

Arctic and North. 2024. No. 54. Pp. 157–170.

Original article

UDC [338.47:379.83](985)(045)

DOI: <https://doi.org/10.37482/issn2221-2698.2024.54.190>

Water Transport in Arctic Tourism Logistics

Aleksandr Yu. Tsvetkov^{1✉}, Cand. Sci. (Econ.), Associate Professor

¹ Northern (Arctic) Federal University named after M.V. Lomonosov, Naberezhnaya Severnoy Dviny, 17, Arkhangelsk, Russia

¹ a.cvetkov@narfu.ru ✉, ORCID: <https://orcid.org/0000-0003-1092-1295>

Abstract. The success of Arctic tourism development is associated with solving the problem of delivering tourists to the places of their interest. “The Concept for the Development of Cruise Tourism”, approved by the government of the Russian Federation in 2022, suggests that overcoming the transport problem in the Arctic is possible thanks to water transport. It can be used in the logistics of Arctic tourism as a way of transporting tourists on routes and for organizing sea and river cruises. We have examined the current use of water transport in the organization of tourist routes in the Russian sector of the Arctic based on information from river and sea cruise operators. In addition, we have identified regions where water transport is used to organise passenger transport. In the European part of the Russian Arctic, water transport is most actively used for river cruises. Arctic river cruises provide tourists with the opportunity to travel in areas where there is no special infrastructure. In this case, river routes usually start southwards in the most populated regions. In the Asian part of the Russian Arctic the number of cruises is smaller, they are carried out only on three rivers — the Ob, the Yenisei and the Lena. But there are also regular passages that can be used by tourists travelling to the Arctic. Using content analysis of tourists’ reviews of Arctic river cruises we have identified the main drawbacks of their organization. SWOT analysis of the use of water transport in the logistics of Arctic tourism showed what hinders its development. The main problems of water transport use in the Arctic include the ageing of vessels, passenger safety, short navigation period and shallowing of waterways. The most promising ways for the use of water transport in Arctic tourism are inland waterways in the European part of the Russian Arctic, the White Sea and the Barents Sea.

Keywords: *tourists, Arctic tourism, logistics, water transport, navigation, cruise*

Introduction

One of the priority tasks of tourism development in hard-to-reach regions of the Arctic zone of the Russian Federation is the delivery of tourists from the places of formation of tourist flows to the objects of tourist interest. Logistics in the Arctic is still a limiting factor in the development of the region. For the purposes of tourism development, the government of the Russian Federation approved a strategy for the period until 2035 on September 20, 2019. In order to implement the provisions of the strategy, on January 28, 2022, the government approved the “Concept for the development of cruise tourism”, in which certain attention is paid to Arctic tourism. The concept envisages the development of cruise tourism in Russia, including in the Arctic zone, as one of the ways to overcome transport inaccessibility and poor infrastructure development of regions of interest to tourists. Development of such tourism is particularly promising in the regions with large rivers flowing into the sea. The Arctic zone of the Russian Federation is just such a terri-

* © Tsvetkov A.Yu., 2024

For citation: Tsvetkov A.Yu. Water Transport in Arctic Tourism Logistics. *Arktika i Sever* [Arctic and North], 2024, no. 54, pp. 190–205. <https://doi.org/10.37482/issn2221-2698.2024.54.190>

 This work is licensed under a [CC BY-SA](https://creativecommons.org/licenses/by-sa/4.0/) License

tory; it is crossed by large rivers flowing into the Arctic Ocean from south to north. The main objectives of the concept include the popularization of cruise tourism for Russians and the integration of its development projects into federal and regional programs. A key factor in the development of cruise tourism is the use of water transport¹. For many Arctic territories, it is the only mode of transport that can be used to deliver large tourist groups to hard-to-reach areas with significant recreational potential. Moreover, various regions, both located in the Arctic zone and to the south of it, can be connected into one route by water transport. It should be taken into account that the main places of tourist flows formation are outside the Arctic. Cruise routes crossing several natural zones along the way to the Arctic territories are more diverse and informative for tourists. In our opinion, the isolation of Arctic tourism artificially narrows the target audience and reduces the potential number of tourists. Use of water transport for Arctic routes expands the territorial coverage, increases their attractiveness and makes it possible to integrate several regional tourist clusters into one tour. The purpose of our research is to determine the prospects for using water transport to improve the logistics of Arctic tourism.

Materials and methods

The works of domestic and foreign scientists are devoted to the problems of the development of Arctic tourism. Logistics issues are also mentioned there, although there have been no large-scale studies on their solution in recent years. The work of I.A. Potapov considers the most profitable logistics for delivering tourists to the Solovetskiy Islands, which are one of the goals of travellers in the Russian Arctic [1]. The logistics foundations of Arctic tourism are analyzed in the work of A.Yu. Tsvetkov [2]. The main topics of modern research on Arctic tourism are recreational resources, cruise organization, concepts and models for the development of Arctic tourism. The most frequently explored Arctic destinations are polar cruises with a visit to Franz Josef Land in the Russian Arctic national park, which is considered to be the current growth point of Arctic tourism [3, Kruzhalin V.I., Shabalina N.V., Nikanorova A.D. et al.]. A.V. Kunnikov notes that 4 directions are being formed related to the movement of tourists in the western sector of the Arctic. Most routes start in Murmansk and head to the North Pole or Novaya Zemlya with a stop at Franz Josef Land (Arkhangelsk is indicated as an alternative starting point for the route). There are routes from Pevek to Murmansk (along the Northern Sea Route) and from Spitsbergen to Franz Josef Land [4, Kunnikov A.V.]. These are mainly expedition tours for which icebreakers or ice-class vessels are used. However, as studies by A. Pashkevich and M. Lamers show, the potential of cruise tourism in the region is difficult to realize; some cruise practices lack consistency in terms of matching expectations and experience. Local authorities are financially limited, so the coastal infrastructure, local transport and accessibility of display objects are insufficiently developed [5].

¹ Kontseptsiya razvitiya kruiznogo turizma v Rossiyskoy Federatsii na period do 2024 goda [Concept for the development of cruise tourism in the Russian Federation for the period until 2024]. Moscow, 2022, pp. 1–2. URL: https://www.economy.gov.ru/material/directions/turizm/koncepciya_razvitiya_kruiznogo_turizma.html (accessed 20 October 2023).

It should be noted that sea transport is the main one in the transport system of the Russian Arctic, accounting for 50% of the volume of cargo traffic. Cruise ship tourism is currently the main part of Arctic shipping [6, Pashkevich A., Dawson J., Stewart E.J.]. The Northern Sea Route unites the mouths of navigable rivers flowing into the Arctic Ocean, making them a single transport system [7, Mitryukova K.A.]. Nevertheless, the creation of a unified logistics system requires modernization and integration of all port and mainland infrastructure facilities in the Arctic zone. The short navigation period (from 2 to 4 months) hinders the development of maritime transport in the Arctic. However, when icebreakers are used to guide ships, the navigation period increases. Due to this, in the western sector of the Russian Arctic, navigation along the route Murmansk – Dudinka is year-round [8, Gruzinov V.M., Zvorykina Yu.V., Ivanov G.V. et al.]. Navigation in the waters of the Northern Sea Route east of the meridian of Cape Zhelaniya requires permission from the Federal Agency for Maritime and River Transport for any vessel [3, Kruzhalin V.I., Shabalina N.V., Nikanorova A.D. et al.]. The main seaports of the Russian Arctic include: Arkhangelsk, Kandalaksha, Vitino, Onega, Mezen, Murmansk, Naryan-Mar, Varandey, Sabetta, Dikson, Dudinka, Khantanga, Tiksi, Pevek, Egvekinot, Berengovskiy, Provideniya, Anadyr. Of these, only the port of Dudinka does not require reconstruction, re-equipment or dredging [8].

Inland water transport is of great importance for the Arctic regions of Russia, where there are no other roads. The deep-water main routes, which are the majority of Russian rivers flowing through the Arctic regions, primarily include the Ob, Yenisei, and Lena rivers. Among the rivers of the European sector of the Russian Arctic, the Northern Dvina and the Pechora are conditionally included, with adjustments for depth. In the Asian sector of the Arctic, such rivers are: Pur, Khantanga, Kolyma, Yana, Indigirka and others. River transport is characterized by high carrying capacity and relatively low cost. The connection between inland water transport and sea transport is especially close in the European part of Russia. There is a branched single deep-water system formed by main rivers and canals (Volga, Kama, Don, White Sea-Baltic canal, Moscow canal, Volga-Don canal and others), connecting the White, Baltic, Caspian, Azov and Black seas. This is not typical for the Asian part of Russia, where main rivers, which have a large navigable length, flow in a meridian direction from south to north and are connected only by roads stretching in a latitudinal direction from west to east in the south of the region. This feature is reflected in the greater development of river cruise tourism in the European part of the Russian Arctic compared to the Asian part.

The use of inland water transport is very important in the Asian part of the Russian Arctic, where rivers are sometimes the only way to get to remote settlements with the lowest material costs. Therefore, the potential of the river fleet is used there for transporting goods and passengers more often than for organizing cruises. The length of inland waterways in the Russian Arctic is 52.000 km, and for shallow draft vessels — 70.000 km [9, Nokelainen T.S.]. There are 8 public river ports in the Russian Arctic: Arkhangelsk (Northern Dvina River), Labytnangi, Salekhard (Ob River), Green Cape (Kolyma River), Igarka (Yenisei River), Nadym (Nadym River), Nizhneyansk (Yana Riv-

er), Urengoy (Pur River). Arkhangelsk, Igarka and Salekhard specialize in serving passengers, and entry of foreign ships is allowed only in Arkhangelsk, Salekhard and Labytnangi [9, Nokelainen T.S.].

The use of the transport potential of rivers is limited by the duration of navigation, which is reduced when moving from west to east and ranges from six months at the mouth of the Northern Dvina to 2–2.5 months in the lower reaches of the Indigirka, Yana or Anabar, and from 7 to 20 days on some small tributaries of the Yenisei [8; 9, Nokelainen T.S.]. In addition to freezing, navigation is limited by the water level and the depth of the rivers. Dredging works were not carried out on many rivers after 1991; as a result, the length of waterways with guaranteed depths decreased by 40%. Currently, the average depths in the Arctic range from 0.7 m in small rivers to 10–12 m in the lower reaches of the Yenisei [9].

One of the priority segments of the tourist market in the Arctic from the perspective of visitors' expectations is mass tourism, implying sightseeing under the condition of comfortable travel and accommodation [10, Noeva E.E.]. The latter is currently possible in the Arctic conditions only with the use of cruise or passenger ships, which will be both a mode of transport and a place of accommodation for tourists.

To achieve this goal, we have studied the current use of water transport in organizing river and sea cruises, the routes of which fully or partially cross the Russian sector of the Arctic. For this purpose, we used information about the proposals of Russian cruise operators for the 2023 season. We analyzed the proposed routes, their frequency of navigation, and studied the passenger capabilities of the vessels. This allowed us to characterize the state of cruise tourism and determine the potential of Russian water transport for its use in organizing the delivery of tourists to the Arctic regions. We identified the main waterways that can be used for the logistics of Arctic tourism, assessed the connectivity of the main areas of formation of tourist flows that are sent to places of tourist interest in the Russian sector of the Arctic. We also studied the schedules of regular passenger flights of river and sea transport in various regions of the Russian sector of the Arctic from the perspective of its potential use for delivering tourists. Using content analysis of tourist reviews about Arctic cruises, we characterized their positive and negative aspects and identified problems that hinder the use of water transport in Arctic tourism. To identify the advantages and problems of using water transport in the logistics of Arctic tourism, we conducted a SWOT analysis.

Results and discussions

In 2019, there were 23 cruises along the Arctic Ocean to the North Pole during the season, including 17 cruises with a visit to the Russian Arctic national park [3, Kruzhalin V.I., Shabalina N.V., Nikanorova A. D. et al.]. In 2022, 3 voyages were made by the icebreaker "50 Let Pobedy". In 2023, there was only 1 cruise to the Pole on this ship². The number of foreign tourists has dropped to almost zero, experts report a record drop in demand for cruises to the Russian Arctic.

² Suda i obratno: dlya kruizov v Arktike smyagchat pogranichnye pravila [Ships and back: border rules to be eased for cruises in the Arctic]. URL: <https://iz.ru/1575978/kseniia-nabatkina-iana-shturma/suda-i-obratno-dlia-kruizov-v-arktike-smiyagchat-pogranichnye-pravila> (accessed 21 October 2023).

The number of cruise participants has decreased by more than 5 times. The reasons for this are the current international situation and the lack of a sufficient number of Russian solvent tourists willing to pay more than 1 million rubles for a polar cruise. Experts expect that Arctic cruise destinations will become more in demand after China's recovery from the pandemic, as Chinese tourists previously made up the majority of cruise participants³.

River cruises, including those entering the Russian Arctic, have not lost their popularity. Their cost is also high, but they are more affordable for tourists with average incomes. The cheapest river cruises entering the Arctic are in the European part of Russia, their cost starts from 51.000 rubles for 12 days⁴. The most expensive river cruises are on the Yenisei (from 267.000 for 6 days on a cruise ship, from 103.000 on a regular passenger ship)⁵. On the Ob and Lena, the cost of cruises is average compared to the prices mentioned above (from 148.990 rubles for 11 days on the Ob; 127.875 rubles for 14 days on the Lena)⁶. Their demand is associated with the thoughtfulness of routes passing through several natural zones, regions and numerous places of tourist interest. They usually start in large cities in the central regions of the European part of the country or southern Siberia, in the places where the majority of potential tourists live. Moreover, water cruises have their own thematic audience, and after the emergence of difficulties with foreign trips, some fans of foreign cruises switched to domestic ones. The results of studying cruise routes and the transport involved are presented in table 1.

Table 1

Water transport in cruises entering the Russian Arctic during the 2023 season

Directions	Period	Main attractors in the Arctic part of cruise	Number of voyages/capacity
Waterways: Moscow River, Moscow Canal, Volga, Kama, Onega Canal, Svir River, Ladoga Lake, Neva, Onega Lake, White Sea-Baltic Canal, White Sea, Northern Dvina			
Moscow — Cherepovets — Solovki — Petrozavodsk — St. Petersburg — Arkhangelsk — Moscow (or Yaroslavl)	mid May – early October	Solovki, Arkhangelsk, Murmansk	10/186-196
Arkhangelsk — Solovki — Belomorsk — Yaroslavl — Moscow			1/196
St. Petersburg — Solovki — Arkhangelsk — St. Petersburg (or Moscow)			10/186-196
Yaroslavl — Solovki — Moscow			1/196
Perm — Sarapul — Kazan — Ulyanovsk — Nizhniy Novgorod — Yaroslavl — Petrozavodsk — Solovki or Murmansk (train) — Teriberka — Perm			1/314
Moscow — Povenets — Medvezhyegorsk — Murmansk (train) — Teriberka — Kem — Solovki — Arkhangelsk — Yaroslavl			1/196

³ Eksperty soobshchili o rekordnom padenii sprosa na kruizy v Arktike [Experts report a record drop in demand for cruises in the Arctic]. URL: <https://murmansk.rbc.ru/murmansk/02/03/2023/640043bd9a794735ff80d67c> (accessed 21 October 2023).

⁴ River cruises on the motor ship Rus Velikaya. URL: <https://unicruises.com/ship/rus-velikaya> (accessed 20.10.2023).

⁵ Cruises on Russian rivers. URL: <https://vodohod.com/cruises/> (accessed 20 October 2023).

⁶ URL: <https://www.infoflot.com/> (accessed 20 October 2023).

Arkhangelsk – Severodvinsk, Malye Korely (bus) – Brin-Navolok – Kholmogory – Lomonosovo – Arkhangelsk	early June	Arkhangelsk, Severodvinsk, Malye Korely, Lomonosovo	1/60
Ob, Irtysh, Ob Bay of the Kara Sea			
Novosibirsk – Tomsk – Nizhnevartovsk – Surgut – Salekhard – Khanty-Mansiysk – Tobolsk	mid June – late August	nature	1/130
Tobolsk – Khanty-Mansiysk – Salekhard – Surgut			3/130
Surgut – Salekhard – Khanty-Mansiysk – Tobolsk			2/130
Surgut – Salekhard – Novyy Port – Surgut	August		1/130
Yenisei, Yenisei Bay of the Kara Sea			
Krasnoyarsk – Igarka – Dudinka	summer	nature	6/94
Dudinka – Igarka – Krasnoyarsk	June – September	nature	6/94
Norilsk – (plane) Dikson – Dudinka – (schedule ship) – Yeniseisk			1/315 (329)
Krasnoyarsk (bus) – Yeniseisk (regular ship) – Dudinka – Norilsk (train, bus)			2/315 (329)
Norilsk (bus) – Dudinka (regular ship) – Yeniseisk – (bus) Krasnoyarsk			2/315 (329)
Norilsk – Dudinka – Yenisei delta (regular ship) – Dudinka – (helicopter) Putorana plateau – Norilsk (airplane) – Dikson	early July – early September		2/315 (329)
Krasnoyarsk – Igarka – Dudinka – Putorana plateau (helicopter)			1/94
Lena, Laptev Sea			
Yakutsk – Zhigansk – Kyusyur – Tiksi – Yakutsk	July – August	nature, folklore	2/210
Arctic Ocean			
Murmansk – North Pole – Franz Josef Land – Murmansk	July	nature	1/128
Naryan-Mar – Novaya Zemlya – Naryan-Mar	July		order/18
Anadyr – Wrangel Island – Anadyr	August		2/46

Analysis of the data in Table 1 shows that the largest number of cruises (river cruises and cruises with access to the Arctic zone) in the season of 2023 was organized in the European part of Russia. Here is the longest cruise period (from mid-May to early October). The main departure points for cruises were Moscow and St. Petersburg. Cruises also started in Arkhangelsk, Yaroslavl, and Perm. Some of the routes pass south of the Arctic zone. The longest route started in Perm. It was organized by a cascade type and passed through large cities (Kazan, Ulyanovsk, Nizhniy Novgorod, Yaroslavl, etc.), in each of which start of a cruise was possible. Thus, due to the system of rivers and canals, water routes cover the territory where the majority of the Russian population and potential tourists live, which ensures the sale of trips. The average capacity of ships used for cruises is 232 seats (from 186 to 314). The shortest and rarely organized route was along the Northern Dvina. The reason for this is the shallowing of the river, as a result of which ship voyages are possible only when the water level is high at the beginning of summer. All cruises with Arctic

visiting in the European part of Russia include the Solovetskiy Islands in the route; therefore, they are the main object of tourist interest. Most routes are carried out on river–sea class vessels, so they freely enter the White Sea and reach Solovki and Arkhangelsk. River cruises from the central regions of Russia do not continue north of the latitude of the Solovetskiy Islands. The exception is combined routes, when, having arrived by boat in Karelia (Medvezhyegorsk), tourists change trains and go to Murmansk, where the program continues on the coast of the Barents Sea. Theoretically, the river–sea system allows ships, going along the coast of the Kola Peninsula from the White Sea, to enter the Barents Sea and reach Murmansk. Thus, in the European part of the Russian Arctic, the most attractive basin for tourists is the White Sea, which should be taken into account when organizing cruises.

The cruise fleet operating on Arctic routes in navigation 2023 is represented by modernized ships built from 1956 to 1978. This should be taken into account when addressing the issue of passenger safety. In the basin of the Ob and Irtysh rivers and in the Ob Bay of the Kara Sea, 11 cruises were organized during the season lasting from mid-June to the end of August, including 7 ones with visits to the Arctic. The first and longest route started in Novosibirsk. But the main part of the routes begins downstream of the river in Tobolsk (Irtysh River) and Surgut. The starting points of cruises are located far from the main places of formation of tourist flows in the European part of Russia, therefore, tourists' expenses increase due to the cost of travel to them. The exception is the large city of Novosibirsk and the surrounding areas of southern Siberia, which are the most populated in this region. All routes call at Salekhard, which is on the Arctic Circle. One of the past cruises included access to the Gulf of Ob in the Kara Sea. The capacity of the Severnaya Skazka cruise ship, which served the line in the 2023 season, is 130 people; it was built in 1957 and modernized in 2019. The peculiarity of cruises in the Ob basin is their duration (all Arctic routes last from 11 days) and passing through sparsely populated areas. Part of the route passes south of the Arctic zone.

Cruises on the Yenisei are from the beginning of June to the end of September. Of the 19 cruises organized in 2023, 12 enter the Arctic zone. There are combined routes visiting the Taimyr Peninsula, the Putorana and Dikson plateaus. The peculiarity of organizing cruises on the Yenisei is that they go in one direction: either down the river from Krasnoyarsk or Yeniseisk to Dudinka, or up the river from Dudinka. The route is served by the Maxim Gorkiy motor vessel, built in 1974, accommodating 94 people (certified as a 5-star hotel). In 2023, it left the route earlier than planned due to a breakdown. Some of the routes, which are combined with a visit to Norilsk, the Yenisei delta, Dikson, use two regular ships, which carry passengers from Krasnoyarsk to Dudinka throughout the summer and part of the autumn. The capacity of passenger ships is larger than that of cruise ships (315–329 people), they were built in 1953 and 1954. At the same time, the cost of cruises using passenger ships is lower than on a cruise ship, since the state subsidizes such voyages.

During the 2023 season, 2 cruises took place along the Lena River with entry into the Arctic and into the Laptev Sea. Cruises start in Yakutsk and end in Tiksi under favorable weather conditions. Cruises are served by the motor ships “Demyan Bednyy” and “Mikhail Svetlov” of the Lena River Shipping Company with a capacity of 210 people, built in 1985 and 1986. The cruise route is reverse, but it is possible to buy a ticket only down the river or only up to Yakutsk. Cruises on the Lena River are not provided with local tourists, but due to the uniqueness of the route they attract tourists from other regions of Russia and from abroad.

The Arctic Ocean cruise season includes July and August, when ice conditions are better. In 2023, it was not widespread; one voyage on the icebreaker “50 Let Pobedy” (built in 2007) from Murmansk brought tourists to the North Pole and Franz Josef Land. Two cruises were organized in the eastern part of the Russian Arctic — in the Chukchi Sea from Anadyr to Wrangel Island on the expedition ship “Professor Khromov” with a capacity of 46 people, built in 1982⁷. An exclusive route on an ice-class yacht with a capacity of 18 people was offered from Naryan-Mar to Novaya Zemlya. These cruises are distinguished by the complexity of their organization and high cost, so they are not widespread, and with the loss of the foreign tourist market, ensuring the filling of vessels is problematic.

We have studied the reviews of tourists who took part in cruises calling at the Arctic, which were left on special review sites and websites of cruise operators. Since Arctic cruises are not widespread, there are few reviews on them. Thus, on the website of the cruise operator, only 2 reviews out of 442 left for the 2023 season refer to Arctic cruises⁸. Most reviews are positive, which is explained by the fact that there are few casual passengers who are not prepared for the peculiarities of the Arctic on such cruises. Tourists praise interesting programs, comfort, service, and food.

The negative aspects of cruises are bad weather (fogs that prevent disembarking), difficulties in disembarking, since in many places there are no piers (this especially applies to the rivers of Siberia and the coast of the Arctic Ocean), unsafety, lack of life-saving equipment, boats, lack of communication along a long route, mosquitoes, smoke from forest fires (cruise on the Lena), desolation in Arctic settlements, cost of travel⁹.

A population survey conducted in Yakutia in 2019 showed that only 11% of potential tourists are ready to buy a cruise on the Lena without additional conditions, 61% would probably buy, but not at that price, 18% would not buy in any case, and 10% are not interested¹⁰.

When organizing cruises, not only special cruise ships are used, but also voyage passenger motorboats, sailing on a considerable length of certain waterways. We have analyzed the possibili-

⁷ Cruise operator “Vasta Expeditions”. URL: <https://vasta-expeditions.ru/> (accessed 21 October 2023).

⁸ Reviews on river cruises in Russia. URL: <https://kruiz.online/reviews> (accessed 21 October 2023).

⁹ Tripadvisor. URL: www.tripadvisor.ru (accessed 21 October 2023).

¹⁰ Turistka podelilas' vpechatleniyami ot kruiza po Lene [A tourist shared her impressions of a cruise on the Lena]. URL: <https://sakhaday.ru/news/turistka-podelilas-vpechatleniyami-ot-kruiza-po-lene> (accessed 21 October 2023).

ties of using the passenger fleet in the Arctic zone of Russia to organize routes for group and individual tourists (Table 2).

Table 2

Regular passenger services by water transport with entry into the Russian Arctic during navigation in 2023

Area	Direction	Voyage frequency	Capacity
Barents and White Seas	Murmansk – Ostrovnoy (Barents Sea) – Chavanga (White Sea)	December – September – 3 voyages per month; October – November – 2 to Ostrovnoy. In June – August – 1 voyage per month to Chavanga	200
White Sea	Arkhangelsk – Solovki Arkhangelsk – Koida Kem (Rabocheostrovsk) – Solovki	3 – June, August; 2 – July. 3 – June; 2 – July, August. twice a day	36 36 80–160
Kara Sea	Salekhard – Novyy Port Salekhard – Nyda Salekhard – Yar-Sale	5 – July, September; 4 – August; 1 – October. 2 – July, August. 19 – June; 21 – July; 28 – August; 17 – September; 5 – October	150
Yenisei River	Krasnoyarsk – Dudinka	June – early October – 1 voyage per week	315–329
Pechora River	Naryan-Mar – Kotkino Naryan-Mar – Velikovoisochnoe	June – early October – twice a month; June – early October – 3 times a week	11–30
Yenisei, Yenisei Bay	Dudinka – Nosok Dudinka – Vorontsovo	8 – June; 10 – July; 13 – August, September; 4 – October. 2 – July	30–50
Khatanga River, Khatanga Bay, Kheta River, Popigai River	Khatanga – Syndassko Khatanga – Katyryk Khatanga – Popigai	3 each – in July, August, September. 1 each – in June, September; 2 each – in July, August. 3 each – in July, August, September	30
Lena	Yakutsk – Kyusyur – Tiksi	June – 1, July, September – 2, August – 3	199

Table 2 shows that water transport passenger voyages in the navigation season of 2023 were not organized throughout the entire Arctic zone of Russia. It is necessary to organize long voyages connecting the places of tourist flows formation and main attractions to deliver tourists to the Arctic regions and to organize the individual cruises. Compared to previous navigation periods, their number has decreased. Passenger voyages along the Irtysh and Ob, which were carried

out from Omsk to Salekhard, have been cancelled. Voyages from Salekhard to Antipayuta along the Ob and Taz Bays of the Kara Sea have been replaced by air flights.

Currently, the regular passenger voyages along the Lena and Yenisei, which are operated from June to September or October, are the longest. Two ships (“Valery Chkalov” and “Alexander Matrosov”) sail towards each other once a week between Krasnoyarsk and Dudinka along the Yenisei. Cruise operators are already using them to deliver tourists. The number of passenger voyages along the Lena River is smaller; there is only one motor ship “Mechanik Kulibin” built in 1955 on the line. Individual tourists travel on it. Regular passenger voyages from Murmansk on the ship “Klavdiya Elanskaya” built in 1977 may be of interest for the organizers of tourist delivery. During the year, it carries out short voyages across the Barents Sea to Ostrovnoe, and in the summer the route is extended once a month to the village of Chavanga, located on the shore of the White Sea, in the south of the Kola Peninsula. The ship makes stops in other populated areas along the route, but does not get ashore due to the lack of berths.

The passenger line from Kem (Karelia) is actively used to deliver tourists to Solovki. This route is the cheapest and the most accessible to visit the islands. As an alternative route, regular voyages from Arkhangelsk, which are carried out in summer 2-3 times a month on the motor ship “Belomorje”, can be considered. This is a longer voyage, and with a sufficient level of comfort on the ship, it could be interesting for tourists; however, the ship serving it cannot provide such conveniences. The motor ship “Belomorje” carries out similar trips along the coast of the Dvina Bay of the White Sea to the Koida pier. Disembarkation of passengers at intermediate stops is a problem, as the ship cannot come close to the shore in the absence of a berth. On the Solovetskiy Islands, the main pier receiving cruise ships was closed for repairs during the 2023 season. Short-term passenger voyages (up to a day) on small-capacity vessels are carried out at the mouths of the Ob (with entry into the Ob Bay of the Kara Sea) and Yenisei, on the Khatanga, Kheta and Popigai rivers. Passenger voyages on the Pechora are short-term, the longest ones last up to 7–8 hours. They are not suitable for organizing cruises, but they can be used to deliver tourists to certain places of interest.

Free movement on many of the listed routes is complicated by the fact that they pass through the border zone, which requires special permission for individual tourists when going ashore. For foreign ships in the Russian sector of the Arctic and the Far East, there is a list of ports where tourists are allowed to embark and disembark, and border regime requirements are not applied there. For Russian cruise ships, according to the Law “On the state border”, until recently it was necessary to issue a collective pass to the border zone, to notify the authorities about the use of boats and launches, etc. But the government commission has softened the border control procedure for Russian cruise ships, limiting it to notification of the vessel’s route, crew and pas-

sengers¹¹. The national standard “Arctic tourism. Tourist and excursion services in the Arctic zone of the Russian Federation”, adopted in 2022, defines the requirements for organizing infrastructure and ensuring the safety of tourists on such trips.

We have conducted a SWOT analysis of the prospects for using water transport in the logistics of Arctic tourism.

The *strength* of using water transport is the ability to connect the places of formation of tourist flows and places of tourist interest without building roads, to deliver tourists to hard-to-reach areas of the Arctic, deprived of other types of transport infrastructure. Due to the adaptability of cruise and passenger ships for multi-day voyages with accommodation of tourists in cabins, there is no need to create hotel infrastructure in places of tourist interest, thus saving money and preserving the vulnerable Arctic nature. The presence of a vast system of artificial and natural waterways in the European part of the Russian Arctic makes it possible to develop Arctic cruise programs starting in various cities located on them.

The *weaknesses* of using water transport in the logistics of Arctic tourism are the following: lack of piers, berths, outdated coastal infrastructure along the route, which makes it impossible for cruise ships and icebreakers to dock, shallowing of most rivers flowing in the Arctic zone due to the lack of dredging. In addition, water transport is limited by the duration of navigation, which lasts for 2–2.5 months on rivers of the Asian part of the Arctic, up to 6 months in the European part and from 2 to 4 months on the Northern Sea Route. Threats also include the high cost of Arctic cruises, which limits their large-scale use.

Opportunities for the use of water transport in the logistics of Arctic tourism include its multiplier effect after the construction and modernization of passenger and cruise fleets, berths, stimulating further development of infrastructure in the settlements through which its routes pass, improving the quality of life of local residents, which will help to attract new tourists. Opportunities are also related to the integration of Arctic port infrastructure facilities into the unified logistics system of Russia, which will facilitate the movement of tourists. Climate warming determines the possibility of increasing Arctic navigation.

Threats to the further development of water transport in the logistics of Arctic tourism are associated with the aging of the cruise fleet, insufficient number of ships suitable for navigation in Arctic conditions, postponement of the completion of planned motor ships and icebreakers for an indefinite period of time due to sanctions on the supply of components by foreign companies. This leads to problems in ensuring passenger safety.

Conclusion

Thus, water transport in tourism logistics is the basis of cruise tourism and a means of delivering tourists. In Arctic tourism, water transport is mainly used to organize cruises. In Russia,

¹¹ Suda i obratno: dlya kruizov v Arktike smyagchat pogranychnye pravila [Ships and back: border rules to be eased for cruises in the Arctic]. URL: <https://iz.ru/1575978/kseniia-nabatkina-iana-shturma/suda-i-obratno-dlia-kruizov-v-arktike-smiagchat-pogranychnye-pravila> (accessed 21 October 2023).

river cruises are the most widespread, their routes are diverse, and they are more accessible to potential tourists compared to Arctic sea cruises. Almost all river cruises, which we classify as Arctic cruises, only partially enter the Russian Arctic zone, and most of them pass through waterways located southwards. The most developed system of waterways for river cruises is in the European part of Russia, where most of them are organized, including those entering the Arctic zone. Thanks to the use of river-sea vessels, Arctic river cruises call at the Solovetskiy Islands and Arkhangelsk. The advantage of cruises in the European part of the country is their lower cost compared to routes organized in the Asian part. This is facilitated by competition between cruise operators, longer navigation period and a significant number of potential tourists, since the majority of population lives in the European part. The problem is created by the old cruise fleet, the majority of which was built before 1980. Additional opportunities for moving in the European sector of the Russian Arctic are provided by regular passenger routes from Murmansk along the Barents and White seas, from Arkhangelsk and Kem along the White Sea, including Solovetskiy Islands. Thus, the White Sea is promising for organizing independent cruises. In this regard, at the St. Petersburg Economic Forum 2023, an agreement was signed between the governors of the Murmansk and Arkhangelsk oblasts and representatives of cruise operators on the implementation of cruise routes in the White Sea, for which a cruise liner will be built, which should make its first voyage in 2025¹².

Fewer river cruises are organized in the Asian part of the Arctic due to the relatively small population, less competition between cruise operators and the higher cost of trips. The largest number of cruises calling at the Arctic is organized along the Yenisei. At the same time, there is an active use of cruise passenger ships, which make regular voyages once a week from June to October from Krasnoyarsk to Dudinka. Passenger voyages are subsidized by the state, so the costs for tourists who use them to travel to the Arctic are lower than for cruises on special ships. There are only a few cruises on the Lena River per season. Amateur travellers use the regular motor ships. The Lena cruise starts in Yakutsk, which is significantly removed from the places of residence of potential tourists from the European part of Russia, so the cost of the trip increases due to the necessity of additional payment for travel to the starting point of the cruise. The number of cruises organized along the Ob is also small, although the starting points of the routes are closer to the areas of tourist flows formation. Regular passenger voyages in the region are preserved for short distances on small-capacity ships; theoretically, they can be used for individual tourists. Arctic and polar cruises in the Arctic Ocean during the 2023 season were carried out in its western and eastern parts. One expedition cruise was from Murmansk to the North Pole and Franz Josef Land, and two cruises — from Anadyr to Wrangel Island. The use of water transport in the Arctic Ocean is limited by the high cost of operating an icebreaker for polar cruises and the limited navigation

¹² V akvatorii Belogo morya nachnut rabotat' kruizy [Cruises will be operated in the White Sea]. URL: <https://murmansk.mk.ru/social/2023/06/15/v-akvatorii-belogo-morya-nachnut-rabotat-kruizy.html> (accessed 21 October 2023).

time on the Northern Sea Route. Besides, the demand for such cruises has decreased in recent years due to the absence of their main consumers — foreign tourists. Therefore, until the international situation is resolved and Russian polar cruises return to the foreign market, their development seems problematic. The use of water transport in the logistics of Arctic tourism is limited by the aging of the cruise and passenger fleet, which affects the safety of passengers. The lack of berthing infrastructure along the routes, the absence of dredging, leading to a reduction in guaranteed depths on waterways, reduces the efficiency of water transport use. The lack of government subsidies for the organization of passenger voyages leads to decline in their number. Increasing passenger traffic through tourists on such vessels could increase their profitability. The creation of new passenger water routes will have a beneficial effect on the quality of life of residents of coastal settlements and will facilitate the delivery of tourists to places of interest, which will contribute to the development of Arctic tourism.

In order to create a competitive cruise product using water transport, it is necessary to organize integrated routes passing through a number of territories with different recreational potential in order to attract different categories of tourists. The most promising area for the use of water transport in the logistics of Arctic tourism is the European sector of the Arctic, where there is a significant number of potential tourists, a fairly large fleet, and an extensive waterway system. This is a single deep-water system, the White Sea and the Barents Sea. On the rivers of the Asian part of the Arctic (Ob, Yenisei, Lena), the development of a passenger river fleet, also designed to transport tourists, is promising.

References

1. Potapov I.A. Methodological Approaches to the Analysis of Transport-Geographical Location of Recreational Objects (The Example of Arkhangelsk Region). *Services in Russia and Abroad*, 2016, vol. 10, no. 4 (65), pp. 43–55. DOI: <https://doi.org/10.12737/20182>
2. Tsvetkov A.Yu. Logistic Basis for the Development of Arctic Tourism in Russia. *Arktika i Sever* [Arctic and North], 2022, no. 46, pp. 190–204. DOI: <https://doi.org/10.37482/issn2221-2698.2022.46.190>
3. Kruzhalin V.I., Shabalina N.V., Nikanorova A.D. et al. Organization of Cruise Tourism in National Park "Russian Arctic": Risks and Development Potential. *Service and Tourism: Current Challenges*, 2021, vol. 15, no. 3, pp. 157–169. DOI: <https://doi.org/10.24412/1995-0411-2021-3-157-169>
4. Kunnikov A.V. Prospects for the Development of Arctic Cruise Tourism in the Western Sector of the Russian Arctic. *Arktika: ekologiya i ekonomika* [Arctic: Ecology and Economy], 2020, no. 4, pp. 130–138. DOI: <https://doi.org/10.25283/2223-4594-2020-4-130-138>
5. Pashkevich A., Lamers M. Short-Circuiting Cruise Tourism Practices Along the Russian Barents Sea Coast? The Case of Arkhangelsk. *Current Issues in Tourism*, 2018, no. 21 (4), pp. 440–454. DOI: <https://doi.org/10.1080/13683500.2015.1092947>
6. Paskevich A., Dawson J., Stewart E.J. Governance of Expedition Cruise Ship Tourism in the Arctic: A Comparison of the Canadian and Russian Arctic. *Tourism in Marine Environments*, 2015, vol. 10, no. 3–4, pp. 225–240. DOI: <https://doi.org/10.3727/154427315X14181438892883>
7. Mitryukova K.A. The Transport Framework of the Russian Arctic Zone. *Journal of Economics, Entrepreneurship and Law*, 2023, vol. 13, no. 5, pp. 1371–1388. DOI: <https://doi.org/10.18334/epp.13.5.117587>
8. Gruzinov V.M., Zvorykina Yu.V., Ivanov G.V. et al. Arctic Transport Routes on Land, in Water and Air Areas. *Arktika: ekologiya i ekonomika* [Arctic: Ecology and Economy], 2019, no. 1 (33), pp. 6–20. DOI: <https://doi.org/10.25283/2223-4594-2019-1-6-20>

9. Nokelaynen T.S. Mapping the Navigation Conditions of Arctic Rivers of Russia. *Intercarto. Intergis*, 2019, vol. 25, no. 2, pp. 175–185. DOI: <https://doi.org/10.35595/2414-9179-2019-2-25-175-185>
10. Noeva E.E. Current Status and Development Prospects of Arctic Tourism. *Vestnik SVFU. Seriya: Ekonomika. Sotsiologiya. Kul'turologiya* [NEFU Bulletin. Series: Economics. Sociology. Culturology], 2022, no. 4 (28), pp. 91–99. DOI: <https://doi.org/10.25587/SVFU.2022.87.14.011>

*The article was submitted 23.10.2023; approved after reviewing 11.01.2024;
accepted for publication 12.01.2024*

The author declares no conflicts of interests