




Fish Recourses in Lekshmozero Lake

Kenozero National Park in
Kargopol Rajon
Russia

By

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1 Introduction

The Kenozero National Park (KNP) and the Norwegian Directorate for Nature Management (DN) agreed in 2001 to start the project "Fresh water fisheries in Kenszero National Park". The project is organized under the Environmental cooperation program between Russia and Norway. The aim of the project is to contribute to a further development of sustainable fishing in the lakes and rivers of the Kenozero National Park.

The project could include the following activities:

1. Mapping of fish recourses in the park and evaluate these with respect on development of the fisheries in the future.
2. Mapping of potential threats to the freshwater biodiversity in general and to the fish populations in particular.
3. Evaluate and propose measurements to the management and eventually a population increase of the fish recourses to improve the fishing.
4. Evaluate and test traditional and modern fishing methods.
5. Evaluate methods for processing of fish with respect to sale and local consume.
6. Evaluate the need and possibility for fish farming in the park.

A quite substantial fishing is carried out in several lakes in KNP thus this report only deal with the fishing activities that are carried out in Lekshmozero Lake, Kargopol district (rajon). Lekshmozero Lake is the largest lake in the southern part of the park with a size is 54,5 km^2 and a catchment area of 197 km^2. Several streams run into the lake from the east and west of the lake. The river running out of Lekshmozero Lake, the Tsjelma River is quite short before it enters into the Monastyrskoye Lake, which then drains to Leksjma River. The fishermen of Lekshmozero Lake mostly come from the village Morshininskaya that is located in the northern part of the lake. The number of inhabitants in the village has in the past been about 500, but this number has steadily decreased and counts today about 300. There are two additional settlements by the lake, Trufanovo and Orlovo. In the year 2000 it was recorded 374 people living in the settlements by Lekshmozero Lake.

The results presented in this report are gathered during three visits in the park. Host for all the visits has been KNP - represented by Alexander Kozikin. Øyvind Walsø from DN carried out the first visit in the period 10 – 14 September 2002. The second and third visits were carried out in the periods 8 – 16 September 2003 and 20 – 26 April 2004 by Kari Tyse (Villfisken Ltd), Bjørn Frantzen (Svanhovd Environmental Center) and Øyvind Walsø (DN).

The participants in the project have been given the opportunity both to attend and document the fisheries that are carried out in the autumn and in winter in the Lekshmozero Lake and to meet many of the inhabitants around the lake that to a different extent base their food supply on the available fish recourses. What are not used for local consumption are sold non processed to nearby areas, especially to Kargopol district that houses around 24 000 inhabitants.

The carried out working program includes the following issues:

a. Describe the fishing activities that are carried out and the fishing methods that are used today and in the past.
b. Describe how the catch is treated, how it is processed with the aim of an eventual resale for consumption.
c. Provide information about existing market for resale of fish and fish products.

d. Mutual exchange of knowledge between the Russian and the Norwegian side.

The potential to develop a small-scale local enterprise based on fish catchments has been evaluated by analysing the assembled data. It was set as a requirement that this product could be sold for a price that helps to create more employment opportunities then if the fish are resold unprocessed. A further extension of the project, eventually in which form and extent, should be decided based on the recommendations from this report.

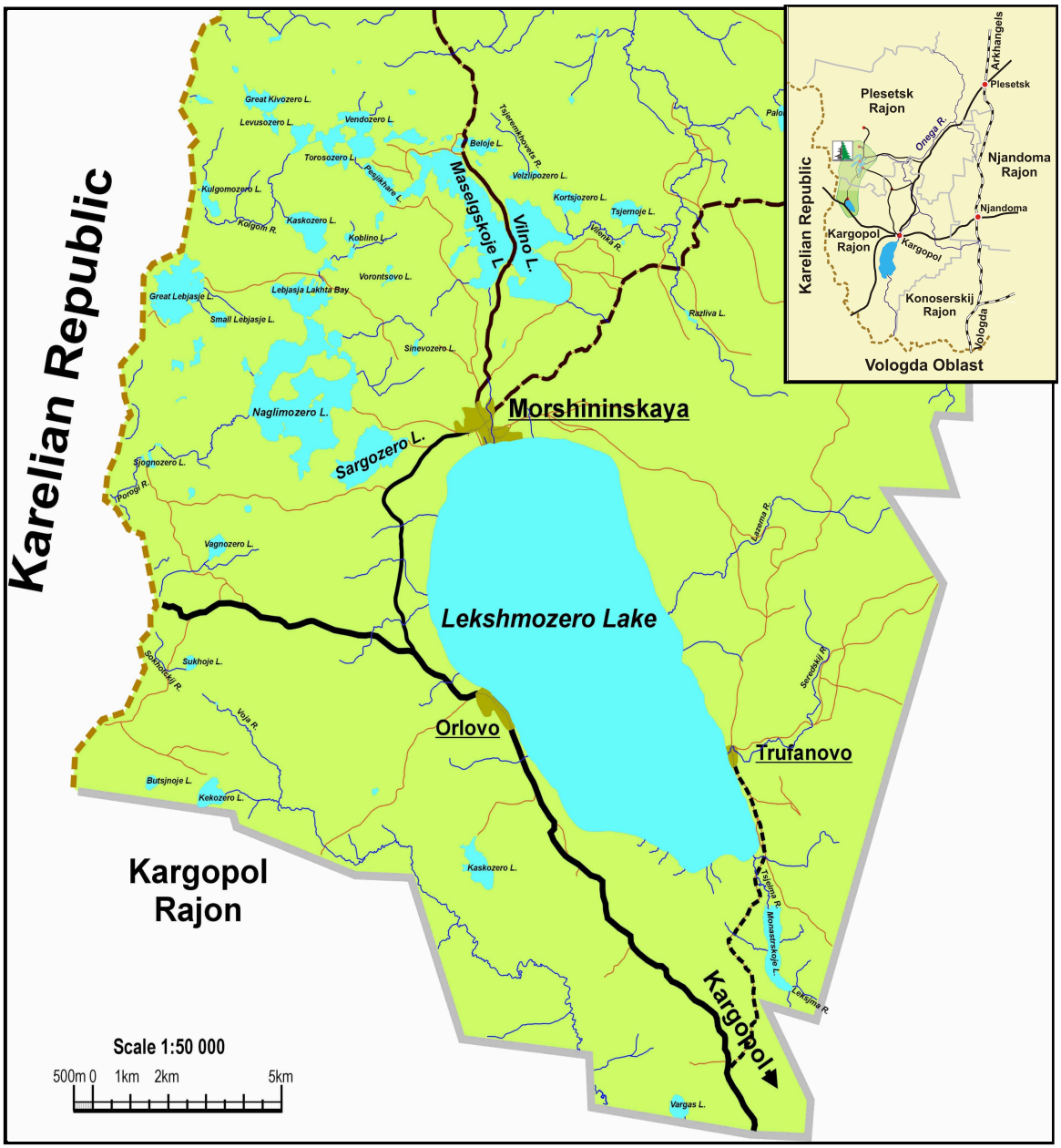


Figure 1. Map shoving the southern part of Kenozero Natioal Park

2 Area

KNP, which was established 1991, is located in the Southeast part of Archangels Oblast (County) (**Figure 1)**. It is 139 700 hectares of area is from two local municipalities, Plesetsk and Kargopol. The centre of the park is located approximately 62 degrees North and 38 degrees East. The total population in the park is around 2 600 people in 46 rural communities.
In the park there are to major lakes, Kenozero in the northern part and Lekshmozero in the southern. The watershed between the Baltic and the White Sea basins runs through the southern part of the park. The flora and fauna are rich, with 534 and 270 species respectively.

Lekshmozero Lake is located in the southern part of KNP. In year 2000 375 inhabitants were living in villages surrounding the lake – 300 of these the village Morshininskaya. In the past the population in the village has been numbering up to about 500. Orlovo and Trufano are two other settlements surrounding the lake. Trufano has few residents even though the number increases during summer time. Orlovo has about 50 residents. During our stays in the area both of these settlements were visited. Najndoma, which is located about 180 km from the park, is the nearest town with railway – at the main rail between Moscow and Archangels. The distance between Moscow and Najndoma is about 800 km and the train journey takes about 15 hours. The park can be reached from Najndoma driving westward through the town Kargopol with its 11 000 inhabitants.

3 Fish resources in Lekshmozero Lake

The Park administration has all rights according fishing and regulation of fishing inside the park. The people living inside the park and visitors can by licences from the park administration. The fish species found in Lekshmozero Lake is shown in **table 1**.

During the 1980ies and 90ies the Northern Scientific and Research Institute of Fish Farming (SevNIIRH) carried out fish biological investigations in Lekshmozero Lake. In 1993 the report ”Biological basis for efficient utilization of fish resources in lakes in Kenozero National Park” was published. The report is in Russian and signed by A. K. Kozmin the head of the Archangels Fish Laboratory.

Table 1. Fish species registered in Lekshmozero Lake

Latin	**English**	**Russian**	**Norwegian**
Rutilus rutilus	Roach	Plåtva	Mort
Perca fluviatitls	Perch	Okonj	Abbor
Coregonus albula	Vendace	Rjapushka	Lagesild
Coregonus lavaretus	Whitefish	Sig	Sik
Coregonus peled	Northern whitefish	Peled	
Osmerus eperlanus	Smelt	Koryushka	Krøkle
Gymnocephalus cernuus	Ruffe	Jårsj	Hork
Abramis brama	Bream	Ljesj	Brasme
Abramis bjoerkna	White bream	Gostjera	Flire
Leucaspius delineatus	Belica	Verkhovka	Regnlaue
Esox lucius	Pike	Sjoka	Gjedde
Lota lota	**Burbot**	**Nalim**	**Lake**

Table 2. Proportions of fish species caught in some lakes in KNP

A.

Proportion of fish species in Maselgskoye Lake, Vilno Lake and Sargozero Lake (1982)	
Species	Proportion (%)
Roach	84.2
Perch	14.2
Vendace	0.7
Smelt	0.5

B.

Average proportion of fish species in Lekshmozero (1986 – 1989)	
Species	Proportion (%)
Roach	7.3
Perch	28.0
Vendace	28.8
Ruff	32.6
White fish	3.2
Bream sp.	0.1

Table 2 shows (A) the proportions of fish species caught in the lakes Maselgskoye, Vilno and Sargozero in 1982 and (B) the average proportion of fish species caught in Lekshmozero Lake in the period from 1986 to 1989.

The amount of fish that could be caught annually was proposed to be 12 tons. In Lekshmozero 12 species of fish have been found. Bream was found in the lake in 1989. It has spread to Lekshmozero from Lekshmo River via Latche Lake.

Releases of artificial bred White fish and Peled took place in the Maselgskoye Lake, Vilno Lake and Sargozero Lake in the period 1985 - 1987. Fry was delivered by helicopter and released.

The number of released fry of Whitefish and Peled in 1985 was:

- Maselgskoye Lake - 41 900
- Vilno Lake - 69 600
- Sargozero Lake - 32 700



Fish traps are used both in the summer and winter fisheries

The taking of marketable fish in these lakes was 10.3 (Maselgskoye Lake), 14.0 (Vilno Lake) and 14.5 kg (Sargozero) per hectare before the release of fish. These numers increased to 20.0, 24.3 and 30.0 kg fish per hectare respectively in some years after the release.

Depending on the biomass of zooplankton (1 – 2 g/m^3) it is estimated that the total number of released fry of Whitefish and Peled could be:

- Maselgskoye Lake 62 000
- Vilno Lake 77 000
- Sargozero 24 000

It is possible to breed White fish from Lekshmozero Lake and vendace from Naglimozero Lake – from Naglimozero Lake because the vendace here is bigger than Vendace from other lakes in KNP. Artificial bred Whitefish and Vendace could also be transferred to and released in other lakes in Archangel Oblast.

4 Fishing and fishing gears

4.1 Organisation

The park employs three fishermen who do the fishing by gears owned by the park. The income from this fishery belongs to the park. 15% of the value from this fishery is paid back to the fishermen as their salary. As an example the price for one kilo of Vendace from the park in 2002 was 18 RUR (4,5 NOK or 0,6 Euro). The three employed fishermen catch about 7 tons of fish annually and earns from this 6,300 RUR each. This represents 3,5 months salary for a park keeper with a normal monthly salary of 1,800 RUR plus a bonus on 500 RUR every third month.

At present the annual catching of Vendace in Lekshmozero Lake is about 12 -15 tons. The park-employed fishermen catch about 7 tons of this while locals catch about 5 tons. The largest recorded annual catch of Vendace is 22 tons, and in 2002 it was about 20 tons. Estimated from the number of licenses it is about 70 more or less active fishermen living around the Lekshmozero Lake.



Jevgenij og Valentin are members of the "fishermen brigade" (work team) and are employees in Kenozero National Park

4.2 Nets

One of the fishermen anticipated that the usual catch of a 60-meter long net is about 3 kg in the autumn fishing. Most of the catches consist in Vendace, Smelt and some Roach.

In the wintertime the catches are smaller. A normal catch for two nets that has been fishing for three days is as we experienced 3 Perch, 15 Roach and 1 Ruffe. These nets were about 65 m each with a mesh size of 28 mm. A typically way to set the nets is





Birch bark used as floating device (top) and around a stone used as sinker (bottom)



Pike (3 kg) caught in net during winter fishing

with and angel of 180º from the same hole in the ice.

Other use nets with a mesh size of 80 mm to catch bigger fish. Desired fish species are Bream and Pike. We experienced that a catch of one reasonable big Pike (3 kg) could be a normal catching for five nets that has been fishing for four days.

4.3 Fish traps

Fish traps (called *ryuzha*) are produced locally in the village and the price of one such is about 300 RUR (75 NOK or 9.4 Euro).



Trap checked during late winter fishing

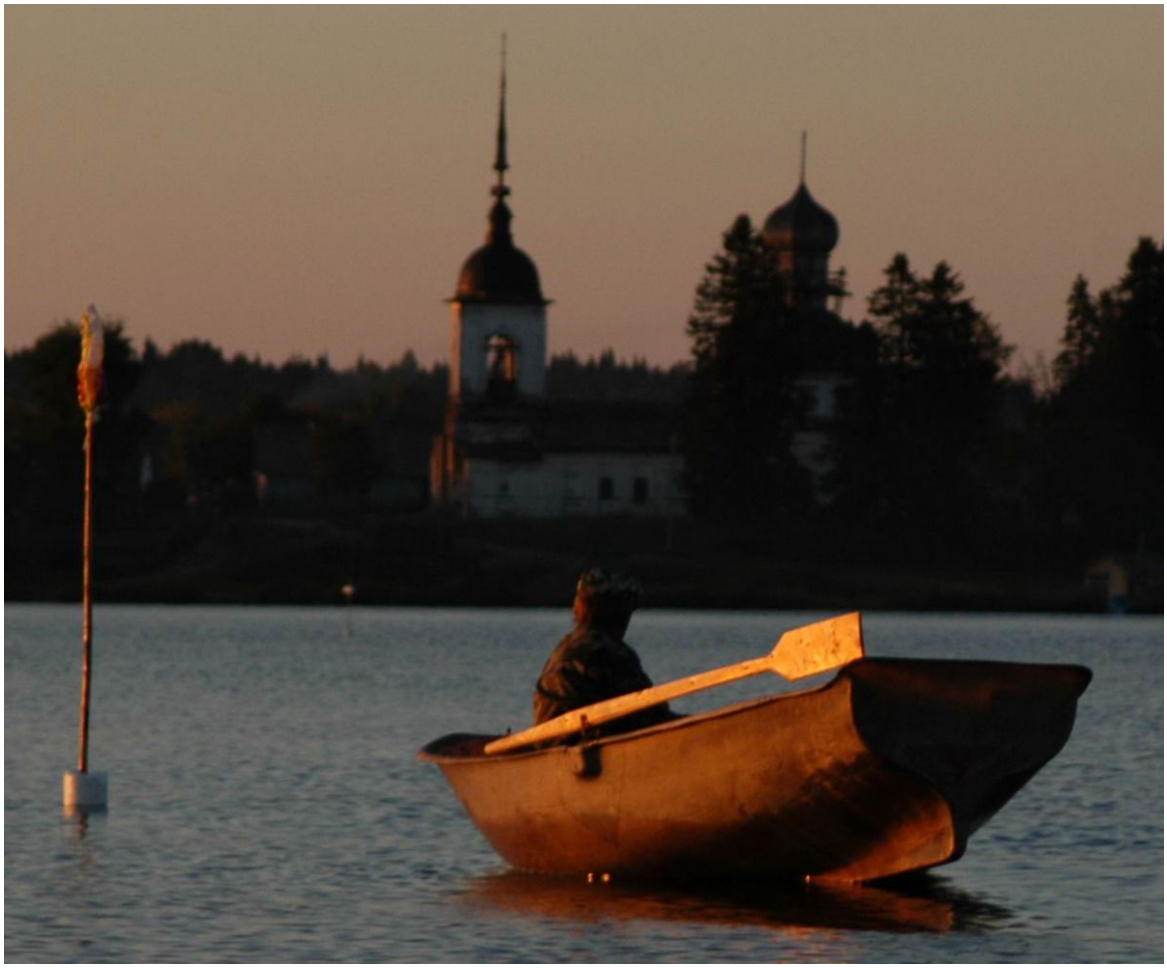
Traps are mainly used to catch Burbot and Pike in the winter/spring and Vendace in late summer/autumn. In the autumn fishing of Vendace the traps are placed in shallow water.

Traps are used during wintertime when the lake is covered with ice. This fishing start in November/December from the time the ice is more than about 15 cm in thickness. Traps are set in shallow water and they are checked in a regular manner (1-2 times a week) during the winter.

The usual way to set fish traps is to use two traps in pair. The traps are connected with a net. Several types of traps have been used. The most usual type, called *kurma* is a small trap with two guide nets with large mesh size (30 mm) attached to it. This type of trap is used for catching pike in the spring. It is placed in shallow water and it is attached to the bottom with two sticks that is thrown into the bottom of the lake. A *kurma* can also be double, and is used to catch Burbot in the spring and in the winter.

Another type is the *kubaska* where the trap is attached with a rope to a stick that is thrown into the bottom of the lake. The trap is quite small and branches from furtrees are placed inside the trap to attract fish species that spawn over aquatic plants.

A normal catching with traps for four traps fishing for three days are as we experienced 1 Pike (1 - 1.5 kg) and some



The lake is shallow. In the periods of the year the lake is not covered with ice fish is caught with nets attached to a stake. The church of Peter Paul can be seen in the background

small fish and a Roach. A typical way to set the traps is two pair of traps on each side of the hole in the ice placed with an angle of 189°.

4.4 Other fishing methods

Traditionally long-line has been used for fishing Burbot. Today this method is not or seldom used. The reason for that is that the long-lines was made of cotton or wool and must be dried after they were used. This was too labour-intensive and fish traps and nets made of synthetic material ousted long-lines. A typical long-line had 500 hooks, and a catching of 100 kg each was considered as very good.

Also fishing with the use of light and fish spear has been used in the past. These kinds of fisheries were used in the autumn from August and onwards. To fish with light and spear is now prohibited.



Cast in evening

5 Selling of fish

At present no processing of fish in a commercial scale is going on inside the park and the fish not consumed locally are sold as fresh as possible. Most of what is sold is delivered to the area of the southern part of Archangels Oblast (district). The fish is sold to Plesetsk, Kargopol, Njandoma, Severodnezshsk and Konosia. Some small amount is also sold to Karelia. The buyers are both people that by for private use and those who by for resale. It is usual with costumers that by up to 300 kg. If the catching is not sold the day it is landed it is stored to the next day and then sold. The catching is easily sold.

6 Fish handling in Morshininskaya

It seems that for the time being it is little commercial fisheries going on in Morshininskaya or the other settlements around Lekshmozero Lake. The fishermen gives the impression that the annual caught is about 20 tons, distributed among 20 - 30 fishermen. It seems, as the utilization of fish recourses in other lakes in the area is small.

Fishing is mostly concentrated around spawning time for the different fish species, spring and autumn. The catch is primarily consumed locally while some are sold outside the village. It is no organizing for receiving and reselling of the catchings.





When the fishermen come in with the nets, the nets are hung on the wall and the fish is taken out of the nets. The fish is then thrown in a tub; the cover from the outboard motors is frequently used. Some fishermen are sorting the fish by species. The treatment of the fish from the time of cach is not satisfactorily for selling it in the open marked. In 20xx there was built an "ice house" to cool the fish, but it has never been used according to the purpose. The local fishermen do not cool the fish or take any other action to maintain the quality of the fish. Fish is an important part of the diet in the area, and old and traditional methods to conservation, such as salting, drying, smoking and fermentation are used.

6.1 Salting

Vendace is used in the same way as we handle Herring in Norway. It is gutted, which mean that the intestines are removed without the abdomen is opened. This is

regarded as a quick cleaning of fish. Thereafter the fish is placed in layers in a bucket, with salt between each layer. Weight is placed on top, and the drum or keg is stored in a cellar or in a cold room as supply during the winter. When the fish shall be used it is first diluted in water before it can be used in soup, or cooked or fried. Like our salted Herring it's also served with onion, oil and potatoes.

6.2 Drying

Fish for drying should be dry-salted for about three hours (small fish). Then a stick is placed in the abdomen so that the fish will dry equally. Hooks are placed through the eyes for the fish to be hung under the roof on the shady side of the house. If the weather is good the drying process is finished after 1 -2 weeks. When the fish is finished it is placed in paper boxes and stored in a dry place.



Drying of vendace

6.3 Smoking

Warm smoking is more common than cold smoking. The ovens used for smoking is often old oil barrels with top and bottom removed. The fish are hung inside the barrel and a top is put on, and fire is made under the barrel. The wood that is used is usually from alder. We did also see an oven for cold smoking, where the smoke canal was dug into the ground. Here the fish was smoked for three days. In Norway we usually use smoking for adding taste while the Russians use it as a way to preserve fish – that is why the fish is being smoked for a longer period of time then we are doing.

Perch, small Pike and Vendace are usually used for smoking. Before smoked the fish are dry-salted for about three hours, longer if the fish is large. Thereafter the salt is washed away, stick is placed in the abdomen and the fish is ready to be smoked.





Vendace in oil (top) and vendace soup (bottom)

Several smoke their fish themselves, while some buy smoked fish. To store smoked fish it is often placed in jars with sunflower oil as preserving agent. Especially Vendace is preserved in this way.

6.4 Fermentation

Fermentation, which is called "raking" in the Nordic countries, is used by some few. The fish is salted inside the abdomen (40 - 50 grams pr kilo of fish) and placed in layers in a bucket. The fish is covered with a weight on the top. Thereafter the bucket is placed in a cool place. After two days one has to monitor that the fish juice covers the fish. If not it's necessary to pour 3% cooked saltwater into the bucket. Thereafter the fish shall mature for two months before it can be eaten. The taste of the fermentated fish grows stronger the longer it is stored.

7 Conclusion

It seems that the fish recourses are large, and the possibilities to develop a fishing industry should be in place. It is however important to get an overview of the fishing recourses to secure that it is sustainable exploited, and at the same time that the recourse is utilised optimally. It is vital to have an idea of how much fish that can be taken out to avoid any conflict with the local inhabitants.

Most of the fishing takes place in the spawning period. Then it is easy to catch large quanta of fish, but this is fish of poor quality. The muscle weight of the fish is low, as it has used most of its energy deposits to develop the roe and milt.

The roe is however interesting for producing caviar. Caviar, especially from Vendace and Whitefish has a delicate red colour. In Sweden caviar is also produced of roe from Vendace and Belica with a price of over 1 000 NOK pr kilo (4 000 RUR or 125 Euro).

Fishing should in larger extend take place outside the spawning period, when the quality of the fish is better and consequently the processed products from the fish will be better.

To create new business and economic activities in the park based on fish processing it is important to find the right men and women of resources. These persons must have an interest in entrepreneurship. They must have a wish to achieve knowledge about processing methods, sanitation regulations concerning food production, marked and the public regulations concerning the running of a business.



Meeting in Morshininskaya

Annex 1: Fishing regulations in Lekshmozero

Kenozero National Park

Fishing Regulations

About the Regulation of Amateur fishing in the lakes and streams of the
Kargopol branch of the Kensozero National Park in 2004

With the object of preservation, reproduction and rational utilization of fish recourses in the lakes and streams of the Lekshmozero Lake branch of the Kenozero National Park (KNP) based on the decision of the small council of the Archangels Regional Council of the People Deputies No. 223, 22nd December 1992 "About the Nature Utilization on the Area of the KNP"

Federal Law "About strictly Protected Natural Areas" No. 33-fz, 14th March 1995 and "Regulation of fishing in lakes and streams in the Archangels Region, 1991, and with the object of keeping the guarantees of traditional nature utilization for local people, making existing experience of catching fish in lakes and streams of the KNP equal to that the Federal Law "About strictly Protected Areas", clause 15, points 2 and 3) and Status of KNP.

I direct:

1. For the people registered in Lekshmozero Lake Branch of the KNP it is possible to have not more than below number of licences for amateurs:
   a. Nets with mesh size 16 mm and more – 100 meters for one licence, not more than two licences for one person.
   b. Nets with mesh size less than 16 mm – not more than 60 meters for one licence, only one licence for each person.
   c. Small fish traps (ryuzhs) – one pair of one licence, not more than 4 licences for one person.
   d. Vendace nets – 100 meters for one licence, only one licence for one person.
   e. Large winter fish traps – one pair for one licence, one licence only of one person.

2. For the people who has houses on the area of the Lekhmozero Lake branch of the KNP (not registered as residents).
   a. Nets with mesh size 16 mm and more – 100 meters for one licence, one licence only for one person
   b. Nets with mesh size less than 16 mm – not more than 60 meters for one licence, one licence only for one person.
   c. Vendace nets – 100 meters for one licence, one licence only for one person.

3. Commercial fishing is allowed on the base of agreements only.

4. All fishermen must have special tag on the nets and traps with number of licence and the owners name on it. Fishing tool without tags will be confiscated.

5. For the people living permanent on the area of KNP sport fishing (fishing rod, etc.) is allowed free of charge. All the rest have to buy licence.

Price list (all figures in Russian Roubles)

Means of fishing	1 day	10 days	1 month	Spring / Summer/ Autumn	Winter
1. Residents					
Nets (mesh size < 16 mm / length ≤60 meter)	10	30	50	50	–
Nets (mesh size ≥ 16 mm / length ≤ 100 meter)	5	15	30	100	75
Traps (diam. 1 m / length 5 m / 4 pairs)	15	30	50	75	50
Vendace nets (length ≤ 100 meter)	20	50	100	150	–
Traps for commercial fishing	–	–	–	–	75
2. Non-residents (have houses inside KNP)					
Nets (mesh size < 16 mm / length ≤60 m)	20	50	200	150	–
Nets (mesh size ≥ 16 mm / length ≤ 100 meter)	10	25	100	150	150
Vendace nets (length ≤ 100 meter)	50	100	300	500	–

Price list for sport fishing (all numers in Russian Roubles)

	1 day	2 – 10 days	> 10 days
Residents and employees of KNP	–	–	–
Citizens of Russia	10	30	50
Foreigners	100	300	500

Signed by

H. Shatkovskaya
Director General of KNP

Annex 2: Fishing licenses in Lekshmozero in 2003

Fishing licenses in Lekshmozero in 2003

Nets

- Mesh size 16 mm and larger - maximum length 100 meters - period June, July and August - 70 licenses for 147 nets.
- Mesh size less then 16 mm - maximum length 60 meter - period September, October and November until the lake is covered with ice - 70 licenses for 144 nets.
- Mesh size 16 mm and larger - maximum length 100 meters - period November, December, January, February and March (winter fishing starts usually in December when the ice is safe) - 70 licences for 161 nets.

Fish traps

- Small (for catching spawning Pike) - period early spring (May) - 67 licenses for 268 pairs of traps.
- Large - period winter - licenses for 17 pairs of traps.
- Large (for catching Sparling) - period autumn - licenses for 14 pairs of traps.
- Small - period winter - licenses for 8 pairs of traps.

	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Nets (≥ 16 mm / max 100 m)												
Nets (< 16 mm / max 60 m)												
Fish traps (small)												
Fish traps (large)												

Annex 3: Recipes

Fish baked in bread

500 - 600 grams of fresh or salted fish
500 grams of rye or wheat flour

In the evening take the flour, warm water and knead a not to thick dough. In morning add some salt and some more flour and knead it all properly. Roll out the dough to a 1 cm thick sheet, which is 30 - 40 cm in diameter. Roll the sheet in flour and put the fish in the sheet. Fresh fish should be cleaned (without guts and gills) and salted. Salted fish should have been kept in fresh water if it is needed. One can use the fish with or without the skin. If your fish is small, make a kind of heap of it. Add water left after the fish to the edges of the sheet and join (glue) them together (pinch with your fingers) while making a long pie.

Put the pie into a not so heated baking oven. When the upper cover of the pie (korka) is redden you should turn down the temperature (or move it to a place in the oven where it is not so warm) and wait until it is ready. Finished after about 45 minutes.

Fish cooked in northern manner

1 kilo of fish (pike, perch, bream or vendace)
2 - 3 onions
Bay leaf, some dill or parsley etc
Pepper and salt

Fish should be cleaned, slightly salted inside. Put it into a deep pan. Small fish (perch, roach or vendace) put with their abdomen up; big fish should be laid on their sides. Pour some water so that to cover fish slightly, put some onion cut in rings (some onion put inside fish), bay leaves, pepper and salt according to your taste. If the fish is not fat add some oil to make it tastier. Cover your pan with a cover and put it into the oven, stove or on fire for 15 - 20 minutes. When it is ready add some dill, parsley.

If you have big or very big fish cut it into pieces before cooking.

Fish stewed in Russian manner

500 grams of fish
Onion
2 tablespoonful of oil
1 -2 tablespoonfuls of tomato paste
2 salted cucumbers
1 pinch of red milled pepper
2 tablespoonfuls of cut spring onions
2 glass of water

Cut onion into small particles and fry it in oil. Then put it into a pot and keep it for 10 minutes in a properly warmed up oven. Then take it out, add tomato paste, cucumbers cut in small

particles and fish cut pieces. Salt, pepper, pour water, and put it to oven and stew till it is ready. Stew it with greens and have it in the same pot.

Stewed fish with mushrooms in pots

1 kilo of fish filet or fish species with little quantity of bones
1 glass of water
2 - 4 onions
4 - 5 tablespoonfuls of oil
3 - 4 boiled mushrooms (edible boletus, brown mushrooms, orange cap boletus)
1 garlic
Salt, pepper, green parsley, dill

Cut fish into pieces, salt them and fry with oil. Chop onions and fry them in oil together with mushrooms. Put mushrooms and onions into pots. Put fish above; add garlic grated with salt, pepper. Pour water on (wine is possible). Put it all into well warmed up oven and stew till it is ready. While stewing shake the pots from time to time. Add some greens and have it in pots.

Fish baked in Russian manner

1 kilo of fresh fish or fish fillet
300 - 400 grams of fried or boiled mushrooms
4 tablespoonfuls of oil
1 glass of cream or soured cream
Salt, milled pepper

Cut fish into pieces, salt and pepper them and roll it in flour. Fry the fish in oil till half readiness. Put mushrooms around the fish, pour cream or soured cream on it and bake it all in oven till redden crust appears. Add greens and eat it.

Fish soup

Scales removed together with fins and tail.
Potatoes are peeled, cut into cubes and cooked for 10 minutes.
Fish is added; whole vendace is often used, and cooked for 15 minutes.
Add salt, pepper and bay-leaf. Dill can also be used.

Roe

Roe is often fried or cooked with the fish, but is also used on slice of bread. Then the membranes around the roe are removed. The roe is salted, mixed with cooking oil and chopped onion. Stored in closed jars in cooler during the winter.

Annex 4: Other small business possibilities

Other new small business possibilities in Leksmozero area

In meetings with local residents some new possible businesses have been discussed. Some of these proposals have been: building of the traditional wooden boat from Leksmozero, picking and processing local high quality mushrooms, farming bees, traditional handicrafts, and production of traditional Russian furniture from the villages a 100 year back. In this project we have involved in two projects; building of the local wooden boat, and processing of mushrooms.

These other ideas of new projects are not the prime task for this project and we have followed up some smaller parts to give some practical and mental support to local people that want to find and develop new sources of income.

Production of the local wooden Leksmozero boat
The wooden boats are still in common use in the Leksmozero Lake. Fewer and fewer people know how to build them. It is more common to buy boats from other parts of Arkhangelsk oblast. We want to support a man from Orlovo village that is willing to shear his boat building knowledge with some young persons. The boat builder is willing to teach three other residents from Orlovo village to build the local wooden boat. The price of a local wooden boat is about RUR 6.000 (NOK 1.500). DNM is willing to support the KNP with economical resources for the training of three KNP residents to learn how to build the local wooden boat.

Processing mushrooms
Some years there are great mushroom resources in the forests of KNP. All families pick mushrooms for their own consumption. In 2003 one lady in Morshiniskaya bought mushroom to a firm in Kargopol. These mushrooms were exported to Italy.

The recent years Russian produced dried mushrooms have appeared in the shops in Russia at a great price. In several districts in the European part of Russia mushrooms are picked, processed and exported.

We will collect the import regulation for mushrooms to Italy and provide the KNP and local residents of Morshiniskaya about them.