

**FIFTH NATIONAL REPORT OF UKRAINE
TO THE CONVENTION ON BIOLOGICAL DIVERSITY**



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EXECUTIVE SUMMARY

This Report is the Fifth National Report of Ukraine on implementation of provisions of the Convention on Biological Diversity and it describes the changes of biodiversity status for the reporting period.

Biodiversity plays an important role in economic and social development the state. Occupying less than 6% of Europe's area Ukraine possesses 35% of its biodiversity. It is associated with favourable location of the country – many ways of migration and nature zones are in the country. Biota (over 70 000 species) includes many rare, relict and endemic species. Certain species of flora and fauna, which require special protection, are included in the Red Book of Ukraine. The latest edition of the Red Book of Ukraine (2009) contains 826 species of flora and 542 species of fauna.

Ukraine possesses a considerable natural potential. A high role is played by forests, which occupy 16% of the territory of Ukraine. Stockpiling and sale of timber is an important income item that ensures profit to the state and population.

The territory of Ukraine is crossed by several large rivers as Dnipro, Dniester, Pivdenny Buh, Danube, which are attributed to the basin of the Black and Azov Seas and they feed the most part of territory of the state. Water living resources being produced from these and other water sources are important component of ensuring the foodstuff safety of Ukraine.

For Ukraine as an agrarian state, which possesses a powerful resource potential for agriculture, lands and genetic diversity are one of the national wealth. Agricultural development of the territory reaches 72%; level of ploughing-up of lands is 56%. The largest stock of arable lands belongs to oblasts located in forest-steppe and steppe zones (centre, east and south of Ukraine). Among negative trends, which need to be corrected, one can observe replacement of autochthonic cultural genetic diversity due to increasing of import of domestic breeds of animals and kinds of plants as well as decrease of number of species related to cultivated plants that was caused by privatization and development of larger territories earlier occupied by wild census, in particular, along banks of rivers and sea coasts.

In Ukraine, the measures, aimed at improving the condition of biodiversity are continuously implemented, and the legislative framework in the field of protection, conservation and sustainable use of biodiversity is improved. The legislation on ecological network of Ukraine, protection of flora and fauna is developed. One of the major policy papers in the field of protection, restoration and sustainable use of biodiversity is the State Programme for Development of the National Ecological Network of Ukraine for 2000-2015. The main purpose of the Program is to enlarge the land area of the country with natural landscapes to a level sufficient to maintain their diversity, close to their inherent natural state, and shaping their territorially unified system established to provide opportunities for natural ways of migration and propagation of species of plants and animals, which would ensure conservation of natural ecosystems, species of flora and fauna and their populations. Under this program a number of approved regional programmes and schemes of development of

ecological network increases; as of 01.01.2013, the programme for development of ecological network of the Autonomous Republic of Crimea and 12 regional programmes for development of the regional ecological network are approved, 6 regional schemes of development of ecological network, including the scheme of ecological network of the Autonomous Republic of Crimea, and 46 local schemes of development of ecological network are adopted.

On December 21, 2010 the Verkhovna Rada (Parliament) of Ukraine approved the Law of Ukraine “On Main Principles (Strategy) of the National Ecological Policy till 2020” (hereinafter referred to as the Strategy). The Strategy defines the main tasks under 7 Goals. Biodiversity is highlighted in *Goal 5. Prevention of loss of biological and landscape diversity and development of ecological network*. To implement the Strategy the Cabinet of Ministers of Ukraine, by its Resolution No. 577-r of May 25, 2011, approved the National Environment Protection Action Plan for 2011-2015 (hereinafter referred to as the National Action Plan). The targets and tasks defined by the Strategy and the National Action Plan were developed taking into consideration the Strategic Plan for Biodiversity 2011-2020, including Aichi Biodiversity Targets. Under *Goal 5. Prevention of loss of biological and landscape diversity and the development of ecological network*. The National Action Plan envisages the activities that correspond to the Aichi Biodiversity Targets, among which we can highlight the following:

- scientific research on preparation of descriptions, diagrams and concepts for creation of Dnistrovsky, South-Ukrainian, Siversky-Donetsky, Buzky, Halytsky-Slobozhansky ecological corridors;

- defining the territories, on which it is planned to create representative and interconnected nature protection territories by 2020, covering at least 17 per cent of terrain and inland waters and 10 per cent of coastal and marine areas;

- creating the new, expanding the existing territories and sites of nature and reserve fund located on land and in seawater area;

- conducting awareness activities aimed at supporting creation and expansion of territories and sites of nature and reserve fund by residents;

- extending the area of national ecological network to 41 per cent of the total territory of the country;

- approving the consolidated diagram of the ecological network development.

The activities focused on conservation of especially valuable natural systems and sites for further development of territories and sites of nature and reserve fund of national and local significance are continuously underway. Locations of growth and habitation of plants and animals listed in the Red Book of Ukraine, regionally rare species, priority wetlands of international importance are being defined, and territories to define the key elements of ecological network are being examined.

In 2010-2012 more than 150 sites, which received the status of sites-nominees of the Emerald Network of Europe, were identified; by now the materials on 20 new potential sites to the Emerald Network of Europe have been prepared.

As a result, one can observe a positive dynamics in increased areas of preserves and national nature parks. The area of nature and reserve fund in the country increased by 609.4 thousand hectares, from 5.04% to 6.05% of the total area of the

country; the new marine reserve “Small Phyllophora Field” was created. Positive dynamics of nature and reserve fund was possible due to regular financing of the activities on creation and expansion of nature protection territories. Despite the considerable efforts and resources involved, the growth rates of protected area extension remain insufficient to achieve the planned indicators of conservation coverage - 17 per cent of land and inland waters and 10 per cent of coastal and marine areas.

In addition the activities on creation and expansion of natural reserve fund sites within the forested ecosystems are underway. One can observe a positive dynamics of increasing forest coverage of the territory - as of 01.01.2013 the preserved areas in forests reached 16.3% (as of 01.01.2009, the share of preserved forests amounted to 14.7%).

Certification of sub-population of the bison was conducted and the plan to disseminate them in Ukraine was developed based on the assessment of the status, food reserve and optimum number of the sub-populations; the activities, including the information and awareness ones with regard to conservation of the bison have been developed and implemented.

Important ecological corridors, which are the ways of migration of the brown bears, individual plots of their tenure and den were determined and mapped, the electronic database was developed, and measures to save the bear, including the information and awareness ones were developed and introduced.

In recent years, the share of forestry areas, which are organized in a sustainable way, increases. For example, a number of hunting species of animals increased due to sustainable management of hunting in some regions; the area of certified forests enlarged (now it equals to 1.209 million hectares or 12% of the forest land area of Ukraine). The total number of fur and hooved game animals in Ukraine continues to decline, a number of hunting birds varies.

The main threat to biodiversity in forests is consequences of climate change. The processes of climate change cause increase of a number of extreme natural phenomena, which affect the forests and forestry (increasing forest fires; harmful insects and disease outbreaks; spread of windfalls and hurricanes; worsening the drought situation).

Poaching and unauthorised forest felling is also one of the major threats to biodiversity.

Deterioration of forest cover, despite a slight increase in its area, growing area of eroded soils, lowering the amount of hunting species remain the negative trends for biodiversity. Due to decrease of a number of livestock throughout the country, succession changes happen in the steppe and flood ecosystems. Lack of grazing leads to overgrowing march ecosystems with brushwood, which in turn leads to a reduction of areas of natural habitats for many species of animals and plants, including those registered in the Red Book of Ukraine.

One can observe a replacement of the autochthonous cultural genetic diversity because of growing imports of domestic animal breeds and plant varieties. Privatization and development of larger territories, previously occupied by wild

cenosis, especially along the banks of rivers, seashores, leads to decrease of a number of species of related cultivated plants.

There is an increase of invasive species of plants and animals.

In 2011-2012, the Cabinet of Ministers of Ukraine approved granting to 19 wetlands in Ukraine the status of wetlands of international importance; the relevant materials were submitted to the Secretariat of the Ramsar Convention for inclusion of these lands to the list of wetlands of international importance (in addition to 33 Ukrainian wetlands, which are already included in the list of wetlands of international importance).

At the same time, the natural habitats of animals and places of growth of plants are being deteriorated as a result of artificial drainage or watering of areas, industrial, residential and suburban construction and other anthropogenic effect. One can observe a decrease of areas of wetlands, steppe ecosystems, natural forest ecosystems, which are not attributed to nature protection territories, but which are important for conservation of biodiversity.

To terminate the deterioration processes and to ensure stable functioning of agricultural landscapes the activities are carried out to exclude the deteriorated lands from turnover, to develop and implement the crop rotations taking into consideration soil protection ability of plants, soil protection and resource-saving technologies, to create new forests and protective forest plantations, to develop reserve areas and lands of nature protection importance.

Adoption of the State Target Programme for Water Economy Development and the Dnipro River Basin Ecological Rehabilitation until 2021 is an important action, namely the introduction of integrated water resources management based on a river basin principle. It is envisaged that implementation of this Program will help remedy the negative trends of deterioration of water quality in rivers caused by man-made factors, including pollution of rivers as a result of economic activities.

The Information and Analytical Centre of the National Environment Monitoring System of the Ministry of Ecology and Natural Resources has been commissioned, which contemplated for collection and accumulation of data on biodiversity.

In recent years, due to the pollution of the Black Sea coastal areas, a significant change in composition of the fish fauna takes place (dominated by sprat and anchovy). At the same time, the population of the valuable species – sturgeon, herring, mullet, salmon, halibut, exposed to anthropogenic influence, require protection and artificial reproduction.

In Ukraine, certain positive shifts have been made towards achieving the objectives of sustainable development of environment. The volumes of emissions and discharges of pollutants in the environment have been reduced significantly, although these processes are largely affected by slowing economic growth. At the same time, an ability to perform, in full, the obligations regarding centralized water supply to the population residing in rural areas remains questionable.

The State's economic development due to extensive use of natural resources remains a priority one. However, the value of biodiversity and the need for its use on the basis of sustainable development is gradually integrated into all areas of human activity. Implementation of the ecosystem approach to determine the value of biodiversity was launched. The Aichi Biodiversity Targets are mirrored in sectoral bylaws and policy papers of this country, the tasks of preserving biodiversity are envisaged in industrial and agricultural sectors. Awareness of the value of biodiversity gradually begins to appear also in financial systems. It is planned to allocate UAH 360 million from the State Budget for the activities within the National Programme for Development of the National Ecological Network and the National Action Plan under Goal 5 of the Strategy for 2011-2015.

As a part of updating of biodiversity national action plans in accordance with the Aichi Biodiversity Targets, it is envisaged to, in a more complete manner, integrate such plans into the Law of Ukraine “On Main Principles (Strategy) of the National Ecological Policy of Ukraine till 2020” and, accordingly, into the National Environment Protection Action Plan for 2016-2020.

The actions focused on integration of the provisions of the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity into the current Ukrainian legislation and its ratification (The Nagoya Protocol was signed on behalf of Ukraine in 2011) are being implemented).

PART I. UPDATED INFORMATION ON THE STATUS, TRENDS AND THREATS TO BIODIVERSITY AND THE IMPLICATIONS FOR HUMAN WELL-BEING

Question 1. The importance of biodiversity for Ukraine

Biodiversity enables the existence and development of many ecosystem services: harvesting and selling of reed and forest resources, hunting, fishing, herding cattle, tourist and recreational services, etc.

For Ukraine as an agrarian state, which has a powerful resource potential for farming and livestock breeding, in particular, biological diversity of species and breeds of animals is the main prerequisite of efficient use of land and human resources, intensification of investment activities, sustainable development of rural areas and food security. Diversity of the animal genetic resources will play even more important role in the future, when the livestock farmers will face the challenge of adaptation of animals to the constant changes in social, economic and environmental conditions, including to possible climate changes.

Forests, which occupy 16.3% of Ukraine's territory, play a significant role in the economic development of this country. Harvesting and sale of wood is an important profitable item that provides income to the State and the population.

Several major rivers flow through the territory of Ukraine, such as Dnipro, Dniester, Pivdenny Buh, the Danube, that are attributed to the basin of the Black Sea and the Sea of Azov and feed the major territory of the State. Aquatic living resources that are extracted from these and other water sources are essential components in provision of the food security of Ukraine.

Question 2. Major changes in the status and trends of biodiversity, which took place in the Country

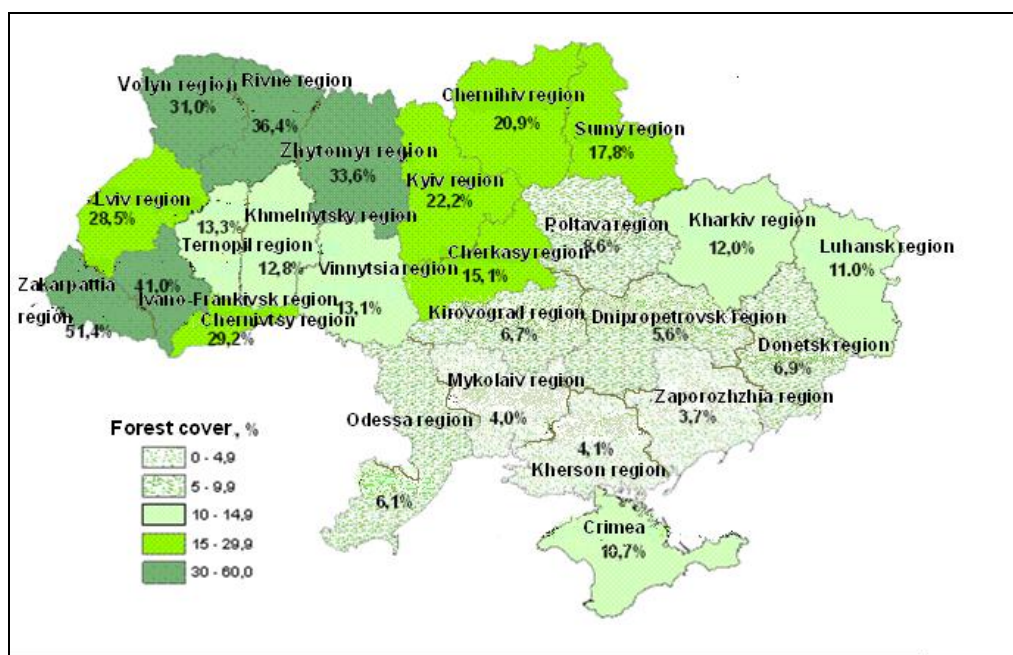
The trends of changes in the main ecological networks

The forest coverage of the territory of Ukraine as of 2013 amounts to 16%. Forest landscapes are in the lead in the structure of nature and reserve fund of the state making up a third of its territories. In virtually all regions, the share of preserved area in the forests is higher than the public share. It should be noted that, for the last 30 years the area of territories and sites of the nature and reserve fund on forest lands overall increased 3.8-fold.

For 2009-2012 the share of preserved forests managed by the State Forestry Agency increased from 14.7% to 16.3%; the area of territories and sites of the nature and reserve fund in the forests in question increased by 226 thousand hectares. Besides, for the period since 1961, the share of forests with restricted conditions of forest exploitation has increased from 34% to almost 50%. Final felling has been forbidden on already 40% of lands covered with forest vegetation all over Ukraine.

However, each year a large portion of wood is being cut through the sanitary measures, which harm biodiversity.

In many cases pine monocultures, which do not represent the most valuable forestlands in the country, are subject to conservation. It should be also mentioned that sanitary felling in Ukrainian forests is not properly regulated and controlled in forests of Ukraine. The current sanitary rules in Ukrainian forests govern sanitary actions in any woods. For nature and reserve fund this means that all major protected sites are age-old forests, hollowed trees and dead wood can be cut down in all protected forests and all other forests in the country. It is worth noting that after 2010 the forest sanitation on the territories of natural reserves is carried out with involvement of the Ministry of Ecology and Natural Resources that significantly reduced the amount of timber harvesting and reinforced control over loggings.



Forest cover of Ukraine's Territory per Administrative Oblasts (2011)

Hunting is run in a predominantly extensive way, therefore reduction in the volume of artificial breeding and release of hunting fauna in the nature, biotechnical activities, weakened protection of hunting grounds is observed. However, the trend of transition to sustainable hunting exists in some regions.

Because of reduced number of livestock throughout the country, succession changes happen in the steppe and flood ecosystems. Lack of grazing leads to overgrowing of marsh ecosystems with brushwood, which, in its turn, leads to decrease in a number of populations of many animal and plant species, including those listed in the Red Book.

Replacement of the autochthonous cultural genetic diversity is observed because of growing imports of domestic livestock breeds and varieties of plants. Privatization and development of more and more territories previously occupied by wild cenoses, especially along the banks of rivers, seashores, leads to decrease in a number of species of related cultivated plants.

One can state deterioration of water quality in the rivers of Prychornomoria (the Black Sea area) towards their mouth, which is caused by both natural factors (zonal salt content increase) and man-made factors (pollution of rivers because of economic activities).

In recent years, due to the pollution of the Black Sea coastal areas, significant change in composition of the ichthyofauna takes place (sprat and anchovy dominate). At the same time, the populations of valuable species – sturgeon, herring, mullet, salmon, halibut, exposed to anthropogenic effect, require protection and artificial reproduction.

A number of the invasive alien species increases. In recent years the following species: European beaver, racoon dog, jackal, American mink have been found only in the Carpathian Region. There is a probability of appearing five more species of mammals: southern horseshoe bat, little brown bat, noctule bat, white-striped pipistrelle, and raccoon. In addition, non-native species of fish have been found: light channel catfish, brown bullhead, East-Asian white amur, silver carp, South Chinese bighead, sunfish, rainbow trout and Amur sleeper.

Question 3. Main threat to biodiversity

Anthropogenic factors

Uncontrolled use of forest resources (deforestation), which violates the natural conditions of existence of rare species of plants and animals, is one of the main threats to biodiversity of forest ecological systems. Forest plantations are subject to negative impact caused by industrial pollutions and climate change.

Excessive exploitation of the steppes (plowing up, overgrazing, burning dry remnants of natural vegetation) leads to the destruction of natural steppe ecosystems, impairs the conditions of ensuring territorial cohesion of the areas with natural landscapes, which makes it difficult, and sometimes impossible, spatial processes of biological exchange on coenotic and genetic levels inherent in wild-life. Steppe vegetation is concentrated on the "non-farm lands", mainly along the rivers, gullies, ravines. Occurrence of threat to biodiversity of the typical meadow and steppe ecosystems of grassland located in the valleys of water sites outside of coastal protective lines, as a result of afforestation without appropriate studies and transferring such land plots by the local government into ownership of citizens for running private farms, is a characteristic trend of today. The loss of the steppe ecosystems is also observed due to their scientifically unjustified afforestation.

The main negative factors affecting aquatic and coastal ecosystems are increasing recreational pressure and pollution with insufficiently purified wastewater, intensifying eutrophication processes. Regulation of the Dnipro River and its tributaries has changed the natural mode of floods, led to a change in the level of ground waters. This leads to successions of forest biogeocoenoses, desertification - replacement of one biogeocoenosis with the other. Organic pollution of water reservoirs and violation of hydrological conditions of (small and medium) rivers in many areas results in blooming of water that negatively affects the hydrocoles and fish stocks in general. The main reason for degradation of the seabed biocoenoses is anchor trawl fishing.

Poaching and unauthorised fellings are major threats to biodiversity of the country.

The destruction of natural habitats of animals and plants is also caused by draining or watering areas, industrial, residential and suburban construction, etc. One

could observe a disastrous reduction of wetland areas, steppe ecosystems, natural forest ecosystems, which are the basis for the conservation of biodiversity.

Replacement of ancient local varieties and forms with bred varieties and hybrids continues; the pressure of foreign varieties and hybrids increases in the production, which in most cases is not substantiated by their greater productivity and quality in comparison with the native varieties and hybrids; the diversity of farmed varieties shrinks. Privatization and development of larger territories, previously occupied by wild cenosis, especially along the banks of rivers, seashores, leads to disappearance of the species related to cultivated plants. These factors are a threat to genetic diversity of cultivated and wild related plants.

Among the anthropogenic factors that adversely affect the structural elements of the ecological network, biological and landscape diversity in general at the current stage one should mention the scientifically ungrounded introduction of individual fish species in the reservoirs (silver carp, white amur), afforestation of steppe and meadow areas (including the species not typical to the territories), creation of monocultures in the forestry systems (as a consequence – wild relatives of cultivated fruit trees and shrubs disappear).

Autochthonous flora also significantly suffers from active artificial introduction of dangerous invasive species, such as acacia, wild olive and ailanthus, in the course of afforestation.

Natural factors

Among the natural factors, one can distinguish an excessive overgrowing of small rivers with air-water vegetation that reduces the biodiversity of aquatic organisms (plants and animals).

Conventionally the natural reason for lowering the level of biodiversity is settling of the territory with the invasive alien species. Conventionally - because most invasions, one way or another, are related to human activities but their subsequent settlement occurs through natural competition.

The main threat to biodiversity in the woods is the effects of climate change. The fact that the processes of climate change cause an increasing number of extreme weather phenomena that adversely affect forests and forestry (increasing number of forest fires; harmful insects and disease outbreaks; the spread of windfalls and hurricanes; worsening situation with droughts) is also recognised. Changes of temperature and precipitation conditions gradually lead to a change in forest growth conditions and directly influence the physiological processes that define the life of forest flora and fauna. Thus, increasing temperature by one degree causes a shift of the boundaries of natural areas by 160 km. Ukraine could not escape such changes. Given that an average temperature in Ukraine for the last ten years has risen by 0.3-0.6 °C (for the last 100 years - by 0.8 °C), the shift of the boundaries of natural areas has already become a reality, which is proved by appearance of species of flora and fauna not specific to the zones.

An urgent problem for the Ukrainian Carpathians is drying spruce forest, which is considered by scientists as a disaster and priority problem to solve.

Predicting the effects of climate change in Ukraine shows that doubling carbon dioxide content in the atmosphere can trigger increase in the amount of precipitation by 20%; relocation of subtropical cyclones in the moderate and northern zones, which will facilitate desertisation of the South of Ukraine; decrease of forests productivity on the whole territory of Ukraine, in particular as a result of spread of diseases and pests.

Climate changes also lead to worsening of fire hazard situation in the forests.

Question 4. Impact of changes in biodiversity on the ecosystem services and its social and economic and cultural implications.

The forests of Ukraine, by their designation and location, fulfil mainly ecological (water safeguarding, protective, sanitary-hygienic, rehabilitation, etc.) functions and have restricted operational importance.

Raw materials of only some 100 kinds of medicinal, food and technical (except timber) plants out of 5,000 species of vascular plants of Ukraine, which grow in the natural environment, are used, of which 25-30 species are used in large (more than 100 kg) volumes. Use of resources of these types is regulated by establishing the norms and limits for collection of raw materials of individual species at local and national levels according to the Law of Ukraine "On Flora" (1999).

Aquatic living resources are used based on the approved limits of their use. The limits on special use of aquatic living resources are set for approximately 50 species of fish and 10 species of other aquatic living resources. The number of species and limits of their catch, which is established annually for each reservoir separately, vary depending on the condition of a certain type stock and its environmental status. The limits are set at a level of 15-20% of the stock in accordance with the recommendations of scientific organizations based on biological studies. Over the last five years, the catch of fish used for the consumption by population, ranges from 53 to 82 thousand tons.

The catch of herbivorous fish species of the Far East origin (white and grey Hypophthalmichthys, white Amur), which were introduced in Ukraine over 50 years ago, and the stock of which is renewed exclusively by means of artificial breeding, is not limited, because these species are not reproduced in a natural way in Ukraine due to specifics of their biology. The catch of the herbivorous species ranged from 649 to 1229 tons over the past five years.

In addition, extraction of marine predatory shellfish *Rapana venosa* of the invader kind, which harm populations of native clams reducing their number, is not limited in the Azov and Black Sea basin.

An anthropogenic impact on the forests facilitates creation of the conditions for the occurrence of dangerous cells of pests and diseases. Diffusive drying of pine trees, which increases over the past years, is quite a dangerous factor. The reason for this phenomenon, as a rule, is sharp fluctuations in groundwater, as well as excessive technological activities of industrial enterprises.

Replacement of ancient local varieties and forms with breded varieties and hybrids continues; the pressure of foreign varieties and hybrids increases in the production, which, in most cases, is not substantiated by their greater productivity and quality in comparison with the native varieties and hybrids; the diversity of

farmed varieties shrinks. These phenomena may lead to a significant depletion of local species of agricultural animals and plant varieties.

PART II. THE NATIONAL BIODIVERSITY STRATEGY AND ACTION PLAN, ITS IMPLEMENTATION, AND THE MAINSTREAMING OF BIODIVERSITY

Question 5. Targets for biodiversity, which were set in the country (according to the Aichi Biodiversity Targets)

The National Programme for the Development of the National Ecological Network of Ukraine for 2000-2015, approved by the Law of Ukraine № 1989-II of 21.09.2000 is the policy paper in the area of protection, restoration and sustainable use of biodiversity. The Programme was developed in the context of requirements to further elaboration, improvement and development of the ecological legislation of Ukraine and also in accordance with the recommendations of the Pan-European Biological and Landscape Diversity Strategy (1995) regarding the issue of development of the European Ecological Network as a unified spatial system of the territories of European countries with natural or partly changed conditions of landscape.

The main purpose of the Programme is to increase the land area of the country with natural landscapes to the level sufficient to maintain their diversity, close to their inherent natural state, and shaping their territorially unified system established to provide opportunities for natural ways of migration and dispersal of the plant and animal species, which would provide for preserving natural ecosystems, species of flora and fauna and their populations. The national ecological network has to meet the requirements to its functioning within the Pan-European Ecological Network and fulfil the leading functions of conservation of biological diversity. In addition, the Programme has to facilitate well-balanced and sustainable use of biological resources in the economic activities.

On December 21, 2010 the Verkhovna Rada (Parliament) of Ukraine approved the Law of Ukraine "*On Main Principles (Strategy) of the National Ecological Policy till 2020*" (hereinafter referred to as the Strategy). The Strategy defines the main tasks for the following 7 Goals.

1. Increasing the level of public environmental consciousness.
2. Improving the environmental situation and increase the level of ecological safety.
3. Achieving the environment conditions safe for human health.
4. Improving regional ecological policy.
5. Preventing loss of biological and landscape diversity and developing ecological network;
6. Ensuring environmentally sustainable natural resource management.
7. Improve regional ecological policy.

Biodiversity is highlighted in **Goal 5. Preventing loss of biological and landscape diversity and developing ecological network**. The tasks of the

abovementioned goal and their conformity with the Aichi Biodiversity Targets are given below.

The tasks for this area are the following:

Establishing a system of preventive measures for the invasive alien species by 2015 and ensuring control over introduction of such species to ecosystems, including the marine ones (**corresponds to Target 9**);

Improving the regulatory framework for the system of control of trade in endangered wild flora and fauna species, by 2015 (**corresponds to Target 12**);

Holding the awareness campaign about the value of ecosystem services as in the case of the Ukrainian ecosystems by 2015, developing the ecosystem services assessment by 2015 and its subsequent application (**corresponds to Target 1**);

Enlarging the national ecological network area to the level (41% of the country), necessary to ensure the environmental safety of the country by 2015; implementing the system of environmental measures on conservation of biological and landscape diversity and expanding the area of nature and reserve fund up to 10% in 2015 and up to 15% of the total territory of the country in 2020 (**almost fully corresponds to Target 11**);

Introducing the ecosystem approach into the management activities and harmonizing the environmental legislation in accordance with the directives of the European Union by 2020 (**corresponds to Targets 6, 14**);

Creating the network of centres of artificial breeding and reacclimatization of rare species of plants and animals and those that are endangered by 2020 (**corresponds to Target 12**);

Creating the system of economic levers to facilitate conservation of biological and landscape diversity and development of ecological network on the lands of all ownerships by 2020 (**corresponds to Targets 3, 11**);

Taking administrative measures to stop a disastrous decrease in aquatic livestock because of over-exploitation and degradation of the natural environment by 2015 (**corresponds to Targets 8, 14**).

The main mechanism for implementing the Strategy is the *National Environment Protection Action Plan* (hereinafter referred to as the NAP), which was adopted on 25 May 2011 by Order № 577-r of the Cabinet of Ministers of Ukraine and focused on the period of 2011-2015.

Under **Goal 5. Preventing loss of biological and landscape diversity and developing the ecological network**; it is envisaged to implement 43 measures, which correspond to the Aichi Biodiversity Targets, including the mostly unchanged activity to determine the areas where it is planned to create the representative and interrelated nature protection territories covering not less than 17% of the land and inland waters and 10% of coastal and marine areas by 2020.

Attention is paid to the task of evaluating and classifying the ecosystem services, monitoring biodiversity and ecological network, keeping the state cadastres of flora and fauna, the Red and the Green Books of Ukraine, the conservation and restoration of populations of the species of animals, which are listed in the Red Book of Ukraine and protected in accordance with international agreements, measures of environmental education in schools.

Question 6. Updating the national biodiversity strategy and action plan to incorporate the targets therein to turn them into the instrument to mainstream biodiversity.

Currently the Law of Ukraine "On Amendments to the Law of Ukraine "On Main Principles (Strategy) of the National Ecological Policy of Ukraine till 2020" is drafted.

Taking into account the Aichi Biodiversity Targets, changes and amendments to Goal 5 of the Strategy have been prepared, and it shall be amended and restated to read as follows:

Goal 5. Prevention of loss of biological and landscape diversity and development of the ecological network;

The tasks in this area are the following:

Introducing the ecosystem approach in the management activities and harmonisation of the Ukrainian environment protection legislation in accordance with the requirements of the European Union Directives by 2020 (**corresponds to Targets 6, 14**);

Conducting awareness campaigns on biodiversity and ecosystem services assessment and raising awareness of people about the value of biodiversity to the level sufficient for the conservation and sustainable use of biodiversity by 2020 (**corresponds to Target 1**);

Integrating the issue of biodiversity value into the national and local development strategies and planning processes, into the financial, where appropriate, and reporting systems by 2020 (**corresponds to Target 2**);

Detecting and cancelling the incentives that adversely affect the biological and landscape diversity, and developing and implementing mechanisms of economic stimulation of the development of ecological network on the lands of all ownerships, conservation and sustainable use of biological and landscape diversity, in accordance with the Convention on Biological Diversity and other international agreements, taking into account the national social and economic conditions by 2020 (**corresponds to Target 3**);

Preventing of exceeding of ecologically allowable limits of natural resources use by introducing plans and measures on sustainable production and consumption by the Government, businesses and other parties involved by 2020 (**corresponds to Target 4**);

Reducing at least half the level of the loss of natural habitats, including forests, and significant decreasing their degradation and fragmentation by 2020 (**corresponds to Target 5**);

Taking administrative measures to stop a disastrous decrease in aquatic livestock because of their over-exploitation and degradation of the natural environment by 2020 (**corresponds to Target 6**).

Ensuring regulation and fishing for all stocks of fish and other aquatic resources in a sustainable way, legally and with the use of the ecosystem approach in order to avoid overfishing; preventing significant negative impact on species

endangered and vulnerable ecological systems by 2020 (**corresponds to Targets 6 and 12**);

Implementing the control systems according to the principles of sustainable development for the agricultural and forestry areas, and aquaculture to ensure conservation of biodiversity by 2020 (**corresponds to Target 7**);

Reducing pollution of the environment, including from the excess of biogenic substances, to the levels that do not harm the ecological systems and biodiversity by 2020 (**corresponds to Target 8**);

Taking control measures for invasive alien species, in particular ways of their distribution, detecting the level of environmental hazards, implementing measures to prevent their introduction and rooting by 2020 (**corresponds to Target 9**);

Expanding the area of the nature and reserve fund up to 15% of the total territory of the country and bringing the area of the national ecological network to the level (41% of the country's territory), which is required to ensure conservation at least 17% of terrestrial ecological systems and ecological systems of inland waters, and 10% of coastal and marine areas, especially valuable for biodiversity and ecosystem services of the territories by 2020 (**corresponds to Targets 11, 14**);

Preventing disappearance of the known species, threaten to extinction, improving or maintaining their conservation status, especially those species, the number of which decreases, by 2020 (**corresponds to Target 12**);

Taking comprehensive measures for conservation and reproduction of migratory species of wild animals in accordance with the international obligations of Ukraine by 2020 (**corresponds to Target 12**);

Improving the regulatory framework of the system of control over trade in endangered species of wild flora and fauna (**corresponds to Target 12**);

Saving genetic diversity of cultivated plants and domesticated animals and wild relatives, including other socially and economically as well as culturally valuable species; developing and implementing the strategy to minimize genetic erosion and conserve their genetic diversity by 2020 (**corresponds to Target 13**);

By 2020, the ecosystems that provide essential services, including the services related to water, will be restored and saved (**corresponds to Target 14**);

Boosting sustainability of ecosystems and biodiversity contribution to the accumulation of carbon through conservation and restoration, including restoration of at least 15 percent of the degraded ecosystems, thereby mitigating effects of climate change and adaptation to it, as well as combating desertification by 2020 (**corresponds to Target 15**);

Improving, wide dissemination and application of the scientific knowledge base and technologies that relate to biodiversity, its monetary value, functioning, status, trends and consequences of its loss by 2020 (**corresponds to Target 19**);

Ensuring, by 2020, substantial growth, compared with the current level, of raising financial resources for the conservation of biodiversity in Ukraine with the purpose of implementation of the Strategic Plan for Biodiversity 2011-2020 and

Aichi Biodiversity Targets, adopted during the 10-th meeting of the Conference of the Parties to the Convention on Biological Diversity (**corresponds to Target 20**);

Ensuring effective implementation of the 10-year Strategy for the implementation of the UN Convention on Combating Desertification (2008-2018), approved during the 8th Conference of the Parties to the Convention, including developing the appropriate National Action Plan;

Introducing the system of measures to achieve the neutral level of lands degradation by 2020;

Supporting the capacity building, implementation of training and educational programs and research aimed at deepening the understanding and increasing awareness about the economic, social and environmental benefits from implementation of the policy and practice of sustainable use and protection of lands;

Increasing forest coverage to 17 per cent of the territory of the State by expanding the area of forest, field protecting forest strips and other protective plantings, except for the natural steppe areas, in accordance with the scientifically justified indicators taking into account regional specifics and climatic conditions by 2020 (**corresponds to Target 14**);

Increasing the share of extensive use of farmlands (hayfields, pastures) to 15.8% of the territory of the State in accordance with the scientifically justified indicators taking into account regional specifics and climatic conditions by 2020 (**corresponds to Targets 14, 15**);

Reducing the area of arable land by 5-10% on average by virtue of erosion dangerous, degraded, low productive and urban polluted farmlands, floodplains and coastal protective lines of water sites by 2020 (**corresponds to Targets 14, 15**).

It is planned to develop and adopt the National Environment Protection Action Plan for the next stage (2016-2020).

Question 7. Actions taken by the country to implement the CBD since the submission of the Fourth National Report and the outcomes of these actions.

Ecological network and the nature reserve fund

The activities are continuously carried out to reserve especially valuable natural systems and sites for the subsequent creation of the territories and sites of nature d reserve fund of the national and local importance. The locations of growth and habitation of plants and animals listed in the Red Book of Ukraine, regionally rare species, priority wetlands of international importance are defined, and a number of the territories are examined to identify the key areas of the ecological network.

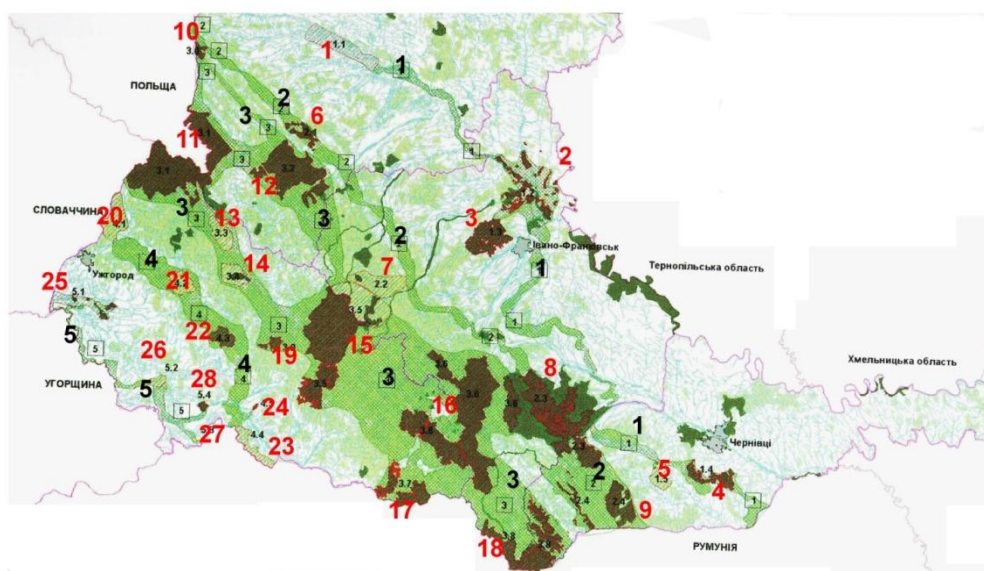
Given that economic activity is a decisive factor for both positive and negative influence on the environment, the actions to reduce the impact of anthropogenic factors on the natural constituents of the environment are carried out: the restoration territories, protective forest plantations, water protection zones are expanded, to improve the conditions of the structural elements of the ecological network and biodiversity in total.

The number of regional programmes on the ecological network and environmental protection is increased. During the reporting period, a number of

regional programmes on development of the ecological network have been increased. As of 01.01.2013, 13 regional programmes on development of the regional ecological network were approved; in 7 regions - separate sub-programmes, sections on developing the ecological network were included in the regional environment programmes; in 7 regions the programs on development of the ecological network were drafted.

In order to define the key elements of the ecological network at the national and local levels, the activities on development of the draft regional and local schemes of development of the ecological network were carried out. During the reporting period four regional schemes of development of the ecological network were approved. At present, 6 regional schemes of development of the ecological network and 46 local schemes of development of the ecological network have been approved.

Scheme of Ecological Network of the Ukrainian Carpathians



Legend

Ecological Corridors: 1 – Dnister-PreCarpathian Valley-Highlands Ecocorridor, 2 - Zovnishnyokarpatskij Lowhill Ecocorridor, 3 - Vododil'no-Carpathian Midland-Highland Ecocorridor, 4 - Volcano-Carpathian Lowhill Ecocorridor, 5-Tisa-Zakarpattya Lowland Ecocorridor.

Key territories: 1 – Starytsednistrovs'ka, 2 – Galytska, 3 – Chornolis'ka, 4 – Chernivetska, 5 – Storozhynetska, 6 – Skhidnytska, 7 – Rozhniatyns'ka, 8 – Pokuts'ko-Bukovynska, 9 – Zubrovytska, 10 – Verkhniodnistrovs'ko-Beskyds'ka, 11 – Stuzhyts'ko-Sians'ka, 12 – Skolivs'ka, 13 – Zhdeniyevs'ka, 14 – Zhdymyrs'ka, 15 – Polonyns'ko-Gorgans'ka, 16 – Svydovets'ko-Chornohirs'ko-Gorgans'ka, 17 – Kuzijs'ko-Marmaros'ka, 18 – Gryniavs'ko-Chyvchyns'ka, 19 – Richans'ka, 20 – Vyorlat-Perechyns'ka, 21 – Syniak-Chynadiyivska, 22 – Irshavs'ka, 23 – Shayanska, 24 – Khusts'ka, 25 – Chops'ko-Velykodobron's'ka, 26 – Berehivs'ka, 27 – Yuliyivska, 28 – Chornohorska.

To define the key elements of the ecological network at the national level the activities were carried with the purpose of drafting the Consolidated Scheme of Ecological Network Development. Currently the elements of eight natural corridors and one natural region have been processed, in particular, during 2011-2012 the natural corridors of national importance – the Dniester, South Ukrainian, Sivers'ko-Donetsk, Buh, Galitsko-Slobozhansky were defined and described. Under the agreement with the Embassy of Netherlands in Ukraine, CO "Interekocentr" prepared an electronic map of the ecological network of the Azov and Black Sea natural corridor.

During 2010-2012, 151 sites were identified, which received the status of nominees to be included in the Emerald Network of Europe (Document T-RU8/RA (2012) 18 of the Bern Convention), materials are currently prepared on 8 new potential sites of the Emerald Network of Europe.

The share of the Nature Reserve Fund (NRF) in the country has been expanded. The NRF area has grown by 609.4 thousand hectares, the share of preserved area has risen from 5.04% to 6.05%, and the new marine reserve "Small Phyllophora Field" was created (Decree of the President of Ukraine № 527/2012 of 31.08.2012). Positive dynamics of the nature and reserve fund was possible due to regular financing of the activities on creation and expansion of the nature protection territories. Information about the nature and reserve fund of Ukraine is posted on the Ministry of Ecology and Natural Resources' website at: <http://pzf.menr.gov.ua/>

During the period of 2009 - 2013, the Ministry of Ecology and Natural Resources had considered and approved 14 Projects on arrangement of territories of the national nature parks, protection, reproduction and recreational use of their natural systems and sites, the Project on arrangement of the territory of the Danube Biosphere Reserve and protection of its natural sites. The projects on arrangement of other territories and sites of the NRF are now at different stages of development/endorsement.

As of 01.01.2013, the share of preserved area of the forests managed by the State Forestry Agency is 16.3% (as of 01.01.2009, the share of preserved forests amounted to 14.7%). In total more than 3.1 thousand of territories and sites of the nature and reserve fund with the total area of more than 1.2 million hectares have been created in woods of the forestries managed by the State Forestry Agency.

For the period from 2009 to 2012 the forest area had been increased by 19.5 thousand hectares amounting to 9.6 million hectares or 16% of the territory of Ukraine.

33 Ukrainian wetlands totalling at about 678 thousand hectares were included in the List of wetlands of international importance created in pursuance of the Ramsar Convention on wetlands (of these, 22 wetlands were given the international status in 1995, and 11 wetlands – in the year of 2004).

In 2011-2012 the Resolutions № 147-r of 23.02.2011 and № 895-r of 21.09.2011, № 818-r of 24.10.2012 of the Cabinet of Ministers of Ukraine were adopted with regard to granting to 19 wetlands of Ukraine with total area of 59 thousand hectares the status of wetlands of international importance. The respective

materials were submitted to the Secretariat of the Ramsar Convention for inclusion of these lands to the List of wetlands of international importance.

In 2012 "West Polissya" transboundary biosphere reserve joined the World Network of Biosphere Reserves (the ceremony of handing the UNESCO Certificate took place on 06.09.2019).

Two separate biosphere reserves: "Neruso-Desnians'ke Polissya" (Russia) and "Desnianskyi" (Ukraine) were created in the basin of the Desna River. The Ukrainian and the Russian parties are proposed to prepare a joint nomination for the cross-border biosphere reserve and the appropriate intergovernmental cooperation agreement.

In June 2011 UNESCO took the decision to include "Roztochya" Biosphere Reserve (Ukraine) into the List of UNESCO World Biosphere Reserves. The Polish side was proposed to resume the activities on creation of its part of the future Ukrainian-Polish transboundary biosphere reserve in the Roztochya area in accordance with the previous arrangements of the authorities of Lviv Oblast of Ukraine and Lublin Province of Poland.

In 2007 "Primeval Beech Forests of the Carpathians" site was included in the List of the World Natural Heritage; the valuable natural areas of the Carpathian Biosphere Reserve were included in it as well as the separate areas of Uzhansky National Natural Park and "Poloniny" National Natural Park (Slovak Republic). In 2011, the UNESCO World Heritage Committee decided to expand the territory of "Primeval Beech Forests of the Carpathians" site, having included the German part consisting of 5 areas therein and changing the name of the site to the "Primeval Beech Forests of the Carpathians and the Ancient Beech Forests of Germany."

The activities on the creation of "Marmorose Mountains" international Ukrainian-Romanian biosphere reserve are underway. During 2010 several meetings between the representatives of the Carpathian Biosphere Reserve (Ukraine) with the Marmoros Natural Park (Romania) were held. Uzhanskyi National Nature Park (Ukraine) and Beschadsky National Park (Poland) signed an agreement for the transboundary cooperation.

To inform the public, scientific and non-governmental institutions, the National Report on the Status of the Formation of the National Ecological Network for 2006 – 2010 was issued and disseminated and posted on the website of the Ministry of Ecology and Natural Resources.

Licensing of training of masters majoring in "reserve management and studies" has been started; relevant training courses were designed and conducted.

The local authorities developed and adopted at the appropriate levels the industry and regional programs, which meet the requirements of the Law of Ukraine "On Main Principles (Strategy) of the National Ecological Policy of Ukraine till 2020" and the National Environment Protection Action Plan for 2011-2015, since they have primarily nature protection focus or contain an appropriate nature protection section.

Conservation of Flora and Fauna, Efficient Use of Natural Resources

In November 2009 the third edition of the Red Book of Ukraine in two volumes was published: The Red Book of Ukraine (flora), the Red Book of Ukraine (fauna) (<http://menr.gov.ua/index.php/redbook>); and the Lists of animal and plant

species that are included in the Red Book of Ukraine, as well as animal and plant species and fungi, which are excluded from the Red Book of Ukraine were approved (542 species of animals and 826 species of plants and fungi, which require enhanced protection, are included).

Also, in 2009 the first official Edition of the Green Book of Ukraine was published (<http://eng.menr.gov.ua/index.php/greenredbook>) (160 articles included, in which the relevant information about 800 plant associations of Ukraine is provided, including rare ones (347), such as endangered (354) and typical (99). The Green Book included the natural plant communities identified in the List of rare and endangered, and typical natural plant communities that are subject to protection, as approved by the Decree № 545 of 16.10.2009 of the Ministry of Ecology and Natural Resources (registered with the Ministry of Justice on 4.11.09 under № 1024/17040).

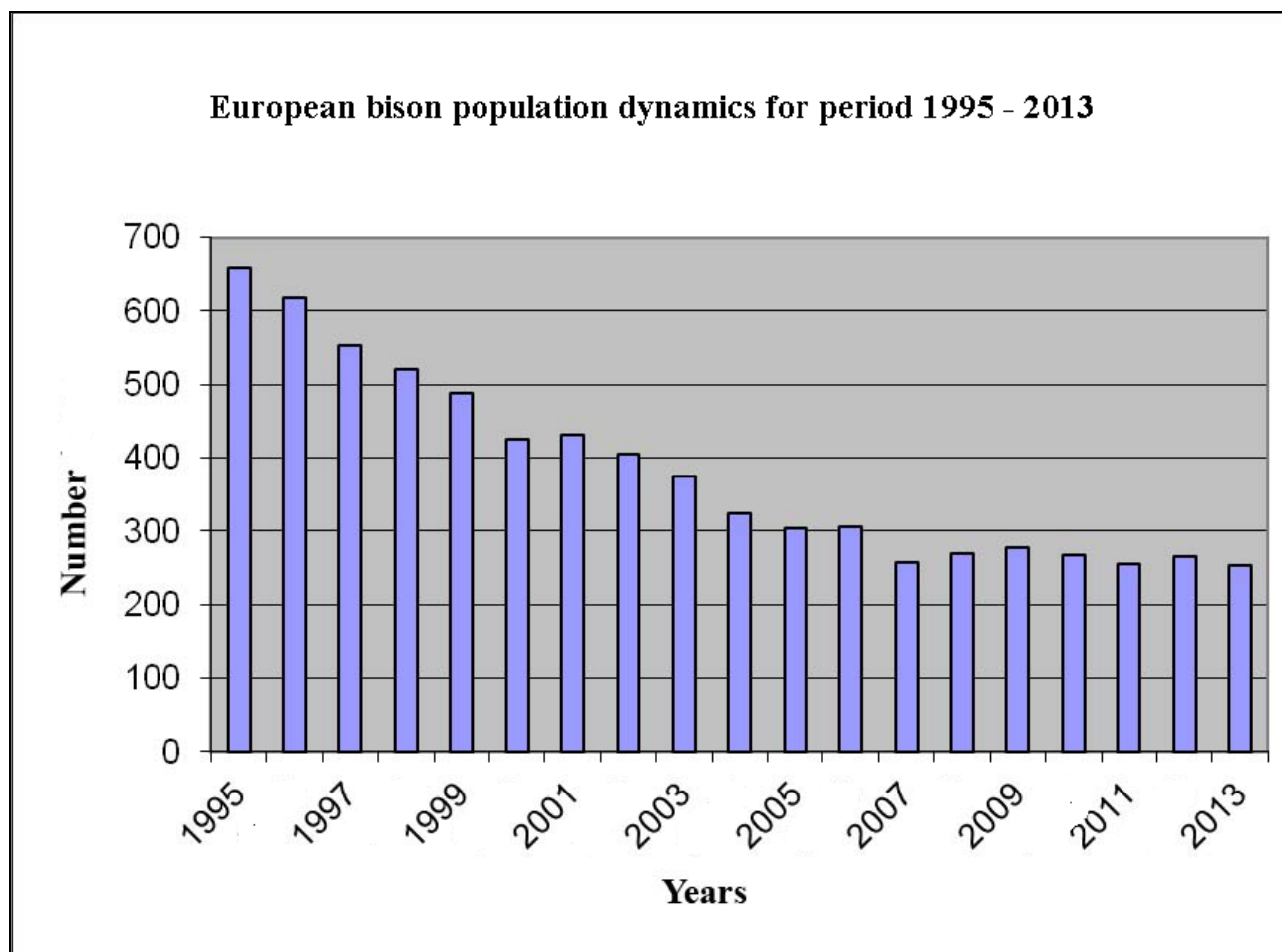
Regional lists of plant species subject to special protection were prepared in all regions except Crimea, which were approved in 22 regions and the cities of Kyiv and Sevastopol, during 2009-2013, approved in Volyn Oblast and updated in Zakarpattia, Luhansk and Ternopil Oblasts.

To strengthen the protection of Red Book species, a number of laws and regulations were approved, in particular the Law of Ukraine "On Amendments to Article 4 of the Law of Ukraine "On the Red Book of Ukraine" concerning strengthening the protection of rare species of plants and animals (No. 5072-VI of July 5, 2012), Resolution of the Cabinet of Ministers of Ukraine № 1030 of 7 November 2012 "On the Amount of Compensation for Illegal Catch, Destruction of or Damage to the Species of Fauna and Flora Listed in the Red Book of Ukraine as well as for the Destruction or Deterioration of their Natural Habitats" and Order № 486 of 09.10.2012 of the Ministry of Ecology and Natural Resources "On Approving the Procedure for State Records of Rare and Endangered Species of Fauna and Flora Listed in the Red Book of Ukraine" (registered with the Ministry of Justice of Ukraine on 05.12.2012 under № 2031/22343). The Law of Ukraine "On Adoption of Amendments to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area" (№ 5433-VI of 16.10.2012) was approved; Order of the Ministry of Ecology and Natural Resources № 134 of 06.03.2013 approved the membership of the Scientific Advisory Council for the Protection of Bats to the Ministry of Ecology and Natural Resources and the regulation on such Council.

During 2009-2012 the research activities to study the status of the Red Book species were carried out. The actions have been implemented to create a modern software for collection, classification and analysis of information on the status of plant groups registered in the Green Book of Ukraine, on animals and plants listed in the Red Book of Ukraine, or protected in accordance with the international obligations of Ukraine, arrangement and improvement of the databases of the State cadastres of fauna and flora, databases of the State Cadastre of the Nature Reserve Fund of Ukraine and their adaptation to the unified information and analytical system of the environment of Ukraine (<http://menr.gov.ua/index.php/geoportal>).

The activities were carried out to certify the bison sub-populations and develop the plan of their dissemination in Ukraine based on the assessment of the current status, forage reserves and optimal number of sub-populations; to develop and implement the information and awareness-building activities on preservation of the

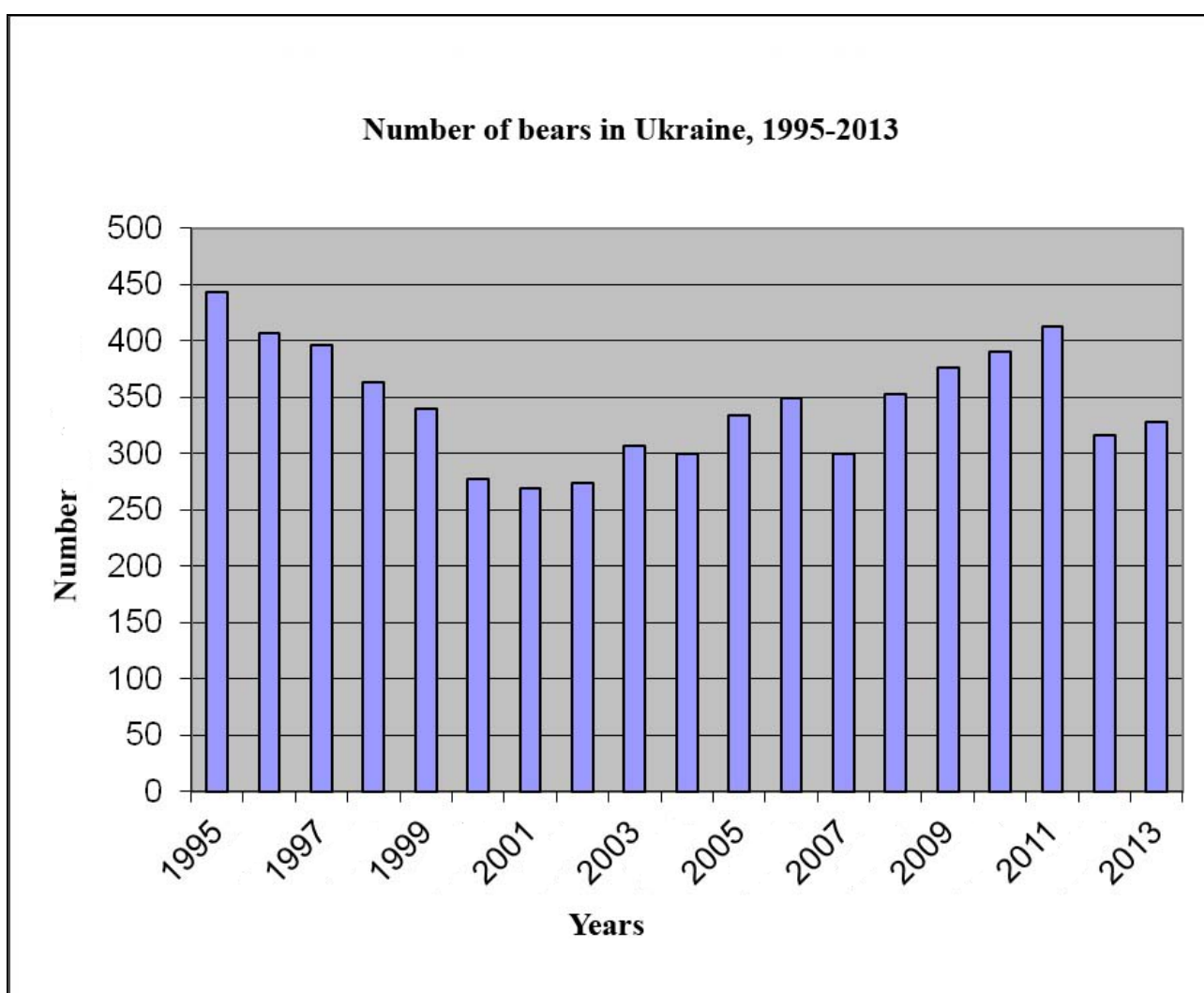
bison. In particular, it was registered a decrease of the bison population from 685 heads (in early 90's of the last century) to 227 heads (nowadays) and the major depressive factors for the species were highlighted. The latter ones are caused generally by the long-lasting political and economic crisis in Ukraine, which triggered a permanent poaching, degradation of the habitats and poor arrangement of culling. In the Carpathian Region, in addition to general problems, the complex climatic conditions along with minimum biotechnical measures lead to deaths of animals from elementary exhaustion. Thus, all the populations in the Western Ukraine (Lviv, Chernivtsi and Volyn Oblasts) are in the condition of deep depression, and, in the absence of radical measures to save the species, are doomed to extinction. Meanwhile, the existing herds of the bison in the left-bank Ukraine are characterized by stable indicators of their population, when the low fertility rate is offset by minor indicators of natural mortality. In this case, one can notice direct consequences of the inbred degeneration, which requires immediate improvement of the genetic pool by means of import of unrelated bulls. Despite the general troubles, the bison herd in Vinnytsia Oblast demonstrates advanced features – increase of quantity, wide moves, a variety of natural forage, etc.



The research were carried out to define and map the important ecological corridors, which are the migration paths of the brown bear, individual plots and dens, to develop relevant electronic database, to elaborate and implement the actions towards its conservation, including awareness and educational activities: 222

specimens of brown bear were recorded... 85 structural elements have been mapped: plots with food stations and main day's marches, breed areas and lairs, dispersal routes. Also, the main ecological corridors (cross-border and between the cells of reproduction in the adjacent regions of Ukraine) were defined. 10 transboundary ecological corridors have been preliminary defined: 7 with Poland, 2 with Romania and 1 with Slovakia. Additionally, five ecological corridors between administrative regions were mapped. Overall, only 28% of the detected ecological corridors and ways of migrations fully or partially lay within the areas of NPF.

The factors negative for the population have been defined, of which the main ones are the following: anthropogenic transformation of the environment, in particular, the habitat fragmentation and availability of significant percentage of forest monocultures as well as a disturbance factor due to the recreational load. The areas with high risk of "man-beast" conflict are defined.



During 2008-2012 the research and scientific activities on keeping the State Cadastre of Flora of Ukraine were carried out. Totally 4944 species of vascular plants, 945 kinds of bryophytes, 850 species of algae, 251 kinds of lichens, 5918 species of fungi and 172 rare plant communities were entered in the database of the State Cadastre of Flora of Ukraine (SCFU DB). Following the activities the descriptions of plants by types from the third edition of the Red Book of Ukraine and

plant aggregations, registered to the Green Book of Ukraine were entered in the SCFU DB; and also the data on invasive plants were analysed. The preliminary list of invasive taxons was produced for further in-depth investigations. Checklists of plants and fungi have been entered in the Cadastre database. In addition, among others, information about the most important centres of diversity, relict and endemism in the flora of Ukraine was entered into the SCFU DB; identification and taxonomic, chorologic and ecological information on plants and fungi of Ukraine were integrated; target field research on individual species and plant communities in the regions of Ukraine were conducted.

In the framework of the State Cadastre of Fauna development, a database related to GIS was developed, where the data on the fauna of Ukraine are entered. Considering that there are about 45 thousand of species of animals in the country and information about them, due to new research, is constantly being replenished, the database so far is being maintained following certain priority directions: endangered types (Red Book of Ukraine, international "red" lists, lists of environmental conventions), hunting species, invasive alien species of animals. Monitoring of the quantity, migration and hunting of game animal species was carried out for 35 species of animals including 7 species of birds. Consolidated information is submitted for each of the hunting species by years throughout Ukraine in tabular and graphical forms. The monitoring programs of dispersal of the Swallowtail (*Papilio machaon* L.), Common Stag Beetle (*Lucanus cervus* L.), Lesser White-Fronted Goose (*Anser erythropus*), White Stork (*Ciconia ciconia*), Forest Lilies (*Lilium martagon* L.) were carried out.

The Information and Analytical Centre of the National Environment Monitoring System of the Ministry of Ecology and Natural Resources – the combining component of the State environmental monitoring system – was launched. The Information and Analytical Centre provides for continuous automated exchange of information with the regional centres to monitor the environment; keeping a unified data bank on the conditions of the environment based on environmental information, which is obtained from all entities of the State environmental monitoring system. Data banks are being kept; based on information analysis the factsheets and newsletters about the condition of environment are being prepared and afterwards posted on the web site of the Ministry of Ecology and Natural Resources.

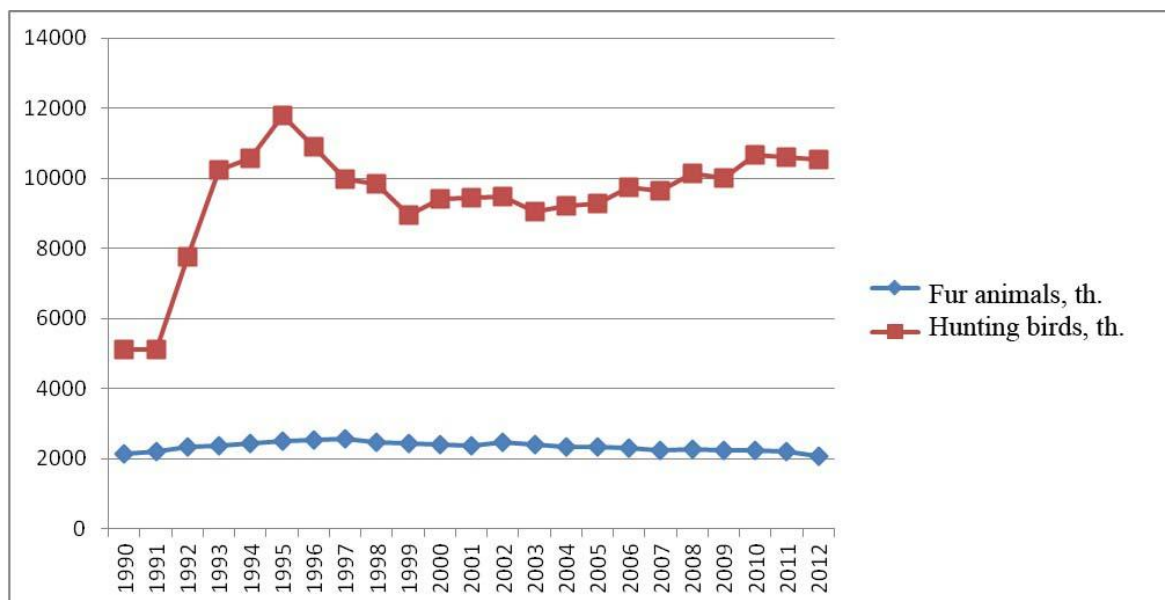
In January 2010 the Law of Ukraine "On Nature Reserve Fund of Ukraine" was amended; in accordance with the changes, special use of natural resources in the natural reserves is authorised within the limit for the use of natural resources on territories and sites of the Nature and Reserve Fund as approved by the Ministry of Ecology and Natural Resources; as well as on the basis of permits issued by the executive authority of environmental protection of the Autonomous Republic of Crimea and territorial bodies of central executive authority of environment protection. It should be noted that by January 2010 the natural resources within nature reserves, in particular, harvesting of wood during the sanitation and other environmental fellings, were used without involvement of the Ministry of Ecology and Natural Resources to this process. Thus, as a result of the activities of the Ministry of Ecology and Natural Resources, the volume of (within the limits) timber harvesting in 2013 during sanitary and other protected fellings in the natural reserves decreased by more than 20 times compared to the year of 2009 making 5% of it.

The issues conservation of biodiversity of the forest ecosystems are indirectly addressed by "Forests of Ukraine" State Target Program 2010-2015, since the issue of improving the sustainability of forest ecosystems is one of the main tasks of the program.

Besides, the issue of improving the sustainability of the forest ecosystems and conservation of biodiversity of forests is a component of the research performed by the scientific and research institutions of the State Forestry Agency funded from the State Budget.

In recent years, the share of forestry areas, which are being arranged in a sustainable way, increases. For example, the number of game animal species is increased due to sustainable management of hunting in some regions; the area of certified forests is extended (it currently equals to 1.209 million hectares or 12% of the forest land area of Ukraine). The total number of fur and hoofed game animals in Ukraine continues to decline; the number of hunting birds varies (see the table and diagram).

Year	The total number of game animals, thousand		
	Ungulates	Fur animals	Hunting birds
1990	254.6	2134.2	5098.0
1991	271.8	2194.9	5112.6
1992	270.8	2332.7	7767.7
1993	253.1	2360.2	10234.5
1994	244.9	2431.5	10581.4
1995	237.3	2497.7	11794.5
1996	219.4	2528.9	10888.8
1997	205.3	2554.0	9975.6
1998	192.3	2464.2	9828.0
1999	182.6	2422.3	8953.9
2000	177.8	2416.4	9417.5
2001	177.3	2379.3	9436.7
2002	179.7	2466.5	9485.2
2003	184.8	2412.0	9037.8
2004	187.6	2335.0	9201.7
2005	195.0	2348.4	9280.9
2006	197.1	2290.4	9753.8
2007	208.0	2224.7	9647.1
2008	218.1	2278.3	10139.7
2009	232.2	2245.6	10015.2
2010	239.0	2249.6	10672.9
2011	244.4	2189.2	10592.0
2012	239.6	2070.8	10523.5



The number of hunting birds and fur animals

To improve the protection and sustainable use of biological diversity of forests, to maintain and increase forest coverage, as well as to restore the forests, the Law of Ukraine № 5432-VI of 16.10.2012 ratified the Protocol on Sustainable Forest Management of forests to the Framework Convention on the Protection and Sustainable Development of the Carpathians.

The scientific institutions study the issue on economic assessment of biodiversity of separate ecosystems; in particular, attention was paid to forest ecosystems.

To implement the National Programme on Development of the Fishing Industry in Ukraine, the Program for Replacement of Salmonid Fish Species in the Basin of the Tisza River in Zakarpattia Oblast was developed and being implemented.

The National Action Plan for conservation, restoration and sustainable management of stocks of sturgeon fish species as well as the Instruction for artificial reproduction of the Black Sea and Azov Sea Breets (Psetta) and flounders-glosses as a basis for the design and operation of specialized marine fish hatcheries were drafted.

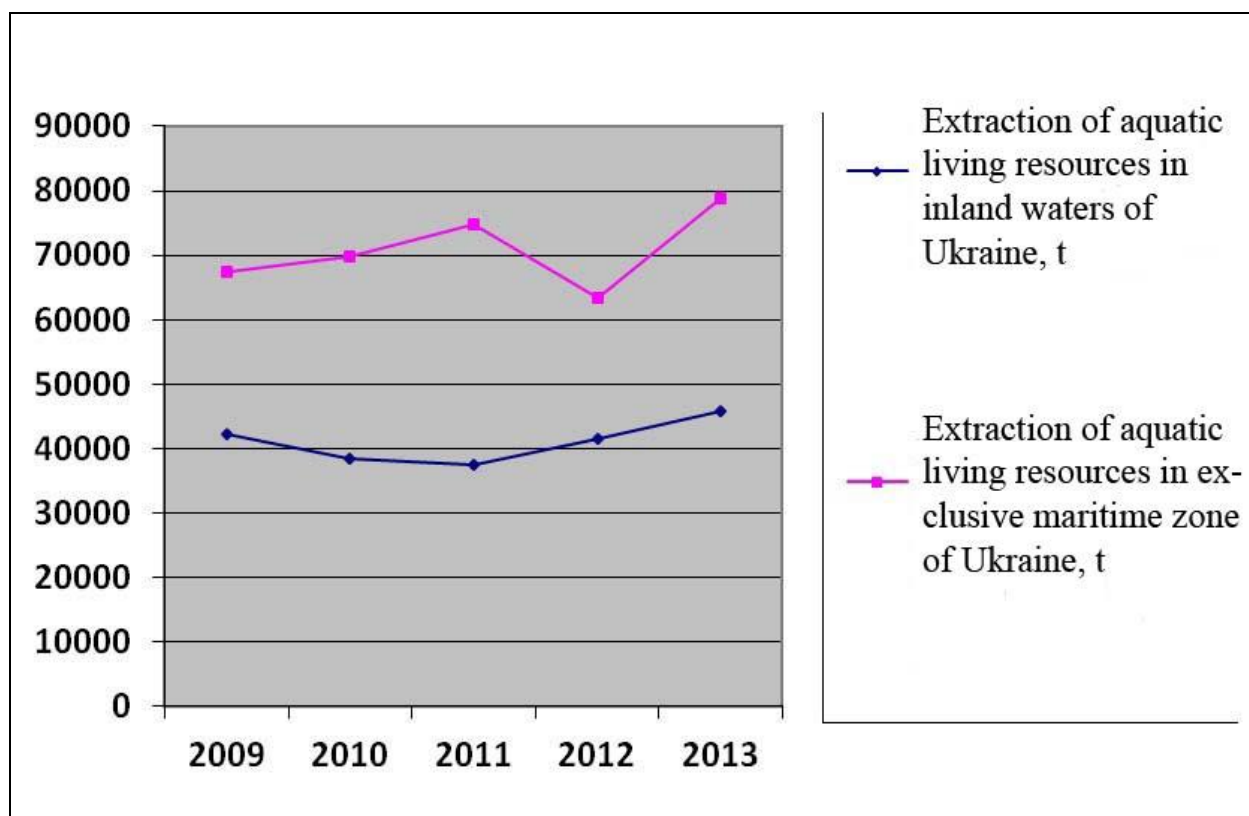
Extraction of aquatic biological resources in Ukraine varies annually; however there is a general tendency towards increase.

The system of hydrological mode stability was developed in the floodplain of Prypyat River, near Birky Village of Lyubeshivsky District – in places of Aquatic Warbler (*Acrocephalus*) breeding, which is included in the Red Book of Ukraine, European Red List, IUCN Red List and hayfields of local people with participation of the Ukrainian Society for the Protection of Birds.

The state veterinary medicine service conducts a number of institutional and economic actions focused on fauna conservation: prevention of African swine fever, monitoring of infectious diseases of birds, it is planned to vaccinate wild animals from rabies in certain boundary regions.

To implement the state system for efficient operation, monitoring and preservation of diversity of genetic resources of agricultural animals in Ukraine a number of activities under the scientific programme “Conservation of Biological

Diversity and System of Work in Small Populations of Agricultural Animals and their Use in Selection Process “Conservation of Gene Pool” is being carried out.



Catch of aquatic living resources in Ukraine in 2009 - 2013

In accordance with laws and regulations, target programmes and within their competence the state authorities and organisations such as the Ministry of Agrarian Policy and Food, the National Academy of Sciences, the National Academy of Agrarian Sciences etc. carry out the whole range of activities related to conservation of a sufficient level of biodiversity of agricultural animals and control how such activities are carried out.

Protection of Ambient Air and Waters

Under the NAP targets one of the most important positive actions focused on protection of ambient air are construction of by-passes in certain oblasts of Ukraine that enables to decrease the emission volumes from movable sources in cities.

The Law of Ukraine “On Adoption of the State Target Programme for Water Economy Development and the Dnipro River Basin Ecological Rehabilitation till 2021” of 24.05.2012 № 4836-VI. The activities related to creation of water resources integrated management systems under the basin principle are underway.

Development of training course for application of water resources basin and integrated management principle has started. The proposals concerning conduct of training course under TAIEX actions are being prepared.

The subject matter for the issues of application of water resources basin and integrated management principle was developed and introduced into separate qualification improvement courses of the State Ecological Academy of Post-graduate Education and Management of the Ministry of Ecology and Natural Resources; the respective qualification improvement course was developed and introduced.

The State Water Agency is improving the water resources management structure.

During the last years almost 40 thousand km of coastal protective zones were arranged. The State Water Agency is engaged in improvement of water resources management structure.

The Ministry of Regional Development, Construction and Housing of Ukraine drafted the Resolution of the Cabinet of Ministers of Ukraine “On Adoption of the Procedure for State Accounting of Artesian Wells, Equipping them with Extracted Underground Water Meters”.

The Resolution of the Cabinet of Ministers of Ukraine of 03.09.2012 № 843 “Certain Issues of Stockpiling and Recovery of Waste being Generated as a Result of Loss of Consumer Features by Transport Vehicles”.

The software of best available techniques and control methods data bank, which are used to decrease the volumes of emissions of pollutants and green-house gases was developed.

The actions related to ecological education, which is becoming a priority one for the last years, are continuously being introduced. The main actions of public and youth awareness and education are currently the workshops, round tables, ecological clubs in schools and child care facilities. A number of ecological pathways on territories of the nature reserve fund increase.

Question 8: How effectively has biodiversity been mainstreamed into relevant sectoral and cross-sectoral strategies, plans and programmes?

The issue of conservation and efficient use of biodiversity is directly or indirectly integrated into sectoral laws and regulations, which are focused on economic and social development of the country.

Target 1: By 2020, at latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it in a sustainable manner.

An issue of awareness and educational activities is reflected in the Law of Ukraine “On Ratification of Convention on Access to Information, Public Participation in Decision-making Process and Access to Environment-related Justice”, “On Fauna”, “On Ecological Network of Ukraine”, “On Environment Protection”, “On Nature Reserve Fund” as well as in the Law of Ukraine “On Access to Public Information”.

The Ministry of Ecology and Natural Resources drafts the Concept of state policy on education for balanced (sustainable) development and Strategy of education for balanced (sustainable) development.

In the Model curricula of 10 – 11 forms of comprehensive schools the subject “Ecology” was included; subjects “Prions”, “Genetically Modified Organisms”, “Change of Organism Features due to Environment Changes” were included in “Biology” educational programme of 10-11 classes; subjects “Food Additives, E-numbers”, “Notion on Chemical Means of Plant Protection, their Impact on Environment”, “Protection of Environment from Pollution when Processing Carbohydrate Raw Materials and Using the Processing Products”, “Protection of Environment from Phenol Containing Industrial Waste” were included in “Chemistry. 11-th Form” educational programme; “Ecological Legislation of

Ukraine” was included in “Law. 10-11 Forms” educational programme. More than 20 educational programme courses to choose and optional classes for various educational ecologically-oriented subjects were launched; “Ukraine. Ecological Situation” educational equipment, “Green Package for Children” and “Green Package for Teacher” educational manuals were developed. All the above mentioned underwent expertize and received stamp “Recommended by the Ministry of Education and Science, Youth and Sports of Ukraine” or they were approved to be used in comprehensive schools.

Target 2: By 2020, at latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and they are being incorporated into national accounting, as appropriate, and reporting systems.

The problems of conservation of biodiversity (rarely) and protection of environment (mainly) are being addressed in a number of inter-sectoral programmes and regulations, in particular, in the Transport Strategy of Ukraine till 2020, “Forests of Ukraine” State Target Programme till 2010-2015, Forestry, Land and Water Codes; in the Law of Ukraine “On Tourism”, State Programme for Industry Development for 2003-2011, State Target Programme for Development of Ukrainian Rural Territories till 2015, draft State Programme for Economic and Social Development of Ukraine for 2012, State Target Economic Programme for Development of Forestry for 2012-2016, Concept for Forestry Reforming and Development, State Target Social Programme for Poverty Combatting and Prevention till 2015.

Target 3: By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio-economic conditions.

The Laws of Ukraine “On Environment Protection”, “On Nature Reserve Fund” envisage development of economic mechanisms to encourage saving and to efficiently use natural resources.

Economic activities focused on protection of environment provide for the following:

a) interacting the entire managerial, scientific and technical and economic activity of enterprises, institutions and organisations with efficient use of natural resources and efficiency of environment protection actions on the basis of economic key factors;

b) determining the sources of financing of environment protection actions;

c) setting the limits of natural resources use, discharges of pollutants into environment;

d) setting the ecological tax rates;

e) granting to enterprises, institutions and organisations as well as to citizens the tax, credit and other benefits when introducing by them the low-waste, energy and resource-saving (alternative) technologies and alternative sources of energy, implementing the other efficient environment protection actions;

f) reimbursing, under the established procedure, the damage as a result of breaching the environment protection legislation.

To finance the environment protection actions and actions related to efficient use and conservation of natural resources the State Environment Protection Fund was established.

To finance the environment protection actions under the legislation of Ukraine the following funds are being established: state; republican of the Autonomous Republic of Crimea; local environment protection funds.

The Republican environment protection fund of the Autonomous Republic of Crimea and local environment protection funds are being established within the republican budget of the Autonomous Republic of Crimea and the respective local budget at the place of ecological damage at the expense of:

- fees for pollution of environment;
- part of collections for damage made through breaching of environment protection legislation as a result of economic and other activity, under the current legislation;
- target and other voluntary contributions of enterprises, institutions and organisations and citizens.

The State Environment Protection Fund is established at the expense of:

- contributions by local environment protection funds, an amount of which is determined by the Verkhovna Rada of Ukraine;
- voluntary contributions by enterprises, institutions and organisations, citizens and other revenues;
- part of fees for use of natural resources, an amount of which is determined by the Verkhovna Rada of Ukraine upon submission by the Cabinet of Ministers of Ukraine;
- part of collections for damage made through breaching of environment protection legislation as a result of economic and other activity, under the current legislation.

Financial resources of the Republican environment protection fund of the Autonomous Republic of Crimea, local environment protection funds and the State Environment Protection Fund could be used only for purpose financing of environment protection and resource-saving actions, including of scientific research for such issues, maintenance of state cadastre of territories and sites of nature and reserve fund as well as the actions focused on decrease of environment pollution impact on human health and encouragement of employees of specially authorized state bodies for environment protection and use of natural resources, except of the persons, who have the status of civil servants, and environment protection public inspectors who revealed breaching of environment protection legislation and took necessary measures to make guilty persons answerable for delinquencies; prevention of breaching of environment protection legislation.

The Transport Strategy, Water Code and State Target Economic Energy Efficiency Programme foresee the incentives to introduce resource-saving (alternative) technologies and to use alternative energy sources. The State Target Programme for Development of Ukrainian Rural Territories till 2015 includes the issues of organic agriculture development.

Target 4: By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.

The Law of Ukraine “On Fauna”, Water, Land and Forestry Codes of Ukraine envisage an efficient use of natural resources in accordance with ecologically safe and scientifically justified limits, where appropriate. A number of Memoranda between the Cabinet of Ministers, oblast state administrations and large enterprises in the area of environment protection were signed. Large companies, which operate in Ukraine, have in their business plans the section on environment care and implement the actions to conserve it.

The Order of the Ministry of Energy and Fuel of 20.04.2012 №253 amended the Annex to the Order of the Ministry of Energy and Fuel of 09.10.2008 №499 concerning reconstruction and modernization of thermal power plants and combined heat and power plants within the period till 2020. According to such Order it is planned to reconstruct at least seven power units per year that will ensure improvement of efficiency of their operation by 10-15%; it, in its turn, will allow decreasing the volumes of gross emissions of pollutants and green-house gases by 10-15%.

From 2000 till 2012 in Ukraine one can observe decrease of GDP energy intensity by 36% or from 0,98 kg of fuel equivalent/UAH up to 0,621 kg of fuel equivalent/UAH.

As of 1 January 2013 in Ukraine the installed capacity of renewable energy facilities, which operate at “green” tariff, is 645,05 MW, in particular, in 2012 234,78 MW of installed capacity was commissioned, of those:

- Wind energy facilities – 47,42 MW;
- Solar energy facilities – 183,338 MW;
- Small hydro energy facilities – 2,022 MW;
- Bio energy facilities – 2,0 MW.

In 2012 compared to 2010 the installed capacity of electricity facilities, which operate at “green” tariff, increased by 499,2 MW or in 4,4 times, including capacity of wind energy facilities increased by 117,3 MW, solar energy facilities – by 369 MW, small hydro energy facilities – by 10,9 MW, bio energy – by 2 MW.

The renewable energy facilities, which operate at “green” tariff, generated in 2012 780,7 mln. kW*hour of electricity; it exceeds 2 previous years by 36%.

The Order of the Ministry of Regional Development, Construction and Housing of Ukraine of 13.07.2012 № 358 adopted, to be come into force since 01.11.2012, the state construction norms DBN C. 1.1-15:2012 “Composition and Content of Settlement Master Plan”, which would envisage that Section “Justification and Proposals” of the Master Plan provides proposals on protection of environment and determines the actions focused on development of green territories of general use, landscape and recreation territories.

In 2012 compared to 2010 the installed capacity of electricity facilities, which operate at “green” tariff, increased by 499,2 MW or in 4,4 times, including capacity of wind energy facilities increased by 117,3 MW, solar energy facilities – by 369 MW, small hydro energy facilities – by 10,9 MW, bio energy – by 2 MW; The renewable energy facilities, which operate at “green” tariff, generated in 2012 780,7 mln. kW*hour of electricity; it exceeds 2 previous years by 36%.

Target 5: By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.

The problem of fragmentation of natural habitats, mainly, concerns the forestry of Ukraine – to address it an increase of the country forest land percentage level, prohibition of continuous fellings of mountain hills, protection of especially valuable natural habitats and inclusion of them into ecological network of Ukraine are envisaged.

To ensure continuity of ecological network of Ukraine and to preserve biodiversity the regional programmes and schemes of ecological network development, environment protection programmes were elaborated.

The Resolution of the Cabinet of Ministers of Ukraine of 07.11.2012 № 1030 “On Amount of Compensation for Illegal Preying, Extinction or Damage of Fauna and Flora Species Incorporated in the Red Book of Ukraine as well as for Extinction or Worsening of their Natural Habitat (Growth)” also contributes to assurance of non-exhaustive use, conservation, restoration of fauna and flora species, including those incorporated into the Red Book of Ukraine.

Target 6: By 2020 all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.

The issue of sustainable use of natural resources is described in the Laws of Ukraine “On Fauna” and “On Environment Protection”. The Law of Ukraine “On Fishery, Industrial Fishery and Protection of Aquatic Bio Resources”, the State Target Economic Programme for Fishery Development for 2012-2016, the Water Code and the State Programme for Rural Territories Development etc. envisage limitation of industrial use of aquatic living resources. The general provision on

efficient use of natural resources is included in the Law of Ukraine “On Ecological Expertize”.

Target 7: By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.

The respective actions are envisaged in the Law of Ukraine “On Fishery, Industrial Fishery and Protection of Aquatic Bio Resources”, the State Target Economic Programme for Fishery Development for 2012-2016, the Water Code and in the State Programme for Countryside Development. The Forestry Code, the Concept for Forestry Reforming and Development and the Law of Ukraine “On Aquaculture” provide for the respective activity in the manner maximally safe for environment.

To terminate the displays of degradation processes and to ensure sustainable functioning of agricultural landscapes the activities related to withdrawal of degraded lands from turnover, development and introduction of crop changes taking into account the soil protective capacity of plants, soil protective and resource saving (alternative) technologies, creation of new forests and protective forest plantations, development of protected territories and environment protective lands are being implemented.

The Ministry of Agrarian Policy and Food of Ukraine, to ensure development of ecological network, annually conducts the afforestation on lands suitable for forest development.

To coordinate the issue of forest certification in the system of the State Forestry Agency the forest monitoring and certification laboratory was established.

The FSC National Initiative in Ukraine developed the “Certification of Forestry. Principles, Criteria and Indicators” Standard.

It is envisaged that during the next years the working group on standard development in Ukraine would ensure harmonization of temporary standards of certification bodies and would also ensure harmonization of the said standard with new version of FSC standard. As a result the unified forest management standard should be prepared in Ukraine.

Target 8: By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.

In all areas of human economic activity the actions focused on minimization of harmful impact of such activities on environment are specified. Special attention is paid to actions related to water and air cleaning, designing, reconstruction and construction of treatment facilities, including those associated with modernization of waste waters decontamination technologies. For the last years an amount of waste being processes increased, a number of educational and awareness activities in terms of minimization of household waste generations have been implemented.

The volume of water resources use for agricultural purposes in 2012 was 1919 mln. m³ against 2818 mln. m³ in 2011.

Index of ambient air pollution (IAAP) in 2012 has decreased by 2,5% compared to 2010 level that proves a certain improvement of ambient air quality in

towns and cities of Ukraine; index of water pollution (IWP) in 2012 has decreased by 3,5 % compared to 2010 level that also proves a certain improvement of water quality in water bodies;

There are the positive changes towards decrease of sulphur dioxide in ambient air by 5,6 % in 2012 against its content in 2012; concentrations of carbon oxide, nitrogen dioxide, nitrogen oxide, hydrogen sulphide, phenol, ammonia and formaldehyde in ambient air in 2012 were at the level of 2010; concentrations of anhydrous hydrogen fluoride, hydrogen chloride in ambient air in 2012 have decreased by 16,7 %, 14,3 % and 16,7 % respectively against their content in 2010. It proves a certain improvement of ambient air quality;

Volumes of pollutant emissions by fixed sources in 2012 have increased by 4,9% against the pollutant emissions in 2010;

Volumes of pollutant emissions by mobile sources in 2012 have decreased by 2,4 % against the pollutant emissions by mobile sources in 2010;

Number of joint implementation projects and projects of target ecological (green) investments in 2012 was 276 and 1117 projects respectively; number of projects of target “green” investments has increased by 130 units compared to 2011;

Volume of investments caused by sale of units of the installed amount of green-house gas emissions in 2012 has increased by UAH 113,9 mln. compared to the level of investments in 2011;

Content of pollutants in water bodies of Ukraine in 2012 compared to 2010 decreased somehow. Thus, in water of Dnipro River (City of Zaporizhzhya) concentration of ammonia nitrogen, BSK₅, phosphates decreased by 36,5 %, 11,5 % and 2,1 % respectively; on certain ingredients one could observe worsening of water quality: thus, in water of Dnipro River (City of Zaporizhzhya) one could observe an increase of nitrates and nitrites concentrations by 22,7 % and 22.2 % respectively in 2012 compared to the concentration of such substances in 2010;

Use of water (m³/day) in 2012 compared to 2010 has increased by 7%;

Volume of discharge of pollutants (thousand tons) and volume of discharge of waste waters in 2012 have decreased by 0,3 % and 0,7 % respectively compared to level of 2010;

Area of agricultural lands in 2012 decreased by 9,86% compared to 2010;

Area of agricultural lands used for cultivation of various organic products exceeds 272 thousand ha that is about 0,65% of all agricultural lands of Ukraine;

Relative share of tillage in the area of agricultural lands in 2012 compared to 2010 has increased by 0,19 % and the relative area of fallow lands decreased by 0,14%;

Volume of destruction of unsuitable pesticides generated for the previous years in 2012 has increased by 256,5 % compared to 2010 that proves a considerable success in pesticides destruction.

Target 9: By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.

The issue of control of dissemination of invasive alien species in agricultural activity (quarantine of plants, fish farming), aquaculture and forestry. It is envisaged

to conduct an ecological assessment of activity that is focused on introduction of invasive alien species of flora and fauna.

Target 10: By 2015, the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning.

Ukraine does not have vulnerable ecological systems, which would be affected so severely due to climate change in order to minimize or decrease the anthropogenic burden on them.

The most vulnerable ecological systems to climate change in Ukraine are forests. The respective provisions on response to climate change and taking the measures are stipulated by the Concept on Ukraine's Forestry Reforming. General provisions concerning forest protection are set forth in the abovementioned laws and regulations.

Target 11: By 2020, at least 17 per cent of terrestrial and inland water areas, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.

The Laws of Ukraine "On Ecological Network" and "On Nature and Reserve Fund" are focused on fulfillment of Target 11. The actions related to increase of ecological network areas in accordance with the National Programme for Development of National Ecological Network for 2000-2015 are being implemented. As of 01.01.2013 the area of lands of ecological network is 23041,5 thousand ha (or 38,16%). The area of nature and reserve fund for the period of 2009-2013 increased by 382,9 thousand ha and as of 01.01.2013 it has 8028 territories and sites with total (actual) area of 3650,9 thousand ha within the territory of Ukraine and 402,5 thousand ha within the water area of the Black Sea.

Ratio of nature reserve fund area to the area of the state is 6,05% of territory of the state. The activities concerning preservation of about 450 thousand ha, especially, of valuable lands, are underway.

The activities with regard to nature reserve territories are also specified in laws and regulations concerning forests and water resources management.

Target 12: By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.

Ukraine is noted for developed legislation on protection of fauna and flora. Additionally the provisions and actions concerning their protection are incorporated in laws and regulations as well as in policy papers of related sectors (forestry, fishery, aquaculture etc.).

***Target 13:* By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.**

Conservation of genetic biodiversity is stipulated by legislation on fauna, livestock farming and forestry. The activities focused on increase of genetic diversity of forests, pedigree diversity of animals and species of plants are underway.

***Target 14:* By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.**

The issue of conservation and efficient use of ecosystems was paid attention almost in all sectoral regulations on protection of environment, fauna and flora, ecological network etc. Management of water resources was included in policy documents concerning use of resources of Dnipro River.

***Target 15:* By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.**

The activities related to mothballing of degraded, low productive and man-made polluted lands, recultivation of disturbed lands are underway. The respective provisions are stipulated in the Land Code and a number of by-laws and regulations. Reforestation is also being carried out in accordance with the provisions of the Forestry Code.

***Target 16:* By 2015, the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization is in force and operational, consistent with national legislation.**

In 2011 the Nagoya Protocol was signed on behalf of Ukraine. Currently the issue on ratification of the Nagoya Protocol and integration of its provisions into legislative environment of Ukraine is being addressed.

***Target 17:* By 2015 each Party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan.**

In response to the State Ecological Policy Strategy the National Environment Protection Action Plan for 2011-2015 was developed and it is being implemented. The NAP partially includes the Aichi Targets in accordance with national priorities.

***Target 18:* By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations,**

and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels.

Traditional land use, forest management and water consumption in the zone of anthropogenic landscapes is stipulated in legislation on protected areas; it is also allowed to pick medicinal plants, flowers, fruits, mushrooms and other food products to meet own needs.

Target 19: By 2020, knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.

The scientific activity is envisaged practically in all sectoral policy documents. Inter-sectoral cooperation concerning conservation of biodiversity in the area of scientific research is developed very poorly.

Target 20: By 2020, at the latest, the mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources, and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization, should increase substantially from the current levels. This target will be subject to changes contingent to resource needs assessments to be developed and reported by Parties.

Awareness of biodiversity value is continuously being reflected in financial systems; a number of international technical assistance projects focused on conservation and efficient use of biodiversity increases. However, inclusion of biodiversity issues into financial flows is progressing too slowly against the pace of its loss.

Question 9: Completeness of implementation of biodiversity strategies and action plans.

To finance the actions of the National Programme for Development of National Ecological Network during 2009-2012 about UAH 27,1 mln. were allocated from the State Budget (including, of the State Environment Protection Fund – 96%); in fact almost UAH 15 mln. were financed. Based on the ratio of a number of planned and implemented scientific and research activities stipulated by the Programme areas the percentage of implementation was about 56%.

To meet the Target 5 the National Environment Protection Action Plan for 2011-2015 (adopted by the Instruction of the Cabinet of Ministers of Ukraine of 25.05.2011 №577) it is envisaged to implement 43 environment protection actions from the State Budget and the EU Sectoral Budget Support Programme in amount of UAH 330,2 mln., of those 21 actions – at the expense of the State Environment Protection Fund for amount of UAH 289,3 mln. During 2011-2012 it was planned to implement 31 environment protection actions at the expense of the State Environment Protection Fund for the total amount of UAH 81,8 mln. Of those planned to be fulfilled for this period about 55% have been implemented.

PART III. PROGRESS TOWARDS THE 2020 AICHI BIODIVERSITY TARGETS AND CONTRIBUTIONS TO THE RELEVANT 2015 TARGETS OF THE MILLENNIUM DEVELOPMENT GOALS

Question 10: What progress has been made in Ukraine towards the implementation of the Strategic Biodiversity Plan for 2011-2020 and its Aichi Biodiversity Targets?

Target 1: By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.

The National Report on Development of National Ecological Network for 2006-2010 was published. Annually the National Report on Environment Condition, which contains a section on conservation of bio- and landscape diversity, is being published. Development of training course for application of water resources basin and integrated management principle has started. The proposals concerning conduct of training course under TAIEX actions are being prepared.

The subject matter for the issues of application of water resources basin and integrated management principle was developed and introduced into separate qualification improvement courses of the State Ecological Academy of Post-graduate Education and Management of the Ministry of Ecology and Natural Resources; the respective qualification improvement course was developed and introduced.

All institutions of nature reserve fund implement, on a continuous basis, the awareness and educational activities focused on supporting by population the creation and expansion of territories and sites of nature reserve fund, conduct various campaigns on the occasion of ecological dates and festivals, in particular, the World Environment Day, the Environment Day, Earth Day, World Water Day, the European Day of Parks, International Day for Biological Diversity, the World Wetlands Day, the World Tourism Day are celebrated by large-scale campaigns; almost all institutions conduct campaigns “Meeting Birds”, “Primrose”, “Let’s Preserve the Fir tree”, “Ivana Kupala”, “Water Baptizement” etc. The information materials on creation and expansion of territories and sites of nature reserve fund have been posted on web portal of the Ministry of Ecology and Natural Resources.

The Ministry of Ecology and Natural Resources drafted the Methodology on establishment of technological standards for disposal of rain waste waters into water bodies.

The annual All-Ukrainian Contest “To Clean Springs” and “AQUA-UKRAINE” International Water Forum have been conducted; their tasks were focused on introduction in Ukraine of energy efficient technologies, creation of favourable investment climate in the area of water economy, improvement of public responsibility level to prevent pollution of water resources.

Target 2: By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.

The State Regional Development Strategy till 2020 (Resolution of the Cabinet of Ministers of Ukraine of 06.08.2014 № 385) foresees a number of actions focused on efficient use of natural resources potential and conservation of cultural and natural heritage of regions:

Conserving in regions the biological and landscape diversity, restoring natural systems, land and water resources, developing national ecological network;

Efficiently using the recreational resources of territories and sites of nature reserve fund to form an economic environment and to develop the people's employment in regions;

Developing the economic mechanisms of encouragement of regions concerning development of nature and reserve fund of Ukraine;

Raising awareness of people with regard to values of territories and sites of nature and reserve fund and involving the population to manage them;

Creating the conditions to preserve in regions the original folk culture, habits, traditions, rites, including those of national minorities;

Developing the various types of "green" tourism within territories of nature and reserve fund of Ukraine and in adjoining settlements".

Scientific institutions are studying an issue concerning economic assessment of biodiversity of certain ecological systems; in particular, the highest attention is paid to forest ecological systems.

In Ukraine during the last 10 years the research focused on assessment of ecological services of protected areas have started. For Ukrainian protected areas mainly assessment of cost from existence was made, using the instruments of indirect assessment on the basis of people's polling concerning the wish of people to pay or giving the rank assessment to natural resources of protected areas to show its value for reservation or for development of tourist potential. For instance, an assessment of ecological and tourist potential of Shatsky National Nature Park on the basis of determination of nature and resource and social and economic indicators of the said territory value was made; an assessment of cost estimating from existence for "Skolyvsky Beskidy" National Nature Park under the method of conditional assessment was made; economic assessment of ecological services was also made for "Nyzhnyovorsklyansky" Regional Landscape Park – protected area of local importance that is located in the Lower Vorskla of Poltava Oblast.

Target 3: By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio-economic conditions.

The actions focused on encouragement of implementation of innovative projects, energy efficient and resource saving technologies, low-waste, wasteless and environmentally safe technological processes are envisaged by draft Concept and the

Strategy for implementation in Ukraine of cleaner production, the Concept of state policy for development of “green economy”.

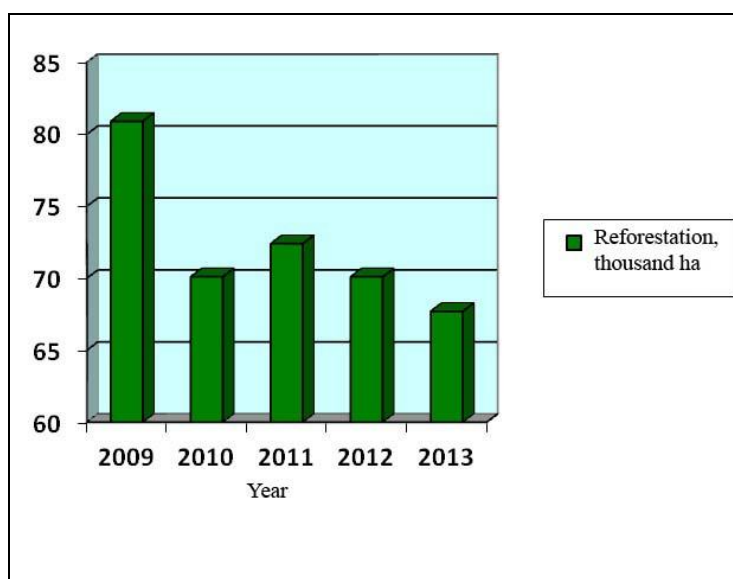
Target 4: By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.

The Ministry of Regional Development, Construction and Housing drafted the Law of Ukraine “On Technical Regulation of Buildings, Structures, Linear Facilities of Engineering and Transport Infrastructure and Construction Articles”.

The regulatory and legal framework in terms of securing economic sanctions to business entities in case they breach the environment protection legislation has been improved, in particular, the Resolution of the Cabinet of Ministers of Ukraine of 24.06.2013 № 541 “On Adoption of Rates to Calculate an Amount of Damage Made as a Result of Breaching the Nature and Reserve Fund Legislation”; of 21.11.2011 №1209 “On Adoption of Rates to Calculate an Amount of Reimbursement for Damage Made as a Result of Illegal Extraction (Collection) or Extinction of Valuable Species of Water Biological Resources” was approved.

Target 5: By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.

The volume of reforestation in Ukraine in 2013 was 67,7 thousand ha. As one can see from graph below the area of territory of restored forests is gradually decreasing.



Reforestation in Ukraine in 2009-2013

In 2012 in Ukraine the area of 63 629 ha was converted in that covered with forest, of those 14 932 ha (23,5%) – from natural recovery. Creation of highly productive and perennial forest plantations is ensured by continuous forest and seed

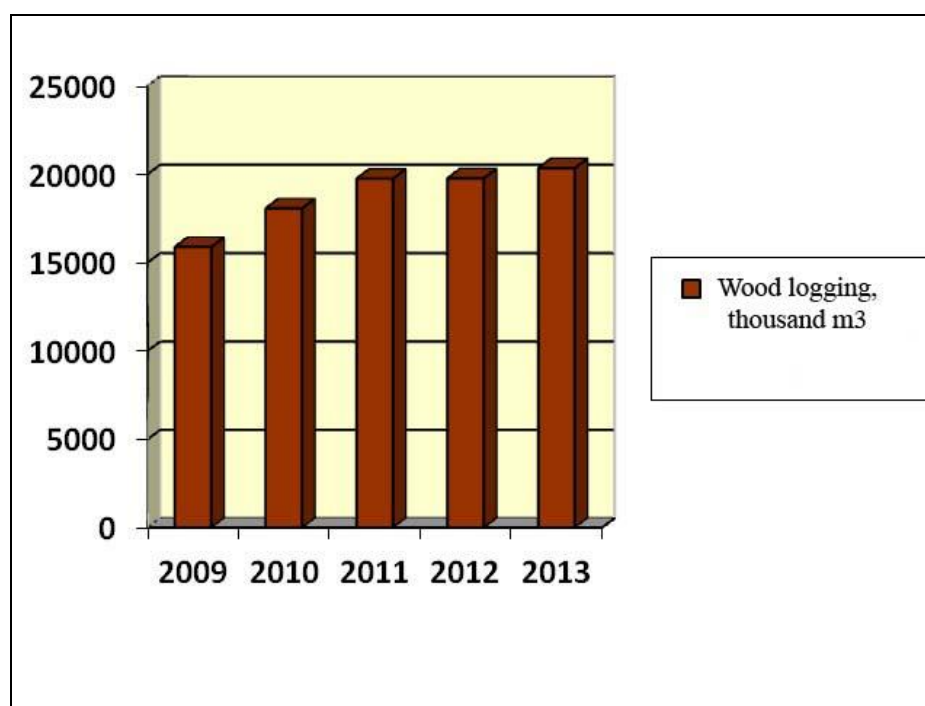
base that consists of 4,2 thousand mesopodial trees, 2.1 thousand ha of mesopodial plantations, 15,5 thousand ha of constant forest and seed sections, 1 thousand ha of constant forest and seed plantations, 22 thousand ha of genetic reserves.

The total wood stock in forest plantations of Ukraine is 2102 mln. m³, including that in forests of the State Forestry Agency – 1512 mln. m³.

The volumes of use of forest resources ensure a continuity of fulfillment of ecological and economic functions by forests. Due to use of forest resources the forestry receives own funds to finance the actions focused on increase of productivity, improvement of qualitative composition of forests, their protection and restoration (for the last years the state is financing up to 30% of the total costs for forestry keeping).

The wood has been logged during fellings of main use, when creating and sanitating the forests and other fellings. The limit of logging under procedure of fellings of main use is a prescribed wood-cutting area, which is adopted taking into account the principles of continuity and non-exhaustiveness of forest resources use and it ensures an ecologically balanced forest management.

The volume of logging of liquid wood compared to all types of fellings in Ukraine was 17,5 mln. m³ (in forests of the State Forestry Agency – 13,9 mln. m³), including of fellings of main use – 7,8 mln. m³ or 44,4% of the total logging volume (in the State Forestry Agency – 6,6 mln. m³).



Wood logging in Ukraine for 2009-2013

The volumes of forest management from fellings of main use do not exceed the prescribed wood-cutting area, which ensures ecologically balanced forest management (in Ukraine – 8,8 mln. m³, in the State Forestry Agency – 6,9 mln. m³).

The total annual growth of wood in forests of the State Forestry Agency – 24,6 mln. m³, use of growth in 2012, according to the State Forestry Agency, was 64%.

Target 6: By 2020 all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.

At present the permitting documents for use of natural resources are being issued on the basis of scientifically justified standards, limits and forest improvement materials.

Target 7: By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.

The Ministry of Agrarian Policy and Food of Ukraine, to ensure development of ecological network through increase of area of forests, entrusted the subordinate state forestry companies to take over 103,5 thousand ha of lands suitable for forest development (of those ownership establishing documents for area – 29,3 thousand ha), afforestation of which will be carried out in the next years.

To terminate the displays of degradation processes and to ensure sustainable functioning of agricultural landscapes the activities related to withdrawal of degraded lands from turnover, development and introduction of crop changes taking into account the soil protective capacity of plants, soil protective and resource saving (alternative) technologies, creation of new forests and protective forest plantations, development of protected territories and environment protective lands are being implemented.

Upon initiative of the Ministry of Agrarian Policy and the State Land Agency the Resolution of the Cabinet of Ministers of Ukraine of 02.10.2013 № 725 “On Amending the Procedure of Land Management Drafts, which Ensure Ecological and Economic Substantiation of Crop Rotation and Adjustment of Lands” was approved.

The Resolution of the Cabinet of Ministers of Ukraine adopted the Procedure of land management designs, which ensure ecological and economic justification of crop changes and adjustment of lands – such designs are being developed to arrange agricultural production and to adjust agricultural lands within land tenure and land management to efficiently manage agricultural production, to ensure efficient use and protection of lands, to create a favourable ecological environment and to improve nature landscapes.

To coordinate the issue of forest certification in the system of the State Forestry Agency within the Ukrainian Scientific and Research Institute of Forestry and Agricultural and Forest Reclamation the forest monitoring and certification laboratory was established.

The FSC National Initiative in Ukraine developed the SOU Standard 02.0-33692178-001:2008 “Certification of Forestry. Principles, Criteria and Indicators”.

The Ukrainian Scientific and Research Institute of Forestry and Agricultural and Forest Reclamation (UkrSRIFAFR) developed and submitted to the Scientific and Technical Council of the State Forestry Agency for consideration “The Main

Principles of Agriculture related to Plantation Forest Cultivation (Temporary Methodological Guidelines)”.

The State Land Agency and its territorial bodies, within their competence, carry out the explanatory activities among land plot owners and users with regard to necessity of developing the land management designs, which ensure ecological and economic justification of crop changes and adjustment of lands. Thus, for the period of 2011 – 2013 3920 meetings, workshops, conferences with commodity manufacturers were conducted, 3843 articles were published in mass media and Internet.

To improve efficiency of state regulation in the area of land relations and to improve mothballing of degraded, low-productive and man-made contaminated lands the Ministry of Agrarian Policy issued the Order of 26.04.2013 № 283 “On Adoption of Lands Mothballing Procedure” registered with the Ministry of Justice on 24.05.2013 №810/23342.

The main areas of activity in the balanced development of agricultural ecological systems under the Concept of balanced (sustainable) development of agricultural ecological systems in Ukraine till 2025 the following necessary actions are impartially determined:

- Increasing a share of agricultural lands of extensive use (haying, pastures) in accordance with the scientifically justified indicators, which should be developed considering regional and local specifics;
- Decreasing the areas of arable lands up to 37-41% territory of the country through withdrawal, from tillage of slopes with a gradient exceeding 3 degrees, of lands of water protective zones, degraded, low-productive and man-made contaminated agricultural lands;
- Expanding the area of field-protective forestation and other protective plantations in accordance with the scientifically justified indicators, which should be developed considering regional and local specifics;
- Creating new and expanding the areas of existing territories and sites of nature reserve fund within agricultural lands;
- Creating the conditions to ensure continuity of natural areas within agricultural lands.

Target 8: By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.

In 9 oblasts at the expense of local environment protection funds the activities related to designing, reconstruction and construction of treatment facilities, including those associated with modernization of waste waters decontamination technology and activities to ensure rate purification of waste waters being discharged into surface water bodies of oblast have been implemented; .

In accordance with the Concept of National Programme for development and reconstruction of centralized water drain systems of communities and settlements of Ukraine for 2012-2020 adopted by the Instruction of the Cabinet of Ministers of Ukraine of 22.08.2011 № 1004-p, the Ministry of Regional Development,

Construction and Housing of Ukraine drafted the Law of Ukraine “National Programme for Development and Reconstruction of Centralized Water Drain Systems of Communities and Settlements of Ukraine till 2020”; the said draft Law envisages the actions for reconstruction and new construction of sewerage treatment facilities.

The Verkhovna Rada of Ukraine approved the Law of Ukraine “On Adoption of the State Target Programme for Water Economy Development and the Dnipro River Basin Ecological Rehabilitation till 2021”, which is focused on assurance of implementation of state policy with regard to conservation and restoration of water resources on the principles of sustainable development of water economic sector, introduction of integrated water resources management and harmonization of water legislation to the EU law.

The State Statistics Service of Ukraine makes annual inventory of reporting and statistical documentation necessary to conduct state statistical observations. In 2012 the forms of state statistical observations for statistics of hunting, forestry and environment protection were updated.

Target 9: By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.

In 2011-2013 the research on invasive alien species in Ukraine, mainly plants, have been continued.

The species composition of alien vascular plants, taxonomic and typological structure of anthropophytes were analysed in Ukraine in general and in individual administrative areas. Characteristics of this flora component were examined in main types of its anthropic transformation. In accordance with the global and European IAS strategies the draft National IAS Strategy was proposed.

On the results of recent research of scientists in Ukraine there are 830 species of plants, which are considered as alien for this country. About 85 adventive species of plants are the plants with high invasive potential. Information on invasive alien species of plants was provided to DAISIE (Delivering Alien Invasive Species in Europe) Project.

Recommendations with regard to forecasting, prevention, restriction or control of phytovasions were developed and published in the National Report on Environment Condition in Ukraine in 2011 (published in 2012, available by reference <http://www.menr.gov.ua/media/files/NacDopovid2011.pdf>).

A number of publications in mass media, including Internet, draw attention of broad public to invasive alien species problems, especially, in case of the most dangerous species. For instance, in Article at <http://zik.ua/ua/news/2012/06/26/355743> (2012) a detailed description of *Heracleum Sosnowskyi*, its threat to people and control measures in Lviv Oblast are provided. It was envisaged to elaborate a local programme to control species.

Target 10: By 2015, the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning.

Ukraine does not have vulnerable ecological systems, which would be affected so severely due to climate change in order to minimize or decrease the anthropogenic burden on them.

The most vulnerable ecological systems to climate change in Ukraine are forests. The respective provisions on response to climate change and taking the measures are stipulated by the Concept on Ukraine's Forestry Reforming. General provisions concerning forest protection are set forth in the abovementioned laws and regulations.

Target 11: By 2020, at least 17 per cent of terrestrial and inland water areas, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.

The activities concerning an increase of ecological network area in accordance with the National Programme for Development of National Ecological Network for a 2000-2015 are being implemented.

The area of nature reserve fund for the period of 2009 - 2013 enlarged by 382,9 thousand hectares and as of 01.01.2013 has 8028 territories and sites with the total (actual) area of 3650,9 thousand ha within the territory of Ukraine and 402,5 thousand ha within the water area of the Black Sea.

The list of national nature parks and reserves proposed to be established as well as the indicators of development of nature reserve fund in regions that is approved by oblast state administrations were prepared.

The scientific and research activities concerning creation of Dnistrovsky, South-Ukrainian, Siversky-Donetsky, Buzky, Halytsky-Slobozhansky ecological corridors are being carried out.

Under implementation of the Joint Programme of the Council of Europe and the European Union "Support to Implementation of the Development Programme of Nature and Reserve Territories of the Convention on Biological Diversity in Eastern Region Countries of the European Neighbourhood Policy and Russia: Continuation of Implementation of "Natura-2000" EU Programme Under Emerald Network", which was attended, on behalf of Ukraine, by "Interecocentre" charitable organisation, the information databases concerning 151 potential sites of the Emerald Network of Europe were prepared.

The Standing Committee of the Bern Convention at its 32-nd meeting on 30 November 2012 supported the proposals of Ukraine and granted to 151 sites of Ukraine the status of sites-nominees of the Emerald Network of Europe.

Later on, within development of the Emerald Network of Europe it is planned to make expert assessment of prepared information databases with regard to sites specified in the table to clarify their compliance and adequacy to preserve rare species of flora and fauna and natural habitats, which are determined in Resolutions of the Standing Committee of the Berne Convention № 4 (1996) and № 6 (1998).

The State Target Economic Programme for development of automobile roads of general use for 2013-2018, which provides for “development of ways of animals migration to preserve them, development of ecological network, observance of the regime, protection and use of territories and sites of nature and reserve fund” was approved.

Target 12: By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.

A number of scientific and research activities focused on improvement of information collection mechanism on fauna species included in the Red Book of Ukraine is being carried out; it includes study of condition of species and their conservation in nature environment; conduct of taxonomic, population, ecological, cenotic and range-related research of flora species included in the Red Book of Ukraine to preserve them in nature environment.

The activities related to construction of rehabilitation centre to keep brown bear on the territory of Synevyr National Nature Park have been carried out. At present on the territory of the centre 11 bears are kept.

The Order of the Ministry of Ecology and Natural Resources “On Temporary Banning the Special Use of Cetaceans of the Black and Azov Seas” was issued.

The Order of the Ministry of Ecology and Natural Resources of 06.12.2012 № 622 “On Adoption of Rules and Norms to Keep Dolphins in Captivity Conditions” was issued. State registration of pesticide zink phosphide was cancelled.

The State Forestry Agency of Ukraine and its territorial bodies together with authorities of the Ministry of Interior, Ministry of Ecology and Natural Resources, State Ecological Inspectorate of Ukraine and users of hunting forests have been patrolling to protect the state hunting stock during migration of wild migratory birds.

Target 13: By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.

Conservation of genetic biodiversity is stipulated by legislation on fauna, livestock farming and forestry. The activities focused on increase of genetic diversity of forests, pedigree diversity of animals and species of plants are underway.

Target 14: By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.

The issue of conservation and efficient use of ecosystems was paid attention almost in all sectoral regulations on protection of environment, fauna and flora,

ecological network etc. Management of water resources was included in policy documents concerning use of resources of Dnipro River.

As of 2012 only 5% of the total length of automobile roads is equipped with surface water drain and cleaning system.

Target 15: By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.

The activities related to mothballing of degraded, low productive and man-made polluted lands, recultivation of disturbed lands are underway. The respective provisions are stipulated in the Land Code and a number of by-laws and regulations. Reforestation is also being carried out in accordance with the provisions of the Forestry Code.

Target 16: By 2015, the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization is in force and operational, consistent with national legislation.

In 2011 the Nagoya Protocol was signed on behalf of Ukraine. Currently the issue on ratification of the Nagoya Protocol and integration of its provisions into legislative environment of Ukraine is being addressed.

Target 17: By 2015 each Party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan.

In response to the State Ecological Policy Strategy the National Environment Protection Action Plan for 2011-2015 was developed and it is being implemented. The NAP partially includes the Aichi Targets in accordance with national priorities.

Target 18: By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels.

Traditional land use, forest management and water consumption in the zone of anthropogenic landscapes is stipulated in legislation on protected areas; it is also allowed to pick medicinal plants, flowers, fruits, mushrooms and other food products to meet own needs.

Target 19: By 2020, knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.

The scientific activity is envisaged practically in all sectoral policy documents. Inter-sectoral cooperation concerning conservation of biodiversity in the area of scientific research is developed very poorly.

For the road sector the Strategic Programme for scientific research development was elaborated, including the ecologically-related aspects. The experts from Hungary, Belgium, Poland, Sweden and Israel have been involved in elaboration of this Strategy. The said Strategy provides for development of expertise, knowledge, scientific base and technologies related to biodiversity.

Target 20: By 2020, at the latest, the mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources, and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization, should increase substantially from the current levels. This target will be subject to changes contingent to resource needs assessments to be developed and reported by Parties.

Awareness of biodiversity value is continuously being reflected in financial systems; a number of international technical assistance projects focused on conservation and efficient use of biodiversity increases. However, inclusion of biodiversity issues into financial flows is progressing too slowly against the pace of its loss.

Question 11: What actions contributed to achievement of the relevant 2015 targets of the Millennium Development Goals in Ukraine?

Ukraine succeeded in achieving certain positive changes towards fulfillment of tasks of sustainable environment development. The volumes of emissions and discharges of pollutants into environment have been materially decreased, although these processes are largely affected by decrease of economic growth pace. A positive dynamics can be observed in terms of improvement of forest land percentage and enlargement of area of nature reserves and national nature parks. Fulfillment of obligations with regard to centralized water supply to rural population and low pace of increasing the share of protected areas remain the problematic issues.

Under Target 7 “Ensure Environmental Sustainability” for Ukraine the following targets and indicators are determined:

Millennium Development Goal 7 “Ensure Environmental Sustainability” for 2015 for Ukraine	
<i>Targets</i>	<i>Indicators</i>
Target 7.A: Increase by 2015 share of the population with access to centralized water supply, inter alia 90% of the urban population and 30% of the rural population	7.1. Share of urban population with access to centralized water supply, % of overall urban population 7.2. Share of rural population with access to centralized water supply, % of overall

Millenium Development Goal 7 “Ensure Environmental Sustainability” for 2015 for Ukraine	
<i>Targets</i>	<i>Indicators</i>
	rural population
Target 7.B: Stabilize by 2020 greenhouse gas emissions at 20% below 1990 levels	7.3. Volume of emissions of pollutants into atmosphere from stationary sources, million tonnes per year 7.4. Volume of emissions of pollutants into atmosphere from mobile sources, million tonnes per year
Target 7.C: Stabilize pollution of water reservoirs by 2015. Stabilize at the level of 8,500 million tonnes per year the volume of sewage disposal to surface water reservoirs, million cubic metres per year	7.5. Volume of reused water disposals, million cubic metres per year
Target 7.D: Increase forest cover of the territory of Ukraine to 16.1% and area of nature reserve territory by 2015 Enhance the network of nature reserves, biosphere reserves and national nature parks to 3.5% of the overall territory of Ukraine and to 9.0% of the overall area of territories and objects of the nature reserve fund	7.6. Forest cover and ratio of lands covered with forests, % of overall area of the territory of Ukraine 7.7. Share of area of nature reserves, biosphere reserves and national nature parks, % of overall area of the territory of Ukraine 7.8. Share of area of territories and objects of the nature reserve fund, % of overall area of the territory of Ukraine

Targets and Indicators of Millenium Development Goal 7 “Ensure Environmental Sustainability” for 2015 for Ukraine

Among the sub-targets of Target 7 specified for Ukraine the 7B, 7C and 7D meet the Aichi Targets 8 and 11. The respective provisions concerning fulfillment of Aichi Targets are partially incorporated in the National Environment Protection Action Plan for 2011-2015.

To fulfill the sub-target **7B** the National Environment Protection Action Plan for 2011-2015 foresees the actions focused on implementation of projects for monitoring of pollutant emissions level into ambient air and introduction of modern purification systems (item 49), development and adoption of methodologies for calculation of pollutant emissions into air by chaotic fixed sources (item 52), drafting the regulation on inclusion of green-house gases into the list of the most widespread and hazardous pollutants (item 136) etc. The ambient air protection actions are included into the State Target Ecological Programme for Crimea Development (“Environmentally Safe Crimea”) for 2011-2015.

During the period of 1990-2011 dynamics of green-house gas emissions (Fig. 1) allows to determining the following three stages:

- during the first stage (1991-1999) one could observe a disastrous decrease of gross domestic product (hereinafter referred to as the GDP) and decrease of energy consumption that resulted in reduction of green-house gas emissions;

- at the second stage (2000-2007) one could observe a gradual increase of emission volumes associated with economic growth (including the GDP growth). It can be explained by structural changes in economy compared to industrial production: increasing role of trade, services and financial sector;

- during the third stage (2008-2011) the volumes of green-house gas emissions depend on a factor of the global financial crisis (2008-2009), which affected the volumes of production in main export-oriented industries – metallurgical, chemical, machine-building as well as power and mining industries.

Joint implementation projects under the Kyoto Protocol, which contribute to decrease of green-house gas emissions, play an important role in development of the said tendencies. By that time 274 joint implementation projects were adopted, of which 202 proved decrease of green-house gas emissions with a total volume of 505 815 412 mln. tones of CO₂-equivalent.

Taking into consideration the existing tendencies of decrease of GDP energy intensity and carbon intensity, improvement of efficiency of traditional energy sources use and increase of pace related to involvement of alternative and renewable energy sources, including those due to flexible mechanisms of the Kyoto Protocol, we can state the following:

- at present in Ukraine the level of green-house gas emissions is only 43,6% of 1990 level that largely exceeds the specified target towards decrease of green-house gas emissions till 2020 at the level of 20% compared to 1990 level;

- forecast of green-house gas emissions given in the Fifth National Climate Change Communication of Ukraine allows to stating the stabilization, till 2020, of green-house gas emissions at the level lower than decrease by 20% compared to 1990 level.

To fulfill the sub-target **7C** the National Environment Protection Action Plan for 2011-2015 foresees the actions related to construction and reconstruction of municipal treatment facilities, drafting the regulation on amending the state target programmes for construction (reconstruction) of facilities and water drain networks, including the waste water systems, in settlements, replacement of emergency sewerage networks and worn equipment of treatment plants, conduct of scientific and innovative research focused on designing the compact local treatment facilities (plants), which could be used in food and meat and dairy industries assessment of impact of pollution sources on condition of the Azov and Black Seas, development and implementation of actions necessary to decrease the level of pollution of sea waters and territorial sea to prevent enhancement of man-made impact on environment and restoration of ecosystems of the Black and Azov Seas.

To improve the legal framework in the area of ambient air protection in 2012 the following regulations were drafted and included in the Unified State Register of Laws and Regulations:

Order of the Ministry of Ecology and Natural Resources of 21.12.2012 № 670 “On Adoption of Technological Standards for Permissible Emissions of Pollutants from Equipment (Plants) to Smelt Ferroalloys with Smelting Capacity Exceeding 20 tons per Day” (registered with the Ministry of Justice on 02.01.2013 №12/22544),

which sets the current and perspective technological standards for permissible emissions of pollutants into ambient air for closed, open, semi-open, semi-closed (open with low hood) and pressure-tight ore-smelting electrical and heat furnaces to smelt manganese and silicic ferroalloys after purification of exhaust gases in gas purification plants;

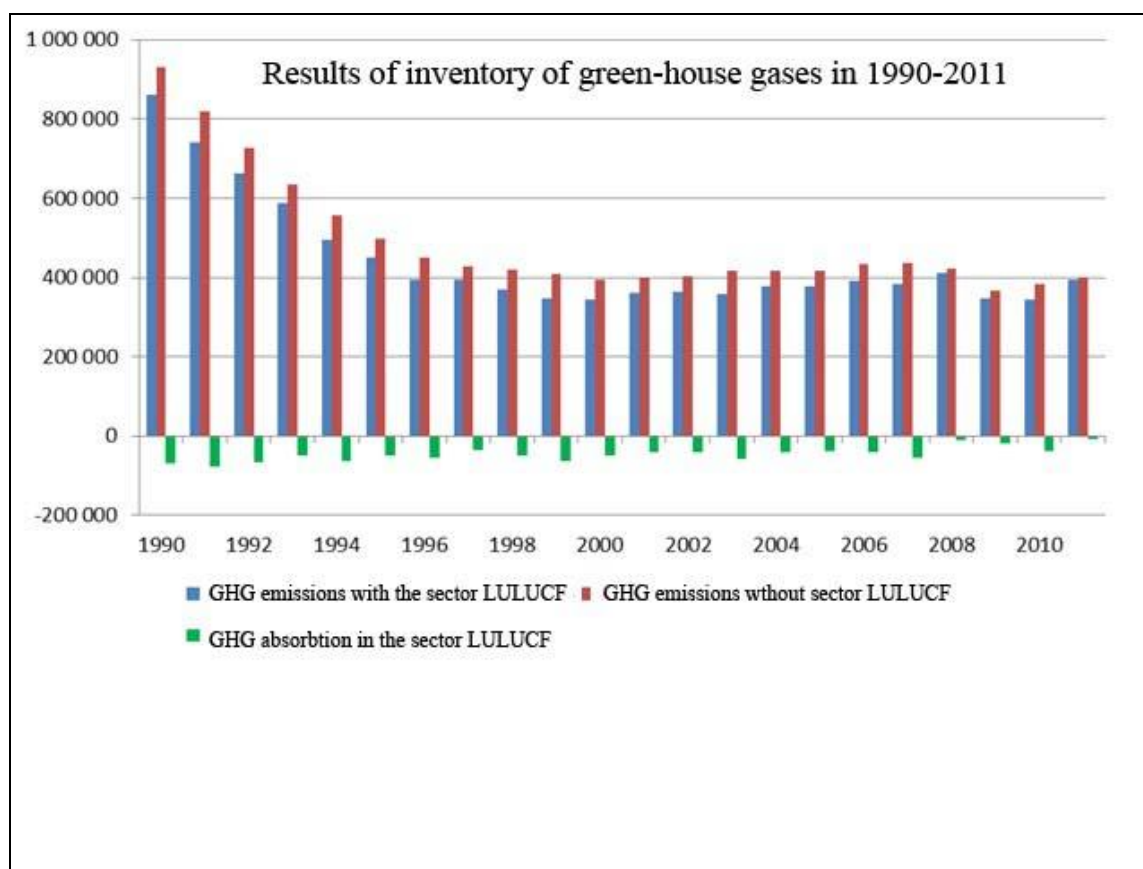


Figure 1 – Results of inventory of anthropogenic emissions from sources and absorption by green-house gases absorbers in Ukraine in 1990 – 2011 (GHG – green-house gas; LULUCF – Land use, land use change, forestry).

Order of the Ministry of Ecology and Natural Resources of 21.12.2012 № 671 “On Adoption of Technological Standards for Permissible Emissions of Pollutants from Equipment (Plants) to Burn off and Agglomerate the Metal Ore (Including Sulphide Ore)” (registered with the Ministry of Justice on 02.01.2013 №3/22535), which sets the current and perspective technological standards for permissible emissions of pollutants into ambient air by fixed plants designed directly to produce agglomerate, namely sintering machines.

The quantitative data on pollution of ambient air by indicators mentioned in Table 1 are shown below. Unfortunately, the actions on ambient air protection are not efficient enough so far to ensure decrease of emissions into ambient air.

Indicator 7.3. Volume of emissions of pollutants into atmosphere from stationary sources, million tonnes per year:

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Indicators	4,05	4,07	4,09	4,15	4,46	4,82	4,81	4,52	3,93	-	4,6	-
Report	4,05	4,08	4,09	4,15	4,46	4,82	4,81	4,52	3,93	4,13	4,4	4,3

Indicator 7.4. Volume of emissions of pollutants into atmosphere from mobile sources, million tonnes per year:

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Indicators	1,99	2,03	2,1	2,17	2,15	2,21	2,57	2,69	2,51	-	2,92	-
Report	1,99	2,03	2,1	2,17	2,15	2,2	2,56	2,68	2,51	2,54	2,5	2,49

Practically all surface water supply source of Ukraine have been intensively polluted during the last ten years. Due to low quality of waste water purification an inflow of polluted drains into surface water bodies does not decrease, although use of water compared to early 90-s decreased in more than two times.

The tense situation could be observed in basins of such rivers as Dnipro, Siversky Donets, rivers flowing into the Azov Sea, certain tributaries of Dnister and Western Buh.

Due to low quality of waste water purification an inflow of polluted drains into surface water bodies continues.

Provision of Ukraine's population with water in full is being complicated due to unsatisfactory water quality of water bodies. Water quality of most of them classified, mainly, as polluted and dirty (III and IV classes of quality). The most complicated situation could be observed in basins of such rivers as Dnipro, Siversky Donets, rivers flowing into the Azov Sea, certain tributaries of Dnister and Western Buh.

On the results of generalization of water use reported for 2010-2012 by sectors the largest polluters are industrial enterprises, of those the largest are ferrous metallurgy and coal industry enterprises.

Indicator 7.5. Volume of reused water disposals, million cubic metres per year:

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Indicators	10136	9613	9098	8697	8553	8484	8579	8342	7381	-	8340	-
Report	10136	9613	9098	8697	8553	8484	8579	8342	7381	7817	7725	7780

The sub-target **7D** in the National Environment Protection Action Plan for 2011-2015 is described in large part of Section 5 "Prevention of Loss of Biological and Landscape Diversity and Development of Ecological Network". The respective actions are included in the National Programme for Development of National Ecological Network for 2001-2015 and "Forests of Ukraine" State Target Programme for 2010-2015 and they are being implemented.

According to the data of the State Forestry Agency in 2010 46 thousand ha of lands was transferred into lands covered with forest vegetation. Thus, in 2010 the target related to increase of forest land percentage specified by "Forests of Ukraine" State Target Programme for 2010-2015 was met.

On data of the State Land Cadastre Division, as of 1 January 2012, according to allocation by main types of lands and economic activity the forests and other areas covered with forests make up 10611,3 thousand ha, of those lands covered with forest vegetation - 9683,3 thousand ha. At that, forest land percentage of territory of the country is 16 percent.

Indicator 7.6. Forest cover and ratio of lands covered with forests, % of overall area of the territory of Ukraine:

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Indicators	-	15,6	-	-	15,6	-	-	15,6	-	-	15,8	-
Report	-	15,6	-	-	15,6	-	-	15,7	-	15,7	15,9	16

Nature reserve fund of Ukraine (NRF) as of 01.01.2013 consists of 8028 territories and sites with general (actual) area of 3922,7 thousand ha within the territory of Ukraine and 402,5 thousand ha within the water area of the Black Sea.

Percentage of NRF to the area of the state is 6,05 %. The percentage below reflects the share of area of some categories of NRF (not all of them).

Indicator 7.7. Share of area of nature reserves, biosphere reserves and national nature parks, % of overall area of the territory of Ukraine:

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Indicators	1,6	1,7	1,7	1,7	1,8	1,8	1,8	1,9	2,0	-	2,9	-
Report	1,6	1,7	1,7	1,8	1,8	1,9	1,9	2,0	2,4	2,8	2,8	2,8

Indicator 7.8. Share of area of territories and sites of nature and reserve fund of Ukraine, % to the total area of the territory of Ukraine:

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Indicators	4,2	4,5	4,5	4,57	4,65	4,73	4,95	5,04	5,4	-	7,0	-
Report	4,2	4,5	4,5	4,57	4,65	4,73	4,95	5,04	5,4	5,7	5,9	6,05

Question 12: What lessons have been learned from implementation of the Convention in Ukraine?

The main documents governing implementation of the Convention on Biodiversity in Ukraine are the National Programme for Development of National Ecological Network for 2001-2015, Strategy of State Ecological Policy till 2020 and the National Environment Protection Action Plan for 2011-2015.

For the reporting period under fulfilment of the abovementioned documents as well as a number of sectoral documents the following was achieved:

- Area of nature reserve fund increased; NRF transboundary sites are created and planned to be created;
- Number of projects of organization of territories and sites of nature reserve fund increased;
- Ecological network area increased;
- Number of regional programmes for ecological network development, oblast and regional ecological network schemes increased;
- Sites, which obtained the status of sites-nominees of the Emerald Network of Europe, were defined;
- Number of wetlands of international importance increased; the list was submitted to Secretariat of the Ramsar Convention to be adopted;

- Area of certified forests in accordance with FSC standards increased;
- Access to public information concerning ecological issues was facilitated;
- Incentives were developed and alternative energy development mechanisms were introduced;
- Development of economic assessment of ecosystem services was launched;
- Area of restored degraded lands increased;
- Principle of basin and integrated water resources management was introduced;
- Volume of waste being processed increased; content of certain pollutants in air decreased.

At the same time deforestation, degradation of natural ecosystems, increase of eroded lands area, extinction of natural habitats of many flora and fauna species, decrease of populations of typical and rare their representatives remain the problematic issues. Unfortunately, one can observe the further pollution of water sources of the country, decrease of area of wetlands and other ecosystems valuable for biodiversity.

Economic development of the state due to extensive use of natural resources remains a priority one so far. However, significance of biodiversity and its unexhausted use is gradually being integrated into all areas of human activity.

Annex I. Information concerning the reporting Party and preparation of the Fifth National Report

Contracting Party	<i>Ukraine</i>
<i>NATIONAL COORDINATION CENTRE</i>	
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<i>LIASON OFFICER CONCERNING THE NATIONAL REPORT (IF IT IS A DIFFERENT PERSON RATHER THAN THE ABOVEMENTIONED)</i>	
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<i>REPORT PRESENTATION</i>	
Signature of officer responsible for submitting national report	<i>Sergiy Gubar</i>
Date of submission	<i>April 7, 2015</i>

B. Process of National Report Preparation

The report was produced by the Directorate of Natural Resources Protection of the Ministry of Ecology and Natural Resources of Ukraine. In preparing the report information was taken from the central and local governmental authorities, scientific institutions and non-governmental organizations (Ministry had requested more than 60 organizations and institutions). To discuss the draft report was posted on the official website of the Ministry and sent to specialized scientific institutions.

Annex II. Additional sources of information

http://menr.gov.ua	Official web site of the Ministry of Ecology and Natural Resources of Ukraine
http://rada.gov.ua	Official web site of the Verkhovna Rada of Ukraine
http://kmu.gov.ua	Official web site of the Cabinet of Ministers of Ukraine
http://www.minagro.kiev.ua	Official web site of the Ministry of Agrarian Policy of and Foodstuff of Ukraine
http://dklg.kmu.gov.ua	Official web site of the State Forestry Agency of Ukraine
http://www.ukrstat.gov.ua	State Statistics Service of Ukraine
http://www.nas.gov.ua	Official web site of the National Academy of Sciences of Ukraine
http://www.uaan.gov.ua	Official web site of the National Academy of Agrarian Sciences of Ukraine to the National Academy of Sciences of Ukraine
http://ulrnc.org.ua	Web site of the Ukrainian Centre for Land and Resources Management
http://biomon.org	Web site of the “Ukraine’s Biodiversity Monitoring”
http://www.birdlife.org.ua	Web site of the Ukrainian Society for Bird Protection
http://organic.com.ua/	Federation of Organic Movement of Ukraine

Laws and Regulations of the Verkhovna Rada of Ukraine

Law on Environment Protection	1991.06.25 №1264-XII
Law on Nature Reserve Fund of Ukraine	1992.06.16 №2456-XII
Law on Pedigree Business in Livestock Sector	1993.11.15 №3691
Forestry Code of Ukraine	1994.01.21 №3852-XII
Resolution of the Verkhovna Rada of Ukraine on Ratification of Convention on Protection of the Black Sea from Pollution	1994.02.04 №3939-XII
Code of Ukraine on Depths	1994.07.27 №132/94-VR
Resolution of the Presidium of the Verkhovna Rada of Ukraine on Nature Reserve Fund Perspective Development Programme in Ukraine	1994.08.05 №97/94-PV
Law on Ratification of the Convention on Biological Diversity	1994.11.29 №257/94-VR
Law on Tourism	1995.09.15 №324/95-VR

Law on Ecological Expertize	1995.02.09 №45/95-VR
Water Code of Ukraine	1995.06.06 №213/95-VR
Resolution of the Verkhovna Rada of Ukraine on Main Directions of National Policy of Ukraine in the Area of Environment Protection, Use of Natural Resources and Assurance of Ecological Safety	1998.03.05 №188/98-VR
Law on Accession of Ukraine to the Convention on the Conservation of Migratory Species of Wild Animals	1999. 03.19 №535-24
Law on Flora	1999.04.09 №591-XIV
Law on Accession of Ukraine to the Convention on International Trade in Endangered Species of Wild Fauna and Flora	1999.05.14 №662-XIV
Law on Accession of Ukraine to the Agreement on the Conservation of Populations of European Bats	1999.05.14 №663-XIV
Law on Accession of Ukraine to the Convention on the Conservation of European Wildlife and Natural Habitats	1999.10.26 №436/96-VR
Law on Hunting	2000.02.22 №1478-III
Law on the State Programme for Development of National Ecological Network of Ukraine for 2000 - 2015	2000.09.21 №1989-III
Law on Moratorium for Final Harvesting on Mountain Slopes in Fir and Beech Forests of the Carpathian Region	2000.10.02. №1436-III
Law on Adoption of National Programme for Protection and Restoration of the Azov and Black Seas Environment	2001.03.22 №2333-III
Law on Fauna	2001.12.13 №2894-III
Law on the Red Book of Ukraine	2002.02.07 №3055-III
Law on Ratification of Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA)	2002.07.04 №62-15
Law on State Control of Lands Use and Protection	2003.06.19 №963-IV
Law on Accession of Ukraine to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic area (ACCOBAMS)	2003.07.09 №1067-IV
Law on Ratification of the Kyoto Protocol to the UN Climate Change Framework Convention	2004.02.04 №1430-IV
Law on Ratification of Framework Convention on Protection and Sustainable Development of the Carpathians	2004.04.07 №1672-IV
Law on Ecological Audit	2004.06.24 №1862-IV
Law on Ecological Network of Ukraine	2004.06.24 №1864-IV

Law on Improvement of Communities and Settlements	2005.09.06 №2807-IV
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Law on Ratification of Protocol on Conservation and Sustainable Use of Biological and Landscape Diversity to the Framework Convention on Protection and Sustainable Development of the Carpathians signed in Kyiv on 22 May 2003	2009.09.04 №1621-VI
Law on Access to Public Information	2011.01.13 №2939-17
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Law on Aquaculture	2009.09.18 №5293
Law on Main Principles (Strategy) of National Ecological Policy of Ukraine till 2020	2010.12.21 №2818
Law on Adoption of the State Target Programme for Water Economy Development and the Dnipro River Basin Ecological Rehabilitation till 2021	2012.05.24 №4836
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Decree of the President on Additional Measures to Develop Forestry	2004.02.07 №171/2004
Decree of the President on Immediate Measures to Meet Legislation within the Territories and Sites of Nature Reserve Fund of Ukraine	2004.11.11 №1396/2004
Decree of the President on Acknowledging the Natural Territory as “Chornobylsky Special” Generally Zoological Wildlife Preserve of National Importance	2007.08.13 №700/2007
Decree of the President on Creation of “Pripyat-Stokhid” National Nature Park	2007.08.13 №699/2007
Decree of the President on Creation of “Holosyivsky” National Nature Park	2007.08.27 №794/2007
Decree of the President on Expansion of Territory of “Vyzhnytsky” National Nature Park	2007.09.04 №818/2007
Decree of the President on Certain Activities related to Conservation and Restoration of Forests and Plants	2008.11.08 №995/2008
Decree of the President on Creation of “Phyllophora Field” Botanical Preserve of National Importance	2008.21.11 №1064/2008
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Resolution of the Cabinet of Ministers of Ukraine on Adoption of the State Target Programme for Development of Ukrainian Rural Territories until 2015	2007.09.19 №1158
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On Adoption of the Limits of Preying (Killing, Capture) of Wild Cloven-hoofed and Fur-Bearing Animals during the Hunting Season of 2008/2009 (registered with the Ministry of Justice on 2008.05.16, №420/15111) 2008.06.05 №235

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On Introduction of Temporary Restriction to Special Use of Cetacean of the Black and Azov Seas (Withdrawal of Cetacean in the Black and Azov Seas for any Purposes is prohibited for three years; registered with the Ministry of Justice on 2008.04.25 № 377/15068) 2008.31.03 №165

On Adoption of the Lists of Species of Plants and Mushrooms, which are being Included in the Red Book of Ukraine (Flora), and Species of Plants and Mushrooms, which are being Excluded from the Red Book of Ukraine (Flora) 2009.06.17 №312

On Adoption of the Lists of Species of Animals, which are being Included in the Red Book of Ukraine (Fauna), Species of Animals, which are being Included in the Red Book of Ukraine (Fauna) 2009.06.17 №313

On Adoption of the List of Rare, Threatened and Typical Nature Vegetation Communities, which are subject to Protection and Inclusion in the Green Book of Ukraine (registered with the Ministry of Justice on 2009.11.4, №1024/17040) 2009.10.16 №545

On Adoption of the Limits of Preying (Killing, Capture) of Wild Cloven-hoofed and Fur-Bearing Animals during the Hunting Season of 2010/2011 (registered with the Ministry of Justice on 2010.05.14, № 324/17619) 2010.04.26 №179

On Adoption of the Limits of Preying (Killing, Capture) of Wild Cloven-hoofed and Fur-Bearing Animals during the Hunting Season of 2011/2012 (registered with the Ministry of Justice on 2011.04.21 №499/19237) 2011.04.19 №128

On approval of the Instruction to formalize the security obligations for the territories and objects of nature reserve fund	2013.02.25 №65
On approval of the forms of a permit for import and export of specimens of species of wild fauna and flora, a certificate for traveling exhibitions, re-export and introduction from the sea of those specimens that are the subject of regulation of the Convention on International Trade in Endangered Species of Wild Fauna and Flora, and a sample of application to have them obtained	2012.02.29 №107
On approval of the Procedure for State record of rare and endangered species of flora and fauna listed in the Red Data Book of Ukraine	2012.10.09. № 486
On approval of rules and norms for keeping dolphins in captivity	2012.12.06. №622
On Adoption of the Limits of Preying (Killing, Capture) of Wild Cloven-hoofed and Fur-Bearing Animals during the Hunting Season of 2012/2013 (registered with the Ministry of Justice on 2012.04.27 №648/20961)	2012.04.11 №230
On Adoption of the Limits of Preying (Killing, Capture) of Wild Cloven-hoofed and Fur-Bearing Animals during the Hunting Season of 2013/2014 (registered with the Ministry of Justice on 2013.04.23 №668/23200)	2013.04.19 №270

Annex III. National implementation of the thematic programmes of work and plans under the Convention on Biological Diversity or decisions of the Conference of the Parties related to cross-cutting issues

Agricultural Biodiversity

Biofuel

Use of alternative fuel (biodiesel and bioethanol) is stipulated by the State Programme for Energy Efficiency and Development of Energy Carriers Generation Sector from Renewable Energy Sources and Alternative Fuels for 2010-2015, the Law of Ukraine “On Alternative Fuels”, the Law of Ukraine “On Alternative Energy Sources” and other laws and regulations. In particular, the Law of Ukraine “On Alternative Fuels” “...specifies legal, social, economic, ecological and organization principles of generation (production) and use of alternative fuels as well as encouragement of increasing the share of their use up to 20 per cent from the total volume of fuel consumption in Ukraine till 2020...”. The Law of Ukraine “On Main Principles (Strategy) of Ecological Policy till 2020” creates the pre-conditions for “... increase of volume of use of renewable and alternative energy sources by 25 per cent till 2015 and by 55 per cent till 2020 compared to the baseline level...”.

Genetic Diversity (Plant cultivation, Livestock Sector)

Conservation of genetic diversity is stipulated by the National Environment Protection Action Plan till 2011-2015, the Forestry Code, the Law of Ukraine “On Pedigree Business in Livestock Sector” and by scientific programmes, mainly, of agricultural sector. The main area of genetic diversity conservation is to preserve the native kinds of plants and breeds of animals, fine woods.

Organic Agriculture

Encouragement of organic agriculture development is stipulated by the State Target Programme for development of Ukrainian Rural Territories till 2015, the Law of Ukraine “On Manufacturing and Circulation of Agricultural Products and Raw Materials” and the National Environment Protection Action Plan till 2011-2015. According to the Federation of Organic Movement of Ukraine the total area of certified organic agricultural lands in 2012 was 272 850 ha – 0,65% of all agricultural lands

The total area of organic agricultural lands and number of organic agricultural farms in Ukraine, 2002-2012.

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Area, thousands ha	164,4	239,5	240,0	242,0	242,0	249,8	269,9	270,1	270,2	270,3	272,8
Number of certified farms	31	69	70	72	80	92	118	121	142	155	164

Biodiversity of dry and sub-humid lands

In accordance with approach of the Convention on Combatting the Desertification the most part of Ukraine, in particular, its central, eastern and

southern areas, is characterized as semi-arid zone (aridity index (AIU) = 0,21–0,50), western and northern areas as a dry semi-humid zone (AIU = 0,51–0,65). Dry, semi-dry and dry sub-humid areas should be considered the areas, except of polar and sub-polar ones, where the ratio of average of annual level of precipitation (hereinafter referred to as R) to potential evaporation transpiration (hereinafter referred to as EO) varies at the range of 0,05 - 0,65.

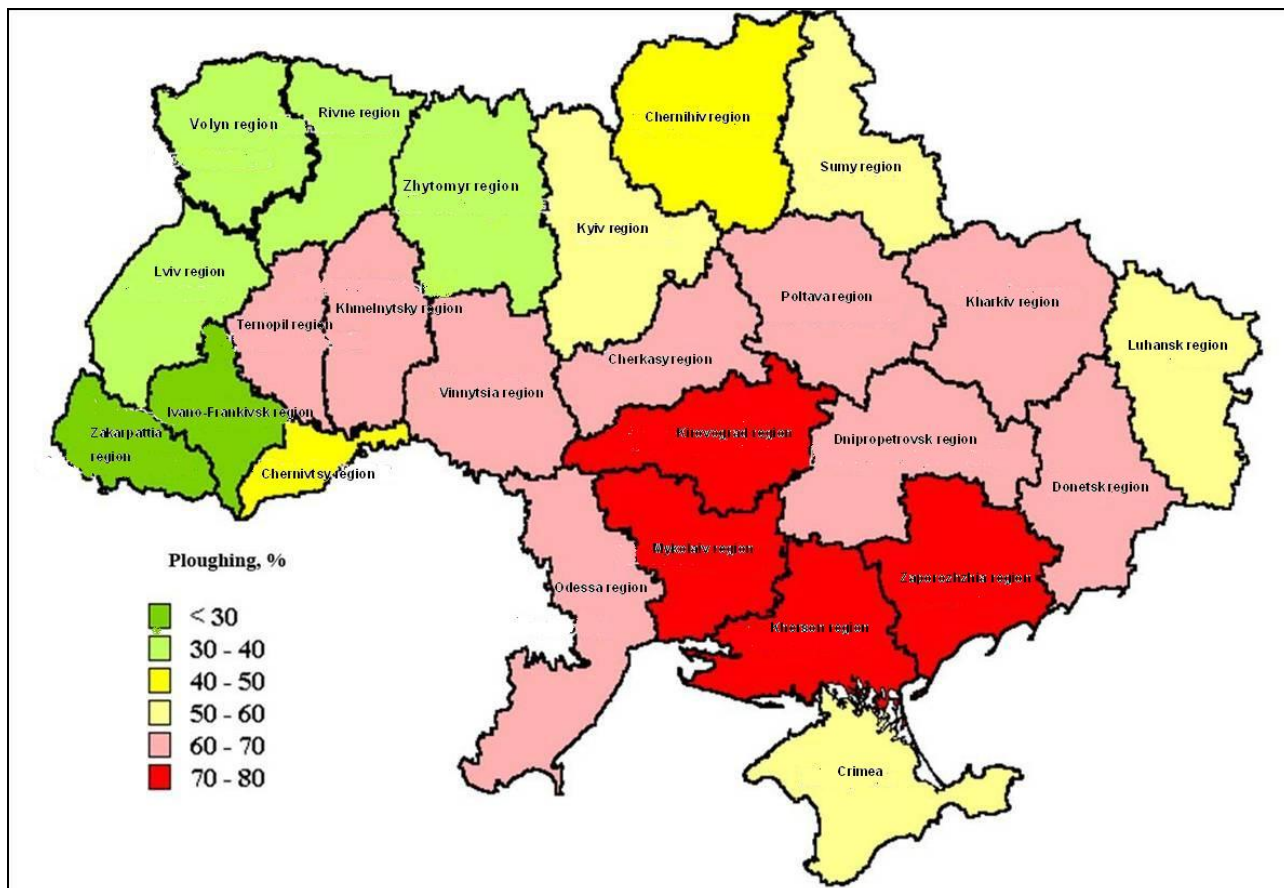


Level of Aridity of Ukraine's Territory

* - Central geophysical observatory; Climate cadastre 2000

** - Constantinov and others, 1966

Agricultural development of the territory reached 72% and the level of ploughing of the land area – 56%. The highest stock of arable lands is attributed to oblasts, which are located in forest-steppe and steppe zones where ploughing of agricultural lands considerably exceeds ecologically permissible levels, reaching 80% and higher; ploughing of agricultural lands of the Kherson Oblast reached 90,2%. Oblasts of the Polyssya zone (North) are characterized by the lowest ploughing of agricultural lands. Comparison of two maps (level of aridity and ploughing of territories shows that just the most droughty oblasts of the country suffer most of all from intensive agriculture). Mapping of aridity level of the territory of Ukraine, available data on occurrence, level of deflation and water erosion as well as recurrence of strong dust storms proves the tendency of increasing the acuteness of negative processes from north-west to south-east that confirms a considerable impact of zonal nature and climatic factors on development of land deterioration and desertification.



**Ploughing of Ukraine's Territory per Administrative Oblasts
(as of 01.01.2012)**