

## EXECUTIVE SUMMARY

Since the 4th National Report was prepared by the Russian Federation, national politics, socio-economic development and environmental management have undergone significant changes. Decentralisation of biodiversity and spatial conservation management was intensified, and regional initiatives got extensive development over the last decade.

The following activities can be emphasised as having led to essential success in biodiversity conservation:

- Adoption of certain fundamental strategic documents warranting further positive development of biodiversity conservation in Russia and fulfilment of its commitments under the Convention on Biological Diversity (for example, Principles of the national policy in the sphere of environmental development of the Russian Federation for the period till 2030 (2012), Principles of the national policy in the use, protection and restoration of forests in the Russian Federation for the period till 2030 (2013), Concept of federal protected areas development for the period till 2020 (2011), Strategy for the conservation of rare and endangered species of animals, plants and fungi in the Russian Federation for the period till 2030 (2014), etc.).
- Creation of new protected areas: strict natural reserve 'Utrish' (2010); national parks 'Russian Arctic' (2009), 'Saylugemsky' (2010), 'Land of the Leopard' (2012), 'Onezhskoe Pomorie', 'Beringia' and 'Shantary Islands' (2013); federal natural sanctuaries 'Gazelle Valley' and 'Pozarym' (2011). Implementation of the programme of the Emerald Network establishment in the European part of Russia — identification of the network of Areas of Special Conservation Interest formed under the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) — 740 areas altogether.
- Establishment of the new UNESCO World Natural Heritage sites — the Putorana Plateau (2010) and Lena Pillars (2012). 5 other nomination to UNESCO World Natural Heritage sites are either developed or under development.
- Significant progress in Russian forest certification in accordance with the Forest Stewardship Council standards (more than 30 million ha in 2013 — 25% of commercial forests are certified).
- Continued introduction of the ecosystem services concept into conservation practice. The most remarkable ecosystem services assessment results were obtained within TEEB (The Economics of Ecosystems and Biodiversity) project in Russia. Some of them are presented in the relevant sections of the National Report.
- Start of the international consultations, upon the Russian Federation initiative in 2012, on inclusion of carbon-accumulating ecosystems (bogs, tundra, and steppes) in 'Post-Kyoto' agreement package of the Framework Convention on Climate Change (UN FCCC).
- Population growth (recovery) of many animal species, including previously listed in the federal and regional Red Lists (Amur tiger, Amur leopard, beaver, lynx, Asian black bear, marmot, musk deer, Siberian mountain sheep, chamois, black grouse, etc.).
- Within the period specified, the Red List of the Russian Federation was reduced by 50 taxons of plants and animals, some species improved their conservation status. National strategies on rare species conservation were developed and are under implementation now (Polar bear, Amur tiger, etc.).
- The programme of the Russian Bird Conservation Union started in 1994 is under implementation, which includes identification of habitats, monitoring and protection of terrestrial and aquatic areas

of high importance for birds (by 2014 more than 1100 Important Bird Areas were identified in Russia, over 700 of them are of international importance).

- Attention to biodiversity conservation programmes significantly increased as well as their funding from large NGOs. For example, Russian Geographical Society which has branches in all 83 regions of Russia, allocates annual grants to support individual protected areas, protect rare species, involve young people in nature conservation, increase public awareness of biodiversity conservation, support special educational TV channels.

- In the period since 2010, the Russian Academy of Sciences (RAS) implemented several major fundamental research programmes, including the programme of the Presidium of the Russian Academy of Sciences "Biodiversity and dynamics of genes" with the sub-programme "Biodiversity: inventory, functions, preservation" (see the list of information sources to the National Report).

- The GEF and UNDP activity in relation to biodiversity conservation projects significantly increased in the Russian Federation over the last 5 years.

Unfortunately, no results were achieved on a number of commitments in the period specified and obstacles to their fulfilment remained:

- Despite slowdown in production growth over the last years, ecological footprint is generally increasing (about 4.4 global hectares in 2012, almost 2/3 of them are carbon footprint).

- Environmental legislation in the Russian Federation requires systemic reform and improvement. The issue of ratification of several conventions and agreements is not resolved yet, in particular, on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention), on Environmental Impact Assessment in a Transboundary Context and Protocol on the Strategic Environmental Assessment.

- The most vulnerable in relation to biodiversity conservation wooded steppe and steppe biomes still experience high agricultural pressure, threat to climate-regulating function of the natural steppe persists.

- Over the years since the 4th National Report was prepared, tourist traffic to protected areas significantly increased, especially in the mountainous areas of the Russian South, which escalates the risk of ecosystem and biodiversity destruction due to habitat fragmentation and growth of the disturbance factor.

- Since the Russian Federation joined the WTO, risks and threats of larger number of biotic invasions to the country have seriously increased as well as risks of spreading of genetically modified organisms and cultures, offences in the intellectual property sphere in relation to genetic resource exploitation.

- The conservation status of certain species and populations of Russian fauna reached its critical point (saiga, spoon-billed sandpiper), urgent measures are required to save the species at the national and international levels.

- Plans for the creation of new national parks and strict natural reserves were implemented by 60 — 70%, natural reserves 'Ingermanlandsky', national park 'Khibiny', etc. were not created, although listed in previous plans and schemes of regional spatial development. In some regions number of regional protected areas decreased.

- No essential improvement was made in relation to conservation of domestic animals and cultivated plants diversity, no achievement was made in selection over the period specified. In

relation to plants, for example, Russian State register of selection achievements includes just 2.5% of decorative cultures cultivated in Europe (6 — 9% by cultivars).

- A centralised system of biotic invasions monitoring failed to be established. Certain difficulties were encountered with in relation to fulfilment of this CBD Article commitments — interaction with state authorities on invasion control, limitation of the list of quarantine species, poor control of aquatic organism invasions and private trade in plants and animals.

**Importance of biodiversity for the country.** Since the submission of the 4th National Report, no significant changes in value of biodiversity and ecosystem services for Russian population were noticed. In the structure of Russian gross value added the portion of industries associated with the use of biological products, biodiversity and natural ecosystem resources was approximately 4%, of which agriculture, hunting and forest exploitation – 3.8%, fishery and fish-farming – 0.2%. At the same time, development of these industries, based on conservation and sustainable use of biodiversity, will play increasing role in the future not only for the national economy, but also for environmental and social spheres.

The Russian Federation occupies 1/8 of terrestrial part of the planet — the largest portion of extratropical Eurasia. Despite lower species diversity comparing to many countries of tropical and subtropical climatic zones, its landscape diversity is among the highest in the world. Furthermore, over 60% of Russian area is represented by intact and slightly disturbed landscapes conserving pristine habitats of plants and animals. Introducing biodiversity concept into conservation practice in Russia methodologically strengthened justification of spatial conservation development in the country — establishment of an effective and representative network of protected areas of different categories.

**This report** examines importance of three groups of ecosystem services for the national economy and population, which are similar to groups of life-supporting functions of biological diversity identified in the National Biodiversity Strategy (2001), namely productional, habitat-forming, and informational, including aesthetic one (Fig. 1 — 8).

Carbon sink in Russian managed forests has been fluctuating from 160 to 190 mt C/year since 2000.

The largest contribution to carbon depositing is made by forests, which is not just due to their spatial dominance, but also current condition, as present-day forest cover in the European part of Russia largely consists of secondary forests of different restoration stage. Noticeable carbon sink is typical for bogs; peat-bogs deposit 210 mt C/year in total with depositing rate of 1.5 t C/ha per year. Per unit area, the most active carbon absorption takes place on abandoned steppe and forest croplands which absorb 43 mt C per year. The total average annual carbon sink capacity with long-term depositing in steppe ecosystems is estimated as 75 mt C per year. The productivity of steppe ecosystems in temperate climatic zone is generally estimated as 7 — 10 t C/ha per year. Russian territory as a whole serves as net carbon sink (Fig. 3).

Carbon deposit in forest cover counts 49.4 Gt C. Peatlands occupy the area of more than 140 million ha and store 33.6 — 67.2 Gt C. Steppes, grasslands and their anthropogenic modifications on black humus soil, including lealands and pastures, occupy over 220 million ha. The total stock in Russian steppe biome can be estimated as 35 Gt C. The total carbon stock in tundras is estimated as

28.6 Gt C, with the area of about 280 million ha (16% of the total country area). The biggest carbon stocks are located in Western Siberia as well as in permafrost and steppe areas (Fig. 4).

The National Report presents certain materials illustrating importance of different landscapes as ecosystem services providers (Tab. 1 — 3). In relation to accomplishing the CBD tasks on landscape and biological diversity conservation, the Russian Federation faces a severe issue of relation between global, national and regional (local) interests in utilising ecosystem services and their maintenance costs. For example, 80 — 90% of ecosystem services provided by protected areas are global ecosystem services (both in monetary and physical terms) — climate regulation, global carbon balance stabilising, etc. The portion of local ecosystem services (e.g. production, local community support) is just 2 — 3%.

Significance of ecosystem services in socio-economic development of Russian regions is presently defined mostly by bioproductivity qualities of a landscape (Tab. 4). Remote (via vegetation index NDVI) and ground-based measurements (phytomass counts, annual tree-rings measurements) have revealed noticeable trend of growth in primary production parameters of Russian landscapes over the last decades.

**Key changes in biodiversity status and trends.** According to RAS, the territory of the Russian Federation contains 1513 species of vertebrates: 320 species of mammals, 732 species of birds, 80 species of reptiles, 29 species of amphibians, 343 species of freshwater fish, 9 species of cyclostomes. In addition, 1,500 species of sea fish inhabit surrounding seas. Invertebrate fauna counts more than 100,000 species.

According to the national report on the environmental health and protection in the Russian Federation in 2012, threatened species include 0.1% of invertebrates, 5% of plants, 7% of fish and cyclostomes, 17% of birds, 20% of mammals, 28% of reptiles, 30% of amphibians.

Certain positive achievements were made in stabilisation and increase in population of such species. Among them:

- the number of Amur tigers has flattened out and is 428-502 individuals. 95% of the whole Amur tiger population inhabit the Far East — Primorsky Krai and southern part of Khabarovsk Krai. The total area of Amur tiger range in Russia is 180,000 km<sup>2</sup>. Protected areas within the Amur tiger range cover about 36,000 km<sup>2</sup>, i.e. 20% of the range, of which 10% are federal-level protected areas;
- in accordance with the 2013 Far-Eastern leopard count data, the population increased in 1.5 times and consists of 48 — 50 individuals now. The total area of protected areas (both federal and regional) in the leopard's habitats is 3060 km<sup>2</sup>, so about 70% of its range is protected. Hunting sector was seriously restricted in the buffer zone of the 'Land of the Leopard' national park (820 km<sup>2</sup>).
- the Persian leopard restoration (reintroduction) programme started on the Caucasus. Release sites for this species were organised within its historical range, breeding stock was formed at the Centre of breeding and rehabilitation for the leopard at the Sochinsky national park, first offsprings obtained (4 kittens), the kittens are being trained now to live independently in the wild;
- the European bison free-ranging population reached almost 450 individuals. 8 groups of European bison were established from scratch in woodlands in the European part of Russia under the national Strategy of European bison restoration. The prospective creation of a stable population became real. The groups in the Oryol, Kaluga and partly Bryansk Regions grew so much that got connected into one population of more than 300 individuals;

- free-ranging populations of pure-blood European bison which were almost destroyed at the end of 1990s were restored in the Caucasus. The number of European bison in two groups (in the North Ossetia and Karachayevo-Cherkessia) reached 90 individuals;
- an extinct in Russia species of Anseriformes — Canada goose — was successfully reintroduces in the Kuril Islands.

According to the state monitoring data, the condition of game species in Russia is generally stable (Tab. 6), for some species positive dynamics is observed. Rational, science-based standards of animal taking and regular anti-poaching work contribute to this trend.

According to the Federal Forestry Agency, the area of woodlands slightly shrank from 46.62% to 46.5% in the period 2011 — 2013, the percentage of high-value forests in the whole territory of the country also decreased. At the same time, the area of protective forests, forests on protected areas and in water protection zones increased (Tab. 7). Wild fires remain the key factor of forest destruction in the Russian Federation, which accounts for slightly less than two-thirds of the destruction of forest cover (Tab. 8).

The following **negative trends in transformation of landscape diversity in Russia** are reflected in the National Report:

**on the land:**

- increased fragmentation of mountain tundra landscapes in the central areas of Kola peninsula, in the polar Ural Mountains;
- increased fragmentation of tundra and forest-tundra in the areas of oil and gas exploitation in the Nenets, Yamalo-Nenets and Khanty-Mansijsk Autonomous Districts;
- increased fragmentation and expansion of burnt and wood-cleared areas all over taiga landscapes adjoining populated areas and traffic arteries, especially in the South of Siberia and the Far East;
- transformation of traditional agricultural landscape of temperate and southern taiga and mixed forest due to continuous process of agricultural land abandoning and reforestation in its place;
- continuous 'islanding' and size minimization of remained steppe landscapes due to returned high ploughing pressure, grass fires;
- sharp change of the structure of traditional agricultural landscapes in the midlands and highlands of the Caucasus due to agriculture depression, livestock reduction, stopped ploughing.

**in the sea:**

- degradation of underwater landscapes in the Azov Sea, first of all at the Kerch Strait and offshore Black Sea strip due to pollution, alien species invasions, anthropogenic transformation of directions of coastal currents and transformation of the Western Caucasus river flow, including the Mzymta River;
- increased risk of degradation of shallow water landscapes of the Volga delta and the Northern Caspian as a result of actions to stimulate oil and gas exploitation growth and transport infrastructure development;
- increased risk of degradation of underwater landscapes (pollution, increased water turbidity) in the Barents and Pechora Sea shelf, Ob and Taza bays in the areas of hydrocarbon exploration and field infrastructure development and increased marine traffic;

- continuous risk of transformation of underwater landscapes on the Sea of Okhotsk coastal zone in the area of hydrocarbon deposit exploitation on Sakhalin Island;
- continuous threat of shallow-water landscapes degradation in the Baltic Sea, first of all at the Couronian Lagoon which is promising in relation to oil extraction.

The following **direct and indirect threats to Russian biodiversity** were specified in this National report and placed in accordance with prioritisation:

**1. Destruction of animal and plant habitats** in the process of new land development (for example, oil and gas deposits in the Arctic zone).

**2. Chemical pollution of the environment.** According to long-term monitoring data of the Federal Service for Hydrometeorology and Environmental Monitoring, background content of pollutants in the air of the European part of Russia has remained low.

**3. Fragmentation of landscapes and 'islanding' of natural ecosystems,** especially tundras and forest-tundra in the areas of oil and gas exploitation. These threats essentially increased in the last years due to new deposit developments, forming of a dense infrastructure for hydrocarbon transportation, construction of railways and roads and unregulated movement of tracked vehicles.

**4. Transformation of traditional agricultural landscape** of temperate and southern taiga, wooded steppe, mixed forests due to abandoning of ploughed fields, hayfields and pastures with reforestation in their place, increase in low forest cover with low biodiversity and low feeding quality for migrating animals.

**5. Threat of native biodiversity transformation due to alien species invasions.** This threat remains relevant to underwater landscapes of the Azov, Black and Caspian Sea, the Volga River basin and its storage reservoirs cascade. In some Russian protected areas alien species count 20 — 25% of mammal fauna.

**6. Threats to biodiversity associated with high level of poaching and overexploitation of biological resources.** The number of poaching occasions is noted to increase. In addition, the future of some groups of the Russian Federation biodiversity (sturgeons, ciscos and some populations of salmons, Far-Eastern crabs, wood grouse, mountain ungulates, tiger, leopard, snow leopard, etc.) mostly depends on anti-poaching measures, reduction of unemployment rate and poverty in depressive regions.

**7. Threats to forest biodiversity due to wild fires and other anthropogenic impacts, damage by pests and diseases** are particularly acute in the north of European part of Russia where unique large pristine woodlands are represented, south of Siberia and the Far East.

**Impacts of biodiversity changes on ecosystem services and socio-economic and cultural consequences.** Key threats to biodiversity and ecosystem services defined in the 4th National Report will persist in the short term. The Report (Tab. 9) includes an analysis of on-going and prognostic changes in biodiversity and ecosystem services. To forecast potential future changes in biodiversity conservation and exploitation and their consequences, the National Report presents a matrix of long-term changes, which encompasses main biomes of the Russian Federation and detected natural-anthropogenic (climate change) and anthropogenic trends (Tab. 10). Among the forecasts of mega-project consequences which might worsen the situation with conservation of certain biodiversity groups, the following are specified:

- Start of intensive year-round navigation on the Northern Sea Route and large vessels movement with ice-breakers escort.
- Expansion of ploughed lands for grain and industrial crops in the steppe zone ('secondary clearing' due to market opportunities in the WTO).
- Construction of a bridge over the Kerch Strait connecting the coast of Kuban and Crimea peninsula, development of tourism in mountainous areas of Russia and in the Arctic zone.
- Development of gas condensate shelf deposits in the Ob and Taza bays.
- Exploration and exploitation of the Sea of Okhotsk shelf deposits (Sakhalin Island, Kamchatka peninsula, West Kamchatka shelf).

**The National Report specifies new national biodiversity targets** which are being summarised under the new National Biodiversity Strategy and Action Plan (NBSAP) development. The progress in the new NBSAP development is described in the relevant chapter of this Report. The basis for the new national objectives, formulated as national targets, is their coordination with global targets approved in Aichi under the Strategic Plan for the conservation and sustainable use of biodiversity for 2011-2020, formulated with consideration of national interests (Tab. 11). In relation to organisational issues, as the new NBSAP is being developed, each Aichi target is reviewed by an established expert group consisting of leading experts, extensive discussion is carried out and its results get uploaded to a specially created web page. The targets get formulated and refined on the base of the comments obtained with consideration of national interests and capacity.

The main distinctive trait of the new NBSAP under development from the 2001 National Biodiversity Conservation Strategy is formulation of national targets coordinated with global ones and clear indicators of their achievement which are under development now. By doing so, several national targets can be formulated to achieve one global Aichi target.

### **Measures undertaken to implement the Convention in 2010 — 2013 and their results**

Since the submission of the 4th National Report, biodiversity conservation activities in the Russian Federation were performed in accordance with the Convention on Biological Diversity and strategic goals of Russian economic development and biodiversity conservation. Over the period specified environmental issues including biodiversity conservation started getting greater value **at the level of political decisions** in comparison with previous years. The confirmation for this are two meetings of the State Council presidium related to environmental issues under the chairmanship of the President of the Russian Federation in 2010 and 2011.

The next important political decision was adoption of the main strategic document entitled 'Principles of the state policy on environmental development of the Russian Federation for the period till 2030' by the President of the Russian Federation in December 2012.

In relation to improvement of the **legislative regulation and enabling framework** on biodiversity conservation and restoration in Russia two main trends occur: on the one hand — improvement of monitoring mechanisms and tightening of liability for violation of legislation on environmental protection, on the other – conservation of animal habitats and arrangement of conditions for their reproduction.

Improvement of **organisational and institutional mechanisms** of biodiversity conservation takes place within the framework of on-going state governance reform (administrative reform) aimed to

increase efficiency and transparency of executive agencies' work. Such mechanisms of governmental regulation as licensing, accreditation, state (municipal) surveillance, anti-corruption efforts, etc. are getting improved under the reform. Optimisation of redistribution of powers between federal executive authorities also occurs under this reform. For example, to warrant effective state governance in relation to conservation and sustainable use of all species of fauna and their habitats including rare and endangered species of fauna, the decision was taken to delegate the powers in the hunting sphere from the Ministry of Agriculture of Russia and the Federal Service for Veterinary and Phytosanitary Surveillance to the Ministry of Natural Resources and the Environment and the Federal Service for Supervision of Natural Resources which currently have all the federal credentials in the sphere of conservation and use of all fauna species and their habitats.

Assurance of **cooperation mechanisms** and advancement of effectiveness of Russian Federation's international work on biodiversity conservation is centered around the Convention on Biological Diversity and other international conventions, protocols, and agreements. Among them are: Convention on the Protection and Use of Transboundary Watercourses and International Lakes; Convention for the Protection of the Marine Environment of the Baltic Sea Area; Convention on the Protection of the Black Sea Against Pollution; Framework Convention for the Protection of the Marine Environment of the Caspian Sea; Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter; Action Plan for the Protection, Management and Development of the Marine and Coastal Environment of the Northwest Pacific Region; the UN Convention to Combat Desertification; Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES); Convention on Wetlands of International Importance especially as Waterfowl Habitat; International Convention for the Regulation of Whaling; the UN Framework Convention on Climate Change and others.

The **financial** base for biodiversity conservation measures is flow of funds for their implementation from budgets of different levels. The sources of these funds are payments (taxes, commissions) for natural resource use and environment pollution. Total expenditures on environmental protection in the Russian Federation from all funding sources (federal, regional, local budgets, funds from enterprises, etc.) include investments in fixed capital and on-going expenditures on environmental protection, expenditures on major repair of fixed assets, expenditures on state nature reserves and national parks maintenance, protection and restoration of wild animals, costs of wild fire extinguishing and other expenditures (Tab. 23).

**Obstacles to implementation of measures** to fulfil commitments under the Convention on Biological Diversity:

- A large number of pending legislative issues and obstacles to the implementation of measures to protect the environment and biodiversity;
- Insufficient state control in the field of conservation and use of biological resources and forests;
- Insufficient transparency of state authorities' work, lack of access to the documents adopted as well as broad public participation in discussing issues related to environmental protection and biodiversity conservation;
- Problems in the system of biodiversity conservation and protected areas governance;
- Poor development of educational activities in the community to raise awareness of biodiversity role and the need for careful attitude to it.

### **Consideration and inclusion of biodiversity issues in sectoral and intersectoral strategies.**

Since the IV National report on implementation of the Russian Federation's commitments under the Convention on Biological Diversity was prepared, significant results in biodiversity conservation and sustainable use were achieved in Russia, and the issues of biodiversity conservation and environmental protection are increasingly considered and stand among key issues in sectoral strategic documents adopted.

In recent years, significant amount of governmental strategies and governmental programmes on long-term development was adopted, including various economic sectors related to the conservation and sustainable use of biodiversity: agriculture, fisheries, forestry, hunting, transport and energy, mining and oil and gas industry, tourism. All of them consider biodiversity conservation and are oriented toward sustainable development.

The majority of subordinate entities of the Federation adopted Strategies of regional development till 2020 or 2030.

An important step in the development of planning mechanisms for biodiversity conservation was made with adoption of the Russian Federation's Governmental Programme "Environment" for 2012 - 2020, including the subprogramme "Biodiversity in Russia." Priorities of this subprogramme are defined as development and effective functioning of the protected areas network and conservation and restoration of rare and endangered species of animals and plants; ensuring science-based solutions in the sphere of biodiversity conservation and natural resource use; fulfilment of international obligations of the Russian Federation on the conservation of biological diversity, rare and endangered species of flora and fauna in the Russian Federation under the Convention on Biological Diversity and other international agreements.

**An evaluation of the National Strategy and National Action Plan (2001) fulfilment** was conducted and presented in the current National Report. Complexity of cross-sectoral co-operation between federal ministries and natural resource authorities (the Ministry of Natural Resources and the Environment, Ministry of Agriculture, Ministry of Public Health, Federal Agency of Fisheries, Federal Service for Supervision of Natural Resource Usage, Federal Service for Hunting Supervision, and others) was highlighted. Coordination of these executive authorities' work was insufficient over the period specified, which significantly lowered effectiveness of governance, control, and enforcement in relation to biodiversity conservation in the Russian Federation.

For the Russian Federation the period specified was one of the most critical in relation to political, economic, and social development. It coincided with a deep economic crisis and formation of economy in transition in early 2000s and in 2008 — 2009. Besides, the reform of state governance of environmental protection came up in this period as well as redistribution of powers between federal and regional executive authorities. A large portion of functions, such as conservation and sustainable use of fauna, was delegated to the level of regional authorities. They also became responsible for creation and maintenance of regional systems of protected areas (natural parks, sanctuaries, natural monuments) and areas of traditional use by indigenous peoples of the North, Siberia and the Far East. These items cannot be ignored in the assessment of progress in biodiversity conservation in the Russian Federation after 2001. Table 12 presents the results of an expert evaluation of the implementation of biodiversity conservation measures declared in the National Action Plan. The majority of estimates (on 5-grade scale) of individual commitments fulfilment are 3 — 4.

In the Report section on the "**development of the new National Biodiversity Strategy and Action Plan**" information about development of the new National Biodiversity Strategy and Action Plan (NBSAP) is provided. It states national targets coordinated with global Aichi targets. Table 13 analyses performance of the Russian Federation on a number of national targets in comparison with the global Aichi targets.

Results of the analysis of **Russian Federation's work on the CBD implementation to the achievement of the Millennium Development Goals for 2015** are discussed in Russian Human Development Report 2010 'Millennium Development Goals in Russia: Looking into the Future' and Russian Human Development Report 'Sustainable Development: Challenges from Rio' (2013). The situation with the Millennium Development Goals achievement in Russia can be characterised as heterogenous, which includes both obvious accomplishments (reduction of poverty, maternal and infant mortality) and acute problems (pollution, wastes, ecosystem degradation). Development of innovative, energy-efficient green economy, introduction of green technologies which contribute to minimising damage to the environment is beneficial from ecological and economic perspectives. The economic growth can only be justified if a reasonable long-term balance is provided between economic interests and objectives of nature conservation. The main task for Russian economy at the current stage is to shift from the extractive model. This is the central objective of the green economy concept as well. A win-win policy should become an important principle of socio-economic policy and basis of environmental policy in the upcoming 10 – 20 years. In particular, energy efficiency needs to be dramatically improved, which will make a huge environmental impact and greatly enhance people's well-being, social and environmental quality of life of the population.

Solution to the economic modernization in Russia should take into account huge capacity of the country to **use ecosystem services**, including the global ecosystem role of forests, bogs and other natural ecosystems. Assurance of environmental measures, such as organisation of protected areas (PAs), biodiversity conservation, should be included in market mechanisms in the form of payments for ecosystem services. Fundamentally important, especially for identification of development perspectives, is the assessment of ecosystem services, including forest, water, wetlands, biological resources, biodiversity, protected areas.

Some of key challenges to the Russian Federation in relation to the current and long-term sustainable development are: climate change (Russian climate is more sensitive to the global warming than climate of many other regions of the Earth), environment pollution (56.3 million people live in cities with high level of pollution), ecosystem degradation, growth of wastes, issue of accumulated environment damage liquidation, and others. Russia possesses vast intact areas, huge forests and wetlands, freshwater reservoirs, significant biodiversity capacity and is able to make essential contribution to sustainable development in the world.

The conclusion of the National Report states the most important issues which persisted or arose during the last years in the Russian Federation in association with fulfilment of the CBD commitments. They have mostly institutional character. Many functions on biodiversity conservation management delegated to the regional level are not underpinned by targeted funding and human resource. Poaching and overexploitation of biological resources are still important issues at the federal and regional levels, which is due to extremely low surveillance and poor enforcement practice in relation to biodiversity.

General public interest to nature protection issues in Russia continues to decrease. Biodiversity monitoring arrangements is an important issue for the country as a whole and its regions. Fauna counts have sectoral character and are largely resource-oriented. Effectiveness of the federal and regional Red Lists keeping (amendments to content in 10-year period, identification of species and populations with different trend in numbers) can be higher. Biodiversity monitoring in natural reserves and national parks within Nature Chronicles framework for their territory and adjoining areas requires improvement and use of up-to-date information technologies. Despite over 10-year practice of introducing economic and financial mechanisms in biodiversity conservation practice and recommendations of the World Summit Rio +20 on 'green economy', Russia is far behind in using economic assessments and ecosystem services concept in living nature conservation. Achievements in environmental and economic research do not get introduced into conservation practice, economic esteems are extremely rarely used in impact assessments of large industrial projects, in Strategic Environmental Assessment of plans and mega-projects. 'Greening' of Russian economy is going in extremely slow pace. Scientific support to biodiversity conservation measures in Russia remains insufficient. Coordination, analysis and synthesis are insufficiently performed at the federal level.

In accordance with important issues identified and obstacles uneliminated which persist over the last years in relation to implementation of the CBD commitments in the Russian Federation, the following priorities and further biodiversity conservation measures can be identified in the country:

- improvement of the state governance effectiveness in the sphere of biodiversity conservation, including at the federal and regional levels;
- expansion of the range of financial sources at the federal, regional, and local levels, including by establishment of foundations and other off-budget sources;
- finalisation of the reviewed National Biodiversity Strategy with consideration of Aichi targets;
- reduction of rates of population decline for species that have indicated worsened condition as well as of their habitat destruction;
- assurance of sustainable use of biodiversity resources by resource sectors — agriculture, hunting sector, fishery, forest sector.
- finalisation of establishment of an efficient and legislatively supported system of regulation of access to genetic resources and their shared use on equal base in the Russian Federation;
- strengthening of efforts against poaching and overexploitation of biological resources, expansion of state surveillance actions;
- increase in effectiveness of environmental education and attitude development in the field of biodiversity conservation, raise of public interest to living nature conservation;
- establishment of an effective system of biodiversity condition monitoring at all levels, increase in effectiveness and information capacity of animal population counts, maintenance of federal and regional Red Lists, nature chronicles in nature reserves and national parks;
- development of the practice of using economic mechanisms in biodiversity conservation, economic assessments and ecosystem services concept in living nature protection, economic indexes in assessments of large industrial project impacts on living nature, in Strategic Environmental Assessments of mega-projects;
- facilitation of targeted programmes establishment to fund scientific support to the implementation of the CBD and other environmental conventions, coordination, analysis and synthesis of biodiversity monitoring and research materials at the federal level.