

## **DESCRIPTION**

### **of activities of Scientific-Production Center "ECO-SERVICE" (St. Petersburg Society of Naturalists) in the sphere of nature protection and biodiversity preservation.**

The Scientific-Production Center "ECO-SERVICE" has been created at St-Petersburg Society of Naturalists with the aim of bringing together the scientists working in the Leningrad University, in higher educational institutions and research institutes. SPC "ECO-SERVICE" collaborates with wide range of specialists representing various fields of science.

The SPC "ECO-SERVICE" is engaged in the following activities:

1. Performing of complex ecological expertise, analysis of the ecological situation and prediction of its development.

1.1. Evaluation of ecological situation in urbanized regions, industrial areas and on protected territories by means of analytical methods and dispersion of indicator organisms:

- express-evaluation of the rate of atmospheric air contamination within the boundaries of settlements, industrial areas and on the nature-protected territories;

- detailed evaluation of the influence of industrial effluents from individual enterprises on the atmospheric air of the adjacent territories in the areas defined by the customer.

- issuing of recommendations on optimal designing of mass construction areas, arrangement of new micro-districts, on designing and laying out recreation zones within the boundaries of settlements and the surrounding green belts, as well as of recommendations on the organization, expansion or modification of the existing nature-protected areas proceeding from the general rate of the atmospheric air contamination in a given region.

1.2. Complex study of the soil covering in various zones and its genesis; soil mapping; agrochemical analysis of soils; determination of the rate of contamination with toxic chemicals and mineral fertilizers; prediction of ecological situation development proceeding from the specificity of agricultural production. Issuing of recommendations on the increase of farmland fertility and on the normalization of ecological condition. Issuing of recommendations on necessary nature-protection measures aimed at the soil covering preservation in various regions.

1.3. Geobotanical description of territories, plant communities inventory and classification, evaluation of biological productivity and determination of their distribution in the landscape. Large-scale mapping of vegetation, evaluation of the anthropogenic influence on the vegetative cover, and designing of measures for the optimization of this influence. Prediction of changes in the vegetative cover resulting from the anthropogenic influence in urbanized and industrial areas. Evaluation of the stock of medical, berry, etc. plants. Development and issuing of recommendations on the recultivation and optimization of the vegetative cover disturbed as a result of human activities.

1.4. Entomofauna inventory in forests, natural reserves, parks, etc. Carrying out of related studies on biology, life cycles, productivity and influence of these factors on the ecological system equilibrium. Issuing of recommendations on the improvement of methods to control insect pests. Biological studies of entomophagous insects and development of schemes of their application, including the northern regions.

1.5. Prognostic evaluation of the populational parameters of hydrobionts. Studies on their life cycles and regularities of spatial distribution. Productivity

analysis of natural populations and issuing of recommendations on their protection and reproduction in various water basins. Analysis of hydrochemical regime of water, basins, prediction of its alteration, and issuing of recommendations on its normalization.

1.6. Terrestrial vertebrates inventory, revealing of rare and particularly vulnerable species. Development of recommendations on their protection. Drawing up of ecological passports for indicator-species. Revealing of species dangerous from the epidemiological point of view, as well as of species causing damage to forestry and agriculture; designing and implementation of measures aimed at the reduction of this damage.

1.7. Compilation of scientifically proved forecasts of ecosystem future development in 5, 10, 15, etc. years, proceeding from the results of repeated investigations for several years.

2. Designing of compensating nature-protecting measures and carrying out of feasibility studies based on the results of ecological research.

3. Carrying out of monitoring and organization of monitoring sites. Training specialists in monitoring techniques.

4. Designing and implementation of schemes for subject exhibitions at museums of regional studies and scientific museums. Educational and publishing activities in the sphere of ecology.

5. Development and implementation of technologies for the utilization of waste products from livestock and poultry industries.

6. Development and implementation of methods of biological plant protection adapted to particular regions.

The SPC "ECO-SERVICE" also carries out other types of work related to rational and ecologically safe management of nature resources.