



Montenegro

Ministry of Spatial Planning and Environment

FOURTH NATIONAL REPORT OF MONTENEGRO TO THE CONVENTION ON BIOLOGICAL DIVERSITY



Podgorica, September 2010

**FOURTH NATIONAL REPORT OF MONTENEGRO TO THE CONVENTION ON BIOLOGICAL DIVERSITY
(4th NR of MNE to CBD)**

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TABLE OF CONTENTS

Executive summary	4
Introductory note	5
I. Overview of Biodiversity Status, Trends and Threats	6
1. Overview of Biodiversity	6
Diversity of ecosystems	6
Diversity of species	7
Centers of biodiversity in Montenegro and their regional importance	11
Agrobiodiversity	13
Plant agrobiodiversity.....	19
Animal agrobiodiversity.....	13
Genetically modified organisms (GMOs)	13
2. Status and trends of the biodiversity	14
3. Main threats to the Biodiversity in Montenegro	15
4. Implication of changes on human well-being	19
II. Current Status of National Biodiversity Strategy and Action Plan	21
III. Sectoral and intersectoral integration / mainstreaming Biodiversity Conservation	23
Intersectoral integration of biodiversity concerns through sustainable use	23
IV. Progress towards the 2010 Targets and Implementation of the Strategic Plan	25
Progress assessment towards achieving the biodiversity conservation targets until 2010	25
Progress assessment in the achievement of goals and targets of the Strategic Plan of the Convention	28
APPENDICES	
APPENDIX I. Information Concerning the Reporting Party and Preparation of National Report	32
APPENDIX I. 1. Information Concerning the Reporting Party	32
APPENDIX I. 2. Preparation of the Fourth National Report	33
APPENDIX II. Further Sources of Information	34
APPENDIX II.1. The List of Major Regulations	34
APPENDIX II. 2. The List of International Agreements relevant for Biodiversity Conservation to which Montenegro is a Contracting Party	43
APPENDIX II.3. The List of Major Strategic Documents	45
APPENDIX II.4. The List of Major Web Pages	54
APPENDIX II.5. The List of Major projects related to Nature Protection	55
APPENDIX III. Progress towards Targets of the Global Strategy for Plant Conservation and the Programme of Work on Protected Areas	59
APPENDIX III. 1. Progress towards Targets of the Global Strategy for Plants Conservation	59
APPENDIX III. 2. Progress towards Targets of the Programme of Work on Protected Areas	63
APPENDIX III 3. Relevance of the Action plan (NBSAP 2010) to GSPC, CBD 2010 and Strategic Plan Targets	70
APPENDIX IV. A Draft of National Biodiversity Indicators	74
APPENDIX IV .1. Method of Development of the National Biodiversity Indicators List of Montenegro	74
APPENDIX IV. 2. Review of National Biodiversity Indicators	75
APPENDIX IV. 3. The List o Indicators for Other Thematic Areas Related to Biodiversity Indicators	77

EXECUTIVE SUMMARY

Nature protection and biodiversity conservation (hereinafter: biodiversity) in Montenegro are under frequent changes because country emerged economic and social transition. In a very short period after getting independence (2006), Montenegro improved protection and conservation of its natural assets and sustainable use of biological resources. Significant progress has been made in the development of legislature, building up more efficient institutional framework and improvement of the system of protection and management the natural / biological resources.

By joining the Convention on Biological Diversity in June 2006, Montenegro has committed to protect the overall biological and genetic diversity in the manner prescribed by the Convention. Based on the Convention, the first National Strategy and Action Plan for the period 2010 – 2015 has been just recently adopted, on 29 July 2010. The strategy is the fundamental document for protection of nature, which determine long-term goals and numerous actions for protection biological diversity and protected natural assets, as well as ways of its implementation coherent with overall economic and social circumstances in the country.

Prior to Strategy adopted, a new, modern Nature Protection Law (2008) has been adopted in order to transpose relevant provisions from various international agreements in the field of nature protection, including the Convention on Biological Diversity, and the relevant regulations of EU.

Main threats to biodiversity (and ecosystems) where identified as follows:

- *Uncontrolled urbanization and tourism development* of natural habitats with associated infrastructure development;
- *Changes in land use practices*, particularly in relation to agriculture and forestry;
- *Unsustainable and illegal use of natural resources* (including illegal hunting, overharvesting etc);
- *Water, soil and air pollution* from industrial and agricultural pollutants and municipal wastes;
- *Introduction of alien, invasive species* is poorly investigated threat, so far, but its higher importance among threats to biodiversity could be expected soon.
- *Impact of climate change*, especially the effects of hot and dry periods on forest habitats which need to be the focus of more attention.

The cumulative effect of the above threats to biological diversity is the loss of rare or endangered habitats and their associated (often endemic) species, particularly on the coast and a reduction in the functionality and stability of natural ecosystems, particularly of forest and water ecosystems.

In relation to identified threats, following major reasons which lead to loss of biodiversity were analyzed: 1. Low political priority that has the protection of the environment, 2. Promotion of policies which are not compatible with sustainable use of natural resources and protection of biodiversity, 3. Low level of limitations and incentives relating to protection of biodiversity protection for nature, 4. Demographic, social and economic changes which influence biodiversity and 5. Poor participation of stakeholders

Progress in implementing the NBSAP, as well as its effectiveness have not been assessed because of short period of time between NBSAP adoptions and preparing of this report. However, biodiversity conservation targets until 2010 and Strategic plan were considered from the point of planed activities in the NBSAP Action plan in appendix III, while assessing general progress in achieving these biodiversity conservation targets is given in chapter IV.

Integration of biodiversity into economic sectors has been considered same manner from the point of planed activities in the NBSAP Action plan (chapter II, appendix III. 3.)

Introductory note

The preparation and drafting of the *Fourth National Report of Montenegro to the Convention on Biological Diversity* (hereinafter Report) has been carried out as a short consultative process lead by the Ministry of Spatial Planning and Environment of Montenegro and its CBD Focal Point Mss *Milena Kapa* (see appendix I.2).

The Report presents the results achieved in the implementation of the Convention on Biological Diversity (hereinafter CBD) in Montenegro in the period of last 4 years after Montenegro succeeded membership in CBD on becoming an independent state on 3rd June 2006. Preparation of the Report came just in the time when the Government of Montenegro adopted (29th July 2010) National Biodiversity Strategy and Action Plan for the period 2010 – 2015 (hereinafter NBSAP).

First Draft of the Report has been prepared by Mr. *Vasilije Buskovic* M SC (Institute for the Protection of Nature of Montenegro) and then reviewed by the Working Group composed of representatives of relevant government departments (agriculture, forestry, water economy, energy, tourism, physical planning, health, education etc).

Unlike in the case of preparing Country Study and the Strategy, funds for preparation of the Report were not provided from the Global Environment Facility, so Ministry of Spatial Planning and Environment of Montenegro provided funds for preparation of the Report.

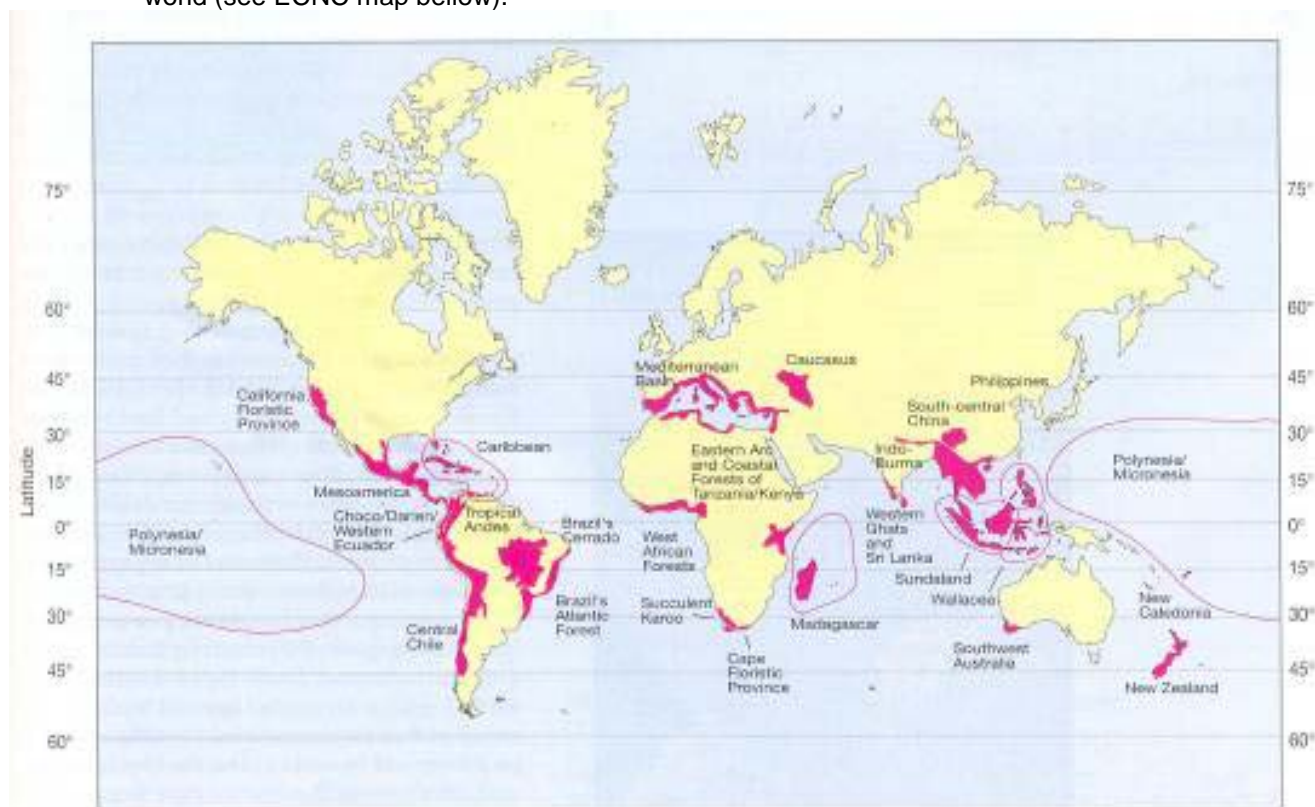
Structure of the Report is done in compliance with CBD *Guidelines for the Fourth National report*, as well as additional guidance and clarifications provided by SBD Secretariat at the *Regional Workshop for Europe on the Fourth National Report*, Budapest, Hungary, 30th June – 2nd July 2010.

Having in mind above, Report is divided into four chapters and four appendices providing an overview of biodiversity status, trends and threats in Montenegro, the current implementation status of measures / tasks / activities prescribed in the NBSAP, current sectoral and cross-sectoral integration or mainstreaming of biodiversity considerations, activities regarding 2010 Target, as well as Global Strategy for Plant Conservation, Programme of Work on Protected Areas and the Strategic Plan for the Implementation of the CBD.

I. OVERVIEW OF BIODIVERSITY STATUS, TRENDS AND THREATS

1. Overview of Biodiversity in Montenegro

Montenegro's diversity of geology, landscapes, climate types and soils, and its position on the Balkan Peninsula and Adriatic Sea, have created conditions for the development of a highly diverse biodiversity, making Montenegro one of the biodiversity "hot-spots" of Europe and the world (see ECNC map below).



"Hot-spots" of biodiversity (in red) in the World, Source ECNC

Montenegro can be divided into two main bio-geographical regions – Mediterranean and Alpine - and has a very wide range of ecosystems and habitat types for a country of its size. There is a zonation of flora and fauna from the cold mountainous north and south to the warm Mediterranean coast in the west. Additionally, biodiversity is influenced by the presence of elements of Alpine flora and fauna on the tops of coastal mountains and the intrusion of warm air and elements of Mediterranean flora and fauna through river valleys and canyons into the mountains in the continental part of Montenegro. The northern mountain region is bio-geographically connected with other mountain habitats in the Dinaric Alp mountain corridor¹.

During the last Ice Age, a significant part of today flora and fauna in Montenegro survive the glaciations that impacted countries further to the north. In Montenegro biodiversity are present not only remnants of the glacial flora and fauna (the so-called glacial relicts) but also remnants of older Tertiary flora and fauna in the sheltered warm river valleys and canyons. Due to the refugia character of these "sheltered" habitats, there is a considerable endemism² in Montenegro with dominant Central European, Iliric, Alpine and Mediterranean elements to the flora and fauna.

Diversity of ecosystems

Although there is no formal, widely recognized classification of ecosystems in Montenegro, from the point of view of biodiversity conservation the following ecosystems are distinguished in the NBSAP: alpine, forest, dry grasslands, freshwater and marine. Apart from these, there are additional types/systems of habitats considered important for biodiversity protection that

¹ South-eastern Dinarides, sometimes called „Dinaric Arc“ that is a wider, regional, Dinaric bio-corridor which stretches from the Alps in the north-west to the Šar-Pind area in the south-east that runs parallel with the Adriatic Coast.

² For instance, 223 endemic plant species and sub-species are registered for Montenegro.

are also distinguished from the previous classification of ecosystems because of their distinctiveness, namely coastal habitats, karst, caves and canyons.

- *Alpine ecosystem*

This incorporates the peaks of the high mountain regions in the continental part of the country, such as Durmitor (2523m), Komovi (2461m), Prokletije (2536m), Sinjavina (2277m) and Bjelasica (2037m) mountain ranges, and the high coastal mountains of Orijen (1893m), Lovcen (1749m) and Rumija (1586m). Climate conditions are characterized by cool short summers and severe winters with abundant snow. In terms of vertical distribution, this ecosystem is above the upper forest line and includes the following major habitat types: alpine pastures, cliffs, screes and rocky areas with sparse vegetation. Characteristic flora of this are includes: the Alpine flower Edelweiss (*Leontopodium alpinum*), and the endemic Montenegrin blue-bell (*Edraianthus montenegrinus*), *Edraianthus glisichi*, *Edraianthus pulevici*, *Wulfenia bleicii*, Durmitor mullein (*Verbascum durmitoreum*), *Potentilla montenegrina*, *Draba betriscea*, and many relict glacial species. Characteristic fauna include chamois (*Rupicapra rupicapra*) while in the bird fauna are *Pyrhocorax graculus*, *Antus pratensis*, *Prunella collaris*, *Phoenicurus ochruros*, Golden Eagle (*Aquila chrysaetos*), rare Griffon Vulture (*Gyps fulvus*), Wall Creeper (*Tichodroma muraria*). There are also a number of glacial relicts among the bird fauna, including Snow Finch (*Montifringilla nivalis*), Horned Lark (*Eremophila alpestris*) and Alpine Accentor (*Prunella collaris*).



Alpine pastures, cliffs, screes and rocky areas in Stožac mountain above Kapetanovo lake

- *Forest ecosystem*

Mountain forests are the most extensive ecosystem in Montenegro in terms of area, and the forests occupy 54% of the territory (this includes natural forests which cover approximately 45% of the land), making Montenegro one of the most forested countries in Europe *(see Map of Forest ecosystems).

Coniferous species, largely Fir *Abies alba*, Spruce *Picea excelsa* and Mugho Pine *Pinus mugo*, dominate in the forests of higher altitude.

Abieto-Picetum forests occupy a wide area of the mountains in northern Montenegro in the zones of Kovač, Ljubišnja, Durmitor, Sinjajevina, Krstac, Smiljevica and Hajla mountains, as well as in enclave forms in Prokletije, Bjelasica, Maglič and other mountains. Important forest is *Picetum abieti montenegrinum*, a Spruce community in Mount Ljubisnja.



Forests with the regionally endemic pine species are also present such as Macedonian Pine and Heldreich (Whitebark) Pine. Macedonian Pine *Pinus peuce* occur in parts of Komovi, in Prokletije and in some other Montenegrin mountains, while Whitebark Pine *Pinus heldreichii* also occurs, largely in the central parts of Montenegro. Another Balkan endemic species which occurs in the high-mountain forests is the Mountain Maple *Acer heldreichii*.

Deciduous forests in the higher areas consist mostly of Beech *Fagetum* forests, which are widespread at altitudes of 600 - 1.800m. Chestnut forests *Castanea sativa* form a special type of habitat in the (sub) Mediterranean part of Montenegro but with discontinuous distribution (in several places the Boka Kotorska Bay, northern slopes of the Mt. Rumija-Ostros, Livari). Macquis, as a degraded forest in the Mediterranean part of Montenegro, is also shelter for specific tree species such as Evergreen Oak *Quercus ilex*.

Characteristic fauna of forests in Montenegro includes the Wolf *Canis lupus*, Brown Bear *Ursus arctos*, and Wild Boar *Sus scrofa*, along with many species of birds such as Owls (*Strigiformes*), Woodpeckers (*Picidae*) and species of Warbler (*Sylviidae*), with most of the forest avifauna of the Western Palaearctic represented. Despite logging, some forest areas, such as Durmitor, Bjelasica and Prokletije, still retain relatively pristine forests and are under protection.



Heldreich Pine *Pinus heldreichii* at Prekornica mt



Evergreen Oak *Quercus ilex*

- *Dry grasslands ecosystem*

Dry grasslands are found on alluvial land but are now very rare. Small remnant areas still exist at Čemovsko polje, including Karabuško, Tuško and Dinoško polje and the lower part of the canyon of the River Cijevna. Concerning typical birds, in these areas are present Stone Curlew *Burchinus oedicnemus* and Tawny Pipit *Anthis campestris*



Dry grasslands at Čemovsko polje



Vipera amodytes

- *Freshwater ecosystems*

These comprise lakes, rivers, streams, marshes, and man-made reservoirs, flooded meadows and riverine forests. Wetland habitats occur in the lowlands and along the coast. Skadar Lake that is shared with Albania is the largest³, with a surface area that varies between 354 and 505 km², depending on the water level. According to the new research, Skadar Lake is estimated as a refuge for many species survived the glaciations. Consequently Skadar Lake and its vicinity are rich in relict and endemic animal and plant species. This is relatively shallow lake (6m average depth) with dominant Reedbed *Phragmites communis*, Water Lilies *Nymphaea alba* and *Nuphar luteum*, Water Calltrop *Trapa natans*, but also includes flooded meadows, and flooded forests. In some areas near to northern Lake shore are still present forest fragments of Skadar oak *Quercus robur scutariensis*. The southern coast and islets are steep, rocky, with sparse sub-Mediterranean pseudo-macquis (*Carpinus orientalis*, Pomegranate *Punica granatum*, *Paliurus spina-christi*, Fig *Ficus carica*, *Phillyrea sp.*). The Lake hosts some rather unusual flora such as algae from the families of *Chara* and *Nitelopsis*, the carnivorous Bladderwort *Utricularia spp.* and various species of Orchids. The Lake supports over 40 species of fish (economically the most valuable ones are Carp *Cyprinus carpio* and Bleak *Alburnus alburnus*).

Over 270 species of birds have been recorded from the site, which supports large populations of breeding and wintering waterbirds, including the largest population of Pygmy cormorant *Phalacrocorax pygmeus* in Montenegro as well as the globally threatened Dalmatian Pelican *Pelecanus crispus*. It is also an important 'stop-over' for migrating birds traveling along the Adriatic Flyway from breeding areas in Central Europe to their wintering station further south and east in the Mediterranean and Africa. The biodiversity of Lake Skadar is among the most investigated in Montenegro. Other important lowland wetlands include Šasko Lake, which is another relatively small shallow lake with well-developed macrophyte vegetation situated above the Ulcinj plain.



Skadar Lake – winter aspect



Carp *Cyprinus carpio*



Dalmatian Pelican *Pelecanus crispus*

³ Largest in MNE and in the Balkans

There are also a number of important cold, high-mountain glacial lakes, particularly in Durmitor, Biogradska gora and Prokletije mountains⁴ - national parks, which are poor in nutrients (particularly nitrogen and phosphorus) and often surrounded by peat bogs, which have their own specialized flora and fauna, including a neotenic form of the crested newt *Triturus alpestris*. Barno Lake at Durmitor is specific because of its mountain mire (peat) vegetation.



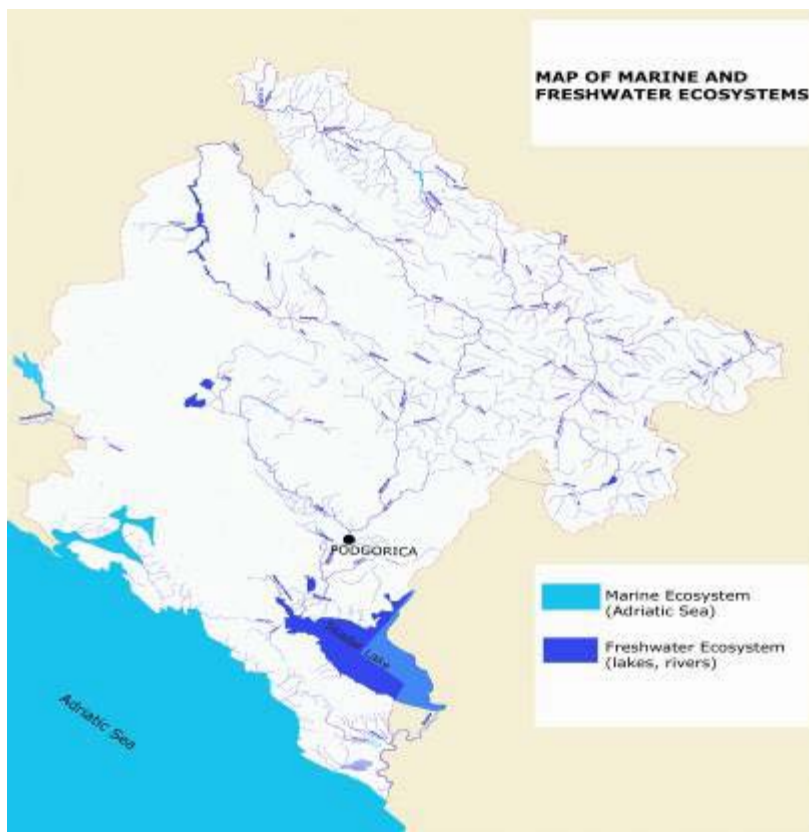
Barno Lake in Durmitor mt

- *Marine ecosystems*

Montenegro's maritime zone extends out to 12 nautical miles from the shore, covers 2,500 km², and reaches a maximum depth of 1,233m. The width of the continental shelf (up to 200m deep) varies along the coast of Montenegro, extending to 9.5 nautical miles at the entrance of the Bay of Kotor, and 34 nautical miles at the River Bojana estuary. Algae, both planktonic and seaweeds are the characteristic vegetation of Montenegrin coast, which supports extensive Seagrass *Posidonia oceanica* and *Cymodocea nodosa* beds. These plants serve as nursery shelter areas for many larvae and juvenile forms of marine fauna.

The fauna of the Adriatic Sea has not been fully investigated yet, but according to recent data⁵ there are over 300 species of algae, 40 species of sponges, 150 species of crustaceans, 340 species of mollusks, and almost 400 species of fish, with 3 species of marine turtles and 4 species of dolphins in the Adriatic. Several species of whales are also occasional visitors. Most of the known species are distributed along the littoral zone (up to 200m deep), but some of them are found in transition zone to the bathyal zone (200-300m deep), such as the economically important Norway lobster *Nephrops norvegicus* and petrified sponge (*Thenea muricata*).

Major areas for biodiversity include



⁴ Durmitor mountain lakes - Crno jezero, Vražje, Zmijsko; the Bjelasica mountain lakes- Šiško and Pešića lake; Prokletije mountain and the Visitor mountain lakes - Visitorsko, Ridsko and Plavsko; Lukavica mountain - Kapetanovo lake; in Volujak / Bioc: Stabanjska lakes and Trnovacko lake

⁵ In: Regner, S., Vukanic, D., Vuksanovic, N., Jerkovic, L., Kljajic, Z., Mandic, S., Macic, V., Milojevic, S., Radovic, I. & Regner, D., 2003: Geneticki resursi morskih organizama. Jugoslovenska inzenjerska akademija, Bulletin no. 1., Belgrade

the area around Boka Kotorska Bay, which is an important spawning site and probably the best-studied area biologically, and has a number of rare species such as the mollusks *Tijsira orahoviciana* and *Mitra zonata*. Bojana estuary is important nutrition place for migratory birds.



Seagrass *Posidonia oceanica*

- Coastal/littoral ecosystems

The Montenegrin coast is 313km in length and characterized by rocky cliffs with 117 natural sandy and rocky beaches situated in between, and has 8 small islands. The longest beach is at Ulcinj, which is over 12 km long, and in places fringed with sand and gravel dunes with halophyte vegetation. The hinterland is covered with typical Mediterranean *macquis*, *garrigue* and degraded evergreen woodland that extends up the southern slopes of some coastal mountains, but also has Salinas and salt pans and agricultural areas of largely olive groves and citrus fruit orchards. Characteristic vegetation includes typical Mediterranean species such as Evergreen Oak *Quercus ilex*, Kermes Oak *Quercus coccifera*, Viburnum *Viburnum tinus*, Holly *Phillyrea media*, Coastal Juniper *Juniperus oxycedrus*, Big Heath *Erica arborea*, Evergreen Pistachio *Pistacia lentiscus*, Strawberry tree *Arbutus unedo*, Rockrose *Cistus villosus* and *Cistus salviaefolius*, Spanish Broom *Spartium junceum*, Myrtle *Myrtus communis*, Olive *Olea europea*, Smilace *Smilax aspera*, Blackberry *Rubus ulmifolius*, Flowering Ash *Fraxinus ornus*, Fig *Ficus* spp, and Hornbeam *Carpinus* spp., and range of medicinal plants such as Sage *Salvia officinalis* and Laurel *Laurus nobilis*. Some rare and endemic species with limited range of distribution are also present here, including Skadar Oak *Quercus robur* spp. *scutariensis*, as well as some unusual associations, e.g. *Andropogoni – Nerietum* above the well Sopot near Risan. The commercial salt works at Ulcinj together with the neighboring salinas and lagoons comprise an important over-wintering area for waterbirds.



Myrtle *Myrtus communis*



Ulcinj saltworks

Karst

Montenegro's karst region lies generally at elevations of 1000 meters above sea level, although some areas rise to 1,900m such as Mount Orjen (1,894m), the highest massif among the coastal limestone ranges. The vegetation, characterized by thicket/shrubs of White Hornbeam (*Carpinus betulus*), Black Hornbeam (*Ostrya carpinifolia*), Macedonian Oak tree (*Quercus trojana*), Downy Oak (*Quercus pubescens*), and herbaceous vegetation with large areas dominated

Sage, is generally poor but has numerous endemic forms. Typical bird fauna include Rock Partridge (*Alectoris graeca*), Rock Thrush (*Monticola saxatilis*), Blue Rock Thrush (*Monticola solitarius*), Rock Nuthatch (*Sitta neumayer*), Mediterranean Wheatear (*Oenanthe hispanica*), Whitethroat (*Sylvia communis*) and Orphean Warbler *Sylvia hortensis*. However, the most characteristic animals of the Mediterranean karst region are the reptiles, which show extensive endemism, especially among lizards and snakes.



Karst (Žijovo mt)

Caves

Due to its geology, Montenegro has numerous caves and sinkholes, some of which are particularly beautiful (e.g. Lipska cave, Đalovica cave), while others are among the deepest in the Balkans (e.g. sink holes at Vjetrena brda in Durmitor, Duboki do in Lovćen). In many cases, they have an exceptionally complex and rich fauna, with many endemic and relict (particularly Tertiary) forms, especially in the south of the country and especially among invertebrate groups.



Cave Strugarska

Canyons

Canyons also occur throughout Montenegro, and can have a Mediterranean (canyons of Morača and Cijevna rivers) or continental (Tara river canyon, remains of Piva and Komarnica canyons, gorges like Ibarska, Tifranska and Đalovića) climate, and have very different, very often endemic, species assemblages to their neighboring mountain areas.

The Tara River canyon – maximum depth of 1,300m is the deepest canyon in Europe and second deepest in the world (after the Colorado River Grand Canyon in the USA).



Tara River Canyon

Diversity of species

Montenegro has a high biological diversity for such a small European country, due to its geographic position, heterogenic distribution of habitats, topographic variations, geological history and climate conditions.

Basic knowledge about the diversity of many plant and animal taxa is very limited, including disagreements about taxonomic status of some taxa – whether they are species or subspecies.

Algae - Freshwater algae

Freshwater algae of Montenegro exhibit high diversity – 1,200 species and varieties have been described so far with silicate algae (*Bacillariophyta*) and green algae being the predominant groups. The freshwater systems they inhabit differ in conditions, with the northern lakes and rivers being oligotrophic and supporting relatively few species (silicate algae dominate, particularly *Asterionella formosa* and species of the families *Cyclotella*, *Fragillaria* and *Synedra*), while those in the south are generally mesotrophic to eutrophic and are richer in species of algae.

Most significant site for algae in Montenegro is Skadar Lake, the largest freshwater basin in the Balkans, whose meso- to eutrophic waters supports a very high biomass of planctonic, benthic and epiphytic algae. Some 1,093 taxa are known from the Lake, of which more than

700 have not been recorded elsewhere in Montenegro. One algal species - *Cyclotella skadariensis* – is believed to be endemic to Skadar Lake. Other lakes in Montenegro are known to support significant diversity of algae, including Crno (195 species), Bukumirsko (190), Ridsko (183), Plavsko (182), Zminje (180), Šasko (138), and Veliko and Malo Stabanjsko (138). The man-made reservoir Krupačko also supports a good diversity of algae (130 species). The algae flora of rivers in Montenegro is less well studied and taxonomic lists exist only for the Tara River (221 taxa) and the Morača River (214 taxa) systems.

Algae - Marine algae

Over 300 species of macro algae have been recorded in Montenegrin waters (although there are likely to be many more), the majority of which are red algae (*Rhodophyta*), comprising 202 (66.5%) of recorded species in spring and summer surveys, followed by *Phaeophyceae* (60 taxa, 19.7%) and *Chlorophyceae* (42 taxa, 13.8%). Most of these species are widespread in the Atlantic and Mediterranean seas (Atlantic-Mediterranean 57.5%, Mediterranean endemic 26.1%), and only 4.3% are endemic to the Adriatic Sea.

Mosses and Liverworts (Bryophytes) and Lichens

Currently, 589 species of Bryophytes are recorded for Montenegro, comprising 483 species of Mosses and 106 of Liverworts. This is less than most of the surrounding countries, but is probably a reflection of limited research on these groups and many more species are likely to be recorded from Montenegro. The largest numbers of species are associated with forests of Beech *Fagus* spp., Hornbeam *Carpinus* spp., Oak *Quercus* spp. and Plane Tree *Acer monspessulanum*. With an increase in altitude and change of forest type the diversity of mosses decreases. Mosses are also associated with watercourses and are particularly diverse in peat bogs in Montenegro (e.g. at Barno lake, Prokletije mts) where 13 species of *Sphagnum* mosses have been recorded. Lichens are also poorly known from Montenegro with 693 species recorded⁶.

Vascular plants (higher plants)

The Balkan Peninsula, which includes Montenegro, is the most diverse part of Europe in terms of vascular plants, with 7,000-8,000 species recorded. Montenegro, with 3,250 species, is floristically one of the most diverse areas. As part of Balkan, country⁷ is one of 153 bio-centers that are globally important for floristic diversity. The number of endemics is also high - there are as many as 392 Balkan (regional) Endemic species, which accounts for over 7% of the Montenegrin flora. Apart from these, even local Endemic species have significant importance - there are 46 of these in Montenegro, mostly Tertiary Relicts. Families of vascular plants with the largest number of species in Montenegro are the *Asteraceae* (307 taxa), *Poaceae* (263), *Fabaceae* (233), and *Caryophyllaceae* (151).

Fungi

Around 2,000 species of fungi (over 1,000 Micromycete species and approximately 920 Macromycete species) have been recorded for Montenegro, although it has been estimated that between 15,000 and 21,000 species could occur, of which around 4,500 would be Macromycetes. If so this number of species would represent about half of the number of species recorded for Europe⁸. The key macromycete groups are: *Agaricales* (321 known species), *Aphyllophorales* (221), *Ascomycota* (141), *Boletales* (69), *Gasteromycetes* (47), and *Russulales* (91).

Invertebrates- terrestrial and freshwater aquatic invertebrates

Terrestrial invertebrates are a very large group of animals with many phyla, most of which have been poorly studied in Montenegro. As a result, comprehensive species check-lists and even widely accepted approximations of species numbers are lacking (although species lists exist for some sites, principally Skadar Lake). This holds even for those phyla whose members are important from the point of view of human health (e.g. Protozoans, Nematodes, Flukes, Flatworms, Leeches). To date, the best-studied phyla include Mollusks *Mollusca* with

⁶ According to: Knežević & Mayrhofer (2009): Catalogue of the Lichenized and Lichenicolous fungi of Montenegro. Phytion, Wienn

⁷ With 3 sub-centers of mountain flora: I. Sub-center of Coastal – Adriatic Dinarides: Orjen mt, Njeguške mts, Lovćen mt., Rumija mt, II. Sub-Center of Durmitor mt group: Bioč mt, Durmitor mt, Sinjavina mt, Vojnik mt, Ljubišnja mt and III. Sub-Center of Prokletije mt group: Bjelasica mt, Komovi mt, Prokletije mt

⁸ According to asom, G., 2008: *Prilog o gljivama za Studiju o biološkom diverzitetu*, (Country Study 2008, NBSAP 2010).

323 recorded species and 136 Land Snail species considered of international importance, mostly Endemic species), Segmented Worms (*Oligochaeta* - with 27 recorded species) and Arthropods (*Arthropoda* – with an estimated 16,000-20,000 species, although some estimations put the number of >25,000 Insects only). Reseraches of these groups suggest that they are of high levels of endemism as well as high species diversity. Many are relict species, particularly from the Tertiary period, and include the 'living fossil' *Congerius kusceri* - the only known subterranean Bivalve Mollusk - from a genus thought to be extinct since the Miocene (23 to 5.3 million years before the present). Particularly significant cave sites for endemic invertebrates include: Lipska cave (endemic genera of Amphipod *Typhlogammarus*, endemic species of Snails and Copepod), Bobotuša cave near Trnovo (endemic species of Copepod, Harvestman (*Opiliones*), and Beetle). Obodska cave (endemic species of Beetle, Amphipod and Snails) and Megara cave near to Podgorica (endemic species of Beetle and Harvestman).

Invertebrates - marine invertebrates

The existing data suggest a relatively high diversity, although low endemism (in common with the rest of Adriatic Sea). For instance, some 50% (50/101 species) of all the Echinoderms (*Echinodermata*) occurring in the Adriatic Sea are recorded for Montenegro, 127 species of bivalves have been reported from the inner part of Boka Bay (Kotor-Risan Bay) with an estimated 250-300 species in Montenegrin waters, and 17 species of cephalopod (*Sepia officinalis*, *Sepia elegans*, *Sepia orbignyana*, *Sepietta oweniana*, *Sepioloa rondeleti*, *Illex coindetii*, *Loligo vulgaris*, *Octopus vulgaris*, *Octopus salutii*, *Eledone moschata*, *Eledone cirros*, *Alloteuthis media*, *Rossia macrosoma*, *Scaevurgus uncirrhus*, *Pteroctopus tetracirrhus* and *Todarodes sagitatus*) have been recorded on the open part of the Montenegrin coast.

Commercially exploited species include Squid (*Loligo vulgaris*) and Cuttlefish (*Sepia officinalis*), which comprise the majority of the Cephalopod catch in Montenegrin waters, as well as species of crab and shrimp (*Crustacea*), e.g. the Shrimp *Parapenaeus longirostris*, and several Bivalve species (*Mollusca*). However, despite their commercial importance, the ecology of these groups is still rather poorly known.

Fish - Freshwater fish

The freshwater systems of Montenegro belong to two basins – the Black Sea, in which some 30 fish species have been recorded, and the Adriatic Sea, with 60 fish species. This disparity is because the southern regions draining into the Adriatic coast survived the last Glaciation and provided a Refugium for many freshwater species. Consequently, the number of endemic species and the overall levels of genetic diversity in the region, particularly in Adriatic watershed, are high. Typical species of fast mountain rivers waters include salmonids (*Salmo trutta / faroides*, *Salmo dentex*, *Thymallus thymallus*), as well as cyprinids such as Barbell (*Gobio gobio*, *Barbus meridionalis*, and *Barbus barbus*). Fish of the middle river stretches (moderately fast courses) are mostly all cyprinids (*Rutilus*, *Leuciscus*, *Phoxinus*, *Chondrostoma*, etc) but some salmonid species, including rare endemic trout *Salmothymus obtusirostris zetensis*, are present as well. Still water (lake, ponds) fishes are also cyprinids along with fish from the orders *Cyprinus*, *Carpio*, *Leuciscus*, *Alburnus* etc. Characteristic estuarine and brackish water species include, apart from several cyprinid species, species from orders *Mugil*, *Dicentrarchus*, *Blennius*, *Platichthis*, *Anguilla*, *Alossa* etc.

Among the country's most important sites for freshwater fishes is Skadar Lake, which supports more than 40 fish species, including species that migrate between marine and freshwater systems, such as the Eel (*Anguilla anguilla*), Twaite Shad (*Alossa falax nilotica*) etc.

Fish - Marine fish

The marine fish fauna of the Adriatic Sea is considered diverse with 117 recorded families, but has a low level of endemism. To date, 407⁹ species have been recorded for Montenegro, which represents around 70% of that recorded for the Mediterranean. However, this is not likely to be a full list, as some species have been recorded only once and their status in Montenegrin waters is unknown (e.g. whether they are migratory or resident), and not all of the marine territory of Montenegro has been explored (the eastern Adriatic is the deepest part of the Sea and largely unexplored, so records of new species are expected).

The habitats richest in fish species (both in terms of diversity and biomass) are the drop offs and reefs of the near-shore coastal zones, which provide high structural diversity and different microhabitats for fish. Sandy bottoms, such as that at the mouth of the River Bojana, are relatively poor in fish species, although shallow-water *Posidonia* Seagrass provide important nursery areas for young fish. Close to the coast e.g. Boka-Kotor Bay, *Spicara flexuosa*, *Serranus hepatus*, *Mullus barbatus*, *Pagellus erythrinus* and other, mostly bento-pelagic species, can be found, while *Merluccius merluccius*, *Trisopterus minutus capellanus*, *Trachurus trachurus* are characteristic of the benthic area of open sea areas in the middle and southern Adriatic.

Reptiles and amphibians (herpetofauna)

Montenegro supports a relatively high diversity of both terrestrial and aquatic Amphibians and Reptiles, including Lizards, Snakes, Turtles, Frogs, Toads, Salamanders, and Sea Turtles. There are currently 56 species (18 species of Amphibian and 38 species of Reptiles), and 69 subspecies recorded from 38 genera, and this list is unlikely to be final. This is especially the case for the Green Frog (*Rena esculenta*) species complex and Crested Newt (*Triturus cristatus*) species complex, for which the region is the centre of speciation, and records of more species and sub-species are likely. One notable Amphibian species is the Blind Olm or 'human fish' (*Proteus anguinus*), which is endemic to the waters of subterranean caves of the karst Dinaric Mountains of South-East Europe.

The Lovćen and Prokletije mountain regions stand out as particular hotspots of Amphibian and Reptile diversity and endemism in Montenegro. Aquatic habitats in the Lovćen region are especially interesting as they host Amphibian and Reptile communities with many relict and endemic species e.g. Italian Crested Newt (*Triturus carnifex*), Cetinje Yellow-Bellied Toad (*Bombina variegata scabra*), *Podarcis melisellensis fiumana*, *Dinarolacerta mosorensis* (= *Lacerta mosorensis*), Blue Lizard *Dalmatolacerta oxycephala* (= *Lacerta oxycephala*), and *Vipera ammodytes meridionalis*. The lakes of Mount Prokletije region (Bukumirsko and Ridsko lakes) are notable for their populations of Neotenic²⁸ Alpine Newt *Triturus alpestris*, and also support a significant number of Balkan endemic species e.g. *Bombina (variegata) scabra*, *Pelophylax shqipericus*, Greek Stream Frog *Rana graeca*, *Dinarolacerta montenegrina* (new species), *Dalmatolacerta oxycephala*, *Podarcis melisellensis*, *Hierophis gemonensis*=*Coluber gemonensis*. Also of note are the islands of Skadar Lake, which each support a different lizard community, the Durmitor National Park area where *Triturus alpestris*, *Triturus vulgaris*, *Rana temporaria*, *Vipera berus* and the two endemic reptiles *Dinarolacerta mosorensis* and *Dalmatolacerta oxycephala* occur.

Other important sites for rare amphibians and reptiles include the Pošćenska lakes, the canyon of the Komarnica river from Skakavica to village Duži, Zminičko Lake (important for the survival of the endemic Zminicki Newt *Triturus alpestris serdarus*), part of the River Tara canyon – locality Čelije-Borovi is important for *Rana graeca*, Kotor-Risan Bay (for *Caretta caretta*, *Chelonia mydas*, *Elaphe quatuorlineata*, *Zamenis situla* = *Elaphe situla*, *Bombina variegata*), Platamuni (*Caretta caretta*, *Chelonia mydas*), Katic island (*Caretta caretta*, *Chelonia mydas*), Cijevna River canyon (*Elaphe quatuorlineata*, *Zamenis situla*, *Testudo hermanni*, *Triturus carnifex*), Čemovsko field (*Testudo hermanni*), Buljarica (*Testudo hermanni*), Mrtvica canyon (*Elaphe quatuorlineata*, *Zamenis situla*, *Testudo hermanni*, *Bombina variegata*), Ada Bojana (*Caretta caretta*, *Chelonia mydas*, *Emys orbicularis*, *Testudo hermanni*, *Triturus carnifex*), Mala Rijeka canyon (*Testudo hermanni*), Rumija mt (*Elaphe quatuorlineata*, *Zamenis situla*, *Testudo hermanni*, *Vipera ursinii*), Tivat Salina (*Caretta caretta*, *Emys orbicularis*, *Mauremys caspica*, *Testudo hermanni*, *Elaphe quatuorlineata*, *Zamenis situla*).

Birds

Montenegro's location along a major migratory route (the Adriatic flyway) and diversity of natural habitats result in high avian diversity. Of a total of 526 European bird species, 333 can be found regularly in Montenegro, and several additional species are registered as occasional visitors and the current total for Montenegro is 326 species¹⁰. Of these, 204 species nest in the country. Montenegro has a wide variety of bird types, including many raptors, forest and wetland species, and provides an important refuge for a number of rare and threatened bird species, including Dalmatian pelican *Pelecanus crispus* and pygmy cormorant *Phalacrocorax pygmeus*. Important bird sites include Buljarica, Velika Plaža, Ada Bojana, Tivat and Ulcinj

²⁸ In neotenic forms, sexual maturity is reached while the animal is still in its larval state.

Solana, Šasko Lake in the Mediterranean region, the pastures and flooded woodlands adjacent to the Bojana River, and, further inland, Durmitor, Bjelasica, Komovi and the canyons of Piva, Tara, Morača and Cijevna Maglic, and Prokletije. Over 281 species of birds have been recorded at Skadar Lake, approximately 250 in the surroundings of Ulcinj, and 172 in Durmitor.

Mammals

Montenegro also has a rich mammal fauna²⁹ and includes Carnivores (e.g. Wolf *Canis lupus*, Brown Bear *Ursus arctos*, Red Fox *Vulpes vulpes*, Lynx *Lynx lynx*, Otter *Lutra lutra*), Ungulates (e.g. Wild Boar *Sus scrofa*, Red Deer *Cervus elaphus*, Roe Deer *Capreolus capreolus*, Chamois *Rupicapra rupicapra*), Rodents (including *Pitymus thomasi*, found only around Podgorica (Beri, Vranici) and in Vilusi and several species of Bats), then some Marine Mammals (common Dolphin *Delphinus delphis*, Striped Dolphin *Stenella coeruleoalba*, Bottlenose Dolphin *Tursiops truncatus*). The highest mammal diversity occurs in the mountainous and forested north of the country. Apart from some research on individual species, e.g. Brown Bear *Ursus arctos*, and some groups, e.g. Bats in the Ulcinj and Arsenal areas, and hunting population estimates¹¹ by hunting societies that are not independently verified, there are no data on the size of mammal populations in Montenegro.

Centers of biodiversity in Montenegro and their regional importance

Mapping the distribution of plants and animals throughout the Balkan Peninsula has shown that there are hotspots of biodiversity within Montenegro¹². Almost all the mountainous regions of Montenegro can be treated as centers of diversity for vascular flora, including (i) Durmitor, (ii) Prokletije massif, and (iii) Mediterranean Dinarides (Orjen, Lovćen, Rumija, Njeguš mountains). Sites with 1,200-1,400 taxa (species and subspecies combined) include: (a) Durmitor with Bioč including the canyons of the rivers Tara, Piva and Sušica; (b) Bjelasica, Komovi and Prokletije with Visitor, Žijovo, Hum Orahovski, (c) Canyon of Cijevna river; (d) Mrtvica Canyon, (e) Skadar Lake with northern slopes of the Rumija mountain. The areas of the Prokletije massif³², Moračke mountains, Bjelasica and Komovi are recognized as centers of endemic flora.

The most important biodiversity centers of birds in Montenegro include the region of Skadar Lake and Ulcinj, as well as mountain areas of Durmitor, and Prokletije. Bio-centers of mammal diversity in Montenegro are the mountainous regions of Durmitor, Sinjavina, western side of Prokletije, Komovi and Bjelasica, with smaller concentration of species in eastern side of Prokletije, central parts of Montenegro, northern parts of Boka-Kotor bay and Orjen mt and coastal Dinarides (Lovćen mt, Rumija mt with Skadar Lake).

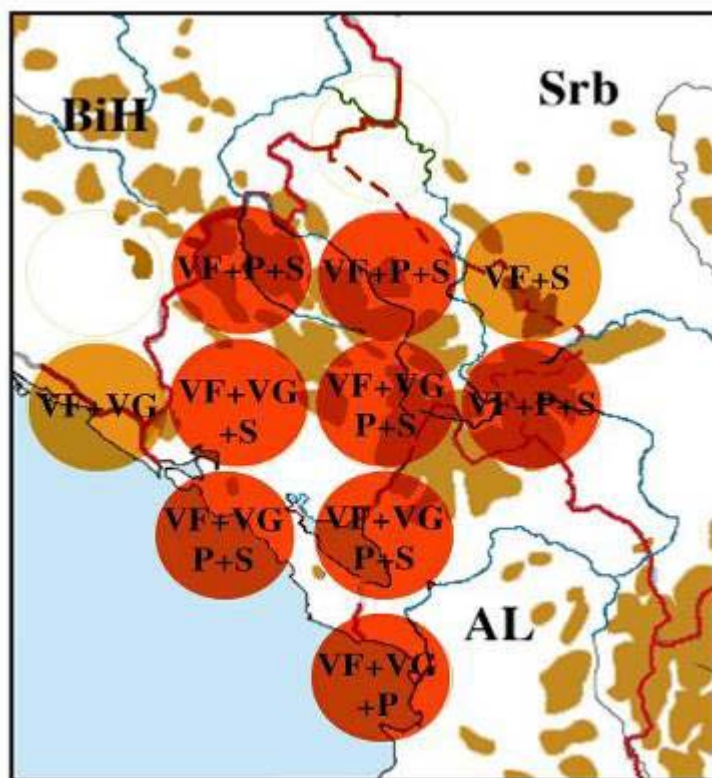
The coastal region of Montenegro and its hinterland - Skadar Lake, Lovćen and Prokletije are considered as most significant centers of biodiversity of Reptiles and Amphibians on the Balkan Peninsula and in Europe.

²⁹ 65 species of mammals are registered

¹¹ Disputable compatibility of data about number of hunting game presented by the hunting organizations since their professional verification is missing

¹² Stevanovic, V. & Vasic, V. (1995): Biodiversity of Yugoslavia with the overview of species of international importance, Faculty of Biology and Ecolibri, Belgrade

³² In the central and eastern Prokletije more than 110 endemic taxa are present.



Overlapping of the center of diversity of vascular flora (VF), amphibian and reptiles (VG), birds (P) and mammals (S) in Montenegro. Circles in red represent overlapping centers of diversity for three groups of organisms, while the circles in light-brown colour represent overlapping areas of diversity for two groups of organisms.

Regional and global importance of Montenegro biodiversity

Montenegro, with more than 3,200 plant species, is floristically one of the most diverse areas in the region, comparable only to Greece and Bulgaria. The "S/A" index³³ of Montenegro for vascular plants is 0.837, which represents the highest recorded of all European countries. Similarly, an index of the density of nesting birds in Montenegro has a value of 0.557, which is higher than the figure for the Balkans as a whole (0.435). At a global level, Montenegro is included within the Mediterranean biodiversity hotspot³⁴ and the following Global Eco-regions³⁵: European-Mediterranean Montane Mixed Forests (no. 77), Mediterranean Forests, Woodlands and Scrub (no.123), and Mediterranean Sea (no. 199) and the Balkan Rivers & Streams (no. 180); and, together with the mountainous area of Bulgaria, comprises one of the 153 centers of globally significant floral diversity.

Areas that are internationally important for rare, endemic and endangered species

In Montenegro are identified following Important Bird Areas (IBA)¹³: Skadar lake, Ulcinj Saltwork, Šasko lake, Durmitor and Biogradska gora¹⁴. In the integral list of identified and potential (marked with*) IBA are: Delta Bojana, Rumija mt, Buljarica bay, Skadar lake, Plavsko lake with flooded meadows, Tivat Salina, Čemovsko polje, Prokletije mt, Nikšić water accumulations, Hajla mt, Biogradska gora, Durmitor mt, Cijevna river canyon, Zeta river valley*, Kučke mts*, Visitor mt*, Komovi mts*, Golija mt*, Pivska highland*, Ljubišnja mt*.

³³ It is expressed as logarithm of number species (log S) /logarithm area (km²) (log A). See Stevanovic, V. Vasic, V.Regner, S. (eds) (2000). Biological diversity of SRYugoslavia. Ecolibri, Belgrade.

³⁴ Conservation International - Mediterranean biodiversity hotspot. See <http://www.biodiversityhotspots.org/xp/hotspots/mediterranean/Pages/default.aspx>

³⁵ Global Eco-regions are scientifically defined as the most expressed land, freshwater and marine habitats in the world. See http://www.panda.org/about_wwf/where_we_work/ecoregions/ecoregion_list/index.cfm

¹³ IBA are localities important for protection of birds because these localities regularly accept important populations of one or more globally or regionally endangered bird species, endemic birds or certain highly representative bird aggregates. IBAs are selected according to international criteria and standards. See http://www.birdlife.org/action/science/sites/european_ibas/index.html.

¹⁴ See <http://www.birdlife.org/datazone/sites/index.html> and then click on link for Montenegro: Biogradska gora (YU037) – fulfil criteria B2, B3; Durmitor (YU036) fulfil criteria B2, B3; Šasko lake (YU039) fulfil criteria B1i, B2, B3; Skadar lake (YU038) fulfil criteria A1, A3, A4i, A4iii, B1i, B2; Ulcinj saltworks (YU040) fulfil criteria A1, A4i, B1i, B2

Concerning Important Plant Areas (IPA) in Montenegro are identified 22 sites¹⁵ as follows: Jerinja glava mt, Lukavica mt, Trebjesa mt, Starac mt, Bogičevica mt, Visitor mt, Hajla mt, Skadar lake, Orjen mt, Lovćen mt, Rumija mt, Velika Ulcinjska beach, Babji zub mt, Piva river canyon, Tara River canyon, Komarnica River Canyon, Mrtvica Canyon, Cijevna River canyon, Lim River canyon, Komovi mt, Durmitor mt and Biogradska gora.

Identification of Important Fungi Areas (IFA) is not provided so far, but could provide additional reasons for protection of existing and new / potential Protected Areas.



Durmitor mountain massif in winter

Agrobiodiversity

Agrobiodiversity encompasses the variety and variability of animals, plants and micro-organisms that are necessary to sustain agricultural production and nutrition of humans and livestock.

Plant agrobiodiversity

Although a small country, Montenegro has a significant diversity of plant and animal types used in agriculture, and a number of distinctive local varieties and breeds. Montenegro is traditionally divided into five major agro-ecological regions on the basis of common features (largely based on climate, agricultural production structure, cultivated and plowed area, income level, and livestock concentrations), which are: the coastal region; Zeta and Bjelopavlici Plain; karst region; northern mountains; and the Polimsko-ibarski region.

The coastal region (area from Debeli Brijeg up to the river Bojana) covers 11.5% of the country, i.e. about 20,000ha of cultivable land, and is suitable for fruit, olive and vegetable production, and is rich in aromatic and medicinal herbs, and wild fruit species (pomegranate, fig, etc.).

The Zeta and Bjelopavlici Plain (Zetsko-bjelopavlicki region, covering area of Podgorica and Danilovgrad) accounts for 14% of the territory of Montenegro, and vegetables, agricultural crops and fruit (including grapes, figs, orange and kiwi) are largely grown here.

The Karst region (covering area of Cetinje and Niksic) covers 21% of Montenegro, but because of the very limited availability of surface water, agricultural production focuses on livestock breeding and pasture land.

The northern mountains comprise the largest region (32.5%) of Montenegro and are suitable for growing grains, potatoes and cabbages, and have the largest area of pasture (both natural and artificial meadows) for livestock raising and milk production.

The Polimsko-ibarski Region (valleys of the rivers Lim and Ibar) covers about 20.5% of Montenegro, and 32.9% of the most fertile cultivable land, where vegetables and fruits are produced.

¹⁵ See - <http://www.ipa-montenegro.cg.yu/>

There are important native varieties of cereals, beans, onions, potatoes, tomatoes, fruits, grape vines and local populations of edible wild plants, all of which are still cultivated and consumed locally. However, intensification of agriculture has negatively affected this diversity and some genotypes have already been lost from the wild (e.g. some wheat varieties no longer occur in their original collection areas). Fortunately, the most important genetic resources relevant for food and agriculture are mostly conserved and represent a good source of the new germplasm for development of selection and seed-growing.

Animal agrobiodiversity

Montenegro has almost all of the domesticated species that are bred across the Balkans. The populations are genetically and phenotypically specific and adapted to Montenegro, although in most cases population sizes are low. Some of them exist in such small numbers that they are essentially extinct. Among these is the '*busha*', a small, sturdy and low-maintenance breed of cow, adapted to the harsh, remote, low-nutrient, upland regions of the north and north-east of the country (e.g. municipalities Plav and Rozaje), which very often have poor communications and unfavorable feeding conditions. Individual breeds or small groups can be found in the hinterland of the Skadar Lake and around delta of the river Bojana. The most common sheep breed is the '*pramenka*' of which there are several varieties across the country, each with adaptations to the local environmental conditions, and include the *Zetska zuja* which was originally bred around Podgorica (Zeta, Ljeskopolje, Cemovsko polje, up to the Bjelopavlici area) and is able to cope with its hot summers, the *Bardoka* which is reared in the border area between Kosovo and Albania (Plav, Gusinje, and part of the Podgorica municipality), the *Pivska ovca* reared in the wider area of the Durmitor and Sinjajevina mountains, the *Ljaba* which was originally reared in the area of Ulcinj, and the *Sjenicka ovca* (the *Sjenica* sheep) and *Vasojeviccka ruda* both reared in the north-east of Montenegro. However, the *Zetska zuja* is near extinction, and only small numbers exist for many of the other varieties. In addition, domestic *Balkan goats* are predominantly kept in the south of the country in areas unsuitable for sheep or cattle breeding. Such areas include the karst areas in the municipalities of Niksic, Cetinje, Podgorica, and coastal municipalities covered in bushes and low deciduous trees. The red color variety is considered representative for this species in Montenegro. The small *mountain horse* is also still used in Montenegro, notably in the more remote and inaccessible mountain areas along with donkeys in parts of the south (the municipalities of Ulcinj, Bar, partially Cetinje and Podgorica). A local domestic variety of pig – the '*šiška*' – is already extinct in Montenegro.

Genetically modified organisms (GMOs)

Customs inspectors do occasionally check containers coming into the country for genetically modified organisms (GMOs) but largely rely on product labels to determine whether GMOs are present, as there are no specialist facilities for testing of GMOs in Montenegro (suspect samples are sent to Serbia for testing). Consequently, there is little information on the existence of GMOs within Montenegro.

Determining the occurrence of GMOs, their use and entry into the country is seen as a priority for the Government of Montenegro, especially because it has a developing organic produce sector, which could fail international standards if contaminated with GMOs.

2. Status and trends of the biodiversity

The **monitoring** of biodiversity in Montenegro has been carried out¹⁶ in a limited manner, within the framework of the National Environmental Monitoring Programme, since 2000. Due to the limited financing for this Program, data gathered so far do not offer the possibility for complex analyses of trends in the condition of indicator species populations, or changes in selected habitats and the overall living environment.

However, summary results of the reports generated from the Program (presented in the National State on Environment Reports that are annually adopted by the Government)¹⁷ have

¹⁶ Institute for the Protection of Nature of MNE

¹⁷ Due to restructuring Government departments over the time, electronic versions of the State on Environment Report are provided at different web-sites, so for years 2005, 2006 and 2007 these reports are at <http://www.mturizma.gov.me/vijesti.php?akcija=rubrika&rubrika=258>, for years 2002, 2003, and 2004 are at

confirmed previous evaluations from professional / scientific literature on the threats to many of the components of biological diversity in Montenegro. Results obtained through the Program indicate that water ecosystems and forests¹⁸, then urban and agricultural areas are under the greatest negative impacts. Different ecosystems are endangered to different extents depending on the intensity of anthropogenic factors. In this regard, the greatest pressure has been on the forest vegetation due to constant exploitation over a long period of time. Coastal ecosystems are also endangered while natural coastal habitats have been occupied by tourism facilities and urban development. Aquatic ecosystems are under the pressure from various forms of pollution, which decreases their productivity.

It could be concluded that the threats to biodiversity need to be analyzed in the following period with due attention in order to be able to suggest effective measures for biodiversity improvements, through their integration into sectoral plans and strategies. The existing Biodiversity Monitoring Programme have to be expanded, more complex and with particular emphases to the Protected Area network and forthcoming Network NATURA 2000. In 2005, it was also noted that the ecosystems of dry grassland (Zetsko-Bjelopavlička plain) and ecosystems of salt pans (hinterland of Velika plaza in Ulcinj) are threatened.

Results from the Biodiversity Monitoring Programme also gave significant inputs for the revision of the conservation status of many species, so new List of the Protected Species has been adopted in December 2006 (Decree on the protection of certain flora and fauna species (Official Gazette, MNE, No. 76/06). In a time scale number of protected species increased so in 1968, only 6 plant species¹⁹ were placed under protection, but in 1982, 52 plant species and 314 animal species were under protection²⁰. After its last revision, List of the Protected Species include 415 plant species and 430 animal species,

3. Main threats to the Biodiversity

Threatened habitats and ecosystems

While comprehensive data on population and distributional changes are lacking for most species and habitats²¹, there are many examples of threatened and declining biodiversity in Montenegro reported in professional literature and official documents.

a. Coastal and marine areas - The flora and fauna of the coastal zone is considered the most threatened in Montenegro. This region is threatened by uncontrolled tourism and urban development which due to increased discharge of polluted and untreated waste waters into the sea endangers the marine ecosystem, particularly in tourist areas such as the Boka Bay. The most threatened habitats on the coast are the dunes at Velika Plaža at Ulcinj (which has unique halophyte vegetation²²) and the remaining fragments of Skadar Oak (*Quercus robur scutariensis*) forest at Štoj at the rear of the Velika Plaža and Ulcinj. Bird fauna at these localities is endangered by hunting.

b. Forest habitats/forest ecosystems - Forest biodiversity has also suffered heavily in Montenegro. After World War II there was a period of 'industrialization' of forestry when the highest-quality timber was logged and almost all of the most valuable forest complexes were destroyed. Unfortunately, there are no reliable data on changes in the distribution or coverage of different forest types in Montenegro over the last 50 years, but some data do exist on timber volumes extracted. In the period 1947 - 1951, around 1,200,000 m³/year of timber was logged in Montenegro; in the 1970s this fell around 900.000m³/annually and by the end of the 1980s approximately 800.000m³/annually were harvested. The amount logged in the 1990s

<http://www.mepp.cg.yu/vijesti.php?akcija=rubrika&rubrika=28> while for 2008 and 2009 are at <http://www.epa.org.me/index.php/me/sektor-za-monitoring-analizu-i-izvjetavanje>

¹⁸ This conclusion was obtained also during the prioritisation of ecosystems for protection (anketa with 15 specialist from various sectors)

¹⁹ *Daphne malyana* Blečić, *Dioscorea balcanica* Kusanin, *Ilex aquifolium* L., *Leontopodium alpinum* Kass, *Ramondia serbica* Panc and *Taxus baccata* L.

²⁰ Decree on protection, rare, thinned and endangered plant and animal species ("Official Gazette or RMNE", no. 36/82)

²¹ The result of insufficient research and lack of a more complex system of monitoring of biodiversity. See previous chapter

²² Rare and endangered species at this location are: *Cakile maritima*, *Xanthium italicu*, *Salsola kali*, *Euphorbia peplis*, *Euphorbia paralias*, *Polygonum maritimum*, *Atriplex hastate*, *Echinophora spinosa*, sea holly *Eryngium maritimum*, *Agropyrum junceum*, *Medicago marina*, *Inula crithmoides*, *Lagurus ovatus*, *Cuscuta* sp.

fell due to the regional conflicts, but illegal logging (1998-2000) was pronounced in the border regions with Kosovo. Logging in Montenegro is currently estimated at about 700,000-815,000 m³/year.

c. Water and wetlands habitats - Wetland habitats suffer from eutrophication, particularly from pollution from human settlements. Plans for the direct use of biological resources from freshwater ecosystems, plans for their drainage⁷⁵ represent important threat to the flora and fauna, particularly fish population. Hunting has also been a threat to many waterbirds in Montenegro.

d. Dry grassland habitats - Dry grasslands in Montenegro are now very rare and considered the most threatened habitat in Montenegro, most having been overgrazed or converted for arable and fruit farming or viticulture, for example a large part of the grasslands at Ćemovsko has been converted into vineyards and orchards.

Threatened agro-biodiversity

Development and economic and market pressures in Montenegro have led to the erosion of agrobiodiversity, including the decline in populations and disappearance of all local breeds and a reduction in genetic diversity which has been further eroded by cross-breeding with other varieties and imported breeds.

Major threats to biodiversity in Montenegro

On the basis of the available information, the following 6 main categories of anthropogenic threats can be identified:

1. *Uncontrolled urbanization and tourism development* of natural habitats with associated infrastructure development;
2. *Changes in land use practices*, particularly in relation to agriculture and forestry;
3. *Unsustainable and illegal use of natural resources* (including illegal hunting, overharvesting etc);
4. *Water, soil and air pollution* from industrial and agricultural pollutants and municipal wastes;
5. *Introduction of alien, invasive species*²³ is poorly investigated threat, so far, but its higher importance among threats to biodiversity could be expected soon.
6. *Impact of climate change*, especially the effects of hot and dry periods on forest habitats²⁴ which need to be the focus of more attention²⁵.

The cumulative effect of the above threats to biological diversity is the loss of rare or endangered habitats and their associated (often endemic) species, particularly on the coast and a reduction in the functionality and stability of natural ecosystems, particularly of forest and water ecosystems.

Major reasons which lead to loss of biodiversity

There are a number of root causes of the threats to biological diversity stated above, the most significant being:

1. *Low political priority that has the protection of the environment* - although environmental protection and conservation of biodiversity and natural resources are formally declared as priority in numerous official documents (The Declaration of the Ecological State, Spatial Plan of Montenegro, National Strategy for Sustainable Development, etc.). In practice they are positioned low in the political agenda since the economic sectors (tourism, energy, agriculture etc) considered as profitable are priorities. Interests of "development without barriers" are generally substantiated with strong financial and investment arguments that are stronger than environmental arguments including legal procedures and administrative measures that are considered as barriers to that kind of development.

⁷⁵ Plans for deepening of the bed of the river Bojana and regulation of the water level of the Skadar Lake

²³ The most common species are *Robinia pseudoacacia*, *Ailanthus altissima* and in urban areas *Broussonetia papyrifera*. In the sea *Caulerpe racemose*.

²⁴ Expected climate changes in Montenegro according to IPCC AR 4 and other sources in the period to 2050: increase of temperature by 1.8 – 2.2 °C; (ii) reduced precipitation – between -6 % i – 14%, part. in summer (iii) increased extreme climate phenomena and (iv) increase of sea level by 18 – 22 cm.

²⁵ Predicted climate changes are presented in the document of the MTLE and UNEP RAC / SPA: *Vulnerability and impacts of Climate Change on Marine and Coastal Biodiversity in Montenegro*, National Overview prepared by V. Buskovic (2008)

2. *Sectoral Promotion of policies which are not compatible with sustainable use of natural resources and protection of biodiversity* - policies which are not aimed to the environmental sustainability in these sectors could be clearly distinct. Thus, for example, policy in the tourism sector is not yet enough focused on more environmentally sustainable and expensive forms of tourism with smaller number of guests.

3. *Low level of limitations and incentives relating to protection of biodiversity protection for nature* - the current system of prohibition and punishment for violation in the laws/regulations concerning nature protection (ranging from pollution to the direct use of biological resources) is poorly efficient and does not provide full control and / or limiting harmful activities. When applied those penalties are often considered more like "extra taxes" that complicate economic activities. In addition, there is a lack of incentives for investment regarding improvement of natural resources in economic sectors (agriculture, industry, tourism...) as well as for individuals that have to change their awareness and behavior.

4. *Demographic, social and economic changes which influence biodiversity* - significant demographic changes affected the region in past two decades (the break of Yugoslavia, the migration of refugees and displaced persons etc) consequently changed previous resident population (ethnic, social, economic and etc.) of Montenegro. On the other hand, internal migrations of the population (from village to city and from the north to Podgorica and to Coastal Area) have changed the demographic profile of rural settlements. Also, there are significant changes in the age structure of the population, which further affects the labor capacities and economic potentials of Montenegro. These changes affected traditional forms of the utilization of natural resources as well as traditional life style, especially in the mountains areas. Unfavorable economic conditions caused increase of the volume of direct exploitation of biological resources. Volume of direct exploitation of biological resources is depending on their accessibility while unequal distribution of the benefits arisen from their exploitation is causing local population feel dissatisfied.

5. *Poor participation of stakeholders* - Historically, there is no continuity in organizing participation of key stakeholders in decisions making process regarding use and management of natural resources. Also, existing mechanism for the management of protected natural assets do not meet rights and needs of local population linked to the use of natural resources. Even not properly organized, this interest group is changing their estimation of natural resources in public use which are considered as "nonentity" property that should be exploited "as much as possible". On the other hand, general public declaratively claim environmental protection / biodiversity conservation is obligation of "someone other who is in charge for taking action" and unwillingly accept participation in the actions undertaken by organized forms of civil society.

Obstacles for efficient protection and sustainable use of biodiversity

There are a number of significant obstacles or "barriers" to effective conservation of biodiversity and its sustainable use in Montenegro, the most important of which are:

a. *Lack and non-available detailed data on biodiversity* - most of taxonomic groups are poorly investigated (see previous sections) that influence quality and efficiency of the measures undertaken for biodiversity protection. A lot of information remain unpublished, or if published they usually do come to the public (publicly not available information, such as internal reports within the institution, the results of research projects, master and doctoral theses, specialist articles / works in professional publications or other publications that are not for general public distribution). There are no publicly available databases for whole biodiversity or specific taxonomic groups, and there is no "red book" of rare and endangered species. Existing Biodiversity Monitoring Program does not provide sufficient information about the state, causes and threats to biodiversity. On the other hand, country experienced a period of isolation during the 90's that also affected scientific community causing breaks in the cooperation with similar institutions abroad, exclusion from wider (global, regional) initiatives related to biodiversity conservation.

RB Inadequate institutional capacity (personnel, training, equipment) and financial resources – relatively small number of personnel is engaged in the field of nature / biodiversity conservation, so far. Usually, only one or two specialists or researchers possess knowledge about a particular plant or animal group, while for some taxonomic groups are not covered by adequate specialists. In combination with insufficient financial allocations from state budget and with no financial participation of private sector, this is causing biodiversity conservation activities (monitoring, scientific inventories and databases, management plans for protected

areas of nature, etc.) are not implemented with required efficiency, or not implemented at all. Apart from the lack of capacity, very small number of education and research institutions is providing specialized training relevant for implementation biodiversity protection / conservation measures or management practices regarding certain components of biodiversity.

c. Poor harmonization of legal and inter-institutional responsibilities - fragmented distribution of responsibilities and low level of inter-institutional coordination is causing both, overlapping of the institutional responsibilities relevant for biodiversity / natural resources, and lack of efficiency in the execution of obligations regarding biodiversity protection / conservation and sustainable use. In addition to that, there is a gap between the reforms in the legislative framework for biodiversity / nature protection, on one side and socio-economic transition / reforms all required by EU. For example, foundation of the management plans for protected areas is still in traditional management models that exclude participatory process with adequate public participation.

d. Lack of public and political awareness of biodiversity and lack of public participation in its protection - a low level of awareness on wide broad of issues regarding biodiversity / nature protection is reflected in various aspects, such as inadequate solid waste disposal, lack of knowledge about the protected areas, etc. Public awareness campaigns on these issues are rare, usually timely limited and focused on the specific issue (for example, campaign against the construction of hydropower plants on Tara River). Generally speaking, there is low public support to the initiatives for the nature protection (for example, lack of public support for establishing National park "Prokletije"), which leads to discouragement of general public and lack of political interest and support, as well. Putting under protection new protected areas is considered as "a barrier" for local economic development of rural areas that additionally amplifying deviation of general public opinion.

e. The weaknesses in the system of management and designation of protected areas of nature - the weaknesses in the existing management system and designation of protected areas are obstacles that affect the efficiency of direct in-situ protection of biodiversity. The low level of professional, operational / managerial capacities in existing protected areas and lack of managers / management authorities for all protected areas are important impact to key natural values of these areas. Negative trends in the designation of new protected areas, particularly those of larger size require more efficient models for their designation and management that could be provided in the process of revision of the status of existing protected areas.

Considering the existing intensity of threats and reasons for protection of biological and landscape diversity in Montenegro, and the progress achieved in preparing the National Strategy and Action Plan for the Protection of Biodiversity (2010 – 2015), it has been found that Montenegro has a great wealth of biological and landscape diversity, in a very high degree of conservation, especially in the framework of Central and Eastern Europe, Balkan and Mediterranean.



Kucki mountain massif

4. Implication of changes on human well-being

Direct relations between changes in biodiversity and human well being are poorly investigated in Montenegro, so far. Most of these efforts were given to consequences of pollution from industry to fish and other water organism and then to human health, as it was case of Aluminium industry Podgorica (hereinafter KAP) pollution consequences directly to humans in vicinity of KAP and indirectly through fish population in Skadar Lake and Morača river as recipients of pollution from KAP.

Montenegro's biodiversity is important economically. Its extensive forests²⁶ provide commercially valuable timber and provide valuable ecosystem services. Various mammals, birds, fish, molluscs, plants and mushrooms are also harvested for sport or commercial trade. Tourism is a strong economic driver, with burgeoning tourism infrastructures rapidly taking over its coastline. On the other side, total contribution of biodiversity to the national economy of Montenegro and consequently to the living standard of people have never been researched, and basic information are lacking.

As known, human beings benefit from a multitude of biodiversity resources and ecological processes within ecosystems that give rise to a range of goods and services called "ecosystem services". This range from the relatively simple, such as crop pollination, biomass fuels, and provision of timber, to the highly complex, such as maintenance of soil fertility, sinks for waste or regulation of the climate⁵³. Ultimately all human life depends on ecosystem services for fundamental necessities such as clean air, clean water and food production.

To date, there has been no significant research on ecosystem services in Montenegro, the relationship between biodiversity and ecosystem services (which is important for the management of natural resources and their services), or, critically, any integrated approach to determining their values (economic or otherwise) apart from some preliminary and incomplete estimations of the revenue generating opportunities of nature-based tourism at selected sites, e.g. Durmitor National Park.

The economic value of ecosystem services can be very large⁵⁴, and several international and conservation bodies, such as the IUCN and UNEP, are advocating the use of markets and payments for ecosystem services in order to ensure that beneficiaries pay for services and their providers are reimbursed, thereby creating incentives for continued service provision and ecosystem protection. As yet this approach has not been tried in Montenegro (e.g. watershed protection costs from maintaining forest areas are not fully factored into the cost of the supply of drinking water provided by the watershed). Moreover, awareness of the true value and critical importance of ecosystem services to human wealth, health and life is poor in Montenegro, both among the public and among those making decisions related to development and use of services of eco-systems.

As a result, the true costs of use of ecosystem services by the public and private sector are underestimated or not considered in plans for development. This has been particularly true along the Montenegrin coast where recent urbanization and tourism development has not only completely destroyed areas of natural habitats but led to the loss of the ecosystem services these natural areas were performing, e.g. protection from erosion, landslides and floods by vegetation. In addition, the loss of natural habitats and species has reduced future 'option values' (ecosystem values that may be used in the future) of ecosystem services such as plant species with as yet unforeseen pharmaceutical value.

²⁶ Forests are important to climate regulation, soil formation, waste treatment, recreation and cultural values. One peer-reviewed international study (Costanza, et al, 1997) estimated that the ecosystem services provided by temperate forest amounted to 302 US\$/hectare per year (1994\$), which, with inflation is \$433/hectare per year (2008\$). For Montenegro's approximately **743,000 hectares of forest this amounts to about \$320 million US\$ per year** in ecosystem services. (Source: USAID, 2010: Biodiversity Analyses Update, May 2010. Authors: Pat Foster Turley, Alicia Grimes and Majda Sedej)

⁵³ The Millennium Ecosystem Assessment (2005) grouped ecosystem services into four broad categories: supporting services, such as such as nutrient cycling, oxygen production, soil formation, crop pollination, pest and disease control, which underpin all the other 'service' categories; provisioning services, such as food, fiber, fuel, water, precursors to pharmaceutical products; regulating services, such as climate regulation, carbon sequestration, water purification and flood protection; and cultural services, including education, recreation, spiritual and aesthetic value.

⁵⁴ For instance, a recent government EU Commission study of the social and economic aspects of biodiversity in the Republic of Ireland put the value of biodiversity to the economy at a minimum of 2.6 billion Euros a year - see <http://www.npws.ie/en/media/Media.6432.en.pdf>



Pine forests around Ridsko Lake

II. CURRENT STATUS OF NATIONAL BIODIVERSITY STRATEGY AND ACTION PLAN

At 29th July 2010 Government of Montenegro adopted National Biodiversity Strategy and Action Plan for the period 2010 – 2015 (hereinafter NBSAP) that is available in Montenegro national language at the web page of the Ministry for Spatial Planning and Environment (<http://www.mse.gov.me/vijesti/98617/Vlada-Crne-Gore-usvojila-Nacionalnu-strategiju-biodiverziteta-sa-akcionim-planom-za-period-od-2010-2015-godine.html>). In the time before officially adopted by the Government, NBSAP document has been used by Ministry for Spatial Planning and Environment and other institution engaged in nature protection / biodiversity conservation as both, source of information and planning document. After officially adopted NBSAP is used for preparing this document together with other national (see Appendix II) and international sources such as the CBD NBSAP Review Guidelines (annex to decision VIII/8), CBD COP Decision IX/8, CBD Training Modules B Series on NBSAPs, Summary Report of CBD regional and sub-regional workshops on NBSAPs, Global Biodiversity Outlook, 2010 Biodiversity Indicators Partnerships, web pages of TEEBe, Science magazine, FNR – RIO, BIP etc.

Overview of NBSAP

Montenegro NBSAP is a fundamental document important for protection, conservation and management of biological diversity, defining long-term goals and activities for preserving biological diversity, along with overall economic, social and cultural development of Montenegro.

As a contracting Party to the Convention on Biological Diversity – CBD (since 3 June 2006), Montenegro included three fundamental CBD objectives in its NBSAP but select first two (1. conservation of biological diversity and 2. sustainable use of its components) as priorities for taking actions in forthcoming 5 years (period of validity of NBSAP).

NBSAP has been prepared on the basis of the Country Study that was developed in two stages. In the first phase a team of experts, coordinated by the Team Leader gathered the information on biodiversity from November 2007 to February 2008. In this phase basic information on species and ecosystem diversity, the value and use of biodiversity, threats and root causes, current biodiversity conservation measures, and cross-sectoral issues, was collected and analyzed. This resulted in an interim “Biodiversity Study of Montenegro” the Executive Summary of which was presented at the IX CBD Conference of the Parties in Bonn, Germany, in May 2008. The Biodiversity Study was reviewed by national and international experts and UNDP and information²⁷ gaps identified to develop the final “Country Study of the Biodiversity of Montenegro” which was produced in October 2008. The above mentioned Study provides an overview and analysis of the current status of biodiversity in the country, anthropogenic and other threats to biodiversity and their underlying causes, the extent of current protection and related contextual factors, such as policy, legal, economic, institutional, scientific, educational, and informational frameworks, and interactions and relationships between biodiversity and local and national stakeholders.

On the basis of CBD documents and recommended guidelines for its preparation, in Montenegro NBSAP are developed **basic principles and goals** (general / long-term and operational goals), overviewed **status and trends** of biodiversity, estimated **main threats** to the biodiversity, reviewed status of **biodiversity conservation measures in situ and ex situ, its (sustainable) use** and **cross-sectoral issues**. All this was a logical base for formulation **5- year** Action plan (for period 2010 2015) which consist 54 measures and activities organized in 7 themes that correspond with previously identified challenges that require undertaking adequate measures and activities.

Progress in implementation and effectiveness of NBSAP

Having in mind fact that Montenegro adopted NBSAP (at 29 July 2010) in the period this Report was under preparation, last-last updates / improvements of the NBSAP regarding aspects of its implementation as well as key note discussions from the Government commissions and main Government session have been incorporated in this Report. This was of particular importance for expectations and requirements of forestry sector / Ministry of

²⁷Key areas were: information on the status of ecosystems, threat and root causes of biodiversity loss, the impact of policy frameworks and regulatory mechanisms on biodiversity, impact trend estimation, priorities areas for capacity building needs, and current available tools for mitigation of pressure on biodiversity.

Agriculture, Forestry and Water Management, on one side, but also for identifying adequate indicators for monitoring NBSAP success and overall effectiveness.

Given the fact that Strategy was just adopted progress in its implementation and effectiveness have not been analyzed in the process of preparing Fourth National Report of Montenegro to the CBD.

Contributions of NBSAP Implementation to CBD Thematic Work Programmes and Cross-cutting Issues

Adequacy of current NBSAP Action Plan to CBD Thematic Work Programmes and Cross-cutting Issues has been estimated recently while NBSAP prepared and reviewed by various institutions and individuals at 3 series of public hearings as well as its relevance in addressing identified threats to biodiversity. Both, adequacy and relevance of NBSAP Action Plan have been confirmed, so analyses of its contribution to the Programme of Work on Protected areas and Global strategy for Plant Conservation have been presented in the appendices III. 1., III. 2. and III. 3. (see pgs 55 – 68).



III. SECTORAL AND INTERSECTORAL INTEGRATION OF BIODIVERSITY CONSERVATION

Over the time, significant changes have taken place in the activities of nature protection that are largely in line with the commitments which Montenegro took over when joining the Convention on Biological Diversity. These changes were not done solely in Nature protection / Biodiversity conservation sector but also in other economy sectors linked to biodiversity / biological resources. As most important one *National Strategy for Sustainable Development* (hereinafter NSSD) has been estimated.

On one side this confirms impressive List of major strategic documents (see Appendix II. 3, pg 43) while identified threats and barriers disproof their efficiency on the other side.

An example of integration of the biodiversity concern into economic sectors is the **Tourism Development Strategy until 2020**²⁸ (www.mt.gov.me). Tourism is seen as one of the main development directions for Montenegro, where biodiversity plays an important role. The Tourism Development Strategy defined the goal of creating sustainable, high-quality and versatile tourist product that will enable income and tourist number growth²⁹. Furthermore, this will enable the creation of new work positions and better life standard. Emphasis are given to sustainability, which is of vital importance for the tourism sector, because the tourism offer in Montenegro should be based on the exclusiveness of the natural and cultural attractions and different tourist activities which imply natural ambience and versatility of the historical and cultural heritage that is concentrated in the small area. In the context of the idea *Montenegro Ecological State*, Tourism Development Strategy is promoting development of nature-oriented tourism activities such as birdwatching, photo-safaris, biking, hiking, and rafting, and even 'film tourism'³⁰. Currently, potential for birdwatching provide Skadar Lake, Ulcinj Saltworks and Ada Bojana, as well as the Tivat Salina, for waterbirds, and the mountain national parks Durmitor and Biogradska Gora for birds of prey and forest birds. Similar possibilities provide *Hiking and Biking* project³¹ that is an example of sustainable valorization of resources in Central and Northern regions of Montenegro. Also, tourism based on the nature in the national parks marks a constant increase of the number of guests and incomes from the entry ticket sales. For the period January 2010 - September 2010, number of visitors to the National Parks is 114.856 that provided revenues to the Public Enterprise for National Parks (PENP) of 281 781,6 EUR. In terms of quality / standards of the services provided in the National Parks, "Eco Lodge" concept is promoted as a proper form for developing ecotourism. Sustainable development of Tourism sector also supports NSSD by defining "Sustainability in Tourism"³² Concerning institutionalizing intersectoral coordination, *Council for Sustainable Development* fulfilled that coordination role in past 7 years but recently this Council had no frequent meetings³³, even Government provided its technical assistance (Office for Sustainable Development).

While procedures of Strategic Environmental Assessment (SEA) and Environmental Impact Assessment (EIA) entered into force in national legislature since 1996 (EIA) and 2008 (SEA), their full implementation is not provided in all sectors. This problem was clearly identified in NBSAP and several measures / activities are proposed for implementing these procedures,

²⁸ Strategy is adopted in December 2008

²⁹ The starting point for the future tourism development is the sustainable quality tourism accompanied by two main goals: 1) improvement of the life standard for the citizens and 2) development sustainability. The sustainability factor is not only important from the environmental and social aspect. Its principles protect all elements of the tourism industry and the slogan "Wild Beauty" becomes the key element of the tourism offer. In that manner, the sustainability priorities influence many sectors. They require more efficient infrastructure, and the Government have realised that and are realising the necessary investments in that field. Sustainability is based on the general-responsible attitude towards the environmental protection and, consequently, "wild" landfills in nature, illegal bird hunting in the protected areas, illegal logging that is not in accordance with the national parks plan and programme have to be completely eliminated.

³⁰ Montenegro as a place for scientific and popular films, e.g. on Skadar Lake

³¹ This project include following activities: Top hiking and biking trails identified and documented, More than 1000 km of mountain trails marked, Implementation of Bed & Bike standards started (pilot project of 20 accommodation units), New concept for the appearance of holiday resorts on trails, Conditions created for training and licensing of mountain guides, Signposting unified, A book with 1700 km of trails published, Mountain Rescue Service better equipped, Improved human resources, New panoramic map for internet with a view of top trails, Promotional maps obtained new technical basis and GIS – electronic map with mountain trails

³² Sustainability in Tourism is defined in NSSD as development which (1) respects economic, environmental and social principles that are mutually balanced; (2) does not exhaust natural resources, but is using them to the extent that will provide they are available for future generations; (3) protects the cultural diversity and identity and simultaneously stimulates harmony in the society; (4) provides satisfaction for tourists as well.

³³ Last meeting of the Council was in 9th April 2010

particularly in sectors: forestry, water economy agriculture, as well as need for better integration biodiversity conservation requirements in the sectors of economic development (see measures of the NBSAP Action Plan nos. 25, 30, 32, 33, 34, 37, 39, 40, 41, 42, 43, 44, 45, 47, 48, 49 given in the Appendix III. 3, pgs 65 - 70)



Inter-sectoral integration of biodiversity concerns through sustainable use

Protection and conservation of all natural assets of Montenegro are guaranteed by the Constitution and relevant legislature (see Appendix II. 1, pgs 37 – 39). Framework for conserving biodiversity, general and special provisions and measures are given in the Nature Protection Law (2008) that also anticipating integration of biodiversity conservation and sustainable use of biological and landscape diversity into other sectors. This is indirectly supported by various international agreements to which Montenegro is a contracting party (see Appendix II. 2, pg 41).

As given above, integration of biodiversity conservation concerns in sectors of economic development through sustainable use has been discussed in various (sector) strategic documents but, unfortunately, poorly implemented. This was also referred in chapters 5 and 6 of the NBSAP.



Forest road in Dragisnica

IV. PROGRESS ASSESSMENT TOWARDS ACHIEVING THE BIODIVERSITY CONSERVATION TARGETS UNTIL 2010 AND STRATEGIC PLAN

Progress assessment towards achieving the biodiversity conservation targets until 2010

As pointed out in chapter II (pgs 21 – 22) NBSAP was just adopted so progress in its implementation and effectiveness have not been analyzed for such a short period of time. On the other side, biodiversity conservation targets until 2010 and Strategic plan were considered by the NBSAP from the point of planned activities in the Action plan (see appendices III. 2 and III.3. pgs 59 - 68, as well as review or measures / activities regarding biodiversity conservation in relevant sectors given in chapter III pg 23)

For the purpose of assessing overall (general) progress in achieving biodiversity conservation targets until 2010, as a mandatory part of this Report, following results have been made so far in Montenegro

Goals and targets	Progress towards the Target (key actions, outcomes and overall assessment of progress)
Protect the components of biodiversity	
<i>Goal 1. Promote the conservation of the biological diversity of ecosystems, habitats and biomes</i>	
Targets	National actions / Outcomes achieved / Overall assessment
Target 1.1: At least 10% of each of the world's ecological regions effectively conserved.	Protected Area coverage (national designations) increased from 7,872% (2006/2007) to 9,047% in 2009/2010. Most important is newly established National park Prokletije (16.038 hectares) that particularly include mountain and forest ecosystems. This is also in compliance with NSSD (2007) goal no. 3.
Target 1.2: Areas of particular importance to biodiversity protected	EMERALD Network of sites with species and habitats given in Resolution 4 and Resolution 6 of Bern Convention has been identified in 2008. 32 EMERALD sites are covering 18.45 % (254.931 hectares) of national territory. Also, IBA and IPA sites were identified and one new potential Ramsar site (Tivat Salina) is under consideration for inclusion on Ramsar list. In the cooperation with and IMELS ³⁴ MoE is preparing Management Plan for Katic island – first Marine Protected Area Fishery ban is applied regularly at Skadar lake (March – June) as an important activity for managing lake's biological resources. Also, full hunting ban has been applied at Skadar Lake since 2000.
<i>Goal 2. Promote the conservation of species diversity</i>	
Target 2.1: Restore, maintain, or reduce the decline of populations of species of selected taxonomic groups.	Nesting places – floating rafts have been placed for safe nesting of Dalmatian pelican (<i>Pelecanus crispus</i>) at Skadar Lake.
Target 2.2: Status of threatened species improved.	There is unpublished, but recently provided information about increase of Chamois <i>Rupicapra rupicapra</i> population in mountain Durmitor, in the monitoring of its population counted are 17 individuals, so far. Also, information ³⁵ on the presence of Brown Bear <i>Ursus arctos in Durmitor – Piva</i> has been provided and its monitoring initiated.
<i>Goal 3. Promote the conservation of genetic diversity</i>	
Target 3.1: Genetic diversity of crops, livestock, and of harvested species of trees, fish and wildlife and other valuable species conserved, and associated indigenous and local knowledge maintained.	Certain genetic diversity of crops and threatened species has been secured in botanical gardens and collections of commercially important types of crops and fruits as referred in Appendix III, III. 1., Target no 8, pg 56 and target no 9, pg 57.

³⁴ Italian Ministry of Environment, Land and Sea (IMELS)

³⁵ ref. Ceda Ivanovic, Natural History Museum

Promote sustainable use	
<i>Goal 4. Promote sustainable use and consumption.</i>	
Target 4.1: Biodiversity-based products derived from sources that are sustainably managed, and production areas managed consistent with the conservation of biodiversity.	Regulation for organic farming provided, certification body established and production is on-going under overseeing by Ministry responsible for Agriculture. Programme for development of Organic agriculture production on-going, since 2009 when 88 producers of organic product registered (34 individual and 54 group certifications)
Target 4.2. Unsustainable consumption, of biological resources, or that impact upon biodiversity, reduced.	Forests that have a commercial character are used in accordance with the planning documents. Utilization regimes prescribed under management plans provide for nature-friendly management, with the intensity of logging that does not exceed 25% of the total volume. Forests in protected areas are managed in accordance with integrated management plans, which provided for strict restrictions on harvesting and use of protected plant and animal species. Harvest of forest non-timber products legally regulated in compliance with Nature Law and Forestry Law, activities controlled by Environmental Protection Agency and Directorate for forests with relevant inspections.
Target 4.3: No species of wild flora or fauna endangered by international trade.	No more cases of bird smuggling from MNE to Italy, as a subject of illegal trade, also "hunting tourism" (organized for foreign hunters) is decreased and restricted to some coastal hunting areas.
Address threats to biodiversity	
<i>Goal 5. Pressures from habitat loss, land use change and degradation, and unsustainable water use, reduced.</i>	
Target 5.1. Rate of loss and degradation of natural habitats decreased.	Trend i.e. accurate rate of loss and degraded natural habitats couldn't be estimated so far, even Corinne land cover done in two respective period (i) 1990 – 2000 and (ii) 2000 – 2006
<i>Goal 6. Control threats from invasive alien species</i>	
Target 6.1. Pathways for major potential alien invasive species controlled.	Methods for eliminating invasive alien species transported from ballast waters have been introduced by treatment of these waters from vessels. Adequate regulation provided in important sectors (nature protection, fishery, agriculture and hunting) that regulate / control pathways for major potential alien invasive species.
Target 6. 2. Management plans in place for major alien species that threaten ecosystems, habitats or species.	There were no particular plans for controlling / eliminating major alien species that threaten ecosystems, habitats or species, but inventory of these species proposed in NBSAP Action plan (measure no. 9)
<i>Goal 7. Address challenges to biodiversity from climate change, and pollution</i>	
Target 7.1. Maintain and enhance resilience of the components of biodiversity to adapt to climate change.	As a consequence of Climate Change, in territorial waters registered new fish species : (i) Easter atlantic migrant: Blunthaed puffer (<i>Spheroides cutaneus</i> Gunther 1870) and (ii) Lessepsian migrant: Bluespitted cornetfish (<i>Cistulartia comersonii</i> Ruppel 1836)
Target 7.2. Reduce pollution and its impacts on biodiversity.	In last 10 years were worked out projects for new or rehabilitation existing Waste Water Treatment Plants (WWTPs) in towns and bigger settlements, as well as in small villages in NP Skadar Lake ³⁶ . These activities supported by separated SEA and EIA that included eliminating / reducing pollution from new sources.
Maintain goods and services from biodiversity to support human well-being	

³⁶WWTPs are done for settlements Virpazar and Rijeka Cmojevica. Preparations for construction of a WWTP in village Vranjina are on-going (GEF / World bank project for integrated ecosystem management for Skadar Lake)

<i>Goal 8. Maintain capacity of ecosystems to deliver goods and services and support livelihoods</i>	
Target 8.1. Capacity of ecosystems to deliver goods and services maintained.	There were no particular activities concerning maintenance of ecosystem services, <i>per se</i> , but sectors provided complementary activities, such as organic farming in agriculture sector, procedures for control harvesting forest non-timber products as well as management plans for natural resources (water resources, forests, game, and wildlife). System of environmental impact assessment is including preservation of capacity of ecosystems to deliver goods and services. Managers of Protected Areas (National Parks etc) provide measures and actions for maintaining ecosystem services, according to their management plans. Public Enterprise for Coastal Zone Management provide measures for preserving capacity of marine / coastal ecosystems and habitats (monitoring, protective fences for Tivat Salina - coastal protected area etc)
Target 8.2. Biological resources that support sustainable livelihoods, local food security and health care, especially of poor people maintained.	Traditionally, biodiversity is used in food and medicine , but there are no local communities in Montenegro that depend exclusively on the ecosystems capacity to support livelihood.
Protect traditional knowledge, innovations and practices	
<i>Goal 9 Maintain socio-cultural diversity of indigenous and local communities</i>	
Target 9.1. Protect traditional knowledge, innovations and practices.	National linguistic diversity is planned to be supported by book on plant names in Montenegro (work done by professor Vukic Pulevic)
Target 9.2. Protect the rights of indigenous and local communities over their traditional knowledge, innovations and practices, including their rights to benefit sharing.	Constitution of Montenegro and its legislative system ensures the right of local communities (including minorities) to demonstrate traditional knowledge, skills and customs including those related to biodiversity.
Ensure the fair and equitable sharing of benefits arising out of the use of genetic resources	
<i>Goal 10. Ensure the fair and equitable sharing of benefits arising out of the use of genetic resources</i>	
Target 10.1. All access to genetic resources is in line with the Convention on Biological Diversity and its relevant provisions.	No particular activity undertaken so far
Target 10.2. Benefits arising from the commercial and other utilization of genetic resources shared in a fair and equitable way with the countries providing such resources in line with the Convention on Biological Diversity and its relevant provisions	No particular activity undertaken so far
Ensure provision of adequate resources	
<i>Goal 11: Parties have improved financial, human, scientific, technical and technological capacity to implement the Convention</i>	
Target 11.1. New and additional financial resources are transferred to developing country Parties, to allow for the effective implementation of their commitments under the Convention, in accordance with Article 20.	No particular activity undertaken so far
Target 11.2. Technology is transferred to developing country Parties, to allow for the effective implementation of their commitments under the Convention, in accordance with its Article 20, paragraph 4.	No particular activity undertaken so far



Tinder fungus "crying" phenomenon

Progress assessment in the achievement of goals and targets of the Strategic Plan of the Convention

Progress assessment in fulfilling the Convention's leadership role in biodiversity conservation given in the Strategic Plan particularly has been considered by the NBSAP from the point of planned activities in the Action plan (see appendices III. 2 and III.3. pgs 59 - 68, as well as review or measures / activities regarding biodiversity conservation in relevant sectors given in chapter III pg 23)

However, overall (general) progress in achieving biodiversity conservation targets in the Strategic plan is presented in following table

<u>Goals and targets</u>	<u>Progress towards achievement of the goals and targets of the Strategic Plan of the Convention (key actions, outcomes and overall assessment of progress)</u>
Targets	National actions / Outcomes achieved / Overall assessment
<i>Goal 1. The Convention is fulfilling its leadership role in international biodiversity issues</i>	
Target 1.1: The Convention is setting the global biodiversity agenda	Provisions given in the Convention have been considered in the NBSAP and integrated in the relevant legislation to certain extend. Montenegro contribution to the international processes linked to the Convention shall be provided by the implementation of the NBSAP.
Target 1.2: The Convention is promoting cooperation between all relevant international instruments and processes to enhance policy coherence	
1.3.: Other international processes are actively supporting implementation of the Convention, in a manner consistent with their respective frameworks	
1.4.: The Cartagena Protocol on Biosafety is widely implemented	National Focal Points for Biosafety Cartagena Protocol ³⁷ and Biosafety Clearing House Mechanism ³⁸ appointed
1.5.: Biodiversity concerns are being integrated into relevant sectoral or crosssectoral plans, programmes and policies at the regional and global levels	Integration of biodiversity conservation concerns into sectoral and intersectoral plans, programmes and strategies at country level is referred in the chapter III (pg 23) and summarized under Target 3. 3. (pg 30).

³⁷ Dr Milosav Andjelic, deputy minister for forestry, MoAFWM

³⁸ Dr Natasha Mirecki, Institute for Biotechniques

<u>Goals and targets</u>	<u>Progress towards achievement of the goals and targets of the Strategic Plan of the Convention (key actions, outcomes and overall assessment of progress)</u>
1.6.: Parties are collaborating at the regional and subregional levels to implement the Convention.	Montenegro is a contracting party to all relevant international and regional conventions, protocols and agreements (see List of international agreements relevant for biodiversity conservation to which Montenegro is a contracting party, appendix II.2, pg 41). On the other side, as an EU accession country, Montenegro is participating in the integration of national nature protection system into the EU nature protection system. Country also collaborate in regional and subregional biodiversity related initiatives such as Dinaric Arc Initiative and taking part in the Big Win Commitment (CoP 9, Bonn)
<i>Goal 2. Parties have improved financial, human, scientific, technical, and technological capacity to implement the Convention.</i>	
Target 2.1: All Parties have adequate capacity for implementation of priority actions in national biodiversity strategy and action plans	Significant progress in improving institutional and individual capacities (INP, MoE...) for future implementation of the NBSAP has been done in the process of preparing Country Study and NBSAP.
Target 2.2: Developing country Parties, in particular the least developed and the small island developing States amongst them, and other Parties with economies in transition, have sufficient resources available to implement the three objectives of the Convention	In line with possibilities, financial resources in the State Budget and local self-government budgets have been provided for implementation of the activities that were in the line with objectives of the Convention. Part of these activities is funded from the revenues of National Parks and Public Enterprise for Coastal Zone Management , while donations and loans of international financial and other institutions helped in implementing project that are in line with international standards compatible with the three objectives of the Convention.
Target 2.3: Developing country Parties, in particular the least developed and the small island developing States amongst them, and other Parties with economies in transition, have increased resources and technology transfer available to implement the Cartagena Protocol on Biosafety	Competent national authority dealing with GMO (Ministry for Forestry Agriculture and Water Management) improved its human resource capacities and new staff employed in responsible inspectorates.
Target 2.4: All Parties have adequate capacity to implement the Cartagena Protocol on Biosafety	See achievements under 2.3 above
Target 2.5: Technical and scientific cooperation is making a significant contribution to building capacity	Progress in achieving better technical and scientific cooperation has been provided through international projects in the field nature protection (see appendix II. 5., pgs 49 – 53) as well as 2 projects regarding agrobiodiversity as follows: (i) SEED Net' lead by the Swedish Government which is directed to the establishment of a network for studying and preserving the agrobiodiversity in Southeast Europe; and (ii) project of Norwegian Government "Recognizing and preserving animal genetic resources in Southeast Europe".
<i>Goal 3. National biodiversity strategies and action plans and the integration of biodiversity concerns into relevant sectors serve as an effective framework for the implementation of the objectives of the Convention</i>	
Target 3.1: Every Party has effective national strategies, plans and programmes in place to provide a national framework for implementing the three objectives of the Convention and to set clear national priorities	NBSAP adopted just one month ago and national framework for implementing Convention's objectives provided, including national priorities (see appendix III. 3, pgs 65 – 68).
Target 3.2: Every Party to the Cartagena Protocol on Biosafety has a regulatory framework in place and functioning to implement the Protocol	The Law on Genetically Modified Organisms adopted in 2008 while secondary regulations planned to be done until 2012, in line with harmonization to EU legislature

<u>Goals and targets</u>	<u>Progress towards achievement of the goals and targets of the Strategic Plan of the Convention (key actions, outcomes and overall assessment of progress)</u>
Target 3.3: Biodiversity concerns are being integrated into relevant national sectoral and cross-sectoral plans, programmes and policies	As referred in chapter III (pg 23) integration of biodiversity conservation concerns into sectoral and intersectoral plans, programmes and strategies has been achieved (i) through implementation of the procedures of strategic environmental assessment, environmental impact assessment (SEA / EIA), and (ii) through strategic / planning documents such as NSSD (list of measures regarding intersectoral integration is given in given in the Appendix III. 3, pgs 65 - 68). Also, in past 7 years, intersectoral coordination has been provided by the Council for Sustainable Development.
Target 3.4: The priorities in national biodiversity strategies and action plans are being actively implemented, as a means to achieve national implementation of the Convention, and as a significant contribution towards the global biodiversity agenda	Implementation of most projects (see Annex II.6.) is in fact active implementation of action plans anticipated by the NBSAP with the aim of achieving goals of the Convention.
<i>Goal 4. There is a better understanding of the importance of biodiversity and of the Convention, and this has led to broader engagement across society in implementation</i>	
Target 4.1: All Parties are implementing a communication, education, and public awareness strategy and promoting public participation in support of the Convention	Communication Strategy for the promotion of NBSAP and public awareness campaign on biodiversity conservation are planned in the NBSAP Action Plan (measure no. 15). Public participation provided as mandatory in the public hearings / debates on laws / regulations, strategic / planning documents of all relevant sectors, in the procedures of EIA / SEA and procedures of establishing new protected areas. Publications regarding protection of marine / coastal biodiversity are annually provided ³⁹ since 2007 and widely distributed in the country
Target 4.2: Every Party to the Cartagena Protocol on Biosafety is promoting and facilitating public awareness, education and participation in support of the Protocol	No particular activity undertaken, so far
Target 4.3: Indigenous and local communities are effectively involved in implementation and in the processes of the Convention, at national, regional and international levels	Local communities participate in the processes / procedures that are explained under Target 4. 1.
Target 4.4: Key actors and stakeholders, including the private sector, are engaged in partnership to implement the Convention and are integrating biodiversity concerns into their relevant sectoral and cross-sectoral plans, programmes and policies	No particular activity undertaken, so far.

³⁹ Public Enterprise for Coastal Zone Management

APPENDICES

APPENDIX I**INFORMATION CONCERNING THE REPORTING PARTY AND PREPARATION OF NATIONAL REPORT****APPENDIX I.1****INFORMATION CONCERNING THE REPORTING PARTY**

Contracting Party	Montenegro
NATIONAL FOCAL POINT	
Full name of the institution	Ministry of Spatial Planning and Environment
Name and title of contact officer	Milena Kapa, senior advisor, CBD Focal Point
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Signature.	<i>Milena Kapa</i>
CONTACT OFFICER FOR NATIONAL REPORT (IF DIFFERENT FROM ABOVE)	
Full name of the institution	Ministry of Spatial Planning and Environment
Name and title of contact officer	Zoran Tomic, secretary general of the Ministry for Spatial Planning and Environment
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Signature.	<i>Zoran Tomic</i>
SUBMISSION	
Signature of the officer responsible for submitting the national report	Zoran Tomic, secretary general of the Ministry for Spatial Planning and Environment <i>Zoran Tomic</i>
Date of submission	5 th October 2010

APPENDIX I.2

PREPARATION OF THE FOURTH NATIONAL REPORT

The Fourth National Report of Montenegro on Biological Diversity was prepared in a short consultative process led by Ministry of Spatial Planning and Environment of Montenegro and its CBD Focal Point Mss *Milena Kapa* in the period July – September 2010. In this process have participated representatives of relevant government departments (agriculture, forestry, water economy, energy, tourism, physical planning, health, education etc) organized in a Working Group that reviewed various versions of the document pre-prepared by engaged local expert Mr. *Vasilije Buskovic* M Sc (Institute for the Protection of Nature). Members of the Working Group are: Mr. *Dalibor Milosevic*, advisor in the Road sector in the Ministry of Maritime Affairs, Transportation and Telecommunications, Ms. *Milena Lukic*, advisor in Energy sector in the Ministry of Economy, Ms. *Jelena Rabrenovic*, advisor in the Ministry of Tourism, Mr. *Ranko Kankaraš*, independent advisor in the Ministry of Agriculture, Forestry and Water Management, Mrs. *Ana Jovetic* advisor in Sector for spatial planning in the Ministry for Spatial Planning and Environment and Ms. *Azra Haveric*, apprentice in the Ministry of Spatial Planning and Environment. Upon accepted by the Working Group, Report is approved by the Secretary General of the Ministry for Spatial Planning and Environment Mr *Zoran Tomić*.

APPENDIX II

FURTHER SOURCES OF INFORMATION

APP.II.1. THE LIST OF MAJOR REGULATIONS

A. CONSTITUTIONAL PROVISIONS AND DECLARATION

- Constitution of Montenegro
- Declaration on Ecological State of Montenegro ("Off. Gazette of RoM", no.39/91)

B. REGULATIONS RELATED TO ENVIRONMENTAL PROTECTION

1. General regulations

- Law on Environment ("Off. Gazette of RoM", no. 48/08)
- Law on Strategic Environmental Impact Assessment (Official Gazette of the RoM, no 80/05)
- Law on Environmental Impact Assessment (Official Gazette of the RoM, no 80/05)
- Law on Waste Management (Official Gazette of the RoM, no 78/08)
- The Law on Chemicals (Official Gazette of the M, no 11/07),
- Decree on assessment of impact of interventions affecting environment ("Off. Gazette of RoM", no. 14/97)
- Instruction on the contents of the elaborate of assessment of the impact of interventions affecting environment ("Off. Gazette of RoM", no. 21/97)
- Decree on protection from noise ("Off. Gazette of RoM", no.24/95)
- Law on inspection control ("Off. Gazette of RoM", no.50/1992)

2. Protection of nature

- Law on Protection of Nature ("Off. Gazette of MNE", no. 51/08)
- Law on National Parks ("Off. Gazette of MNE", no. 56/09);
- Decree on protection of rare, thinned, endemic and endangered plant and animal species ("Off. Gazette of SRoM", no. 56/06)
- Rulebook on the types and criteria for determining the types habitat, manner of making maps of habitat, way of monitoring and the threat of habitat content of annual reports, measures of protection and preservation habitat types ("Off. Gazette of MNE", no. 80/08.).
- Rulebook on detailed content and manner of keeping the register of protected natural resources ("Official Gazette of Montenegro", no. 79/09);
- Rulebook on detailed conditions that must meet by the manager of a protected area ("Official Gazette of Montenegro", no. 35/10);
- Rulebook on detailed contents of the annual program of monitoring of the state of conservation of nature and the conditions that must met by the legal person that performs the monitoring ("Official Gazette of Montenegro, no. 35/10);
- Rulebook on the manner of preparation and risk assessment for introduction of alien species of wild plants, animals and fungi ("Official Gazette of Montenegro, no. 46/10);
- Rulebook on detailed conditions that must be met by legal and natural persons for keeping the temporarily seized protected wild species of plants, animals and fungi ("Official Gazette of Montenegro, no. 46/10).

C. SPECIAL REGULATIONS OF SIGNIFICANCE FOR PROTECTION OF BIODIVERSITY

1. Waters, soil and forests

- Law on Waters ("Off. Gazette of RoM", no. 16/95, 2/07);
- Law on Water Management Finance ("Off. Gazette of RoM", no. 65/08);
- Law ratifying the Agreement between the Government of Montenegro and the Government of the Republic of Croatia on mutual relations in the area of water management ("Off. Gazette of MNE", no. 1/08);
- Decree on classification and categorization of surface and ground waters ("Off. Gazette of MNE", no. 2/07);
- Decision establishing the Council for Waters ("Off. Gazette of MNE", no. 9/07);
- Rulebook on the content of an application, documentation for the issuance of water acts, methods and conditions for mandatory advertising in the process of determining water conditions and the content of water acts ("Official Gazette of Montenegro", no. 7 / 08);
- Decision on determining water resources of importance for Montenegro ("Official Gazette of Montenegro", no. 9/08 and 28/09);
- Degree on the manner of categorization and categories of water facilities and their entrusting for the management and maintenance ("Official Gazette of Montenegro", no. 15/08);

- Rulebook on the method of determining the guaranteed minimum ("Official Gazette of Montenegro", no. 22/08);
- Decree on the content and manner of Water Information System management ("Official Gazette of Montenegro", no. 33/08);
- Decision on determining the sources intended for regional public water supply and determining their boundaries ("Official Gazette of Montenegro", no. 36/08);
- Rulebook on the quality and sanitary-technical conditions for wastewater discharge into the recipient and the public sewer system, method and procedure to test the quality of wastewater, the minimum number of tests and the contents of the report on the determined quality of waste water ("Official Gazette of Montenegro", no. 45/8 and 09/10);
- Rulebook on the form, detailed content and manner of water log keeping ("Official Gazette of Montenegro", no. 81/08);
- Rulebook on the content and manner of keeping registers of water ("Off. Gazette of MNE", no. 81/08);
- Decision on the amount and method of calculating water charges and the criteria and method of determining the degree of water pollution ("Official Gazette of Montenegro", no. 29/09);
- Decree on the content and method of preparing water management plan for the water area of the river basin or part thereof ("Official Gazette of Montenegro", no. 39/09);
- Rulebook on the identification and maintenance of zones and belts of sanitary protection of water resources and restrictions in these zones ("Official Gazette of Montenegro", no. 66/09);
- Rulebook on the conditions to be met by legal persons which perform a specific type of water quality testing ("Off. Gazette of RM", no. 10/97);
- Rulebook on the method and procedure for measuring the amount of wastewater discharged into the recipient ("Official Gazette of Montenegro", 24/10);
- Rulebook on the manner and procedure for measuring the amount of water at the water intake structure ("Official Gazette of Montenegro", 24/10);
- Decision on accepting the contract transferring the right to use state-owned waters and water-supply facilities the area of Montenegrin coast, and the Municipality of Cetinje ("Official Gazette of RoM", no. 58/02);
- Program of systematic examination of quantity and quality of surface and ground waters ("Off. Gazette of RoM", no. 25/09);
- Program of systematic examination of the quality of water at water intake sources (zone of sanitary protection) and public swimming beaches ("Off. Gazette of RoM", no. 13/00);

- Law on mining ("Off. Gazette of MNE", no. 65/08);
- Law on Concessions ("Off. Gazette of MNE", no. 08/09);
- Law on geological research ("Off. Gazette of RoM", no. 28/93, 27/94, 42/94, 26/07);

- Law on agriculture and rural development ("Off. Gazette of RoM", no. 56/09);
- Law on agricultural land ("Off. Gazette of RoM", no. 15/92, 59/92 and 4/93);
- Law on restitution of state-owned agricultural land to its former owners ("Official Gazette of the RoM", no. 14/92);
- Law on olive growing ("Off. Gazette of RoM", no. 55/03)
- Law on tobacco ("Off. Gazette of MNE", no. 48/08 and 76/08);
- Law on Measures for the improvement of livestock ("Off. Gazette of RoM", no. 4/92 and 59/92);
- Law on Marine Fisheries and Mariculture ("Official Gazette of Montenegro", no. 56/09);
- Law on Freshwater Fisheries ("Official Gazette of Montenegro", no. 11/07);
- Wine Law ("Official Gazette of RoM", no. 36/07);
- Law on alcoholic beverages ("Official Gazette of Montenegro, no. 83/09);
- Law on Organic Agriculture ("Off. Gazette of RoM", no. 49/04);
- Law on the protection of plant health ("Official Gazette of RoM", no. 28/06);
- Law on seed material of agricultural plants ("Off. Gazette of RoM", no. 28/06);
- Law on Planting Material ("Official Gazette of RoM", no. 28/06);
- Law on Plant Protection Products ("Official Gazette of Montenegro", no. 51/08);
- Law on Plant Nutrition Products (" Official Gazette of RoM", no. 48/07 and 76/08);
- Law on Plant Variety Protection ("Official Gazette of RoM", no. 48/07 and 48/08);
- Law on genetically modified organisms ("Official Gazette of MNE", no. 22/08);
- Law on food safety ("Official Gazette of RoM", no. 14/07);
- Veterinary Law ("Official Gazette of RoM", no. 11/04 and 27/07);
- Law on identification and registration of animals ("Official Gazette of RM", no. 48/07);
- Law on Protection of Animal Welfare ("Official Gazette of Montenegro", no. 14/08);
- Law on Standardization ("Official Gazette of Montenegro", no. 13/08);
- Law on technical requirements for products and conformity assessment of products with the prescribed requirements ("Official Gazette of RoM", no. 14/08);
- Law on the farmers' association ("Official Gazette of the Socialist Republic of Montenegro", no. 30/09 and 32/09);
- Law ratifying the International Convention on Plant Protection ("Official Gazette of Montenegro - International Treaties", no. 8/08);

- Law ratifying the international Treaty on plant genetic resources for food and agriculture ("Official Gazette of Montenegro - International Treaties", no. 3/10);
- Decision on determining the conditions and procedure for granting the use of community pastures ("Official Gazette of RoM", no. 18/94);
- Decree on determining complexes of agricultural land which enjoy special legal protection ("Official Gazette of RoM" no. 33/93, 11/94, 8/95, 9/97, 22/99 and 3/2001);
- Rulebook on detailed conditions to be met by the person exercising control of organic agriculture ("Official Gazette of RoM", no. 36/05);
- Rulebook on methods of organic farming and gathering wild fruits and medicinal plants ("Official Gazette of RoM", no. 38/05);
- Rulebook on organic livestock production methods ("Official Gazette of RoM", no. 38/05);
- Rulebook on the processing, transport and storage of organic products ("Official Gazette of RoM", no. 38/05);
- Rulebook on the form and content of the application form for the involvement of producers in organic agriculture and the entry in the Register of Organic Farming ("Official Gazette of RoM", no. 52/05);
- Rulebook on the content of the records on the manner of application of organic production methods ("Official Gazette of RoM", no. 52/05);
- Rulebook on the content and manner of keeping a Registry of farmers in organic agriculture ("Official Gazette of RoM", no. 52/05);
- Rulebook on the form and content of labels, labeling method and form of the trademark (logo) for products from organic farming ("Official Gazette of RoM", no. 31/07);
- Rulebook on the form and content of the form of certificates for organic products ("Official Gazette of RoM", no. 31/07);
- Instructions on the procedure of issuing approval for hiring foreign legal entities for the control and certification of organic agricultural products ("Official Gazette of RoM", no. 82/05 and 26/07);
- Decree on execution of forecasting and reporting activities in the field of plant protection ("Official Gazette of FRY", no. 65/99);
- Decision on the amount of remuneration for the medical examination of consignments of plants and control of pesticides and fertilizers in traffic over the Federal Republic of Yugoslavia ("Off. Gazette of FRY" no. 71/00);
- Rulebook on medical examination of crops and facilities for the production of seeds, seedlings and planting materials and medical examination of seeds, seedlings and planting materials ("Official Gazette of FRY", no. 66/99 and 13/02 and "Official Gazette of the State Union of Serbia and Montenegro", no. 10/03 and 13/03);
- Rulebook on medical examination of plant shipments moving across the state border ("Official Gazette of FRY", no. 69/99 and 59/01);
- Rulebook on the conditions to be met by quarantine facilities to check the health of plants and plant quarantine ("Official Gazette of the FRY", no. 68/01);
- Rulebook on the method for destruction of plants for which such measures are ordered ("Official Gazette of FRY", no. 67/01);
- Order on prohibitions and restrictions on imports and transit of certain species of plants in order to prevent the introduction of bacterial blight of apples and pears ("Official Gazette of SFRY", no. 40/91 and 53/91);
- Order on taking measures to prevent the spread of quarantine plant pests - *Diabrotica virgifera* Le Conte ("Official Gazette of FRY", no. 23/94);
- Rulebook on the provision of services in the area Plant Protection ("Official Gazette of FRY", no. 42/99);
- Decree on the types of planting material imports and monitoring the health status of end-user ("Official Gazette of FRY", no. 8/99);
- Order on the prohibition of imports and transport of certain plant species and determining the quarantine supervision over certain types of herbs that are imported for breeding ("Official Gazette of FRY", no. 8 / 99);
- List of quarantine harmful organisms ("Official Gazette of FRY", no. 42/01 and 9/03);
- List of economically harmful organisms ("Official Gazette of FRY", no. 65/99 and 67/99);
- Guidelines on disclosure of data on the emergence and spread of newly identified quarantine harmful organisms ("Official Gazette of FRY", no. 40/91);
- Rulebook on phytosanitary measures for wood packaging material in international trade ("Official Gazette of Montenegro", no. 4/10);
- Rulebook on phytosanitary measures for detecting, preventing and combating the spread of fungus *Synchytrium endobioticum* (Schilb.) perc., which causes cancer of potato ("Official Gazette of Montenegro", no. 15/10);
- Order on approved mixtures of different varieties and types of agricultural seeds, which can be marketed ("Official Gazette of RoM", no. 3/83);
- Rulebook on professional control over the production of seeds ("Official Gazette of RoM", no. 28/94);

- Decision on remuneration for exercising control and mandatory inspection in the production of agricultural and forest seeds and seedlings ("Official Gazette of RoM", no. 54/00);
- Rulebook on the form and manner of keeping the register of producers and processors of seed and register of planting material producers ("Official Gazette of RoM", no. 24/82);
- Rulebook on professional control over the production of agricultural and forest planting material ("Official Gazette of RoM", no. 28/94);
- Rulebook on the quality of seeds of agricultural plants ("Official Gazette of SFRJ", no. 47/87, 60/87, 55/88 and 81/89 and "Official Gazette of FRY", no. 16/92, 8 / 93, 21/93, 30/94, 43 / 96, 10/89, 15/01 and 58/02);
- List of newly bred domestic, foreign and domesticated varieties of agricultural and forest products ("Official Gazette of FRY", no. 12/98 and 37/02);
- Rulebook on the contents and keeping record of produced, acquired, sold and used for our own purposes planting material ("Official Gazette of RoM", no. 24/82);
- Rulebook on quality standards, packaging, sealing and labeling of planting material of agricultural plants ("Official Gazette of SFRY", no. 45/75 and 26/79);
- Rulebook on the quality of fruit, vegetables and mushrooms ("Official Gazette SFRY", No. 29/79, 53/87 and "Official Gazette of the State Union of Serbia and Montenegro", no. 31/03, 56/03 and 4/04);
- Rulebook on the method for selecting the mother trees, varieties and rootstocks, and the selection of fruit trees, vines and hops, as well as the manner of maintaining books of parent trees ("Official Gazette of RoM", no. 9/83);
- Rulebook on the manner and procedure for making, selection and growing parent trees, planted orchards, vines, hops and roses, as well as the content and keeping books of parent trees ("Official Gazette of RoM", no. 26/97);
- Rulebook on the testing of pesticides ("Official Gazette of FRY", no. 63/00 and 65/00);
- Rulebook on methods for testing of pesticides ("Official Gazette of FRY", no. 11/99);
- Rulebook on the line for the production of pesticides ("Official Gazette of FRY", no. 68/01);
- Regulation on types of packaging for pesticides and fertilizers and the destruction of pesticides and fertilizers ("Official Gazette of FRY", no. 35/99);
- List of certified organizations for the testing of plant protection products (pesticides) and resources for plant nutrition (fertilizer) ("Official Gazette of FRY", no. 4/00);
- Rulebook on trade, import and sampling of pesticides ("Official Gazette of FRY", no. 59/01);
- List of small crops and plantations ("Official Gazette of FRY", no. 24/03);
- Rulebook on conditions for conducting disinfection and pest control in plant protection and plant products ("Official Gazette of FRY", no. 12/99);
- Rulebook on the quantities of pesticides, metals and metalloids and other toxic substances, chemotherapy, anabolic steroids and other substances that may be present in foodstuffs ("Official Gazette of FRY", no. 5/92, 11/92 and 32/02);
- List of active substances permitted for use in plant protection products ("Official Gazette of Montenegro", no. 70/09);
- Rulebook on the allowable amounts of heavy metals, mycotoxins and other substances in food ("Official Gazette of Montenegro", no. 81/09);
- Rulebook on methods for fertilizer testing ("Official Gazette of FRY", no. 11/99);
- Regulation on conditions for the production line, transport, import and sampling of pesticides and fertilizers ("Official Gazette of FRY", no. 12/99);
- List of resources for plant nutrition in compliance with valid permits for the placing on the market ("Official Gazette of the FRY", no. 29/01);
- Monitoring program for pesticide residues in foods of plant origin for 2010 ("Official Gazette of Montenegro", no. 12/10);
- Monitoring program for nitrates in foods of plant origin - leafy vegetables in 2010 ("Official Gazette of Montenegro", no. 16/10);
- Program of phytosanitary measures for 2010 ("Official Gazette of Montenegro", no. 6 / 10);
- Rulebook on initiating the production of genetically modified organisms and products of genetically modified organisms ("Official Gazette of FRY", no. 62/02);
- Rulebook on the marketing of genetically modified organisms and products of genetically modified organisms ("Official Gazette of FRY", no. 62/02);
- Rulebook on the contained use of genetically modified organisms ("Official Gazette of FRY", no. 62/02);
- Rulebook on the marking of agricultural and food products obtained from genetically modified organisms ("Official Gazette of RoM", no. 06/03);
- Rulebook on the contents and data of register of genetically modified organisms and products of genetically modified organisms ("Official Gazette of FRY", no. 66/02);
- Decree on the procedure of public tender for a license for carrying out the production of tobacco products ("Official Gazette of RoM", no. 46/05);
- Rulebook on the conditions for carrying out the production of tobacco products ("Official Gazette of RoM", no. 28/05);
- Rulebook on marking the means of transportation for the transportation of tobacco products ("Official Gazette of Montenegro", no. 79/09);

- Rulebook on the contents and manner of keeping registers and records of processing, production and distribution of tobacco and tobacco products ("Official Gazette of Montenegro", no. 79/09);
- Rulebook on detailed conditions and procedure for determining the requirements for the wholesale distribution of tobacco products ("Official Gazette of Montenegro", no. 79/09);
- Rulebook on the conditions for carrying out the purchase, processing of tobacco, to determine the quality and quantity of raw leaf tobacco and processed tobacco sales ("Official Gazette of RoM", no. 28/05);
- Rulebook on the form of register of olive trees and keeping records ("Official Gazette of RoM" no. 57/07);
- Rulebook on the program to examine the performance of pruning olive trees ("Official Gazette of RoM", no. 57/07);
- Rulebook on the examination program to perform pruning olive trees ("Official Gazette of RoM", no. 57/07);
- Order prohibiting the hunting and trade in fish-spawn, immature fish and other marine organisms ("Official Gazette of RoM", no. 10/04 and 9/06);
- Rulebook on the form, content and method of logging on fishing or farming ("Official Gazette of RoM", no. 10/04);
- Rulebook on structural and technical basis, mesh size, method of use and purpose of certain types of nets and other resources for commercial and sport fishing ("Official Gazette of RoM", no. 10/04 and 9/06);
- Rulebook on the conditions, restrictions and order in fishing activities in particular fishing areas or zones ("Official Gazette of RoM", no. 10/04 and 9/06);
- Rulebook on the type and quantity of fishing gear that can be used in performing sports recreational fishing, as well as form, number and content of the sports fishing permit ("Official Gazette of RoM", no. 10/04);
- Rulebook on determining the line where water ceases to be stable salty in rivers discharging into the sea and establishing the boundaries of fishing ban ("Official Gazette of RoM", no. 10/04);
- Rulebook on the pricelist for damages caused due to unlawful fishing ("Official Gazette of RoM", no. 10/04);
- Rulebook on the amount of fees for commercial fishing, hunting and farming, permit form and manner of keeping the register of issued licenses ("Official Gazette of RoM", no. 10/04 and 9/06);
- Order on the fishing bans, restrictions and measures to protect fish stocks ("Official Gazette of Montenegro", no.19/08 and 35/09);
- Rulebook on the quality and other requirements for honey, other bee products, products based on honey and other bee products ("Official Gazette of Montenegro", no 45/03);
- Rulebook on the quality and other requirements for alcoholic beverages ("Official Gazette of the State Union of Serbia and Montenegro", no. 24/04);
- Rulebook on the quality and other requirements for the wine ("Official Gazette of FRY", no. 54/99 and 39/02 and" Official Gazette of the State Union of Serbia and Montenegro", no. 56/03);
- Rulebook on the contents, methods of keeping the Register of grape and wine, and the Central Registry ("Official Gazette of Montenegro", no. 64/08);
- Rulebook on the application form for the import of grapes intended for the production of table wine ("Official Gazette of Montenegro", no. 54/07);
- Rulebook on the form of certificates on the health of animals ("Official Gazette of RoM", no. 13/06);
- Rulebook on the conditions for poultry production in incubators and packaging in the trade and transport of poultry ("Official Gazette of RoM", no. 16/93);
- Rulebook on the conditions and duration of quarantine for imported animals ("Official Gazette of the FRY", no. 6/88);
- Rulebook on the regulation of livestock markets, fairs, exhibitions and transport ("Official Gazette of RoM", no. 39/95);
- Rulebook on disinfection of means of transport carrying consignments of animals, products, raw materials and wastes of animal origin ("Official Gazette FRY ", no. 22/89);
- Rulebook on the manner of loading, reloading and unloading shipments of animals, products, raw materials and wastes of animal origin, conditions to be fulfilled by means of transportation, sanitary-technical conditions to be fulfilled by shipment and the form of a certificate of health status of the shipment ("Official Gazette of FRY", no. 69/90);
- Rulebook on the conditions to be met by the station and dock for loading, loading and unloading of shipments of animals ("Official Gazette of the FRY", no. 6/88);
- Decision on the amount of fees for veterinary sanitary examination in internal trade ("Official Gazette of Montenegro", no. 55/07);
- Decision on fees for veterinary sanitary inspections in trade across the borders of Montenegro ("Official Gazette of Montenegro", no. 50/05);
- Rulebook on the marking of cattle ("Official Gazette of Montenegro", no. 58/07);

- Rulebook on the manner, procedure and measures for control and eradication of foot and mouth diseases ("Official Gazette of the FRY", no. 5/70, 32/70 and 40/77);
- Ordinance on measures for the eradication of classical swine fever ("Official Gazette FRY ", no. 6/88);
- Rulebook on measures for the eradication of Newcastle disease in poultry flocks ("Official Gazette of FRY", no. 39/88);
- Rulebook on measures for the eradication of trout furunculosis ("Official Gazette FRY", no. 72/91);
- Rulebook on measures for the eradication of Myxosomatosis salmonis ("Official Gazette of the FRY", no. 72/91);
- Rulebook on the prevention of, detection, suppression and eradication of bluetongue ("Official Gazette of RoM", no. 56/2001);
- Order on taking measures to prevent the introduction of contagious animal diseases spongiforme bovine encephalopathy (BSE) in the Republic of Montenegro ("Official Gazette of RoM", no. 23/2005);
- Order on the prohibition of traffic shipments of animal feed containing ingredients of animal origin ("Official Gazette of RoM", no. 3/2001);
- Rulebook on measures for the eradication of Salmonella in poultry flocks ("Official Gazette of FRY", no. 6/88);
- Rulebook on measures for the eradication of fowl typhoid ("Official Gazette of FRY", no. 6/88);
- Rulebook on measures for the eradication of rabies in animals ("Official Gazette of Montenegro", no. 17/07);
- Rulebook on measures for fighting and eradication of tuberculosis ("Official Gazette of Montenegro", no. 64./08);
- Ordinance on measures for the eradication of brucellosis in cattle, sheep, goats and pigs ("Official Gazette of Montenegro, no. 64/08);
- Rulebook on measures for the eradication of tuberculosis ("Official Gazette of Montenegro", no. 64/08);
- Rulebook on measures for the eradication of anthrax in animals ("Official Gazette of the FRY", no. 39/88);
- Rulebook on measures to combat animal trichinosis ("Official Gazette of the FRY", no. 20/95);
- Rulebook on measures for the eradication of leptospirosis in animals ("Official Gazette of FRY", no. 6/88);
- Rulebook on measures for the eradication of enzootic bovine leukosis ("Official Gazette of Montenegro", no. 64./08);
- Rulebook on measures for the eradication of infectious anemia of horses ("Official Gazette of the FRY", no. 39/88);
- Rulebook on laboratory tests and methods and conditions to be met by the veterinary organization of associated labor checking the results of laboratory tests in the areas of diagnosis of infectious animal diseases and veterinary-sanitary materials and products of animal origin ("Official Gazette of FRY", no. 37/88);
- Rulebook on the classification and reporting of infectious animal diseases ("Official Gazette of Montenegro", no. 5/08);
- Rulebook on monitoring of residues and animals, animal products and animal feed ("Official Gazette of RoM", no. 46/06);
- Rulebook on the maximum allowable concentrations of residues of pharmacologically active substances of veterinary drugs in foods of animal origin ("Official Gazette of RoM", no. 51/07);
- Rulebook on conditions for the transport of animals in public transport and air transport ("Official Gazette of FRY", no. 42/88);
- Regulation on conditions for poultry production in hatcheries and packing conditions in the trade and transport of poultry ("Official Gazette of RoM", no. 16/93);
- Rulebook on the organization of livestock markets, fairs, exhibitions and related transport ("Official Gazette of RoM", no. 39/95);
- Rulebook on veterinary sanitary conditions for the construction and equipping of facilities for production and livestock ("Official Gazette of RoM", no. 39/95 and 56/00);
- Rulebook on the performance of veterinary-sanitary inspection and control of animals before slaughtering and products of animal origin ("Official Gazette of FRY", no. 68/98);
- Decision on the types of combined food and their classification ("Official Gazette of Montenegro", no. 20./09);
- Rulebook on the hygiene requirements for food of animal or vegetable origin ("Official Gazette of Montenegro", no. 14/09);
- Rulebook on specific hygiene requirements for food of animal origin ("Official Gazette of Montenegro", no.14/09);
- Rulebook on the performance of veterinary-sanitary inspection and control of animals before slaughtering and products of animal origin ("Official Gazette of FRY", no. 68/98);
- Rulebook on microbiological food safety in transport ("Official Gazette of FRY", no. 26/93 and 53/95);

- Rulebook on the methods of carrying out microbiological analysis of and super analysis of food products ("Official Gazette of FRY", no. 25/80);
- Rulebook on methods of sampling and methods of physical, chemical and microbiological analysis of feed ("Official Gazette of the FRY", no. 15/87);
- Rulebook on maximum quantities of hazardous materials and ingredients in animal feed ("Official Gazette of the FRY", no. 2/90 and 27/90);
- Rulebook on the performance of veterinary-sanitary control of fodder and fodder production facilities, and the conditions to be met by laboratories performing super analysis of fodder samples ("Official Gazette of the FRY", no. 72/91, 22/93 and 24/93);
- Rulebook on minimum technical requirements for equipping office space for the sales of crude skin, wool, fur, hair and animal waste ("Official Gazette of RoM", no. 2/81);
- Rulebook on safe disposal of animal carcasses ("Official Gazette of the Socialist Republic of Montenegro", no. 20/83);
- Rulebook on the safe disposal of animal carcasses and wastes of animal origin and the conditions to be met by facilities and equipment for the collection, safe disposal and determining cause of death and vehicles for transport of animal carcasses and wastes of animal origin ("Official Gazette of FRY", no. 53/89);
- Rulebook on the meat quality of cattle for slaughter, poultry and game ("Official Gazette of FRY", no. 34/74, 26/75 and 13/78);
- Rulebook on methods of sampling and methods of chemical and physical analysis of milk and milk products ("Official Gazette of FRY", no. 32/83);
- Rulebook on the quality of eggs and egg products ("Official Gazette of FRY", no. 55/89);
- Rulebook on methods of testing the quality of eggs and egg products ("Official Gazette of FRY", no. 72/87);
- Rulebook on the manner and procedure for carrying out quality control of agricultural and food products in foreign trade transportation ("Official Gazette of FRY", no. 13/96);
- Rulebook on the quality and other requirements for animal feed ("Official Gazette of FRY", no. 72/87);

- Law on Forests ("Official Gazette of the Republic of Montenegro", no. 55/00);
- Law on reproductive material of forest trees ("Official Gazette of RoM", no. 37/07);
- Rulebook on compensation for damage caused to the state-owned forests by individuals and legal entities ("Official Gazette of RoM", no. 56/01);
- Rulebook on the method and conditions of gathering and using unprotected species ("Official Gazette of RoM", no. 27/02 and 64/03);
- Rulebook on the construction, maintenance and manner of use of forest roads ("Official Gazette of RoM", no. 26/01);
- Rulebook on the marking and harvesting trees, survey of forest assortments, the form and substance of wood stamps, stamping wood products, marking logs of illegally felled trees, certificates of origin for wood products and the conditions to be met by persons performing transfers, survey and issuance of certificates of origin of wood products ("Official Gazette of RoM", no. 4/02 and 34/04);
- Rulebook on detailed conditions and manner of grazing, browsing and pruning of branches and leaves, taking livestock to pastures and watering places and labeling of forest in which grazing is prohibited ("Official Gazette of RoM", no. 26/01);
- Rulebook on the content and method of making general and specific plans, programs and forest management plans and technical design ("Official Gazette of RoM", no. 56/01);
- Rulebook on the establishment of forest order ("Official Gazette of RoM", no. 26/01);
- Rulebook on the official uniform, identity card and the conditions to be met by forest guards ("Official Gazette of RoM", no. 26/01);
- Rulebook on the list of species of trees and hybrids for obtaining reproductive material of forest trees ("Official Gazette of Montenegro", no. 08/07);
- Rulebook on professional control of the production of reproductive material of forest trees ("Official gazette of RoM", no. 55/08);
- Rulebook on the content and form of the certificate of reproductive material ("Official Gazette of Montenegro", no. 01/09);
- Rulebook on the content and manner of preparation of technical design for seed plants management ("Official Gazette of Montenegro", no. 74/09);
- Rulebook on the procedure for the import of forest reproductive material of forest trees and the procedure for recognition of identical characteristics of imported forest reproductive material ("Official Gazette of Montenegro" no. 74/09);
- Rulebook on detailed conditions to be met by imported reproductive material of certain tree species and hybrids that do not meet all the prescribed requirements for trading ("Official Gazette of Montenegro", no.13/10);
- Rulebook on the method for establishing a region of provenance, and criteria for establishing the necessary data for the regions of provenance ("Official Gazette of Montenegro", no.13/10);
- Rulebook on recognition of seed facilities for the production of reproductive material of forest trees ("Official Gazette of Montenegro", no.13/10);

- Law on Olive Growing ("Official Gazette of RoM", no. 55/03);

2. Plant and animal world

- Law on protection of plants from diseases and pests ("Off. Gazette of RoM", no. 4/92, 59/92);
- Law on artificial manure ("Off. Gazette of SRoM", no. 40/75, 45/75 and "Official Gazette of RoM", no. 39/92);
- Rulebook on the manner of submitting reports and data on occurrence and measures undertaken for prevention and eradication of plant disease and pests ("Official Gazette of SRoM", no.16/80);
- Law on seeds and seeding material ("Official Gazette of RoM", no. 39/92, 59/92);
- Law on health care for animals ("Official Gazette of RoM", no. 39/92, 59/92);
- Instruction on the procedure for issuance of certificates and manner of keeping records on health condition of animals ("Official Gazette of RoM", no. 9/93);
- Rulebook on veterinarian-sanitary requirements for the construction and equipping of facilities for the production and keeping of animals ("Official Gazette of SRoM", no. 4/74);

3. Hunting and Fishing

- Law on hunting ("Off. Gazette of SRoM", no. 15/80, 36/83, 39/89 and "Off. Gazette of RoM", no. 46/91, 59/92);
- Rulebook on development of hunting resource base ("Off. Gazette of SRoM", no. 26/81);
- Order on determination of closed season duration for protected game ("Off. Gazette of SRoM", no. 32/80);
- Law on sea fishing ("Off. Gazette of RoM", no. 26/92, 59/92);
- Order on prohibition of fishing and trading young fish, juvenile fish and other sea animals ("Off. Gazette of RoM", no. 16/93);
- Rulebook on construction-technical basis, size of meshes, manner of use and purpose of specific types of nets and other means for economic and sports fishing, extraction of shells, corals, sponges and sea weeds ("Off. Gazette of RoM", no. 53/92);
- Rulebook on determination of the line where water starts to be brackish in rivers running into the sea and determination of borders of fishing reserves ("Off. Gazette of RoM", no. 53/92);
- Rulebook on the manner of maintenance and forms of the fishing register, approvals for economic fishing and license for sports fishing at sea ("Off. Gazette of RoM", no. 53/92);
- Law on freshwater fishing ("Off. Gazette of SRoM", no. 39/76, 51/76, 34/88 and "Off. Gazette of RoM", no. 4/92);
- Order on fishing prohibitions, restriction and measures for protection of the fish fund ("Off. Gazette of RoM", no. 53/92, 9/93, 9/94, 20/94, 17/95, 24/96, 12/97);
- Decision on prohibition of fishing in the waters of National Park of "Biogradska gora" and National Park "Durmitor" ("Off. Gazette of RoM", no.18/96);
- Decision on prohibition of fishing in a specific area of fishing meshes - Skadar Lake ("Off. Gazette of SRoM", no. 25/87).

4. Spatial development and construction

- Law of Spatial planning and construction of facilities ("Off. Gazette of RoM", no. 51/08);
- Decision on adoption of amendments and supplements to the Spatial Plan of the Republic of Montenegro until 2000 - Integral text of the Spatial Plan of RoM until 2000 ("Off. Gazette of RoM", no. 17/97);
- Law on Regional spatial plan of "Južni Jadran" (Southern Adriatic) ("Off. Gazette of SRoM", no. 18/69, 26/71);
- Spatial plan of special purpose areas for National Park "Durmitor" ("Off. Gazette of RoM", no. 20/97);
- Spatial plan of special purpose areas for National Park "Lovćen" ("Off. Gazette of RoM", no. 19/97);
- Decision on commencement of the development of the Spatial plan of special purpose areas for National Park "Biogradska gora" ("Off. Gazette of RoM", no. 47/92)
- Decision on commencement of the development of the Spatial plan of special purpose areas for National Park "Skadar Lake" ("Off. Gazette of RoM", no. 47/92);
- Decision on commencement of the development of the Spatial plan of special purpose areas for coastal area ("Off. Gazette of RoM", no. 16/97);
- Law on construction of facilities ("Off. Gazette of RoM", no. 55/2000);
- Law on renovation of old towns affected by earthquake in 1979 ("Off. Gazette of SRoM", no. 19/86);
- Law on construction land ("Off. Gazette of SRoM", no. 28/80, 12/86);
- Law on determination of construction land in towns and settlements of town character ("Off. Gazette of SRoM", no. 18/86, 12/73, 9/74, 17/74, 5/75, 21/75);
- Law on municipal activities ("Off. Gazette of RoM", no. 12/95);
- Law on undertaking activities and regulation and maintenance of cemeteries ("Off. Gazette of SRoM", no. 28/84);

- Law on roads (“Off. Gazette of SRoM”, no.38/89, 37/90, 13/91 and “Off. Gazette of RoM”, no. 56/92);
- Law on maritime and inland navigation (Off. Gazette of RoM, no. 19/78, 8/79, 19/87, 22/90);
- Law on railway (“Off. Gazette of SRoM”, no. 39/89, 13/91);
- Law on expropriation (“Off. Gazette of SRoM”, no. 20/81, 10/90).

D. LEGISLATION REGARDING CRIME

1. Criminal Code of the Republic of Montenegro (“Off. Gazette of RoM”, no. 42/93, 14/94, 27/94);

APPENDIX II.2

THE LIST OF INTERNATIONAL AGREEMENTS RELEVANT FOR BIODIVERSITY CONSERVATION TO WHICH REPUBLIC OF MONTENEGRO IS A CONTRACTING PARTY

No:	Title of Multilateral Agreement in Montenegrin Language	Title of Multilateral Agreement in English Language	Status:	Published in the Official Gazette
1.	Konvencija o biološkoj raznovrsnosti	Convention on Biological Diversity	Ratified /assumed by succession	OG of FRY – International Treaties, no.11/01-28
2.	Kartagena Protokol o biološkoj sigurnosti	Cartagena Protocol on Convention on Biological Diversity	Ratified /assumed by succession	OG of MNE – International Treaties, 16/05-40
3.	Konvencija o očuvanju migratornih vrsta divljih životinja (Bonska Konvencija)	Convention on Migratory Species - CMS	Ratified /assumed by succession	OG of MNE – International Treaties, no.06/08-147
4.	Konvencija o zaštiti evropskih divljači i prirodnih staništa (Bernska Konvencija)	Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention)	Ratified/ deposition of ratification instrument in progress	OG of MNE no. 7, of 8 December 2008
5.	Konvencija o močvarnim područjima (Ramsar Konvencija)	Ramsar Convention on Wetlands	Ratified /assumed by succession	OG of SFRY, no.09/77-675
6.	Konvencija o zaštiti svjetske kulturne i prirodne baštine (UNESCO)	Convention Concerning the Protection of the World Cultural Heritage	Ratified /assumed by succession	OG of SFRY, no.56/74-1771
7.	Evropska Konvencija o predjelima	European Landscape Convention	Ratified	OG 006/08-135
8.	Konvencija o međunarodnom prometu ugroženih vrsta divlje flore i faune (CITES Konvencija)	Convention of International Trade in Endangered Species of Wild Fauna and Flora (CITES Convention)	Ratified /assumed by succession	OG of FRJ – International Treaties, no. 11/01-3

9.	Konvencija Ujedinjenih Nacija o borbi protiv dezertifikacije u zemljama sa teškom sušom i/ili dezertifikacijom, posebno u Africi	United Nations Convention to Combat Desertification in Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa	Ratified	OG of RoM, no. 17/07-12
10.	Konvencija o zaštiti morske sredine i priobalnog područja Sredozemlja (Barselonska konvencija)	Convention for the Protection Of The Mediterranean Sea Against Pollution(Barcelona Convention)	Ratified	OG of RoM,no. 64/07
11.	Protokol o područjima pod posebnom zaštitom i biodiverzitetu Sredozemlja	The Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean	Ratified	OG of RoM,no. 64/07

APPENDIX II.3

THE LIST OF MAJOR STRATEGIC DOCUMENTS

Title of the document in English	Title of the document in Montenegr national Language	Available at / in
1. Category: Policies and Strategies		
Sector: Biodiversity Sustainable development		
National Biodiversity Strategy and Action Plan for period 2010 – 2015 (translated into English)	Nacionalna Strategija biodiverziteta sa Akcionim planom za period 2010 – 2015	Version of the document in Montenegr national language available at http://www.mse.gov.me/vijesti/98617/Vlada-Crne-Gore-usvojila-Nacionalnu-strategiju-biodiverziteta-sa-akcionim-planom-za-period-od-2010-2015-godine.html Version in English Language available at: http://www.mse.gov.me/pretraga/99681/National-Biodiversity-Strategy-with-the-Action-Plan-for-the-period-2010-2015.html
National strategy of sustainable development of Montenegro (translated to English)	Nacionalna strategija održivog razvoja Crne Gore (final version in Montenegr national language, since January 2007, provided as *.pdf)	Version of the document in Montenegr national language available at http://www.mse.gov.me/en/ministry?alphabet=lat In English at: https://www.kor.gov.me/eng
Development Directions of Montenegro as an Ecological State (short version of the document is translated in English)	Pravci razvoja crne Gore kao ekoloske drzave. Version of the document in national language is large. Its final version was adopted by the Government of MNE in March 2001	This document is not available at internet
Sector: Wastewater		
Wastewater Feasibility Study Coastal Region – Montenegro Final Report, Volume I - Main Report (translation in English provided in a	Master plan i odvodjenja	Version of the document in Montenegr national language available at

*.doc file, version since February 2004)	preciscavanja otpadnih voda Crnogorskog primorja i opštine Cetinje, Završni tehnički izveštaj - Glavni izveštaj (final version of February 2004 in Montenegro national language provided as *.doc)	http://www.mse.gov.me/en/ministry?alphabet=lat
Sewerage and Wastewater Strategic Master plan (Central and Northern Region) Montenegro – Draft (translation in English provided in a *.doc file, version November 2004 / January 2005)	Nacrt Strateškog Masterplana za kanalizaciju i otpadne vode u centralnom i sjevernom regionu Crne Gore (Srbija i Crna Gora) (Draft version of the document since November 2004 / January 2005 prepared in Montenegro national language and provided as *.doc)	Version of the document in Montenegro national language available at http://www.mse.gov.me/en/ministry?alphabet=lat
Sector: Waste		
Republic-Level Waste Strategic Master Plan (version in English is since November 2004, provided as a *.doc file)	Strateški master plan za upravljanje otpadom na republičkom nivou (version since November 2004 in Montenegro national language provided as *.doc)	Documents are not available at internet
Sector: Physical Planning		
Spatial plan of Montenegro until 2020 (translation in English provided in a *.pdf file, version March 2008)	Prostorni plan Crne Gore do 2020 godine (Final version of the document since March 2008 is prepared in Montenegro national language and provided as *.pdf)	Both versions of documents are available at the web page of the Ministry of Spatial Planning and Environment (http://www.mse.gov.me/en/ministry?alphabet=lat)
Spatial plan for special purposes Coastal Zone (translation in English provided in a *.pdf file, version 2007)	Prostorni plan područja posebne namjene za morsko dobro (Final version of the document in	Both versions of documents are available at the web page of the Ministry of Spatial Planning and Environment

	Montenegro national language is adopted by the Parliament in March 2008. At internet is available version since 2007, as a *.pdf file)	(http://www.mse.gov.me/en/ministry?alphabet=lat)
Revision of Spatial plan for special purposes for national parks: -Biogradska gora -Durmitor -Lovćen	Revizija Prostornog plana posebne namjene za sljedeće nacionalne parkove: -Biogradska gora -Durmitor -Lovćen *Revision in progress	
Spatial plan for special purposes for national park Prokletije	Prostornog plana posebne namjene za NP prokletije *Preparation of Terms of Reference in progress	
Sector: Tourism		
Strategy for Development of Tourism in Montenegro until 2020	Strategija razvoja turizma u Crnoj Gori do 2020 (Final version of the document in Montenegro national language is adopted by the Government in November 2008. At internet is available as a *.pdf file at www.mt.gov.me)	Versions of the document in English and Montenegro national language available at www.mt.gov.me . English version is not provided, yet...
Strategy for Development of Human Resources in Sector Tourism in Montenegro	Strategija razvoja ljudskih resursa u sektoru turizma u Crnoj Gori (Draft version of the document in Montenegro national language, only, since November 2006 as a *.doc file is available at www.mt.gov.me)	Version of the document in Montenegro national language available at www.mt.gov.me . There is no English version of the document

Sector: Forestry		
National Forest and Forest Land Administration Policy	Nacionalna šumarska politika	Version of the document in Montenegro national language available at http://www.nsp-cg.com/
Sector: Agriculture		
Food Production and Rural Development Strategy, 2006.	Version of the document in Montenegro national language has not been provided	This document is not available at internet
Sector: Transport		
Transport Development Strategy of Montenegro (no translation in English, so far)	Strategija razvoja saobraćaja Crne Gore (last version in Montenegro national language)	Version of the document in Montenegro national language available at http://www.minsaob.gov.me
Strategy for development and maintenance of state roads (no translation in English, so far)	Strategija razvoja i održavanja državnih puteva (last version in Montenegro national language)	Version of the document in Montenegro national language available at http://www.minsaob.gov.me
Sector: Energy		
Programme for Energy database development in Montenegro	Strategija razvoja energetske baze podataka u Crnoj Gori (electronic version of the document in Montenegro national language is available at http://www.energetska-efikasnost.me/dokumenti.php?id=0)	Version of the document in Montenegro national language is available at http://www.energetska-efikasnost.me/dokumenti.php?id=0 . There is no English version of the document
Strategy for development of Energy sector in Montenegro	Strategija razvoja energetike Crnoj Goro 2025 (electronic version of the document in Montenegro national language is available at http://www.minekon.gov.me/files/1202471746)	Version of the document in Montenegro national language is available at http://www.minekon.gov.me/files/1202471746 . There is no English version of the document
Energy efficiency Strategy	Strategija energetske efikasnosti (electronic	Version of the document in Montenegro national

	version of the document in Montenegro national language is available at http://www.energetska-efikasnost.me/dokumenti.php?id=0	language is available at http://www.energetska-efikasnost.me/dokumenti.php?id=0 . There is no English version of the document
Energy Policy of Montenegro	Energetska politika Crne Gore (electronic version of the document in Montenegro national language is available at http://www.energetska-efikasnost.me/dokumenti.php?id=0)	Version of the document in Montenegro national language is available at http://www.energetska-efikasnost.me/dokumenti.php?id=0 . There is no English version of the document
Sector: Health and Social Care		
Master Plan for Development of the Health (system) in Montenegro for the period 2005-2010	Master plan razvoja zdravstva Crne Gore za period 2005 – 2010 (Document is available in Montenegro national language, only, at http://www.mzdravlja.gov.me/en/ministry?alphabet=lat . Also, there is a Strategy for Development of Health (system) in Montenegro, since 2003 (available as *.doc file in national language at http://www.mzdravlja.gov.me/en/ministry?alphabet=lat)	
National Strategy for Medicine Waste Management (update of the Republic-Level Waste Strategic Master Plan)	Nacionalana Strategija o upravljanju medicinskim otpadom (inovirani i dopunjeni tekst Strateškog master plana za upravljanje čvrstim otpadom u dijelu koji se odnosi na medicinski otpad)	

	(Document is available in Montenegr ^o national language, only, at http://www.mzdravlja.gov.me/en/ministry?alphabet=lat)	
Sector: Education		
Strategy of citizens rights and citizens education (2007 – 2012)	Strategija gradjanskog prava i gradjanskog obrazovanja (2007-2012)	Version of the document in Montenegr ^o national language available at http://www.mpin.gov.me/en/ministry?alphabet=lat . There is no English version of the document
Strategy for inclusive education (since 2008)	Strategija inkluzivnog obrazovanja (2008)	Version of the document in Montenegr ^o national language available at http://www.mpin.gov.me/en/ministry?alphabet=lat . There is no English version of the document
Action plan for integration of Sustainable development in the Education system for the period 2007 -2009	Akcioni plan Integracije održivog razvoja u obrazovni sistem za period 2007-2009.godine	Version of the document in Montenegr ^o national language available at http://www.mpin.gov.me/en/ministry?alphabet=lat . There is no English version of the document
Strategic plan of reforms of the Education system for the period 2005 -2009	Strateski plan reforme obrazovanja za period 2005-2009	Version of the document in Montenegr ^o national language available at http://www.mpin.gov.me/en/ministry?alphabet=lat . There is no English version of the document
Sector: Economic Development, Economy and Finances		
Law on Budget for 2010	Zakon o budzetu za 2009 (Document is available in Montenegr ^o national language, only, at www.gov.me)	Version of the document in Montenegr ^o national language available at www.gov.me . There is no English version of the document
Economy Policy of Montenegro for 2010	Ekonomska politika Crne Gore za 2009 godinu (Document is available in Montenegr ^o national language, only, at www.gov.me)	Version of the document in Montenegr ^o national language available at www.gov.me . There is no English version of the document

	www.gov.me)	
Decree on the Plan for Privatization for 2010	Odluka o planu privatizacije za 2009 (Document is available in Montenegro national language, only, at www.gov.me)	Version of the document in Montenegro national language available at www.gov.me . There is no English version of the document
National Program for Integration (NPI) to EU for the period 2008 -2012	Nacionalni program za integraciju Crne Gore u EU (NPI) za period 2008 – 2012 (Document is available in Montenegro national language, only, at www.gov.me)	Version of the document in Montenegro national language available at www.gov.me .
Strategy for regional Development of Montenegro (since mart 2005)	Strategija regionalnog razvoja Crne Gore (since mart 2005) (Document is available in Montenegro national language, only, at www.gov.me)	Version of the document in Montenegro national language available at www.gov.me . There is no English version of the document
Communication strategy for Integration of Montenegro to EU (since 2007)	Komunikaciona strategija o evroatlanskim integracijama Crne Gore (since 2007) (Document is available in Montenegro national language, only, at www.gov.me)	Version of the document in Montenegro national language available at www.gov.me .
Economic and Fiscal Program for Montenegro for the period 2008 -2011	Ekonomski i fiskalni program 2008-2011 (Document is available in Montenegro national language, only, at www.gov.me)	Version of the document in Montenegro national language available at www.gov.me . There is no English version of the document
2. Category: Studies, Assessments, Reports etc		
UNEP SAPBIO Climate Change and Coastal / Marine Biodiversity – National Overview (Bušković, V.: <i>Vulnerability and impacts of Climate Change on Marine and Coastal Biodiversity in Montenegro</i> , 2008)	Version of the document in Montenegro national language has not been provided	This document is not available at internet
(FAA section 119) USAID Biodiversity Analyses for Montenegro (2010)	Version of the document in Montenegro national language has not been provided	This document is not available at internet

Report on Self-Assessment of National Capacity, 2007. (NCSA)	Report and project documents are available at CD (Ministry of Spatial Planning and Environment)	This document is provided at CD
3. Category: Databases and Datasets		
EMERALD database for sites that are identified ⁴⁰ in compliance with Resolutions 4 and 6 of Bern Convention (Include site Prokletije)- Institute for the protection of nature and Ministry for Environment	EMERALD baza podataka za područja koja su identifikovana u skladu sa rezolucijama 4 i 6 Bernske konvencije (version of the database in Montenegro national language doesn't exist, except a summary report presented to the Government)	Database is available in the Institute for the protection of nature, Podgorica
Natura 2000 database for species and habitats indentified in compliance with EU Habitat Directive and its annexes - Institute for the protection of nature and Ministry for Environment	Natura 2000 baza podataka za vrste i stanista koja su identifikovana u skladu sa Direktivom EU o stanistima iz 1992 (version of the database in Montenegro national language doesn't exist)	Database (GIS) is available in the Institute for the protection of nature, Podgorica
Forest Inventory Database – including data on the condition of forest under the category of commercial forests, whereas a database from the National Forest Inventory is under preparation	Baza podataka o stanju šuma – national and inventory of forest stands	Database at the Ministry of Agriculture, Forestry and Water Management and Administration for Forests
Important Plant Areas (IPA) in Montenegro (include 2 sites in Prokletije mountain range) – NGO Zelena Gora and Plantlife	Područja značajna za biljke (IPA područja) u Crnoj Gori. (version of this dataset in Montenegro national language doesn't exist)	List of the IPA sites was available at http://www.ipa-montenegro.cg.yu/ until 2009, but after that site is removed
Important Bird Areas (IBA) in Montenegro (include 2 sites in Prokletije mountain range – NGO CZIP (available only as a hardcopy -	Područja od međunarodnog značaja za boravak	List of official IBA sites in Montenegro (available at http://www.birdlife.org/datazo

⁴⁰ Council of Europe project (2005-2008): Establishing EMERALD Network in Montenegro

brochure published in December 2007)	ptica u Crnoj Gori (IBA područja). (version of this dataset in Montenegro national language doesn't exist)	ne/sites/index.html) doesn't include sites from Prokletije area. Included are only 5 IBA sites as follows: Biogradska gora (YU037) – by criteria B2, B3; Durmitor (YU036) by criteria B2, B3; Šasko lake (YU039) by criteria B1i, B2, B3; Skadar lake (YU038) by criteria A1, A3, A4i, A4iii, B1i, B2; Ulcinj Saltwork (YU040) by criteria A1, A4i, B1i, B2
4. Category: Maps		
EMERALD Network mapping (Include site Prokletije) - latest versions of the maps available in UNDP)	Mape mreže EMERALD	Maps are available in UNDP – GIS office in Podgorica
USAID Biodiversity Maps of Montenegro (2001 CRDA project)	USAID-ove mape biodiverziteta u Crnoj Gori (Maps are in English national language as 7 *.tif files)	Maps are available in USAID office in Podgorica (contact Vladan Raznatovic)

APPENDIX II.4

THE LIST OF MAJOR WEB PAGES

Ministry of Physical Planning and Environment
<http://www.mse.gov.me/ministarstvo>

Ministry of Agriculture, Fisheries and Rural Development www.mps.hr
<http://www.minpolj.gov.me/ministarstvo>

Ministry of Tourism
www.mt.gov.me

Montenegro Environmental Protection Agency
<http://www.epa.org.me/index.php/me>

National Parks of Montenegro
<http://www.nparkovi.co.me>

Coastal Zone Management Agency
<http://www.morskodobro.com>

Marine Biology Institute
<http://www.ibmk.org/boka/boka.htm>

Office for Sustainable Development
<http://www.kor.gov.me/kancelarija>

National Forest Programme
<http://www.nsp-cg.com/?jezik=e>

APPENDIX II.5

THE LIST OF MAJOR PROJECTS RELATED TO NATURE PROTECTION

Projects related to the planning and management of PA system

UNDP is working (2009 – 2012) on 2 GEF projects regarding planning and management of PA system, as follows: (i) *Strengthening the Financial Sustainability of Protected Areas in Montenegro* (PAF) with the aim to enable legal framework for improving financial sustainability of PAs and ensure their revenues and (ii) *Strengthening the sustainability of the protected area system of Montenegro* (PAS) that is aimed to expand and rationalize the PA system to ensure better habitat representation and their more secure conservation status and strengthen the capacity of PA institutions to effectively manage a more representative protected area system. UNDP is also working on the GEF project *Securing biodiversity conservation and sustainable use in the Dinaric Mountain ecoregion of Montenegro* (GEF, OP 12) and contribute to the regional initiative Dinaric Arc Initiative (DAI) i.e. *Dinaric Arc Ecoregion - 2012 PAs project* with a objective to draw a picture of the “state of the game” for status and progress towards the completion of the targets of the CBD Programme of Work on Protected Areas (PoWPA), and identifying actions and needs, constraints and opportunities towards the full implementation of the PoWPA in the region as a basis for the development of the present project proposal.

The Project is implemented by WWF in the cooperation with the partners in following countries: Slovenia, Croatia, Bosnia and Hercegovina, Montenegro and Albania. One of main project outcomes shall be PoWPA methodologies (gap assessment, financial sustainability, management effectiveness...) applied to certain level in the Ecoregion countries.

From previous, *National Country Self Assessment* (NCSA) GEF project has been implemented (2006-2007) by UNDP and MoTE. Assessment of conditions for implementation biodiversity conventions was one of three thematic areas in the frame of this project.

ENVSEC initiative (UNEP, UNDP, OSCE and NATO) is aimed to provide a framework for dealing with environmental issues across borders and promoting peace and stability through environmental co-operation and sustainable development. The Initiative focuses on the four pilot regions: Central Asia, the Caucasus, South Eastern Europe (SEE) and Eastern Europe. In the SEE region, which UNEP Vienna office is covering within the Initiative, biodiversity loss was recognized as posing a security risk. Based on this priority, ENVSEC designed a program “Enhancing Transboundary Biodiversity Management in South Eastern Europe”, which is currently being implemented with the funding of the Austrian Development Agency (ADA). As a first step, the rapid assessment of management problems experienced by the administrative bodies responsible for protected areas in a transboundary context was carried out with a focus on mountain ecosystems situated in border areas. Workshop on the “Enhancing Transboundary Biodiversity Management in South Eastern Europe” has been hold in Podgorica 13-14 June 2006).

IUCN Green Belt – this initiative of 22 countries is aimed at the first trans-boundary habitat network through Europe, at a death zone (“Iron Curtain”) separated “East” and “West” from the Barents Sea to the Adriatic Sea. The core areas of this belt will be big crossborder National Parks and conservation areas of international interest. It is a retreat for numerous endangered species like lynx, wolf, bear and river otter. One of the visions is, that one day these species could use the Green Belt as a route for migration. In Montenegro, this initiative came out through WWF MedPO project “Conserving the Biological Diversity of South-Western Balkans: Transboundary Nature Conservation in the Landscape of the Durmitor Massif/Tara River/Prokletije Mountains (Montenegro and Albania)”. In cooperation with its local partner NGO Green Home (2006) Assessment Study on biodiversity and socio-economic features of the Durmitor / Tara / Prokletije region and its surrounding area, as a basis for development of the Conservation Action Plan (CAP) and for sustainable development.

Montenegro is continuously cooperating with the United Nations Educational, Scientific and Cultural Organization – UNESCO, precisely with relevant bodies of this international institution: the World Heritage Center in Paris and UNESCO BRESCE Office in Venice.

Montenegro has received financing for the Project “*Recovery and Rehabilitation of Areas Engulfed by Fire in the National Park Durmitor*” through the UNSECO’s urgent Participation Programme Projects.

SNV is implementing in the cooperation with MoT and PENPMNE project *Management and valorisation of sensitive eco systems in rural areas* that contribute to tourism - economic development of the rural communities in the Montenegro by improving management and valorisation of sensitive eco systems in rural areas⁴¹.

Projects concerning EU typologizations of the habitats important for conservation. In terms of planning documents, there is *National Program for Integration (NPI)* of Montenegro in EU gave a projection concerning activities and their completion deadlines. So far, following projects are important:

(i) *EMERALD network* (EC funded project) started in 2006 and finalized in June 2008 by adoption of the List of (32) EMERALD sites

(ii) *Natura 2000 project* is under implementation jointly by WWF, Daphne and Institute for the protection of nature in the period of 3 years. Need for establishing network of Natura 2000 sites in Montenegro is recognized by *National Program for Integration (NPI)* of Montenegro in EU that projected the end of 2012 as deadline for adoption government regulation with the List of Natura 2000 sites in Montenegro.

Projects concerning Climate Change

In cooperation with the UNDP office in Montenegro, the Ministry for Environment implemented the project “*Enabling Activities for the Preparation of Montenegro’s Initial National Communication to the UN Framework Convention on Climate Change*”. First (Initial) National Communication on Climate change of Montenegro to the UN Framework Convention on Climate Change (UNFCCC), as key result of the project, has been prepared in May 2010 and consequently submitted to the Secretariat of UNFCCC. Most of the analyses concerning climate change issue from the Communication to UNFCCC have been consulted and used for preparing this report to CBD.

Other Environmental Projects

Cooperation in the field of energy and environmental protection is carried out as part of the cooperation with the United Nations Industrial Development Organization (UNIDO). With regard to the field of environmental protection, the cooperation is significant in terms of introduction of clean development programs and technologies and implementation of multilateral agreements in the environmental protection area, first and foremost the implementation of the Vienna Convention for the Protection of the Ozone Layer and the Montreal Protocol on Substances that Deplete the Ozone Layer.

The cooperation with the United Nations Commission on Sustainable Development (UN CSD) is conducted in the form of participation of the delegation of the Government of Montenegro at the 16th Session of the UN CSD, where the National Sustainable Development Strategy (NSDS) was presented and series of very important bilateral meetings with highest UN officials and relevant UN agencies held.

In the forestry sector, the project “Montenegro Forestry Development” is currently implemented, funded by the Government of Luxembourg and the Government of Montenegro.

At the event of the 52nd Regular Session of the International Atomic Energy Agency (IAEA) General Conference, the *Framework Country Program* was also signed between the Government of Montenegro and the International Atomic Energy Agency. Furthermore, the Safeguards Agreement and Additional Protocol were concluded with the IAEA, which represent an integral part of the legal framework established under the Treaty on the Non-Proliferation of Nuclear Weapons.

The most significant activity in 2008 in the Mediterranean Action Plan – program of the UNEP for the protection of the Mediterranean Sea (UNEP/MAP) was the 15th Meeting of the

⁴¹ Project include following group of activities: 1. Cooperation and capacities in management of protected areas improved. 2. Local natural values assessment and monitoring programme for the sensitive areas/species developed, 3. Prepare education and voluntary programmes on the basis of monitoring (flagship species) and 4. Carry out and promote database of local natural values

Contracting Parties to the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean – the Barcelona Convention, held in Almeria, Spain. The result of this meeting was the adoption of the decision on the Protocol for the Integrated Coastal Zone Management in the Mediterranean.

Signing of the Agreement on the bilateral cooperation in the field of environmental protection was agreed during the conference between line ministries of Montenegro and Spain. Moreover, development of the *Feasibility Study for the Program CAMP Montenegro – Coastal Area Management Programme Montenegro* is being implemented in cooperation with the UNEP-MAP, as well as projects for the establishment of protected marine zones.

The *Second Environmental Performance Review of Montenegro* was developed in cooperation with the United Nations Economic Commission for Europe (UNECE), which has 56 country members also including Canada and USA. In this respect, an intersectoral working group was established, being coordinated by the Ministry of Tourism and Environmental Protection. The task of this group is to prepare a progress report on the implementation of the Second Environmental Performance Review of Montenegro. Furthermore, it is important to emphasize participation of Montenegro in the reform of the “Environment for Europe” – EfE process.

During 2008 the cooperation with the International Union for Conservation of Nature (IUCN) continued, and the most significant activity was a well noted presentation of Montenegro on the IUCN World Conservation Congress and contribution provided for the realization of the event “Sailing to Barcelona”. The main objective of this initiative was the adoption of the common platform for the protection of marine and coastal biodiversity. The Navy of Montenegro with its tall ship “Jadran” has led the Adriatic fleet in front of the region on its way to Barcelona.

Fifth year in the implementation of the Project “*Progress monitoring in the Environmental Sector in Montenegro*”, initiated and financed by the Environment Directorate-General of the European Commission (DG Environment), is currently ongoing. The Project covers analysis of the harmonization degree of the national legislation with 70 EU environmental directives. The DG Environment has contracted the Regional Environmental Center (REC) to provide expert assistance for the implementation of the Project. The Regional Environmental Reconstruction Programme (REReP) represented an important mechanism in the field of the regional cooperation. Progress report developed as part of the REReP indicates that 24 projects were successfully implemented, 16 are ongoing and 14 were initiated. Main activity fields for said projects are: institutional capacity building, civil society strengthening, strengthening of crossborder and regional cooperation and reduction of environmental pollution and loss of biodiversity. Starting from this year the Regional Environmental Network for Accession (RENA) represents a new regional cooperation mechanism.

During 2008 Montenegro has achieved cooperation and contributed in the work of the Regional Cooperation Council (RCC), which is the legal successor of the Stability Pact for South Eastern Europe, and in the Adriatic-Ionian Initiative where so called Trilateral Commission is operating, even though not being a member of this Commission. We expect that measures needed for the regulation of Montenegro’s full membership in this Commission will be accomplished over the coming period.

The bilateral level cooperation represents one of the most important components of international activities of this Ministry. During 2008 cooperation was established with the Italian Republic, Kingdom of the Netherlands, United States of America, Republic of Slovenia, Czech Republic, Republic of Croatia, Republic of Austria, Kingdom of Norway, Kingdom of Spain, Republic of Albania, etc. The bilateral cooperation is carried out through realization of set of projects and initiatives. In the cooperation with the Ministry for the Environment, Land and Sea of the Italian Republic *Environmental Montenegrin - Italian Facility* (EMIF) developed that provided following activities / projects: Construction of the energy efficient building for the Ministry of Tourism and Ministry of Environmental Protection in Podgorica; the Master Plans for Development of Sustainable Tourism in the Municipality Kolašin and Municipality Žabljak, with the goal of sustainable planning of tourist activities and other services in these municipalities, Project “Integrated and sustainable transport system in Perast”, project for

preparing Management Plan for Katici Islands - new Marine Protected Area, feasibility studies for CDM projects, etc.

Ministry for Spatial Planning and Environmental Protection is implementing and coordinating realization of project having total value in excess of 250 million euro, out of which donor funds in value of approximately 30 million euro. The most important donors are the Global Environment Facility (GEF), EU countries and USA for bilateral cooperation projects, as well as IPA fund of the European Union. In the field of waste management and regional water supply the most significant creditors are: European Investment Bank, World Bank, European Bank for Reconstruction and Development and German KfW Bank.

In cooperation with the World Bank the Project "*Lake Skadar - Shkoder Integrated Ecosystem Management*" is being implemented. The aim of the Project is to establish institutional and legal premises for protection and sustainable development of this ecosystem in Montenegro and Albania and to strengthen capacities for management of protected areas in both countries. This Project will also provide co-financing of the construction of wastewaters treatment plant in Vranjina and project for permanent remediation of the hazardous waste from the Aluminum Plant. Total amount of the donation for this Project is USD 4.55 million (USD 2.56 million for Montenegro). The World Bank is the implementing agency.

The first phase of the Project "*Remediation and Reclamation of the Lead and Zinc Mine Tailings Impoundment in Mojkovac*" was completed, and the implementation of the second phase started in October 2008. Around EUR 4.47 million was invested in this capital environmental project for Montenegro in the period from 2003 until December 2008. Funds were partly provided by the Government of the Kingdom of the Netherlands in the form of support through the Regional Programme for Remediation of Industrial Pollution "Hot Spots" in the South East Europe Region, which is being carried out with the UNDP support, as well through bilateral cooperation with the Government of the Czech Republic, while the larger share is provided from the Budget of Montenegro.

The cooperation with the *International Atomic Energy Agency* is being implemented through technical cooperation projects (regional, sub-regional and national), which represents a part of the cooperation which the most important for Montenegro (seven subregional and 35 regional programs).

Through the realization of the *Multi-Beneficiary IPA Programme* which supports regional projects, with the support of the International Atomic Energy Agency for Montenegro, the project "Enhancement of Technical Capacities of Nuclear Regulatory Bodies in the Western Balkan Countries through Sub-regional Support" was approved and the beginning of its implementation is expected in the first half of 2009.

The Ministry for Spatial Planning and Environmental Protection received approval for funds in the value of one million euro from the *IPA Programme* for the Project "*Capacity Building for Environmental Management*" for the activities of the Department for Environmental Protection in 2008, and the documentation was prepared for approximately same amount for the support through IPA 2009 to further strengthen institutional capacities in the area of biodiversity preservation.

Aimed to increase citizens' environmental awareness, the Regional Environmental Center for Central and Eastern Europe (REC) in cooperation with the Ministry Spatial development and Environmental and the Ministry of Education and Science with the support of the Ministry of Foreign Affairs of the Government of the Netherlands is implementing the Project "*Green Pack*" aimed primarily for the school-age children from 10 to 16 years of age. Education represents an essential and key factor both of the economic development and of the social, ecological, cultural and ethical vision of the sustainable development of Montenegro. Any economic growth in the future must be based on knowledge and be in harmony with the "sustainable development" of the society.

APPENDIX III

PROGRESS TOWARDS TARGETS OF THE GLOBAL STRATEGY FOR PLANT CONSERVATION AND PROGRAMME OF WORK ON PROTECTED AREAS

APP.III.1. GLOBAL STRATEGY FOR PLANTS CONSERVATION

For the purpose of implementation of the Global Strategy for Plant Conservation (GSPC) Montenegro identified 22 sites⁴² (see page 12, heading: Centres of biodiversity in Montenegro and their regional importance) that are representative for plant conservation, so – called Important Plant Areas (hereinafter IPA). This work has been done in the frame of the project 'Important Plant Areas – IPA Montenegro'. The main objective of this project was to identify the best – representative areas that will be consequently included in the proposal of national Ecological Network NATURA 2000.

Concerning progress of Montenegro in achieving goals of the GSPC that are relevant for CBD, following implemented and planned activities are considered as important:

GSPC targets	Progress achieved	Planned activities (measures and activities in the Action Plan of NBSAP – detail review of Action plan is given in the Appendix III. 3)
Target 1: A widely accessible working list of known plant species, as a step towards a complete world flora	<p>List of all known vascular plants is prepared in the frame of activities undertaken for preparing Biodiversity Country Study developed (2008, see chapter X.2 of Biodiversity Country Study). Its upgrading is related to allochthonous flora in accordance to the new scientific results and related taxonomic revisions in the field. The list follows international standards regarding nomenclature, authors' abbreviations, etc.</p> <p>Mapping of rare, endemic and protected plant species have been provided in the frame of USAID Biodiversity Maps (2000/2001) but continued by GIS mapping of Natura 2000 plant species and habitats (2010, source Natura 2000 database in the Institute for the Protection of nature)</p> <p>Databasing for plant species has been provided in the frame of identifying EMERALD (2006-2008) and Natura 2000 (2010 -) species, habitats and future protected sites.(source: EMERALD and Natura 2000 databases in the Institute for the Protection of nature).</p> <p>Data on the distribution of forest tree species in Montenegro are in the database listed in Category I Base data sets - page 56</p>	1, 4, 5, 8, 9, 14, 20, 21, 22, 23, 24, 26
Target 2: A preliminary assessment of the conservation status of all known plant species, at national, regional and international levels	Last version of the Decree on rare, endemic and protected animal and plant species has been adopted in December 2006 (Official Gazette of MNE 76/06)	1, 4, 5, 8, 14, 16, 20, 21, 22, 23, 24, 26
Target 3: Development of models with protocols for plant conservation and	Programme for monitoring biodiversity (including monitoring plant species) are annually adopted and implemented since 2000. Results of the monitoring are included in annual State on environment reports adopted by the Government and published on the web site of the Environmental Protection	1, 2, 3, 4, 5, 14, 18, 21, 22, 23, 42, 43, 44, 45, 47, 48, 49, 54

⁴² Following 22 IPA sites were identified: Jerinja glava mt, Lukavica mt, Trebjesa mt, Starac mt, Bogičevica mt, Visitor mt, Hajla mt, Skadar lake, Orjen mt, Lovćen mt, Rumija mt, Velika Ulcinjska beach, Babji zub mt, Piva river canyon, Tara River canyon, Komarnica River Canyon, Mrtvica Canyon, Cijevna River canyon, Lim River canyon, Komovi mt, Durmitor mt and Biogradska gora

sustainable use, based on research and practical experience	Agency. Brochure for the selection of areas especially important for flora (IPA Site Selection Manual) was translated and adopted Management plans for NPs (Lovćen, Skadar lake, Durmitor and Biogradska gora) were adopted in 2005, for the period until 2010. There are ongoing activities on the adoption of new management plans for the period from 2011 -2015.	
Target 4: At least 10% of each world's ecological regions effectively conserved	Protected areas are covering 124.964 hectares which is 9,047% of the national territory. The largest part of the protected areas belongs to national parks (7.77%). (See more in Appendix III. 2. The Programme of Work on protected areas)	11, 18, 29, 50, 51
Target 5: Protection of 50% of the most important areas for plant diversity assured	Project "Important Plant Area – IPA Montenegro" with 22 identified IPA sites was successfully implemented. Final publication produced in 2009.	14, 18, 29, 50, 51
Target 6: At least 30% of production lands managed consistent with the conservation of plant diversity	Very small number of professional and scientific papers regarding this topic published so far. In 2006 Government adopted Food production and Rural development Strategy Regulation for organic farming adopted and implementation of organic farming started (2009)	11, 14, 18, 19, 30, 32, 34, 35, 36, 37, 39,
Target 7: 60% of each world's threatened species conserved in situ	In 2006 has been updated List of the Protected Animal and Plant Species (Decree on the protection of certain flora and fauna species (Official Gazette, MNE, No. 76/06). Number of protected species increased over the time. In 1968 only 6 plant species ⁴² were under protection, but in 1982, 52 plant species were under protection ⁴³ . After its last revision, List of the Protected Species include 415 plant species	5, 11, 14, 17, 18, 19, 25, 29, 32, 34, 37, 38, 39, 40, 41, 43, 44, 45, 47, 48, 49, 50, 51,
Target 8: 60% of threatened plant species in accessible ex situ collections, preferably in the country of origin and 10% of them included in recovery and restoration programmes	So far, unsystematic ex situ protection of a small number of species provided. There are three botanical gardens : (i) the botanical garden for mountain flora in Dulovine in Kolašin, (ii) botanical garden for mountain flora in Brezjojevce near Plav, and (iii) the Arboretum General Vojo Kovačević in Grahovo which has large number of trees and bushes from different parts of the world. However, there are a number of collections of commercially important types of fruits and crops, which were created ⁴³ for the purpose of preserving their genetic diversity, and which are considered as important for the future potential development and preservation of agrobiodiversity. The most important among them are ⁴⁴ : <ul style="list-style-type: none"> • The collection of grapevines from the genus <i>Vitis</i>, at Lješkopolje near Podgorica, where almost 500 types are comprised 303 old subtypes, 13 important genotypes, 165 newly obtained subtypes and 10 clones. This collection is included in the international bank of genes of the genus <i>Vitis</i> (reg. no YU 03 – Podgorica); • The collection of wheat (<i>Triticum</i>) at the Biotechnical Faculty/Institute, containing 200 cultivated and wild subtypes, of which 113 samples come from the domestic Montenegrin population, 47 samples are from the other parts of former Yugoslavia (Herzegovina, Krajina and the like), while 40 samples come from Italy; 	6, 7,

⁴² *Daphne malyana* Blečić, *Dioscorea balcanica* Kusanin, *Ilex aquifolium* L., *Leontopodium alpinum* Cass, *Ramondia serbica* Panc and *Taxus baccata* L.

⁴³ Decree on protection, rare, thinned and endangered plant and animal species ("Official Gazette or RMNE", No. 36/82)

⁴³ These collections are mostly financed by the Ministry of Agriculture, Forestry and Water Management through the "Program for preservation and use of genetic resources in agriculture".

⁴⁴ Data were taken from the document "Montenegrin agriculture and European Union – the Strategy for Development of Agriculture and Rural Areas"(2006), Ministry of Agriculture, Forestry and Water Management of Montenegro and European Agency for Reconstruction.

	<ul style="list-style-type: none"> The collections of continental and subtropical fruits at the bureaus of the Biotechnical Institute in Bar and Bijelo Polje. The collection of continental fruits (Bureau in Bijelo Polje) encompasses 6 types of fruits (apple <i>Malus domestica</i>, pear <i>Pyrus communis</i>, plum <i>Prunus domestica</i>, cherry <i>Prunus avium</i>, plum <i>Prunus cerasifera</i> and walnut <i>Juglans regia</i>) with total of 36 subtypes. The collection of subtropical fruits (Bureau in Bar) encompasses 3 types of fruits (olive <i>Olea europaea</i>, fig tree <i>Ficus carica</i>, and pomegranate <i>Punica granatum</i>), with 44 subtypes; The Biotechnical Institute also keeps 8 genotypes of potato, 7 alfalfas, and 7 fodder species from the genus <i>Medicago</i>. 	
Target 9: 70% of genetic diversity of crops and other major socio-economically valuable plant species conserved, and associated indigenous and local knowledge maintained	<p>There have been attempts to create a collection of local subtypes of socio-economically important plant species, but these have failed due to poor capacities, lack of equipment and very limited funds. Some previous collections have also been lost, and there is inadequate knowledge on the values and importance of local types/subtypes, which are considered less fertile than new foreign hybrid types. In the past, Montenegro has participated in a series of important projects in the area of agro-biodiversity that have sought to resolve these issues, including:</p> <ul style="list-style-type: none"> 'Project SEEDNet' lead by the Swedish Government which is directed to the establishment of a network for studying and preserving the agro-biodiversity in Southeast Europe; and A project of Norwegian Government "Recognizing and preserving animal genetic resources in Southeast Europe". 	11, 34, 37, 39, 40, 41, 53
Target 10: Management plans in place for at least 100 major alien species that threatened plant communities and associated habitats and ecosystems	List of allochthonous vascular flora was provided as an update to the List of plant species (2009)	9, 11,
Target 11: No species of wild flora endangered by international trade	There are no official indications on direct international trade of endangered wild flora linked to Montenegro	14,
Target 12: 30% of plant based products derived from sources that are sustainably managed	<p>The FSC national Standard provided in 2006 but not implemented, so far.</p> <p>* Certification of pilot areas according to the given methodology is planned.</p>	11, 14, 18, 19, 34, 37, 39, 40, 41,
Target 13: The decline of plant resources and associated indigenous and local knowledge, innovation and practices that support sustainable livelihoods, local food security and health care, halted	Montenegro, a candidate country for entering EU has started the elaboration of a strategy for food production and rural development (2006)	11, 14, 25, 29, 34, 37, 39, 40, 41, 48, 49, 50, 51
Target 14: The importance of plant	Publishing of the national flora up-dates , i. e. Conspectus Flore Montegrine, J Rohlena has been updated by V.	10, 13, 16, 34, 37, 39, 40, 41,

diversity and the need for its conservation incorporated into communication, education and public – awareness programmes	Pulevic (first up-date 2005) while group of younger botanist provide another update with allochthonous flora in 2009. Many infopoints, information / visitors centres and eco educational tracks were arranged mostly in national parks	
Target 15: Number of trained people working with appropriate facilities in plant conservation increased, according to national needs, to achieve the targets of this strategy		16,
Target 16: Networks for plant conservation activities established or strengthened at national, regional and international levels		50, 51

APPENDIX III.2

THE PROGRAMME OF WORK ON PROTECTED AREAS

National Network of Protected Areas – Based on the national legislation, a great number of natural assets⁴⁵ in Montenegro have been placed under protection, many of which protect the most important components of biodiversity in the places where it occurs (*in situ* protection). A large part of the activities conducted in these areas focus on the protection of the biodiversity where it occurs in the nature, i.e. on the spot. The development of the national network of protected areas, (both existing and proposed areas for protection), represents an important part of the policy of the Government of Montenegro to protect representative types of all habitats, ecosystems and plant and animal species that occur. The development of the national network of the protected areas has long been linked with the national system of spatial planning and its key planning document – the Physical Plan of Montenegro (hereinafter PP MNE). The current projection of the national network of the protected areas of nature in the PP MNE from 2008 is given in the table below

Name and national category of the protected areas of nature	Surface (ha)	Share in the state territory in percentage (13.812 km ²)
National parks	101.733	7,77%
Skadarsko jezero	40.000	
Lovćen	6.400	
Durmitor	33.895	
Biogradska gora	5.400	
Prokletije	16.038	
Reserves of nature	650 ⁴⁶	0.047%
- in the NP Skadarsko jezero: the Monastery land, Pančeva oka, Crni žar, Grmožur and Omerova gorica	420	
- in the NP Durmitor: Crna Poda	80	
Salt Pans in Tivat	150	
Monuments of nature	13.638,54 ⁴⁷	0.987%
Đalovića klisura	1.600	
Lipska pećina	/	
Cave Magara	/	
Cave Globočica	/	
Cave Spila at Trnov / Virpazar	/	
Cave Babatuša	/	
Novakovića cave at Tomaševo	/	
Pit Duboki do at Njeguši	/	
Canyon of the river Piva	1.700	
Canyon of the river Komarnica	2.300	
Communities of <i>Pinetum mughi montenegrinum</i> at Ljubišnja (1.000ha), Durmitor (5.200ha) and Bjelasica (400ha)	1.000 + (5.600)	
Communities of <i>Pinus heldraichii</i> in Orjen (300ha), Lovćen (300ha) and Rumija (100ha)	400 + (300)	
Individual dendrological facilities: <i>Quercus robur scutiensis</i> at ĆurIOC near Danilovgrad, <i>Quercus pubescens</i> in Orahovac near Kotor, olive trees at Mirovica, the Old Bar and Ivanovići, Budva etc	/	
Beaches of the Skadar Lake	(<2)	
Velika plaža in Ulcinj	600	
Mala plaža in Ulcinj	1,5	

⁴⁵ Besides the name *protected natural wealth*, the names *protected areas of nature* and *protected structures of nature* are being equally used in everyday practice.

⁴⁶ 150 ha out of National Parks

⁴⁷ 7.736,54 ha out of National Parks

Beach Valdanos	3	
Beach Velji pijesak	0,5	
Beach Topolica, Bar	2	
Beach Sutomore	4	
Beach Lučica, Petrovac	0,9	
Beach Čanj	3,5	
Beach Pećin	1,5	
Buljarica	4	
Beach Petrovac	1,5	
Beach Drobni pijesak	1	
Beach Sveti Stefan	4	
Beach Miločer	1	
Bečićka Plaža	5	
Slovenska plaža, Budva	4	
Beach Mogren	2	
Jaz	4	
Beach Pržno	2	
Savinska Dubrava in Herceg Novi	35,46	
Botanical reserve of laurel and oleander, above the well Sopot near Risan	40	
Botanical garden of mountain flora in Kolašin	0,64	
Botanical garden of the general Kovačević in Grahovo	0,93	
Park "13 jul" and "Njegošev park" in Cetinje	7,83	
Park of the hotel Boka in Herceg Novi	1,2	
City park in Tivat	5,897	
Park of the Castle at Topolica	2	
<i>Special natural features areas</i>	354,7⁴⁸	0.025%
Hill Spas, above Budva	131	
Semi-island Ratac with Žukotrljica	30	
Island the Old Ulcinj	2,5	
Hill Trebjesa, Nikšić	159	
<i>Areas protected by municipal decisions</i>	15.000	1.086%
Kotorsko – Risanski Bay, municipality of Kotor	15.000	
TOTAL UNDER NATIONAL PROTECTION	124.964,24	9,047%

In the last several years, this issue became the subject matter of interest also in other official strategies and policies. Besides the proposal for the development of protected areas of nature in the area of Coastal Zone, which is determined in the Spatial Plan Special Purpose Coastal Zone of Montenegro (SPSP CZ MNE)³⁸, the national system of the protected areas has also been included in the National Strategy for Sustainable Development (NSSD)³⁹ which sets out a goal to increase the area under protected areas to 10% of the state territory and protect 10% of the coastal area in a three-year planned period. In this respect, the priority areas for protection have been emphasized in NSSD. In addition to the NSSD and the SPSP CZ MNE, the issue of the network of the protected areas along the Montenegrin Littoral has been discussed and priorities have been defined in the National Strategy for the Integral Management of Coastal Zone of Montenegro, which is prepared for adoption by the Government of Montenegro.

The national network of the protected areas currently covers **124.964,24** ha, or **9,047%** of the territory of Montenegro, of which the largest share (101.733ha or 7,77) is comprised of five national parks: Durmitor, Skadar Lake, Lovćen, Biogradska gora and newly established Prokletije. The remaining part includes over 40 protected areas within the following categories: monument of nature; region of special natural features, and (general and special)

⁴⁸ 43,3 ha of which is in the category Natural Monument

³⁸ SPSP CZ MNE from 2008

³⁹ NSSD from 2007

reservations⁴⁰. Although several areas have been proposed as 'regional parks' (covered in the PP MNE), none have so far been established.⁴¹

In recent decades, proposed protected areas have not been established only slowly, and there have been particular delays with creating the larger areas. Consequently, all newly founded protected areas in the last few decades are relatively modest sized areas and they have not contributed significantly to the increasing the area under protection in Montenegro. Practically, since the establishment of the NP Skadar Lake 1986, no protected area of nature that is bigger than this one has been established so far.

The protection of rare, significant, and monumental trees has traditionally been seen as a constituent part of biodiversity conservation activities, and a large number of olive trees, oak and other trees have been placed under protection.

Internationally protected natural assets

Montenegro has ratified or succeeded to (from the previous federations/state unions⁴⁹) various international treaties (conventions, protocols) in the area of the biodiversity protection⁵⁰, and the following protected areas joined international protection:

- Skadar Lake National Park (40,000 ha) has been protected as Ramsar Site since 25 December 1995, when it was registered in the list of wetlands of international importance as a habitat of water birds (the Ramsar List), with the Ramsar Convention (The Convention on Wetlands of International Importance, especially as a habitat for water birds). Skadar Lake National Park was included in the Ramsar List because of the richness and diversity of its avifauna (criteria 3c⁵¹). This area was previously recognized (1989) as an Important Bird Area – IBA, since it meets the criteria 1(iii), 2 and 3. The Albanian part of Skadar Lake has also been protected as a Ramsar Site since 2 February 2006.
- Durmitor National Park with the canyon of the River Tara (33,895 ha) has been protected since 1980 as a World Natural Heritage Site (UNESCO World Natural and Cultural Heritage List), based on the fulfillment of criteria N (ii), (iii) and (iv) of the Convention Concerning the Protection of World Natural and Cultural Heritage (UNESCO). The specific values of this protected area are its zones⁵² with special management regimes, including two strictly protected areas (the canyon of the River Tara and forest reservation "Crna Poda").
- The basin of the River Tara (182,899 ha) has been protected as the World Biosphere Reservation (Program "Man and Biosphere" - M&B, UNESCO), since 17 January 1977, based on the Convention Concerning the Protection of World Natural and Cultural Heritage (UNESCO).
- The Bay of Kotor and Risan (15,000 ha) has also been protected as a World Heritage Site (UNESCO World Natural and Cultural Heritage List) since 26 October 1979, based on the provisions of the Convention Concerning the Protection of World Natural and Cultural Heritage (UNESCO). Before being placed under international protection, this area was protected under national legislation⁵³. A management plan has been prepared recently for the site, which is currently in the final stages of approval by UNESCO.

In addition to the above mentioned areas, Montenegro has many other areas of nature with important and valuable biodiversity that meet the criteria of the above mentioned and other international treaties to which Montenegro is a Contracting Party (complete list is given in the Annexes 4). These include: the Convention for the Protection of the Mediterranean Sea (Barcelona Convention) and its Protocol Concerning Mediterranean Specially Protected

⁴⁰ Except for Tivatska Solila (150 ha), all reservations are located within the borders of two national parks – Skadar Lake and Durmitor.

⁴¹ There have been four attempts to create regional parks at the territory of the municipality Plav: Plav Lake; Ali Pashas Springs – Grenada and Ropojana with the canyon Grlja; Hridsko Lake and Vistor Lake, for which the appropriate regulation was adopted (Decision on proclaiming the regional parks at the territory of the municipality Plav ("Official Gazette or RMNE", No. 24/03 – municipal regulations), but they have not been established.

⁴⁹ Social Federative Republic of Yugoslavia (SFRY), Federal Republic of Yugoslavia (FRY), State Union of Serbia and Montenegro

⁵⁰ Particularly The Convention Concerning the Protection of World Natural and Cultural Heritage (UNESCO) and the Convention on Wetlands of International Importance, especially as the habitat of water birds (Ramsar Convention)

⁵¹ Although they do not represent formal reasons for registration into the Ramsar List, Skadar Lake meets also the criteria 1a, 2b, 3b, 4b, and 5b.

⁵² (i) Crno jezero (the Black Lake) with the forest nearby, (ii) river basin of the Škrčka Lake and narrow canyon valley of the river Sušica, (iii) jungle of fir and juniper tree in the river basin of the Mlinski potok, (iv) the Barno Lake with its surroundings, (v) forest of the black pine tree in reservation Crna pada, (vi) the Zabojsko Lake with its surroundings, and (vii) the canyon valley of the river Tara.

⁵³ Decision on proclaiming Kotor and its surroundings as natural and cultural and historical wealth of special importance ("Official Gazette or RMNE", No. 17/79, municipal regulations)

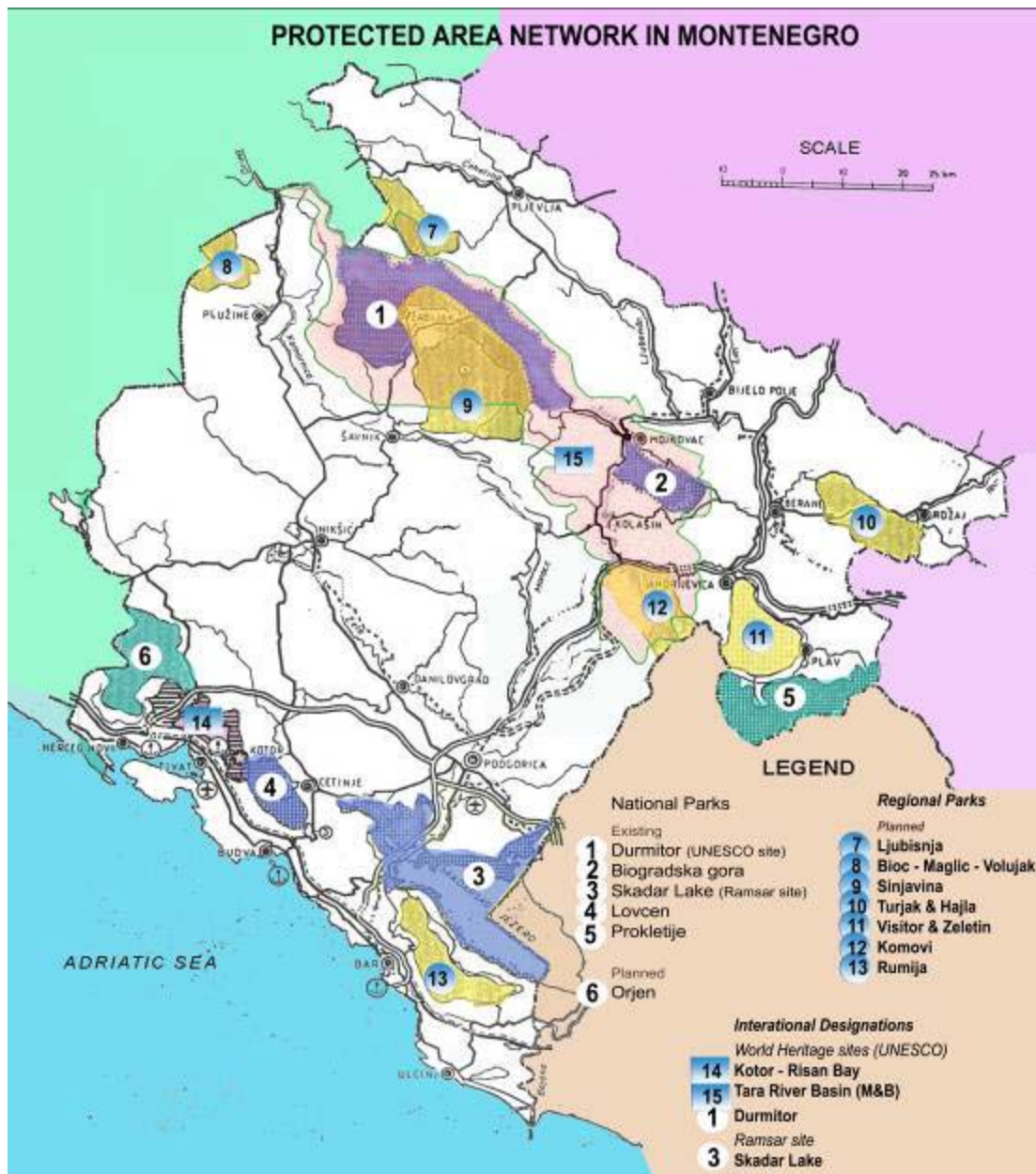
Areas, which allow for the protection of areas of sea, although, no marine protected areas of have been proclaimed in Montenegrin waters so far.

The total nationally (124.964,24 ha) and internationally (143.594 ha) protected areas (protected areas of nature) are summed up (excluding duplication and overlapping areas), total area of placed under protection amounts to 268.558,24 ha, which represents **19.44%** of the state territory.

Among the existing and proposed protected areas, there are several that have transboundary characteristics, although, currently, only Skadar Lake, which Montenegro shares with Albania⁵⁴, is recognized as a transboundary protected area and its wider surroundings as a cross border developmental zone (PP MNE from 2008).

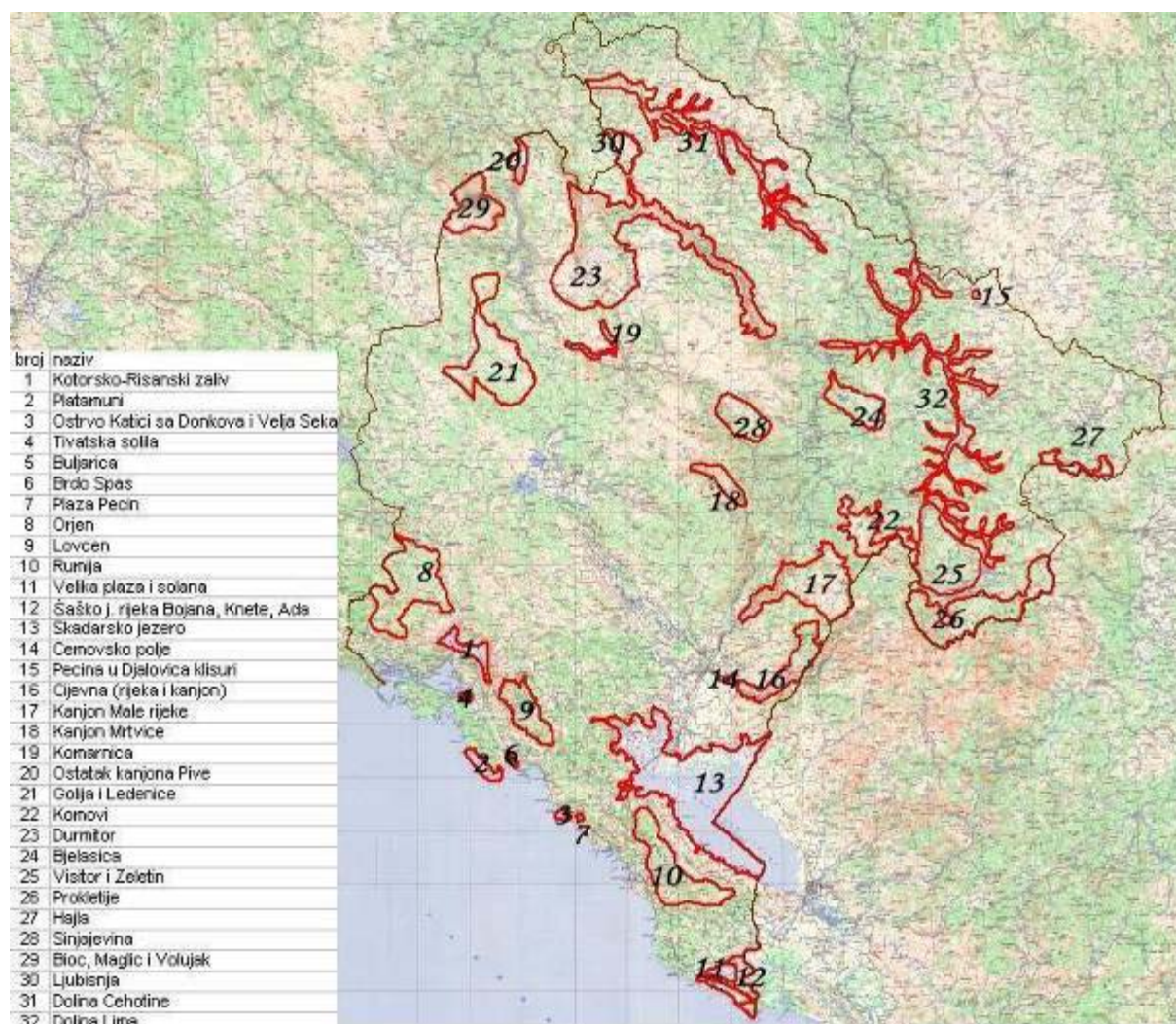
New cross border protected areas have been proposed within the PP MNE, primarily through the expansion of the borders of the Durmitor National Park and its connection with the Sutjeska National Park in Bosnia and Herzegovina and proposed Bioč – Maglić – Volujak Regional Park in Montenegro. The possibilities for additional cross border protected areas are recognized in the creation of several new national parks: (i) NP Orjen in Montenegro which could be connected with the areas of the Orjen and Sniježnica in Bosnia and Herzegovina and Croatia; and (ii) Prokletije National Park which could be connected with areas in Albania (Theti, Bjeshkët e Nemuna), Kosovo and Serbia.

⁵⁴ In Albania, the wider area of the Skadar Lake and the river Bojana with the surroundings (total 900km²) was placed under national protection as the “nature managed reserve“ in November 2005, and soon afterwards, under the protection as a Ramsar Site (February 2006).



Ecological Network of Montenegro – Implementation of the Ecological network was regulated by the Nature Protection law (2008) that include Natura 2000 sites identified on the base of EU directives for Habitats (1992) and Wild Birds (1987), So far, work on establishing Ecological Network of Natura 2000 sites is in identification phase (Re: project *Montenegro and Natura 2000* - Institute for Nature Protection, WWF and Daphne, see text about Natura 2000 below)

The EMERALD Network – The Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and the legislation of the European Union regulate the protection of the threatened species and habitat types which are emphasized in the biogeographical regions on the state territory. The EMERALD Network consists of 32 sites (see map below) - areas of special interest for the protection (ASCI) which should be established by the member countries present of the Bern Convention. For the EU member countries, the Emerald Network is similar to the NATURA 2000 network. Creation of the EMERALD Network in Montenegro started in 2005 within the project funded by Council of Europe and implemented by the Ministry of Environmental Protection and Physical Planning in cooperation with the Council of Europe and Montenegrin experts. During 2008, project was finished and the standard forms were completed for most of the Emerald Network sites in Montenegro (central EMERALD database is in the Institute for the Protection of Nature). Meanwhile, EMERALD data base has been reviewed (quality control check) by Council of Europe and then improved / updated.



Network of EMERALD sites Map

NATURA 2000 – Work on establishing Ecological Network Natura 2000 started in 2009 in the frame of WWF, Institute for the Protection of nature and Daphne project (“*Montenegro and Natura 2000: Strengthening the Capacity of Government and civil sector to adapt to EU Nature Protection Aquis*”) that is focused on EU Habitat Directive. EU Wild Bird directive is out of the project activities, so far. List of Natura 2000 species and habitats present in Montenegro has been prepared using previous knowledge from EMERALD Network project but updated and modified to requirements from (annexes) EU Habitat directive. After that, Reference list has been prepared for relevant sources of information regarding aforementioned species and habitats. Consequently Desktop Inventory for these species and habitats has been worked out in central database (GIS) in the Institute for the Protection of Nature. Meanwhile draft version of the Catalogue of Natura 2000 habitats present in Montenegro has been prepared and used for firs – training Fieldwork inventory of previously identified Natura 2000 habitats in Montenegro. At present, activities are focused on finding best way to conduct fieldwork inventory and provide needed financial resources to do it.

The Dinaric Arc Ecoregion – This project is a part of the WWF programme of the protected areas for the planet where the main goal is to help the members of the Convention in the implementation of the CBD programme of Work on protected areas.



EMERALD site Skadar Lake

APPENDIX III.3
RELEVANCE OF THE ACTION PLAN (NBSAP 2010) TO GSPC, CBD 2010 AND CBD STRATEGIC PLAN TARGETS

No	Measure / activity	Relevance for the GSPC Targets	Relevance for the CBD 2010 Targets	Relevance for the CBD SP Targets
1.	(i) Prepare (book) Montenegrin Flora	1, 2, (3)	1, 2	1.1, 3.1,
	(ii) Prepare Vegetation map of Montenegro	1, 2,	1, 2	1.1, 3.1,
	(iii) Prepare (book) Bird fauna of Montenegro	-	1, 2	1.1, 3.1,
2.	Prepare Programme for long – term research of biodiversity in Montenegro	3	1, 2	1.1, 2.1, 3.1,
3.	Revision of the Programame for biodiverstiy monitoring	3	1, 2, 5	1.1, 3.1,
4.	Inventory and mapping of the distribution of endemic, rare and legaly protected plant (and optionally for animal species)	1, 2, 3	1, 2	1.1, 3.1,
5.	Identify and prapare proposal for National ecologic Network Natura 2000	1, 2, 3, 7	1, 2	1.1, 3.1,
6.	Collect and analyse data on equitable benefit sharing from genetic diversity	8	10	1.1, 3.1, 3. 2,
7.	Forest stands for seed – prepare planning documents and implement needed measures	8		1.1, 3.1,
8.	Prepare National Classification of habitats (catalogue)	1, 2	2	1.1, 3.1,
9.	Inventory of invasive (priority) plant species	1, 10	2, 6	1.1, 3.1,
10.	Programme for education and training for the issues relevant for biodiversity conservation, its sustainable use and equitable benefit sharing from genetic diversity	14, 15	9	1.1, 2.1, 2.5, 3.1, 3. 2,
11.	Prepare Action plans for biodiversity in all 21 municipalities	4, 6, 7, 9, 10. 12. 13	1, 2, 3, 10	1.1, 2.1, 3.1,
12.	Develop and adopt relevant subsequent regulations of the Law on Nature Protection , harmonization of other laws with that law and adoption of the regulation for GMO	-	1, 2, 3, 8, 10	1.1, 2.3 – 2. 5, 3.1, 3.2, 4. 1, 4.3
13.	Awareness raising campaign on enforcement of legislature for protection of biodiversity /nature	14	1, 9	1.1, 2.1, 3.1, 4. 1, 4.3
14.	Implement National Programme for Integration of Montenegro into the European Union (NPI) for period 2008 – 2012, part for nature protection / biodiversity conservation	1, 2, 3, 5, 6, 7, 11, 12, 13	1, 2, 3, ...8, ...10	1.1, 3.1,
15.	Adaptations and building up of the mechanisms for participation of public and interest groups in decision making processes relavant for biodiversity (conservation)		9	1.1, 3.1, 4. 1, 4.3
16.	Communication Strategy for the promotion of the Strategy (NBSAP) and implementation of public awareness campaign on biodiversity conservation	14, 15	1 – 10	1.1, 2.1, 3.1, 4. 1, 4.3
17.	Develop National Action Plan for Climate Changes	7	7	1.1, 3.1,
18.	Prepare Programme for the Protection of Forest Ecosystems in Existing and	3, 4, 5, 6, 7, 12	1, 4, 5, 8	1.1, 3.1,

	Planned Protected Natural Assets			
19.	Combat illegal forestry activities	6, 7, 12		1.1, 2.1, 3.1, 4.1, 4.3
20.	Provide research in forest habitats	1, 2		1.1, 2.1, 3.1,
21.	Take part in the activities regarding National Forest Inventory	1, 2, 3		1.1, 2.1, 3.1,
22.	Establish Forestry Information System and further development of GIS in forestry	1, 2, 3		1.1, 3.1,
23.	Implement monitoring and research of water and wetland habitats	1, 2, 3		1.1, 3.1,
24.	Increase allocation of funds for forest ecosystems monitoring in the frame of the Programme of the Monitoring of Environment	1, 2	1, 5, 8, 11	1.1, 2.1, 2.2, 3.1,
25.	Integrate measures and requirements for nature protection / biodiversity conservation in legislature and documents for economic development	7, 13	1, 2, 4, 5, 8	1.1, 2.1, 3.1, 3.3,
26.	Identify marine habitats important for biodiversity conservation	1, 2	1, 8	1.1, 3.1,
27.	Develop methodology for game species count and provide count of game species in hunting areas	--		1.1, 3.1,
28.	Prepare Action plans for (particular) game species	-	1, 2, 8	1.1, 3.1,
29.	Prepare Programmes for identification wild animal and plant species require conservation / protection action plans / programmes - Prepare and implement Action plans for critically endangered races and types as well as Programmes for breeding and maintenance domestic races, varieties and types of animals	4, 5, 7, 13	1, 2	1.1, 3.1,
30.	Apply Strategic – and Environmental - Impact Assessment as well as Assessment of the acceptance for nature of projects, works and concessions in water economy and forestry	6, 7	1, 4, 5, 8	1.1, 3.1, 3.3, 4.1, 4.3
31.	Prepare remaining Fishery Base Books , priority shall be given to Skadar Lake		1, 4, 5, 8	1.1, 3.1,
32.	Enable systems of Strategic – and Environmental - Impact Assessment are functioning as well as integrate nature protection / biodiversity conservation in (economic development) sectors	6, 7	1, 4, 5, 8	1.1, 2.1, 3.1, 3.3, 4.1, 4.3
33.	In relevant legislature, prescribe procedure of licensing / issuing authorizations for preparing Strategic – and Environmental - Impact Assessment for projects / works and provide List of authorized institutions and individuals authorized for preparing these studies.		1, 4	1.1, 3.1, 3.3,
34.	Integrate measures and directions for biodiversity conservation in strategies, laws / regulations, programmes and plans in sectors: (i) tourism, (ii) physical planning i (iii) large infrastructure	6, 7, 9, 12, 13, 14	1, 2	1.1, 2.1, 3.1, 3.3,
35.	Identify potential Ecotourism Development Areas	6	1, 4, 5, 8	1.1, 3.1,
36.	In relevant legislature, prescribe standards and criteria for development of Ecotourism	6	1, 4, 5, 8	1.1, 3.1,

	in Protected Natural Assets			
37.	Integrate measures and requirements for biodiversity conservation in strategies and master plans for Tourism	6, 7, 9, 12, 13, 14	1, 4, 5, 8	1.1, 2.1, 3.1, 3.3,
38.	Prepare and implement visitor monitoring system as well as impacts of visitors for protected natural assets, priority shall be given to national parks	7	1, 4, 5, 8	1.1, 3.1,
39.	In physical - and other development plans / programmes provide Biodiversity and Landscape Protection from adverse impacts of Tourism at Adriatic Sea Coast (→preparation of adequate Studies)	6, 7, 9, 12, 13, 14	1, 4, 5, 8	1.1, 3.1, 3.3,
40.	Prepare: a) management plans for tourism activities, b) management plans for guide services, c) management plans for nature / biodiversity interpretation and d) plans for education of visitors to the protected natural assets (as integrated parts of general management plans , primarily for national parks	7, 9, 12, 13, 14	1, 4, 5, 8	1.1, 3.1,
41.	Prepare Biodiversity Conservation Plan for adverse impacts of Tourism in Protected Natural Assets	7, 9, 12, 13, 14	1, 4, 5, 8	1.1, 3.1, 3.3,
42.	In relevant legislature, prescribe provision(s) regarding preparation of Expert statement / Study on Biodiversity Conservation / Nature protection for the purpose of preparing physical planning documents	3	1, 4, 5, 8	1.1, 3.1, 3.3,
43.	Integrate valuation (physical planning context) of Biodiversity Conservation / Nature protection in the frame of Terms of References for preparing physical planning documents	3, 7	1, 4, 5, 8	1.1, 3.1, 3.3,
44.	Integrate measures / requirements of Biodiversity Conservation / Nature protection into main development sectors analyzed in the frame of physical planning documents	3, 7	1, 4, 5, 8	1.1, 3.1, 3.3,
45.	Integrate measures / requirements of Biodiversity Conservation / Nature protection into plans for development road / traffic infrastructure	3, 7	1, 4, 5, 8	1.1, 3.1, 3.3,
46.	Provide Analyses of road / traffic infrastructure impacts on endangered water / marsh birds	-	1, 2, 5, 8	1.1, 3.1,
47.	Enable cooperation between sectors nature protection and traffic on establishing biodiversity monitoring activities	2, 3, 7	1, 2, 4, 5, 8	1.1, 2.1, 3.1, 3.3,
48.	Integrate measures / requirements for protection of species, habitats and landscapes into plans for development energy production facilities	3, 7, 13	1, 2, 4, 5, 8	1.1, 3.1, 3.3,
49.	Empower Biodiversity Conservation / Nature protection principles in the procedures for analyzing impacts on environment from Hydroelectricity Plants on Moraca river	3, 7, 13	1, 2, 4, (5), 8	1.1, 3.1, 3.3, 4.1, 4.3
50.	Putting under protection new protected natural assets in order to achieve goal to protect 10% of national territory , as it is given in the National Strategy for Sustainable Development and repeated in the Physical	4, 5, 7, 13, 16	1, 2, 4, (5), 8	1.1, 2.1, 3.1, 4.1, 4.3

	Plan of Montenegro until 2020.			
51.	Revision of the status, category, regime and administrative borders for existing protected natural assets	4, 5, 7, 13, 16	1, 2, 4, (5), 8	1.1, 3.1, 4. 1, 4.3
52.	Establish managers (direct management authorities) for all protected natural assets	15	1, 4, 5, 8	1.1, 3.1, 4. 1, 4.3
53.	Provide participation of local communities in management structures of protected natural assets, priority of national Parks.	9	1, 4, 5, 8, 9	1.1, 3.1, 4. 1, 4.3
54.	Carrying capacity analyses for national Parks	3	1, 4, 5, 7, 8	1.1, 3.1,

APPENDIX IV

A DRAFT OF NATIONAL BIODIVERSITY INDICATORS

APPENDIX IV.1

METHOD OF DEVELOPMENT OF THE NATIONAL BIODIVERSITY INDICATORS LIST OF MONTENEGRO

For the purpose of preparing this document, provisional / initial Biodiversity Indicator Lists were formulated that should be considered as starting point for further discussions on determining adequate and most acceptable / feasible list of National Biodiversity Indicators. To certain extent, formulation of this List (see appendix IV. 2) has been done with consulting European indicators of biodiversity⁵⁵, but further discussions among relevant institutions / experts is required.

⁵⁵ Defined by the European Environment Agency (EEA), through the Streamlining European Biodiversity Indicators Programme

APPENDIX IV.2

REVIEW OF NATIONAL BIODIVERSITY INDICATORS

Provisional list of national biodiversity indicators in Montenegro

Since National Biodiversity Indicator List has not been developed so far, here are proposed only those indicators that author solely identified while prepared this document, as follows:

1. *Protected Natural Assets / Protected Area Coverage* shows a change in the number and area of protected areas over the time. Establishment of protected areas is a direct response of the society concerning threats to valuable nature. Increase in the number and area of protected areas on a time scale indicate degree of care that society is giving to the protection of nature. Possible lifting of the protection of some areas indicates loss of attributes for which the area was protected.
2. *Area of the Ecological Network Natura 2000* shows the number and surface of areas in the Ecological Network that fulfill EU standards for protection of relevant species and habitats. Establishment of the Ecological Network in Montenegro is a direct response of the society concerning the loss of biodiversity (particular species and habitat types).
3. *Fragmentation of natural and seminatural areas* shows a change in the average size of natural and seminatural areas based on maps of land cover.
4. Decrease in the average size of plot points to the conversion of natural and seminatural areas (forests, pastures, agricultural mosaics, seminatural areas, freshwater and wetlands) in the artificial or their fragmentation by the road construction.
5. *Number of visitors in protected areas* is an indicator that follows the trend of the number of visitors to national parks and other protected natural assets, which can negatively affect their natural values. By increasing the number of visitors, the need for tourist facilities and utilities (transport infrastructure, drainage, energy, and construction) also increases and this can have a negative effect on biodiversity.
6. *Funding of biodiversity protection and conservation* is indicator that shows the trend of funds used for the protection and biodiversity conservation in Montenegro per year, which represents a direct response to the pressures of society on biodiversity.

However, this list of indicators could be enlarged with indicators that Ministry for Spatial Planning and Environment and Environmental Protection Agency have considered in 2009 as potential National Indicators, but never officially approved, as follows

- ❖ *Threatened and protected species*
- ❖ *Designated areas*

- ❖ *Species diversity*
- ❖ *Proportion of terrestrial area protected, total by ecological region*
- ❖ *Management effectiveness of protected areas*
- ❖ *Area of selected key ecosystems*
- ❖ *Fragmentation of habitat*
- ❖ *Change in threat status of species*
- ❖ *Abundance of key species*
- ❖ *Abundance of invasive species*
- ❖ *The appearance and movement of temperature-sensitive species*

Note: These indicators are given in the „last working“ formulation / meaning (including their duplications) that Ministry provided as such for this Report.

- Some indicators⁵⁶ of the state of nature conservation are given in the *Rulebook on the content of Annual Monitoring Programme for State of Nature and conditions that have to be met by companies authorized for conducting that monitoring (Official Gazette of Montenegro, no. 35/10)*.

⁵⁶ In the article 2 of the Regulation are considered, among others, following indicators: abundance and distribution of indicator animal / plant / mushroom species, invasive allochthonous species, protected species, species of particular interest for EU, threatened habitat types, Natura 2000 / Emerald sites, ecologically important sites, protected natural assets, climate change and biodiversity, integrity of natural and semi-natural ecosystems, population of birds at agriculture land , dry / death wood in the forest

APPENDIX IV.3

THE LIST OF INDICATORS OF OTHER THEMATIC AREAS RELATED TO BIODIVERSITY INDICATORS

Similar to previous, sectoral indicators related to biodiversity were identified as follows:

Air

Exposure to acidification, eutrophication and ground – level ozone pollution

Water

1. Quality of ground waters
2. Eutrophication of rivers/lakes
3. Freshwater quality
4. Ecological state of watercourses (rivers/lakes)
5. Hazardous substances in inland waters
6. Trophic index

Marine waters

7. Presence of hazardous substances in sediment of transitional, coastal and marine waters
8. Discharges of hazardous substances in transitional and coastal waters
9. Ballast waters (annual quantities)
10. Capacity of fishing fleet
11. Catch (quantity) of fish and other marine organisms
12. Mariculture production (annual quantities)

Agriculture

13. Areas under organic farming
14. Consumption of pesticides
15. Permanent conversion of land cover

Forestry

16. Surface area of forests and forest lands with respect to the designation, method of management and ownership
17. Using of pesticides in forestry Tourism

Tourism

18. Water use in tourism industry

Mineral resources

19. Extraction (quantity) of natural mineral resources: sand, clay, gravel, stone and marl