MINISTRIA E MJEDISIT

Document of Strategic Policies for the Protection of Biodiversity in Albania

Tirana, December 2015

Acronyms

SBE	Services of biodiversity and ecosystems
AP	agricultural policies
CBD	UN Convention on Biological Diversity
KPN	Commission on International Policies
KANP	Communication, education and political awareness raising
PPP	Common fishery policies
KBGJUB	Commission for genetic resources for Food and Agriculture
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CMS	Convention on the Conservation of Migratory Species
COP	Conference of Parties
KZHQ	Commission for sustainable development
FBZHR	Agricultural Fund for Rural Development
CSES	Cross Sector Environment Strategy
AEM	European Environment Agency
EMFF	European Maritime and Fisheries Fund
EIA	Environmental Impact Assessment
EZHQ	Education for sustainable development
EU	European Union
EUFORGEN	European Forest Genetic Resources Program
FAO	Food and Agriculture Organization
KMP	Council for protection of forests
GEF	Global Environmental Facility
GBR	Global Biodiversity Review
GMO	Genetically Modified Organisms
IGT	Global taxonomy initiatives
HNV	High nature value
IAM	Integrated Areas Management
ILC	Indigenous and local communities
ILO	International Labor Organization
IMO	International Maritime Organization
IPEN	International Plant Exchange Network
IPPC	International Plant Protection Convention
IUCN	International Union for Conservation of Nature

IFM	EU financial instrument for Environment
LMO	Living modified organism
MEA	Millennium Ecosystem Assessment
MDGs	Millennium Development Goals
MoE	Ministry of Environment
MEA	Multilateral Environment Agreements
MPA	Maritime Protected areas
DKSD	Framework Directive on Maritime spatial planning
MSP	Maritime spatial planning
SAPB	Strategy and Action plan on Biodiversity
OKB	National objectives of Biodiversity
CSES	Cross sector Environment Strategy
PKP	National Forestry Program
NGO	Non-governmental organizations
OECD	Organization for Economic Cooperation and Development
PEFC	Programme for endorsement of forestry certification
PLGRFA	Plant genetic resources for food and agriculture
SAA	Stabilization Association Agreement
SAC	Special Areas of Conservation
SEA	Strategic Environment Assessment
SMF	Sustainable management of forests
PDIP	Use of intellectual rights and property
UNCB	UN Convention on Biological Diversity (or CBD)
UNCCD	UN Convention to Combat Desertification
UNDP	United Nations Development Program
UNCTD	UN Conference for Trade and Development
UNECE	UN Economic Commission for Europe
UNEP	United Nations Environment Program
UNESCO	United Nations Educational, Scientific, and Cultural Organization
UNFCCC	UN Framework Convention on Climate Changes
WHC	World Heritage Convention
WIPO	World Intellectual Property Organization
WTO	World Trade Organization
WHO	World Health Organization
DSPEP	Document of Strategic policies for the Protection of biodiversity

1 - Current situation

1.1 Introduction

Since the time of the Strategy and Action Plan on Biodiversity (SAPB) for Albania in 2000, the country has made progress in terms of biodiversity protection through the formulation of the institutional and legal framework, and their enforcement in practice. There have been serious efforts and developments in the environmental area in general, and biodiversity and nature in particular, during the last 15 years via the establishment of the Ministry of Environment and other relevant institutions in the country, through the formulation of environmental legislation and nature protection and raising public awareness. Another historical moment with an important contribution to nature and biodiversity coincides with the start of the process of European integration of Albania in 2006, following signature of the Stabilization-Association Agreement (SAA) with the European Union, and its effectiveness in 2008. The National Environmental Strategy adopted in 2007 places particular emphases to biodiversity, as one of the priority areas for the environment domain.

The Document of Strategic Policies for Environmental Protection (DSPEP) clearly identifies the main areas of work, in particular: increasing the surface of Protected Areas, formulation of Management Plans and their implementation; completing the legal framework, in line with the EU acquts on nature and environment; elimination of illegal logging and hunting, while enforcing the legislation, and activities for building capacities, and implementation of action plans for endangered species and habitats.

Updating the Document of Strategic Policies for the Protection of Biodiversity (DSPPB), which includes the Action Plan, as the key policy document on nature and biodiversity protection domain has taken into account these issues, as part of the National Strategy for Development and Integration (NSDI) for the period until 2020.

The Government of Albania has ratified the Convention of Biological Diversity (CBD) on January 5, 1994 and to this end it is committed to the implementation of the requirements of the Convention and decisions of the Conference of Parties (COP) of CBD. The Convention is binding on the

member states to draft the National Strategy on Biodiversity and the Action Plan, as well as to make sure that this strategy is consistent with planning and activities of all sectors that might have a (favorable or adverse) impact on biodiversity. A summary of the activities of Albania is presented in the table below.

Table 1. Titles and dates for submission of national reports at the Secretariat of the Convention of Biological Diversity (CBD)

Reports	Date for submission of Final report at the Secretariat of CBD
Fifth national Report	02.06.2014
Fourth national report	01.04.2011
Third national report	19.06.2007
Second national report	19.06.2007
Review of the implementation of work program for Protected Areas	19.06.2007
Thematic report on Protected Areas	27.05.2003
National Strategy on Biodiversity and Action Plan	30.11.1999
First national report	30.11.1999

First ad hoc national report (September 2005) was drafted in cooperation with UNEP / GEF Project for Development of Biosafety Framework for Albania, and the National Coordination Committee, with representatives from different scientific governmental and non-governmental organizations. The report covers the period from September 2004 (when the law on membership of Albania in the Protocol on Biosafety was adopted by the Parliament and became legally binding) to September 2005. The second national report (November 2011) was drafted with the support of GEF Project, to this end.

1.2. Development of objectives and strategies

The Conference of Parties (COP) of the Convention on Biological Diversity (CBD) decided that the National Strategy on Biodiversity and the Action Plans (NSBAP) should form the main instruments for the implementation of the Convention and its Strategic Plan. Article 6 (a) of the CBD requires that all parties should be committed to have their National Strategy on Biodiversity and the Action Plan. The Document of Strategic Policies serves as a guide for the way the country aims to achieve the objectives of the Convention, in the context of its international obligations. The action plans rank the steps that need to be taken, in order to accomplish the goals of the strategy. Development of DSPEP in line with Article 6 (a) is the foundation of meeting the requirements of Article 6 (b) for biodiversity and the three objectives of CBD. This should happen in all sectors of the government, economic sectors, and with the involvement of all stakeholders that have an impact on biological diversity, through relevant sectorial or cross-sectorial plans, programs and policies. DSPEP cannot happen in isolation from other sector policies and programs since it would not have the desired effect on protection of biodiversity and in ensuring the integrity of critical functions of the ecosystem.

The National Strategy on Biodiversity and its action plans are the key instruments for the implementation of the Convention (CBD) at the national level. The Convention requires from the member states to draft a national Strategy on Biodiversity (or any other equivalent instrument) and asks them to make sure that this strategy is an integral part of the planning and activities of all the sectors whose activities may have a (favorable or adverse) impact on biodiversity.

The document will run a full assessment of the content, adoptability, implementation and effectiveness of the existing SAPB and in light of this assessment there will be recommendations for the steps that will need to be taken to make sure that the Document of Strategic Policies on Biodiversity Protection fulfils its role as a key mechanism for the implementation of the Convention and the Strategic Plan on Biological Diversity 2013-2020, with particular focus on marine aspects of biodiversity.

In 1998, the government of Albania through the National Environment Agency (currently Ministry of Environment) drafted the National Action Plan of Biodiversity Strategy, as a key strategic document for the implementation of the Convention regarding the requirements of biological diversity. Albania has been and still is participating in European and regional CBD initiatives, in particular in the PAN-European Strategy on Biological Diversity and Landscape Diversity (SPEDBP). The main objectives for the implementation of CBD and SPEDBP are:

1.   Protecting and improving biological and landscape diversity;
2.   Incorporation of the necessary principles and policies for sustainable use and management of biodiversity;
3.   Promoting sustainable use for the current and next generations.

The document was finalized in 1999 and was adopted by the Government of Albania (GoA) in 2000. The first NBSAP of Albania is the first document to address the situation at the national level, the development of the country which is affected by biological and landscape diversity (such as: loss of habitats and fragmentation, damaging and degradation of habitats and ecosystems, concerns about maltreatment of wild animals, loss of species or the threat for extinction of species, erosion and damager of genetic resources), and identification of major risks, as well as came up with direct proposals regarding main actions that need to be undertaken in the short to long-term for improving the situation. Based on the selected criteria, together with the current level of knowledge on the national status of biodiversity, the onion and consensus of the country's lead experts, several priority lists have been drafted to the types of animals, and habitats which require action plans.

Other issues involved in this process are related to the institutional reform, and strengthening its role, improving the legal framework and making efforts for improving the rule of law, identification and mobilization of financial resources, identification of financial barriers for biodiversity protection, finding and implementing appropriate mechanisms for understanding the benefits that come from protection; and technical support for future projects.

1.3. Measures undertaken for the implementation of the Convention

Conservation "In situ" increases the surface and management of the network of protected areas;

- Research and studies related to biodiversity, in particular in some project areas through the monitoring program;

- Legal framework, where the law on Protected Areas, and the law On protection of biodiversity are the main achievements;

- Institutional reforms such as: the establishment of the Ministry of Environment, and its structures;

- Information and awareness raising, including strengthening of civil society organizations etc.

- Republic of Albania has adhered into two Protocols of the Conventions of the Biological Diversity:

- The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits through Law no. 113/2012, 22.11.2012;

- The Nagoya-Kuala Lumpur Supplementary Protocol on Liability and Redress to the Cartagena Protocol on Biosafety, adhered to by Law no. 112/2013, of 22.11.2012;

- Adherence instruments were deposited by the Ministry of Foreign Affairs to the Secretariat of CBD on January 29, 2013.

- Main achievements through the implementation of the SAPB in Albania include:

- Legislation: Finalizing the legal framework through determining the legal steps on the Law "On protection of biodiversity", and adoption of law "On some additions and amendments to law" On protected areas", 2008. Adoption of several pieces of important legislation in the area of environmental protection and sustainable development, and their harmonization with the relevant EU Directives.

- In-situ conservation: The surface of protected areas from 2005 to date has grown to 16. 61 %, which is a figure close to the EU average, where the protected areas reach 17% of the territory.

- Action plans for different types of habitats: there are currently Action plans in place for 6 types of specific habitats. The following strategic documents have been translated into action plans:

- Action plan for Protection of Brown Bear (Ursus arctos);

- Action plan for Protection of the Eurasian lynx (Lynx lynx);

- Action plan for Protection of Phalacrocorax pygmeus

- Action plan for protection of Cetacea;

- Action plan for Protection of Posidonia oceanica;

- Action plan for protection of the sea turtle and its natural habitat (drafted in cooperation with MEDASSET) and adopted in November 2013;

- Preparations for Natura 2000: Drafting an IPA framework project (2013) for kick-starting the process of Natura 2000 in Albania. The project includes the implementation of Protected Areas Management Plans in Albania, establishment of capacities and improving the existing infrastructure of protected areas, which will be the bases for the future of Natura 2000 in the country.

- Reporting at the CBD, its Protocols and work programs:

- Fifth National Report of Albania for CBD was finalized in June 2014;

- Third National Report of Albania to the Cartagena Protocol on Biosafety was submitted in December 2015;

- The second National Work Program for Protected areas to CBD was finalized in June 2012.

1.4 Institutional framework for protection of nature in Albania

The Ministry of Environment, through its Directorate of Biodiversity and Protected Areas under the General Directorate of Environmental Policies and Delivery Unit is responsible for the formulation of policies for protection of nature and development of strategic documents in this field. The cooperation includes other departments in the Ministry and reporting institutions such as:

- National Agency for Protected Areas (NAPA), which was established in February 2015, as an institution reporting to the Minister of Environment, setting up for the first time in the country independent administration of Protected Areas.

- National Environment Agency;

- Regional Directorates of Forestry Service (which are in the process of being transferred to the local government - Municipalities) are responsible for forest and wild fauna administration and control.

- State Inspectorate for Environment and Forestry.

In the field of nature protection, the Ministry of Environment is cooperating with the Ministry of Agriculture, Rural Development and Water Resources Administration regarding agricultural biodiversity; with the Ministry of Urban Development and Tourism regarding decision-making on land utilization; Ministry of Public Order to coordinate the work for the management of sports activities (or recreational and tourism related activities); Minister of State for Local Governance and Decentralization in the instances of local management of natural resources in the ownership of communes, and the with General Directorate of Customs for international customs control for trading endangered species of wild flora and fauna.

1.5 Biodiversity in Albania

Albania is located in the Western part of the Balkans Peninsula, and is characterized by Mediterranean climate in lowlands and valleys, and by Continental and cold climate in the North and East.

Despite the fact that Albania is a small country, it is rich in biological landscape and is ranked among countries with high biodiversity in Europe. From the geo-physical perspective, Albania is dominated by hills and mountains in the North and East, and in the lowlands in the West. An important part of the Republic of Albania is the Western lowland which lays throughout the coastal area of the lake of Shkodra in the North up to the city of Vlora in the South. Apart of outlet in the coastline, the Western lowland is run through from the activity of main rivers that in general run

from the East towards the West. The Albanian coastline is 476 km long, while the Adriatic and Ionian seas have an important impact on the country's climate, flora and fauna. The north of country is characterized by a mountainous relief and by rock formations since the Palaeozoic era. Most of the country is mountainous, while the height begins to drop starting from the East towards the West and it determines the climate conditions, those of earth and vegetation. The current landscape is the result of the geological developments during tectonic and neo-tectonic movements.

Albania's relief is mainly composed of hills and mountains. The morphological variation is quite diverse. The relief is young even though it dates back to Miocene epoch. In the beginning of the Quaternary Period, the lowland of the Adriatic and other inner lowlands became part of the continental part of Albania and the other existing forms were shaped during the Pliocene epoch. The evolution of the Albanian relief is currently going on. The highest peak in the country is 2751 meters above the sea level (mountain of Korabi) and the lowest is 8 meters below sea level (the former marshlands of Tërbuf). The country's average height is 708 m above the sea level. The height starts dropping moving from the east towards the west of the country, and it determines the climate, earth and vegetation conditions. Albania's climate is diverse. It is characterized of four major climate zones, and 13 sub-zones that contribute to the rich diversity of the country.

Albania is known for its rich and complex hydrography, composed of rivers, lakes, wetlands, ground waters and seas. The main rivers of Albania are: Drini, Buna, Mati, Shkumbini, Semani, Vjosa, Erzeni, Ishmi, and Bistrica. Together with their branches, these rivers have a considerable impact on the coastal biodiversity of the country. There are approximately 247 natural lakes of different sizes, as well as a considerable number of artificial lakes in the country. With reference to their origin, in Albania there are 4 tectonic lakes, 134 glacial lakes, 94 carstic lakes, and river lakes (15). Among the most important lakes are the cross border lakes of Shkodra, Ohrid, and Prespa which also coincide with the biggest lakes in the Balkans, with European and international importance. In the coastal area of Albania are found wetlands such as those of: Karavasta, Narta, Patoku, Viluni, Kune-Vaini, Orikumi etc, with a total surface of 150 km^2.

The country's mountainous terrain together with steep rocks provides the ideal conditions for the growth and isolation of a large number of ancient endemic and sub-endemic species.

The diversity of ecosystems and habitats (coastal and marine ecosystems, wetlands, river deltas, sand dunes, lakes, rivers, Mediterranean bushes, broadleaf forests, pine forests, sub-alpine and alpine pastures, meadows, and high mountainous ecosystems) provide for a diversity of plants and wildlife species. In Albania there are approximately **7233 plant groups** (including ferns, fungi, likens, mosses and algae) and **5438 wildlife species** (including birds, mammals, fish, insects, decapods, etc.). Approximately 32 % of all European flora is found in Albania. Flower plants and microalgae represent the most diverse and the richest group of rare species, i.e. the group of relict and endemic species due to their origin the impact of the elements of the flora on different phyto-geographic regions.

The Albanian flora is closely linked with the flora of the Mediterranean region and with the flora of the Alps of Southern Europe (arctic-alpine, Caucasus, Euro-Asia, Greek-Anatolian, Illyrian, Central Europe and Cosmopolitan). There are several examples of rare species that point to the biological and geographical linkages of the Albanian flora with the flora of the East and even the flora of North America. The best examples would be: Aesculus, Forsythia, Gymnospermium or Forsythia europaea, Gymnospermium scipetarum and G. Maloi, Aesculus hippocastanum (East Asia, Middle East, and North America), Orobanche krylowii, one of the species of East Europe (Vollga-Kama River in Russia) and Siberia and Central Asia and Morina persica (Asia Minor and Middle East).

High forests contain the communities of large mammals such: the wolf, the bear, Lynx, capra aegagrus, and characteristic community of birds for virgin forests.

Coastal and lake wetlands in the country are important locations, especially for the wintering (hibernation) of migratory birds. For years are encountered approximately **70 water bird species** with a population of approximately **180.000 individuals** during winter. Albania is also an important cross-section for the migration of birds and insects.

In Albania there are approximately **91 globally endangered species**, including Crispus crispus, Pelophylax shqipericus, and Acipenser sturio, for which Albania is a location of special importance.

The diversity of the landscape within the country is the result of its natural characteristics and the ancient origins of Albania, as well as of the human activity. Traditional and livestock agriculture have been developed in line with the natural characteristics of the country and represent the main factors that determine the physiognomy of the landscape which is characterized by autochthonous species. A large number of local livestock species and autochthonous plants have existed in Albania for years. They represent very important values for the heritage on protection and improvement of the quality and productivity of agricultural and livestock products.

1.6 Diversity of habitats and ecosystems

Albania is famous for its high diversity of ecosystems and habitats. Within its territory there are marine ecosystems, coastal areas, lakes, rivers, evergreen shrubs or deciduous shrubs, broadleaf forests and pine forests, alpine and sub-alpine pastures and meadows, as well as high mountainous ecosystems. Albania is rich in forest and pastures. Forests account for approximately **1.041,000 ha or 33 %** of the country's territory, while pastures account for approximately **400,000 ha or 15 % of the country's territory,** but these figures, however, need to be updated. Approximately 60 % (244,000 ha) of pasture is composed of alpine and sub-alpine pastures and meadows. Forests and pastures are diverse in species, formations and communities of plants and wildlife. Along the country's costal line are found many important ecosystems for the Mediterranean region, such as: wetlands, wetland systems, sand dunes, river deltas, forests and swamp weeds (hygrophila). The coastal and infralittoral communities of Mediterranean origin along the rock coastline are quite diverse and very well preserved. Lakes and rivers are also very important for the country's biological and landscape diversity. Albania's hydrography (catchment basin) is divided into six river basins, as follows:

1. Drini river catchment: includes that part of the Drini i Zi river basin which is within the Albanian territory, the main basin of Drini river (downstream flow of "Drini Zi" and "Drini Bardh" rivers), the Albanian part of Buna catchment and the small part of the Danube catchment which is found in Albania.

2. Mati river basin: covers Mati river catchment.

3. The catchment of Ishmi and Erzeni rivers covers the catchment of Ishmi and Erzeni.

4. The catchment of Shkumbini Rivers covers the Basin of Shkumbini River.

5. The catchment of Semani covers the river of Semani (including its two main branches, i.e. of Devoll and Osumi rivers) and a small area that goes into the lake of Ohrid, Prespa e Madhe and Prespa e Vogël.

6. The Vjosa river catchment includes that part of Vjosa basin which is within the Albanian territory, as the basin of Kalasë, Bistrica and Pavlla, and rivers of the south coast.
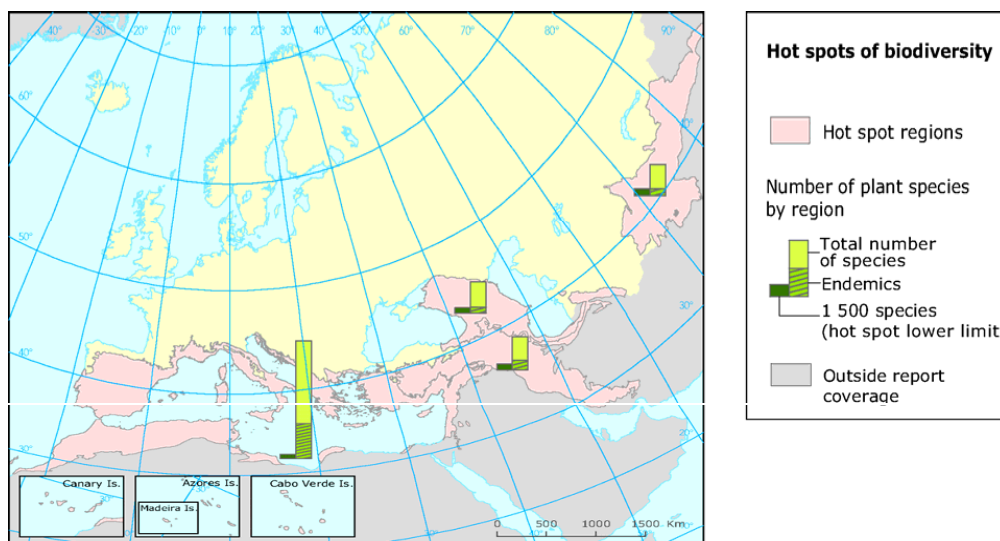
Figure 1. Regions of Hotspots of Biodiversity (Source: EEA)

The landscape in Albania is quite diverse, which is due in part to the natural characteristics and a long history of human activities by the local population. Agriculture and livestock, developed in line with the traditions of the Albanian villages, as part of the nature, have been among the determining factors for the Albanian landscape, where local elements are not lost.

1.7 Forests

Albania is rich in forests and pastures. Forestry land covers approximately 1.041,000 ha or 33% of the national territory, whereas pastures account for approximately 400,000 ha or 15% of the country's territory.

Table 1. Forestry fund structure (2013)

Description	Area (ha)	%
Forests	1,041,390	60
Pastures	505,284	29
Rare trees in forest land	30,140	2
Non-forestry area	165,690	9
Total	**1,742,504**	**100**

Source: Ministry of Environment /INSTAT, 2013

Table 2. Distribution of forestry fund, according to method of administration (2012)

	Description	Area (ha)
1	Forests under governmental administration	527,930
2	Forests under local government administration	486,630
3	Forests under the administration of the private sector	26,830
	Total	**1, 041,390**

Source: Ministry of Environment/INSTAT 2013

1.8. Species diversity

Albania is famous for a high diversity of genetic resources, species and ecosystems. From a general perspective, plant species belong to **168 groups** and approximately **900 types (varieties)**. In Albania there are about 400 Balkan plant species.

Considering the existing information, Albania is rich in terms of a diverse flora and fauna, with approximately **3976 high plant taxonomy** and **756 vertebrates**. Albania accounts for approximately **32 %** of the European flora, while high forests of Albania are important habitats for mammals such as: brown bear, the wild boar, wild goat etc., and many bird species. The rich marine fauna community is an indicator of the high rates of preservation and quality of these communities in Albania. Table no. 3 below gives a general overview of the number of known species so far in Albania.

Table 3. Number of known species of different taxonomy categories found in Albania

Taxonomy classification	Number of species in Albania	Number of species in Europe
Bacteria	Unknown	Unknown
Viruses	Unknown	Unknown
Protozoa	Unknown	Unknown
Macroscopic Algae	210	
Microscopic Algae (diatoms)	1300	c.a.2500
Fungi	800	16.000
Likens	400	1200
Mosses	530	10.000
Ferns	51	145
Flowering plants (plant taxa)	3976	11415
Molluscs	834	Unknown
Insects	4600 (14.000)	40.000

Decapods	115	150 (Adriatic
Echinoderms	46	94
Pisces	313 (350)	618 (Mediterranean)
Marine Pisces	249	Unknown
Freshwater fish/Pisces	64	Unknown
Amphibians	15 (16)	62
Reptiles	36 (38)	123
Birds	323 (335)	514
Mammals	70 (84)	200

1.9 Diversity of invertebrate fauna species

Following different approaches of reports and status of the selected groups of fauna in the country, the situation regarding identified species is as follows: Porifera (sponges) (62), Cnidarian (33), Platyhelminthes (152), Nemertean (4), Gastrotrichs (3), Nematodes (167), Nematomorpha (1), Rotifers (112), Acanthocephalans (8), Sipuncula (2), Mollusca (834), Annelida (126), Tardigrada (1), Arachnids (356), Crustaceans (391), Myriapoda (119), Insecta (4,600), Bryozoans (16) and Echinodermata (53). Figure 2 shows Ochridaspongia rotunda which is an endemic species that lives only in Lake Ohrid.

Figure 2. Ochridaspongia rotunda, an endemic porifera that lives in Ohrid Lake.

1.10 Invasive alien species

Invasive species are species not native to a specific location (an introduced species); and which has a tendency to spread to a degree believed to cause damage to the environment, human economy or human health. So far there are 47 invasive species that are registered. They belong mainly to: nematodes (round worms) (1), molluscs (1), insects (21), decapods (2), fish (18) and mammals (5).

Meanwhile, regarding the flora the situation is more concerning. There are 196 invasive species that have been adopted and cultivated in our circumstances, as well as 81 fully naturalised species and 16 partially naturalised weeds, 11 remnants from former cultivation, nine old species and 38 new cases, where 41 foreign species that were previously registered are supposed to be extinct. The impact of invasive flora in Albania is different and varies considerably from that of the majority of European countries, despite the fact that the current percentage of foreign invasive species in the local flora is the lowest in Europe. The low rates of invasive species, the absence of damage and the relatively low frequency of invasive species in Albania reflect the impact of the country's long-term isolation during XX century, low rates of economic growth, excessive use of land and the fact that invasive species have been present for a very brief time in the Albanian flora. All of the recent social and economic changes have facilitated the creation and spread of foreign species, in particular in lowlands.

Invasive alien species are also marked among sea organisms in Albania (20 species) (Table 4). They represent different taxonomy classification such as: Rhodophyta (4 species), Chlorophyta (1 species), Phaeophyta (1 species), spermatophytae (1 species), Annelida (1 species), Decapods (3 species), Molluscs (5 species) and Fish (4 species). The list of invasive marine species is based on the existing literature, unpublished data from monitoring and surveys, and in particular from field surveys along the Albanian coastline.

Table 4. List of invasive species registered in the Albanian coast

classification	Species
Red algae (Rhodophyta)	*Asparagopsis taxiformis* (Delile) Trevisan de Saint-Léon
	Chondria pygmaea Garbary & Vandermeulen
	Ganonema farinosum (J.V. Lamouroux) K.C. Fan & Yung C. ËÊang Léon
	Lophocladia lallemandii (Montagne) F. Schmitz
Green algae (Chlorophyta)	*Caulerpa racemosa* var. *cylindracea* (Sonder) Verlaque, Huisman & Boudouresque
Brown algae (Phaeophyta)	*Colpomenia peregrina* (Sauvageau) Hamel
Seagrasses (Magnoliophyta)	*Halophila stipulacea* (Forsskål) Ascherson
Annelida	*Ficopomatus enigmaticus* (Fauvel, 1923)
Decapoda	*Callinectes sapidus* Rathbun,
	Marsupenaeus japonicus Bate
	Percnon gibbesi H. Milne Edëards
Mollusca (Mollusca)	*Cellana rota* Gmelin
	Brachidontes pharaonis Fischer
	Crassostrea gigas Thunberg
	Pinctada radiata Leach
	Ruditapes philippinarum Adams & Reeve
Pisces (Pisces)	*Hemiramphus far* Forsskål
	Parexocoetus mento Valenciennes
	Saurida undosquamis Richardson
	Sphaeroides pachygaster Müller & Troschel

1.11 Agro-biodiversity

Agricultural biodiversity includes all forms of life directly related to, and of importance for agriculture: rare seed varieties and wildlife (farm biodiversity), but also of many other existing organisms such as: the fauna, the weeds, pests, predators, and all plants and wildlife (wild biodiversity) that penetrate in the farms.

Diversity of plant cultivars

Diversity of cultivated plant is variability in genetic and phenotypic characteristics of plants used in agriculture. Crops may vary in dimensions, seeds, or way of ramification (embranchment), in height, colour, flower, fruit bearing period, or taste. In addition, they may vary their visible characteristics such as: reaction against the heat, cold, draught, or their ability to resist to specific disease and pests.

Albania boasts a considerable number of autochthonous cultures. It is estimated that currently in the country there are approximately 30 autochthonous wheat species. The local populations are many and have important values. They vary greatly for all plants, such as: arable crops, fodder crops, vegetables, fruits, vineyards, and olive groves. Of special importance are corn authoctonous populations such as: "Reçi", "Dukati", "Sulova", etc; grape species for wine production such as: "Sheshi i Zi", "Sheshi i Bardhë", "Kallmeti", etc.; olive such as "Kokërrmadhi i Beratit"; figs: "Roshnik", etc.; alfalfa (Dibra ecotype); the onions of Miras and Drisht, etc. Their value is not only related to their use in the programs for genetic improvement of plants, but as well as in their direct use for cultivation purposes.

Diversity within species is largely present in vegetables as well. Approximately 259 cultivars have been collected from these plants, of which 45 are paprika, 44 are tomatoes and 39 are beans. Farms still cultivate mainly all of the above mentioned.

Diversity of animal breeds (livestock diversity)

Traditional breeds and varieties constitute an important and valuable genetic heritage. They possess qualities such as: high fertility rates and disease resistance, and resistance from parasites, which may become very important in a changed economic environment. Thanks to variable structures of the landscape there is in place high agricultural diversity, part of which is still there actually, at least in small groups.

The country has a considerable number of autochthonous animal breed (Table 5). There are nine breeds for goats and five for sheep. This represents an important heritage regarding production and improvement of production and quality of agricultural breeding and animal breeding.

Table 5. Types of goats and breeds of sheep in Albania

Breed	Female	Male	Trend
Types of goats			
Dragobija	6500	350	Growing
Hasi	15000	377	Growing
Mati	9500	240	Growing
Capore	22176	479	Stable
Dukati	20310	690	Growing
Muzhakë	42096	1480	Growing
Liqenas	10000	500	Growing
Breeds of sheep			
Bardhoke	19740	880	Growing
Shkodrane	13450	560	Growing
Ruda	29400	950	Growing
Recka	9500	240	Growing
Capore	194096	8100	Growing
Syska (Lara e Polisit)	110	5	Growing

1.12 Marine and coastal biodiversity

Marine and coastal ecosystems in Albania are rich in their typology of habitats, plant community and animal/wild life species. They represent an important share of natural heritage no just for the country, but for the whole Mediterranean region. Coastal plants mainly include evergreen shrubs and partially deciduous shrubs; while along the Adriatic coast, mainly in Divjaka (Lushnje), and Pishë Poro (Vlora) there are mainly forests with stone pines (Mediterranean pines). In the coastal wetlands and sand dunes we can find halophyte, psamophyte species and other organisms of brackish water and fresh water species.

Sea flora (sea weeds and algae)

According to available data there are approximately 186 registered species and infraspecific groups and macro alga, as well seaweeds that belong to 63 clusters/families and 112 types (varieties), as follows: 40 Phaeophyta, 101 Rhodophyta, 39 Chlorophyta and 6 weeds or marine fanerogame (Table 6). Further studies, in particular for unexplored marine areas so far, or for specific geographic areas will come up with a bigger list of species. Some of the important species include: Fuchs virsoides is a brown algae endemic to the Adriatic Sea found in biocenosis (biological community) and low mediolittoral rocks. Its origin is from the boreal zone and is considered as relict before the Miocene period, while the only Fucus population is found in the Mediterranean (RAC / SPA 2011).

Table 6. Number of species of marine macro flora and marine macro fauna that are found in Albania

Taxonomy classification	Number of species/ infraspecific taxon (rank of species)
Algae (macrophyta)	
Phaeophyta	40
Rhodophyta	101
Chlorophyta	39

Magnoliophyta (seagrasses)	6
Total	**186**
Macrofauna	
Sponges (Porifera)	18
Cnidarians (Cnidaria)	28
Molluscs (Mollusca)	385
Annelids (Annelida)	45
Crustaceaans (Crustacea)	147
Bryozoans (Bryozoa)	13
Echinoderms (Echinodermata)	49
Tunicata	11
Pisces (Pisces)	249
Reptilians (Testudines)	3
Mammals (Mammalia)	6

Studies indicate that out of 14 endangered species in the Mediterranean (Annex II of the Barcelona Convention, 1995), **6 are found in Albania**: two Magnoliophyta (Posidonia oceanica, Zostera noltii), two Phaeophyta (Cystoseira amentacea and Cystoseira spinosa), and two Rhodophyta (Lithophyllum bysoides and Lithophyllum trochanter (Goniolithon byssoides).

The studies were focused on the microscopic organisms such as: phytoplankton or periphyton community, while with regards to Albanian coastal wetlands and marine habitats studies commences in the last three decades, mainly in the wetland of Butrint, Narta, Karavasta and Patok. Already over **930 taxons of microscopic organisms are recognised**.

Coastal and marine fauna

There is increasing information, though still limited information in the country about the sea/marine fauna and habitats. Among the groups of non-vertebrae for which there is more information are: the Echinodermata (53 species), crustacea (147 species) and molluscs (385 species) (Table 6). The data about sponges and other groups such as: Cnidaria, Bryozoa, Annelids

and Ascidians (sea squirts) are poor and have only been collected recently. Some Benthic groups are almost not covered at all. According to the most recent list of marine ichtiofauna there are more than 260 species and sub-species of Pisces, including 28 species of sharks, of which some are globally threatened and are part of the IUCN Red List of Threatened Species (attachment 5).

The marine waters of Albania have been frequently visited by large sea vertebrae species such as: sea turtles (Caretta caretta), three species of dolphins (Tursiops truncatus, Delphinus Delphi and Stenella coeruleoalba), while (Monachus monachus) and the wales (Ziphius cavirostris and Physeter catodon) are casual visitors.

Coastal wetlands and river deltas are important centres for the hibernation/wintering of water migratory birds, of which are registered approximately 70 water bird species. Albania is of special interest about Crispus crispus and Phalacrocorax pygmaeus. Annex 6 provides a comprehensive list of marine species of international importance, which are part of the Conventions or most important directives in Albania.

1.13 Endangered species

The status for the conservation of species explains the possible trend towards extinction. When running an assessment of the status of conservation of species there are many factors which are taken into account: for e.g.: statistics such as: the remaining number of species, general growth or reduction of the population in time, breeding success rates, or recognised threats.

According to the most recent updates (November 2013) of the International Union for the Conservation of Nature (IUCN), 109 species of animals of different taxonomy classifications are considered as threatened. In addition, the list of threatened plant species at the national level is quite extensive, including 319 species, of which 76 species are under critical threat, 123 species under threat and 120 species under worse conditions, all at high risk at the national level.

Tables 7 and 8 demonstrate the number of threatened species of different taxonomy classifications of animals and plants.

For certain groups such as: reptiles, mosses, molluscs and other non-vertebrae, as well as plants there are still many species which are part of the Red List of IUCN, hence their status is not known.

Table 7. Threatened species in Albania (total according to taxonomy classification)

Taxonomy classification								
Mammals	Fowl	Reptiles *	Amphibians	Pisces *	Mollusca *	Other non-vertebrae *	plants *	Total *
3	6	4	2	39	49	6	0	109

The Red List of Threatened species in Albania was drafted, with due consideration to the criteria of IUCN. In line with the legal framework, the Red List gets updated every five years. Based on different categories of IUCN, the scale of risk for the species of birds in the Red Book is closed as presented in table no. 8.

Table 8. Number of species of endangered flora and birds according to different risk scale categories

IUCN categories	Number of flora species	Number of bird species
EX – Extinct	0	5
CR–critical	76	43
EN –endangered	123	56
VU – vulnerable	120	154
LR – low risk	59	238
DD – no data	30	72
NE – not evaluated	3	7

Protected species of Albania that are part of the Red List of wild fauna and flora were adopted in December 2013, via Order no. 1280, of 20.11.2013 of the Minister of Environment. Table 9 presents the number of protected fauna species according to a general classification of classes. Protected species of flora are 402 species from 361 in the preliminary Red List of 2007. Protected species of fauna are 575 species – the same number with 2007, no changes.

Table 9. Number of fauna species at different categories of risk

clusters	Corresponding number of the species, as shown the Red List
Mammals	46
Birds	119
Reptiles	37
Amphibians	15
Pisces	60
Echinoderma	23
Insects	108
Mollusca	166

Flora species listed in the Albanian Red List

1
8
15
16
33
27

- I zhdukur
- I rrezikuar ne menyre kritike
- I kercenuar
- Vulnerabel
- Rrezik i ulet
- Te dhena te pamjaftueshme
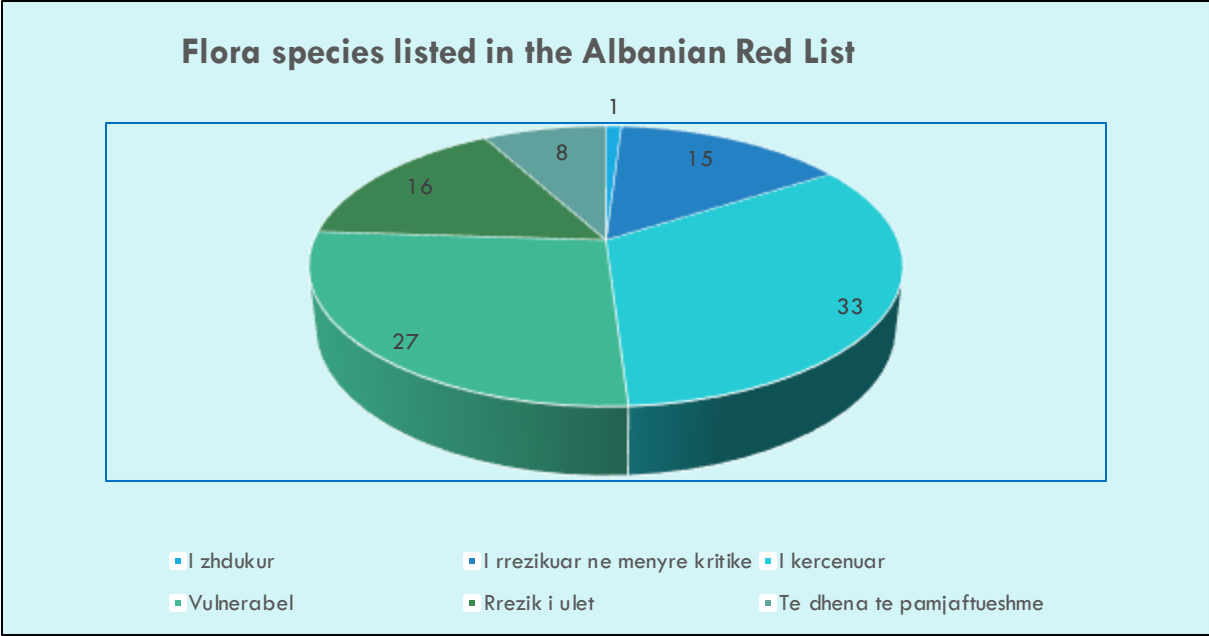
Figure 1. Percentage of wild flora species of the Albanian Red List according to the threat categories of IUCN

Fauna species listed in the Albanian Red List

1
13
8
10
41
27

- I zhdukur
- I rrezikuar ne menyre kritike
- I kercenuar
- Vulnerabel
- Rrezik i ulet
- Te dhena te pamjaftueshme
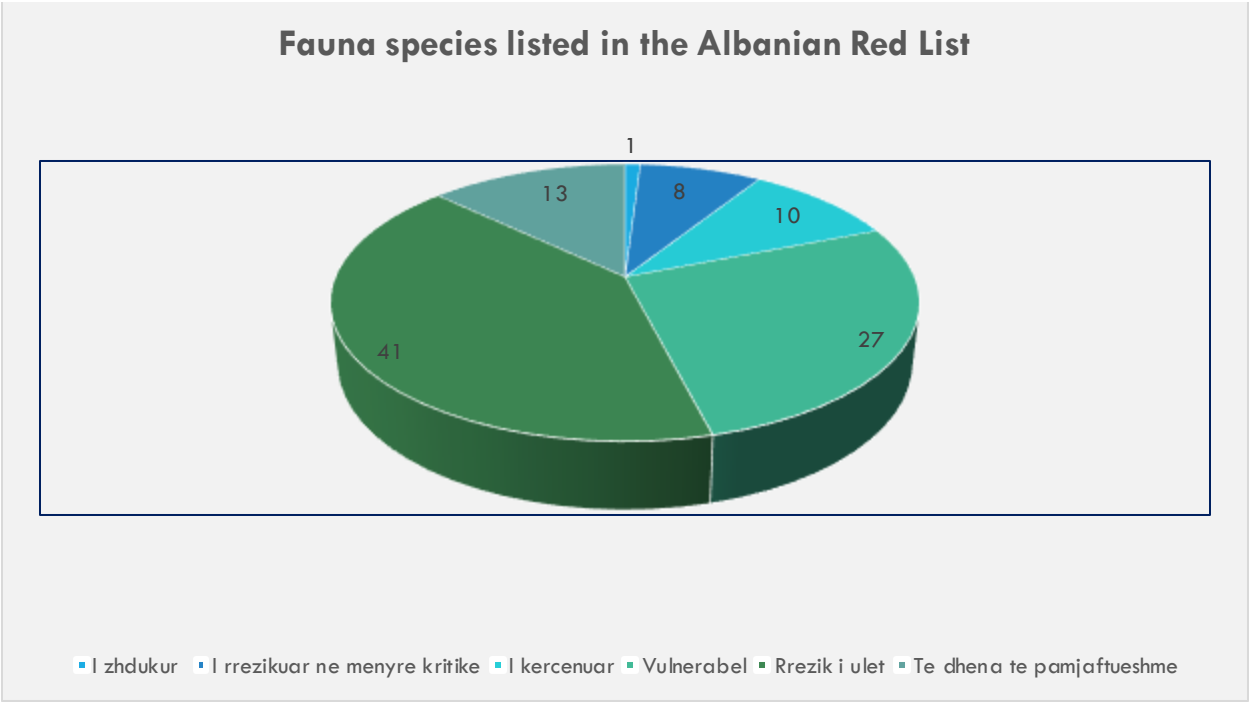
Figure 4. Percentage of fauna species at different categories of risk

1.14 Species of economic value

Medicinal and industrial values, as food for plants and wildlife of different species are very well known. Currently, the country counts 300 medicinal and aromatic plant species, which account for approximately 8 % of the Albanian flora. The number of plants with medicinal or aromatic values will very likely grow in the future. Approximately 40 plant species have fodder values and 35 are tannin plant species. There are approximately 50 recognised plants for the production of honey from bees and the number of plants used for food is 70. Fruit species for human consumption are: chestnuts (Castanea sativa), the European blueberry (Vaccinium myrtillus) and some mushroom species such as: Agaricus spp, Amanita Cezare Boletus spp, the bronze bolete (Boletus aereus), B. edulis, Lactarius deliciosus, Macrolepiota procera etc.

Other plants with high economic interest for the local and national communities includes: kinnikinnick (Arctostaphyllos uva-ursi), meadow saffron (Colchicum autumnale), great yellow gentian (Gentiana lutea), Orchid (Orchis sp. Div.), the common juniper (Juniperus communis) and the prickly cedar (Juniperus oxycedrus), Hawthorns (Crataegus monogyna), and (Crataegus heldreichii), (plicatum Helichrysum), Hypericum perforatum, (Platyphyllos Tilia), (Salvia officinalis), etc.

Different species of fish in sea and fresh waters and a considerable number of sea creatures constitute an important source of food for humans. Recently, frogs have been introduced into the food for humans.

Mollusca are an important source for the preparation of many pharmaceutical and cosmetic products. Their shells are also used for art work, parts of musical instruments, and other objects. Insects are important for their pollen and have values as food, for e.g. the bee for the honey, or silkworm have industrial values. Some other animals, like the fox and the squirrel have economic values as well.

1.15 Biodiversity and tourism

Recreational values related to biological and landscape diversity represent an asset that may be used for tourism development. This is a task and responsibility for the protection and development of these values and passing them on to current and future generations. If we are not able, and not responsible for protecting biological diversity there is risk for loss of these values that help tourism, as an instrument for fostering development in Albania. Hunting, fishing, and alpinism, and other tourism-related activities require from the country to take the necessary measures for protecting environment and its biodiversity.

Recently, the concept of ecotourism has turned into an important domain, which is generating financial benefits, in particular regarding protected areas, but not only, and which generates sustainable use of biodiversity components.

This element was identified and developed in cooperation with the responsible Ministry for culture, in the National Tourism Development Strategy.

1.16 Features of biological diversity: endemic and sub endemic taxonomy classification

The relief of the country is conducive to existence and conservation of a number of endemic and sub-endemic species. In Albania there are about 32 endemic plant species and approximately 110 other sub-endemic species sharing their habitats between Albania, Kosovo, Montenegro, Croatia and Greece. A full list of endemic taxons can be found in Attachment 1.

Many new species of microscopic algae have been encountered during the last decades, such as: Aneumastus albanicus, A. humboltianus, A. rosettae, Cymbopleura albanica, C. lata var. lura, C. lura, Navicula pseudopugnata, N. hastatula, N. parahasta, Placoneis neoexigua and P. juriljii. Meanwhile, there are approximately 80 new species encountered in the last 15 years, mainly in the Ohrid Lake that shares the same habitat between two countries. From the point of view of conservation, species that belong to the ice age and the relics are of special importance. Some of

the species date back to the Ice age, and are limited to high range mountains, mainly around high glacial mountains (Arctostaphylos alpinus, Aster alpinus, Androsace villosa, Dryas octopetala, Geum montanum, Heliosperma macrantha, Potentilla crantzii, Parnassia palustris, Pedicularis verticillata, Petasites doerfleri, Poa alpina, Luzula spicata, Salix herbacea, S. reticulata, Saxifraga opositifolia, Selaginella selaginoides, Trollius europaeus, Wulfenia baldaccii etc.), whereas some others are relicts from the Tertiary period, and are isolated in deep canyons. Among the relicts, we can mention: Pinus heldreichii, Aesculus hippocastanum, Buxus sempervirens, Pinus peuce, Ilex aquifolium, Quercus ithaburensis subsp. macrolepis, Laurus nobilis, Ramonda serbica, Taxus baccata, Viola kosaninii, Narthecium scardicum, Acer heldreichii, Jasione orbiculata, Silene asterias, etc.)

Compared to the flora, for the Albanian fauna there is less information, and there has been less research. It includes a considerable number of endemic species. Lake Ohrid is the most known ecosystem in the country, with regard to its endemic fauna: there are over 40 species of molluscs and two species of endemic Pisces. Insects are represented by 16 species (11 species of Hemiptera and five species of butterflies). However, it is believed that many endemic species are found Albania; only among beetles are believed to be more than 35 endemic species. Further studies of the country's fauna, in particular, particular biological speleology studies will help in finding new endemism in the country.

1.17 Linkages between ecosystems of Albania with those of neighbouring countries

Albanian terrestial ecosystems and marine ecosystems represent a part of the natural ecosystems of the Balkans and Mediterranean. Cross-border lakes, such as that of Ohrid and Prespa represent the exchange points of the flora and fauna with countries of the Balkans. Species migrate through rivers and upper parts of the Albanian mountains from their natural habitats outside Albania towards Greece, Macedonia, Montenegro and Kosovo. The large number of sub-endemic species related to Greece, and marine endemic species in the Adriatic Sea have pointed to the importance of Albania regarding protection of biological diversity in the regions of the Balkans and the Mediterranean.

1.18 Importance of Albanian regarding migratory species

Coastal wetlands and lakes in the country are areas of particular importance for wintering of migratory species. There are approximately **70 waterfowl species** with a population of **180,000 individuals** that hibernate/ pass their winters in these areas. At least four of them (Karavasta, Narta, Shkodra and Ohrid) are deemed to be areas of international importance regarding water birds, known as IBA (Important Birdlife Areas), or otherwise Ramsar areas, with over **20.000 bird species** for one area. Recently, the lake of Prespa in Albania has been added to Ramsar map.

1.19 Plant species with conservation interest at the global and European levels

In Albania there are a number of globally threatened species. At least 72 vertebrate and 18 invertebrate species of global importance have at least one of their inhabitants or populations in Albania. For some of them (Pelicanus crispus, Phalacrocorax pygmeus, Salmo letnica and Acipenser sturio), Albania is particularly important.

The current list of plant species included in the Bern Convention and Habitats Directive contain 30 species (Attachments 2 and 3), except for the twofolf counting for Marsilea quadrifolia, Solenanthus albanicus, Ramonda serbica, Caldesia parnassifolia, Himantoglossum caprinum, Buxbaumia viridis and Mannia triandra. The Red List of IUCN (Attachment IV) contains 26 species, all flowering plants, mainly monocot species (17 species are accepted and for nine others there are proposals for the International Species Information System (ISIS) for the Red List of IUCN). Species of Galanthus reginae-olgae, Carex markgrafii, Colchicum macedonicum, Festuca galicicae, Solenanthus albanicus, Stipa mayeri and Tulipa albanica are classified as threatened/endangered (VU, EN, CR) Scilla albanica and Sideritis scardica were considered as almost threatened (NT), for Sesleria wettsteinii, the data was insufficient (DD) and the rest under less critical status (LC).

1.20 Protection of species and habitats

The implementation of legal provisions was followed suit by the by-legal acts, which are based on a comprehensive legal framework about specific elements of nature. These documents include the list of the flora and fauna under protection, part of the publication of the Red Book of the Albanian flora, and the Red Book of the Albanian fauna.

Protection of species with interest in terms of conservation is done through special provisions of the Law on biological diversity and the law on protection of the wild fauna. Concomitantly, the law on biodiversity includes provisions on invasive species and the protection measures for the conservation of species. Achieving the Favourable Conservation Status of Species will come through the law on "Biodiversity" and law on "Protected areas" that contain provisions on protection of biological diversity within the protected areas and outside.

Protection of habitats takes place through provisions of the law on "Protected areas", which establishes the representative network of protected areas that serve to identify and created the ecological network, NATURA 2000. Law on protection of the wild fauna provides for protective provisions for important bird habitats in general and for the migratory species, in particular.

1.21 Protected areas

Law no. 9868 of 04.02.2008 "On some changes and amendments to Law no. 8906, of 06.06.2002 "On protected areas" establishes the criteria for proclamation of protected areas, as well as recognise particular protected areas of interest for the European Community, by guaranteeing initially the possibility for evaluation of habitats with interest for the European Community, included in the Annex of Directive for Habitats, and then make proposals for these areas in line with criteria established in the law, in line with the Directive for Habitats.

In addition, the law provides for internal sub-zones for each protected area or area in conservation. The concept of division of protected territory into functional areas on bases of their characteristics

facilitates performance of community activities in the territories of protected areas provides for the so-called "tampon" effect. The Law determines the procedures for declaring an area a protected one, regarding local governance and land owners.

There are in total 800 protected areas (including monuments of nature), which account for over **477,566 hectares**, or 16, 61 % of the territory of the country. The figure includes coastal territories, such as: marine area of Sazan- Karaburun.

The size of protected areas has been considerably increasing since the Strategy and Action Plan on Biodiversity, 2000. Since 2005, the number of protected areas has more than doubled, out of 5 % to over 16 %. The map and key data for protected areas are part of Annex 8 and 9. The current network of Protected areas includes 119.401 ha coastal areas and 13.261 ha marine areas.

The first marine protected area in Albania was declared in April 2010, the National Marine Park, Karaburun-Sazan.

In the Ramsar Sites (wetlands of international importance, as part of important water habitats for water birds include (1) the wetland of Karavasta; (2) wetland of Butrint; (3) Shkodra lake and wetland complex of Buna river and (4) lakes of the area of Prespa as the 4th Ramsar site in Albania through DCM no. 489, of 13.06.2013. Attachment 10 describes the location of Ramsar sites in the map of Albania. The Convention On wetlands became effective on February 29, 1996. Albania currently has 4 wetlands of international importance, of a surface of 98.181 hectares.

The Prespa lake area including the Ohrid Lake was proposed in 2013, as the first Biosphere Reserve for Albania. Programme International Co-ordinating Council of UNESCO in one of its sessions held in Jönköping, Sweden, on 11.06.2014 (Man and Biosphere) came up with the proposal for considering the region of Ohrid and Prespa as cross-border biosphere reserve.

1.22 Management of protected areas

Even though there has been a growing number of protected areas, issues related to management lag far behind. In line with the national legislation, Management of Protected areas is based on management plans. So far progress in drafting management plans is as follows:

- Progress in formulation and implementation of Management Plans for Protected areas is as follows:
- Drafting management plan for the National Park of Prespa was finalized in cooperation with KfW, and adopted by order of the Minister in June 2014.
- Development and rehabilitation of infrastructure of the National Park of Divjakë-Karavasta, Dajti National Park, national park of Lurë, RNM Kune-Vain-Tale and PM Buna-Velipojë. During 2014-15, projects were funded out of state budget funds.
- Management plans for 6 protected areas were formulated with assistance from SELEA project, IPA 2010.

Management plans for protected areas: protected landscape of Pogradec Lake, National park of Bredhi I Hotovë-Dangellisë, National Park of Tomorri Mountain, National Park Korab-Koritnik, Protected landscape of Mali me Gropa – Bizë - Martanesh and proposed National Park for the Alps (that will include the existing National Park of Theth and Valbonë and the Strictly Natural Reserve of Gashi river). With exception of the management plan for the Alps, all other five plans were adopted in December 2014.

- Management plan for the National Marine Park of the area Karaburun-Sazan was drafted in cooperation with GEF-UNDP project for Marine and Coastal Protected areas, and was adopted in November 2015.
- Management plan for the National Park of Divjakë- Karavasta was finalized in cooperation with JICA in June 2014 and was adopted in December 2015.
- The Management plan for the protected river landscape of Bunë-Velipojë, and the National Park of Shebenik-Jabllanica are at their closing phase, in the context of a project called "Institutional support for the Ministry of Environment of Albania, for the conservation of Sustainability of biodiversity and Use and Management of waste in Protected areas". The

project is funded through a grant of the Government of Italy, and is currently being implemented by IUCN – Conservation network.

- Two areas, that of Shebeniku and the river of Gashi with oak forests make part of UNESCO World Heritage;

Meanwhile, there are set up Committees for Management of Protected areas for the majority of protected areas, to ensure implementation of Management Plans.

1.23 Ecological networks

The Pan-European Ecological Network (PEEN), stemming from the Strategy on Biological Diversity and PEBLDS is an initiative for linking different protected European and national areas with the ecological networks, with the view of ensuring a favourable conservation status for the main ecosystems, habitats, species and landscapes in Europe.

Albania participated in this project implemented by the European Centre for Conservation of Natures (ECNC) which generated for the first time the indicative map for PEEN for South East Europe that identified the main areas of nature of European importance, and existing corridors between these areas. However, this process is still in its early stages of implementation in Albania. The full Albanian national ecological network (Alb-NEN) is still missing.

1. Emerald Network of Areas of Special Conservation Interest (ASCIs). Identification of areas of special conservation interest (ASCIs) for Albania took place during 2002-2008. As a result there are currently 25 potential Emerald sites. The proposals were evaluated by ETC/BD and Council of Europe during 2010-2012. The Standing Committee of the Bern Convention, in its 32 meeting, in December 2012 accepted the proposal of 25 areas for Albania. A full list of Emerald network and the map of countries of Emerald network in Albania is provided in Attachments 11 and 12.

2. Green Belt Initiative – Albania participated in the process of the Green Belt Initiative for the identification of areas of ecological network in the so-called "iron curtain" countries before the 90s.

3. Important Birdlife Areas (IBA) in Albania. According to a study on an "Inventory of wetlands in Albania" conducted by ECAT Tirana, in cooperation with EKBY, Greece, a number of these areas are provided in the map attached to Annex 13. Maps of Important Birdlife Areas (IBA) in Albania were identified as IBAs for Albania. Furthermore, their status towards being established as protected areas for birds, in line with the provisions of the Directive on Birds in line with the national legislation and through adoption of law "On protection of wild fauna " by the end of 2008. IBAs in Albania are established by Minister's Order of 10.04.2013 "On approval of coastal areas that serve as important habitats for migratory water birds ". There are approximately 15 IBAs in Albania, starting from 800 ha to 14000 ha. The largest IBA areas are found within the lakes, such as: the Shkodra Lake, Ohrid Lake and Prespa Lake. All the rest are in Adriatic coast. Table 11 provides detailed data on the situation of IBAs in Albania.

Table 11. Important birdlife areas in Albania (Source: http://www.birdlife.org/)

Total number of IBAs	15	Total number of IBAs areas	90,309
Number of individual criteria			
Globally endangered species (A1)	9	Biome species - endangered (A3)	0
Scales of endangered species (A2)	0	Congregatory species(A4)	7
Number of IBA areas identified for birdlife	0		

1.24 Monitoring of in situ and ex situ conservations

The situation of monitoring of the biological diversity status in Albania may be considered as "partial". The range and quality of monitoring data are also incomplete. Another reason is the level of monitoring parameters, and the quality of data that emerge from this monitoring.

The Agency for Environment and Forests of Albania was established in 2006. One of its main missions is to collect data from monitoring of environment, including monitoring of biological diversity, processes, evaluation at the national and international levels. Since January 2013, when the new law "On protection of Environment" became effective, the Agency is transformed into the National Environmental Agency (NEA), while taking over more competencies related to Environmental Permits, and Environmental Impact Assessment (EIA).

Protection of species- Red Book of Albanian flora and fauna

In line with law "On protection of biodiversity", the Red List of Albanian flora and fauna gets updated every five years, and then gets adopted via an Order of Minister, in line with the legislation in force. The first Red List of the Albanian flora and fauna was drafted in 2007 and a second revised List was adopted in December 2013.

1.25 Strategic and policy framework

The process for the formulation of national environmental legislation and policies is based on the approximation of EU environmental directives. This is a methodological principle for the preparation and adoption of normative environmental legislation. In order to ensure the accurate implementation of this principle, the following steps have been pursued:

- Identification of EU directives on environment, including changes to certain directives;
- Classification of Directives, in line with focus areas such as: air, water, waste etc.;
- Definition of priorities for transposition of each of the EU Directives;
- Translation of EU directives in Albanian and their publication;
- Formulation and adoption of medium-term plan for approximation of Directives. The plan was monitored from close by the Ministry of Integration, and there was a briefing for European Commission in Brussels;
- Formulation, adoption and implementation of an annual matrix for the normative acts, while identifying each directives that will be excluded;

- Every draft-law and draft DCM will have as attachment a "Table of concordance of the normative project with EU acquis communaitaire" that identifies which EU directive or part of the directive may be transposed, and the level of transposition of directives in the Albanian legislation. The proposed legislation gets verified in detail by the Ministry of Integration before it is revised by the Council of Ministers and the Parliament;

- The Ministry of Environment (MOE), as the responsible institution for the formulation and implementation of the environmental legislation includes an Integration and Project Department that is in charge of following the process of approximation and reports to the Ministry of Integration;

The main difficulties encountered during the approximation process are related initially with the identification of the necessary organizational, economic, structural and administrative measures. This is in particular with regard to the standards of water quality which requires considerable investments in the environmental infrastructure. In addition, many of the directives require the establishment of new entities and systems, and the need for strengthening the existing skills and capacities. It is worth pointing out that the implementation in practice of EU Directives has encountered difficulties which have also led to delays.

The principles of sustainable development have been integrated into a number of strategic and legal documents. Among the most important is the Cross-Sectorial Strategy on Environment which was adopted via DCM no. 847, of 29.11.2007 (Official Gazette 174/2007, pg. 5349, date of publication 22.12.2007), and the National Strategy for Development and Integration (NSDI), 2007-2013, adopted by DCM on March 2008.

The strategic goals of the Republic of Albania in the area of environment are established in the Cross-Sectorial Environmental Strategy (CSES), which is an integral part of NSDI, and it is available at: http://www.environment.gov.al. CSES is the main document that lays out the governmental policies in the area of environmental protection. Its final goal is to meet the constitutional obligations vis-a-vis Albanian citizens to secure a healthy and ecological environment; development of rational and sustainable use of natural resources; protection of

environment from pollution and degradation; and promoting environmental values as important assets for the country's sustainable development. The review and update of the existing NSDI and CSES for the timeframe up to 2020 is done and is pending approval by the government in the course of 2016.

The main pillars for the protection of nature include:

- Full approximation of the 'acquis' for the protection of nature in the context of EU integration process, in particular after obtaining the EU candidate member county, which Albania got in 2013;
- Establishment of the SCI network in the context of the country's European Integration, NATURA 2000;
- Implementation in practice of management plans for the protected areas and of the action plans for endangered species and habitats; while ensuring the favourable status of conservation of endangered species and habitats;
- Restructuring and strengthening of the management structures for the protected areas;
- Promoting and implementation of economic incentives in the area of management of wild fauna through public and private investments;
- Promoting and applying economic incentives for the management of protected areas and their sustainable use;

Many of the policies and measures of this strategy are supported by programs and certain actions established in the inter-ministerial strategies. The inter-ministerial framework represents a contemporary and integrated base of the environmental factors related to transport, agriculture, property rights etc. This concept makes the local government institutions responsible for the protection and sustainable development of environment in the country. The environmental goals, objectives and issues are identified in the following documents:

- NSDI and CSES represent the key strategic documents;
- The government of Albania agenda for 2013-2017;

- National Plan for European Integration, 2014-2020, adopted by DCM no. 438, of 02.07.2014 "On adoption of the National Plan for European Integration, 2014-2020". The Plan gets revised annually, in order to respond to the priorities of the EU membership process.
- Sectorial strategies: DSPEP

The goals include:
- Achievements (EU, WHO) regarding the standards of air quality, water supply and waste water treatment, noise, urban waste and protected areas, with the goal of improving the quality of life;
- Reduction of greenhouse emissions and ozone depleting substances, in order to contribute in the prevention of climate changes,
- Protection and maintenance of all surface and subterranean natural resources for current and future use,
- Protecting and improving land with the goal of maximising fertility, minimizing erosion, and preventing pollution;
- Protection and improvement of biodiversity, protected area and species, ensuring conservation of natural and cultural environment heritage, in line with European and international commitments;
- Effective spatial planning and integrated planning of development taking into account the economic, social and environmental objectives in order to ensure equilibrium;
- Repair and rehabilitation of severely damaged areas, in order to eliminate threats to public health and biodiversity, as a result of these damages. CSES is drafted in full compliance with the standards for the formulation of the strategy of European countries. It was extensively discussed in round tables with all relevant line ministries and stakeholder groups. CSES aims to achieve its objectives through a concrete, program with deadlines, and cooperation with the respective institutions and with the respective budget.

The effective implementation of CSES is a legal obligation for all institutions, the majority of which have been part of the consultations process. For the formulation of CSES was established

an inter-ministerial working group (IMWG) led by the Minister of Environment (MOE), with senior members from line ministries.

CSES establishes the main objectives for the sustainable national development, while protecting to the best degree possible all natural resources from pollution and degradation, and promotion of environmental assets to the benefit of national prosperity. Sustainable development is led by the Government vision and policies through integrated development of rural and urban areas, in line with the protection of environment. This should be achieved through effective convergence of sector policies in one single integrated approach. The forestry sector is part of the administrative structure of the Ministry of Environment, and so the strategy prepared by the Ministry gives an accurate picture regarding integration and development of these sectors.

One of the strategic priorities of CSES is the rapid, balanced, and sustainable development in the economic, social and human domains, where transportation, energy, water supply, sewerage and environment play an important role. The cross-sector strategy for sustainable development includes:

- National Energy Strategy adopted by DCM no. 424, of 26.06. 2003 (26.06.2003, Official Gazette 54, 2196 p.);

- Cross-sectorial Strategy for rural and agricultural development, adopted by DCM no 709, of 29.10.2014 (Official Gazette 169/2014).

- Business and Investments Development Strategy, adopted by DCM no 795, of 11.07.2007 (Official Gazette 170, p 5109, 07.11.2007);

- Transport Sector Strategy, adopted by DCM no. 1214, of 03.09.2008 (Official Gazette 145, pg. 7183, 03.09.2008.);

- Tourism Sector Strategy, adopted by DCM no. 844, 06.11.2008 (Official Gazette 107, pg. 4732)

- Cross-sector Strategy for Rural Development, adopted by DCM no 924, 14.11.2007 (14.11.2007, Official Gazette 192, pg.6149);

- Cross-Sector Strategy for Regional Development, adopted by DCM no. 773, 14.11.2007 (14.11.2007, Official Gazette 161, pg. 4715).

- Law no. 10.431, 14.06.2011, "On environmental protection" establishes the main strategic elements for environmental protection;

- Prevention and reduction of water, atmosphere and soil pollution, as well as other types of pollution;

- Protection of biological diversity;

- Rational use of natural and mining resources, and avoiding their damage while their utilization;

- Rehabilitation of damaged areas and ecological polluted areas due to human activities and destructive natural phenomena;

- Maintaining ecological equilibrium and improving the quality of life.

1.26 National legal framework on protection of nature and biodiversity

Legislation on protection of nature is based on the Constitution of the Republic of Albania, 1998; adopted by law no. 8417, 21.10.1998 "Constitution of the Republic of Albania" Official Gazette: 1998, no. 28, pg. 1073, date of publication 07.12.1998. Article 59 of the Constitution points out that: "The State aims at ensuring a healthy and ecologically appropriate environment for the current and future generations, and the rational use of natural resources based on the principle of sustainable development ", while aiming at:

a) Ensuring a healthy and ecologically sustainable environment for the current and future generations;

b) Rational use of forests, water, pastures and other natural resources on the bases of the principle of sustainable development.

Article 56 of the Constitution points out: "everyone is entitled to information about the status of environment and its protection". Constitutional provisions point out that:

- Environment and its protection are deemed as the main goals of the State;

- The essence of environmental protection is continuous conservation of a healthy environment and ecological appropriate environment;

- Protection of the environment represents a permanent duty, and at any time, and under any circumstance and directly affects the life and health of the population;

- Sustainable development is a key requirement, and a way for the Constitution to guarantee protection and conservation of environment for the current and future generations;
- The public is entitled to be informed about the status of environment and the governmental institutions are obliged, in turn, to inform the public about the environment and the measures for its protection.

The legislation adopted in Albania regarding protection of specific environmental components or handling of important environmental processes is in harmony with the legislation provisions and these together compose the national environmental legislation. The national environmental legislation is going through an intensive phase of transpositions through their involvement in the EU Directives on environment. Law no. 10431, of 14.06.2011 "On environmental protection" establishes the principles that support all activities on environmental protection. The Law has been revised to reflected several Directives, including Prevention and Integrated control of pollution, Large Combustion Plant, Seveso II, Registration of Pollution and Freedom of Transfer, Environmental Liability Directive etc.;

The national specific legislation is drafted with the view of improving the water and air quality, management of waste, environmental impact assessment, chemicals and hazardous waste, biodiversity, and fauna protection. All normative acts, laws and regulations related to environment are designed and implemented in line with the above mentioned principles.

Protection of biological diversity may be achieved only by accepting and respecting the objectives and principles of conservations and sustainable development in sectors related to biodiversity, such as: agriculture, forestry, fishing, industry, urban planning, transportation and tourism.

Internationally acknowledged principles such as: "principle of prevention", "the polluter pays, principle ", "exlusion of / avoidance of impairment ", "moving to other fields , in order to minimize damage", "Ecological compensation" "conservation of ecological integrity", "Restoration and recreation ", the principle of "technology and best practice", "Public participation and the right of public for information " should apply in all the above mentioned sectors, in order to enhance and

develop protection of biodiversity. These principles will serve for the analyses of the existing legal and institutional legal framework on protection of biodiversity, while endorsing and identifying the necessary improvements in the country and propose amendments to existing legislation.

Protection of nature and the general principles are sanctioned in law "On environmental protection", no. 10431, of 14.06.2011, which in article 5 establishes that "conservation of biological diversity" is one of the elements of environment.

There are several acts that guarantee protection of nature in the Republic of Albania, including Law "On protection of Biodiversity", No 9587, 20.07.2006, Official Gazette no. 84, date of publication 08.09.2006, pg. 2847, recently amended by law no. 68/2014, of 03.07.2014;

- Law "On protected areas", amended by law no. 9868, of 04.02.2008 "On some changes and amendments to law no. 8906, 06.06.2002 "On protected areas ", No. 8906, of 06.06.2002, Official Gazette no. 29, date of publication 26.06.2002, published in Official Gazette no. 18, 2008, pg. 640, date of publication 19.02.2008;
- Law "On protection of wild fauna", No. 10006, dated 23.10.2008, Official Gazette no. 168, date of publication 31.10.2008, pg. 8273, amended;
- Law "On rules and procedures for international trade of endangered species of flora and fauna", No. 9867, dated 31.1.2008, Official Gazette no. 18, publication date 19.02.2008, pg. 629, amended;
- Law no. 10.253 dated 11.03. 2010 "On hunting";
- Law "On some changes and additions to Law no 9587, dated 20.07.2006 "On protection of Biodiversity"", revised, for the full approximation of EC Directive 92/43 / EEC, May 22,1992 "On conservation of natural habitats of wild fauna and flora", adopted on July 2, 2014.
- Law No. 7/2014 "On prohibition of hunting in the Republic of Albania", adopted by the Assembly of the Republic of Albania, on 30.01.2014. In line with the provisions of this law, hunting activity in the country is frozen for a period of two years. The law is published in the Official Gazette of 28.02.2014 and became effective on March 16, 2014.

For the implementation in practice of Law no. 7/2014 "On prohibition of hunting in the Republic of Albania", the Minister of Environment, on July 2, 2014, drafted and adopted the action plan on the implementation of a moratorium on hunting.

In order to ensure implementation of these pieces of legislation, a number of by-laws were issued for completing the legal base regarding specific elements of protection of nature, including the list of protected flora and fauna species, as published in the Red Book of the Albanian flora, and the Red Book of the Albanian Fauna.

Protection of species is in line with specific provisions of the Law on biodiversity and the law on protection of wild fauna. The law on biodiversity contains provisions on invasive species and the protection measures for the conservation of species. Protection of habitats is done through provisions of the law on protected areas, and the network for protected areas. The network serves to identify and create the ecological network NATURA 2000. The Law on protection of the wild fauna provides for the protection of important habitats for birds in general, and migratory birds in particular.

1.27 Main threats to biodiversity

The main threats to biodiversity include: industrial development, urbanization, illegal hunting, fishing, soil erosion, energy and mining, transport and tourism, as some of the sectors that have an adverse impact on the diversity of the biological species. The main factors behind the loss of biological diversity are the anthropogenic activities, where deforestation and desertification of arable land, together with devastation of meadows and pastures have had a major adverse impact on changes in the habitats in the near past. Construction of roads and deviations in the water stream or building of dams, and pipes, the pollution from different sources, fires, diseases and climate changes have been and will continue to be some of the reasons behind degradation and fragmentation of habitats in Albania.

Hunting is one of the activities with the largest impact on the status of biodiversity and its components. This is due to the fact that illicit hunting activities for almost two decades could not be put under control efficiently. This has led to a declining trend of the population of wild species, subject to hunting, in particular birds, which for the most part are migratory birds (Source: Ministry of Environment, INSTAT annual data).

One of the important developments is a recent initiative of the Minister of Environment, by the end of 2013, with a proposal for the government to pass a law on prohibition of hunting in Albania for a given period of time.

As a result of this proposal, the Parliament approved in the beginning of 2014 a law "on moratorium of hunting in the Republic of Albania", for two years until March 2016. The measure is expected to be conducive and minimize concerns about endangered wild fauna species.

Meanwhile, following termination of moratorium, control of hunting and implementation of law will represent important priorities.

Forests represent a sector with a very important impact on biodiversity. Loss and fragmentation of habitats, due to illegal hunting/ and/or overuse represent the main adverse element in this aspect. According to estimates, more than 80,000 ha of forestry area have been deforested during the last two decades.

In order to improve this situation, recently were introduced a series of measures such as: prohibition of export of timber and coal from Albania. The main issues to be addressed are implementation of the law and updated credible data for the forestry cadastre.

Fishery is an important sector for the economy, as is for the biodiversity. Illegal fishing and overuse of fishing resources are some of the priority issues. A credible evaluation of the actions for the protection of Pisces should continue, in tandem with the management plan for Pisces species in particular.

Spatial planning: In post-communist Albania, informal settlements represented the norm. Illegal building practice in urban areas often due to the absence of a clear system for property rights and urban poverty represent important challenges in many areas of the country. Informal settlements seem to have had an important and immediate impact on the environment, more so than the rest. A true fact remains that it is more difficult to manage waste generated from informal settlements. It is also difficult to reduce or manage collection of natural materials, which in some cases may lead to loss of biodiversity in a given area. In addition, secondary informal settlements often mean unplanned extension of the urban area to include arable land.

Tourism: Albania is under threat due to unsuitable practices related to massive tourism developments. With the current model of development based on quantities, the foreseen growth of tourism in the region will continue to be detrimental for the landscape, and have an impact on soil erosion, while exercising pressure on endangered species. Concomitantly, the strain or overuse of available water resources, increasing amount of waste and discharge of pollution in the sea among others represent a cultural threat. Construction for tourism purposes has also had a very adverse impact on the fragile coastal and marine resources in the country. Considering the fact that more than 3 million tourists visited the country during 2014 (more than 760 000 foreigners, with an increase by 40 % compared to 2010), it is clear that the impact of tourism on the soil and landscape is extensive. Unforeseen growth will continue to have an adverse impact on these regions, and destroy the so-called virgin areas.

1.28 Multilateral Environment Agreements (MEAs)

Albania is Party to a considerable number of multilateral environmental agreements related to biodiversity, including but not being limited to:

- The Convention on Biological Diversity (CBD), where Albania is party since 10.11.1996 and the Nagoya Protocol for access to genetic resources and sharing of profits from their

use, where Albania is party since January 2013, following the adoption of law no. 113/2012, dated 22.11.2012. The Cartagena Protocol on Biosafety was ratified by the Albanian Parliament by law no. 9279, dated 23.09.2004 "On membership of the Republic of Albania in the Cartagena Protocol and Convention of biosafety of biological diversity ", published in the Official gazette No. 74, and dated 27.10.2014. As long as GMOs represent a cross-sector domain there is no specifically tailored structure by law for them. Meanwhile, in the context of the Cartagena Protocol on biosafety and Convention on Biological Diversity (CBD) there is a number of institutions that are part of the national network for the implementation of the Protocol. Whereas GMOs, as such requires the contribution of all key actors to determine and coordinate the work among them. The main institutions include: Ministry of Agriculture, Rural Development and Water Administration which is responsible for sowing, food and trade; Ministry of Environment for controlling invasive species, including introduction and methodology for the information of States Parties to the biosafety Protocol. At the national level, in line with the provisions of law no. 9863, dated 28.01.2008 "On food", was established the National Food Authority (NFA) under the Ministry of Agriculture, Food, Rural Development and water resources Administration, via DCM no. 1081, dated 21.10.2009 "On the organization and operation of NFAs". According to the legislation, one of the main duties of NFA is to "manage and lead the process of risk assessment in terms of food and nutrition ". Other actors involved in policy formulation are: Ministry of Health, in charge with running analyses for microorganisms in packaged food and their impact on human health. Ministry of Education and Sports is responsible for the development of biological technology. General Directorate of Customs plays an important role regarding implementation of Carthagena Protocol on biosafety regarding cross-border movement of GMOs. In the context of the reform of research institutions was established the Department of Biotechnology in the Faculty of Natural Science, Tirana University, which in cooperation with other institutions of the above mentioned ministries, and the Academy of Sciences play a very important role for the conduct of risk assessment procedures of GMOs.

- In the context of transposition of EU legislation, DCM no. 200, dated 02.03.2011 "On adoption of the action plan in the domain of the genetically modified organs (GMOs), 2011-2013", during which was identified EU legislation and division of responsibilities for its transposition between line ministries with relevant deadlines.

- Albania is member of the Supplementary protocol of Nagoya-Kuala Lumpur, a supplementary protocol to the Carthagena Protocol on Biosafety, via law no. 112/2013, dated 22.11.2012 "On membership of the Republic of Albania in the Supplementary protocol of Nagoya -Kuala Lumpur, supplementary protocol of Biosafety", in the framework of the Convention On Biological Diversity. This protocol got ratified for the 50th time in July 2014, and became effective on October 2014. The protocol is binding on Albania, as State Party for its implementation in practice. As a first step it is necessary to have an analysis of the national legislation, in order to identify the gaps that need to be bridged. At the second phase it is important to finalize dhe complete the legal framework.

- The Ministry of Foreign Affairs has deposited the adherence instruments at the Secretariat of the Convention on Biological Diversity for the Nagoya Protocol and Supplementary Protocol of Nagoya-Kuala Lumpur of CBD, on January 29, 2013.

- The Convention "on the Conservation of European Wildlife and Natural Habitats " (The Berne Convention) was ratified by the Albanian Parliament via law "On ratification of Convention: "on the Conservation of European Wildlife and Natural Habitats " (The Berne Convention) ", published in Official Gazette no. 7, dated 04.04.1998.

- The Convention on International Trade in Endangered Species of wild Fauna and Flora (CITES), where Albania became member following adoption of law no.9021, dated 06.03.2002 "On adherence of the Republic of Albania in the Convention on International Trade in Endangered Species of wild Fauna and Flora (CITES)", published in Official Gazette no. 22, dated 02.04.2003

- The Bonn Convention on Migratory Species (The Bonn Convention)" and its agreements on cetacea (ACCOBAMS), European population of bats (EUROBATS), and Agreement on the conservation of African and Eurasian Migratory water birds (AEWA). Albania became member in the Convention following adoption of law no. 8692, dated 16.11.2000 "On adherence of the Republic of Albania in the Bonn Convention: On the conservation of

migratory species and its related Agreements'' published in Official Gazette no. 43, dated 13.11. 2000.

- Albania is party to the Ramsar Convention "Convention on wetlands of international importance, especially as waterfowl habitat (The Ramsar Convention" since 29.02.1996.

- Albania is party in the United Nations Convention to combat desertification (UNCCD), following adoption of law no. 8556, dated 22.12.1999 "On membership of the Republic of Albania in the United Nations Convention to Combat Desertification in countries that have gone through long periods of draught and/or desertification ", published in Official Gazette no. 37, dated 25.02.2000.

- Albania became member to the Barcelona Convention for the protection of the Mediterranean Sea against Pollution", following adoption of law "On membership of the Republic of Albania in the Barcelona Convention for the protection of the Mediterranean Sea against Pollution and its 6 protocols", published in Official Gazette 43, and dated 13.12.2000. The strategies, action plans and respective programs were drafted for the implementation of the Barcelona Convention. Participation in conferences and meetings of parties organized by the respective Secretariats of the Conventions, and preparation of the national reports for their implementation is a common rule. In addition, Albania ratified the Protocol for the Integrated Coastal Areas Management in 2011.

II. VISION, POLICIES AND STRATEGIC GOALS

The Convention on Biological Diversity (CBD) establishes the biological diversity as life scale variation. This change may refer to genetic variation, variation of species or changes to the

ecosystem within a certain area, biome, or the planet. The CBD has three main objectives that include: (1) conservation of biodiversity, (2) sustainable use of its components, and (3) fair and equitable sharing of profits stemming from the use of genetic resources and transfer of respective technologies.

Stemming from these three objectives, DSPEP tries to ensure a more effective and coherent implementation of the Biological Diversity Convention (CBD). SAPB takes into account other commitments in line with other agreements on biological diversity.

The general scope of DSPEP is to contribute at the national level for achieving the objectives of 2020 in stopping loss of biodiversity and further degradation of ecosystem services.

In addition DSPEP tries to re-establish biodiversity at the core, for what it is possible, and to contribute in the prevention of global biodiversity loss. This general scope may be attained only when the Albanian legal framework and the EU legal framework have been fully implemented, when there is less pressure on biodiversity, when ecosystems have been biologically and equitably restored, when respective technologies are transferred, and when issues and values of biodiversity have been channelled through the appropriate policies.

DSPEP is deemed as the response of Albania vis-a-vis its official obligations on the CBD. Special attention has been paid to the needs for integration, conservation and sustainable use of biodiversity in all appropriate aspects of society, including social and economic sectors.

2.1. NATIONAL BIODIVERSITY OBJECTIVES

In order to achieve the general scope of this strategic policy document, several priorities, goals and *national specific targets on biodiversity have been detailed*.
In line with the global objectives of "Aichi" on biodiversity until 2020 in the context of the Strategic Plan on Biodiversity for the period until 2020, and in a broader context of UN Decade on Biodiversity 2011-2020, the following national objectives were identified:

One of the national objectives, already met is that of the Nagoya Protocol on the ratification of ABS – Aichi, target 16.

1. **By 2020**, to ensure approximation and implementation of EU acquis in the area of natural protection.

2. **By the end of 2015**, there should be a strategic document on biodiversity (DSPEP), revised and adopted – in line with target 17, Aichi;

3. **By 2020**, 17 % of terrestrial areas and 6% of marine and coastal areas to be designated as Protected Areas and to be managed in a sustainable integrated approach. Introduction of the ecological national network of Albania, as an integral part of the Pan European Ecological Network (PEEN) – in line with target 11 of Aichi;

4. **Rehabilitation** of at least 15 % of the degraded areas through conservation and restoration activities – in line with Aichi biodiversity targets – this will be attained through implementation of management plans for protected areas and through implementation of action plans for species, and especially for habitats;

4. **More sustainable Agriculture and forestry activities** in line with biodiversity objectives;

5. **Implementation of Nagoya** Protocol on access and sharing of genetic resources and profits from their use – in line with target 16 of Aichi;

6. **Raising awareness on biodiversity** - in line with target 1, Aichi.

Other sector objectives related to protection of nature include:

- Addressing causes of loss of biodiversity
- Reducing direct pressure on biodiversity and promoting sustainable development
- Improving implementation through participatory planning, management of knowledge and capacity building
- Increasing benefits for all from biodiversity and ecosystem services
- Improving biodiversity status, while preserving the ecosystems, species and genetic diversity

There are nine national biodiversity objectives (NBOs), classified in four priorities that include the necessary steps towards achieving objectives of 2020. They are meant for attaining the general scope of the Strategy and for contributing in its vision. All NBOs are deemed to be of high priority. Figure 7 is a description of the focus group on national biodiversity with four priorities. Nine NBOs were translated into 38 specific targets.

They will help interested parties and national authorities in taking priority actions, and be implemented at least by 2020. During implementation of this strategic document, authorities should pay particular attention to information, inclusion and participation of actors. This shall mean that there would be consultation and cooperation among different actors, and would enhance support and promote implementation of the Strategy. Cooperation and partnership with stakeholder groups for concrete projects related to concrete projects regarding strategy objectives will help in raising their interest (for e.g. legal framework on thematic topics, joint studies). A short list of the main stakeholders for the implementation is given for each strategic objective. The list of institutional actors on topics of biodiversity in Albania is presented in Annex 14.

2.2. POLICY OBJECTIVES AND MAIN ACTIVITIES

Objective I. Integration of biodiversity in cross-sector policies

Strengthening integration of biodiversity aspects into the relevant sector policies

Conservation of biodiversity by businesses and environmental sectors should take place through instruments such as: protected areas. Despite the fact that the activities of all economic sectors have an impact on biodiversity, to a certain extent, the level and protection of biodiversity cannot be achieved only through environmental policies.

The Ministerial Declaration of Hague by COP VI in 2002 stated that: "The most important lesson of the last ten years is that the objectives of the Convention would not be met, until full integration of biodiversity with other sectors is met. The need for inclusion, conservation and sustainable use of biological resources in all sectors of national economy, the social and policy context represent a complex challenge at the core of the Convention"

DSPEP should be clearly linked with other national strategies, since protection of biodiversity is a key pre-requisite for sustainable development, as well as in the context of the current structural reform program of the country. There are several factors that have an impact on biodiversity, while causing fragmentation of habitats, devastation of habitats and disruption of wildlife. The most important impact comes from spatial planning sectors such as: industry, transports and energy. The 2020 objective will only be achieved when all respective sectors will integrate biodiversity as part of their plans and policies. Stakeholders in the implementation of this national objective include: national public services, local authorities, different social and economic sectors, professional associations in sectors such as: agriculture, fishing, forestry, mining, energy, tourism, transports, industry, finance and scientific policies), farmers, fishermen, natural resources managers, private sector, researchers, NGOs and the broad public.

Specific targets

Encouraging the integration of biodiversity in all relevant sector policies, formulation and use of guidelines to ensure that SAPB has been taken into account during the decision-making process.

The objective of biodiversity integration is to integrate principles of biodiversity conservation and its sustainable use in policies, plans, programs and production system, where primarily the focus used to be on production and economic activities and development, rather than on losses of conservation of biodiversity, or profits (*Petersen and Huntley 2005).*

DSPEP needs to play role in the decision-making processes and planning. Biodiversity related issues need to be taken into account early only in the process of formulation and biodiversity policies, and should not be seen as independent/separate from sector policies. On the contrary, they should be mutually supportive: sector policies should support implementation of national biodiversity objectives, whereas the integration of biodiversity goals should be useful for sector policies.

To ensure efficiency of integration of biodiversity concerns in the decision-making process and in the disunion of policies of other sectors, except for conservation of nature will promote implementation of sector instructions for integration of biodiversity. It is also important to continuously review suitability of legislation, in order to further foster DSPEP objectives.

Promotion and supporting inclusion of actors in decision-making regarding biodiversity

The Aarhus Convention (The Convention on access to environmental information) provides for the participation of the community in decision-making process, and for access to justice regarding environmental issues, while giving the broad public rights and imposing obligations on public authorities regarding access in information and public participation and access to justice. Albania signed the Convention on June 25, 1998. The Convention was ratified by the government of Albania on June 27, 2001. According to the Convention, all interested Parties should be able to have their say in decisions that have an impact on biodiversity.

Partnerships that actively joint interested parties should be developed in a way such that leads to exchange of information, expertise and promote positive relations between biodiversity and other sectors. This entails consultation and cooperation between different authorities and parties involved in this area. Participation of different actors will enhance their cooperation and inclusion.

It will also increase support for protection of biodiversity and will promote certain actions in this field.

Conservation and strengthening of the social functions of biodiversity

Biological systems and the key processes for the wellbeing of our society depend on the majority of integration activities, in order to create trust that they are favourable – a victory for development and conservation. Trust is built on the supposition that market, if properly informed and promoted, will protect biodiversity. However, the link between biodiversity and wellbeing of the society is not properly understood.

The persistence of local traditions in the use and management of biodiversity does not mean that such links are static. Hence, it is necessary to preserve and learn more about the social benefits of biodiversity and profits deriving from the diversity of social species, in order to strengthen synergies and reduce social inequalities, unavoidable pressure and negative impact on biodiversity.

Social and cultural diversity in Albania will be taken into account in line with the circumstances, and implementation of biodiversity, in order to ensure more efficient and fair mobilization of the broad public and different stakeholders.

Fostering involvement of the private sector in the protection of biodiversity

Private sector uses natural resources for the production processes and depends on healthy ecosystems to remove waste and conserve land, water and air quality. Concomitantly, the economic activities of the private sector may have major adverse implications on biodiversity. As long as the private sector is part of the problem, it also is part of the solution, and may offer new solutions regarding conservation. By addressing the problem of their environmental footprints, companies may bring in new opportunities to respond to consumer needs about the right products, new regulations, in order to save on costs and natural resources.

Consequently it is important to involve the private sector, and not only, but also to push them to integrate biodiversity requirements into the management systems of their companies, in order to improve their environmental performance, while ensuring their better engagement in managing and reporting on biodiversity. One of the appropriate instruments for managing the impact on biodiversity and contributing in the protection of biodiversity could be the generation of Action Plans on Biodiversity for their companies, in order to manage the generic impact of the companies on biodiversity.

Identification of the implications of different sector policies on biodiversity and taking measures to correct or strengthen these implications

All economic activities more or less have an impact on environment, be it intentionally or not. These could be positive or adverse impacts. Most of the time, the impact is negative. The majority of activities usually have an adverse impact on ecosystems, or simply pollute the environment. Economic activities range from mining to agriculture. Activities with potential adverse impact should be identified and investigated, in order to determine the accurate causes and implications of these activities on biodiversity. The analyses will allow for the identification of alternatives to avoid or minimize the impact of sectorial policies on biodiversity.

It is important to link strategic planning with public participation, in order to promote environmental participatory policies. In this context, the procedure for environmental impact assessment (EIA) and environmental strategic assessment (ESA) should include criteria on biodiversity and refer to respective documents of national policies, such as: Albanian National Strategy on Biodiversity, CBD and the Convention and biodiversity related agreements. In addition, it is important to apply the guiding documents for the integration of biodiversity in the EIAs and ESAs issued by the European Commission (2013), under EIA and ESA directives.

There is potential for synergy between several fora and CBD in handling information about species that are potentially damaging for biodiversity.

On the other hand, the experience gained (for e.g. the experience based on CITES in control of trade of wildlife) may contribute in the national and international efforts, to avoid adverse biodiversity impact.

Promoting implementation of CITES for the support of sustainable use of biodiversity

This Convention aims at preventing trade and to have an impact on endangered species, by controlling moves of certain categories of species. Species which are or could be endangered in the future by trade are part of the list of three Attachments of the Convention. If one of the species is part of these lists, then trade of that particular species is subject to strict rules.

Albania is applying CITES legislation through the law adopted in 2008 and has planned for completing it with by-laws, in light of improving CITES implementation for the short to medium-term. Hence, Albania is and will continue to explore new modalities for increasing capacities and improving implementation.

Ensuring sufficient financial resources for biodiversity

The process for the financial needs assessment and mobilization of financial resources is closely linked with the development of a NSBAP. According to CBD resources mobilization is related to increasing funding for activities related with biodiversity, both at the national and at the global level, in order to meet the Aichi objectives of biodiversity, in compliance with Article 20 of CBD. In order to meet the objectives of the Albanian National Strategy on Biodiversity, it is important to take further concrete steps in key areas. It is important to substantially enhance investments in coherent and integrated activities in biodiversity. Financing will be supported by national environment administration, other administrations and financial instruments, including private sector.

Interested parties involved in the implementation of this objective include: regional and national finance and economies, development and environmental cooperation authorities, local authorities, private sector, markets, NGOs, and other enterprise working in the domains such as SAPB.

Specific targets

By 2020, the financial resources on biodiversity from all sources to double compared to annual financing average for 2006-2010

Albania should ensure adequate funding for biodiversity from all resources. Hence, it is important to explore financial possibilities at the national level, both in terms of creating special funds for biodiversity and its integration in the sector budgets and programs. It is necessary to mobilize new financial resources, such as partnerships with the private sector.

Albania needs to explore and mobilize additional financial resources, in order to ensure effective implementation of DSPEP and to contribute to the prevention, and loss of global biodiversity. Existing financial institutions will become stronger due to replication, increasing the number of successful financial mechanisms. It is important to create conducive conditions that enable encouragement, and involvement of the private sector in support of three objectives of the Convention, including the financial sector.

Use of existing and future EU instruments for promoting biodiversity

This objective supports Aichi target no. 2 and 20. In July 24, 2014, European Union gave Albania the candidate EU member candidate country status. As such, Albania may be able to tap into co-financing resources through European financing programs, such as for e.g. IPA pre-accession instrument – IPA II, 2014-2020).

Objective II. Reducing elements and proceses that pose a threat to biodiversity

Monitoring key components of biodiversity in Albania

The Convention on Biological Diversity (CBD) establishes biodiversity, as the scale of life variation, and in principle all of these changes should be subject to protection. It is important to

identify key components of biodiversity that require emergency measures, as well as to ensure monitoring of their status.

Priority biodiversity components include: (1) unique, rare, and endangered ecosystems and habitats; (2) endemic, unprotected and rare species; (3) the genome and genes of special social, scientific or economic importance; and (4) functional components of biodiversity that are essential in the service delivery for the ecosystem.

Monitoring is a key component in the management of biodiversity, as well as a pre-condition towards progress for 2020 objectives for the public and interested parties. Furthermore, it contributes to raising public awareness and to participation. Monitoring and reporting on the status of biodiversity in Albania will require development of appropriate monitoring instruments and indicators.

Interested parties involved in the implementation of this objective include: national and local authorities, relevant sectors such as: (agriculture, fishing, forestry), nature conservation agencies, universities, NGOs working on conservation of nature, and any other organization working towards a common goal such as: SAPB.

Specific targets

Introducing a common Albanian methodology for the identification and monitoring of main components of biodiversity.

Erosion of biodiversity and loss of environmental services at the global level are not a result of unsuitable means for protection of nature, but rather of pressure on natural environment. So far, there is no methodology to identify priority elements of biodiversity in Albania at the national level. The methodology may take into consideration the conduct, and identification of main areas of biodiversity based on bio-regional approaches, to select the biodiversity components at risk of extinction or species of special importance for the functioning of endangered ecosystems, together with a flag*Product for Albania.

It is important to establish and apply common standards for the inventories of biodiversity and monitoring, for the assessment of the status of biodiversity, taking into account existing instruments on monitoring and reporting obligations at the EU and CBD levels. The categories and criteria used by the Red List of IUCN on endangered species may also be used. The monitoring system may apply methods such as: "Pressure - State - Response", as provided in the CBD, or methods such as: "driving forces", Pressure, State, Impact, Adapted responses by EEA"

Identification and monitoring of priority species, habitats, genetic and functional components of biodiversity

Monitoring represents a (regular/irregular) interruption of a series of surveys in time conducted to indicate the degree of compliance with a standard which is in place, or scale of deviation from an expected norm". Monitoring of priority components of biodiversity is the key to the appropriate management and improvement of management policies and practice, drawing from the results of operational programs.

Priority habitats shall include those within broad categories of habitat that require active conservation, beyond simple monitoring. Attachment 7 provides a list of priority habitats.

A full list of priority habitats, species and genetic components may be drawn only following a common methodology for the identification of biodiversity components that require urgent protective measures, for which there is an agreement. A long-term adequate policy would ensure rehabilitation of degraded habitats that favour protection of rare and endangered species, and re-introduction of species that have been extinct in the country. Special attention will be paid to wetlands under threat.

From the point of view of conservation of species, loss of local populations means loss of genetic diversity, which on the other hand may result in loss of elasticity towards environmental changes, for e.g. the ability for resistance or regeneration from human and natural pressure.

The list of endangered, poor and rare species and ecosystems that require special attention will be used and adopted in the Albanian context. Also, it is important to take into account the specificities of Albanian ecosystems/species, and to identify the rare elements of endangered, rare species, at the national level. A full list is given in Annexes 5 and 6. There is in Albania now a red list of endangered species and it may be used for the identification of priority species.

Objective III. Review and monitoring of threatening effects and activities

Maintenance of the ecosystem service, and sustainable utilization of ecological resources may be attained by preventing biological organisms from extinction, and increasing biodiversity through systematic protection of wildlife and their habitats. The main process that pose a threat or may have important adverse impact on biodiversity are provided in session 2.6 above (main threats against biodiversity). Threatening processes and activities that have a direct impact on biodiversity should be further investigated, and their effects should be monitored through sampling and other techniques. Their causes should be identified and monitored regularly.

Specific targets

Investigation and monitoring of threatening effects, causes, activities and process for the biodiversity components in Albania

Monitoring of biodiversity is mandatory as part of many international agreements. The Convention on biological diversity requires from the contractual Parties, to the extent possible and on case by case bases "the identification of diversity of biological species that are important for its conservation and sustainable use", by sampling and other techniques to monitor the components of identified biological species "..., as well as "to identify the process and activity categories that have or are likely to have important negative implications on the conservation and sustainable use of biological diversity, and to monitor their impact through sampling and other techniques"(Art. 7). It is necessary to further investigate the impact on biodiversity of human activities and threats

that are due to natural causes, and the relationships between these processes and activities, in order to take appropriate measure for minimizing their impact.

The focus should be on monitoring two main components of biodiversity: species and habitats. Different aspects need to be monitored for these key components, such as: the trend of population, distribution, composition of community, quality of habitats etc. Surveys may be based on the collection of data on the presence/absence of data, new analysed data, composition of populations, phenology and other measures, in order to reach credible conclusions, a sound design of statistical sample, and the appropriate analytical methods.

Special attention should be paid to potential risks for biodiversity due to development and use of new technologies, processes and their products. For instance, special attention should be paid to potentially adverse impact from the use of GMOs in agriculture, forestry and fishing. Among the adverse potential implications are: spread of foreign invasive species, threat for non-target organisms from the use of special pesticide production, GMOs, unforeseen interactions on biodiversity or disequilibrium of ecosystems due to the massive spread of such organisms.

Review and monitoring of climate change effects on biodiversity and ecosystem services.
Climate changes may lead to extinction of endangered species, and may have a major impact on our environment. Changes in the vegetation patterns, loss of biological resources, unforeseen spread of foreign species and changes in sources of Pisces could represent some of the most important challenges for the globe currently. In addition, climate changes have an impact on the increase of foreign invasive species.

In order to prevent, or limit serious damage on the environment, society and economy it is important to have in place adaptability strategies for the affected systems. These should include:
1. Conduct of studies on the selection and management of inductive species for climate changes;
2. Evaluation of the health and vitality of forests
3. selection and monitoring of forest insects indicative for climate changes

4. long-term monitoring of changes in the forestry ecosystems

5. projections for future changes in the distribution and diversity of species that are sensitive to climate changes

6. Systematic improvement of species which are sensitive to climate changes. Introduction of new varieties, appropriate for climate changes.

Objective IV. Strengthening conservation of biodiversity and promoting sustainable use of ecosystems

National Objective: Promoting and controlling the sustainable use of biodiversity components

Sustainable use of biodiversity refers to "utilization of the components of biodiversity, in ways and to the extent that do not cause long-term decline of biological diversity, while preserving its potential, in order to meet the needs and aspiration of the current and future generations" (article 2 CBD). Sustainable use of biodiversity components is addressed in article 10/1 of CBD, which inter alia asks from the Contractual parties "not to adopt measures that are related to the use of biological diversity, in order to avoid or minimize implications on biodiversity."

In order to minimize adverse impacts of unsustainable activities on biodiversity, these activities should first and foremost be identified, and there should be a synergy between economic growth, social progress and ecological balance in the long run. It is important to make sure that ecosystems are capable to support ecological services, from which biodiversity and human population depend.

Ecological footprint tries to address this challenge. It measures the amount of land and areas under water. The Albanian ecological footprint is approximately 1.81 ha per inhabitant (UNESCO, 2014), while the biological capacity of land is 1.8 ha per person. This means that the area used by the average Albanian is a little bit bigger than what the plant can re-generate. Considering recent industrial and technological developments it is clear that the Albanian ecological reserve is drying out.

Specific targets

In the field of agriculture

Agriculture represents one of the most important sectors of the Albanian economy, contributing to approximately 21 % of the country's Gross Domestic Product (GDP) and to the employment of 48 % of the country's population living in the rural areas.

Even though average real growth in agricultural production, during the last five years was almost 3, 0-3, 5% annually, agricultural sector growth is under the national average, and far from average national rate, and far from its real potential. However there is a clear trend of the increase in agricultural production. Main systems of agriculture are mainly protected systems (greenhouses, tunnels) and are lesser in number regarding the system of biological agriculture. Currently, at the country level, approximately 398.800 ha of land is planted with agricultural cultures, of which 49, 1% is alfalfa (195,000 ha), whereas the rest is: wheat, corn, vegetables, and in lesser extent sunflower, tobacco etc.

Furthermore, the agriculture sector plays a very important role for food production, biodiversity management, while being an engine for the economy in the rural areas for the in-situ conservation of local species, varieties and domestic animals. Different missions composed of agriculture cultures, such as (beans, lentils, alfalfa, peas, oats, sorghum), vegetables and fruits have shown large variability. However, for reducing the pressure on biodiversity, agriculture is a major challenge for farmers in Albania.

Stakeholders involved in the implementation of this objective include: State Entity for Seedlings and Sapling, the Centre for the Transfer of Agricultural Technologies (CTAT), Public Extension Service and Genetic Bank for Agricultural Genetic Resources alongside with the farmers, other national authorities and government agencies, agricultural universities, research centres, and other sectors such as: food security chain, agro-food, and public health, etc.

Encouraging agricultural variability/diversification

Agricultural diversification refers to displacement from regional domination of an agricultural cultural to regional production of a number of cultures, to meet the ever growing demand for wheat, fruits, vegetables, fibres, pastures, fuel etc. Agricultural diversification is an important mechanism for economic growth. However, this depends on the possibility for diversity and on the farmers' reaction related to that potential. The purpose behind this specific objective is to promote agricultural diversity, which benefits biodiversity, and to support research for diversity and promote conservation of local biodiversity, including traditional varieties.

This objective may be obtained through two approaches for the diversification of agriculture: horizontal and vertical diversification. Horizontal diversification should take place through the intensification of cultures, while adding new cultures, with high values, to the existing systems of cultivation, as a means to improve general farm productivity. Some of the examples include: identification of high speciality cultures, new cultures off season, and production systems, varieties of the history of cultures with comparative advantages, mainly fruits, vegetables and decorations to create new opportunities for the farmers. The methodology of vertical diversification is that by which farmers and others add value to products through processing, regional labelling, or other efforts aimed at increasing productivity. Some of the examples of vertical diversification activities include: (i) organic production of fruits and vegetables (ii) organically grown chicken, (iii) forest products, (iv) spices, herbs, mushrooms, honeybee, fruits and flower, (v) natural tourism of interest for the public, in the protection of biodiversity, and (v) other initiatives that reduce standardization of agricultural production.

Encouraging sustainable use of genetic resources for food purposes, and agriculture

One of the objectives of CBD is conservation and sustainable use of genetic resources in agriculture. This objective is amongst the key objectives of the Global Action Plan for the Conservation and Sustainable use of Genetic Resources of plants used for food and Agriculture of FAO, while also representing one of the main points of the International Treaty on Genetic Resources for Food and Agriculture.

Biodiversity for food and agriculture includes "present and important biological diversity for agriculture, forests and water systems used for production. It includes diversity and variability of wildlife, plants, micro genetic organisms, species and layers of ecosystem that support the structure, functions and processes of the production systems. This diversity is managed by the farmers, livestock growers, foresters and amateur fishermen for hundreds of generations, and reflects the diversity of human activities and natural processes. Genetic resources are indispensable, be them plant insects, microscopic bacteria important for cheese processing, different breed of cattle for life or thousands of culture varieties that support food security. However, due to economic pressure and intense urbanization, drastic genetic erosion of old land, were developed cultivars and actions for their collection, evaluation and conservation, but this process continues still to remain an emergency.

In order to ensure sustainable use of genetic diversity for food and agricultural purposes in Albania, it is important to undertake coordinated actions, including: (1) first, conservation of local species, varieties of domestic animals and forms of microbe life with current and potential value, and (2) improvement of development of appropriate banks for useful genes for ex-situ conservation of genetic resources.

During the transition period from a centralized economy towards free market economy, the implementation of rural development policies is quite biased towards economic development, with relatively little explicit knowledge of inter-dependence between economic, social and environmental development. Intensification of agriculture is quite obvious since it has been considered as quite desirable by government officials.

Minimization of risks and adverse impact of the use of pesticides on biodiversity

The environmental impact of insecticides and herbicides is composed of the effect of pesticides on non-target species. The majority of them reach a destination, except for the target species since they are quite spread or distributed throughout the area of agriculture, while reducing biodiversity.

Hence, the minimization of their effect on non-target species ensures minimization of the impact on biodiversity and ecosystem services.

Attaining this objective includes development of strategies for using synergies for the control of harmful insects, while conserving useful insects, and other measures such as: organic agriculture, integrated agriculture, biological control, forbiddance of pesticides with long-term impact and diversity of non-target species, as well as application of measures for reducing risks such as: buffer areas, in order to protect water bodies.

Forestry

Forestry ecosystems are considered as the most important component of the biosphere. Sustainable management of forests plays a key role in the Carbone cycle, release of O2, and close of Carbone dioxide in trees and soil/earth. It includes sustainable environmental, social values such as: protection of biodiversity; protection against erosion; protection of catchments and employment in rural areas.

There is a declining trend between the forestry areas and biodiversity in Albania, inter alia, due to forest fires, insects, diseases, invasive species, pollution, fragmentation and storms.

Implementation of appropriate mechanisms for the value of ecosystem services through payments for the environmental service schemes, (i.e. protection or improvement of the management of a specific forest with higher potential for protecting or increasing specific environmental services) may help in the healthy conservation of biodiversity and forests. In addition, this will reinforce protection of forestry non timber products such as: genetic resources that are still untapped.

Stakeholders involved in the implementation of this objective include: the Ministry of Environment, National Environmental Agency, Forestry Service Departments, forest rangers, local government units, forestry professional associations, NGOs, and Faculty of Forestry Sciences.

Specific targets

Inclusion of the forestry certification system, in order to guarantee forestry diversity and sustainable management

Certification of forests is largely endorsed as a strategy for the protection of forests worldwide and their biodiversity. Some consumers need to pay for products that promise to be "biodiversity friendly" and some markets need to close down since they are using uncertified forest products.

In the light of a very complex diversity, forestry management practices related to forestry certification should apply for the protection of biodiversity in managed forests.

Even though verification of forests is a practice currently not applied in Albania, it is high time to start with the certification system. Monitoring of biodiversity and certified management auditing of forests should focus on practical management activities and objectives, rather than on general goals of biodiversity, not quantified that are almost impossible to measure, and even when they are measured, they are difficult to be interpreted.

As close to the nature of forests Incentive

As close to the nature of forests as possible represents a theory and practice that consider forests as an ecosystem and manages it as such. As a conclusion, if it gets properly applied, it would lead to division of forestry land into "productive" and unnecessary "reserve".

Products that are generated, in addition to timber are: fauna, habitats, biodiversity, recreational facilities, and water management. Human activities are focused on expediting natural processes, while not replacing them. Its promotion should be based on better knowledge of its economic benefits (for e.g. through new research), and a better illustration of its priorities related to biodiversity (for e.g. through demonstration areas). Operations should be such as to avoid oil pressure or damage of the trees which will remain standing.

Protection of genetic diversity of forests

Genetic life resources of forests are under continuous pressure from human activities. A better understanding of these species is important for their sustainable use and conservation. Biodiversity in forestry genetic resources is essential for the improvement of two aspects, i.e. productivity of forestry species, and nutritional values of non-timber products that they produce. In addition, genetic diversity is necessary to make sure that forests may adapt to the change in the environmental conditions, including climate changes, and strengthens their resistance vis-a-vis pests, diseases, harsh weather, and disasters. Like any other country, Albania needs to protect its genetic forestry resources, in order to secure healthy trees populations, and to preserve all forests potential. This will be attained through better knowledge regarding conservation of forestry genetic resources, in parallel with the adoption of practical measures on protection. "Technical instructions for conservation and genetic use" generated by EUFORGEN network may be used as bases for such work in Albania.

Hunting

Hunting is a free activity for approximately 75,000 hunters in Albania. Commercial hunting, both legal, and illicit is the main threat. Recreational hunting is not dangerous for the wild fauna species, when properly regulated, but could lead to species again being on the brink of extinction. Many wild life managers look at sports hunting as the main basis for the protection of wild life. Meanwhile, hunting, in particular illegal hunting is a serious threat for the future of certain species, it is however less important than other factors that would be mentioned in the future.

It is important to take measures to avoid detrimental behaviours of individual hunters and owner that may affect biodiversity, and may contribute to the objective of prevention of loss of biodiversity in Albania.

Main stakeholders include: the Ministry of Environment, the Ministry of Agriculture, National Environmental Agency, NAPA, farmers, foresters, hunters, hunting associations, environmental NGOs, landowners and any relevant association.

Specific targets

Promoting good hunting practices

Management and conservation of wild fauna species may offer excellent opportunities for rural development and sustainable use of wild life substantially contributes to local and national economies. However, hunters should be aware of the retention capacity of the habitats. It is important to develop legal instruments to enable taking of concrete measures for management of terrain in favour of biodiversity. Hunters should keep in touch with the authorities and responsible associations, for taking hunting measures and endorsing measures for combating illicit hunting, in order to have responsible hunting.

Encouraging the contribution of hunters, as actors of biodiversity

Sustainable hunting will continue to represent an important means for the conservation in XXI century. It preserves the population of the fauna and biodiversity in general, while prohibiting hunting that may expedite extinction. Hunters should be seen as an important part of sustainable development and there is no reason for hunters to hide or hide their passion.

Hunters should admit that restrictions are necessary for responsible management of hunting (for e.g. to ensure that ecological requirements of species, populations and their habitats are met). They should participate in activities that promote wildlife conservation and conservation of other migratory birds and their habitats, together with the rural communities, in particular places of national and international importance for migratory birds (for e.g. birds, Ramsar sites, gorges etc.). Furthermore, hunters should strictly follow the legislation on predators, since these play a key role in the natural control of the populations.

Marine fishing and inner marine waters

Albania has a coastline of approximately 450 km and 12 miles wide of territorial waters. Fishing sector in Albania is of regional importance, even though at the national level it is not as critical as agriculture. Albania has a large coastline, but its professional fishing fleet is relatively small and mainly composed of trawlers (168 fishing vessels), followed by bluckle and fishing nets (32),

hooks and lines (30), and bags (15). The fishing fleet includes 7 pelagic vessels which are active 3-5 months during the year. The Albanian registered fishing fleet includes 245 vessels in four ports: Durrës, Vlora, Shëngjin and Sarandë. Durrës port being the most important, with a fishing fleet mainly composed of trawlers. Data on fishing are not determined (Statistics on Fish of FAO), but it is highly likely that there are about 800 ton fish/year. Two important threats include: overuse of marine/sea resources and side effects related to certain fishing methods that are used not only in Albania, but also fishing from fishing vessels that operate in the Albanian waters.

Marine/maritime strategies will be developed and implemented in order to: (a) protect and conserve marine environment, in order to prevent its worsening, and prevent and reduce entry in the marine environment, to make sure that there is no important impact or risk on marine biodiversity and marine ecosystems.

Inner/internal waters

In Albania, in internal waters, fishing may be considered in the context of conservation and sustainable use of wetlands. There are several coastal wetlands of a total surface of 10.000 ha, three lakes with total surface approximately 300 km^2 and about 700 reservoirs with a total surface of 12.000 ha.

Albania is party to the Ramsar Convention on protection of wetlands (i.e. internal waters and marine waters) of 1971, which provides the framework for the conservation and sustainable use of wetlands.

Specific targets

Actually, the majority of Protected marine areas are mainly coastal areas (only one protected marine area) and a number of coastal areas are still unprotected, despite their key ecological, social and economic role at the national level, or for the Mediterranean. Approximately 85% of the currently coastal protected areas lay along the Adriatic coastline that is an indication of the low number of protected areas along the Ionian coast. The existing maritime protected areas (MPAs) in Albania cannot be described as part of an ecological network, but are rather initial systems that

would need to generate a sustainable and coherent network, in particular integration of some MPAs in the open sea. The implementation of this objective should be in line with the management of maritime protected areas and Coastal Areas Integrated Management Strategy.

The objective of each MPA should be in line with the health and sustainability of biodiversity and ecosystems of certain areas, in order to contribute to biodiversity and health of ecosystem at the national and international level.

Promoting filling the gap in distribution, status of species, marine and freshwater habitats

Even though fish of marine and freshwaters may be found in various parts of waters throughout the country, the community of Pisces in different localities perhaps are separated physically from each-other for a long time, and this could lead to genetic modification among different populations of fish of the same species. There is little or no information about the range of distribution and status of species in the interest of the community. Analyses of marine areas should include assessment/evaluation of biodiversity and natural assets in general, as well as of the historical, cultural, social and economic values that aim to identify the marine area, in terms of protection status.

This analysis provides opportunities for the introduction of a network of marine areas, and their inclusion in the representative network of protected areas in the country. A full list of studies and other types of investigations is necessary for determining the status of the main species that depend on the MPA networks and/or from corridors and/or areas of intervention in order to inform the action plans about potential species. The recommendation is to conduct a full-fledged study on the distribution and status of different species of important habitats in the interest of the community (distribution and status in Albania, including map of distribution and presence/absence of key indicators, and identification of priority areas for conservation).

Promoting sustainable use of wetlands through implementation of instructions

Wetlands represent key components of biodiversity in Albania which are endangered. They offer useful services for the ecosystem, such as: conservation of water, cleaning of water, recreational areas, bird habitats etc.

Within the context of approaches to the ecosystem, the processes for planning the promotion of the delivery of profits of the ecosystems, and services of the wetland ecosystem should be formulated and apply in the context of maintenance or improvement, as the case may be, of the wetland ecological characteristics at the appropriate space and time range.

CoP of Ramsar Convention has published detailed instructions on different issues related to the use of wetlands. These instructions should be applied through competent public authorities for the use and management of wetlands or other related issues.

National objective: Protection and conservation of biodiversity and ecosystem services in Albania

The millennium goals identify biodiversity and many services of its ecosystem as a key factor of the basic instruments for human wellbeing. Findings of evaluations support the idea that loss of biodiversity and deterioration of ecosystem services may contribute directly or indirectly in worsening the health status, may lead to high food insecurity, increased poverty and reduction of material assets, and deterioration of social relationships. Despite the existence of different environmental conservation programs in the recent years, unsustainable development in Albania has led to fragmentation of habitats and loss of biodiversity. This means that many systems that provide healthy ecosystems for the society are endangered.

The importance of environmental conservation and environmental services that they deliver is related to Target 14 of Aichi on Biodiversity (ecosystems and substantial services have been preserved), and target 15 (ecosystems are restored and their sustainability improved). Therefore it

is important to take measures for the protection, management and rehabilitation. Strengthening environmental policies, implementation of the ecosystem methodology and promoting integrated national plans for the rehabilitation of ecosystems is essential.

It is important to take measures in cooperation with different actors, such as: governmental institutions responsible for environmental issues, tourism, land use planning; natural conservation agencies; environmental NGOs; universities and research institutions; landowners; different sectors (agriculture, aquaculture, fishing, forestry, horticulture, hunting, public health, tourism); consumers, and broad public.

Operational objectives

At least 17 percent of surface areas and inner/internal water areas, and areas of special importance for biodiversity and ecosystem services should be protected

Protected areas may offer multiple benefits for the conservation of biodiversity and sustainable development. They assist in the protection of natural resources and areas of cultural importance on which local and non local populations depend.

So far, the network of protected areas covers 16,61 % of the country, that represents different systems and objectives of ecological importance and should reach up to 17%, in line with international commitments. This is an ambitious, but realistic objective for Albania. For the protection of species and cultivated varieties and wild species similar to them, it will be necessary to introduce a protective system outside protected areas that will be improved by an integrated plan for planning and use of land. Even though, this has not been applied so far, it is very important for promoting protection of biodiversity in private territories.

At least 6 percent of coastal and marine areas, in particular areas of special importance for biodiversity and ecosystem services should be protected

According to the UNDP report on "Protected areas, evaluation of marine biodiversity gaps and legislation in Albania" UNDP 2010, more than one third of the Adriatic coast in Albania is being

eroded – at a rate of 1. 59 metres/annually – expedited to the removal of gravel and sand for the purposes of construction industry, uncontrolled development along the coast, deforestation of large coastal areas (even within protected areas) and development of agriculture. Increased migration in coastal areas has led to uncontrolled exploitation of coastal and marine resources. Other threats include: over-fishing, illicit collection of crustacean, uncontrolled hunting of migratory birds, extracting sand from the seabed, plans for drilling and potential exploitation of oil along the coast, invasive species and pollution of marine and coastal waters, especially the wetlands. Addressing pressure coming from these activities within a complex state structure is an important comprehensive management issue.

Objective: 6 % of protected coastal and marine areas is less than 10 % of Aichi targets, but managed protected coastal and marine areas represented a tested methodology for the conservation of habitats and populations.

Definition of MPAs will be supported by: (1) Improving the legal and regulatory framework that supports establishment and management of protected areas; (2) Implementation of the strategic plan for coastal and maritime protected areas, in cooperation with and with the support of UNDP-GEF MCPA project in 2014; (3) it will assist the administrations of the protected areas with management plans and business plans for the protected areas, including cost-effective management, conservation methodologies, participation of conservation community and local communities.

The annex of protected coastal and marine areas (PCMAs) provides a summary of the strategic plan for the development of coastal and maritime protected areas and tre-establishment of at least 10 % of degraded ecosystems in order to preserve and improve their status and services.

While protected areas are necessary and useful, alone they are not enough for the rehabilitation of biodiversity. Ecological restoration in the areas with environmental degradation may otherwise prevent loss of biodiversity, and foster recovery of ecosystem services. Rehabilitation and restoration now often represent a pre-requisite for sustainable exploitation.

By 2020, it will be necessary to enhance effectiveness of land management, restoration of degraded areas, and lastly compensation of new degradation, if unavoidable. Special attention should be paid to conservation and/ or rehabilitation of small landscapes. The baseline year for the evaluation of the objectives of 10% of the restoration should be 2010. In order to ensure flexibility, factors in development such as: climate change will be taken into consideration during the rehabilitation of ecosystems.

Formulation and implementation of an integrated strategy for ex situ conservation of biodiversity

Ex-situ collections of Albanian species which are created with genetic material are represented by: a) local cultivars, populations and ecotypes that are created, preserved and used for generations in the country; b) introduction of genetic material; c) lines and cultivators within the country, d) country's spontaneous flora that is identified, investigated, collected and preserved by research institutions. Albania also participates in international initiatives, aimed at the cooperation in the field of ex situ conservations, including the International Treaty on Plant Genetic Resources for Food and Agriculture (IT PGRFA). Recently, through a program for the collection and evaluation of diversity of 11 aromatic plants and/or medicinal plants funded by the World Bank under the Agriculture Services Project (ASP) were collected approximately 480 samples that represent a considerable number of plants and demonstrate the broad diversity within species.

The formulation of an integrated strategy will help in connecting existing initiatives regarding former in situ conservation, to identify gaps, where new initiatives are necessary, and to promote mobilization of necessary resources. The integrated strategy should inter alia provide for increased research and management of medicinal plants, and conservation of ex situ facilities.

Identification of foreign invasive species- methodologies and management of ways to prevent their generation and introduction

Invasive species are plants not native to a specific location, with the tendency to spread to a degree believed to cause damage to the environment, human economy or human health. Invasive species are found in all taxonomy classification, including wildlife, plants, fungus, and may have an impact on all species and ecosystems. Common characteristics of these species are their fast reproduction, high reproduction abilities and phenotopical plasticity. Even though invasive species have not been studied in depth in Albania, when they become invasive, they may cause damage to the environment and may have an adverse impact on human health, economy and safety. This objective is in line with article 8(h) of the CBD (1992) and Aichi Target 9 (2010).

The strategy on foreign invasive species should provide recommendations regarding formulation and implementation of national strategies for these species. Due to complications for its treatment regarding the institutional framework on the area of invasive species will be a real challenge for Albania. Below are some suggestions on addressing issues related to invasive species with the view of addressing this problem, and meeting different commitments regarding foreign species in international treaties where Albania is a party:

1. Establishing of a leading structure in charge for the coordination and ensuring sustainability of implementation of policies on invasive species in respective domains.
2. Conduct of fully-fledged procedures and broadly accepted for risk assessment, for the introduction of new species.
3. Formulation of action plans that address main ways of introduction, in order to assist in the prevention of intentional and unintentional introduction for all relevant sectors.
4. Raising awareness of all respective sectors to ensure meaningful understanding of issues related to invasive species, including introductory ways, economic impact and ecological impact.

Objective V: Increasing participation of the community through communication, education, awareness raising and training

Conservation of biodiversity depends on the cooperation of a large variety of people and organizations whose activities have an impact in any form or shape on the biodiversity. They

include: landowners, visitors of protected areas, governmental agencies and NGOs, businesses and industries, researchers and community based groups. Achievements are related to cooperation and raising awareness and responsibility about environment, which require strategic use of communication, education, raising awareness of the public and ensuring its participation. Communication, education and public awareness (CEPA) are important instruments for the conservation and sustainable use of biodiversity.

Different organizations have already undertaken several nearness raising initiatives about nature. Basic education and secondary education curricula include basic knowledge on some aspects related to nature. There are some initiatives as well at university level. Different NGOs are involved in the process of nature and environmental education. However, effective communication regarding biodiversity remains a challenge. It is important to be aware not only of what to communicate, but also how to do this in the best of ways.

Interested parties involved in the implementation of this objective include: national and local authorities, Media organizations, youth organizations, education institutions, museums, research institutions, governmental agencies, NGOs and the broad public.

Specific targets

Introduction of biodiversity and ecosystem services as part of the school curricula

A very effective way to conserve and protect biodiversity as well as to raise awareness and understanding about the biological diversity is education about biodiversity and its importance for the very survival and existence of humans. In addition, education may lead to changes in the models of behaviour, may ensure the skills and knowledge regarding biodiversity and conservation and may instil the spirit of responsibility for the administration of land and its biological systems.

The formal education system in Albania, in particular in primary education there are several curricula about sustainable environmental education. However, conservation of biodiversity and

ecosystem services should be systematically part of all school curricula, including at higher education.

Teaching and training should focus on the development of skills that would enhance the understanding and admission of the need for the conservation and sustainable use of biodiversity. Local projects may be used to meet the requirements for community services that many students should meet in order to get their diploma, and to this end, local governments may identify support organizations that are working for the education of the broad public on biodiversity and inspiring the community to be involved in the conservation of biodiversity.

Training programs may be educational, and lead to awareness raising and capacities in particular fields. Information should be presented not simply as science, but in a social, economic and political context, in order for the students to better understand the complex circumstances that create the backdrop for decision-making in the area of conservation of biodiversity

Fostering the understanding of the importance of improving biodiversity, knowledge on biodiversity and ecosystem services in Albania

Measures to promote awareness of the public on the importance of biodiversity play a key role for the conservation of biodiversity, since people usually shy away around things they do not know or otherwise are not interested in. according to latest available data, the Albanian ecological footprint is approximately 1.81 ha per inhabitant (UNESCO, 2014), at a time when the earth's retention bio capacity is 1.8 ha per person. However, this fact is almost unknown among people. To this end, it is important for people to understand the impact of their households' consumption and production on the environment and biodiversity and the need to move towards sustainable production and consumption.

The range of alternatives to help in making nature and biodiversity part of the lives of the citizens is huge, starting with the use of teaching elements (diagrams, tables, pictures), with the traditional

systems of communication (public media, thematic exhibitions, round tables, local press, TV and radio shows etc.) up to the use of modern technologies and social media.

Activities organized by education institutions, museums, research institutions, governmental agencies and media need to be supported because they play a key role in raising public awareness and improving communication about the importance of the protection of local and global biodiversity.

Promoting awareness in different sectors with direct or indirect impact on biodiversity, including private sector involvement

Biodiversity is the key for two aspects: a sustainable environment, but also sustainable economy since the activities of all companies may have a direct or indirect impact on biodiversity. The direct or indirect impact on biodiversity may be due to different sectors. Hence, all of these sectors with considerable impact and which should include aspects of biodiversity as part of their practice should include target groups in terms of awareness raising activities. These sectors should be involved for the adoption and promoting of best practices to assist in meeting 2020 targets, for stopping loss of biodiversity.

It is important to draft communication strategies and adapted cycles of training in order to explain the methodology how respective sectors may improve their practices. First, in addition to the environmental impact assessment of the activities of the companies on the biodiversity, it is important to reiterate the ecosystem services and how companies should refer to them.

Priority VI: research, management and biodiversity communication mechanism

Target: To ensure an approach for the fair and equitable distribution of profits from the use of genetic resources

Nagoya Protocol on Access to genetic resources and the fair and equitable sharing of benefits arising from their utilization (Protocol ABS) was adopted on October 30, 2010 in the 10th Conference of Parties to the CBD. The Protocol's aim is to ensure sharing of benefits arising from the utilization of genetic resources in fair and equitable ways, including the appropriate approach to genetic resources and appropriate transfer of relevant technologies, considering all the rights for these resources and technologies, while contributing to the conservation of biological diversity and sustainable use of its components.

Albania is party to the relevant provisions of ABS of CBD that provide the general framework for the implementation of Nagoya Protocol. Albania is in the midst of the first group of countries that adhered to Nagoya Protocol for access to genetic resources and sharing of benefits from their utilization on January 29, 2013, when the Parliament adopted law no. 113/2012, dated 22.11.2012 "On membership of the Republic of Albania in the Nagoya Protocol."

Interested parties in the implementing of this target are: national and local authorities and institutions, botanical gardens, different sectors active in research and development, universities, broad public, keepers of traditional knowledge, users of genetic resources, and any other association that works towards the same goal as DSPEP.

Specific targets

By 2020, to increase knowledge on the concept and dissemination of information on ABS

The ABS concept of CBD is based on a bilateral agreement between a provider of genetic resources on one hand, and a user of these resources on the other. Raising public awareness about the economic worth of ecosystems and biodiversity and the fair and equitable sharing of this economic vale with the custodians of biodiversity are among the incentives for the conservation of biological diversity and the sustainable use of its components.

It is also necessary for ensuring information and improving awareness among actors such as: governmental agencies and private sector for the implementation of sharing access and benefits. The national legislation on access to genetic resources and fair and equitable sharing of benefits should represent an important task for the country. There could be established an information system for the genetic resources, in order to promote approaches to general Albanian resources. In addition, a code of practice may be introduced for the responsible exchange of invasive species, and it may help in the minimization of their spread. The number of awareness raising programs through the media and other instruments in ABS should increase and all relevant parties (researchers, the industry, the government, the civil society, local communities etc.) should be aware of the provisions of ABS.

By 2020, to create operational mechanisms for the protection of traditional knowledge, novelties and practices of relevant local communities regarding conservation and sustainable use of biodiversity

Albania is the first country in the Central European Region to adhere in the Nagoya Protocol. By 2015, Nagoya Protocol for access to genetic resources, fair and equitable sharing of benefits arising from their utilization should be effective and operational in line with the national legislation. For Albania to implement and ratify the Nagoya protocol, it should take further measures to translate the provisions of the Nagoya Protocol into practice. These measures may include introduction or revision of internal acts related to the implementation of ABS, collection and evaluation of forests, biological resources and their sustainable use; standard development models for the exchange of benefits from genetic resources; and definition of the biological species subject to export permits.

In addition, preservation and sharing of traditional knowledge should be integrated in these development projects or Albanian scientific cooperation that focuses on the local communities, as primary actors. Furthermore, traditional knowledge and practice should be recognised by approaches and agreements for sharing of benefits. The participation of the representatives of the local communities in the appropriate fora should be endorsed.

Target VII: Growing and dissemination of scientific knowledge on biodiversity and ecosystem services

Ecosystems ensure various benefits and ecosystem services that are seconded by biodiversity. Effective conservation and sustainable use of biodiversity require the accurate identification of all of its components at all layers of organization, i.e. from the genes to the ecosystems. However, we have witnessed many gaps in terms of our knowledge of data on primary biodiversity primary and the role of taxation system on the functioning of ecosystems.

In order to stop loss of biodiversity, the role of the education is to re-shape the thinking and to share global collective knowledge. Novelties in the domain of knowledge, inter-disciplinary exchange and common design of learning process and facilitation of processes of returning knowledge into action are key elements for formal and non-formal education in the field of biodiversity. It is important to create a synergy between policies and investigation, and this largely depends on our skills to improve and communicate our existing knowledge, as additional necessary knowledge on biodiversity.

In particular, improving information and better cooperation requires cooperation of all development institutions and organizations, in particular in the field of expanding useful approaches and technologies through the development of instruments and training materials for establishing capacities and awareness raising. This would generate the bases for promoting biodiversity and ecosystem services.

Stakeholders involved in the implementation of this target include: national authorities in the domains of environment and agriculture, education institutions, national networks of researchers and research companies, universities, research institutions, NGOs, etc.

Specific targets

Re-organization and harmonization of existing data, information and dissemination of this knowledge to other audiences

There are several articles that present a detailed view of the existing knowledge on the Albanian biodiversity (the status, trends and threats). In addition, this study reiterates the urgent need to expand and deepen our understanding about all components of biodiversity.

The analyses and re-organization of existing information, finding out gaps and needs for research and priorities of relevant policies should facilitate the entire process. Dissemination of scientific data and information on biodiversity should not simply target the scientific community, but should aim at increasing the audience in a language that is understandable, including decision-makers, students, and the broad public. This should entail: (1) putting together a package of general resources of training material for different target groups; (2) targeting different groups to raise awareness and knowledge about the conservation of biodiversity, ecosystem services and climate changes through training courses; and (3) facilitating continuous learning, sharing of knowledge, and introduction of environmental networks. Development of data bases for continuous studies and research may represent a powerful instrument to this end.

Research contributes to knowledge and understanding of the Albanians on biodiversity and ecosystem services.

Evaluation and monitoring of biodiversity represent key instruments for the conservation and management of biodiversity. Successful implementation of many actions identified in the national strategy on biodiversity requires considerable improvement of knowledge delivery and understanding of biodiversity and ecosystem services of the country. It is important that the results of a number of biodiversity surveys be taken as measures for the evaluation of the maps of ecological areas and formulation of conservation policies. It is important to have more research on genetic species of biodiversity and levels of ecosystem. It goes without saying that some issues in the DSPEP require immediate action, such as: (1) map of habitats of marine species, survey and monitoring, (2) Topography of local plant species, and introduction of a national standard list of plants, (3) ecological map for resources of national parks, (4) Topography of forest insects etc. The study on agricultural biodiversity and biodiversity of medicinal plants needs to be promoted.

Research institutions should make use of science and technology, in particular the use of remote spaces for measuring biodiversity. The results of the research work should be disseminated rapidly, in order to allow for adapted management.

Evaluation and the map of the status of ecosystems and their services

In order to join the EU as soon as possible it is important that DSPEP for Albania to take into account some (if not all) the objectives of the EU Biodiversity Strategy. In line with the EU Biodiversity Strategy (objective 2, 5) member states, with the assistance of the European Commission drafted policies to evaluate the status of ecosystems and their services in their national territories, and asses the values of these services, in order to promote their integration in the system of reporting and accountability at the national and EU level (by 2020). For achieving these goals, and to have a better understanding of the processes of ecosystem, as a wealth for the people, and how they use biodiversity for it to be sustainable it is necessary to conduct research. A project for Environmental Services due to be funded by the World Bank may be a good beginning.

Enhancing scientific work and policies on biodiversity

Fragmentarization in the context of institutional campaign in Albania will allow for exchanges, joint co-evolution, whereby knowledge may enrich decision-making and strengthen scientific knowledge. It is necessary to develop materials and methods for the integration of biodiversity and management of biodiversity in the development programs and training processes. This may inter alia include: (i) informing decision-makers about policies of importance for the biodiversity in terms of a number of systems: agricultural productivity ecosystems, Carbone sequestration, food quality etc.; and (ii) preparing manuals and training methods for the integration of local and scientific knowledge and technologies.

The skills/capacities of the administration for using scientific information may grow, while encouraging taking over knowledge from universities and scientific institutions at the government.

Inter-disciplinary teaching process within universities and colleges should be considered as a way to train researchers.

2.3 Key measures

Proposed measures for the conservation of biodiversity and habitats in Albania

Taking into account the above mentioned risks, this part is about a series of measures and proposals for ensuring the conservation of species and habitats. These actions are set against a timeline of five years. Following completion of proposed actions or following five years after the publication of the Action Plan, the document needs to be revised and adopted for strategic planning in the near future.

Measure 1: Extension of the system of protected areas in Albania

It is obvious that there have been many changes and there will continue to be in the current network of protected areas, as a result of the impact of human beings' activity on the environment, due to fires and diseases. Rapid tourism development in coastal areas, and de-forestation, building of roads, sewerage, and river dams have damaged and/or will damage the migration corridors; they have had an adverse impact on the quality of ecosystems and biodiversity. On the other hand, in the last ten years, studies provide us with new data on the types of habitats, plants, indicative species that oblige us to revise the current network of protected areas and to build a new network of protected areas. The new network of protected areas should ensure their connection with the location; present the adequate conditions for the protection of habitats and their indicative species, as well as to ensure protection of water and increase the surface of protected areas to 17%.

Proposed methodology: Survey of the current status of existing protected areas and identification of new protected areas (PAs), based on new rules of IUCN.

Expectations: - Review of the current status of some of the protected areas (within 5 years):

- Study and proclamation of Gjergjevic valley as Strict Nature Reserve/ Scientific Reserve
- Study and proclamation of Shkalla e Rrapshës, Strict Nature Reserve/ Scientific Reserve
- Study and proclamation of the area of Këneta e Zezë, Roskovec, Strict Nature Reserve/ Scientific Reserve

•   Expansion and proclamation of the area of Lurë-Deja Mountain as National Park

•   Review of the current status of the National Park of Bredhi i Drenovës and that of Qafë Shtamë, and declaration of Bredhi Drenovës and Qafë Shtamë as Monuments of Nature

•   Study and proclamation of the area of Luzat-Bençë, as Monument of Nature

•   Expansion of the area of Syri i Kaltër and proclamation of the area of Bistricë-Muzinë, as Monument of Nature

•   Expansion of the current area of Zhej and declaration of the area of Zhej-Fushë e Çajupit as Monument of Nature

•   Study and proclamation of the area Rrungajë-Ostrovicë, as Nature Managed Reserve.

•   Proclamation of the area Lenie-Guri i Topit, as Nature Managed Reserve.

•   Study and proclamation of the area Surroj-Mali i Runës, as Nature Managed Reserve.

•   Expansion and proclamation of the area of Lake of Ulzë-Shkopet, as Nature Managed Reserve.

•   Study and expansion of the current area beyond the river of Drini i Bardhë towards the border with Kosovo, and its proclamation as Nature Managed Reserve.

•   Merger of the areas Polis, Stravaj, Sopot, Dardhë-Xhyrë (Nature Managed Reserve), and proclamation of the area Polis-Stravaj, Resource Reserve/Multiple Use Area.

•   Study and proclamation of the area of Nëmërçkë-Buretos, Resource reserve/Multiple Use Area.

Table 12. Changes in protected areas

	Proposed network of protected areas	Number of PAs (with reference to IUCN)
1	Strict Nature Reserve/ Scientific Reserve	4
2	National park	12
3	Monument of nature	9
4	Nature Managed Reserve	22
5	Land/maritime protected areas	5
6	Resource Reserve/ Multiple Use Area	6
7	Ramsar network of wetlands	4

8	Biosphere reserve	1

Measure 2: Protection and conservation of habitats

In general there is no complete list of the species of habitats located in Albania, except for partial knowledge about habitats found in protected areas. Furthermore, there are no data regarding distribution/spread of all priority habitats; there is no inventory about the areas and the current status, especially about coastal sand dunes and internal dunes, shrubs, glacial formations, and half glacial formation, and rock habitats and caves. For certain species of such locations as : coastal habitats, fresh water habitats and forests there are some data, which for most part are the result of visual surveys, as part of their integral protected areas.

In Albania among different habitats species are identified 20 priority natural habitat species (Annex 7) (Habitats Directive) which are considered as a very important part of the conservation of biodiversity values. Priority species of natural habitats are in the focus of conservations during the last ten years, first of all for the prevention of fragmentation and further degradation, and to expand the space of the current protected areas, in order to take long-term measures to ensure natural regeneration. Loss and fragmentation of habitats currently represent main threats to biodiversity in Albania.

Activity: Inventory of priority natural habitats throughout Albania

Proposed methodology: Identification and monitoring of priority natural habitats throughout the country (based on the proposed list). Identification of other habitat species of high conservation value (focusing on species of habitats in serpentine substrate) and establishment of NATURA 2000 areas.

Expectations: preparing GIS maps for each of the habitat's priority species and Natura 2000 area (in 10 years).

Expectations: Incorporation of priority habitat species within the Natura 2000 areas, and review of the network of protected areas (five years).

Expectations: a report on the restored habitats based on long-term natural regeneration (five years).

Expectations: An inventory list of endangered/threatened species and of the indicators for all species of priority habitats and Natura 2000 countries (eight years).

Activity: Inventory and Monitoring of of natural and semi-natural herbaceous plant associations

Pastures vary considerably from the point of view of their management, agricultural productivity, social and economic values, and their protecting status.

The history of their expansion and shrinkage, their co-evolution with large herbivores such as mammals and the interaction of pastures with other environments such as: steppe, alpine forests and Mediterranean forests and effects of alienation on grazing (from wild or household herbivores), interaction with agriculture have led to today's organisms and diversity.

Proposed methodology: Identification of sensitive pastures and establishment of respective regimes of grazing and restoration by cleansing invasive species, bushes or trees.

Expectations: A report based on the evaluation of sensitive pastures, results on grazing and invasive species (4 years).

Expectations: A list of endangered species in the habitats of pastures and the number of populations of each of them (5 years).

Expectations: Retention capacity for alpine pasture has been evaluated, and the grazing regime is applied (10 years).

Activity: Fostering natural regeneration and regeneration with autochthonous species of forest wood

Forests are different biological systems and represent some of the richest biological terrains on earth. They offer a diversity of habitats for plants, animals and microorganisms. However, the biological diversity of forests in Albania is being more and more threatened as a result of afforestation, fragmentation and other problems.

Proposed methodology: Introducing the bases for long-term natural regeneration of forests by stopping logging within protected areas, and identification of endangered species of forestry habitats.
Expectations: A report based on results of surveys in the field, of endangered and degraded species of forest habitats (3 years).

Expectations: natural regeneration of habitats that conserve the plantation coverage in degraded habitats (5 years).
Expectations: An inventory of habitats where artificial regeneration artificial is allowed, (only in the cases when it helps natural regeneration or in places where re-growth is damaged) (3 years).

Activity: Evaluation of genetic resources for mainly forestry species and identification of forests for in-situ conservation of the genetic diversity

Genetic Diversity ensures the main bases for the development of forest tree species. This diversity has made it possible for the forests and trees to adapt to changes of the unfavourable conditions for thousands for years, and represents a unique and irreplaceable opportunity for retention of genetic resources of forest saplings.

Proposed methodology: On site (field) inspection and evaluation of genetic diversity.

Expectations: Generation and revival of the integrated network of genetic reserve for main forest species such as (beech, black pine, silver fir, oak) (2 years).

Activity: Evaluation of endangered plants in rock and stone habitats

Proposed methodology: On-site inspections and evaluation of endangered plants in rock and stone habitats

Expectations: generation of a data base for rock and stone habitats with their respective plant populations (5 years).

Expectations: A list of endangered species, in particular endemic and sub-endemic species of these habitats (3 coming years).

Activity: Proposed actions for the conservation of marine habitats and freshwater, as well as of Pisces species in Albania

Many of the areas identified as important for the conservation of Pisces of marine waters and freshwater are either exclusively or partially part of maritime protected areas, such as: wetlands, national parks, bird protected areas or areas of conservation. These areas have been designed as such to protect them from uncontrolled development or human activities.

In addition to riverbeds and stream flows of good conservation potential, fresh water streams and rich with different fish species should represent a priority to be listed under important ecological areas. It is important to make great efforts to avoid further fragmentation, loss and misuse of water etc. Having said that, it is necessary to have in place a new official regulation for building the river beds for pisces/fish during construction of small or medium size hydropower stations.

In order to guarantee protection of Pisces of freshwater, as well as entry of this population in the Albanian terrain, it is indispensable to ensure improvement/rehabilitation of some of the abandoned wetlands, as appropriate habitats for their conservation.

Proposed methodology: Evaluation of population of Pisces and plantation cover in each isolated part of streams and rivers.

Expectations: A report based on the evaluation of population of Pisces should be drafted as part of this action (4 years).

Expectations: A report based on the plant cover and plants species of conservation and evaluation interest has been drafted for the rivers and flows where there are hydropower stations already (every 5 years).

Activity: Monitoring of special areas of conservation (SAC)

It is common knowledge that information about the Albanian flora and fauna is incomplete, warranting a taxonomy classification review for drafting the list of flora and fauna. Recent data published in the last ten years display a large and rich diversity of species, both in terms of plants or wildlife and in terms of diversity of species of all ecosystems.

Based on the national monitoring program, there are identified 27 monitoring areas, as important for the conservation for all components of biodiversity. Based on the Manual for Monitoring of Biological Diversity, these areas need to be inspected on regular bases every 3-5 years regarding monitoring of the general conditions of habitats, requirements of species for conservation and/or diversity of populations of plants and wildlife. During the process of monitoring, special attention needs to be paid to environmental changes and problems that may harm the community of species and their habitats. The number of monitored species and areas needs to be written down during field inspections.

Activity: Monitoring of higher plants

Monitoring of plants, as above mentioned, is planned only for the mainly marine areas, freshwater and forest ecosystems, except for pastures and rock and stone habitats where are found more than 50 % of indicative species in Albania, is not representative. In light of this, actions should include monitoring of plant species and/or indicative species in all habitats, including plant, rock and stone habitats.

Proposed methodology: Data about the number of populations, areas of coverage, spread surface, as well as the quality of habitats and ecology for every indicator or endangered species will be summarized for all inspected areas (it is important to follow methodology, and standards described in the Manual on Monitoring of Biodiversity).

Expectations: List of control for plant species in Albania, focusing on endangered endemic and sub-endemic species (3 years).

Expectations: Regular evaluation report about the areas under monitoring (every 3 to 5 years), regarding the number of populations, their spread, quality of habitats and ecology of indicative species and endangered species.

Expectations: Revised control list of species of conservation interest, at the national, international and global scale, together with the risk categories (based on the new rules of IUCN) (every 5 years).

Expectations: Regular evaluation reports on the composition of flora, including the list of control of invasive species for every area that has been inspected (every 5 years).

Activity: Performing the inventory and monitoring of critically endangered fauna species

Many families of the Albanian fauna have been reviewed very little and identification of many species of many families is impossible without additional work.

An inventory of the critically endangered fauna will serve as a source of information about the Albanian critically endangered fauna, and will be a credible and organized source, playing a role

in promoting scientific research, planning of conservation and effectively strengthening the law on environment related to the wildlife conservation. The inventory will help with the care and conservation with data on endangered species in Albania.

Proposed methodology: Identification and realistic reflection of species, counting and recognition of species; collection of data about the number of population, area of coverage, expansion of knowledge, and quality of habitats and ecology for critically endangered species (following standard methodology described in the manual on monitoring of biological diversity.)

Expectations: Review of the list of control of endangered wild species located in Albania (3 years).

Expectations: Regular report evaluation on floral compositions, including the list of control for invasive species for every inspected area (every 5 years).

Activity: Introduction of an electronic database on fauna

Taxonomy database is a data base generate to store information about biological classification, for e.g. a group of organism that are organized according to the name of the species, or other taxonomy indicators, for the efficient management of data and important information. This data base may be used for automatic improvement of the biological control of fauna species, either printed or electronically; to manage operations of web information system; as part of the biological collection management; as well as management of taxes for biological information system. However, the purpose of this database is not about registration of location of every species, but rather the identification of the presence of special species. In the future, the local of species will be presented geographically, in an active map.

Proposed methodology: the entry data base for every species will be accompanied with pictures, to assist with identification, and where possible secondary pictures, video and audio feed. Pictures should be as small as possible, in order for them to open quickly when downloading, but also be

to seen in the wall, and when printed visible clearly. The video footage should be less than 20 seconds, in order to be downloaded by all users, even in the cases when the internet is slow.

Expectations: accurate registration for every geographical area as National park, either state or private property, all interactive in the map.

Expectations: recorded pictures for every species should be displayed in the map.

Expectations: More information on endangered species.

Expectations: regular evaluation report on floral compositions, including the list of invasive species for each monitored area (every 5 years).

Activity: Monitoring of Pisces/fish species

The most important marine species and those of freshwater should be registered for the inspected areas.

Proposed methodology: The data should be collected and evaluation should be conducted for specific Pisces species of rivers, lakes, wetlands and marine waters (based on standard methodology of WFD and BE)

Expectations: a mixture of the practice of monitoring of Pisces (standards WFD and BE) in all surface, coastal waters, lakes and rivers.

Expectations: annual evaluation report (2 years), Review of feasibility study of Wetlands and Buna River (3 years), revised project for the trout species (4 years) and structured monitoring report (5 years) should be part of Action 5.3.5.

Monitoring of the sites impacted by the hydropower plants.

Roads and building the TAP gas pipeline, highways, hydropower power stations have led and will continue to lead to fragmentation of habitats and ecosystems until causing loss of biodiversity.

Hence, long-term monitoring of affected sites is a must for the prevention and stopping loss of biodiversity.

Proposed methodology: Periodic evaluation of the flora and fauna on both sides of the roads, areas where TAP gas pipeline will go through or the rivers or river branches where there are hydropower stations currently or will be in the future should take place in line with standard methodologies described in the Manual for Monitoring of Biodiversity.

Expectations: Reports on the size of populations and trends for every endangered species, based on the methodology described in the Manual of Monitoring of Biodiversity, (every 3-years).

Expectations: ongoing monitoring of water regime, in particular during the dry period (July - October) in rivers and river branches affected by the changes in the water flow (periodically every 2 years).

Measure 2:   Action plans for species of wild flora and fauna and natural habitats

Destruction and fragmentation of habitats, together with other threats such as: air pollution, herbicides, diseases, fires may be considered as the key factor for the loss of biodiversity and reduction of the number of autochthonous species.

In order to eliminate and then prevent extinction of species and over-use of natural species of economic interest due to unsustainable management of natural resources, the Ministry of Environment is encouraging the formulation of action plans for the conservation of species of high conservation interest.

In general, an action plan on species includes an inventory of the biological information, an assessment on the conservation status, as well as conservation objectives for indicative species and the timeframe for the action plan's implementation.

Regarding conservation it is important to make serious efforts to include monitoring of living populations, exploring appropriate locations, displacement and creating the appropriate conditions for their reproduction. It is important to organize consultations with experts/organizations regarding measures for the conservation of proposed species prior to actually conducting the displacement.

Action plans for the conservation of plants

This action includes endemic species that are located in only one or two localities and with a small sample of individuals, i.e. less than 3 000 mature species, as well as medicinal plants that are most at stake from excessive accumulation.

Expectations:

- Action plan for the conservation of sage (common sage, or garden sage) (Salvia officinalis) (2 years);
- Action plan for the conservation of Sideritis raeseri (2 years);
- Action plan for the conservation of the great yellow gentian (Gentiana lutea) (3 years);
- Action plan for the conservation of Crataegus heldreichii (2 years);
- Action plan for the conservation of the Albanian prickly thrift (Acantholimon albanicum) (5 years);
- Action plan for the conservation of Astragalus autranii (2 years);
- Action plan for the conservation of Campanula comosiformis (3 years);
- Action plan for the conservation of Campanula skanderbegii (2 years);
- Action plan for the conservation of Hypericum haplophylloides (5 years);
- Action plan for the conservation of Ranunculus wettsteinii (5 years);
- Action plan for the conservation of Ranunculus hayekii (2 years);
- Action plan for the conservation of Tulipa albanica (2 years);
- Action plan for the conservation of Viola raunsiensis (5 years)

Action plans for the conservation of fish

The conservation of fish species is not simple, hence it is important to draft specific action plans, and in order to meet their specific needs for conservation.

Expectations:

Action plan for the conservation of Anguilla Anguilla (2 years);

Action plan for the conservation of Acipenser sturio (3 years);

Action plan fighting foreign species and invasive Pisces (5 years);

Action plan for the conservation of Salmonides (7 years);

Action plan for the conservation of Cetorhinus Maximus (8 years)

Measure 3: Studies and research

Long-term conservation of indicative species and/ or species of high economic values, as well as endemic species categorized as species with little data (DD) should be based on the field inspections and scientific analyses. Scientific analyses require fundamental knowledge on the ecology, ecosystems and plant communities, knowledge on phylogeny, population trends and risk of extinction of plants which are combined together and determine the long-term conservation of species. On the other hand, global warming and invasive species are changing the flora composition of the autochthonous population, and the displacement of sensitive species towards warmer temperature, in more heights.

Identification of species for which there are no data

Identification of species that fall in the category of species with little data (DD) , establishing the taxonomy of the endemics species published recently by F.K. Meyer, and monitoring of the displacement of species in greater heights due to global warming, together with the monitoring of the floral composition of the populations in ecosystems and different habitats require cooperation among scientific research centres (Faculty of Natural Sciences, Tirana University and other universities) with the Ministry of Environment.

Proposed methodology: Implementation of continuous survey/investigation/research activities.

Expectations: Reports on monitoring of displaced species and changes in the composition of the flora for local populations of the alpine area (every 5years).

Expectations: Study on the population trends of Abies borisii-regis and Oriental Plane (Platanus orientalis) affected by unknown diseases or insects (5years).

Expectations: brief report on the distribution, ecology and size of the population species that have not been registered since their first publication (Alkanna sandwithii, Astragalus autranii, Carduus quercifolius, Tanacetum albanicum, Euphorbia cikaea, Melampyrum doerfleri, Noccaea abanica, Noccaea çikaea, Orobanche noëackiana, Sesleria albanica and Stachys sericophylla) (every 5 years).

Expectations: frequent study reports and scientific publications on the identity of species published by F.K Meyer, as Albanian endemic species.

Expectations: briefing on the trends of populations of relict species and glacial refugee species should be part of this Action (5 years).

Understanding the structure of the population of fresh water species

Even though Pisces of marine and fresh waters may be found throughout the Albanian territory, Pisces communities in different localities are physically separated from each –other for a long time, which may lead to genetic modifications among different populations of Pisces of the same species. In order to better understand the structure of the affected populations of fresh water Pisces of Albania in cooperation with universities (Tirana University and Agricultural University) it is important to perform studies on the genetics of the selected species of autochthonous Pisces throughout our territory. In order to preserve the sustainably of Pisces species and to conserve diversity, genetic assets are of extreme importance. The results of these studies will provide further knowledge on research and conservation of Pisces in marine and fresh waters in the country.

A detailed study on the hydrological balance, including an evaluation on the discharge of water fall/showers in spring, raindrop analyses, and water diversion should be done for 20 selected river basins, (Valbona, Thethi, Cemi, Buna, Drin, Mat, Vjosë, Devolli, Osumi and Pavllo). A study on hydrological balance should come up with recommendations for actions for conservation of a good hydrological regime for healthy flows and live populations of trout in a long time frame.

In line with the recommendations of these studies (including other studies and surveys of other actions), the implementation of management actions may take the third place in the seventh year, in order to improve the situation.

Proposed methodology: Implementation of management actions

Expectations: Hydrological balance study (4 years) and Water Integrated Management Plan (4 years) and a report on the implementation of management actions for improving the situation (5 years)

Expectations: a water survey; this is going to be used as a support document for stopping changes in the hydrological regime (2 years).

Expectations: genetic evaluation of Alburnoides, Alburnus, Gobius (4, and 5 years).

Expectations: Report on promoting agricultural approaches and practices, with the view of reducing erosion and interventions of chemicals of rivers for improving water environment (6 years).

Expectations: Study report of the National Red List of Pisces, to update it, and ensure coordination with IUCN red list (3 years).

Measure 4: Education of the public and awareness raising

Education of the broad public plays an important role regarding conservation. It is important to introduce changes in the education programs, and do more on awareness raising regarding the importance for the conservation of biodiversity for plants in general in the country, and in particular for Pisces of marine and fresh waters.

It is important to organize and broadcast TV shows focusing on the values of medicinal plants, Albanian endemic plants or Pisces and fauna of different Pisces in the country, in cooperation with the National Museum of Sciences etc.

Raising public awareness and education about biological diversity

One of the priorities should be raising public awareness and coming up with a special awareness raising campaign on biodiversity, which should lead to changes in the mentalities related to biological diversity.

Proposed methodology: Conducting surveys on raising public awareness regarding biodiversity.

Expectations: Concrete results following public awareness campaign surveys and biodiversity policies

Expectations: Launching different public programs such as: Biodiversity day, Earth day, Wetlands day etc. (annually).

Expansion of education and publicity for raising awareness regarding biodiversity

In addition to different publications, field instructions about Pisces of sea waters and fresh waters, it is important to raise public awareness regarding the importance and conservation of Pisces. Other education programs and publicity should be organized with relevant parties, in order to raise public awareness about ecosystem services and equal sharing of benefits, Pisces of marine and fresh waters, for raising awareness about protection of medicinal and industrial plants.

Proposed methodology: Analyses of Sustainability of Populations (ASP) and publication of education materials, including documentaries on biodiversity.

Expectations: Materials and publications from public awareness raising campaign (2 - 3 years), definition of eel, lime and trout as special species (1 year), a report on ASP (4 years) and a report on the implementation of public awareness raising campaigns (5 years).

Expectations: data base on monitoring of biodiversity is improved and data are transferred to neighbouring countries and respective agencies of ZEE.

Preparing participating actors in programs and projects

Participation of interested parties in projects and programs of biodiversity may be the key to ensure their long-term sustainability. Promoting participation helps in creating ownership and enhances

transparency and accountability, and this way enhances effectiveness of development projects and policies.

Proposed methodology: establishment of the network of actors such as: local governments, NGOs, and the business sector.

Expectations: private companies and NGOs are part of the process of conservation of biodiversity.

Expectations: detailed instructions for the participation of the private sector are drafted, and expected to begin implemented by 2016.

Expectations: it is important to promote programs for encouraging the broad public to explore nature.

Measure 5: Enforcement of legislation

Even though the Albanian legal framework about regarding environmental protection and conservation of biodiversity is being strengthened, implementation of law and effective enforcement of national action plan continues to be weak. So far, governments have given low priority to environment, compared to other types of development concerns. Stemming from these data and the Albanian experience, some actions may be identified in order to help in the jurisdiction for the development of most appropriate systems for planning and conservation of biodiversity.

Legislative approaches as a "government entirety"

A comprehensive approach is one whereby an active government uses its formal and/or informal networks, and different agencies, for the coordination of the formulation and implementation of a range of interventions that governmental agencies would take to enhance effectiveness of these interventions for achieving desired results.

Proposed methodology: Every ministry and government department will take a similar approach for the conservation of biodiversity, in order to ensure that decision-making regarding exploitation is in line with decision-making for the conservation of the biodiversity.

Expectations: all pressures on biodiversity and responsible persons for the unsustainable use of biodiversity have been addressed by the relevant documents.

Outcome: there is potential to better understand further impact of loss of biodiversity, conservation and rehabilitation by the government as a step towards a more complete vision of all measures for the conservation of biodiversity.

III - FINANCIAL RESOURCES

Financial resources for the implementation of DSPEP are planned through:

- Medium-term budget plan of the Ministry of Environment for 2016-2018 and long-term planning by 2020;
- Funds from projects in the area of nature protection currently under implementation or that will begin to be implemented until 2020, in the context of IPA projects;
- Applications in the context of calls for different projects that will be launched during the period of the implementation of the DSPEP;
- Different funds sources that may be generated and allocated for biodiversity purposes in Albania, in the context of Global Environmental Facility (GEF-6) funds: 2018-2022;

Projects under implementation for the protection of nature in Albania

- SELEA project (IPA 2010) implemented during 2011-2014 "Strengthening and Implementation of Environmental Legislation in Albania" included a component on the formulation of management plans for protected areas, as follows:

1. Bredhi i Hotovës-Dangëlli, National Park;
2. Mali i Tomorrit, National Park;
3. Albanian Alps, proposed National Park;
4. Korab-Koritnik National Park;
5. Protected landscape of Mali me Gropa-Bizë-Martanesh;
6. Protected landscape of Lake of Pogradec

- Project for "institutional support for the Ministry of Environment for the conservation and sustainable use of biodiversity in protected areas" funded by Italian Cooperation and IUCN. The project aims at strengthening institutional capacities and staff at the national and local levels in the process of planning and management of protected areas. Two management plans will be prepared: Plan for management of protected landscape of Buna-Velipojë Rivers and Management plan for the national park of Shebenik-Jabllanicë.
- Project on Cross-border Biosphere Reserve of Prespa: "Support for the national park of Prespa -Albania", funded by KfW, formulation and implementation of the Management

Plant for the National Park of Prespa. Prespa 2 Project, worth 3 million Euros will be implemented during a 3 years' timeframe, starting from end of 2015.

- Project for "Conservation and Sustainable Use of National Park of Divjakë- Karavasta, with the participation of the local government and interested parties, supported by the Japanese International Cooperation Agency (JICA). The project coordinated formulation of the management plan for the National Park of Divjakë- Karavasta, based on a participatory methodology.

- Project on "Improving the methodology for an effective management of the coastal and marine areas of PMs", supported by UNDP/GEF – for the preparation of the management plan for the national and marine parks/PM Karaburun-Sazan, 2011- 2016.

- Natura 2000 project (IPA 2013) "Strengthening national capacities for the protection of nature – preparation for Natura 2000 network", worth 4,4 Malone Euro, to be implemented during March 2015-June 2018.

IV. ACCOUNTABILTY, MONITORING AND ASSESSMENT ANALYSIS

Monitoring of DSPEP in practice will take place through formulation of annual implementation and monitoring indicators.

The attached annex provides a list of indicators for the conduct of this process.

Following each monitoring process there will be an annual progress report regarding the implementation of the SAPB.

Description of indicators	Baseline 2013	Goal 2017	Goal 2020
Surface of protected areas	15,8 %	16.8 %	17 %
Surface of protected marine and coastal areas	1,5 %	4 %	6 %
Number of Protected Areas for which management plans have been developed and adopted	10	25	30
Number of protected areas for which management plans have been implemented	0	5	10
Number of formulated action plans on species	5	7	10
Number of implemented action plans of species	0	3	5
Number of natural habitats with improved conservation status	2	5	10
Number of wild fauna species with improved status	0	5	15

Number of populations of species that are subject to hunting that are improved	0	7	14
Ecological network Natura 2000 for Albania- identified	0	50 %	100 %

ACTION PLAN FOR THE IMPLEMENTATION OF THE STRATEGIC POLICY DOCUMENT ON THE PROTECTION OF BIODIVERSITY

In line with national objectives and following monitoring indicators:

1. **By 2020**- to ensure transposition and implementation of EU acquis in the area of nature protection.
Indicator: 1.1 Degree of approximation of EU Acquis on nature

2. **By 2015-** there should be in place a strategic revised and adopted document on biodiversity (DSPEP), in line with objectives of Aichi 17

Indicator: 2.1 DSPEP drafted and adopted

3. **By 2020**- establish a conservation objective of 17% of surface and underground water areas and 5% of the coastal, marine areas. The establishment of the National Ecologic Network of Albania, as integral part of the Pan European Ecological Network (PEEN)-in line with target 11, Aichi

Indicators: 3.1 general surface of protected areas (PAs); 3.2 Surface of marine and coastal PAs; 3.3 Number of drafted management plans for PAs

4. **Restoration of at least 15% of degraded areas** through conservation and restoration activities – in line with Aichi biodiversity targets – this action will be achieved through implementation of the management plans for protected areas and through the implementation of the action plans for species in particular and habitats

Indicator: 4.1 Number of implemented management plans for protected areas

5. **Implementation of Nagoya Protocol** for access and sharing of benefits of genetic resources and profits stemming from their use - in line with target 16 of Aichi;

Indicator: 5.1 Establishment and operation of the national network for the implementation of the Protocol; 5.2 completion of the national legislation regarding aces to genetic resources;

To the end of accomplishing these identified national objectives the action plan is prepared, in line with the following tables, which will serve as guidance for the implementation of this sector strategy, with concrete measures and deadlines.

	OBJECTIVE	OPERACIONAL OBJECTIVE	MEASURES TO BE TAKEN FOR ACHIEVING THE OBJECTVIES	RESPONSIBLE INSTITUTONS	TIMEFRAME	COSTS
1	Completing the national legislation on nature and biodiversity	1. EU *acquis on* nature fully transposed in the national legislation 2. Legislation in the area of nature protection completed with by-laws, in order to be fully applicable	Regulation on "Conditions for keeping animals in ZOO" – 2016 Instruction for the implementation of Regulation 338/97, (revised) on trading of wildlife – 2016 DCM on tariffs for the use of wild fauna species – by 2015 Review of DCM "On hunting tariffs" by 2016 Amendment to Law "On Protected areas" – 2016 finalizing by-laws, within 2 years, until the end of 2018 formulation of by-laws to Law "On hunting" by the end of 2016 Completing CITES law with respective by-laws by 2017 formulation of bylaws to Law "On protection of wild fauna" by the end of 2017	MoE in cooperation with MIE and line ministries	5 years	6,115,000 Lek State budget funds Medium term budget framework 2016-2018 planned

| | | | draft- law "On membership of the Republic of Albania in the European Convention on landscapes" – 2016

Instruction of the Minister On the methodology for the inventory of wild fauna species that is subject to hunting – 2016

Order of the Minister for the review of the Red List of the Albanian wild flora and fauna – 2019 | | | |
|---|---|---|---|---|---|---|
| 2 | Expansion of the system of protected areas in Albania, by increasing surfaces of protected areas to 17 of the land surface and internal water areas of the country, as areas of special importance for the biodiversity and ecosystem services

and to 6 % of the coastal and marine areas | Survey of the current situation of the existing network of protected areas (PAs) and identification of new PA, in line with new rules of IUCN | Study and proclamation of Gjergjevica valley as Strict Nature Reserve/ Scientific Reserve

Study and proclamation of Shkalla e Rrapshës as Strict Nature Reserve / Scientific Reserve

Study and proclamation of Këneta e Zezë, Roskovec as Strict Nature Reserve/ Scientific Reserve

Expansion and Proclamation of the area Lurë-mountain Deje as National park

Review of the current status of the national parks of Bredhi i Drenovës and Qafë Shtamë and proclamation of | MM

NAPA | 5 years

While planning for new PAs every year | 1,223,000 Lek

Foreign financing:

CABRA 2 GIZ PK Alpet 2015-2017, 6/2015-11/2017

279,400,000

GEF UNDP Sazan-Karaburun MPA,

6/2011-6/2016 |

		Bredhi i Drenovës and Qafë Shtamë as Monuments of Nature			RAC/SPA Natural Park of Porto-Palermo, 12 months 2014-2015
		Study and proclamation of the area of Luzat-Bençë as Monument of Nature			
		Proclamation of Grykës së Çajës as Monument of Nature			
		Expansion of (blue eye) Syrit të Kaltër and proclamation of the area of Bistricë-Muzinë as Monument of Nature			Local cost-Government of Albania contribution by 10%
		Expansion of the current area of Zhej and declaration of the area of Zhej-Fushë e Çajupit as Monument of Nature			
		Study and proclamation of the area of Rrungajë-Ostrovicë as Nature Managed Reserve			
		Proclamation of the area Lenie-Guri i Topit as Nature Managed Reserve			
		Study and proclamation of the area of Surroj-Mali i Runës, as Nature Managed Reserve			
		Expansion and proclamation of the area Lake of Ulzës-Shkopetit as Nature Managed Reserve			
		Study and expansion of the current area of Drini i Bardhë towards the border with			

		Kosovo, and its declaration as Nature Managed Reserve. Merger of the areas Polis, Stravaj, Sopot, Dardhë-Xhyrë (Nature Managed Reserve), and declaration of the area of Polis-Stravaj as Multiple Use Area			
		Study and declaration of the area of Nëmërçkë-Buretos as Multiple Use Area			
3	Formulation and implementation of management plans of Protected areas	Preparation of management plans for Protected areas and their update (5 management plans by 2020)	Dajti national park	MoE	5 years	On Average 12,230,000 Lek for the implementation of a management plan or
		Implementation of management plans for Protected areas for which there are prepared and adopted plans (12 plans)	Llogara national park	NAPA		
			Protected landscape of Vjose-Narte	NEA		61,150,000 for the formulation of 5 plans by 2020
			National park of Butrint	LGV		
			NMR Kune-Vain-Tale			And
			NMR Shkodra lake			
			National park of Prespa			61,150,000 Lek for the implementation of a 5 years management plant for 2015-2020
			National park of Divjake-Karavasta			
			National park of Bredhi i Hotoves-Dangelli			
			National park of Mali i Tomorrit			Government of Albania allocations
			Natural park of Korab-Kortnik			

		Protected landscape of Mali me Gropa-Bize-Martanesh Protected landscape of Lake of Pogradec Natural park of Porto-Palermo National park of Shebenik-Jabllanice Protected landscape of Buna- Velipoje river Alps national park Management plans will be drafted for the areas for which there is none			-approximately 5,000,000 Lek/annually for this activity The rest is going to be covered by donor projects, such as: KfW for the Prespa National Park, 419,100,000 Lek; 2012 Natura IPA Project 2000, 280,000,000 Lek entirely for this component
4	Protection and conservation of habitats	Inventory of nature priority habitats throughout Albania Identification, monitoring of natural habitats throughout Albania (based on the proposed list) Identification of other habitat species of special conservation value (focused on species of habitats in serpentine	Preparation of GIS maps for each of the priority species of the habitats and Natura 2000 areas Incorporation of priority habitats species within Natura 2000 areas, and review of the network of Protected areas Report on restored habitats, in line with long-term natural regeneration	MoE NAPA FSHN (QKFF) UB Tirana	Long-term 5 years	12,230,000 Lek annually out of the state budget that will be allocated for monitoring purposes NEA or

		substrates) and definition of NATURA 2000 areas	List of inventory of endangered species and indicators of all species of priority habitats and Natura 2000 sites			61,150,000 Lek in total
5	Inventory and monitoring of natural and semi-natural herbaceous plant associations	Identification of sensitive pastures and creation of respective regime of grazing and restoration through cleaning of invasive species, bushes or trees	Formulation of the report based on the evaluation of sensitive pastures, results on grazing and their invasive species- 2 years List of endangered species in the habitats of pastures and number of populations for each of them- 3 years Assessment of retention capacities for alpine pastures is assessed and the regime of pasture is applied- 5 years	MoE NAPA NEA FSHN	2-5 years	61,150,000 Lek No funds available for this activity Process may be supported by research of Faculty of Natural Sciences and Faculty of Forestry, in the TAU , in the context of research work, and in line with foreign projects where these institutions participate
6	Promoting natural regeneration and regeneration with autochthonous species of forest trees	Laying the foundation for long-term natural regeneration of forests by stopping logging within Protected areas and identification of endangered	Report based on the field survey results of the endangered and degraded species of forest habitats- 3 years	NEA UB FSHN DRSHP	Long-term 5 years	18,345,000 Lek total

		degraded species of forest habitats	Natural regeneration of habitats that conserve the plant cover in degraded habits 5 years Inventory of habitats that allow for artificial regeneration (only in the cases where it helps natural regeneration or places where re-growth is damaged) 3 years			No funds allocated so far; NEA, UB and DRSHP will be in charge of planning for 2016
7	Evaluation of genetic resources for main forestry species and identification of forests for in-situ conservation of genetic diversity	On-site inspection and evaluation of genetic diversity	Creation and revival of the integrated network of genetic reserve for main forest species (beech, black pine, silver fir, oak) 2-5 years	Agriculture University Ministry of Agriculture NEA QKFF (FSHN)	5 years	6,250,000 Lek No funds allocated so far Seeds Unit, UB and DRSHP will be in charge of planning for 2016 and on

8	Evaluation of endangered plants in rock and stone habitats	On-site inspection and evaluation of the endangered plants in rock and stone habitats	Generation of a database for rock and stone habitats on their plantation populations- 5 years A list of endangered species, in particular endemic and sub-endemic species of these habitats- 3 years	QKFF (FSHN), Agriculture University NEA, NAPA	5 years	6,000,000 Lek, the budget will be integral component of QKFF, NEA, NAPA and UB
9	Proposed measures for the conservation of marine and fresh water habitats, and Pisces species in Albania	Evaluation of the populations of Pisces and plant cover in every isolated part of streaks, flows and rivers	A report based on the evaluation of population of Pisces should be drafted as part of this Action 4 years A report based on the plant cover and plant species of conservation interest and evaluation has been drafted for the rivers and flows where hydropower are built- every 5 years	MoE NAPA Ministry of Agriculture University (UB)	5 years	6,000,000 Lek, from the budget of the national monitoring program for each protected area by NAPA and monitoring projects funded by foreign finances where QKFF and UB are part
10	Monitoring of areas with conservation importance	Based on the national monitoring program have been identified 27 monitoring areas, as important for conservation for all components of biodiversity.	List for control of plant species in Albania focused on endangered endemic and sub-endemic species 3 years Regular evaluation reports of monitored areas regarding the size of their	NEA NAPA QKFF	5 years	12,000,000 Lek annually, or 60,000,000 Lek total NEA in the context of national annual

| | | Based on the manual for monitoring of biological diversity, these areas need to be inspected on regular bases every 3-5 years, regarding monitoring of general conditions of habitats, requirement of species for conservation and/or diversity of populations of their plants and wildlife.

During monitoring, attention should be paid to changes of the environment and issues that may adversely impact the community of species and their habitat. Monitoring of higher plants

Data on the number of populations; areas of cover (AOO), spread (EOO), and quality of habitats and ecology for every endangered indicator or species will be summarized for all inspected areas (follow up of methodologies, standards described in the Manual for Monitoring of Biodiversity) | populations, distribution, AOO, EOO, quality of habitats and ecology of indicative species and endangered species

(every 3 or 5 years)

Revised list of control of species of conservation interest at the national, international and global levels, together with risk categories (based on new rules of IUCN)

every 5 years

Regular evaluation report on the composition of the flora, including the list of control of invasive species for every monitored area

every 5 years | | | monitoring program will ensure budgeting of this component |

11	Performance of inventories and monitoring of critically endangered fauna species	Identification and reflection of species, counting them and recognition; collection of data about the size of population, area of coverage, expansion of knowledge and quality of habitats and ecology for critically endangered species (following standard methodology described in the Manual for monitoring of biodiversity.	Review of the list of control of endangered wild species in Albania 3 years Regular evaluation report on floral compositions, including the list of control for invasive species for every area that has been monitored every 5 years	QKFF (FSHN) NAPA MM	Long-term	6,000,000 Lek/annually or 30,000,000 total For the timeframe between 2016-2018, this component will be funded by GIZ CSBL-2 project
12	Introduction of a e-database for the fauna	Entry database for every species will include pictures to assist identification, with possible secondary footage, video and audio. Pictures should be small, so that they are easy to open, but they may also be viewed on the wall, and then printed all characteristics should be visible. Database videos should be small, less than 20 seconds, in order to be downloaded by all users, even when the internet is slow	Accurate registration for every geographic areas, as national park, either private or state property, all interactively displayed in the map. Registered pictures for every species in the map. Detailed information for endangered species Regular evaluation report on the floral compositions, including the list of invasive species for every monitored area every 5 years	MoE NEA NAPA DRSHP	2015-2016	700,000 Lek Planned under MTBP for 2015-2017

13	Monitoring of Pisces species Species of marine importance and fresh water species should be registered for the monitored areas	Data and evaluation of specific species of Pisces should be collected for rivers, lakes, wetlands and marine waters (based on standard methodology of WWFD and EU)	Integration of practices for monitoring of Pisces (WWFD and EU standards) for all surface, coastal waters, lakes and rivers Annual evaluation report (2 years), Review of the feasibility studies for Wetlands and Buna river (3 years), revised project for trout species (4 years) and structured monitoring report (5 years) should be part of this Action	Ministry of Agriculture MM NEA Agriculture University, Tirana QKFF (FSHN)	Annually	3,600,000 Ministry of Agriculture and Fishery Department in the Agriculture University will be in charge of planning in their respective budgets, research projects for the performance of this activity For the timeframe 2015-2017, this will be covered by CSBL-2 funded by GIZ
14	Monitoring of natural areas affected by hydropower plants	Periodical evaluation of flora and fauna on both built roads, areas where TAP pipeline goes through, or rivers and river branches where there are currently or will be in the future hydropower plants, based on standard	Reports on the size of populations and trends for every endangered species, based on the methodology described in the Manual for Monitoring of Biodiversity every 3-years ongoing Monitoring of water regime, particularly during dry period (July -	NEA ISHMPU NAPA	Medium term 2 years	6,000,000/annually or 12,000,000 total

		methodology described in the Manual for Monitoring of Biodiversity	October) in rivers and river branches affected by changes in the water flow - periodically every 2 years			
15	Action plan for wild flora species	Action plan for the conservation of plants	Action plan for the conservation of Sage (*Salvia officinalis*) 2 years Action plan for the conservation of *Sideritis raeseri* 2 years Action plan for the conservation of *Gentiana lutea* 3 years Action plan for the conservation of *Crataegus heldreichii* 2 years Action plan for the conservation of *Acantholimon albanicum* 5 years Action plan for the conservation of *Astragalus autranii* - 2 years Action plan for the conservation of *Campanula comosiformis* 3 years Action plan for the conservation of *Campanula skanderbegii* years Action plan for the conservation of *Hypericum haplophylloides* 5 years			1,000,000 Lek for each plan or 14,000,000 Lek total

			Action plan for the conservation of Sage (*Ranunculus wwettsteinii*) 5 years Action plan for the conservation of *Ranunculus hayekii* 2 years Action plan for the conservation of *Tulipa albanica* 2 years Action plan for the conservation of *Viola raunsiensis* 5 years			
16	Action plans for the conservation of e Pisces		Action plan for the conservation of Anguilla Anguilla 2 years Action plan for the conservation of Acipenser sturio 3 years Action plan for combating foreign species, and invasive pisces 5 years Action plan for the conservation of Salmonides 7 years Action plan for the conservation of Cetorhinus Maximus - 8 years	Ministry of Agriculture University	5 years	3,750,000 Lek Ministry of Agriculture and Agriculture University
17	Studies and research Identification of species for which there are no data	Implementation continued survey/research activities	Reports on monitoring of displaced species and changes in the composition of the flora of the local populations of Alpine area; every 5 years			1,000,000 Lek annually or 5,000,00 Lek total

			Study report on population trends of *Abies borisii-regis* and *Platanus orientalis* affected by unknown diseases or insects 5 years			
			Brief report on the distribution, ecology and size of populations for species that have not been registered since their first publication (*Alkanna sandëithii, Astragalus autranii, Carduus quercifolius, Tanacetum albanicum, Euphorbia cikaea, Melampyrum doerfleri, Noccaea abanica, Noccaea çikaea, Orobanche nowackiana , Sesleria albanica* and *Stachys sericophylla*) every 5 years			
			Study reports and scientific publications on the identity of species published by F.K Meyer, as Albanian endemic species-frequently.			
			Report on the trends of the populations of relict species and glacial refugee plants should be part of this Action Every 5 years			
18	Understanding of the structure of the population of fresh water species	Implementation of management measures	Hydrological study of the balance (4 years) and Water Integrated management plan (4 years) and a report regarding implementation of management actions for improving the	Ministry of Agriculture MoE	5years	N/A

		situation (5 years) will be some of the expected results for this Action. The water survey is going to be used as a support document for stopping changes in the hydrological regime 2 years Genetic evaluation of Alburnoides, Alburnus, Gobius 4 and 5 years Report for promoting agricultural approaches and practices, in order to reduce erosion and entry of chemicals in rivers, with the view of improving river environment - 6 years Study report of the National Red List of Pisces, in order to ensure that it is updated and coordinated with the red list of IUCN 3 years	Technical secretariat of KKU		
19	Education and public awareness raising	Raising public awareness and education on issues of biodiversity	Concrete results, following public awareness raising surveys and biodiversity policy Launching of different public programs such as: Biodiversity day, Earth Day, International wetlands day etc. (annually)			500,000 Lek/annually or 2,500,000 Lek total
20	Conduct of surveys on awareness raising	Expansion of environmental education and raising	Materials and publications from public awareness campaigns (2 - 3 years),	MAS	Ongoing	

	regarding issues of biodiversity	awareness to promote awareness on biodiversity Analysis of sustainability of populations (ASP) and publication of information materials, including documentary on biodiversity	definition of trout , eel and lime as special species – 1year, A report on the Analyses of Sustainability of Populations (4 years) and a report on a public awareness raising campaign- 5 years. The data base for monitoring biodiversity is improved and the data are transferred to neighbouring countries and relevant agencies then to the European Environment Agency	MoE		1,250,000 Lek
21	Preparing stakeholders for their participation in programs and projects	Establishing a network of actors such as: local government units, NGOs, and the business sector	Private companies and NGOs as part of the process of biodiversity conservation. Detailed instructions for the participation of private sector are in place, and expected to start implementation in 2016. Promoting inclusion programs that encourage a broad range of public participation to explore nature	MoE Line ministries		N/A
22	Implementation of legislation through Legislative approaches as government entirety	Every relevant ministry and governmental department should take a role for the conservation of biological diversity, to ensure decision-	There is potential to better understand the further impact of loss of biodiversity, conservation and rehabilitation of biodiversity, by the government, as a step forward towards a fuller vision of	MoE in cooperation with the line ministries	Ongoing	N/A

		making regarding exploitation is in line with decision-making for the conservation of biodiversity.	all measures for the conservation of biodiversity			

Aneex 1 - List of TAXONOMY OF ENDEMIC PLANTS in Albania

	Taxon name	Conservation Status	Family Name
1	*Acantholimon albanicum* Schaëarz & F.K. Meyer.	EN A1b	Acanthaceae
2	*Alkanna sandëithii* Rech. fil.	DD	Boraginaceae
3	*Arenaria cikaea* F.K.Meyer	DD	Brassicaceae
4	*Aster albanicus* Degen. subsp. *paparistoi* Qosja.	EN A1b	Asteraceae
5	*Astragalus autranii* Bald.	DD	Fabaceae
6	*Campanula comosiformis* (Hayek & Janch.) Frajman & Schneeë.	EN A1b	Campanulaceae
7	*Campanula aureliana* Bogdanović, Rešetnik, Brullo & Shuka	CR	Campanulaceae
8	*Campanula skanderbegii* Bogdanovic, Brullo & D. LNFAsic	CR	Campanulaceae
9	*Carduus quercifolius* F.K.Meyer	DD	Asteraceae
10	*Carex markgrafi* Kuk.	EN	Cyperaceae
11	*Centaurea candelabrum* Hayek & Kosanin.	EN A1b	Asteraceae
12	*Tanacetum albanicum*Markgraf.	DD	Asteraceae
13	*Euphorbia cikaea* F.K.Meyer	DD	Umbelliferae
14	*Festucopsis serpentini* (C.E. Hubb) Melderis	VUA1b	Poaceae
15	*Gymnospermium maloi* Kit Tan & Shuka	CR B1	Berberidaceae
16	*Hypericum haplophylloides* Halacsy et Bald.	CR A1b	Hypericaceae
17	*Ligusticum albanicum* Jav.	CR B1	Umbelliferae
18	*Melampyrum doerfleri* Ronniger.	DD	Scrophulariaceae
19	*Noccaea albanica* F.K.Meyer	DD	Brassicaceae

20	*Noccaea cikaea* F.K.Meyer	DD	Brassicaceae
21	*Onosma mattirolii* Bald.	VUA1b	Boraginaceae
22	*Orobanche noëackiana* Markgr.	DD	Orobanchaceae
23	*Ranunculus ëettsteinii* Dorfl.	CRB2a	Ranunculaceae
24	*Ranunculus hayekii* Dörfler	CRBl	Ranunculaceae
25	*Scilla albanica* Turril	VU	Liliaceae
26	*Sesleria albanica* Ujhelyi	DD	Lamiaceae
27	*Stachys sericophylla* Halacsy.	DD	Lamiaceae
28	*Tulipa albanica* Kit Tan & Shuka	CRB1	Liliaceae
29	*Veronica saturejoides* subsp. *munellensis* M.A.Fisch.	VUA1b	Scrophulariaceae
30	*Viola acroceraunensis* M. Erben.	VUA1	Violaceae
31	*Viola raunsiensis* Becker & Kosanin	ENA1a	Violaceae
32	*Ëulfenia baldaccii* Degen.	VUA2c	Scrophulariaceae

Annex 2 - List of protected Albanian flora species from the Bern Convention (T-PVS (2002) 4)

	Scientific name	Family
1	*Marsilea quadrifolia* L.	Marsileaceae
2	*Salvinia natans* (L.) All.	Salviniaceae
3	*Caldesia parnassiifolia* (L.) Parl.	Alismataceae
4	*Solenanthus albanicus* Degen & Baldacci	Braginaceae
5	*Vaccinium arctostaphylos* L.	Ericaceae
6	*Ramonda serbica* Pancic	Gesneriaceae
7	*Fritillaria graeca* Boiss.	Liliaceae
8	*Fritillaria gussichiae (*Degen & Doerfler) Rix	Liliaceae
9	*Fritillaria montana* Hoppe	Liliaceae
10	*Cypripedium calceolus* L.	Orchidaceae
11	*Himantoglossum caprinum* (Bieb.) C. Koch.	Orchidaceae
12	*Ophrys oestrifera* Bieb.	Orchidaceae
13	*Orchis provincialis* Balb.	Orchidaceae
14	*Posidonia oceanica* (L.) Delile (Med.)	Posidoniaceae
15	*Geum bulgaricum* Panc.	Rosaceae
16	*Trapa natans* L.	Trapaceae
17	*Typha shuttleëorthii* Koch & Sonder	Typhaceae
18	*Cymodocea nodosa* (Ucria) Ascherson (Med.)	Zannichelliaceae
19	*Mannia triandra* (Scop.) Grolle	Hepaticae
20	*Buxbaumia viridis* (Moug. ex Lam. & DC.) Brid. ex Moug. & Nestl.	Musci
21	*Cystoseira amentacea* (incl. var. stricta & var. spicata) (Med.)	Fucophycea
22	*Cystoseira spinosa* (inclus C. adriatica) (Med.)	Fucophycea

Species Code	Scientific name	Annex II	Annex IV	Annex V
1428	*Marsilea quadrifolia*	Y	Y	N
1657	*Gentiana lutea*	N	N	Y
1671	*Solenanthus albanicus*	Y	Y	N
1739	*Ramonda serbica*	N	Y	N
1832	*Caldesia parnassifolia*	Y	Y	N
1845	*Fritillaria gussichiae*	N	Y	N
1849	*Ruscus aculeatus*	N	N	Y
1866	*Galanthus nivalis*	N	N	Y
2327	*Himantoglossum caprinum*	Y	Y	N
4089	*Arabis scopoliana*	Y	Y	N
4096	*Gladiolus palustris*	Y	Y	N
4104	*Himantoglossum adriaticum*	Y	Y	N
6296	*Campanula scheuchzeri*	Y-CTC	Y-CTC	N
6302	*Anacamptis pyramidalis*	Y-CTC	Y-CTC	N
1386	*Buxbaumia viridis*	Y	N	N
1379	*Mannia triandra*	Y	N	N

ANNEX 4 - Red list of Albanian flora, proposed or accepted by IUCN

Scientific name	IUCN status

1	*Aesculus hippocastanum* **L.**	**NT**	**Accepted**
2	*Anacamptis palustris* **(Jacq.) R.M.Bateman**	**LC**	**Accepted**
3	*Galanthus reginae-olgae* **Orph.& Pridgeon & Chase**	**VU B2ab(iii,v)**	**Accepted**
4	*Caldesia parnassiifolia* **(L.) Parl.**	**LC**	**Accepted**
5	*Carex markgrafii* **Kük.**	**VU D2**	**Proposed**
6	*Colchicum macedonicum* **Košanin**	**EN C1 C2(a i)**	**Proposed**
7	*Dactylorhisa cordigera*	**LC**	**Accepted**
8	*Festuca galicicae* **Horvat ex Markgr.-Dann.**	**EN B1+B2ab(iii)**	**Proposed**
9	*Fritillaria graeca* **Boiss.**	**DD**	**Accepted**
10	*Fritillaria gussichiae* **(Degen & Doerfler) Rix**	**DD**	**Accepted**
11	*Ophrys bertolonii* **Moretti**	**LC**	**Accepted**
12	*Ophrys insectifera* **L.**	**LC**	**Accepted**
13	*Marsilea quadrifolia* **L.**	**LC**	**Accepted**
14	*Ramonda serbica* **Pancic**	**LC**	**Accepted**
15	*Salvinia natans* **(L.) All.**	**LC**	**Accepted**
16	*Stipa mayeri* **Martinovský**	**EN B2ab(iii)**	**Proposed**
17	*Tulipa albanica* **Kit Tan & Shuka**	**CR B2ac(i,iv)**	**Proposed**
18	*Festucopsis serpentini* **(C.E. Hubb) Melderis**	**LC**	**Proposed**
19	*Crocus scardicus* **Košanin**	**LC**	**Proposed**
20	*Gentiana punctata* **L.**	**LC**	**Accepted**
21	*Leontopodium alpinum* **Cass.**	**LC**	**Accepted**
22	*Rhamnus intermedius* **Steud. & Hochst.**	**LC**	**Accepted**

23	*Scilla albanica* Turrill.	NT	Proposed
24	*Sesleria ëettsteinii* Dörfl. & Hayek	DD	Proposed
25	*Sideritis scardica* Griseb.	NT	Accepted
26	*Solenanthus albanicus* Degen & Baldacci	EN B1ab(v)+2ab(v)	Accepted

ANNEX 5 - List of mamals as part of the red list (2013)

Nr	Species (scientific name)	Name in Albanian	Protection status
	ORDER INSECTIVORA		
	Family Soricidae		

1	*Suncus etruscus*	**Hundëgjatë i vogël dhëmb -bardhë**	*DD*
	ORDER CHIROPTERA **MICROCHIROPTERA**		
	Family Rhinolophidae		
2	*Rhinolophus blasii*	**Lakuriq nate hund-patkua i Blasius**	*LRnt*
3	*Rhinolophus Euryale*	**Lakuriq nate hund-patkua i Mesandut**	*VU*
4	*Rhinolophus ferrumeguinum*	**Lakuriq nate hund-patkua i madh**	*LRcd*
5	*Rhinolophus hipposideros*	**Lakuriq nate hund-patkua i vogël**	*LRnt*
	Family Vespertilionidae		
6	*Miniopterus schreibersi*	**Lakuriq nate i Schreiber-it**	*LRnt*
7	*Myotis bechsteinii*	**Lakuriq nate i Bechsteini-it**	*DD*
8	*Myotis capaccinii*	**Lakuriq nate gisht-gjate**	*LRcd*
9	*Myotis daubentoni*	**Lakuriq nate i Daubenton-it**	*LRcd*
10	*Myotis emarxinatus*	**Lakuriq nate i Geoffroy-it**	*DD*
11	*Atiotis nattereri*	**Lakuriq nate i Natterer-it**	*DD*
12	*Nyctalus leisieri*	**Lakuriq nate i Leisler-it**	*DD*
13	*Nyctalus noctula*	**Noktule**	*DD*
14	*Plecotus auritus*	**Lakuriq nate veshgjatë zakonshëm**	**i** *DD*
15	*Plecotus austriacus*	**Lakuriq nate vesh-gjatë i hirtë**	*DD*
16	*Vespertillo murinus*	**Lakuriq nate dy ngjyrësh**	*DD*
	Family Molossidae		
17	*Tadarida teniotis*	**Lakuriq nate bisht-lirë**	*DD*
	ORDER RODENTIA		

	Family Sciuride		
18	*Sciurus vulgar*	**Ketri**	*LRnt*
	Family Gliridae		
19	*Dryomys nitedula*	**Gjumashi i pyllit**	*DD*
20	*Glis glis*	**Gjumashi i majmë, Geri**	*LRIc*
21	*Muscardinus avellanarius*	**Gjumashi i lajthisë**	*DD*
	Family Muridae Microtinae		
22	*Microtus (Pipings)felteni*	**Miu i Felten-it**	*LRnt*
23	*Microtus (Pitymys) thomasi Spalacinae*	**Miu i Thomas-it**	*LRnt*
24	*Mus spicilegus (abbotti)*	**Miu i stepës**	*DD*
	ORDER CARNIVORA — FISSIPEDIA		
	Family Ursidae		
25	*Ursus arctos*	**Ariu i murrmë**	*VU*
	Family Canidae		
26	*Canis lupus*	**Ujku**	*LRnt*
27	*Canis aureus*	**Cakalli**	*VU*
	Family Mustelidae		
28	*Lutra lutra*	**Lutra**	*VU*
29	*Meles meles*	**Baldosa**	*EN*
30	*Mustela erminea*	**Nuselale bisht-zezë**	*EN*
31	*Mustela putorius*	**Qelbësi**	*EN*
32	*Martes foina*	**Kunadhja (gushë-bardhi)**	*LRnt*

33	*Martes martes*	**Zardafi (gushë-verdhi)**	*VU*
	Family Felidae		
34	*Lynx lynx*	**Rrëqebulli**	*CR*
35	*Felis silvestris*	**Macja e egër**	*EN*
	ORDER PINNIPEDIA		
	Family Phocidae		
36	**Monachus monachus**	**Foka e Mesandut**	**CR**
	ORDER ARTIODACTYLA		
	Family Suidae		
37	*Sus scrofa*	**Derri i egër**	*LRnt*
	Family Bovidae		
38	*Bubalus bubalis*	**Bualli**	*CR*
39	*Rupicapra rupicapra*	**Dhia e egër**	*VU*
	Family Cervidae		
40	*Cervus elaphus*	**Dreri**	*EN*
41	*Capreolus capreolus*	**Kaprolli**	*VU*
	ORDER CETACEA ODONTOCETA		
	Family Physeteridae		
42	*Physeter macrocephalus*	**Kashaloti**	*DD*
	Family Ziphidae		
43	*Ziphius cavirostris*	**Balena me sqep**	*DD*
	Family Delphinidae		
44	*Delphinus delphis*	**Delfini**	*VU*

| 45 | *Tursiops truncates* | **Delfini turishkurtër** | *LRcd* |
| 46 | *Stenella coeruleoalba* | **Delfini me shirita** | *DD* |

ANNEX 6 - List of BIRDS INCLUDED IN THE RED LIST (2013)

Nr	Species (scientific name)	Name in Albanian	Protection status
	ORDER PROCELLARIFORMES		
	Family Procellaridae		
	Calonectris diomedea	**Lajmëtari i madh i furtunës**	**EN**
	Puffinus yelkouan	**Lajmëtari i vogël i furtunës**	**EN**

Hydrobates pelogicus	**Zgalemi i vogël**	**EN**
ORDER PELECANIFORMES		
Family Phalocrocoracidae		
Phalacrocorax aristotelis	**Karabullaku me çafkë**	**EN**
Phalacrocorax pygmeus	**Karabullaku i vogël**	**CR**
Family Pelecanidae		
Pelecanus cripus	**Pelikani kaçurrel**	**CR**
ORDER CICONIIFORMES		
Family Ardeidae		
Botaurus stellaris	**Gakthi**	**VU**
Nycticorax nycticorax	**Çapka e natës**	**VU**
Ardeola ralloides	**Çapka e verdhë**	**VU**
Egretta garzetta	**Çapka e bardhë e vogël**	**VU**
Egretta alba	**Çapka e maand e bardhë**	**EN**
Ardea cinerea	**Çapka e përhime**	**VU**
Ardea putpurea	**Çapka rrudhi**	**EN**
Family Ciconiidae		
Ciconia ciconia	**Lejleku**	**CR**
Ciconia nigra	**Lejleku i zi**	**DD**
Family Threskiornithidae		
Plegadis falcinellus	**Kojliku i zi**	**EN**
Platalea leucorodia	**Çapka sqeplugë**	**EN**
ORDER ANSERIFORMES		
Family Anatidae		

Anser albifrons	**Pata ballëbardhë**	**VU**
Anser erythropus	**Pata këmbëkuqe**	**Ex**
Branta ruficollis	**Pata e vogël laramane**	**CR**
Netta rufina	**MurrçNFA**	**LRcd**
Aythya nyroca	**Kryekuqe e vogël**	**CR**
Mergus merganser	**Zhytësi i mesëm**	**VU**
Oxyura leucocephala	**Rosa kokëbardhë**	**CR**
ORDER ACCIPRITIFORMES		
Family Accipritidae		
Pernis apivorus	**Huta grenxangrënëse**	**EN**
Milzus migrans	**Huta e zezë bishtgërshërë**	**EN**
Milvus milvus	**Huta bishtgërshërë e kuqerreme**	**EN**
Haliaeetus albicilla	**Shqiponja e detit**	**CR**
Gypaetus barbatus	**Shkaba mjekëroshe**	**CR**
Neophron percnopterus	**Kali i qyqes**	**VU**
Gyps fulvus	**Shkaba**	**CR**
Aegypius monachus	**Shkaba e zezë**	**Ex**
Circaetus gallicus	**Shqiponja gjarpërngrënëse**	**VU**
Circus aeruginosus	**Shqipja e kënetës**	**VU**
Circus cyaneus	**Shqipja e fushës**	**EN**
Circus macrourus	**Shqipja e stepave**	**CR**
Circus pygargus	**Shqipja e balltaqeve**	**EN**
Accipiter gentiles	**Gjeraqina**	**VU**
Accipiter nisus	**Gjeraqina e shkurtes**	**EN**

	Accipiter brevipes	**Gjeraqina këmbëshkurtër**	**CR**
	Buteo buteo	**Huta**	**VU**
	Buteo rufinus	**Huta bishtbardhë**	**CR**
	Buteo lagopus	**Huta me kalca**	**CR**
	Aquila pomarina	**Shqiponja e vogël e rosave**	**CR**
	Aquila clanga	**Shqiponja e maand e rosave**	**CR**
	Aquila heliaca	**Shqiponja perandorake**	**CR**
	Aquila chrysaetos	**Shqiponja e maleve**	**EN**
	Hieraaetus penatus	**Shqiponja e vogël**	**EN**
	Hieraaetus fasciatus	**Shqiponja bishtvizuar**	**EN**
	Pandion haliaetus	**Shqiponja peshkngrënëse**	**VU**
	ORDER FALCONIFORMES		
	Family Falconidae		
	Falco naunianni	**Skifteri kthetraverdh**	**VU**
	Falco tinnunculus	**Skifteri kthetrazi**	**VU**
	Falco columbarius	**Skifteri i vogël**	**VU**
	Falco subbuteo	**Skifteri i drurëve**	**VU**
	Falco eleonorae	**Skifteri mbretëror**	**CR**
	Falco biarmicus	**Skifteri i mesandut**	**CR**
	Falco cherrug	**Skifteri i gjuetisë**	**CR**
	Falco peregrinus	**Krahëthati**	**VU**
	ORDER GALLIFORMES		
	Family Tetraonidae		
	Bonasa bonasia	**Pula me çafkë**	**CR**

Tetrao tetrix	**Gjeli i egër bishtlirë**	**Ex**
Tetrao urogallus	**Gjeli egër**	**CR**
Family Phasianidae		
Phasianus colchicus	**Fazani**	**CR**
Family Rallidae		
Porzana porzana	**Porzana pikaloshe**	**DD**
Porzana parva	**Porzana zogëze**	**DD**
Porzana pusilla	**Porzana e vogël**	**DD**
Crex crex	**Mbreti i shkurtes**	**VU**
ORDER GRUIFORMES		
Family Otidae		
Tetra tetrax	**Pula e meadows**	**CR**
Otis tarda	**Pula me mjekër**	**DD**
ORDER CHARADRIIFORMES		
Family Haemotopodidae		
Haematopus ostralegus	**Laraska e detit**	**VU**
Himantopus himantopus	**Kalorësi**	**EN**
Family Recurivirostridae		
Recurvirostra avosetta	**Sqepbiza**	**EN**
Family Burhinidae		
Burhinus oedicnemus	**Gjelaci syrnadh**	**CR**
Family Glareolidae		
Glareola pratincola	**Dallëndyshe deti**	**VU**
Family Scolopacidae		

Lymnocryptes minimus	**Shapka e vogël e ujit**	**LRlc**
Gallinago media	**Shapka e maand e ujit**	**CR**
Numenius tenuirostris	**Kojliku sqephollë**	**CR**
Family Laridae		
Larus genei	**Pulëbardha rozë**	**VU**
Lamas cachinnans	**Pulëbardha këmbëverdhë**	**EN**
Family Sternidae		
Sterna sandvicensis	**Sterni dimerak**	**VU**
Sterna hirundo	**Dallëndyshe e zakonshme deti**	**EN**
ORDER STRIGIFORMES		
Family Tytonidae		
Tyto alba	**Kukuvajka mjekëroshe**	**VU**
Family Strigidae		
Bubo bubo	**Bufi**	**CR**
Family Sittidae		
Strix aluco	**Kukuvajka e forestsve**	**LRnt**
Asio otus	**Bufi veshëgjatë**	**LRnt**
Family Apodidae		
Asio flammeus	**Bufi veshëshkurtër**	**VU**
ORDER CAPRIMULGIFORMES		
Family Caprimulgidae		
Caprimaglus europaeus	**Dallëndyshe nate**	**LRlc**
ORDER APODIFORMES		

Family Apodidae		
Apus apus	**Dejka**	**LRcd**
Apus pallidus	**Dejka e zbehtë**	**LRcd**
ORDER CORACIIFORMES		
Family Meropidae		
Merops apiaster	**Gargulli**	**EN**
Family Coraciidae		
Coracias garrulous	**Grifsha e detit**	**CR**
Family Upupidae		
Upupa epops	**Pupëza**	**VU**
ORDER PICIFORMES		
Family Picidae		
Jynx torquilla	**Qafëdredhësi**	**LRnt**
Picus canus	**Qukapiku i perhimë**	**VU**
Picus viridis	**Qukapiku i gjelbër**	**LRlc**
Dryocopus martius	**Qukapiku i zi**	**LRlc**
Dendrocopos leucotos	**Qukapiku larosh -kurrizbardhë**	**LRlc**
ORDER PASSERIFORMES		
Family Motacillidae		
Anthus trivialis	**Drenja e pyllit**	**DD**
Family Bomycillidae		
Bombycilla garrulous	**Çafkëlore bishtverdhë**	**DD**
Family Prunellidae		
Prunella collaris	**Dredhuesi i alpeve**	**DD**

Family Sylviidae			
Locustella fluviatilis	**Bilbilthi i lumit**	**DD**	
Locustella luscinioides	**Bilbilthi**	**DD**	
Acrocephalus melanopogon	**Bilbilthi me mustaqe**	**EN**	
Acrocephalus schoenobaenus	**Bilbilthi i zhukave**	**DD**	
Acrocephalus palustris	**Bilbilthi i verdhëmë**	**DD**	
Acrocephalus scirpaceus	**Bilbilthi i kallamave**	**LRnt**	
Family Muscicapidae			
Hippolais olivetorum	**Përqeshësi i madh i ullinjve**	**DD**	
Family Sittidae			
Sylvia rueppellii	**Bilbilthi gushëzi**	**DD**	
'Family Muscicapidae			
Ficedula semitorquala	**Mizakapesi krahëvizuar**	**DD**	
Family Paridae			
Parus palustris	**Trishtili i vogël i murrmë**	**DD**	
Family Timaliidae			
Panurus biarmicus	**Trishtili me mustaqe**	**LRnt**	
Family Sittidae			
Sitta europaea	**Zvarritësi i zakonshëm**	**LRnt**	
Family Tichodromadidae			
Tichodroma muraria	**Zvarritësi krahëkuq**	**EN**	
Family Remizidae			
Remiz pendulinus	**Kolovatësi**	**VU**	
Family Lannidae			

	Lanius minor	**Larashi i vogël ballzi**	**DD**
	Lanius excubitor	**Larashi i madh i përhimë**	**DD**
	Family Passeridae		
	Petronia petronia	**Harabeli i gurëve**	**DD**
	Family Fringillidae		
	Loxia curvirostra	**Sqepkryqi**	**DD**
	Pyrrbula pyrrbula	**Kuqalashi çafkëzi**	**VU**
	Family Emberizidae		
	Emberiza bortulana	**Cerla e kopështit**	**DD**

Annex 7

List of fish species included in the Red List (2013)

Scientific name	Name in Albanian	Protection status
ORDER Petromyzoniformes		
Family Petromyzonidae		
Lampetra fluviatilis	Kavalli i lumit	EN
Petromyzon marinus	Kavalli i detit	VU
CHONDRICHTHYES (SELACHII)		
ORDER Pleurotremata		
Family Lamnidae		
Charcharodon carcharias	Peshkaqen njëringrënës	DD
Family Scyliorhinidae		
Galeus melastomus	Gojëziu	LRnt
ORDER Hypotremata		
Family Chimaeridae		
Chimaera monstrosa	Kokënjesorja (Kimera)	LRnt
ORDER Rajiformes		
Family Mobulidae		
Mobula mobular	Lopë deti	EN A4d
ORDER Lamniformes		
Family Cetorhinidae		
Cetorhinus maximus	Peshkaqeni shtegtar	CR

Osteichthyes		
ORDER Acipenseriformes		
Family Acipenseridae		
Acipenser sturio	Blini	EN
Acipenser naccarii	Blini i bardhë	EN
ORDER Clupeiformes		
Family Clupeidae		
Alosa fallax lacustris	Kubla liqenore	VU
Family Salmonidae		
Salmothymus ohridanus	Belushka	VU
Salmo letnica	Korani	VU
Salmo letnica lumi	Koran lumi	EN
Salmo trutta fario	Troftë mali	VU
Salmo trutta lacustris	Troftë liqenore	VU
Salmo trutta macrostigma	Troftë gjuce	EN
Salmo marmoratus	Troftë e mermertë	EN
Salmo montenegrinus	Trofta e cemit	VU
ORDER Scopeliformes		
Family Synodontidae		
Saurida undosquamis	Hardhucë paremadhja	LRlc
ORDER Cypriniformes		
Family Cyprinidae		
Gobio gobio lepidolaemus	Barburiq	LRnt
Gobio gobio albanicus	Njëmustakori	LRnt

Gobio gobio ohridanus	Merenke	LRnt
Barbus meridionalis petenyi	MustNFA i lumit	LRnt
Barbus meridionalis rebeli	Mrena e Ohrit	LRnt
Barbus graecus	Millona deti	LRnt
Barbus prespensis	Mërena e Prespës	LRcd
Paraphoxinus pstrossi	Peshk guri	LRlc
Paraphoxinus minutus	Grunc	LRlc
Paraphoxinus epiroticus	Grunc	LRlc
Cobitis taenia taenia	Mërena e egër	LRlc
Cobitis aurata balcanica	Mërena e Ballkanit	LRlc
Cobitis taenia ohridana	Mërerna e egër	LRcd
Misgurnus fossilis	Guvori	LRlc
Nemacheilus barbatulus	Tufëza	LRlc
Chondrostoma nasus	Njile	LRlc
ORDER Cyprinodontiformes		
Family Poecilidae		
Gambusia affinis	Barkuleci	LRlc
Lebistes reticulates	Larëza tripikaloshe	EN
Family Cyprinodontidae		
Aphanius fasciatus	Çeliku	EN
Aphanius iberus	Larëza	EN
Aphanius dispar	Çeliku	EN
ORDER Gasterosteiformes		
Family Gasterosteidae		

Gasterosteus aculeatus	Trigjilpërëza	LRlc
ORDER Gadiformes		
Family Macrouridae		
Coelorhynchus coelorhynchus	Bishtmiu	DD
ORDER Lampridiformes		
Family Trachipteridae		
Zu cristatus	Velundruesi	DD
Trachipterus trachipterus	Peshku shirit	DD
ORDER Perciformes		
Family Carangidae		
Seriola dumerili	Gofa	EN
Lichia amia	Lojba	EN
Family Sciaenidae		
Algyrosomus regius	Ame	EN
Family Labridae		
Xyrichthys novacula	Peshk krëhër	LRlc
Family Uranoscopidae		
Uranoscopus scaber	Peshk çibuk	DD
Family Luvaridae		
Luvarus imperialis	Pikaloshja	DD
Family Blennidae		
Blennius fluviatilis	Barburiq	LRnt
Family Centrolophidae		
Centrolophus niger	Murroku	LRnt

Family Stromateidae			
Stromateus fiatola	Bukla	LRlc	
Family Mugilidae			
Oedalechilus labeo	Buzëmadhi	DD	
ORDER Pleuronectiformes			
Psetta maxima maxima	Shkoterr	VU	
Platichthys flesus luscus	Ushojzë e zezë	VU	
Order Echeneiformes			
Family Echeneididae			
Remora brachyptera	Venduza e murrme	DD	
ORDER Tetraodontiformes			
Family Balistidae			
Balistes carolinensis	Peshku derr	LRnt	
Family Molidae			
Mola mola	Peshku hënë	LRnt	
Ramzania laevis	Peshk lepur	DD	

Annex 8

Marine species of international importance, as listed in the Conventions or Directives, present in Albania

Taxonomy classification	The Barcelona	The Bern Convention	Directive of

	Convention ANNEX 2		Habitats Priority species
Magnoliophyta (Seagrasses)	2	2	
Phaeophyta (Brown algae)	2	2	
Rhodophyta (Red algae)	2	2	
Porifera (Sponges)	4	3	
Cnidaria (Cnidarieans)		1	
Mollusca (Molluscs)	9	8	
Crustacea (Crustaceans)		5	
Echinodermata (Echinoderms)	2	3	
Pisces (Pisceses)	10	9	4 (2*)
Reptilia (Marine turtles)	3	3	2*
Mammalia (Mammals)	6	6	2 (1*)
Total	**25**	**31**	**8 (5*)**

Priority species of the Habitats Directive found in Albania include 2 fish species: (Acipenser sturio and Acipenser naccarii), 2 species of sea turtles (Caretta caretta and Chelonias mydas) and the Mediteranean monk seal (Monachus monachus).

Annex 9

Priority natural habitats in Albania

| Nr.	Species of the habitats

	1. COASTAL AND HALOPHYTIC HABITATS
	11. Open sea and tidal areas
1	1120 *Posidonia beds (Posidonion oceanicae)
2	1150 *Coastal lagoons
	15. Salt and gypsum inland steppes
3	1510 * Mediterranean salt steppes (Limonietalia)
	2. COASTAL SAND DUNES AND INLAND DUNES
	22. Sea dunes of the Mediterranean coast
4	2250 * Coastal dunes with Juniperus spp.
5	2270 * wooded dunes with Pinus pinea and/or Pinus pinaster
	3. FRESHwATER HABITATS
	31. Standing water
6	3170 * Mediterranean temporary ponds
	4. TEMPERATE HEATH AND SCRUB
7	4070 * Bushes with Pinus mugo and Rhododendron hirsutum (Mugo-Rhododendretum hirsuti)
	5. SCLEROPHYLLOUS SCRUB (MATORRAL
	52. Mediterranean arborescent matorral
8	5230 * Arborescent matorral with Laurus nobilis

6. NATURAL AND SEMI-NATURAL GRASSLAND FORMATIONS	
	61. Natural grasslands
9	6110 * Rupicolous calcareous or basophilic grasslands of the Alysso-Sedion albi
	62. Semi-natural dry grasslands and scrubland facies
10	6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites)
11	6220 * Pseudo-steppe ëith grasses and annuals of the Thero-Brachypodietea
12	6230 * Species-rich Nardus grasslands, on silicious substrates in mountain areas (and submountain areas in Continental Europe)
	7. RAISED BOGS AND MIRES AND FENS
	72. Calcareous fens
13	7210 * Calcareous fens With Cladium mariscus and species of the Caricion davallianae
	8. ROCKY HABITATS AND CAVES
	81. Scree
14	8160 * Medio-European calcareous scree of hill and montane levels
	82. Rocky slopes with chasmophytic vegetation
15	8240 * Limestone pavements
	9. FORESTS
	91. Forests of Temperate Europe
16	9180 * Tilio-Acerion forests of slopes, screes and ravines

17	91E0 * Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)
	95. Mediterranean and Macaronesian mountainous coniferous forests
18	9530 * (Sub-) Mediterranean pine forests with endemic black pines
19	9560 * Endemic forests with Juniperus spp.
20	9580 * Mediterranean Taxus baccata woods

Annex 10
MAP OF PROTECTED AREAS IN ALBANIA
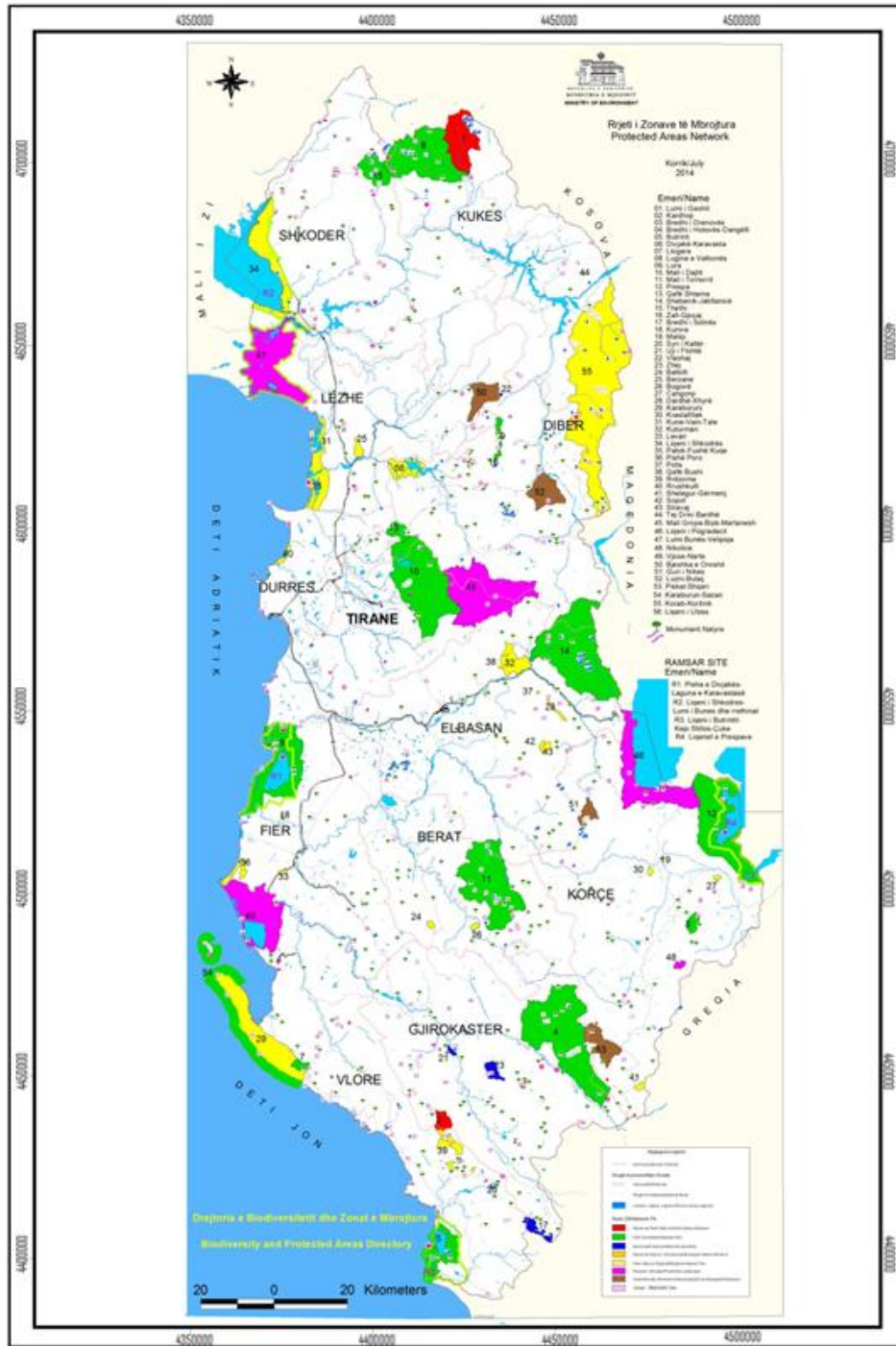
Annex 11

Database of Protected Areas

No.	Category	Prefecture		District	Name of PA	Numb.PA	Area. Ha
1	*I*	*Kukës*		*Tropojë*	Lumi i Gashit	*1*	*3,000.0*
2	*I*	*Gjirokastër*		*Gjirokastër*	Kardhiq	*1*	*1,800.0*
	CATEGORY I		**Strict Nature Reserve/Scientific Reserve (SNR)- Category I**			**2**	**4,800.0**
3		*Shkodër*		*Shkoder*	Thethi	*1*	*2,630.0*
4	*II*	*Dibër*		*Dibër*	Lura	*1*	*1,280.0*
5	*II*	*Vlorë*		*Vlorë*	Llogara	*1*	*1,010.0*
6	*II*	*Korçë*		*Korçë*	Bredhi i Drenovës	*1*	*1,380.0*
8	*II*	*Kukës*		*Tropojë*	Lugina e Valbonës	*1*	*8,000.0*
9	*II*	*Durrës*		*Kruje*	Qafë Shtamë	*1*	*2,000.0*
10	*II*	*Dibër*		*Mat*	Zall Gjoçaj	*1*	*140.0*
11	*II*	*Korçë*		*Korçë*	Prespa	*1*	*27,750.0*
12	*II*	*Vlorë*		*Sarandë*	Butrinti	*1*	*9,424.4*
13	*II*	*Tiranë,Durres*			Mali i Dajtit	*1*	*29,216.9*
		Tirane		*Tirane*	*Mali I Dajtit*		*26,772.7*
		Durres		*Kruje*	*Mali I Dajtit*		*2,444.2*
14	*II*	*Fier,*			Divjakë-Karavasta	*1*	*22,230.2*
		Fier		*Lushnjë*	*Divjakë-Karavasta*		*19,411.1*
		Fier		*Fier*	*Divjakë-Karavasta*		*2,074.5*
		Tirane		*Kavaje*	*Divjakë-Karavasta*		*744.6*
15	*II*	*Elbasan, Diber*			Shebenik-Jabllanice	*1*	*33,927.7*
		Elbasan		*Librazhd*	*Shebenik-Jabllanice*		*33,760.1*
		Diber, Kukes		*Bulqize*	*Shebenik-Jabllanice*		*167.6*
16	*II*	*Gjirokastër, Korce*			Bredhi i Hotovës-	*1*	*34,361.1*
		Permet		*Permet*	*Bredhi i Hotovës-*		*33,165.3*
		Korce		*Kolonje*	*Bredhi i Hotovës-*		*1,195.8*
17	*II*	*Vlore*		*Vlore*	*Karaburun-Sazan*	*1*	*12,428.0*
	II	*Berat, Elbasan*			Mali i Tomorrit	*1*	*24,723.1*
18	*II*	*Berat*		*Berat*	*Mali i Tomorrit*		*8,398.4*
		Berat		*Skrapar*	*Mali i Tomorrit*		*15,045.8*
		Elbasan		*Gramsh*	*Mali i Tomorrit*		*1,278.9*

	CATEGORY II		**National Park - Category II (NP)**			15	210,501.4
19	*III*		*Albania*	*Albania*	*BioMonuments Numb.*	*348*	*0.0*
20	*III*				*GeoMonuments*	*398*	*0.0*
	III				*Sum Bio&Geo Numb.*	*746*	*0.0*
21	*III*		Gjirokastër	Gjirokastër	*Bredhi i Sotirës*	*1*	*1,740.0*
22			Gjirokastër	Gjirokastër	*Zhej*	*1*	*1,500.0*
23	*III*		Vlorë	Delvinë	*Syri i Kaltër*	*1*	*180.0*
24	*III*		Dibër	Dibër	*Vlashaj*	*1*	*50.0*
					Shuma MonNatyre	*4*	*0.0*
					Totali MonNatyre Nr	*750*	*0.0*
	CATEGORY III		**Nature Monument - Category III (NM)**				3,470.0
25	*IV*		*Vlorë*	*Vlorë*	Karaburun	*1*	*20,000.0*
26	*IV*		*Korçë*	*Devoll*	Cangonj	*1*	*250.0*
27	*IV*		*Berat*	*Skrapar*	Bogovë	*1*	*330.0*
28	*IV*		*Korçë*	*Korçë*	Krastafillak	*1*	*250.0*
29	*IV*		*Elbasan*	*Librazhd*	Kuturman	*1*	*3,600.0*
30	*IV*		*Fier*	*Fier*	Pishë Poro	*1*	*1,500.0*
31	*IV*		*Lezhë*	*Lezhë*	Berzanë	*1*	*880.0*
32	*IV*		*Fier*	*Fier*	Levan	*1*	*200.0*
33	*IV*		*Berat*	*Berat*	Balloll	*1*	*330.0*
34	*IV*		*Elbasan*	*Elbasan*	Qafë Bushi	*1*	*500.0*
35	*IV*		*Durrës*	*Durrës*	Rrushkull	*1*	*650.0*
36	*IV*		*Vlorë*	*Delvinë*	Rrëzomë	*1*	*1,400.0*
37	*IV*		*Kukës*	*Has*	Tej Drini Bardhë	*1*	*30.0*
38	*IV*		*Korçë*	*Kolonjë*	Gërmenj-Shelegur	*1*	*430.0*
39	*IV*		*Elbasan*	*Librazhd*	Polis	*1*	*45.0*
40	*IV*		*Elbasan*	*Librazhd*	Stravaj	*1*	*400.0*
41	*IV*		*Elbasan*	*Librazhd*	Sopot	*1*	*300.0*
42	*IV*		*Elbasan*	*Librazhd*	Dardhë-Xhyrë	*1*	*400.0*
43	*IV*		*Shkodër*	*Shkodër*	Lake of Shkodrës	*1*	*26,535.0*
44	*IV*		*Lezhë*	*Lezhë*	Kune-Vain-Tale	*1*	*4,393.2*
45	*IV*		*Lezhë*	*Kurbin*	Patok-Fushëkuqe-	*1*	*5,000.7*
46	*IV*		*Diber, Kukes*		Korab-Koritnik	*1*	*55,550.2*
			Diber	*Diber*	Korab-Koritnik		*20,663.4*
			Kukës	*Kukes*	Korab-Koritnik		*34,886.8*
	IV/1		*Regional National Park*				

						Ulza Lake and surrounding area		
47	*IV/1*		*Diber*	*Mat*			*1*	*4,206.0*
	CATEGORY IV		**Managed Nature Reserve /National Park - Category IV (MNR)**				**23**	**127,180.1**
48	*V*		*Korçë*	*Devoll*	Nikolicë		*1*	*510.0*
49	*V*		*Korçë*	*Pogradec*	Pogradec		*1*	*27,323.0*
50	*V*		*Vlorë*	*Vlorë*	Vjosë-Nartë		*1*	*19,738.0*
51	*V*		*Shkodër*	*Shkodër*	Lumi Buna-Velipojë		*1*	*23,027.0*
52	*V*		*Tiranë,Diber,Elbasan*		M.Gropa-Bizë-Martanesh		*1*	*25,266.4*
			Tirane	*Tirane*	*M.Gropa-Bizë-Martanesh*			*13,213.6*
			Diber	*Mat*	*M.Gropa-Bizë-Martanesh*			*3,016.7*
			Diber	*Bulqize*	*M.Gropa-Bizë-Martanesh*			*9,036.1*
	CATEGORY V		**Protected Landscape - Category V (PL)**				**5**	**95,864.4**
53	*VI*		*Dibër*	*Dibër*	Luzni-		*1*	*5,900.0*
54	*VI*		*Korçë*	*Kolonjë*	Piskal-Shqeri		*1*	*5,400.0*

55	VI		Lezhë	Mirditë	Bjeshka e Oroshit	1	4,745.0
56	VI		Korçë	Pogradec	Guri i Nikës	1	2,200.0
	CATEGORY VI		**Protected Area of Managed Nature Reserve - Category VI (PAMNR)**			4	18,245.0
	TOTAL PA					799	460,060.9

	Country area	2,874,800.00	Area ëithout marine areas	15.54%	446,799.7
				Karaburun-Sazan	12,428.0
				Butrint	833.2
			Coastal and marine areas	% of total PA	119,401.5

Annex 12
Map of RAMSAR sites in Albania
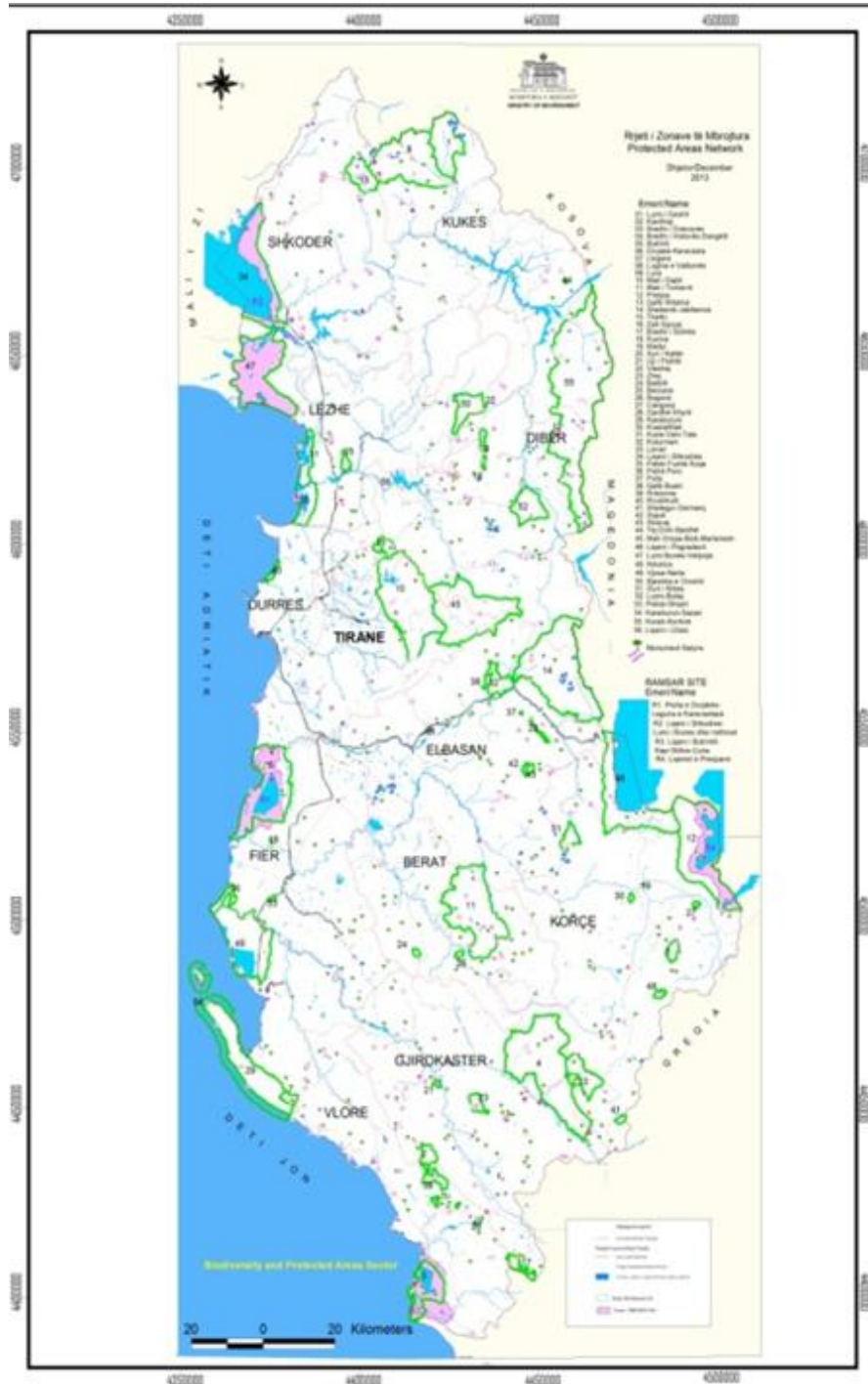
Annex 13
Emerald network in Albania

CODE	NAME	CATEGORY IUCN	TERRITORY
AL0000001	Llogara National Park	II	1.010
AL0000002	Divjake Pine National Park	II	1.250
AL0000003	Prespa National Park	II	27.750
AL0000004	Butrint National Park	II	2.500
AL0000005	Allamani Strict Nature Reserve (proposed)	I	1.659
AL0000006	Tomorri National Park	II	4.000
AL0000007	Dajti National Park (extended)	II	29.347
AL0000008	Protected landscape of the wetland complex Vjose-Narte	V	19.412
AL0000009	Managed Nature Reserve of Shkodra lake	IV	26.535
AL0000010	Alps (proposed National Park)	II (proposed)	77.458
AL0000011	Aurora Lures-Kunore-Valmore-Zall-Gjocaj (proposed National Park)	II (proposed)	16.596
AL0000012	Bredhi Hotoves-Dangelli NP	II	14.973
AL0000013	Morava Protected Landscape	V (proposed)	29.155
AL0000014	Karaburun-Orikum-Dukat (proposed National Park)	II (proposed)	33.036
AL0000015	Bize-Brosh-Berandt (proposed Protected Landscape)	V (proposed)	4.594
AL0000016	Karavasta (proposed National Park)	II (proposed)	19.677

AL0000017	Shengjin-Ishem (proposed MNR)	IV (proposed)	30.000
AL0000018	Managed Nature Reserve Kuturman-Qafe Bush	IV	4.210
AL0000019	Pogradec Protected Landscape	V	24.350
AL0000020	National Park Germenj-Shelegure-Leskovik-Piskal (proposed)	II (proposed)	20.421
AL0000021	Protected Landscape of Buna river – Velipoja	V	22.479
AL0000022	National Park Rrajce-Shebenik	II	33.927
AL0000023	Protected Landscape of Korabi	V	31.360
AL0000024	Managed Nature Reserve Rrushkulli - Ishem (proposed)	IV	2.030
AL0000025	Managed Nature Reserve of Berzane	IV	1.298

Annex 14
Map of EMERALD areas in Albania
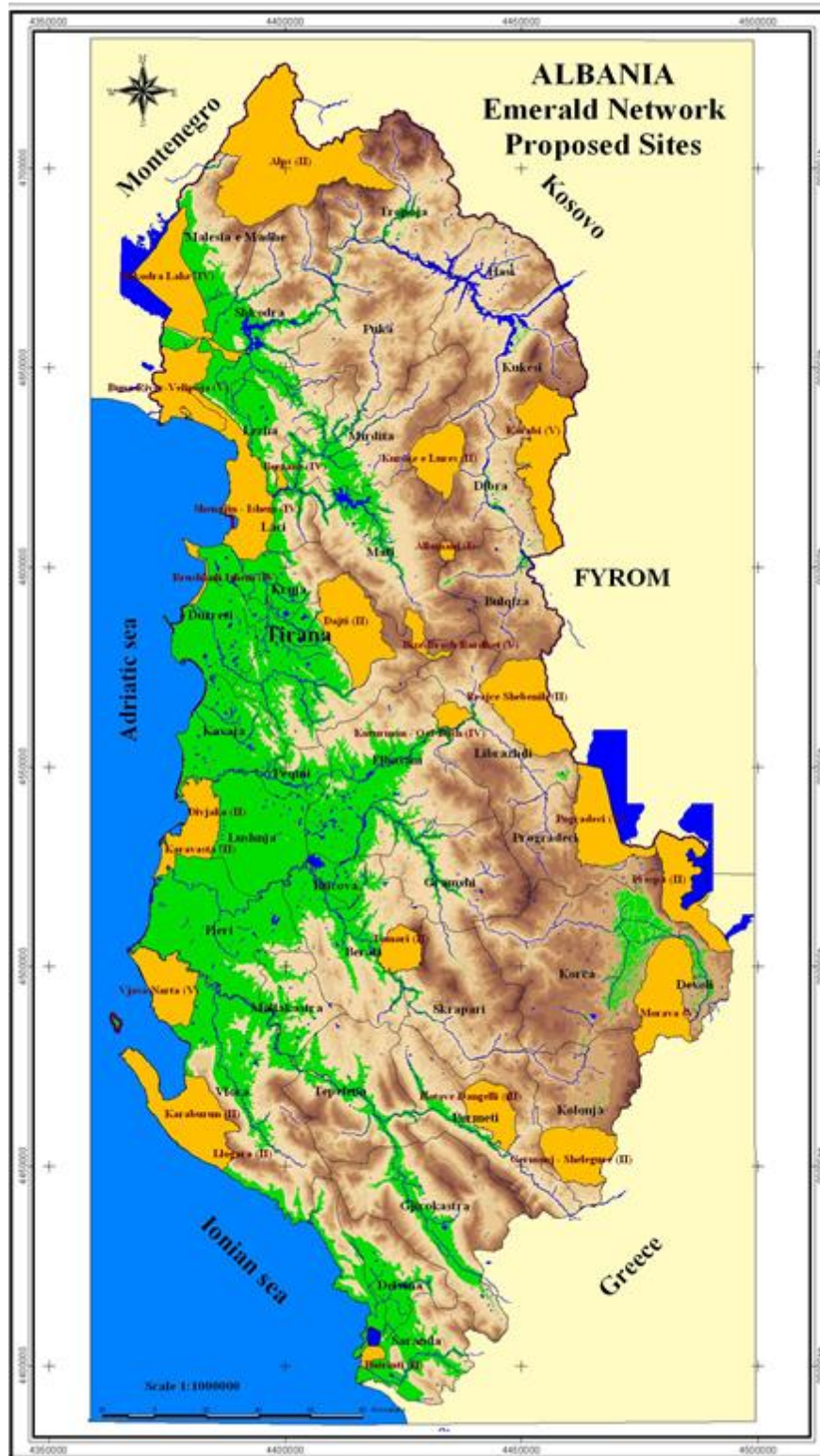
Annex 15

IBA map of Albania

Zonat ligatinore me te rendesishme per shpendet shtegtar
Most important Albanian Wetland Areas for Migratory Birds

ANNEX 16: institutional ACTORS OF biodiversity IN ALBANIA

Institutions	Main functions							Main agencies/departments/units	Agencies and reporting units
	Policymakers	Resource planning	Allocation of resources	Policy implementation	Monitoring	Coordination	supervision		
	√				√	√	√	DSDC	-
	√							Legal Department	
Ministry of Environment	√				√	√		General Directorate of Policies	
	√	√	√		√			Biodiversity Directorate	
				√				**Implementing agencies**	NEA
				√					DRSHP
				√					ISHMPU
Ministry of Finance		√	√					General Budget Department	
					√			CFCU	
Ministry of Agriculture, Rural Development and Water Administration	√		√					General Directorate of Land	CTAT

Ministry							Agency / Body	
Ministry of Integration					√	√	NIPAC	-
	√						Directorate of Internal Market	
Ministry of Education and Sports					√		Academy of Sciences	
					√		**Implementing agencies**	Centre for Flora and Fauna Research (UT)
Ministria e Urban Development and Tourism				√			**Implementing agencies**	AKPT
Ministry of Energy and Industry				√			**Implementing agency**	AKBN
Ministry of Interior				√	√			State police
Minister of State for Local Affaris								LGU
Parliament	√						Committee on Productive activities, Trade and Environment	
	√					√	Laws commission	