishing conditions for better implementation of the employees' operational tasks – p.4.2.

Projects, related to the program "Institutional development of the NPD"

№	Project	Goal and Object of implementation	Expected result	Method	Implementer	Term
1	Human resources development strategy	Raise staff qualification, including foreign language skills	Development of a system for improving staff qualifications for the period 2004-2009, career management; Develop networking with other NP in Bulgaria and throughout Europe	Training of park guards to recognize conservationally important plant and animal species, introduction of present environmental legislation and its application	NPD, external experts	2004-2005
2	Development of implementation of GIS	Maintain and update park GIS-system, raise park staff qualifications	Updated database, source of data for comparison and analysis in long-term monitoring projects and scientific research, provision of necessary maps for park staff while performing their official duties	Training of park guards and administration	NPD, PROLES	ongoing
3	Establishing a Consultative Council	Supporting the work of the Directorate and other physical or legal stakeholders concerning: the public relations activities, the information activities, the organization of the tourist and recreation activity, the biodiversity conservation and the sustainable use of natural resources, the safety and attendance of the park visitors.	Statements concerning the implementation of the park's management plan	Point 4.2. gives "Guidelines for the establishing of a Consultative Council".	NPD, NGO's, experts	2004-2005
4	Establishing a Scientific Council	Providing the necessary scientific base for decision making on behalf of the park administration concerning the general matters of park management or the solving of specific problems.	Statements concerning the qualities of the scientific and applied science reports. Assigned by the park administration to different experts and expert teams and funded by the state budget.	Point 4.2. gives "Guidelines for the establishing of a Scientific Council".	NPD, NGO, experts	2004-2005

5	Partnership for Pirin	Identifying and involvement of the stakeholders	Involve local stakeholders in nature protection and Pirin NP promotion, establishing a non-formal group “Friends of the Pirin NP”, joint action plans and exchange of experience, dissemination of a periodic newsletter – printed and/or electronic	Study visits to other parts of Bulgaria where there are examples of such partnerships; periodic meetings; annual conference/forum to report progress of activities; promotion of joint initiatives of the network in media; annual awards for best partnership initiative	NPD	ongoing
6	Joint initiatives with other protected areas administrations	More successful promotion of Bulgarian nature	More visitors aquired to the idead of National Pakrs and nature conservation	Training in work in partnership, joint development of tourist programs, themed discussions, etc.; establishment of eco tourism associations	NPD, туристически фирми	ongoing

X PROGRAM:

APPLYING THE LEGISLATION AND THE ACTIVE STATUTORY BASE

In order to fulfil its obligations according to Art. 50, paragraph 7 of the PTA, the Pirin NPD should have at their disposal the ownership documents and the rent or concession contracts for all sites on the territory of the Pirin NP.
NPD has to fulfill the commitments taken by Bulgaria regarding international conventions and agreements, in particular the CBD and the World heritage convention.

The program is also related to the following goals:

⇒ Settling the property rights on buildings and facilities in compliance with the active statutory base
⇒ Removing illegal buildings and equipment
⇒ Fighting the practice of poaching and illegal logging
⇒ Maintain contact with International organizations (UNESCO, IUCN, etc.) and organize the required periodical reviews
⇒ Control on:
- The implementation of the concession contracts
- The fish stocking and angling
- The car access
- The pollution with hard waste
- The water, air, etc. pollution

Projects, related to the program "Applying the legislation and the active statutory base"

№	Project	Goal and Object of implementation	Expected result	Method	Implementer	Term
1	Clarification of ownership over buildings within Pirin NP	Restore relations with NPD; raise users' interest to invest in improvements of objects	Clarification of obligations in use of objects' surroundings; facilitate control on part of NPD over conformity to necessary sanitary and hygienic regulations in the vicinity of objects	Inventory of ownership – working group which will collect and analyze information about objects: ownership, rental and concession contracts, terms, purpose of use, compliance to the Law on Protected Areas, etc.	NPD, external experts, users	2004
2	Removal and sanitation of non-functioning buildings and facilities	Elimination of illegal buildings and equipments; Define methods for removal and sanitation, which do not present a threat to the natural complex	Removal of unnecessary infrastructures; Restoration of landscape after removal of objects.	Mapping of places and description of objects	NPD	2004-2005
3	Framework plan for conceding sites and control on the contracts' implementation	Supporting the park's management and warding	Improving the conditions in the visitor servicing sites; decreasing the number of violations	Creation of a regional association (or similar body) to operate the tourist and commercial activities in the Park through a concesson system controlled by the NPD	NPD, external experts	2004-2005
4	Implement international categories of protected areas	Comply with requirements from international conventions	Regular reporting and periodical reviews	Ask UNESCO and IUCN for instruction; assist to conferences and training workshops.	NPD, NGO's	2004-2005

4.4. MIDDLE –TERM WORK PLAN FOR THE FIRST 3 YEARS OF ACTION OF THE PLAN

The work plan includes priority projects /p.4.2./, which should be implemented from the very beginning of action of the Management Plan. Schedules and estimated costs for the first year are pointed out in them. The costs required for capital construction, further equipment of the administrative buildings and staff of the Park Directorate for the first year are included. The three-year plan also includes priority projects of the programmes, for which the NPD should look for co-funding.

I PROGRAM: COMPLEX LONG-TERM MONITORING FOR THE PURPOSES OF CONSERVATION AND MAINTAINING OF THE BIODIVERSITY IN THE PIRIN NP

Project/Activity	Schedule	Implementer	Estimated costs	Costs for I year
1. Elaboration of monitoring systems and methods	2004	NPD, external experts	10000	10000
2. Monitoring of natural restoration processes in forests and lands	ongoing	NPD	-	-
3. Monitoring of processes in ecosystems and territories after disturbances of natural and anthropogenic character	ongoing	NPD	-	-
4. Local monitoring of the quality of on-ground waters on the territory of Pirin NP	ongoing	NPD	-	-
5. Monitoring on the pastures' overgrowing with shrubs	ongoing	NPD	-	-
6. Monitoring of the population development of mammals, typical of the Pirin	ongoing	NPD	-	-
7. Monitoring of the populations of Balkan trout in water basins of Pirin NP	ongoing	NPD	-	-
8. Monitoring of conflicts	ongoing	NPD	-	-
9. Visitor flows monitoring	ongoing	NPD	-	-
10. Monitoring of violations	ongoing	NPD	-	-

II PROGRAM: SUSTAINABLE USE AND MANAGEMENT OF NATURAL RESOURCES

Project/Activity	Schedule	Implementer	Estimated costs	Costs for I year
1. Concept for participatory management of natural resources	2004-2005	NPD, Companies-users of natural resources	10000	5000
2. Project for using and control of pasture territories in Pirin NP	2004-2006	NPD, municipalities, external experts	15000	10000

III PROGRAM: INFORMATION PROVISION

Project/Activity	Schedule	Implementer	Estimated costs	Costs for I year
1. Standartization of names of localities and sites in Pirin NP	2004	NPD, tourist companies, municipalities	3500	3500

2.Tourist marking	2004-2005	NPD, tourist associations	50000	15000
3.Marking of the Mountain Rescue Service (MRS)	2004-2005	NPD, FB, MRS, URS, municipalities	15000	5000
4.General information board with advertising and directing character	2004-2005	NPD	30000	10000
5.Information board about species (flora and fauna) and information board about behaviour	2004-2006	NPD	20000	10000
6.Boards, indicating direction with information	2004-2006	NPD	15000	5000
7.Maintaining of information system	ongoing	NPD	-	3000

IV PROGRAM: PUBLIC RELATIONS AND INTERPRETATION

Project/Activity	Schedule	Implementer	Estimated costs	Costs for I year
1. Visualization of tourist trails and sites	2005-2006	NPD, tourist companies in the region	10000	-
2. Training of local tourism providers on the park territory and around	ongoing	NPD, tourist companies in the region	-	3000
3. Information and interpretation packages	ongoing	NPD, tourist companies in the region	-	3000
4. Days of the Pirin National Park	ongoing	NPD, tourist companies and NGOs	-	2500

V PROGRAM: ENVIRONMENTAL EDUCATION

Project/Activity	Schedule	Implementer	Estimated costs	Costs for I year
1. Educational program of the national parks for all schools in the country	2005-2006	NPD, Ministry of education	5000	-
2. Training of target groups for protection and conservation of natural heritage	ongoing	NPD, external experts, schools	-	2000
3. Cognitive trails	2004-2006	NPD, external experts, schools	6000	2000
2. Green schools	ongoing	NPD, local NGOs, schools	-	1000

VII PROGRAM: IMPROVING THE CONDITIONS FOR TOURISM AND THE TOURIST INFRASTRUCTURE IN THE PARK

Project/Activity	Schedule	Implementer	Estimated costs	Costs for I year
1. Design and operation of camping sites (for tents) on the territory of Pirin NP	2004-2006	NPD, users	35000	12000
2. Technical project for prevention of fires and action in case of fire	2004-2005	NPD, experts on fire fighting	5000	2500
3. Strategy for safeguarding the visitors during their visits to the park	2004	NPD, external experts	5000	5000

4. Strategy for management and control on solid waste pollution	2004-2005	NPD, municipalities	5000	3000
5. Strategy for waste waters management and control	2004-2005	NPD, municipalities	5000	1000
Strategy for waste waters management and control	2004-2006	ДНП, ползватели, външни експерти	6000	2000
Aesthetization of the surroundings of chalets and other accommodation and tourist servicing sites	текущ	ДНП	-	6000

VIII PROGRAM:

SUPPORTING THE DEVELOPMENT OF TOURISM IN THE PARK AND ADJACENT TERRITORIES

Project/Activity	Schedule	Implementer	Estimated costs	Costs for I year
1. Concept for encouraging sustainable tourism	2004-2005	NPD, municipalities and tourist companies, users	10000	5000
2. Establishment of the Pirin Brand of origin	2005	NPD, municipalities and tourist companies, users	3000	1500
3. Marketing strategy for development of tourism in Pirin NP and surrounding areas	If funding is provided	NPD, municipalities and tourist companies, users	2500	-
4. The colourful paths of Pirin	If funding is provided	NPD, municipalities and tourist companies, users	85000	-
Joint initiatives of the park and private entrepreneurs for tourist attractions	ongoing	NPD, tourist companies	-	1500

IX PROGRAM:

INSTITUTIONAL DEVELOPMENT OF THE NPD

Project/Activity	Schedule	Implementer	Estimated costs	Costs for I year
Human resources development strategy 1.	2004-2005	NPD, external experts	-	3000
Development of implementation of GIS	2004	NPD, PROLES	15000 *Funding is ensured by BSBCP*	
Establishing a Consultative Council	2004-2005	NPD, NGOs, experts	1500	1000
Establishing a Scientific Council	2004-2005	NPD, NGOs, experts	1500	5000
Partnership for Pirin	текущ	NPD	-	1500

2. Joint initiatives with other protected areas administrations	текущ	NPD, tourist companies	-	1500
3. Establishing Moving Park Guard Squad	2004-2005	NPD	-	-

X PROGRAM:

APPLYING THE LEGISLATION AND THE ACTIVE STATUTORY BASE

Project/Activity	Schedule	Implementer	Estimated costs	Costs for I year
Clarification of ownership over buildings within Pirin NP	2004	NPD, external experts, users	4000	4000
1. Removal and sanitation of non-functioning buildings and facilities	2004-2005	NPD	10000	3000
2. Framework plan for conceding sites and control on the contracts' implementation	2004-2005	NPD, external experts	3000	2000

CAPITAL CONSTRUCTION AND FURTHER EQUIPMENT

Activity	Estimated costs for I year
1. Rehabilitation of bridges	5000
2. Roads repair	100000
3. Establishing information centres	
4. Establishing information points	30000
5. Further equipment and furnishing of buildings	
6. Further equipment for the staff	

PART 5:

REVIEW OF THE FULFILMENT OF GOALS AND TASKS

5.1. REVIEW OF THE GOALS

5.1.1. Year for public hearing of the implementation of the management plan of the Pirin National Park – 2008.
The process of elaboration of a management plan for the period 2014 – 2024 has to start after the second four-year review in 2012.

5.1.2. Institution, responsible for the implementation review – according to Article 60 of the PAA, every four years a public hearing of the Pirin NP management plan is organized by the Ministry of the Environment and Waters, where representatives of the concerned state bodies, district governors, municipalities, scientific and non-governmental organizations are invited to participate.
On the basis of the yearly reviews, the NP Directorate prepares and presents at the public hearing a general review of the management plan implementation and the results of the management practice in the reviewed period.

5.1.3. Participants in the review
These are the district administrations, the municipalities of the settlements with grounds included in the park's territory, RIEW – Blagoevgrad, the state forestry boards of the adjacent territories, the local structures of the Ministry of Education, schools, representatives of the businesses (tourism, timbering and others, related to the park's use), NGOs, experts and consultants from the team, which has elaborated the present management plan, the partners of the NP Directorate, the members of the consultative and scientific councils, users.

5.1.4. Public participation in the review process
The public hearing of the plan's implementation is announced in advance, at least 20 days before the date of the event. Announcements are placed or sent to all participants, described in p. 5.1.3.
The general statements, recommendations and comments are reflected in a minutes and discussed by the consultative and scientific councils. The approved and feasible new ideas, as well as the revised goals are annexed to the management plan and submitted to MoEW for coordination.

5.1.5. List of the MP projects and activities, which should obligatorily be subjected to evaluation, concerning the effectiveness of their results for achieving the goals

#	Projects and activities	Indicators for their effectiveness
Relevant to achieving main goal I: ***Preservation, protection, and maintenance of the naturalness and intactness of ecosystems and landscapes***		
1.	Biodiversity conservation and maintenance	⇒ Elaborated programs for long-term monitoring and schedules for their implementation; ⇒ Organized monitoring stations or constant sample plots for observation of the succession processes in the main types of associations; ⇒ Organized biodiversity database and regular up-dates in the GIS; ⇒ Provided data for education and promotion materials, targeting the park visitors and users

		⇒ Carried out sociological researches of the conflict of interests and defined the preferences of the visitors and the users, etc.
2.	Preventive activities in case of danger of fires, windthrows, avalanches	⇒ Mapped affected regions and defined measures for intervention or non-intervention there; ⇒ Elaborated plan for systematic training of officers and volunteers and system for partners' coordination and joint actions; ⇒ Decreased number of fires
3.	Pastures use and control	⇒ Elaborated project for grazing management ⇒ Defined passage ways, general productiveness of each grazing territory for every separate region, restored places with poor or torn grass cover; ⇒ Applying a special regime for regular use of the grazing territories; ⇒ Monitoring – statistics of the pastures use
4.	Fish and game protection	⇒ Restored natural river and lake ecosystems, which have been stocked with non-typical fish species – number of the basins; ⇒ Decreased number of violations in the park's boundaries
5.	Sustainable use of non-timber products	⇒ Elaboration and applying of an information programme, concerning the ways of collecting and using non-timber products and the existing sanctions and control measures; ⇒ Defined places and appropriate technologies for using the resources; ⇒ List of the mushrooms with endangered status prepared; ⇒ Joint actions with companies and delivery stations, carried out;. ⇒ Produced field guides and other information materials
Relevant to achieving main goal II: ***Providing opportunities for conservation education and interpretation***		
6.	Activity of the information centers and points	⇒ Established network of information centers and points, according to the Information System Concept; ⇒ Specificity of each information center, established jointly with local authorities and institutions; ⇒ Number of visitors and celebrated events, profile of the visitors' interests, submitted proposals, new activities introduced.
7.	Producing information materials	⇒ Maps of the park, maps of ray-routes, information leaflets about the biodiversity / natural heritage of the park, materials for ecological training in the schools
8.	Carrying out nature conservation educational initiatives	⇒ Elaborated interpretative programs for different target groups; ⇒ Talk-shows, field trips, etc., carried out to introduce the local people and the park visitors to the park's natural heritage and the needs for its conservation ⇒ Every four year tracing and reporting the change in the public opinion and attitude by means of questionnaires containing one and the same questions
Relevant to achieving main goal III: ***Stimulation of scientific studies***		
9.	Providing additional funding sourses	⇒ Funds provided and scientific researches carried out; Scientific and research materials published; ⇒ Specific contribution of the researches to the park management

Relevant to achieving main goal IV: ***Incomes generation for the local communities as a result of the opportunities and advantages of the national park***		
10.	Maintaining the existing and establishing new elements of the tourist infrastructure	⇒ Marked tourist trails, connected with the marking from the settlements of the adjacent zone; ⇒ Regulated and safety-ensured places for tourism and different sport activities; ⇒ Defined approaches to the park and equipped rest and view points; ⇒ Ensured parking lots and visitor access to the sites for visitors
11.	Improving the sanitary-hygienic state of the visitor serving places	⇒ Elaborated schedules for removing the waste and control on their implementation;. ⇒ Liquidated old waste depots; existing equipment with the necessary waste bins, information boards, etc.; ⇒ Systematic servicing of septic pits by specialized cars; chemical toilets and module treatment stations set up
12.	Development of sustainable tourism	⇒ Identified activities, services, crafts, etc., specific for each settlement or resort; ⇒ Trained "Local development agents" – 1 or 2 persons in each tourist settlement, who maintain contacts with the NPD and the tourist companies; ⇒ Tourist packages, elaborated together with local authorities and tourist companies; ⇒ New park-related services introduced – guiding, thematic routes, products with the "Pirin" brand, etc.. ⇒ Registered "Pirin" brand of origin;
Relevant to achieving main goal V: ***Improving the management policy and the specialized warding of the national park***		
13.	Increasing the staff qualification and the effectiveness of warding	⇒ Working system for regular training courses for the park's wardens and administration on the conservation of valuable species and associations and the applicable laws and statutory regulations; ⇒ Functioning "Moving Park Guard Squad"; ⇒ Established park region "Trite reki"; ⇒ Restored volunteering traditions
14.	Functioning of a Public Consultative Council	⇒ Approved activity regulations and name list of the members; ⇒ Submitted statements about the management plan implementation and any problems, related to the park's protection, warding, maintenance, land, forest and water use, as well as to the research activities, education and training programs, information services and other activities of the Park Directorate.
15.	Functioning of a Scientific Council	⇒ Provided scientific base for decision-making on the side of the park administration concerning the general park management matters or the solving of specific problems; ⇒ Provided evaluations and statements on the qualities of the scientific and applied research, assigned by the park administration to different experts and expert teams;
16.	Communications activity	⇒ Selected journalists who reflect the park-related news in the local and national mass-media ⇒ Regular information exchange and joint trips in the park with journalists;

		⇒ Maintaining a web site of the park – number of comments received, etc.
17.	Joint initiatives with other park administrations	⇒ Established traditions in the organizing of campaigns for forming / changing the public opinion on protected areas
18.	Work in partnership	⇒ Established "Club of the Pirin NP friends" ; ⇒ Established system for joint actions, meetings, etc. with all concerned persons and institutions, having any attitude to the park; ⇒ Provided additional funding sources; ⇒ Implemented joint projects with concerned physical or legal bodies
Relevant to achieving main goal VI: ***Съблюдаване и спазване на законовата и институционалната база***		
19.	Clarifying the ownership status of the buildings on the park's territory	⇒ Collected up-to-date information about the ownership and the use of the buildings; ⇒ Restored contacts of the NPD with the owners / users; Increased interest of the users in investing and improving the state of their infrastructure; ⇒ Observing the necessary sanitary-hygienic norms in the region of the buildings
20.	Effective applying of the legislation and control over the concessions	⇒ Removed illegal constructions and facilities ⇒ Legal base for fundraising from the profits of other park users

5.1.6. Criteria for evaluation of the goals and projects

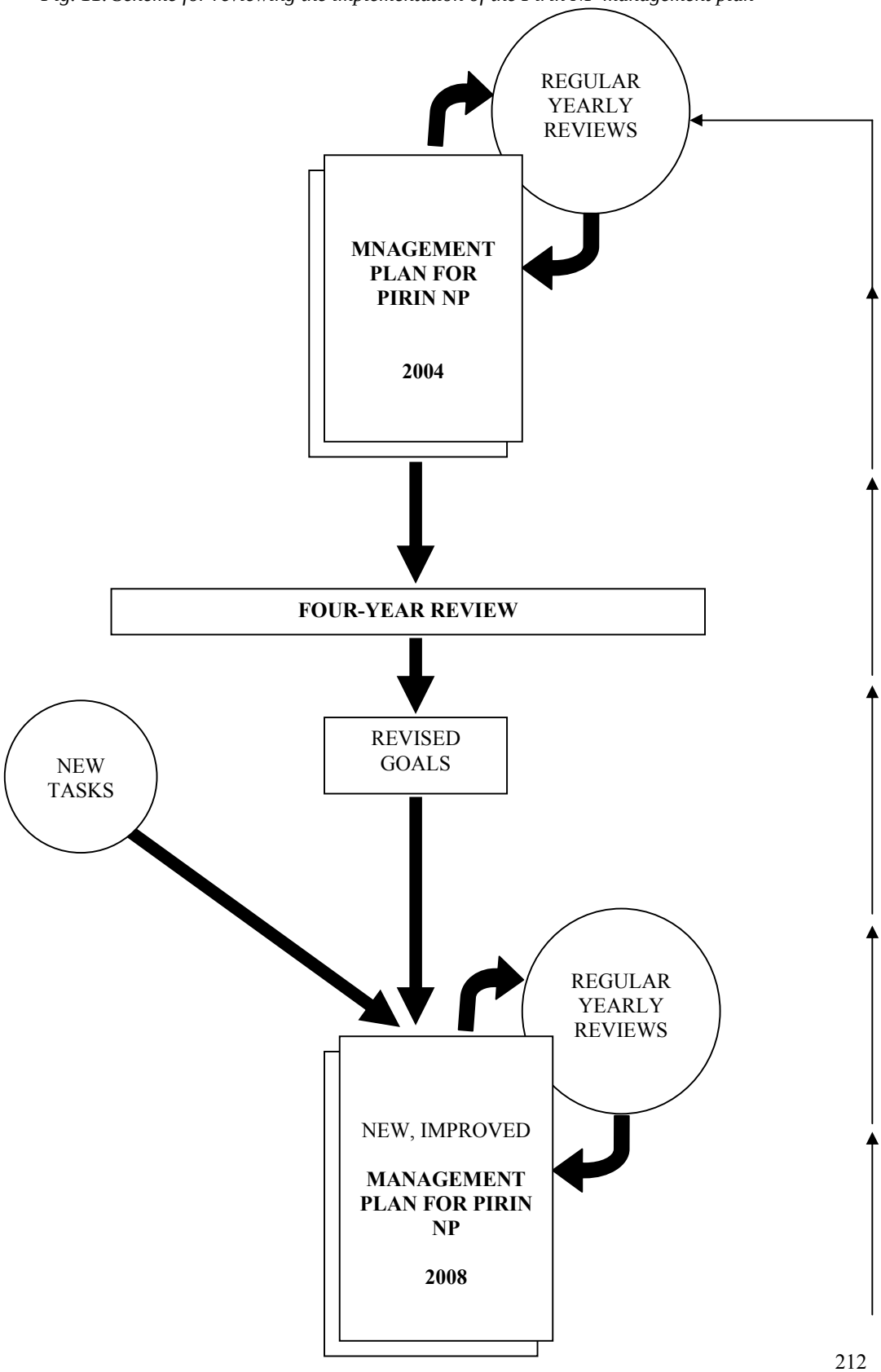
The projects and activities pointed out in p. 5.1.5 are a subject to permanent monitoring and their implementation is a subject to annual reports on the side of the park employees. In this way in the following 5 years an evaluation of the goals implementation can be made.

The revision of the MP may be assigned also by international bodies. It is obligatorily carried out in compliance with the requirements of the European Directives and international conventions, ratified by Bulgaria, given in p.1.3.4.

The review of achieving the goals and projects obligatorily analyses and evaluates:
⇒ To what extent the goals and the expected results have been achieved;
⇒ Which constraints and threats have been removed or their impact on the achievement of the goals has been decreased;
⇒ Are the methods for project and task implementation appropriate;
⇒ Is it necessary to include new projects and tasks;

Fig. 11 provides a scheme for reviewing the MP implementation.

Fig. 11. Scheme for reviewing the implementation of the Pirin NP management plan



5.2. REVIEW OF THE TASKS

The regular yearly reviews are done by the end of the first trimester of the preceding year. The report is prepared by the Park Direction and includes the responsibilities of the persons from the different levels.
MOEW check and evaluate the report.
The protocol of the check is certified by the NNPS Director.

Guidelines for filling in the report form:

1. **Code** – corresponds to the project/ activity number in the work plan in p.4.5. A new index may be added if the NP Direction considers the breaking down of the activities necessary.
2. **Project/Operational activity** - the name of the specific task
3. **Participants in the task –** the executors and partners are listed here
4. **Term** – the term, defined with the work plan or updated in case a previous report has shown a missed term and line № 9 recommends extension
5. **Implementation evaluation –** the state of the project according to the last submitted report
6. **Implementation evaluation –** the state of the project at the moment of reporting

In case the project has not been completed, the following lines should be filled in:

7. **% of task implementation** – reported on the basis of volume, time and means

8. **Problems –** the problems, which have arisen and hinder the implementation of the task on time and with the necessary quality, are described here

9. **Actions for solving the problem –** depending on the nature of the problems, consultations with experts, the consultative or scientific council, etc. are carried out. The approval of the activities is given by the Director.

10. On what / whom does it depend – Dependencies on different levels are defined with a view to solving the problems.

After filling in lines 7 – 10, an action scheme is drawn up for the following report period.

Scheme for current reporting and control on the implementation of the projects, activities and tasks, included in the management plan

The proposed scheme may be used on different levels of the Direction and for the purposes of the MOEW annual reviews of the MP implementation.

Park region:.....
Report period .....
Person responsible:.....

Code	Project/ Operational activity	Participants in the task	Term	State of implementation		% of task imple-menta-tion	Problems	Actions for solving the problem	От какво/кого зависи
				Previous report	At the moment				
1	2	3	4	5	6	7	8	9	10

Criteria for implementation evaluation:

	Work is being done on the task and it will be concluded on time
	The task is completed
	There is a danger for not completing the task on time
	The term is missed

The activities and tasks for the next period are defined on the basis of the listed criteria.
The proposed scheme is appropriate for electronic reporting as well and does not require the use of other forms of control.