

## REGIONAL ASPECTS OF CREATION COMPLEX ROUTES ECOLOGICAL TOURISM ON THE TERRITORY OF NORTH KAZAKHSTAN REGION

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**Abstract:** To consider the possibility of developing ecological tourism in the districts of the North Kazakhstan region of the Republic of Kazakhstan, based on the conducted sociological research and the available natural and recreational potential. The analysis of the conducted sociological survey is given, using methods of statistical and mathematical processing. Visualization of the presented materials was carried out by means of mapping. The study and analysis of the data obtained allowed us to reveal the natural and recreational potential of the studied areas and determine the degree of their demand as objects for tourism development. The results of the sociological survey determined the possibility and necessity of the development of regional ecological tourism, the uniqueness of local natural and recreational facilities by respondents. A cartographic material has been prepared that clearly reflects the opportunities, problems and prospects for the development of the tourism industry in the region. The natural and recreational potential of the territory of the North Kazakhstan region is certainly of interest. Natural and recreational facilities that are potential for the development of the tourism industry in the North Kazakhstan region have been identified on the territory of the studied areas. The border position of the North Kazakhstan region makes it possible for tourists from Russia to visit it. The results of the sociological survey allow us to conclude that the study of the native land has a positive effect on the patriotic education of the younger generation, and is also one of the factors in the development of eco-tourism.

**Key words:** recreational facilities, natural objects, natural and recreational potential, ecological tourism, tourism industry, local history, sociological survey

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### Introduction

The study of the state and development of ecological tourism and local history in the North Kazakhstan region of the Republic of Kazakhstan is one of a number of regional priorities (Dmitriyev et al., 2021b). The basis for the development of the tourism industry is the natural and recreational potential, the presence of cultural and historical objects of the studied region (Smykova, 2015; Abubakirova et al., 2016; Tiberghien, 2019; Wendt, 2020). The results of the sociological survey, analytical and statistical analyses revealed a number of indicators: the presence of potentially possible tourist sites in the studied areas, the interest of the younger generation in the development of eco-tourism, and others (Ignatov, 2011). The study of potential factors and conditions of the administrative districts of the region is necessary for the formation of ecological and agricultural tourism (Wendt et al., 2021). The analysis of the natural and recreational potential made it possible to identify objects already used or recommended for use in the tourism industry. Cartographic material that visually reflects the opportunities, problems and prospects for the development of recreational potential (Zhakupov et al., 2015; Dunets et al., 2019; Mikhaylova et al., 2022). The uniqueness of the natural resources of Kazakhstan and its historical and cultural heritage suggests great opportunities for the study and use of natural, historical and cultural sites,

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recreational potential, for the development of ecological tourism in the Republic of Kazakhstan, including in the North Kazakhstan region. Kazakhstan has the opportunity to actively develop eco-tourism. This is due to the fact that the wild beauty of the nature of Kazakhstan is very diverse and has not yet been too damaged by civilization. Therefore, there are many who want to appreciate the natural resources, breathe the clean air of the steppes, take a walk in the forest, look at the flora and fauna from the Red Book (Zhidkoblinova, 2013; Chlachula, 2019; Dmitriyev et al., 2021a).

In recent years, Kazakhstan has formed a legislative framework aimed at ensuring state regulation of the protection, balanced use and restoration of forests, wildlife, specially protected natural areas. The laws "On specially protected use of natural territories", "On the protection of the world cultural and natural heritage", will contribute to the development of ecological tourism, conservation of biological diversity, expansion of the network of specially protected natural territories (Nazarova et al., 2019; Chlachula, 2020). It is also necessary to take into account that eco-tourism is an eco-logical education, additional jobs for the population and income to the economy of the state (Syzdykbayeva et al., 2015; Aimagambetov et al., 2017; Batyrova et al., 2018). The North Kazakhstan region is one of the fourteen regions of Kazakhstan. There are 13 administrative districts on the territory of the studied region: Akkayynsky, Ayyrtausky, Akzharsky, Yesilsky, Zhambylsky, Kyzylzharsky, Mamlyutsky, M.Zhumabayev district, Musrepov district, Tayynshinsky, Timiryazevsky, Ualikhanov district, Shal Akyn district. The administrative center of the region is the city of Petropavlovsk. The physical-geographical and political-administrative situation of the region represent a number of features. The region lies in the north of the Republic within the southern outskirts of the West Siberian Plain, partially occupying the Kazakh small-scale forest known as Saryarka, the territory of a number of districts borders with Russia (Dmitriyev et al., 2021a).

Due to the peculiarities of the physical and geographical location and the geological past, the territory of the region is represented by a combination of forests, forest-steppe, steppe, has unique landscapes, relict natural objects, a number of paleoreks, a complex of bitter-salty lakes combined with fresh lakes, etc. (Vodopyanova, 1985; Beletskaya, 1987; Nazarova et al., 2020). Based on the study of the modified complex indicator of natural and recreational potential, an assessment of the administrative districts of the region was carried out. This made it possible to identify the most attractive areas for the development of eco-tourism. The proximity of the regional center with developed infrastructure and transport routes were one of the main additional criteria for choosing districts (Wendt and Bógdał-Brzezińska, 2018; Cerić and Więckowski, 2020). This makes it possible to consider the city of Petropavlovsk as a starting point for tourist routes, which is important for tourists arriving from Russia. The development of domestic and inbound tourism is one of the promising tasks of the development of the tourism sector of the economy of the North Kazakhstan region (Tulbayeva et al., 2017; Bancerova and Kasimova, 2018; Ismagulova et al., 2020).

## MATERIALS AND METHODS

The paper uses: a sociological survey, the results of field research, methods of statistical processing and mathematical analysis, mapping. To assess the level of recreational potential of each district, a complex quality indicator calculated by the weighted average calculation method was used. To assess the level of recreational potential of each district, a comprehensive quality indicator was used, calculated by the weighted average calculation method.

$$k = \sum k_i \sum a_i \quad (1) \quad \text{Fomin et al., 2020}$$

where  $k_i$ - is an indicator of the  $i$ -th property of the object, points;  $a_i$ - significance coefficient of indicator  $sk_i$ , a fraction of one ( $\sum a_i=1$ ).

On the basis of this methodology and available scientific materials and the results of a sociological survey, significance coefficients were calculated, which made it possible to assess the properties of a recreational facility in order to calculate its potential. By means of the research methods used, the obtained data characterizing the natural and recreational objects of the studied administrative districts of the region were studied, the most promising territories for the development of the tourism industry were identified. The mapping method made it possible to graphically depict natural objects, proposed routes (Semochkina, 2012; Baryshnikov et al., 2019; Dmitriyev et al., 2021b).

## RESULTS AND DISCUSSION

As part of the study, a sociological survey of students from the districts of the region was conducted. 724 respondents took part in the survey. The formed questionnaire contains 22 questions that allowed to identify the presence of potentially possible tourist objects on the territory of the districts, the interest of the younger generation in the development of ecological tourism and others. The analysis of the survey results made it possible to draw a number of main conclusions.

- 1) Nature has a positive effect on the emotional state of students, which is confirmed by 79% of respondents.
- 2) 57.8% of all respondents prefer recreational tourism (both active and passive recreation, with the study of the surroundings).
- 3) 52.8% of respondents prefer tourism in natural areas.
- 4) Thanks to the study of the native land, the younger generation learns not only the natural resource potential, but also its environmental problems, which is confirmed by 71.6% of respondents.
- 5) 81% of students show interest in the development of ecological tourism in their native area, which indicates the need for further study of natural, historical and cultural sites, the formation of ecological trails and routes.
- 6) The territory of the districts of the North Kazakhstan region has unique natural and recreational facilities, which is confirmed by the responses of 78% of respondents.

In addition, according to the results of the survey, the score estimates of the natural resource potential of the districts were determined. Thus, the results of the sociological survey of students revealed a number of main aspects. Firstly, the interest of students in studying the natural and recreational potential of the region. Secondly, the importance and necessity

of the development of ecological tourism, as part of active recreation, recreational, balneological and educational tourism, based on a comprehensive assessment of the territories of the region. Thirdly, the uniqueness of the natural resource potential of the studied areas has been confirmed, as well as the possibility of its use for the tourism industry of the studied region. Fourth, the respondents proposed ballroom assessments of the recreational potential of the territories of the administrative districts of the North Kazakhstan region. An assessment of the level of recreational potential of each district was given, based on a modified complex quality indicator obtained by weighted average calculation, according to 10 criteria, according to a 5-point system. This made it possible to present the studied material in the form of a table (Table 1).

The properties of recreational facilities are determined by a number of criteria. To which numbers are assigned. I - The development of the transport network. II - Geomorphological objects. III - Relic objects of nature. IV - Natural and recreational hydrological objects. V - Floral objects. VI - Attractiveness of landscapes. VII - Anthropogenic load of the recreational area, people/km<sup>2</sup>. VIII - Biological diversity of fauna. IX - Historical objects. X – Landscaping of the territory.

Based on a sociological survey, a significance coefficient was obtained for each criterion (Table 1). Thus, the highest coefficient of 0.15 belongs to two criteria, the development of the transport network and unique natural objects. In second place, the criterion is the aesthetics of landscapes, it corresponds to a coefficient of 0.12. The third place is divided by criteria characterizing geomorphological objects, natural and recreational hydrological objects, faunal diversity and botanical objects, by 0.1. The coefficient characterizing the presence of historical and cultural objects is slightly lower. The assessment of anthropogenic load and the improvement of the territory accounts for a coefficient of 0.05.

Table 1. Assessment of the properties of a recreational facility (Source: the authors' own calculations)

Recreational facility property	Quantitative characteristic of the parameter of the object property indicator (ki), point					Significance coefficient of indicators (ai)
	1	2	3	4	5	
I	Lack of roads with good coverage	Insufficient development of the transport network	Availability of roads of regional significance	Availability of roads of national significance	Good development of the transport network	0.15
II	Absence of geomorphological objects	Insignificant geomorphological objects	More significant Geomorphological objects	Unique geomorphological objects	Protected geomorphological objects	0.1
III	Absence of relic attractions	Ordinary relict Natural objects	More significant natural monuments	Unique relict monuments of nature	Relic objects protected by law	0.15
IV	The presence of visible contamination	Odour content	Compliance with the norm	Compliance with the standard for drinking water	Uniquely clean reservoirs with springs	0.1
V	Swampy, with sparse shrubs	Small woodlands and coniferous forests	Meadow vegetation	Mixed forest	Coniferous forests	0.1
VI	The lack of expressiveness of the landscape	Monotonous landscape	Expressive landscape	Picturesque views of the landscape	Uniquescenic views of the landscape	0.12
VII	Availability of industrial objects	The presence of a network of rural settlements, the presence of landfills	Large area of agricultural land	The predominance of protected natural areas	A large number of unique protected areas	0.05
VIII	Insignificant species composition of fauna	The presence of species diversity of fauna	Significant species diversity of fauna	The presence of rare and endangered species of fauna	The presence of species from the Red Book	0.1
IX	Lack of attractions	Minor attractions	More significant attractions	Sights of artistic value	Attractions protected by law	0.08
X	Minor landscaping	Beach improvement	Availability of food outlets	Availability of overnight accommodation	Capital facilities	0.05

Analyzing Table 1, it can be concluded that among the main properties characterizing recreational facilities of the region, much attention is paid to natural resource potential, visual and aesthetic enjoyment of the natural environment, infrastructure development. This underlines the direct interest in the development of regional eco-tourism.

To identify the attractiveness of the territories of the administrative districts of the North Kazakhstan region, for the development of ecological tourism, a comprehensive assessment of the recreational potential was carried out according to 10 criteria, on a 5-point scale. The result is presented as (k), taking into account the weighting factor of the indicator (ai). The results of the evaluation calculations are shown in Table 2. This table shows the criteria used for Table 1.

The maximum score is 5 points. The ranking was carried out according to the sum of points, where 4-5 points are high, 2.5-4 average recreational potential. 1-2.5 points are insignificant, and less than 1 point is low recreational potential. When analyzing Table 2, it can be highlighted that there are no areas with insignificant and low recreational potential in the territory of the North Kazakhstan region. Areas with medium and high recreational potential prevail. The districts of Ayrtausky, Kyzylzharsky, Mamlyutsky and Akkayinsky have one of the highest recreational potentials. Ayrtausky district is characterized by the highest rating, good study and is already popular among tourists and residents of the region. However, due to the remoteness from the regional center, the Ayrtausky district is not attractive for creating a tourist route for educational and cognitive purposes. In our study, we will not consider it, but will focus on

three districts: Kyzylzharsky, Mamlyutsky and Akkayinsky, which have an additional criterion, proximity to the regional center. A slightly reduced criterion of attractiveness of landscapes is common for the three selected areas. At the same time, according to the degree of anthropogenic load, the Kyzylzharsky and Mamlyutsky districts are more attractive in comparison with Akkayinsky.

Table 2. Comprehensive score assessment of the recreational potential of the territories of the administrative districts of the North Kazakhstan region (Source: the authors' own calculations)

District \ Criteria	I	II	III	IV	V	VI	VII	VIII	IX	X	Result
	k,taking into account(a)										
Ayyrtausky	5	5	5	5	5	5	5	5	5	5	5
Kyzylzharsky	5	5	5	5	5	4	5	5	5	5	4.9
Mamlyutsky	5	5	5	5	5	4	5	5	5	5	4.9
Akkayinsky	5	5	5	5	5	4	4	5	5	5	4.85
Yesilsky	5	5	4	5	5	5	4	5	4	4	4.67
Shal akyna	3	5	4	5	4	4	4	5	4	5	4.22
Zhambylsky	2	5	5	5	3	4	3	5	4	4	4.02
Akzharsky	4	4	4	3	4	4	3	3	4	3	3.68
G. Musrepova	3	3	3	4	3	4	3	4	4	3	3.4
Tayynshinsky	3	3	3	4	3	3	3	4	4	3	3.3
M. Zhumabayeva	2	3	3	3	3	4	3	5	4	4	3.28
Timiryazevsky	2	3	3	3	3	3	3	4	4	3	3.03
Ualikhanovsky	2	3	2	3	2	3	3	3	3	3	2.6

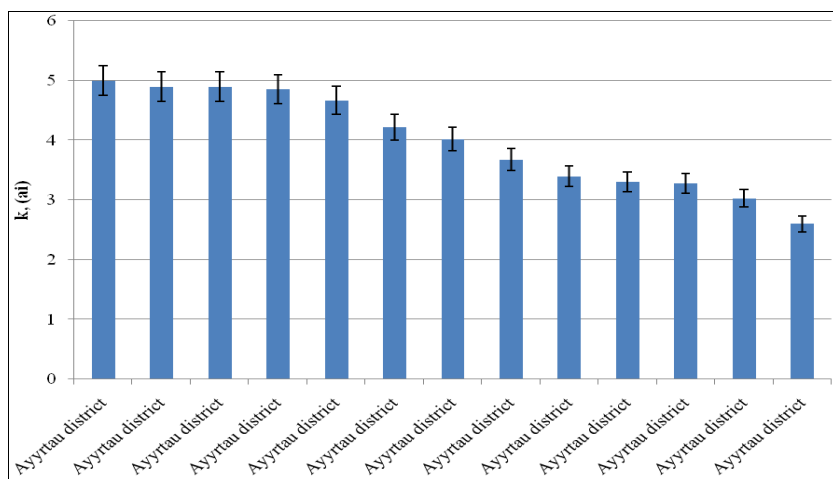


Figure 1. The level of recreational potential of the territories of administrative districts (k), taking into account the margin of error with relative errors. (Source: based on the authors' calculations)

Kazakhstan. The area of the district is 6.15 thousand km<sup>2</sup>. The length of the highway network of republican significance is 212 km, 33 km - of regional significance. The district is located along the Ishim River. The relief of the district is dotted with numerous lakes. Most of the area is covered with forests. On the territory of the district there is a "Sogrovsky State Reserve", created in 1986 in order to preserve valuable species of animals and birds. It is a unique natural ecosystem and contains truly rare peculiar components of nature, which should become the object of in-depth scientific research in order to study the evolution of natural and anthropogenic landscapes. The territory is represented by birch and aspen spikes, swamps and broom, where about 160 species of mammals live. The fauna of birds, including migratory and wintering birds, exceeds 250 species, 106 species nest, including those from the Red Book (Dmitriyev et al., 2021a; Nazarova et al., 2020).

As relics of the cold climate, old pine forests have been preserved on the territory of the district: "Serebryany Bor" near the village of Bolshaya Malyshka and "Maly Bor" near the village of Sokolovka. On the territory you can find taiga landscapes, vegetation of broad-leaved forests, steppe landscapes, flood forests along the Ishim River with elements of tropical flora. Having analyzed the natural and ecological conditions of the region, the presence of specially protected natural territories, as well as historical and cultural objects, objects were proposed for the creation of tourist routes, a number of which pass through the territory of the Sogrov Nature Reserve (Figure 2). Route: the city of Petropavlovsk - the village of Bolshaya Malyshka ("Serebryany Bor") - the village of Dolmatovo. The total length is 165 km. The duration of the trip by road is 5 days with a possible extension. The main route is by bus to the destination, as well as horse, boat and hiking on the terrain.

Object of route No. 1 "Serebryany Bor", located near the village of Bolshaya Malyshka. Coniferous relict forest, is a State monument of nature of republican significance. Bor is surrounded by a birch forest forming a solid white ring, hence its name. In Bor there is a recreation center with the same name with the possibility of living in hotel houses. It offers a walk through the sights of the camp, an excursion to the "Serebryany Bor" and familiarization with the phytocenosis and zoocenosis, as well as the history of the forest as one of the relic phenomena of the past era. In summer, outdoor enthusiasts can play badminton, table tennis, football, volleyball or basketball.

Object of route No. 2 Camp of archaeologists, the settlement of the early Iron Age "Ak-Iriy". It is located near the village of Dolmatovo, 60 km north of Petropavlovsk, on the border with the Tyumen region of the Russian Federation. Tourists are offered: an excursion to the excavation of an ancient settlement, an entertaining competitive and game program, immersion in the ancient environment, the use of ancient household tools, handicraft classes, staged performances of the role-playing games club and accommodation in tents. The main base of the tourist village is located here - a tent city. Tourists are offered several main directions of tourist activity: historical and archaeological, ecological and cultural and educational.

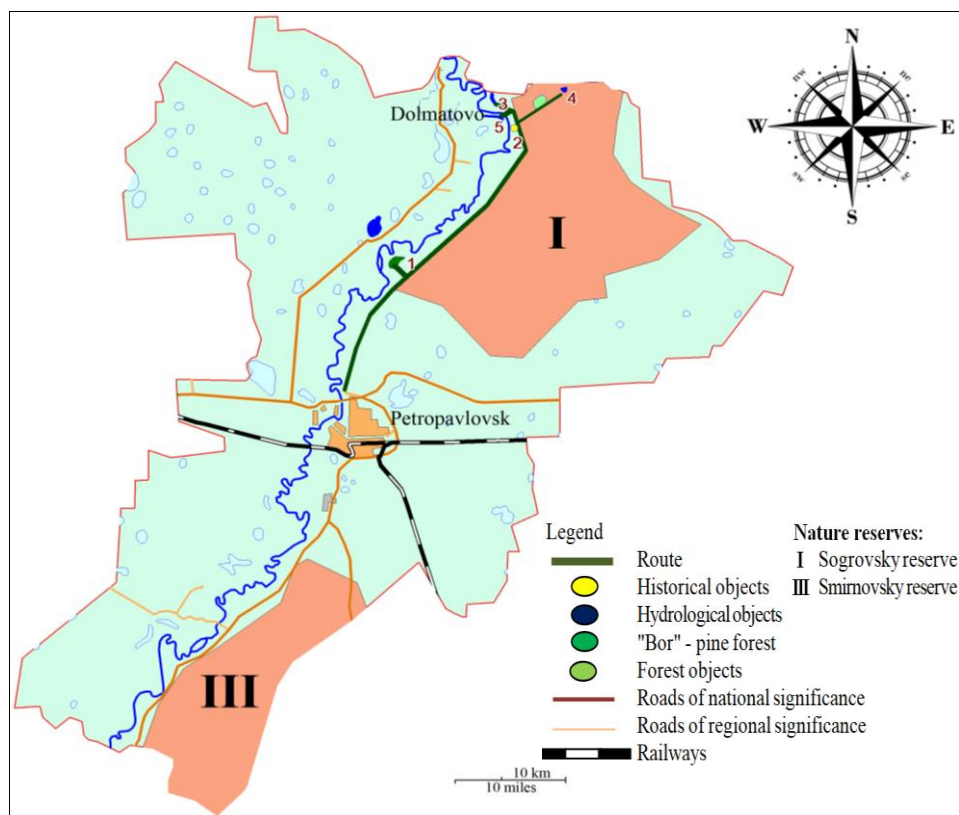


Figure 2. Route map "Petropavlovsk - Dolmatovo". Kyzylzharsky district (Source: own elaboration)

Object of route No. 3 Lake "Luzhansky Dolmat". The lake is located at a distance of 1.5 km from the village of Dolmatovo and about 4 km from the camp of archaeologists. The lake is very popular as a holiday destination among urban and local residents due to the amazing combination of water, forest and meadow systems. Local sunsets have a magical power that does not allow you to look away. Hikes of the local school for the study of floral diversity are held quite often. Local residents also use the lake for commercial purposes for fishing. The basis of the object of tourism is a lake, a birch-aspen small forest and a spacious grass meadow. There is supposed to be a second tent city at the request of tourists. There are specially equipped places for a campfire and tents. On a mandatory basis - competitive and gaming leisure activities. A horse-drawn route is offered to travel to this object.

Object of route No. 4. Lake "Gornyi Dolmat". The lake is located at the foot of the "Dolmatovsky Kruchi", strewn with caves and thickets of blackberries, hawthorn, rose hips and wild raspberries.

The hike is supposed to be on foot, through the forest "Chasha", with an exit from the camp of archaeologists (500 m). The route runs through a meadow, bypassing pine plantations "Sosenki". Then along the cliff to the gentle slope, on the field road to the border with the Russian Federation. The total length of the route is 3 km. At this stage, it is based on the study of the patterns of landscape change. It is noteworthy to get acquainted with the "Dolmatovsky Kruchi", which are a paleontological monument of nature near the village of Dolmatovo, with a slope height of 25-50 m. This is an outcrop of indigenous continental rocks of Paleogene-Neogene age, composing the Ishim-Irtys interfluvium.

Object of route no. 5. The lake "Kamennoye" occupies a space with an interweaving of birch small forest and grass meadows. On the shore of the lake there are thickets of berry bushes: wild raspberries, blackberries, currants, boneberries, hawthorn and cherries are found. There is a beach on the lake. Boat crossing across the Ishim River from the camp, then hiking is planned (1.5 km from the camp). The Kamennoye Lake is located on the left bank of the Ishim River from the village of Dolmatovo. There is a platform for a tent city. On the other side of the lake there is a recreation area "Maloe Abakshino".

The presented recreational facilities and rich history make it possible to develop recreational, ecological, cultural-historical, cognitive and educational tourism. The proximity of the regional center makes the Kyzylzharsky district even more attractive for the tourism industry. Thus, statistics and research materials distinguish the Kyzylzharsky district as the most studied and the most promising for the development of the tourism industry, among the three designated areas.

Mamlyutsky district borders with the Russian Federation. The length of the network of public roads in the district is 403.4 km, including 93 km of roads of republican significance, 105 km of regional significance, 205.4 km of district

significance. 50% of the roads are paved with asphalt, 32% are paved with gravel and 18% are unpaved roads. The area of the district is 4.10 thousand km<sup>2</sup>. The Mamlyutsky State Reserve is located on the territory of the district, its area is 524 km<sup>2</sup>. Pine and birch trees grow from woody vegetation; from shrubs - bagulnik and cranberry. This site, rare for the forest-steppe zone, is a relict, characterizes the taiga and tundra zone. Many species of wild animals live on the territory of the reserve. A large number of birds nest in the forests and lakes of the reserve. A number of plants are listed in the "Red Book" (Dmitriyev et al., 2021a; Nazarova et al., 2020). The studied unique and significant natural and ecological conditions of the Mamlyutsky district allow you to create a route (Figure 3).

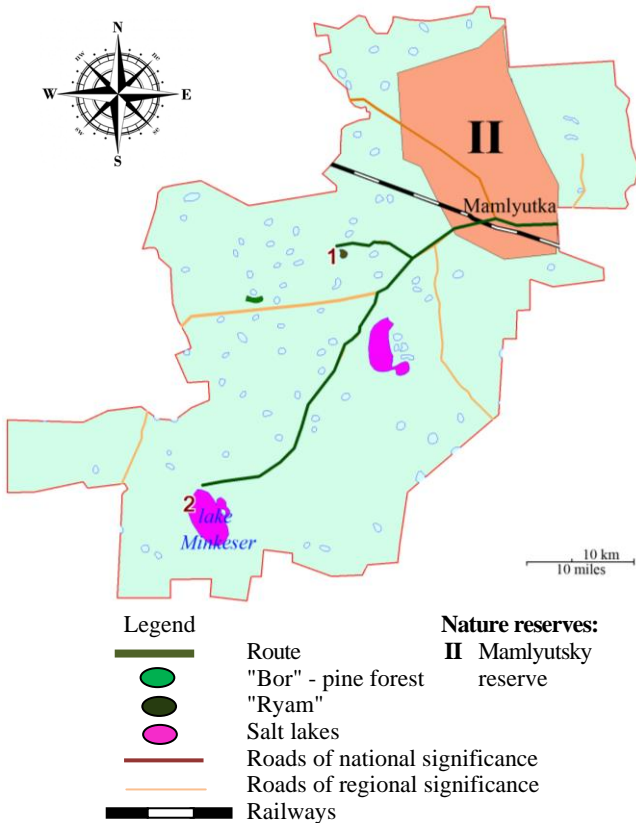


Figure 3. Route map "Petropavlovsk - Lake Minkeser". Mamlyutsky district (Source: own elaboration)

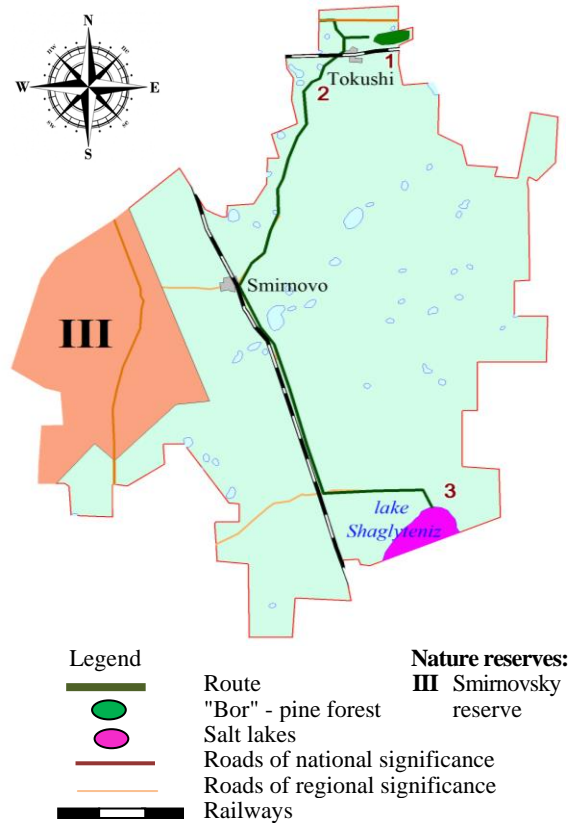


Figure 4. Route map "Petropavlovsk – lake "Shaglyteniz" Akkayynsky district (Source: own elaboration)

Route: Petropavlovsk - sphagnum swamp "Ryam" - "Black birches" near the village of Mikhaylovka - lake "Minkeser". The total length of the route is 217 km. The duration of the trip by road is 5 days with a possible extension. The main route is by bus to the destination, as well as cycling and hiking in the area.

Object of route No. 1 is the Sphagnum swamp "Ryam", located near the village of Afonkino, 66 km from the city of Petropavlovsk. Ryam is a unique place of the region, the remnants of the tundra that remained after the movement of the glacier testifying to the ice age in Kazakhstan. This is a relict of the Ice Age with one of the southernmost places of moss growth-sphagnum. This will serve for the realization of cognitive and educational goals.

Object of route No. 2 - Lake "Minkeser" is a unique bitter-salty lake, known for its healing sulfide mud. It is located 85 km southwest of Petropavlovsk. Salt water treats many skin diseases, facilitates the course of psoriasis, improves metabolism, and the therapeutic mud of the lake helps with diseases of the musculoskeletal system, which attracts the local population and tourists (Kalugin et al., 2019). The identified and studied unique objects of the district make it possible to develop ecological, educational and balneological tourism.

Akkayyn district borders on Kyzylzhar district in the north. The length of the highway network of republican significance is 51.8 km, 104.1 km - of regional significance. The area of the district is 4.71 thousand km<sup>2</sup>. The territory of the district is a plain, which is disturbed by the westerns of lakes and the bed of the Kamyshlovka River, which has dried up at present. There are no rivers in the area, the natural reservoirs of the area are both fresh and salty lakes. Most of the territory is represented by the steppe zone. Accordingly, the forest fund is represented by a smaller share, in contrast to the Kyzylzhar and Mamlyut districts. The Smimovskiy State Nature Reserve is located on the territory of the district. This is one of the most interesting objects of the district, the largest nature reserve in the region, with an area of 240 thousand hectares. The predominant landscapes are flat plains of the West Siberian lowland, occupied by massifs of pine and birch-aspen forests. Lakes serve as nesting grounds for waterfowl. The natural and ecological conditions of the region suggest the creation of a route based on the selected objects (Figure 4).

Route: Petropavlovsk - Tokushi village ("Lake paradise" – "Sosnovyi Bor" - Shaglyteniz lake. The total length is 153 km. The duration of the trip is 5 days. The main route is by bus to the destination, as well as cycling and hiking in the area.

Object of route No. 1 Pine Forest (area 260 km<sup>2</sup>) is a natural monument of republican significance with well-preserved artificial pine plantations in the North Kazakhstan region, created in 1905. It is supposed to stay in tents, hiking in the forest on foot.

Object of route No. 2 "Lake Paradise" (Tokushi village) is located 46 km from the regional center – the city of Petropavlovsk. This is a series of lakes near the village of Tokushi: Pridvornoe, Domashnee, Pestroe, Gorkoe, Chisten'koe, Severnoe, Tavrichanka, Kazach'e, Bashkirkoye, Krabtsovo, Bol'shie Tokushi, Malye Tokushi, Bol'shoe Dolgoe, Maloe Dolgoe, Bol'shoi Kokterek, Malyi Kokterek and others. Due to its natural scenic beauty, the object is attractive to tourists. Hiking between the lakes - cycling, accommodation in a tent camp.

Object of route No. 3 Lake "Shaglyteniz" is the largest lake in the area, surrounded by swampy terrain. There are many waterfowl on the lake. The lake is used as a fishing lake. Due to the beauty of the picturesque area, it is attractive for tourists.

The description of the unique objects allows us to state that the Akkayynsky district is of interest from the point of view of ecological, cognitive and educational tourism. Summing up, we can conclude about the attractiveness of the natural and recreational potential of the North Kazakhstan region as a whole for the development of the tourism industry. The allocated three administrative districts of the region have a greater degree of attractiveness. These are natural aesthetics, cultural and historical attractiveness, the availability of biological resources (flora and fauna), mineral resources (mud of bitter-salty lakes), balneological resources, the development of the transport network. The main addition is the unique attractiveness of the landscapes of the territories. The role of the Sogrovsky, Smirnovsky and Mamlyutsky nature reserves is great for the conservation of biological diversity, the development of tourism and for the formation of environmental education and education. (Dmitriyev et al., 2021a; Dmitriyev et al., 2021b; Nazarova et al., 2020; Nazarova, et al., 2021).

## CONCLUSION

The natural resource potential of the territory of the North Kazakhstan region is certainly of interest. The results of a sociological survey of students and their comprehensive assessment of the recreational potential of the districts of the region allowed us to identify the most promising objects and territories of the region. This will contribute to the development of the tourism industry in the region, as well as environmental education and patriotic education of the younger generation. The diversity of landscapes and reservoirs, unique natural and historical and cultural objects, the presence of protected areas, developed transport routes of the districts indicate the possibility of developing both domestic and international ecological tourism. In addition, the border position of the region with the Russian Federation makes it possible for tourists from Russia to visit it (Tleubayeva, 2018; Dmitriyev et al., 2021b). According to the results of the study, it was revealed that the Ayyrtausky district is characterized by good study and popularity among tourists and residents of the region. This is due to the development of tourist infrastructure, due to the large number of resort areas. Kyzylzhar district is the most promising for the development of recreational, ecological, cultural, historical, educational tourism, thanks to a developed network of unique natural objects. Mamlyutsky district is of interest for the development of ecological, educational and balneological tourism. Akkayynsky, despite the lack of developed recreation areas and the presence of a smaller number of respectable tourism facilities, is interesting as an ecological and educational tourism, which is facilitated by the uniqueness of the landscapes, fauna and flora of the area. The proposed tourist routes will contribute to the study and preservation of the natural environment, as well as the education of the ecological outlook of the students, their environmental literacy and a sense of patriotism. The formation of the tourism industry will create new jobs, attract additional investments, which is an important economic factor in the development of the region.

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