ALBANIA

CONVENTION ON BIOLOGICAL DIVERSITY

NATIONAL REPORT

BIODIVERSITY STRATEGY AND ACTION PLAN

Sponsor: Global Environmental Facility (GEF)

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Biodiversity Strategy and Action Plan

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LIST OF ACRONYMS

AS	Academy of Sciences
BG	Botanical Garden
CBD	Convention on Biological Diversity
CCCH	Convention on Climate Change
CEP	Committee for Environmental Protection
CITES	Convention on the Illegal Trade of the Endangered Species
CTD	Council of Tourism Development
DAP	Department of Environmental Protection within the GDFP
DCTA	District Council of Territorial Adjustment
EAP	Environmental Action Program
EECONET	European Ecological Network
EIA	Environment Impact Assessment
EU	European Union
FPRI	Forest and Pasture Research Institute
FRI	Fishery Research Institute
GDFP	General Directorate of Forest and Pastures
GEF	Global Environmental Facility
GTZ	German Technical Assistance
IBA	Important Bird Area
IBR	Institute of Biological Research
INC	Institute for Nature Conservation
IUCN	World Conservation Union
MAF	Ministry of Agriculture and Food
MNS	Museum of Natural Sciences
NCNB	National Council for Nature and Biodiversity
NCTA	National Council of Territorial Adjustment
NCW	National Council of Waters
NEA	National Environmental Agency
NGO	Non governmental Organisation
NEAP	National Environmental Action Plan
NSI	National Seed Institute
NUPI	National Urban Planning Institute
PA	Protected Area
PEMU	Project Environmental Management Unit
PESBLD	Pan-European Strategy on Biological and Landscape Diversity
RAC/SPA	Regional Activity Centre/Specially Protected Areas (Tunis)
REA	Regional Environmental Agency
REC	Regional Environmental Centre for Central and Eastern Europe
RNPA	Representative Network of the Protected Areas
SCBD	Secretariat of the Convention on Biological Diversity
SNV	Netherlands Development Organisation
UNDP	United Nations Development Program
UNEP	United Nations Environmental Program
UNO	United Nations Organisation
USAID	United States Agency for International Development
WB	World Bank
WCTT	World Council for Travel and Tourism
WWF	World Wildlife Fund

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EXECUTIVE SUMMARY

INTRODUCTION

1 The Convention on Biological Diversity (CBD), was signed by Albania in January 1994. Although faced with the difficulties of a country in transition, Albania has endeavoured to fulfil its obligations under the Convention. In 1998, the Albanian government charged the National Environmental Agency (the former Committee for Environmental Protection) to prepare the Biodiversity Strategy and Action Plan (BSAP) as a step towards implementing the Convention. Albania has been, and continues to be, a participant in European and regional initiatives related with the CBD, especially in the PAN-European Strategy on Biological and Landscape Diversity (PESBLD).

2 In Albania, the main objectives for implementing the CBD and PESBLD are:

(i) protection and improvement of biological and landscape diversity;
(ii) incorporation of the principles and policies required for sustainable biodiversity use and management; and
(iii) promoting sustainable development for present and future generations.

3 The World Bank, through the Global Environment Facility (GEF), provided financial support to the NEA for preparing the BSAP. As part of this process, an Advisory Board was created and headed by the Chairman of the NEA. Supervision, consulting, and co-ordination were the duties of this Board. Technical specialists, university staff, and representatives of central and local governmental and non-governmental organisations participated in the preparation and drafting of the BSAP.

THE IMPORTANCE OF BIODIVERSITY

4 Although a small country, Albania is distinguished for its rich biological and landscape diversity. This diversity is attributable to the country's geographic position as well as geological, hydrological, climatic, and soil and relief factors. The mountainous terrain combined with steep cliffs creates ideal conditions for maintaining and protecting a large number of ancient species, which are both endemic and subendemic. There are 27 endemic and 160 subendemic species of vascular plants, which have a special protection importance for the country.

5 The high diversity of ecosystems and habitats (marine and coastal ecosystems, wetlands, river deltas, sand dunes, lakes, rivers, Mediterranean shrubs, broadleaf, conifers and mixed forests, alpine and subalpine pastures and meadows, and high mountain ecosystems) offers a rich species variety of plants and animals. In Albania, there are around 3,200 species of vascular plants and 756 vertebrate species. Approximately 30% of all European floras occur in Albania. The high Albanian forests maintain the communities of large mammals such as wolf, bear, lynx, and wild goat, and also the characteristic bird communities, which are associated with virgin forests.

6 Coastal lagoons and large lakes inside the country, are important areas -- especially for wintering migratory birds. There are annually met around 70 waterfowl and waterbird species with a total population of 180,000 individuals in Albania during the winter. Albania is also an important crossroad for the migration of birds, bats, and insects.

7 There are some 91 globally threatened species found in Albania. These include the Dalmatian Pelican (*Pelecanus crispus*), Pygmy Cormorant (*Phalacrocorax pygmeus*), and the Sturgeon (*Acipenser sturio*) for which Albania is a country of particularly critical importance.

8 The landscape diversity inside the country derives from natural characteristics and Albania's ancient origins and the associated human activity. Traditional agriculture and stock farming have been developed according to the natural characteristics of the country, and are the major factors, which determine the landscape physiognomy in those areas, which are characterised by

autochthonous species. A number of local autochthonous livestock and plant species have existed in Albania over the years. They represent very important heritage values for protecting and improving the quality and productivity of agricultural and livestock products.

WHY BIODIVERSITY PROTECTION IS IMPORTANT

9 There are many reasons for the importance of biodiversity protection in Albania; (i) we live by using the plants and animals found in our surrounding environment; (ii) it is our duty towards future generations to ensure a nature as rich as we inherited it; (iii) any living organism has the right to live, those living and evolving over the past thousands and millions of years may disappear very fast, but they can not be recreated; (iv) a large number of plants are known for their medicinal values, and their number may even increase in the future with technological advances; (v) wild plants and animals play an important role in providing the sustenance for cultivated plants and domestic animals; (vi) natural biological processes protect life and environment on our planet; (vii) nature that offers high diversity also has greater potential to be appreciated for tourism development and for its aesthetic and recreational values; and (viii) the country's economic prosperity can only be achieved through the protection and sustainable use of its natural and biological resources.

RISKS AND ADVERSE IMPACTS ON BIODIVERISTY

10 Economic development over the past 50 years was based upon agricultural, industrial and tourism development, increasing use of transportation and urbanisation, and exploitation of forest, fishing, and other natural resources. All this development has had its impacts upon biological and landscape diversity in Albania. Some of the major adverse impacts have been:

- Habitat loss and fragmentation;
- Damage and degradation of habitats and ecosystems;
- Disturbance and maltreatment of wildlife;
- Loss of species or the threat of their extinction; and
- Damage and erosion of genetic resources.

11 Although a low number of species has become extinct during this past century, the rate of loss of Albania's biodiversity during the last 50 years is believed to be increasingly high. Moreover, insufficient knowledge and studies on a wide range of flora and fauna limit an accurate historical evaluation of the biodiversity status of Albania. Two species of plants and four species of mammals have become extinct; and meanwhile 17 bird species no longer nest in the country's territory. During the last 25 years, approximately 122 species of vertebrates (27 mammals, 89 birds, and 6 fish) and four species of plants are expected to have lost more than 50% of their population. The number of rare and endangered species of plants and animals is high and expected to increase.

12 In Albania, the major types of endangered ecosystems and habitats are not only coastal (sand dunes, river deltas, alluvial forests, lagoons, and coastal lakes) and marine (medium and infralittoral level), but also inland ones, including alpine pastures and meadows, continental and glacier lakes, and broadleaf and coniferous forests.

13 The high rate of population growth (the population has almost tripled during the last 50 years) has been followed by the progressive increase of human impacts and disturbances on the country's nature and biodiversity. These pressures are expected to increase in the future due to the relatively free and uncontrolled movement of the population from rural to urban areas. Increasing urbanisation will most adversely affect the coastal and littoral ecosystems, which are more ecologically fragile.

14 The intensive agricultural practices of the past, combined with the present activities of a free market economy, have damaged and are damaging to the native species. These practices have also reduced people's interest in protecting and improving the autochthonous variety of plants and animals.

15 It is observed that agriculture is returning back to the traditional extensive practices due to the lack of investments after the privatisation of land. This phenomenon has reduced the impact on biodiversity, but it is believed that the agriculture sector will use more intensive practices in the future, which will have increasingly adverse impacts on biodiversity – especially in the western coastal plains.

16 Although a large part of the industrial sector is not functioning at the moment, it is expected that this will not be the case as economic development and growth increase in the future. The effects of industrialisation will adversely impact the biodiversity of the country, particularly in the coastal areas, which will have a higher number of urban centres.

17 Tourism and transportation are two other factors, which will soon have an adverse impact on biodiversity, once again particularly in the coastal areas.

18 The exploitation of forests was common in the past due to the absence of alternative fuel resources for cooking and heating. These practices have had adverse effects upon forest biodiversity, which have been further exacerbated by existing forestry practices and the lack of a clear national strategy for the protection and sustainable development of forests. The populations of large mammals have particularly suffered in the forest areas of Albania.

19 There are no discernible effects on marine and wetlands biodiversity due to past fishing and aquaculture practices. However, the consequences are expected to increase in the future due to recent changes in fishing practices (e.g., increased fishing with dynamite) and the foreseen development of the fishery sector in the future.

20 The transition period that began in 1991 has been marked by political instability – especially during the last 2-3 years. Some of the factors influencing this destabilisation have been the lack of appropriate legislation, lack of implementation of existing laws and regulations, and the ineffectiveness of the existing institutional structures. Meanwhile, individuals and the private sector are focusing on maximising earnings and short-term profits, so the combined effects have negative impacts on biodiversity. There have been efforts to improve the legislation and administrative structure, but illegal wood cutting, and illegal and uncontrolled fishing and hunting persist.

IN-SITU AND *EX-SITU* CONSERVATION

21 *In-situ* conservation of nature and biodiversity began only in the second half of this century in Albania. Protected areas were established, and followed by the approval of laws and regulations for the protection of endangered species of plants and animals. Although progress has been made, there are still problems which need to be addressed such as:

- Lack of a national strategy for the protection of nature;
- Existing gaps in legislation and institutional weaknesses;
- Limited number of Protected Areas (5.8% of the country's territory);
- Lack of management plans for the major part of the existing Protecting Areas;
- Lack of means and financial resources for effective administration of the Protected Areas;
- Insufficient number of personnel and their lack of training; and
- Lack of practices for protecting endangered species of plants and animals outside the Protected Areas.

22 Until recently, there were no practices for *ex-situ* conservation of endangered plants and animals. However, a seed bank for crops was recently established near the National Institute of Seeds (NIS).

EXISTING NATIONAL PROGRAMS

23 The process of preparing the Strategy and Action Plan on Biodiversity (BSAP) built on previous activities such as the National Environment Action Plan (Committee for Environmental Protection – CEP, 1993), Environmental Strategy of Albania (World Bank – WB, 1993), Ecological Survey of High Forests in Albania (1995), Coastal Zone Management Plan (CZMP, 1996), Specially Protected Areas (UNEP, RAC/SPA, 1995), and NGO

Nature Conservation Strategy in Albania (REC, IUCN, MilieuKontakt, 1997). Their findings and recommendations were incorporated into the BSAP.

IDENTIFICATION OF PRIORITIES

24 The following criteria were used for identifying the priorities for action plans and solutions relevant to species and their habitats:

- Endangered species and habitats with global, regional, and national importance;
- Habitats containing endemic species or high levels of biodiversity;
- Species or habitats risking total extinction;
- Species or habitats which would yield local or national economic benefits;
- Species or habitats with local or national education benefits;
- Endangered species or habitats which could be better protected through more suitable policies and use; and
- Actions which could yield viable economic, ecological, and social benefits.

25 These criteria, together with the present level of knowledge on national biodiversity status and the opinion and consensus of the country's leading zoologists and botanists, were used to select the plant species, animal species, and habitat types which need to be included as priorities in the action plans.

26 The selected species and habitats are presented in two lists based on their importance and the level of danger: (i) species/habitats action plans which should be undertaken within 1-2 years; and (ii) species/habitats action plans which should be undertaken within 3-5 years. The first list of short-term priorities includes 80 species/taxa – 42 vertebrates, 26 invertebrates, and 12 plant species, while the longer-term priorities include 143 species/taxa – 95 vertebrates, 31 invertebrates, and 17 plant species.

27 The action plans for species and habitats should include: the present situation of species or habitats; the major factors influencing the loss or decrease of populations; a short description of existing protection measures; priority problems which require solutions to enhance biodiversity protection, species distribution and habitat size; and a list of measures which need to be undertaken.

28 Although it is the government's responsibility to prepare and implement the action plans on species and habitats, it is proposed that a partnership led by various co-ordinators for each species and habitats be responsible. Responsibilities would include facilitating, co-ordinating, and promoting the submission and implementation of action plans.

THE NEED FOR CHANGE AND ACTION

29 The implementation of the Biodiversity Convention can be achieved only through acceptance and reference to the objectives and principles for protection. This will include engaging in practices, which promote sustainable development in all sectors impacting on biodiversity such as agriculture, forestry, fishing, industry, urban planning, transport, and tourism. In the meantime, the "polluter pays" principle and the appropriate Environmental Impact Assessment (EIA) procedures should be enforced in all sectors.

30 The protection of nature within Protected Areas should be considered as an important instrument for *in-situ* conservation of biodiversity. It is recommended as a short-term objective that 14% of the country's territory be divided into different categories of Protected Areas, with 25% as the long-term objective for the year 2020. This process will require greater support for environmental protection inside the General Directorate of Forestry and Pastures (GDFP).

31 Another important aspect of biodiversity management is its protection and sustainable development outside of Protected Areas. This is especially important in Albania because of the limited number of present and proposed protected areas. Without the appropriate measures, a large percentage of fauna, especially birds and mammals, will struggle to survive.

32 *Ex-situ* conservation of biodiversity is also a priority because of increasing anthropogenic pressures upon nature, which threaten to increase the number of endangered and extinct species. The establishment of genetic banks is required for *ex-situ* conservation, first through the establishment of a Gene Bank for plants.

33 The further elaboration of scientific research is also a high priority for Albania. Currently, there is a lack of studies for different groups of fauna (especially marine groups) and flora (especially low plants such as algae, lichens, and moss). The lack of financial support continues to be an obstacle for conducting the necessary research. In the future, improved co-ordination among scientific institutions will be necessary, as well as collaboration with foreign institutions and the active involvement of NGOs.

34 Improving information use and management is a high priority for improving biodiversity management in Albania. To improve the collection and management of data and information it will be necessary to:

- Use existing data and information to the maximum extent possible;
- Improve and standardise existing data collection and reporting;
- Set up a national database for biodiversity; and
- Develop an information network with open access for all locally interested persons.

35 The recent establishment of the Ministry of Information should be used as an opportunity to offer more possibilities for developing information programs on biodiversity.

36 Because the role of the public in biodiversity protection and management is critical, environmental education and public awareness should be improved. Public participation, particularly at the local level, should be encouraged through various projects and programs aimed at improving biodiversity planning and management.

37 Training and qualification programs for biodiversity study and management are another priority for Albania, and all public institutions, NGOs, and the private sector should be involved in them where possible. Advisory services on biodiversity should be developed to help land users understand the benefits of improved biodiversity protection and management. The Regional Environment Agencies (REAs) under the National Environmental Agency (NEA) may well be the most appropriate vehicle for providing these advisory services.

IMPLEMENTATION OF THE ACTION PLAN

38 Institutional reform and strengthening are an important step for implementing the BSAP, and this should be complemented with an improved legal system and commensurate law enforcement efforts.

39 Two important actions need to be taken in the legal field in order to harmonise existing and future legislation. First, the draft law on Nature Protection and Biodiversity should be approved as soon as possible by the parliament. Second, relevant bylaws and implementing regulations should follow this new law to speed up implementation and harmonisation.

40 Another priority is the strengthening of governmental institutions responsible for biodiversity inventories, management, and monitoring. Better support should be provided for the NEA and the REAs, as well as for the Environmental Project Management Unit responsible for the Albania Forestry Project. In this way they will be able to fulfil their responsibilities on environmental protection in general, and biodiversity in particular. As part of the institutional reform process, it will be necessary to establish as soon as possible the Institute of Nature Conservation (INC) which would provide qualified help in the area of nature conservation and protection as well as sustainable development of biodiversity.

41 The process of local autonomy and decentralisation is part of the democratic process. The governmental authorities at the local level should be responsible for sustainable management of nature and biological resources in their areas, and for

establishing the methods for implementing the CBD and BSAP at the regional and local levels.

42 Co-ordination across sectors also needs to be improved. It is recommended as a first step to establish a National Council on Biodiversity with representatives from the central and local government, university staff, and NGOs operating in the area of environment protection. The Secretariat on Biodiversity (SB) should be established within the NEA. Its responsibilities will include program co-ordination, identification and mobilisation of financial resources for implementing the CBD and BSAP, and other administrative duties.

43 NGO and local communities' participation in biodiversity planning, management, legal issues, and monitoring should be encouraged as part of the process of implementing the CBD and BSAP in Albania.

44 Biodiversity protection has its costs, but at the same time there are benefits to be derived. Cost/benefit analysis should be used as an effective mechanism for avoiding long-term uneconomic practices and policies. These analyses must be included as a basis for future conservation practices and policies.

THE STRATEGY FOR IMPLEMENTING BSAP

45 The following will be part of the implementation process of the BSAP:

- Dialogue and co-ordination process;
- Identification and mobilisation of financial resources;
- Identifying economic barriers to biodiversity protection;
- Finding and implementing the appropriate mechanisms to realise the benefits of protection; and
- Technical support for projects.

46 The agencies and institutions responsible for implementing and monitoring the CBD and BSAP are the NEA, REAs, National Council for Nature Biodiversity (NCNB), and the country Secretary for the Convention on Biodiversity (SCB) within the NEA.

Matrix table of the Biodiversity Strategy and Action Plan of Albania

Issue	*Immediate Actions*	*Short-Term Actions (1-5 Years)*	*Mid-Term Actions (5-10 Years)*	*Long-Term Actions (10+Years)*
Legislation	Finalization of the Draft Law on Biodiversity Finalization of the Draft Law on Protected Areas Harmonization of existing laws with the Law on Biodiversity	Approval of laws on Biodiversity and Protected Areas by Parliament Prepare Draft Law on Coastal Zone Management, and approve in Parliament Prepare Draft Law on Administration of Watershed Basins, and approve in Parliament Preparation of implementing regulations for biodiversity law, and protected areas law – including those related to Environmental Impact Assessment Ratification of International Biodiversity Convention and related international environmental treaties (e.g. Bonn and Berne Conventions)	Implementation of regulations for Biodiversity Law and Protected Areas Law Preparation and implementation of regulations on Coastal Zone Management Preparation and implementation of regulations on administration of watershed basins	Developing legal framework for decentralization of biodiversity management Continued implementation and enforcement of regulations
Institutions	Creation of the National Council for Nature and Biodiversity (NCNB) Creation of the implementing board for the Biodiversity Action Plan, and appointment of the Secretariat for the Biodiversity Convention (NEA) Setting up Working Groups (WG) for implementing the Biodiversity Action Plan (14 WG) Support to the Project Environmental Management Unit (PEMU) in the Ministry of	Integration of work and objectives of NCNB with work and objectives of interministerial Structures (National Council for Territorial Adjustment, National Water Authority, National Council for Energy, National Committee of Tourism) Building capacity of national and regional environmental agencies to improve biodiversity management Creation of environmental units in other ministries to incorporate biodiversity issues into sector planning (e.g., based on the experience of PEMU in Ministry of Agriculture and Food)	Develop more sophisticated institutional arrangements in line with progress made in development of institutions and biodiversity management in the first five years (e.g., creation of Ministry of Environment)	Decentralization of institutional responsibilities through strengthening of local capacity for biodiversity protection and management

Issue	*Immediate Actions*	*Short-Term Actions (1-5 Years)*	*Mid-Term Actions (5-10 Years)*	*Long-Term Actions (10+Years)*
	Agriculture Food (MAF)	Establish a National Institute for Nature Conservation		
Agriculture	Develop national policy to reduce degradation and erosion of agricultural lands Develop national policy to protect autochthonic breeds and varieties Support for strengthening of National Seed Institute	Begin taking measures to reduce degradation and erosion of agricultural lands (e.g., improved irrigation practices) Implement measures to protect autochthonic breeds and varieties (e.g., financial incentives for farmers and breeders) Develop national policy for agricultural land next to and inside Protected Areas (e.g., buffer zones) Incorporation of Environmental Impact Assessment procedures into projects, planning, and implementation (e.g., rehabilitation, irrigation, drainage) Develop quarantine regulations and enforcement in customs at the national level Develop policies for creating biocorridors on agricultural land to establish the ecological network (ECONET)	Implementing appropriate incentives to maintain ecological integrity of agricultural land Develop quarantine regulations and enforcement throughout the country at the local level Implement measures for agricultural land next to and inside Protected Areas (e.g., buffer zones) Conversion of abandoned lands to alternative uses (e.g., agroforestry) Pilot projects for habitat restoration through converting unproductive and unused land into wetlands Develop policies to encourage ecologically sound land use and use of agricultural chemicals (e.g., integrated pest management) Adopting improved technologies for plowing and tilling of land Develop pilot projects for	Implementing measures to ensure ecologically sound land use and use of agricultural chemicals Extension of Protected Areas by including agricultural land next to Protected Areas (Buffer Zones) Full-scale program for habitat restoration through converting unproductive and unused land into wetlands Widespread implementation of improved technologies for plowing and tilling of land Full-scale development of biocorridors on agricultural land for the ecological network (ECONET)

Issue	*Immediate Actions*	*Short-Term Actions (1-5 Years)*	*Mid-Term Actions (5-10 Years)*	*Long-Term Actions (10+Years)*
			biocorridors on agricultural land to establish the ecological network (ECONET)	
Energy and Industry	Develop national policy for integrating ecological considerations into energy and industry operations as part of privatization and restructuring process before industrial capacity picks up significantly	Begin implementing measures for integrating ecological considerations into the sector (e.g. new technologies to reduce air and water pollution) taking into consideration the industrial and energy mix which is likely to evolve in Albania Incorporation of Environmental Impact Assessment procedures into project planning Developing economic policies within the sector which enhance environmental protection (e.g., recycling, energy efficiency, and waste minimization)	Pilot projects within the sector which enhance environmental protection (e.g., recycling, energy efficiency, and waste minimization)	
Forestry	Develop national policy for integrating ecological considerations to ensure multiple uses of forest resources (e.g., based on a sustainable yield concept/policy) Take measures to control illegal forest harvesting in the most sensitive areas	Begin implementing measures for integrating ecological considerations into forestry operations Implement new technologies to reduce environmental damage from forest roads and harvesting Incorporation of Environmental Impact Assessment procedures into forest management and operations Harmonization and coordination of forest and pasture policy with nature and landscape conservation policies Developing policies within the sector which enhance environmental protection (e.g., standards for allowable cut, cutting cycles,	Implementing measures within the sector which enhance environmental protection (e.g., standards for allowable cut, cutting cycles, and harvesting techniques) Implementing measures for creating biocenters and biocorridors on forest land to establish the ecological network (ECONET) Implement full-scale program to reduce and control illegal harvesting of forest resources (especially in Protected Areas)	Reforestation of areas found not to be regenerating forest resources on their own (e.g., oak land degraded areas)

Issue	*Immediate Actions*	*Short-Term Actions (1-5 Years)*	*Mid-Term Actions (5-10 Years)*	*Long-Term Actions (10+Years)*
		and harvesting techniques) Develop policies for creating biocenters and biocorridors on forest land to establish the ecological network (ECONET) Continued enforcement to reduce and control illegal harvesting		
Fisheries and Hunting	Develop national policy for integrating ecological considerations into fisheries management Measures to control inappropriate exploitation of benthic living forms such as *Corallum rubrum* and *Lithofaga lithofaga*	Begin implementing measures for integrating ecological considerations into the sector Improve control of overfishing and inappropriate fishing techniques such as dynamite Improve control of illegal hunting which threatens important taxa Developing economic policies and pilot projects within the sector which enhance environmental protection	Integration of landscape and biodiversity management with fisheries practices Develop pilot projects and policies for establishing and developing fish hatcheries in fresh and coastal waters	Full-scale national network of fish hatcheries in fresh and coastal waters
Territorial Planning and Urbanization	Develop national policy for integrating ecological considerations into urban and landscape planning	Begin implementing measures for integrating ecological considerations urban and regional planning Incorporation of Environmental Impact Assessment procedures into project planning and implementation Developing and implementing urban and landscape planning policies and practices which enhance environmental protection (e.g., through pilot projects in coastal areas and in selected cities with the largest population and migration pressures)	Training and development to strengthen capacity to develop urban planning agencies at the local level (i.e., outside of Tirana)	
Transport	Develop national policy for	Begin implementing measures for	With increased economic	Decentralization of

Issue	*Immediate Actions*	*Short-Term Actions (1-5 Years)*	*Mid-Term Actions (5-10 Years)*	*Long-Term Actions (10+Years)*
	integrating ecological considerations into the transport planning	integrating ecological considerations into the sector (e.g., promotion of cleaner transport fuels and vehicles) Incorporation of Environmental Impact Assessment procedures into project planning	development more sophisticated measures for traffic management and transport infrastructure development will be needed	transportation management
Tourism	Develop national policy for integrating ecological considerations into tourism planning and promotion in order to ensure the protection of the environmental and natural resource base which will attract tourists Improve coordination between Committee for Tourism Development and National Environmental Agency and other government bodies	Begin implementing measures for integrating ecological considerations into the sector (e.g. ensuring that tourism development does not compromise nature conservation objectives) Incorporation of Environmental Impact Assessment procedures into project planning for medium-scale and large-scale tourism development, and development of associated infrastructure Development of pilot projects for ecologically sound tourism development and protection	Ensuring that Environmental Impact Assessment procedures are enforced with respect to project implementation for medium-scale and large-scale tourism development Implementation of projects for ecologically sound tourism	Reducing the adverse impacts of tourism and leisure activities on the environment assuming that tourism will become an increasingly important sector of the economy
Water Management	Develop national policy for integrating ecological considerations into the water sector through integrated planning and use of water resources	Begin implementing measures for integrating ecological considerations into the sector (e.g., new technologies to reduce inefficient and inappropriate use of water) Incorporation of Environmental Impact Assessment procedures into project planning and implementation in the water sector Developing pilot projects for water management and development of water-related infrastructure which take into account environmental protection and biodiversity impacts	Develop and implement policies to reduce and control the effects of point-source water pollution on biodiversity since these impacts will increase with economic development Improve water canalization and wastewater treatment facilities to reduce environmental impacts of non-point water pollution	

Issue	*Immediate Actions*	*Short-Term Actions (1-5 Years)*	*Mid-Term Actions (5-10 Years)*	*Long-Term Actions (10+Years)*
Military		Develop national policy for integrating ecological considerations into sector planning	Begin implementing measures for integrating ecological considerations into the sector (e.g. site selection of military facilities, mitigation measures such as removal of bunkers) Incorporation of Environmental Impact Assessment procedures into project planning Use of military personnel to patrol selected sensitive areas such as coastal and marine national parks	
In-Situ Conservation (Protected Areas)	Approval of Representative Network of Protected Areas (RNPA) which cover 14% of national territory Prepare the management plans for the most sensitive and important Protected Areas (e.g., primary National Parks)	Preparation of species and habitat action plans Establishment of the administration and management authorities for Protected Areas Development of a national program for building up the ecological network – biocenters, biocorridors, rehabilitation areas, and buffer zones Prepare and develop pilot projects for preserving and enhancing biological and landscape diversity	Implementation of habitat and species action plans Implement full-scale program for preserving and enhancing biological and landscape diversity with emphasis on the local level of responsibility	Implementation of habitat and species action plans Enlarge RNPA to cover up to 25% of national territory
Ex-Situ Conservation		Provide additional support to the National Botanical Garden for *ex-situ* conservation of endemic and threatened plant species Improving the existing seed bank inside the National Seed Institute	Creation of gene banks for autochthonic species of plants in the National Seed Institute Creation of gene banks for domestic animals and wildlife in the Zootechnic Research	Creation of necessary institutions for *ex-situ* conservation of threatened and endangered animal species Creation of gene banks for

Issue	*Immediate Actions*	*Short-Term Actions (1-5 Years)*	*Mid-Term Actions (5-10 Years)*	*Long-Term Actions (10+Years)*
		Develop strategy for creation of gene banks for plant and animal species, including domesticated species	Institute	endangered animal species, wildlife, flora, and micro-organisms
Biodiversity Research and Monitoring	Prepare and develop an overall strategy and plan for biodiversity research and monitoring at the national level, including specification of institutional roles, responsibilities, and coordination	Increased training for responsible research institutions for biodiversity inventory and monitoring Development of a long-term strategy and program for improving biodiversity inventory and monitoring through the establishment of fixed stations Preparation of Corine Biotopes map depicting the most sensitive areas rich in biodiversity (emphasis on protected areas, sea meadows, and benthic communities most affected by human activities)	Implementation of program for improving operational activities for biodiversity inventory and monitoring Preparation of Corine Biotopes map depicting the most sensitive areas rich in biodiversity (for the entire country)	Further study on the presence and distribution of plant and animal species and taxa, focusing on marine groups and low plants which have been poorly studied so far Continued implementation of operational activities for biodiversity inventory and monitoring
Information Management	Develop policy for data collection and management, including specification of institutional roles, responsibilities, and coordination	Improve standardization and collection of data Establishment of national databases for flora and fauna in Protected Areas to be used by the responsible institutions Develop strategy for assembling a national database on biodiversity	Establishment of a national database on biodiversity Develop an open information network for interested parties (including at the local level)	Implementation of information exchange through the information network at the national and local levels Development of national scholarly journals focusing on the publication of environmental research and monitoring findings
Environment Education and Public Awareness	Increase use of public television and media in providing general announcements on biodiversity to increase public awareness and sensitivity – focus on non-technical and local level announcements	Develop a strategy for environmental education at the primary and secondary levels (including redesign of teaching programs) Preparation of non-technical materials and guidelines concerning biodiversity importance to be made available to the general public – with emphasis on the local	Implement programs for environmental education at the primary and secondary levels Publication and dissemination of a wide array of non-technical materials and guidelines concerning	Development of local agencies dedicated to increasing public awareness and environmental education

Issue	*Immediate Actions*	*Short-Term Actions (1-5 Years)*	*Mid-Term Actions (5-10 Years)*	*Long-Term Actions (10+Years)*
		level Design and implement demonstration and pilot projects together with increased support for NGOs working on public awareness and environmental education at all levels of education	biodiversity importance to be made available to the general public	
Estimated Resource Requirements	$1 million[1]	$5-10 million[2]		

[1] Specific proposals to be developed 2-3 months after the National Workshop on Biodiversity on the basis of discussions at the workshop – each working group to prepare proposals to be evaluated by the National Council on Nature and Biodiversity to select priorities for submission for financing

[2] To be developed by the responsible institutions on the basis of donor interest, and on the success at implementing the immediate measures

PART ONE
BIODIVERSITY IN ALBANIA

CHAPTER 1
CONVENTION ON BIOLOGICAL DIVERSITY AND BIODIVERSITY IN ALBANIA

INTRODUCTION

1.1 The Convention on Biodiversity (CBD) was an important part of the Earth Summit in Rio de Janeiro, 1992. Albania signed this Convention on January 5, 1994.

1.2 Article 1 explains the objectives of the Convention as follows:

> The objectives of this Convention, to be pursued in accordance with its relevant provisions, are the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding.

1.3 In accordance with article 6a of the CBD, Albania must accomplish its obligations in regard to:

> Develop national strategies, plans or programmes for the conservation and sustainable use of biological diversity or adapt for this purpose existing strategies, plans or programmes which shall reflect, *inter alia*, the measures set out in this Convention

1.4 Albania, taking into account the difficulties of the transition period, has taken the responsibility to accomplish the obligations of the Convention. The National Environmental Agency (NEA), which was formerly the Committee for Environmental Protection (CEP), has been asked by the Albanian Government to prepare the Biodiversity Strategy and Action Plan (BSAP) in order to implement the Convention. The NEA is responsible for Albania's role in the regional and European initiatives and programs in response to the CBD, in particular in the Pan-European Strategy of Biological and Landscape Diversity (PESBLD).

1.5 The goal of the implementation of the CBD and the PESBLD in Albania is:

> **Protection and improvement of the country's biological and landscape diversity, and the integration of sustainable use and management policies into other sectors, aiming to achieve sustainable development for the future generations.**

1.6 With the financial support of the World Bank through the Global Environmental Facility (GEF), a grant was made available to the NEA to prepare the PEBLS. For the preparation of the PEBLS, an Advisory Panel chaired by the NEA's Chairman was created. The Panel was responsible for the supervision and co-ordination of the work. Staff from the scientific and academic institutions, government and local institutions, and NGOs working on nature and the environment issues was involved in the process of preparation and discussion of the PEBLS.

1.7 This report presents the viewpoints and important issues to be considered by the Government as a basic instrument for developing a long-term program from 2000-2015.

1.8 In the remainder of Chapter 1, the state of biodiversity in Albania is reviewed, focusing on what is biodiversity, and why it is important

Fig. 1. Physical Map of Albania

for sustainable development. Chapter 2 explains the existing and potential dangers to biodiversity, while chapter 3 reviews the state of biodiversity protection and management in Albania. Chapter 4 explains the criteria used for the identification of the important issues and actions to implement the CBD and the PESBLD in Albania. An important part of this chapter is the detailed information on strategic steps, the content of the species and habitat action plans, and the identification of the target issues and working groups.

1.9 Chapters 5 and 6 explain the biodiversity action plan and the measures to be taken in order to implement the CBD and PESBLS in Albania. The annexes illustrate the importance of biodiversity in Albania, and the need to take measures to enhance it. The Represented Network of the Protected Areas (RNPA) receives special attention in Annex B. The list of experts and institutions responsible for the preparation of this report is presented in A.

THE STATE OF BIODIVERSITY

1.10 Although Albania is a small country, it is very rich in biological and landscape diversity. This is due to its geographical position, geological factors, hydrology, climate, and soil conditions.

1.11 Albania is a Mediterranean country on the Balkan Peninsula in the south of Europe. The Albanian coastline is 476 km long, and the Adriatic and Ionian Seas have a great impact on the climate, flora, and fauna in the country.

1.12 Albania is part of the Mediterranean Alps in the line Dinarido-Albanido-Helenid, and is characterised by a diversity of rock formations since Palaeozoic time. There are more sedimentary and volcanic formations, while metamorphic ones are less common. Other formations such as alluvial, proluvial, koluvial, and deluvial glaciers, marshes, and lakes, are younger and from the Quaternary area. Within Albania there are tectonic zones which during their geological development changed to tectonic and neo-tectonic configurations.

1.13 The Albanian relief is mostly hilly and mountainous. There is a diversity of morphological formations and slopes. It has a young age since the Albanian relief originated during the Miocene Age. At the beginning of the Quaternary Age, the Adriatic lowland and other inland lowlands were attached to the continental part of Albania, but the existing relief shape was formulated during the Pliocene Period. The evolution of the Albanian relief continues to this day. The highest point is 2751m above sea level (Korabi Mountain) and the lowest one is 8 meters below sea level (the former Terbufi Marsh). The medium altitude of the country is 708m above the sea level. The altitude declines moving from the east to the west of the country, and this determines the conditions of the climate, land, and vegetation.

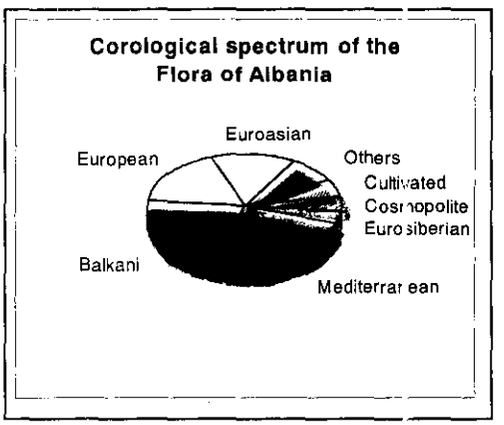
1.14 The climate of Albania is diverse. It has four major climatic zones and 13 sub-zones, which contribute to the country's rich biological diversity.

1.15 Albania is well known for its rich and complex hydrographic network composed of rivers, lakes, wetlands, groundwater, and seas. The main rivers are the Drini, Buna, Mati, Shkumbini, Semani, Vjosa, Erzeni, Ishmi, Bistrica, and Pavllo, and their courses have an important effect on the country's coastal biodiversity. About 247 natural lakes of different types and dimensions, and a considerable number of artificial lakes, are located inside the country. Based on their origin, they are divided into tectonic lakes (4), glacier lakes (134), carstic lakes (94), and fluvial lakes (15). Among the more important ones are the transboundary lakes of Shkodra, Ohrid, and Prespa – the most important and largest ones in the Balkans with European and international significance. In the coastal area of Albania there are wetlands such as Karavasta, Narta,

Patoku, Viluni, Kune-Vaini, Orikumi, and others, with a total area of 150km2.

[illegible] IMPORTANCE

1.16 Albania is an important migration route for flora and fauna. The main elements of the Albanian flora are Mediterranean (24%), Balkan (22%), European (18%), and Eurasian (14%).



The Eurasian, Holartic, Mediterranean, and Balkan elements dominate the faunistic spectrum of the country.

[illegible] ECOSYSTEM

1.17 Albania is well known for its high diversity of ecosystems and habitats. Within its territory there are maritime ecosystems, coastal zones, lakes, rivers, evergreen and broadleaf bushes, broadleaf forests, pine forests, alpine and sub-alpine pastures and meadows, and high mountain ecosystems.

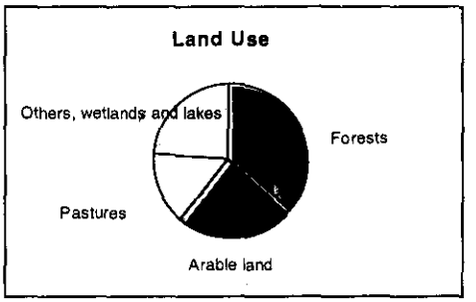
1.18 Albania is rich in forest and pasture resources. The forests cover 1,030,000 ha or 36% of the country's territory, and the pastures about 400,000 ha or 15%. Approximately 60% (244,000 ha) of the pastures are alpine and sub-alpine pastures and meadows. The forests and the pastures have a diversity of types, formations, and plant and animal communities.

Alluvial forest (Vaine, Lezha)

Castanetum (Qafë-Mollë)

Mixed Beech and Pine Forest

Sub-alpine Meadow (Bizë)



Box 1

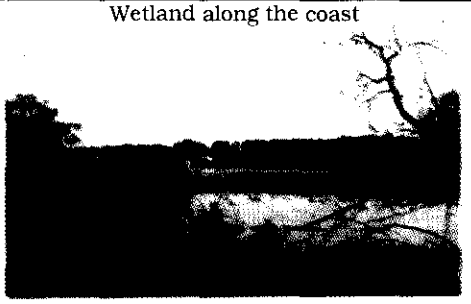
Habitat Types in Albania

Habitat Type	Habitat subtype	Number of communities
Coastal communities	Marine communities	19
	Marine Wetlands	19
	Coastal sandy	13
	Dunes and seaside's	
	Rocky coast	4
Non-maritime water	Coastal wetlands	
	Sweet waters	36
	Running waters	
	Rivers and springs	7
Bushes	Temperate heath grove	53
	Bushes	23
	Garriga	16
	Pseudomakja	1
	Terrain	2
	Gorse terrain	?
	Friganat	2
	Grass terrain's	17
	Termofile forest	2 associations
	Sites with Mediterranean grass	5
	Mediterranean-Mountain grass terrain's	6
	Dry grass terrain's	6
	Alpine and sub-alpine grass terrain's	48
Forests	Broadleaf forest	141
	Conifer forest	31
	Forests and bushes	30
	Evergreen and Temperate broad-leave forest	6
Pond water vegetation	Rush formation	25
Rocky formations	Rocky slope	15
	Rocky gaps	12
	Caves	

Other habitat types: Crop lands; Fruit-tree plantations; Vineyards; Low forests; Urban parks; Towns, villages or industrial sites; Mines

1.19 Along the coastline of the country there are many ecosystems of significance in the Mediterranean region such as lagoons, wetlands, sand dunes, river deltas, hydrophil and hygrophil forests. Littoral and infralittoral communities of Mediterranean origin along the rocky coast are quite diverse and well preserved.

Wetland along the coast



1.20 The lakes and rivers are also important for the biological and landscape diversity of the country.

Vegetation along the Shkodra Lake

1.21 There is a diversity of landscapes in Albania due to its natural characteristics and long history of population and human activities. Traditional agriculture and stockbreeding developed in the countryside, in accordance with natural conditions, have been the major factors determining the Albanian landscape, where indigenous elements are not missing.

Salty land vegetation with *Salicornia*

SPECIES DIVERSITY

1.22 Information on biodiversity in Albania is generally lacking. There are still flora and fauna taxonomic groups, which are unknown or have not been studied. The information on well-known taxonomic groups is lacking in terms of species. The number of species shown in Box 2 is larger, and in some groups several times larger, from that known to date.

1.23 Taking into account the existing information, Albania has a rich diversity of flora and fauna with about 3,200 flora species and 756 fauna species, respectively. Approximately 30% of European flora occur in Albania, and the high forests of Albania are the habitat for large game such as the brown bear, wild boar, and others, and also of fowl species, which flourish in virgin forests. The rich marine flora and fauna communities are an indicator of the high level of preservation and quality of these communities in Albania.

GENETIC DIVERSITY

1.24 A number of autochthonous breeds of cattle and crops exist in the country. About 30 species of crops are native to Albania. There are nine autochthonous breeds of goats and five for sheep. This is an important heritage for the protection and improvement of the production and the quality of the agricultural and animal husbandry.

Box 2

The Number of Species in Albania

Group	Species in Albania	Species in Europe	World Species
Bacteria	Unknown	Unknown	>4,000
Viruses	Unknown	Unknown	>5,000
Protozoa	Unknown	Unknown	>40,000
Algae	600	Unknown	>40,000
Fungi	800	16,000	>70,000
Ferns	45	145	>12,000
Bryophytes	500	10,000	>14,000
Lichens	400	1200	>17,000
Flowring plants	3200	11415	250.000
Mollusca	520 (700)	Unknown	80,000
Insects	4,000 (14,000)	40,000	1,000,000
Crustaceans (Decapoda)	115	150 (Adriatic sea)	8,000
Echinodermata	46	94 (Mediterranean)	5,650
Fish	313 (350)	618 (Mediterranean)	32,000-40,000
Marine Fish	249	Unknown	23,000-30,000
Freshwater Fish	64	Unknown	8,500
Amphibians	15 (16)	62	4,000
Reptiles	36 (38)	123	6,500
Birds	323 (335)	450	9,881
Mammals	70 (84)	200	4,327

Note: The number in parentheses indicates the number of the expected species to occur in Albania

Breed "Syska" of Polisi area

Breed "Dhia e Matit"

Goat breeds	Female	Male	Tendency
Dragobija	6500	350	I
Velipoja	Unknown		I
Hasi	15000	377	I
Mati	9500	240	I
Capore	22176	479	S
Shyta	Unknown		I
Dukati	20310	690	I
Muzhakë	42096	1480	I
Liqenas	10000	500	I
Sheep breeds			
Bardhoke	19740	880	I
Shkodrane	13450	560	I
Ruda	29400	950	I
Recka	194096	8100	I
Syska (Lara e Polisit)	110	5	I
Note: I=increasing; S=stable			

SPECIES OF ECONOMIC VALUE

1.25 The medical, industrial, and feed value of plants and animals is well known. There are 300 types of medical and aromatic plants, which represent about 10% of the Albanian flora. In the future the number of plants with medical or aromatic value will likely increase.

Rosa canina

Salvia officinalis

1.26 About 40 plant species have forage values, and 35 plant species are taniferous. The number of well-known plants for honey producing by bees is about 50, and the number of plants used for feeding is 70.

1.27 Different types of fish in marine and inland waters, and a considerable number of sea animals, are an important food source for humans, and frogs are also becoming a source of food. Molluscs are an important source for the preparation of pharmaceutical products and other cosmetic products. Their shells serve to produce artistic objects, stamps, parts of musical instruments, and other objects. Insects are important for pollen, and some also have food and industrial values such as the bee and silkworm.

1.28 Furs of some animals like martens, fox, squirrel, and others also have economic value.

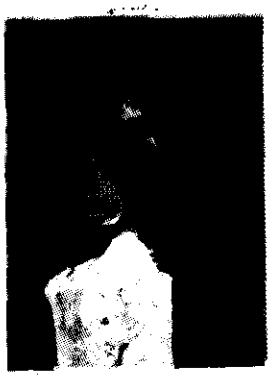
AESTHETIC AND RECREATIONAL VALUES

1.29 There are indisputable aesthetic, recreational, and spiritual and physical values associated with biodiversity and landscape. Biological life and landscape diversity are an important spiritual source for humans. The diversity of the living organisms and habitats and the beauty of nature increase the appreciation for nature and the countryside.

Iphiclides podalirius

1.30 The diversity of the shape, colour, function, and behaviour of the plants and animals has extraordinary aesthetic and recreation value. The biological diversity and natural and cultural landscape are also a source of pleasure and culture for present and future generations.

Pellumbasi cave

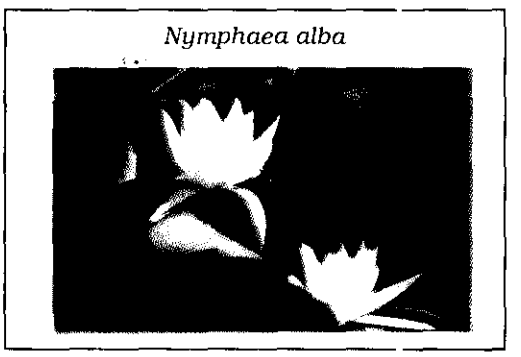


BIODIVERSITY AND TOURISM

1.31 The recreational values of biological and landscape diversity are an asset, which can be used to promote tourism development. It is our duty and responsibility to protect and develop these values for present and future generations. If we are not able and responsible to protect biological and landscape diversity, there is a risk of losing their recreations values to help foster tourism as a means to promote development and prosperity in Albania.

1.32 Sport hunting, fishing, climbing, and other activities, which would be attractive for tourism, require that

Albania take the necessary measures to protect the environment and its biodiversity.



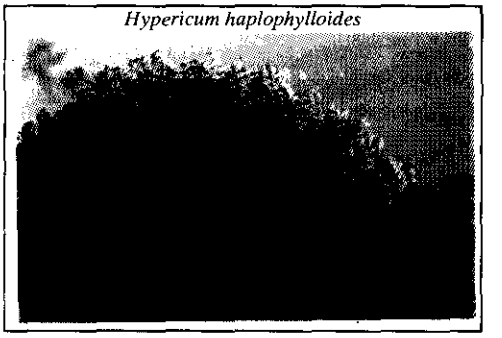
Nymphaea alba

SPECIAL PROTECTION OF BIODIVERSITY OF ENDEMIC AND SUBENDEMIC TAXA

1.33 The relief of Albania has created the conditions for the existence and protection of a number of endemic and subendemic species. There are 27 plant species with 150 subspecies, which are endemic in Albania, and another 160 plant species, which are subendemic in Albania, Yugoslavia, and Greece. Among paleoendemics there are types with very old origin like *Wulfenia baldaccii*, *Forsythia europea*, *Gymnospermium shqipetarum*, and from the neo-endemics *Lunaria telekiana*, *Crepis bertiscea*, *Petasites doerfleri*, *Leucojum valentinum* subspecies *Vlorense*, *Aster albanicus* subspecies *Paparisoi*, and others.

1.34 In comparison with the flora, the Albanian fauna is less known and studied. It has a considerable number of endemic and ancient species. Lake Ohrid is the most well known ecosystem in the country in terms of fauna endemism: over 40 species of molluscs and two fish species are endemic. Insects are represented by 16 species (11 species of Hemiptera and five species of butterflies). Further studies of the country's fauna, in particular biospeleological studies, which just have only just begun in Albania, will help in finding new endemism in the country. (A list of the endemic species of Albania is found in Appendix C of this report).

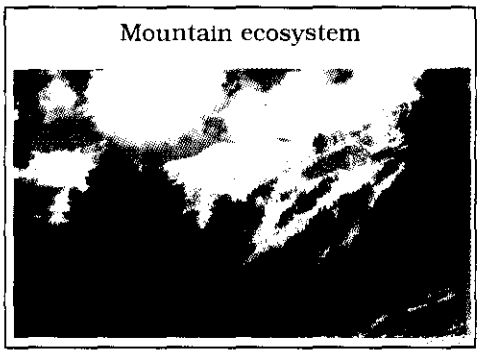
Hypericum haplophylloides



LINKS BETWEEN ALBANIA'S AND NEIGHBOURING COUNTRY ECOSYSTEMS

1.35 The Albanian inland and marine ecosystems are a part of the Mediterranean and Balkan natural ecosystems.

Mountain ecosystem



1.36 Transboundary lakes like Shkodra, Ohrid, and Prespa are points of floristic and fauna exchange with other Balkan countries.

1.37 Species migrate through the rivers and the highest parts of Albanian mountains from their natural habitats outside Albania in Greece, Macedonia, and Yugoslavia.

1.38 The large number of subendemic species linked with Greece and Yugoslavia, and the marine species endemic to the Adriatic Sea highlight

the importance of Albania for the protection of biodiversity in the Balkan and Mediterranean regions.

THE IMPORTANCE OF ALBANIA FOR MIGRATORY SPECIES

1.39 The coastal wetlands and lakes inside the country are particularly important sites for the wintering of migratory species since about 70 waterfowl species with a population of 180,000 are wintering in these areas. At least four from them (Karavasta, Narta, Shkodra and Ohrid) can be considered as sites of international importance for waterfowls known as IBAs (Important Bird Areas), or Ramsar sites, with more than 20,000 waterfowl species at each site. At this time, only Karavasta has Ramsar status.

THE IMPORTANCE OF ALBANIA FOR GLOBALLY THREATENED SPECIES

1.40 In Albania, there are a number of globally threatened species since at least 72 vertebrate and 18 invertebrate species with global importance have at least part of their habitats and population in Albania. For some of them (*Pelecanus crispus*, *Phalacrocorax pygmeus*, *Salmo letnica* and *Acipenser sturio*), Albania has a critical importance. (A list of globally threatened species is given in Annex D of this report).

Dalmatian Pelican in Karavasta

Box 3

WHAT IS BIOLOGICAL DIVERSITY

Article 2 of the Convention on Biodiversity states:

"The variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems".

In other words, the term biological diversity is the number and the diversity of living organisms on our planet. Within this term is the diversity of genes, species, and ecosystems which are the product of the evolutionary process over billions of years. The presence of human beings depends on this biological diversity, so from this point of view the term biodiversity is a synonym for the term "life on the planet."

There are 1.7 million known species, but the exact number of species on the planet is not known. It is estimated at about 5-100 million.

Biodiversity represents the diversity of the life, which we must protect for future generations and ourselves. If not, our children will pay the price tomorrow.

Species disappearance is a normal part of the evolution process of the living organisms. However, today, because of human activities, species and ecosystems are extremely endangered. The loss of biodiversity is high and continues. The forecast is that, with today's deforestation process, within the next 25 years 2-8% of the species will disappear. This is in itself an environmental disaster, but the effects of this tragedy will also impact on the economic and social development throughout the world. At least 40% of the world's economy and 80% of our needs are realized from the use of biological resources. In addition, new medical research, economic development, and new environmental challenges like climate change are linked closely to the protection of biological diversity.

Biodiversity is a natural resource "bank" which everyone should "invest" in, in the same way in which biodiversity is investing in us.

Olea europaea and *Spartium junceum*

Box 4

WHY WE SHOULD PROTECT THE BIODIVERSITY

MORAL AND AESTHETIC REASONS

- The diversity of species and habitats are the basis of the beauty of nature. They increase the love for it, the love for the countryside, and develop the sense of aesthetics, which inspire composers, painters, sculptors, and other artists. The best writers and artists are always pupils before nature;
- Plants and animals have extraordinary aesthetic, educational, and recreation values;
- Pleasure and culture;
- As a steward of nature, man must respect the right of other living organisms to exist; and
- We do not have the right to leave a poorer nature and biological diversity to future generations.

BEING RESPONSIBLE

- Where man has "killed" biodiversity, "the revenge" of nature has been a prompt one -- to be careful for responsible biodiversity management means responsibility for every action taken;
- The survival of many plant and animal species can not be assured if man does not intervene and takes care for their protection; and
- Every species plays its role in keeping the balance of the nature.

THE BENEFITS TO SOCIETY

- Biological diversity forms the life resources of the plant, and it assures the diversity of food products for humans and all other living things;
- The protection of biodiversity means the protection of the environment on our planet: (i) wetlands are a natural filter for the surface waters, and by cleansing organic compounds they improve the quality of the water and lower eutrophication -- at the same time they protect us from flooding through their capacity to accumulate and maintain water; (ii) dune vegetation and marshes along the coast reduce the erosion from the sea; and (iii) vegetation cover in hilly and mountainous areas protect the soil from erosion, and the bushes and forests protect the soil from winds and flooding;
- Healthy climate and fresh air;
- Rest and recreation are enhanced by rich biodiversity;
- Many birds and animals eat harmful insects, and thus serve to protect the environment; and
- Many plants are known to have health values and many yet to be discovered health benefits will be found in plants in the future.

ECONOMIC VALUE

- Many plant and animal species represent important industrial and health products (fishes, aromatic and medical plants, animal fur);
- Many plants and animals are cultivated and tame, and thus selection and improvement of the genetic material of these species has economic benefits;
- Plants and animals and their products are exported; and
- Tourism and sport hunting can be a source of income for the economy only with high biodiversity values.

CHAPTER 2

THE THREATS TO BIODIVERSITY IN ALBANIA

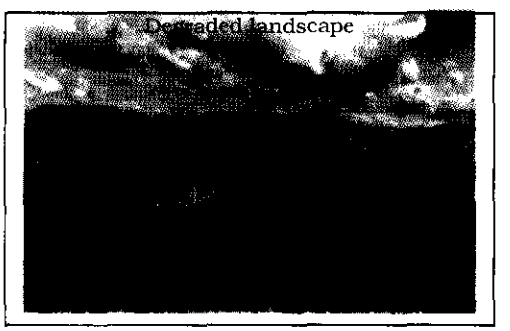
THE SOURCE OF THREATS

2.1 Economic development during the past 50 years has had a strong impact on the biological and landscape diversity of Albania. This is primarily because it was based upon unstable development practices in agriculture, industry, forestry, fishing, and urbanisation, although there was less impact from transportation and tourism.

2.2 Without doubt, agriculture has been the major sector of the country's economy with the strongest impacts on biological and landscape diversity. From the 1960's until the end of the 1980's there was extensive agricultural development, followed by the intensive use of agricultural land in the 1990's. Together this has had enormous impacts on biological and landscape diversity.

2.3 Drainage and reclamation of swamps (250,000 ha), deforestation for opening up new lands (290,000 ha), terracing and the creation of fruit tree plantations, and damage to subalpine and alpine pastures for the purpose of setting up cultivated ground or "improved" pastures have all had adverse consequences on the environment and biodiversity. These actions were perhaps justified on behalf of the country's economic development, but they also destroyed hundreds of thousands of hectares of forests, pastures, and wetlands with high ecological, social, and economic values. Human interference without consideration of the consequences on environment, brought the following results:

- excessive erosion (100-1000 times higher than most other European countries);
- coastal floods;
- an increase in the quantity of unproductive areas of land (from 235,500 ha in 1950 compared to 703,516 ha today);
- abandoned or deserted lands (about 160,000 ha);
- degraded and impoverished biological and landscape diversity (some habitats and species have been lost while there has been a decrease in the population of many others); and
- considerable potential loss of tourism and the associated economic development.


Degraded landscape

2.4 In the past, intensive agricultural processes utilized fertilisers and pesticides, mechanical cultivation practices, and irrigation. These practices have also had impacts on the ecological status of waters and agricultural land, as well as on that part of wild flora and fauna, which are found on agricultural land and in the wetland ecosystems.

2.5 Uncontrolled exploitation of inland lake waters for irrigation has contributed to severe ecological stress and crises in these ecosystems – most notably the lakes of Prespa and Dumre and on many glacier lakes such as Lura. Exploitation of river networks for irrigation has also had the same effects since it was often carried out without regard for scientific criteria or "the biological minimum" of the water that needs to flow on the river's bed for ensuring the continuation of life in the water. Another contributing factor was the deviation of the rivers' course for reclamation reasons as was done with

the Bistrica River on the plain of Vurgu in Saranda. The result has been ecological stress on the wetland ecosystems of the down stream rivers respectively on the lake of Butrinti and on the wetland ecosystems of Lezha).

2.6 Although Albania has not used large quantities of fertilizers and pesticides at the national level, large doses in some localized areas have had adverse consequences on the quality of the land, as well as on the composition of terrestrial flora and fauna. The long-term impacts on flora and fauna, and on humans, will continue in the future.

2.7 The opening of Albania after the 1990's to the free market economy damaged, and is continuing to damage, biological and landscape diversity. Farmers and the population in general, now also have less interest in protecting and improving native breeds of flora and fauna. If left unchecked, this could lead to a large loss of genetic resources with significant economic and social consequences.

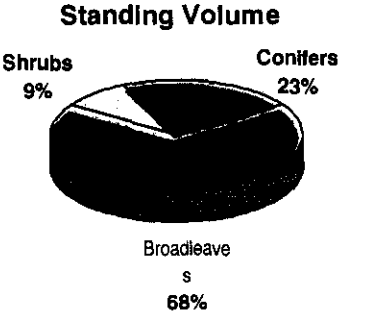
2.8 After agriculture, industry is the second most damaging sector with respect to the environment, and its biological and landscape diversity in particular. These consequences have been greatest along the coastal areas of Albania where there are larger concentrations of industrial activities.

2.9 Industrial development has been vital for economic development, but it was not carried out in Albania with regard for the biological potential of the country, or with any intention to avoid or minimize the impact upon the environment.

2.10 The discharges of gases, liquids, and solids generated by old technologies which did not take into consideration the impacts on the environment have had enormous consequences, some of which continue even though the major part of industry has not been functioning since the beginning of the 1990's. Most notable are the metallurgical plant of Elbasan and its impacts on the Shkumbini River, and especially on the downstream coastal ecosystems, and the PVC Plant in Vlora and its impacts on the coast and the Bay of Vlora. Other examples include the paper factory in Lezha and its impacts on the wetlands of Kune-Vaini, the hydrocarbons and other chemicals from the Fieri fertiliser factory have downstream impacts on the Semani river, and the copper mines in Rubik, Burrel, Kukes, and Lac and their impacts on the landscape and nature surrounding them. The major impacts of these activities have been on the marine ecosystems, especially in the coastal areas. There are cases of marine degradation as a result of settling of solid materials, minerals, and heavy metals in those zones.

2.11 Although the major part of country's industry is out of functioning, the remaining ones continue to use old technologies, which cause harm to the environment.

2.12 Excessive forest exploitation due to the lack of alternative fuel resources for heating and cooking has adversely affected forest biodiversity.



2.13 Since 1953, the forest areas have decreased by around 300,000 ha or 22% – equivalent to 30% of existing forests. There have also been notable effects on forest productivity since many existing forests are heavily degraded and thin, and can not fulfil the ecological functions of the forest. This phenomenon is easily noticed by comparing the area and volume of the forest resources of Albania. Actually, more than 26% of country's forest area is occupied by forests with crown density less than 0.4.

2.14 The building of forest roads and the techniques used for extracting and transporting timber have had grave effects on the forest biodiversity of Albania, which have been compounded by the lack of funds for new technologies, and the geological and relief features of the areas covered by high trees.

2.15 The lack of national objectives for the protection and sustainable management of forests and forest and pastures biodiversity has adversely impacted biodiversity, large mammal populations in particular. These populations have decreased and been isolated from each other, leading to a higher danger of extinction because of the genetic degeneration which characterizes small and isolated populations.

2.16 The lack of investments for silvicultural works, new forestation or reforestation, the maintenance of forest roads, fire protection, and other measures has contributed to the loss and degradation of forest habitats for many plant and animal species.

2.17 During the planning process and the implementation phase of forest and pasture management, there was a lack of concern for wildlife protection. Hence, there has been overexploitation of biological resources leading to degradation and impoverishment of habitats, as well as the risk of extinction for a large number of plant and animal species. Uncontrolled harvesting of medicinal plants, aromatic plants, and plants with industrial value have severely affected many of them.

2.18 Forests close to the rural dwelling areas are particularly degraded. These forests include oak and other tree plantations, which are characterised by high biological diversity in comparison to the other types of forests. Because of the existing difficult economic conditions and the traditional nature of Albanian society, the rural population is surviving by overexploiting the forest – severe tree cutting for cooking and heating and overgrazing, particularly by goats. The harvesting of shrubs and coastal forests has created problems, especially for the birds, which use these habitats for nesting.

Illegal cutting inside the "Q. Shtama" National Park

2.19 During the recent past, and particularly the last 2-3 years, illegal tree cutting has been rampant in many parts of Albania –especially in the poorer northern and north-eastern districts of the country. (This situation has aggravated recently after the Kosovo crisis got over and the demand for timber inside Kosovo is increasing). Uncontrolled cutting occurs even inside the Protected Areas. Most of this cutting was done to provide timber for industry and construction. Fir and pine forests have been most damaged by this activity because of

their high quality and high selling price on the uncontrolled market.

2.20 In the past, there have not been considerable effects from fishing on marine and wetland biodiversity. However, new and uncontrolled fishing practices used during the last few years are adversely affecting biodiversity.

2.21 During the last five years, there has been fishing along the whole marine stretch with a depth of 2-30 meters, which has led to the depletion of the breeding grounds of Sparidae, Soleidae, Mullidae, and other families. The breeding grounds of *Posidonia oceanica* have also severely deteriorated because of changes in the structure of the fishing fleet. More than 50% of fishing boats have small power motors and hence are able to apply deep fishing techniques in shallow areas since they are unable to fish in zones more than 50 meters deep.

2.22 Uncontrolled fishing also affect internal waters – even in the critical periods of fish growth. These waters have been affected as well by the usage of explosive and poisonous materials. The major lakes of Ohrid, Shkodra, and Prespa have all been affected, and these lakes have an international importance because of the high number of endemic species present in their aquatic fauna, and because some of these species are globally endangered.

2.23 Foreign vessels fishing offshore Albania also cause damages, especially to fish and crustaceans, which are in demand in western markets. Along the Ionian coast there has been severe damage to benthic forms. Foreign divers have extracted the mollusc *Lithofaga* in a way, which damages entire coastal rocks. Hence these rocks have been damaged in a very short period of time after being relatively undisturbed for thousands of years. Strong measures need to be undertaken to ensure that such practices do not cause desertification of marine life along the rocky areas of the coast.

2.24 Due to the lack of funds for maintenance, sea-lagoon communication channels have deteriorated with a notable reduction of water exchange between the wetlands and the sea. This phenomenon is accompanied by the transformation of the limnologic regime which itself affects the icthyofauna. Most problematic is the situation of the Narta lagoon, where almost half of the area remains dry for the major part of the year.

2.25 Uncontrolled hunting is a major form of disturbance on biodiversity, especially during the winter when migratory winter birds are at risk. Birds are abandoning certain areas such as Kune-Vaini, Patok, Pishe Poro, and the Semani delta.

The Chick of *Larus cachinnans*

2.26 There is a reduction in the population of some species due to illegal hunting methods, including poison which is sometimes used for the killing or capture of wildlife (mammals). The carnivore mammals and birds of prey are the most affected.

2.27 Disturbances to biodiversity caused by hunting have their greatest consequences during critical life cycle periods such as reproduction. Every disturbance or illegal form of hunting practised during this period brings the abandonment of lairs or nests, the abandonment of the young, and even the interruption of reproduction. This can also influence the reproduction "memory" of the animals leading to a permanent abandonment of the reproduction place.

2.28 The animals, which are most sensitive to these disturbances, are the ones, which reproduce in colonies. A disturbance in the colony would bring the interruption of reproduction for all the individuals of that colony. For example, the sea eagle, *Haliaetus albicilla*, had previously been a permanent species with many nesting places in coastal areas such as Velipoja, Lezhe, and Karavasta. Presently, however, it is found only as a winter species in the area of Karavasta. The disappearance from the other Albanian wetlands came as result of the disturbances and the deterioration of parts of its nutrition habitats. A similar fate has met the Phalacrocorax *pygmeus*.

2.29 High rates of population growth during the past 50 years were accompanied by a progressive increase of anthropogenic impacts on nature and biodiversity. Many new towns and villages were constructed, and existing ones were enlarged with the enhancement of infrastructure and economic activities. In 1997, the population of Albania reached 3.7 million, or triple its level of 50 years ago. The fragmentation, reduction, and loss of natural habitats have been a direct result of demographic developments and the urbanisation process.

2.30 At the beginning of the 1990's the relatively free movement of people from the rural areas toward the urban ones began. This movement was uncontrolled and unguided, and has led to particular stress on the coastal and wetland ecosystems of the country which are more ecologically fragile. At the beginning of 1997, the population in the coastal areas was 2.4 times higher than in 1960. During the period from 1960-1990, the population of this area has increased by an average of 28,429 habitants per year, and for the period from 1990-1997 by an average of 54,661 habitants per year or twice as fast.

2.31 According to the data of the State Secretariat of Local Government, 54% of Albania's population lived in the coastal districts (including Tirana district) in 1997, while at the same time this land covers 35.7% of the country's area (10,279 km). Population density has increased from 82.4 inhabitants per km2 in 1960, to 179.3 inhabitants per km2 in 1997. The maximum density is in the central part of this area (Tirana, Durresi, and Kavaja districts) with 388.4 inhabitants per km^2.

2.32 The environmental impacts of the increasing number of newcomers have been obvious. The coastal areas, particularly those close to the major urban centres (Tirana, Durresi, Lezha, and Vlora) are facing today a number of emerging problems with severe impacts on biological and landscape diversity. In summary, they are:

- The intensification of natural resources assimilating activity, mainly the fish and forest ones;
- The enlargement of construction sites, sometimes up to the seashore;
- The degradation, deterioration, and deformity of landscape;
- The increase of urban wastewater discharges into the environment; and
- The increase of urban and industrial solid waste; thousands of tons of urban and industrial wastes are being deposited every day in different sites, the majority of them in inappropriate places.

2.33 Population movements also affect the areas where people migrate from through:

- Abandonment of agricultural land on the slopes which leads to erosion and land degradation;
- The cutting of fruit plantations or their total abandonment and degradation;
- Overexploitation of forest resources; and
- Overgrazing and further degradation of forests and pastures.

2.34 The transport sector has also expanded and led to damages to

biological and landscape diversity. Due to lack of funds, inappropriate planning and poor estimation of the impacts on the environment, irreversible damages to the natural landscape have sometimes occurred.

2.35 The construction of the north-south and east-west highways, and the increase of traffic are contributing to: (i) increase of natural habitats fragmentation; (ii) interruption of migration and large movement of animal species leading to the genetic degeneration of animal populations; and (iii) air and water pollution from gases emitted from vehicles which are highly polluting and would not be allowed to circulate in many countries. These effects will be more pronounced in the future. Thus, measures to avoid or minimize the consequences/impacts on the environment, as well as biological and landscape diversity, will need to be taken.

2.36 Because of the low levels of tourism during the time of communism, there were no impacts on biodiversity. However, after the 1990's, there is an increasing risk to biodiversity from the adverse impacts of tourism. The number of tourists who came to Albania in the 1990's was greater than that of the period from 1960-1990. Moreover, the number of tourists in 1996 was 75,000 or twice as much as in 1992. The majority of them passed the vacations in the coastal areas. Some of the tourists were also hunters who hunted without the required licenses and contributed to the further deterioration of coastal fauna (e.g., Kune-Vaini, Divjake, and Patok).

2.37 The presence of an increasing number of people in the coastal area is accompanied by an increase of pollution (water, air, and land pollution) which further the deterioration of biodiversity.

2.38 Urban pollution has become a major concern in the 1990's because of the increasing consumption of everyday products (especially those packed with plastic materials) while at the same time there is an absence of waste treatment stations. This phenomenon is apparent not only in large urban centres and beaches, but also in rural areas. Thousands of tons of urban and industrial wastes are being deposited in the coastal area every day. At the same time, the sewage pipes are discharging wastewater into the sea from these resident areas. For these reasons, the existence of many species is endangered along the coastal strip.

THE IMPACTS ON BIODIVERSITY

2.39 The major impacts and damages caused by past and recent practices are as follows:

- loss and fragmentation of habitats;
- damage, impoverishment, and degradation of ecosystems and habitats;
- disturbance and harassment of wildlife in nature;
- species extinction or risk of extinction; and
- genetic deterioration and erosion.

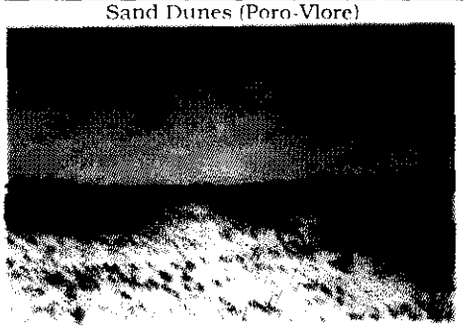
An individual of Testudo *marginata* of broken carapace

2.40 In Albania, the main endangered types of ecosystems and habitats include marine ones (medium and infralittoral level), coastal ecosystems (sand dunes, delta rivers, alluvial and wet forests, lagoons and coastal lakes), and terrestrial ones such as alpine pastures and meadows, continental and glacial lakes, and oak and conifer forests.

2.41 The known number of species, which have become extinct during this century, is not high, however the rates of biodiversity loss during the past 50 years are among the highest in

Europe. The insufficient level of knowledge and studies concerning a large number of flora and fauna does not allow for an accurate estimation of biodiversity status in Albania. However, at least two species of plants and four species of mammals are totally extinct, while 17 species of birds do not nest anymore in Albania.

Sand Dunes (Poro-Vlore)



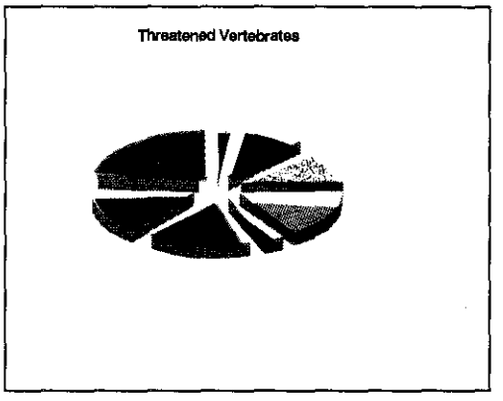
2.42 During the last 25 years, approximately 122 species of vertebrates (27 mammals, 89 birds, and 6 fish) and four species of plants have lost more than 50% of their population. The number of rare and threatened species of plants and animals is high and expected to increase. Today, the number of vertebrates included in the Albanian Red Book is around 273 species, or 36% of the vertebrates of the country.

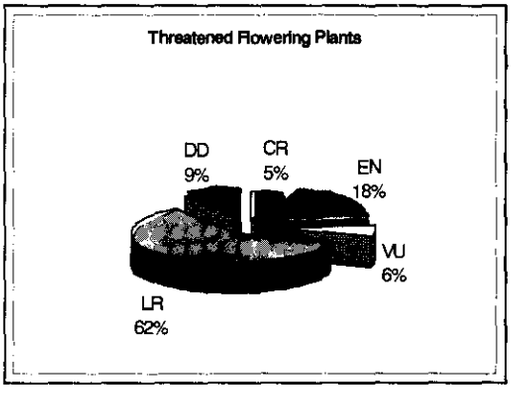
Water buffalo (*Bubalus bubalis*) - an endangered species

2.43 Several species with nutrient and economic values have become nearly extinct such as *Penaeus kerathurus* (marine shrimp), which had been in abundance during the 1960's and 1970's in the Drini and Mati deltas. Today this species is rare, and losing its previous economic value. The same is true for *Crangon crangon* (a crustacean species).

2.44 The red coral (*Coralum rubrum*) and sponges of the genus Spongia are in high demand in western markets and are at risk of total extinction because of their extraction.

2.45 Different species of fish crustaceans, molluscs, and other marine species are endangered because of the use of dynamite and poisonous materials for fishing, the consequences of which will be more evident in the future.





CHAPTER 3

THE STATUS OF BIODIVERSITY PROTECTION IN ALBANIA

LEGISLATION

3.1 Although the basic law on environment has existed since 1967, the development of a modern legal system for environmental protection based on democratic principles began only in 1991. This legal system needs to be further developed and refined in the future.

3.2 There are also a number of laws, which have been approved since 1991, and represent an important advancement in the legislative area.

- Laws on the Land and Its Distribution (no. 7491 and no. 7501, 1991)
- Law on the Forests and the Forest Service Police (no. 7623, 1992)
- Law on Environmental Protection (no. 7664, 1993)
- Law on City Planning (no. 7693, 1993)
- Law on Plant Protection Service (no.7662, 1993)
- Law on Protection of Medicinal and Taniferous Plants (no. 7722, 1993)
- Law on Development of Areas with Tourism Priority (no. 7665, 1993)
- Law on Hunting and Wildlife Protection (no. 7875, 1994)
- Law on Fishing and Aquaculture (no.7908, 1995)
- Law on Pastures and Meadows (no.7917, 1995)
- Law on Protection of Fruit Trees (no. 7929, 1995)
- Law on Water Resources (no. 8093, 1996)
- Law on Construction, Administration, Maintenance, and Operation of Water and Drainage Systems. (no. 7846, 1994)
- Law on Water Supply and Sanitation Sector Regulation(no. 8102, 1996)
- Law on Waste's Public Removal (no. 8094, 1996)
- Mining Law of Albania (no.7796, 1994)

3.3 A large number of by-laws and regulations based on these statutes have also been drafted and approved. For example, the draft procedures on Environmental Impact Assessment.

3.4 With all the efforts made towards the improvement of the environmental legal system, there are still gaps, especially in the aspects of nature protection, and biological and landscape diversity. In addition, the existing legal system is also unclear in some cases due to overlapping responsibilities and sometimes-contradictory language. Some of the reasons for this are: the short time available for preparing the laws, inefficient approval procedures, and the relative lack of attention afforded to environmental problems in Albania. This situation has created confusion with respect to establishing the proper competencies and responsibilities, and, as a consequence, implementation of the law has been weak.

3.5 The Constitution of the Republic of Albania approved in 1998 provides for further improvement and completion of the legal and institutional framework in the sphere of nature and biodiversity protection.

3.6 Although progress has been made, the reality is that the impacts on environment have been exacerbated by poor implementation and ignorance of the law, moreso than because of gaps in the laws.

3.7 A solution to the country's environmental problems can not be expected so long as the legally responsible institutions do not co-operate and work together to implement the law. This will require taking concrete actions to work together to prevent and reduce the causes and risks of environmental

degradation since co-operation is the most cost-effective solution.

3.8 Although there is good will among governmental institutions for co-operation, the costs of not promoting actual co-operation will be higher the longer it takes to effectively promote co-operation. More professional training for the employees responsible for implementing the law and regulations will be required. District and central inspectors should have greater and more well defined authority, especially for dealing with illegal construction or construction undertaken without the appropriate environmental permits.

3.9 The implementation of the CBD and other international environmental conventions is a process that requires Albania to review and improve its existing legal system, and to ensure the implementation of the law. This will require the approval of the law on the protection of nature and biodiversity in Albania, which was recently prepared by NGOs with EU assistance.

3.10 The aim of this draft is stated clearly:

> ***To help the protection and re-establishment of the natural balance of landscape and biodiversity, and protection of all the forms of life as well as the natural and aesthetic values inside or outside Protected Areas, through promoting the sustainable use of those resources.***

3.11 The NEA is defined as the *responsible authority* for implementation of the law in Albania. In 1998, a governmental decision transformed the CEP into the NEA by positioning it directly under the authority of the Council of Ministers instead of the Ministry of Health and Environmental Protection. This act was an important and progressive step for strengthening and enhancing the position of the NEA, and preparing it for possibly becoming a future Ministry of Environment. This step will enhance the legislative and policy-making initiative of the NEA.

THE INSTITUTIONAL FRAMEWORK

3.12 The Parliament is the main authority of the legislative system, and the *Permanent Commission on Health and Environment* is the main body within the Parliament responsible for the environment.

3.13 The Council of Ministers (CM) is the main organ of the administrative system. The National Environmental Agency (NEA) is the main public institution responsible for environmental protection, and it reports directly to the Prime Minister.

3.14 At the inter-ministerial and ministerial levels, there are other institutions of public administration and scientific research institutions, which are responsible for administration, studying, and monitoring of the country's natural and biological resources.

3.15 The Ministry of Agriculture and Food is one of the national institutions with important environmental responsibilities in Albania including the administration, protection, studying, and inventorying of biodiversity.

3.16 The General Directorate of Forest and Pastures (GDFP) within this ministry is responsible for the management and administration of Protected Areas and National Parks, and of wildlife and game hunting in Albania. Recently, a Project Environmental Management Unit (PEMU) was established in the GDFP to monitor the implementation of mitigation measures recommended under the environmental impact assessment process of the Forest Management Project.

3.17 The *General Directorate of Fisheries* administrates the resources of marine aquatic fauna, and of the freshwaters in areas where there is fishing and aquaculture.

3.18 The judicial system guaranties equality in front of the law and, when

relevant, rules on civil and criminal cases which are affected by environmental legislation. Figure 2 presents a general scheme of the institutional framework of Albania and depicts the relations and functions of the existing institutions.

3.19 However, the role of the central and local institutions is still inadequate with respect to the problems of inventorying, studying, managing, and monitoring biodiversity.

3.20 Albania inherited a very limited experience and institutional structure in the area of environment. In addition, there is a lack of aims, objectives, and national strategies and action plans for nature and biodiversity protection. This is compounded by the existing gaps in the legal framework and in law enforcement, and this explains why the responsible institutions do not effectively co-ordinate their functions and responsibilities.

3.21 This situation has led to overexploitation of some of the natural resources without taking into consideration the real cost of the damage done, the consequences on resource depletion, and the related effects on other biological resources.

3.22 With an incomplete institutional framework for environmental management, the responsible ministries for nature and biodiversity management have not yet established their environmental monitoring units, which should oversee the effects of economic activities on the environment. Experience has also shown that the National Environmental Action Plan has not been completely implemented, and that the systematic request of the NEA for the implementation of the relevant acts and programs has not been complete.

3.23 After 1990, the National Environmental Agency has undergone some reforms of its structure and institutional dependency. In 1992, the former Committee of Environmental Protection (CEP) was put under the authority of the Ministry of Health. This reform weakened its position and independence in the environmental area. Being under the authority of another Ministry, the CEP and the country's environmental problems were viewed as secondary ones.

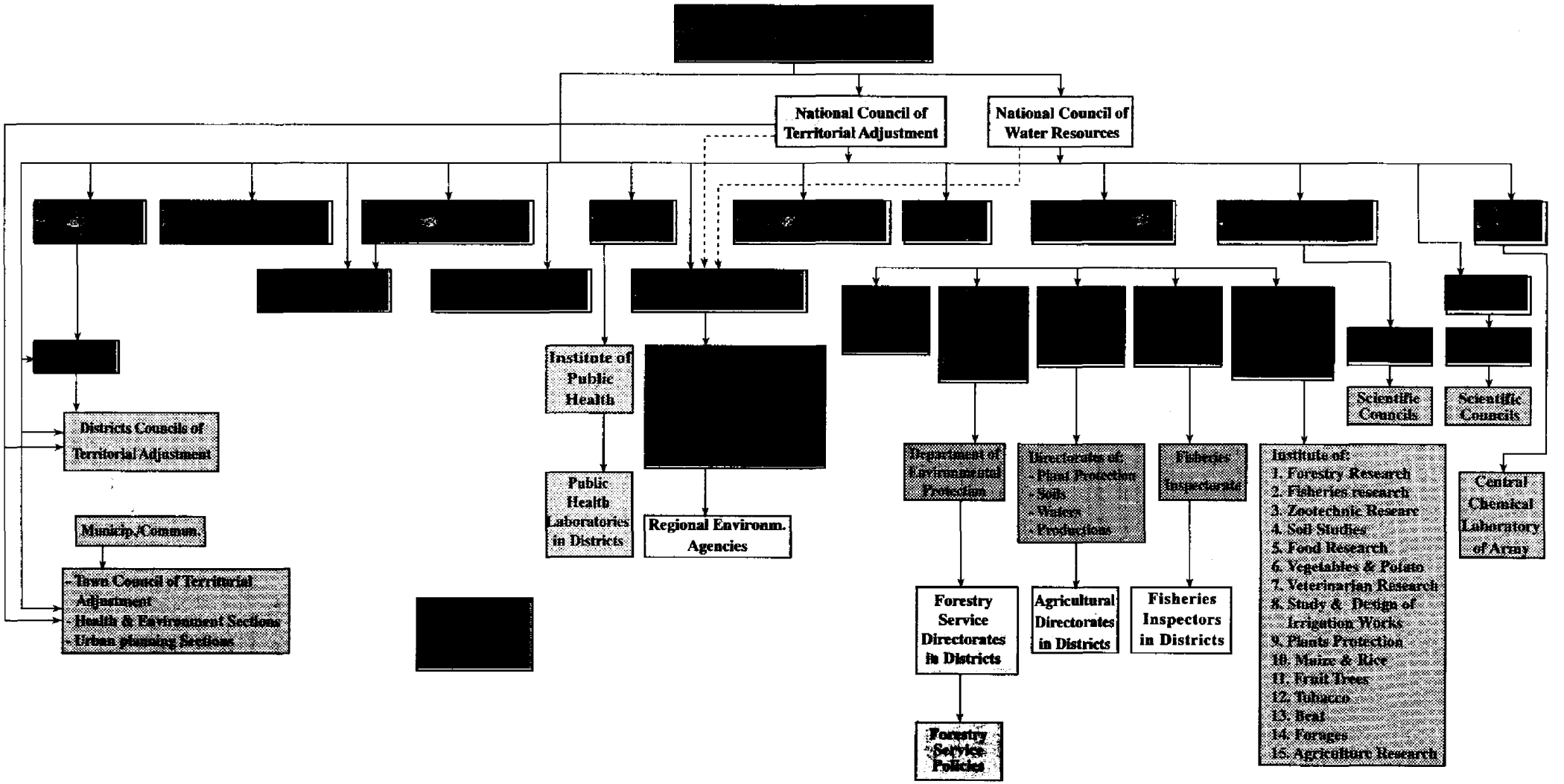
3.24 The NEA has played the role of catalyst and co-ordinator for the protection of nature and biodiversity. CEP previously, and NEA today, nominally has control of, but effectively limited participation in, the management of the natural and biological resources of the country. This is because of the lack of governmental support and the incomplete legal framework.

3.25 The shortage of NEA employees and its unstable positioning has had a strong negative impact on the environment, and biological and landscape diversity.

3.26 The recent changes that positioned the NEA under the direct authority of Council of Ministers, and the establishment in the future of the Ministry of Environment will strengthen its role, especially in the process of decision-making.

3.27 A number of institutions have been defined by decisions of the Council of Ministers to participate in Environment and Biodiversity Monitoring (Figure 3).

Figure 2. ORGANOGRAM ON THE INTERRELATIONS AND LINKS BETWEEN INSTITUTIONS/STRUCTURES IN CORRELATION WITH THE BIODIVERSITY ISSUES IN THE REPUBLIC OF ALBANIA



However, their efficiency is limited because of a lack of co-ordination among them, and the low level of technical and financial support.

3.28 The role of Non Governmental Organisations (NGOs) and the citizens for the protection of environment and biodiversity should also be mentioned.

3.29 In Albania, there are 15 environmental NGOs – all of which were established after 1991. Their role is promoting public awareness and participation and the protection of nature and biodiversity. During these years they have enhanced their activities with support for their projects from foreign and national donors. Gradually, their activity has expanded throughout the country. Also they are setting up a forum of environmental NGOs to further their work. However, the environmental movement of NGOs is still weak and its impact on society and the general public is limited. Some of the reasons are:

- lack of experience;
- total lack of financial and material means (the only financial source for the majority of NGOs is the contribution of their members and the project funds released by foreign donors);
- Concentration of work in the hands of a few people and the nonactivisation of the members;
- Insufficient co-ordination of joint activities among NGOs;
- Activity concentration of NGOs mainly in big cities;
- Relatively low level of environmental awareness of the people; and

  Difficult economic conditions and the unstable political situation in the country especially during the last two years.

3.30 There are also virtually no sanctions in case of damage to the environment or non-implementation of the law. This situation has had its negative effects on the existing institutional structure.

3.31 The lack of law enforcement, low collection of fines because of the weak institutions, and the corruption of the judicial system has had adverse impacts on the environment, and on biological and landscape diversity.

THE CONVENTIONS AND INTERNATIONAL PROGRAMS

3.32 The long isolation of Albania had notable impacts on the environment. Until 1990, the participation of Albania in international organisations and agreements was only formal and very limited.

- On February 4, 1975 Albania ratified the Agreement *"For Non-proliferation of Nuclear Weapons."*
- On March 26 1975, Albania ratified the Convention *"On the Prohibition of the Development Production and Stockpiling of Bacteriological (Biological) and Toxic Weapons and on their Destruction."*
- On March 20, 1979 Albania ratified the Convention concerning *"The Protection of the World Cultural and Natural Heritage"*. As part of UNESCO, the World Heritage Committee, which administers the List of World Heritage, was established.

3.33 After 1990, Albania started to participate in the international environmental organisations and to benefit from the rights of this participation by trying to fulfil its legal duties as a member and participant.

3.35 The European Union has its own legislation and directives on environment, which are mandatory for all of its members. As part of this legislation, there are also a series of conventions and directives, which are consistently revised according to social-economic developments and their impacts on the environment. Gradually, Albania is taking part in this initiative by signing different conventions, and by trying to implement them as best as possible under current conditions.

3.46 During the past years, Albania has continued to work to fulfil the duties defined in the agreement between the Government and UNESCO as part of the regional program on the pollution of the Mediterranean Sea (MEDPOL). This has been done through pollution monitoring in coastal areas. Thus, in co-operation with UNEP and with the Mediterranean Action Plan (MAP) based in Athens, Albania began the process of pollution monitoring in the Ionian and Adriatic Seas as well as on the main rivers that discharge into the seas.

3.47 In Albania, from 1993-1996 the *"Program on Coastal Zone Management in Albania"* was initiated as a co-operation of the Albanian Government, UNEP, World Bank and the European Union. The main objectives of the program were: (i) biodiversity protection in the coastal areas of Albania, including as well the marine habitats, fresh, and intertidal waters; (ii) development of tourism and of recreation activities; and (iii) institutional strengthening of the institutions responsible for coastal management in Albania.

3.48 Co-operation also began with the Mediterranean Technical Assistance Program (METAP), which included some programs on the *"Assessment of Environmental Status"* financed by the European Community and the World Bank.

3.49 Another program financed by the World Bank was the *"Ecological Monitoring of the High Forests in Albania"* (1995). This program aimed to address the needs of biodiversity protection for the high forests of Albania through the extension of Protected Areas and the improvement of forest management. The Project on Forests Management being implemented with the technical and financial assistance of the World Bank and other foreign donors, is aiming to strengthen the management of the protected areas as one of its components.

3.50 The NGOs are also contributing to awareness of different issues on nature and biological diversity in Albania. Some of the programs that they have been more active in are: *"An NGO Strategy for Nature Protection in Albania"* (1994-1997) financed by REC (Budapest), IUCN and MilieuKontakt (Netherlands), and *"Biodiversity Protection of the Ohrid-Prespa Transboundary Lakes"* (PPNEA, EURONATURE, GTZ).

3.51 The Biodiversity Strategy and Action Plan is based on the recommendations and findings of the above mentioned programs, but goes one step further by evaluating what should be done based on current conditions.

Divjaka Pine Forest (National Park)

IN-SITU AND EX-SITU CONSERVATION

3.52 In Albania, *in-situ conservation* started to be applied only in the second half of this century. A number of Protected Areas have been established, and a number of laws and by-laws for the protection of endangered species of plants and animals have been passed.

3.53 The Protected Areas are within the forest areas, and to enhance their protection and management the Department of Nature Protection was established within the National Environmental Agency. In some of the districts with Protected Areas or National Parks there are locally functioning units responsible for their management and protection.

3.54 Until the beginning of the 1990s, the total amount of Protected Areas was not more than 2% of the country's territory. At that time there were only three categories of Protected Areas:

3.35 The environmental conventions of which Albania is a party are as follows:

- On May 30, 1990, Albania participated by accession to the *Barcelona Convention "For the Protection of the Mediterranean Sea against Poilution"* (Barcelona, February 16, 1976). This convention has some protocols as well, such as the Protocol Concerning Mediterranean Specially Protected Areas (1982), and the Protocol for the Protection of Biodiversity in the Mediterranean Sea (1996).
- On October 4 1991, Albania ratified the *ESPOO Convention (Finland) "On Environmental Impact Assessment in a Transboundary Context."*
- On March 18, 1992 Albania signed the convention *"On the Protection and Use of Transboundary Watercourses and International Lakes"* (Helsinki March 17, 1992). The ratification of the convention was done on January 5, 1994.
- The convention *"On Transboundary Effects of Industrial Accidents"* was approved in principle on March 18, 1992, and was ratified on January 5, 1994.
- On November 29, 1995 Albania participated by accession to the *Ramsar Convention* (Ramsar, 1971). The official name of it is *"Convention on Wetlands of International Importance especially as Waterfowl Habitat."* Decision no. 581 on June 29, 1993 of the Council of Ministers approved the accession of Albania to this convention. *Decision no. 413 on August 22, 1994* of the Council of Ministers declared the *area of Divjaka-Karavasta* as a "Specially Protected Natural Ecosystem". Albania became a party to this convention through ratification on March 29, 1996.
- On October 31, 1995 Albania signed the Bern Convention (September 19, 1979) *"For the Protection of Flora and Wildlife Fauna of the Natural Environment in Europe,"* which was ratified by the Parliament on March 2, 1998.

3.36 Albania participated in the Earth Summit "The Environment and Development" of the United Nations (UN) (Rio de Janeiro, 1992). Around 500 documents were approved, the most important of which were:

1. *Agenda 21* – a complex program for the development of ecological actions.
2. *Rio Declaration on Environment* which proclaims 27 principles following the ones included in the Stockholm Declaration of 1972.
3. Convention on *Climate Change*. [On October 3, 1994 Albania signed the basic text of this convention (New York, May 9, 1992). The Council of Ministers approved the accession of Albania to this convention by the decree no. 580 on June 29, 1993].
4. Convention *"On Biological Diversity"* which represents an agreement among different countries for the conservation of biological diversity, the sustainable uses of genetic resources, and the transfer of relevant technologies by appropriate funding. [Albania signed the convention on January 5, 1994 and it entered into force on April 5, 1994].
5. Declaration on "Forest Related Principles" was a non-mandatory declaration but it is an important step towards the composition of an international convention for the forests which will later be mandatory.

3.37 The treaties and documents of the Earth Summit aim to promote environmental actions, and the establishment of solidarity among the countries of the world for better managing the world's environmental problems. This conference also defined the concepts of environmental protection and sustainable development for developing countries. The adopted documents stated the

importance of NGO participation for the protection of environment.

3.38 The *Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters* (Aarhus-Denmark, June 25, 1998), is an important instrument for strengthening and harmonising the environmental rights of citizens by giving them more possibilities for being informed for public participation and for justice in Europe. Albania was among the 35 countries, which signed this convention.

3.39 Albania is also a party to the *"Adriatic Initiative."* together with Italy, Slovenia, Croatia, Greece, and the EU.

3.40 Albania's participation in other conventions is still under preparation:

1. *The Convention on Protection of Migratory Species of Wildlife* known also as the Bonn Convention (Born, on June 23, 1979. Entry into force on 1983). Albania has signed two protocols of this convention (for the Mediterranean mammals and for the *Numenius tennuirostris*). The documents for the participation of Albania in this convention have been prepared.
2. *Basel Convention on the Control of Transboundary Movement of Hazardous Wastes and their Destruction.* The convention was adopted in 1989, and entered into force in May 1992. The Council of Ministers and the parliament approved the participation of Albania, but the process of document deposition at the UN by the Foreign Affairs Ministry still needs to be completed.
3. *The Convention on Desertification* and dryness aiming to combat these phenomena in countries suffering form them (December 4, 1996). Annex no.4 recognises the desertification problem in Mediterranean countries.
4. *The Convention on International Trade in Endangered Species of Flora and Fauna (CITES)* signed in Washington DC March 3, 1973 with amendments done in Bonn June 22, 1979.

3.41 The engagement of Albania in international environmental agreements has been growing, however, implementation and fulfilling the duties specified in these agreements is still lacking in many instances

THE EXISTING NATIONAL PROGRAMS

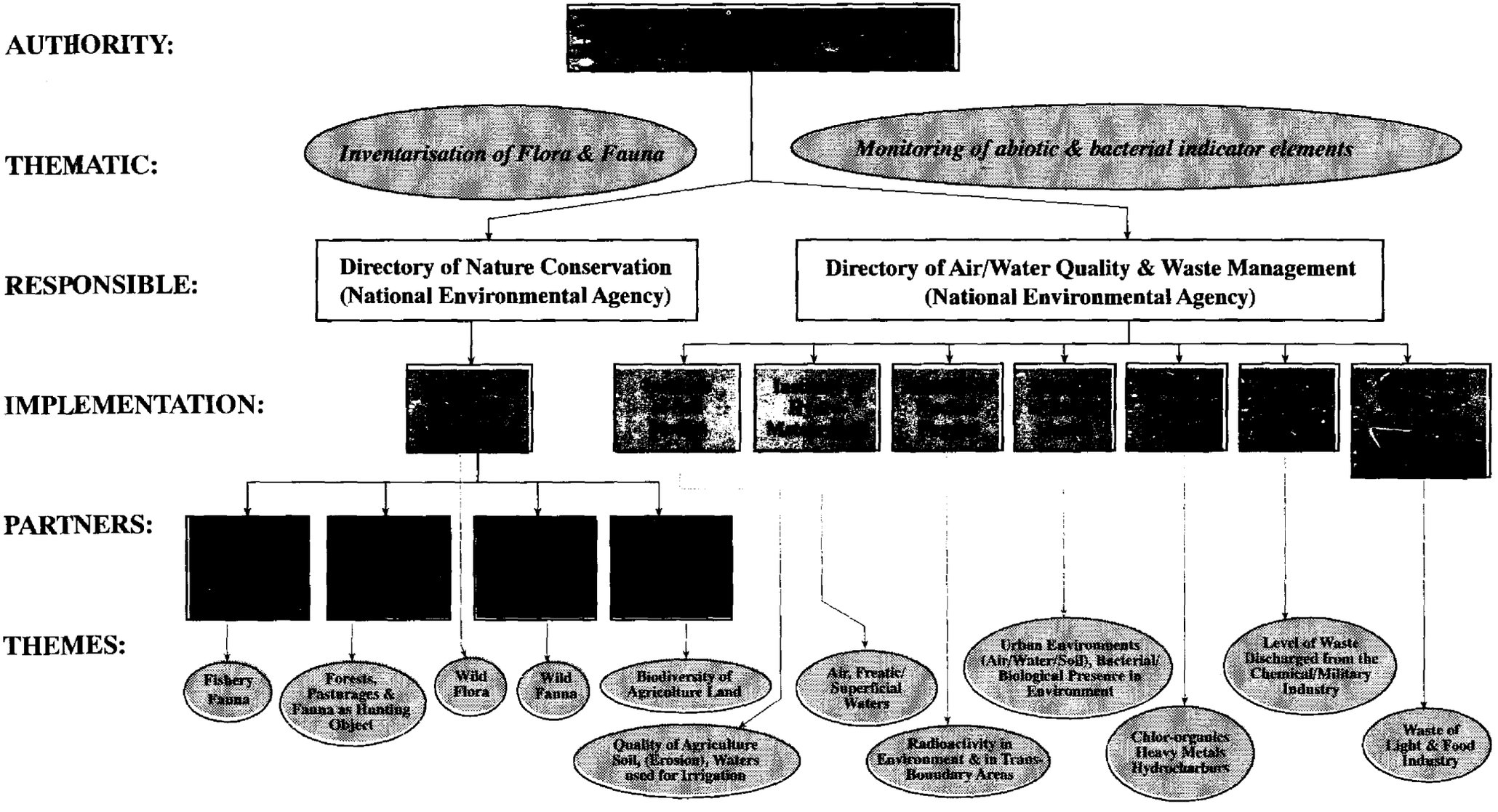
3.42 The preparation of the National Environmental Action Plan is a continuation of previously undertaken activities, including those undertaken with international co-operation and assistance.

3.43 Part of this co-operation is also the presence of many international organisations in Albania such as the European Union, UNDP, World Bank, International Monetary Fund, European Bank for Reconstruction and Development, and others. They have financed and prepared studies on environment in Albania.

3.44 The first was the study *"On Environmental Status and the Environmental Strategy"* financed by the World Bank. Its first phase was completed in 1992. It was considered to be a technical documentation in support of the Albanian Government, and served as a basis for the National Environmental Action Plan.

3.45 The second phase of the *"Environmental Strategy in Albania"* was completed in 1993. It was based on the co-operation of the CEP with the World Bank, and financed by though the Government of Italy and the World Bank. This important study preceded other concrete projects in this area. Based on it and on the Declaration of the Ministers of Environment (Lucerne, 1993) together with its document: Environmental Action Program (EAP), Albania prepared its National Environmental Action Plan (NEAP).

Figure 3. ORGANOGRAM OF STRUCTURES RELATED WITH THE BIODIVERSITY STUDY & MONITORING



Forest National Parks, Hunting Resources of Categories "A" and "B," and Nature Monuments.

3.55 In 1994, as part of the Ecological Monitoring of the High Forests in Albania, and based on the Protected Areas categorisation system of IUCN, there were identified and proposed a number of new Protected Areas which would have effectively doubled the existing number. After the recent designation of the Prespa National Park, and the lake Ohrid as Landscape Protected Area, the total country's area under protection has reached at 5.8% of the total territory.

3.56 Although progress has been achieved, there are still problems and issues, which need to be, addressed such as:

- The lack of a national strategy on nature protection;
- The lack of an adequate legal and institutional framework;
- The existing network of Protected Areas is very limited, not always representative of the highest nature and biodiversity values, and poorly managed (less than 6% of the territory of the country is protected);
- The lack of existing Protected Areas Management Plans (Management Plans have been prepared for only 2-3 of the existing Protected Areas);
- Lack of financial resources for effective administration of the protected areas;
- Shortage of personnel and lack of training; and
- Lack of protection for endangered species of plants and animals outside the Protected Areas.

3.57 On the basis of the Albanian NGOs Project: "***NGO Strategy for Nature Protection in Albania,***" the activity of Specially Protected Areas (1996) which was financed by the Regional Activity Centre/Specially Protected Areas (RAC/SPA, Tunis), and of the Coastal Zone Management Plan (CZMP), a new proposal for a representative network of Albanian Protected Areas has been prepared. This will be presented to the Government together with the BSAP.

Box 5

The Management Categories of Protected Areas

Category I- *Strict Nature Reserve/ Wilderness Area.* These are small areas to be managed mainly for science or wilderness protection.

Category II. *National Park.* These are large areas managed primarily for the protection of ecosystems, education and recreation.

Category III. *Natural Monument.* These are small areas managed for the conservation of specific natural or historic characteristics or phenomena.

Category IV. *Species and Habitats Management Area/Managed Resource Area.* These are protected areas for the conservation of species and habitats through appropriate management.

Category V. *Protected Landscape and Seascape.* Protected area managed mainly for landscape/seascape protection and recreation. This category includes terrestrial or marine areas, which can be public, or private property, and inhabited areas where different activities are undertaken such as agriculture, fishing, and forestry. The aim is to maintain the natural conditions of the landscapes, to protect the biological diversity, and encourage the harmonious interaction of man with the environment.

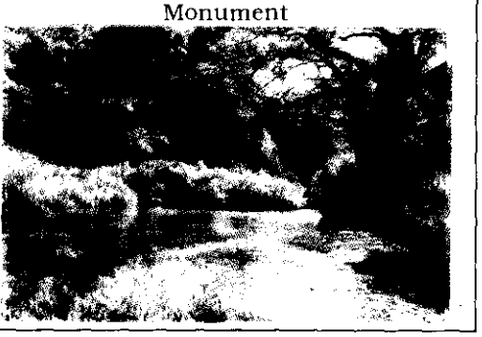
Category VI. *Protected Area of Managed Resources/Resources Reserve.* Protected area managed mainly for the sustainable use of natural resources.

Source: IUCN (1990/93).

3.58 Up to now, practices for *ex-situ conservation* of endangered species of plants and animals do not exist in Albania. The Botanical Garden close to Tirana University is a possibility, which should be considered in the future.

3.59 There is also no existing genetic bank for endangered species of plants and animals. A seed bank for agricultural crops was established recently near the National Seed Institute (NSI). This institution has around 260 species, subspecies, and varieties, of which 230 are herbaceous, and the other 30 are trees and shrubs. From all of the 260 taxa, 180 are cultivated and 80 are spontaneous plants. However, this bank should be used for the collection of the genetic material of endangered endemic species belonging to the natural flora of the country.

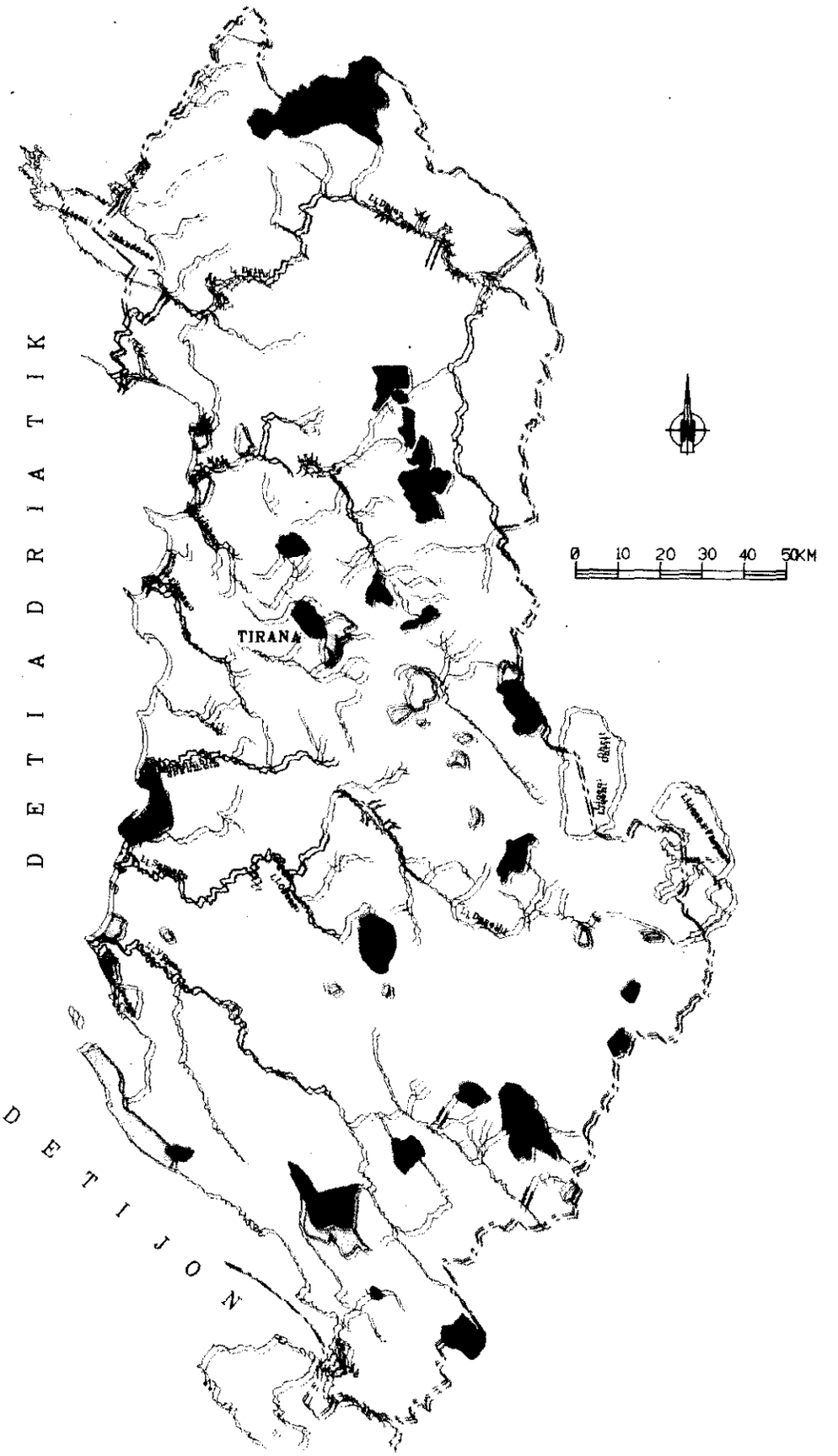
The Blue Eyes (Delvina)-Nature Monument



Flag-shaped Pine tree-Natural Monument

Lura National Park

RRJETI EKZISTUES I ZONAVE TE MBROJTURA TE SHQIPERISE
EXISTING SYSTEM OF PROTECTED AREAS OF ALBANIA



Legjenda/ Legend

- Rezervat Strikt Natyror/ Rezervat Shkencor
  Strict Nature Reserve/ Scientific Reserve
- Park Kombetar
  National Park
- Monument Natyre
  Nature Monument
- Rezervat Natyror i Menaxhuar
  Managed Nature Reserve
- Zone e Pejsazheve te Mbrojtur
  Landscape/Seascape Protected Area
- Zone e Perdorimit te Shumfishte
  Multiple Use Area

Box 6

National Environmental Agency Projects for Nature Conservation Financed by International Organisations

Project	Program	Phase	Grant	Project's Objective
1. Dajti National Park Conservation Plan	Phare Program AL9306	finished	50,000 ECU	The preparation of a management plan for the conservation of the Dajti National Park
2. Management of Karavasta Lagoon, Phase I	Phare Program AL9306	finished	346,224 ECU	The preparation of a management plan and a regulatory framework for the Karavasta Lagoon and of the eco-guides for this lagoon
3. Biodiversity Strategy and Action Plan	GEF/World Bank	finished the first phase, (1 year)	96,000 USD	The preparation of Biodiversity Strategy and Action Plan, and the National Report on Biodiversity
4. Lake Ohrid Conservation Project	GEF/ World Bank	start-up in December 1998 (4 years)	$1.78 million for Albania from GEF	To establish the base for sustainable management and joint protection of Lake Ohrid with Macedonia – legal framework and institutional strengthening, lake monitoring, watershed management, and public awareness
5. Management of Karavasta Lagoon, Phase II	Phare Program SOP 97	preparation phase (2 years)	400,000 ECU	Support for the management of the lagoon, pilot study for setting up an artificial lagoon for sewage water treatment, building guard facilities, local works for immediate improvement of the fence, entering roads, etc...
6. Conservation and Management of Mediterranean lagoons (the extension to non-EU countries)	LIFE/ MEDWET 2	Finished (1 year)	MedWet 3 (1,815,000 USD) financed by the GEF through UNDP	Study of the environmental and economic/social status of the lagoons of the area of Kune-Vaini as part of the report on wetland status of participating countries (Albania, Algeria, Morocco, and Tunisia), and the development of a model methodology for wetland studies. The fulfilment of this project was followed by another regional project expected to start soon, including Narta Lagoon, Llogara-Kanali-Orikumi-Karaburuni peninsula-Sazani Island.

PART TWO

IDENTIFICATION OF PRIORITY ISSUES

CHAPTER 4

THE TOPICS AND ISSUES

INTRODUCTION

4.1 Albania's biological and landscape diversity constitutes a valuable heritage not only for Albania but also for the Mediterranean region as a whole, the European continent and the rest of the world. The Albanian people are the owners of these resources, and hence it is in their interest that this property and its heritage be protected and managed in a way that it will promote sustainable economic development in the future.

4.2 In fact, natural resources have been valuable in the past for their economic importance. However, their exploitation brings not only profits (for both the state and private persons), but also losses (when they are not used in the right way) which impede future development because of further degradation of the environment.

4.3 The development of a new zone not yet exploited brings short-term economic benefits followed by the degradation of natural systems, which can lead to higher economic losses than the initial benefits. Of course, today it is impossible to conserve "museum ecosystems" especially close to inhabited areas, but these ecosystems need to be properly managed by protecting their natural values, and, when possible, by restitution of some of their lost values.

4.4 Due to the potential adverse effects of resource depletion, it is wise to implement the concept of sustainable development according to which every natural resource should be used to fulfil the needs of both present and future generations.

STRATEGIC PRINCIPLES

4.5 The implementation of the biodiversity convention can be achieved only through the acceptance and fulfilment of the objectives and principles of protection, as well the practices of sustainable development in the sectors which affect biodiversity such as agriculture, forestry, fishing, energy, tourism, urbanisation, transport, and water use and management. These globally recognised principles are emphasised in the Pan-European Strategy on Biodiversity and Landscape Diversity (PESBLD) as follows:

The Principle of Diligent Decision-making: The decisions regarding the Strategy are taken based on the best available information, and they adopt, as much as possible, measures which take into consideration economic and social factors to serve as incentives for the protection and sustainable development of biological and landscape diversity.

The Principle of Avoidance/Elimination: The implementation of procedures that require Environmental Impact Assessment (EIA) for any activity that might have considerable effects upon biological and landscape diversity and, when it is possible, the guarantee of public participation in these procedures.

The Principle of Prevention: The avoidance or minimisation of negative effects of the activities upon the biological and landscape diversity.

The Principle of Transfer/Shifting: The activities which are expected to have notable effects upon biological and landscape diversity but that could not be avoided, should, when possible, be shifted to areas which might be less affected by them.

The Principle of Ecological Compensation: The negative effects of physical changes which could not be avoided, should be balanced with protection and compensation measures taken by the subject that is causing them in the areas with high values of biological and landscape diversity.

The Principle of Ecological Integrity: The ecological processes responsible for species survival should be protected, and at the same time the habitats supporting their survival should be preserved.

The Principle of Restoration and Re-establishment: The rehabilitation of biological and landscape diversity when this is possible, and its re-establishment through the necessary measures for rescuing the endangered species and for setting up appropriate conditions for them.

The Principle of Best Technology and Practice: From the environmental view point, measures which are most appropriate for the protection and sustainable use of biological and landscape diversity.

The Principle of the Polluter Pays: According to this principle, the responsible party should cover as much as possible the costs of measures for the prevention, control, compensation, and minimisation of damages on biological and landscape diversity.

The Principle of Public Participation and the Public's Right for Information: Active public participation and support is important for the successful fulfilment of any protection plan for biological and landscape diversity. The media and other education programs should incorporate environmental issues by supporting participation in the decision-making process of public and private persons, the scientific community, and of all the individuals and other civil groups, which use terrestrial and marine resources.

THE CRITERIA

4.6 Different countries use different criteria for defining the primary problems and priority issues in the area of biodiversity protection. Because the term biodiversity constitutes species, habitats, and ecosystems, the criteria should express the need for their protection and for the survival of endangered species of national and international significance. These criteria also should address aspects of the economic and social benefits attributable to the protection and sustainable use of biodiversity. The criteria used in this BSAP are as follows:

- Critically endangered species and habitats of global, regional, or national importance;
- Habitats/ecosystems distinguished for their high endemism or biodiversity;
- Habitats or species at risk of total extinction;
- Habitats or species for which appropriate protection and management would lead to local or national economic and education benefits;
- Endangered species or habitats because of the use of inappropriate practices, but which could be improved through policy adjustments; and
- Actions/deeds that might lead to appropriate economic, social, and ecological choices.

4.7 During the BSAP preparation process, lists of priority species and habitats were composed (Annexes E and F) along with action plans for protecting them through the enhancement of the Protected Areas network and/or through *in-situ* and *ex-situ* conservation (Annex B).

ISSUES/PRIORITY TOPICS

4.8 The Pan-European Strategy on Biological and Landscape Diversity (PESBLD) has defined the 11 main topics, which should be addressed and developed according to the specific conditions of each country. They are as follows:

1. The establishment of a European Ecological Network (EECONET);
2. The integration in other sectors of the biological and landscape diversity issues;
3. The enhancement of awareness and support from the public and policy-makers;
4. Landscape protection;

5. Coastal and marine ecosystems;
6. River ecosystems and the wetlands linked to them;
7. Inland wetland ecosystems;
8. Grassland ecosystems;
9. Forest ecosystems;
10. High mountain ecosystems; and
11. Actions for the endangered species.

4.9 The preparation of the national action plans for the above topics, remains a governmental duty, but at the same time co-operation with the environmental NGOs will be required. For this reason the permanent working groups (WG) with joint participation of Government organisations, NGOs, and other interested persons or groups should be established as shown in Box 7. During the BSAP preparation process 14 Working Groups were identified, the establishment of which will be done after the approval of this document. The duties of each Working Group will be the preparation of action plans, as well as facilitation and co-ordination, and promoting the implementation of these plans.

HABITAT AND SPECIES ACTION PLANS

4.10 Based on the above criteria and the existing level of knowledge of national biodiversity, a consensus has been reached on the selection of endangered species and habitats for which action plans will be prepared (Annexes E and F). The proposed network of Protected Areas shown in Annex B takes into consideration the inclusion of terrestrial protection of the landscapes, habitats, and species which are an important instrument for the protection of biological and landscape diversity in the country. At the same time this instrument could not solve the survival issues for a large number of species and habitats that remain outside the Protected Areas, or where the level of protection is inadequate. Hence, the implementation of action plans for endangered species and habitats has a special importance.

4.11 The selected species and habitats are presented in two lists based on their importance and the level of danger: (i) species/habitats action plans which should be undertaken within 1-2 years; and (ii) species/habitats action plans which should be undertaken within 3-5 years. The first list of short-term priorities includes 80 species/taxa – 42 vertebrates, 26 invertebrates and 12 plant species, while the longer-term priorities include 143 species/taxa – 95 vertebrates, 31 invertebrates and 17 plant species. The lists are presented in the Annexes E-1 and E-2.

Box 7

The Working Groups for BSAP Implementation

1. The Working Group for Protected Areas and the Establishment of the Ecological Network -- Co-ordinator: the General Directorate of Forest and Pasture (GDFP)

2. The Working Group for Public Education and Information.-- Co-ordinator: Protection and Preservation of the Natural Environment in Albania (PPNEA)

3. The Working Group for Landscape Protection -- Co-ordinator: Institute of Geographical Research and National Planning Institute

4. The Working Group for Coastal and Marine Ecosystems -- Co-ordinator: Fisheries Research Institute and Institute for Biological Research

5. The Working Group for Wetland Ecosystems -- Co-ordinators: Faculty of Natural Sciences (FNS) and Institute for Biological Research

6. The Working Group for Plants and Agriculture Ecosystems -- Co-ordinator: Agriculture Directorate (MAF) and FNS

7. The Working Group for Forest and Alpine Ecosystems. Co-ordinator -- Forest and Pasture Research Institute (FPRI)

8. The Working Group for the Protection of Plant Species -- Co-ordinator: Institute for Biological Research and FNS

9. The Working Group for the Protection of Animal Species -- Co-ordinator: Faculty of Natural Science

10. The Working Group for the Protection of Native Cultivated Plants -- Co-ordinator: Agricultural Research Institute (MAF)

11. The Working Group for the Protection of Native Animal Agricultural Breeds -- Co-ordinator: Institute of Zootechnic Research (IZR)

12. The Working Group for Genetic Banks (Animals) -- Co-ordinator: FNS and Institute of Zootechnic Research

13. The Working Group for Genetic Banks (Plants) -- Co-ordinators: National Seed
Institute and FNS

14. The Working Group for Biotechnology -- Co-ordinator: Food Research Institute and Institute for Biological Research.

Box 8

What should be the Content of the Action Plans for Species and Habitats?

1. The actual status (situation) -- the reasons that explain this situation and what is the knowledge level of the limiting factors

2. The factors that cause depletion or aggravation – a short summary of the threatening factors of the past and present

3. The Protection measures taken up until now -- a short summary of what is being done for the moment regarding species/habitat protection

4. The Objectives of the Action Plan -- the objectives defined for the protection, improvement, and/or the growth of species population, or for the geographical extension of species or habitats.

5. The deeds/actions/proposed measures and the responsible lead agency -- here are presented the steps to be undertaken for the achievement of the objectives; what is being done, what should or might be done in the fields of:

   - Politics and legislation
   - Site/zone, protection and management
   - Species/habitats protection and management
   - Consultation
   - Scientific research and monitoring
   - Public communication and publication

Part Three

THE BIODIVERSITY ACTION PLAN: PRIORITY ACTIVITIES AND ACTIONS

CHAPTER 5
THE NEED FOR CHANGE AND ACTION

INTEGRATION OF BIOLOGICAL AND LANDSCAPE DIVERSITY WITH ACTIVITIES IN OTHER SECTORS

5.1 The success in the implementation of the CBD and the BSAP can be achieved only through the integration of strategic principles and objectives to protect biodiversity in other sectors of the economy. These include agriculture, forestry, fishing and hunting, energy and industry, transport, tourism, and water management.

5.2 Protection of the country's landscape and biological diversity is only possible if sustainable policies and practices are implemented as an integral part of sector policies.

5.3 Agriculture plays a vital role in the protection and management of the landscapes and semi-natural habitats, and also in the protection of the country's biological diversity. Over one-third of the ornithofauna species of the country visit the country's agricultural ecosystems seasonally, and over 15 bird species (some of which are globally threatened) have their critical habitats within agricultural lands. The life of some animal species and reptiles is also linked with agricultural ecosystems. Draining channels, riverbanks, gardens, and salty lands within agricultural lands are a habitat for a considerable number of plant and animal species.

5.4 Following the privatisation of land in the 1990s, agriculture has returned to the traditional practices of a more extensive agriculture with less impact on the environment and biodiversity. This is primarily because state subsidies for more intensive agriculture were abolished. During recent years, there have been a number of advantageous and disadvantageous effects of these changes on the landscape and biological diversity.

5.5 The following factors have had a positive impact on biodiversity: change of land use structure – the surface covered with crops is diminished, the surface of land planted with fodder (37% in 1996 compared with 23% in the early 1990s) has been reduced, pesticide use has decreased, and farming techniques are now less mechanised.

5.6 Reduction of soil fertility, desertification, and impoverishment of the soil from degradation have been among the adverse effects over the past decade. Erosion exists on one-third of the total land area, and its effects are closely linked to impacts on the country's biodiversity.

5.7 Under a free market economy without the support of state investments, parts of the native agricultural plant and animal genetic material have been lost in Albania. Other parts have genetically degenerated. To reverse this situation the support of the government through a protection and subsidy policy for farmers to protect these genetic resources is necessary. Alternatively, efforts could be made to preserve them *ex-situ* through genetic banks to be preserved for future generations.

5.8 Albanian agriculture is an extensive biological one. Preservation of this ecological character and its

balanced development must be kept in mind as the basis for future policies since intensive land use practices are likely to increase with economic development. In particular, the development of agriculture is expected to be highest in the low-lying coastal areas, and this will have a significant impact on the country's biodiversity. Implementation of Environmental Impact Assessment procedures, in particular for new projects on soil drainage and irrigation, will be imperative in the future.

Box 9

The EC Agro-Environment Regulation (EEC 2078/92) provides for:

a) Subsidies to farmers in selected areas of high environmental value: these would help to maintain traditional, low-intensity farming. This includes the designation of schemes similar to Environmentally Sensitive Areas (ESAs), and other management agreements.

Many Category V protected landscapes and some Category IV areas would greatly benefit from such designation, since changes in farming practice are often the greatest threat to their integrity.

b) The removal of land from agriculture: Under this provision, reserves for selected habitats and species should be created, perhaps by establishing new national parks and forest parks on land no longer needed for agriculture or extending existing parks.

c) Extensification generally in agriculture: Most measures are horizontal (i.e. affect all farmers equally), but some can relate to specific areas. Extensification will be particularly important by reducing the use of fertilisers, herbicides, and pesticides in and around protected areas.

Source: IUCN (1993)

5.9 The effects of agriculture on the country's biodiversity should be taken into account based on the "Green Agriculture Strategy" which has been prepared by the Ministry of Agriculture and Food and is expected to be approved soon. In this way, the negative effects of agricultural activities on biodiversity can be addressed.

5.10 The requests of the EU Directive on Agro-Environment (see Box 9) need to be incorporated into the Agriculture Strategy.

5.11 Preservation, rehabilitation, and enlargement (where possible) of the natural and semi-natural habitats of agricultural land are required to secure the preservation of the country's biodiversity.

5.12 Priority measures proposed in the framework of the BSAP for the agriculture sector include:

- afforestation of abandoned lands;
- creation of soil protection barriers to reduce the impacts of erosion;
- planting of bushes and trees in coastal lowlands;
- restoration of the natural vegetation on river banks;
- re-creation of the wetlands in some saline and former marsh lands;
- afforestation of watersheds to avoid creation of floods and sliding;
- agroforestry development;
- use of new technologies to decrease deep tillage;
- new technologies for cultivation of different agricultural plants through artificial irrigation;
- rehabilitation of poliphyte pastures through evaluating the stages of degradation and vegetation succession;
- increasing farmers' awareness of the benefits of ecological agriculture;
- application of models of Mediterranean and Albanian ecological agriculture, taking into account agro-silvo-pastoralism;
- application of biological actions to prevent against parasites and their damages on agricultural and forestry cultures.

5.13 Energy and Industry. The impact of these sectors on the environment, biological diversity, and landscape are well known. Although a large part of the industrial sector is not currently working, its negative effects on the country's biological

diversity are likely to increase in the future. This will be particularly true in low-lying coastal areas, where the main population and industrial centres of the country are located.

Box 10
Main Elements of a National Energy Strategy

- Policies for the optimal of use of fossil fuels, bearing in mind the need to minimise depletion of non-renewable resources and to minimise pollution from energy consumption and production;
- Policies for the safe use of other fuels;
- Policies and standards for energy efficiency;
- Economic policies that ensure that energy prices reflect the full social and environmental costs of alternatives and encourage the consumer to choose the least damaging option;
- Taxes and incentives to encourage energy efficiency and shelter poorer families from steep energy price increases;
- Information campaigns to promote energy efficiency;
- Obligations on manufactures to monitor and publicise the energy efficiency of products;
- Production of a national report, recording progress towards realisation of energy efficiency targets; and
- Support for citizens' groups promoting energy conservation.

Source: IUCN (1993)

5.14 In the framework of the BSAP, it is recommended that energy and industry policies and practices integrate ecological considerations by using the proper sites for industrial activities. Reduction of waste and discharge of harmful substances will enhance biological diversity and landscape protection. The main elements of a sustainable national energy strategy are discussed in Box 10.

5.15 The Action Plan for the protection of biological diversity and landscape proposes that all industries should implement sustainable development practices such as: (i) clean production technologies; (ii) environmental protection measures; (iii) use of recycled materials; and (iv) pollution control measures such as integrated waste management.

5.16 Because an important part of the country's biodiversity is linked with forests and pastures, the implementation of sustainable forestry policies and practices is a priority issue for Albania. Integrated management of the Albanian forests must be the first step. GDFP has the main responsibility to design and implement sustainable policies for integrated forest and pastures management, which will enhance the protection of natural habitats and wildlife.

5.17 The strategic objectives of a sustainable forestry policy are: (i) better integration of strategic principles (see chapter IV) in forestry management and planning; (ii) protection of native tree species; (iii) to secure some protected forest areas where man can not intervene in natural development and processes; (iv) harmonisation and co-ordination of reforestation policies with landscape and nature protection policies; and (v) sustainable use of pesticides and fertilisers where it is feasible. Some of the principles of a sustainable forestry policy are shown in Box 11.

5.18 The measures and pilot projects for the ecological use of forests and pastures, which are recommended by the working group on pasture and forest ecosystems, are explained in detail in Appendix B of this report. The priority issues to be addressed are:

- Control of cutting in forests, in particular of illegal cutting;
- Rehabilitation of forest and pastures ecosystems, degraded terrain, landscapes, and abandoned lands for the protection of habitats and wildlife;
- Creation of new forests, establishment of new areas, and widening of existing forest Protected Areas;

- Protection of the environmental balance through ecological intervention in forest and pasture ecosystems;
- Inclusion of biodiversity considerations in Forest Management Plans;
- Inclusion of biodiversity considerations in forest harvesting;
- Consideration of the effects of population migration; and
- Inclusion of the public and local communities in forests and pastures planning and management.

5.19 One important emergency and temporary measure which could be taken to control illegal cutting in forests when the state can not control this activity is the ban of export of round-wood and charcoal. This measure would prevent the over-harvesting in forests, help the development of the forestry business within the country and the internal market for timber, and create jobs for Albanians. In addition, it is proposed to liberalise the price of timber to improve the quality of the product so that the domestic market and product more closely approximate the international one.

5.20 The working group on Alpine and Forests Ecosystems proposed to be established to ensure the implementation of the CBD and BSAP will support and further develop alpine ecosystems and forestry biodiversity action plans, and will monitor the implementation of sustainable practices and policies in the forestry and pastures sector.

5.21 **Fishing.** The effects of fishing, aquaculture, and hunting practices on the country's marine and wetland biodiversity have been substantial in this decade. The further development of this sector in the future will have considerable effects on biodiversity if measures and policies to promote sustainable development are not taken.

5.22 Strategic objectives of a sustainable policy will include integration of landscape and biological diversity objectives in fisheries in a way, which harmonises these activities with nature. The effects on resource sustainability of over-fishing, inappropriate fishing practices, including those of benthic, pelagic, and other animal communities will need to be taken into account and minimised.

Box 11

The Principles of Sustainable Forestry Policy

- Establishment of a legally guaranteed permanent forest;
- Training in forest ecology and management;
- Secure conditions for forest managers in the public, private, and community forestry sectors;
- Standards for annual allowable cut, cutting cycles, harvesting techniques, infrastructure, and environmental safeguards;
- Controls over all aspects of harvesting and forest treatment to protect the environment;
- Economic and financial policies that do not require more from forests than they can sustainably yield;
- Multiple use policies, to ensure that the society gets the full benefit (e.g., timber, jobs, environmental services, recreation) from all forests;
- Environmental policies that protect ecological services, biological diversity and the resource base of all forest users; and
- Effective monitoring of all the above.

Source: *Caring for the Earth* (1991)

5.23 Responsible fishing management should consider the impact of fisheries on the ecosystem as a whole, including its biodiversity, and should strive for sustainable use of whole ecosystems and biological communities. Some of the main principles of a responsible fisheries are given in the box 12.

Box 12
Main Principles of Responsible Fisheries

- The State and water users should preserve water ecosystems
- Fishing management should promote and ensure the maintenance of quality, diversity and values of fishery resources
- The State should not allow over-fishing and should implement appropriate measures to avoid that
- Facilities and practices of a selective fishing should be developed and implemented in order to ensure the enhancement of biodiversity and conservation of water ecosystems
- Fish catching, and processing and distribution of fish products should be carried out in a way that reduces the waste and minimise the adverse impacts on environment
- All the key habitats for fish communities in marine and freshwater ecosystems should be preserved and restored, if appropriate
- The State should ensure that its fishing interests and those to conserve fishery resources are considered and respected by all the users of the Coastal Zone, and are integrated in the management, planning and development of this zone
- The State should promote and increase public awareness through education and training

Source: *Code of Conduct for Responsible Fisheries* (FAO, 1995)

5.24 The proposed measures to be taken in this sector aim at ensuring an effective control and a sustainable development of fishery and aquaculture in Albania. Some of them are the following:

- periodically review of the objectives and policies in the fishery sector in order to ensure that ecological considerations are incorporated into the sector
- improvement and enforcement of the low and regulations on fisheries
- further improve the survey, control and monitoring scheme on fisheries
- improve the water regime of the coastal lagoons and their water exchange with the sea
- creation of a national network of fish hatcheries in fresh and coastal waters in order to rehabilitate and restore native fish populations and biological communities

5.25 Hunting was and still is having its adverse impacts on the country's biological communities, particularly along the coast and wetlands. With the increase of hunting activities in the future the effects on biodiversity will be increasingly higher. National, regional and local policies to control and sustainably develop hunting activities, taking into account the sustainability of the hunting resources, and the species requirements for survival.

5.26 There is an urgent need to enforce the law and stop and control the illegal hunting activities and practices, particularly those practised on benthic, pelagic, and other animal communities of the coastal zone, with special emphasis on endangered species protected by international conventions.

5.27 The relevant and responsible hunting state authority should administrate and manage the hunting on a scientific basis and should take appropriate measures to protect and manage the hunting species, but also to create facilities for hunters and generate incomes from hunting.

5.28 More attention should be paid to the illegal trade of the endangered species that are protected by the international laws. The custom personnel should be trained to get

knowledge to deal with this problem and get the low enforced. Another important requirement to the relevant state authority is the development of quarantine regulations and enforcement in customs at the national level, in order to control the import of animals and breeds that might be vector of diseases or harmful for native animal species.

5.29 Territorial Planning and Urbanisation. Urbanisation is turning into a serious negative factor because of high levels of construction, a considerable part of which is out of control and without any territorial planning. This has especially damaging effects in very sensitive environments of high ecological risk. The establishment of state control on this activity, and the integration of the principles of nature, biological diversity, and landscape protection in territorial planning policies are a high priority for the country. Without such considerations, the adverse effects will increase, and the costs very high.

5.30 In the future, free and uncontrolled movement of the population from rural areas to urban areas will have increasing impacts and pressures on the coastal and land ecosystems, which are more ecologically sensitive. This will require the responsible authorities to take measures to prevent and minimise the impacts.

5.31 The Council of Ministers, and especially the Ministry of Public Works and Transport, will need to take the responsibility in this sector. More responsibility and expertise is required from the Planning Institute, NCTP, and RCTP to consider the integrated nature of development in the rural and urban planning process. In this way, steps can be taken to preserve natural and landscape values, in particular in the areas with high landscape and biodiversity values.

5.32 To date, in the *construction and transport* sectors in Albania, biodiversity and landscape protection are virtually not considered. In order to change this, with the help of the Council of Europe and the NEA, the level of training and assistance to the institutions dealing with these activities must increase in order to ensure that there will be enough specialists to include the concept of sustainable development and biodiversity management in planning.

Box 13
Main Elements of a Sustainable Policy for Transport

- Ensure that transport policy takes full account of the social and environmental costs of each form of transport;
- Review the current balance of expenditure between road construction, and investments for improvements in the railways and other forms of transport;
- Use economic instruments (e.g. charges and taxes) to promote efficient transport use and cleaner technologies;
- Link land-use planning to transport planning so as to reduce the need for journeys, especially by private transport;
- Encourage traffic management and "traffic calming" measures to fit traffic to the environment rather than *vice versa*; and
- Greatly expanded research into pollution-free vehicles and clean and efficient public transport.

Source: IUCN (1993)

5.33 Transport has a great impact on the country's biodiversity, especially taking into account Albania's need to widen the transport infrastructure to promote trade with Europe. For example, plans to construct the "Corridor 8" will have environmental impacts. Therefore, it is important to integrate landscape and biological diversity considerations into transport policies and infrastructure development. This will require avoiding as much as possible areas with high natural values, and prevention and mitigation measures to reduce the negative impacts on ecosystems and landscapes.

5.34 The Albanian government, and in particular the Ministry of Public Works and Transport, must review its policies in the transport sector to better develop sustainable policies. Some of recommended principles, from the programme *Caring for the Earth*, to be included into sector policies are shown in Box 13.

5.35 Tourism and recreation are expected in the near future to have a big impact on the country's biological and landscape diversity, in particular in the coastal areas. Tourism with its development demands and possibilities, is a factor that can have an adverse impact on the biodiversity, in both the new areas of development and the existing ones.

5.36 In the existing tourism developments, care must be taken to minimise the negative impacts on biodiversity. For a sustainable development of the sector it is necessary that tourism and recreational policies better integrate the objectives of landscape and nature preservation since this will prevent sensitive damages to landscape and biological diversity which would undermine the appeal of tourism.

5.37 The Committee for Tourism Development (CTD) and the NCTP both play an important role in this sector. It is unacceptable that the CTD does not have a staff person responsible for environment. Re-organisation of the tourism sector as a Committee under the Council of Ministers, and strengthening the role of National Environmental Agency on environmental matters will create the possibility to ensure more responsible consideration of environmental issues in the tourism sector.

5.38 There are many examples of policies and types of tourism development, and Albania should learn from the experiences of other countries. In particular, Albania should take into consideration that in many developing countries poverty and pressures for fast economic development have lead to over-exploitation and extraction of natural resources, which has not always benefited local populations. Ecotourism or green tourism is one of the best and most sustainable

Box 14
Environmental Guidelines for Tourism Adopted by the World Travel and Tourism Council (WTTC) 1992

1. Travel and tourism companies should state their commitment to environmentally-sustainable growth;
2. The environment commitment should be company-wide;
3. Education and research into improved environmental programmes should be encouraged; and
4. Travel and tourism companies should seek to implement sound environmental principles through self-regulation, recognizing that national and international regulation may be inevitable, and that preparation is vital.

Environment improvement programmes should be systematic and comprehensive. They should aim to:

1. Identify and minimise product and operational environmental problems, paying particular attention to new projects;
2. Pay due regard to environmental concerns in design, planning, construction and implementation;
3. Be sensitive to conservation of environmentally protected or threatened areas, species and scenic aesthetics, achieving landscape enhancement where possible;
4. Practice water conservation;
5. Reduce and recycle wastes;
6. Practice fresh-water management and control sewage disposal;
7. Control and diminish air emissions and pollutants;
8. Monitor, control, and reduce noise levels;
9. Control and reduce environmentally-unfriendly products, such as asbestos, CFCs, pesticides, and toxic, corrosive, infectious, explosive or flammable materials;
10. Respect and support historic or religious objects and sites;
11. Exercise due regard for the interests of local populations, including their history, traditions and culture and future development; and
12. Consider environmental issues as a key factor in the overall development of travel and tourist destinations.

Source: *WTTC* (1992)

alternatives, which can protect and improve the quality of the environment, biological diversity, and landscape. At the same time, this will help to secure a sustainable income base for the Albanians working in this sector.

5.39 One important area of collaboration is to develop the tourism potential within and near protected areas. Sustainable planning and management of tourism based on nature protection can be a positive force to bring incomes to the local communities. Tourism is welcomed within and near protected areas if it respects the specific characteristics of every area, and the natural and cultural values. Ecological tourism can be both cultural and educational and have minimal pollution and adverse environmental effects.

5.40 Tourism development in Albania must keep in mind the Environmental Guidelines on Tourism approved by the World Council on Travel and Tourism (WCTT) of 1992 shown in Box 14.

5.41 Water Management has been and continues to be an important factor with impacts on the country's environment, biological diversity, and landscape. As a result of demographic movements and an increase in population and the demand for water, the effects of this sector on the quality of the country's biological diversity are becoming increasingly important.

5.42 Albania is a rich country in water resources, but it is necessary that these resources be managed in a sustainable manner for present and future generations. The strategic objectives of this sector in the framework of the BSAP are: integration of biological diversity and landscape protection objectives in all aspects of water administration and management, including the management of wastewater discharges and polluting substances.

5.43 To achieve these objectives an important role is played by the Council of Ministers, through the National Water Council (NWC). The responsible Ministries must reconsider their policies to promote the sustainable and environmentally sound use of waters.

5.44 Improving the existing water supply and wastewater sewerage systems will be important for better managing biodiversity. Presently, the existing networks and water management are poor, and this adversely affects biodiversity. Feasibility studies and projects for rehabilitation of water supply and wastewater treatment systems in urban areas must play an important role in the future.

5.45 Application of EIA procedures and calculation of the social and environmental costs of different operations of water management must be a priority for future policies in the sector.

5.46 Defence/Military. The military's role in the past has been important for the country's biological diversity and landscape, and this will continue in the future. This role has been and can be positive and/or negative. As a positive example, the military areas have been, and are, the most protected natural areas in the country. As a negative example on landscape and biological diversity, one can note the construction of bunkers and tunnels, where the environmental costs of these activities were not taken into account.

5.47 The low cost attributed to environmental damage in Albania was a result of the lack of knowledge of its importance and values. Today, the strategic military needs of the country have increased the demand for the Albanian territory to develop military manoeuvres with foreign partners.

5.48 Military objectives should be integrated with those for landscape and biological diversity in order to avoid as much as possible the use of areas with high natural value for military reasons. Measures to prevent or mitigate the negative impacts of military activities on the landscape,

and to develop more environmentally friendly activities, should be taken.

5.49 It is important to create and strengthen an environmental unit at the Ministry of Defence, and to introduce the polluters and users pay principles. In the case of areas to be used for military manoeuvres, permission should be taken from the National Environmental Agency so as to take into account and minimise the environmental impacts of the activity.

EXPANDING AND STRENGTHENING THE NETWORK OF PROTECTED AREAS AND ESTABLISHING THE ECOLOGICAL NETWORK

5.50 One of the main mechanisms for biodiversity protection and ecological management is the establishment and management of Protected Areas. These areas vary in dimensions and protection scale, and in the level of control of human use. They offer a number of products and services with local, national, and international benefits.

5.51 The Global Biodiversity Strategy and the Pan- European Strategy on Biological and Landscape Diversity (PESBLD), understanding and appreciating the importance of Protected Areas for the preservation of biodiversity, have recommended expanding Protected Areas and strengthening their management as high priority objectives for every country.

5.52 A European initiative to establish and develop an ecological network known as EECONET aims to protect the structure and complex ecological relationships of Europe. EECONET at the same time is an instrument to develop the priorities for action for each country. The establishment of the ecological network requires four main elements: (i) core area or biocenter to preserve ecosystems, habitats, species, and landscapes; (ii) ecological corridors or biocorridors to improve the coherence of the biological systems; (iii) rehabilitation areas where damaged elements of the ecosystems, habitats, and landscapes have the need for repair or full recovery; and (iv) buffer zones which support and protect the ecological network from external impacts. Core areas/biocenters must include areas and main characteristics, which represent biological diversity and landscapes. Biocorridors are necessary to secure the coherence and functioning of the ecological network because they facilitate spreading and migration of species between biocenters.

5.53 A Representative Network of Protected areas (RNPA) which is proposed for approval in this strategy represents the realisation of the first step for the creation of the country's Ecological Network. Approximately 14% of the country's territory are included in it, and within it there are the best ecosystems, habitats, and landscapes of Albania. After approval, the first steps to be taken will be to preserve and improve the country's biological and landscape diversity for present and future generations. At the same time, this approval will be a contribution of Albania to the establishment of the pan-European ecological network.

5.54 The proposed RNPA does not mean that the man and his interests are excluded from the 14% of the country's territory designated to be covered as Protected Areas. Rather than dictating the exclusion of economic, social, and recreation activities, Protected Areas are zones where this activity is sustainable and controlled, and developed in accordance with the needs for the protection of the ecological integrity of the ecosystems, habitats, landscapes, and survival of the plant and animal species (Box 15).

5.55 Preparation of the management plans for the Protected Areas of Albania is considered as a high priority; so far, only 2-3 Protected Areas have existing management plans or plans under preparation. This should be a high priority activity not only for the responsible authorities such as the DGFP and the NEA, but also for the scientific and research institutions such as the

MNS, IBR, FPRI, FRI, the Hydrometeorogical Institute (HMI), and specialised NGOs in the country which have the necessary expertise for the preparation of the management plans.

Box 15
Protected Areas and Sustainability

Protected areas contribute to sustainable development by:

1. Conserving soil and water in erodible areas;
2. Regulating and purifying water flow, especially by protecting wetlands and forests;
3. Shielding people from natural disasters, such as floods or storm surges;
4. Maintaining important natural vegetation on soils of inherently low productivity;
5. Maintaining wild genetic resources important to medicine or for plant or animal breeding;
6. Protecting species that are highly sensitive to human disturbance;
7. Providing critical habitat for feeding, breeding or resting of species that are harvested;
8. Providing income and employment through tourism.

Source: *Action Plan for the Protected Areas in Europe* (IUCN, 1993)

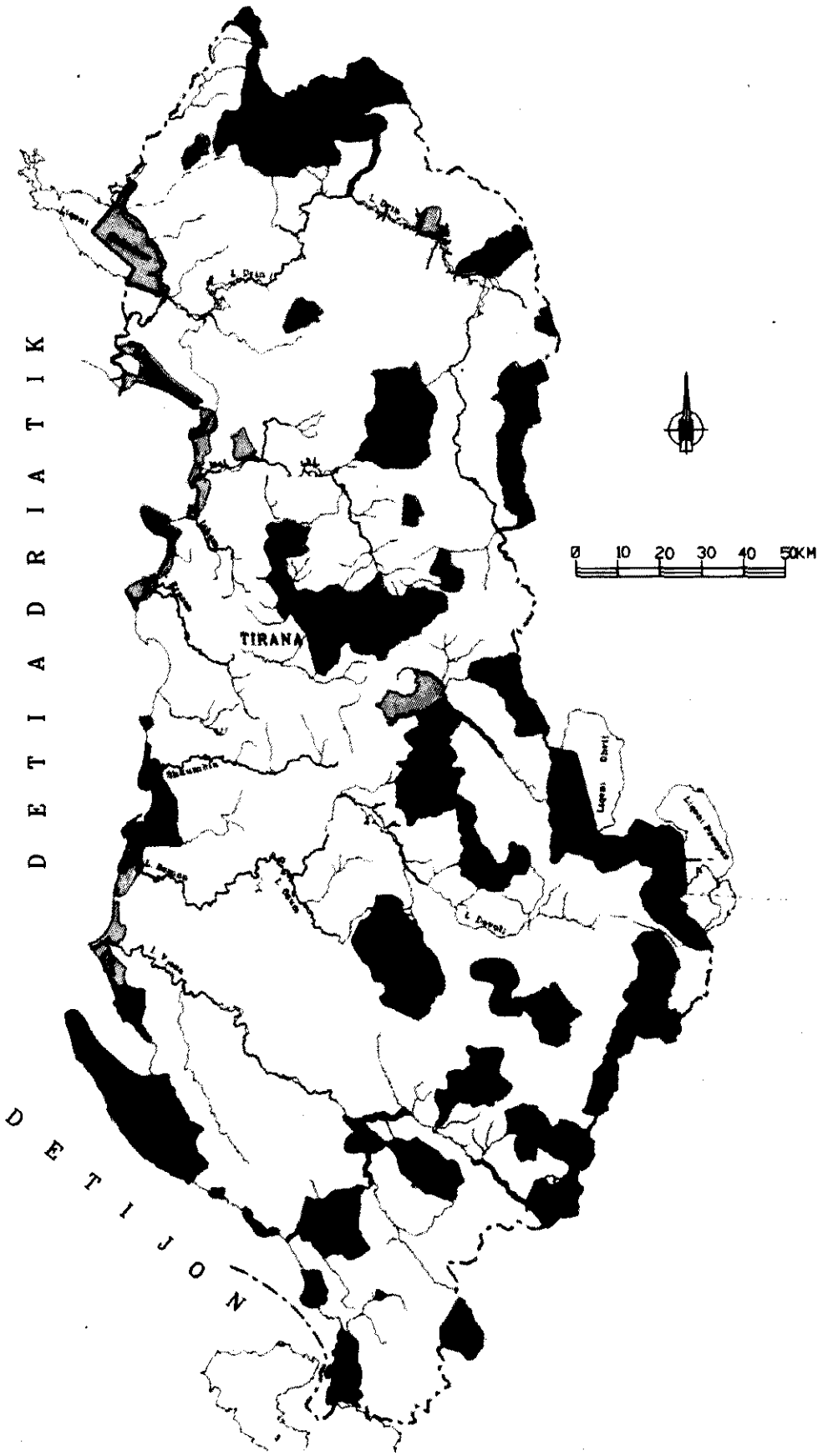
5.56 Taking into account that Albania's Protected Areas are part of the European natural heritage, it is the responsibility and obligation of the international organisations to provide support for the preparation and implementation of the existing and proposed management plans. The NEA and DGFP must help to create the conditions to attract more of these organisations to work in Albania.

5.57 Establishment of the Ecological Network is a long process which will be accompanied by a programme to help understand the Ecological Network, its planning and establishment, and to promote public participation and local community involvement in this process. The second step for the establishment of the Ecological Network after RNPA approval and establishment will be the creation of the biocorridors for linking the various Protected Areas with each other. A long-term objective of this process is that Protected Areas cover 25% of the country's territory by 2020.

5.58 Achieving short and long term objectives for the establishment of the Ecological Network will need support from the government, in particular from the NEA and Environmental Protection Unit (EPU) within DGFP, to enable fulfilment of these objectives.

5.59 The working group for the establishment of the Ecological Network and Task Force (ENTF) which will be established after the BSAP approval, and will design the proper programmes and projects which are needed in order to strengthen Protected Areas management and establish the Ecological Network of the country.

RRJETI I PROPOZUAR I ZONAVE TE MBROJTURA TE SHQIPERISE
PROPOSED REPRESENTATIVE NETWORK OF PROTECTED AREAS OF ALBANIA



Legjenda/ Legend

- Rezervat Strikt Natyror/ Rezervat Shkencor
  Strict Nature Reserve/ Scientific Reserve
- Park Kombetar
  National Park
- Monument Natyre
  Nature Monument
- Rezervat Natyror i Menaxhuar
  Managed Nature Reserve
- Zone e Pejsazheve te Mbrojtur
  Landscape/Seascape Protected Area
- Zone e Perdorimit te Shumfishte
  Multiple Use Area

BIODIVERSITY CONSERVATION OUTSIDE THE PROTECTED AREAS

5.60 Only some 5.8% of the country's territory are currently included in the Protected Areas network. Although a much larger percentage (14%) is proposed by the RNPA, the proposed territory under protection would still be small in comparison with the country's territory outside of the Protected Areas. Even if we suppose that the surface of Protected Areas will increase, and be sustainably managed, this will not be enough to secure the survival of the species and habitats, in particular of the migratory species of birds and animals. Outside the Protected Areas there are also a number of landscapes, which must be protected and managed in a sustainable manner.

5.61 To achieve the above objectives it is necessary to prepare action plans for the ecosystems, habitats, and species. This will be the task of the Working Groups, which will be established after the approval of the strategy.

NEED FOR *EX-SITU* CONSERVATION

5.62 Increasing pressure on biodiversity, accompanied by the extinction of a number of species and an increase in the number of endangered ones, warrants *ex-situ* preservation in zoological and botanical gardens or parks established for this purpose. The support of the Botanical Garden to realise *ex-situ* preservation of endemic and endangered species is an important action which should be complemented by the future development of such practices for animal species in the long-term.

5.63 Where *in-situ* and *ex-situ* preservation of the threatened species are not possible, preservation of biological material should be done through genetic banks for plants and animals. The strengthening of the Genetic Banks within the National Seed Institute, and a Laboratory of Deep Freezing nearby the ZRI should include preservation of the genetic material of wildlife species. It is proposed to establish a genetic bank for the spontaneous flora of Albania, a genetic bank for microorganisms, and a genetic bank for wild animals.

NEED FOR FURTHER RESEARCH AND MONITORING

5.64 The unknown can not be protected against and managed. Starting from this, the need for the development of scientific research in Albania is a high priority. The lack of study of many animal groups (mostly invertebrates) and plants (mostly low species of moss) and low scale of knowledge of a considerable part of plant and animal species call for more and better research support in Albania. With economic development there will need to be more research for the protection of the sea, and coastal and inland water biodiversity, which will be more threatened in the future due to the increased activities of man in these ecosystems.

5.65 More financial support is also needed for training programmes for the main research institutions involved in biodiversity inventory and monitoring such as the BRI, MNS, FRI, and FPRI. Better co-ordination among the country's research institutions, and with their counterparts abroad, is important. In addition, increased NGO and private sector involvement should be developed in the future.

5.66 Biodiversity protection and management requires monitoring in order to control and prevent damages from exploitation and mismanagement. This can be realised with the establishment of fixed stations to regularly monitor the evolution of the plant and animal communities.

5.67 Monitoring biotic data rather than measuring abiotic data can best monitor the environmental situation. As a first step, a map of the most sensitive biotopes should be prepared, beginning with those of Protected Areas (within first 5 years), and later for the rest of the country (5-20

years). Within this activity is proposed the mapping of sea meadows with *Posidonia oceanica* and *Cymadocea nodosa*, and those environments with reed coral (*Coralum rubrum*) and (*Lipthophaga lipthophaga*) which are collected by fishermen and divers (within 1-3 years).

5.68 Securing funds for biodiversity monitoring must be considered a priority not only for government institutions, but also for the international community. The NEA, GDFP, GDF, and others must better co-ordinate their work programmes to improve efficiency. NGOs with their projects and programmes financed from internal and foreign donations should also offer their contribution. A priority for BSAP implementation will be the development of biodiversity monitoring and research.

INFORMATION USE AND MANAGEMENT

5.69 Information use and management is another high priority for biodiversity management and protection in Albania. The lack of use of existing knowledge of the country's biodiversity derives from the lack of an operative and well-organised information system in the country. Improving the use of this information will save time, money, and energy, since this issue has not received enough attention in the past.

5.70 Article 56 of the constitution states that everybody has the right to be informed concerning the state of the environment and its protection. Establishment of the Ministry of Information is an important first step, which must be followed by other ones. This action must be used to secure the necessary support to develop information programmes for biodiversity.

5.71 To improve the quality and use of information and data on biodiversity the following measures are proposed:

- Maximal use of the information and existing data;
- Data completion and standardisation;
- Establishment of a biodiversity database at the national level; and
- Development of a co-operative and open information network for interested parties at the local level.

5.72 Establishment of a database on flora and fauna to be used by existing institutions such as the BRI, MNS, FRI, and FPRI is considered a high priority. Without a good database, it will not be possible to promote sustainable management of biodiversity. As a first step, a database for Protected Areas is proposed, beginning with National Parks. To do so, the above institutions must co-ordinate their work, and be supported with equipment and necessary expertise from the state and donors.

5.73 Data creation and standardisation will require better collaboration with specialised international organisations.

5.74 Development of an open and co-operative information network for the interested parties will need to secure the right of access to electronic information services such as the internet for central and local institutions, environmental NGOs, and other groups interested in information exchange. This will increase the efficacy of biodiversity protection and management. As a first step, it is recommended to provide electronic information services to the central and specialised institutions that are responsible for data collection and management.

5.75 Copyrights and intellectual property rights must be respected and regulated by the law and regulations pertaining to environmental information. Such a legal framework must still be developed in Albania to enhance biodiversity management and protection. For this reason Albania must consult the existing international legislation and regulations.

EDUCATION, TRAINING AND EXTENSION SERVICE PROGRAMMES/INCREASING AWARENESS OF THE PUBLIC, POLICY-MAKERS, AND DECISION-MAKERS

5.76 Achieving the objectives of the CBD require increased public awareness and sensibilisation of decision-makers and policy-makers. Article 13 of the Convention states that the contracting parties must: *promote and encourage understanding of the importance of, and the measures required for, the conservation of the biological diversity, as well as its propagation through media, and the inclusion of these topics in educational programmes.* In light of the low level of public awareness and environmental education in Albania, this is an important priority.

5.77 Programmes and projects to encourage public and community participation in the process of biodiversity planning and management must be developed, encouraged, and implemented in the future. These programmes should be suitable for the target age groups and professions. Environmental education should start with children under 7 years old, and be a priority for pupils of elementary schools.

5.78 Biodiversity protection should receive more attention in textbooks and programmes as a way of developing more environmentally aware citizens.

5.79 In a civil society the role of mass media in environmental education is increasing. Although small progress has been achieved, the Albanian media is still very much focused on politics and pays less attention to issues like biodiversity or the environment. The information provided to readers or viewers is often lacking, presented by people without adequate expertise, and is sometimes wrong or difficult to be understood. Given its importance in a post-Communist society, the Albanian media must find more and better ways to inform the public and have a more positive impact on its environmental awareness and education. Formation and training of professional journalists for environmental matters is a priority for the media in Albania.

5.80 Providing a simple and understandable message is important for environmental education and public awareness since highly scientific presentations will not effectively increase the awareness of the public. Increasing public awareness of biodiversity will require simple messages to explain what is biodiversity, why it is important, and what needs to be done to preserve it. Preparation and publication of any guidelines to make a clear and emotional communication with the public for different aspects of the biodiversity can be an important tool. Editing of popular books, which treat the importance and the role of biodiversity for man, will also help to promote its sustainable management and protection.

5.81 NGOs play an important role in increasing the environmental awareness in general, and for biological diversity in particular. They often promote environmental education by carrying out concrete actions for nature and biodiversity protection. The state and NGOs should work to renew the tradition of nature care. Special days or months offer good opportunities for environmental education and public awareness events. For example, December was the month of reforestation and there can be special days such as Earth Day, Bird's Day, Spring Day, and others.

5.82 Implementing the above recommendations will be the duty of a separate working group on Public Education and Awareness proposed to be established after BSAP approval.

5.83 Training and qualification programmes on biodiversity study and management are another priority for Albania. These programmes must involve state institutions and organisations, the NGO community, and the private sector. Some of the objectives and directions of these programmes will be:

- Focusing on professional training schemes for biodiversity management and protection;
- Personnel training, of those that work on a professional basis on biodiversity monitoring and management;
- Training on particular issues of biodiversity action plans; and
- Encouraging a wider participation of the public with the nature as a source of education and pleasure.

5.84 Extension service on biodiversity for land users is a long-term objective, but necessary to be developed in the future. This service must be organised at the local level by the REAs, in collaboration with the specialised institutions in the country for biodiversity protection and management (e.g., existing ones such as the BRI, MNS, FPRI, and FRI, and new ones such as the NPI).

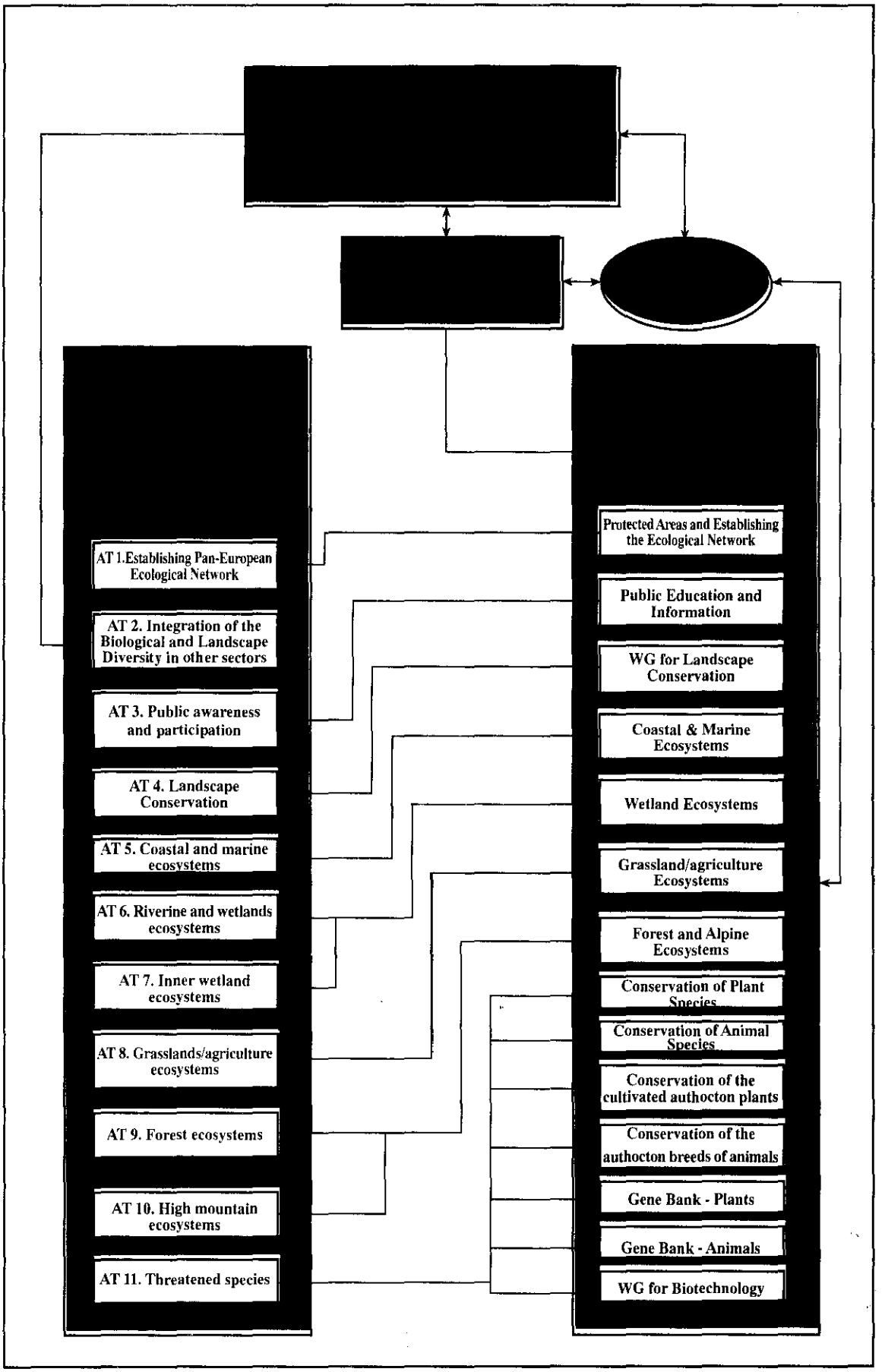


Figure 6. Functional Scheme for the Implementation of the CBD and BSAP

CHAPTER 6

THE IMPLEMENTATION OF THE BIODIVERSITY ACTION PLAN

REFORM AND INSTITUTIONAL STRENGTHENING

6.1 Reform and institutional strengthening are essential to guarantee the implementation of the BSAP. Only through completion and improvement of the legal framework, reforming and establishing suitable and responsible institutions, and improving law enforcement can we be optimistic for the future.

LEGISLATION

6.2 Legislation, which is coherent and enforceable, will form the foundation for sound biodiversity management. Of particular importance will be the approval of the proposed draft-law on Nature Protection and Biodiversity, its harmonisation with other sector laws, and its supremacy over the other laws and regulatory measures on nature protection issues. The NEA and DGFP must discuss and agree on the division of responsibilities emanating from this law.

6.3 Laws, which create autonomous authorities that encourage wide participation, will form the cornerstone for future law enforcement. This process must be accompanied by cooperation between public and private institutions in the management of Protected Areas in accordance with management plans and the stated policies established by the central environmental authorities. These policies should consider the opinions of technical experts, and have public approval.

6.4 The priority of the coastal area for the country's development warrants the preparation of the Law on Coastal Zone Management. Implementation of such a law can help to avoid environmental problems in the coastal areas. The law should be based on the principles of sustainable use and integrated management and development of this territory, and include a plan for administration and the creation of a decision-making authority. Preparation of the law on Watershed Management must also be undertaken to harmonize the protection and use of water resources for economic interests in a way, which minimises adverse effects on the ecosystem.

INSTITUTIONAL STRENGTHENING

6.5 Strengthening of the responsible state institutions for biodiversity inventory, management, and monitoring is also a high priority. Greater support must be given to the strengthening and enlargement of the NEA and its regional authorities, as well as creation of environmental units in different sectors. For this reason, an important recent step is the establishment of the Project Environmental Management Unit (PEMU) in the Ministry of Agriculture and Food (MAF). The establishment of such units in other sectors is also recommended.

6.6 In the framework of scientific and institutional reform, it is necessary to create as soon as possible the Institute for Nature Conservation (INC). The INC should be multidisciplinary, and able to offer qualified guidance for biodiversity protection and sustainable management. Simultaneously, additional support is required for the existing responsible institutions for biodiversity inventory, management, and monitoring.

6.7 The consideration of environmental issues, and particularly biodiversity, has been very weak in the decision-making process. With the inclusion in the executive system of new concepts of territorial administration (watersheds, coastal areas, and other territorial

ecosystems), and with the preparation and approval of integrated laws on Coastal Zone Management, Protected Areas, and Watershed Management, the results of the decisions of the inter-ministerial structures should be more consistent with the principle of sustainable development in the future.

6.8 Decision-making of Inter-ministerial structures such as the NCTP, NUC, and NEC, will yield better results if project assessment criteria better incorporate environmental issues, and not exclusively focus on natural resources exploitation. Establishment of the National Council on Nature and Biodiversity (NCNB) can help to provide balance in the decision-making process.

6.9 The NCNB would be composed of: (i) representatives of the ministries/institutions of the main sectors of the economy; (ii) representatives of the scientific and academic institutions in the area of biodiversity and nature preservation; and (iii) representatives of the environmental NGO community The Chairman of the NCNB would be the Chairman of the Council of Ministers (Prime Minister???), and its secretary would be the Chairman of the NEA. The establishment of this council would promote proper decision-making and prevent or minimize the adverse effects of different interventions on the environment – especially in the design and preparation of national or regional programmes and projects. Strategic principles will be incorporated into the decision-making process in order to promote their implementation in other sectors since, without cooperation with other sectors, the implementation of the CBD and BSAP can not be guaranteed.

DEVELOPMENT OF INTER-SECTOR CO-ORDINATION MECHANISMS

6.10 Development of inter-sectional co-ordination is also a high priority. Establishment of the NCNB is the first step towards the achievement of this objective. The *Implementation Board* of the CBD and BSAP would be composed of the co-ordinators of technical working groups. The *Secretariat of the Convention on Biological Diversity* (SCBD) in the NEA, proposed for approval, will be another important co-ordination mechanism Their duty would be the co-ordination of work and programmes in the framework of the BSAP, and identification and securing of the financial resources for the implementation of the landscape and biological diversity action plan.

DECENTRALIZATION

6.11 Power decentralization and a wider autonomy for the local authorities is necessary for the democratic development of the country. More regional autonomy as it is foreseen under the New Constitution will allow local and regional authorities to become increasingly active in the planning and management of the biological and natural resources they share. In this context, the implementation of the objectives of the CBD and the BSAP at the regional and local levels will be essential.

6.12 Laws and national programmes are effective if they are realized and implemented at the local level since implementation of the BSAP can not be realized without the direct support and participation of the public and local communities in the planning and management of landscape and biological diversity. Physical vicinity with the natural environment, animals, plants, and habitats which have the need for protection and proper management create a strong personal link of man and nature, and focus particularly on the importance of nature protection. In addition, many areas in towns and villages, which are not expected to be used for buildings or streets, are the property of the municipality or commune. Local authorities are directly responsible for the management of the public areas such as game areas, parks, riverbanks, zoological gardens, and green areas. These and other reasons must be kept in mind by the central authorities, in particular those

responsible for environmental, nature and biodiversity management and protection.

THE NEEDS AND THE ROLE OF THE NGOs AND LOCAL COMMUNITIES

6.13 Increasing the role of the NGOs and local communities will be essential for the implementation of the CBD and BSAP since a precondition for their implementation is a well-informed public. Principle 10 of the Rio Declaration says: "*Every individual has the right to be informed concerning issues related to the environment, dealing with public authorities, including information on hazardous substances and activities in collective, and to have the possibility to take part in decision-making.*" A second important step is the creation of the legal mechanisms for the participation of NGOs and the public in the decision-making process. NGO representation in the NCNB, and the Implementation Board of the CBD and BSAP, will institutionalize public participation in the decision-making process, and be an important step forward.

6.14 The scale of the public participation in decision-making and implementing the decisions taken in the environmental area depends on the level of economic development, and cultural and social awareness. NGOs, in particular environmental ones, play an important role in increasing the environmental awareness of the public, and of the importance of improved environmental protection and biodiversity management. Securing assistance for NGOs to develop their programmes for environmental education must be a priority not only of the NGO forum and Regional Environmental Centre (REC), but also for the state. Partnerships of the state with NGOs working on the environmental are a new objective of NGOs, which must be developed in the future.

6.15 A number of Albanian NGOs, in collaboration with international ones, have developed sufficient expertise and experience to contribute to landscape and biological diversity inventory, planning, management, and monitoring. Creation of the legal mechanisms to promote a wider involvement of these NGOs in this process will better ensure the implementation of the CBD and BSAP in Albania.

COST-BENEFIT ANALYSES OF BIOLOGICAL DIVERSITY

6.16 To date, man has not adequately taken into account the environmental costs associated with natural and biological resources exploitation. Only when forced to pay for and/or repair the damages or the loss to the environment and biodiversity has society become aware of their real value. This concept has only recently begun to be implemented in Albania.

6.17 Cost-benefit analysis for the protection and preservation of biological diversity, and the benefit from its use and preservation, must be used to avoid non-economic and non-sustainable practices and policies. Cost-benefit analysis is an instrument, which should be increasingly used in the future for decision-making in sector policies, as well as for conservation practices.

INTERNATIONAL CO-OPERATION

6.18 Because of the lack of experience in the environment field, international technical and financial co-operation has been, and continues to be, vital for Albania. The opening of the country in 1990 created wide possibilities for such collaboration, and its results are measurable.

6.19 A number of programmes for technical assistance have made the transfer and use of international experience possible. These programmes have been important for increasing the professionalism of our experts in environment. EU programmes, such as PHARE, and LIFE, the World Bank, the Global Environment Facility (GEF), UNDP, UNEP, and technical assistance from the governments of the USA (USAID),

Germany (GTZ), Italy, and Netherlands (SNV) and others, have all contributed to this effort.

6.20 The benefits of international co-operation have also been realized by environmental NGOs. A number of environmental NGOs such as PPNEA, ASPBM, AQUARIUS, ABA, Forestry Progress, the Albanian Ecological Club, and others have had a successful co-operation with international organisations such as the IUCN, WWF, EURONATURE, REC, Birdlife International, MILIEUKONTAKT, and counterpart associations in neighbouring and other European countries.

6.21 There are three primary mechanisms for developing international co-operation:

- Conventions;
- Co-operation with International Organisations; and
- Agreements and bilateral activities.

6.22 Adherence of Albania to international environmental conventions such as Ramsar, the CBD, and the Barcelona Convention have had important impacts on the environmental policy. It increases Albania's international obligations as a party to these conventions, and increases the possibilities to raise foreign funds. The examples of Karavasta, MedWet 2 and MedWet 3, The Lake Ohrid Conservation Project, Coastal Zone Management Program and others demonstrate this fact. Strengthening Albania's compliance with these international conventions, and signing other conventions such as Bonn, International Trade of Endangered Species of Flora and Fauna (CITES) is a priority. The strengthening of the links with Ramsar Convention can be done through designation of other Ramsar sites such as Shkodra Lake, Lake Ohrid, Lake Prespa, and Narta Lagoon – all of which fulfil the conditions to be included on the Ramsar list.

6.23 Co-operation with International Organizations during the past years has increased. A number of contacts have been established with UNEP, UNESCO, IUCN, REC, WWF, EURONATUR, Birdlife International, EUCC, and others. Besides strengthening co-operation with these organisations, which is a continuous priority, establishment of links and co-operation with other international organisation is also recommended. These include:

- World Conservation Monitoring Centre (WCMC) offering data on protected areas and endangered species;
- European Environmental Agency (EEA);
- European Thematic Centre on Nature Conservation (ETC/NC in the framework of CORINE and NATURA 2000 programmes);
- PLANTA EUROPA through the project on Important Plant Areas;
- European Commission, DG IX – the process of conforming to European legislation;
- Federation of EUROPARK – Exchange of Experience and PHARE project
- ICOMOS International Council on Cultural Monuments;
- IPGRI – International Institute of Plant Genetic Resources;
- ECP/GR – European Co-operation Programme on Genetic Resources;
- EUFORGEN – European Programme on Forest Genetic Resources;
- SAVE – Protection of Agricultural Varieties in Europe; and
- UNIDO – United Nation's Industrial Development Organisation.

6.24 Although there have been achievements in international co-operation for the environment, bilateral intergovernmental agreements and interministerial ones or memoranda of understanding on environment are lacking. In other countries, these are valuable practices for environmental integration into Europe, and have enhanced the implementation of the environmental programmes in Central Eastern European Countries. The only

agreement signed with the German Ministry of the Environment made possible the removal of 460 tons of dangerous and damaged pesticides. Other agreements, particularly with neighbouring countries for issues like transboundary co-operation, use of natural resources, and technical assistance for specific programmes are required. In the framework of international conventions, co-operative work planning with neighbours can yield positive results.

STRATEGY FOR BSAP IMPLEMENTATION

6.25 The work to be carried out for BSAP implementation includes:

- Dialogue and co-ordination processes;
- Identification and securing of financial resources;
- Reducing economic barriers to biodiversity preservation;
- Finding and implementation of the proper mechanisms;
- Project support; and
- Monitoring.

6.26 The NEA and its regional offices, the National Council for Nature and Biodiversity (NCNB), and the Secretariat of the Convention on Biological Diversity (SCBD) proposed to be established at the NEA will be responsible for the implementation of the CBD and BSAP, and monitoring this process.

6.27 For poor countries like Albania, investments for nature protection, in comparison with other sectors, receive less attention. Still, it is imperative that modern states not only exploit these resources, but also, preserve, protect, and rehabilitate them for future generations. It is the duty of the central and local government, scientific and research institutions, NGOs, and other to convince international organizations and donors to invest in sustainable nature protection and the improved management of landscape and biological diversity in Albania. Some of main financial sources can be:

- GEF/World Bank;
- UNESCO;
- Ramsar Convention;
- UNEP;
- European Union;
- IUCN;
- WWF;
- REC for Central and Eastern Europe; and
- Econet Fund (EUCC, EURONATUR, Euro Sites).

6.28 Creation of a *Biodiversity Special Fund* from the State and its administration in the interest of biodiversity protection would be another instrument, which could be established to guarantee financial support of the CBD and BSAP implementation process.

6.29 Support of identified projects and those to be identified and prepared in the future in the framework of the implementation of the BSAP is necessary to achieve CBD objectives. The GEF will be contacted together with other donors to make possible preparation and financing of a national project for biodiversity based on the priority actions identified in the BSAP. The general meeting to present the BSAP to the Government and donors will serve as a step to identify and secure support for the BSAP.

6.30 The BSAP is not the final act. It can change and must change together with the changes in the country. It must adapt to the new conditions created as part of the economic and social development of the country. BSAP preparation is the first important step along the long and challenging road to preservation and sustainable management of the country's biological and landscape diversity – the wealth upon which our common future depends.

Appendix/Annexes

A List of the Experts for the Preparation of the BSAP

Management Task Force
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Prof. Ndoc Rakaj -- Ichthyologist
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Ass. Prof. Gjovalin Gruda, --Geographer, Shkodra University "Luigj Gurakuqi"
Ass. Prof. Dhimiter Dhora, --Biologist, Shkodra University "Luigj Gurakuqi"
Ass. Prof. Sabri Laçi, -- Economical Geographer, TU
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Nihat Dragoti, -- Forest Engineer, GDFP
Prof. Kristaq Kume, -- Institute of Zootechnical Research (IZR)
Merita Spahillari, -- National Seed Institute (NSI)
Ass. Prof. Vangjel Andoni, -- Biologist
Pandeli Pasho, -- Paleontologist
Valbona Shutina, -- AQUARIUS (NGO)
Elio Mazreku, -- Lawyer,
Enio Haxhimihali, --Lawyer
Damian Gjiknuri, --Lawyer
Arben Pustina, MsD –Forest Engineer, National Environmental Agency (NEA)
Drita Dade, --NEA
Genc Pasko, --National Committee of Tourism
Kujtim Jaho, --Ministry of Defence
Dr. Mihallaq Qirjo, --Regional Environmental Center (REC)-Tirana office
Juli Hoxha, -- ORT, Democracy Network

Advisory Panel
Dr. Maksim Deliana—Chairman of the NEA
Prof. Dr. Lekë Gjiknuri—Biologist, Chairman of the PPNEA
Dr. Kolë Malaj—Forester, Director of the GDFP
Dr. Aleksandër Filoko—Biologist, private sector
MSc. Zamir Dedej--Hydrobiologist

B-1 PROPOSED REPRESENTATIVE NETWORK OF PROTECTED AREAS FOR ALBANIA

No	Protected Area	Size	Proposed Status	District	Comments
	Marine and Coastal Zone				
1.	Shkodra Lake	16,000 ha	Managed Nature Reserve (Category IV)	Shkodra and Malesia e Madhe	Transboundary Protected Area. Montenegro's part of the lake has been designated as a National Park and is a Ramsar site. The largest lake of the Balkans, and one of its most important ones. It is a very important International Bird Area (IBA) in Europe with about 40 waterfowl and waterbird species, and it is the most important site for globally threatened species *Phalacrocorax pygmeus* in the country. There are 45 fish species – among them the highly threatened species *Acipenser sturio*. An area of a very characteristic aquatic vegetation, where threatened plant species occur, such as *Nymphaea alba, Nuphar luteum, Nymphoides peltata, Trapa natans*, and others.
2.	Buna River – Domi Marsh	44 km and 300 ha	Habitat and Species Management Area (Category IV)	Shkodra	Transboundary river. Domit marsh is an IBA for the country. Migration of various fish species, among which include the *Acipenser sturio*, is through the Buna River. In this area one can find rare and threatened plant and animal species such as *Trapa natans and Lutra lutra* (globally threatened species).
3.	Buna River Outlet – Velipoja and its surroundings	1,500 ha	Managed Nature Reserve (Category IV)	Shkodra	Transboundary Protected Area. One of the most important IBAs for the country. Typical Mediterranean vegetation, and an area of the nearly extinct oak species *Quercus robur*. In this area one can also find species of European importance such as *Phalacrocorax pygmeus*, *Lutra lutra*, and *Canis aureus*.
4.	Viluni Lagoon	950 ha	Managed Nature Reserve (Category IV)	Shkodra	An area of particular importance for water birds, in particular for migratory wintering waterfowl and waterbirds, a number of which are protected by the Bonn Convention.
5.	Maja e Zezë-Renci Mountains	2,000 ha	Landscape/ Seascape Protected Area (Category V)	Shkodra and Lezha	An area of very attractive seascape and landscape, Renci Mountains is the area of the rare species *Quercus trojana*, and where one can find in the wild woodland of *Punica granata*. High values in reptiles and birds of prey such as *Aquila chrysaetus* and *Falco peregrinus*.
6.	Kune-Western part of Merxhani	300 ha	Scientific Reserve (Category I)	Lezha	A small spot of the very typical Mediterranean forest and habitats, despite habitat changes over the past 50 years. It is a very important

No	Protected Area	Size	Proposed Status	District	Comments
	Lagoon				IBA, in particular a nesting site for herons (fam. *Ardeidae*).
7.	Kënalla- Eastern part of Merxhani Lagoon	1,100 ha	Managed Nature Reserve (Category IV)	Lezha	In spite of being damaged and disturbed, a very typical Mediterranean forest still exists in the area. The surrounding lagoon and wetlands have many waterbirds due to which the area performs an important IBA. The lagoon itself is important from an ichthyological point of view.
8.	Drini River Outlet with Ceka and Vaini wetlands	1,700 ha	Managed Nature Reserve (Category IV)	Lezha	An area of a very well developed aquatic (brackish and freshwater) vegetation, with very extended reedbeds alternated with watermirrors. Because of its vegetation, the area is important for its waterbirds and birds of prey, and is another important IBA for the country. Inside the area one can find a small typical Mediterranean forest. The Drini River Outlet has a particular importance for migratory fish species.
9.	Tale-Mati River Outlet	1,000 ha	Managed Nature Reserve (Category IV)	Lezha	An area very rich in wetlands and aquatic vegetation. The wetlands, marshlands, and the river outlet are important for water birds and fish species.
10.	Mati River Outlet and Fushe Kuqe – Patok –Ishmi River Outlet	2,300 ha	Managed Nature Reserve (Category IV)	Kurbini	Very typical and extended halophyte vegetation. One of the most important lagoons in the Mediterranean with regard to waders (Charadriformes); it is so far the only place where the globally threatened species *Numenius tennuirostris* has been recorded in Albania, making it a very particular IBA for the country.
11.	Cape Rodoni – Lalezi Bay- Ishmi Forest	2,500 ha	Landscape/Seascape Protected Area (Category V)	Durres	An area of very well combined natural (marine and terrestrial) landscapes with cultural and rural ones: (i) Posidonia meadows, *Posidonia oceanica*, and a very well developed and rich littoral fauna; a number of species occurring in here are protected by the Barcelona convention; (ii) a Mediterranean oak forest (although damaged) of *Quercus fraineto* and *Q. pubescens*; (iii) a very small spot of *Fagus sylvatica* is occurring at 100 meters above sea level; (iv) Rodoni/Skenderbeg castle and its medieval church.
12.	Rrushkull-Erzeni River Outlet – Bishti i Pallës-Porto Romano	2,700 ha, of which 1400 ha water surface.	Managed Nature Reserve (Category IV)	Durres district	An area of the very typical alluvial Mediterranean forest of *Alnus glutinosa, Ulmus campestris, Fraxinus angustifolia*, and others. Sand dunes relatively well developed, halo-phyte and hygro-phyte vegetation, and a planted pine forest can be found in this area. Waterbird and waterfowl censuses of the last two years have identified this area as an important IBA (over 10,000 waterbirds and wetland birds have been

No	Protected Area	Size	Proposed Status	District	Comments
					counted here). The Erzeni River Delta is important for migratory fish species breeding in freshwater. Posidonia meadows, *Posidonia oceanica*, and very well developed marine communities are found along the rocky littoral and Porto Romano bay.
13.	Cape Lagji/Turra Castle	600 ha	Scientific Reserve (Category I)	Kavaja	A very typical Mediterranean maques, where the ancient tertiary species *Laurus nobilis* grows in natural conditions, and can occasionally be found in the trees. Some new mutations of this plant species have thrived inside the area, too.
14.	Vilë Boshtovë-Shkumbini River outlet – Divjaka-Karavasta-Semani River Outlet	12,000 ha	National Park (Category II)	Lushnja and Kavaja districts	It is the most important biodiversity area in the country's coastal zone. The most important IBA for the country and one of the most important in the Mediterranean (over 45,000 wintering waterbirds of about 70 species). Breeding site of the globally threatened species *Pelecanus crispus*. Diversity of habitats: river delta, lagoon, sand dunes, psamophyte, halophyte, hydrophyte and hygrophyte vegetation, and pine forest with presence of *Juniperus monocarpa*. Three endemic plant species (Orchidaceae) of *Orchis* and *Aster albanicus* are found in here, while along the river delta the globally threatened species *Lutra lutra* occurs. It is unique for the herd of the wild cattle *Bos primigenius* and the domesticated water buffalo (*Bubalus bubalis*), which are found only here in Albania. The very first Ramsar site for the country. An area of archaeological and historical values, and great potential for ecotourism development.
15.	Semani River Outlet- Pishë Poro-Semani River Outlet	1,500 ha	Managed Nature Reserve (Category IV)	Fieri	The most important river deltas of the country, where very well developed sand dunes (up to 4 m high), and psamophyte, hygrophyte, halophyte vegetation can be found. An area of extended Mediterranean pine forests. Besides *Lutra lutra*, the Vjosa river's waters are important for migratory fish species (*Salmo sp.*). Another important IBA for the country regarding birds of prey (Falconiformes).
16.	Vjosa River Outlet-Pishë Poro (Vlora)	3,400 ha	Managed Nature Reserve (Category IV)	Vlora	An area rich in wetlands and water birds. Very well developed sand dunes psamophyte, hydro-hygrophyte, and halophyte vegetation take place inside the area.
17.	Narta Lagoon – Zvërnec	6500 ha	Landscape Protected Area (Category V)	Vlora	Despite its ecological problems Narta lagoon is second after Karavasta for its ornithological values (20,000 wintering waterbirds of about 40 species). As an IBA for the country the area becomes important when one considers that *Pelicanus crispus* feeds here and *Phenicopterus*

No	Protected Area	Size	Proposed Status	District	Comments
					ruber feeds and rests during its migration. The salt plain in the north of the lagoon provides appropriate breeding habitats for a number of birds. Along the Narta lagoon typical Mediterranean flora and fauna occur. Zvërneci islet in the south of the lagoon is covered with evergreen forest of *Cypresus sp* and *Pistacia lentiscus*. A medieval monastery of cultural and historical values is located on its south edge. An area of potential ecotourism development.
18.	Llogora- Orikum, Karaburun- Sazan-Radhimë-Tragjas-Dukat	35,000 ha	National Park (Marine/Terrestrial) (Category II)	Vlora	The area of the highest biodiversity values in the country, and one of the most important in the Mediterranean basin: alpine and subalpine pastures and meadows; Macedonian fir (*Abies borissi-regis*) forest mixed with pine forests of *Pinus nigra*, *Pinus leucodermis*; mixed deciduous woodland with *Quercus coccifera*, *Q. macrolepis*; typical Mediterranean maques; typical rocky coastal vegetation; wetlands with residues of alluvial forests; a well developed littoral and benthos; posidonia meadows (*Posidonia oceanica*); in the marine waters one can frequently find dolphins (*Delphinus delphi* and *Tursiops truncatus*); the monk seal (*Monachus monachus*) may visit the caves and shores of the Karaburuni peninsula; north limit of alliance *Oleo-Ceratinion*. Endemic, subendemic, and many rare and threatened taxa occur inside the area, such as *Taxus bacata*, *Ceratonia siliqua*, *Pitymys felteni*, *Pitymys thomasi*, and others. High potential for tourism and ecotourism development.
19.	Canyon of Gjipese	1,200 ha	Landscape Protected Area (Category V)	Vlora	Very attractive landscape of quite particular and interesting geomorphologic formations where caves are not missing.
20.	Porto Palermo	600 ha	Strict Nature Reserve (Marine/Terrestrial) (Category I)	Vlora	The best-preserved marine and coastal area of high scientific values in the country. A very well developed littoral, where one can meet a number of threatened taxa protected by international treaties (Barcelona convention). Of no less importance is its terrestrial part with very extended beds of *Euphorbia dendroides* and *Salvia triloba*. The presence of the Ali Pasha castle adds some historical values to the area, too.
21.	Borshi Stream	2 km	Scientific Reserve (Category I)	Saranda	A stream with well developed and preserved sites of *Nerium oleander* along its downstream.
22.	Kakome bay and	2200 ha	Protected Landscape	Saranda	An area of very attractive landscape and seascape, of scientific,

No	Protected Area	Size	Proposed Status	District	Comments
	Cape Qefali		and Seascape Area (Category V)		touristic and recreational values. As a military area it is well preserved and provides resting sites for the sea turtle *Caretta caretta*, a very threatened species in the Mediterranean. The occurrence of this species in this area gives a very unique value and importance to the area in national context; some 400 ha part of this area to be designated as Scientific Reserve (Category I).
23.	Çuka Channel-Ksamili Bay and Islands	1,000 ha	Protected Landscape and Seascape Area (Category V)	Saranda	The area, in particular Ksamili's small islands very closed to the seashore, form a very unique and wonderful landscape/seascape. The islands are covered by a very typical and developed Mediterranean evergreen vegetation, while in the marine water there is a very rich flora and fauna – most notably *Halophyla stipulacea* and *Pinna nobilis* which are both protected species by conventions to which Albania is a Party. Some 400 ha out of 1,000 ha of the area should be designated as Strict Nature Reserve (Category I).
24.	Butrinti Lake and its Surroundings	4,000 ha	Multiple Use Area (Category VI)	Saranda and Delvina	In spite of its ecological problems, Butrinti lake is an important area for its ichthyofauna/aquaculture and avifauna. In the lake *Mytilus sp.* is cultivated – providing the area with important economical values. Bufi (Rrëza) lake in the Southeast of Butrinti adds other natural and biological values to the area. Typical Mediterranean forest of *Quercus ilicis*, *Q. robur*, *Alnus glutinosa*, *Ulmus campestris*, *Fraxinus angustifolia* and others with rich fauna in insects and reptiles covers most of the ancient city of Butrinti which has been designated as a UNESCO Site. The ancient city, along with nearby castles, brings both historical and cultural values to the area and makes it very attractive for visitors and tourists.
25	Pagane – Cape Stillo and Islands	500 ha	Strict Nature Reserve Marine and terrestrial (Category I)	Saranda	Transboundary Protected Area. One of the best preserved marine and coastal areas of the country with high scientific values for its very well developed littoral zone. Of no less importance appears is its terrestrial part with very typical Mediterranean maquis. The occurrence of *Testudo marginata* inside the area is of very high scientific value.
	Continental Zone				
26.	Livadhi i Harushes-Boga-Thethi-Valbona- Gashi-Curraj	35,000 ha	National Park (Category II)	Malësi e Madhe, Shkodra and Tropoja	Transboundary Protected Area of high biological and landscape diversity in the country's continental part: high diversity in habitats, animal species, and plant species. The area is characterised by pine, fir, beech forests, extended subalpine and alpine meadows and

No	Protected Area	Size	Proposed Status	District	Comments
					pastures, mountain streams and river, forest of *Castanea sativa* in natural conditions. A rich area in endemic and subendemic species. The only site in the country where one can find forests of *Picea abies* (a floristic element of Central Europe). Big game and threatened species like *Ursus arctos*, *Canis lupus*, *Felis lynx*, *Rupicapra rupicapra*, *Capreolus capreolus* and *Sus scrofa* occur inside the area, while birds include *Tetrao urogallus* and *Aquila chrysaetos*. It is one of the most important mountain IBAs of the country. Along the clean waters of the Valbona and Shala rivers the globally threatened species *Lutra lutra* is found. Besides its nature, landscape, and scientific values, the area has great potential for alpine tourism/ecotourism development.
27.	Razma	1,500 ha	Landscape Protected Area (Category V)	Malësi e Madhe	An area of distinguished landscape beauty which is frequented as a recreation site and touristic place by primarily local people. Coniferous (pine) and deciduous broadleaf (beech) forests cover most of the area. It is included in the programme of priority areas for tourism development.
28.	Down stream of the Valbona river	20 km	Landscape Protected Area (Category V)	Tropoja	A very clean river (drinkable water in its upper part), of special interest and importance for trout (*Salmo sp.*) reproduction. Occurrence of *Lutra lutra*. The downstream of the Valbona river is an attractive landscape, and covered with typical riparian vegetation.
29.	Helshani Forest-Fierza Lakeshore	2,200 ha	Managed Nature Reserve (Category IV)	Hasi	An area covered with oak woodland of a special interest in full harmony with the landscape along the lakeshore. Characteristic bird and mammal communities are found inside the area. The waters of the lake host a rich ichthyofauna, and the lakeshore holds potentials for ecotourism activities.
30.	Tej Drini Bardhe	6,500 ha	Resources Reserve/Multiple use area (Category VI)	Hasi	Transboundary Protected Area, situated next to the river Drini i Zi. A rich woodland area with well developed flora and fauna communities. A small part of the area has been designated for protection, and now it is proposed that the entire forest unit be designated as such.
31.	"Bjeshka e Oroshit" – Oroshi's Alpine Meadow	5,000 ha	Resources Reserve/Multiple use area (Category VI)	Mirdita	Very extended alpine pastures and meadows, and very interesting and important geological carstic formations (horizontal and vertical caves), of great scientific and aesthetic importance. An area of landscape beauty and attractiveness with potential for ecotourism development.

No	Protected Area	Size	Proposed Status	District	Comments
32.	Tërbuni	3,000 ha	Resources Reserve/Multiple use area (Category VI)	Puka	Tërbuni's alpine meadows represent a diverse landscape of a special beauty, which holds great potential for tourism. Forests in its lower part, rich flora and fauna, interesting geological formations, and waters provide numerous recreational opportunities. Situated close to Puka town, the area offers real opportunities for the local community to develop year-round ecotourism activities.
33.	Bërzana	1,700 ha	Managed Nature Reserve (Category IV)	Lezha	Typical Mediterranean vegetation dominated by mixed woodland, which is mostly oak. The shrubs and herbaceous vegetation are well developed. Among the herbs located here, there are several medical plants. Fauna is rich and characteristic of Mediterranean woodland. Among the mammals here there are wild boar, wolf, red fox, beech marten, and others. The area has been used as a game reserve in the past.
34.	"Kurora e Lurës – Zall Gjocaj – Kunorë Valmorë"	12,000 ha	National Park (Category II)	Dibra, Mati, Mirdita	Very high biodiversity values: diverse habitat types; great number of plant and animal species; many glacial lakes with characteristic aquatic vegetation (*Nymphaea*, *Nuphar*, etc.) and fauna; alpine meadows, pine forest of *Pinus peuce* and *P. leucodermis*, and beech forest (*Fagus sylvatica*); three endemic species, several subendemic species, and ancient species; game species such as *Ursus arctos*, *Canis lupus*, *Felis lynx*, *Rupicapra rupicapra*, and the occurrence of *Tetrao urogallus* and *Aquila chrysaetos*. The area represents one of the most important mountain IBAs and the most important Center for the above mentioned big mammals in the country. Besides its high nature and scientific values, this area has touristic and landscape beauty values of a special interest, and represents one of the most visited mountainous areas in the country in spite of being difficult to access. The natural and biological values, as well as particular landscape beauty, provide great potential for tourism development as an important income generating activity for the local people and National Park administration.
35.	Forest of *Pinus peuce* in Allaman	1,000 ha	Scientific Reserve (Category I)	Mati and Bulqiza	The only place of virgin forest of *Pinus peuce* in Albania. This ancient wood species should be put under strict protection.
36.	"Liqeni i Zi"- The Black lake	2,000 ha	Landscape Protected Area (Category V)	Bulqiza	An almost virgin area of rich biological resources. The landscape and the glacial lake itself present opportunities for recreational and ecotourism activity.

No	Protected Area	Size	Proposed Status	District	Comments
37.	Korabi-Shishtaveci Massif	20,000 ha	Landscape Protected Area (Category V)	Dibra and Kukësi	Transboundary Protected Areas of quite diverse habitats: alpine and subalpine pastures, mountain wetlands, pine, beech and oak forests. An area of endemic, subendemic and relict species such as: *Narthecium scardicum, Ranunculus wetshteini, R. degeni, and Tripholium wetshteini.* Occurrence of big mammals *Ursus arctos, Canis lupus, Felis lynx, Rupicapra rupicapra, Capreolus capreolus*. Together with the Sharova Mountain (National Park, FYROM) this area represents an important regional biocorridor of the Balkan peninsula. The natural, biological and landscape values of the area have potential for developing tourism activities, in particular alpine tourism, along with traditional use and activity.
38.	Forest of *Betula pendula* of Shishtaveci	400 ha	Nature Monument (Category III)	Kukesi	A small transboundary area that includes the only place in the country where *Betula pendula* creates a forest.
39.	Qafë Shtama-Liqejt e Germanjit	3,500 ha	Landscape Protected Area (Category V)	Kruja and Mati	Pine and beech forests, where the endemic species *Forsythia europea* occurs. The Shtama pass and Germanji's lakes offer aesthetic, landscape, and recreational and curative values. Part of the area has been used as such place even in the past.
40.	Mountain Ridge "Kruja – Tujani"	3,800 ha	Landscape Protected Area (Category V)	Kruja and Tirana	An area of landscape, cultural and historical values. Well developed carstic formations (canyons and caves); degraded Mediterranean shrubs at lower elevations, beech forest at altitudes higher than 900 m. It is adjacent to the Dajti National Park and the Bovilla water basin.
41.	Dajti – Priska- Mali me Gropa	16,000 ha	National Park (Category II)	Tirana	An area where one can distinguish almost all the main country's phytogeographical units: Mediterranean shrubland (maquis), oak forests (*Quercetum*), beech forests (*Fagetum*), and subalpine/alpine meadows and pastures. Inside the area there are groups of rare and protected wood species of *Castanea sp.* and nut. There are also threatened mammals such as *Canis lupus, Ursus arctos, Sus scrofa, Martes foina,* and *Felis sylvestris.* It is an important IBA in the country. Besides scientific, and natural and biological values, the area has also landscape, recreational, and touristic values, based on which income-generating activities can be developed. A management and administration plan is already prepared for the whole area proposed as a National Park.

No	Protected Area	Size	Proposed Status	District	Comments
42.	Bize- Martanesh	16,000 ha	Landscape Protected Area (Category V)	Tirana and Mati	Very extended alpine and subalpine meadows and pastures and beech forests (*Fagus sylvatica*); very intensive and extended carstic (holes, caves) formations; very attractive landscape beauties. Occurrence of *Ursus arctos*, *Canis lupus*, *Felis lynx*, *Felis sylvestris*, *Capreolus capreolus*, and others. This area functions as a biocenter and biocorridor for a number of species of national and importance such as Bear, Wolf, and Roe Deer. As an area of very particular landscape beauties it offers great potential for tourism development. The size of the proposed Protected Area does not exclude the sustainable use of natural and biological resources of this site for activities such as hunting, forestry, and grazing.
43.	Rajcë – Shebenik - Qarrishtë	8,000 ha	Scientific Reserve/ Strict Nature Reserve (Category I)	Librazhdi	Transboundary Protected Area. High biodiversity values: virgin forests dominated by beech (*Fagetum*), but there are also other wood species (*Pinus peuce*, *Betula alba* etc.); alpine and subalpine meadows on serpentine, dominated by *Viola ducaginica; and* endemic and subendemic plant species. Important biocenter and biocorridor for big mammals (*Ursus arctos*, *Canis lupus*, *Felis lynx*, *Rupicapra rupicapra*, and *Capreolus capreolus*) of supraregional/Balkan interest and importance.
44.	Kuturman-Qafë Bushi	4,100 ha	Managed Nature Reserve (Category IV)	Librazhdi and Elbasani	In spite of damages caused in the past (wood cutting, overhunting), the area still possesses natural and biological values, particularly as an area of extended oak forests (*Quercetum*). The area has crucial importance for wild boar (*Sus scrofa*). The area has been used as a game reserve in the past.
45.	Rrapishte Labinot – Qukës	35 km	Landscape Protected Area (Category V)	Librazhdi and Elbasani	Along this section upstream of the Shkumbini river there is still a well-preserved and characteristic riparian woodland of *Platanus orientalis*, having very special aesthetic and landscape values.
46.	Shpat-Polis – Sopot – Guri i Topit – Valamare-Holtë-Bulçar	35,000 ha	Landscape Protected Area (Category V)	Elbasani, Librazhdi, Pogradeci, Korça Gramshi	This very extended area includes a variety of habitats; pine and beech forests, alpine and subalpine meadows and pastures, glacial lakes, and wetlands. Occurrence of endemic and subendemic plant species; important biocenter and biocorridor for big mammals (*Ursus arctos*, *Canis lupus*, *Felis lynx*, *Rupicapra rupicapra*, and *Capreolus capreolus*); and migration route for birds of prey make this area of regional interest

No	Protected Area	Size	Proposed Status	District	Comments
					and importance.
47.	Ohrid Lake-Lin-Gështenja	27,000 ha	Landscape Protected Area (Category V)	Pogradeci	Transboundary Protected Area. The deepest tectonic lake in the Balkan region (290 m) and one of the most important in Europe. Together with the Lakes of Prespa this area should be designated as a Biosphere Reserve in the near future. Its richness in endemic species, particularly in Gastropods and fish species, gives the lake a global importance and interest. One of the most important IBA for wintering waterbirds (over 46,000 waterbirds) in the country. The largest chestnut forests in Albania. An area of cultural, touristic and recreational interest and use for the two countries (Macedonia and Albania) that share the lake.
48.	The Lakes of Prespa – Mali i Thatë	27,000 ha	National Park (Category II)	Korça and Devolli	Transboundary Protected Area. In the north is the Galiçica National Park (Macedonia). Megali Prespa is an important IBA, particularly for the globally threatened species *Phalacrocorax pygmeus*. It is an area of occurrence of other globally threatened species such as *Lutra lutra*, *Rhinolophus sp.* and *Myotis capaccinii*, *Pelecanus crispus*, and *P. onocrotalus*. Mali i Thatë (The Dry Mountain) has slopes facing the lakes that are covered by degraded shrubland (Quercetum), beech forests, and subalpine/alpine pastures where rare taxa are found. Within the borders of the area is the Treni's cave, which is very important from an archaeological and biospeleological point of view. An area of landscape beauty with potential ecotourism development.
49.	Cangonji – Drenova's Fir – Nikolice – Gramoz	30,000 ha	Landscape Protected Area (Category V)	Korça- Devolli – Kolonja	Transboundary Protected Area of very particular importance for exchanging floristic and faunistic elements between Albania and Greece. It is an important biocenter and biocorridor for big mammals (*Ursus arctos*, *Canis lupus*, *Felis lynx*, *Rupicapra rupicapra*, *Capreolus capreolus*, and is of regional interest and importance. Habitat diversity: alpine and subalpine meadows and pastures, beech (*Fagus sylvatica*), pine (*Pinus sp.*), and fir (*Abies sp.*) forests, and other broadleaf such as *Corrilus avellana*. Many subendemic and rare taxa occur in this area. Very extended and attractive landscapes; great potential for tourism and sustainable development.
50.	Vithkuq – Ostrovice	9,000 ha	Landscape Protected Area (Category V)	Korça and Gramshi	Another mountainous area of nature, scientific, aesthetic and landscape values. Linkages with other Protected Areas are insured through the continuation of natural habitats and ecosystems such as alpine and subalpine pastures and meadows, alpine wetlands, old

No	Protected Area	Size	Proposed Status	District	Comments
					growth forests of *Fagus sylvatica*, *Pinus sp.* and *Quercus sp.*. An important area for big mammals, particularly for *Sus scrofa* and *Rupicapra rupicapra*.
51.	Piskal-Shqerri	5,400 ha	Resources Reserve/ Multiple Use Area (Category VI)	Kolonja	A good part of the area is occupied by extended degraded oak forests, which still maintain their interest and importance for the wild boar (*Sus scrofa*), and other taxa tied to oak woodland. The area is important for firewood supply, grazing, game hunting for the local community. Under the proposed protection category these activities would be controlled and regulated in order to ensure the forest rehabilitation and restore the lost natural and landscape values of the site.
52.	Gërmenj-Shelegurë-Leskovik	15000 ha	National Park (categ. II)	Kolonja	An important transboundary Protected Areas which establishes the continuation of natural habitats between Greece and Albania. Good and healthy pine, fir and beech forests, which provide suitable habitats for big game, such as the bear (*Ursus arctos*), wolf (*Canis lupus*), deer (*Capreolus capreolus*), etc., are still preserved inside the area. The presence of mountain wetlands (small glacial lakes) brings particular scientific values to this site. The very particular scientific, touristic and recreational values of the area are offering great and real potentials for the development of the ecological tourism and other recreational activities, that would bring some incomes and prosperity to the local community itself.
53.	Tomorri-Kulmaku Mountains	28,000 ha	National Park (Category II)	Berati and , Skrapari	The most important area in the south continental part of the country in terms of richness of biodiversity. The richest site of the country in endemic and subendemic species. Variety of habitats: alpine and subalpine pastures and meadows, and pine and beech forests. An important IBA and biocenter for big mammals such as *Ursus arctos*, *Canis lupus*, and others. Besides its nature, landscape, and scientific values, the area has cultural, historical, and religious values which together offer great opportunities for sustainable tourism/ecotourism development.
54.	Hotova's Fir-Dangëlli	4,200 ha	National Park (Category II)	Përmeti	An area of high biological and landscape diversity. Big game such as bear, wolf, wild boar, roe deer and others are present in the area. Outstanding old growth fir forest mixed with oak is found in its lower line, as well as typical Mediterranean woodlands and shrubs inside the

No	Protected Area	Size	Proposed Status	District	Comments
					area. Historical and cultural sites are also present here. Some 1,200 ha of the area have been recently designated as a National Park, but the enlargement of the area is needed to ensure the maintenance of its natural and biological values and provide opportunities to develop touristic and recreational activities for the benefit of the local community.
55.	Vjosa Valley - Çarçovë	40 km	Landscape Protected Area (Category V)	Përmeti	Vjosa river is shared between Albania and Greece. It is one of the cleanest and the most important rivers of the country for its aquatic flora and fauna communities. The river is important for the globally threatened species *Lutra lutra*, for a number of protected bat species, and for migratory fish species (*Salmo sp.*). Of very much interest are the flora and fauna along the river. In spite of being under constant human disturbance, the river is still conserved in natural conditions in some parts/segments of the valley; one of them is the river valley segment from Permeti to Çarçova. The valley holds striking landscape beauties with special touristic and recreational values.
56.	Cold Water - Këlcyra Gorge	50 km and 1,500 ha	Landscape Protected Area (Category V)	Tepelena, Përmeti, Gjirokastra	Another important segment of the Vjosa River and a part of Drin's at the point where the two rivers come together. The area has natural, scientific, landscape, and recreational values which deserve protection and management to ensure the maintenance and improvement of such values.
57.	Zheji-Zagori	3,500 ha	Landscape Protected Area (Category V)	Gjirokastra	An area of special natural, biological, and landscape values which provides great potential for ecotourism and recreation activity.
58.	Kardhiq	1,800 ha	Scientific Reserve (Category I)	Gjirokastra	This is a large oak forest dominated by *Quercus cerris* and *Quercus frainetto*. The *Quercus cerris* forest is accompanied by various other trees such as *Fraxinus ornus*, *Acer campestre*, *Acer obturatum*, and some *Tilia platyphyllos* and *Tilia tomentosa*. The shrub layer and herbaceous vegetation are well preserved. A small forest of *Abies borisii-regis* with *Pinus nigra* occurs above the oak forest. An area of quite characteristic bird and mammal community to the Mediterranean woodland. A number of special taxa such as: *Aesculus hippocastanum*, *Tilia tomentosa*, *Tilia platyphyllos*, *Taxus baccata*, *Quercus ilex*, *Satureja montana*, *Origanum vulgare*, and *Agrimonia eupatoria* are found inside the area.

No	Protected Area	Size	Proposed Status	District	Comments
59.	Sotira's Fir	1,740 ha	Scientific Reserve/ Strict Nature Reserve. (Category I)	Gjirokastra	On the basis of the Ecological Survey of the High Forests of Albania, this area gained the status of Nature Monument. Because of its relatively large size, and based upon the IUCN criteria and definitions, the status of Scientific Reserve/Strict Nature Reserve should be given to this area instead of that of a Natural Monument.
60	Drino-Sotire	10000 ha	Landscape Protected Area (categ. V)	Gjirokastra	An area of natural, seminatural and traditional agricultural landscapes that are well developed and preserved, situated next to the boarder with Greece. The upper part of the Drino's river watershed that offers particular scenic and landscape beauties. The village of Sotira is very characteristic and provides historical values and special architecture, and thus is carrying a lot of opportunities for environmental sound tourism development. The entire area can play the role of the buffer zone for the Sotira's Fir-Strict Nature reserve.
61.	Rrëzomë	1520 ha	Landscape Protected Area (Category V)	Delvina	An area of typical Mediterranean vegetation for the hilly and mountainous zone. Of a special importance are the abundant carstic water sources and springs of this area, as well as other geological formations. The upper parts of this area represent part of the migration routes for birds of prey. Many orchids are grown in this area, and they are threatened species and thus deserve protection.
62.	Dhrovian-Syri i Kaltër (the Blue Eye)	180 ha	Nature Monument (Category III)	Delvina	Many carstic springs -- one of the most beautiful and powerful ones is called "Blue Eye." Along with the carstic springs and streams of this site, there are very typical aquatic and riparian vegetation and old woods of *Platanus orientalis*. In some areas, the vegetation is very dense and thick like a little "jungle." In this unique area there was very recently recorded a new bat species for Albania, *Myotis bechsteini*.

B-2 Summary Statistics for Proposed Representative Network of Protected Areas

Management Category (by IUCN)	No. of Protected Areas	Surface/Size (Ha)	Km	Percentage (%)
Strict Nature Reserve/Scientific Reserve (Category I)	9	14540	2	3,25
National Park (Category II)	9	188200	-	42,10
Nature Monument (Category III)	2	580	-	0,13
Managed Nature Reserve/Habitat and Species Management Area (Category IV)	13	38750	44	8,68
Landscape/Seascape Protected Area (Category V)	24	181020	145	40,50
Resources Reserve/Multiple Use Area (Category VI)	5	23900	-	5,34
TOTAL	62	446990	191	100,00

Notes:

1) The Representative Network of the Protected Areas (RNPA) covers 14.32 % of the territory of the country
2) The RNPA, as defined here, does not include caves, cliffs, waterfalls, canyons, individual old and historical trees or group of trees, and other particular small territories less than 50 ha in size that are considered as Natural Monuments (Category III).

C List of the Endemic/Subendemic Taxa of Albania

Plants

1. *Arenaria serpentini*
2. *Polygonum albanicum*
3. *Ranunculus degenii*
4. *Lunaria telekiana*
5. *Sanguisorba albanica*
6. *Alchemilla albanica*
7. *Genista hassertiana*
8. *Astragalus autrani*
9. *Hypericum haplophylloides*
10. *Viola dukadjinica*
11. *Ligusticum albanicum*
12. *Forsythia europaea*
13. *Moltkia doerferi*
14. *Alkanna sandwithi*
15. *Ajuga piskoi*
16. *Stachys sericiphylla*
17. *Stachys albanica*
18. *Wulfenia baldaccii*
19. *Asyneuma comosiforme*
20. *Petasites doerfleri*
21. *Centaure košaninii*
22. *Centaure candelabrum*
23. *Crepis bertiscea*
24. *Colchicum pieperanum*
25. *Festucopsis serpentini*
26. *Crex markgrafi*
27. *Orchis albanica*

Animals

Fish

1. *Alosa fallax lacustris*
2. *Chalcalburnus chalcoides tiranensis*
3. *Rhodeus sericeus amarus*
4. *Salmo letnica*
5. *Salmo letnica lumi*
6. *Salmothymus ohridanus*

Mollusca

1. *Orientalia curta*
2. *Ohridohoratia pygmaea*
3. *Ohridohoratia carinata*
4. *Polinskiola polinski*
5. *Polinskiola sturanyi*
6. *Ohridohauffenia depressa*
7. *Ohridohauffenia sublitoralis*
8. *Ohridohauffenia rotonda*
9. *Ohridohauffenia drimica*
10. *Ohridohauffenia minuta*
11. *Ohridohauffenia sanctinauni*
12. *Ohrigocea samuili*
13. *Ohrigocea karevi*
14. *Ohrigocea miladinovorum*
15. *Ohrigocea stankovici*
16. *Dolapia ornata*
17. *Gocea ohridana*
18. *Pseudohoratia ohridana*
19. *Pseudohoratia brusinae*
20. *Pseudohoratia lacustris*
21. *Lyhnidia gjorgjevici*
22. *Lyhnidia hadzii*
23. *Lyhnidia karamani*
24. *Lyhnidia stankovici*
25. *Lyhnidia sublitoralis*
26. *Strugia ohridana*
27. *Zaumia kusceri*
28. *Zaumia sanctinauni*
29. *Pyrgohydrobia grochmalickii*
30. *Pyrgohydrobia sanctinauni*
31. *Pyrgohydrobia jablanicensis*
32. *Chilopyrgula sturanyi*
33. *Neofossarulus stankovici*
34. *Macedopyrgula pavlovici*
35. *Macedopyrgula wagneri*
36. *Stankovicia balcaliformis*
37. *Trachyohridia filocincta*
38. *Ohridopyrgula macedonica*
39. *Ginaia munda*
40. *Xestopyrgula wagneri*
41. *Micropyrgula stankovici*
42. *Valvata stenotrema*
43. *Valvata rhabdoda*
44. *Valvata hirsutecostata*
45. *Acroloxus macedonicus*
46. *Acroloxux improvisus*
47. *Ancylus lapicidus*
48. *Ancylus scalariniformes*
49. *Ancylus tapirules*
50. *Gyraulus lychnidicus*
51. *Gyraulus trapesoides*
52. *Gyraulus albidus*
53. *Gyraulus crenophillus*
54. *Gyraulus fontinalis*

D- List of Globally Threatened Species in Albania

No	Taxon	Ex	EW	CR	EN	VU	LR		DD
							cd	nt	
	Mammals								
1	*Rhinolophus euryale*					X			
2	*Rhinolophus hipposideros*					X			
3	*Rhinolophus ferrumequinum*						X		
4	*Rhinolophus blasii*							X	
5	*Myotis bechsteini*					X			
6	*Myotis capaccinii*					X			
7	*Myotis emarginatus*					X			
8	*Myotis myotis*							X	
9	*Miniopterus schreibersi*							X	
10	*Nyctalus leisleri*							X	
11	*Sciurus vulgaris*							X	
12	*Myoxus (Glis) glis*							X	
13	*Dryomys nitedula*							X	
14	*Microtus felteni*							X	
15	*Microtus thomasi*							X	
16	*Mus spicilegus (abbotti)*							X	
17	*Canis lupus*					X			
18	*Monachus monachus*			X					
19	*Bubalus bubalis*				X				
20	*Ziphius cavirostris*								X
21	*Stenella coeruleoalba*							X	
	Birds								
22	*Pelecanus crispus*					X			
23	*Phalacrocorax pygmeus*							X	
24	*Anser erythropus*					X			
25	*Aythya nyroca*					X			
26	*Branta ruficollis*					X			
27	*Marmaronetta angustirostris*					X			
28	*Oxyura leucocephala*					X			
29	*Aquila clanga*					X			
30	*Aquila heliaca*					X			
31	*Falco naumanni*					X			
32	*Haliaeetus albicilla*							X	
33	*Circus macrourus*							X	
34	*Aegypius monachus*							X	
35	*Crex crex*					X			
36	*Otis tarda*					X			
37	*Tetrax tetrax*							X	
38	*Numenius tennuirostris*			X					
39	*Gallinago media*							X	
	Reptiles								
40	*Dermochelys coriacea*				X				
41	*Emys orbicularis*							X	
42	*Elaphe situla*								X
43	*Vipera ursinii*				X				
	Amphibians								
44	Triturus cristatus						X		
45	Hyla arborea							X	
	Fish								
46	Lampetra fluviatilis							X	
47	Carcharodon carcharias					X			
48	Acipenser naccarii					X			
49	Acipenser sturio			X					

No	Taxon	Ex	EW	CR	EN	VU	LR		DD
50	Alburnus albidus					X			
51	Barbus prespensis					X			
52	Leuciscus illyricus					X			
53	Salmo letnica					X			
54	Hippocampus ramulosus					X			
55	Barbus graecus								X
56	Chalcalburnus belvica							X	
57	Chalcalburnus chalcoides								X
58	Chondrostoma prespensis							X	
59	Pachychilon pictum							X	
60	Misgurnis fossilis							X	
61	Alosa fallax								X
62	Cyprinus carpio								X
63	Paraphoxinus epiroticus								X
64	Paraphoxinus minutus								X
65	Paraphoxinus pstrossi								X
66	Sabanjewia aurata								X
67	Atherina boyeri								X
68	Aphanius fasciatus								X
69	Syngnathus abaster								X
70	Zosterisessor ophocephalus								X
71	Xiphias gladius								X
72	Thunnus alalunga								X
73	Carassius carassius							X	
	Invertebrates								
74	Bubrestis splendens					X			
75	Cerambys cerdo					X			
76	Morimus funereus					X			
77	Rosalia alpina					X			
78	Osmoderma eremita					X			
79	Parnassius apollo					X			
80	Coenagrion mercuriale					X			
81	Saga pedo					X			
82	Carabus intricatus							X	
83	Formica pratensis/nigricans							X	
84	Formica rufa							X	
85	Lycaena dispar							X	
86	Maculinea alcon							X	
87	Maculinea arion							X	
88	Maculinea nausithous							X	
89	Hirundo medicinalis							X	
90	Hypodryas maturna								X
91	Prosperinus prosperina								X

E-1 List of Species for which the Species Action Plan will be Prepared within 1-2 years

Scientific Name	Albanian Common Name
Mammalia	Gjitarë
1. Ursus arctos	Ariu
2. Canis lupus	Ujku
3. Lynx lynx	Rrëqebulli
4. Felis silvestris	Macja e egër
5. Lutra lutra	Lundërza
6. Monachus monachus	Foka e mesdheut
7. Rhinolophus euryale	Lakuriqi hundëpatkua i mesdheut
8. Myotis capaccinii	Lakuriqi gishtëgjatë
9. Myotis myotis	Lakuriqi veshmiu i madh
10. Tadarida teniotis	Lakuriqi bishtlirë
11. Apodemus mystacinus	Miu i shkëmbit
12. Pitymys felteni	Miu i Felteni-it
13. Pitymys thomasi	Miu i Thomasi-it
14. Bubalus bubalis	Buallica
15. Delphinus delphi	Delfini
Aves	Shpendë
1. Pelecanus crispus	Pelikani kaçurrel
2. Phalacrocorax pygmaeus	Karabullaku i vogël
3. Oxyura leucocephala	Rosa kokëbardhë
4. Aythya nyroca	Kryekuqja e vogël
5. Circus macrourus	Shqipja e stepave
6. Buteo rufinus	Huta bishtbardhë
7. Haliaeetus albicilla	Shqiponja e detit
8. Aquila clanga	Shqiponja e rosave
9. Falco naumani	Skifteri kthetraverdhë
10. Tetrao urogallus	Gjeli i egër
11. Bonasa bonasia	Pula me çafkë
12. Crex crex	Mbreti i shkurtës
13. Numenius tennuirostris	Kojiliku sqephollë
14. Gallinago media	Shapka e madhe e ujit
15. Larus adouinii	Pulëbardha e Adouiniit
Reptilia	Reptilë
1. Caretta caretta	Breshkë deti
2. Dermochelys coriacea	Breshkë deti
3. Testudo marginata	Breshka malore
Amphibia	Amfibë
1. Rana epeirotica	Bretkosa e epirit
2. Rana balcanica	Bretkosa e zakonshme
3. Rana lessonae	Bretkosa e leshterikut
Pisces	Peshqë
1. Acipenser sturio	Blini
2. Acipenser naccari	Blini i bardhë

Scientific Name	Albanian Common Name
3. Salmo letnica typicus	Korani
- S. l. lumi	Korani i lumit
- S. l. balcanicus	Korani i reres
- S. l. aestivalis	Korani i dimrit
4. Salmothymus ohridanus	Belushka
5. Salmo trutta fario	Trofta malore (e egër)
6. Mobula mobular	Lopa e detit
Insects	Insekte
1. Saga pedo	Saga e stepave
2. Saga italica	Saga italiane
3. Osmoderma eremita	Jeremiti (murgu)
4. Cerambys cerdo	Antenagjati i zi i dushkut
5. Rosalia alpina	Antenagjati alpin
6. Parnassius apollo	Apollonja
7. Lycaena dispar	Flakërroshja e artë e madhe
8. Maculinea alcon	Kaltëroshja e vogël e kënetës
9. Maculinea arion	Kaltërsohja njollazezë
10. Erebia ottomanus	Otomanja
11. Hypodryas maturna	Maturna
12. Phyllodesma ilicifolia	Fshikëendësja e ilqes
13. Proserpinus proserpina	Proserpina
14. Formica pratensis	Milingona pratense
15. Formica rufa	Milingona rufa
Mollusca (terresrial)	Molusqët e tokës
1. Helix secernenda	
2. Helix vladica	
3. Helix aspersa	
Mollusca (marine)	Molusqët e detit
1. Lithofaga lithofaga	Shkëmb çpues
2. Venerupis decussatus	
3. Pinna nobilis	Pina
4. Charonia tritonis variegata	Gastropod
Crustacea	Krustace
1. Pennaeus cheraturus	Karkalec deti
2. Homarus gammarus	Astakoi
3. Palinurus vulgaris	Gambër
Knidaria	Knidarë
1. Corallum rubrum	Korali i kuq
Vascular Plants	Bimë enësore
1. Aesculus hippocastanum	Geshtenje kali
2. Quercus robur	Rrenje
3. Betula pendula	Meshtekne
4. Trapa natans	Arre uji

Scientific Name	Albanian Common Name
5. Sideritis raeseri	Çaj mali
6. Orchis sp.div.	Salep
7. Gymnospermium shqipetarum	Lule helmi
Ferns	Fierna
1. Lycopodium clavatum	Likopod

Scientific Name	Albanian Common Name
2. Marsilea quadrifolia	Marsile
3. Botrichium matricariifolium	Botrik gjethekamomil
Funghi	Kërpudha
1. Arturus archeri	
2. Cudonia cicinas	

E-2 List of Species for which the Species Action Plan will be Prepared within 3-5 Years

Scientific Name	Albanian Common Name
Mammalia	Gjitarë
1. Myotis bechsteini	Lakuriqi i Bechsteini-it
2. Myotis daubentoni	Lakuriqi i Daubentonit
3. Myotis nattereri	Lakuriqi i Nattereri-ti
4. Nyctalus spp.	Noktulët
5. Plecotus spp.	Lakuriqët veshgjatë
6. Vespertilio murinus	Lakuriqi "qimeargjendë"
7. Rhinolophus hipposideros	Hundëpatkoi i vogël
8. Rhinolophus ferrumequinum	Hundëpatkoi i madh
9. Canis aureus	Çakalli
10. Meles meles	Baldosa
11. Mustela putorius	Qelbësi
12. Martes martes	Zardafi
13. Sus scrofa	Derri i egër
14. Rupicapra rupicapra	Dhia e egër
15. Capreolus capreolus	Kaprolli
Aves	Shpendë
1. Phalacrocorax aristotelis	Karabullaku me çafkë
2. Phalacrocorax carbo	Karabullaku i madh
3. Botaurus stellaris	Gakthi
4. Nicticorax nicticorax	Çafka e natës
5. Ardeola ralloides	Çafka e verdhë
6. Egretta garzetta	Çafka e vogël e bardhë
7. Ardea purpurea	Çafka e rrushit
8. Ciconia ciconia	Lejleku i bardhë
9. Platalea leucorodia	Sqepshpatukja
10. Plegadis falcinellus	Kojliku i zi
11. Milvus milvus	Huta kuqërreme bishtgërshërë
12. Milvus migrans	Huta e zezë bishtgërshërë
13. Gypaetus barbatus	Shkaba mjekëroshe
14. Neophron percnopterus	Kali i qyqes
15. Aegipius monachus	Shkaba e zezë
16. Gyps vulvus	Shkaba
17. Circus pygargus	Shqipja e balltaqeve
18. Circus cyaneus	Shqipja e fushës
19. Circus aeruginosus	Shqipja e kënetës
20. Acipiter nisus	Gjeraqina e shkurtër
21. Acipiter gentilis	Gjeraqina
22. Buteo buteo	Huta
23. Aquila pomarina	Shqiponja e vogël e rosave

Scientific Name	Albanian Common Name
24. Hieraeetus fasciatus	Shqiponja bishtvijëzuar
25. Hieraeetus pennatus	Shqiponja e vogël
26. Circaetus gallicus	Shqiponja gjarpërngënëse
27. Falco subbuteo	Skifteri i drurëve
28. Recurvirostra avosetta	Sqepbiza
29. Himantopus himantopus	Kalorësi
30. Glareola pratincola	Dallëndyshe deti
31. Larus cachinnans	Pulëbardha këmbëverdhë
32. Gelochelidon nilotica	Dallëndyshe deti këmbëzezë
33. Sterna sandvicensis	Dallëndyshe deti pikëverdhë
34. Sterna hirundo	Dallëndyshe e zakonëshme e detit
35. Sterna albifrons	Dallëndyshe deti ballëbardhë
36. Chlidonias hybridus	Dallëndyshe deti faqebardhë
37. Tyta alba	Kukuvajka mjekëroshe
38. Bubo bubo	Bufi
39. Asio otus	Bufi veshëgjatë
40. Remiz pendulinus	Kolovatësi
41. Parus lugubris	Trishtili i madh i murrmë
42. Dryocopus martius	Qukapiku i zi
43. Picus viridis	Qukapiku i gjelbër
44. Picus canus	Qukapiki i përhimë
45. Dendrocopos major	Qukapiku i madh larosh
46. Dendrocopos syriacus	Qukapiku larosh sirian
47. Dendrocopos leucotos	Qukapiku larosh kurrizbardhë
48. Dendrocopos medius	Qukapiku i mesëm larosh
49. Dendrocopos minor	Qukapiku i vogël larosh
Reptilia	Reptilë
1. Testudo hermani	Breshka
2. Mauremys caspica	Breshkujca
3. Lacerta viridis	Zhapiu i gjelbërt
4. Lacerta trilineata	Zhapiu me tre vija
5. Podarcis erhardi	Hardhucë bari
6. Podarcis meliselencis	Hardhuc bishtgjatë
7. Ophisaurus apodus	Bullari
8. Coluber jugularis	Shigjeta e gjate
9. Coluber gemonensis	Shigjeta e shkurtër
10. Elaphe	Bolla e shtëpisë

Scientific Name	Albanian Common Name
longissima	
11. Elaphe quatuorlienata	Bolla me katër vija
12. Eryx jaculus	Boa e shkurtër
13. Natrix tessellata	Gjarpri i vogël i ujit
14. Telescopus fallax	Gjarpri laraman
15. Vipera ammodytes	Nepërka
16. Vipera ursini	Nepërka e vogël e malit
Amfibia	Amfibë
1. Bombina variegata	Bretkosa barkverdhë
2. Bufo bufo	Thithlopa
Pisces	Peshqë
1. Alosa fallax lacustris	Kubla liqenore
2. Salmo marmoratus	Troftë e mermertë
3. Salmo trutta macrostigma	Troftë gjuce
4. Lampetra fluviatilis	Kavalli i lumit
5. Platichthys flesus luscus	Ushojzë
6. Lebistes reticulatus	Tripikaloshi
7. Chondrostoma nasus	Njila e lumit (skobuzi)
8. Leuciscus illyricus	Mëlyshi i zi
9. Gobio gobio albanicus	Njëmustakori
10. Gambusia affinis	Barkulec
11. Seriola dumerili	Gofë
12. Argyrosomus regius	Ame-ja
13. Barbus spp.	Mrenat (mustkët)
Insects	Insekte
1. Gomphus flavipes	Peliveza flavipes
2. Lindemia tetraphylla	Peliveza tetrafile
3. Papilio alexanor	Flatrabishtori aleksanor
4. Zerynthia polyxena	Poliksena
5. Parnassius mnemosyne	Mnemozinja
6. Euphydryas aurinia	Pranverorja
7. Lucanus cervus	Kacadreri
8. Carcharodus lavatherea	Flatramermerta
9. Spialia phlomidis	Flomidja
10. Thymelicus acteon	Okërverdhja
11. Euchloe charlonia	Verdhoshja e vogël
12. Lycaena ottomanus	Flakëroshja e jugut
13. Pseudophilotes vicrama	Flatrablujta njollëzezë
14. Scolitantides orion	Flatrakafeblujta
15. Glasucopsyche	Aleksja

Scientific Name	Albanian Common Name
alexis	
16. Polyommatus eroides	Flatrakaltra bordurëzezë
17. Nymphalis xanthomeles	Këmbëverdha
18. Coenonympha tullia	Tulia
19. Erebia aethiops	Zijoshja etiops
20. Erebia medusa	Zijoshja e pyllit
Mollusca (terrestrial)	Molusqët e tokës
1. Microcondylaea compressa	
2. Unio crassus	
Mollusca (marine)	Molusqët e detit
1. Ranella giganteum	Molusk
2. Tonna galea	Bobëla
Crustacea	Krustace
1. Crangon crangon	Krustace
2. Scyllaroides latus	Krustace
Echinodermata	Ekinodermatë
1. Ophidiaster ophidianus	Yll deti
2. Centrostephanus longispinus	Iriq deti
Knidaria	Knidarë
1. Chrisaura hisocella	Kandil deti
2. Paramurice chameleon	Knidar
3. Cladocora cespitosa	Koral
Vascular Plants	Bime me lule
1. Taxus baccata	Tis
2. Pinus sylvestris	Hartine
3. Laurus nobilis	Dafine
4. Juglans regia	Arre
5. Quercus macrolepis	Valanidh
6. Fraxinus excelsior	Frasheri i zi
7. Celtis tourneforti	Carac
8. Tilia platyphyllos	Bli gjethegjere
9. Colchicum autumnale	Xherrokull
10. Helychrisum plicatum	Trendeline
11. Narcisus poeticus	Narciz
12. Tulipa sylvestris	Tulipan
13. Orchis sp.div.	Salep
14. Leucojum aestivum	Bilbilbardhe
Funghi	Kërpudha
1. Amanita rhomboidea	-ne dushqe
2. Amanita rubescens	- ne meshtekne
3. Cantarellus cyparius	- ne livadhe malore

F-1 List of Habitats for which Habitat Action Plans will be Prepared within 1-2 Years

Habitat type/site	Habitat subtype/site
Medio and infralitoral	Sea meadows of *Posidonia aceanica* at Rodon, Porto-Romano, Karaburun, Sazan, Porto-Palermo
Lin (Ohrid lake)	Site of intensive fish breeding and conservation
Riverine ecosystem "Bunë-Drin-Vau i Dejës	Breeding site for *Acipenser sturio* and important migration route for other fish species
Open sea waters	Sublitoral (control for making evidence of the eventual presence of *Caulerpa taxifolia*)
Sand dunes	Sandy beaches and dunes along the low coast
Shrubs along the gravel river beds	Shrubs with the presence of *Nerium oleander* (Borsh)
Aluvial hygrophil forests	Forests of *Alnus glutinossa* and *Quercus robur* (Patok, Velipojë)
Lakes	Aquatic vegetation - habitats of *Elodea canadensis* in Lake Ohrid to control further expansion

F-2 List of Habitats for which Habitat Action Plans will be Prepared within 3-5 Years

Habitat type	Main habitat subtypes
Sea meadows of fanerogams	Meadows of *Posidonia* and those of *Cymadocea*. (Their inventory and mapping along the Adriatic and Ionian sea)
Rocky Coast	"Forest" of Cystoseria. Inventory and mapping along the Ionian Sea
Mediterranean Halo-Psamophil Meadows	Along the coastal section Durres - Vlore
Vegetation of Coastal Rocks	Vegetation of the coastal section Karaburun-Himare, and that of Ksamili Islands
Lakes	Habitats with aquatic plants and those with *Trapa natans*; habitats with *Nymphoides peltata*; vegetation along the lakeshore: restoration of forests with *Salix alba* and *Populus alba*, and others along the eastern shore of Lake Shkodra, as well as in Lakes of Prespa and Belshi
Rivers	Formations with *Populus alba* and others downstream on the Buna, Vjosa, Shkumbini, and Semani rivers
Xerophyte Shrubland	Formation with *Quercus ilex*, and that with *Arbutus andrachne* (Çarshove-Sarandopore); Garrige with *Anthylis hermania* (Rrezome-Delvine)
Meadows	Meadows with *Deschampsia caespitosa*, and *Cynosurus sp.* (Bize)
Deciduous Broadleaf Forests	Oak forests in Levan, Ishem, Belsh, Gorice, Mirdite; Chestnut forest in Zdervaske-Pogradec, Gurakuq-Orenje; Forest with *Betulus sp.* in Shistavec-Kukes
Alluvial Forests	Forest with *Fraxinus, Alnus, Ulmus*- Rrushkull
Coniferous Forests	Forest of *Picea abies* in Valbona valley ; Fir forest in Germenj-Shelegure; forest of *Pinus peuce*-Allaman, and that of Black Pine in Tuç (Puke)
Semi-Deciduous Broadleaf Forest	Forest of *Quercus trojana* on Rrenci mountain
Marshes	Reeds along the shores of Rreza lake (Saranda); vegetation along the Butrinti channel; adjacent vegetation next to Narta lagoon
Irrigation channels	Irrigation channel Vjose-Levan-Fier