



REPUBLIC OF BULGARIA
MINISTRY OF ENVIRONMENT AND WATER

FIFTH NATIONAL REPORT

2009 – 2013

CONVENTION ON BIOLOGICAL DIVERSITY



22 Maria Louiza Blvd., Sofia 1000
Tel.: 940 6000, Fax: (+359 2) 940 6127

CONTENTS

SUMMARY	3
I. UPDATED INFORMATION ON THE STATUS, TRENDS AND THREATS TO BIODIVERSITY AND CONSEQUENCES FOR HUMAN WELL-BEING	14
1. Importance of biodiversity for the country	14
2. Major changes in the status and trends of biodiversity in Bulgaria	14
2.1. Flora and vegetation	14
2.2. Fauna	16
2.2.1. Species diversity	16
2.2.2. Status and trends in populations	19
2.3. Mycota	21
2.4. Habitat Diversity	22
2.5. Biological resources in Bulgaria	22
2.5.1. Forests	22
2.5.2. Game resources	23
2.5.3. Fish resources	25
2.5.3.1. Commercial and recreational fishing	25
2.5.3.2. Aquaculture	29
2.6. Genetic resources	30
2.6.1. Genetic resources in agriculture	31
2.6.2. Genetic resources in stock breeding	31
2.6.3. Genetic resources in microbiology	32
3. Threats to biodiversity in Bulgaria	33
3.1. Deterioration, fragmentation and loss of habitats	33
3.1.1. Freshwater and brackish habitats	33
3.1.2. Marine habitats	33
3.1.3. Terrestrial habitats	34
3.1.4. Subterranean habitats (caves)	34
3.2. Overexploitation of biological and genetic resources	34
3.3. Pollution of air, soils and water	35
3.4. Invasive alien species	36
3.5. Climate change	37
3.6. Threats to biodiversity in protected areas	40
4. Socio-economic and cultural implications of changes in biodiversity and	41

ecosystem services in Bulgaria	
II. NATIONAL STRATEGY AND ACTION PLAN FOR BIOLOGICAL DIVERSITY – IMPLEMENTATION AND INTEGRATION OF BIODIVERSITY IN SECTORAL POLICIES	45
5. Policies and goals related to biodiversity in Bulgaria	45
6. Updating the national biodiversity targets according to the Strategic Plan for Biodiversity 2011–2020 at CBD and the Aichi Targets	49
7. Main results from the implementation of the national biodiversity objectives and their integration in the sectoral policies	50
III. Implementation of the Strategic Plan for Biodiversity (2011–2020) and the Aichi targets of the Convention on Biological Diversity	56
8. Achieved results from the implementation of the Aichi targets for conservation and sustainable use of biodiversity	56
9. Main weaknesses and challenges	104
10. Progress in the implementation of the 2015 targets of the Millenium Development Goals	109
IV. Annexes	
Annex 1. List of institutions, organizations and individuals who provided information for the report	114
Annex 2. Additional sources of information	115

SUMMARY

The Fifth National Report on the Implementation of the Convention on Biological Diversity prepared by Republic of Bulgaria as a Party to the Convention on Biological Diversity covers the 2009–2013 period.

In accordance with the guidelines, it contains information on:

- the current status of and threats to biodiversity, and its socio-economic impact (Part 1);
- the implementation of the National Biodiversity Conservation Strategy and the Second Biodiversity Action Plan of Bulgaria (2005–2010) along with a reference to the National Program for Development: Bulgaria 2020 and other sectors of the economy (Part 2);
- progress in the implementation of the Strategic Plan for Biodiversity 2011–2020 and its Aichi Targets, adopted by the Parties in 2010 in Nagoya (Part 3).

Bulgaria is one of the richest in biodiversity countries in Europe. It encompasses parts of the Alpine, Black Sea and Continental biogeographic regions. The number of Balkan and Bulgarian endemics is relatively high. To protect this biodiversity Bulgaria has established a National ecological network (including the European ecological network Natura 2000 and protected areas) which is ca. 34 % of the national territory – one of the largest in Europe.

STATUS OF BIODIVERSITY

More than 3100 algae from ca. 580 genera, 15 classes and 7 divisions have been discovered so far. The bryoflora of Bulgaria contains 754 species of which 34% are of conservation importance (CR – 18, EN – 25, VU – 124 and NT – 20). Pteridophytes and seed plants (incl. neophytes) are ca. 4100 species. 270 are Balkan and 174 are Bulgarian endemics. Petrova & Vladimirov (2009) list 801 red species of which EX – 1, RE – 12, CR – 208, EN – 297, VU – 204, NT – 79, which constitute 19.5% of the national flora. So far, ca. 340 neophytes have been registered in Bulgaria, 16 of which – only in the period 2009–2013. Plant communities are represented by more than 1250 associations and over 300 formations. Forest communities prevail in the country and reach ca. 34%.

Animals in Bulgaria amount to ca. 30 359 species from 28 types and 75 classes which is only 50% of the estimated animal diversity in the country. Best studied are the vertebrates. The Bulgarian herpetofauna ranks third in Europe in species richness after Spain and Greece. Ca. 1200 animal species are endemic (790 Bulgarian and 410 Balkan endemics). More than 780 cave species occur in Bulgaria of which 110 are typical troglobionts. The new edition of the Red Data Book of Bulgaria, vol. 2. Animals includes 442 species: EX – 30, CR – 87, EN – 107, VU – 137, NT – 14, LC – 42 and DD – 25.

The number of invasive alien species has increased in the past years. Most vulnerable to invasions are the water ecosystems, riparian and man-made habitats.

The trends in the populations of some species are informative for the rate of biodiversity state/loss (common birds index) or the sustainable management of agricultural land. The general trend shows that the number of birds in agricultural lands has dropped down by 12% in the period 2005–2011 r.

The fungi and fungus-like organisms are considerably less studied. So far more than 4900 species have been registered but the expected number for Bulgaria can surplus 20 670. In the last 5 years 5 volumes of the multivolume edition of “Fungi in Bulgaria” have been published with original data for more than 470 species (Denchev 2012). The Red list of fungi in Bulgaria contains 215 species of ascomycetes and basidiomycetes of which CR – 37, EN – 105, VU – 40, NT – 14 and DD – 19.

According to the Palaearctic classification 977 habitat types from all hierarchical types occur in Bulgaria. The number of habitats at elementary level is 542 of which 96 are

restricted only to Bulgaria. Ninety of the habitats that occur in Bulgaria are in Annex I of the Habitats Directive constituting 38.86% of the whole list. The Red Data Book, vol. 3 Habitats (2012) contains 166 habitats classified as follows: CR – 28, EN – 71, VU – 47, NT – 20. According to the National Priority Actions Framework for Natura 2000 the total area of the network is 4 053 941.44 ha of which 56.47% are forests, 32.35% agricultural land and the rest is other types of land. Cultivated land, pastures and meadows are the prevailing types of agricultural land in NATURA 2000 network.

The following groups of **biological resources** (sensu CBD) are utilized in Bulgaria: forests – timber and non-timber resources; game species (16 mammal and 26 bird species); more than 40 species of Black Sea and fresh-water fish, molluscs, crabs, and snails.

Bulgaria has a rich pool of local **genetic resources**. In the National Seed Gene Bank in Sadovo 57 684 seed samples are preserved of which 13 269 samples are of Bulgarian origin. This constitutes the largest collection in SE Europe (<http://eurisco.ecpgr.org>). More than 60 breeds and tens of selection lines and hybrids of cattle, bulls, sheep, goats, horses, pigs, bees, dogs and birds have been registered in Bulgaria. Of the existing breeds 45 are local and 33 are autochthonous.

The total **aquaculture** production in the period 2009–2012 amounts to the average of 8427.4 t per year with its peak in 2010. Largest quantities are produced from rainbow trout, carp, and bighead carp, followed by grass carp, silver carp and catfish. The main species for marine aquaculture is the blue mussel.

The main threats for biodiversity can be classified as follows:

1. **Deterioration, fragmentation and loss of habitats.** Main driving forces are human activities such as overexploitation of natural resources and turning grasslands into arable land. In the underground habitats most dangerous is the anthropogenic pressure that can disturb the bats colonies.
2. **Overexploitation of biological resources and loss of genetic resources.** Biodiversity is subject to various businesses. The forest resources are threatened by non-regulated timber exploitation, poaching, illegal export of herbs and fungi, unregulated grazing. The main threats for the game species are change of habitats, change of structure and ways of use of agricultural crops and poaching. The fish resources are decreasing due to their overexploitation, lack of general program for regular fish stocking and lack of regular monitoring of fish- and non-fish resources. The loss of local breeds and plant varieties is mainly due to the intensification of production, limited selection to few species, introduction of alien breeds and varieties that replace the local ones.
3. **Pollution of air, soil and water.** Major soil pollutants are the synthetic fertilizers, pesticides, waste deposits and industrial waste accumulation. Major air pollutants are the industry, transport, noise in urban areas, military areas, airports, etc. The water quality depends on the ecological state and chemical composition of the surface waters and the quantities and chemical composition of the underground water. By 2012 of all 759 surface water bodies only 36 (4.7%) are of very good quality while of all 177 underground water bodies 123 are in good chemical conditions.
4. **Invasive alien species.** About 60 angiosperms are considered invasive or potentially invasive species that are competing with local flora, cause changes in the composition and structure of plant communities, etc. Of all 347 areal terrestrial arthropods that occur in Bulgaria 52 species are widely distributed and have negative impact on forestry and agriculture, horticulture and glass-house horticulture. Of all 29 alien marine invertebrates in the Black Sea 9 are invasive and they can be predators, can compete with local species or change habitats. The 3 fresh-water shells (*Corbicula fluminea*, *Anodonta woodiana*, and *Dreissena rostriformis bugensis*) together with

Dreissena polymorpha are among the most aggressive alien species in Europe. They might cause reduction of the habitat of other species, changes in the physic-chemical characteristic of the water, change the structure and number of bacterio-, phyto- and zooplankton, changes in the trophic structure of the macrozoobenthos and fish populations. As a potentially invasive vertebrate species can be considered the red-cheek turtle (*Trachemys scripta elegans*), which is an active predator and might compete local species and negatively impact the ecosystems as a whole.

5. **Climate changes.** Bulgaria is in one of the most vulnerable to climate change geographic regions. The *precipitation and temperature index* shows that the average terrestrial temperature has raised with 1.5°C in the period 1971–2011. In the same time the precipitation and snow cover are relatively constant. The impact of climate change on biodiversity is demonstrated by the indicator changes in the *wintering water birds in Bulgaria*. This number varies considerably in the past five years, e.g. in 2012 it is 46.87% smaller than in 2011. This variation depends mainly on the meteorological conditions in Bulgaria and northwards. Recently, also shifting of the peaks in the number of some water birds (mainly geese, ducks, etc.) occurs.

ASSESSING IMPLEMENTATION OF NBSAPs AND PROGRESS IN MAINSTREAMING OF BIODIVERSITY

2009–2013 is the first 5-year period of CBD implementation when Bulgaria is a member of the European Union (EU). This has been a period of rapid changes in state institutions and building their capacity.

The major strategic document that outlines the socio-economic development of Bulgaria is the **National Program for Development: Bulgaria 2020**. Among national priorities is environmental protection (incl. biodiversity), sustainable use of biological resources and development of agriculture and fish sectors. Biodiversity conservation has been among the priority goals of the **National Plan for Development of R Bulgaria 2007–2013 r.** and is included in the **National Program for Reforms of Bulgaria** within the EU. The **National Environmental Strategy 2009–2018** and the related action plan envisage actions for limitation and halting of biodiversity loss through its sustainable management.

The specific work related to biodiversity conservation follows the major priorities of the National Strategy for Biodiversity Conservation (1998) and the second Biodiversity Action Plan (2005–2010).

After the COP 10 Decision X/2 and the adoption of the Strategic Plan for Biodiversity 2011–2020 Bulgaria as a party has outlined a set of national priorities to implement the Aichi targets. Apart from the general goal to effectively implement them some of the major **national priorities** are:

- Elaboration of a new Strategy for Biodiversity Conservation and the related Biodiversity Action Plan (2014–2020)
- Further development and management of the National Ecological Network
- Elaboration of management plans for all protected areas and effective management
- Elaboration of National Priority Framework for Natura 2000 network until 2020
- Elaboration of action plans for endangered species
- Ratification and implementation of the Nagoya Protocol
- Mobilisation of the financial resources relative to BD
- Effective use of the resources of the new Operational Programme (OP) Environment of Bulgaria

The major challenges that has been identified during the period covered by the 5th National report can be summarized as follows:

- Low level of preparation for the designation of the Natura 2000 sites; lack of management plans for a number of Nature Parks; existing systematic problems in the approval and implementation of investment projects and plans, especially along the Black Sea Coast.
- Lagging behind with the timely implementation of OP Environment, especially when big investments, biodiversity related projects have been concerned at municipality level.
- Major gaps in the climate change policy of the country (missing national plan for participation in the EU emissions trading system; missing national scheme for international emission trading, missing of administrative structure responsible for the climate change policy).
- Lack of national targeted funding for biodiversity research since biodiversity is not among the priority topics of the Bulgarian Science Fund.
- To overcome these obstacles the Ministry of Environment and Water has started a constant dialogue with all its partners in Bulgaria and the EC; control and reporting before the society; conducting a policy of transparency and competitive environment for the business and citizens. To achieve these the Ministry started in 2009 and successfully implemented a number of reforms to concentrate the efforts on the achievement of the national priorities that are important not only for biodiversity and environment but also for the well-being and health of the Bulgarian citizens.

IMPLEMENTATION OF THE STRATEGIC PLAN FOR BIODIVERSITY AND PROGRESS TOWARDS AICHI TARGETS

The following major results have been achieved during the reporting period in Bulgaria with reference to the Aichi Biodiversity Targets:

Strategic Goal A: Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society

The legal framework related to biodiversity has been developed together with more than 100 related regulations, ordinances and methodologies. To harmonize them with the global and EU priorities the necessary amendments have been made. Biodiversity issues have been integrated in all program documents of the country that have been implemented in the reporting period and in the new ones that will cover the period until 2020, e.g. National Regional Development Strategy (2012–2020), National Rural Development Program (2014–2020), National Action Plan for the Conservation of Wetlands in Bulgaria (2013–2022), National Forestry Strategy (2013–2020), National Program for Fishery and Aquaculture (2007–2013) and the related Action Plan, National Strategy for Sustainable Development of Tourism (2009–2013), Third National Plan on Climate Change (2013–2020), etc.

As a new member of the European Union (EU), Bulgaria's major funding instruments are the European structural funds. Their use is regulated by the operational programs of the country. Based on the National Plan for Development (2007–2013) and the related National Strategic Referent Framework, the Operational programmes have been elaborated. Biodiversity issues have been integrated specifically in three of them: OP "Environment", Rural Development Program and OP for development of the Fishery sector. Among them the first one plays the major role especially with its Axis 3. Conservation and restoration of biodiversity.

The Rural Development Program supports the agroecological measures and maintenance of Natura 2000 network in rural areas. For the new programming period a larger funding opportunities are envisaged for Natura 2000 sites, high nature value farmlands and protection of species in these areas. Same program supports also activities related to the restoration of the forest potential and of the country and implementation of prevention

measures as well as measures related to the implementation of the Water Framework Directive in Bulgaria.

The OP for development of the Fishery sector corresponds to the European Fishery Fund. Axis 3 provides measures for the maintenance of the natural fish resources.

The implementation of OP “Regional Development” and OP “Transport” is coherent to the national policy for biodiversity conservation in their part related to the obligatory assessment of the impact of the investments on the environment and biodiversity in particular.

The public concern and involvement in biodiversity conservation and sustainable management are important prerequisites for the success of the implemented actions. The public awareness measures and campaigns have been related specifically to the implemented projects and activities related to promotion of biodiversity and the ecosystem services, establishment and management of the National Ecological Network and more specifically designation of Natura 2000 sites; best practices in management of protected areas and species implemented by Park directorates, NGOs and research institutions; promotion of the national policy aspects related to biodiversity issues. Diverse target groups have been addressed with information about the implemented activities in the reporting period through specific websites, public awareness events, printed materials.

Increase of capacity for the implementation of biodiversity related actions

Administrative capacity. For the implementation of the national programs and action plans related to biodiversity specific departments in the respective state authorities have been established at national, regional and local levels. Inter-institutional expert groups have been established – related to CBD implementation (2008), Climate change and biodiversity (2009), Nagoya Protocol (2011) and Invasive species (2011).

Academic and research institutions. Bulgarian Academy of Sciences and Agricultural Academy together with the Universities in the country have taken measures to adequately implement biodiversity issues in their strategic development programs as well as their annual research plans. Additionally, in 2010 a new structure was established – Institute of Biodiversity and Ecosystem Research at the Bulgarian Academy of Sciences. The research activities implemented by its staff are dedicated to theoretical and applied biodiversity issues of national priority.

Strategic Goal B: Reduce the direct pressures on biodiversity and promote sustainable use

To reduce the direct pressure on biodiversity and promoting its sustainable use, the following measures and activities from the National Biodiversity Action Plan have been implemented: development of the legal framework, elaboration of plans, strategies and methodologies, conduction biodiversity monitoring. They are supported by measures and actions from the relevant sectors like forestry, waters, agriculture, fishery, aquaculture, etc. In the period 2009–

预览已结束，完整报告链接和二维码如下：

https://www.yunbaogao.cn/report/index/report?reportId=5_16176

