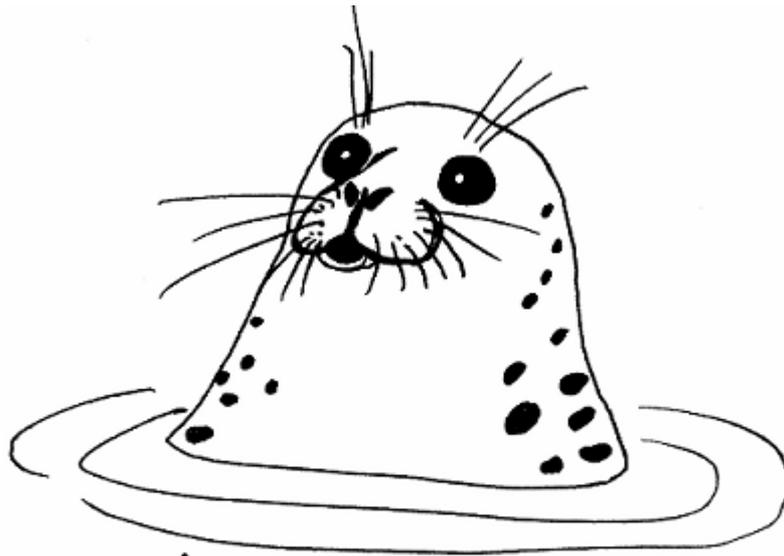


**Second Rufford Small Grant for Nature Conservation**

**The Rufford Maurice Laing Foundation**

**FINAL REPORT**

**Project «CONSERVATION OF THE LADOGA SEAL  
POPULATION, RUSSIA»**



*Ladoga seal*



Organization: Non-governmental organization "ECOS"

Petrozavodsk, Karelia, RUSSIA 2007

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## Summary

This second small project was designed with three specific aims in mind:

- To coordinate the activities of non-governmental organisations (Russian and international) contributing to the establishment of the 'Ladozhsky' national park. This is to be a large protected area under the control of the Russian federal authorities with the objective of biodiversity conservation - including conservation to the Ladoga seal, ensuring that the population remains large enough to maintain genetic diversity.
- In addition, the project has sought to promote a compromise settlement of the damaging on- going conflict between local fishermen and those aiming to protect the Ladoga seals.
- To continue the activities already initiated aimed on raising local awareness and support for conservation of the seals by means of appropriate promotional campaigns and educational programmes.

The principal activities undertaken were as follows: mapping of lairing sites in the South- East part of Lake Ladoga and haul out sites in the Valaam Archipelago (based on observations in 2006-2007; together with some other Karelian NGOs: investigation of the lakeside territories in Lahdenpohja region after the reform of RF Forest Code (1.01.2007), which reduced water protection zone of Lake Ladoga by 80%; list of revealed violations of land law, water code and environmental regulations was submitted to the Office of Public Prosecutor; appeal to the Minister of Natural Resources of RF to suspend logging on the territory of planned National Park; appeal to the Governor of RK via Karelian deputies with request to reconsider leasing of forest near Lake Ladoga to logging companies; collection about 3000 signatures of the near Lake Ladoga inhabitants that were brought to the President Administration – it was a request to Vladimir Putin to save nature heritage – Ladoga skerries – from destruction; request to Coalition Clean Baltic (CCB) to prepare and sign the statement on the harmful quarrying activity in the region of Lake Ladoga; public campaign (mass-meeting, Multisport Festival) against quarrying activities around protected area Lake Yastrebinoye and for the establishment of the National Park Ladoga Skerries; elucidative campaign before the referendums and participation in the referendums in three regions in order to explain people all the advantages of Nature Park establishment; publication of an information brochure “Ladoga ringed seal” and information posters; questioning of 30 fishermen (individual and heads of fishing enterprises) who have licenses for fishing in Ladoga Lake; meetings with local fishermen and distribution of an information letter aimed to explain that the damage allegedly inflicted by seals to fisheries appears to have been exaggerated; sending official letter to the Ministry of Agriculture, Fishery and Ecology with the request to control carefully the distribution of fishing quotas and especially fishing areas in the northern Ladoga and near the Valaam Archipelago (we supplied the Ministry with the map of Ladoga seal distribution and indicated the areas that should not be allocated for fishery); coverage of the project in mass media; organisation of schoolchildren boat race “Ladoga seal cup”; participation in the International conference “Ladoga Parliament” on the environmental problems and tourism development in Ladoga region, conference “Problems of water tourism development”.

**Main Achievements:**

We believe that by common efforts of local people and provincial governments initiated by NGOs from Karelia, St. Petersburg and Leningrad region and with the help of international network of NGOs Coalition Clean Baltic we have managed to get the idea of the establishment of protected area in Northern Ladoga, the main breeding and fattening area of the Ladoga seal moving forward after being almost buried. The Minister of Natural Resources of RF after visiting Karelia declared for the establishment of protected area in the Ladoga skerries - firstly Nature Park Ladoga Skerries of regional status is to be established with subsequent transformation into the National Park of federal status. On the 15<sup>th</sup> October, 2007 the Governor of RK has issued a decree on the establishment of the working group on the establishment of Nature Park Ladoga Skerries, which first meeting took place on the 14<sup>th</sup> November, 2007. The majority of people in all three regions supported the establishment of Nature Park "Ladoga Skerries". However, further work is needed to ensure this idea is not suspended again at this stage.

Forest Committee of RK has taken forested territories earlier leased to "Komileszagotprom" out of lease resources and reserved them for the planned NP "Ladoga Skerries". Total area of reserved forest is over 16 thousand hectares in Sortavala region and over 6 thousand hectares in Pitkyaranta region. The Ministry of Industry and Natural Resources of RK has withdrawn a licenses from the companies that planned quarrying in immediate proximity to protected area "Lake Yastrebinoye" in Ladoga area.

We hope that with the help of the Department of Nature Conservation in the Ministry of Agriculture, Fishery and Ecology, which promised to take under control the distribution of fishing quotas and areas in Ladoga Lake and owing to coming into force the "Fishing-practice rules for the western fishery basin" fishing pressure will not increase in the northern breeding area and in the Valaam archipelago, which will prevent an increase of the amount of seal by-catch in the future as was predicted earlier.

Coverage in mass media to some extent increased local awareness and support for conservation of Ladoga seal.

The further essential measures to be undertaken to safe the Ladoga Seal is to establish long- term monitoring of Ladoga seal population within the whole lake by research institutions of the Russian Academy of Science and other interested organizations with the special attention to haul-out sites of seals on Valaam Archipelago and breeding areas. Possible small scale seal tourism should be strictly controlled by the local protection administration. The influence of possible tourism on seal herds should be very carefully monitored.

Observed since 2001 seals disease is to be accurately diagnosed and possible preventive measures are to be found. Moreover, parasitological studies of Ladoga seals are to be carried out as we got indications of possible parasitological problems in the population that may pose threat to the species existence taking into consideration seals endemism. This will also clarify the diet of Ladoga ringed seals, which is the key question in the attitude of fishermen towards Ladoga seal.

# Report on Project Activities

## 1. Introduction

The Ladoga ringed seal (*Phoca hispida ladogensis* Nordquist 1899) is an endemic subspecies which only inhabits Lake Ladoga. The Ladoga seal population separated from the pre-Baltic ringed seals stock approx. 9000 years ago (see Appendix 1 to our first report for background information). It is one of the smallest of all the seals in the world; the mean weight of an adult seal is only 47 kg. The Ladoga ringed seal is listed in the Red Data Books of the Russian Federation, the Baltic Region, East Fennoscandia and the Red List of IUCN. During the 20<sup>th</sup> century the population size of the Ladoga seal has decreased sharply. The bounty statistic from the early 20<sup>th</sup> century suggests a population size of approx. 20,000 seals. In the 1970s, its numbers were estimated as approx. 10,000 individuals. In 2001, the aerial survey of the basking population counted on ice yielded a size estimate of 2,000 ( $\pm 70$ ) individuals, which suggests a total population size of 3,000 to 5,000 seals (Verevkin, 2002). There has been rising concern in recent years about the future of this remarkable and unique population due to severe disturbance of their habitat and, in particular, of their breeding areas.

This second small project was designed with three specific aims in mind:

- To coordinate the activities of non-governmental organisations (Russian and international) contributing to the establishment of the 'Ladozhsky' national park. This is to be a large protected area under the control of the Russian federal authorities with the objective of biodiversity conservation - including conservation to the Ladoga seal, ensuring that the population remains large enough to maintain genetic diversity.
- In addition, the project has sought to promote a compromise settlement of the damaging on- going conflict between local fishermen and those aiming to protect the Ladoga seals.
- To continue the activities already initiated aimed on raising local awareness and support for conservation of the seals by means of appropriate promotional campaigns and educational programmes.

The project was initiated by ECOS, Karelian environmental NGO. It was carried out in the period June 2006 to August 2007, under the direction of Prof Eugeny Ieshko and Dr Tatjana Kharkina (now Shibaeva).

Below we report on the activities carried out to achieve the project aims.

**2. Aim 1: To coordinate the activities of non-governmental organisations (Russian and international) contributing to the establishment of the 'Ladozhsky' national park. This is to be a large protected area under the control of the Russian federal authorities with the objective of biodiversity conservation - including conservation to the Ladoga seal, ensuring that the population remains large enough to maintain genetic diversity.**

Ladoga ringed seal numbers are now at the lowest level ever recorded. This subspecies requires immediate attention and protection. One of the most important measures for its conservation would be establishing **protected areas**, especially **at breeding and mass haul-out sites**.

Here we report on (A) the mapping of lairing sites in the South-East part of the Lake Ladoga and (B) the fate of planned Ladoga Skerries National Park; (C) the mapping of haul out sites and (D) the fate of Valaam Archipelago Nature Park.

### **Mapping of lairing sites in the South-East part of the Ladoga Lake**

The Ladoga seal has two different breeding habitats. The basic breeding habitat is snow piles across ice fields on the open shore which resembles the breeding habitat of the ringed seals in the Arctic Ocean and Baltic Sea. About 60-80% of seals use this habitat for lairing (Fig. 1ab). The other breeding habitat is the snow piles on the shorelines of the islands in the northern archipelago of the Lake, which resembles the breeding habitat of the Saimaa ringed seal. The Valaam Nature Park is not an important lairing area of the seal. Ladoga seals typically moult by basking on the ice at the end of the lairing season in late April, when high density haul-outs may be formed on drifting ice floes.

The breeding behaviour of the Ladoga seal has not yet been documented, but it is thought that the pupping season lasts from March to the beginning of April. It is thought that lactation lasts 1.5-2 months and that mating takes place during early lactation.

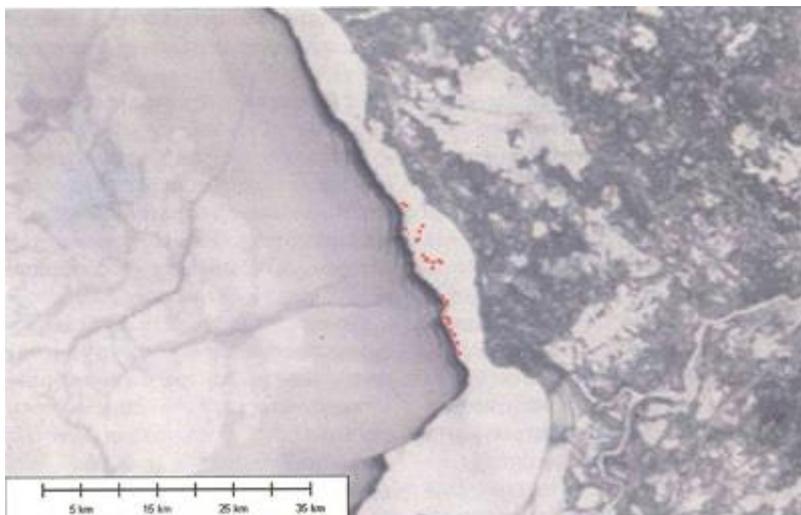


Fig. 1a. Distribution of ringed seal lairs in the South-East part of Lake Ladoga in 2005. In the mild winter of 2005 ice fields were formed late and lairs were located very close to the shore.



Fig. 1b. Distribution of ringed seal lairs in the South-East part of Lake Ladoga in 2006. In the severe winter of 2006 the lake was entirely frozen and lairs were found only 5-7 km from the shore.



Fig. 2. Ladoga ringed seal pup. The pups are normally born with white coats, although some dark pups with black hairs in their coats have recently been observed.



Fig. 3. Ladoga ringed seal on the ice field. Photo by S. Kompainichenko

### **The fate of Ladoga Skerries National Park – Karelian NGOs has played an important role in a favourable decision making**

The idea of establishing protected area in Priladozhje (area around Lake Ladoga) can be with certainty called long-suffering. Due to availability of wood and granite resources and possibility of their transportation by railway to St. Petersburg and other regions Ladoga area has always been very attractive for industrialists. At the same time ecologists have always been attracted by the Ladoga archipelago, which is unique in Europe with its picturesque landscapes and diverse nature. The shoreline is impressive with high hills sinking into deep waters, while the flora and fauna are rich in species (see Appendix 1). In addition to its natural values, the Ladoga archipelago is one of the most attractive areas in north-west Russia and potentially one of the most important ecotourism areas in the Republic of Karelia. It is difficult to predict the damage to nature and cultural heritage of the near Ladoga territory, which would be done by logging on islands and shore, in the forest line which has been saved since 1940 in order to protect Ladoga itself and valuable salmon rivers falling into it.

It was planned to give the unique “Karelia fiords” a protective status since 1990. A set of documents necessary for official establishment of a protective nature territory were prepared twice. First time the Minister of Industry and Natural Resources of Rep. of Karelia said that idea was not realized because of the negative attitude of local people. Our version is that plans were ruined by municipal administrations (proposed park is on the territory of 3 administrative regions– Sortavala, Pitkaranta, Lahdenpohja), which did not want the territory to get under the federal authority.

Then “Ladoga Skerries” National Park have been planned under the “Karelia Parks Development” project funded by EU's Tacis programme (1999-2001), which finances technical assistance to countries in Eastern Europe and Central Asia, and its main aims were to improve the livelihood of local people in the proposed parks by developing tourism and park management, while ensuring the preservation of biodiversity by establishing a well-developed network of protected areas in Karelia. Complex research work was conducted and as a result, the report “Plan for the establishment of National Park Ladoga Skerries” was issued in 2001. This report contains the documents, which, according to

Russian legislation, are needed for the establishment of the National Park: Feasibility Study, the Proposal for the Plan of the Ladoga Skerries National Park including an Action Plan for the first five years of the NP (see Appendix 2).

The documents were handed over to the Government of the Republic of Karelia, together with the developed "Tourism Strategy of the Green Belt and Socio-economic Assessment of the Establishment of New National Parks in Karelia", but Karelian government neither established the National Park having referred it by lack of money in the republican budget nor even could carry out appropriate agreements for the organization of a protected natural territory at the expense of the federal budget.

Despite unidentified protected status of the area during several decades unique pine forests of Ladoga Skerries have been protected by RF Forest Code and Water Code, but the reform of RF Forest Code (1 January, 2007) decreased the waterproof forest line of the largest lake in Europe from 1 kilometre to 200(!) meters. It means that Lake Ladoga has lost 80% of its water protection zone. The most part of the forest on the territory of planned National Park was put up for auction and leased to little known logging company from Komi Republic "Komileszagotprom".

Moreover, this year the miners of building stone have taken notice of Ladoga skerries area – the building of several explosive granite quarries is planned.

Ecological organizations of Karelia and St. Petersburg (incl. "Ecos") have sent a statement addressed to the Minister of Natural Resources of Russian Federation Yury Trutnev and the Governor of the Republic of Karelia Sergey Katanandov with the appeal to suspend logging activity in the lakeside area of Lake Ladoga until limits of planned protected area are determined and secured by standard acts. Besides, it was suggested to consider possibility of expanding water protection zone up to 2 km as it was earlier.

The reason to appeal to the Minister and the Governor was results of several investigations of the lakeside territories, which are to be included in the protected area. Investigation of over 250 km of the shore line in Lahdenpohja region and numerous islands by using motor boats has revealed 28 installations that were built up with some violations of land law, water code or environmental regulations.

There were revealed the areas directly adjoining Lake Ladoga where commercial logging takes place 200-300 m from the shore. Before January, 1, 2007 these territories were protected and all types of felling were prohibited. Despite the fact that according to the Forestry papers only legal improvement fellings take place, there were recorded numerous indications of violations of the law by logging companies.

Improvement felling assumes forest thinning by 15-20% when diseased, dead trees and partly undergrowth are to be removed. For doing such sanitary felling the leaser is contracted out of leasing charge. However, ecologists have recorded the cases when the most liquid wood was removed but dead and diseased trees were left untouched. Moreover, they noticed exceeding of a basic load on

the soil due to the use of heavy machinery and skidding along brook channels. It was emphasized that such violations do not result in any critical effects for the leaser, but such barbarous methods results in forest degradation in future.

The letter containing a list of recorded violations was submitted to the Office of Public Prosecutor. As a result at present 7 persons and 2 organizations are called to management responsibility for the facts of unauthorized construction works on the lakeside and misappropriation of area of water. Several people have paid fine for the violation of environment regulation. Several cases are under consideration while inspection by order of the public prosecutor goes on. It is to be noted that fortunately unauthorized construction of cottages in the area is not on a substantial scale yet.

The next step of Karelian NGOs was the appeal to Karelian deputies who in turn appealed to the Governor of RK with request to reconsider leasing of forest near Lake Ladoga to logging companies. As a result of all these appeals the goal was reached – Forest Committee of RK has taken forested territories earlier leased to “Komilezagotprom” out of lease resources and reserved them for the planned NP “Ladoga Skerries”. Total area of reserved forest is over 16 thousand hectares in Sortavala region and over 6 thousand hectares in Pitkyaranta region.

Another news that chocked local inhabitants and ecologists was that from 15 to 47 (according to different sources) quarries are to be established in near Lake Ladoga area. Some of them are to be very close to established protected area “Lake Yasrebinoye” in Leningrad region near the border to Karelia, a very famous place for mountain-climbers.

Carried out investigations has made us to believe that development of mining industry in the region is going to be accompanied by the use of dangerous technologies in respect of seismology and large-scale deforestation, which cause destruction of nature landscapes and pose a threat for the following reasons:

- Positive opinions (decisions) of State commission of experts in ecology on the planned mining objects and granted licenses for conducting exploration work and mining operations are absent. It is necessary to estimate and describe in details possible effect of planned activities on the environment there should be given clear suggestions on the limitations that have to be imposed in order to minimize the damage to the environment and natural values.
- Negative opinion of local people is not taken into account.
- Ecological risks imposed by quarries and using of dangerous technologies in the zone of deep fault development in Lake Ladoga area (Karelia, Leningrad region, eastern Finland) are not estimated.
- Planned activities will affect negatively protected areas in Leningrad region near the border to Karelia (such as Lake Yastrebinoye), increase disturbance for birds and other inhabitants of Lake Ladoga shore area.
- Prospects for the establishment of new protected areas such as planned Nature Park “Ladoga Skerries” will be annihilated.
- Development of mining industry in the region will result in the loss of large massifs of valuable forests, which in turn will cause deterioration

of ecological systems state and hydrological regime in the region.

On the 4th of April 2007 Sortavala municipal administration addressed Katanandov with the appeal to establish protected area near Lake Ladoga. The response was not known for us.

Having lost hope to receive help from Karelian officials it was decided to address to the Russian President on behalf of local people. Karelian NGOs have organized collection of signatures and in May 2007 about 3000 signatures of the near Lake Ladoga inhabitants were brought to the President Administration. They have made a request to Vladimir Putin to save their nature heritage – Ladoga skerries – from destruction. In 2006 after numerous citizens' appeals the Russian President saved Baikal with his decision to move the pipeline from the lake shore on 400 km. We hoped that the president won't let the destruction to be done towards the unique Ladoga skerries, the landscapes of which must be well-known and close for him as he regularly visits Valaam island the way to which lies namely through the Ladoga skerries.

With the results of investigations regarding planned quarrying activities Karelian NGOs applied for help to the international network of NGOs Coalition Clean Baltic (via its member, Karelian Association of Greens). In May 2007 in Rostok (Germany) at the International annual conference of Coalition Clean Baltic (CCB) it was agreed with the leaders of CCB to prepare and sign the statement on the harmful quarrying activity in the region of Lake Ladoga.

(For the information: Coalition Clean Baltic (CCB) is a politically independent, non-profit association. At present, CCB unites 27 member organizations from 10 countries around the Baltic Sea. The main goal of CCB is to promote the protection and improvement of the Baltic Sea environment and natural resources. CCB creates international public opinion about Baltic Sea issues, within and outside the region. CCB participates as a joint lobby organization for the member organizations with respect to intergovernmental Baltic Sea organizations such as the HELCOM (Baltic Marine Environment Protection Commission), the International Baltic Sea Fisheries Commission (IBSFC), the BALTIC 21 process as well as the European Union. One of the priority areas that CCB focuses on is protection of the Baltic Sea environment from harmful impacts of installations and transports).

Thus, such statement has been written and addressed to the Chair of Russian Federation Government Mr. M.E. Fradkov, Ministry of Natural Resources (Mr. Yu. P. Trutnev), President of the Republic of Karelia Mr. S.L. Katanandov, the Prime



minister of Republic of Karelia P.V. Chernov, the Governor of Leningrad Region V.P. Serdyukov, Federal Service on supervision in the sphere of nature management ("Rosprirodnadzor") (Mr. A.F. Obukhovsky).

In the statement CCB expressed concern in connection with planned development of granite quarrying on the west shore of Lake Ladoga, which may threaten unique nature of Lake Ladoga region recognized internationally and possessing high value for the ecosystems in the basin of the Baltic Sea. The reasons of concern mentioned above were stated. CCB suggested it is necessary (a) to conduct peer review for the evaluation of natural objects, which can be or already have been affected by planned mining activity and assess' risk of their destruction; (b) to ensure public participation in the evaluation and planning and for the prevention of activities that may damage irreversibly unique nature of Lake Ladoga.

On the 8<sup>th</sup> June 2007 after a visit of the Governor of Leningrad region Valery Serdyukov who was concerned about the fate of their protected area Lake Yastrebinoye, numerous appeals of inhabitants of Karelia, St. Petersburg, Leningrad region and regional, federal, international organizations by the initiative of the Governor of RK the Ministry of Industry and Natural Resources of RK has withdrawn a license from the company that planned quarrying in immediate proximity to protected area "Lake Yastrebinoye". Some more licenses were withdrawn after the 12<sup>th</sup> June 2007, when in St. Petersburg the vice-minister of Karelian Ministry of Industry and Natural Resources Valery Panov was arrested for the acceptance of bribe (46 million Rubles). With his assistance about 60 licenses for quarrying were granted. Shortly thereafter the Governor of RK stated that development of tourism and recreation zones around Lake Yastrebinoye would be the best solution for local people and Karelia generally. However, except the withdrawal of licenses Karelian authorities haven't done anything at that time to save unique territory. Therefore it was decided by Karelian environmental NGOs to continue the public campaign against quarrying activities in 15-km zone around protected area Lake Yastrebinoye.

Thus, on the 16<sup>th</sup> June 2007 in Petrozavodsk there was carried out mass-meeting in defence of protected area "Lake Yastrebinoye" and establishment of National Park "Ladoga Skerries" (see Appendix 3). Over 60 people took part in the meeting on the central square of Petrozavodsk, the capital of Karelia. The meeting participants were inhabitants of Karelia, St. Petersburg and Leningrad Region, representatives of NGOs "Ecos", "Green Wave", FASL, Karelian Association of Greens", "Multisport", Alliance for animals' rights, Karelian Society of animal protection, tourist club "Sampo", fraction "Green Russia" of political party "Yabloko". The requirements were to stop quarrying activities around Lake Yastrebinoye in Leningrad region near the border to Karelia and establish National Park "Ladoga Skerries" in the unique area in the south of Karelia on the shore of Lake Ladoga, the largest lake in Europe. We have informed local and federal TV companies in advance and they made reports that were shown in news blocks on TV. Thanks to the First federal TV channel this meeting was widely covered on all-Russian TV.

In August, 17-19, 2007 there was conducted the First Multisport festival in Karelia.

The race was dedicated to the defence of protected areas in North-West Russia (see Appendix 4). In the advertisement it was said that we appeal to those people who cares for the fate of Lake Yastrebinoye, Ladoga Skerries, maintain Voattavarra and other unique nature territories in Karelia. The festival was a great success. Next two festivals are already planned in years 2008 and 2009 in other Karelian towns.

We don't know exactly what has made greater effect but soon after all these appeals (in October, 3, 2007) Karelia was visited by the Minister of Natural Resources of Russian Federation Yury Trutnev. He had a trip in northern Ladoga area, visited Valaam. At the end of the visit the Minister summed up (it was in the news block on all-Russian TV) that Karelian Government should stop granting licenses for quarrying in the near Lake Ladoga area, suspend earlier granted licenses and withdraw licenses that were already granted with legislation violations. The Minister declared for the establishment of protected area in the Ladoga skerries. He said, "Lake Ladoga needs special protection and we suggest to establish at first protected area of regional status and then together with "Rosprirodnadzor" (Federal Service on supervision in the sphere of nature management) draw up documents for the establishment of National Park of federal status with corresponding regulations.

The Governor of Karelia S. Katanandov had to agree with all conclusions of the Minister and promised to establish "Ladoga Skerries" Nature Park of regional status till the end of the year 2007. However, in a while the Governor of RK has mentioned that "the establishment of protected area will cause problems for local inhabitants and therefore the decision on the establishment of Nature Park will be made only after conducting a referendum where local people (Sortavala, Lakhdenpohja and Pitkaranta regions of Karelia) should decide if they are for the establishment of the Nature Park "Ladoga Skerries" or against. There should be community initiative. Thus, provincial governments of three regions based on social expertise and public opinion should apply with written statements to the Governor of RK".

It is to be noted that we realized that local people are never for any limitations in their areas (fishing restrictions, for example) and presumably the Government (lobbied by companies investing into quarrying) has counted on it. Therefore, it was decided to carry on elucidative campaign in order to explain people all the advantages of Nature Park establishment. This time it was not extremely difficult as local people were already very negatively set against development of quarrying industry and logging in their area.

The most difficult situation was in Pitkayranta region. There were granted licenses for quarrying activities on the total area over 1000 hectares. While promising to establish the Nature Park, the Governor of RK has mentioned that possibly Pitkyaranta region would not be included in the protected area because of the negative attitude of local people towards the limitation of quarrying industry. However, we knew it was opinion of several people from the region administration only.

Thus, together with other Karelian NGOs the campaign was carried out using local TV, news, meetings with opinion leaders. We explained local people that

the claim "Nature Park assumes absolute prohibition of the use of the gifts of nature" is not correct. The territory of Nature Park is to be divided into zones with different status. Strict protection is required for the territories with undisturbed forest and water protection zone, but near the settlements and on the territories where economical activities take place the status will be different and local people will be allowed to pick up berries and mushrooms. Subsistence and leisure fishing will be also allowed (not using fishing nets). Nature Park is a long-term concept of territory development and it is very important to understand how local people would exist under conditions of functioning Nature Park. Moreover, the quarries which should be closed due to establishment of Nature Park would have insignificant effect on the economics of Karelia as every quarry employs not more than 20-50 people and rent for the use of natural resources is scanty (while all taxes are paid outside Karelia because quarrying companies are registered elsewhere).

The referendum took place in October, 2007 in Sortavala, Pitkyaranta and Lahdenpohja. At referendum scientists told about the importance of protected area status for the conservation of wild nature, tourist companies – about possibilities of tourism development in the area. The status of protected area is a guarantee that people with saws and of dynamite would not come tomorrow again and Ladoga islands would not be sold out as it happened in adjacent regions. Restrictions on the attendance of some islands will be introduced for particular periods only for the conservation of Ladoga seal and some rare birds of prey. Questions of financing and expected restrictions were keenly discussed and eventually the majority of people in all three regions supported the establishment of Nature Park "Ladoga Skerries". In the most "difficult" Pitkyaranta region local people indeed have pressed the provincial government for the public censure of quarrying activities near the Lake Ladoga.

The results of referendum were sent as written statements to the Government of Karelia. Inhabitants of Hiitola settlement even have sent a telegram to the speaker of Karelian Parliament Nikolay Levin with the request to provide finances in the budget 2008 for the establishment of Nature Park "Ladoga Skerries".

On the 15<sup>th</sup> October, 2007 the Governor of RK has issued a decree №367p-П on the establishment of the working group for the working out a proposal for the Nature Park Ladoga Skerries. The working group includes 29 people and it has to prepare in a month term a proposal regarding the limits of Nature Park, its functional and protection zoning as well as provide information on the land plots that are to be on the territory of Nature Park with indication of their end use and owners.

On the 14<sup>th</sup> November, 2007 the first meeting of the working group on the establishment of Nature Park Ladoga Skerries took place in the Ministry of Agriculture, Fishery and Ecology of RK. We are very glad that one of the group member is our colleague from Karelian Research Centre and with some other people from Sortavala region we were working closely together during our project on Ladoga seal conservation. We hope very much that Mikhail Terehov, who is presently the chief forestry officer in Valaam Archipelago will be suggested to take the position of a director of the Nature Park. He always has been of great help to NGO "Ecos" activities on Valaam and in Ladoga Skerries.

Thus, we have the possibility now to follow the work of the working group.

Consequently, by today practically all conditions for the establishment of Nature Park Ladoga Skerries are provided: there are public consent, federal and regional mutual agreement, suggested territory, working group. It is very important now in the solution of long ago overripe Ladoga skerries problem to come to solution that will suite all the parties and to prevent possible attempts of quarrying companies to hinder the establishment of the Nature Park, especially as we got to know that according to Forest regulation materials it is planned to extent logging in the area in the year 2008.

Thus, we believe that by common efforts of local people and provincial governments initiated by NGOs from Karelia, St. Petersburg and Leningrad region and with the help of international network of NGOs Coalition Clean Baltic we have managed to get the idea of the establishment of protected area in Northern Ladoga, the main breeding and fattening area of the Ladoga seal moving forward after being almost buried. However, further work is needed to ensure this idea is not suspended again at this stage.

#### **Mapping of hauling-out areas in the Valaam Archipelago (based on observations in 2006-2007)**

Unlike other ringed seals sub-species the Ladoga seal forms large herds during the open water period and herds even haul-out on shorelines during the open water period. The unique behaviour of mass haul-outs is concentrated in the Valaam Nature Park. The maximum numbers of hauling-out seals on the islands of the Valaam Archipelago were registered at the end of May- June, reaching in some years 600-750 individuals, corresponding to approx. 15-20% of the total population size (Fig. 4-7). The tendency to haul out together can probably be explained by a higher probability of detecting danger (see Appendix 5).

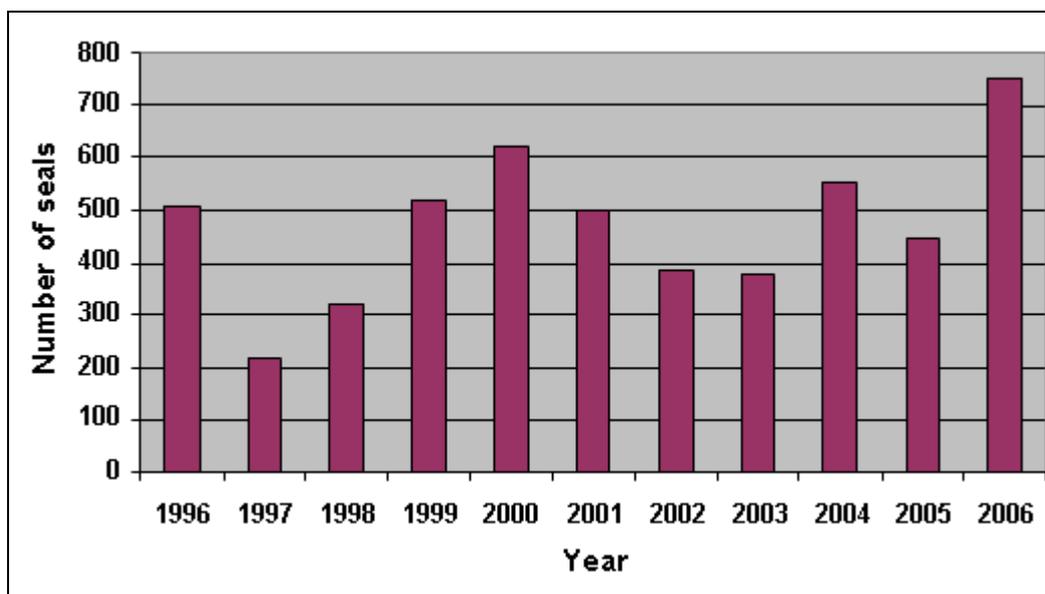


Fig. 4. The maximum number of seals in the study area in different years during the summer season.

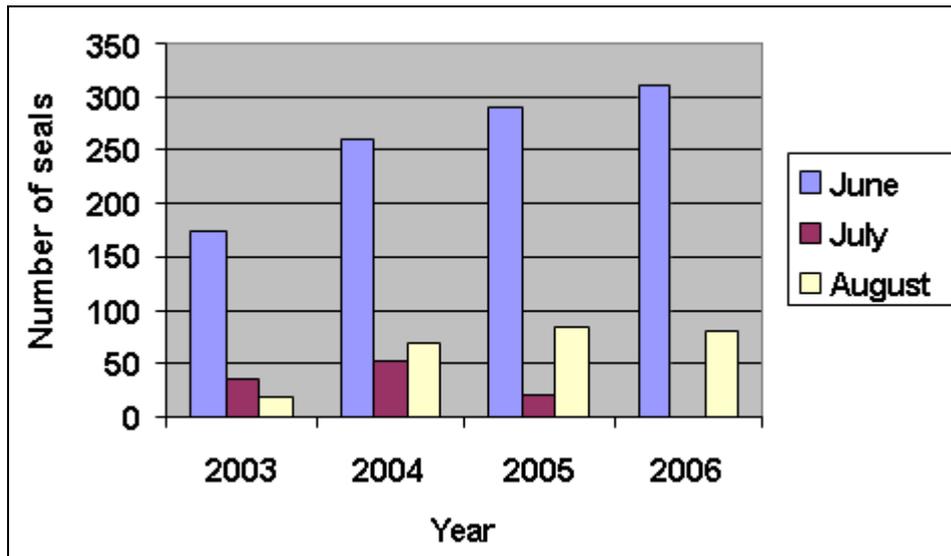


Fig. 5. Mean number of seals observed in the study area in June-August in 2003-2006.



Fig. 6. Ringed seals haul out on the islet. When weather conditions are favourable seals prefer to haul out on distant from the shore reefs.



Fig. 7. Ringed seals haul out on the shoreline of the island. Seals like to use wave protected bays for hauling out.

Mapping of the hauling-out areas in the Valaam Archipelago is of essential importance for the monitoring of changes in the seals' habitats as the high degree of site fidelity of the adult Ladoga seal makes it especially vulnerable to disturbance in these areas.

Observations made during last 10 years have shown that anthropogenic load to the islands of Valaam Archipelago grows steadily. There are two main reasons of such increase. First of all, the number of private speed-boats, yachts, canoes, catamarans etc. has sharply increased recently (see Appendix 6). The number of fishermen and tourists visiting islands in June is relatively low, but then increase significantly in July and August. From the other side, the Valaam Monastery began intensive construction works on the remote islands. In 2004 they began the building of Iljinsky hermitage on the Lembos Island. Regular ship and speed-boat traffic, permanent people presence on the island and construction noise has resulted in the sharp decline in the number of seals on the islands of Bolshoi Baionny and Lembos (Fig. 8) (see Appendix 7).

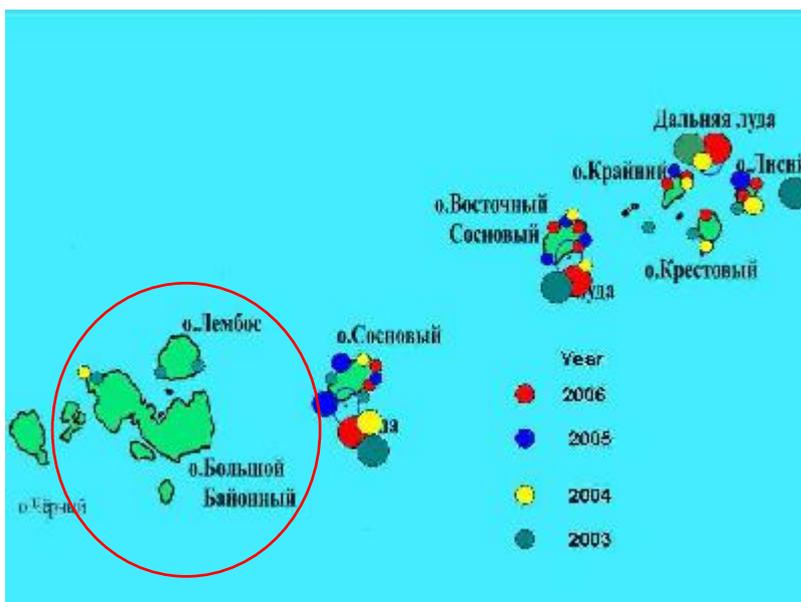


Fig. 8. Haul outs of seals in June-August in 2003-2006 on the islands of Valaam Archipelago.

### Disturbance

The number of seals at a haul-out is constantly changing, since from time to time the animals are flushed off the shoreline into the water. The causes of mass and partial flushes are different. Partial flushes are usually provoked by birds, alarm signals of other seals or wave splashes resembling them and by aggressive contacts between the seals. The most common causes of mass flushes are anthropogenic factor such as engine noise, when ship or boat sails near the haul out, but also thunder and abrupt movements from flying or diving gulls (Fig. 9) (see Appendix 5).

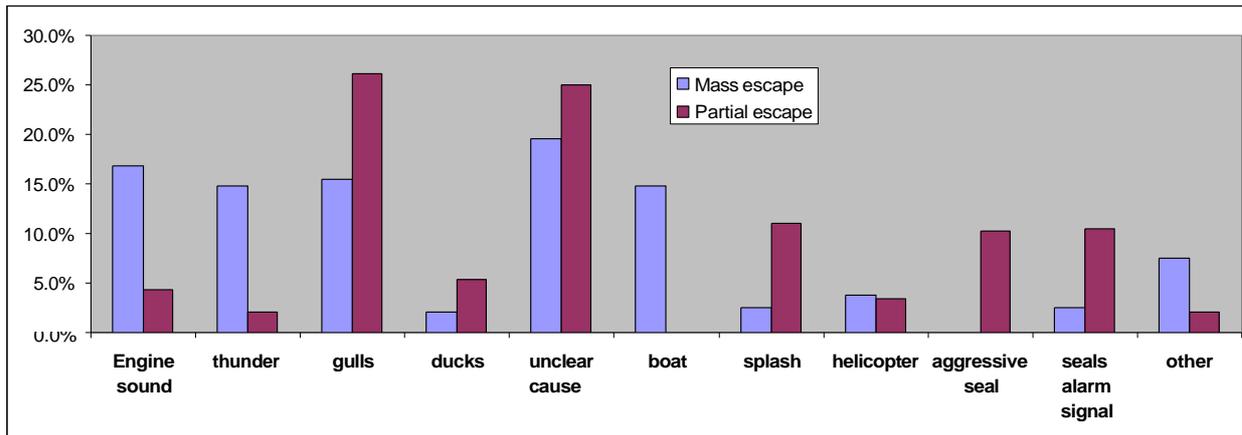


Fig. 9. Occurrence of different causes of seals escapes from haul out places.

At the haul-out sites the seals are especially vulnerable to negative human impact. The most important disturbance factors are the presence of people on the islands and the passage of ships near haul-out sites. Due to the influence of these factors, either most of the seals (over 80%) or all of them almost always are flushed off. After complete flushes caused by disturbance factors, the haul-out reforms much more slowly than in situations when the flush was caused by temporary intensification of waves or low bird flying. Anxiety level also increases and aggressive conflicts become more common. Haul-out numbers at secondary haul-outs almost never reach the initial one (Fig. 10, 11). In some cases the seals abandon the islands for several days. Continual man made disturbance chases away seals from haul-out shorelines as has happened on Lembos and Bajonnyi since 2002, when local people started using these islands and then the monastery begun construction of new hermitage (Fig. 12).

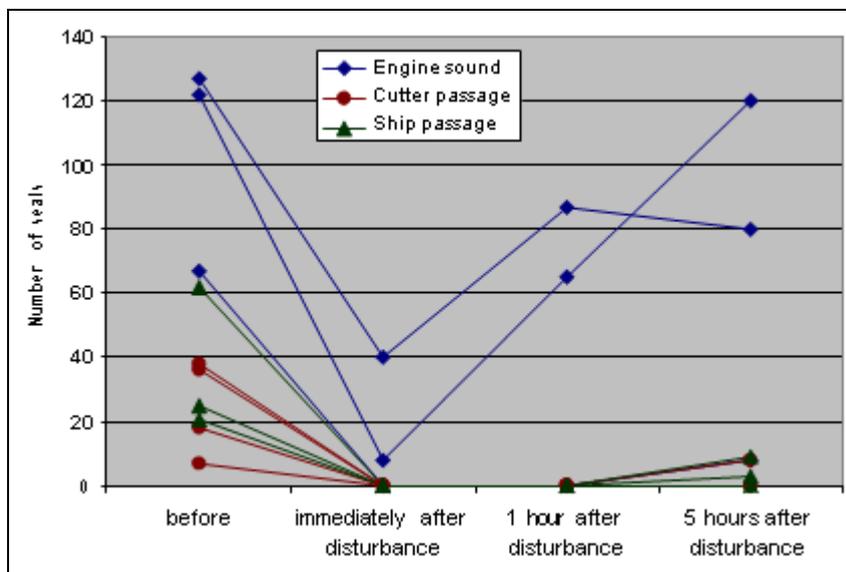


Fig. 10. Changing of number of seals during passage of different types of boats near haul outs.



Fig. 11. Influence of smell of smoke on the number of seals on haul out.

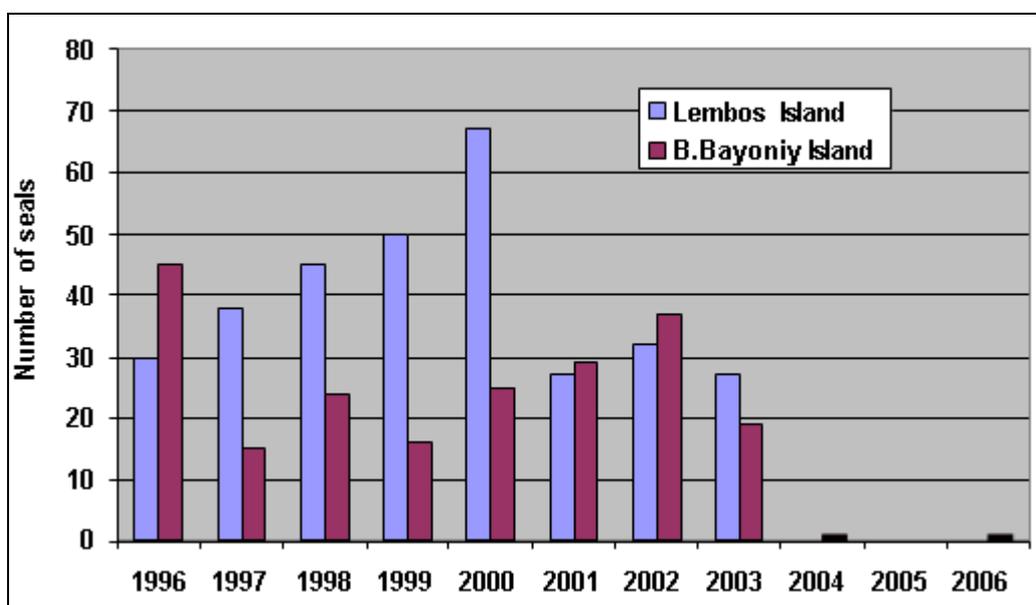


Fig. 12. Average number of seals on haul outs on Lembos and B. Bayoniy islands in summer, June-August.

### The fate of Valaam Archipelago Nature Park

The Valaam archipelago in Lake Ladoga, where seals gather in a special “summer area”, provides the possibility to effect regional protection for the Ladoga seal population. The globally unique and relatively small area in Valaam Archipelago Nature Park, where the seals gather on the islands should be strictly protected during the open water period from mid-May to the end of September.

Valaam Archipelago Nature Park was established in 1999 in fact by the initiative of one person. At present it covers over 50 islands of the archipelago. The land is state-owned, and it is managed by the Government of Republic of Karelia. The main aim of the park was thought to conserve Ladoga seal population. It is the situation according to the papers. In reality for the last 7 years park has changed several directors. Three of them tried to implement strict

protection regulations on the islands, forbid water transportation between islands near the seals haul-outs, and minimize economic activity in the most vulnerable areas. There were attempts to apply for the obtaining federal status for the park, which would facilitate nature protection, enlightenment and research activities. Such measurements require resources, but the Government did not response to the requests. Instead the Monastery responded immediately and easily arranged that excessively active director Sergey Nedoshivin was dismissed. The same happened with the second (Serhey Grigorjev) and the third (Andrey Buralkin) directors. Together with them we conducted public campaign against illegal alienation of the islands of Valaam Archipelago to the Monastery. The matter of fact that the Monastery came into conflict with Nature Park and began struggle for the remote islands of Valaam Archipelago. The Monastery is very powerful as it is very much favoured by high society and even frequently (2-3 times a year, often incognito) visited by the President of Russian Federation V.V. Putin. Wealthy people make huge donation to the Monastery to be admitted to the haut monde. Thus, present director of the park was appointed by approbation of the Monastery. He doesn't argue, suggest new programmes or ideas, doesn't make radical decisions. The Monastery has gain the upper hand. Even some posts in the Nature Park are taken by monks. Active construction works have begun on the remote islands. There will be new hermitages, utility premises, saunas etc. for distinguished guests. At the same time seals leave these islands.

The Monastery claims that the main disturbance cause is unorganized tourism. But the number of such tourists for the whole summer does not exceed 50 people. They stay at camping sites, fish with wishing-rods and enjoy sunset. At the same time the Monastery is visited by 90 thousand tourists (they are considered as pilgrims) annually (see Appendix 8).

Few years ago there was no motor transport on the Valaam Island, but today on the island of 28 sq. km there are over 50 cars. Fixed-run taxis run between the harbour and hermitages. One also can see new luxurious cars donated by businessmen to the clergy.

Presently former directors with some activists from NGOs try to change the situation, but hardly our expectations are optimistic. From the personal communication with the Chief forestry officer of Valaam forestry M. Terekhov we got the information that the territory of remote islands of Valaam Archipelago is withdrawn from the State forest resources and placed under control of the Ministry of Culture and at present these islands are a part of historical and cultural heritage. We haven't seen the official paper yet, but it is obviously the first step on the way of handing over the islands to the Monastery. In this case it is very likely that the other islands will repeat the fate of Lembos and B. Bayonny (see fig 8 and 12). Few years ago when the Governor of Karelia has stated that the Government will not accept the Monastery's demands for the Valaam archipelago islands we hoped that the Valaam Archipelago would continue to be under control of Nature Park Valaam Archipelago, but the activities undertaken by the Government denote the opposite.

### **3. Aim 2. The project has sought to promote a compromise settlement of the damaging on- going conflict between local fishermen and those aiming to protect the Ladoga seals.**

Before 1975, amateur and professional hunting of the seal was allowed, and 500-1000 seals were killed annually. At present the main threat to Ladoga seals is by-catch in fishing tackle. In 2003, fisheries by-catch resulted in the death of at least 483 seals, which corresponds, approximately, to 10-16% of the population size. It appears that by catch mortality very probably diminishes the present population size.

#### **Damage to fisheries by seals**

We questioned 30 fishermen (individual and heads of fishing enterprises) who have licenses for fishing in Ladoga Lake by sending them questionnaire and guaranteed them the anonymity (otherwise they wouldn't tell about seals by-catches at all as they afraid of punitive measures). The list of fishermen, their fishing areas, catch quotas and contact information we obtained by the request from the Ministry of Agriculture and Fishery of the Republic of Karelia. The questionnaire included questions on the fishing area, type and number of fishing gear (incl. net length), fishing gear setting depth, mesh dimension, fishery season/period. The following questions required the answer OFTEN, SOMETIMES or NEVER: Do you meet seals in your fishing area? Do seals damage fish in the fishing gear (if YES indicate fish species)? Do seals damage fishing gear (if YES indicate the type of fishing gear)? Do seals happen to be caught in the fishing gear (if YES indicate the type of fishing gear)? How many cases of fishing gear damage by seals happen a year? The number of seals caught a year? When seals damage fish more often and are more often to be caught (indicate months)? Are the cases of seals by-catches happen more frequent compared to previous years? Do you (or your neighbours) take particular measures to prevent fish stealing and fishing gear damage by seals? Do you believe that seals do harm to fishery? Your attitude to the Ladoga seal.

The return of questionnaires was 85%, i.e. we got 25 filled in questionnaires. The analysis of them has shown that dietary intake of the Ladoga seal is often judged from the damaged fish found in fishing nets and fishermen are absolutely sure that seals feed mostly on salmon, whitefish and pike perch, which remains they find in their nets. This has created sustainable idea about negative effect of seals on the population number of economically valuable fishes, such as Atlantic salmon and whitefish. Fishermen also complain about voracious appetite of seals. Thus, in one of the TV programmes it was claimed that a seal consume 30 kg of fish daily. Many fishermen believe that a seal can eat as much fish as equal to its own weight.

With the aim to explain that the damage allegedly inflicted by seals to fisheries appears to have been exaggerated we have distributed an information letter and had several meetings with local fishermen. We provided them with the facts and research results concerning seals feeding. The following is noteworthy. Investigations of gastric contents have shown that the Ladoga seal mostly feeds on smelt, vendace, ruff, burbot, perch and stickleback, which make 60-90% of its diet. The remains of whitefish, roach, bream, ide, and pike perch were also found

in their stomachs, but in insignificant amounts. Investigations of Finnish researchers have shown that on average a Saimaa seal consumes 2 kg of vendace per day (Auvinen et al., 2003). Such investigations were not carried out in Ladoga Lake but we dare to assume that the appetite of our seals does not differ significantly from the one of Saimaa seals.

At the same time we should admit that new trends in seal feeding behaviour have been noticed recently. Generally seals feed on fishes of little value, but from the nets they prefer to eat whitefish and salmon. They take fish viscera and leave heads. Seals come to feed from nets only during the day time and they can eat up to 90% of the catch indeed. Last year's seals begun to eat pike perch from nets which they didn't damage before. This fact was mentioned by many fisherman with great irritation.

It was very surprising for us that many fishermen remember that in 1950-1960s the Ladoga seal was claimed to be the reason of the decline in economically valuable food fish stocks. Indeed, Leningrad and Karelian newspapers then appealed to exterminate seals by all possible means. All settlements around Ladoga Lake were placard with anti-seal posters. State fishing enterprises (fishing sovkhoses) got orders to bag seals. The Kalinin fishing sovkhos alone shot and seined 200-300 seals every year. In 1975 the sovkhos bagged 17,000 kg of seal, i.e. approx. 500 seals. Besides, amateur and sport hunting for seal was permitted those years. It allows suggestion that man-caused annual mortality was about 1000 seals. In our questionnaires some fishermen even suggested return to old practices of seal extermination. They claim that there are too many seals at present and therefore they damage their nets and eat fish from the nets. However, fishermen do not keep count of damaged fish and do not draw up reports on damaged fishing nets. Therefore it was almost impossible to get answers on the question on the extent of damage that seals cause. The most common answers were "often", "isolated instances". Thus, the analysis of the extent of damage to fisheries by seals in different parts of Ladoga Lake is impossible to carry out. However, it can be noted that to a greater extent it is pronounced in the south-eastern part of Ladoga Lake (our observations, Verevkin et al., 2005). Nevertheless, the questionnaire has revealed that not all types of fishing gear are subject to damage. Fixed nets and fyke (hoop) nets are usually not damaged.

### **Influence of fishery on the number of seals**

Accidental seal catches by commercial and subsistence fisheries are common in Ladoga Lake and represent immediate threat to seal population at present.

According to estimates made by Verevkin in 2005 and 2006 approx. 10-16% of the population dies due to by-catches.

*Seal catches by fisheries (data collected by Verevkin et al.)*

<i>Fishing plot</i>	<i>Amount of by catches</i>
Shlisselbura	133
Novaya Ladoga	152
Priozersk	7
Olonets-Vidlitsa	50
Valaam	9

Pitkaranta, Sortavala, Lahdenpohja	132
Total	483

Annual increase makes 20% of all the population. Thus, fishery significantly affects the number of Ladoga seals due to seals by-catches.

Lake Ladoga is characterised by rich fish fauna and it supports one of the largest commercial fisheries, especially for smelts and vendace, in the north-western European area of Russia. Fishing practices, however, have changed rapidly since 1992. Many large fishing enterprises have ceased operations due to the changed economic situation in Russia and the total fish catch has been decreasing since 1990. At the same time subsistence fishing has become more common in Lake Ladoga. The material of nets has also changed to nylon and other stronger threads.

We have to remember that accidental catches with fishing gear have had a fatal impact on the population of the endangered Saimaa ringed seal. Immature age groups have been underrepresented in the population due to drowning in nets during their first year of life. The Ladoga seal, a small species that lives in herds, is quite vulnerable to fishing practices such as driftnets or traps.

Thus, the conflict between fishermen and ringed seals on Ladoga is presently escalating. Some people believe that exacerbation of the conflict between fishermen and seals may serve as a criterion for the estimation of fish resources in the lake. They assume the less fish in the lake the greater fishermen's complaints against seals. Due to the fact that investigation of the conflict between fishermen and seals was not carried earlier and there are no data in the literature regarding the magnitude of the damage to fishery by seals we cannot estimate the dynamics of this process. According to the survey that was carried out among old skilled fishermen and fishing inspectors as far as 10-15 years ago the damage to fishery caused by seals was much less. Most of the fishermen believe that present conflict situation is caused by the increased number of seals. But they estimate seal number by the seal meeting in the fishing areas, i.e. by those animals that come close to the nets for feeding. We had to explain the fishermen that this can only indicate the increase in the number of seals that come to fishing areas, but not the increase in the total number of Ladoga seals. Based on the literature data and carried out recently censuses it is supposed that Ladoga ringed seal numbers are now at the lowest level ever recorded. Some skilled fishermen supported the conjecture that the number of seals has decreased but seals more often eat away fish from nets and therefore more often are caught in fishing nets. Researchers supports the idea that seals behaviour has changed. Whether it is due to the shortening of fish resources or just a demonstration of adaptive behaviour we don't know for sure yet.

We have sent an official letter to the Ministry of Agriculture, Fishery and Ecology (since 2007 the Ministry deals also with environment protection) with the request to control carefully the distribution of fishing quotas and especially fishing areas in the northern Ladoga and near the Valaam Archipelago. We supplied the Ministry with the map of Ladoga seal distribution and indicated the areas that should not be allocated for fishery.

Very positive event has happened in May, 26, 2007, when new "Fishing-practice

rules for the western fishery basin" came into force being approved in December, 29, 2006. According to these "Rules" subsistence and sport fishing with the use of fishing nets is prohibited in the water bodies of western fishery basin. Minimum fine for the violation in question is 1000 Rubles. In Karelia these "Rules" are applicable to Ladoga Lake and its tributaries only. Onega Lake and the White Sea belong to the northern fishery basin, for which the Rules of fishing practices are still not approved.

We hope that with the help of the Department of Nature Conservation in the Ministry of Agriculture, Fishery and Ecology, which promised to take under control the distribution of fishing quotas and areas in Ladoga Lake and owing to coming into force the "Fishing-practice rules for the western fishery basin" fishing pressure will not increase in the northern breeding area and in the Valaam archipelago, which will prevent an increase of the amount of seal by-catch in the future as was predicted earlier.



**4. Aim 3: To continue the activities already initiated aimed on raising local awareness and support for conservation of the seals by means of appropriate promotional campaigns and educational programmes.**

The "seal problem" in Ladoga is a complex one, involving diverse issues associated with fishery, tourism, economics activities near Lake Ladoga.

**Coverage in mass media.** During this project we had unexpectedly organize and take part in many public campaigns against logging and quarrying activities near protected area Lake Yastrebinoye and for the establishment of National Park Ladoga Skerries (see in the Aim 1 above the chapter "The fate of National Park Ladoga Skerries"). Several interviews were given for local TV in Petrozavodsk, Sortavala and Pitkyaranta regions telling about needs for conservation of Ladoga ringed seals and biodiversity on the whole. Local TV companies were provided with the video film about Ladoga Seal.

**Mass-meeting in defence of protected area "Lake Yastrebinoye" and**

**establishment of National Park “Ladoga Skerries”** was organized on the 16<sup>th</sup> June 2007 on the main square of Petrozavodsk (see details above in Aim 1).

**Involvement of students in environmental activities was possible** as most of NGO “Ecos” members teach at the Petrozavodsk State University, North European Open University (Petrozavodsk), Karelian State Pedagogical University. Therefore, students are aware of the current status of Ladoga seal population and conservation work that is undertaking. Students were of great help for conducting public campaigns and the mass-meeting. They were also active participants of Multisport Festival devoted to the protected areas in Karelia (see Aim 1 chapter).

**Meetings with opinion leaders prior to public referendum** in Sortavala, Pytkyaranta and Landenpohja were held in order to explain the advantages of the establishment of Ladoga Skerries Nature Park and incline local people in Nature Park's favour.

**Meetings with local fishermen** in Olonets area and Sortavala region were held to discuss the damage to fisheries by seals and the influence of fishery on the number of seals.

**Information brochure “Ladoga ringed seal” and information posters** (Appendix 9) that were designed during the first project were used this year also. We have published another 1000 information brochures “Ladoga ringed seal” (enclosed), which used during public campaigns. We have also printed and installed some more information posters in Russian and English (on Valaam) showing the needs for Ladoga seal population conservation.

**“Ladoga Seal Festival”** with the schoolchildren boat race “Ladoga Seal Cup” (see Appendix 3) and kids drawing contest (they had to draw seals by chalk on asphalt) were carried out in Sortavala in June, 2006 and 2007. Teams from several towns of Karelia and St. Petersburg region took part in the race. NGO “Ecos” took part in the organization and information support of the opening and closing of the festival, race and contest judging. We made this event to be covered by local newspapers and local TV and radio. We provided local TV with the video film and digital video clip of Ladoga seals to be used when reporting on the festival.

**Participation in the International research-and-applied conference “Ladoga Parliament” on the environmental problems and tourism development in Ladoga region** (June, 25-26, Sortavala). Over 70 participants represented the Governments of Karelia and Leningrad region, commercial and non-governmental organizations, educational institutions from Karelia, Leningrad region and Finland took part in the conference. Ecological safety of Lake Ladoga area, status and prospects for international collaboration in the field of nature conservation and development of ecological tourism in Ladoga region were discussed. As a result the Agreement on the establishment of the association “Ladoga Parliament” was signed. The aim of the association is to work out the model of interaction (cooperation) between different subjects of environmental and tourism activities in the basin of the Lake Ladoga. Representatives of NGO “Ecos” took part in the conference with the oral report

“Present status of Ladoga seal population”. We tried to explain representatives of tourist companies which plan to develop ecological tourism in the area including water tourism the threats of disturbance of Ladoga ringed seals and that possible small scale seal tourism should be strictly controlled by the local protection administration. The influence of possible tourism on seal herds should be very carefully monitored. We realize that development of tourism is inevitable, therefore it is important at this stage to try to make tourist companies be our supporters rather than opponents. This in turn will ensure their sustainability.

**Participation of the research-and applied conference “Problems of water tourism development”** (September, 19, St. Peterburg). The conference was held in the frame of the Second Marine Festival organized by Baltic International Tourism Institute and St. Petersburg State Marine Technical University. The aim of the conference was thorough investigation of the potential of different types of water tourism and elaboration of recommendations and suggestions on their active development and promotion in the home market and international tourism market. NGO “Ecos” took part in the conference with two reports “Status of Ladoga ringed seal population. Main breeding and hauling-out areas in Lake Ladoga” and “The “seal problem” in Ladoga: man made disturbance factors, conflict between fishermen and seals”. These reports were addressed to the representatives of the companies that plan to develop fishing tourism, water recreational and excursion activities, diving, yacht and speed-boat tourism.

## **5. Conservation aspects and future research needs**

The main limiting factors that threaten sustainable existence of Ladoga ringed seal population are the following:

- Large and small tourist companies in the North-West Russia by using the catchword “ecological tourism” try to involve unique island ecosystems of Lake Ladoga in the sphere of active tourist industry. Destruction of permanent haul-out or breeding areas can lead to disturbances in the seals’ behaviour and reduce reproduction as it was observed for Saimaa seals. In addition man-caused disturbance may lead to a lack of movements between breeding areas which in turn may cause inbreeding and lower effective population size.
- A grave problem for the Ladoga seal is fisheries. Annually 200 to 400 animals die in fishing nets. On the other hand, both fishermen and local inhabitants hold to an idea of seal as a bane ruining the stocks of valuable fish. This contradiction greatly complicates the species protection.
- Another adverse effect on the population is the nuisance factor. Human effect is the heaviest in the summer, when seal gather in herds on island shores and shoals. Ships and boats passing the sites of seal aggregations, people coming to the islands (fishermen, hunters, and tourists) drive the animal into the water immediately.
- Anthropogenic pollution of Lake Ladoga. However, it appears that the Ladoga seal was less affected by environmental pollution than the Baltic and Saimaa subspecies.

### **Poaching**

It is necessary in nearest future to establish long-term monitoring of Ladoga seal

population within the whole lake by research institutions of the Russian Academy of Science and other interested organizations with the special attention to haul-out sites of seals on Valaam Archipelago and breeding areas in the South-East part of Lake Ladoga.

Possible small scale seal tourism should be strictly controlled by the local protection administration. The influence of possible tourism on seal herds should be very carefully monitored.

There is not much we can do with the Valaam Monastery as there are no effective ways to reach them and affect their activities, but we plan to apply to the Monastery with the request to let us possibility to work with Monastery Archives. We assume there must be old records related to seals, which can broaden our knowledge on the seals history and population dynamics. Part of the Archive we know was moved to Finland in 1942. We have already made an inquiry to Finland via our colleagues from Finnish Environment Institute. We hope that at least by this way we will manage to attract Monastery's attention to the problem of Ladoga seal population conservation.

It is planned to clear up the question on the seals disease. For the last few years there has been observing epizootic of 'seals pox'. First cases were recorded in 2001. It was established that 15-20% of seals in herds suffered from this disease. Infection peak (according visible skin damage) took place in August-September. The disease is to be accurately diagnosed and possible preventive measures are to be found.

Moreover, we plan to carry out parasitological studies of Ladoga seals as there are indications of possible parasitological problems in the population that may pose threat to the species existence taking into consideration seals endemism. There are members of "Ecos" who are professional parasitologists and are interested in conducting such investigation. First attempts were undertaken by using dead seal bodies, which were caught by fishermen (see Appendix 10). We agreed with fishermen that they wouldn't through them away but freeze them and let us know so that we can take bodies for investigation (see photo). This will also clarify the diet of Ladoga ringed seals.

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# Appendix 1. Ladoga Skerries



Photo by Alexander Dubinin

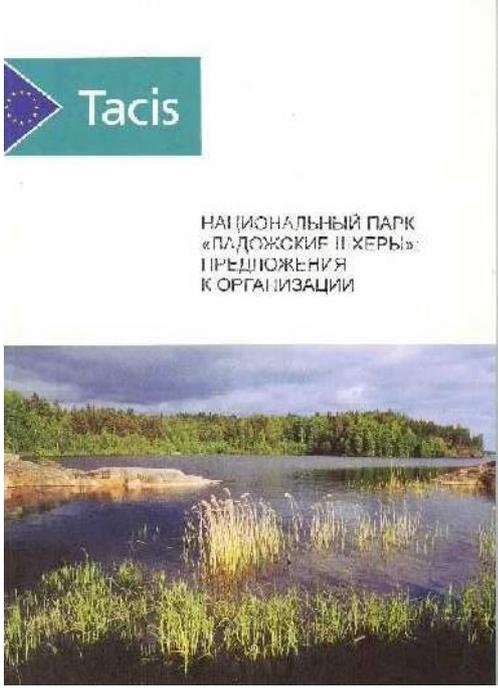


Photo by Alexander Dianin

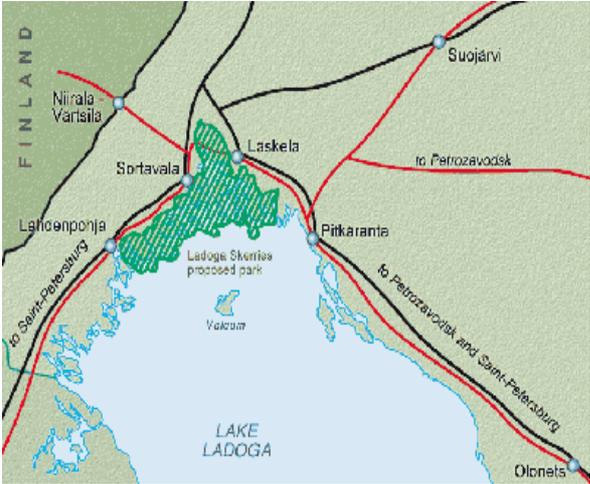
# Appendix 1. Planned National Park “Ladoga Skerries”



Location of the Park at the map of Europe



Plan for the establishment of National Park Ladoga Skerries, 2001



Road network



3D Map of the Park

# Appendix 3. Mass meeting in defence of protected area “Lake Yastrebinoye” and establishment of National Park “Ladoga Skerries” (October, 16, 2007, Petrozavodsk, Kirov Square)



Boat race "Ladoga Seal Cup"



**Appendix 4. First Multisport Festival in Karelia (17-19 August, 2007). The race was dedicated to the defence of protected areas in North-West Russia.**



Start of cycle race in Petrozavodsk



Consequences of logging in Ladoga Skerries



# Appendix 5. Ladoga Ringed Seal



Comfortable behaviour: stretching of foreflipper



Aggressive behaviour at re-forming a haul out



Not completed attempt to haul out on rocks



Short-term (1-5 min) haul out



Completed attempt to haul out on rocks



Alarm ('looking around" reaction)



Long lasting alarm ('looking around") reaction



Solitary hauling out seal



Long-lasting ('looking around") reaction



A seal making an attempt to haul out on rocks



Eider ducks near haul out

**Appendix 6. The number of private speed-boats, yachts, canoes, catamarans etc. has sharply increased recently**



# Appendix 7. The Valaam Monastery began intensive construction works on the remote islands.

Regular ship and speed-boat traffic, permanent people presence on the island and construction noise has resulted in the sharp decline in the number of seals on the islands of Bolshoi Baionny and Lembos.

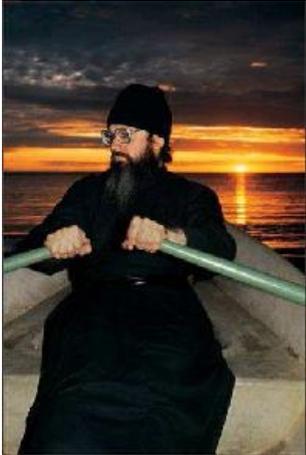


Photo by S. Kompainichenko



Photo by S. Kompainichenko



In the Monastery Bay of Valaam Island



Few years ago there was no motor transport on the Valaam island, but today on the island of 28 sq.km there are over 50 cars



Yacht "Pallada" is a V.V. Putin's gift to the Monastery. At the moment the luxurious residence for the all-Russian patriarch Alexy II is under construction on the Valaam island.



Valaam Archipelago (view from 3100 m height)



Tourist ships

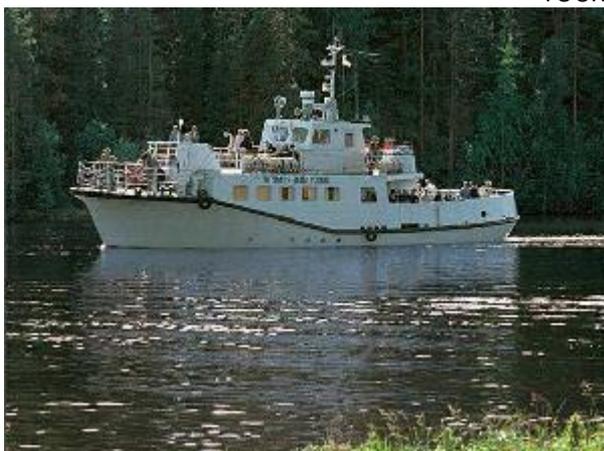
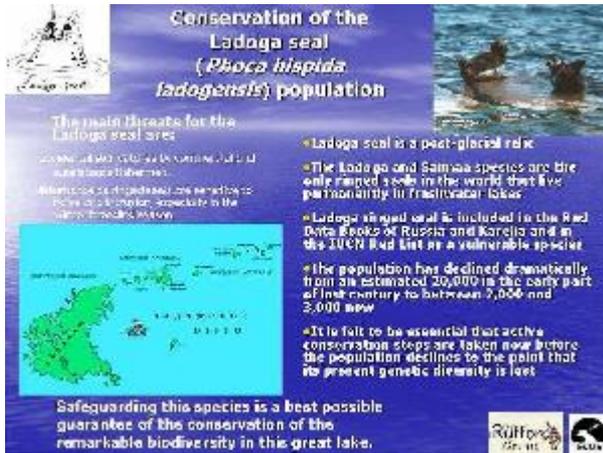


Photo by S. Kompainichenko

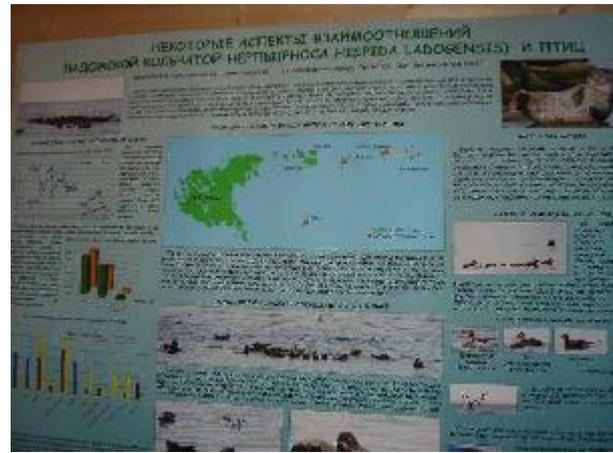


Krestovy Island (Valaam Archipelago)

## Appendix 8.



Information poster



Conference poster at the conference



Our vamping site on Valaam



Heading for the monitoring of Ladoga seal haul outs on remote islands of Valaam Archipelago



Professor E. Ieshko meets local fisherman



Fisherman has frozen seal bodies that were by-caught in nets. We used them for investigations.



**Appendix 9. In the Guide Book “Karelia” Sortavala region is symbolized by Ladoga ringed seal. This testifies to the positive and proud attitude of local people to Ladoga seal.**

**НАШ КАЙ**



**ЛАДЖЕНПОКСКИЙ РАЙОН**

Площадь — 4,2 тыс. кв. км, население — 15,3 тыс. человек. Колывань, сорель, сорельница, шикора и другие сорта рыбы. Много островов. Муниципальное предприятие «Ладженпокс» занимается рыболовством. В настоящее время в районе ведется строительство водозащитных дамб. Из рыб выделяются: лосось, форель, сиг, судак, щука, карась, плотва, окунь, налим, ерш, голец, карп, карась, сазан, сом, судак, щука, форель, сиг, лосось, форель, судак, окунь, налим, ерш, голец, карп, карась, сазан, сом.



Музей истории Карелии. Музей истории Карелии. Музей истории Карелии.

**МОДОККОГОРСКИЙ РАЙОН**

Площадь — 3,2 тыс. кв. км, население — 17,9 тыс. человек. Водяной мельницы. Водяная мельница (18-е столетие). Музей истории Карелии. Музей истории Карелии. Музей истории Карелии.

**ОЛОНЕЦКИЙ РАЙОН**

Площадь — 4 тыс. кв. км, население — 26,2 тыс. человек. Город Олонки — один из старейших городов Карелии, исторический центр области. Олонки — один из старейших городов Карелии, исторический центр области. Олонки — один из старейших городов Карелии, исторический центр области.



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Музей истории Карелии. Музей истории Карелии. Музей истории Карелии.

**ПРИОНЕКСКИЙ РАЙОН**

Площадь — 4,5 тыс. кв. км, население — 21,5 тыс. человек. Районный центр — город Прионежский. Музей истории Карелии. Музей истории Карелии. Музей истории Карелии.

**МУЗЕРСКИЙ РАЙОН**

Площадь — 12 тыс. кв. км, население — 12,8 тыс. человек. Завод по производству изделий из стекла и керамики. Музей истории Карелии. Музей истории Карелии. Музей истории Карелии.



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**ПИТКЯРАНТСКИЙ РАЙОН**

Площадь — 2,7 тыс. кв. км, население — 21,1 тыс. человек. Музей истории Карелии. Музей истории Карелии. Музей истории Карелии.



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**КАРЕЛИЯ**