

HMAP Data File (in process) 4 White Sea Herring Data, 1787-1954

Supporting Documentation





Summary

Dataset Title:	White Sea Herring Data, 1787-1954
HMAP Case Study:	White & Barents Seas
Large Marine Ecosystem:	20: Barents Sea
Subject:	Data relating to White Sea herring catches, 1787-1954
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Extent:	633 records
Keywords:	herring catch statistics; History of Marine Animal Populations; White Sea; Russian archives

Citation:

(a) The dataset: please cite as follows: J. Lajus et al, eds., 'White Sea Herring Data, 1787-1954', in M.G Barnard & J.H Nicholls (comp.) *HMAP Data Pages* (www.hull.ac.uk/hmap)

(b) Supporting documentation: please cite as follows: J. Lajus et al, eds., 'HMAP Data File: White Sea Herring Data, 1787-1954, Supporting Documentation', in M.G Barnard & J.H Nicholls (comp.) *HMAP Data Pages* (www.hull.ac.uk/hmap)

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1. HMAP White & Barents Seas: Objectives

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This case study consists of six sub-projects, four of which are designed to identify the factors that condition long-term changes in particular species, while the other two focus on the dynamics of ecosystem development. The sub-projects are:

Atlantic salmon populations, White and Barents Seas;
cod and halibut populations, Barents Sea;
herring populations, White Sea;
marine mammals: Atlantic walrus, white whale, Greenlandic seal;
dynamic change in the White Sea ecosystem;
dynamic change in the Barents Sea ecosystem.

The objectives of the third of these sub-projects were to examine the development of White Sea herring fisheries, to determine long-term trends in catch rates, and to identify the factors which influenced herring catches from the late seventeenth century to the 1930s.

2. White Sea Herring Data File: Sources

(a) general remarks

Statistical data on the herring fisheries of the White and Barents seas were normally presented according to administrative units. The administrative borders in the period under study were changed frequently. It was therefore necessary to relate catches to traditional fishing areas (inlets or the open shoreline) rather than to administrative units. In some areas, fishermen from several administrative units worked alongside each other. In such cases, all catches for the area are summarised. To determine the boundaries of the fishing areas we used the following historical works: *Administrativno-territorial'noe delenie Arkhangel'skoi gubernii i oblasti v 18 – 20kh vekakh*. Spravochnik, 1997. [*Administrative and territorial division of the Arkhangel'sk province and region in the 18–20th centuries*]. Pravda Severa, Arkhangel'sk (in Russian); Yakobson, R. P. (1913). “Statistical and economic studies at the coast and fishing grounds of the Onega Bay between Kem’ and Onega in 1911” [“Statistiko – ekonomicheskoe obsledovaniie poberezh'ia i rybolovnykh ugodii na Onezhskoi gube mezhdru Kem'iu i Onegoi v 1911 godu”], in *Materialy k poznaniuu russkogo rybolovstva* 2, N 5. St. Petersburg; and Yakobson, R. P. (1914). “Report on the inspection of Onega basin and on the trip to Murman and Novaya Zemlya in 1912, t.3, vyp. 2”, in *Materialy k poznaniuu russkogo rybolovstva*, 3, N 2. St. Petersburg.

Fishing gear changed very little in the Russian North during a period under study (up to 1930s). In the White and Barents seas, herring were caught mostly with seines during ice-free periods, and with traps under the ice. Thus, it is reasonable to assume that measuring fishing effort in terms of the number of fishermen and gear offers a consistent and comparable dataset for the period as a whole.

(b) archival sources

i. Russian State Archives for Economics (RGAE)

The time period covered is 1922-1937, with gaps. Data extracted by Yaroslava Alekseeva.

The documents of central economic administrations of the Soviet Union are held in the Russian State Archive for Economics in Moscow and include the records of the three departments which administered the fisheries from the 1920s: that is, the Department of Fisheries and Fish Industry “Glavryba” (1922-1930), the Ministry of Supply (1930-1939), and the Ministry of Fishing Industry (1939-1991). The documents, as a rule, represent yearly reports on fisheries issued by fishery collective farms and fishery state units. They contain data on catches, number of fishermen, gear, and fishing boats in different parts of the White and Barents Seas. There are data on fishing places and fishing techniques. Data received directly from fishing places are of most interest. In many reports, which came from fishery co-operatives and collective farms data were presented regularly, with intervals of 7-10 days. In the Archives for Economics, the unpublished scientific-fishery reports on fisheries in the Russian North in 1930s are also kept. We plan further archival research in these archives, which would enable us to develop this database.



RGAE, f.478, op.7, d. 3505.

RGAE, f.8033, op.1, d.281. Summarized annual report on kolkhozes of the Murman rybaksoiuz for 1934.

RGAE, f.8033, op.1, d.309. Annual report of kolkhoz "Osvobozhdenie", Arkhrybaksoiuz, for 1935.

RGAE, f.8033, op.1, d.400. Annual report of kolkhozes of Karelrybaksoiuz for 1937.

RGAE, f.9296, op.1, d.378.

РГАЭ. Ф.8033 op.1. d.318. Annual report of kolkhoz named by Nuortev of Karelrybaksoiuz for 1937.

RGAE, f.8033, op.1, d.352.

RGAE. f.8033. op.1. d.298. Annual report of Karelrybaksoiuz for 1935.

RGAE. f.8033. op.1. d.317. Annual report of kolkhoz named by Stalin of Karelian rybsoiuz for 1935.

RGAE. f.8033. op.1. d.431. Summarized report of Karelian rybaksoiuz for 1932-1937.

ii. Russian State Historical Archives (RGIA), St. Petersburg

f. 22. op 5. d. 7, period covered 1897-1902.

(c) published scientific reports and papers

The time period covered is 1787-1954. Data extracted by Yaroslava Alekseeva, Julia Lajus, and Dmitry Lajus.

Data from scientific publications were included in the data file for two reasons:

- 1) Russian literature is not easily available for international community;
- 2) Scientific publications for the pre-1939 period often provide statistical data gathered by scientists from local documents and oral testimony, which were not systematically assembled and have not survived. Moreover, scientists working on herring fisheries were familiar with the situation "on the ground" and often corrected the official statistical data. The main publications consulted were:

Arkhangel'skie Gubernskie Vedomosti, 1860, 1876, 1877

Issledovaniia o sostoianii rybolovstva v Rossii, t. 6. 1862.

Izvestiia Arkhangel'skogo Obschestva izucheniia Russkogo Severa 1913.

Kratkii kon"iunkturnyi obzor narodnogo khoz-va Severo-Vostochnoi oblasti za pervoe polugodie 1925-26 gg., 1926

Materialy dlia geografii i statistiki Rossii, 1865, p. 161

Materialy k poznaniuu russkogo rybolovstva, 1913, 1914, 1915.

Obzor Arkhangel'skoi gubernii, 1906 -1915.

Opisanie Rossiiskoi Imperii v istoricheskom, geograficheskom i statisticheskom otnosheniakh, 1845, t. Zh.

Otchet Arkhangel'skogo Statisticheskogo Komiteta [Reports of the Arkhangelsk Statistical Committee] on the year 1876. Arkhangelsk, 1878; on the year 1878. Arkhangelsk, 1880; Otchet o deistviiakh i zaniatiiakh Arkhangel'skogo gubernskogo statisticheskogo komiteta, 1881, on the year 1882, Arkh. 1884; on the year 1883. Arkh., 1885; on the year 1884. Arkh., 1887, on the year 1885. Arkh. 1887; on the year 1886 Arkh. 1888. On the year 1887 Arkh. 1889; on the year 1890 Arkh., 1892; on the year 1891. Arkh., 1893; on the year 1892 Arkh., 1893; on the year 1894. Arkh., 1895; on the year 1895 Arkh., 1896; on the year 1896 Arkh., 1897.; on the year 1897 Arkh., 1898; on the year 1899, Arkh. 1901, on the year 1902 Arkh 1904; on the year 1903 Arkh., 1904; on the year 1904 Arkh., 1906; on the year 1905 Arkh. , 1908.

Otchet o deistviiakh i zaniatiiakh Arkhangel'skogo gubernskogo statisticheskogo komiteta za 1880 god, Arkhangel'sk, 1881.

Belov M. I. 1956. Arkticheskoe moreplavanie s drevnikh vremen do serediny 19 v. [Arctic navigation from ancient times up to middle of the 19th century]. Moscow.

Glebov G. N. (1924). About the herring fisheries of Kandalaksha – Soroka area of the White Sea. In: *Bulleten' rybnogo khoziaistva*, 10 –14.

Glebov G. N. (1926). Fisheries of Karelian coast of the White Sea. In: *Bulleten' rybnogo khoziaistva*. Prilozhenie 1.

Golubtsov N. A. (1910). Fisheries of the Arkhangelsk region. In: *Vestnik rybopromyshlennosti* 9 -10.

Golubtsov, N.A. (1912). Fisheries of the Arkhangelsk region. In: Reference book on the Arkhangelsk province in 1912 [Pamiatnaia knizhka Arkhangel'skoi gubernii na 1912 g.]. Arkhangelsk.

Griner V. (1926). Autumn fisheries of herring in Kandalaksha bay. In: *Bulleten' rybnogo khoziaistva* 11-12.

Deksbakh K. (1924). Spring herring fisheries of village Kandalaksha. In : *Bulleten' rybnogo khoziaistva* 10-12.

Dobrokhotov, V.I. & Pravdina, M.A. (1936). Materials on hydrology and fisheries of the Kovda river In: *Rybnoe khoziaistvo Karelii* 3.

Engelhardt, A. P. 1899. A Russian Province of the North. Tr. from Russian by Henry Cooke (Original title *Russkii Sever*, 1897). Archibald Constable and Company, Westminster. xix + 356 pp.

Knipowitsch, N.M. (1897). About marine fisheries and hunting [O morskikh i zverinykh promyslakh]. St. Petersburg.

Kozhin N. (1927). Herring fisheries on Karelian coast of the White Sea in the autumn 1926. In: *Bulleten' rybnogo khoziaistva* 1.

Kuznetsov V.V. 1960. The White Sea and the biological characteristics of its flora and fauna. [Beloe more i biologicheskie osobennosti ego flory i fauny]. Moscow – Leningrad.

- Nemirovich-Danchenko V. I. (1877). The land of coldness [Strana kholoda]. St. Petersburg – Moscow.
- Nikolsky, V. V. 1927. Life and fisheries of the local population of the western coast of the White Sea (Soroki – Kandalaksha). Based on the materials of the studies in summer 1921. [Byt i promysly naseleniia zapadnogo poberezh'ia Belogo moriia (Soroki – Kandalaksha). Po materialam issledovaniia letom 1921 goda]. Moscow.
- Petrushevsky G. K. (1931). Materials on the fisheries on the west coast of the White Sea. In: *Izvestiia nauchno- issledovatel'skogo ikhtiologicheskogo instituta XI*, 2. Leningrad.
- Rozov, V.E. (1913). About fisheries in village Kovda and neighbour villages on the coast of Kandalaksha bay. [O rybnom promysle v selenii Kovda i sosednikh seleniakh na beregu Kandalakshskoi guby]. St. Petersburg.
- Sidorov M. (1927). Spring fisheries in the Kniazhaia inlet, Karelia, the White Sea. In: *Bulleten' rybnogo khoziaistva* 8.
- Shishov B. (1927). Herring fisheries on Karelian coast of the White Sea in winter 1926/27 and in spring 1927. In: *Bulleten' rybnogo khoziaistva* 6.
- Skvortsov I. (1929) The Northern fisheries region. In: *Trudy nauchnogo instituta rybnogo khoziaistva IV*.
- Studies on the status of fisheries in Russia. VI. Fisheries and marine hunting on the White Sea and the Arctic Ocean [Issledovaniia o sostoianii rybolovstva v Rosii. (1862). T. VI. Rybnye i zverinye promysly na Belom i Ledovitom moriakh]. St. Petersburg. 257 pp.
- Short review of peoples economy of the North – West region for the first half of 1925 - 1926. (1926). In: *Severnoe khoziaistvo* 5 – 6.
- Tambovtsev B. V. (1947). Fisheries and the state of herring resources in the White Sea. In: *Rybnoe khoziaistvo* 6.
- Telegin K. F. (1931). Winter fisheries of Soroka region in 1928 – 1929. In: *Izvestiia nauchno- issledovatel'skogo ikhtiologicheskogo instituta XI*, 2. Leningrad.
- Varpakhovsky, N. (1902). Fisheries in the Arkhangelsk province in 1899. [Rybnye promysly v Arkhangel'skoi gubernii v 1899 godu]. St. Petersburg.
- Yakobson, R. P. (1913). Statistical and economical studies at the coast and fishing grounds of the Onega Bay between Kem' and Onega in 1911 [Statistiko – ekonomicheskoe obsledovaniie poberezh'ia i rybolovnykh ugodii na Onezhskoi gube mezhdru Kem'iu i Onegoi v 1911 godu]. In *Materialy k poznaniuu russkogo rybolovstva* 2, N 5. St. Petersburg.
- Yakobson, R. P. (1914). Report on the inspection of fishing grounds in rivers of Kem' and Vyg in the fall 1911. [Otchet po obsledovaniuu rybolovnykh tonei na rekakh Kemi i Vyge osen'iu 1911 goda]. In *Materialy k poznaniuu russkogo rybolovstva*, 2, N 9. St. Petersburg.
- Yakobson, R. P. (1914). Report on the inspection of Onega basin and on the trip to Murman and Novaya Zemlya in 1912, t.3, vyp. 2. In *Materialy k poznaniuu russkogo rybolovstva*, 3, N 2. St. Petersburg.



Yakobson, R. P. (1915). Report on the inspection of the Severnaya Dvina river basin in 1913 – 1914. In *Materialy k poznaniiu russkogo rybolovstva* .4, N 8. St. Petersburg.

3. Outputs

The data collected in this data file have informed a number of analyses of the long-term development of the White Sea herring fisheries, the main findings of the investigation being presented in Ju. A. Lajus et al, “Herring fisheries in the White Sea in the 18th–beginning of the 20th centuries: Spatial and temporal patterns and factors affecting the catch fluctuations” *Fisheries Research: HMAP Special Issue*, vol 87 (2-3), 2007.

This article describes the history of herring fisheries in the White Sea, analyses the main trends in catches, and assesses the factors which influenced herring catches from the late seventeenth century to the 1930s. The earliest records relating to the White Sea herring fisheries date back to the sixteenth century, and by the eighteenth century this fishery had become as economically important as the Atlantic salmon and cod fisheries. However, we found that significant spring herring fisheries in Kandalaksha Bay did not develop until the early nineteenth century. Herring catches showed considerable short-term fluctuations, probably due to a mix of biological and physical factors. Among the biological factors are fluctuations in size of herring populations, and the migration of herring shoals which make herring available or unavailable for inshore fisheries. And among physical ones are meteorological influences such as wind forces and waves, ice conditions, air temperature and social pressures, such as market forces and the availability of salt and barrels. Accounting for these factors allows for better analysis of long-term trends. Our analyses of long-term trends revealed (i) positive relationship between catch size and human population in the area, likely reflecting an increase of fishing effort, and (ii) no relationship between catches and temperature in Western Europe. The latter can be explained by specific climate variation in the White Sea area and high short-term variability of catches.

The material presented in this data file has also been used in the PhD thesis submitted by Yaroslava Alekseeva to the Institute of Oceanology, Russian Academy of Sciences, Moscow. This will be defended in 2008.