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DEVELOPMENT OF ECOTOURISM IN SPECIALLY PROTECTED NATURAL AREAS OF THE KAMCHATKA TERRITORY: ANALYSIS OF INFRASTRUCTURAL APPROACHES AND ARCHITECTURAL SOLUTIONS

DESENVOLVIMENTO DO ECOTURISMO EM ÁREAS NATURAIS ESPECIALMENTE PROTEGIDAS DO TERRITÓRIO DE KAMCHATKA: ANÁLISE DE ABORDAGENS DE INFRAESTRUTURA E SOLUÇÕES ARQUITETÔNICAS

ADEMA KASIMOVA
Department of Architecture, Moscow State University of Civil Engineering (National Research University) – Russia. E-mail: adema-23352@inbox.ru

ABSTRACT

Objective: To study and identify effective methods and approaches for creating ecotourism infrastructure in the Kamchatka Territory, ensuring the balance between tourism development and the preservation of natural complexes.

Methods: The research employs an analysis of regulatory documents, design guidelines, and existing ecotourism facilities. It examines urban planning techniques, architectural solutions, and construction technologies relevant to ecotourism in specially protected natural areas (SPNAs).

Results: The study reveals limitations in the existing infrastructure, such as insufficient visitor centers, ecological trails, and sanitary facilities. Recommendations include the integration of functional and environmentally sustainable designs, improved accessibility, and enhanced visitor experiences through modern architectural and infrastructural solutions.

Conclusions: The proposed infrastructural and architectural approaches provide a foundation for the sustainable development of ecotourism in Kamchatka. These methods aim to enhance tourism potential while minimizing environmental impact, ensuring a harmonious coexistence between natural preservation and economic growth.

Keywords: Ecotourism; Specially protected natural areas; Basic and commercial tourism infrastructure; Glamping; Kamchatka Territory.

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RESUMO

Objetivo: Estudar e identificar métodos e abordagens eficazes para a criação de infraestrutura de ecoturismo no Território de Kamchatka, garantindo o equilíbrio entre o desenvolvimento turístico e a preservação dos complexos naturais.

Métodos: A pesquisa utiliza análise de documentos regulatórios, diretrizes de design e instalações de ecoturismo existentes. São examinadas técnicas de planejamento urbano, soluções arquitetônicas e tecnologias de construção aplicáveis ao ecoturismo em áreas naturais especialmente protegidas (SPNAs).

Resultados: O estudo identifica limitações na infraestrutura existente, como centros de visitantes insuficientes, trilhas ecológicas e instalações sanitárias. As recomendações incluem a integração de designs funcionais e ambientalmente sustentáveis, melhoria na acessibilidade e experiências aprimoradas para os visitantes por meio de soluções arquitetônicas e de infraestrutura modernas.

Conclusões: As abordagens arquitetônicas e de infraestrutura propostas fornecem uma base para o desenvolvimento sustentável do ecoturismo em Kamchatka. Esses métodos buscam aumentar o potencial turístico enquanto minimizam o impacto ambiental, garantindo uma coexistência harmoniosa entre preservação natural e crescimento econômico.

Palavras-chave: Ecoturismo; Áreas naturais especialmente protegidas; Infraestrutura turística básica e comercial; Glamping; Território de Kamchatka.

1 INTRODUCTION

One of the actively developing areas of sustainable tourism is ecotravel. Gaining experience in ecotourism introduces travelers to unique natural areas that have not been subject to anthropogenic influence and the original culture of local peoples leading an isolated lifestyle. According to experts, the increased popularity of ecotourism is associated with the general growth of tourism in the economies of countries, the demand for destinations of special interests, and the rise of public attention to environmental conservation (Afanasieva, 2020).

The basis for developing ecotourism is specially protected natural areas (SPNA), i.e., “these are areas of land, water surface and air space above them, where natural complexes and objects are located that have special environmental, scientific, cultural, aesthetic, recreational and health value” (State Duma of the Federal Assembly of the Russian Federation, 1995). Experts claim that Russia ranks fifth out of 133 countries in terms of the number of natural sites. However, it is only 108th in terms of the accessibility of these territories (Stishov, 2020). In total, the share of ecotourism in the structure of the domestic market accounts for only 2%, even though there are more than 13,000 protected areas in

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the country, and their area occupies 13.94% of the country's map (Lebedeva & Patkina, 2021).

The largest share of protected areas in Russia is located in the Far Eastern Federal District. The Far Eastern Federal District includes 11 constituent entities but the Kamchatka Territory has a wide range of natural recreational and cultural resources and is regarded as the most promising region for the development of domestic tourism (Demidyuk, 2017). Thus, more than 27% of the Kamchatka Territory is occupied by SPNAs (Figure 1). Some natural attractions of Kamchatka have already become iconic objects for the whole country, for example, the Valley of Geysers, Avachinsky volcano, the Avachinsky Bay, the Vilyuchinsky Pass, Gorely volcano, hot mineral springs in the village of Paratunka, the Ozerki hydromineral complex, the Vachkazhets mountain range, etc. (Yakubova, 2021).

In addition to significant tourism potential, the region has limiting factors in the development of the industry, such as the insufficient development of tourism and transport infrastructure, the low quality of services provided, and the lack of regular routes and excursions (Tyurin, 2018). Environmental scientists identify the following problems in the development of tourism in Kamchatka: the low culture and environmental awareness of visitors, a shortage of environmental education centers, the lack of uniform methods for assessing and regulating recreational loads, and the fragmented organizational policy of the network of SPNAs (Zavadskaya & Yablokov, 2013).

Thus, the study aims to determine the means of forming ecotourism infrastructure facilities in SPNAs of the Kamchatka Territory with due regard to the preservation of natural complexes. The tasks of the study are as follows: to review documentation regulating activities in SPNAs; to analyze various guidelines for the design of tourist facilities in such conditions; to examine existing buildings and structures in SPNAs of the Kamchatka Territory.

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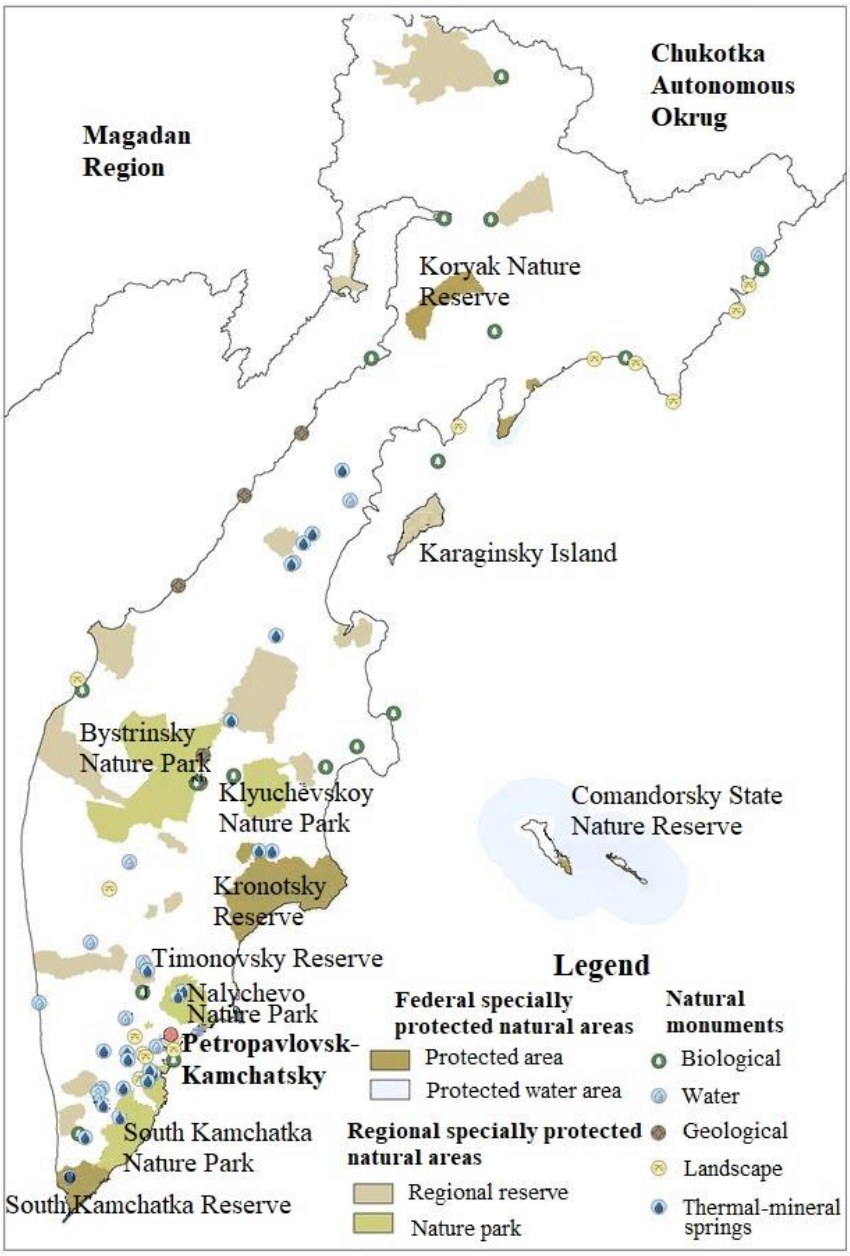

Figure 1. The map of SPNAs of the Kamchatka Territory

2 MATERIALS AND METHODS

For this study, we referred to regulatory documents and scientific works by academician M.S. Stishov (An autonomous non-profit organization, 2019e; State Duma of the Federal Assembly of the Russian Federation, 1995; Stishov, 2020) and scholars I.S. Demidyuk, A.N. Tyurin, A.V. Zavadskaya, V.M. Yablokov, and T.V. Butnor (Butnor, 2020; Demidyuk, 2017; Kamchatka. Your incredible adventure, n.d.; Tyurin, 2018; Zavadskaya & Yablokov, 2013) addressing the problems of SPNAs and the state of ecotourism in the Kamchatka Territory. Additional sources were tourist passports developed by specialists from the Ministry of

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Tourism of the Kamchatka Territory on the further development of regional tourism.

The research methodology included an analysis of regulatory documents governing tourism activities in SPNAs. While studying guidelines for the design of tourist facilities, we considered various approaches to functional zoning, spatial planning, and structural and engineering solutions for buildings and territories. Based on the analysis of existing ecotourism infrastructure presented in the guidelines of the Agency for Strategic Initiatives (An autonomous non-profit organization, 2019a, 2019b, 2019c), we determined the main directions for the formation of new tourist sites.

3 RESULTS AND DISCUSSION

The main legislative document regulating activities in SPNAs of the Russian Federation is Federal Law of March 14, 1995 No. 33-FZ “On Specially Protected Natural Areas” (State Duma of the Federal Assembly of the Russian Federation, 1995). According to the law, depending on the regime and status of environmental institutions, there are the following territories: state nature reserves, including the biosphere, national and nature parks; state wildlife areas; natural monuments; dendrological parks and botanical gardens. These types of protected areas may have federal, regional, or local significance, which leads to various restrictions and requires permits in the field of construction. The analysis of regulatory documentation has revealed that the most open areas for recreational activities are national parks, dendrological parks, and botanical gardens. “Considering functional zoning, national parks allow the construction, reconstruction, major repairs, commissioning and decommissioning, and demolition of capital construction projects” (State Duma of the Federal Assembly of the Russian Federation, 1995). The law provides for the construction of facilities intended “for temporary accommodation of visitors of national parks”, “for cultural development and environmental education”, “for the provision of catering and consumer services”, “to ensure personal hygiene of visitors when visiting national parks”, etc. (State Duma of the Federal Assembly of the Russian Federation, 1995). In other territories, there are more strict measures for the protection of natural complexes and their components. For example, partial economic use is allowed in specially designated areas of natural reserves, including biosphere reserves, within the framework of educational tourism activities, i.e., the creation of ecotrails. In nature parks, reserves, and the territory of natural monuments, any activity that entails a decrease or violation of the ecological, aesthetic, cultural, and recreational value of the objects is permanently or temporarily prohibited or limited.

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Dendrological parks and botanical gardens are located primarily in urban areas so we have not considered them within the scope of this study.

Thus, it follows that the construction of tourism facilities in protected areas is possible mainly in national parks. In other cases, performing environmental, educational, and recreational activities is permissible, subject to agreement with environmental authorities and local self-government bodies. Considering various SPNAs of the Kamchatka Territory, including three state reserves, five nature parks, a state reserve of federal significance, 20 reserves of regional significance, 96 natural monuments, etc., we can assume that the construction of ecotourism facilities in the region under study is permissible in SPNAs, in particular nature parks in zones of regulated tourism and recreation (if any) or near them, as well as in protected areas that have lost such a status (Butnor, 2020). For example, the charter of the Bystrinsky Nature Park provides for the creation of a zone of regulated tourism and recreation with the formation of 14 tourist routes, including walking, horseback riding, and the use of mechanized vehicles (cars, snowmobiles, etc.). In 2020, the creation of an all-season tourist complex “Three Volcanoes” was launched on part of the territory that lost the status of SPNAs within the network of nature parks “Volcanoes of Kamchatka” (“Three volcanoes” Park, n.d.).

The Agency for Strategic Initiatives conducted a large-scale study and published its results, including international experience in the development of ecotourism, guidelines and recommendations on the socio-cultural programming of the study areas, their functional organization, the design of infrastructure facilities and waste management in SPNAs (An autonomous non-profit organization, 2019a, 2019b, 2019c, 2019d, 2019e). A vast number of buildings, structures, small architectural forms, navigation aids, and forms of relief organization are divided into basic and commercial infrastructure (An autonomous non-profit organization, 2019b). The commercial infrastructure includes accommodation facilities and a group of tourist service facilities, while the basic infrastructure comprises facilities that represent the main product of ecotourism. The basic infrastructure includes visitor centers, entrance facilities and parking lots, an administrative and utility block, sanitary facilities, the organization of ecological trails and observation platforms, and the installation of navigation and information aids. In addition, it includes elements of territory improvement and engineering support facilities.

The study examines both the basic and commercial infrastructure and recommends several options. The options include the identification of various types of objects with a certain function, an indication of sketchy plans and axonometric views, a proposal for the

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number of floors of buildings, materials, and structures, and engineering support and equipment (An autonomous non-profit organization, 2019b). Accordingly, we will characterize existing ecotourism objects in the Kamchatka Territory.

The basic infrastructure of the region is characterized by a small number of educational buildings, the lack of an entrance group and sanitary facilities, and the need to create ecological trails and observation platforms with various coverings and navigation aids. Thus, there are only five visitor centers for more than 110 protected areas: the visitor center of the Bystrinsky Nature Park, the visitor center of the South Kamchatka Nature Reserve, the environmental education center of the Nalychevo Natural Park, the nature museum of the Kronotsky Nature Reserve and the ethnoecological center in the Koryaksky Nature Reserve (Figure 2) (Kronotsky Nature Reserve, n.d.; Volcanoes of Kamchatka, n.d.). In addition to the environmental education center in the Nalychevo Nature Park, these facilities are located in settlements near protected areas. The buildings of visitor centers are capital and are usually made of stone or log; the walls are often covered with siding or plastered. The roof made of stone is usually flat, while the roof in log houses is pitched. These objects are from one to two stories. The premises are usually formed by an exhibition hall with a permanent exhibition, a conference room with a projector, an information desk, and a souvenir shop. There are also two guest rooms at the visitor center of the South Kamchatka Nature Reserve. At the visitor center of the Bystrinsky Nature Park, it is possible to rent tourist equipment. According to the above-mentioned guidelines, visitor centers should be functional. It is also recommended to include catering with production and storage facilities, a workshop room for classes, a bathroom, both within the building and as a separate block, and an organized parking lot. In this list, there are no public food service facilities and equipped storage areas for transport vehicles. Engineering support for centers located in populated areas is ensured through local technical systems, while in the remote facility of the Nalychevo Nature Park maintenance is possible only in the warm season.

a) Visitor center of the Bystrinsky Nature Park

b) Eco-education center of the Nalychevo Nature Park

c) Visitor center of the South Kamchatka Nature Reserve

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d) Museum of Nature of the Kronotsky Nature Reserve	e) Ethno-ecological center of the Koryaksky Nature Reserve

Figure 2. Centers for the educational ecotourism of the Kamchatka Territory

Unique natural objects of the Kamchatka Territory are located in remote and hard-to-reach places, for example, the South Kamchatka Nature Reserve and the Comandorsky State Nature Reserve can only be reached by helicopter, which is one of the most common means of transport when organizing tourism in the region. Few SPNAs can be visited on foot, including the Kronotsky Nature Reserve, the Koryaksky Nature Reserve, and the Nalychevo Nature Park. Tourists can use a ship to get to the Kronotsky Nature Reserve and South Kamchatka Nature Park. The Bystrinsky Nature Park, the Klyuchevskoy Nature Park, the South Kamchatka Nature Park, and the Blue Lakes can be reached by road. The entrance area of most SPNAs in Kamchatka has no entry signs and information stands, as well as lacks the permanent function of monitoring visitor access. As a rule, roads leading to natural sites have asphalt, sand, and gravel surface or no surface at all, and parking lots near protected areas do not have an organized structure. Hence, the entrance group of SPNAs is subject to special conditions in the organization of helipads and floating piers, which was not considered in the guidelines for the design of infrastructure facilities (An autonomous non-profit organization, 2019b). The arrangement of parking lots for tourist groups deserves special attention.

In addition to the limited transport accessibility of SPNAs of the Kamchatka Territory, there is a sanitary problem on popular tourist routes, i.e., there are not enough sanitary facilities and existing ones require modernization and the introduction of modern solutions, including restrooms for people with disabilities. Sanitary facilities are available only at the Pinachevsky mountain pass and the Avachinsky mountain pass of the Nalychevo Nature Park.

The Kamchatka Territory has many tourist routes in SPNAs but none of them comply with the requirements for conservation and environmental protection (Kamchatka. Your incredible adventure, n.d.). Many ecological trails do not have appropriate markings (information stands and signs). There is no proper arrangement of parking lots and observation decks with small architectural forms, in particular gazebos, canopies, fences, benches, trashcans, etc. The trail surface is usually consolidated soil. To a lesser extent,

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special wooden flooring is used that can eliminate the negative impact on the soil and vegetation cover, and avoid trampling and erosion. A good example of ecological trails in Kamchatka is a trail in the Kronotsky Nature Reserve recognized as the “Golden Trail of Russia” in 2020 (Ministry of Natural Resources and Environment of Russia, 2020). An interesting solution for arranging an ecological trail is the North-Western rookery of Bering Island in the Comandorsky Nature Reserve, where a full house entrance, two observation platforms, and information stands are organized (Ministry of Natural Resources and Environment of Russia, 2019).

The commercial infrastructure of the region is represented by few accommodation facilities in SPNAs, Spartan living conditions in these complexes, and a limited list of services provided. Public catering and retail trade, as well as rental of tourist equipment and recreational and health activities, are carried out in facilities located in some protected areas of the Kamchatka Territory but they are not regular. One of the most common accommodations is self-organized campsites, for example, at the Pinachevsky mountain pass, the Semenovsky mountain pass, the Avachinsky mountain pass, the Perevalnaya parking lot of the Nalychevo Nature Park, the Kopyto parking lot, the Northern Breakthrough parking lot, the Edelweiss Glade parking lot, the Tolud base of the Klyuchevskoy Nature Park, the Dimshikansky mountain pass of the Bystrinsky Nature Park, etc. (Figure 3) (Kronotsky Nature Reserve, n.d.; Volcanoes of Kamchatka, n.d.). As a rule, such campsites are places where a group of tourists can freely camp with their tents in the open air. The management advised arranging such campsites in a prepared fenced area so as not to disturb the ecological balance by damaging tree roots when tourists set up tents, make fires, dig holes for garbage, etc. (An autonomous non-profit organization, 2019b).

In some cases, parking lots (the Pinachevsky mountain pass, the Semenovsky mountain pass, the Perevalnaya parking lot, the Kopyto parking lot, the Northern Breakthrough parking lot, the Edelweiss Glade parking lot, the Tolud base) have a shelter that can accommodate from 10 to 15 people. These canopies have significant wear and tear and do not meet modern requirements for small architectural forms. For example, it is recommended to equip shelters with tables and benches. Sometimes there are buildings and structures for temporary shelter: a hunting house at the Perevalnaya parking lot, an inspector’s house at the Kopyto parking lot, a volcanologist’s house at the Tolud base, a yurt for tourists at the Dimshikansky mountain pass. Such facilities usually accommodate up to eight people and have a limited set of furniture and equipment. The guidelines do not require full-fledged buildings for shelter but it is recommended to form tourist shelters based on the following

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important principles: multifunctionality, the integration of structures into the environment, and the environmental sustainability of buildings.

One of the significant recommendations is the organization of an area for self-cooking, which is present only at the Kleshnya parking lot of the Nalychevo Nature Park. There is a kitchen-dining room for 16 people, equipped with dining tables, a gas stove, and a sink. There are rarely fire pits at campsites. Among other things, it is proposed to locate administrative buildings in SPNAs that provide operational communication with various services, which is not typical of the objects under consideration. The exception is the Central mountain pass of the Nalychevo Nature Park with a large concentration of guest houses. It is advisable to arrange helipads for emergency medical care in parking lots and on mountain passes along busy tourist routes due to the inaccessibility of most natural areas.

		
a) Canopy at the Northern Breakthrough of the Klyuchevskoy Nature Park	b) Canopy at the Edelweiss Glade parking lot of the Klyuchevskoy Nature Park	c) Canopy at the Semenovsky mountain pass of the Nalychevo Nature Park
		
d) Volcanologist's house at the Tolud base of the Klyuchevskoy Nature Park	e) Yurt for tourists at the Dimshikansky mountain pass of the Bystrinsky Nature Park	f) Inspector house at the Kopyto parking lot of the Klyuchevskoy Nature Park

Figure 3. Self-organized camping in SPNAs of the Kamchatka Territory

The difference between an organized campsite and a self-organized one is clear planning, with residential areas for setting up tents and shelters, administrative and utility facilities, a network of trails, and transport communications. An example of an organized campsite under state management is the Ozerny mountain pass of the South Kamchatka Nature Reserve (Figure 4). Its residential area contains four cylindrical stationary tents with a capacity of up to 10-12 people, and it is also possible to put up personal tents. This determines the seasonality of tourist accommodation in this area. The guidelines provide for a great variety in the design of T-tents in the residential area of campsites, such as prismatic, tent-like structures designed for two or three people, structures with a gable roof and prefabricated walls made of timber, as well as domes accommodating up to four tourists (An

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autonomous non-profit organization, 2019b).

The administrative and utility structures of the Central mountain pass of the South Kamchatka Nature Reserve include a dining room, separate rooms for preparing and eating food, outbuildings for scientists and inspectors, gazebos, places for making fires, and sanitary facilities. The transport and pedestrian infrastructure offers wooden paths connecting all facilities, information stands, three helipads, a pier, and an observation bridge for animal watching. All permanent buildings are made of rounded timber on a pile foundation and have one to two stories.

Other examples of equipped camping sites are private initiatives: the Tolbachik camp in the Klyuchevskoy Nature Park, the Vilyuchik Camp in the South Kamchatka Nature Park, and camping on Lake Nachikinskoye (Figure 4) (Kamchatka. Lake Nachikinskoe, n.d.; LANDOFBEARS, n.d.-a, n.d.-b). The Vilyuchik camp and camping facilities on Lake Nachikinskoye, as well as the Ozerny mountain pass of the South Kamchatka Nature Reserve, are built on pitches and there are flat trails between them.

All residential structures of equipped private campsites are heated and operate all year round. The Tolbachik camp has the largest residential area as it contains eight spherical T-tents. There are three types of rooms (tents) accommodating a various number of visitors: 3+1, 6+1, and 7+1. The tents contain only a recreation area; sanitary facilities are located separately. Unlike the previous facility, the Vilyuchik camp has fewer tents (only three) in the residential area. However, each tent can be equipped with up to six beds, while all domes have a wash area, storage area, and a small living room. The tents have a dome awning frame. Sanitary facilities are located outside the living space. In the territory of the Vilyuchik camp, there are also two autonomous prefabricated modules with expanded functions, providing a sleeping and working place for two people and a combined sanitary unit with a shower. The residential zone of the campsite on Lake Nachikinskoye contains six residential structures with sanitary facilities. The tents have a dome awning frame. A typical feature of the residential modules of the above-mentioned glamping sites is their large capacity and different planning. There is a unified use of spherical or tent structures in comparison with the types of residential blocks proposed in the guidelines, and the creation of functional areas, for example, kitchenettes and sanitary facilities are located outside the module (An autonomous non-profit organization, 2019b).

Campsites are equipped with different utility areas. Thus, the Tolbachik camp provides a common kitchen and barbecue area. The Vilyuchik camp includes a restaurant with a capacity of up to 25 people with an outdoor terrace and a barrel sauna with a water tank

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outside. The camping on Lake Nachikinskoye has a dome with a dining room (for 10 people) and a campfire area. The Tolbachik camp is equipped with a parking lot. There is a dome for events with a fireplace (up to 10 people) and without (up to 24 people) in the campsite on Lake Nachikinskoye.

a) Ozerny mountain pass in the South Kamchatka Nature Reserve

b) Camping on Lake Nachikinskoye

c) Tolbachik camp in the Klyuchevskoy Nature Park

d) Vilyuchik Camp in the South Kamchatka Nature Reserve

Figure 4. Equipped campsites in SPNAs of the Kamchatka Territory

Tourists are accommodated in guest houses in the Nalychevo Nature Park, the Bystrinsky Nature Park, the Tumroki tract, and the Timonovsky Nature Reserve (Figure 5) (St. Timon's Mountain Shelter, n.d.; Tumroki Recreation Center, n.d.; Volcanoes of Kamchatka, n.d.). The types of guest houses proposed by the guidelines differ in their functions and the number of rooms in each block. There are about eight types of houses at the Central mountain pass in the Nalychevo Nature Park. Most houses have only a sleeping area. The minimum number of people accommodated in guest houses is two, while the maximum is 19 visitors. Additional functional areas (kitchen and living room) are provided only in the "Guest", "Bolshoy", "Semeyniy", and "Dvoryansky" guest houses designed to accommodate from 4 to 19 tourists. Sanitary facilities are located separately. All buildings resemble a single apartment but the guidelines also envisage the creation of guest houses with two, four, and six rooms with different entrances (An autonomous non-profit organization, 2019b). The houses of the Tumroki Recreation Center and St. Timon's Mountain Shelter are characterized by greater comfort and variability. In particular, the recreation center is designed for 27 people housed in nine rooms. There are six standard rooms for three to four people, one two-bedroom family suite for five guests, and two superior rooms for two to four guests. All suites are equipped with washing and toilet facilities blocked in one room. For example, the mountain shelter includes 11 rooms, eight of which are double studios of

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different sizes (12 and 25 m^2), and three to two-room triple rooms with an area of 50 m^2. Sanitary facilities in all rooms meet modern hotel standards.

Residential buildings of guest houses along the Central mountain pass of the Nalychevo Nature Park contain from one to two stories, are made of wood, and have a pile foundation. The most common shape for houses is a triangular hut with a gable roof. These houses usually do not have a terrace. The buildings of the Tumroki Recreation Center and St. Timon's Mountain Shelter are three-story, have a pile foundation, and are made of timber with a multi-pitched roof. While the recreation center consists of one main building, the mountain shelter combines two structures connected by a roofed outdoor passage. A two-story block houses a restaurant, and a three-story block serves as a hotel.

There are different options for public catering in the territory of the objects under consideration. As a rule, these are stationary buildings. For example, the Central mountain pass in the Nalychevo Nature Park has a self-service canteen with a total capacity of 22 people. It is equipped with wooden tables and benches, a fireplace, a stationary gas stove and oven, as well as kitchen utensils. A restaurant at the Tumroki Recreation Center and St. Timon's Mountain Shelter can serve up to 25 vacationers. There are no other types of catering establishments, such as drive-throughs, vending machines, and stationary kiosks. The guidelines also recommend providing food services in adapted factory-made structures (containers), which seems to be a promising format for the Kamchatka Territory due to their high degree of transportability.

All facilities provide recreational and health activities. At the Central Mountain Pass, there are two swimming pools, bathhouses, and changing rooms. The Tumroki Recreation Center has a spa complex, including a bathhouse, four swimming pools with thermal water of different temperatures, and a yoga room with a massage room. St. Timon's Mountain Shelter is equipped with a sauna, a plunge pool, and two swimming pools with thermal water. All bathhouses are classified as permanent structures. However, the guidelines provide for the creation of special tents or adapted bathhouses from containers.

At both sites (the Tumroki Recreation Center and St. Timon's Mountain Shelter), services are provided for passing backcountry skiing routes, including ascents and descents, i.e., ski touring. There are also helipads, gazebos for recreation, and sports grounds in the territory of the complexes.

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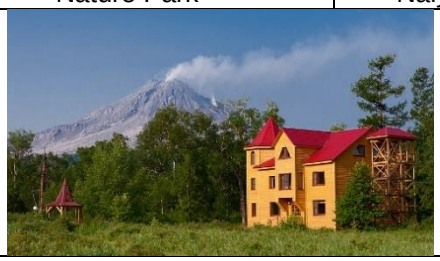
a) Pyramid house at the Central mountain pass of the Nalychevo Nature Park

b) Dining room at the Central mountain pass of the Nalychevo Nature Park

c) Plunge pool at the Central mountain pass of the Nalychevo Nature Park



d) Tumroki Recreation Center

e) St. Timon's Mountain Shelter in the Timonovsky Reserve

Figure 5. Guest houses in SPNAs of the Kamchatka Territory

After reviewing regulatory documentation and various guidelines for the design of tourist facilities, as well as experience in the construction of buildings and structures in SPNAs of the Kamchatka region, we identified various means of forming ecotourism infrastructure facilities.

In the field of basic infrastructure:

– It is advisable to build tourist structures in zones of regulated tourism and recreation or near protected areas or in territories that have lost this status;

– At the entrance group of SPNAs, entry signs and information stands should be installed, as well as helipads or, in rare cases, organized parking lots and floating piers;

– Visitor centers should be located at the entrance to SPNAs, preferably in the entrance group;

– It is also recommended to include a cafe with production and storage facilities, various workshop rooms, and sanitary units into the structure of the building or as a separate block within the functional groups of visitor centers;

– Sanitary facilities in SPNAs must meet modern architectural requirements, including the organization of restrooms for people with disabilities, and be evenly located at key tourist routes;

– Ecological trails must be marked with appropriate signs; camping sites and observation decks must be equipped with gazebos, canopies, fences, benches, and trash cans;

– When arranging ecological trails, it is recommended to reduce anthropogenic and other impacts on the environment by installing wooden flooring or using special engineering

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solutions.

In the field of commercial infrastructure:

– Self-organized campsites must be arranged in a prepared fenced area;

– The functional composition of campsites must include sheds equipped with tables and benches, space for self-cooking with organized fire pits, administrative facilities (buildings that provide operational communication with various services), and helipads for emergency medical care;

– It is better to connect campsite objects and guest houses with wooden boardwalks, group them, and place them on platforms;

– Guest house complexes should include buildings with different numbers of rooms and several entrance groups;

– It is recommended to diversify the architecture of residential modules of equipped campsites by using prismatic or tent-like structures, as well as structures with a gable roof and domes of various capacities;

– The architecture and planning of residential blocks of campsites and guest houses should provide for a kitchenette, a living room, sanitary facilities, and a terrace;

– Catering establishments can be located in stationary adapted containers;

– Like permanent buildings, recreational and health facilities, in particular baths, should be organized within tents or adapted containers;

– When forming commercial infrastructure facilities, it is necessary to follow such principles as multifunctionality, the integration of structures into the environment, and the environmental and technological sustainability of buildings.

4 CONCLUSIONS

The study showed that existing regulatory documents and guidelines for the design of tourist facilities in the Kamchatka Territory require additional adaptation to the specifics of ecotourism. The development of ecotourism infrastructure should include basic elements such as sanitary facilities, visitor centers, nature trails, and information stands, as well as commercial infrastructure in the form of campsites, guest houses, and recreational facilities. Particular attention should be paid to the integration of these sites into the natural landscape and the use of sustainable technologies to minimize environmental impact.

The results of the study confirmed that the targeted formation of ecotourism infrastructure in SPNAs of the Kamchatka Territory contributes to the creation of a sustainable system that

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not only meets the requirements of modern tourism but also ensures the safety of natural complexes. The proposed methods and approaches to the design and construction of tourist facilities combine commercial activity with the need to protect nature, thereby ensuring the comfort and safety of tourists with a minimal impact on the environment.

REFERENCES

Afanasieva, A.V. (2020). Foreign experience of ecological tourism management: The trends and development models. *Services in Russia and Abroad, 14*(3(90)), 27-56.

An autonomous non-profit organization “Agency for Strategic Initiatives to Promote New Projects”. (2019a). *Guidelines for socio-cultural programming of specially protected natural areas.* Moscow: ANO Agency for Strategic Initiatives, 232 p.

An autonomous non-profit organization “Agency for Strategic Initiatives to Promote New Projects”. (2019b). *Guidelines for the design of infrastructure facilities in specially protected natural areas.* Moscow: ANO Agency for Strategic Initiatives, 360 p.

An autonomous non-profit organization “Agency for Strategic Initiatives to Promote New Projects”. (2019c). *Guidelines for the functional organization of specially protected natural areas.* Moscow: ANO Agency for Strategic Initiatives, 212 p.

An autonomous non-profit organization “Agency for Strategic Initiatives to Promote New Projects”. (2019d). *Guidelines for waste management in specially protected natural areas* Moscow: ANO Agency for Strategic Initiatives, 174 p.

An autonomous non-profit organization “Agency for Strategic Initiatives to Promote New Projects”. (2019e). *International experience in the development of ecological tourism in specially protected natural areas.* Moscow: ANO Agency for Strategic Initiatives, 258 p.

Butnor, T.V. (2020). Tourism in Kamchatka: Situation, problems, prospects. In G.A. Tokareva (Ed.), *The Far East in the context of the State Policy of the Russian Federation in the Asia-Pacific region: Proceedings of the interuniversity regional scientific conference*, February 19, 2020, Petropavlovsk-Kamchatsky, Russia (pp. 120-125). Petropavlovsk-Kamchatsky: Kamchatka State Technical University, Kamchatpress.

Demidyuk, I.S. (2017). Development of the tourism sector in the Russian Far East Regional economic development in modern conditions. In *Proceedings of the 9th International Student Scientific Conference “Student Scientific Forum 2017”*. Retrieved from https://scienceforum.ru/2017/article/2017034345

Kamchatka. Lake Nachikinskoe. (n.d.). Camping on Lake Nachikinskoe. Retrieved from https://nachikinskoe.ru/

Submetido em: 16/04/2024
Aprovado em: 20/07/2024
Avaliação: Double Blind Review
ISSN: **2316-2880**

Kamchatka. Your incredible adventure. (n.d.). Passports of tourist routes of Kamchatka. Retrieved from https://visitkamchatka.ru/route-passports/

Kronotsky Nature Reserve. (n.d.). Retrieved from https://kronoki.ru/ru/kamchatka/about-kamchatka/

LANDOFBEARS. (n.d.-a). Glamping "Tolbachik Camp". Retrieved from https://landofbears.ru/glemping/

LANDOFBEARS. (n.d.-b). Glamping "Vilyuchik Camp". Retrieved from https://landofbears.ru/glemping-vilyuchik-camp/

Lebedeva, S.A., & Patkina, E.V. (2021). Barriers to ecotourism development and ways to overcome them. *Journal of Economics, Entrepreneurship and Law, 11*(5), 1271-1288.

Ministry of Natural Resources and Environment of Russia. (2019, November 5). The Commander Nature Reserve is setting up an ecotrope to observe the life of marine mammals. Retrieved from https://clck.ru/39e5f7

Ministry of Natural Resources and Environment of Russia. (2020, November 20). The winners of the first professional competition of the protected area "Golden Path of Russia" were awarded. Retrieved from https://clck.ru/39e5nQ

St. Timon's Mountain Shelter. (n.d.). Retrieved from https://saint-timon.com/hotel

State Duma of the Federal Assembly of the Russian Federation. (1995). Federal Law of March 14, 1995, No. 33-FZ "On specially protected natural territories". Retrieved from http://government.ru/docs/all/95885/

Stishov, M.S. (2020). *The development of the federal system of specially protected natural territories of Russia in the period 2009-2018 and its further prospects*. Moscow: WWF, 184 p.

"Three volcanoes" Park. (n.d.). Retrieved from https://3vpark.ru/

Tumroki Recreation Center. (n.d.). Retrieved from https://tumroki.com/

Tyurin, A.N. (2018). Modern status and prospects of development of specially protected natural territories in the Kamchatka region. *Journal Scientific Notes of the V.I. Vernadsky Crimean Federal University. Geography. Geology, 4(70)*(2), 169-180.

Volcanoes of Kamchatka – A network of natural parks. (n.d.). Retrieved from https://vulcanikamchatki.ru/

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Submetido em: 16/04/2024
Aprovado em: 20/07/2024
Avaliação: Double Blind Review
ISSN: **2316-2880**

Yakubova, N.I. (2021). *Kamchatka. Travel guide*. Moscow: Bombora, 200 p.

Zavadskaya, A.V., & Yablokov, V.M. (2013). *Ecological tourism in specially protected natural territories of the Kamchatka Territory: Problems and prospects*. Moscow: Krasand, 240 p.