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MOLDOVA

FAA 119 BIODIVERSITY ANALYSIS



February 2007

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ACRONYMS AND ABBREVIATIONS

ACSA	Agency for Consulting and Schooling in Agriculture
ADS	Automated Directives System
BSAP	Biological Diversity Conservation National Strategy and Action Plan
CAS	Country Assistance Strategy
CAMPU	Consolidated Agricultural Projects Management Unit
CBD	Convention on Biological Diversity
CBNRM	Community Based Natural Resource Management
CDM	Clean Development Mechanism
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CLRTAP	Convention on Long-range Transboundary Air Pollution
CMS	The Convention on Conservation of Migratory Species of Wild Fauna
DDT	Dichloro-diphenyl-trichloroethane
DEPEI	Division on Environmental Policy and European Integration
EBRD	European Bank for Reconstruction and Development
EC	European Commission
EECCA	Eastern Europe, Caucasus and Central Asia
EGPRSP	Economic Growth and Poverty Reduction Strategy Paper
EPIQ II IQC	Environmental Policy and Institutional Strengthening II Indefinite Quantity Contract
EU	European Union
FAA	Foreign Assistance Act
GAP	Good Agricultural Practices
GEF	Global Environment Facility
GHG	Green House Gas
GIS	Geographic Information Systems
HCH	Organo-Chlorines
ICPDR	International Commission for the Protection of the Danube River
INECO	National Institute of Ecology
IPM	Integrated Pest Management
ISAR	Resources for Environmental Activists
IUCN	The World Conservation Union
LEAP	Local Environmental Action Plan
MDGs	Millennium Development Goals
MEA	Municipal Ecological Agency
MECTD	Ministry of Environment, Construction, and Territorial Development
MENR	Ministry of Ecology and Natural Resources
MoE	Ministry of Economy and Trade
MoF	Ministry of Finances
MoFAEI	Ministry of Foreign Affairs and European Integration
MoJ	Ministry of Justice
NEAP	National Environmental Action Plan
NEF	National Ecological Found
NEN	National Ecological Network
NGO	Non-Governmental Organization
NP	National Park

OECD	Organization for Economic Co-operation and Development
OSCE	Organization for Security and Cooperation in Europe
PEA	Programmatic Environmental Assessment
POPs	Persistent Organic Pollutants
Ramsar	Convention on the Protection of Wetland of International Importance
REC	Regional Environmental Center
ROL	Rule of Law
TACIS	EU Technical Assistance for the Commonwealth of Independent States
TSS	Total Suspended Solids
UN	United Nations
UNCCD	UN Convention on Combating Desertification
UNCSD	UN Commission on Sustainable Development
UNDP	UN Development Program
UNECE	UN Economic Commission for Europe
UNEP	UN Environment Program
UNFCCC	UN Framework Convention on Climate Change
USAID	United States Agency for International Development
WB	World Bank
WGs	Working Groups
WMO	World Meteorological Organization
WQ	Water Quality
WSSD	World Summit for Sustainable Development

PREFACE

This report was compiled for the United States Agency for International Development (USAID) Regional Mission for Ukraine, Moldova, and Belarus, in order to comply with Section 119 of the Foreign Assistance Act (FAA), in preparation for the new country strategic plan for Moldova. This assessment is an update to the 2001 Biodiversity Assessment, which was completed by Chemonics, Inc. Therefore, the reader of this document should recognize that this assessment is written through the lens of highlighting notable changes in Moldova since 2001.

The report provides the reader with a thorough view of Moldova from an environmental perspective, focusing on biodiversity. Considerable effort was taken to accurately represent the environmental issues facing Moldova. The findings and recommendations are presented in a manner to be consistent with the USAID Regional Mission for Ukraine, Moldova, and Belarus current and foreseen Strategic Objectives and to work within the existing framework of the Mission's portfolio.

The bulk of this report provides background and descriptions of Moldova in an environmental context and we hope it provides a valuable overview for those new to working in Moldova. Of most use to USAID Mission staff will be the findings in Section VI, which address the Team's findings of the threats, actions needed, and recommendations for conserving biodiversity in a consolidated format.

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EXECUTIVE SUMMARY

The FAA mandates that Missions, in preparation of their strategic plans, consider (1) the actions necessary in that country to conserve biological diversity, and (2) the extent to which the actions proposed for support by the Agency meet the needs thus identified (FAA, Sec. 119(d)).” In October 2006, USAID Regional Mission for Ukraine, Moldova, and Belarus commissioned a study by a Team of experts to determine the biodiversity needs to comply with the FAA and enhance USAID support in Moldova. This assessment is an update to the Mission’s original Biodiversity Assessment, which was completed in 2001.

To assure consistency with USAID guidelines, the team referred to the *FAA 118-119 Lessons Learned & Best Practices* (USAID 2005) in framing the assessment design. Throughout the report, we utilized the definition of biodiversity as presented in *Biodiversity Conservation: A Guide for USAID Staff and Partners* (USAID, 2005) as:

“Biological diversity, or biodiversity, is the variety and variability of living organisms broadly including a wide diversity of plant and animal species, communities, and ecosystems. The Earth’s biodiversity consists of genes, species, and ecological processes making up terrestrial, marine, and freshwater ecosystems that both support and result from this diversity.”

After a thorough review of available resources, meetings with a diverse range of stakeholders, and visits to priority sites, the Team identified the following to be the threats to biodiversity. These findings are discussed in detail in Section II, which addresses the threats identified, while the actions taken to date are reviewed in Section III. The actions necessary to conserve biodiversity are discussed in Section IV. Section V covers USAID’s work and the extent to which its programs address the needs identified as well as recommendations for how its future programming may further address the needs. In Section VI all the findings are presented in a consolidated matrix for ease of review.

Key documents referenced in this report include Government of Moldova reports produced between 2000 and 2006 for the Convention on Biodiversity, the 2004 State of the Environment, the 2005 UNECE Moldova Environmental Performance Review, recent World Bank and Global Environmental Facility project documents and reports prepared by the NGO Biotica, and numerous Internet sites. A complete list of reference materials is provided in Annex G: References.

Since 2001 the Republic of Moldova has made a tremendous step forward in international cooperation. It has a) actively participated in most big international environmental events, b) ratified most of the environmental agreements of regional and global importance, c) tried to go forward in their implementation by preparing national contributions and adjusting existing or drafting new national strategies on various specific subjects, and d) hosted a series of international meetings and conferences that helped the country to raise its profile and attract international resources and assistance for solving national environmental problems.

Major Threats to Biodiversity

Moldova’s biodiversity is most significantly impacted by six areas: three productive sectors (agriculture, forestry, and water), two institutional sectors (public awareness/socio-economic issues and governance), and invasive species. The DevTech Team identified 18 key threats in these areas. Of these key threats, the Team identified the top four threats of utmost importance. These threats are:

- **Lack of viable habitat due to historical agricultural pressures, clearing forests, and/or the degradation of aquatic ecosystems:** The conversion of forests, steppe, and natural river and wetland systems for agriculture resulted in limited and fragmented habitat. This continues to pose a direct threat to species diversity as well as healthy ecosystem services such as water retention and filtration, soil fertility and stability.

- **Soil erosion:** Eroded landscapes become increasingly susceptible to further erosion, and create a cycle of increasingly degraded landscapes and waterways.
- **Limited Protected areas network:** Moldova's current protected areas network (less than two percent of total land area) is far short of the ten percent coverage generally accepted to be necessary to maintain its biological resources.
- **Conflict with Transneister:** The breakaway republic does not cooperate with Moldova on governance issues and continues to be a heavy polluter of Moldova's waterways.

Sectoral Analysis of Threats

The historical expansion of the agricultural sector and other previous economic development plans severely compromised natural habitats in forest, steppe, and aquatic areas. Agricultural expansion in southern Moldova alone destroyed over 90 percent of natural steppe grasslands, marshes, and meadows and led to the destruction of aquatic habitats in most rivers in the region. Natural rivers have been replaced by hydrological modifications that have dramatically reduced key aquatic habitats, while the loss of riparian and wetland habitats has destroyed essential ecosystem services (such as water retention and filtering) and nesting and feeding areas for birds and has disrupted migration corridors that extend through Central Europe to Africa.

Agriculture. Agricultural ecosystems occupy about 75 percent of the total area of Moldova. Plants under cultivation include 94 species, which have 553 hybrids and variations. The share of arable land, orchards and vineyards is also high, a situation causing significant difficulties in maintaining a sustainable environmental balance between natural and anthropic ecosystems, and leading to degradation of the soil cover, the biodiversity and the environment as a whole. Land conversion and agricultural practices can result in significant threats to biodiversity. For example, agricultural expansion and grazing in southern steppe regions has destroyed about 90 percent of the natural Pontic steppe of the northern Black Sea region, the remaining areas are strongly fragmented.

Soil erosion due to poor farming practices and improper grazing is a considerable problem with both direct and indirect adverse impacts on biodiversity. The lack of rotational grazing and unknown carrying capacity for sheep, goats, and cattle reduces soil cover, while animals trample stream banks adding to the problem.

Forestry. Moldovan forests were mostly cleared three times in the twentieth century and the majority of current stands are the result of plantations. The remaining natural forests are largely the result of stump or root sprouts and considered by officials to be of poor quality. Management efforts focus on encouraging natural regeneration, restoration of forest ecosystem services, and elimination of invasive species from the forests. Recent data show an increase in forested areas from 9.6 percent (2001) to 10.7 percent (2004) of the territory, mostly in central and northern regions.

Water and Aquatic Ecosystems. Wetlands and riparian areas in Moldova were long ago converted or altered for agricultural purposes. Soviet-era hydrological modifications significantly altered natural rivers and riparian habitats. These modifications include dams to create ponds or reservoirs for fish farming and agricultural irrigation. Of the 26,000 hectares of wetlands in 1960, approximately 5,000 hectares remain today. Most wetland areas have been drained, with the exception of small isolated areas in the lower Dniester River and the areas directly bordering the Prut River. Along the Prut River there were originally significant areas of wetlands, but only minor areas remain.

Recent water quality data in some areas has revealed high concentrations of heavy metals, such as copper and evidence of persistent organic pollutants, such as DDT and organo-chlorines. Significant quantities of ammonia, nitrates, and nitrites also appeared in some rivers, most likely from non-point

sources such as agricultural fields and storage facilities. Many rivers lack or have seriously degraded riparian buffers (which are protected by law) that would capture many of these pollutants.

Public Awareness and Socio-economic Issues. Current socio-economic conditions and public attitudes represent a threat to biodiversity. Half of Moldova's population lives below the poverty line in one of Europe's most densely populated landscapes. The collapse of the Soviet collective farms and fishing cooperatives added to rural poverty as many citizens lacked the resources to adapt to new livelihoods. These conditions result in adverse impacts on biodiversity in the forms of overgrazing and illegal harvesting of timber (for fuel wood), fish, and non-timber forest products. Moreover, poor farmers lack the resources to adopt good agricultural practices on their lands leading to diminishing productivity and worsening agro-ecological biodiversity conservation.

Almost all government officials and NGO representatives interviewed mentioned lack of public awareness as a significant threat to biodiversity. The annual National Reports on the Implementation of Biological Diversity consistently rank the lack of public awareness as one of the highest priority problems.

Governance. Government ministries and NGOs lack the financial resources to adequately implement their programs and mandates. This stands out as the most important factor limiting conservation governance and threatening biodiversity.

Moldova officially has 310 protected areas covering 66,467 hectares, or about 1.96 percent of total land area. This area is too small to maintain biodiversity. The Third National Report on the Implementation of the Convention on Biological Diversity states for proper maintenance of biological resources in Moldova the quota for protected areas is 10 percent, which includes increasing the afforested surfaces, restoring steppe, meadows and wetlands.

The breakaway republic of Transneister presents a significant threat to regional conservation. The territory east of Dniester River does not recognize their status within the Republic of Moldova and does not cooperate on many governance issues. Yet the region maintains much of the industrial capacity of the country operating heavily polluting Soviet-era equipment, which accounts for a large amount of pollution impacting the Dniester River. The State Forest Service expressed concern for the health of the forests located in Transneister and reported some minor conflicts regarding forest resources along the border.

Invasive Species. The Ministry of Ecology and Natural Resources recognizes 150 invasive species, and institutes and academies, including the Botanical Garden and Zoological Institute, conduct research to identify alien plants and animals. Important invasive species include the Box elder Maple, which displaces native species, the Raccoon Dog that destroys nesting bird species and the Sika Deer that compete with and interbreed with local species.

Commitment of Key Stakeholders in Protecting Biodiversity

There appears to be moderate commitment to protecting biodiversity in Moldova. Government and NGOs alike see the successful establishment of a National Ecological Network (NEN) as the most crucial step towards the preservation of biodiversity and restoration of ecosystem functions for Moldova. The network would connect a largely fragmented landscape and enable species migration, while protecting waterways and increasing available fuel wood for rural populations. A great amount of planning and coordination has taken place with respect to establishing the scientific basis, legal, policy, and financial elements behind the establishment of the NEN. The National Program on the Setting Up of the National Ecological Network for 2003-2010 establishes an environmental fund to support its development. However, local authorities will be expected to support specific projects with local budgets. Additional financial support can be received from NGOs, international donors, or other outside sources.

Non-governmental Organizations. The Republic of Moldova has a large network of environmental NGOs. There are no official statistics on NGOs, but about 430 environmental NGOs are estimated to be active in the country, 100 of which operate only in Chisinau. A majority are involved in environmental education. Some 50 environmental NGOs are considered very active in the country as they have launched many environmental initiatives on national and local levels and are actively implementing international projects. Bios, Biotica, Eco-Lex, Eco-Tiras, Environmental Movement of Moldova and INQUA-Moldova are among the most active NGOs. In general NGOs suffer from a lack of operational funds, and they are awarded no special tax breaks. Only in cases of intergovernmental agreements on technical assistance may the Ministry of Finance decide to waive some taxes.

International Donors. Most ecosystems have received attention in one form or another from international donors, typically as a component of major programs. Much of the needs of the country in terms of habitat restoration and conservation will be addressed if and when the NEN is fully implemented. There is a need for focused conservation efforts particularly on steppe protection and restoration. Additional donor efforts are also needed towards the establishment of National Parks to protect some of the critical ecosystems and habitats of Moldova.

Assessment of USAID Support and Opportunities

Since 2001, there have been several USAID programs which have been contributing to conservation and environmental needs in Moldova. It is important to note that overall USAID contributions toward democracy, institutional reforms, stability, and economic growth have positive (and potential for more) indirect benefits to conservation and biodiversity. The management and protection of natural resources is predicated on a stable government, sound policy frameworks, transparency, accountability, and active civil society and vibrant private sector, economic incentives, and a free independent media. These contributions should not be discounted for their contributions to environment overall.

The key focus of USAID actions in Moldova will be strengthening the private sector to facilitate job growth throughout the country. There are numerous potential cross-cutting linkages between biodiversity and environmental sectors and future USAID programs; especially related to anti-corruption, economic growth, poverty reduction, and civil society. Economic Growth initiatives in all sectors should work towards adoption of international certification schemes to facilitate opening of Western markets and sustainable development.

SECTION I: INTRODUCTION AND BACKGROUND

A. Purpose and Objectives of the Analysis

The purpose of this biodiversity analysis is to ensure USAID compliance with FAA Section 119 and help inform and guide the USAID Regional Mission for Ukraine, Moldova, and Belarus planning with respect to biodiversity needs in Moldova during the development of their new Strategic Plan. Specifically, the objectives of this analysis were the identification of the needs for biodiversity conservation in Moldova and assess how the Mission strategy contributes to meeting such needs [FAA 119 requirement].

B. Methodology

To conduct the assessment, the Team members collected relevant available materials (reports, studies, etc.) and met with representatives of USAID/Washington prior to departure. The Team then traveled to Moldova and held meetings with a diverse range of people from government agencies, donors, implementers, the private sector and non-governmental organizations (NGOs) (see Annex F). The Team reviewed documents and reports (see References, Annex G); conducted site visits to make firsthand observations on the status of the environment and to interview local government officials and authorities, private citizens and experts, and NGOs regarding natural resources management and biodiversity issues at the local level. The Team traveled to the “Cordii” Scientific Reserve and visited USAID funded projects in the surrounding area. The second site visit focused on the south west of Moldova. The Team visited numerous sites including the Lower Prut Scientific Reserve, Beleu and Manta Lakes, Slobozia Mare Village, local fish market in Cahul Town, pesticide dump in Cismichioi Village, and modified hydrological structures on Ialpuș river valley. The Team held an exit briefing with the Moldova country office of the USAID Regional Mission for Ukraine, Moldova and Belarus on October 17 to present preliminary findings and recommendations.

The findings in this report are based on information gathered during interviews and site visits, as well as from documents produced by a variety of sources. A complete list of reference materials is provided in Annex G: References. The findings address FAA 119 requirements, specifically addressing biodiversity threats and actions needed and also provides recommendations. Considerable thought and care was given in how to best present the information in a clear, concise, and straightforward manner to guarantee the requirements of FAA 119 were clearly met, while ensuring the information per the scope of work (Sub-section 2, Section A3 Deliverables) were also captured.

C. Environmental Requirements for USAID Strategic Plans

The USAID Regional Mission for Ukraine, Moldova, and Belarus is currently in the process of developing its Strategic Plan. The U.S. Foreign Assistance Act (FAA) of 1961, Section 119, requires USAID to assess national needs for biodiversity and potential USAID contributions to these needs in all Operating Unit strategy documents. Specifically, FAA Section 119(d), Country Analysis Requirements, states:

“Each country development strategy statement or other country plan prepared by the Agency for International Development shall include an analysis of: (1) the actions necessary in that country to conserve biological diversity, and (2) the extent to which the actions proposed for support by the Agency meet the needs thus identified (FAA, Sec. 119(d)).”

This requirement is also articulated in USAID's Automated Directives System (ADS), Section 201.3.8.2, on mandatory environmental analysis for strategic plans. The ADS regulations also indicate that while not required, an Operating Unit "can save time and be more efficient by including all aspects of environment when undertaking the mandatory biodiversity and tropical forestry work." For example, these environmental aspects may include topics such as water resources, urban environmental issues and private sector concerns.

In October 2006, the USAID Regional Mission for Ukraine, Moldova, and Belarus procured the services of DevTech Systems, Inc. through the EPIQ II IQC to conduct the FAA 119 analysis of Moldova's

biodiversity. DevTech Systems field team consisted of Jeff Ploetz (Team Leader), Steve Nelson (Biodiversity Expert), Dr. Aureliu Overcenco (Local Expert). The assessment was conducted from October 3-17, 2006. This assessment was to be an update to the 2001 Biodiversity Assessment, which was completed by Chemonics, Inc.

A copy of the Scope of Work (SOW) for this assignment can be found in Annex H of this report.

SECTION II: THREATS TO BIODIVERSITY

A. The Importance of Biodiversity

The Republic of Moldova is a small, land-locked country situated between Ukraine and Romania. Covering an area of 33,843 square kilometers Moldova is slightly larger than the State of Maryland and contains forest, steppe, and forest/steppe landscapes. The natural and semi-natural ecosystems (forests, forest belts, hayfields, pastures, wetlands, water bodies) account for only 17% of the Moldovan territory (State of the Environment, 2004). Today, agricultural activities cover 75% of the landscape and farmers produce world-famous wines along with cereal grains, corn, fruits, vegetables, nuts and other products. The rich Chernozem soils, good climate, and adequate water resources contribute to the rich agricultural tradition of Moldova.

Strategically located in southeastern Europe, Moldova plays an important role in maintaining regional biodiversity. It lies at the intersection of three bio-geographic zones: 1) Central-European, oak forests; 2) Euro-Asiatic, semi-arid steppe; and 3) Mediterranean, Black Sea. The overlap of these zones results in high-level of genetic diversity in plants and animals. However, many species live at the borders of their natural ranges and therefore regional meta-populations may be more vulnerable to extinction.

The Soviet Union aggressively developed Moldova for agriculture in the 1970s and hoped to develop large-scale operations based on pesticides, fertilizers and irrigation systems. When these systems collapsed, they left a legacy of residual pollution problems, a decaying infrastructure, and a socio-economic crisis that continues to the present.

In 2002, almost half of Moldova's 4,247,200 people lived below the poverty line (less than one dollar per day income) and most of them are considered extremely poor. Since the 1990s Moldova has been the poorest country in Europe with a 2002 per capita GDP at US\$ 382. It is also the most densely populated country, with an average of 125.5 persons per square kilometer. The population is falling; in 2004, annual population growth was -0.18% as many young people continue to emigrate. By some estimates, 30% of the active population has left the country due to lack of economic opportunities (Swiss Agency for Development and Cooperation, www.sdc.md).

Despite their current economic hardships, the Moldovan people have a national identity based on respect for the natural environment. Centuries of agriculture, hunting, and fishing have shaped Moldovan culture and inspired its folk songs and legends. In one story, King Drogoosh hunted bison with his dog Molda. As the dog chased the bison across the river, he froze to death. So the King crossed the river and named the land Moldova. A symbol of Moldova, the bison are now extinct in the wild and can only be seen in the national zoo, the national flag and the jerseys of their national soccer team; the Zimbru. In addition to the bison, several other species are now extinct in the wild, including: bear, lynx, eagle species, as well as other species that shaped the national spirit.

By and large the backbone of Moldova is the agricultural economy. A healthy environment and stable biological diversity is essential for a nation built on an agricultural economy. Soil stability, natural soil enrichment and soil processes (think microorganisms), healthy riparian areas, etc. are essential components for long-term economic growth and performance. The correlation between compromised ecosystem services and the eventual effect on an agricultural economy are very clear.

Against this backdrop, we assessed the biodiversity of Moldova. We found a genetically rich landscape that has been greatly altered by agricultural activities. Threats to diversity include not only agricultural activities, but also governance, poverty, and socioeconomic conditions that lie at the root causes of biodiversity loss. Although the Moldovan people lack full awareness of the environmental problems, they have the capability to solve them.

B. Biodiversity Status, Trends and Threats

1. Overview

Five landscape regions can characterize Moldova's original landscape, which was well described in the original 2001 Biodiversity assessment. The original, natural vegetation of Moldova consists of three types of forest-steppe in the north and central parts of the country and two types of steppe in the south. While largely altered, remnants of each can be found throughout the Moldovan countryside. See "Natural Zones and Landscape Regions" map in Annex A. As reported in 2001 there five landscape regions are:

- Plateaus of forest-steppe dominate the northern and northwestern parts of the country. This region occupies 23.8 percent of the country. The hillocks and plateaus were predominately forested with oaks (*Quercus* sp.), the valleys by willows (*Salix* sp.) and poplar (*Populus* sp.), occasionally interspersed with patches of steppe and meadow vegetation.
- Forest-steppe vegetation in the northeastern part of the country is characterized by Balti-steppe. This landscape region covers 20.6 percent of the country. The natural vegetation of this region is characterized by hillocks and river valleys covered with forests dominated by oaks (*Quercus* sp.) and cherry (*Prunus cerasus*). The steppe and meadow vegetation are characterized by grasses (including *Stipa* spp. *Festuca* spp. and *Deschampsia* sp.).
- The plateau of the Codrii forest is in the central part of Moldova. It occupies approximately 15 percent of the country. The landscape is characterized by rounded hills carved by ancient landslides. The native forests are mainly dominated by beech (*Fagus* sp.) and oak (*Quercus petraea* and *Quercus robur*). The under story is dominated by species typical of Central and Eastern Europe.
- The steppes of the Lower Nistru terraces are situated in southeastern Moldova. They occupy about 19 percent of the country.
- The Bugeac steppe is found in southwestern Moldova, where it occupies about 20 percent of the territory.

Over time the vast majority of steppe ecosystems were converted to productive agricultural lands which in time evolved into functional agroecosystems. Agroecosystems are defined by the International Food Policy Research Institute (IFPRI) and World Resources Institute as "a biological and natural resource system managed by humans for the primary purpose of producing food as well as other socially valuable nonfood goods and environmental services."

Today the lack of viable natural habitats represents the broadest threat to biodiversity. When compared to overharvesting, industrial pollution, invasive species, or other factors threatening biodiversity, the lack of viable habitat stands out as the most significant threat in each of the key ecosystems of Moldova. This report addresses the modern day modified ecosystems found in Moldova, which have been characterized as agroecosystems, forests, and aquatic systems. This section describes the status and trends in these areas and describes the current or potential future threats to biodiversity.

In addition to the lack of viable habitat in agroecosystems, forest, and aquatic ecosystems we also explore the threats to biodiversity resulting from several important factors; including:

- Governance Issues
- Poverty, Public Awareness and Socio-economic Issues
- Invasive species

The expansion of the agricultural sector and other previous economic development plans severely compromised natural habitats in forest, steppe, and aquatic areas. Agricultural expansion in the semi-arid regions of southern Moldova eliminated over 90% of natural steppe habitats, including grasslands, marshes, and meadows (Biodiversity Assessment for Moldova, 2001). Furthermore ambitious Soviet plans to develop large-scale agriculture destroyed aquatic habitats in most rivers of southern Moldova. Natural rivers such as the Sarata and Ialpujel have been replaced by networks of concrete channels, dams, pump stations, and other

hydrological modifications that have dramatically reduced key aquatic habitats, especially for migrating and anadromous fishes, such as sturgeon (*Acipenser* spp.). Moreover, the lost riparian and wetland habitats, severely compromised or destroyed essential ecosystem services (such as water retention and filtering) but also impacted critical nesting and feeding areas for birds and disrupted migration corridors that extend from Central Europe to Africa.

Moldovan forests were mostly cleared three times in the 20th century and the majority of current stands grew from plantations or from stump or root sprouts. The majority of mature forest stands lack the genetic and species composition of healthy forest ecosystems. Today, the Republic of Moldova has 362,700 ha of forests covering 10.7% from the country's territory, which is a very low figure as compared to the European average (29%) (State of the Environment, 2004). Moldova has 30,500 ha of forest protection belts and 18,500 ha of bushes planted to combat soil erosion, to protect field crops and water bodies. Reportedly, the quality of these areas have declined due to illegal cutting for firewood, lack of proper maintenance or competition from more advantageous invasive species such as box elder (*Acer negundo*).

Wetlands and riparian areas in the territory of Moldova were long ago converted or altered for agricultural purposes. Those remaining continue to experience a significant amount of anthropogenic pressures. A UNEP report sites the loss of wetland habitats as a contributing factor for the increase in avian flu as wild fowl are forced onto other lands where they may have contact with domestic stocks (Rapport, 2006). While it has been determined that wild fowl are not the primary vector for the spread of avian flu, wild fowl are often targeted and culled to prevent the spread. Restoration of wetlands and riparian habitats would lessen the potential for wild fowl and domestic fowl contact while simultaneously restoring the critical ecosystem service wetlands and riparian buffers provide.

2. Agricultural and agro-ecosystems

2.a. Threat: Lack of viable habitat and inadequate landscape management

Agricultural ecosystems occupy about 75.6% of the total area of the country. Plants under cultivation include 94 species, which have 553 hybrids and variations. Principal crops include cereals, fruits, vegetables, and fodder crops. The share of arable land, orchards and vineyards is also high, a situation causing significant difficulties in maintaining a sustainable environmental balance between natural and anthropic ecosystems, and leading to degradation of the soil cover, the biodiversity and the environment as a whole (State of the Environment, 2004).

About 109 animal species live in agro-ecosystems systems (CBD, Third National Report). Land conversion and agricultural practices can result in significant threats to biodiversity. For example, agricultural expansion and grazing in southern steppe regions has destroyed about 90% of the natural Pontic steppe of the northern Black Sea region, the remaining areas are strongly fragmented. Rich in xeriphytic flora, steppe regions provide habitat for about 600 species of plants mostly from four families: *Asteracea*, *Fabacea*, *Poaceae*, and *Lamiaceae* (CBD, Third National Report). Many of these plants are endangered and steppe protection is a priority for biodiversity conservation.



Table 1. Available Land by use (thousands ha)

Distribution	Area, thou. Ha						Structure, %			
	1995	2001	2002	2003	2004	2005	2002	2003	2004	2005
Total lands			3,384.3	3,384.4	3,384.6	3,384.6	100.0	100.0	100.0	100.0
Agricultural Lands	2,556.7	2,537.2	2,538.7	2,533.8	2,528.3	2,521.6	75.0	74.9	74.7	74.5
Arable land	1,758.7	1,820.7	1,839.7	1,842.6	1,845.4	1,840.2	54.4	54.5	54.5	54.4
Perennial plantations	430.7	334.9	305.7	300.8	298.0	297.8	9.0	8.9	8.8	8.8
Orchards			141.5	137.5	134.8	131.9	4.2	4.1	4.0	3.9
Vineyards			153.6	152.8	153.0	155.5	4.5	4.5	4.5	4.6
Pastures	367.3	381.6	382.6	379.7	374.1	370.8	11.3	11.2	11.1	10.9
Hayfields			2.4	2.4	2.8	2.7	0.1	0.1	0.1	0.1
Fallow lands			8.3	8.3	8.0	10.1	0.2	0.2	0.2	0.3
Forests and lands covered with forestry vegetation			423.8	426.6	433.5	439.5	12.5	12.6	12.8	13.0
Rivers, lakes, reservoirs, and bogs			96.6	97.5	96.3	96.8	2.9	2.9	2.9	2.9
Other lands			325.2	326.5	326.5	326.7	9.6	9.6	9.6	9.6
Informational:										
Irrigated lands			280.8	280.8	230.0	228.5	8.3	8.3	6.8	6.8
Arable lands			259.0	260.3	215.6	214.0	7.7	7.7	6.4	6.3
Perennial plantations			19.7	18.5	13.2	12.9	0.6	0.5	0.4	0.4

Source: Land Cadastre (1995, 2001, 2005), Ursu (2006), Statistical Yearbook of Moldova (2006)

Table 1 presents the distribution of available lands in Moldova. Land Privatization in the 1990s created thousands of new plots from old collective farms. Table 2 presents the recent data for the distribution of agricultural lands by type of management. By and large the greatest management type is the small landowner. Many of these plots lie along vertical contours and result in poor tillage methods resulting in poor soil management techniques. This has contributed to the documented increase in soil erosion, addressed in 2.b. Threat: Soil degradation & erosion.

Table 2. Agricultural landowners

Landowners	as of Jan 01, 1995	as of Jan 01, 2001	as of Jan 01, 2005
Cooperatives	116	114	140
Joint-Stock Companies	100	102	112
Collective Farms	549	41	4
LLCompanies	214	725	1263
Family Farms	42968	441900	503000
Total landowners	1168400	2276300	2332700

Source: Land Cadastre (1995, 2001, 2005), Ursu (2006)

2.b. Threat: Soil degradation, erosion and land subsidence

Soil erosion is a considerable problem with both direct and indirect adverse impacts on biodiversity and the economy. Considerable soil erosion due to poor farm practices and improper grazing threatens biodiversity in Moldova. Improper grazing due to a lack of rotational grazing and unknown carrying capacity for sheep, goats, and cattle reduce soil cover and trample stream banks adding to the problem.

Currently 36% of Moldova arable lands are eroded to varying degrees and is estimated to be increasing nearly 1% per year (personal communication from the former Deputy Minister of Ecology). This trend, if not corrected will have a devastating effect on an agriculture-based economy. With 114,000 ha of strongly eroded soils, desertification of certain areas of Moldova is a reality and increasing concern of scientist and Government officials.

The area of eroded soils has increased by 264.4 thousand hectares during the past 35 years, which constitutes 10.4% of the agricultural land or by 7,554 hectares annually. The highest level of agricultural land erosion has been registered in Calarasi District (57.6%), Ungheni District (46.3%), Cahul District (42.5%), and Hîncesti District (42.1%) (State of the Environment, 2004). According to official data, presented in Table 3, between 2001 and 2005 an additional 197 square kilometers of Moldovan agricultural lands were affected by erosion. By losing the biodiversity of microbial communities in organic soils, the country is losing the basis for agricultural production and limiting future options for sustainable agricultural development.



Table 3. Soil erosion areas (thousands ha)

Degree of Erosion	1965	1975	1995	2001	2005
Total agricultural lands	2711.4	2632.5	2556.7	2537.2	2511.4
Non eroded	2117.2	1978.1	1732.6	1678.6	1633.1
Eroded soils	594.2	654.4	824.1	858.6	878.3
Weak eroded	302.4	341.9	485.3	504.2	504.8
Middle eroded	195.6	213.0	244.6	252.7	259.3
Strong eroded	96.2	99.5	94.2	101.7	114.2

Source: Land Cadastre (2001, 2005), Ursu (2006)

Erosion is causing annually losses of fertile soil from agriculture lands of 26 million tons, on average. This quantity of topsoil contains: humus, 700,000 tons; nitrogen, 50,000 tons; and phosphorus, 34,000 tons. This causes major economic losses by diminishing agriculture productivity (State of the Environment, 2004). The decrease of humus content in soil due to biological and erosion processes results in the worsening of agrophysical, physico-chemical, microbiological particularities, and as a result, the production capacity of soils decreases, and low and bad quality harvests are obtained” (Andries, 2006).

Land subsidence is also an issue in Moldova, largely due to natural conditions; the rate of subsidence has increased due to anthropogenic causes. The total area of lands affected by land subsidence in 2004 was 40,000 ha, increasing by about 1,000 ha annually, mostly in the central part of the country. The number of active ravines is about 6,200 and the lands completely deteriorated by ravines account for approximately 80,000 ha. These ravines result in the loss of nearly a 1000 ha of agricultural lands each year. The respective economic losses are estimated to be near 6.3 million USD per year (State of the Environment, 2004).

Other Impacts. The erosion damage extends to other ecosystems, including lakes and other aquatic basins. Excess sediments silt over rivers, streams, and other critical aquatic habitats. High concentrations of sediments, detectable as Total Suspended Solids (TSS) in water quality measurements can reduce light penetration and limit plant growth in aquatic environments. Other impacts include the distribution of agro-chemical pollutants from soils are eroded to the waterways, destruction of infrastructure such as roads, hydro-technical constructions, etc. Loss of agricultural productivity of soils often leads to heavier uses of agro-chemicals with resulting consequences.

The eroded land area covers 858,564 ha or 33.9 percent of agricultural land and it is increasing annually by 0.9 per cent, causing a loss of 26 million tons of fertile soil. The annual estimated production loss and damage

costs to the national economy from soil degradation are about 3.1 billion lei (US\$ 251 million). Erosion also has social implications since it strongly affects the families who practice subsistence agriculture. These families belong to the poorest population group and therefore lack the financial resources to address this problem (UNECE, 2005).

2.c. Threat: Agro-chemicals and soil pollution

Persistent pollution of agricultural areas and lack of good waste management practices in rural areas remains an issue in Moldova. Former Soviet agricultural methods used high quantities of pesticides and fertilizers to achieve production goals on large farms. As a result, some soil profiles show heavy pesticide contamination (PEA, 2000) and recent water quality data reveal high concentrations of heavy metals, such as copper and evidence of persistent organic pollutants, such as DDT and organo-chlorines (HCH), in certain waterways. Other water quality measurements show high quantities of ammonia, nitrates, and nitrites in some rivers (Moldova WQ Monitoring Program, 2006).

Pesticide residues have been detected in agricultural products, over ten years ago, about one-fifth of agricultural products contained pesticide residues, (24.2 % in 1985, 31.4% in 1989 and 21.6% in 1993); although less than one percent of these exceeded allowable Moldovan standards (Ministry of Environment and Territorial Development; PEA, 2000). Chemicals used to control weeds and insects can also threaten biodiversity through chronic and acute impacts, mostly on aquatic species and birds. For example, DDT and atrazine have been shown to disrupt reproductive functions in birds and fish.

Improper use of pesticides, fertilizers, and other agro-chemicals can pollute soil and water resources and cause declines in aquatic, wetland, and riparian species. Current practices use fewer agro-chemicals, mostly because farmers cannot afford them, but as the economic situation of farmers improves their use of agro-chemical inputs will likely increase. Site visits to farms during monitoring efforts by USAID's Agribusiness Development Project (ADP) recently documented farmers improperly using pesticides. Consistent farmer education in the proper use of chemical inputs is crucial to protect biodiversity, human health, and sustained economic growth.

3. Forestry and Forests

3.a. Threat: Lack of viable natural forest habitat

Moldovan forests were mostly cleared three times in the 20th century and the majority of current stands are the result of plantations. The remaining natural forests are largely the result of stump or root sprouts and considered by officials to be of poor quality. Management efforts focus on encouraging natural regeneration, restoration of forest ecosystem services, and elimination of invasive species (*Acer negundo*, *Carpinus betulus*, *Robinia pseudoacacia*, *Hyphantria cunea*, *Nyctereutes procyonoides*) from the forests. Recent data show an increase in forested areas from 9.6% (2001) to 10.7% (2004) of the territory, mostly in central and northern regions (State of the Environment, 2004). While this is a positive trend, it is important to note the increase in forested lands, is derived from newly planted forests on denuded lands, degraded slopes, landslides, etc., and at present are not suitable habitats for most species. The forest landscape remains largely fragmented.

There is no private timber industry in the Republic of Moldova. Since 1991, the State Forest Agency "Moldsilva" manages the forests for protection. The forestry authorities manage 89% of the forests, the municipalities 9% and other authorities 2%. Only 400 ha of forests are private. Timber and non-timber forest products are important for the official as well as unofficial economy. Annually, Moldsilva collects over 2000 tons of non-timber forest products (NTFP) (berries, nuts, mushrooms, medicinal plants, etc), which are mostly exported as raw material for pharmaceutical industry (State of the Environment, 2004) which subsidizes the Agency's operations. Moldsilva did not cite current levels NTFP extraction as a concern. The team did not uncover any data regarding the amount of NTFP extracted by local populations. Therefore it is impossible to conclude if NTFP collection poses a significant risk to any certain species. Further investigation, potentially as part of an economic growth activity is warranted.

Table 4 presents official timber felling data from 2001-2004. According to our interview with Moldsilva authorities, annually sanitation cuttings occur on 2,500-3000 ha with the goal of encouraging natural regeneration and ecological restoration. Maintenance cuttings occur on an additional 15,000 ha. Moldsilva's operations remove an estimated 400,000 m³ annually which is largely sold to rural communities for fuel wood. Ten percent of the take is sold to the furniture industry. According to interviews with Moldsilva, the annual forest growth is estimated at 1.10M m³.

Table 4. Moldsilva timber throw (tree felling).

	2001	2002	2003	2004
Main throws and throws for the forest regeneration				
Hectares	2319	2758	2485	2540
Thousand m ³	192	234	221	222
Cleaning throws and selective sanitary throws				
Thousand hectares	12	12	15	14
Thousand m ³	168	170	218	195

Source: Statistical Yearbook of Moldova, 2005.

3.b. Threat: Institutional Issues

Concern was raised in numerous interviews by Government, NGOs, and Donors regarding Moldsilva operations. The main concern and issue is the potential conflict of interest when the same institution is responsible for the protection and management of forests as well as the sale of harvested timber. As a result of declining protection efforts the problem of forest pests and diseases has increased significantly over the past ten years (State of the Environment, 2004).

3.c. Threat: Illegal Harvesting

Although precise estimates are difficult to obtain, we made some observations that help describe the issue. One NGO spokesmen claimed that about half of timber harvests are illegal. The State Forest Agency disputed this number, but acknowledged a lower amount of illegal timber harvest on state-owned lands. Reportedly, if a tree is felled illegally, State inspectors visit nearby villages in search of the perpetrator, once found they are fined; such fines are steep and a major deterrent. The majority of the illegal harvesting occurs in the rural areas due to the need for fuelwood. While rare, there is anecdotal evidence of occasional commercial illegal harvesting. In 2002 an Italian firm was prosecuted for an illegal night harvesting operation in the Codrii Scientific Reserve, such instances are believed to be rare.

4. Rivers, Wetlands and Aquatic Systems

4.a. Threat: Lack of viable aquatic/river habitats

Soviet-era hydrological modifications significantly altered natural river and riparian habitats. These modifications include dams to create ponds or reservoirs for fish farming and agricultural irrigation. Other hydrological modifications result from channels, pumps, and pipes used to re-direct river water toward economic development objectives. For example, the 80 km Sarata River, draining into the Prut, contains seven dams, every ten kilometers. Soviet planners also converted the Ialpug River in the Gagauz region to serve the growing agricultural needs in the rich alluvial valley. Today, crumbling dams, pump stations, and giant pipes sprawl across a highly modified, fragmented river system in the southern part of the country. Past and present Limestone quarries and dredging of riverbeds for sand are also significant causes of environmental degradation and habitat destruction of river ecosystems. Pesticides, low water flows, and temperature changes also threaten fish populations. Further impacting these habitats is the lack of suitable buffers and riparian strips as a result of anthropogenic activities. Healthy and intact riparian strips control erosion, act as natural catchments for sediment, nutrients, and pollution, regulate water temperatures, and provide habitat along rivers.

Soviet-era Moldova established many fish farming operations in rivers, lakes, and ponds created specifically for aquaculture. Introduced commercial species include: *Abramis brama*, *Rutilus rutilus*, *Cyprinus carpio*, *Stizostedion lucioperca*, *Esox lucius*, and Chinese carp. Most of these fish are naturalized in the current aquatic systems.

4.b. Threat: Degradation of wetland ecosystems

In 1960 the total area of wetlands made up some 26,000 ha, today approximately 5,000 ha remain. Most wetland areas have been drained with the exception of small isolated areas in the lower Dniester River and the areas directly bordering the Prut River. Along the Prut River there were originally significant areas of wetlands, but only minor areas remain. Moldova has not yet completed a national wetland inventory and related database, but the Ministry of Ecology considers the task as a medium priority (BSAP, 2002).

4.c. Threat: Poaching and loss of endangered species

Illegal fish harvest appears to be problem in several areas. Our team observed poachers and fish markets for poached fish in several places along the Lower Prut. A Biotica report draws references to Dniester River poaching and a fish mafia. The fish fauna of Dniester River includes 76 native species (Berg, 1979) and the 2001 Moldova Red Book cites 12 fish species; including *Huso huso* (EN), *Acipenser guldenstadti colchicus* (EN), *A. stellatus* (EN), *Huso huso* (VU), *Umbra krameri* (CR), *Rutilus frisii* (EN), *Leuciscus idus* (VU), *Barbus barbus borysthenicus* (EN), *B. meridionalis petenei* (VU), *Lota lota* (VU), *Zingel zingel* (VU), *Zingel streber* (VU) (The Dniester River, Biotica and Eco-Tiras, 2001 Red Book).

The sturgeons along with several other species are relic species and no longer reproduce in the wild. Construction of two large hydropower dams on the Dniester in 1954 and 1981 interrupted migration corridors for anadromous sturgeon and some Cyprinids. Lowered water temperatures disrupted egg laying in females and lowered water levels eliminated critical spawning habitats.



Poacher's boats outside "Prutul de Jos" Scientific Reserve.
Photo credit: Steve Nelson

4.d. Threat: Water pollution

Agricultural and industrial activities along with municipal discharge of wastewater pollute rivers, lakes, and reservoirs with related adverse affects on biodiversity. Table 5 presents water quality data from the Dniester and Prut in 2002. Some Moldovan rivers, such as the Bic, running through Chisinau into the Dniester, rank as heavily polluted. Others have moderate, but measurable levels of heavy metals, persistent organic pollutants, nitrogen, and other indicators of water pollution. Excessive levels nitrogen and phosphorous can result in low levels of dissolved oxygen (DO) and loss of aquatic habitats for many organisms. Heavy metals and organic chemicals can disrupt reproductive functions, cause lesions and chronic illnesses, and kill fish.

In a few places, recent water quality data revealed high concentrations of heavy metals, such as copper and evidence of persistent organic pollutants, such as DDT and organo-chlorines (HCH). Significant quantities of ammonia, nitrates, and nitrites also appeared in some rivers, most likely from non-point sources such as agricultural fields and storage facilities. Most of these chemicals are left over from the Soviet period and current farming practices use less fertilizers and pesticides (Moldova WQ Monitoring Program, 2006). Future challenges include waste management from the large-scale livestock and dairy industries, should they recover, to ensure they do not adversely impact water quality.

Table 5. Water quality (media annual) of big river water in the Republic of Moldova (2002)

Water units	River Dniester			River Prut							
	Otaci, downstream	Soroca, above	Vadul lui Voda	Tighina	Olanesti	Sireuti	Costesti-Stanca Water Reservoir	Ungheni	Leova	Cahul	Guirgiulesti
Color, grade	42.7	30	13.1	45.6	61.9	5.6	8.1	70.6	28.1	30	28.1
Turbidity, mg/dm ³	3.1	2.8	1.8	3.4	4.9	3	1.4	6.3	19	28.1	19.2
Suspensions total, mg/dm ³	6.5	5.5	2	4.8	32	480	333	325	235	263	214
pH	7.4	7.4	7.1	7	7.1	7.5	7.5	7.5	7.9	7.8	7.6
O ₂ dissolved, mg/dm ³	7.8	6.2	5.8	5.7	6.1	7.5	8.8	8.6	7.5	8	8
BCD ₅ , mg/dm ³ O	1.6	1.6	2	3	1.9	2	1.2	0.8	1.8	2.2	2.7
COD, mg/dm ³ O	8	12	24	24	24	20	20	24	8	8	8
Hardness total, mg.echv/dm ³	4.1	4.05	3.9	4.5	3.9	5.7	3.5	3.8	4.1	4.3	3.9
NH ₄ ⁺ , mg/dm ³	0.25	0.58	0.23	0.28	0.32	0.07	0.08	0.31	0.05	0.05	0.05
NO ₂ ⁻ , mg/dm ³	0.03	0.06	0.1	0.15	0.15	0.03	0.08	0.06	0.04	0.04	0.05
NO ₃ ⁻ , mg/dm ³	8.9	10	7.1	8.8	8.6	5.2	3.8	5.3	5	5.2	5
Petroleum Products, mg/dm ³	0.22	0.3	0.19	0.3	0.37	0.1	0	0.03	0	0.004	0.03
Mineralization, mg/dm ³	395	405	454	448	457	502	369	405	569	613	571

Source: State of the Environment, 2004

4.e. Threat: Institutional Issues

Various Ministries, Services and Agencies are responsible for water protection. These include the Ministry of Ecology through its subdivisions in the Institute of Ecology and State Hydrometeorological Service as well as the State Consortium “Apele Moldovei” (Moldovan Waters) which falls under the authority of the Ministry of Agriculture, while forested buffer strips fall under the jurisdiction of Moldsilva or local municipalities. There is a lack of enforcement of several key laws that directly impact biodiversity as limited enforcement results in habitat destruction.

5. Invasive Species

Threat: Competition due to invasive species

The Ministry of Ecology and Natural Resources recognizes 150 invasive species (Third National Report of BCD). Institutes and academies, including the Botanical Garden and Zoological Institute, conduct research to identify alien plants and animals. Important invasive species include *Acer negundo*, Boxelder Maple, which displaces native species; and *Nyctereutes procyonoides* the Raccoon Dog that destroys nesting populations of bird species and *Cervus nippon*, the Sika Deer from the Russian Far East, that compete with and interbreed with local species. Other notable species include: *Canus aureus*, *Carpinus betulus*, *Robinia pseudoaccacia*, *Hyphantria cunea*, *Nyctereutes procyonoides*, *Grindella squarosa*, *Ambrosia arimisiifolia*, *Xantium albinum*, *Abutilon theophrasti*, and *Mirabilis nyctaginea*.

6. Poverty, Public Awareness, and Socio-economic issues

6.a. Threat: Rural poverty resulting in unsustainable use of resources

Current socio-economic conditions and public attitudes represent a threat to biodiversity. Half the Moldovan people live below the poverty line in one of Europe’s most densely populated landscape. The collapse of the Soviet collective farms and fishing cooperatives added to rural poverty as many citizens lacked the resources to adapt to new livelihoods. These conditions result in adverse impacts on biodiversity in the forms of overgrazing and illegal harvesting of timber (for fuel wood), fish, and non-timber forest products. Moreover, poor farmers lack the resources to adopt Good Agricultural Practices on their lands leading to diminishing productivity and worsening agro-ecological biodiversity conservation.

In another context, our team visited the “Prutul de Jos” Scientific Reserve on Beleau Lake in the Lower Prut River basin. Reserve staff described illegal fish poaching as their main problem. We visited the lake and counted a dozen small fishing boats operating illegally within reserve boundaries. Also, we visited the fish market in the nearby town of Cahul and saw illegally caught fish traded and sold in the village square. Finally, we interviewed several poachers who regularly fish the lake. They recognized their illegal acts; but apologized for their necessity to catch fish in order to feed their families. Several of them previously worked for the defunct “rybkhoz” collective fish farm on nearby Lake Manta. In this setting, poverty represents a direct threat to biodiversity conservation.

We also spoke to officials at the Ministry of Ecology and State Forest Agency who stressed the need to compensate local landowners for land conservation programs. One explained that landowner opposition to the long-delayed Lower Dniester National Park stood as the main obstacle to establishing the nation’s first park. The forestry official also cited lack of financial incentives to land owners as problems to afforestation programs. According to him, the State eliminates taxes and maintains land set aside for conservation plantings, but pays no compensation.

6.b. Threat: Lack of Public awareness of environmental conditions

Almost all government officials and NGO representatives mentioned lack of public awareness as a significant threat to biodiversity. The annual National Reports on the Implementation of Biological Diversity consistently rank the lack of public awareness as one of the highest priority problems (CBD, Third National Report). Perhaps the modest level of public interest in environmental issues results from difficult economic circumstances combined with the low visibility of environmental problems. When compared to a nuclear accident or lethal toxic spill, chronic soil erosion or loss of steppe grasses do not attract wide public attention.

7. Governance Issues

7.a. Threat: Lack of resources.

Government ministries and NGOs lack the financial resources to adequately implement their programs (CBD, Third National Report) and mandates. This stands out as the most important factor limiting conservation governance. The Ministry of Ecology and Natural Resources was largely established to implement the various international conventions as well as a means to access donor funds for environmental protection, though more is needed. Particularly as Moldova works towards EU harmonization, the burden of reporting and implementation will be a further strain on limited resources. Currently the National Environmental Fund is approximately 3 Million USD, which is derived from annual carry-over, local funds, levies, and fines. Only small amounts are distributed to NGOs or used for biodiversity related projects.

7.b. Threat: Weak Coordination.

Environmental information from other government bodies is not readily available to the MENR even though it is required by law and, in some cases, is stipulated in the formal agreements between institutions, such as the existing agreement between the MENR and the Ministry of Health and Social Protection. Therefore, the MENR relies on the information gathered by its inspectors. The other ministries lack specialists and/or departments to deal with environmental issues. The frequent reorganization of national, regional and district structures since 1998, has certainly been a source of confusion and has complicated the horizontal cooperation of authorities enforcing environmental legislation. The changes in geographical coverage and the consequent transfers of files, changes in staff and leadership, and changes in priorities do not facilitate the development of interministerial cooperation mechanisms. Due to low salaries in the public sector, it is difficult to recruit and keep good technical staff. This often results in uneven quality of permit preparation or inspection.

Numerous and changing government structures limit the effectiveness of management and implementation activities. In 2001, the Ministry of Environment, Construction, and Territorial Development (MECTD) served as the original National Focal Point to implement the CBD; this responsibility has been shifted to the Biodiversity Office under the newly created Ministry of Ecology and Natural Resources (MENR). While this

was a logical and effective move there still exist issues regarding authority over critical environmental decision making among government institutions. To address the poor coordination among Ministries, Institutes, and NGOs, the government created an Interdepartmental Steering Committee to implement provisions of the Biological Diversity Conservation National Strategy and Action Plan (BSAP). Yet the Committee remains largely inactive due to a lack of resources and no budgetary authority to move forward.

Some confusion and conflict arises over the various roles of local and regional authorities. Many of the responsibilities to implement the actions and enforce actions in the BSAP fall to local authorities and mayors. For example, local governments are expected to fund restoration and afforestation programs. But local authorities lack resources and have other priorities besides biodiversity conservation, mostly social problems. Moreover local inspectors often lack the will or means to enforce national laws. Staff at the “Prutul de Jos” Scientific Reserve cited conflict with local authorities as one of their main concerns, especially to help stop fish poachers.

7.c. Threat: Limited Protected Areas Network

Moldova officially has 310 protected areas covering 66,467 ha, or about 1.96% of total land area. This area is too small to maintain biodiversity. The “*Third National Report on the implementation of the Convention on Biological Diversity*” states for proper maintenance of biological resources in Moldova the quota for protected areas is 10% which includes increasing the afforested surfaces, restoring steppe, meadows and wetlands. Recent efforts by Government officials, the Donor community and NGOs have failed to create National Parks in critical habitats; this is covered in more detail on page 16 in Section III A.1.b.

Of the existing protected areas most lack proper funding and administrative authorities. Many fall under local authorities that have little or no capacity for management of these areas much less protection. The strict protection of the core areas of the scientific reserves is generally observed, but some of them do not comply with all statutory requirements, e.g. the required minimum area. The ecological research is based on the study of separate environmental compartments rather than on a holistic, ecosystems approach. Another current problem is the need to re-evaluate the scientific reserves boundaries.

7.d. Threat: Conflict with Transneister.

The breakaway republic of Transneister presents a significant threat to regional conservation. Hoping to maintain the status quo with the former Soviet Union, the territory east of Dniester River does not recognize their status within the Republic of Moldova and does not cooperate on many governance issues. Yet the region maintains much of the industrial capacity of the country operating heavily polluting soviet-era equipment, which accounts for a large amount of pollution impacting the Dniester River and the Black Sea. The State Forest Service expressed concern for the health of the forests located in Transneister and reported some minor conflicts regarding forest resources along the border. The conflict with the Republic of Moldova has not been resolved in over a decade and the instability encourages smuggling, trafficking, and other illegal activities. Additionally, the conflict hinders the enforcement of CITES and the protection of threatened and endangered fish. This may contribute to the unsustainable use of fish resources and support illegal activities of a fish mafia, influential in Ukraine and Moldova, but especially strong in Odessa. (*The Dniester River – Transboundary Aspect of Fish Conservation*. Biotica Ecological Society and Eco-TIRAS International Association of River Keepers).

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SECTION III: ACTIONS TAKEN BY THE GOVERNMENT, DONORS, AND NGO COMMUNITY

A. Conservation Actions Taken: Landscape

1. Protected Areas

a. Existing Protected Areas

Moldova has 310 protected areas covering 66,467 ha, or about 1.96% of total land area. This area is too small to maintain biodiversity and relatively low compared to other European countries, such as Austria (25%) or Germany (13%). However Moldovan protected areas are comparable to neighboring Romania (4.8%) or Ukraine (3%). On average, European countries set aside about 10% of the landscape in protected areas; the amount most experts recommend to preserve regional biodiversity. The *“Third National Report on the implementation of the Convention on Biological Diversity”* states for proper maintenance of biological resources in Moldova the quota for protected areas is 10% which includes increasing the afforested surfaces, restoring steppe, meadows and wetlands.

Moldova established a system of protected areas to meet the requirements of the Convention on Biological Diversity. The Republic passed the “Law on State Protected Areas Fund” in 1998 and elaborated a hybrid classification system that included 12 categories (eight according to IUCN criteria; and four according to national criteria). The listed protected areas now include categories for “rare flora and fauna species” and “secular trees” categories and bring the total count of areas to 1225. See Table 6.

Table 6. Natural Areas Protected by State

Protected Areas	IUCN	Number	Area, ha	% of Area
Scientific reserves	I	5	19,378.0	29.4
Monuments of nature	III	130	2,906.8	4.3
Geological and paleontological		86	2,681.8	
Hydrological		31	99.8	
Botanical		13	125.2	
Natural reservations	IV	63	8,009.0	12.0
Forests		51	5,001.0	
Medicinal plants/herbs		9	2,796.0	
Mixed/complex		3	212.0	
Landscape reservations	V	41	34,200.0	51.5
Resource reservations	VI	13	523.0	0.8
Ares with multifunctional management	VII	34	1,030.4	1.5
Representative sectors with steppe vegetation		5	148.0	
Representative sectors with riparian vegetation		25	674.7	
Protective forest belts		2	207.7	
Botanical gardens		1	105.0	0.1
Dendrology gardens		2	104.0	0.1
Monuments of landscape architecture		20	191.1	0.3
Zoological gardens		1	20.0	
Secular trees		(433)		
Rare flora & fauna species		(269 & 215)		
Total		310 (1225)	66,467.3	100

Source: Law on State Protected Areas Fund, nr. 1538-XIII, Feb 25, 1998 & Environmental Economics, 2005

Moldova has five scientific reserves (see Table 7) three forest and two hydrobiological landscapes. At present there are 63,000 ha of forestlands protected by the state, which represent 95% of the protected areas. Two of the reserves (“Padurea Domneasca” and “Prutul de Jos”) have been included in the EC Emerald Network.

The scientific reserves are strictly managed areas corresponding to category 1 of the IUCN classification. Moldsilva manages the scientific reserves, not the central environmental authority MENR, as required by the Law on the Natural State Protected Areas Fund. Reserves have several zones that define appropriate activities, including strictly protected core areas, buffer zones with limited activities, and transition zones with managed lands in cooperation with local communities, much like the Natura 2000 system.

Table 7. Scientific reserves

Scientific reserves	Year of foundation	Area, ha
Codrii	1971	5177
Iagorlic	1988	836
Prutul de Jos	1991	1691
Plaiul Fagului	1976	5642
Padurea Domneasca	1993	6032

Source: Law on State Protected Areas Fund, nr. 1538-XIII, Feb 25, 1998

The “Codrii” Scientific Reserve was created to conserve forest communities, representative of the Central Europe forest biome; Moldova is at the eastern edge of this region. The dominant species are *Quercus petraea*, *Quercus robur* and *Fagus sylvatica*. The flora of the “Codrii” reserve comprises about 1000 plant species including 18 species of lichens, 91 species of macromycetes, 69 species of moss, and 774 species of vascular plants (out of which 50 are rare species). The animal communities include 203 species of terrestrial vertebrates (mammals, 45; birds, 138; reptiles, 10; and amphibians, 10). 17 species are included in the Red Book of the Republic of Moldova.

The “Plaiul Fagului” Scientific Reserve was created for the purpose of protecting the unique beech stands. The local landscape is very fragmented. The forested area is distributed among beech (4.6%), oak (35.7%), ash (20.6%), and hornbeam (18.6%). The flora account for 903 species, plants 197 species of terrestrial vertebrates 20 species are included in the Red Book.

The “Padurea Domneasca” Scientific Reserve was created for the purpose of protecting the representative meadow forests. Oak and poplar stand dominate (17.4% and 17.8%, respectively); willow stand cover 6.3% of the area. The fauna of terrestrial vertebrates includes 210 species out of which 28 species are included in the Red Book.

The “Prutul de Jos” Scientific Reserve is protecting the flora and fauna of the Belev Lake and the river Prut floodplain. The local ecosystems depend on the fluctuations of the water level in the Prut and Danube rivers. The biota includes 160 species of vascular plants and 241 species of terrestrial vertebrates (80% birds) out of which 29 species are included in the Red Book.

The “Iagorlâc” Scientific Reserve was created for the purpose of protecting the water and terrestrial ecosystems in the Dniester River basin. The terrestrial ecosystems are represented predominantly by steppe communities. 719 vascular plants have been identified here out of which 50 rare species. The fauna is poorer as compared to other reserves, accounting for 158 species of terrestrial vertebrates including 122 birds. Approximately 10% of species are included in the Red Book.

b. Recent efforts and changes (2000-present)

National Parks. Over the last several years, the MENR along with other stakeholders have pursued the establishment of National Parks in Moldova. Several sites have been proposed including “Nistrul Inferior” (Lower Dniester), the Middle Prut, “Codrii Orheiului”, and an area rich in national heritage in the north. Two of the proposed parks, Lower Dniester and Middle Prut, received international funding to pursue the

plan. The majority of efforts focused on the Lower Dniester through a WB/GEF project that was implemented by Biotica on behalf of the MENR. To date, no National Parks have been established; the development of the Lower Dniester National Park was stalled when the Parliament failed to approve its creation. The reason for the failed approval depends on which source is consulted; through they range from forestry interests, other financial interests of Parliamentarians, to local concern regarding loss of livelihoods. Regardless of the reasons, the efforts put forth by park advocates have clearly demonstrated the legal and scientific basis for the creation of National Parks in Moldova.

Ramsar Wetlands of International Importance. Since 2000, the Republic of Moldova has established three Ramsar wetlands on the Lower Dniester, Lower Prut, and Unguri–Holosnita plot in the middle Dniester. For description of these sites please see Annex A. To meet requirements for the Ramsar Convention on Wetlands of International Importance, scientists conducted surveys on the three newly declared Ramsar sites.

Through the “Evaluation Study to Support Implementation of Management Plan for the Lower Prut Lakes Ramsar Site” funded by the Ramsar SGF (Project Code 7500-900/SGF/03/MD/01) researchers conducted a comprehensive study of the wetland water quality and quantity. Water quality was studied on 30 parameters and assessed against both national and EU water quality standards. Water quantity/availability also was studied during high water and low-flow periods. Based on the study likely sources of water pollution and associated environmental concerns were identified. To ensure its wise use and sustainable development, a Priority Action Plan was developed by “The Center for Strategic Environmental Studies (ECOS)” for the wetland aimed at improvement in water quality, prevention and/or mitigation of water pollution, and improvement of hydrological conditions. The Priority Action Plan for the Lower Prut Lakes Ramsar Site was created to facilitate implementation of the Management Plan compiled in 2000.

Several NGOs including Eco-Tiras and Biotica have been very active in the protection of wetlands and other critical habitats. Their efforts include conducting an inventory of 12 Black Sea wetlands in Moldova and the creation of Management Plans for Ramsar sites.

‘Eco-Tiras’ International Environmental Association of River Keepers organized an international conference in September 2004 dedicated to “Integrated Management of Natural Resources in the Transboundary Dniester River Basin” with participation of representatives from the Ramsar Bureau and Helsinki Water Convention Secretariat. Participants discussed water needs for environmental and ecological functions. Conference proceedings were published and are available on website: www.eco-tiras.org

National Ecological Network. The concept for a National Ecological Network (NEN) was developed in 2001 and is planned to cover 1650 square kilometers of territory. This is a key element of the BSAP. On February 16, 2007 the Moldovan parliament approved the Law on the National Ecological Network after its first reading. The Law establishes a legal framework to create and maintain the NEN as an integral part of Pan-European Ecological Network. The NEN specifies land use categories to maintain biodiversity and the ecological function at local, regional and national levels. Core areas anchor the system and include 62 sites covering 72,309 ha. Specific land use categories for the NEN include:

- Core areas. Territories of genetic, ecosystem and landscape biodiversity conservation; including critical habitats.
- Buffer zones. Territories, which protect the basic elements of ecological, network and serve to protect core areas from adverse impacts.
- Ecological corridors. Linear elements of the networks, which connect the core areas and serve as migrating and colonizing corridors.
- Zones of ecological reconstruction. Terrestrial or aquatic areas affected by some economic activities or natural phenomena that can be rehabilitated to serve ecological functions.

Government and NGO's alike see the successful establishment of the NEN as the most crucial step towards the preservation of biodiversity and restoration of ecosystem functions for Moldova. The network, successfully implemented, would connect a largely fragmented landscape and enable species migration, while protecting waterways and increasing available fuel wood for rural populations. A great amount of planning and coordination has taken place with respect to establishing the scientific basis, legal, policy, and financial elements behind the establishment of the NEN. The National Program on the Setting Up of the National Ecological Network for 2003-2010 establishes an environmental fund to support its development. However, local authorities are expected to support specific projects with local budgets. Additional financial support can be received from NGOs, international donors, or other outside sources.

The legal framework, which supports the NEN, includes several important laws and land use codes, including:

- Law on Environment Protection
- Law on State Protected Areas Fund,
- Law on Animal Kingdom
- Land Code, Forest Code, and the Water Code,
- Law on Improving the Degraded Lands Through Afforestation,
- National Program on Setting-up the National Ecological Network for 2003-2010,
- Pan-European Strategy on Biological and Landscape Diversity,
- Related international agreements.

The law specifies administration and management responsibilities to central and local governments. Key agencies include:

- The Ministry of Ecology and Natural Resources. Coordinates and oversees NEN implementation. Works to integrate the NEN into the Pan-European Ecological Network, meets terms and conditions of international agreements, cooperates with international and bi-lateral programs and donors, provides technical support to local authorities, and directs public outreach and awareness campaigns.
- Moldovan Academy of Sciences. To help evaluate and determine elements of ecological networks at all levels.
- State Forestry Service "Moldsilva". Contributes to afforestation and restoration of degraded lands and connecting corridors.
- Ministry of Transport and Communications. Maintains forest "green belts" and/or "shelter belts" along highways, railways, and communication lines to serve as ecological corridors.
- Ministry of Agriculture and Food Industry. Cooperates with farmers and manages and maintains the land survey.
- Local authorities. Provide financing and assist in evaluating conditions in the NEN.
- NGOs. Have opportunities to provide scientific and technical support, participate in local and regional management of the NEN, and promote public awareness campaigns.
- Citizens. Have access to information and participation in NEN creation.

2. Forestry and Forests (2000-present)

According to the Thematic Report on Forest Ecosystems submitted to the CBD in 2002, the following practices and measures are being taken by the Government to minimize and/or mitigate the negative human impact on forest Biodiversity:

- Development of the network of protected areas according to the current state and observance of legislation on the state protected units;
- Extension of areas covered with forest vegetation by creating new forest crops, forest screens and afforesting degraded lands;

- Increase of the “bioproductive” and “ecoprotective” potential of the forests by:
 - establishing the forest network,
 - creating seed fund of the main autochthonous species and using the seed of local origins in forest activities,
 - prohibiting the use some alien invasive species of aggressive nature, such as: *Acer negundo*, *Amorfa fruticosa*, *Caragana arborescens*,
 - establishing and maintaining the optimal forest structure (age classes) in the natural forests and plantations,
 - performing forest-technical activities in accordance with the technology requirements and ecological principle on the basis of forest typology,
 - combating pests strictly through biological methods.

Reforestation and Afforestation. Moldsilva claims to afforest about 750 ha of degraded lands each year (CBD, Third Annual Report). The targets established by the first National Report “Millennium Development Objectives for the Republic of Moldova” (2005) are to increase afforested land to 11% by 2006, 12.1% - by 2010 and 13.2% - by 2015.

Towards that goal, **The Moldova Soil Conservation project**, initiated in 2002 with support from the WB Prototype Carbon Fund, is reforesting 19,768 hectares of degraded and eroded state-owned and communal agricultural lands spread over throughout the country. The reforestation proposes to achieve multiple objectives, and in particular to restore degraded lands through improvement in the vegetative cover and sustainably enhance supplies of forest products to local communities. The Project will be financed and implemented by the Moldsilva. Moldsilva will establish all plantations and maintain plantations on state-owned land. On communal land, the new forests will be returned to the municipalities under long-term management contracts.

3. Species monitoring and management

Fish: The state maintains monitoring programs for Starry sturgeon (*Acipenser stellatus*), Danube salmon (*Hucho hucho*), both endemic flagship species for the Black Sea basin. Moldovan fish specialists at the Fisheries Research Station have plans to reintroduce native species and cooperate with colleagues in Romania.

Game: Moldsilva manages wild game (deer sp., boar, etc) through a state-hunting regime. Yearly take quotas are determined based on carrying capacity and annual herd density surveys. Hunters must purchase permits.

Invasives: Moldsilva monitors invasive species only in forest systems. Currently, it is working to eliminate *Acer negundo*, Boxelder Maple, from natural forest ecosystems. The agency conducts these activities according to Article 5 of the Law on Plant Protection. In other control measures, the Ministry of Agriculture and Processing Industry identifies and eliminates damaging organisms related to commercial crops. Currently the government works with other countries for quarantines and control of invasives. In 2005, the government developed a draft of Agreement on the Cooperation for Quarantine Control with the Government of Kazakhstan.

Rare and Endangered Species: Government and NGO implemented surveys have been conducted throughout the country. Major populations of rare and endemic species are known and under the current protected areas list, some 484 rare flora & fauna species are listed as “protected”. Maps of the known locations of rare and endangered flora and fauna can be found in Annex 1.

4. Rivers, Wetlands and Aquatic Systems

As mentioned under Protected Areas above, the Republic of Moldova has established three Ramsar wetlands in Moldova since 2000, which is a significant step towards their protection. As a result of their Ramsar designation, management plans have been created to help conserve these areas.

Moldova also has several active Water Quality monitoring programs conducted by various Institutes, Ministries, Donors and NGOs. These include the Ministry of Ecology and Geography through its subdivisions in the Institute of Ecology and State Hydrometeorological Service, State Consortium “Apele Moldoveri” (“Moldovan Waters”). USAID’s implementer CNFA recently completed a five-year surface water-monitoring project. Under the ADP project, CNFA continues its water quality monitoring, this time focused on well water.

5. Government Sponsored Environmental R&D

According to the 2004 State of the Environment Report, in December 2003, the Parliament approved the strategic priorities of research and development for 2004-2010. “Ecosystems functioning, biodiversity and sustainable use of natural resources” was one of nine priority themes. A sample of the R&D implemented under this theme includes:

- Development of methods for conservation of the genetic diversity of spontaneous flora and fauna in natural and semi-natural ecosystems (Botanical Garden, Institute of Zoology).
- Modifications of the natural landscapes and their impact on human life (Institute of Ecology and Geography).
- Development of advanced methods and technologies for water treatment. Study of the auto-purification processes in aquatic systems (Institute of Chemistry, State University of Moldova).
- Studies on the protection of geologic environment and mineral resources use (Institute of Geophysics and Geology).
- Development of the national network of zoological monitoring (Institute of Zoology).
- Development of GIS for the purpose of modeling the structure and dynamics of landscapes (Institute of Ecology and Geography).
- Development of physiological methods for optimizing the production processes and minimizing environmental pollution (Institute of Plant Physiology).
- Development of ecologic criteria for conservation, protection and reclamation of less productive soils (State University of Moldova).
- Development of methods of biodiversity conservation and reproduction of biologic resources in natural ecosystems. Study of rare plants and plants at the brink of extinction in Moldova (State University of Moldova).
- Strengthening the human resources in the field of sustainable development and environment protection (Technical University of Moldova).

The National Institute of Ecology and Geography concentrates its studies on the following domains:

- Evaluation of the environmental status of aquatic resources. Development of advanced methods and technologies for water treatment.
- Development of ecologic criteria for conservation, protection and reclamation of less productive soils.
- Development of methods of biodiversity conservation and reproduction of biologic resources in natural ecosystems.
- Assessment of environmental quality basing on bioindicators.
- Study of the status of representative natural ecosystems: motivating scientifically their protection regime and the extension of natural protected areas.
- Development of waste management methods minimizing their impact on the environment.

B. Conservations Actions Taken: Policy, Institutional, and Legal

(Author's note: The majority of the following section has been adapted from the 2005 UNECE EPR.)

1. Overview

The Republic of Moldova has established a reasonable policy and legal framework to conserve biodiversity. The Republic signed the Convention on Biodiversity Diversity in 1993 and created many new laws and decisions during the 1990s to revise environmental laws. According to requirements of the CBD, Moldova established a formal system of protected areas and developed the proposed National Ecological Network. Since 2000, many important laws have been drafted and presented to the Parliament. As a general theme, the country is revising old Soviet-era laws to comply not only with international conventions, such as the CBD, but also to conform to standards set for the European Union (EU). Moreover, all government officials we met showed genuine interest in implementing their mandates for biodiversity conservation. Overall, we see adequate political will and solid legislative framework to address the issues. Since approving the BSAP in 2001 the Moldovan Parliament has approved and passed the following legislative and normative acts, several of which are described in more detail throughout this section. For a complete listing of environmental legislation please see Annex B.

Legislative and Normative Acts since 2001

- Law nr. 755-XV of 21.12.2002 on biological security;
- Law nr. 398-XV of 2.12.2004 on approval of Strategy on Economic Growth and Poverty Reduction (2004 – 2006);
- Parliament Decision nr. 415-XV of 24 October 2003 concerning approval of National Action Plan in the field of human rights for 2004-2008;
- Decree of the President of the Republic of Moldova nr. 1105-III of 2003 on initiation of negotiations between the Republic of Moldova, the Republic of Poland and Ukraine on adoption of the Convention on landscape and biological diversity conservation and rational use of natural resources of the Nistru river basin;
- Governmental Decision NR. 447 of 17.04.03 on approval of the national programme for assurance of the ecological security;
- Governmental Decision NR. 1432 of 21.12.2001 on constitution of Interministerial Coordinating Council for promotion of the Biological Diversity Conservation National Strategy and Action Plan;
- Governmental Decision NR. 581 of 8 May 2002 on creation of the National “RAMSAR” Committee;
- Governmental Decision NR. 803 of 19 June 2002 on approval of the Regulation regarding the procedure of establishment of protected natural area regime;
- Governmental Decision NR. 737 of 17.06.2003 on approval of the State Programme for regeneration and forestation of land plots from the forest fund for 2003-2020;
- Governmental Decision NR.737 of 17.06.2003 on implementation of Strategy for Sustainable Development of National Forest Sector;
- Governmental Decision NR.991 of 12.06.2003 concerning Complex Actions Plan for an efficient use of natural resources, including aquatic resources;
- Governmental Decision NR. 1065 of 2 September 2003 on approval of the Strategy for sustainable development of tourism in the Republic of Moldova in 2003-2015;
- Governmental Decision NR. 1107 of 11 September 2003 on approval of Regulation on institution, registering, completion, keeping, export and import of collections of animals and plants from wild flora and fauna;
- Governmental Decision NR. 1161 of 29.09.2003 on approval of the Agreement between the Government of the Republic of Moldova and the Government of Romania on cooperation in the field of fish resources protection and regulation of fishing in the Prut river and Costesti-Stanca reservoir, signed in Costesti-Stanca on 1 August 2003;

- Governmental Decision NR. 1378 of 18.11.2003 on approval of Action Plan for the years of 2004-2008 regarding restoration of landscape architecture monument “Park from Mindic village” (museum complex “Vila with park Mindic”);
- Governmental Decision NR. 27 of 19.01.2004 on approval of Regulation on authorization of woodcutting in the forest fund and forest vegetation outside the forest fund;
- Governmental Decision NR. 1005 of 13.09.2004 on approval of the Regulation on State Survey of animal kingdom;
- Governmental Decision NR. 355 of 22.04.2005 for approval of the “Republic of Moldova – European Union” Action Plan;
- Regulation on authorization of export and import activities of plants and animals from wild flora and fauna, as well as import/export or re-export of flora and fauna species regulated by the Convention on the prevention of illegal trade in endangered species of plants and animals (CITES, Washington, 1973).

2. Policy Framework and Reforms

The 2001 BSAP, funded by the World Bank, covers issues on the management of natural protected areas, their expansion and the structural and functional rehabilitation of the degraded ecosystems. It includes a plan to develop a National Ecological Network (NEN) and provisions to inform and educate the public and to keep them involved in decision-making about the protection and rational use of biological diversity. The BSAP also provides a framework for a structured biodiversity and habitat protection policy and identifies steps to integrate EU laws and standards.

The implementation of the related Action Plan is estimated to cost US\$ 18.7 million. The possible sources of financing include the State budget, subventions from different institutions and organizations, and contributions from national and local environmental funds, and international donors.

The MENR is responsible for implementation of the BSAP under its Division of Biodiversity and Natural Resources. To encourage inter-agency coordination, a 2001 Decision established an “Interdepartmental Steering Committee for Promoting the BSAP.” However the Committee has no decision-making authority or budget and has been slow to move the implementation process forward.

The 1998 Law on the Fund of Natural Areas Protected by State and the Law on Environmental Protection designate the MENR as the authority responsible for regulating nature protection. The responsibility for the management of nature and forest areas has been delegated to Moldsilva. Local authorities also have the responsibility for nature protection, mainly for the management of natural monuments. The Law on Protected Areas gives a legal base for the designation of State-owned protected areas. It includes a list of protected areas and a list of protected species and requires the MENR to develop the related secondary legislation. Only one regulation, which designates wetland areas as scientific reserves, has been developed so far, mostly due to provisions of the Ramsar Convention. National standards have yet to be brought in line with the EU habitat protection requirements, which identify specific habitats and manage them.

The Law on the Ecological Expertise and Environmental Impact Assessment includes the obligation that new projects must conduct environmental impact assessments on habitats.

Two main laws cover the conservation of wild birds, the 1995 Law on Fauna and the Law on the Fund of Natural Areas protected by the State. The latter includes a list of protected birds, including all the birds listed in the Bonn Convention on the Conservation of Migratory Species of Wild Animals. Trade in species of wild flora and fauna is regulated in the Law on Fauna and the 2003 Regulation on Creation, Registration, Addition, Storage (Custody), Export and Import of Collections of Plants and Animals from Wild Flora and Fauna. The legislation that should cover the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) requirements is still missing.

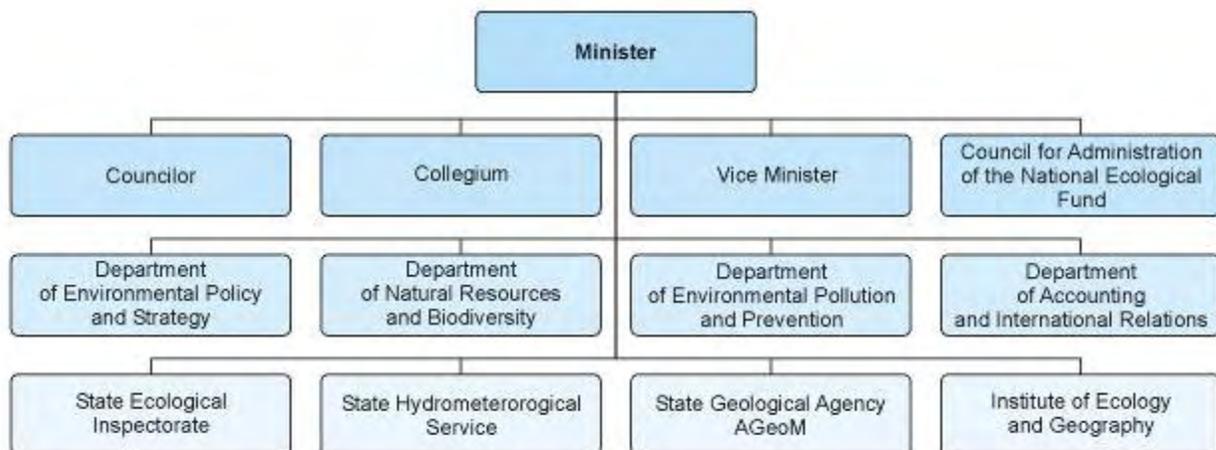
3. Institutional Framework and Changes

a. National Ministries

The framework within which the public authorities operate is based on the 1995 Law on State Service. Ministries draw up and implement policies either directly or through their executive authorities. They operate at regional or local level in different configurations, using technical, research and any other necessary skills from their specialized organizations. In 1998, the Department for Environmental Protection was upgraded to the Ministry of Environment, which was restructured in 1999 as the Ministry of Environment and Territorial Management. In 2001 it was reorganized as the Ministry of Environment, Construction and Territorial Development. In 2004 construction and territorial development issues were separated from the Ministry, which became the Ministry of Ecology and Natural Resources (MENR). As of October 2005, the MENR was reduced to a staff of twenty-five and is responsible for most of the elements constituting the corpus of environmental laws. The structure of the MENR is given in figure 1. Its internal structure is as follows:

- The Division of Environmental Policy and European Integration has the task of developing and implementing the State policy on environmental protection. It also has the task of coordinating the improvement of national environmental legislation and for the approximation of its content to EU legislation.
- The Division on Natural Resources and Biodiversity develops and promotes State policy on conservation and sustainable use of natural resources. It develops the legislation on forest protection, hunting, fishing and land resources and implements programs and plans on protection and conservation of natural heritage. It coordinates the activities connected with biological diversity conservation and protected areas management, and also develops related legislation.
- The Division for Environmental Pollution Prevention deals with the issues of pollution prevention and waste management, and also with the implementation of State ecological expertise plans, programs, schemes and strategies. It develops related legislation.
- The Division of Accounting and Foreign Relations deals with staff management, law service, accounting and international agreements.

Figure 1. Organizational Structure of the Ministry of Ecology and Natural Resources



Source: <http://www.mediu.gov.md>

b. Ministerial technical agencies

There are other specialized institutions, such as the State Environmental Inspection and its Central Ecological Laboratory, the Agency for Geology “AGeoM”, the State Hydrometeorological Service, the Institute of Ecology and Geography and the Environmental Information Centre, working in air, water, monitoring, information and other areas. These institutions are ancillary to the MENR providing a supportive role in research and information gathering and dissemination. These institutions have no executive responsibilities. These specialized institutions may be national or regional, depending on their specific tasks. In certain fields, State companies exercise important management functions. In environment, these include the State Water Concern “Apele Moldovei”, which is under the Ministry of Agriculture and Food Industry, and, ancillary to the Government, the Agency for Forestry “Moldsilva” that deals with forest management and identifies the areas, type and amount of cutting in coordination with the State Ecological Inspectorate.

The Agency for Geology “AGeoM” provides control for the safeguarding of groundwater from pollution and exhaustion and keeps the State balance of mineral stocks. They participate in the issuing of permits for water abstraction. The Environmental Information Centre, created in 2000, is responsible for the gathering and updating of environmental information and for making it publicly available.

The National Institute of Ecology, created in 1990, is in charge of carrying out scientific research on ecology in coordination with the Academy of Sciences. Their tasks also include consultancy on environmental impact assessment (EIA) and the elaboration of national reports on the State of the Environment. Furthermore they carry out expert evaluation of foreign or new technologies from an environmental point of view on the basis of their own experience without using data from the European Integrated Pollution Prevention and Control (IPPC) Bureau.

The Central Ecological Laboratory carries out the sampling and analysis of water, soil and other environmental samples. The technical base for their effective functioning is quite limited. Quality control and quality assurance systems are not implemented at the level of internationally recognized principles. There is a need to establish a national reference laboratory for environment quality measurements, which should be accredited by an international accreditation body.

In general, management and implementation structures are simple, with each policy - permitting, compliance procedures, monitoring and reporting - managed by distinct institutions for each sector. The strength of the institutional system is that the tasks of permitting and assuring compliance with permitting conditions (through inspection) are performed in two separate departments. Since both departments are within the SEI the information can be freely exchanged; and having two departments avoids the possibility of conflict of interest.

The General Division for Environmental Strategies and Policies coordinates the National Environmental Fund (NEF), set up in 1993. The NEF management is carried out by a steering committee that includes representatives from the MENR, Parliament, the Governmental Apparatus and environmental NGOs. The Minister of Ecology and Natural Resources is the president of NEF. The NEF collects fees, fines, and taxes related to environmental management and should use them for ecological purposes. However some critics say environmental funds are used for other purposes.

c. Local and regional authorities

In 2001 the Parliament of the Republic of Moldova established 32 regional rayons (districts) with social and economic, but no direct environmental competencies. These regional rayons work in parallel to the four regional environmental agencies and have staff in each administrative district. 1442 municipalities exercise local self-government with elected local council and their own budgets. The 1998 Law on Local Public Administration enlarged the functions of local authorities on natural-resources management and

environmental protection. Environmental departments were created in local councils to deal with these types of issues.

As a result, the delimitation of functions between these local authorities and the regional environmental agencies is sometimes unclear. The local administrations tried to assume the functions of environmental control, i.e., to duplicate the activity of territorial branches of the Ministry of Ecology and Natural Resources. The main tasks of environmental departments created within the local governments were to prioritize local environmental matters, to develop local environmental action plans and to raise the environmental awareness of the public. The provision of environmental services such as municipal solid waste management, drinking water supply and wastewater collection and treatment were the responsibilities of the municipalities but due to the re-centralization started in 2001 these functions are now moving away from the municipalities to the regional and local structures of Ministries. In some local councils the environmental departments continue to be active, although the financial autonomy of local administrations has been reduced by the 2001 amendments to the Law.

d. Legal Framework and Strategies

1. Environmental Policy: Looking toward the EU

The 2001 Concept of Environmental Policy replaced earlier action plans and concepts that have been in force since the middle of the 1990s. It covers the adjustment of the ecological policy's major objectives to take account of the social and economic changes in the country, and incorporate regional and global programs and trends in order to prevent further deterioration of the environment. Most laws and policies support Moldova's desire to join the EU and current laws have been changed from Soviet laws to principles and standards used in Europe. Its main objectives for environmental policy are:

- To prevent and mitigate the negative impact of economic activities upon the environment, natural resources and public health in the context of sustainable national development; and
- To ensure a safe environment for the country. According to the Concept, the current environmental policy priorities are capacity building and cross-sectoral collaboration, including the use of "economy through ecology" and "cost/benefit" principles, regulation of environmental impacts, pollution prevention and rehabilitation of the environment. The Concept covers the issues of financing environmental activities, and public participation in the decision-making process in the context of environmental protection and rational use of natural resources. It calls for an extension in Environmental Information Centre activities and the creation of environmental information centers at the local level.

2. Economic Growth and Poverty Reduction Strategy Paper (EGPRSP)

The Government of Moldova prepared and published the EGPRSP in May 2004. This identifies the major challenges in increasing the economic well being of the population and proposes appropriate actions. This national strategy promotes the economic growth and sustainable development and reduction of poverty in the country. There are direct links and actions in this strategy regarding the CBD implementation, the most important of which are: *extending and safeguarding the natural areas protected by the state, creation of the Ecologic Network, increasing the awareness of the population regarding the impact of natural disasters; improvement of administrative, economic and financial mechanisms for environmental protection and sustainable management of natural resources.*

3. Water protection

The 2003 Concept of National Water Resource Policy for 2003-2010 covers the purposes and tasks of water policy including the rational use and protection of water resources, water quality improvement, meeting population and national economy needs, and protecting the aquatic ecosystem. In order to increase the population's access to good quality drinking water, the 2000 Program of Water Supply and Sanitation for Localities until 2006 was developed in 2002 and is under implementation. It is financed from State and local budgets, the NEF and credits and grants from international financial institutions and foreign countries.

Environmental standards affect biodiversity most directly in water pollution regulations, mostly for nitrogen involved with non-point source agricultural production. The basic legal act of water legislation is the 1993 Water Code. The authorized discharge levels are based on ambient standards calculated from dilution calculation from the Soviet period. The main criterion for the calculation of emission limit values is that pollutants discharged into the watercourse should not exceed the maximum permissible concentrations in the receiving waters of designated use (fishery management limit values are being used by default). The ambient water quality standards are extremely stringent as they are based upon the concept of zero risk. As a result they are unrealistically strict which leads to a general acceptance that it is not possible to meet the legal requirements. There is a need for a realistic linkage between ambient standards and discharge standards with both preferably being established directly by legislation.

4. Ecological expertise and public information

The 1996 Law on Ecological Expertise and Environmental Impact Assessment gives citizens the right to request information on new economic developments/projects and on the results of the evaluation of their design documentation. The Constitution gives every citizen the right to take actions to the courts.

5. Genetically Modified Organisms

Regulations for licensing for applied research on genetics and microbiology was adopted in 1998. This regulation contains some general provisions relating to genetically modified microorganisms and genetically modified organisms but does not cover the full set of EU legislation in this field.

C. Conservations Actions Taken: International Agreements, Commitments, & Donors

(Author's note: The majority of the following section has been adapted from the 2005 UNECE EPR.)

1. General Framework for International Cooperation

In 2002 the Republic of Moldova announced its strong aspiration to join the EU. Several steps have already been taken towards this goal, including the preparation and adoption of the EU-Moldova Action Plan.

The 2004 *National Report of the state of the Environment* identifies the following main principles of international cooperation on environmental and sustainable development:

- Strengthening the institutional capacity via participation in international and bilateral agreements;
- Approximation of the national environmental legislation to the requirements of the international conventions and the EU legislation in view of the accession to the EU; and
- Mobilizing technical and financial assistance for implementation of national environmental policies.

The 2001 *Concept of Environmental Policy* puts emphasis on:

- The EU approximation, strategies and programs;
- The development of a concept for international relations in the field of environment, and mechanisms for ratifying and implementing conventions and other international documents relating to the environment;
- The signing of bilateral collaboration protocols with Romania, Ukraine, Belarus and the Russian Federation; and on
- The signing and ratifying regional agreements, such as the Convention on the Danube River.

The 2004 *Concept of Transboundary Cooperation for 2004-2006* has been developed in order to foster dialogue with neighboring states, and international and European organizations. The earlier Parliament decision from 2003 "On development of transboundary cooperation in the framework of Euroregions" established the

Commission on Transboundary Cooperation that is responsible for 1) establishing mechanisms of transboundary cooperation in the framework of Euroregions as main elements of the European integration process; 2) approximation of provisions of legal acts on transboundary cooperation to the level of European standards; and 3) the creation of a system for implementation of conventions and agreements that the country is party to.

The Laws on acceding to any convention or protocol are an inherent part of the national legislation. The conclusions of all international treaties by the Republic of Moldova are determined by two main legal acts:

- 1999 Law on International Agreements; and
- 2001 Regulation regarding the Mechanism of Conclusions of International Agreements.

The leading role in concluding any new environmental treaties or acceding to conventions belongs to the MENR. It prepares all necessary background documents, and consults the other ministries involved, e.g., the Ministry of Foreign Affairs and European Integration (MoFAEI), the Ministry of Finances (MoF), the Ministry of Economy and Trade (MoE) and the Ministry of Justice (MoJ).

MENR through its Division on Environmental Policy and European Integration (DEPEI) is a leading state body for international environmental cooperation. It plays an active role in “Environment for Europe” and “Environment and Health” processes at European level. It cooperates with the Global Environment Facility (GEF) (in 2004 the country became an alternate member in the GEF Council), the UNECE Committee on Environmental Policy, the World Meteorological Organization (WMO), the UN Commission on Sustainable Development (UNCSD) and the UN Environmental Programme (UNEP).

2. International and regional agreements

Since 1998, Moldova has become party to 11 agreements. At the time of this report, the Republic of Moldova is party to 19 international environmental conventions, four protocols and a signatory to five more. See Annex C for a complete list. Each international agreement has a national focal point.

Interdepartmental or inter-ministerial Working Groups (WGs) have been created for the implementation of every international agreement. These WGs neither have legal nor binding powers, nor any clearly identified plans, procedures or mandates for their work. These procedures are referred to as “non-written”. *The Ministry’s experts recognize that the enforcement section in conventions implementation is severely lacking and needs to be strengthened.*

Numerous offices that do not directly belong to the MENR (although some were created by MENR order) were created for the development of activities under different conventions. There are offices for biodiversity, ozone issues and climate change. There is currently planned a Chemicals Management Centre that would deal with four international agreements, Basel, Stockholm and Rotterdam Conventions and Aarhus Protocol on POPs to the Convention on Long-range Transboundary Air Pollution (CLRTAP).

Convention on Biological Diversity was ratified in 1995. The main national legislative acts concerning biodiversity conservation are the 1993 Law on Environmental Protection, the 1995 Law on Fauna and the 1998 *Law on the Fund of Natural Areas protected by the State*. Several provisions concerning biodiversity conservation were also included in the 1995 *Law on Protection Zones for Water Rivers and Basins*, the 1993 *Water Code*, the 1991 *Land Code* and the 1979 *Forestry Code*. The National Assessment of Implementation of CBD was prepared in 2000 by the World Conservation Monitoring Centre. *This assessment showed that the country has established the institutions to carry out biodiversity conservation and is managing projects financed by donor organizations, but that it still lacks financing.*

There have been a number of international projects related to the biodiversity issues that were supported by GEF and realized via the International Bank for Reconstruction and Development (IBRD). The biodiversity

office has also made attempts to develop various projects related to biodiversity conservation and to assist in their realization.

The Country ratified the Cartagena Protocol on Biosafety in 2002. To fulfill its commitments the country developed the *National Strategy and Action Plan on Biological Diversity* and the 2001 *Law on Biosafety*. To enable the country to consolidate efforts towards the establishment of the national biosafety system, UNEP and GEF are providing technical assistance.

United Nations Framework Convention on Climate Change (UNFCCC), ratified in 1995. The Climate Change office in the MENR deals with a) the identification and implementation of projects related to climate change, b) the gathering of necessary data and the provision of technology requirements for climate change, and c) the holding of a roster of national experts on climate change. It was involved as a project management unit in the realization of the GEF funded project that was to ensure synergy and the meeting of the country's obligations under three UN conventions: UNFCCC, CBD and UNCCD. The Climate Change office has also contributed to the understanding of the importance of the Kyoto protocol and provided the MENR with information and assistance for the preparation of the documents necessary for ratifying the Protocol.

The Kyoto Protocol to the UNFCCC was ratified in 2003. The main reasons for the country to ratify the protocol were a) the possibility to realize the Clean Development Mechanism (CDM) projects in the country that would help solve acute environmental problems, b) the awareness of its importance for global environment and c) the belief in its positive influence on climate stabilization. For the implementation of the Protocol the country has signed and ratified a Memorandum of Understanding with Denmark on cooperation for the implementation of CDM projects. Currently three are under implementation.

United Nations Convention on Combating Desertification (UNCCD), ratified in 1998. With 36% of its agricultural land eroded and a further increase of 0.9-1% per year, causing about 3.1 billion lei (US\$ 251.3 million) of damage costs per year, erosion is a key economic and social problem for the country. With international support it has put together an assessment of land degradation starting from 1998 (or the earliest available data) until 2000. Based on this assessment, maps with degraded, eroded areas and areas subject to drought were published. In the curricula of university agriculture courses, aspects of sustainable land management and the subject of combating desertification were introduced. The country also benefited from technical and financial assistance for the development of the 2000 *National Action Program to Combat Desertification* and the 2000 *National Report on Convention Implementation*. Each ministry has an assigned responsibility in the framework of this Action Program.

The means to solve the land use problems are distributed between different ministries and there is no specific focus on the land degradation problem. Experts also mentioned that as a consequence of land privatization, land degradation problems have strengthened. This is mainly due to the lack of knowledge and willingness to apply sustainable land use practices. These together make compliance with UNCCD provisions very difficult.

Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar) was ratified in 1999. For a country where most of the wetlands have been drained and where marshes represent only 0.2% of the territory, this is an important convention. The country became a member of this Convention after a first wetland area, the "Lower Prut Lakes", had been recognized as of international importance. Since 2000 three Ramsar sites have been declared, see Annex A for details.

The Convention on Conservation of Migratory Species of Wild Fauna (CMS) as well as both Agreements - on Eurobats and on Afro-Euro-Asian species were ratified in 2000. There are 21 species of bat in the country partly due to special protected areas of natural habitat established for their protection. The National environmental fund provides support for NGO activities for bat protection.

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) was ratified in

2001. The main work being done under the Convention is related to the development of adequate legislation to control illegal trading. The MENR acts as the management authority, while the scientific focal point for this convention is the Academy of Science and the National Institute of Ecology. Movements of CITES species across the border are controlled by the Customs Department. Other bodies are involved, e.g., the veterinary and phytosanitary services. Some eight different-level documents (laws, codes and procedures) regulate activities on implementation of the CITES. According to the MENR, these documents would imply stricter measures than those required according to the international legislation and the EU. The MENR issues special CITES permits for cross-border movements of species and reports on their number to the CITES Secretariat yearly. *The lack of expertise and training of customs officers and their continual reshuffling prevent effective implementation.* Several amendments have been made to the 1995 Law on Fauna in order to adjust it to the CITES provisions.

Stockholm Convention on Persistent Organic Pollutants (POP), ratified in 2004. After Moldova signed the Convention, it received GEF financing for assessment of its national situation with POPs. The main sources of POPs and their location were identified and mapped and the *2004 National Implementation Plan for the Stockholm Convention on Persistent Organic Pollutants* was prepared. It was adopted in 2004, as well as the *National Strategy on Reduction and Elimination of Persistent Organic Pollutants*.

3. Regional Conventions

The country ratified the Aarhus Convention on the Access to Information, Public Participation in Decision Making and Access to Justice in Environmental Matters in 1999. Certain steps to inform the public about the state of the environment were made even before joining this Convention. However, the ratification of the Convention meant the country became more likely to attract international funding. In 2000 it helped to create an Environmental Information Centre under the MENR.

The responsibility for the implementation of the Espoo Convention on Environmental Impact Assessment in a Transboundary Context is under the DEPEI. During the last three years the country used the mechanisms provided by the Convention twice. When Ukraine expressed the intention in 2003 to build a navigable channel (Bistrija Channel) in the Danube Delta (Zhebrjanskaya bay) that could influence the state of the ecosystems and hydrological regime in the Danube River delta, the country requested Ukraine to provide information about the project and its expected impact on the environment.

The MENR actively participated in the elaboration of the Protocol on Strategic Environmental Assessment (SEA Protocol), signed at the fifth Kiev Conference in 2003. In order to proceed with SEA implementation, the country plans to identify criteria for SEA, to establish procedures for conducting a SEA, and to introduce necessary changes in the current legislation.

Convention on Cooperation for the Protection and Sustainable Use of the Danube River The *Action Plan for Implementation of the Convention on Cooperation for the Protection and Sustainable Use of the Danube River* (Danube Convention) is developed annually. In the framework of the Danube Pollution Reduction program for the years 1997-2000, institutional capacities training and target-oriented workshops, were carried out. A number of project proposals aimed at lowering the pollution load of the Danube were developed and further supported by TACIS, such as the “Prut river water management” project. Since 2001, under the Program, tariffs for nutrient discharge to the environment have been developed and a plan for the integrated management of the Danube River is being worked out. Through the Convention, relations and cooperation with Romania on the protection and management of transboundary water resources have strengthened. Recently the country started to finance certain actions under the Convention from local environmental funds and other mechanisms.

Bern Convention on the Conservation of European Wildlife and Natural Habitats was ratified in 1993. Since then, a database comprising relevant information on areas subject to conservation activities has been created,

Moldovan rare species have been included in the Convention's list of rare species, national experts have taken part in the elaboration of an action plan for the conservation of species included in the Convention, and the country has become a permanent member of the Convention Committee.

Convention on European Landscape was ratified in 2001. For its implementation its national focal point, the National Institute of Ecology (INECO), conducted scientific research on the state of natural representative ecosystems. This created a basis for argumentation for the introduction of a stricter protection regime and for the widening of state protected areas. The high population density and strong agricultural orientation of the country means that there is a need to coordinate the activities that could potentially lead to the disturbance of landscapes.

4. *Bilateral cooperation*

The Republic of Moldova has signed nine bilateral agreements, protocols and memorandums of understanding with six countries. Most of these are umbrella agreements related to cooperation on environmental protection. Of significance is a trilateral “Agreement on Cooperation on Bordering Areas of the Danube Delta and the Lower Prut” signed with Ukraine and Romania in 2000; and a bilateral agreement with the MENR of Ukraine. The later, currently under preparation, consists of provisions for the creation of transboundary environmental corridors and networks.

The bilateral cooperation with country donors is organized mostly to get assistance to implement certain international conventions or protocols. For example in 2003 the country concluded the Memorandum of Understanding with Denmark on cooperation for the implementation of CDM projects based on the Kyoto Protocol. Collaboration with the United Kingdom in 2003-2004 was focused on biosafety issues. The British Foreign and Commonwealth Office provided a contribution to the preparation of a National Biosafety Framework in accordance with Cartagena Protocol on Biosafety provisions. Bilateral cooperation with the Czech Republic is focused on climate change, and water and biodiversity protection measures.

5. *Cooperation with international donors and organizations*

World Bank (WB)

In 2004, when the *Economic Growth and Poverty Reduction Strategy Paper* (EGPRSP) was completed and approved, the new Country Assistance Strategy (CAS) set out the lending and non-lending support for the country for 2005-2008.

By providing technical assistance, WB contributed significantly to a) reducing the discharge of nutrients into the Danube River and the Black Sea through integrated land and water management, b) creating the ecological network of the Prut River basin, and c) enhancing welfare of the poorest rural population and medium-sized towns and cities by improving the quality, efficiency and sustainability of their water supply and sanitation services.

Organization for Economic Co-operation and Development (OECD)

The Republic of Moldova is not an OECD member. However, it is in active cooperation with the OECD’s “Non-OECD Member Countries' Division” and especially the “Task Force for implementation of Environmental Action Plans” (EAP TF). The main aims of cooperation between the country and OECD are to 1) participate actively in a dialogue in the field of environmental policy and partnership between Eastern Europe, Caucasus and Central Asia (EECCA) countries, 2) build the capacity for the application of modern economic environmental instruments, 3) improve environmental financing, 4) cooperate in the framework of the “Environment for Europe” process, and 5) integrate environmental concern into other sectoral policies. In 2000 an evaluation of the country's national and local environmental funds was done in this framework, and gave birth to a series of recommendations that significantly increased efficiency of use of these funds.

Cooperation with UN organizations and programs

Participation in the “Environment for Europe” and “Environment and Health” processes

The country actively participated in the fourth (Aarhus, 1998) and fifth (Kiev, 2003) Ministerial Conferences “Environment for Europe” and in all stages of their preparation. It participated in the development of the Environment Strategy for EECCA countries adopted at the Kiev Conference.

The country also participated in developing the *Strategic Partnership on Water for Sustainable Development*, the EECCA Component of the EU Water Initiative. At the Kiev Ministerial Conference it signed all three protocols. The MENR is responsible for following up conference decisions and for their implementation, including changes in legislation and integration into sectoral policies and strategies. Additionally, the Republic of Moldova participates in the work of the UNECE Committee on Environmental Policy.

The country is a member of the World Health Organization Regional Office for Europe (WHOROE) and participated in the third (London, 1999) and fourth (Budapest, 2004) European Ministerial Conferences “Environment and Health.” In the last decade the country has made significant efforts to improve and adjust the legislative and normative framework in the field of environment and population health protection. To date, about 50 legislative laws and about 80 by-laws and regulations, as well as strategies, concepts, programs and action plans have been adopted.

United Nations Development Program (UNDP)

The UN Development Assistance Framework for Moldova for 2001-2006 sees environmental issues as crosscutting issues and its support is limited mostly to helping the country to implement commitments under international agreements (conventions and protocols).

The UNDP-Moldova began to work on Environment in 1998. The projects carried out related to climate change, capacity building, ozone depleting substances, land management, strategic environmental assessment, and energy efficiency. The majority of projects realized via UNDP have received GEF funding. UNDP has also provided substantial help for activities under Agenda 21 and has helped to bring about a better understanding of sustainable development issues.

United Nations Environment Program (UNEP)

With the support of the UNEP, the country prepared itself to enter the Cartagena Protocol on Biosafety and the creation of the National Biosafety Framework. It also implemented a project on institutional strengthening for the implementation of the Montreal Protocol with GEF funding, and is now preparing a second national communication on climate change.

World Summit on Sustainable Development (WSSD)

In 2001 the country started to prepare a new strategic document: the *Economic Growth and Poverty Reduction Strategy Paper (EGPRSP)*, which was approved in 2004 for 3 years (from 2004 until 2006). It has a strong focus on economic growth and social security. WB provided the financial support for the EGPRSP development as a three-year project.

The three environmental objectives are as follows: 1) *to prevent and reduce the degradation of natural resources and increase efficiency of their use;* 2) *to maintain the quality of the environment as a factor that ensures health and quality of life;* and 3) *to create an effective natural disaster monitoring, prevention and damage compensation system.* A thorough analysis of the state of water resources, forestry and land was done and eight major areas for improvement were identified with related priority actions to be undertaken.

Millennium Development goals

In September 2000 the Republic of Moldova signed the UN Millennium Declaration that includes *Millennium Development Goals (MDGs)*, to be achieved by 2015.

In order to progress with the MDGs the country was advised to set up clear national priorities (National Goals) and concentrate on those that are key for sustainable development and the creation of favorable life conditions. These can largely be ensured by protecting the environment and using its resources wisely.

Under Goal 7 (Ensure environmental sustainability) a number of key issues for ensuring sustainable development were identified. These are forests, biodiversity conservation, air quality, water supply, and waste management. The importance of every issue, their linkage to the Goal implementation and the obstacles for their implementation, were also addressed.

As a core goal derived from the MDGs and the mandate assigned to the UNDP at the WSSD, the Multi-Finding Framework of the UNDP for 2004-2007 includes managing energy and environment for sustainable development. Some of the strategic services under this goal would be: *effective water governance, framework and strategy for sustainable development, and conservation and sustainable use of biodiversity*. Implementation of the national goals will require synchronization with other global and regional development priorities, especially with the integration process to Europe. Some of the MDGs adapted to the reality of the country's situation are presented in the EGPRSP along with indicative targets.

Cooperation with European Union

Technical Assistance to Commonwealth of Independent States (TACIS)

The TACIS indicative program for 2004-2006 focuses on transboundary regional projects. The only environmental project that TACIS supports for the country is the Regional Environmental Center. TACIS has supported some actions, in particular the extensive training in matters related to the UNECE Aarhus Convention.

TACIS also provided support for the regional project for Armenia, Azerbaijan, Georgia and the Republic of Moldova with respect to their Global Climate Change Commitments. As a result of this project the country now has the capacity to host and support CDM projects. Actions were also implemented aimed at enhancing awareness among key policy makers, the business community and the general public on the issues related to the UNFCCC and the Kyoto Protocol, and at developing local capacity in GHG emissions forecast modeling and assessment of sectoral GHG mitigation potentials and options.

Organization for Security and Cooperation in Europe (OSCE)

The Mission of the Organization for Security and Cooperation in Europe (OSCE) to the country was established on 4 February 1993 and started work in Chisinau in April of the same year. Even though the issues of the environment are not specifically included in the OSCE to the country mandate, it is supposed to facilitate the achievement of a lasting comprehensive political settlement of the Transnistrian conflict in all its aspects. Within this context, environmental issues, particularly those related to the Dniester River (which for a large part of its length provides the de facto boundary between Chisinau -controlled and Tiraspol controlled areas) are of very high political and security importance.

EU-Moldova Action Plan

In 2004, the enlargement of the EU offered an opportunity to develop an increasingly close relationship with neighboring countries. The EU-Moldova Action Plan will promote the harmonization of the country's legislation with EU norms and standards, while fulfilling the objectives and actions included in the plan would create conditions for attaining a higher level of relations with the EU. Deeper integration into Europe will also imply the willingness to accept political reforms demanded by the EU and in particular the solving of the Transnistrian issue. The EU-Moldova Action Plan was approved by the European Union in December 2004 and ratified by the Parliament in February 2005. It is prepared for an initial period of three years – 2005-2008. Box 1 presents the relevant environmental actions to be taken under the EU Actions Plans.

Box 1. Relevant Environmental Actions under the 2004 EU/Moldova Action Plan:

Sustainable development

Promotion of sustainable development

- Take first steps to implement the national long-term strategy on sustainable development.
- Complete the establishment of administrative structures and procedures to ensure strategic planning of sustainable development and co-ordination between relevant actors
- Take steps to further improve integration of environmental considerations into other policy sectors, particularly industry, energy, transport, regional development and agriculture.

Longer term objective

- Implement the national long-term strategy on sustainable development.

Environment

Take steps to ensure that conditions for good environmental governance are set and start implementing them

- Strengthen administrative structures and procedures to ensure strategic planning of environmental issues, including financing strategies, and co-ordination between relevant actors
- Establish procedures regarding access to environmental information and public participation, including implementation of the Aarhus Convention, particularly by establishing structures and procedures for ensuring an acceptable level of service to those wishing to have access to information.
- Prepare regular reports on the state-of-the-environment
- Strengthen structures and procedures necessary to carry out environmental impact assessments, including in relation to transboundary issues; complete relevant legislation.
- Further improve communication strategies on the benefits of environmental policy and environmental education, support civil society actors and local authorities

Take active action for prevention of deterioration of the environment, protection of human health, and achievement of rational use of natural resources, in line with the commitments of the Johannesburg Summit

- Continue with the adoption of legislation for key environmental sectors (water quality, waste management, air quality, industrial pollution), including the adoption of the legislation on wild flora and ecological networks.
- Enhance administrative capacities, including for the issuing of permits as well as for enforcement and inspection
- Develop sector-specific programs and plans (water, waste, air, industrial pollution), notably by completing the plan on liquid waste and the plan on persistent organic pollutants.

Enhance co-operation on environmental issues

- Implement provisions under the Kyoto Protocol and the UN Framework Convention on Climate Change
- Participate actively in the Danube – Black Sea Task Force to implement a transboundary approach to water management; ensure active participation in the Eastern European, Caucasus and Central Asia component of the EU Water Initiative

Source: EU-Moldova Action Plan for Neighborhood Policy, 2005

Box 2 below presents the Protection of the Environment section of the Internal Report on Semestrial Evaluation of the EU-Moldova Action Plan Implementation 2005.

Box 2. Excerpt from: Internal Report on Semestrial Evaluation of the EU-Moldova Action Plan Implementation 2005.

Chapter 2.6: Transport, energy, telecommunications, environment and research, development and innovation sectors

Protection of Environment

The main actions taken were oriented towards legal adjustment of national legislation to the EU standards and requirements. Thus, the national legislative framework and the EU Directives are being examined aiming to prepare an Action Plan on harmonization of legislation with the relevant *acquis communautaire*.

A special attention is to be paid to the *strengthening of administrative structures (capacity building) and increasing of financial resources allocated to the sector*, which still remain rather low in comparison with the proposed targets. Giving the fact that the process of legal harmonization to the *acquis communautaire* implies essential efforts (screening, implementation and monitoring), in order to achieve the proposed objectives, the Ministry of Ecology and Natural Resources needs an adequate assistance from relevant international donors.

Along the same lines, the competent national authorities in the area of Environment, following the recommendation of the UN ECE experts presented in the draft of the 2nd Environmental Performance Review, will have to reevaluate the tasks of some subordinate institutions, so as to improve the management as well as the human resources policy, in order to create new complementary institutions that will facilitate the harmonization of Moldovan legislation with EU legislation.

The Ministry of Ecology and Natural Resources in collaboration with the Ministry of Finance and the Ministry of Economy and Commerce, are co-operating towards achieving the Millennium Development Goals that deal with sustainable development and towards including environment as a main component of the MTRF and of the annual associated budgets, in order to assure proper financing of key actions that deal with environment, specified in the Action Plan Moldova-EU, in the EGPRSP and other major objectives of the Government.

At the same time, actions are undertaken in regard to the *implementation of the provisions of Kyoto Protocol*. A special Office of the Carbon Fund was created within the Ministry of Ecology and Natural Resources in order to achieve the proposed objectives.

D. Civil Society: the role of NGOs in Biodiversity Conservations

(Author's note: A portion of the following section has been adapted from the 2005 UNECE EPR.)

The Republic of Moldova has a large network of environmental NGOs. There are no official statistics on NGOs but about 430 environmental NGOs are estimated to be active in the country, 100 of which operate only in Chisinau. A majority are involved in environmental education. Others deal (in order of priority) with public participation, biodiversity, environmental impact assessment (EIA) and compliance with environmental legislation.

Some 50 environmental NGOs are considered very active in the country as they have launched many environmental initiatives on national and local levels and are actively implementing international projects. Bios, Biotica, Eco-Lex, Eco-Tiras, Environmental Movement of Moldova and INQUA-Moldova are among the most active NGOs. The leading NGOs in the field of biodiversity conservation are presented in Table 8. In general NGOs suffer from a lack of operational funds, additionally they are awarded no special tax breaks. Only in cases of intergovernmental agreements on technical assistance may the Ministry of Finance (MoF) decide to waive some taxes.

International donors remain a major source of financing. Environmental NGOs receive support from the Environmental Fund. In 2004, for instance, the MENR provided grants to 22 NGOs amounting in a total of lei 230,000 (US\$ 18,654), although the revenues of the Environment Fund have considerably increased since 1998, its expenditures for NGO support remain extremely low, less than one per cent of total expenditures.

Environmental NGOs are relatively well organized and since 2001 they have convened an annual forum. The forum held in 2003 resulted in a memorandum of cooperation signed by a number of NGOs with the then Ministry of Environment, Construction and Territorial Development. As a result, the Ministry regularly circulates environmental information among these NGOs and invites them to participate in various endeavors. A core of some 15 organizations cooperates with the Ministry on a permanent basis by participating in environmental projects.

Table 8. Leading NGOs in the field of biodiversity conservation.

NGO	Members	Projects	Sponsors
Association “Ecological Foundation AGROECO”	25	6	REC, ISAR, Holland Embassy
Association of Zoologists from the Republic of Moldova	90	4	REC, NEF
Botany Society of the Republic of Moldova	57	2	REC, NEF, MEA
Centre for Preserving Forest Resources “Fagus”	10	3	REC, NEF
Ecological Association “TABIECOM”	10	2	REC
Ecological Movement of Moldova	1000	14	REC, World Bank, UNDP, Soros-Moldova, ISAR
Ecological Movement of Moldova, Rezina Branch	20	5	REC, Soros-Moldova, USA Embassy
Ecological Society “BIOTICA”	60	26	REC, Eurasia Foundation, ISAR-Kyiv, Cottonwood Foundation, MacArthur Foundation, TACIS, World Bank, UNDP
Ichthyologic and Hydro-biological Society of the Republic of Moldova “Argonaut”	37	3	REC
International Environmental Association of River Keepers “Eco-TIRAS”	38	3	REC, RITA
National Association for the Research of Quaternary Period in the Republic of Moldova “INQUA-Moldova”	12	8	REC, NEF, World Bank, TACIS, WWF
Ornithological-Herpetological Society from the Republic of Moldova	7	5	REC, NEF
Public Association “Cutezatorul”	18	5	REC, Soros-Moldova, USA Embassy
Public Organisation “Ecospectr”	40	2	REC, World Bank
Public Organisation “Ecostrategii”	11	3	REC
Public Organisation „Biodiversity Protection”	10	2	REC, NEF
Teriological Society of the Republic of Moldova	25	3	REC, NEF, MEA

Source: REC-Moldova NGO Database, <http://www.rec.md>

The Regional Environmental Center (REC) of Moldova was created in 1998 to assist in resolving environmental problems in the country and promoting co-operation between NGOs, governmental bodies, local communities, the business sector and all other stakeholders. It has been assisting environmental NGOs in three main areas: providing small grants; capacity building; and information dissemination through a database, web site, electronic bulletin, and information centre in Chisinau. REC maintains a database of environmental NGOs and implements various donor-supported projects to support NGOs. It also provided grants for some 250 small and transboundary projects, most of which promote access to environmental

information and public participation in environmental decision-making. The projects helped to establish environmental information centers in several cities and towns. REC has two regional offices in Balti and Cahul that are also playing the role of environmental information centers.

The NGO community has been a key player in biodiversity conservation efforts in Moldova. On occasion they have taken the role of implementer on projects where normally the government would lead. Box 3 highlights efforts of the Biotica Ecological Society.

Box 3. NGO Highlight – BIOTICA Ecological Society

Biodiversity conservation is one the thematic areas of the Biotica Ecological Society. Under this thematic area it has organized expeditions and conservation field studies (with support of the REC-Moldova) along the Dniester River for more than 30 NGOs from Moldova, Ukraine and Romania.

Biotica was the local organizer of the 1st European Session of the Global Biodiversity Forum (held in Chisinau, 2003) in partnership with the IUCN, with general support of the Ministry of Ecology and Natural Resources (MENR). International Conferences, supported by MacArthur Foundation, on Protection of the Dniester River Biodiversity were held in 1998 and 1999.

With funding from the NEF, Biotica elaborated the Concept of National Ecological Network of Moldova (2001), which was used by the MENR for international reporting. In cooperation with the IUCN, members of the organization took part in the PEBLDS Council and Bureau as representatives of the European ECO-Forum and participated in relevant ministerial conferences of the “Environment for Europe” process.

Biotica implemented the “Biodiversity Conservation in the Lower Dniester delta ecosystem” discussed in Section C, which was supported by a GEF/WB medium size project grant in the amount of \$ 0.975 million. Implemented from April 2002 through April 2005, it was terminated when the WB froze funding because Parliament of Moldova failed to declare the park. Nevertheless high quality research and documents were produced under the project; in addition The Academy of Sciences of Moldova approved a basic set of documents for creation of the park. Establishment and testing of public financial incentive systems aimed to encourage private (environmentally friendly) investments in rural areas were also conducted. Public Participation and community mobilization, as evidenced by letters and campaigns, were important aspects of the project.

A project financed by the Ramsar Secretariat grant (2000-2001) resulted in a management plan for a large lowland with complicated land use patterns that was approved by local authorities and the MENR. Biotica also developed the Information Sheet on Ramsar Wetlands for the Lower Dniester region; officially declared in 2003. Later it developed a management plan in 2005 for the core area of the site aiming at improving the water regime and to stop biodiversity degradation (Michael Otto Foundation financed the project). Biotica went on to prepare, with SWS Ramsar Support Funding, documents for the third Ramsar Site in Moldova recognized in 2005.

Biotica also implements the Frankfurt Zoological Society program in Moldova and prepared (2004) a management plan on local steppe ecosystems in the Lower Dniester Ramsar Site with recommendations on restoration of steppe grasslands. Currently efforts are being focused on conservational studies in the zone of calcareous canyons of the Middle Dniester.

As the hosting organization of the Biodiversity Issue Group of the European ECO-Forum Biotica also implements a project “Identification of High Nature Value (HNV) farmland: support to non-EU accession countries” covering NIS, in partnership with the UNEP Regional Office for Europe.

Other important projects by the NGO community include the elaboration of a Priority Action Plan developed by “The Center for Strategic Environmental Studies (ECOS)” for a Ramsar site in the Lower Prut. The Priority Action Plan was created to facilitate implementation of the Management Plan compiled in 2000. Other examples include efforts by Eco-Tiras and Biotica who have been very active in the protection of wetlands and other critical habitats. Their efforts include conducting an inventory of 12 Black Sea wetlands

in Moldova and the creation of Management Plans for Ramsar sites. Table 9, derived from the REC's Project Database, provides a listing of biodiversity related projects undertaken by NGOs. Each project title and organization name is linked to the REC database for additional information. Larger projects implemented by NGOs are found in Annex D, when known budgets are also provided.

Table 9. NGO Biodiversity related projects.

Project's title	NGO
Conservation of the biodiversity of the natural monument "La moara" (At the Mill) aquatic ecosystem and environmental public awareness	Association "Ecological Foundation AGROECO"
Conservation of the biodiversity of old parks from the Republic of Moldova	Association of Zoologists from the Republic of Moldova
The diversity of saproxylic invertebrates – indicators of forests with rich foliage and their role in identifying the forests of international significance from the territory of the Republic of Moldova	Association of Zoologists from the Republic of Moldova
Public information and awareness regarding the conservation of state-protected plants	Botany Society of the Republic of Moldova
Training workshop for NGOs in the field of biodiversity	Centre for Preserving Forest Resources "Fagus"
Each school – for preserving (conserving) humid zones	Ecological Association "TABIECOM"
The Dniester – a habitat of biodiversity, and a riffle of landscape pearls	Ecological Movement of Moldova, Rezina Branch
The Dniester – biodiversity habitat, area of landscape reservations	Ecological Movement of Moldova, Rezina Branch
Hydro-ecological certification, protection and conservation of the biodiversity of Raut and Bic rivulets	Ichthyologic and Hydro-biological Society of the Republic of Moldova "Argonaut"
Conservation of the habitat of rare snake species in the Dniester basin	Ornithological-Herpetological Society from the Republic of Moldova
Conducting observations and protecting the biodiversity of state-protected reservations from Falesti sector, Balti judet	Public Association "Cutezatorul"
A course of training workshops "Civil society capacity building for the implementation of biodiversity revitalization and conservation activities"	Public Organization "Ecospectr"
National Scientific and Practical Conference "Conservation of biodiversity in the Republic of Moldova"	Public Organization "Ecospectr"
Soil conservation and revitalization (assistance provided to peasants in the agricultural risk zone)	Public Organization "Ecostrategii"
Protection and conservation of the water lily's population from the damaged aquatic ecosystems and organization of environmental information and education activities	Public Organization „Biodiversity Protection"
Protection and conservation of the water lily's population in the aquatic basins of the Republic of Moldova	Public Organization „Biodiversity Protection"
Assessment of the diversity of ground vertebrate families and creation of a state-protected area in the Draghinici River meadow	Teriological Society of the Republic of Moldova

Source: REC-Moldova NGO Project Database, <http://www.rec.md>

E. Donor Biodiversity Projects and Related Financing

Annex D provides a comprehensive list of environmental projects implemented in Moldova. USAID projects are addressed in Section V. Annex D includes the donor as well as the implementer for projects conducted by the government, donors and NGOs. All major as well as some smaller but significant projects implemented since the last FAA 119 report are presented. They are presented in the following thematic groupings:

- Donor Funded Biodiversity Projects in Moldova (13 projects)
- Donor Funded Projects with a direct link to Biodiversity conservation in Moldova (3 projects)
- Donor Funded Environmental Projects in Moldova (17 projects)
- Regional Donor Funded Projects in Moldova (3 projects)

Some of the most important projects undertaken were/are:

Biodiversity conservation in ecosystems of the Lower Dniester. The project funded by GEF/WB and implemented by the NGO Biotica aimed to improve in-situ conservation of biodiversity in the Lower Dniester River. To achieve this, the project: (i) supported efforts towards the creation of a national park in the lower Dniester river basin and build local capacity for its management; (ii) restore forest habitat linkages and water management of floodplain forests; (iii) promote sustainable management of forest and meadow resources inside and outside of the protected area; (iv) build awareness among local communities and disseminate the benefits of project activities; and (v) improve collaboration with Ukraine on the protection of the transboundary wetlands of the Dniester Delta region. While this largely successful project ended following the decision in the Parliament not to formally create the NP, important scientific research was conducted as well as an increase in critical local interest and understanding of the need for and benefits from a NP.

Ecological Network Development in Middle Prut River Catchment. The World Bank assisted the EcoSpectru NGO to prepare a Medium Size Project for GEF Funding to improve habitat conservation in the catchment of the middle Prut valley, in west-central Moldova, through: (a) preparing and implementing measures on the conservation of the globally and regionally endangered biodiversity; (b) establishing ecological network to enhance habitat connectedness especially of the existing protected areas; (c) strengthen the management of 10,500 ha of protected areas, with special attention to “Padurea Domneasca” Scientific Reserve, including biodiversity monitoring and enforcement capacity; and (d) raise public awareness on conservation of the Middle Prut ecosystem issues and involve local communities, NGOs in decision making and activities with regard to project goal.

Moldova Soil Conservation. Moldsilva is implementing this project under the WB-BioCarbon Fund. The project is reforesting 19,768 ha of denuded lands in the process of heavy erosion and degraded unproductive pasturelands, by means of afforestation with tree and shrub species adapted to these adverse site conditions. The result will be habitat restoration; soil stabilization, carbon sequestration, as well as providing urgently needed fuel wood and timber to rural people.

Agriculture Pollution Control Project (APCP). The overall objective of the APCP is to reduce nutrient (N&P) pollution from agricultural sources in to the Danube River and Black Sea. In support of this objective, the project will assist the Government of Moldova to: (i) promote the adoption of environment-friendly practices in crop and livestock production and in rural agro-industries that contribute to nutrient pollution, including wetland and integrated watershed management; (ii) strengthen national policy, regulatory and institutional capacity for agricultural nutrient pollution control and organic farming; and (iii) promote a broad public awareness campaign and replication strategy.

F. USAID Contributions and Opportunities through Current On-going Projects/Programs

As the USAID Strategy in Moldova is operating under an extension and remains the same as that of the original 2001 report, at this time it is not possible to develop a proper Section to address FAA, Sec 119 (d)(2) “the extent to which the actions proposed for support by the Agency meet the needs thus identified”. As this is the case, the authors provide below an “extent to which” review for USAID activities since the last Biodiversity Assessment and opportunities where identified to further contribute to the “needs identified” within existing projects.

The USAID portfolio focuses on three strategic objectives in Moldova:

- Private Enterprise Growth to Create Jobs and Generate Income
- More Effective, Responsive and Accountable Democratic Institutions
- Social Safety Net Programs to Reach Vulnerable Groups

Since the August 2001 Biodiversity Assessment, there have been several USAID programs which have been contributing to conservation and environmental needs in Moldova. In addition to projects and specific examples noted below, it is important to note that overall USAID contributions toward democracy, institutional reforms, stability, and economic growth have positive (and potential for more) indirect benefits to conservation and biodiversity. The management and protection of natural resources is predicated on a stable government, sound policy frameworks, transparency, accountability, and active civil society and vibrant private sector, economic incentives, and a free independent media. These contributions should not be discounted for their contributions to environment overall.

Agribusiness Partnerships Projects and Private Farmer Commercialization Project (PFCP) & Private Farmer Assistance Program (PFAP) (2000 – 2006):

The objective of the Agribusiness Programs (AP) of USAID in Moldova was to initiate investment in the agricultural sector on a broad front. The project included direct production, processing, and provision of supplies of farm chemicals and machinery and technical assistance in the form of establishing or renovating large Farm Service Centers and smaller distribution point Farm Stores. Storage and transport of agricultural commodities and marketing was also included in the AP activities. Private farmers were targeted in particular during the last half of the project period. This project is an extension of the agricultural development project in Moldova. It was started in 1996 as the Agribusiness Partnership (AP-I and II), being extended in 2001 under the name of Private Farmer Commercialization Program (PFCP). The Private Farmer Assistance Program, which ended on June 30, 2005, created a network of 15 sustainable Agriculture Producer Associations nationwide, which represent nearly 50% of all farmlands in Moldova.

Extent to which: These programs were implemented in accordance to the mitigation and monitoring provisions elaborated following an extensive Programmatic Environmental Assessment (PEA). These measures ensured adverse environmental impacts were mitigated. A component of the M&M included the establishment of a nationwide Water Quality Monitoring Program to enable for monitoring any increase in agricultural runoff as a result of project activities. Additionally, farmers were properly trained in all aspects of agricultural inputs, limiting the potential for adverse impacts to the environment.

Land Privatization Support Project (2003-2006):

The Land Privatization Support Project in Moldova had three project components:

1. The correction of survey errors made in an earlier project
2. Public Education to provide legal and information assistance to land owners
3. Transaction and technical assistance to assist landowners in land transactions.

The first component addressed and resolved concerns raised by the Government of Moldova regarding survey errors or other problems. Some 10 percent of the titles were determined to have same form of error

and needed to be resurveyed. The second task assisted Moldovan farmers to develop a better understanding of property rights, economic opportunities associated with their farms, opportunities for transactions, and market information on land and lease prices. The third task assisted farmers in realizing greater tenure security by providing technical assistance to increase the number of land transactions.

Extent to which: To the extent which this project facilitated the development of a land market, enabling small plots to be farmed in larger tracts, there is potential for a positive impact on biodiversity due to the potential for decreased erosion and application of Good Agricultural Practices.

Agribusiness Volunteer Program (AVP) (1999-2007)

The CNFA Agribusiness Volunteer Program (AVP) is part of the Farmer-to-Farmer U.S. foreign aid program that operates in Moldova, Ukraine, and Belarus. In September 2003, the program was further extended with implementation continuing in West NIS until September 2007.

AVP aims to increase farmers' incomes by improving their access to markets. To achieve this objective, AVP brings U.S. farmers, agribusiness managers, farm credit professionals, production specialists and farm association members that spend up to three weeks at a time in Moldova and share their valuable skills and practical experience with local hosts. Together with U.S. specialists, the hosts examine specific problems within their operation, identify solutions to those problems, seek new opportunities and develop the skills necessary to exploit such opportunities.

Since October 1999, AVP hosted over 180 volunteers, and has a mandate to conduct an average of 28 assignments each year through September 2007. The technical assistance provided to each host is structured as a long-term multi-assignment project, where each volunteer builds on the work of the previous specialist, thus taking a coordinated approach to solving each host's needs. Volunteer training ranges from production to farm business management to marketing, offering innovative ideas and realistic solutions to agricultural problems faced by Moldovan farmers and rural entrepreneurs.

Extent to which/Opportunity:

American farmers may be able to share expertise related to GAP to promote biodiversity conservation.

Agribusiness Development Program (ADP) (2004-2009):

The overall purpose of the Agribusiness Development Program (ADP) is to increase rural incomes and employment by improving the international competitiveness, and thereby the trade performance, of Moldova's agricultural sector. To achieve its purpose, ADP will provide technical assistance, training and matched grant support to medium and smaller scale agricultural processors, to other intermediate value-adding enterprises along the market chain, to providers of services related to agricultural exports and value-adding activities, to farmers already or willing to produce high-quality products and to agricultural producer and industry organizations.

The ADP activity represents the second generation of USAID support activities that build on the experience and successes of the PFAP and PFCP programs. It will continue to support innovation in agri-business as well as in production agriculture to demonstrate what is possible and needed to improve productivity and the quality of production up to the level required for Moldova to be competitive in a larger number export markets. The implementation approach also recognizes that assistance to private firms of different sizes is highly desirable and necessary to speed the process and to facilitate more widespread participation in project supported activities. Finally, the ADP recognizes that Moldovan companies, both small and large, are facing stiff international competition and that this challenge can be effectively met through improved systems of information, quality control certification and organization.

Extent to which/Opportunity: The implementation of the ADP continues to follow the recommendations of the 2001 PEA. A water quality monitoring system continues under the ADP, though currently only tests

the water quality of local wells. With respect to biodiversity the project has adapted the EUREPGAP® (European Good Agricultural Practice) Protocol written in Europe by an Association of Major European Retailers in order to promote its use by Moldovan farmers. By following this protocol, retailers and their suppliers can be sure they are complying with strict European Legal requirements for food safety, occupational health and safety, and protection of the environment. This will assist farmers in gaining EU market access at premium prices. Key components of EUREPGAP® related to biodiversity are requirements for a commitment to farm in an environmentally responsible way in order to maintain and improve continuously the biodiversity around the farm and to reduce any impact on flora and fauna, and on the environment in general. This action requires farmers to create both an environmental and biodiversity management plan specific to their farms. Additionally, EUREPGAP® incorporates measures such as conservation tillage and erosion control which will also be beneficial for biodiversity in Moldova.

ADP also works in collaboration with the ACSA, an agricultural extension service largely supported by the World Bank. Through this collaboration, ADP has the potential to reach the whole of Moldova to promote GAP techniques which when implemented help conserve agrobiodiversity and the environment in general.

Agriculture Policy Project (APP) (2006-2009):

The project assists the Ministry of Agriculture and Food Industry (MAFI) become a modern western institution by developing and implementing a restructuring program for the Ministry. The four main objectives of the APP are to develop and adopt the Mission Statement for the MAFI; develop an organizational restructuring plan based on international best practices of similar European states of similar size an profile, and assist the MAFI to implement the plan; assist the MAFI in drafting a human and financial resources allocation plan; and organize and facilitate public discussion and provide accurate, complete information needed for the public to knowledgeably discuss and provide input to appropriate government officials.

Extent to which/Opportunity: Through the development process, APP will have the opportunity to review and make recommendation concerning new laws and policies. For example, a new Land Code is in draft, which, if properly written and implemented has the potential to shift land use patterns towards a more sustainable path and strengthen the land market. Both of which potentially have a beneficial impact on biodiversity in Moldova. There is also potential for donor coordination. Currently the WB Pollution Prevention Project is working to develop GAP policy for adoption by the MAFI. USAID ADP & APP projects could leverage efforts already undertaken by the EUREPGAP® component of the ADP project.

Rule of Law (1994 - 2009)

ABA/CEELI works with Moldovan legal institutions, judges, bar associations, students, and lawyers to strengthen the quality and awareness of legal education and legal reforms, public awareness of the legal profession in a democratic society, and judicial reform. CEELI also develops continuing legal education programs with the Collegium of Advocates and the Judicial Training Center of the Republic of Moldova. During the period from 2000-2005 ABA CEELI Moldova supported environmental activities primarily through small sub-grants to the Environment Public Advocacy Center Eco-Lex (Eco-Lex) an organization that provides legal assistance on environmental matters. At the present time, ABA/CEELI no longer supports an environmental component in their portfolio.

Extent to which: During the period from 2000-2005 ABA/CEELI provide grants to Eco-Lex of approximately \$145,120. These funds were used by Eco-Lex to:

- provide pro bono legal assistance to 942 clients (866 individual consultations and 76 public lawsuits related to violation of the Law on Green Spaces, violation of the Law on the environmental protection, Water Code, Forest Codes, pollution, etc.) from rural areas;
- produce 92 public radio shows on topical human rights, legal and environmental legal issues;

- conduct 36 educational meetings on various topical legal topics affecting the lives of rural residents for 900 citizens in rural areas;
- conduct an environmental law-related round table and 1 human rights seminar.

Local Government Reform Project (2000 – 2007):

LGRP empowers local governments and assists them in improving fiscal autonomy, efficiency, responsiveness, accountability and transparency. The program builds the capacity of municipal officials to implement reforms and improve delivery of services, and strengthens the capacity of citizens to participate in decision-making by providing training and technical assistance to NGOs in the mobilization of communities, the formulation of community development agendas, effective representation, organization of public hearings and effective participation in municipal affairs. In FY 05 and 06 LGRP training and technical assistance will be expanded to 100 communities and will provide in-kind assistance to approximately 150 demonstration to help communities meet priority areas in their strategic plans including improvements to water, heat, gas and other municipal services.

Extent to which: Indirectly the LGRP project has had a beneficial impact on biodiversity. Through its demonstration projects, over 100,000 people in rural communities have been connected to natural gas, thus decreasing the demand for fuel wood collected from stressed forest ecosystem.

The Moldova Citizen Participation Program (MCCP)(2004 – 2009):

MCCP will enhance the capacity of citizens throughout Moldova to create tangible and positive change in their own communities through civic activity and democratic practices. The MCCP will mobilize communities throughout Moldova (excluding Chisinau), build the capacity of community activists and NGOs to implement projects that create positive change in the quality of community life, fund local community-based development activities and projects, increase citizens' knowledge of transparent government processes and procedures, and foster constructive citizen/local government dialogue and partnerships. At the end of the proposed project local communities throughout Moldova will have addressed a variety of their priority development needs by effectively mobilizing their own resources, selecting and supporting local leadership, and collaborating with a variety of public and private sector entities.

Extent to which/Opportunity: To date this project has not had a direct or indirect impact on the actions needed. Environment is identified as an area for subgrants and will be the focus of an upcoming "call for proposals". Media coverage is a key component following the completion of subgrants thus enabling the project to have a beneficial impact on raising the environmental awareness of the populous. A core component of the MCCP is enabling journalists to air concerns. This component is a potential avenue for USAID to raise Moldovans' environmental awareness through the replication of the successful "Green Media Campaign" implemented in Bulgaria.

Reform and the Nonprofit Sector (1993 – onwards)

The Eurasia Foundation grant-making program awarded small grants to strengthen the nonprofit sector's involvement in reform. Grant proposals are reviewed in business development; business education and management training; economic education and research; public administration and local government reform; NGO development; rule of law; media; and electronic communications.

Extent to which/Opportunity: To date this project has not had a direct or indirect impact on the actions needed. The potential exists under this project to raise Moldovans' environmental awareness through the replication of the successful "Green Media Campaign" implemented in Bulgaria.

SECTION IV: ACTIONS NECESSARY TO CONSERVE BIODIVERSITY

A. Agriculture and Agroecosystems

Improve land management, reduce soil degradation and limit the use of agro-chemicals

The MAFI in conjunction with the MENR must promote GAP for the conservation of and expansion of agro-ecosystems with viable habitats for native species; especially in the steppe region. The adoption of GAP will go a long way to address the biological and economic threat from soil erosion. Through continued support and enhancement of agricultural extension services through ACSA the country must integrate (soil, habitat, biodiversity) conservation practices into farm management plans. There is a need for farm plots to be reorganized or consolidated in some way to encourage contour plowing and low till/no till methods. Incentives should be developed by MAFI to facilitate improved land use practices through farming cooperatives or plot consolidation to achieve good land management practices, increased profits, and support conservation goals.

Afforestation and reforestation of riparian and “greenbelt” corridors, wetland protection, and other conservation set aside areas should be actively pursued as part of land use planning. Improved riparian zones will trap sediments and nutrients and improve habitat in agroecosystems. Enforcement of existing laws is critical, particularly the law regarding buffer zones; in most agricultural areas, it is not currently respected or enforced. A concerted effort is needed by responsible Ministries and Municipalities to restore riparian buffer strips throughout Moldova in accordance to existing laws and regulations. The MAFI and MENR should develop compensation strategies for landowners with economic incentives such as payments for ecosystem services, carbon sequestration, and/or regional watershed protection. Potential action in this area is further strengthened with the recent passing of the NEN Law in early February 2007. Responsible government bodies (see page 17 for specifics) must make a concerted effort to develop the NEN in a timely matter.

Pressures from livestock will continue to increase as the economy improves in Moldova. The MAFI in conjunction with the MENR must act now to determine the carrying capacity of pasturelands to prevent further overgrazing and encourage GAP such as rotational grazing. Continued efforts, such as that of the World Bank’s APCD project, should be made to properly manage the manure generated from livestock production.

To address the threat posed by pollution from the agriculture sector the MAFI through ACSA must continue to educate farmers in the proper use and handling of pesticides and agricultural chemicals on farm fields and promote organic fertilizer systems, integrated pest management (IPM) principles and comply with expectations of GAP.

Efforts to mitigate known areas of chemical pollution and water and soil contamination should continue with the support of international donors and regional initiatives such as the ICPDR, especially close to rivers and forest zones.

Address ineffective use of Donor funds and lack of coordination. Improved donor coordination to project implementation and issues addressed is needed. Conflicting projects, overlapping areas of interest, varying approaches, and lack of follow through all lend to an overall inefficient use of donor funds. A unified and coordinated approach would more rapidly improve the overall situation in the country thus decreasing pressures on the environment and biodiversity. The creation of an independent Agriculture Donor Coordination body to harmonize efforts, better leveraging of funds, eliminate duplication, and prevent conflicting approaches should be considered by the GoM, Donors, and NGOs.

B. Forestry and Forests

Improve forest habitats and strengthen protected area enforcement. Enforcement and implementation of the NEN by responsible government entities, described in detail on page 16 and 17, is the best hope to improve the amount of viable forest habitat. Key migration corridors will be reestablished through implementation of the NEN, connecting a mosaic of fragmented forest ecosystems. Continuation and expansion of efforts in afforestation and reforestation by various donor supported efforts (e.g. the World Bank BioCarbon Fund implemented by Moldsilva) into new areas (including degraded lands) are needed to improve soil conservation and ease anthropogenic pressures on existing forests. Government focus should be placed on critical habitats along the Dniester and Prut rivers, forest belts in central part of the control and in the marginalized steppe regions in northern and southern Moldova.

The MENR, the State Ecological Inspectorate, and Moldsilva must actively enforce environmental protection laws and prohibit illegal activities in protected areas. State Agencies and the private sector must continue to improve the rural populations' access to alternatives to fuel wood to meet their energy demands. Both the State and NGO community must work to increase public awareness through education and training activities.

C. Waters and aquatic ecosystems

Protect and restore aquatic habitats. The State must work towards establishing both the legal framework and institutional capacity to adopt integrated river basin management for the Dniester, Prut and Cogilnic rivers. Habitat restoration efforts to reconnect blocked channels, sloughs, and wetlands should be undertaken to connect migration corridors and nesting sites. Apele Moldovei in conjunction with the MENR should focus efforts on habitat restoration along the numerous highly modified rivers to remove decaying Soviet era infrastructure no longer in use or maintained. To the extent possible, efforts should be made to balance water uses for irrigation, fish farming, power and other needs with habitat requirements for fish and other aquatic organisms.

A nationwide wetland inventory is urgently needed and should be conducted by the MENR in conjunction with the NGO community which has already under taken much of this research. Action is needed to improve the health of existing wetlands including establishing appropriate buffers from agricultural lands. To the extent possible, government incentives should be established to reclaim former wetlands from existing agricultural lands and provide incentives to landowners for wetland management.

The State should take steps to review where and to what extent violations are occurring regarding the existing Water Code as well as laws on protected areas and riparian buffers. Based on the reviews findings an action plan can be developed to address issues, violations, and actions needed in the sector. This would include ensuring adjacent farms implement GAP to reduce non-point source runoff. Immediate and special attention should be given to reviewing the status of the oil production operation on Belevu Lake in the Lower Prut Scientific Reserve. Appropriate actions must be taken to enforce environmental protection measures and to mitigate environmental impacts from the operation.

Protect rare and endangered species. The State Ecological Inspectorate must ensure existing laws are enforced and respected, specifically as related to enforcement efforts for poaching, especially for endangered, but high value species. Existing barriers to aquaculture should be removed and efforts should be made to work with local communities and farming cooperatives to establish sustainable fishery management practices for rivers, lakes and ponds. The MENR, along with other State agencies should consider taking a Community Based Natural Resources Management approach to support fish reintroduction programs and implement aquaculture practices to conserve native species.

The MENR in conjunction with the Customs Department must educate and train customs officials to ensure CITES enforcement at borders and points of entry.

D. Invasive species

Control dangerous invasive species. As described on page 11, numerous agencies play a role in combating and monitoring over 150 invasive species. An updated integrated monitoring system, based on GIS technology, would lend to improved control operations. A mechanism to disseminate timely data and information among the various government agencies and the public should be developed. The NGO sector should be more effectively utilized to educate and inform the public and awareness campaigns to aid in effectiveness of control methods. The Customs Department must also ensure adequate inspection by boarder agents as well as ensure agents are properly educated to prevent accidental introduction of destructive invasives.

E. Poverty, Public Awareness, and Socio-economic issues

Reduce poverty in the rural communities. The Government of Moldova prepared and published the Economic Growth and Poverty Reduction Strategy Paper (EGPRSP) in May 2004. This identifies the major challenges in increasing the economic well being of the population and proposes appropriate actions. This national strategy promotes the economic growth and sustainable development and reduction of poverty in the country. Integrated into the strategy are components related to the CBD implementation, the most important of which are: *extending and safeguarding the natural areas protected by the state, creation of the National Ecologic Network, increasing the awareness of the population regarding the impact of natural disasters; improvement of administrative, economic and financial mechanisms for environmental protection and sustainable management of natural resources.*

Several of the components italicized above have been addressed in the actions necessary described in 1 through 4 above. It is important to note the cross cutting nature that poverty reduction and public awareness plays in nature conservation. The donor community should work to integrate the components identified in the EGPRSP into their portfolio as they directly address the needs identified by the Government of Moldova. Appropriate steps to consider include: revisions to land tenure policy, access to credit, payment for ecosystem services. Through the encouragement of new micro enterprises designed with sustainable practices in mind for agricultural, non-timber forest products, and fishing sectors rural populations may begin to find relief from their economic hardships. The design and implementation of CBNRM projects will address conservation needs while working to improve the socio-economic conditions of rural communities.

Expand public outreach. Access to environmental information is a powerful tool for which to encourage change. Efforts must be made to provide greater resources for environmental information dissemination; including publications, TV and radio, public meetings, etc. Thematic series should be developed focusing on topics such as biodiversity and conservation, sustainable use of NTFP, sustainable agriculture, etc. The State should continue to support extension services to the agricultural community, increase training for government officials, inspectors and local administrators in all aspects of environmental protection and enforcement.

Geographic information systems (GIS) should be broadly developed and made available among decision makers in Ministries, local governments, NGOs and the business community. GIS as an information technology is a growth industry that should be considered by Donors and the State alike, with wide applications in all sectors. It is also a potential source of employment as the more sectors that utilize it, the more demand for skilled labor will exist.

F. Governance Issues

Lack of resources and weak coordination. There is a persistent lack of financial resources to implement the numerous ratified environmental conventions, protocols, mandates and programs that the GoM has committed to. For many of their implementation, the country relies on international support, which is often donor-driven and does not necessarily reflect the real needs of the country. The GoM must streamline its activities, concentrating on addressing problems that are the most pressing for the country, and not necessarily simply what donors are proposing. With the passing of the Law on NEN, the GoM should

actively seek donor support for its implementation as the benefits of its successful establishment will be cross-cutting.

It is important that the MENR be organized in such a way that it can inform potential donors of the needs and priorities of the country for investments and assistance in environment, as well as effectively follow the projects that are ongoing. Regardless of its efforts to fulfill all relevant obligations, the practical level of implementation remains rather low and efforts poorly coordinated. To address the poor coordination among Ministries, Institutes, and NGOs, the government created an Interdepartmental Steering Committee to implement provisions BSAP. To date Committee remains largely inactive due to a lack of resources and no budgetary authority to move forward. The Interdepartmental Steering Committee should be elevated in status, given authority and made operational in order to implement the BSAP across sectors including agriculture, water and forests and tied to a donor coordination function.

Additional mechanisms such as the CarbonFund should be pursued to supplement national budgets with international donor programs for carbon sequestration, payment for ecological services, and other conservation subsidies. Additionally the Government must seek to leverage its funds through public-private partnerships as well as through agreements with local, regional and international NGOs.

Adding to coordination issues is the confusion and conflict which persist over the various roles of local and regional authorities. Many of the responsibilities to implement the actions and enforce actions in the BSAP and the NEN fall to local authorities and mayors which lack funds and local inspectors often lack the will or means to enforce national laws. The MENR must coordinate regional bodies and local action groups to facilitate the implementation of the BSAP and NEN at the local level, raise awareness of funding options, provide technical assistance, and project coordination.

Strengthen protected area network. The amount of protected areas in Moldova is insufficient to protect biodiversity. The GoM, through the MENR, should focus on establishing the NEN (see page 16) as well as work towards the creation of National Parks in line with IUCN & EU standards. There are several locations of high conservation value that the GoM should revisit including the recently proposed areas of “Nistrul Inferior” (Lower Dniester), the Middle Prut, “Codrii Orheiului”, and an area rich in national heritage in the north.

Conflict with Transneister. The soviet-era factories operating in Transneister pose a regional threat to biodiversity as the effluents of these heavily polluting industries enter the Dniester River adversely effecting local fauna and contribute to the anthropogenic impacts on the Black Sea. Additionally, the conflict hinders the enforcement of CITES and the protection of threatened and endangered fish. The GoM and the Donor community must encourage environmental related dialog to reduce pollution, forest management and fishery management through both governmental and non-governmental channels. Efforts must be made to enforce laws, mandates and regulations on both sides of the Dniester River. It is imperative to encourage and support trans-boundary integrated river basin management programs.

SECTION V: EXTENT TO WHICH USAID ACTIONS MEET THE NEEDS IDENTIFIED

At this time it is not possible to develop a proper section to address FAA, Sec 119 (d)(2) “the extent to which the actions proposed for support by the Agency meet the needs thus identified” as future programming information is not yet available. The authors would like to note that for this section the USAID Regional Mission for Ukraine, Moldova and Belarus has the authority, capacity, knowledge and creativity to correct, expand, and build upon any points or ideas recommended. This exercise is meant, in part, to give the Mission ideas on how it can articulate the ways in which its programs relate to environmental needs and contribute to conservation. Following the elaboration of the new Strategic Plan in 2007 and as new projects and activities are designed, the USAID Regional Mission for Ukraine, Moldova and Belarus should revisit and revise this section to address how the actions proposed for support by USAID meet the needs identified.

A. Future Programming

Detailed information on actions proposed by the USAID Regional Mission for Ukraine, Moldova and Belarus are not available in written format and hence, conclusions are based on brief interviews with available Mission personnel and available sector assessments. The new strategy is not envisioned to deviate much from the previous, with the exception of a new anticorruption portfolio and possibly a program focused on alternative energy. The key focus of USAID actions in Moldova will be strengthening of the private sector to facilitate job growth throughout Moldova.

A new component of the USAID portfolio to begin in FY 2007 focuses on anticorruption to simplify reporting, taxation, and permitting. This will be implemented in parallel with a new MCC Threshold Country Plan that focuses on anticorruption activities consisting of the following:

1. Strengthen the capacity of the judiciary in preventing and combating corruption.
2. Strengthen the monitoring capacity of civil society and mass media.
3. Prevent and curb corruption in the health protection system.
4. Curb corruption in the tax and customs administration and the police bodies.
5. Reform and improve the capacity of the Center for Combating Economic Crimes and Corruption.

This section reviews the possible cross-cutting linkages between biodiversity and environmental sectors and future USAID programs; especially related to economic growth, democracy and governance, anti-corruption, poverty reduction, and civil society. It concludes with some illustrative recommendations to address the needs identified.

1. Linkages between Environment and Economic growth

The Government of Moldova prepared and published the Economic Growth and Poverty Reduction Strategy Paper (EGPRSP) in May 2004. This identifies the major challenges in increasing the economic well being of the population and proposes appropriate actions. This national strategy promotes the economic growth and sustainable development and reduction of poverty in the country. There are direct links and actions in this strategy regarding the CBD implementation, the most important of which are: *extending and safeguarding the natural areas protected by the state, creation of the National Ecologic Network, increasing the awareness of the population regarding the impact of natural disasters; improvement of administrative, economic and financial mechanisms for environmental protection and sustainable management of natural resources.*

The EU/Moldova Action Plan, ratified in early 2005, is the first step in developing a closer relationship between the two parties, involving a significant measure of economic integration and deepening political co-operation. The Plan lays out the strategic objectives of co-operation between Moldova and the European Union. Its implementation will significantly advance the approximation of Moldovan legislation, norms and standards to those of the European Union. In this context, it will build foundations for further economic

integration based on economic and trade related rules and regulations with the potential to enhance trade, investment and growth (USAID SME Assessment, 2005). The Action Plan among other activities includes *the creation of the National Ecological Network activity; Strengthening structures and procedures necessary to carry out environmental impact assessments, including in relation to transboundary issues; and harmonization of relevant legislation (see Box 1 for a complete list)*. The latter, is a critical environmental intersection with EG as it relates to EU integration. Lagging harmonization of environmental legislation will be a serious impediment to increased export with the EU.

2. Linkages between Environment and Democracy and Governance

The EU/Moldova Action Plan proposes a framework for Moldova's domestic institutions and foreign policy compatible with the standards of EU membership...USAID and other donors can assist Moldova by building capacity in environmental institutions and individuals involved in the EU accession process (USAID DG assessment). With respect to the environment, the EU has over 300 laws and regulations, which must be adopted and implemented. The sheer volume of required environmental reporting is a huge burden, particularly for small countries that lack the human and financial resources to support large Environmental Ministries. Therefore there is a clear need to bolster the capabilities of the Ministry of Ecology and Natural Resources, which will be responsible for such implementation and reporting.

3. Linkages between Environment and Rule of Law

Implementing the Rule of Law (ROL) in the Environment Sector is as important as it is in other sectors. There is ample opportunity for capacity building of judges and lawyers in this field, so that current and new environmental laws can be effectively implemented and the environment protected. Particularly considering the amount of new laws that will have to be passed and implemented as Moldova works towards EU harmonization, there is potential for the creation of a number of jobs and professions in the process.

4. Linkages among Environment and Civil Society and Conflict Resolution

Environment has long been a neutral rallying point for citizens in transitional countries and linkages to biodiversity conservation goals fit well with civil society reform and strengthening. In addition, natural resource governance presents an avenue for dialogue with Transneister over transboundary environmental issues; thus reducing conflict in the region. Numerous examples from the region exist of where environmental issues were the catalyst for change. Examples from within Moldova's borders exist as well. From 2004-2005 Eco-Tiras worked to strengthen the capacity of Transnistrian NGOs with support from the National Endowment for Democracy. This was the second stage of a project directed towards the development of civil society in Transneister. During the first stage, implemented by the Biotica, five resource centers were established in Ribnita, Dubasari, Tiraspol, Bender and the Village of Ciobruciu to support local communities with information on environmental and social issues. The second stage aimed to help Transnistrian NGO community to be involved with regional and pan-European NGO communities and to strengthen their sustainability.

B. Recommendations for Potential Contributions of Future Programming to Address Identified Threats

1. Recommendation for a cross cutting Community Based Natural Resource Management project

Most ecosystems have received attention in one form or another, typically as a component of major programs. Much of the needs of the country in terms of habitat restoration and conservation will be addressed providing the NEN is fully implemented. There is a need for focused conservation efforts particularly on Steppe protection and restoration. Additional donor efforts are also needed towards the establishment of National Parks to protect some of the critical ecosystems and habitats of Moldova.

From the team's review of projects, one sector appears not to have been addressed in any significant manner. During the Soviet-era there was a significant amount of fish farming along the major rivers in Moldova.

Much of this sector has all but collapsed as the farms relied on major hydrologic modifications. Those that continue today do so under difficult conditions either as a result of government control of remaining ponds or they must operate as poachers, often in “protected areas”. Many of these fishermen represent some of the poorest in Moldova. There is a clear need and justification for USAID and/or other donors to consider a Community Based Natural Resource Management (CBNRM) project that will lead to reduction in poverty, corruption, and increase economic growth as well as addressing needs of the protected areas network.

The USAID Community Based Natural Resource Management (CBNRM) concept offers a model for local environmental governance. Although the concept evolved out of an African wildlife management enterprise, CBNRM offers unique potential for former Soviet territories with a tradition of collective resource ownership, use and control. It can be seen as a type of co-management arrangement that places authority in the hands of local communities. Possible local management structures can be watershed councils, community committees, associations of hunters and fishermen, or some other framework that allows for public discussion, information sharing, consensus building, and decision-making. This governance framework empowers local people to make decisions about things that matter most to them: land, water, forests, recreation, and fish and wildlife. In fact, disputes over these resources lie at the heart of many regional conflicts and trans-border disputes. By resolving conflicts and effectively managing the resource, CBNRM serves as a valuable model for democracy and governance.

CBNRM activities provide incentives for communities to monitor resource conditions and trends, widely share information, limit poaching, invest in resource restoration, and promote economic development based on sustainable resource use. The goal is to conserve regional biodiversity based on financially viable communities and healthy rural communities.

Potential CBNRM Case Study: Lower Prut Nature Reserve

Poachers routinely catch fish in the Lake Manta protected area of the Lower Prut Nature Reserve and freely trespass over the territory. Illegal fishermen operate at night and sell fresh fish to the city market in the morning. The problem is too big for the reserve manager who knows many of the poachers but can't stop them. Many poachers earlier worked for a collective fish farm (rybkoz) that collapsed along with Soviet subsidies.

Men and women poachers know each other and share common boats along lakeshores. They further know that it is illegal to catch fish from the reserve lake, but they are poor and hungry and have few other options. Moreover, they complain about an illegal oil drilling operation in the reserve that contaminates the water and kills their fish. They also criticize newer, richer, poachers who are coming to the lake from outside the region. Several NGOs have been involved in wetland restoration project in the region and work to expand protected areas to include important bird areas.

In this case, a CBNRM project may organize a Lake Council to discuss resource management issues important to the community. The Lake Council might include citizens (poachers), nature reserve managers, regional scientists, local administration officials, NGOs, and agency (enforcement) officials. Over a period of time, the Council would meet to review the status and trends of the lake, identify key threats to the ecosystem, and develop an action plan to manage it. After approving an action plan, the community would implement programs and conduct activities to effectively manage lake resources.

2. Recommendations to address lack of viable habitat and inadequate landscape management resulting from agriculture and agro-ecosystems management

Through the APP project, USAID has the opportunity to assist in the updating of Land Code, which, if properly written and implemented has the potential to shift land use patterns towards a more sustainable path and strengthen the land market.

Through the APP & ADP, USAID has the opportunity to promote EUREPGAP® standards to integrate market-based incentives into agricultural policy. The standards incorporate proper land management techniques, conservation, and other environmental concerns creating a holistic approach to farming while simultaneously opening higher value markets to Moldovan farmers.

USAID should continue efforts through ADP and AVP to facilitate landowner cooperation leading to better landscape management and good agricultural practices (GAP) including integrated pest management (IPM).

Currently the WB Pollution Prevention Project is working to develop GAP policy for adoption by the MAFI. USAID could leverage efforts already undertaken by the EUREPGAP® component of the ADP project, strengthening the position of the farmers it currently supports. Further, it will decrease duplicative activities as well as potentially conflicting approaches by donors.

3. Recommendations to address lack of viable forest habitat and forest ecosystem degradation

There is potential for economic growth opportunity in tree and shrub nursery development to facilitate reforestation efforts across the NEN zones. This work could be completed under the AVP or through support to Peace Corps Volunteers (PCV).

Due to the concentration and placement of PCVs there is an opportunity to implement local restoration of buffers zones on a river basin level through support and coordination with US Peace Corps and USAID. This approach ties into the previous recommendation of nursery development. This effort would be of interest to several NGO's as well as the MENR. It would be a likely candidate for co-financed through the NEF.

To address the impacts and concerns of illegal harvesting USAID should identify linkages between USAID policy and the Moldovan Poverty Reduction Strategy (EGPRSP). Leveraging activities to meet objectives related to economic growth and anti-corruption are also critical; again the establishment of nurseries in this instance for fuel wood generation may be appropriate.

4. Recommendations to address aquatic & wetland ecosystem degradation and lack of viable habitat

USAID should consider developing institutional capacity for integrated river basin management and supporting development of integrated river basin management at both the national and local level. One aspect of river basin management develop is IT strengthening. USAID could partially address this need through the CEED project by considering the development of the Geographical Information Systems (GIS) technology sector. Again, support/coordinate with US Peace Corps volunteers to coordinate local restoration of buffers zones on a river basin level.

One sector that appears to have been overlooked by donors is aquaculture. During the Soviet-era there was a significant amount of fish farming along the major rivers in Moldova. Much of this sector has all but collapsed as the farms relied on major hydrologic modifications. Those that continue today do so under difficult conditions either as a result of government control of remaining ponds or they must operate as poachers, often in "protected areas". Many of these fishermen represent some of the poorest in Moldova. There is a clear need and justification for USAID to consider a CBNRM project that will lead to reduction in poverty, corruption, and increase economic growth as well as addressing needs of the protected areas network.

With respect to poaching and endangered species, USAID under its new anti-corruption programs can educate and train customs officials in CITES enforcement.

Water quality will also be a challenge. Through ADP, USAID can continue to support water monitoring as well as promoting the use of IPM and GAP in reality as well as into agricultural policy.

5. Recommendations to address competition due to invasive species

USAID through its new anti-corruption programs can educate and train customs officials in invasive species law enforcement.

6. Recommendations to address poverty, public awareness, and socio-economic issues

USAID should consider implementation of the CBNRM project mentioned previously to reduce poverty and corruption and increase economic growth as well as the continuation and support of existing programs that improve the economic and social problems in rural communities. With respect to economic growth, USAID should encourage new micro enterprises for sustainable agricultural, forestry, fishing, and development of the GIS sectors.

Leverage USAID funds in coordination with WB Ag Pollution Prevention project to develop and promote organic fertilizer systems.

Through the CPP and Eurasia Foundation, USAID should consider replication of the Green Media Campaign from Bulgaria. Through the creation of an informal mechanism of communication and cooperation among reporters, editors, and other environmental professionals a consistent effort to educate the public regarding environmental issues will have a marked improvement on the environment. The BCEG project in Bulgaria had great success with this model for more information contact Svetlana Aladjem at consult@ecologybg.com.

7. Recommendations to address governance issues & weak institutional capacity to implement environmental mandates

To address the need for additional protect areas, USAID should again consider a CBNRM project to realize the establishment of a National Park while addressing rural poverty, corruption and increasing economic growth.

With respect to the conflict in Transneister, USAID should consider supporting on-going transboundary environmental NGO programs as a step towards conflict resolution.

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SECTION VI: CONSOLIDATED MATRIX – THREATS, ACTIONS, EXTENT TO WHICH, & RECOMMENDATIONS

The table below is a consolidated matrix which presents the threats identified, actions necessary to address the threats, extent to which USAID existing programs address the threat, and recommendations for USAID consideration. Information is extremely condensed, for more detail explanation of Threats and Actions please see Section II and Section IV respectively. Further information regarding the extent to which existing USAID programs address the threats identified can be found in Section III.F. Recommendations are covered for existing programs in Section III.F and for potential future programs in Section V. The Team has made every effort to present recommendations that fit within existing and known future programming. These recommendations, while exhaustive, represent a range of measures (both low cost which fit within existing programs to more comprehensive new efforts) the Mission could take to address the threats identified. These recommendations should not be interpreted as mandatory, but wherever possible should be duly considered. The Team acknowledges that it mostly is not feasible at this time for all recommendations to be implemented.

Threats to Biodiversity	Actions Necessary to Address the Threat	Extent to which existing USAID programs address the threat	Recommendations for USAID Consideration.
Over arching threat: Lack of viable habitat resulting from conversion to Agriculture and Agro-ecosystems			
Lack of viable habitat and inadequate landscape management	Improve Land Management <ul style="list-style-type: none"> Promote good agricultural practices (GAP). Promote integration of conservation practices in farm management plans. Provide incentives for consolidating small individual farm plots to achieve good land management practices and support conservation goals. Protect and expand riparian buffer zones and wetlands. Compensate landowners with economic incentives such as payments for ecosystem services, carbon sequestration, or regional watershed protection. 	Under CNFA activities <ul style="list-style-type: none"> Follows recommendations of the 2001 PEA. Facilitated the establishment of FS and promoted GAP for pesticide use. Water quality monitoring Promoting EUREPGAP® (European Good Agricultural Practice) which includes biodiversity management plans and conservation tillage and erosion control. Works in collaboration with the ACSA to promote GAP. Under LPSP <ul style="list-style-type: none"> Facilitated the development of a land market that may lead to better land management. 	<ul style="list-style-type: none"> APP - has the opportunity to assist in the updating of Land Code, which, if properly written and implemented has the potential to shift land use patterns towards a more sustainable path and strengthen the land market.
Soil Degradation, erosion, land subsidence	Reduce Soil Degradation <ul style="list-style-type: none"> Prevention of excessive soil erosion from agricultural lands through GAP. Practice contour plowing and no-till techniques. Protect and expand riparian buffer zones to trap sediments and nutrients and increase agroecosystems and riparian habitats. Determine the carrying capacity of pasturelands to prevent overgrazing and encourage rotational grazing. 		<ul style="list-style-type: none"> APP/ADP - Promote EUREPGAP® standards to integrate market-based incentives into agricultural policy. ADP - Facilitate land owner cooperation to meet good agricultural practices and landscape management.

Threats to Biodiversity	Actions Necessary to Address the Threat	Extent to which existing USAID programs address the threat	Recommendations for USAID Consideration.
Over arching threat: Lack of viable habitat resulting from conversion to Agriculture and Agro-ecosystems			
Agro-chemicals and soil pollution	<p>Address ineffective use of Donor funds and lack of coordination</p> <ul style="list-style-type: none"> • Create an independent Agriculture Donor Coordination body to harmonize efforts, better leveraging of funds, eliminate duplication, and prevent conflicting approaches. 		<ul style="list-style-type: none"> • APP/ADP - Currently the WB Pollution Prevention Project is working to develop GAP policy for adoption by the MAFI. USAID could leverage efforts already undertaken by the EUREPGAP® component of the ADP project.
Over arching threat: Forest Ecosystem Degradation and Lack of Viable Habitat			
Lack of viable natural forest habitat	<p>Improve forest habitats</p> <ul style="list-style-type: none"> • Enforcement and implementation of the NEN by responsible government entities • Afforest new areas (included degraded lands) and improve management in existing forests. 		<ul style="list-style-type: none"> • EG growth opportunity in nursery development to facilitate reforestation of the NEN zones. • Support/coordinate with US Peace Corps volunteers to coordinate local restoration of buffers zones on a river basin level.
Institutional Issues & Illegal Harvesting	<p>Strengthen protected area enforcement</p> <ul style="list-style-type: none"> • MENR, the State Ecological Inspectorate, and Moldsilva must actively enforce environmental protection laws and prohibit illegal activities in protected areas. • Provide local populations with alternative sources of energy. • Increase public awareness through education and training activities. 	<p>Under LGRP</p> <ul style="list-style-type: none"> • over 100,000 people in rural communities have been connected to natural gas, thus decreasing the demand for fuel wood collected from stressed forest ecosystem. <p>Under ROL</p> <ul style="list-style-type: none"> • ABA/CEELI supported Eco-Lex legal & awareness activities. 	<ul style="list-style-type: none"> • Identify linkages between USAID policy and Moldovan Poverty Reduction Strategy (EGPRSP). • Leverage activities to meet objectives related to economic growth and anti-corruption. • Target the development of the GIS IT' sector.

Threats to Biodiversity	Actions Necessary to Address the Threat	Extent to which existing USAID programs address the threat	Recommendations for USAID Consideration.
Over arching threat: Aquatic & Wetland Ecosystem Degradation and Lack of Viable Habitat			
Lack of viable aquatic, river & Degradation of wetland ecosystems	Protect and restore aquatic habitats <ul style="list-style-type: none"> • Habitat restoration - mitigate the impacts of the old, decaying, obsolete hydrological structures: reconnect blocked channels, sloughs, and wetlands to connect migration corridors and nesting sites. • GoM must establish the legal framework and institutional capacity to adopt integrated river basin management. • Survey wetlands and improve the laws to conserve them. • Provide incentives to landowners for wetland management. • GoM must review extent to which violations are occurring regarding the existing Water Code as well as laws on protected areas and riparian buffers and devise action plan to address them. • GoM must review the status of the oil production operation on Beleu Lake in the Lower Prut Scientific Reserve. 		<ul style="list-style-type: none"> • Support development of integrated river basin management. • Consider a community-based natural resource management (CBNRM) project to reduce poverty, corruption, increase economic growth, and address needs of the protect areas network. • Support/coordinate with US Peace Corps volunteers to coordinate local restoration of buffers zones on a river basin level.
Poaching and loss of endangered species	Protect rare and endangered species <ul style="list-style-type: none"> • SEI must strengthen enforcement for poaching, especially for endangered, but high value species. • Work with local communities to establish sustainable fishery management practices for rivers, lakes and ponds. Support fish reintroduction programs and implement aquaculture practices to conserve native species. • Educate and train customs officials in CITES enforcement. 		<ul style="list-style-type: none"> • Consider CBNRM project to reduce poverty and corruption and increase economic growth. • Educate and train customs officials in CITES enforcement.
Water pollution & Institutional issues	Strengthen responsible institutions <ul style="list-style-type: none"> • Strengthening institutions and enhance coordination between responsible Ministries and Agencies • Use river basin approach to achieve integrated wetland conservation and wise use. 		<ul style="list-style-type: none"> • Support development of integrated river basin management. • Target the development of the GIS IT' sector

Threats to Biodiversity	Actions Necessary to Address the Threat	Extent to which existing USAID programs address the threat	Recommendations for USAID Consideration.
Over arching threat: Competition due to invasive species			
Invasive species	Control dangerous invasive species <ul style="list-style-type: none"> • GoM must upgrade monitoring and control operations. • GoM must strengthen customs and inspection functions. 		<ul style="list-style-type: none"> • Educate and train customs officials regarding invasive species law enforcement. • Target the development of the GIS IT sector

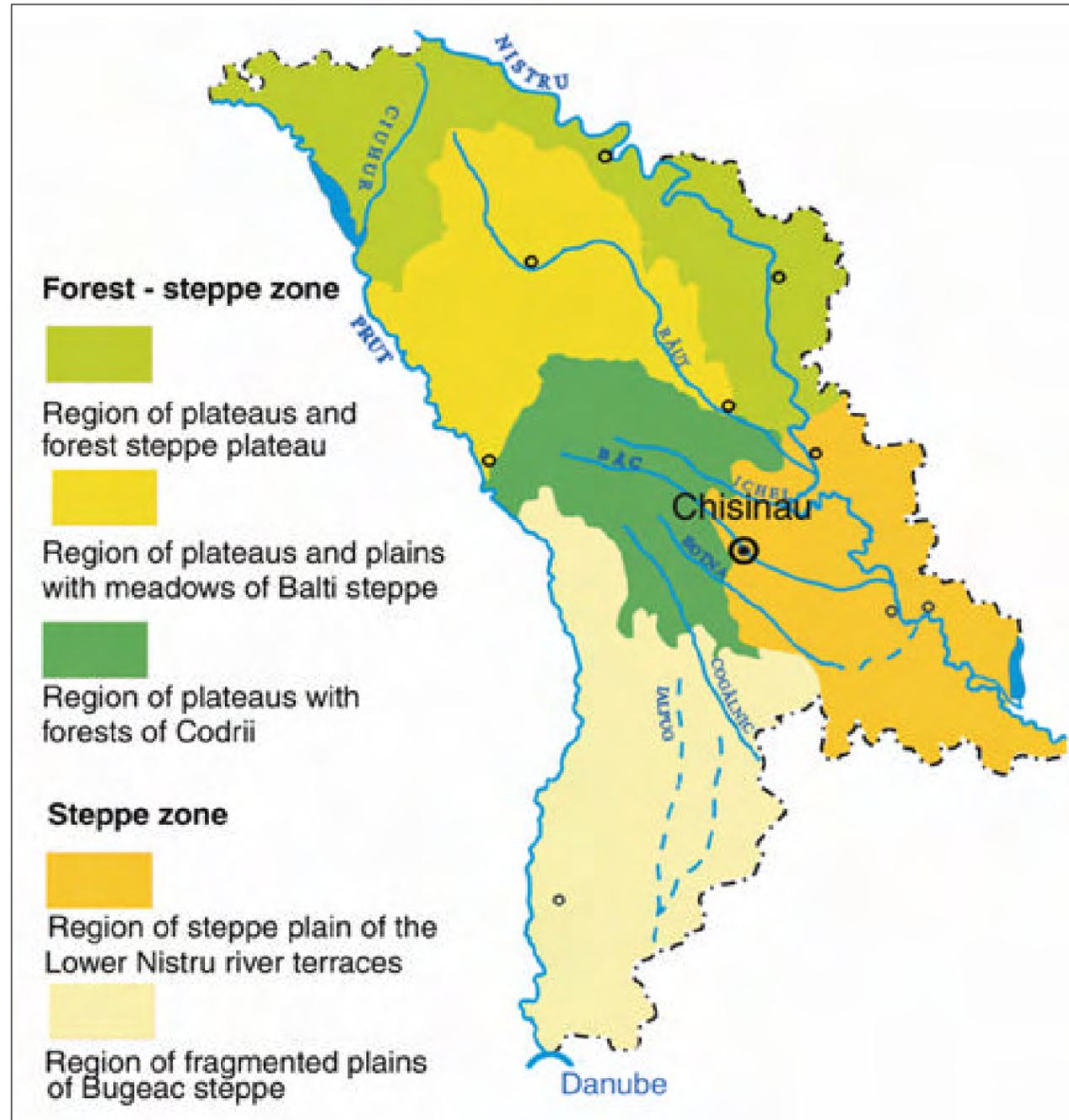
Threats to Biodiversity	Actions Necessary to Address the Threat	Extent to which existing USAID programs address the threat	Recommendations for USAID Consideration.
Over arching threat: Poverty, Public Awareness, and Socio-economic issues			
Poverty resulting in unsustainable use of resources	Reduce poverty in the rural communities <ul style="list-style-type: none"> • Integrate poverty reduction programs from the Moldovan government into international donor strategies. • Consider revisions to land tenure, access to credit, payment for ecosystem services. • Encourage new micro enterprises for sustainable agricultural, forestry, and fishing sectors. • Provide and encourage alternative sources of energy. • Develop and promote organic fertilizer systems. • Design and implement pilot projects for CBNRM to build capacity in local communities. 	Under LGRP <ul style="list-style-type: none"> • over 100,000 people in rural communities have been connected to natural gas, thus decreasing the demand for fuel wood collected from stressed forest ecosystem 	<ul style="list-style-type: none"> • Consider CBNRM project to reduce poverty and corruption and increase economic growth. • Encourage new micro enterprises for sustainable agricultural, forestry, and fishing sectors. • Leverage funds in with WB Ag Pollution Prevention project to develop and promote organic fertilizer systems.

Threats to Biodiversity	Actions Necessary to Address the Threat	Extent to which existing USAID programs address the threat	Recommendations for USAID Consideration.
Over arching threat: Poverty, Public Awareness, and Socio-economic issues			
Lack of Public Awareness	<p>Expand public outreach.</p> <ul style="list-style-type: none"> • Provide greater resources and targeted programming for environmental information dissemination; including publications, TV and radio, public meetings etc. • Support extension services work with farmers to incorporate conservation plans into Farm Management Plans. • Increase training for government officials, inspectors and local administrators. • Implement geographic information systems (GIS) technology among decision makers in Ministries, local governments, NGOs and the business community. • Target GIS as an information technology growth industry and link it to resource management programs to create jobs. • Conduct pilot community-based natural resource management to facilitate public participation in regional environmental decision making. 		<ul style="list-style-type: none"> • CPP and Eurasia Foundation - Green Media Campaign* – creation of an informal mechanism of communication and cooperation among reporters, editors, and other environmental professionals. The goal: to educate the public regarding environmental issues. *see #6 page 50. • CEED - Target the development of the GIS IT sector • Consider CBNRM project to reduce poverty, corruption, and increase economic growth and address needs of the protected areas network.

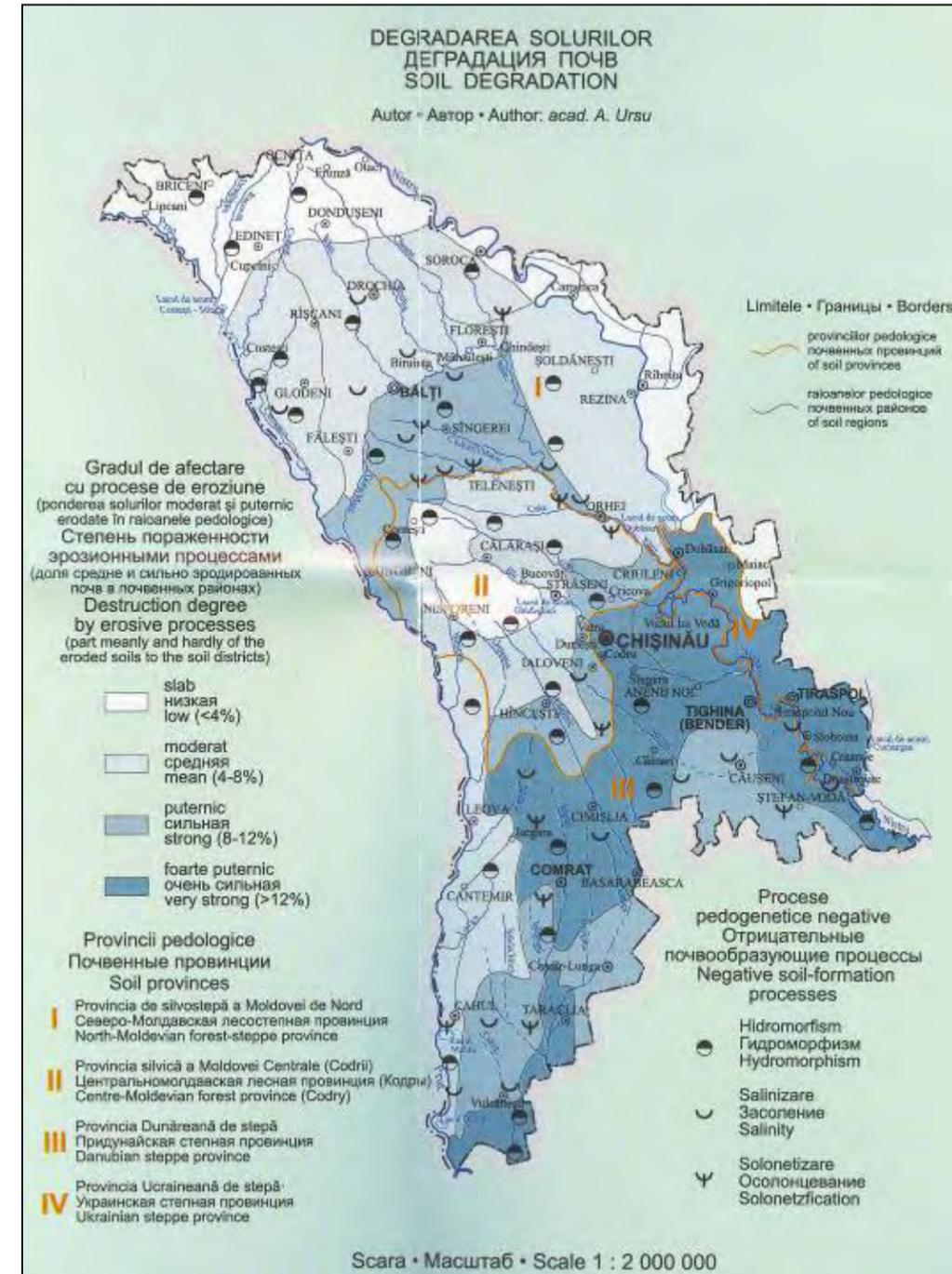
Threats to Biodiversity	Actions Necessary to Address the Threat	Extent to which existing USAID programs address the threat	Recommendations for USAID Consideration.
Over arching threat: Governance Issues & Weak Institutional Capacity to Implement Environmental Mandates			
Lack of resources	<ul style="list-style-type: none"> • Supplement national budgets with international donor programs for carbon sequestration, payment for ecological services, and other conservation subsidies. • Leverage programs with regional and international NGOs. 		
Weak coordination	<ul style="list-style-type: none"> • Strengthen coordination committees with budget and decision making authority; especially to implement the BSAP and NEN. • Enforce existing laws to share information among GoM bodies. • Clarify roles among national, regional, and local officials. 		
Limited Protected Areas Network	<ul style="list-style-type: none"> • Establish national parks in accordance with IUCN & EU Standards. • Establish the NEN per law • MENR must coordinate regional bodies and local action groups to facilitate the implementation of the BSAP and NEN at the local level, raise awareness of funding options, provide technical assistance, and project coordination. Implement the NEN. • Enforce laws regarding protected areas 		<ul style="list-style-type: none"> • Consider a CBNRM project to realize the establishment of a PA while addressing rural poverty, corruption and increase economic growth.
Conflict with Transneister	<ul style="list-style-type: none"> • Encourage environmental related dialog to reduce pollution, forest management and fishery management. • Enforce laws, mandates and regulations on both sides of the Dniester River. • Encourage and support trans-boundary integrated river basin management programs. 		<ul style="list-style-type: none"> • Support on going transboundary environmental NGO programs as a step towards conflict resolution

Annex A: Maps and Annotated Ramsar List for Moldova.

Natural Zones and Landscape Regions



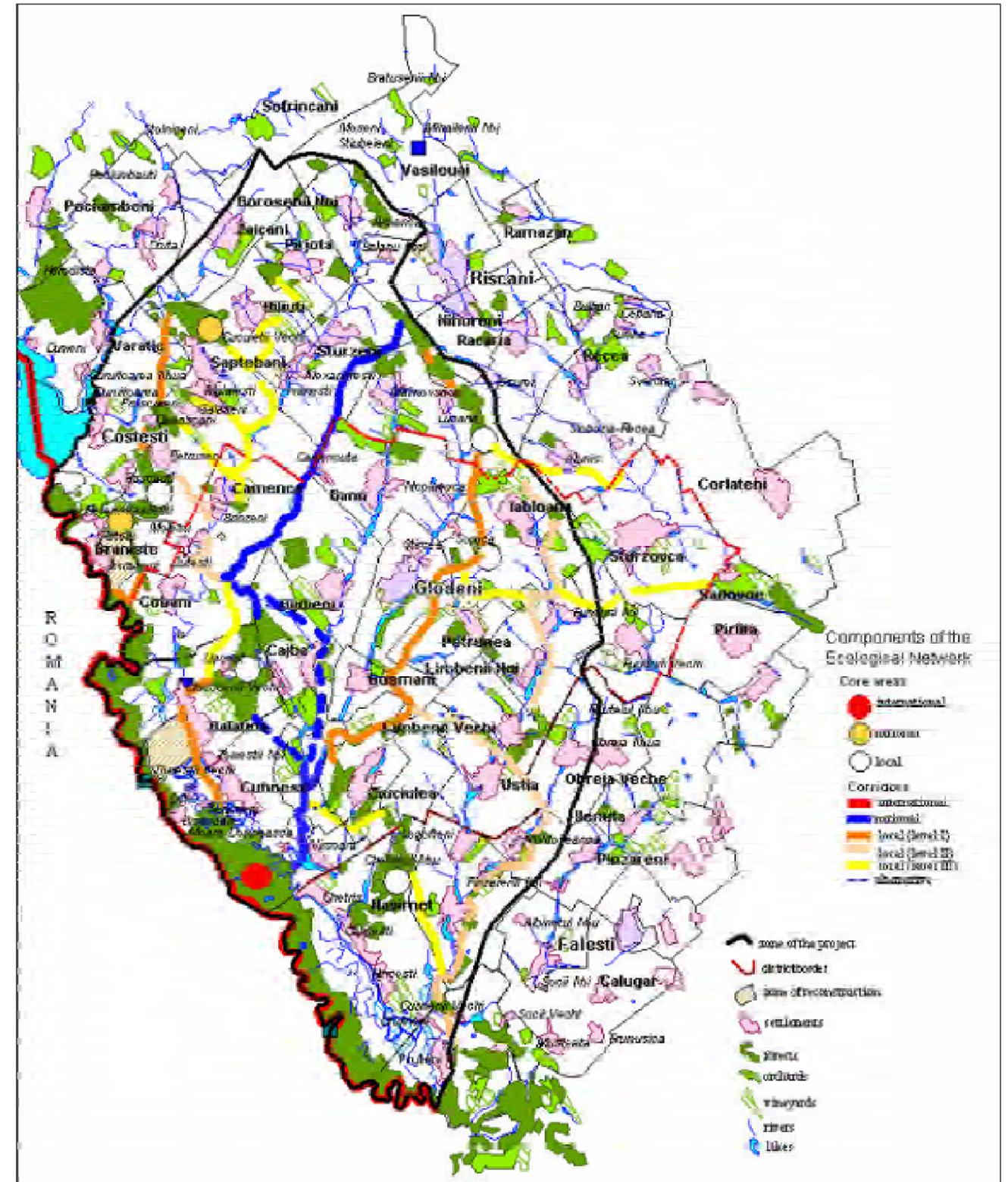
Soil Degradation



The Republic of Moldova National Ecological Network



The Ecological Network in the Mid-Prut River



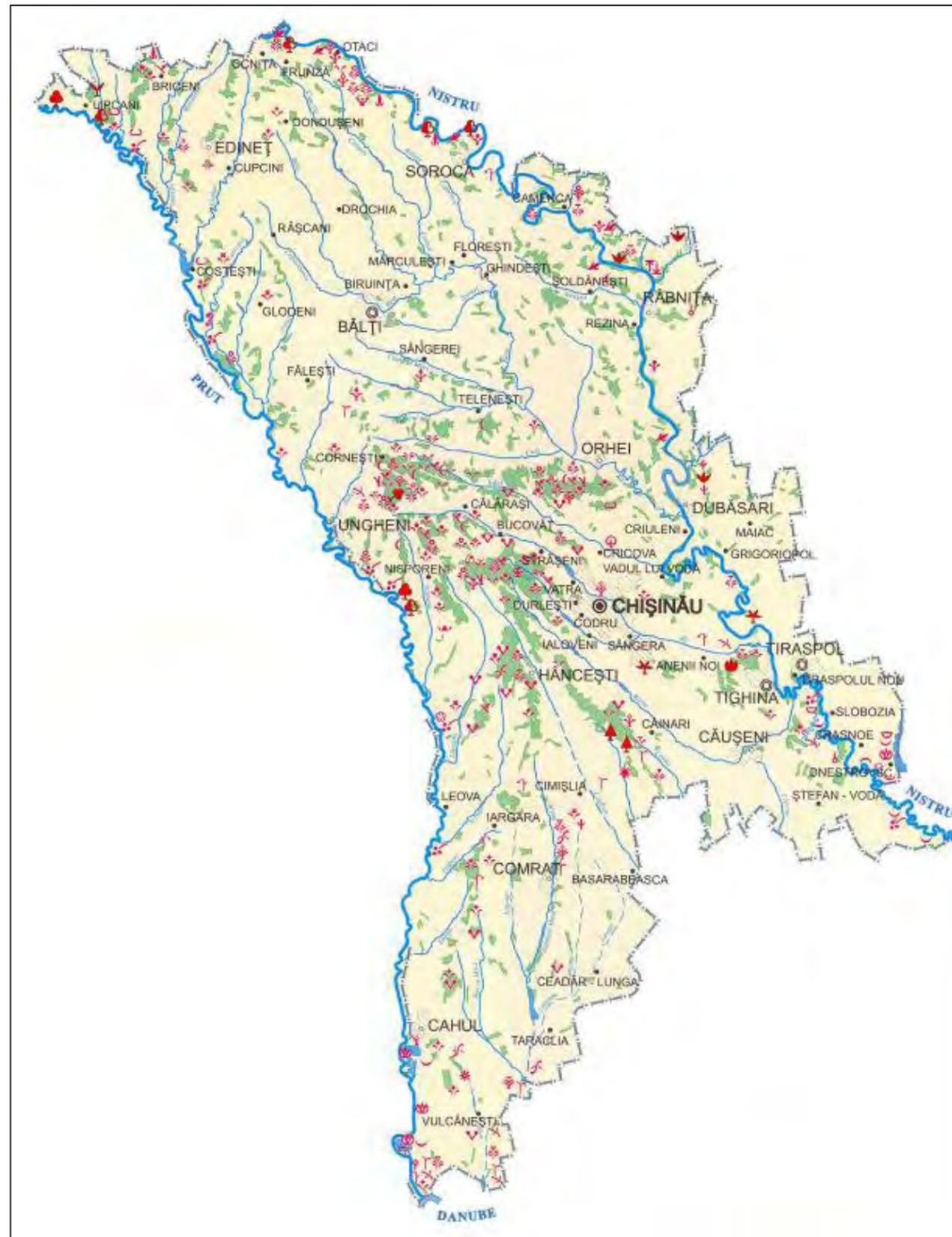
Protected Areas in the Republic of Moldova



Map of Endangered Species



Location of significant populations of endangered plant species



Legend

Conventional signs:

Trees

- European (black) alder
Alnus glutinosa (L.) Gaertn.
- Speckled alder
Alnus incana (L.) Moench
- Oriental hornbeam
Carpinus orientalis MW.

Shrubs

- Ruthenic chamaebroom
Chamaecytisus ruthenicus
(Fisch. Ex Wokoszcz) Klaskova
- February daphne (mezezon)
Daphne mezereum L.
- Tetrahedral woodwaxen
Genista tetragona Bess.
- Oleaster pear
Pyrus elaeagnifolia Pafl.

Semi-shrubs

- Sagittal genistella
Genistella sagittalis (L.) Gams.

Perennial plants

- Versicolored meadow saffron
Bubocodium versicolor (Ker-Gawl.) Spreng
- Sarmatian bellevalia
Bellevalia sarmatica (Georgi) Woronow
- English daisy
Bellis perennis L.
- Comflower Angelescu
Centaurea angelescu Grint.
- Large-flowered cephalanthera
Cephalanthera damasonium (MW.) Druce
- Oblong cephalanthera
Cephalanthera longifolia (L.) Fritsch.
- Red cephalanthera
Cephalanthera rubra (L.) Rich.
- Gold beard grass
Chrysopogon gryllus (L.) Trin.
- Cantabrian glorybind
Convulvulus cantabrica L.
- Narrow-leaved glorybind
Convulvulus lineatus L.
- Maidenchock
Cypripedium calceolus L.
- Autumn crocus (meadow saffron)
Colchicum ancyrense B.L. Burt.
- Fomin Autumn crocus (meadow saffron)
Colchicum fominii Bortz.
- Thirkei centaury
(*Centaurea thirkei* Sch. Bip.)

- Tatanean bread
Crambe tatarica Sebaek
- Majalis dactyloflora
Dactyloflora majalis (Reicheb.)
P. F. Huntet Summerhayes
- Gummiolate dittany
Dictamnus gymnostylus Stev.
- Woolly foxglove
Digitalis lanata Ehrh.
- Paludal Epipactis
Epipactis palustris (L.) Crantz
- Purple epipactis
Epipactis purpurea Smith
- Lanceleaved cotton grass
Ericophorum liliifolium Hoppe
- Imbricated gladiolus
Gladiolus imbricatus L.
- Woodfern gymnocarpium
Gymnocarpium dryopteris (L.) Newm.
- Robert Gymnocarpium
Gymnocarpium robertianum (Hoffm.) New.
- Odessa Gymnospermium
Gymnospermium adessanum (DC.) Tikh.
- Elvas snowdrop
Galanthus elvasii Hook.
- Plicate snowdrop
Galanthus plicatus Biab.
- Monotropic Hypopitys
Hypopitys monotropa Crantz.
- Hoary Rockrose
Helianthemum canum (L.) Baumg.
- Pontian
Iris pontica Zapal.
- Moldavian koeleria
Koeleria moldavica M. Alexeenco
- Snowflake
Leucopium aestivum L.
- Linear-leaved flax (lint)
Linum linearifolium (Lindem.) Iav.
- Perennial honesty
Lunaria rediviva L.
- Bifoliate may-lily
Matantherum bifolium (L.) F.W. Schmidt
- Honey balm
Melittis mellissophyllum L.
- Yellow water lily
Nuphar lutea (L.) Smith
- Water-lily (nimphaea)
Nymphaea alba L.
- Masculus orchis
Orchis mascula (Vest.) Soa.

- Green-winded orchis
Orchis mono L.
- Paludal orchis
Orchis palustris Jacq.
- Purple orchis
Orchis purpurea Huds.
- Adder's tongue
Ophioglossum vulgatum L.
- Rock snowflake
Ornithogalum oreoides Zahar.
- Peregrine peony
Paeonia peregrina MW.
- Herb paris (true love)
Paris quadrifolia L.
- Capitate whitlowwort
Paronychia cephalotes (Bieb.) Bess.
- Hart's-tongue
Phytilla scolopendrium (L.) Newm.
- Chlorantha rain orchis
Platanthera chlorantha (Cust.) Reichenb.
- Aculeate hollyform
Polystichum aculeatum (L.) Roth
- Grand pasqueflower
Pulsilla grandis Wend.
- Sawwortform macrocephalous
Rhaponticum serruloides (Georgi) Bobr.
- Podolan shivarechia
Shivarechia podolica (Bess.) Andrz.
- Water salvinia
Salvinia natans (L.) All.
- Squat skullcap
Scutellaria supina L.
- Sawwort cobra head
Serratula caput-najae Zahar.
- Meadow saxifrage
Seseli libanotis (L.) Koch
- Haussolek (hen-and-chickens)
Sempervivum ruthenicum Schnittsp. et C.B. Lehm.
- Hogfennek-leaved meadow saxifrage
Seseli peucedanifolium Bess.
- Winter-flowered sternbergia
Sternbergia calchiciflora Waldst. et Kit.
- Paludal thelypteris
Thelypteris palustris Schott
- Water chesnut (water caltrops, nut floating)
Trapa natans L.

Lianas

- Woodland European grape (Woodland grape)
Vitis silvestris C. C. Gmel.

Annotated Ramsar List for Moldova

Lower Dniester (Nistru de Jos). 20/08/03; Stefan-Voda Raion; 60,000 ha; 46 34'N 29 49'E; Nature Reserves; Landscape Reserve; Nature Monuments (paleontological). The designation of this part of the Dniester River in southeastern Moldova helps to complete the conservation of transboundary wetland of the Dniester delta, with two Ramsar sites downstream in Ukraine. This complex of relict and transformed habitats of the Dniester floodplain includes meandering zones with almost closed river loops typical for the northwest of the Black Sea basin, lakes and oxbows formed by river roaming, specific ash communities and unique old stand floodland poplar forest, *Fraxineto-Populeta (albae)*. The site supports many globally endangered and vulnerable bird species among which 2 are nesting (*Crex crex*, *Phalacrocorax pygmaeus*), 4 are present on migration (*Branta ruficollis*, *Aythya nyroca*, *Circus macrourus*, *Haliaeetus albicilla*), 1 regular visitor (*Pelicanus crispus*), and fish such as the Danube Salmon (*Hucho hucho*), the European Mud-minnow (*Umbra krameri*) and various species of sturgeons. The wetland is an important site for freshwater migratory fish as it supports more than 90% of the species of the region and offers a high diversity of biotopes: riverbed spawning ground, areas of pelagic spawning and nursery. However, the construction of dams in the Dniester valley has affected the terrestrial, aquatic and intermediate ecosystems and large areas of important meadow spawning grounds were lost. Grazing is also considered as an important disturbance. The site has recognized paleontological and archaeological value since the discovery of fossils and places such as tumuli, Cimmerian, Ghetic, Sarmatic and Slavic memorials. The NGO Biotica prepared management plans for the Talmazza Wetland (1,500 ha) and for agricultural and river regions. These have been approved by the Ministry of Ecology and Natural Resources. The creation of a Lower Dniester National Park is under discussion. Ramsar site no. 1316. Most recent RIS information: 2003. (www.ramsar.org)

Lower Prut Lakes. 20/06/00. Cahul Raion. 19,152 ha. 45°42'N 028°11'E. The River Prut forms the western border of the site as well as the state border with Romania, and the site extends to the river's confluence with the Danube. Consisting of Ramsar Wetland Types O (permanent freshwater lakes), M (permanent river), and 1 (fish ponds), the site is considered to fulfill Criteria 2 on vulnerable species and especially 3 on biodiversity. Lakes Beleu and Manta are unique ecosystems, described as the last natural floodplains in the lower Danube region. The system is important for groundwater recharge, flood control, and sediment trapping, and it supports an imposing list of rare and threatened species of flora and fauna. A number of heritage sites can be seen in the area, including some of Roman Emperor Trajan's wall (ca.100 A.D.). Fish harvests have been decreasing markedly in recent years, forests are generally seen to be deteriorating, and quite a few adverse conservation factors have been listed as requiring attention. A management plan is in preparation, particularly in hopes of creating a UNESCO Biosphere Reserve over more or less the same site. Ramsar site no. 1029. Most recent RIS information: 1999. (www.ramsar.org)

Unguri-Holosnita. 14/09/05; Ocnita-Soroca Region, 15,553 ha; 48°17'N 028°03'E. Landscape Reserve, Nature Monument. High rocky, crumbling-sloughing slopes and narrow flood-land of the Dniester River's left bank, in northeastern Moldova near the border with Ukraine. The Dniester includes wide, shallow segments here with little islands, small rivers and short creeks feeding the stream and forming steep canyons. Fluvial forests are formed by poplar associations with an admixture of willows, ash and elm, with riparian willow formations. The most numerous waterfowl and waders during forage and seasonal migrations are ducks, e.g. *Anas platyrhynchos*, *A.querquedula*, and *A. strepera*, which also predominate amongst wintering birds. Agriculture provides the main sources of economic life, supplemented by livestock farming and traditional fishing, which is losing its economic value as fish resources became scarce as a result of strong variations of discharge levels from the Novodnestrovsk hydropower station. There are more than sixty sites of cultural, geological, paleontological and archeological interest in the area, along with a settlement of Old Believers in the village of Pocrova. The Biotica Ecological Society in Chisinau was helpful in the preparation for this site designation. Ramsar site no. 1500. Most recent RIS information: 2005. (www.ramsar.org)

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Annex B: Environment-Related Legislation & Concepts, Plans, Programs, & Strategies

Abbreviations

GD Government Decision	PD Parliament Decision
PR Parliament Resolution	PD President Decree

Legislation (items denoted in red have direct relation to biodiversity protection)

1979	<ul style="list-style-type: none">• Forestry Code, (revised in 1996)
1991	<ul style="list-style-type: none">• Land Code, № 828-XII of 25 December (revised in 1995) (currently being revised 2006)
1992	<ul style="list-style-type: none">• Law on Enterprises and Entrepreneurship, № 845–XII of 03 January
1993	<ul style="list-style-type: none">• Law on Environmental Protection, № 1515–XII of 16 June• Law on Sanitary and Epidemiological Protection of the Population, № 1513-XII of 16 June• Subsoil Code, № 1511-XII of 152 June• Law on Cultural and Natural Monument Protection, № 1530–XII of 22 June• Water Code, № 1532-XII of 22 June
1994	<ul style="list-style-type: none">• Law on Civil Protection, № 271-XIII of 9 November
1995	<ul style="list-style-type: none">• Law on Health Protection, № 411-XIII of 28 March• Law on Fauna, № 439-XIII of 27 April• Law on Protection Zones for Water Rivers and Basins, № 440-XIII of 27 April• Law on Standardization, № 590-XII of 22 September• Law on State Service, № 647-VII of 17 November
1996	<ul style="list-style-type: none">• Law on Secondary Material Resources, № 787-XIII of 26 March• Law on Principles of Urbanism and Territorial Planning, № 835-XIII of 17 May• Law on Ecological Expertise and Environmental Impact Assessment, № 851-XIII of 29 May• Forest Code, № 887-XIII of 21 June• GD on Improvement of Forests and Forest Vegetation Management, № 595 of 29 October
1997	<ul style="list-style-type: none">• Law on Hazardous Substances and Products Management, № 1236 XII of 03 July• Law on Industrial and Domestic Wastes, № 1347 of 09 October• Law on Atmospheric Air Protection, № 1422-XIII of 17 December
1998	<ul style="list-style-type: none">• Law on Hydrometeorological Activity, № 1536-XIII of 25 February• Law on the Fund of Natural Areas protected by the State, № 1538-XIII of 25 February• Law on Payments on Environmental Pollution, № 1540-XIII of 25 February• GD on approval of Regulation on Environmental Impact Assessment of privatized enterprises, № 394 of 8 April• GD on approval of Regulation on Environmental Audit of Enterprises, № 395 of 8 April• Law on Energy, № 137_XIV of 17 September• Regulation on Environmental Funds, № 988 of 21 September• Regulations on the System of Integrated Environmental Monitoring. Ministry of Environment № 20 of 10 November
1999	<ul style="list-style-type: none">• Law on Drinking Water, № 272-XIV of 10 February• Law on issuing licenses for certain types of activities, № 332-XIV of 26 March, (has been replaced by the Law on Licensing Certain Types of Activities, № 451-XV of 30 July 2001)• Law on Foundations, № 581-XIV of 30 July• Law on Green Areas in Urban and Rural Settlements, № 591-XIV of 23 September• Law on international agreements, № 595-XIV of 24 September• Law on Plant Protection, № 612-XIV of 1 October• Law on Certification, № 652-XIV of 28 October

2000	<ul style="list-style-type: none"> • Regulation on Public Participation on Elaboration and Adoption of the Environmental Decision, № 72 of 26 January • Law on Industrial Safety of Dangerous Industrial Objects, № 803-XIV of 11 February • Law on Access to Information, № 982-XIV of 11 May • Law on Amelioration of Degraded Territories through Afforestation № 1041-XIV of 14 May
2001	<ul style="list-style-type: none"> • Law on the Licensing of Certain Types of Activities, № 451-XV of 30 July • Law on Biosafety, №755 of 21 December • Law on Geodesy and Cartography, № 778-XV of 27 December
2002	<ul style="list-style-type: none"> • Law on Approval of Regulation on Commercial Regime and Control of Use of Halogenated Hydrocarbons that Deplete Ozone Layer, № 852-XV of 14 February • Decree on the Adoption of the Water Supply and Sewage Programme of the Localities until 2006, № 519 of April 23 • Civil Code, № 1107-XV of 6 June • Decree on the Adoption of the Concept of the Organization and Functioning of Social and Health Monitoring and of the Regulation on Social and Health Monitoring, N 717 of 7 June • Law on Philanthropy and Sponsorship, № 1420-XV of 31 October
2003	<ul style="list-style-type: none"> • Law on Consumers Rights Protection, № 105-XV of 13 March • Law on Local Public Administration, № 123-XV of 18 March • Decree of the Government on the Adoption of the National Programme on Insurance of Environmental Safety, N 447 of 17 April • GD on National Commission for Biosafety, № 603 of 20 February • GD on the Approval of the Regulation on Control of Transboundary Transport of Wastes and Their Disposal, № 637 of 27 May • GD on Regulation on Creation, Registration, Addition, Storage (Custody), Export and Import of Collections of Plants and Animals from Wild Flora and fauna, № 1107 of 11 September
2004	<ul style="list-style-type: none"> • Regulation on Informing the Public and its Participation in Decision-making on Genetically Modified Organisms, MENR's Order, № 19 of 10 February
2005	<ul style="list-style-type: none"> • Law on Fertilizers and Products for Phytosanitary Use, № 119-XV of 9 June • Law on Ecological Agricultural Food Production, № 115-XVI of 9 June • GD on the Ministry of Ecology and Natural Resources, № 573 of 13 June
2006	<p>Draft Legislation at the time of FAA 119 field work</p> <ul style="list-style-type: none"> • Draft Law on the National Ecological Network • Draft Law on Hunting Fund and Game Protection • Draft Law on the Red Book of the Republic of Moldova • Draft Law on Vegetal Kingdom • Draft Law on Piscicultural Fund, Fishery and Conservation of the Aquatic Biological Resources • Draft Law for Compensation of Protected Areas (currently being elaborated)
2007	<ul style="list-style-type: none"> • Law on the National Ecological Network , approved 16 February

Concepts, Plans, Programmes, and Strategies

- 1995**
- **National environmental action plan (NEAP)**
 - Concept of environmental protection, (has been replaced by the Concept on Environmental Policy, № 605 – XV of 2 November 2001)
 - Concept of external policy, № 368-XIII from 8 February
-
- 1997**
- Concept of the development of cynegetics administration, PD № 1442-XIII of 24 December
-
- 1999**
- National Programme for gradual phase-out of ozone depleting substances, № 1064 of 11 November
-
- 2000**
- **National Action Programme for Combating Desertification, GD № 367 of 13 April**
 - National Programme on the Management of Industrial and Domestic Wastes, GD № 606 of 28 June
 - Programme of Water Supply and Sanitation for Municipalities until 2006
 - **National Concept on Ecological Agriculture, Production and Marketing of Ecological and Genetically Unmodified Food Products, GD № 863 of 21 August**
 - Energy Strategy of the Republic of Moldova until year 2010, GD № 360 of 11 April
-
- 2001**
- National Action Plan to Combat Desertification
 - Programme for the Reduction of Air Pollution Level from Vehicles, GD № 1047 of 04 October
 - National Environment and Health Action Plan (NEHAP), GD № 487 of 19 June
 - Programme of Government Activity for 2001-2005 “Economy Revival-Country Revival”
 - **Complex Programme for Protection of Soils against Erosion, 2003-2012**
 - Concept on Sustainable Development of Municipalities and Settlements, № 1491 of 28 December
 - **Concept of Environmental Policy, № 605-XV, 02 November**
 - **Biodiversity Conservation National Strategy and Action Plan, PD № 112-XV of 27 April**
 - **Strategy of the Sustainable Development of the Forest Fund, PD № 350-XV of 12 June**
 - National Strategy of Social and Economic Development for the medium term until , GD № 1415 of 19 December
-
- 2003**
- National Programme on Energy Conservation for the Years 2003-2010, GD № 1078 of 05 September
 - National Human Rights Action Plan for 2004-2008, PR № 415-XV of 24 October
 - **National Programme on Utilization of New Land and Improvement of Soil Fertility for 2003-2010, № 728 of 16 June**
 - **National Programme on Insurance of Ecological Safety, GD № 447 of 17 April**
 - Programme for Energy Efficiency Improvement in Industry for 2004-2005
 - Concept on Creation and Development of the National Network of International Transportation, GD № 365 of 28 March
 - Investment Strategy, GD № 234 of 27 February
 - Concept of National Policy in Water Resources for 2003-2010, PD № 325-XV of 18 July
 - **National Strategy for Sustainable Development of Forestry Fund and State Program on Forest Fund**
 - **Areas Regeneration and Forestation for 2003-2020**
 - Strategy on Sustainable Development of Tourism for 2003-2005
-
- 2004**
- National Implementation Plan for the Stockholm Convention on Persistent Organic Pollutants, GD № 1155 of 22 October
 - **Economical Growth and Poverty Reduction Strategy Paper, Law № 398-XV of 2 December**
 - **Concept of Transboundary Cooperation for 2004-2006, № 1069 of 20 September**
 - National Strategy on Reduction and Elimination of Persistent Organic Pollutants, GD № 1155 of 20 October
-
- 2005**
- Presidential programme “Moldovan Village”, GD № 242 of 01 March 2005
 - Programme of Activities for 2004-2009, “Modernization of the country - Wealth People”
 - Implementation of the Refrigerant Management Plan : technical assistance program
 - **EU/Moldova Action Plan, ratified in early 2005**
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Annex C: International Conventions

List of International Environmental Agreements to which Moldova is a Party	Date Ratified
Convention on the Conservation of European Wildlife and Natural Habitats (Bern, 1979)	23 June 1993
Convention on Environmental Impact Assessment in a Transboundary Context (Espoo, 1991)	23 June 1993
Convention on Transboundary Effects of Industrial Accidents (Helsinki, 1992)	23 June 1993
Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Helsinki, 1992)	23 June 1993
UN Convention on Biological Diversity (Rio de Janeiro, 1992)	16 March 1995
UN Framework Convention on Climate Change (Rio de Janeiro, 1992)	12 June 1995
Convention on Long-range Transboundary Air Pollution (Geneva, 1979)	9 July 1995
Convention on the Protection of the Ozone Layer (Vienna , 1995), Montreal Protocol on Substances that Deplete Ozone Layer (1979)	27 July 1996
Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (Basel, 1989)	10 March 1998
UN Convention on Combating Desertification (Paris, 1994)	24 December 1998
Convention on Cooperation for the Protection and Sustainable Use of the Danube River (Sofia, 1994)	17 March 1999
Convention on the Access to Information, Public Participation in Decision Making and Access to Justice in Environmental Matters (Aarhus, 1998)	7 April 1999
Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar, 1971)	14 July 1999
Convention on Conservation of Migratory Species of Wild Fauna (Bonn, 1979), Agreement on Conservation of bats in Europe and Agreement on Conservation of African–Euro-Asian Migratory Water Birds	28 September 2000.
Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (Washington, 1973)	28 September 2000
Convention on European Landscape (Florence, 2000)	12 October 2000
Convention on Persistent Organic Pollutants (Stockholm, 2001)	19 February 2004
Rotterdam Convention on the Prior Informed Consent Procedure For Certain Hazardous Chemicals and Pesticides in International Trade (Rotterdam , 1998)	5 November 2004

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Annex D: Donor & NGO Funded Projects in Moldova

Donor Funded Biodiversity Projects in Moldova

Nr	Project	Donor (Implementer)	Duration	Budget (USD)	Project Description / Issues addressed
1.	Delineation of Environmentally Sensitive Areas (ESA) in the Republic Of Moldova: GIS Approach	CRDF (Environmental Information Systems Research Group, National Institute of Ecology)	2003-2004		The project supported the development of critical digital information and design of a new and effective approach for delineating ESAs in the Republic of Moldova. The project outcomes will have a substantial impact on ESAs management and protection afterwards. The project provided a key step toward identification of critical environmental problems in Moldova such as degradation of biodiversity and fragile habitats, soil erosion, pollution of water bodies, etc.
2.	Endangered snakes conservation and steppe habitats restoration in new national park “ Lower Dniester“ in Moldova	Frankfurt Zoological Society (Biotica Ecological Society)	2004		
3.	Assessment of Capacity Building Needs and Country Specific Priorities in Biodiversity	GEF	2003-2005	340,000	The objective of this request for a second phase biodiversity-enabling activity grant is to assist the Republic of Moldova in further evaluating its capacity building needs, defining country specific priorities, analyzing functional capabilities and determining mechanisms necessary to protect national biodiversity in accordance with the BSAP recommendations, and the GEF and CoP/CBD guidelines.
4.	Moldova: Ecological Network Development in Middle Prut River Catchment	GEF/WB (MENR - Biodiversity Office)	2004-2005		The World Bank assisted the EcoSpectru NGO to prepare a Medium Size Project for GEF Funding to improve habitat conservation in the catchment of the middle Prut valley, in west-central Moldova, through: (a) preparing and implementing measures on the conservation of the globally and regionally endangered biodiversity; (b) establishing ecological network to enhance habitat connectedness especially of the existing protected areas; (c) strengthen the management of 10,500 ha of protected areas, with special attention to Padurea Domneasca Nature Reserve, including biodiversity monitoring and enforcement capacity; and (d) raise public awareness on conservation of the Middle Prut ecosystem issues and involve local communities, NGOs in decision making and activities with regard to project goal.

Nr	Project	Donor (Implementer)	Duration	Budget (USD)	Project Description / Issues addressed
5.	Biodiversity conservation in ecosystems of the Lower Dniester	GEF (Biotica on behalf of the Ministry of Ecology and Natural Resources)	2002-2005	1,670,000	The project objective aimed to improve in-situ conservation of biodiversity in the Lower Dniester river. To achieve this, the project: (i) supported efforts towards the creation of a national park in the lower Dniester river basin and build local capacity for its management; (ii) restore forest habitat linkages and water management of floodplain forests; (iii) promote sustainable management of forest and meadow resources inside and outside of the protected area; (iv) build awareness among local communities and disseminate the benefits of project activities; and (v) improve collaboration with Ukraine on the protection of the transboundary wetlands of the Dniester Delta region. While this largely successful project ended following the decision in the Parliament not to formally create the NP, important scientific research was conducted as well as an increase in critical local interest and understanding of the need for and benefits from a NP.
6.	Elaboration of Management Plan for the Talmazza Wetland and Bats Conservation in the “Lower Dniester” national park in Moldova	Michael Otto Foundation: (Biotica Ecological Society)	2005		
7.	International conference “Integrated Management of Natural Resources in the Transboundary Dniester River Basin	MRDA/CRDF & RITA Program, Poland (“Eco-TIRAS”)	2004		The International Conference organized by Eco-TIRAS in partnership with the MENR brought together 160 participants from Moldova and abroad. In parallel with this Conference the Second Eco-Forum ‘Eco-Dniester-2004’ took place. During both events the recommendations on improvement of ecological situation in the Dniester River basin were adopted.
8.	Identification of new Ramsar Site: “Unghuri-Holosnita” of the middle Dniester in Moldova	Society of Wetland Scientists: Ramsar Support Grant Program: (Biotica Ecological Society)	2003-2004		

Nr	Project	Donor (Implementer)	Duration	Budget (USD)	Project Description / Issues addressed
9.	Restoration, Rehabilitation and Implementation of Protective Measures in the Core Wetland Areas in the Dniester River Downstream in Moldova	Ramsar Small Grant Fund (Biotica Ecological Society)	2000-2001		
10.	Evaluation Study to Support Implementation of Management Plan for the Lower Prut Lakes Ramsar Site	Ramsar Small Grant Fund (ECOS)	2004-2005		
11.	Creation of LEAPs & various wetland-related project on local level	REC-Moldova	2000-2006		REC facilitated the creation of three model LEAPs in key regions of Moldova with funding from the EU & USEPA. Other efforts include support of local level wetland projects
12.	Support to Regional Environmental Center Moldova	European Commission (TACIS)	2004-2006	787,598	Fostering civil society participation and promoting international as well as inter-regional co-operation in environmental protection issues and sustainable development; consolidating the NRECs management and operational capacities.
13.	Support to the Implementation of the National Biosafety Framework	UNEP/GEF	2006-2010	689,000	The main purpose of this project is to help Moldova to strengthen the existing institutional and technical structures and infrastructures needed to meet the obligations of the Protocol and have a National Biosafety Framework fully operational by : - The implementation of the Moldova's legislative framework on the safe use of biotechnology through improvement of the Biosafety law, development of sectoral regulations, guidelines and manuals; - The preparation of specific technical guidelines; - The strengthening of appropriate institutional structures for risk assessment and decision making; - The development and implementation of policies for biosafety; - The training of decision makers, scientists, and administrative and technical staff on legal and technical matters; - The reinforcement of the existing infrastructures (laboratories) to strengthen monitoring; - The setting up of a mechanism for monitoring and enforcement; - The strengthening of communication and information exchange relating to biosafety both at the national level as well as through the BCH - Systems for strengthening public awareness, education and participation in decision making on GMOs.

Sources: 2004 Environmental Report, World Bank, GEF, EC, MENR, and REC

Donor Funded Projects with a direct link to Biodiversity conservation in Moldova

Nr	Project	Donor (Implementer)	Duration	Budget (USD)	Project Description / Issues addressed
1.	Agriculture Pollution Control Project (APCP)	WB/GEF (CAMPU)	2004-2009	10,750,00	The overall objective of the APCP is to reduce nutrient (N&P) pollution from agricultural sources in to the Danube River and Black Sea. In support of this objective, the project will assist the Government of Moldova to: (i) promote the adoption of environment-friendly practices in crop and livestock production and in rural agro-industries that contribute to nutrient pollution, including wetland and integrated watershed management; (ii) strengthen national policy, regulatory and institutional capacity for agricultural nutrient pollution control and organic farming; and (iii) promote a broad public awareness campaign and replication strategy.
2.	Renewable Energy From Agricultural Waste (REAW)	WB/GEF (CAMPU)	2005-2007	2,630,000	The project will provide a foundation for a broad and efficient use of biomass in substitution for imported fossil fuels (coal), acting as a catalyst for the introduction and promotion of the use of primary agricultural wastes (wheat straw) to fuel energy generation using efficient technologies. This will (i) reduce greenhouse emissions by replacing fossil fuels and simultaneously reduce environmental pollution from unwanted biomass otherwise being burnt in the fields; (ii) improve energy efficiency in heating systems; (iii) introduce renewable energy from local sources substituting carbon neutral biomass for fossil fuels; (iv) recycle ash residues as a fertilizer; (v) generate the possibility for new income streams for rural population, and (vi) provide social and economic community benefits.
3.	Moldova: Soil Conservation	WB-BioCarbon Fund (Moldsilva)	2002-2014	14,400,000	Moldova Soil Conservation project is reforesting 19,768 ha of bad lands in the process of heavy erosion and degraded unproductive pasturelands, by means of afforestation with tree and shrub species adapted to these adverse site conditions, providing urgently needed fuel wood and timber to rural people.

Sources: WB, CAMPU, and GEF

Donor Funded Environmental Projects in Moldova

Nr	Project	Donor (Implementer)	Duration	Budget (USD)	Project Description / Issues addressed
4.	Black Sea Investment Facility	European Commission (TACIS)	2004-2006	4,125,515 (total for all countries) 375,046 (for Moldova)	To provide key consultancy inputs in the final preparatory stages of specific projects prior to loan financing by the IFIs, which in the medium to long term will contribute to environmental improvements and pollution reduction in the Black Sea; to prepare agreed pre-feasibility and regional screening studies to identify projects that may be suitable for IFI financing; and to identify and prioritize small high impact environmental projects which could be eligible for direct grant-financing by the EC (up to a value of 700 000 Euro) and might attract partial-grant IFI funding
5.	Technical Assistance for Armenia, Azerbaijan, Georgia and Moldova for the observance of their obligations on global climate changes	European Commission (TACIS)	2004-2006	1,540,000	To assist Armenia, Azerbaijan, Georgia and Moldova in building institutional and technical capacity for participation in the UNFCCC and Kyoto Protocol. To build capacity for hosting CDM projects in the beneficiary countries, including assistance in forming the institutional framework required to support CDM projects and to develop a portfolio of possible CDM project.
6.	Support Project for the TACIS Cities Award Scheme (TCAS)	European Commission (TACIS)	2005-2007	500,000 (for 5 countries)	The project will inform municipalities in the border regions of Moldova about the Tacis Cities Award Scheme (TCAS), which will provide grants to towns and cities to fund projects in the field of sustainable development and environmental protection.
7.	Water Investment Support Facility (WISF)	European Commission (TACIS)	2005-2007	3,375,421 (for 12 countries)	Overall objective is to improve access to safe drinking water and adequate water services, as well as strengthening water governance and reducing water pollution.
8.	Consolidation of the Water Data Center	France Government	2001-2006	27,897	Project focused on the modernization of water data collection and analysis
9.	Enabling Moldova to prepare its Second National Communication in Response to its Commitments to the UN FCCC	GEF	2005-2008	405,000	The project will identify and create links to national/international sources of information and establish information network/centre; organize/ undertake national inventory of GHG; study potential impacts of climate change on water management, agriculture, etc; using results of vulnerability assessment, undertake analysis of potential options to adapt to climate change; undertake analysis of potential GHG abatement options; organize workshop to present results of the project; prepare national action plan for response measures to climate change; compile information to include in its national communication; Prepare, translate and publish national communication of Moldova.

Nr	Project	Donor (Implementer)	Duration	Budget (USD)	Project Description / Issues addressed
10.	Capacity Building for Improving the Quality of Greenhouse Gas Inventories (Europe/CIS region: Albania, Armenia, Azerbaijan, Croatia, Georgia, Macedonia, Moldova, Mongolia, Slovenia, Tajikistan, Turkmenistan and Uzbekistan)	GEF/UNDP; Switzerland Government	2003-2006	62,000	Capacity Building for Improving the Quality of Greenhouse Gas Inventories in Moldova
11.	Management of POPs (Persistent Organic Pollutants) Stocks	GEF/WB	2006-2010	12,600,00	The Persistent Organic Pollutants (Pops) Stockpiles Management and Destruction Project for Moldova aims to protect the environment and human health by safely managing and disposing of stockpiles of POPS contaminated pesticides and Polychlorinated biphenyls (PCBs).
12.	Public information, education and awareness raising on environmental matters in the NIS	TACIS	2002-2004		
13.	a)Setting the institutional framework for implementation of the Montreal Protocol b)Training on monitoring and control of CFC c)Training of trainers from refrigeration sector	UNEP/Multilateral Fund of the Montreal Protocol	1999-2006	a)218,668 b)38,000 c)21,500	Assistance to Moldova to support the implementation of the Montreal Protocol
14.	Water supply and sewerage systems in settlements of the Republic of Moldova	WB	2003-2007	14,000,000	The Water Supply and Sanitation Project will enhance the country's welfare, namely within the poorest rural areas, and medium-sized towns and cities, by improving the quality, efficiency, and sustainability of water supply and sanitation services.
15.	Water and Sanitation	WB/GEF (Pending)	(pending)	5,000,000	The objectives of the project are to (a) reduce the discharge of pollutants, including nutrients, from municipal and rural sources into the Dniester River and Black Sea, and (b) develop a transnational Dniester River Basin management plan. Decision meeting was scheduled for 29 September 2006. No further information was available.

Nr	Project	Donor (Implementer)	Duration	Budget (USD)	Project Description / Issues addressed
16.	Moldova: Biomass Heating and Energy Conservation	WB-Community Development Carbon Fund	2006-2017	2,000,000	The project involves installing new heating systems for a variety of public buildings as well as rehabilitation of the respective buildings. The main feature of this project is the use of biomass as an alternative fuel for heat production. The project will include up to two hundred project activities distributed throughout 13 municipalities in Moldova, including about 50 schools and kindergartens with more than 15,000 children and about 25 hospitals and clinics with more than 4,000 beds. The aim is to increase the overall efficiency of the heating systems up to 80-90% and simultaneously to reduce the greenhouse gas emissions, by implementing energy efficiency and fuel switching measures. The CDCF intends to purchase emission reductions of at least 348,000 tons of carbon dioxide equivalent over a ten-year period for almost US\$2 million.
17.	Capacity building for development and implementation of carbon financing projects	WB	2005-2007	386,750	

Source: 2004 Environmental Report, World Bank, GEF, EC, and MENR

Regional Donor Funded Projects in Moldova

Nr	Project	Donor (Implementer)	Duration	Budget (USD)	Issues addressed
1.	Strategic Partnership for Nutrient Reduction in the Danube River and Black Sea - World Bank-GEF Nutrient Reduction Investment Fund: Tranche 1-3	GEF/WB (Varies by project)	2001-2012	\$70,000,000	The World Bank-GEF Investment Fund (IF) is the investment arm of the GEF Strategic Partnership on the Black Sea/Danube Basin that also funds two regional projects, the Black Sea Ecosystem Recovery Project for the Black Sea littoral countries and the Danube Regional Project in the Danube Basin , both focusing mainly on capacity building activities. The Fund constitutes a proposed envelope of US\$70 million, to be approved by the GEF Council in three tranches, to partially grant-finance investment projects in the Black Sea/Danube Basin that aim at nutrient reduction. In May 2001, the GEF Council approved the first tranche of the IF, US\$20 million. The Council approved the second tranche of US\$16 million in May 2002. Eligible areas of intervention for support under the Fund include investments to remediate and mitigate nutrient pollution in municipalities, industry and agriculture, as well as policy and legal reform and capacity building for enhanced monitoring and enforcement. The Investment Fund provides a focused regional framework for country level investments aimed at a common goal of combating eutrophication in the Black Sea and allows for a streamlined approach to project processing by the GEF.
2.	Strengthening the Implementation Capacities for Nutrient Reduction and Transboundary Cooperation in the Danube River Basin-Phase I Project Short Title: Danube Regional Project Phase 1	GEF/UNDP (UNOPS in cooperation with ICPDR)	2001-2003	\$11,600,000	The overall objective of this project is to complement and support the activities of the Danube Commission (ICPDR) required to provide a regional approach to the development of national policies and legislation and to define priority actions for nutrient reduction and pollution control, with particular attention to transboundary effects within the Danube Basin and the Black Sea. The project addresses the following objectives: (i) development of policies, legal instruments and measures for nutrient reduction as well as for exacting compliance; (ii) institutional strengthening and capacity building; (iii) awareness raising and reinforcement of NGO participation; (iv) development of transboundary strategies and concepts related to nutrient reduction and pollution control; (v) provide the framework for the dissemination and replication of successful demonstration activities in the region.

Nr	Project	Donor (Implementer)	Duration	Budget (USD)	Issues addressed
3.	Strengthening the Implementation Capacities for Nutrient Reduction and Transboundary Cooperation in the Danube River Basin (Tranche 2)	GEF/UNDP (UNOPS in cooperation with ICPDR)	2003-2006	\$25,118,000	The overall objective of the Danube Regional Project is to complement the activities of the ICPDR required to provide a regional approach and global significance to the development of national policies and legislation and the definition of priority actions for nutrient reduction and pollution control with particular attention to achieving sustainable transboundary ecological effects within the DRB and the Black Sea area. Taking into account the basic orientations of the Danube/Black Sea Basin Programmatic Approach, the Danube Regional Project, in its Phases 1 and 2, shall facilitate implementation of the Danube River Protection Convention in providing a framework for coordination, dissemination and replication of successful demonstration that will be developed through investment projects (World Bank-GEF Strategic Partnership, EBRD, EU programmes for accession countries etc.). Specific objective of Phase 2 of the Project is to set up institutional and legal instruments at the national and regional level to assure nutrient reduction and sustainable management of water bodies and ecological resources, involving all stakeholders and building up adequate monitoring and information systems.

Source: GEF

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Annex E: Endangered Species: Red Book of Moldova and IUCN Red List

E.1 Red Book of Moldova

The Red Book of the Republic of Moldova (2001, second edition) includes 242 species: 117 plant species, 9 mushroom species and 116 animal species. Some species of vascular plants and lichens, mammals, birds, reptiles and fish are very endangered. The number of state protected plant and animal species increased considerably, reaching in 1998 the share of 484 species. From the total number of endangered plants, 48 species are specific to forest ecosystems, 32 – to steppe, 19 – to petrophyte, 18 – to meadow and 4 – to aquatic ecosystems.

Plant and animal species included in the Red Book

Plant and animal groups	Categories			
	CR	EN	VU	Total
Terrestrial and aquatic plants				
Angiospermae	27	29	25	81
Gymnospermae	0	0	1	1
Pteridophyta	2	5	2	9
Bryophyta	0	5	5	10
Lichenophyta	3	7	6	16
Micophyta	0	2	7	9
Animals				
Mammals	9	2	3	14
Birds	29	2	8	39
Reptiles	1	7	0	8
Amphibians	1	0	0	1
Cyclostomatae	0	0	1	1
Fish	1	5	6	12
Crustaceae	0	1	0	1
Mollusks	1	2	0	3
Insects	17	17	3	37

Terrestrial and aquatic plants

Angiosperms

Nr.	Species	Family	Class	Status
1	<i>Alnus glutinosa</i> (L) Gaertn. - Arin negru	Betulaceae	Magnoliopsida	EN
2	<i>Alnus incana</i> (L) Moench. - Arin alb	Betulaceae	Magnoliopsida	CR
3	<i>Astragalus dasyanthus</i> Pall. R - Zăvăcustă	Fabaceae	Magnoliopsida	VU
4	<i>Astragalus pubiflorus</i> DC. R - Coșaci pubiflor	Fabaceae	Magnoliopsida	VU
5	<i>Carpinus orientalis</i> Mill. - Cărpiniță	Corylaceae	Magnoliopsida	EN
6	<i>Centaurea angelescui</i> G. Grint - Albăstrea Angelescu	Asteraceae	Magnoliopsida	VU
7	<i>Centaurea thirkei</i> Sch. Bip. - Albăstrea Thirke	Asteraceae	Magnoliopsida	VU
9	<i>Convolvulus cantabrica</i> L. - Volbură cantabrică	Convolvulaceae	Magnoliopsida	EN
10	<i>Convolvulus lineatus</i> L. - Volbură lineată	Convolvulaceae	Magnoliopsida	VU
11	<i>Coronilla elegans</i> Panc. - Coroniște elegantă	Fabaceae	Magnoliopsida	VU
12	<i>Crambe tataria</i> Sebeok - Hodolean tătăresc	Brassicaceae	Magnoliopsida	EN
13	<i>Crataegus pentagyna</i> Waldst. et Kit. - Păducel pentagin	Rosaceae	Magnoliopsida	CR
14	<i>Daphne mezereum</i> L. - Tulchină	Thymelaeaceae	Magnoliopsida	CR
15	<i>Delphinium fissum</i> Waldst. et Kit. - Nemțșor fisurat	Ranunculaceae	Magnoliopsida	CR
16	<i>Dentaria glandulosa</i> Waldst. et Kit. - Colțșor glandulos	Brassicaceae	Magnoliopsida	VU
17	<i>Dentaria quinquefolia</i> Bieb. - Colțșor pentafoliat	Brassicaceae	Magnoliopsida	EN
18	<i>Dictamnus gimnostylis</i> Stev. - Frâsinel gimnostil	Rutaceae	Magnoliopsida	EN
19	<i>Digitalis lanata</i> Eeh. - Degetar lănos	Scrophulariaceae	Magnoliopsida	CR
20	<i>Doronicum hungaricum</i> Reichenb. fil. - larba-ciutei	Asteraceae	Magnoliopsida	VU
21	<i>Eremogone cephalotes</i> (Bieb) Fenzl - Studeniță capitată	Caryophyllaceae	Magnoliopsida	CR
22	<i>Eremogone rigida</i> (Bieb) Fenzl - Studeniță rigidă	Caryophyllaceae	Magnoliopsida	VU
23	<i>Euonymus nana</i> Bieb. - Vonicer pitic	Celastraceae	Magnoliopsida	VU
24	<i>Genista tetragona</i> Bess. - Drobușor tetramuchiatic	Fabaceae	Magnoliopsida	EN
25	<i>Genistella sagittalis</i> (L.) Gams. - Grozamă	Fabaceae	Magnoliopsida	CR
26	<i>Gymnospermium odessanum</i> (DC) Takht. - Gimnospermiu-de-Odesa	Berberidaceae	Magnoliopsida	CR
27	<i>Gypsophila glomerata</i> Pall ex Adam - Ipcărige glomerată	Caryophyllaceae	Magnoliopsida	CR
28	<i>Helianthemum canum</i> (L) Baumg - larba-osului	Cistaceae	Magnoliopsida	EN
9	<i>Hepatica nobilis</i> Mill. - Popâlnic	Ranunculaceae	Magnoliopsida	VU
30	<i>Hypopitys monotropa</i> Crantz - Sugătoare	Monotropaceae	Magnoliopsida	CR
31	<i>Jurinea stoechadifolia</i> (Bieb.) DC. - Iurinee lavandifolie	Asteraceae	Magnoliopsida	VU
32	<i>Lunaria annua</i> L. - Pana-zburătorului	Brassicaceae	Magnoliopsida	VU
33	<i>Lunaria rediviva</i> L. - Lopățea	Brassicaceae	Magnoliopsida	EN
34	<i>Melittis sarmatica</i> Klok. - Dumbravnic	Lamiaceae	Magnoliopsida	CR
35	<i>Nymphaea alba</i> L. - Nufăr alb	Nymphaeaceae	Magnoliopsida	EN
36	<i>Padus avium</i> Mill. - Mălin comun	Rosaceae	Magnoliopsida	EN
37	<i>Paeonia peregrina</i> Mill. - Bujor-de-pădure	Paeoniaceae	Magnoliopsida	CR
38	<i>Paronychia cephalotes</i> (Bieb) Bess. - Paronihie capitată	Caryophyllaceae	Magnoliopsida	EN
39	<i>Pulsatilla grandis</i> Wend. - Dedițel mare	Ranunculaceae	Magnoliopsida	EN
40	<i>Pyrus elaeagnifolia</i> Pall. - Păr-de-Dobrogea	Rosaceae	Magnoliopsida	EN
41	<i>Rhamnus tinctoria</i> Waldst. Et Kit. - Verigariu	Rhamnaceae	Magnoliopsida	VU
42	<i>Rhaponticum serratuloides</i> (Goergi) Borb. - Stevie turcească	Asteraceae	Magnoliopsida	CR
43	<i>Rindera umbellata</i> (Waldst et Kit) Bunge - Rinderă umbelată	Boraginaceae	Magnoliopsida	EN
44	<i>Schivereckia podolica</i> Andr. ex DC. - Șiverechie podoliană	Brassicaceae	Magnoliopsida	VU
45	<i>Scopolia carniolica</i> Jacq. - Mutulică	Solanaceae	Magnoliopsida	VU
46	<i>Scutellaria supina</i> L. - Mirgău pitulat	Lamiaceae	Magnoliopsida	CR
47	<i>Sorbus domestica</i> L. - Scoruș	Rosaceae	Magnoliopsida	EN
48	<i>Trapa natans</i> L. - Cornaci	Trapaceae	Magnoliopsida	CR

49	<i>Trifolium pannonicum</i> Jacq. - Trifoi panoniat	Fabaceae	Magnoliopsida	VU
50	<i>Vitis sylvestris</i> C. C. Gmel. - Viță-de-pădure	Vitaceae	Magnoliopsida	EN
51	<i>Bellevalia sarmatica</i> (Georgi) Woronow - Belevale sarmatiană	Hiacintacee	Liliopsida	CR
52	<i>Bulbocodium versicolor</i> (Ker.-Gawl.) Spreng. - Bulbocodiu diversicolor	Melantiacee	Liliopsida	EN
53	<i>Cephalanthera damasonium</i> (Mill.) Druce Orchidaceae - Căpșuniță grandifloră	Orchidaceae	Liliopsida	VU
54	<i>Cephalanthera longifolia</i> (L.) Fritsch - Căpșuniță longifolie	Orchidaceae	Liliopsida	VU
55	<i>Cephalanthera rubra</i> (L.) Rich. - Căpșuniță roșie	Orhidaceae	Liliopsida	CR
56	<i>Chrysopogon gryllus</i> (L.) Trin. - Sadină	Poaceae	Liliopsida	VU
57	<i>Colchicum fominii</i> Bordz - Brândușă Fomin	Melantiacee	Liliopsida	EN
58	<i>Colchicum ancynense</i> B.L.Burt. - Brândușă triflă	Melantiacee	Liliopsida	EN
59	<i>Cypripedium calceolus</i> L. - Papucul-doamnei	Orhidaceae	Liliopsida	CR
60	<i>Epipactis palustris</i> (L.) Crantz - Mlăștiniță palustră	Orchidaceae	Liliopsida	EN
61	<i>Epipactis purpurata</i> Smith - Mlăștiniță purpurie	Orhidaceae	Liliopsida	VU
62	<i>Eriophorum latifolium</i> Hoppe - Bumbăcăriță latifolie	Cyperaceae	Liliopsida	CN
63	<i>Galanthus elwesii</i> Hook.fil. - Ghiocel elvez	Amarialidacee	Liliopsida	CR
64	<i>Galanthus nivalis</i> L. - Ghiocel nival	Amarialidacee	Liliopsida	CR
65	<i>Galanthus plicatus</i> Hook.fil. - Ghiocel plicat	Amarialidacee	Liliopsida	CR
66	<i>Gladiolus imbricatus</i> L. - Săbiuță imbricată	Iridaceae	Liliopsida	CR
67	<i>Iris pontica</i> Zapal. - Stânjeneț pontic	Iridaceae	Liliopsida	EN
68	<i>Koeleria moldavica</i> M. Alexeenko - Kelerie moldovenească	Poaceae	Liliopsida	EN
69	<i>Fritillaria meleagroides</i> Patrin ex Schrin.et Schult.fil. - Lalea peștișă	Liliaceae	Liliopsida	CR
70	<i>Leucojum aestivum</i> L. - Ghiocel bogat	Amaryllidaceae	Liliopsida	EN
71	<i>Maianthemum bifolium</i> (L.) F.W. Schmidt.- Lăcrimiță bifolie	Convalariacee	Liliopsida	CR
72	<i>Nectaroscordum dioscoridis</i> (Sibth.et Smith) Stank. - Ceapă bulgărească	Alliaceae	Liliopsida	EN
73	<i>Orchis morio</i> L. - Untul-vacii	Orchidaceae	Liliopsida	CR
74	<i>Orchis palustris</i> Jacq. - Poronic palustru	Orchidaceae	Liliopsida	EN
75	<i>Orchis purpurea</i> Huds. Poronic purpuriu	Orchidaceae	Liliopsida	EN
76	<i>Dactylorhiza majalis</i> (Reichenb.) P.F.Hunt et Summerhayes - Poronic-de-mai	Orchidaceae	Liliopsida	CR
77	<i>Ornithogalum amphibolum</i> Zahar. - Lușcă ambiguă	Hiacintacee	Liliopsida	EN
78	<i>Ornithogalum oreoides</i> Zahar. - Lușcă-de-munte	Hiacintacee	Liliopsida	EN
79	<i>Sesleria heufleriana</i> Schur. - Seslerie Heufler	Poaceae	Liliopsida	VU
80	<i>Poa versicolor</i> Mill. - Firuță diversicoloră	Poaceae	Liliopsida	VU
81	<i>Sternbergia colchiciflora</i> Waldst. et Kitt. - Ghiocel-de-toamnă	Amaryllidaceae	Liliopsida	EN
82	<i>Ephedra distachya</i> L. - Cârcel	Ephedraceae	Clamidospematopside	VU
83	<i>Athyrium filix-femina</i> (L.) Roth. - Spinarea lupului	Athyriaceae	Pteridophyta	VU
84	<i>Dryopteris carthusiana</i> (Vill.) H.P. Fuchs - Ferigă cartuziană	Driopteridaceae	Pteridophyta	EN
85	<i>Gymnocarpium dryopteris</i> (L.) Newm. - Gimnocarpiu ferigoideu	Atiriacee	Pteridophyta	CR
86	<i>Gymnocarpium robertianum</i> (Hoffm.) Newm. - Gimnocarpiu robert	Atiriacee	Pteridophyta	CR
87	<i>Polystichum aculeatum</i> (L.) Roth - Creasta-cocoșului	Dryopteridaceae	Pteridophyta	EN
88	<i>Thelypteris palustris</i> Schott - Ferigă palustră	Thelypteridaceae	Pteridophyta	EN
89	<i>Ophioglossum vulgatum</i> L. - Limba șarpelui	Ophioglossaceae	Pteridophyta	CR
90	<i>Phyllitis scolopendrium</i> (L.) Newm. - Năvalnic	Aspleniaceae	Pteridophyta	EN
91	<i>Salvinia natans</i> L. - Peștișoară	Salviniaceae	Pteridophyta	EN

Bryophyte

Nr.	Species	Family	Status
1	<i>Calliergonella cuspidata</i> (Hedw.) Loeske - Caliergonelă cuspidată	Amblystegiaceae	VU
2	<i>Cirriphyllum piliferum</i> (Hedw.) Gront - Cirifilum pilifer	Brachytheciaceae	VU
3	<i>Climacium dendroides</i> (Hedw.) Web. Et Mohr - Climacium dendroideu	Climaciaceae	EN
4	<i>Dicranum polysetum</i> Sm - Dicranum poliset	Dicranaceae	VU
5	<i>Dicranum scoparium</i> Hedw. - Dicranum paniculiform	Dicranaceae	VU
6	<i>Pleurozium schreberi</i> (Bird.) Lindb. - Pleurozum Şreder	Entodontaceae	EN
7	<i>Hylocomium splendens</i> B.s.G. - Hilocomium splendid	Hylocomiaceae	EN
8	<i>Homalia trichomanoides</i> B.S.G. - Homalie trihomanoidă	Neckeraceae	VU
9	<i>Neckera pennata</i> Hedw. - Neckera penată	Neckeraceae	EN
10	<i>Rhytidiadelphus triquetrus</i> (Hedw.) Warnst. - Ritidiadelf trimuchiat	Rhytidiaceae	EN

Lichenophyta

Nr.	Species	Family	Status
1	<i>Cladonia rangiformis</i> Hoffm. - Cladonie penicorniformă	Cladoniaceae	CR
2	<i>Pseudevernia furfuracea</i> (L.) Zopt. - Pseudevernie decorticoasă	Hypogymniaceae	VU
3	<i>Peltigera rufescens</i> (Weis.) Humb. - Peltigeră roşcată	Poltigeraceae	EN
4	<i>Ramalina farinacea</i> (L.) Ach. - Ramalină farinoză	Ramalinaceae	VU
5	<i>Ramalina fastigiata</i> Ach. - Ramalină fastigiată	Ramalinaceae	CR
6	<i>Ramalina fraxinea</i> (L.) Ach. - Ramalină-de-frasin	Ramalinaceae	VU
7	<i>Peltigera canina</i> (L.) Willd. - Peltigeră canină	Poltigeraceae	VU
8	<i>Ramalina polynaria</i> Ach. - Ramalină polinară	Ramalinaceae	VU
9	<i>Usnea hirta</i> (L.) Wigg. - Usnee rigidă	Usneaceae	EN
10	<i>Dermatocarpon miniatum</i> (L.) Mann. - Dermatocarpon roşu-opac	Dermatocarpaceae	EN
11	<i>Endopyrenium hepaticum</i> (L.) Koerb. - Endopireniu hepatic	Verucariaceae	EN
12	<i>Endopyrenium rufescens</i> (Ach.) Koerb. - Endopireniu roşcat	Verucariaceae	EN
14	<i>Platismatia glauca</i> (L.) C.Culb. et W. Culb - Platismatie albăstrie	Permeliaceae	VU
15	<i>Xanthoparmelia vagans</i> (Nyl.) Hale. - Xantoparmelie vagabondă	Permeliaceae	CR
16	<i>Peltigera polydactyla</i> (Neck.) Hoffm. - Peltigeră polidactilă	Poltigeraceae	EN

Mycophyta

Nr.	Species	Family	Status
1	<i>Boletus aereus</i> Fr. - Hrib arămiu	Boletaceae	VU
2	<i>Hypoloma thrausta</i> (Schn.ap Kalchbr.) Urbn. - Hifolomă traustă	Strophariaceae	EN
3	<i>Phylloporus rhodoxanthus</i> (Schw.) Bres. - Filopor roz-galben	Boletaceae	VU
4	<i>Amanita muscaria</i> (Fr.) Hook. - Amanită-de-muscă	Amanitaceae	VU
5	<i>Amanita solitaria</i> (Fr.) Secr. - Amanită solitară	Amanitaceae	VU
6	<i>Morchella steppicola</i> Zer. - Zbârciog-de-stepă	Morchellaceae	VU
7	<i>Clavariadelphus pistillaris</i> (Fr.) Donk. - Clavaridelf pistilar	Clavariaceae	VU
8	<i>Hygrophorus mesotephrus</i> Berk et Br. - Higofor mezotefru	Hygrophoraceae	EN
9	<i>Mutinus caninus</i> Fr. - Mutin canin	Phallaceae	VU

Animals

Mammals

Nr.	Species	Family	Status
1	<i>Felis sylvestris</i> (Schreber, 1777) - Pisică sălbatică	Felidae	EN
2	<i>Mustela lutreola</i> (Linnaeus, 1761) - Nurdă europeană	Mustelidae	CR
3	<i>Mustela erminea</i> (Linnaeus, 1758) - Hermelină	Mustelidae	VU
4	<i>Martes martes</i> (Linnaeus, 1766) - Jder-de-pădure	Mustelidae	VU
5	<i>Lutra lutra</i> (Linnaeus, 1758) - Vidră	Mustelidae	CR
6	<i>Crocidura leucodon</i> (Hermann, 1780) - Chițcan-cu-abdomen-alb	Soricidae	CR
7	<i>Myotis bechsteinii</i> (Kuhl, 1818) - Noptar-cu-urechi-mari	Vespertilionidae	CR
8	<i>Barbastella barbastellus</i> (Schreber, 1774) - Barbastel european	Vespertilionidae	CR
9	<i>Myotis nattereri</i> (Kuhl, 1818) - Noptar natterer	Vespertilionidae	CR
10	<i>Vespertilio murinus</i> (Linnaeus, 1758) - Vespertil bicolor	Vespertilionidae	CR
11	<i>Nyctalus lasiopterus</i> (Schreber, 1780) - Nictal gigantic	Vespertilionidae	CR
12	<i>Mustela eversmanni</i> (Lesson, 1827) - Dihor-de-stepă	Mammalia	EN
13	<i>Rhinolophus ferrumequinum</i> (Schreber, 1775) - Rinolofid mare	Vespertilionidae	CR
14	<i>Spermophilus citellus</i> (Linnaeus, 1766) - Popândau comun	Sciuride	VU

Amphibia, reptiles, mollusks

Nr.	Species	Family	Class	Status
1	<i>Pelobates fuscus</i> (Laurenti, 1768) - Broască-de-câmp	Pelobatidae	Amphibia	CR
2	<i>Emys orbicularis</i> (Linnaeus 1758) - Broască-testoasă-de-baltă	Testudinide	Reptilia	EN
3	<i>Coluber jugularis</i> (Linnaeus, 1758) - Șarpe-cu-abdomen-galben	Colubridae	Reptilia	EN
4	<i>Coronella austriaca</i> (Laurenti, 1768) - Șarpe-de-alun	Colubridae	Reptilia	EN
5	<i>Vipera berus</i> (Linnaeus 1758) - Viperă obișnuită	Viperidae	Reptilia	EN
6	<i>Vipera ursini</i> (Bonaparte, 1835) - Viperă-de-stepă	Viperidae	Reptilia	EN
7	<i>Elaphe longissima</i> (Laurenti, 1768) - Șarpele-lui-Esculap	Colubridae	Reptilia	EN
8	<i>Elaphe quatuorlineata</i> (Lacep) - Șarpe-cu-patru-dungi	Colubridae	Reptilia	EN
9	<i>Eremias arguta</i> (Linnaeus, 1758) - Broască-testoasă-de-baltă	Lacertidae	Reptilia	CR
10	<i>Lampetra mariae</i> (Berg, 1931) - Chișcar-de-râu	Ciclostomate	Cyclostomata	VU
11	<i>Paramysis baeri bispinosa</i> (Martynov, 1924) - Parmis Ber bispinos	Mizide	Crustacea	EN
12	<i>Hipanis colorata</i> (Eichwald, 1829) - Hipanis colorat	Cardiide	Mollusca	EN
13	<i>Hipanis laeviuscula fragilis</i> (Milachewich, 1908) - Hipanis neted fragil	Cardiide	Mollusca	CR
14	<i>Hipanis pontica</i> (Eichwald, 1838) - Hipanis de Marea Neagră	Cardiide	Mollusca	EN

Fishes

Nr.	Species	Family	Status
1	<i>Barbus barbus borysthenicus</i> (Dybovski, 1862) - Mreană de Nipru	Cyprinidae	EN
2	<i>Huso huso</i> (Linne, 1758) - Morun	Acipenseridae	EN
3	<i>Acipenser guldenstadti colchicus</i> V.Marti, 1833 - Nisetru	Acipenseridae	EN
4	<i>Acipenser stellatus</i> (Pallas, 1771) - Păstrugă	Acipenseridae	EN
5	<i>Hucho hucho</i> (Linne, 1758) - Lostrigă	Salmonidae	VU
6	<i>Umbra krameri</i> (Walbaum, 1792) - Țigănuș	Umbridae	CR
7	<i>Rutilus frisii</i> (Nordmann, 1840) - Ocheană mare	Cyprinidae	EN
8	<i>Leuciscus idus</i> (Linne, 1753) - Văduviță	Cyprinidae	VU
9	<i>Barbus meridionalis petenyi</i> (Heckel, 1847) - Mreană vânătă	Cyprinidae	VU
10	<i>Lota lota</i> (Linnaeus, 1758) - Mihaiț	Gadidae	VU
11	<i>Zingel zingel</i> (Linnaeus, 1766) - Pietrar	Percide	VU
12	<i>Zingel streber</i> (Siebold, 1863) - Fusar	Percide	VU

Birds

Nr.	Species	Family	Status
1	Phalacrocorax pygmaeus (Pallas, 1773) - Cormoran mic	Phalacrocoracide	CR
2	Ardeola ralloides (Scopoli, 1769) - Stârc galben	Ardeide	CR
3	Egretta alba (Linnaeus, 1758) - Egretă mare	Ardeide	CR
4	Platalea leucorodia (Linnaeus, 1758) - Lopătar	Ibidide	CR
5	Plegadis falcinellus (Linnaeus, 1766) - Țigănuș	Ibidide	CR
6	Aythya niroca (Guld, 1770) - Rață-cu-ochi-albi	Anatide	CR
7	Cygnus cygnus (Linnaeus, 1758) - Lebădă cântătoare	Anatide	VU
8	Cygnus olor (Gmelin, 1789) - Lebădă cucuiată	Anatide	VU
9	Aquila clanga (Pallas, 1811) - Acvilă-țipătoare-mare	Accipitride	CR
10	Aquila heliaca (Savigny, 1809) - Acvilă imperială	Accipitride	CR
11	Aquila pomarina (C.L.Brehm, 1831) - Acvilă-țipătoare-mică	Accipitride	CR
12	Aquila rapax (Temminak, 1828) - Acvilă-de-stepă	Accipitride	CR
13	Circaetus gallicus (Gmelin, 1788) - Șerpar	Accipitride	CR
14	Circus cyaneus (Linnaeus, 1766) - Erete vânător	Accipitride	CR
15	Haliaeetus albicilla (Linnaeus, 1758) - Codalb	Accipitride	CR
16	Hieracetus pennatus (Gmelin, 1788) - Acvilă pitică	Accipitride	CR
17	Aquila chrysaetus (Linnaeus, 1758) - Acvilă-de-munte	Accipitride	EN
18	Pandion haliaetus (Linnaeus, 1758) - Vultur-pescar	Accipitride	CR
19	Pernis apivorus (Linnaeus, 1758) - Viespar	Accipitride	EN
20	Falco cherrug (Gray, 1834) - Șoim dunărean	Falconide	CR
21	Crex crex (Linnaeus, 1758) - Cristel	Rallide	CR
22	Columba oenas (Linnaeus, 1758) - Porumbel-de-scorbură	Columbide	EN
23	Asio flammeus (Pontoppidan, 1763) - Ciuf-de-câmpie	Strigide	EN
24	Bubo bubo (Linnaeus, 1758) - Buhă mare	Strigide	CR
25	Tyto alba (Scopoli, 1769) - Strigă	Tytonide	EN
26	Dryocopus martius (Linnaeus, 1758) - Ciocănitoare neagră	Picide	EN
27	Serinus serinus (Linnaeus, 1758) - Cănaș	Fringillide	EN
28	Circus macrourus (Gmelin, 1771) - Erete alb	Accipitride	CR
29	Circus pygargus (Linnaeus, 1758) - Erete sur	Accipitride	CR
30	Milvus milvus (Linnaeus, 1758) - Gaie roșie	Accipitride	CR
31	Monticola saxatilis (Linnaeus, 1766) - Mierlă-de-piatră	Turdide	EN
32	Neophron percnopterus (Linnaeus, 1758) - Hoitar	Accipitride	CR
33	Otis tarda (Linnaeus, 1758) - Dropie	Otidide	CR
34	Pelecanus onocrotatus L. - Pelican comun	Pelecanide	CR
35	Picus viridis (Linnaeus, 1758) - Ciocănitoare verde	Picide	EN
36	Ciconia nigra (Linnaeus, 1758) - Cocostârc negru	Ciconiide	CR
37	Falco naumanni (Fleischer, 1818) - Vânturel mic	Falconide	CR
38	Pelecanus crispus (Bruch, 1832) - Pelican creț	Pelecanide	CR
39	Tetrax tetrax (Linnaeus, 1758) - Dropie mică	Otidide	CR

Insects

Nr.	Species	Family	Status
1	<i>Eudia pavonia</i> (Linnaeus, 1761) - Ochi-de-păun-mic	Attacidae	EN
2	<i>Saturnia pyri</i> (Denis et Shiffermuller, 1775) - Ochi-de-păun-mare	Attacidae	EN
3	<i>Dolbina elegans</i> (BANG&-;HAAS, 1912) - Porumbac dolbina	Sphingidae	CR
4	<i>Manduca atropus</i> (Linnaeus, 1758) - Porumbac "cap-mort"	Sphingidae	VU
5	<i>Marumba quercus</i> (Denis et Shiffermuller, 1775) - Porumbacul-stejarului	Sphingidae	EN
6	<i>Callimorpha quadripunctaria</i> (Poda, 1761) - Arctiidă hera	Arctiidae	VU
7	<i>Iphiclidis podalirius</i> (Linnaeus, 1758) - Podalir	Papilionidae	VU
8	<i>Papilio machaon</i> (LINNAEUS, 1758) - Mahaon	Papilionidae	CR
9	<i>Paranassius mnenosyne</i> (Linnaeus, 1758) - Fluture Apolon negru	Papilionidae	CR
10	<i>Zerynthia polyzena</i> (Denis et Schiffermuller, 1775) - Polixenă	Papilionidae	CR
12	<i>Tomares nogeli</i> (Herrich&-;Schaffr, 1851) - Fluture tomares	Papilionidae	CR
13	<i>Mantis religiosa</i> (Linnaeus, 1758) - Călugăriță	Manteidae	EN
14	<i>Coenagrion mercuriale</i> (Charpentier, 1840) - Libelula-mercuriu	Coenagrionidae	CR
15	<i>Coenagrion lindenii</i> (Selys, 1840) - Libelula-lui-Linden	Coenagrionidae	EN
16	<i>Saga pedo</i> Pallas (Pallas, 1771) - Cal-de-stepă	Segidae	CR
17	<i>Calosoma sycophanta</i> (Linnaeus, 1758) - Calosoma mirositoare	Carabidae	CR
18	<i>Carabus clathratus</i> (Linnaeus, 1761) - Carabidă clatratus	Carabidae	EN
19	<i>Cerophitum elateroides</i> (Latreille, 1809) - Cerofită	Elateridae	CR
20	<i>Elater ferrugineus</i> (Linnaeus, 1758) - Pocnitor roșcat	Elateridae	EN
21	<i>Ischnodes sanguinicollis</i> (Panzer, 1793) - Pocnitor isnoide	Elateridae	CR
22	<i>Porthmidius austriacus</i> (Schrank, 1781) - Pocnitor portmidius	Elateridae	CR
23	<i>Oryctes nasicornus</i> (Linnaeus, 1758) - Caraban	Scarabaeidae	EN
24	<i>Lucanus cervus</i> (Linnaeus, 1758) - Vaca-popii (Radasca)	Lucanidae	EN
25	<i>Cerambyx cerdo</i> (Linnaeus, 1758) - Croitorul-stejarului	Cerambycidae	EN
26	<i>Morimus funereus</i> (Mulsant, 1873) - Croitor cenușiu	Cerambycidae	EN
27	<i>Rosalia alpina</i> (Linnaeus, 1758) - Croitor alpin	Cerambycidae	CR
28	<i>Bombus paradoxus</i> (Dalla Toree, 1882) - Bondar paradox	Apidae	EN
29	<i>Bombus argillaceus</i> (Scopoli) - Bondar-de-argilă	Apidae	EN
30	<i>Bombus fragrans</i> (Pallas) - Bondar-de-stepă	Apidae	CR
31	<i>Megachile rotundata</i> (Fabricius, 1787) - Albină megahilă	Megahilide	EN
32	<i>Xylocopa valga</i> (Gerstaecker,&-;1872) - Albină valdă	Apidae	EN
33	<i>Scolia maculata</i> (Drury, 1773) - Viespe gigantică	Scoliidae	EN
34	<i>Liometopum microcephalum</i> (Panzer, 1798) - Furnică liometopum	Formicidae	CR
35	<i>Satanas gigas</i> (Eversmann, 1855) - Muscă gigantică	Asilidae	CR
36	<i>Ascalaphus macaronius</i> (Scopoli, 1763).- Ascalaf pestriț	Ascalaphidae	CR
37	<i>Aglia tau</i> (Linnaeus, 1758) - Fluture aglia	Attacidae	EN

E.2 IUCN Red List for Moldova – lists 84 species in 5 categories. The IUCN classification categories are described following the list.

ENDANGERED (EN)			
Scientific Name	Common Name(s)	[Red List]	Trend
<u>Acipenser nudiiventris</u>	BASTARD STURGEON (E) FRINGEBARBEL STURGEON (E) SHIP STURGEON (E) SPINY STURGEON (E) THORN STURGEON (E)	EN A1acde+2d <u>ver 2.3 (1994)</u>	
<u>Mustela lutreola</u>	EUROPEAN MINK (E)	EN A1ace <u>ver 2.3 (1994)</u>	↓
<u>Falco cherrug</u>	SAKER FALCON (E)	EN A2bcd+3bcd <u>ver 3.1 (2001)</u>	
<u>Acipenser stellatus</u>	STAR STURGEON (E) STELLATE STURGEON (E)	EN A2d <u>ver 2.3 (1994)</u>	
<u>Huso huso</u>	BELUGA (E, F, S) EUROPEAN STURGEON (E) GIANT STURGEON (E) GREAT STURGEON (E)	EN A2d <u>ver 2.3 (1994)</u>	
VULNERABLE (VU)			
Scientific Name	Common Name(s)	[Red List]	Trend
<u>Gymnocephalus schraetzer</u>	SCHRAETZER (E) STRIPED RUFFE (E)	VU A1ace <u>ver 2.3 (1994)</u>	
<u>Umbra krameri</u>	EUROPEAN MUD-MINNOW (E)	VU A1ace <u>ver 2.3 (1994)</u>	
<u>Morimus funereus</u>		VU A1c <u>ver 2.3 (1994)</u>	
<u>Osmoderma eremita</u>	HERMIT BEETLE (E)	VU A1c <u>ver 2.3 (1994)</u>	
<u>Spermophilus citellus</u>	EUROPEAN GROUND SQUIRREL (E) EUROPEAN SOUSLIK (E) EUROPEAN SQUIRREL (E)	VU A1c <u>ver 2.3 (1994)</u>	?
<u>Cerambyx cerdo</u>	CERAMBYX LONGICORN (E)	VU A1c+2c <u>ver 2.3 (1994)</u>	
<u>Acipenser ruthenus</u>	STERLET (E)	VU A1c+2d <u>ver 2.3 (1994)</u>	
<u>Testudo graeca</u>	COMMON TORTOISE (E) GREEK TORTOISE (E) MOORISH TORTOISE (E) SPUR-THIGHED TORTOISE (E)	VU A1cd <u>ver 2.3 (1994)</u>	
<u>Zingel streber</u>	STREBER (E)	VU A1ce+2ce <u>ver 2.3 (1994)</u>	
<u>Zingel zingel</u>	ZINGEL (E)	VU A1ce+2ce <u>ver 2.3 (1994)</u>	
<u>Anser erythropus</u>	LESSER WHITE-FRONTED GOOSE (E)	VU A2bcd+3bcd <u>ver 3.1 (2001)</u>	↓

<u>Falco naumanni</u>	LESSER KESTREL (E)	VU A2bce+3bce ver 3.1 (2001)	↓
<u>Barbastella barbastellus</u>	WESTERN BARBASTELLE (E)	VU A2c ver 2.3 (1994)	↓
<u>Myotis bechsteini</u>	BECHSTEIN'S BAT (E)	VU A2c ver 2.3 (1994)	↓
<u>Myotis dasycneme</u>	POND BAT (E)	VU A2c ver 2.3 (1994)	↓
<u>Pelecanus crispus</u>	DALMATIAN PELICAN (E)	VU A2ce+3ce ver 3.1 (2001)	↓
<u>Otis tarda</u>	GREAT BUSTARD (E)	VU A3c ver 3.1 (2001)	↓
<u>Branta ruficollis</u>	RED-BREASTED GOOSE (E)	VU B2ab(iii) ver 3.1 (2001)	?
<u>Astacus astacus</u>	NOBLE CRAYFISH (E)	VU B2bce+3bcd ver 2.3 (1994)	
<u>Aquila clanga</u>	GREATER SPOTTED EAGLE (E)	VU C1 ver 3.1 (2001)	↓
<u>Aquila heliaca</u>	IMPERIAL EAGLE (E)	VU C1 ver 3.1 (2001)	↓
<u>Percarina demidoffi</u>		VU D2 ver 2.3 (1994)	

Near Threatened (NT)			
Scientific Name	Common Name(s)	[Red List]	Trend
<u>Aegypius monachus</u>	CINEREOUS VULTURE (E)	NT ver 3.1 (2001)	↓
<u>Aythya nyroca</u>	FERRUGINOUS DUCK (E)	NT ver 3.1 (2001)	↓
<u>Castor fiber</u>	EURASIAN BEAVER (E)	NT ver 3.1 (2001)	↑
<u>Circus macrourus</u>	PALLID HARRIER (E)	NT ver 3.1 (2001)	↓
<u>Coracias garrulus</u>	EUROPEAN ROLLER (E)	NT ver 3.1 (2001)	
<u>Crex crex</u>	CORNCRAKE (E)	NT ver 3.1 (2001)	↓
<u>Falco vespertinus</u>	RED-FOOTED FALCON (E)	NT ver 3.1 (2001)	
<u>Gallinago media</u>	GREAT SNIPE (E)	NT ver 3.1 (2001)	
<u>Glareola nordmanni</u>	BLACK-WINGED PRATINCOLE (E)	NT ver 3.1 (2001)	↓
<u>Limosa limosa</u>	BLACK-TAILED GODWIT (E)	NT ver 3.1 (2001)	↓
<u>Lutra lutra</u>	COMMON OTTER (E) EURASIAN OTTER (E) EUROPEAN OTTER (E) EUROPEAN RIVER OTTER (E) OLD WORLD OTTER (E)	NT ver 3.1 (2001)	?
<u>Lynx lynx</u>	EURASIAN LYNX (E)	NT ver 3.1 (2001)	↓
<u>Milvus milvus</u>	RED KITE (E)	NT ver 3.1 (2001)	
<u>Pliotrema warreni</u>	SIXGILL SAWSHARK (E) REQUIN SCIE FLUTIAN (F)	NT ver 3.1 (2001)	?
<u>Tetrax tetrax</u>	LITTLE BUSTARD (E)	NT ver 3.1 (2001)	↓
<u>Triturus dobrogicus</u>	DANUBE CRESTED NEWT (E)	NT ver 3.1 (2001)	↓

LOWER RISK (LR)			
Near Threatened (nt)			
Scientific Name	Common Name(s)	[Red List]	Trend
<u>Cricetulus migratorius</u>	GRAY DWARF HAMSTER (E) GREY HAMSTER (E)	LR/nt ver 2.3 (1994)	?
<u>Dryomys nitedula</u>	FOREST DORMOUSE (E)	LR/nt ver 2.3 (1994)	
<u>Emys orbicularis</u>	EUROPEAN POND TURTLE (E)	LR/nt ver 2.3 (1994)	
<u>Eudontomyzon danfordi</u>	CARPATHIAN BROOK LAMPREY (E)	LR/nt ver 2.3 (1994)	
<u>Formica pratensis</u>	EUROPEAN RED WOOD ANT (E)	LR/nt ver 2.3 (1994)	
<u>Formica rufa</u>	RED WOOD ANT (E)	LR/nt ver 2.3 (1994)	
<u>Hirudo medicinalis</u>	MEDICINAL LEECH (E)	LR/nt ver 2.3 (1994)	
<u>Lycaena dispar</u>	LARGE COPPER (E)	LR/nt ver 2.3 (1994)	
<u>Maculineaalcon</u>	ALCON LARGE BLUE (E)	LR/nt ver 2.3 (1994)	
<u>Maculinea arion</u>	LARGE BLUE (E)	LR/nt ver 2.3 (1994)	
<u>Maculinea nausithous</u>	DUSKY LARGE BLUE (E)	LR/nt ver 2.3 (1994)	
<u>Misgurnus fossilis</u>	WEATHERFISH (E)	LR/nt ver 2.3 (1994)	
<u>Nyctalus lasiopterus</u>	GIANT NOCTULE (E)	LR/nt ver 2.3 (1994)	
<u>Nyctalus leisleri</u>	LESSER NOCTULE (E)	LR/nt ver 2.3 (1994)	
<u>Pseudanodonta complanata</u>		LR/nt ver 2.3 (1994)	
<u>Rhinolophus ferrumequinum</u>	GREATER HORSESHOE BAT (E)	LR/nt ver 2.3 (1994)	
<u>Unio crassus</u>		LR/nt ver 2.3 (1994)	

DATA DEFICIENT (DD)			
Scientific Name	Common Name(s)	[Red List]	Trend
<u>Alosa maotica</u>		DD ver 2.3 (1994)	
<u>Alosa pontica</u>		DD ver 2.3 (1994)	
<u>Aspius aspius</u>	ASP (E)	DD ver 2.3 (1994)	
<u>Clupeonella cultriventris</u>		DD ver 2.3 (1994)	
<u>Cobitis megaspila</u>		DD ver 2.3 (1994)	
<u>Eudontomyzon mariae</u>	UKRANIAN BROOK LAMPREY (E)	DD ver 2.3 (1994)	
<u>Fagotia esperi</u>		DD ver 2.3 (1994)	
<u>Gobio albipinnatus</u>	WHITE-FINNED GUDGEON (E)	DD ver 2.3 (1994)	
<u>Gobio kessleri</u>	KESSLER'S GUDGEON (E)	DD ver 2.3 (1994)	
<u>Gymnocephalus acerina</u>		DD ver 2.3 (1994)	
<u>Gymnocephalus baloni</u>	BALON'S RUFFE (E)	DD ver 2.3 (1994)	
<u>Myxas glutinosa</u>	GLUTINOUS SNAIL (E)	DD ver 2.3 (1994)	
<u>Neogobius fluviatilis</u>		DD ver 2.3 (1994)	
<u>Neogobius gymnotrachelus</u>		DD ver 2.3 (1994)	
<u>Neogobius kessleri</u>	KESSLER'S GOBY (E)	DD ver 2.3 (1994)	
<u>Neogobius melanostomus</u>		DD ver 2.3 (1994)	

<u>Neogobius syrman</u>		DD	<u>ver 2.3 (1994)</u>
<u>Pelecus cultratus</u>	ZIEGE (E)	DD	<u>ver 2.3 (1994)</u>
<u>Petroleuciscus borysthenicus</u>	BLACK SEA CHUB (E)	DD	<u>ver 2.3 (1994)</u>
<u>Rutilus frisii</u>	BLACK SEA ROACH (E)	DD	<u>ver 2.3 (1994)</u>
<u>Sabanejewia aurata</u>	GOLDSIDE LOACH (E)	DD	<u>ver 2.3 (1994)</u>
<u>Stizostedion marinum</u>		DD	<u>ver 2.3 (1994)</u>
<u>Stizostedion volgensis</u>	VOLGA ZANDER (E)	DD	<u>ver 2.3 (1994)</u>
<u>Theodoxus transversalis</u>		DD	<u>ver 2.3 (1994)</u>

Adapted from: IUCN 2006. *2006 IUCN Red List of Threatened Species*. <www.iucnredlist.org>. Downloaded on **09 November 2006**

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Annex F: List of Persons Interviewed

1. USAID, Donor, and Implementer Contacts

Name & Contact	Title & Organization
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2. NGO

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Victor Cotruta Victor.cotruta@rec.org	Finance & Development Director Regional Environmental Centre Moldova

3. Government

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Constanțion Mihailescu mihailescu@mediu.moldova.md	Minister Ministry of Ecology and Natural Resources
Teleuta Alexandru grbot@moldova.md	Director Botanical Garden (CBD Focal Point Chair & former Director of the Biodiversity Officer of the Ministry of Ecology)
Stela Drucioc stela.drucioc@mediu.moldova.md	Carbon Finance Unit Manager Ministry of Ecology and Natural Resources
Nicolae Grubii	Chief of the Forest Fund and Forest Regeneration Service State Forestry Enterprise "Moldosilva"
Nicolae Sturza	Scientific Researcher State Nature Scientific Reserve "Cordii"
Vasile Belali	Director State Nature Scientific Reserve "Prutul de Jos"
Vladimir Lazar	Vice-Director State Nature Scientific Reserve "Prutul de Jos"
Vladimir Danilenco	Inspector State Nature Scientific Reserve "Prutul de Jos"
Andrei N.	Staff State Nature Scientific Reserve "Prutul de Jos"

4. Private Sector

Name	Organization
Tudor Aghenie	Farmer Tudor Aghenie Family Farm
Nicolae B., Victor N, Vasile N, & Nicolae N.	Fish Poachers (subsistence poaching) Slobozia Mare Village, Cahul Raion
Ana N.	Seller, Fish Market Cahul Town, Cahul Raion
Unknown	Veterinary Inspector Cahul Town, Cahul Raion

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Internet Resources:

- BIOTICA Ecological Society website <http://www.biotica-moldova.org/>
- Consolidated Agricultural Projects Management Unit <http://www.capmu.md>
- Convention on Biodiversity <http://biodiv.org>
- Global Environmental Facility, Project Database <http://www.gefonline.org/home.cfm>
- International Environmental Association of River Keepers “Eco-TIRAS” <http://www.eco-tiras.org>
- IUCN Red List of Threatened Species <http://www.iucnredlist.org>
- Ramsar <http://www.ramsar.org>
- REC-Moldova NGO & Project Database <http://www.rec.md>
- Statistica Moldovei <http://www.statistica.md>
- World Bank Moldova, Project Database <http://www.worldbank.org/md>

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Annex H: Scope of Work

TITLE: BIODIVERSITY ASSESSMENT

A.1 OBJECTIVES

The purpose of this task is to conduct an update of country biodiversity analyses for Ukraine, Moldova and Belarus which were completed in the Fall of 2001. These analyses will respond to requirements of Section 119(d) of the Foreign Assistance Act of 1961 (as amended (FAA)) and ADS 201.3.8.2 regarding biodiversity analyses for country strategic plans. The assessments are intended to assist the Regional Mission for Ukraine, Moldova and Belarus during the upcoming strategic planning process by identifying necessary actions in each country to conserve biodiversity. Upon completion of the analyses, the Mission will submit these reports to the Bureau's Environmental Officer for final approval.

These country specific analyses will also serve as a planning tool to assist USAID to identify stand alone and/or cross-cutting opportunities to promote sustainable, environmentally-sound employment, trade, investment and income interventions while integrating environment concerns into its overall programs.

A.2 STATEMENT OF WORK

To prepare the biodiversity analyses for Ukraine, Moldova, and Belarus, the Contractor will carry out the following tasks:

Pre Departure:

1. Gather and get acquainted with already existing background information about Ukraine, Moldova, and Belarus, such as each country's natural resources, geographical, ecological and biological specificities, current status of biodiversity, institutional organization on entity and state level responsible for biodiversity, key stakeholders and donors in environment and biodiversity, legislation related to biodiversity, and other relevant information required for the each country analysis. The Contractor should also review the biodiversity assessments conducted in 2001 for important baseline information to be referenced as appropriate. The Contractor will also be familiar with past USAID Programmatic Environmental Assessments and key environmental assessments when available as prepared by donors (i.e., EU, UNDP, WB, and GEF).
2. Convene meetings with the Europe and Eurasia Bureau's Environmental Officer (BEO) in Washington, the E&E Desk Officer, representatives from "pillar" bureaus such as EGAT, DCHA and Global Health, and others suggested by the BEO and Desk Officer to ensure full understanding of E&E program in Ukraine, Belarus and Moldova, USAID environmental procedures and purpose of this assignment.
3. The Contractor will also include meetings with relevant USG and World Bank officials and with appropriate international NGOs to obtain current information on relevant studies, projects and initiatives.

Field activities:

4. For each country, the Contractor will hold mandatory meetings with all key Mission personal including Program Office staff and sector experts. For Moldova and Belarus these meetings may be held in the Regional Mission in Kiev or potentially in the Country Offices. During the meetings with the USAID Mission, the Contractor will obtain detailed information about the programs, objectives, and goals under the Mission strategic plan. The Contractor will be briefed about other stakeholders, USAID partners, local

government agencies and their hierarchy, and other key players of interest for the assessment. The Contractor and USAID Mission will discuss the planned activities required for each analysis well as the approach that the Contractor will take during the performance.

5. For each country, the Contractor will hold meetings with the relevant local government institutions, agencies and Ministries. The Contractor will gather information, recommendations and experiences about past and planned activities from the local officials and persons directly involved in biodiversity issues. The Contractor will gather detailed information about the country's specificities, such as protected areas and endangered plants and species.

6. For each country, the Contractor will hold meetings with other international donors, agencies and NGOs involved in environmental programs in order to be well informed about ongoing and planned activities by other donors and agencies.

7. For each country, the Contractor will, in coordination with USAID, plan and conduct several (the exact number to be determined at a later date and in coordination with USAID) site visits to the areas of the special interest for biodiversity assessment and priority conservation to supplement understanding of interviews and literature.

A.3 DELIVERABLES

1. The Contractor will produce a separate report for each country, which satisfies the mandatory FAA 119 reporting requirements regarding the actions necessary to conserve biodiversity and the extent to which USAID Strategic Process should address those needs. Specifically, the deliverables are as follows:

- A. Schedule submitted to USAID within five working days of start date.
- B. Oral debriefing to Mission Staff prior to departure (Team Leader and Sr. Specialist).
- C. Three separate Country Specific FAA Section 119 Biodiversity Analysis reports containing the information described in Section A.3.2 below.

Report Review and Approval Process:

- i. Draft reports submitted for Mission review/comment in electronic form (saved in MS Word format) at the time of the exit briefing with Mission Director. Mission will have five business days to provide comments.
 - ii. Second Draft with Mission comments incorporated submitted to the BEO for review/comment within two weeks of receipt of Mission comments. BEO will provide comments on the reports within two weeks.
 - iii. Final Report with all comments incorporated submitted to the Mission within two weeks of receipt of comments from the BEO.
- D. A brief (10-15 p.) Strategy Process Environmental Annex, which consists of a combined summary and syntheses of the findings and recommendations of the three analyses. The introduction to the Summary will include the following statement:

"The Environmental Annex is an SP-specific analysis that examines environmental threats and opportunities inherent to the Mission's strategy and assesses the extent to which the Mission's strategy incorporates or addresses biodiversity concerns. This assessment does not substitute for the Initial Environmental Examination (IEE). Each Technical Office is responsible for ensuring that an IEE or a Request for a Categorical Exclusion is conducted at the SO level for all activities funded by USAID."

- E. Ten bound copies of each country Final FAA 119 Analysis and the Strategy Process Environmental Annex will be delivered within two weeks of final approval by the Mission.

2. Each country specific report should include but not be limited to:

- A. Introduction and general overview of information available, sources, meetings held, site visits, and possible information gaps on the status of biological diversity.
- B. Update of changes since the 2001 report of the strategic and policy framework of the Government in the environment sector and structure and inter-relations of the institutions related to the biodiversity. This should include institutions at the state, as well as at the oblast, and local levels where appropriate and available and the specific area of their interest; funding of the projects related to the biodiversity; past and planned activities; the interest and commitment of the government to the protection of its resources; national strategies related to the protection and management of biological resources.
- C. Overview of key environmental NGOs and their projects for the conservation of biodiversity. This will include description of their specific interest in biodiversity; past, ongoing and planned activities related to biodiversity; and level of funding for each of the activities identified.
- D. Description of other relevant donor activities, levels of funding, planned activities, relation to USAID projects and programs.
- E. Update of changes since the 2001 report with respect to the analysis of current legislation related to the environment and biodiversity. This section should include identification of laws related to the protection and management of biological resources and endangered species. This section should also give a review of the international treaties signed and ratified, as well as those that need to be signed and ratified in the near future in order to conserve and manage its biological resources more efficiently.
- F. Management, conservation and condition of the areas with special status (protected areas); should also include an updated list or maps (if available) of all protected national parks, forest resources, animal sanctuaries, wildlife refuges and other protected areas as well as a brief description of each of the protected areas with highlighted specificities. The section should also identify potential protected areas in the country. This section should identify the institutions or agencies that are responsible for managing the protected areas (government or non-government) and their effectiveness. This section should provide guidelines for more effective management and usage of the protected areas for economic purposes, such as eco-tourism.
- G. The section dedicated to protection of the endangered species should include an updated list of all IUCN classified endangered and rare species found in the country. The section should provide a map (if available) identifying their habitats. The section should analyze the protective measures and potential threats and pressures on the habitats. The section should analyze the effectiveness of the protective measures and legislation related to this issue.
- H. Status of natural ecosystems should be updated in a section, with descriptions of the major ecosystems in the country. The review and analyses of their present management and conservation should be given in this section. The section should highlight the unique aspects of the country's biodiversity, including specific and endemic plants and animal species. The section should analyze changes to the status of each major ecosystem since the 2001 report.
- I. Current and potential threats to biodiversity whether they are related to human acts, ecological causes, natural diseases, lack of legislation or protection or any other causes. Within this section a particular sub-section should be devoted to urgent problems being faced by each country such as:
 - Deforestation/unsustainable forestry/illegal logging
 - River/Water pollution

- Erosion of land
- Land utilization

- J. Description of the major issues, needs, and recommendations for the effective conservation of biological diversity in the country. This section should include a summary of all the major issues identified during the analysis that require immediate attention in order to improve the protection of biodiversity. The needs assessment should cover all areas including institutional and legislative weaknesses to issues related to the management of biodiversity, protected areas and related natural resources. The recommendations should include brief descriptions of objectives and outcomes/benefits for the country's biodiversity.
- K. An assessment of the Extent to which USAID's Strategic Process meets the needs identified (FAA Sec. 119 d (2)). This section will review Mission strategic objectives and proposed activities (where appropriate) and identify any current and potential linkages with biodiversity conservation. The law does not require, and the Mission has no current plans to make substantial investments in Biodiversity protection; therefore, findings and recommendations will need to consider linkages and opportunities which are consistent and supportive of the Missions' Strategic Objectives. This particular aspect of the analysis will require significant interaction with Mission staff.