Forest & Nature in Northwest Russia

FINNISH-RUSSIAN DEVELOPMENT PROGRAMME ON SUSTAINABLE FOREST MANAGEMENT AND CONSERVATION OF BIOLOGICAL DIVERSITY IN NORTHWEST RUSSIA

Second Phase (NWRDP II) for 2001-2004)

Articles

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Editorial

You are now reading the 2004 annual electronic bulletin "Forest and Nature in Northwest Russia". With this issue we have the pleasure to present you some of the proceedings and activities of the sustainable forestry and nature protection projects conducted by Finland and Russia in 2004.

The **Finnish-Russian Development Programme on Sustainable Forest Management and Conservation of Biological Diversity in Northwest Russia (NWRDP)** has already been implemented during two operational periods: the first phase1997-2000 and the current second phase 2001-2004. The Programme and its sectors - the Forestry projects and the Nature Conservation projects - have been externally evaluated during these years. The evaluations have assessed the results of the Programme to be good, and have recommended the continuation of the cooperation with a third phase for the years 2005-2010.

Within the Programme, over 20 forestry projects and over 30 nature conservation projects have been implemented in the regions of Northwest Russia. A great deal of knowledge, information and experience has been gained and exchanged during these years. We think it is fair to say, that a solid base for future cooperation has been created. The stakeholders on both sides of the border have found that it is necessary to continue joint operations in the future.

However, the NWRDP needs further developing. Both sectors of the Programme have now revised their objectives and means to reach them to some extent. The Forest Sector has found it necessary to develop the educational structures of the forest sector. In Phase III, the Forest Sector of the Programme will focus on capacity building of all levels of the continuous education structures in the forestry sector. The Nature Conservation Sector has found the most important cooperation needs in the development of a network of nature protected areas in Northwest Russia. Project planning and management training for the third phase of the Programme is being organised for the Russian partners during the autumn 2004 and spring 2005.

Since June 2004, the Forest Sector of the Programme has a new Finnish Coordinator - Ms. Laura Kauppila from the Finnish Ministry of Agriculture and Forestry. The former coordinator, Mr. Tatu Torniainen, has started research work in the Finnish Forestry Research Institute (METLA).

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Finnish-Russian Nature Conservation Cooperation in 2005-2007 (-2010)

A Finnish-Russian meeting was organised on 8-9 June 2004 in order to plan the Phase III of the Nature Conservation Sector of the Programme for the years 2005-2007. It was stated that even though the level of nature conservation in Northwest Russia has developed significantly, several problems, needs and potentials prevail. The cooperation in the previous phases has shown special development and cooperation needs. The participants of the meeting agreed that the main directions the Programme Sector should focus on are: the GAP Analysis and the Development of the Protected areas (PA) in Northwest Russia.

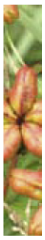
A comprehensive analysis on the needs to develop PAs network is needed in Northwest Russia. The identification of the gaps and representativeness of the protected areas will lead to high priority development actions and recommendations both in terms of new PAs as well as strengthening of the present PA network. The aim of the GAP Analysis is to function as a scientifically-proven and practical tool for planning and decision-making in regional and federal levels. The research and analysing process will take into account, in addition to ecological aspects of the PAs network, economical, social and cultural aspects related to the PAs. An operational and clearly structured PAs network will contribute significantly also to better functionality, efficiency and reliability of forest management and forest industry.

The second relevant need is to develop management and functions of the existing PAs. The development of PAs' management has not so far been dealt sufficiently in the Programme Sector. However, the inter-linked twin park cooperation managed by Metsähallitus has focused on park management as well as on development of nature tourism in the border area parks. Thereby, it is planned to combine the efforts of the Programme Sector and Metsähallitus in order to develop PA management and functions also in the PAs at a longer distance from the border. These activities will greatly support and facilitate the effective and sustainable development of nature conservation as an important element of Russian society - taking into account ecological, economical, social and cultural aspects of activities.

The Programme Sector will also include an important component of international networking, having the objective to improve and widen exchange of information and research methods as well as to establish new and strengthen already existing information networks. In addition, the Programme Sector will support relevant international nature conservation processes in NW Russia, e.g. the protection of the Green Belt of Fennoscandia. In practise, the Green Belt of Fennoscandia will mean an operative network of PAs on both sides of the Finnish-Russian border.

One component of the Programme Sector is to successfully finalise the projects and processes started in the phase II. These projects support the other Programme Sector components.

Syrovatka Landscape Reserve



The idea of creating the Syrovatka Landscape Reserve was first conceived in 1991. In that year, as part of the landscape and ecological research work of the Forest Institute of the RAS Karelian Research Center, a small expedition was sent to the most inaccessible shores of the White Sea (in the vicinity of the island of Syrovatka). The expedition included specialists from the Laboratory of Landscape Ecology and Forest Ecosystems Protection. The results of their work demonstrated that this territory had a very high potential from the point of view of setting up a protected area.

In 2003, this work was continued under the auspices of the Finnish-Russian Development Programme on Sustainable Forest Management and Conservation of Biological Diversity in Northwest Russia (NWRDP). At this stage, the territory was studied by a very wide range of experts from the Forest Institute, the Biology Institute, the Geology Institute, and the Northern Water Problems Institute of the RAS Karelian Research Center. This time, the group of scientists that was sent to the area in order to continue the inventory-taking of natural complexes comprised twenty people. The expedition included specialists in geomorphology, quaternary geology, hydrology, soil science, mire science, forest science, landscape ecology, botany, bryology, lichenology, mycology, zoology, entomology, hydrobiology, and remote probing (A. N. Gromtsev was the group's scientific supervisor). Video and photo images were recorded at all stages of the work. As a result of these efforts, and with the help of archive materials, the group compiled the most comprehensive description and evaluation of local natural complexes to date, providing the basis for a scientific justification for the foundation of the Syrovatka Landscape Reserve.

A brochure entitled *Natural Complexes Inventory and Scientific Justification for the Syrovatka Landscape Reserve* has been published. It contains the results of inventory taking on the territory of the planned Syrovatka Landscape Reserve and provides rationale for its foundation. The publication comprises seven sections. It begins with a description and assessment of general physical and geographical features of the area (climatic, geological-geomorphological, hydrological and soil conditions). The next section describes and evaluates terrestrial ecosystems (mires and swamps, forests, meadows, and the landscape as a whole). Next comes a description and assessment of terrestrial flora and fauna (vascular plants, leafy mosses, wood-destroying fungi, lichens, mammals, birds, and insects). Aquatic flora and fauna is discussed separately (algae, fish, macrozoobenthos). The publication concludes with an analysis of volumes and quality of timber resources that will be withdrawn from commercial use, and a set of general recommendations with regard to the necessity of setting up the reserve, its area and borders. A draft Statute of the Reserve has been drawn up.

In order to conserve the unique coastal biota, it would make sense to continue with the creation of a chain of protected areas along the shores of the White Sea, developing a second "green meridian" (the first extends along the Russian-Finnish border). The authors of the publication reach the conclusion that the Syrovatka Landscape Reserve is a key link in this chain, as this territory contains forest and mire communities that are either extremely vulnerable to anthropogenic impact, or remain completely untouched by human influence (in comparison with other territories on the shores of the White Sea). At present, there are no protected areas in Karelia that contain this extremely rare type of geographic landscape.

The administration of the Kem District has expressed its support for the creation of the Syrovatka Landscape Reserve (Letter No. 2-29/283 of 02.03.04.). The authors would like to express their deep gratitude to the Ministry of the Environment of Finland for the support and funding provided for this project.

All the materials are available at www.krc.karelia.ru/structure/fri/gis. The site also contains a series of thematic photographs by I. Yu. Georgievsky. This webpage was prepared by P. Yu. Litinsky.

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Vascular Flora of the Proposed Prigranichny (Paatio) Regional Sanctuary and Adjacent Islands (Leningrad region)

The area under study, located in the Vyborg District on the northern coast of the Gulf of Finland near the Russian-Finnish frontier, comprises the Zheleznovsky Peninsula, the eastern coast of the Kirovskaya Bay, the Urpalanniemi Peninsula and over 60 adjacent islands, differing considerably in size and elevation. The shoreline of the northern coast of the Gulf of Finland near the Finnish-Russian border is deeply indented with innumerable bays, inlets and peninsulas; the numerous islands and islets lend a skerry-like appearance to the landscape.

The largest islands are Bolshoy Pogranichny (Paatio, area 9.5 sq. km), Grozny (Laitsalmi), Ivovy (Pajusaari), Kozliny (Pukionsaari), Dolgiy Kamen (Pitkäpaasi, Kotisaari), Krutoyar (Essaari), Maly Pogranichny (Martinsaari), Uzorny (Herö), and Sokoliny (Ilmarinen). All the remaining islands are sized under 0.5 sq. km. The total area of the projected sanctuary and adjacent islands (excluding water area) is 340 sq. km. Situated on the southern slope of the Baltic Crystalline Shield, the area is scattered with rock outcrops, predominantly rapakivi granites, forming ridges (selgas) up to 28 m high. The majority of small islands are, in fact, granite shoals or domes with depressions filled with glacial deposits. Most of the mainland part of the sanctuary and many of the islands are covered with forest vegetation, mainly coniferous forests (pine, spruce and mixed spruce/pine forests). The Bolshoy Fiskar Archipelago, Dolgy Reef, Maly Fiskar and many smaller islets are almost treeless and a great value as staging and nesting places for birds.

This area close to the Finnish-Russian border is of great scientific interest, having been out of bounds for researchers for decades after World War II due to security reasons. Between 1917 and 1940, this was Finnish territory, and there were several Finnish villages on the mainland (Ala-Urpala, Kiiskinlahti, Orslahti, Koskela), and some larger islands (Laitsalmi, Pajusaari, Paatio, Martinsaari, Essaari, Kotisaari, Papinsaaret) were quite densely populated until 1939. With the local paludified and rocky soils being largely unsuitable for planting, the main traditional occupations of the island population were fishing, seal hunting and boat building. What remains of the former Finnish settlements still bears traces of their past residents' peaceful activity. Here one can find many foundations and ruins of buildings, and next to them, there are remnants of fences, cultivators, ploughs, barrow wheels, anchors embedded in shallow waters, occasional heaps of roofing tiles, overgrown decorative plants next to the foundations of former homes, as well as drainage canals, overgrown fields and pasture. Following the Finnish-Soviet war, the islands and mainland area west of Urpalanjoki (Serga River) became practically uninhabited, and were subsequently included in the so-called 'border security buffer' of the Soviet Union, where access was forbidden. Nowadays, the only inhabitants of this vast area are a few military servicemen and lighthouse keepers, the only exception being the base of the Kirovskaya Bay, where many summer cottages have been recently built.

On the one hand, due to strict border controls, the area in question has remained a "natural" sanctuary for a long time. Here, the forests have remained virgin, the ecosystems have developed without any noticeable human impact, and many rare wildlife species and plant communities have been well preserved. But, on the other hand, our knowledge of the local biodiversity remained very poor until very recently, when the political climate changed and it became possible to carry out scientific research this close to the frontier.

The Finnish Environment Institute first joined forces with a group of Russian botanists from the Komarov Botanical Institute in St. Petersburg, Russia, in 2002 to conduct biological research at the projected Prigranichny (Paatio) sanctuary and adjoining islands off the northern coast of the Gulf of Finland. Their collaboration began within the framework of the Finnish-Russian Programme on Sustainable Forest Management and Conservation of Biological Diversity in Northwest Russia. The main purpose of the 2002-2004 project, which is a part of a bigger research effort targeting the flora of the Russian islands and coastal areas of the Gulf of Finland, was to carry out biological research across the area of the projected regional Prigranichny sanctuary, and the neighbouring islands.

The first step of the project was to gather as much information as possible on local vegetation from all available sources: publications, herb sample collections and archives included. However, a study of old literature and plant collections from Finnish museums showed how little we really know about the flora of the land west of Urpalanjoki up to the Russian-Finnish frontier. The shortage of botanical information from this area made our research feel more like new exploration.

During the second stage of project work, field trips were undertaken in 2002-2004 by the Russian botanical group (coordinated by Dr. E. Glazkova) to the islands and coastal areas west of Urpalanjoki (Serga River).

The group visited mainland areas and more than 60 islands, half of which are included in the projected Prigranichny (Paatio) sanctuary. A wealth of botanical information was gathered. In 2004, we took a series of trips to some of the outer islands in the eastern part of the Gulf of Finland, including Suursaari, Bolshoy Tuters, Maly Tuters, Bolshoy Fiskar, Virginy, Rodsher, and Sommers. Field records and vegetation descriptions were produced for each island and islet, as well as for the coastal areas, together with profiles of vascular plant species in the studied area. The focal point were rare and endangered plant communities in need of special study and protection.

Our research yielded a roster of 580 vascular plant species for the Prigranichny mainland and adjacent islands (excluding outer islands), drawn up in 2002 through 2004. The number of species on the islands varies depending on island size, location, human impact and bird populations. The greatest number of vascular species (357 plants) was found on the largest island explored: Paatio (9.5 sq. km in area). On Maly Pogranichny, Krutoyar, Dolgiy Kamen, Kozliny, Ivovy and Grozny islands with areas ranging from 0.66 to 2.5 sq. km, the number of species ranges from 256 to 295. The number of species on the other islands with areas below 0.5 sq. km is far lower, ranging from 54 to 202. The flora of the smallest rocky islets, affected by resting and nesting seabird populations, is very peculiar but shows poor variety (typically fewer than 100 species), and may be described as "avian-oriented," and a nurturing ground for nitrophilous plants.

Of particular interest is the flora of the cliffs, rock outcrops, coastal meadows and beaches. Rock cracks and outcrops are the habitat of many species rarely encountered in the region, as well as typical cliff plants, e.g. Asplenium septentrionale, *A. trichomanes, Woodsia ilvensis, Spergula morisonii, Steris alpina, Silene rupestris, Cystopteris fragilis, Polypodium vulgare*, etc.

Coastal vegetation in the sanctuary's mainland and on adjacent islands is very diverse and represented by various plant communities, which play an important role in the local flora. Littoral meadows along the coast are particularly rich in plant variety. Apart from many common meadow species, the following rare plants worth mentioning were found growing on the coast: *Carex mackenziei, Scutellaria hastifolia, Euphorbia palustris, Blysmus rufus, Centaurium littorale, C. pulchellum, Allium schoenoprasum, Spergularia salina, Tripolium vulgare, Eleocharis parvula*, etc. The long sandy and sandy/rocky spits on the Urpalanniemi Peninsula and Uzorny (Herö) Island, stretching far out into the sea, interspersed with tiny sandy bays, are very scenic. The most common plant communities on sandy beaches are those of *Leymus arenarius, Honckenya peploides, Isatis tinctoria, Cakile baltica, Calamagrostis meinshausenii, Senecio viscosus, Lathyrus maritimus*, etc. Many littoral plant communities thrive on algae (mainly wracks) washed out on the shore. The most typical plants here are *Atriplex (A. littoralis, A. prostrata, A. calotheca), Polygonum, Rumex (R. maritimus, R. crispus, R. longifolius), Spergula sativa, Galeopsis bifida*. On the coasts covered with sand and rocks, and in coastal cliff cracks, the *Tripleurospermum maritimum* is widespread. Among rare *halophilous species* occurring in shallow waters, the following were noted in particular: *Batrachium marinum, Najas marina, Zannichellia repens*.

What particularly stands out about the flora in the area surveyed is the prominent role of coastal species, the incidence of some Baltic *subendemics* among these species, and the presence of many vascular plants for which this area signifies the outer boundary of their natural habitat. A total of 23 borderline species were recorded across the Prigranichny sanctuary and on adjacent islands, with the prevalence of plants at their northernmost (11 species) and easternmost (6 species) limits, and a smaller number being at the most southern, south-eastern and north-eastern limits of their habitat (3, 2 and 1 species, respectively).

Due to the natural idiosyncrasies and high degree of safety of the ecosystems in the Prigranichny sanctuary (especially its western part, and insular ecosystems), the flora of the area boasts a plethora of endangered vascular plants. Sixty of the plant species found in the Prigranichny sanctuary are listed as threatened in the Red Data Book of Eastern Fennoscandia (1998). Twenty three floral species are included in the Red Data Book of Nature of the Leningrad Region (2000 edition), namely: *Melica picta, Centaurium pulchellum, Crepis czerepanovii, Centaurium littorale, Asplenium septentrionale, A. trichomanes, Silene rupestris, Scutellaria hastifolia, Tripleurospermum maritimum, Senecio aquaticus, Myrica gale, Carex mackenziei, Blysmus rufus, Woodsia ilvensis, Tripolium vulgare, Allium schoenoprasum, Najas marina, Botrychium matricariifolium, Isatis tinctoria, Steris alpina, Chamaepericlymenum suecicum, Allium angulosum, Isoпtes setacea*.

Summing up three years of our botanical exploration in the area, we can characterize its flora as highly unique due to the presence of species that do not seem to belong here geographically, as well as predominance of coastal species in general. Being highly vulnerable and sensitive to human interference, these island and coastal ecosystems deserve special attention as a unique and valuable oasis of virgin nature.

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Floristic Research on the Karelian Isthmus

The Karelian Isthmus is located in the north-west of the Leningrad region, bordered by the Neva River in the south, the Gulf of Finland in the west and Lake Ladoga in the east. In the north-west, the Karelian Isthmus extends to the border between Russia and Finland, while in the north-east it stretches to the border between the Leningrad region and Karelia.

From north to south it spans 150-180 km (1½°), while from west to east its width is 55-110 km. The area of the isthmus amounts to about 15,000 square kilometers, which is equivalent to half of Belgium, or a third of Denmark (not counting the island of Greenland). The isthmus accounts for 17% of the entire territory of the Leningrad region.

The Karelian Isthmus, which is distinguished by its unique nature (rocks, a sea coast, a plethora of lakes of various sizes), has long attracted the attention of both Russian and foreign botanists (for a long time, a significant part of the isthmus belonged to Finland). Nevertheless, until now the species composition of local flora has not been entirely accounted for, largely due to historical factors which effectively isolated Russia from Western Europe for a long period of time (until the early 1990s). For this reason, extensive herbarium collections, as well as numerous articles about rare plant species, until recently have not been available to Russian researchers. Of special significance was a monograph published in 1946, *Karjalan kannas kasvien vaellustienä* by I. Hiitonen, which covered the Finnish section of the isthmus. This work summarized the results of research into the flora of the Karelian Isthmus carried out by the mid-20th century. With respect to both the theoretical and practical significance of this work, it should be noted that I. Hiitonen for the most part limited himself to an in-depth study of species living in natural habitats and the possible routes of their migration to the Karelian Isthmus. In subsequent years, a number of species that are new both to the Karelian Isthmus and Northwest Russia as a whole were discovered, along with numerous new habitats of rare species.

Since 1994, the flora of the Karelian Isthmus has been studied in depth by A. Yu. Doronina. As a result of this research, and with the aid of herbarium collections in Russia (LE, LECB, WIR, MSK) and abroad (H, TUR, TURA, KUO, OULU, HSI, HEL, S), an *Overview of vascular plants of the Karelian Isthmus* was compiled. It comprised 1,184 species of wild vascular plants belonging to 472 geni and 114 families, as well as 186 cultivated species, species falling out of cultivation and hybrid species. An analysis of the systematic structure and life-forms of the aboriginal part of the flora has shown that the Karelian Isthmus flora belongs to the temperate-boreal type.

An ecological and phytocenotic analysis of the Karelian Isthmus flora has demonstrated that in terms of number, the isthmus is dominated by forest-related species. They include *Diplazium sibiricum, Cinna latifolia, Carex sylvatica, Listera cordata, Neottia nidus-avis, Asarum europaeum, Aconitum lycoctonum, Ranunculus subborealis, Corydalis intermedia, Dentaria bulbifera, Astragalus subpolaris, Oxytropis sordida, Lathyrus linifolius, Chaerophyllum aromaticum, Geranium robertianum, Mercurialis perennis, Galeobdolon luteum, Lathraea squamaria* and others. Of rare mire species the following are worthy of special mention: *Trichophorum cespitosum, Rhynchospora fusca, Carex disticha, C. livida, C. paniculata, Juncus stygius, Dactylorhiza traunsteineri, Saxifraga hirculus, Pedicularis sceptrum-carolinum*. The sandy beaches of the Gulf of Finland and Lake Ladoga are populated by *Calamagrostis meinschausenii, Festuca arenaria, F. sabulosa, Leymus arenarius, Carex arenaria, Juncus balticus, Salix acutifolia, Lathyrus maritimus* and others.

The uniqueness of the Karelian Isthmus flora is largely attributable to coastal and rock species. The composition of coastal species is determined by the Gulf of Finland and its specific characteristics *(Blysmus rufus, Cakile baltica, Lotus ruprechtii, Archangelica litoralis, Myosotis ramosissima, Scutellaria hastifolia, Valeriana salina, Tripleurospermum maritimum, Atriplex calotheca, A. littoralis, Salsola kali, Isatis tinctoria)*. Some of these species (coastal halophylous species) can be found on the shores of the Gulf of Finland where there are sufficiently high levels of salinity - to the north of the town of Zelenogorsk: *Triglochin maritimum, Puccinellia pulvinata, Scirpus tabernaemontani, Bolboschoenus maritimus, Blysmus rufus, Eleocharis parvula, Carex glareosa, C. mackenziei, Spergularia salina, Glaux maritima, Centaurium littorale, C. pulchellum, Cuscuta halophyta, Plantago maritima, Tripolium vulgare*. Rock species are to be found on the Baltic crystalline shield *(Woodsia ilvensis, Asplenium septentrionale, A. trichomanes, Hierochloп australis, Steris alpina, Silene rupestris, Draba incana, Saxifraga cespitosa, Crepis czerepanovii, Polypodium vulgare, Cystopteris fragilis)*. The latter two species can also be found in the southern part of the Karelian Isthmus, though their frequency of occurrence is far lower in this area.

On the basis of detailed maps of species distribution, a geographic analysis of the aboriginal part of the flora and comparative data on twelve local floras, the territory of the Karelian Isthmus can be divided into three floristic sectors - western, northern and southern. The western sector is the richest in terms of flora composition. It includes the shores of the Gulf of Finland and adjacent territories and islands that are influenced by the sea. In the north-west, the western floral sector extends into neighboring Finland. Baltic species are only to be found in this sector, and they are entirely absent to the east of this region: *Alisma juzepczukii, A. wahlenbergii, Eleocharis fennica, Hierochloп baltica, Polygonum oxyspermum, Batrachium marinum, Cakile baltica, Lotus callunetorum, L. ruprechtii, Cuscuta halophyta, Hieracium prolatatum, Tripleurospermum maritimum*. The northern floristic sector is bordered by the western sector in the west, the southern sector in the south and east, and by Lake Ladoga in the north-east. In the north, the northern sector protrudes into neighboring Finland and Karelia. The northern floristic sector, which has no outlet to the Gulf of Finland, is characterized by the following species: *Asplenium trichomanes, Equisetum variegatum, Hierochloп australis, Luzula campestris, Coeloglossum viride, Nymphaea tetragona, Alchemilla cymatophylla, A. samuelsonii, Melampyrum cristatum, Eupatorium cannabinum*. The southern floristic sector also has no outlet onto the Gulf of Finland and comprises the highest section of the Karelian Isthmus. In the east, its climate is influenced by Lake Ladoga. The following species are only to be found in the southern sector: *Diplazium sibiricum, Botrychium simplex, B. virginianum, Selaginella selagineloides, Carex atherodes, C. otrubae, C. paniculata, C. sylvatica, Juncus capitatus, Calypso bulbosa, Cypripedium calceolus, Aconitum lycoctonum, Batrachium mongolicum, B. penicillatum, Pulsatilla patens, Ranunculus subborealis, Gypsophila fastigiata, Corydalis intermedia, Agrimonia pilosa, Alchemilla glabricaulis, Oxytropis sordida, Chaerophyllum aromaticum, Peucedanum oreoselinum, Hottonia palustris, Centaurium erythraea, Mentha aquatica, Origanum vulgare, Utricularia ochroleuca, Ligularia lydiae*. All these species belong to the very rare and rare types, while some have only been discovered in single locations.

A large number of rare species have been registered on the Karelian Isthmus. Nineteen of them have been included in the Red Data Book of the Russian Federation *(Botrychium simplex, Isoëtes lacustris, I. setacea, Alisma wahlenbergii, Caulinia tenuissima, Rhynchospora fusca, Carex livida, Cypripedium calceolus, Dactylorhiza baltica, D. traunsteineri, Epipogium aphyllum, Calypso bulbosa, Myrica gale, Silene rupestris, Pulsatilla vernalis, P. pratensis, Armeria vulgaris, Lobelia dortmanna, Senecio aquaticus)*, 85 are listed in the Red Data Book of Nature of the Leningrad Region, 204 are in the Red Data Book of the East Fennoscandia, and 142 species are included in the Red Data Book of the Baltic Region. Unfortunately, as a result of poorly managed economic activities, many of these species are no longer to be found on the Karelian Isthmus, such as *Selaginella selaginoides, Ligularia lydiae, Carex caryophyllea _ C. hartmanii, Calypso bulbosa, Cypripedium calceolus, Juncus capitatus, Pinguicula vulgaris*.

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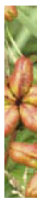
Study of Plants and Lichens in the Murmansk Region Protected Areas



The European Plant Conservation Strategy (2002) lists as its primary task "understanding and documenting plant diversity", which can be achieved through the compilation of detailed, annotated lists of species. The study of plant and lichen diversity in the Murmansk region is one of the main fields of activity of the Polar-Alpine Botanical Garden and Institute (PABGI) of the RAS Kola Research Center.

Within the framework of this research work, attention is primarily focused on the study of plant and lichen diversity in the Murmansk region protected areas. Along with vascular plants, the vegetation cover of the Murmansk region is dominated by bryophytes and lichens. In terms of the number of species, lichens are in the leading position (over 1,000 species), followed by vascular plants (889 aboriginal species) and bryophytes (190 liverwort species and 445 moss species). The PABGI Department of Flora and Vegetation is involved in the study of all of these groups. The preliminary results of research into the flora of the Murmansk region protected areas have recently been summarized and published (Konstantinova et al, 2004).

The strict nature reserves (Kandalaksha, Lapland and Pasvik) have long attracted the attention of botanists. However, reasonably systematic study of their flora was only begun fairly recently. For vascular plants, comprehensive species lists for all three regional strict nature reserves have already been published or prepared for publication (Vorobyova, 1996; Kostina, 2003; Kostina, Berlina, 2001, etc). For bryophytes, more or less comprehensive lists have only been compiled for the White Sea area of the Kandalaksha Strict Nature Reserve (Konstantinova, 1997; Belkina, Likhachev, 1998). Very scanty data are available for the Barents Sea islands, while the Pasvik Strict Nature Reserve has not been researched at all, and the available lists for the Lapland Strict Nature Reserve are very incomplete. With regard to lichens, none of the Murmansk region strict nature reserves can boast a full species list (this is particularly true of microlichens).

The PABGI protected area has been studied fairly well. 105 liverwort species, 205 moss species and 302 aboriginal vascular plant species have been registered (Konstantinova, ed., 2001) in this area, located on the largest mountain ridge of the Murmansk region, the Khibiny Mountains. This accounts for 57% of liverwort flora, 45% of moss flora and 35% of vascular plant flora in the entire region. With regard to lichens, the species list that was published earlier (Antonova, Dudoreva, 1997) and contained 230 species, has by now been supplemented with new taxons and is likely to be significantly expanded in the future.

Of all the existing reserves, only the Kutsa Reserve has been studied in any detail. This area has been researched many times by specialists in all plant types (Ulvinen, 1996a, b). Nevertheless, even in the Kutsa Reserve, additional research is required, in particular with a view to identifying those species that are only known from the relevant academic literature. It is clear that crustose lichens, for example, have yet to be properly studied. Nature monuments are typically not very large in terms of area (1-3 hectares) and often lack clearly marked borders. Lists of rare and endangered species of vascular plants have been compiled for the majority of the nature monuments, while the complete species composition has never been established.

In total, 745 vascular plant species, 411 moss species, 176 liverwort species and 559 lichen species have been registered in regional protected areas, accounting for 83.8%, 91.3%, 94.1% and 57.6% respectively of the species composition for each of these groups in the Murmansk region (Konstantinova et al, 2004). The small share of lichens that have so far been identified in the Murmansk region protected areas is attributable to the low level of research into these organisms (crustose lichens in particular), in the region as a whole and in protected areas specifically. Thus, the flora of protected areas fairly well reflects the entire species composition of the region. However, many rare and endangered plant and lichen species included into the Red Data Book of the Murmansk Region (2003) are not represented (or have not yet been identified) in the regional protected areas. Thus, 40% of lichens, 28% of leafy mosses, 22% of liverworts and 16% of vascular plants from amongst those included in the Red Data Book of the Murmansk Region have not been identified within local protected areas (Konstantinova et al, 2004). It is quite likely that some of such species, in particular lichens and bryophytes, will be registered in protected areas in the course of further research. However, it is highly unlikely that some of the species, in particular those classified as extremely rare, will ever be found on the territory of the protected areas. In order to protect such rare species it will be necessary to set up new nature monuments or reserves.

Over the past two years, bryophytes and lichens have been collected in the Lapland Strict Nature Reserve, one of the largest in the European part of Russia. The identification of collected materials, as well as the exploration of highly inaccessible parts of the reserve, are an important component of current work on the study of the biota of the Murmansk region protected areas. In addition, comprehensive exploration of the existing nature monuments is being carried out. There are plans to study the species diversity of bryophytes and lichens in the Pasvik Strict Nature Reserve and a number of other protected areas.

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Framework for the Vologda Region Nature Research Strategy (2004-2010)

Goal: Research in biological diversity (at the level of biotopes, ecosystems, species, genes), and research in landscape diversity for the sustainable use of biological resources of the region.
Research tasks: inventory-taking, evaluation and monitoring of landscape and biological diversity.
Target region: the Vologda region, covering an area of 145.7 thousand sq. km and situated in the Northwest of the European part of Russia
(between 61°36' - 58°27' North and 34°42' - 47°10' East)

Profile of the Vologda region:

1. Geosystem marginality. Here lies the border between:
- intermediate and southern taiga zones
- the Caspian, Baltic and White Sea basins
- western and eastern parts of the Russian Plain
- boreal and sub-boreal European landscapes

2. Unique character of biodiversity:
- high diversity of the local animal and plant wildlife diversity of fauna complexes and flora
- geoelements: Arctic, boreal, nemoral, steppe, Siberian
- many species are vulnerable, being at the border of their habitats
- vivid genetic polymorphism of species
- unique life forms of hydrobiont fauna
- species migration, self-spreading, invasion problems

3. High diversity and mosaic character of natural landscapes, ecosystems, biotopes: moraine, lake-glacial, forest, meadow, swamp, water, plain, hill.

4. Diversity of landscape, ecosystem and biotope anthropogenic modifications: forestry, agricultural, water-use, technogenic, transport. Evidence of transformation of the natural environment, including:
- increasing share of anthropogenically modified landscapes, including the replacement of coniferous forests with microphyllous forests, swamp drainage, changed chemical characteristics of soil processes.
- strengthening of habitat anthropogenic fragmentation.
- air, water and soil pollution which cause alcalinization, acidification, eutrophication, toxification and environmental deterioration.
- changes in geo- and ecosystem mass and energy exchange and introduction of extra biogenes, toxic organic and non-organic substances into circulation.

Research directions:
1. Observation network optimisation, collection and processing key parameters (place and time, structural, functional) of landscape biodiversity.

2. Registration and monitoring of biodiversity at the level of landscapes, biotopes, ecosystems and species.

3. Updating the Vologda Region Red Data Book.

4. Biodiversity evaluation at the level of landscapes, biotopes, ecosystems and species.

5. GAP Analysis of protected areas for optimal placement.

6. Research in genetic polymorphism and phenotypic norm of reaction for rare species.

7. Evaluating biotope vulnerability as association habitats and ecotope vulnerability as rare species habitats under the conditions of protected areas and anthropogenic landscapes.

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Shalgo-Bodunovsky Forest Biotopes

Object of Research
The Shalgo-Bodunovsky Forest, a regional landscape reserve (decree of the Regional Executive Committee № 196, May 10th 1984), has been part of the protected area of Russky Sever (The Russian North) National Park since 1992 (decree of the Government of the Russian Federation № 182, March 20th, 1992). The area of the Shalgo-Bodunovsky Forest Reserve is 1511 hectares. Administratively, it belongs to Kirillovsky District, Vologda Region.

Features of the territory as an object of forest biodiversity research:
1. Situated in the central part of mid-boreal Kirillov moraine-hill landscape region, distinguished by its mosaic and complex morphological landscape structure.
2. Diversity of geologic and geomorphologic conditions, which differentiate moisture and soil formation processes.
3. The complete spectrum of mid-boreal forest biotopes of the Vologda Region is present within the territory of the landscape reserve.
4. Wood age variety with ripe and half-ripe stands of maximum age prevailing, presence of old ecosystems (up to 270-300 years old).
5. High floral diversity, especially of vascular plants (30% of all species existing in the region).

Research Methods
Biotope research was carried out by means of fieldwork and cartography, including GIS-technologies. The territory of the reserve was divided into
100m x 100m squares, within which geobotanic descriptions at key grounds of 100 square metres were prepared. Research focused on wood species formula, height and diameter; density of tree-top convergence; presence of new saplings and degree of their maturity; and regeneration character.

Grass-bush and moss-lichen levels were profiled according to the total amount of species, among which the dominant species were identified, their cenotic role was determined and rare species were recorded. For the taxons included into the Red Data Book, the age and structure of the population was studied. Associations were identified on the basis of the participation of the most abundant species (dominants) in the creation of lower levels of bioassociations. Description of soils, type and genesis of Quarternary deposits were fulfilled by means of soil cuts and digs.

Research Results
In the process of the fieldwork 500 geobotanic and 250 soil cut and dig descriptions were prepared in all the forest biotopes present within the territory of the reserve.

Major Biotopes
Within Shalgo-Bodunovsky Forest Reserve 8 groups of forest biotope types, containing 35 species, have been identified. The most abundant and widely spread is the group of moraine small-ridge and hilly areas as well as moraine glacial-lake inter-hill depressions, among which the following are prevalent:

- Small moraine ridges with mid-podzol light- and mid-loamy soils, with old bilberry spruce forests, rarely with green-moss pine and green-moss grass aspen forests.
- Small moraine hills with podzol light-loamy and sandy soils, more rarely with podzol-clay soils, with spruce and bilberry pine forests of various age, rarely with aspen and green-moss grass spruce-birch and aspen forests.
- Moraine plains with clay strong- and mid-podzol soils with bilberry spruce and pine forests, more rarely with aspen forests (replacing cut spruce forests) and green-moss and swamp grass spruce-birch forests.
- Smaller river valleys with peaty podzol-clay, peaty, sandy peaty-podzol and clay soils with the predominance of grass-moss, long-moss spruce forests of various age and sphagnum pine forests.

Plants
Spruce forests predominate within the area researched. Among them bilberry and grass-swamp forests prevail. Green-moss and sphagnum pine forests come second, followed by green-moss aspen forests and grass-swamp birch forests. Within the Forest Reserve area meadow associations are nearly absent, but there are some elements of such associations at parcel level in the Mougnitsa River valley.

Flora
Within the Forest Reserve area more than 300 vascular species have been registered (2004). 30 of them are rare species included into the Vologda Region Red Data Book. In addition, during the fieldwork 8 protected lichen and 1 protected moss species were identified.

At present, the processing of 2004 fieldwork findings continues, on the basis of which databases and electronic GIS layers are being created.

Preliminary results have lead us to the conclusion that the Shalgo-Bodunovsky Forest Reserve can serve as a model ground for detailed research of natural ecosystems, as well as for forest biotopes of Russky Sever (The Russian North) National Park and mid-boreal zone of the European Plain monitoring.

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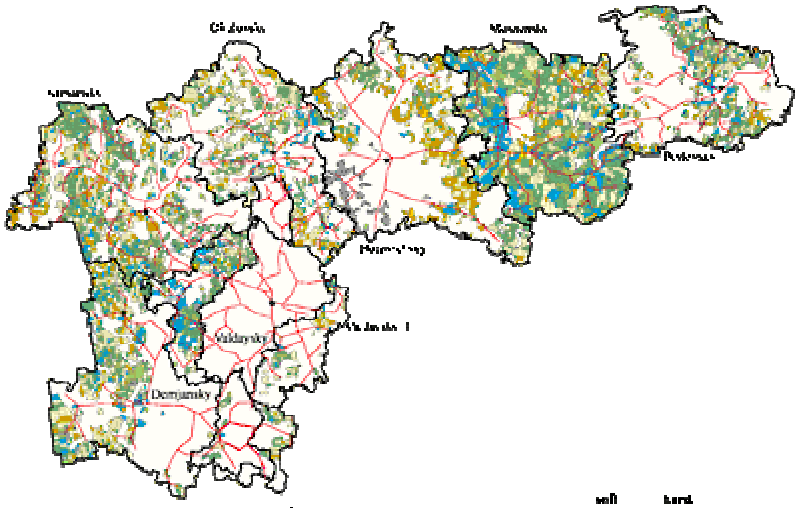
Economic accessibility of forest resources in Northwest Russia

The project on the Economic accessibility of forest resources in Northwest Russia started in late 2001 and was introduced in this Bulletin in 2003. Since then the focus of the project has been on forest resources as well as economic accessibility. The objectives of assessing the geographical distribution of different wood harvesting levels taking into consideration road accessibility and transportation costs at the enterprise level and coordinating and building a synthesis on the availability of wood resources and their economic accessibility are still relevant.

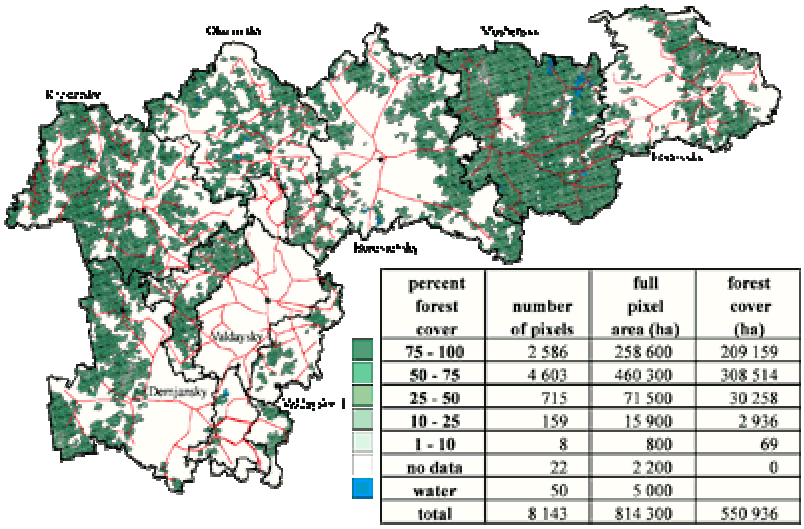
Satellite based measurements of forest resources for the whole of Europe are currently available as a result of a joint project by the European Forest Institute (EFI), the Joint Research Centre of the European Commission, the European Space Agency and VTT Technical Research Centre of Finland. The resulting maps indicate the amount forest coverage as a percent of land area over most of Europe and in European part of Russia (Päivinen et al, 2001; Schuck et al, 2002).

The research team at EFI has been measuring economic accessibility in Novgorod region in terms of using costs occurring between harvesting and delivery to a lower landing. Along with using pure kvartal level inventory data the team has compared that data with the satellite based data. The reason for this is the fact that inventory data that would be detailed enough for this kind of estimations is hard or in some cases impossible to acquire. With the use of satellite based data which has been combined with the actual map data (including the roads, railroads, waterways, cities etc.) we can have a more precise estimate of the forest resources in the entire region. Using inventory data gives an estimate of only the kvartals that are assigned to forestry, which rules out the areas assigned for agricultural use. As in the figures below, the total amount of forested area is larger in the satellite based assessment. To assess the geographical whereabouts of the forests in the area, as well as their coverage it may be more feasible to use satellite based data than to start acquiring pure inventory data or at the least check the satellite data for broad areas first before enquiring about inventory data on smaller areas of special interest.



kvartal volume (m3/ha)	number of kvartals	full kvartal area (ha)	merchantable area (ha)	merchantable volume (1000 m3)	conifer volume (1000 m3)	soft hardwood vol. (1000 m3)	hard hardwood vol. (1000 m3)
> 375	16	1 850	206	102,0	49	53	0
275 - 375	958	116 160	34 667	10 362,6	3 301	7 060	1,6
225 - 275	2 096	277 834	84 943	21 194,6	7 645	13 541	8,6
175 - 225	1 853	256 672	65 525	13 387,2	4 816	8 563	8,2
75 - 175	632	98 700	14 896	2 355,2	946	1 409	0,2
1 - 75	7	723	45	2,0	1	1	0,0
<1	909	137 059	0	0	0	0	0,0
Total	6 471	888 998	200 281	47 404,6	16 758	30 628	18,6
Group 1	1 383	176 391	29 043	7 137,9	2 557	4 580	0,9
Group 2	5 088	712 607	171 238	40 265,7	14 201	26 047	17,7
no inventory	200	22 994					

Merchantable volume of kvartals (m3/ha), from inventory data



percent forest cover	number of pixels	full pixel area (ha)	forest cover (ha)
75 - 100	2 586	258 600	209 159
50 - 75	4 603	460 300	308 514
25 - 50	715	71 500	30 258
10 - 25	159	15 900	2 936
1 - 10	8	800	69
no data	22	2 200	0
water	50	5 000	
total	8 143	814 300	550 936

Forest coverage by percent, from satellite based information

So far the economic accessibility calculations have been done using the actual inventory data with the basic map data of roads, railroads etc.

Preliminary results for a sample of kvartals covering 3 lesnichestvos in Komi are available and "super pixels" (25 square km in size, again, based on the European forest map) covering the entire region of Komi. Volume estimates for the area should be available by the end of the project. By the end of the project (12/2004) it is also envisaged to have the model finished to calculating the economic accessibility with the satellite based data with updated cost information. At the moment, the cost information used is out of date and from only one leskhoz. The final results will be presented in an EFI Discussion Paper in early 2005 (http://www.efi.fi/publications/) and possibly in a seminar in early 2005.

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Development of vocational continuing education in the Russian forest sector

Background of the project
In 2003 the University of Joensuu started an education project in cooperation with the All-Russian Institute of Continuous Education in forestry (ARICEF). ARICEF is constantly training directors and specialists of regional forest authorities, and therefore plays a key role when new concepts and thoughts should be introduced and adapted in the Russian forest management. This training is very important because the Russian forest sector will meet radical structural change within the next few years, since the reform has not taken place during the last decade of transition. This has led to low productivity and lack of investments. In this work ARICEF needs highly qualified staff, modern teaching methods and materials. The Barents forest sector cooperation can support the work by offering the possibility to utilise existing western experience. This project aimed to answer to this need by educating the teachers of the institute.

The aims and the main results of the project
The aim of the project was to develop the possibilities and methods of continuing education in forestry in Russia. The most powerful tool in this is to improve the knowledge of forestry and educational skills of the teachers in Russia. In this project 20 Russian forestry teachers were trained in the years 2003-2004. This included two educational excursions to Finland, publishing a text book on forest communication, advising and training in technical aspects in long-distance learning and providing some equipment for this purpose.

During the two excursions the Russian teachers were familiarised with Finnish practises in forestry teaching, different learning methods and different forestry subjects. These subjects were agreed with the teachers to ensure that the subjects covered the branches they are teaching in Russia. The latest research results were introduced. The practices in Finland and Russia were compared in order to be able to evaluate the success and failures of teaching in each country.

During the first education excursion the participants were introduced to Finnish practises in forest policy, economics and forestry teaching. The second excursion included the professional subjects that are important in the forestry teaching: legislation, forest planning, ecology, forest technology, etc.

Since the ARICEF provides education to authorities and specialists in all of Russia, distant learning will be a crucial tool for the institute in the future. This aspect was supported by the project in two ways. Two experts on the field of learning technology from the University of Joensuu visited the institute. They studied the technical resources in the institute in relation to the needs of distant learning. Based on this study they helped to plan what is needed and what should be done in order to be able to advance distant learning. In the project a small budget was reserved to purchase the equipment needed. But of course this was only a start for the material purchases that should be made by the institute itself.

The third important field in the project was the training of the teachers in teaching methods and in communication. During the first excursion to Finland one day was spent in the North Karelia Polytechnic. During that day the teachers were familiarised with the Problem Based Learning method in forestry teaching and how it is used in teaching in forestry. Forest communication got its own teaching day during the second excursion. During that day the teachers had few exercises on the subject and the text book of communication was delivered to them.

Conclusions of the project
According to the participants, the project was very useful for their work. It came out that educational skills and development in that field are very important. In Russia the participation in professional education is obligatory so the motivation of the students and ability to teach in interesting way is very important. Also the latest development in the different subjects is important to take into account in teaching. The international contacts were considered very important as well. These aspects should be kept in mind also in the future.

After this project we believe that the development of the ARICEF is easier for the personnel themselves. The aim must be that the foreign contacts are needed and we can consult when needed and share experiences, but the real development of the institute comes from their own resources and the most valuable cooperation is to support them in this process.

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Investigation on legal questions of the Russian forests utilization

The question of ownership of the forest has been defined as the most important issue for investigation. Directly connected with the ownership is the question about the right to use the forest. In the context of the forest economy, administrative regulation of the forests use is relevant. In the Russian case, all those three activities: ownership, economical utilization and administrative control, are concentrated in one hands: that of the state.

The most controversial elements of state forest administration are the mixture of public-law and private-law functions within one state authority. An obvious conflict of interest arises when legislative and administrative decisions on forests are taken by the agency that also has the authority to represent the interests of the owner of the state property.

Even if in the late 1990s the state monopoly over landownership was dissolved and private landownership instituted, the reform does not concern forest ownership. Government policy has aimed to introduce private ownership into the forest sector, and the central part of the ongoing discussion on the draft for the new Forest Code is the issue of private ownership of forest. At the moment it seems that the Russian government has to avoid the issue of development of forest land market in the new Forest Code by stating that this will be dealt with through separate legislation, similar to that connected with the agricultural land. The private ownership of land was accepted in the Law on the Transfer of Agricultural Land. Meanwhile the Land Code was passed by the State Duma without determination of private land ownership in the agricultural sector.

The second hot topic in the ongoing discussion on how to establish a viable forest economy sector in the Russian Federation is the issue of centralization versus decentralization. The present policy certainly requires a strong federal presence in the forest sector. Fresh amendments in the Forest Code from August 2004 have defined that the only state authority for actions in the name of the state as the owner of the forest is the Federal Forest Agency. The role of regional state organs as representatives of the state owner of forest has been eliminated.

The attitude of regional representatives and specialists to the strong centralisation in the forest economy will be studied in the project, e.g. during the next visit in Karelia in October 2004. The connection between the federal level and the regional level of the legislative powers and the state administration in the field of forest economy was discussed already during the first visit in Karelia in December 2003.

One of the methods for studying the Russian forest law is to analyse court practices in the field. This will be done based on the court decisions made in the Arbitration Court of the Republic of Karelia. The work has been started already in 2003. The second important method is to study business practices. The project has already started to analyse forest rent agreements, based on which Finnish companies or Russian firms owned by Finnish ones have leased forest parcels for utilisation.

The question of which state organs - federal, regional or municipal - have right to rent forest parcels, is very relevant, but not at all clear. Another unclear question is which forest land can be owned by private persons. This concerns e.g. agricultural land. Before the reform, all forests within the boundaries of collective farms were used by those farms. The workers of the former collective farms have got shares and they are owners of the agricultural land. However, it is not clear whether and to which extent agricultural land with forest can be owned by those workers or by enterprises created on the base of those shares, or whether these forests belong to the state. In any case, in practise even if the agricultural forest is owned by the state, it is still used by the people living in rural areas.

The purpose of the project is to clarify the question of ownership of forest in Russia. It is clear that within the project it is not possible to give a full answer on this question, due to difficulty of the issue and the continuously changing legislation and administrative organization. Nevertheless, some more understanding and information will be reported during the project and in the final report.

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Development of Voluntary Forest Certification in Russia

Voluntary forest certification has become an indicator of environmental quality for wood and forest products. Vice-president of the Union of Timber Merchants and Timber Exporters of Russia, Mr. A.V. Frolov stated that "In recent years, each meeting of people dealing with forest can hardly occur without discussing forest certification as a remedy against all forest diseases" (Forest Certification in Russia #1(01)/2003. Supplement to the Russian Timber Merchant and Timber Exporter Magazine).

Russia is one of the world's largest exporters of industrial roundwood and primary processed forest products. The export volumes of further processed wood have increased considerably in the past ten years and there is no doubt that the development trend will continue.

Russian forestry is of a huge scale and has specific features that must be taken into consideration in all development. The image of Russian forestry in the main export markets is, however, unduly weak and does not do justice to the long traditions and high professional skills in the country's forest management. This weak perception can be changed and certification is a useful instrument for improving and communicating on the performance.

Project on the development of voluntary forest certification system
The urgent need for a voluntary forest certification system was recognised among Russian timber exporters already a few years ago. In November 2003, the project on the Development of Voluntary Forest Certification in Russia was launched. The Finnish Ministry of Agriculture and Forestry as well as the Finnish Forest Industries Federation provide funding for the project. The Russian National Voluntary Forest Certification Council headed by Mr. G. Rakhmanin is the acting body in the system development assisted by the independent Finnish consulting company Indufor Oy. The objective is to develop a system that meets international requirements set for forest certification schemes.

Elements of a forest certification system
The project objective is to build up a reliable and cost-efficient voluntary forest certification system that is applicable to the Russian conditions. A forest certification system must have the following elements:

- standard for sustainable forest management developed in an open stakeholder process
- requirements and procedures for the verification of chain of custody of timber
- procedures to implement the system, including provisions to system administration and basic requirements for the certification process
- information and training on certification in general and on standard requirements in particular.

Progress
The National Voluntary Forest Certification Council has produced draft standard for sustainable forest management that is largely based on the current normative framework. The basic principles on the scheme implementation and certification are also drafted. The development work has been only partially participatory, which most often is the case when the first drafts are produced. The next development phase would need a broader public consultation of the system in its finalisation according to the comments received.

In early 2004, the Russian Ministry of Natural Resources launched a parallel and supporting forest certification project with funding from the World Bank. The objectives of these two initiatives are fully compatible and close cooperation between the two projects is aimed at.

Next steps
The remaining project activities will ensure that the system meets the international requirements, e.g., those stated by the Programme for the Endorsement of Forest Certification schemes (PEFC). These requirements cover the system development process, standards for sustainable forest management and chain of custody verification as well as the system implementation. The project will aim at a broader participation of stakeholders to the development process, public consultation and revision of the system accordingly. Two workshops will be organised to increase awareness on voluntary forest certification. The cooperation with the World Bank funded forest certification project is promoted, e.g., through the work of the joint technical working group.

The project will be completed by June 2005.
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International expeditions and seminars

Promotion of the Nature Reserve "Ladoga skerries"

On the 30th of August 2004 representatives of Russian and Finnish administrative bodies and expert organisations for nature conservation met in Sortavala, Republic of Karelia. The agenda was built to encourage political decisions for the establishment of a Nature Reserve "Ladoga skerries" on the northern coast and archipelago area of the Ladoga lake.

The proposed Nature Reserve area has unique natural values and cultural layers from history. They have been brought up in numerous publications by Russian scientific institutions and joint Russian-Finnish nature protection projects. The area attracts increasing numbers of people by its recreational values.

An international project "Karelia Parks Development" 1999-2001 produced and published a "Plan for the establishment of the Ladoga Skerries National Park". The Plan consists of a feasibility study and an action plan. It was handed to the Government of Republic of Karelia in 2001. A nature reserve with official status and funding would secure beneficial combination and preservation of all of the values for the forthcoming years and decades. Economic exploitation of the area without federal or republican level management of nature conservation poses a risk of irreversible losses of the preserved values.

The 20 participants of the meeting adopted a memorandum addressing the top political decision making level of Republic of Karelia. The establishment of "Ladoga Skerries" Nature Reserve, which ever the nominal status would eventually be, would encourage joint efforts of the administrations of the Republic of Karelia together with the local administrations of Sortavala, Pitkäranta and Lahdenpohja districts.

The memorandum was signed by co-chair of the Karelian-Finnish working group for the cooperation between the neighbouring areas, Mr. Ponomaryov, general director of Ministry of the Environment of Finland, Mr. Kangas, deputy director of the Administration of Nature Resources of the Ministry of Nature Resources (MNR) of Russian Federation in Republic of Karelia, Mr. Shirlin, and co-chair of the Finnish-Russian Working Group on Nature Conservation, Mr. Saano.
Later, representatives of Sortavala, Pitkäranta and Lahdenpohja administrative units and vice-chair of the presidium of Karelian Research Center, Mr. Ieshko, signed the memorandum as well.

On the 1st of September, 2004, the organisers and the Finnish delegation visited Valaam cultural heritage sites and wish to express gratitude to the Director of Valaam Archipelago Nature Park, Mr. Buralkin, for the organisation of a field trip into the Reserve.

The Finnish participants wish to thank Mr. Ieshko for initiating the meeting and all those who assisted him in the arrangements.

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Focus on Karelian Isthmus Forests

An ancient highway of species between Russia and Finland. Part of world widely poorly protected southern taiga. Long history of strongly - thanks to numerous successive wars and raids - varied anthropogenic influence. All this raises questions of the present nature conservation significance of Karelian Isthmus forests. The answers will be found by footwork on the field.

In June, July 2004 we spent a busy and harsh, but still very rewarding month surveying Karelian Isthmus forests, with an idea to locate some of the best old-growth forest cores of the region and define the natural state of the forests surrounding them. This first phase of a - hopefully - longer project was carried out as a joint operation between the Finnish Nature League and our colleagues in St. Petersburg, the Grinhipp NGO. The project was carried out cheap and swiftly: the core staff consisted of one forestry and conservation expert from the Finnish side plus two Grinhipp experts representing expertise in conservation, botanical and environmental education. In addition to this, several Grinhipp members took part in the field expeditions.

Due to limited time and money available, we chose the destinations of our expeditions on basis of the results of earlier inventories on the Isthmus. So we selected the Smorodinka-Termolovsky highlands on the south-central part of Isthmus - an important part of the Karelian Isthmus proposed national park in the early 90's (never became reality); the Tiuri region by the old run of the river Vuoksa; and the proposed Karelskij Les (Karelian Forest) conservation area bordering Finland in the very north-westernmost part of the Leningrad region.

And what did we find out? In a large scale the human impact on the forests can still be seen almost everywhere. Forests filling the strict Russian criteria for natural old-growth forests are - except some very small patches - virtually non-existing on the Isthmus. In this plays very important role the former use of prescribed burning of forests to create temporary agricultural land - for which the share of spruce in the forests is unnaturally low in many parts of the Isthmus; the use of small-leaved trees for burning coal - for example in the Smorodinka-Termolovsky the share of spruce is unnaturally high; the battles and fortification work of WW II; and also latter commercial loggings.

However, the coverage of natural-like forests - in other words forests that harbour several features of those found in the intact natural forests, though not all of them - was high on most areas we surveyed. On dry land these forests could be compared with those among the best of southernmost Finland, excluding the few real top forests in Finnish southern taiga. There is one significant difference between Finland and the Isthmus: in the Southern Finland's natural-like forests the missing feature is often the abundance of decaying wood, whereas on Isthmus there is plenty of deadwood in the forests. On the contrary, the structure and specie-composition of the tree-stand is in many cases more natural in the Finnish side natural-like forests than in those we saw on the Isthmus. Common for the both areas is, that in many cases the continuity of deadwood - existence in the forests has at some point been broken. In the few places we found signs of possible unbroken continuity, it was mostly question of spruce, in some cases also of birch or aspen.

Moving onto paludified forest land, swamps, mires, bogs, fens and alluvial forests, the Isthmus suddenly becomes superior in comparison to the Southern Finland. While the wetlands on the Finnish side have been under severe devastation during the last decades, the percentage of ditched wetland on the Isthmus has remained low. Our expeditions took mostly place on water-divide areas, where we found plenty of natural state spruce mires, pine-bogs, alluvial small-leaved forests on banks of unspoiled rivers, spring water fens and large open fens on raised bogs.

Probably the most unique were, though, the Tiuri forests. These stony, birch-dominated - with mixture of aspen and black alder - forests can be considered primary succession forests, because they grow on the river bed of the old run of the Vuoksa. They are also an important habitat for white-backed woodpecker. Among the other significant observations of the Isthmus fauna we took on our expeditions, were the habitats of the flying squirrel - considered a rare specie on Isthmus - at both Termolovsky and Karelskij Les areas.

In the absence of large intact forested areas, the backbone of future nature conservation of southern taiga lies in natural-like forests. In this helps - thanks to their southern location and in many places fertile soil - their relatively quick ability to recover after human influence. They are also naturally more specie-rich than forests situated at more northern latitudes. Recognition and locating of potentially most
valuable habitats takes a lot more footwork - like ours - than in regions where the basic work can be done using satellite images.

Writing this, the results of our project still remain partly unanalysed. Most of them will appear in the form of digital photo-archive and maps, completed with written descriptions. Anyway, it looks obvious that they can be used by the Finnish Environment Institute (SYKE) as well as the Russian officials in the GAP Analysis project in Northwest Russia.

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Survey on arctic bird migration and congregations in the White Sea 2004

The main purpose of the Survey Expedition 2004 was to confirm the most important staging areas of waterfowl in the White Sea area. This kind of expedition was conducted for the first time in 1999 by the Finnish ornithologists group and this was the second time.

Both expeditions took place at the same study areas. The data collected during the three weeks field trip at the sea from the ship confirmed that the areas at White Sea and especially round Onega Bay and Dwina Bay are the most important staging areas. It also showed that these areas create channels or Fly-Ways which most of the migratory arctic birds uses. This collected data gives good background information to promote the conservation of staging areas. It also shows the importance of the staging areas along the whole Fly-way route from breeding areas to wintering areas. These areas must be taken into account when protecting birds during migration periods. Many staging areas face several risks, e.g. large oil spills may destroy the majority of a sub-population in a single area.

The target group of studied birds consisted of divers, swans, geese, ducks, waders, and skuas. Many of these bird species are considered to be threatened in European scale. Many of the birds mentioned here breed in Northern Russia and migrate every year to and from their wintering grounds on Baltic Sea, North Sea, West Atlantic and Black Sea.

The observations from the two expeditions makes the best available database. This data can now be used for different purposes and by different user groups or stakeholders like environmental authorities, decision-makers and institutions both in Finland and Russia, and also scientists in respective countries for their work.

During this expedition two Russian ornithologists were trained to the methodology of waterfowl line transect counting and monitoring bird migration according to the plan of the expedition.

The Finnish Environment Institute (SYKE) was responsible to organize this expedition. It took place from the 21st of September to the 10th of October 2004. The expedition was a joint venture with the Karelian Research Centre, Russian Academy of Sciences in Petrozavodsk, Karelia, Russia. The ornithologists involved on this expedition were: Timo Asanti, leader and head of the expedition, SYKE, Aleksi Lehikoinen, head of research, SYKE, Pekka Rusanen, SYKE, Olli Lamminsalo, SYKE, Jorma Pessa, North Ostrobothnian Environment Centre and Esko Gustafsson, South-West Environment Centre. The coordinator from the Russian partner Karelian Research Institute was Vasili Kovalenko. The two Russian ornithologists were Nikolay V. Lapsin from the Karelian Research Centre and Alexander V. Kondratyev from Biological Institute of St. Petersburg State University.

The White Sea
Compared to the Baltic Sea the total area of which is 442.000 km2, the White Sea area is approx. 90.000 km2, about 1/5 of the Baltic Sea. The average depth is 60 and the maximum depth is round 330 m. It has three larger bays namely in South-East direction the Onega Bay (Äänislahti), the Dwina Bay (Vienanlahti) in West-Eastern direction, and the Kandalaksha Bay (Kantalahti) to the Northwest direction. White Sea and especially Kandalaksha area is very famous of its white whales Belugas.

White Sea is connected to the Barents Sea through the White Sea Channel almost to the direction North-East. The channel is 160 kilometers long and about 50 kilometers broad. White Sea is also connected to the Gulf of Finland by the Baltitskij-Belomorsk (Sorokka) channel, called also the Stalin Canal. The bigger lakes along the route are Lake Ladoga (Laatokka), Lake Onega (Ääninen) and Lake Vygozero.

About one third of the White Sea is shallow with depths of up to 30 m, which makes the areas very suitable for bottom-diving ducks. The shallows in Onega Bay stretch far out from the coast and the tidal zone is several kilometers wide, and it is very important feeding area for dabbling ducks and geese. The coastal zone and the shallow waters around islands are the most important staging areas for marine birds. The blue mussel is common and is very important prey item for several waterfowl species such as the common eider, black scoter and golden eye.

Some figures of the different target bird species observed during the expedition
Diver species (Read-throated Diver, Black-throated Diver) had heavy migration, about 54.000 individuals were counted altogether of which about 30.000 during 30.9.-2.10. At that time the direction of the wind

changed from southern to northern which started the migration. Of the total number of identified diver species ¾ were black-throated divers.

Geese were observed about 160.000 and most of those were Barnacle Geese. Most of the geese (ca. 115.000) migrated on the same days as the divers. Brent Geese were seen only 7.500 and Anser geese were identified only about 5.000.

Duck species total arouse to over 400.000 of which half were long-tailed ducks. Wigeons were observed about 90.000 and half of this (about 55.000) were found at a staging area in Unskaja Bay near the Pertominsk village. Compared to the situation five years ago the number of Wigeons were over four times bigger and also several times more of pintails (3.840) and Scaups (4.400) were observed. Common Scoters were seen round Onega Bay namely Virma Bay and outer archipelago of Suhoe (7.200), outer archipelago of Jukova (10.000), Hedostrov island shallows (6.000) and Pertominsk (7.400) and Velvet Scoters round Hedostrov island shallows (4.200).

Skua species were observed in total about 460 of which about 360 Arctic Skuas. In total during the expedition 133 different bird species were observed.

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Botanical and Entomological Expedition to the Zaonezhsky Peninsula on board "Ecolog" research vessel

The south-eastern part of the Zaonezhsky Peninsula and a number of adjacent islands of the Kizhi archipelago are formed of limestone. This determines the fertility of the local soils and the unique diversity of flora and fauna. Numerous rare calciphilous plant and lichen species are to be found here, as well as rich eutrophied wetlands.

In addition, this region has what is possibly the longest history of farming and animal husbandry in Karelia, which has led to a large number of grassland communities existing in the area. The gradual decline of agricultural activity in the region has led to the partial overgrowth of arable lands and meadows. As a result, a mosaic structure has evolved comprising diverse habitats.

Until very recently, the flora and fauna of this area remained largely unexplored. The Atlas of the Distribution of Vascular Plants in Northern Europe (Hulten, 1971) fails to mention a number of local calciphilous and other plants requiring fertile soils to grow. The first data on the flora and entomological fauna of the Kizhi archipelago were published in the works of the RAS Karelian Research Center (Ieshko, ed., 1999).

The new materials were collected by a joint expedition comprising leading Russian and Finnish specialists in the field of floristic and entomological research that traveled on "Ecolog" research vessel of the RAS Karelian Research Center during the period July 2-8, 2004. The expedition included 12 participants: Alexei Kravchenko, Margarita Fadeyeva, Alexei Polevoi, Andrei Khumala (RAS KRC Forest Institute), Oleg Kuznetsov, Margarita Boichuk (RAS KRC Biology Institute), Yelena Gnatyuk (Petrozavodsk University), Rauno Ruuhijärvi, Pertti Uotila, Mikko Piirainen (Helsinki University), Tapio Lindholm (Finnish Environment Institute) and Yevgeny Yakovlev (Finnish Forest Institute).

The expedition began with a visit to the islands of Paleostrov, Rechnoi and Meg-Ostrov located in the vicinity of the northern tip of the Zaonezhsky Peninsula. Various forest (old spruce stands, black alder swamps) and grassland biotopes are to be found here. The following rare plant species were discovered: *Asplenium septentrionale, Malaxis monophyllos, Humulus lupulus, Cerastium alpinum, Cotoneaster antoninae, Origanum vulgare, Galium trifidum*, as well as *Asplenium trichomanes, Polygonatum odoratum, Tilia cordata*, and *Thymus serpyllum*. A large monastery was formerly located on Paleostrov and some monastery meadows and alleys of old trees remain.

The next day was spent exploring the meadows on the south-eastern shore of the Zaonezhsky Peninsula, not far from the village of Kuzaranda and the island of Khedostrov, in the southern part of which there are high quality spruce forests with Tilia cordata underbrush. The following plants were discovered on the island: *Epipactis atrorubens, Cypripedium calceolus, Calipso bulbosa, Silene nutans, Dianthus arenarius, Atragene sibirica, Cotoneaster antoninae*. The expedition went on to explore meadows and mires in the south-eastern section of the Zaonezhsky Peninsula in the vicinity of the village of Tipinitsy, as well as Shunevsky Island and Yuzhny Oleniy Island, the latter being entirely formed of dolomites. This is the only island of the kind in the area, and one of only three in the whole of Karelia. Here, *Cypripedium calceolus, Myosoton aquaticum, Chaerophyllum aromaticum, Cuscuta europaea, Origanum vulgare*, as well as *Hydrocharis morsus-ranae, Acinos arvensis and Polygala amarelle* were found.

On Bolshoi Lelikovsky Island the participants visited Radkolie Cape, where *Helianthemum nummularium*, which is very rare in Karelia, is to be found. On the southern tip of Bolshoi Klimetsky Island, in the vicinity of where the Klimetsky Monastery once stood, the participants explored old-growth spruce dominated forests of Oxalis-Myrtillys type, mire-spruce stands and lowland forest mires. The following were discovered: *Cypripedium calceolus, Neottia nidus-avis, Dactylorhiza traunsteineri, Galium odoratum, Campanula cervicaria, Eupatorium cannabinum. Allium schoenoprasum subsp. sibiricum, Anemonoides nemorosa, Lathyrus sylvestris and Tilia cordata* were also found here.

On the majority of islands visited, populations of rare and protected meadow insect species were found: the Mnemosyne, or Clouded Apollo, butterfly *(Parnassius mnemosyne)* and a number of other rare butterfly species: *Adscita staticis, Zygaena osterodensis, Pyrgus alveus, Argynnis paphia, Pontia daplidice,*

Hypodryas maturna; hymenopterous species: *Ancistrocerus antilope, Discoelius dufourii, Sparasion rufipes, Corynis obscura, Bombus humilis, Psithyrus rupestris;* beetles: *Rhizophagus puncticollis, Cyllodes ater, Phryganophilus ruficollis, Phytoecia cylindrical*, etc.

The expedition concluded with a visit to the eastern shore of Lake Onega (Besov Cape, Bolshoi and Maly Goltsy islands), where ancient rock drawings made by primitive man were discovered, as well as old growth forests (the age of the trees is up to 300 years) on the southern tip of Suisar Island.

The studied region contains unique biotopes and related plant and insect species. As a result, more detailed research into the area is required. The borders delineating the habitats of these species could serve as the basis for the design of protected areas that would include the existing Kizhi Skerries Reserve and the adjacent sections of the Zaonezhsky Peninsula.

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Ornithofauna of Kargopol area as a pearl of North European biodiversity - Study tours in 2002-2004 to southern part of the Arkhangelsk region, NW Russia

Finnish-Russian Joint Expeditions crewed by Häme Regional Environment Centre, Finnish Environment Institute, Karelian Research Centre, the Bird Ringing Centre of Moscow (in 2003), St. Petersburg State University and Nizhnesvirsky State Strict Nature Reserve (in 2004) have visited in Kargopol area, Arkhangelsk region four times in 2001-2004.

Aim of the expeditions has been to make inventories on migrating and breeding birds in this well-known but scanty documented Russian area.

Attention was given to the bird species included in EU Birds Directive and species existing in protected areas (Filatovski field and forest zakasnik and Lacha lake zakasnik). Inventories were financed by the Finnish-Russian Development Programme on Sustainable Forest Management and Conservation of Biological Diversity in Northwest Russia hosted by Ministry of Agriculture and Forestry and Ministry of the Environment.

Dimensions of the general inventory area are
100 x 100 km, small Kargopol town (12.000 inhab.) locating in the middle of the target area (coordinates 39° 00' E, 61° 30' N). Kargopol area comprises northernmost vast field areas, important for staging cranes and geese, before reaching their breeding range in taiga and tundra belts. Most fields are now abandoned because of lacking governmental subsidies. Fields growing bushes are loosing value as geese pasture, but still possess high diversity value.

In September 2001 was carried out an inquiry expedition only. Numbers of migrating birds, especially cranes (*Grus grus*) were recorded. The spring expedition of the year 2002 was implemented on the second half of April. The spring was early and temperature high. The research period indicated to be the peak of migrating White-fronts (*Anser albifrons*), c. 10 neck-banded in Central Europe and Bean Geese (*A. fabalis*). Karelian Research Centre realised in September autumn 2002 research trip to northern part of Kargopol area for cranes and migrating birds.

In year 2003 the spring was quite cool and migration of geese delayed. Thousands of White-fronts and Bean Geese were seen daily, mainly on flight. The rush of Brent Geese (*Branta bernicla*) and Barnacle Goose (*B. leucopsis*) began on 15th May 2003. Any reliable records of the Lesser White-fronted Geese (*Anser erythropus*) were achieved. In one village were shot totally 31 geese during the legal hunting season (1-10 May) and 7 of them were Lesser White-fronts. In September 2003 was carried out an ordinary crane monitoring in Kargopol area as well.

In year 2004 the expedition started on 24 May and ended on 4 June. Weather conditions were quite bad, cold and rainy. Migration of breeding birds was a little bit late, but the survey revealed quite well main features of the bird fauna in Kargopol area. Number of recorded bird species was totally 164. On the list of most frequent bird species occurred same bird species like in Finland, but some surprises were recorded as well. Common Cuckoo, was second in order. In Finland this species is nowadays quite scarce. The expedition confirmed that southern part of Lacha lake and meadows of Kononovo village are hot spots of many rare bird species.

High number of bird species and diversity value
Total number of bird species recognised in Kargopol area has been high, 168 species in 2003. 37 of them include to Annex Species of EU Birds Directive. Filatovski field and forest zakasnik indicated to be very important especially for stop-overing geese. Lacha lake zakasnik is more diversificated than earlier believed. There are really good biological reasons to expand the range of this zakasnik.

Almost all bird species seen in the Kargopol area occur also in Finland, but their occurrence and numbers are different. Common Finnish species Great Spotted Woodpecker (*Dendrocopos major*), Goldcrest (*Regulus regulus*), Crested Tit (*Parus cristatus*), Willow Tit (*P. montanus*) and Coal Tit (*Pater*) were very uncommon. Rare species in Finland, Great Snipe (*Gallinago media*), Terek Sandpiper (*Xenus cinereus*), White-backed Woodpecker (*Dendrocopos leucotos*) and Citrine Wagtail (*Motacilla citreola*) have in Kargopol many distribution sites.

A small nesting population of Azure Tit (*Parus cyanus*) about five nesting pairs discovered year 2002 on the bank of Svid River flowing to Lacha Lake from south (38° 45' E, 61° 10' N). Courtship of four Great Snipe males (*Gallinago media*) was one climax in the Expedition 2003. For better comprehension of Kargopol area birds are still needed more research in breeding season, May-June (e.g. nocturnal Warblers).

Crew of the expeditions:
1) Erkki Kellomäki, 2) Aleksandr Artemev, 3) Elena Gurtavaja, 2) Tatjana Khohlova, 1) Ari Lehtinen, 4) Marina Yakovleva, 1) Eero Peltonen, 5) Kirsti Krogerus, 1) Jouni Riihimäki, 1) Natalia Ripatti, 6) Aleksandr Kondratjev, 7) Viktor Kovalev, 8) Pekka Rusanen & 1) Petri Uronen.

1) Häme Regional Environment Centre, Finland; 2) Karelian Research Centre of RAS, Russia; 3) Bird Ringing Centre of Moscow, Russia; 4) State Strict Nature Reserve "Kivach", Russia; 5) Pirkanmaa Regional Environment Centre, Finland; 6) Baltic Fund for Nature of the St. Petersburg Naturalist Society, Russia; 7) State Strict Nature Reserve "Nizhnesvirsky", Russia; 8) Finnish Environment Institute, Finland

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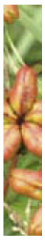
Presentation of the Red Data Book of Nature of St. Petersburg



The presentation of the Red Data Book of Nature of St. Petersburg was held on November 2, 2004, in St. Petersburg. This Red Data Book was published under the auspices of the Finnish-Russian Development Programme on Sustainable Forest Management and Conservation of Biological Diversity in Northwest Russia (NWRDP) and the Program of Cooperation between the Ministry of the Environment of Finland and the Committee for Nature Use, Environmental Protection and Ecological Safety of St. Petersburg for 2002-2004.

Leading specialists from St. Petersburg State University, the Botanical and Zoological Institutes of the Russian Academy of Sciences, the Lake Science Institute, the Finnish Environment Institute and the Finnish Forestry Service took part in the preparation of the Red Data Book of Nature of St. Petersburg for publication.

The Red Data Book of Nature of St. Petersburg contains three sections:
1. Protected areas in St. Petersburg (existing and planned).
2. Animals.
3. Plants and fungi.

This 416-page publication contains a vast amount of scientific material and illustrations. In total, there are 982 illustrations and 311 articles in the book. Descriptions of rare animal and plant species are accompanied by maps of their distribution on the territory of St. Petersburg, sketches and photos.

The book has been published in Russian (with English translations of the forewords to the chapters), with a print-run of 2,000 copies.

The Red Data Book of Nature of St. Petersburg is devoted to the protection of biological diversity on the territory of a large city. At present, the main challenge is to develop appropriate measures for protection, control and reproduction of flora and fauna species within the city, and to attract attention to biodiversity conservation issues at all levels. In order to achieve this goal, it will be necessary to undertake a wide range of city-planning, administrative and educational measures. Attention should be focused on the conservation of natural biotopes which provide suitable habitats for animals and plants. For this reason, a priority task for the city of St. Petersburg is the setting up of new protected areas. Proposals from the city's Committee for Nature Use concerning the extension of the PA network have been included in the master plan for city development. This master plan envisages the preservation of St. Petersburg's natural heritage and the creation of a series of nature reserves, nature monuments, and nature theme parks. These activities will be an important milestone in the development and improvement of the city's PA network. In the future, the regional Red Data book should acquire an official status and data contained therein should be updated on a regular basis.

The presentation of The Red Data Book of Nature of St. Petersburg, which was held in the Museum Palace on the Yelagin Island, was attended by over 70 people, including the authors of the publication, representatives of the scientific community, committees of the City Government, higher educational establishments, the mass media, etc.

The Finnish side was represented by:

- Tapio Lindholm, co-chair of the Finnish-Russian environmental working group, Finnish Environment Institute
- Jaakko Henttonen, Environmental Consul of the Finnish Consulate General in St. Petersburg

The Red Data book was presented by its editor-in-chief, Professor G. A. Noskov from the Biology Research Institute of St. Petersburg State University. Speakers included:

- Oleg Krupnov - Deputy Chair of the Committee for Nature Use, Environmental Protection and Ecological Safety of the Government of St. Petersburg
- Alexander Alimov, Director of the Zoological Institute of the Russian Academy of Sciences
- Vasily Yarmishko - Director of the RAS Botanical Institute
- Tapio Lindholm - expert of the Finnish Environment Institute
- Tatyana Rymkevich - Biology Research Institute of St. Petersburg State University
- Vladimir Khrabry - RAS Zoological Institute
- Dmitri Geltman - Deputy Director of the RAS Botanical Institute
- Valery Barsukov - Department Head, Committee for City Planning and Architecture of the Government of St. Petersburg

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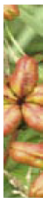
Птицы Каргополья. Birds of Kargopol area – A new small Bird Guide for Kargopol Region, Russia



Finnish ornithologists from Häme Regional Environment Centre visited Kargopol first time in autumn 2001. We comprehended that Kargopol region has really great value for biodiversity of European bird species. Numbers of geese, cranes and other species have stop-overing or nesting sites there.

Thanks for the help of the Finnish Environment Institute and funding from the Finnish-Russian Development Programme on Sustainable Forest Management and Conservation of Biological Diversity in Northwest Russia we had opportunity to send four Finnish-Russian joint expedition to the Kargopol region in 2001-2004.

We have met Mrs. Nina N. Pronitseva and heard a lot about her important and successful work on ecological education and raising public awareness among young and adult people. Her popular books gave us an idea to publish easily comprehensive Bird Guide of Kargopol Region. We are happy to implement this idea with Mrs. Pronitseva. Thanks for all people involved in this project.

Finnish bird photographers gave marvelous images for making this book more attractive. Special thanks for the Finnish Environment Institute and the Finnish-Russian Development Programme on Sustainable Forest Management and Conservation of Biological Diversity in Northwest Russia hosted by Ministry of Agriculture and Forestry and Ministry of the Environment. Financial support made possible to send expeditions to Kargopol region and achieve more comprehensive knowledge of the bird species. This bird guide is only in Russian language. It is restrict available at Häme Regional Environment Centre.

Editors of the bird guide:
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Habitat Contact Forum in Kuhmo 2003 - Proceedings of the 3rd Meeting of the International Contact Forum on Habitat Conservation in the Barents Region

The publication is based on materials and information produced and shared during the 3rd Meeting of the International Contact Forum on Habitat Conservation in the Barents Region, which was held in Kuhmo, Finland, from 3 to 6 November, 2003.

The goal of the Meeting was to discuss nature conservation issues and to develop concepts and strategies promoting further research and protection of different habitats in the Barents region.

The publication is written in English and Russian, both languages in the same publication. The main results of the Meeting are presented in the Resolution and the reports of the Working Groups. The publication includes also 61 abstracts of presentations delivered during the Meeting. The main topics of presentations and working groups' included: development of cooperation between protected areas within the Green Belt of Fennoscandia; development prospects of biosphere reserves; development of protected areas network in Northwest Russia; habitat inventories and databases; birds and flyways; mires and wetlands; local involvement and participation in nature conservation and cultural heritage protection. In addition, there were also various other themes concerning biodiversity in the Barents region represented in a poster session.

The aim of this publication is to deliver the most important information shared during the Meeting for the participants of the Meeting and other stakeholders working in the field of nature conservation in the Barents region.

In the Internet, see: http://www.environment.fi/publications

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Evaluation report 2004 - Finnish-Russian Development Programme on Sustainable Forest Management and Conservation of Biological Diversity in Northwest Russia

The Nature Conservation Sector of the Finnish-Russian Development Programme on Sustainable Forest Management and Conservation of Biological Diversity in Northwest Russia was evaluated in winter 2003-2004. The evaluation was commenced by the Finnish Ministry of the Environment and the evaluation report was published in May 2004.

Altogether, the evaluation found the results of the Finnish-Russian nature conservation cooperation having been good; sound scientific basis have been set for establishing new protection areas, concepts of wider networks of protected areas such as the Green Belt of Fennoscandia have been introduced, and valuable scientific information has been collected, analysed and partly also published. All this has clearly supported the processes related to the strengthening of nature conservation in Northwest Russia. The quality of the studies has been high and even the cost-efficiency of the activities has mainly been good.

However, several needs to further strengthen nature conservation still prevail: sustainable conservation still requires wider protected areas and more comprehensive networks, and operations as well as management of the existing areas need to be strengthened. The former cooperation has also opened up several new cooperation possibilities which could benefit both Russian as well as Finnish needs and interests. Therefore, the evaluation recommended the continuation of the cooperation with a third phase for years 2005-2007 (2010).

On the Internet: www.environment.fi/publications

The report can be ordered from:
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