

# EDUCATIONAL TOURISM IN PROTECTED NATURAL AREAS IN SOUTH-EAST OF THE BAIKAL REGION

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**ABSTRACT:** The paper presents the implementation of the strategy of development of tourism in the south-east of the Baikal region on the territory of the Baikal Biosphere Reserve and its subordinate federal sanctuaries. As a result of the field research conducted in the summer of 2014 by a group of staff and students of the Faculty of Geography, Lomonosov Moscow State University, a project of a tour route for the development of ecotourism and environmental education in the territory of Altacheyksy sanctuary has been proposed.

**KEY WORDS:** tourism, protected areas, ecological path, lake Baikal, Baikal region

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## Introduction

The strategy of tourism development in Russia for the period up to 2020 is approved by a Decree of the Government of the Russian Federation dated May 31, 2014 N 941-p and determines one of the priorities of specially protected areas as a development of educational tourism. Among the main measures, there are the creation of ecological paths and tourist routes, their informational content and the development of tourism infrastructure. All of this requires examining the recreational potential of protected areas, and identifying ways to minimize the negative impact of tourists on natural systems.

One of the model areas, where since 2011 a pilot project for the development of educational tourism in the reserves has been implemented, is Baikal Biosphere Reserve (Kirillov et al. 2014). It was created in 1969 in the Kabansky District

of the Republic of Buryatia. In 1985, the territory of Kabansky Federal Sanctuary, and in 2011 the Altacheyksy Federal Sanctuary in the Republic of Buryatia were passed under the nature reserve jurisdiction.

The activities of Baikal Reserve aim at preserving the unique and typical natural complexes of Southeast Transbaikalian region, including the southern coast of Lake Baikal and the central part of the Khamar-Daban ridge. Currently only 1% of the reserve territory is used for tourism purposes, about 5 times less than the permissible area in accordance with accepted standards. The reserve is planning to develop educational tourism further in the territories of sanctuaries mentioned above that were put under its protection.

Altacheyksy wildlife sanctuary is located on the western slope of the Zagansky ridge. It focuses on protection and reproduction of wild animals and birds, valuable in the economic,

scientific and cultural relations, as well as the conservation of endangered plants and herbs and natural monuments. It has the highest density of wild ungulates in Buryatia: Far Eastern red deer, roe deer, wild boar. This is also a habitat for manul and Daurian hedgehog, such birds as rock and ordinary capercaillie and Asian bustard. Adjacent area is rich in cultural and historical potential.

For Buryatia this reserve is a very promising and important tourism and recreational area. Research works, supporting its development in this direction, are just beginning. The project of rock capercaillie breeding in the wild is now developing. In the development of tourism in this area the representatives of tourism industry show great interest, which is explained not only by biological and landscape diversity in the sanctuary, but by the proximity to the city of Ulan-Ude and the availability of a road.

The aim of this study is to examine the landscape conditions and objects of cultural heritage in the sanctuary and work out the excursion routes for the development of eco-tourism and environmental education in the territory of Altachey sky sanctuary.

The objectives of the work are the assessment of recreational resources of the territory, definition of stimulating and limiting factors of ecotourism development, preparation of the scientific and practical basis for excursion routes, including recommendations for environmental improvement and content of projected routes and objects.

## Research methods

A methodological basis for this study is the works on the spatial distribution of tourism activities (Trauer 2006, Krakowiak et al. 2014), sustainable tourism development (Eagles et al. 2002, Khoroshavina 2010, Mirsanjari 2013, Drokow et al. 2015), and ecotourism (Weaver 2001).

Field studies were conducted in the summer of 2014. Works were carried out in that part of Altachey sky sanctuary, where a visitor center is going to be created (Fig. 1). Currently, there is a cordon of the sanctuary here. At the beginning of the study reconnaissance introduction of environmental infrastructure and the state of the main

tour route on the estate of the Baikal Biosphere Reserve was conducted. Then, this information was used as a basis for planning the similar projects in the sanctuary.

During the study the detailed complex descriptions of the landscape features of the territory of the cordon surrounding area of the sanctuary by drawing up landscape profiles through the Altachey river valley and transect through the basins of lakes Ekhe-Nur and Bugate-Nur were carried out. When advising the inspectors of the sanctuary on the basis of topographical maps and satellite images three tour routes were planned. Later on the ground some point-stops characterizing various natural attractions as well as typical landscapes of the area were chosen. All of the above was recorded in the field diary accompanied with photographs.

For each route natural and anthropogenic factors that encourage or restrict the development of ecological tourism were determined. Methods of transportation along the route, the timing of their

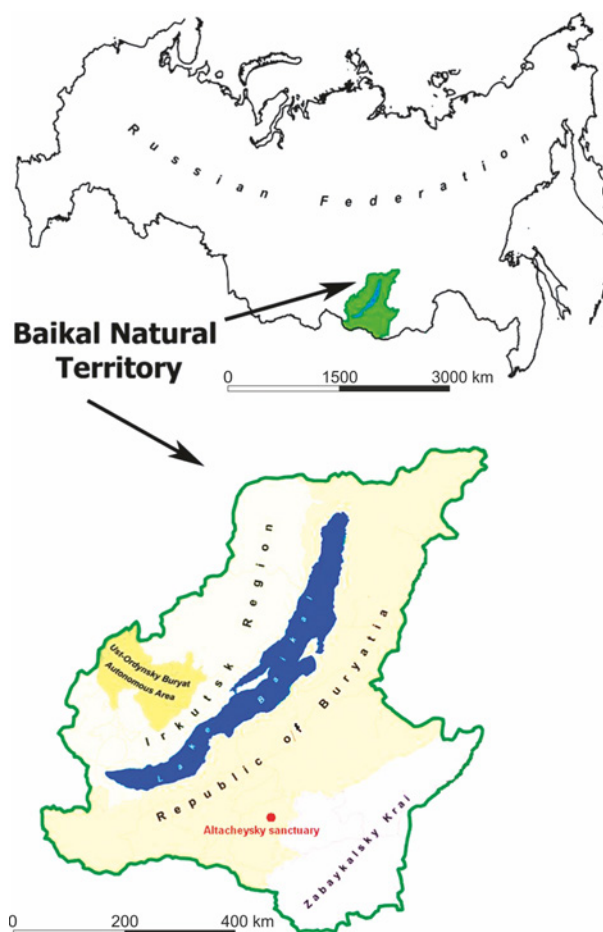


Fig. 1. Location of Altachey sky sanctuary.

use in different seasons of the year, the permissible recreational load, the target audience, the equipment and the proposed improvement of the route were chosen. Inspectors of the sanctuary, as well as researchers and independent experts were being interviewed to determine the main problems of the protection of the sanctuary's nature and to identify possible problems of nature management that may arise in the development of tourism.

Each photograph and point-stop was accompanied by coordinate referencing with GPS. Each point-stop was also determined by the absolute height in meters. In describing lakes water samples were taken for further hydrochemical analysis in the laboratory of water systems monitoring<sup>1</sup>.

In describing the geological outcrop rock samples were taken to clarify their names in the office period. Along the way, material for electronic photoherbarium of the study area that included the images of the most characteristic plant species, as well as medicinal, rare and protected species was collected.

As a result during the field research 37 points of landscape descriptions with GPS-marks of the boundaries between the natural systems were made, 2 landscape profiles through the valley of the river Altachey and 2 transects across the basin lakes were drawn up, hydrochemical sampling in two lakes was conducted, samples from soil horizons at 5 points of field descriptions were taken. Further descriptions of 24 excursion points-stops and 3 specific points were made. As a result of field work 3 destination passports and full comprehensive description of each were made up.

## Results

As an example of the scientific and practical result of the research there is a brief description of one of the excursion routes – "To lake Bugate-Nur" – with some details for the creators of the future ecotrail (Fig. 2). A form of Russian passports of ecological tour route was taken as a basis.

<sup>1</sup> Laboratory located at the Department of Environmental Management, Faculty of Geography, Moscow State University.

### 1. Name of reserve:

Altacheysky state natural sanctuary of federal importance.

### 2. The length of the route:

Total – 10.6 km, in one direction – 5.3 km.

### 3. Estimated time of the route:

4 hours.

### 4. Methods of movement of visitors along the route:

- In the summer and autumn – on foot,
- In the autumn-winter-spring period – by car or on foot (in winter a hiking route is usually replaced by a car tour – in the period of grouping the animals it is possible to see a lot of Far Eastern red deer and roe deer out of the car).

### 5. The seasons of the route:

- In the summer-autumn period – from late May to October (in season of high fire risk the route may be closed to the public).
- In the autumn-winter-spring period – from November to April.

### 6. Maximum permissible load:

No more than two groups a day, the number of visitors in a group – no more than 6 people. Restrictions on the load are due to the requirements of avoiding disturbance of animals. With negative changes in the route (reducing the total number of animals on the lake) a ban on visits

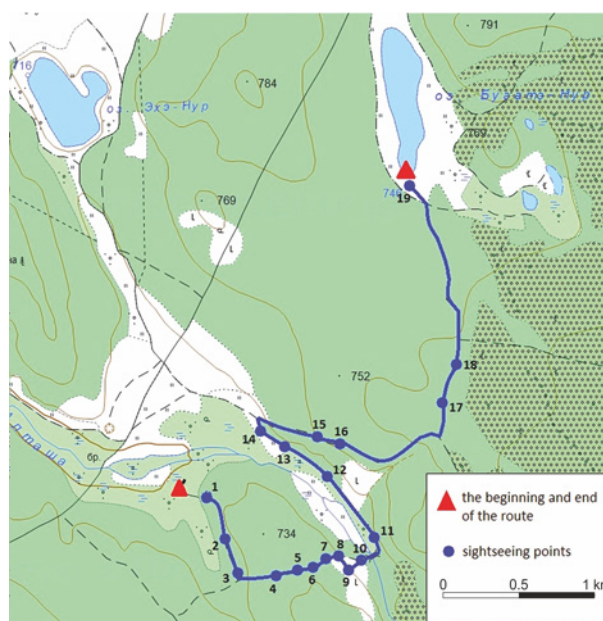


Fig. 2. Scheme of ecological tour route "To lake Bugate-Nur".

until the restoration of the former state may be introduced.

### **7. Brief description of the route:**

The route is of a radial type, available in summer and winter on the same track. It begins at the cordon of the sanctuary, runs along the road to the bridge over the river Altachey and continues up to the observation tower. 20 meters from it, the route turns right along the forest road, which is in 2 km displays the intense drying lake Bugate-Nur with fresh water. There are two basic excursion sights. The first object is a wooden tower to monitor Far Eastern red deer and roe deer. Far Eastern red deer is the usual species for the sanctuary. In recent years there has been a steady increase in the number of species. Roe deer is also typical, distributed throughout the sanctuary, its number is growing steadily. While following a route in August, there is an opportunity to hear the barking of roebuck (Guran) – at this time this species has a breeding season. The tower is 10 meters to the left of the dirt road, at the edge of the fertilizing field. Its height is about 15 m, capacity is 5–6 people. From its window in the distance you can see a colony of Mongolian marmots, or tarbagans. Near the colony there is a solonetz (totally in the sanctuary there are now 40 solonetztes). The tower is used by sanctuary inspectors and photographers who cover the window with camouflage net, and lay a rubber mat on the floor for soundproofing. The tower is 50 meters from the turn of the route to lake Bugate-Nur. The second object is Lake Bugate-Nur (approximately 600×170 m) of intermountain basin-type. Its origin is related to the humid climate of the Pleistocene ended about 12 thousand years ago. The lake is characterized by dry off shore (reeds, floodplain meadows and areas of salt marshes on peat soil) with numerous traces of animals (Far Eastern red deer, roe deer, wild boars, various species of birds). There is an ability to watch the animals, including birds: mallard, teal, ruddy sheld duck, goldeneye, sometimes heron appears as there are fish (carp and minnow) in the lake, put there by staff members of the sanctuary. Related objects along the route: the burnt forest, forest and meadow post-fire succession, whimsically embracing pines and a pine standing apart as a model of “golden section” – one of the harmonic canons of the nature. In addition, on the route it is possible to see Multilateral birches,

thickets of Daurian rhododendron, badger setts and toilets, moving back erosion of growing ravine, outcrop of water-divide slope, where there are granite-gneisses, schists, dolomitic marl and other rocks brought from the Zagansky ridge in denudation. Also on the route there are some fertilizing fields created by staff members of the sanctuary: one of them is for Far Eastern red deer and roe deer, the other – for wild boar. As a result in recent years the number of these animals has been maintained not only in the sanctuary, but in all administrative districts surrounding it. In winter, the main excursion objects are Far Eastern red deer and roe deer that could be observed from the car on the edge of the forest and on lake Bugate-Nur.

### **8. Recommended target audience:**

The route is interesting for anyone who loves wildlife. Preferred categories of visitors: students of middle and high school, students and scientists (biologists, geographers, ecologists, historians), adult tourists of any age with good health and stamina against the quite high summer temperatures and very low ones in winter. In some years, depending on the general weather conditions (absence of extreme heat and drought in summer, severe frosts in winter), there is a possibility for such categories of visitors as photographers and journalists, foreign visitors and VIP-persons to visit the route.

### **9. Requirements for the stay on the route:**

A tourist can only be accompanied by a security officer of the sanctuary. It is recommended to bring binoculars and (or) telescopes to observe the animals. Be sure to meet the requirements of keeping silence along the entire route, especially in the towers during the observation of the animals. It is necessary to comply with fire safety rules: do not make fires and do not smoke on the route. It is forbidden to leave the route. It is forbidden to leave garbage neither on the route nor on the rest area. In winter, when approaching the animals getting out of the car and being noisy in it is prohibited. Waters of Bugate-Nur are fresh, hard, and magnesium carbonate. In addition, the water of lake Bugate-Nur as well as the nearby lake Ehe-Nur, is fluoride. Such water is not recommended to drink, even boiling. Elevated levels of fluoride in drinking water lead to fluorosis and diseases of internal organs. It is possible to get rid of the fluoride only by electrolysis, which

is impossible in the field. In this regard, it is strongly recommended to all visitors and members of the sanctuary to bring drinking water along. Swimming in the lake is also undesirable.

#### **10. Facilities of the route:**

Currently, the only equipped object is observation tower near the road where the route goes. On lake Bugate-Nur there are no facilities. It is recommended to build the observation tower for viewing and photographing the whole basin of the lake, and for watching the animals. In the birch forest behind the road to the west of the lake a place for rest and meals (table and benches) as well as a toilet should be organised. It is also possible re-stocking of the lake with crucian carps and minnow and fishing with a rod in the case of a good survival rate of the fish. It is also suitable to set the reference pole to determine the rate of the annual retreat of the shoreline of the lake and, consequently, lowering of its level. On the dry shore a pole can be set in the upper end of which the hook is screwed. Several times during the summer-autumn season (for example, once a month from June to September) during a visit to the lake tourists make a reference measurement of the distance between the pole with a hook and the water's edge with a tape or measuring rope. The received data are recorded on the graph of changing in the water level of the lake, which is posted on view for visitors on a special stand under the peak. In winter a graph should be removed to avoid damage from frost. A duplicate of the graph must be kept at the cordon in the visitor center, and the measurement results should be reported to the management of the Baikal nature reserve. Using such a simple tool visitors of the route are involved into research work, which is a mandatory element of environmental education in the sanctuary. On the way to the lake at the end of the forest road, there are many low stumps left after the recently felled pine trees. Among them one should choose two stumps, which are close to each other, with clearly visible annual rings. After highlighting them with a colour for every 10 years and covering the entire section of transparent Plexiglas, these objects can be used for environmental education purposes as a "Tree of Life". It is recommended to write certain dates, the most important for the area: the date of the creation of the Baikal Biosphere Reserve, Altacheyksy sanctuary etc. It is very interesting,

especially for children, to find on such a temporal scale, the year of their birth, school enrollment and other important dates for them. The cut is recommended to do as a slope, so that tourists could not use the stump as a place to have a rest, as an ashtray, etc.

## **Discussion**

The majority of both domestic and foreign publications devoted to the development of educational tourism in protected areas, concerns, first of all, national parks (Chizhova et al. 2014, Zabortseva, Yevstropieva 2009). It is the national parks intended by law to preserve landscape and biological diversity as well as natural attractions and cultural sites where the functional zoning is being carried out, sightseeing excursion routes are being worked out, the territory is getting equipped with services and utilities to increase the sustainability of natural systems and create a comfortable environment for tourists. Much less attention in the published materials is paid to issues related to the development of this type of tourism in the strictly protected territories, which include Russian reserves. And there are rare publications on how to develop educational tourism in sanctuaries. Meanwhile, the tourist development of the territories of sanctuaries in recent years is gaining momentum. This is especially concerns the territories transferred to the jurisdiction of national parks.

These findings conclusively prove that the territory of the sanctuaries under appropriate environmental conditions and the harmonious combination of typical and unique landscape can be quite useful for the development of tourism. A compulsory basis for that will be landscape-ecological studies, including not only detailed descriptions of nature and its components, but also the study of the history of the area, geological outcrops, vegetation, conducting of hydro-chemical testing of water bodies, and many other things. On this basis it is necessary to develop a network of excursion routes with the definition for each of them dates of visit, permissible recreational load, rules of conduct, special equipment, content and others. According to the classification by Luzhkova (2013), the most suitable type of routes for sanctuaries is 4th class – "guided trail".

## Conclusion

In general, scientific and practical significance of the study lies in the fact that it enables to develop detailed recommendations for tourism and recreational development in the sanctuary, which has no analogues in relation to the region. This territory differs from other Transbaikal protected areas in sharply continental climate, predetermined the development of the region steppe landscapes that alternate with forest, mainly represented by steppified pine forests and larch forests. At this time the main condition is taken into account – the sanctuary continues to fulfil its basic functions: protection, restoration and reproduction of the population of wild animals and birds, as well as rare and endangered species and their habitats.

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