



Towards a Sustainable Russia

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In compliance with the main priority formulated as «attaching increasing economic importance to natural resources and natural wealth on the whole, including health of the environment», priority mechanisms for its implementation were discussed in groups on the main fields, including environmental economics, environmental law, management, education and biodiversity conservation.

*(Recommendations for Development of Priorities
for Russia's National Environmental Policy)*

Towards the Second All-Russia Congress on Environmental Protection

Conservation of Biological Diversity of the Sikhote-Alin

The Sikhote-Alin mountain country is located in the extreme south-east of the mainland part of the Russian Federation in the Khabarovskiy and Primorskiy Krays. The diversity of species and natural communities in the Sikhote-Alin is one of the highest in Russia.

Representatives of the Priamurskaya, Okhoto-Kamchatskaya (Beringiya), East-Siberian (Angara), Dahuro-Mongolian, and alpine flora and fauna occur within this region. Many valuable medicinal plants, such as ginseng, Chinese magnolia vine, silver vine, Amur grape-vine, and euterococcus are found there. A unique viable population of the Amur tigers is restricted to the forests of the Sayan mountains. Both the brown bears and their southern relatives, Asiatic black bears, can be found in the same habitats. The lynxes, common gorals, sika deer, yellow-throated martens, Manchurian hares and other endemic and threatened species also occur in the Sikhote-Alin.

Biological diversity of the Sikhote-Alin, high for the moderate zone, determines an extreme importance of preservation of this diversity. «Strategy of Biodiversity Conservation in the Sikhote-Alin» was developed by the Far-Eastern branch of the Russian Academy of Sciences with financial assistance of US Agency for International Development (USAID). The Agency acted in the region in the framework of Environmental Policy and Technology Project (EPT-Project). The Strategy was adopted by the Resolution of the Governor of the Primorskiy Kray N 511 on 15.10.1998. **The strategy regulates the types and terms of the nature management and defines a system of ecological, economic, and social tasks and possible ways of their solution not only on the territory of the Sikhote-Alin, but also in the whole forest belt along the foothills and in the adjacent wooded plains.** Such approach ensured the development of the data base of the state of the natural communities within the territories of the State Forest Fund. It, in its turn, became a prerequisite for their further centralised monitoring and promoted the complex analysis of the problems of conservation of biological diversity of the populations of the large mammals.

The natural complexes of the Sikhote-Alin are not isolated from the adjacent landscapes, so the situation throughout the whole territory of the Primorskiy Kray and the right-bank part of the Nizhneye Priamurie (the Khabarovskiy Kray) was considered when some vital problems of conservation of biological diversity were solved. In general, they were the problems of plant and animal distribution, rare and endangered species among them. Representation of the basic types of animal habitats in the existing and

planned systems of especially protected natural territories and improvement of nature management.

The concept can be implemented by the following main ways:

- optimisation of the system of especially protected natural territories;
- improvement of nature management within the rest territories. Stable and sustainable exploitation of renewable biological resources and ecological security of utilisation of non-renewable natural resources should be ensured.

Implementation of these principles is declared in the Strategy as an indispensable condition for sustainable development of the region.

Two ways were used for analysis of the problems of optimisation of the system of especially protected natural territories of the Sikhote-Alin. On one hand, the inventory of existing biological diversity was compiled. On the other hand, the natural territories vital for preservation of biological diversity but still not encompassed in existing or planned especially protected territories were searched for. It is assumed that only a limited part of the Land Fund will be allotted for the especially protected natural territories in the nearest future. That is why, the results of inventory of biological diversity, as an instrument of management during problem solving, are of particular importance now.

Particular technical procedures were developed for perfect inventory of biological diversity and optimisation of existing system of especially protected natural territories. In order to solve these problems, an electronic data base on the rare, endemic, relict, and endangered plant and animal species as well as on the forest vegetation and other natural complexes of the Sikhote-Alin was compiled and then analysed.

Data base on the woodlands of the Primorskiy Kray encompassing about 12 million ha contains basic information characterising the State Forest Fund. This information can be found in the «Projects of organisation and conduction of the forest management» which are compiled by forest managing agencies for every area of forest husbandry. Considered structure of inventory of the forest fund and the structure of the forest managing agencies allow to solve all main problems of

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the forest management on the levels from a stratum to an area of forest husbandry. If the current changes are promptly entered in the data base, it could acquire additional importance as a tool of «non-stop forest management» eliminating the necessity of expensive natural revisions every 10 years. Maps containing materials on the forest formations and groups of the forest types of the Sikhote-Alin became available due to application of the data base on the forest fund in the Strategy. Most of the proposals on optimisation of the system of especially protected nature territories were developed on the basis of those materials.

Parts of the Strategy dealing with the problems of improvement of nature management are primarily devoted to optimisation of the forest complex. The Sikhote-Alin is entirely forest country, and the diversity of its terrestrial and most of the aquatic objects and its preservation is closely connected with the state of the forest vegetation. Insufficiency of the control measures and mass violations of the nature management regulations in this particular field are actually fraught with the considerable losses of biological diversity. Measures proposed by the Strategy equally encompass the tasks of nature protection and biodiversity conservation, provision for welfare of the residents of the areas of traditional nature management and ethnic territories, and improvement of the complex forest management. The latter is one of the fundamental components of the basis of socio-economic development of the Primorskiy and Khabarovskiy Krays. Unprecedented 4-5-fold reduction of the measures aimed at forest restoration in the Sikhote-Alin over the recent decade was also registered. It requires urgent improvement of the control over forest management, enforcement of its ecological restrictions and transition of the forest industry to the more civilised methods and technologies. The Strategy pays particular attention to the alleviation of contradictions between the tasks, methods and technologies of the logging and abruptly increased awareness of ecological value of the forests on the local, regional and global levels.

Inventory of biological diversity in the framework of approach applied in the Strategy was represented by the four basic assessment stages.

On the first stage, all habitats favourable for the large carnivores were located. These animals usually occupy extensive territories encompassing virtually all most characteristic natural complexes. A population of the Amur tiger was considered as a reference point. A minimal area required for preservation of these animals was estimated. This area represents the initial size of the system of especially protected natural territories.

At the second stage, the areas with the highest plant and animal diversity are revealed. With this purpose, habitats of

225 rare and endangered and 261 most characteristic for the Sikhote-Alin animals were analysed in the Primorskiy Kray and 46 and 312 of them, respectively, in the Khabarovskiy Kray. The territories revealed by means of such analysis are considered to have priorities for incorporation into the system of especially protected natural territories.

On the third stage, a possibility of preservation of the particular types of habitats of the vertebrates, forest formations, sub-formations, groups of the forests, and altitude belts of the plant communities was considered. Their representation in the existing and planned system of especially protected natural territories was evaluated.

Situation in the game management is also very acute. Its old forms have become invalid, while the process of establishment of the new ones on the basis of tenancy agreements are still in progress (they were enacted by the Decree of the Government of the Russian Federation N 345 «On adoption of the Regulation of the lease of the areas of forest fund» on 24.03.1998). In the future, the rationalisation of the game management in the Sikhote-Alin should be considered one of the basic factors of conservation of biological diversity. Complex and advanced game management will promote not only restricted harvest of the wild game animals, but also their restoration and the maintenance of the optimal numbers of the Amur tigers.

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On the fourth final stage, the territories with special restrictions of the nature management were invented, the forests of the 1st group and particularly protective wood areas ensuring ecological links between especially protected natural territories first of all. Analysis performed enabled experts to reveal relatively isolated especially protected natural territories. It helped to define the regions requiring development of the priority measures of optimisation and improvement of land exploitation. Such measures would ensure the most effective functioning of especially protected territories as a complex system and provide for preservation of biological diversity.