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In search of the management model of the nature reserve as a sustainable tourist destination

В поисках модели управления природным заповедником как устойчивым туристическим направлением

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Abstract

The demand for tourism and recreation in natural landscapes is steadily growing and the offers of tours are outstripping the solution of problems and issues related to the management of such destinations. The practice of using natural reserves as tourist destinations sets the task of conscious reconciliation of nature conservation and tourism functions. In foreign practice, this task is traditionally solved for such forms as national parks. In Russia, along with national parks, nature reserves are increasingly becoming a common and accessible form for recreation, and it is in their territories that we most often observe a conflict of nature management. On the one hand, nature reserves are very attractive for recreation and tourism, since there is practically no protection regime for their valuable natural complexes. On the other hand, its function as a natural reserve is incompatible with anthropogenic impact from recreation activity. The study of recreation and tourist flows carried out by us is interesting because its object is atypical for the tourist function of reserves – nature reserves, and the subject of the study is not route-organized tourist and recreational flows, but the areal nature of their tourist development. In the course of the tourist and recreational flows studying in the Kurgalsky Nature Reserve of the Leningrad region and assessing their impact on natural complexes, among other tasks, we made an attempt to determine the conceptual and methodological foundations of monitoring to ensure a sustainable management model for such a destination as a nature reserve. The substantiation of the monitoring methodology as a tool for implementing a sustainable

Аннотация

Спрос на туризм и рекреацию в природных условиях неуклонно растет и предложения туров опережают решение проблем и вопросов по управлению подобными дестинациями. Практика использования природных резерватов в качестве туристских дестинаций ставит задачу сознательного примирения природоохранных и туристических функций. В зарубежной практике эта задача традиционно решается для таких форм как национальные парки. В России распространенной и доступной формой для рекреации все чаще становятся заказники и именно на их территориях мы чаще всего наблюдаем конфликт природопользования. С одной стороны заказники весьма аттрактивные для рекреации и туризма, поскольку режим охраны их ценных природных комплексов практически отсутствует, с другой – его функция как природного резервата несовместима с антропогенным воздействием. Проведенное нами исследование рекреации и туристских потоков интересно тем, что его объектом стали нетипичные для туристской функции резерваты – природные заказники, а предметом исследования являются не маршрутно-организованные туристско-рекреационные потоки, а площадной характер их туристского освоения. В ходе исследования туристско-рекреационного потока в Кургальском заказнике Ленинградской области и оценки его воздействия на природные комплексы, среди прочих задач, мы сделали попытку определить концептуальные и методические основы мониторинга для обеспечения устойчивой модели управления такой дестинацией как природный заказник. Обоснование методики

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management model of a nature reserve as a tourist destination is the content of this article.

Keywords: destination management, nature-oriented tourism, tourism in nature reserves, the Limits of Acceptable Changes method.

Introduction

The growing popularity of nature-oriented tourism is characteristic of both international and national tourism markets. A peculiarity of the natural recreation development has become its association with specially protected natural areas (protected areas). Firstly, the protected area is the most popular attraction among citizens, because it embodies the quintessence of the value of outdoor recreation and a kind of exclusive natural recreation. The second circumstance is the better quality of natural complexes in reserves than in rural landscapes near cities.

In foreign practice, nature reserves have long been places where management seeks to consciously reconcile environmental and tourist interests (Miller, Liske, Carter & Walsh, 2018). In this case, national parks are an effective and typical form of a reserve. They practice organized forms of tourism and recreation in the models of ecotourism, soft tourism, special interest tourism, green tourism, responsible tourism, etc. and the category Protected Destination System (PDS) applies to them. The PDS category is used to highlight areas that are managed and developed to support both conservation and tourism programs in an integrated manner (Miller et al., 2018). This term emphasizes the interdependence between tourist destinations and protected areas.

Our study and its results are interesting because the object of the study was a non-specific reserve for tourism – the Kurgalsky Nature Reserve, and the subject of the study is the impact of unorganized recreation on its natural complexes. During the study of the tourist and recreational flow in the Kurgalsky nature reserve of the Leningrad region and the assessment of its impact on natural complexes, we asked ourselves if there are any solutions for the balanced coexistence of nature conservation and recreational functions in nature reserves of the North-West of Russia and on what conceptual and methodological basis is this possible. On the

мониторинга в качестве инструмента реализации устойчивой модели мониторинга природного заказника как туристской дестинации составляет содержание данной статьи.

Ключевые слова: менеджмент дестинаций, природно-ориентированный туризм, туризм в заказниках, методика пределов допустимых изменений.

one hand, there is a high demand for nature reserves as the most convenient form of protected areas for outdoor recreation. On the other hand, in nature reserves with active recreation, the tasks of preserving biodiversity are acutely set. The current regulations on nature reserves prohibit a number of types of recreation, but in practice they are not implemented. Currently, there are no effective methodological approaches to ensuring a balance between nature conservation and recreational types of nature use in nature reserves.

Literature review

Since the 70-s of the last century, managers have been trying to protect nature from the negative influence of tourists with the help of quantitative standards, which is reflected in a number of works by researchers. Domestic research has been dominated by the study of the effects of recreation on natural complexes and the justification of quantitative indicators of recreational loads and capacity of national parks (Zabelina, 2006). Works on the use of the ideology and method Limits of Acceptable Change (LAC) (Stankey, Cole, Lucas, Petersen, & Frissell, 1985) on the example of the Baikal and Trans-Baikal National Parks allowed a new look at the problem of tourism planning in Russia (Kalikhman, Pedersen, Savenkova & Suknev, 1999; Shirokov, Kalikhman, Komissarova & Savenkova, 2002). In addition, there were separate attempts to apply not the methodology itself, but its main idea: increasing the permissible recreational capacity of protected areas popular with tourists without calculating the exact quantitative load limit. In them, against the background of the existing load, the actual change of the landscape under the influence of recreation and the need to comply with certain conditions for tourists to visit the territory were taken into account (Chizhova, 2006).

However, both in foreign and domestic studies, the object of application of the LAC methodology is national parks and route methods of their recreational development (Castellanos, Alvarez, Clemente, García Ucha & Fernández-Truan, 2017). It is logical to assume that for a national park with a predominantly linear way of visitors movement, the method of assessing the recreational load (calculation of tourists on the route) and regulatory tools differ from those for reserves with a free mode of movement of vacationers throughout the area. The responses of ecosystems to similar load values at different visiting modes differ from each other. Reliability of accounting, regulation and forecasting of the load in nature reserves, such as Kurgalsky, is difficult to ensure due to its spatial and temporal unevenness, as well as a variety of motives for recreational behavior of people. The latter circumstance determines the relevance of our task - based on the results of observations and their spatial analysis, to identify patterns of manifestation of the facts of digression of natural complexes, to determine the conceptual and methodological basis of monitoring for the purpose of creating and developing a sustainable model of recreational use and management of protected areas in the form of a nature reserve.

Methodology

The research was carried out in combination of natural science methods (landscape, biogeographic) and sociological research methods. In order to analyze the size, distribution and redistribution of the tourist flow in the summer field period, measurements of the traffic flow were made at the main points of entry and exit to the territory of the reserve during the day. The daily, weekly and seasonal dynamics of flows were studied. The results of the measurements reflected the seasonal aspect of the dynamics of recreation (the onset of the berry and mushroom picking season), the weather regime, the daily and weekly rhythms of suburban recreation. The distribution of the flows of tourists and vacationers on the territory of the reserve was analyzed using the methods of transport graphs.

To assess the impact of recreation on the natural complexes of the Reserve, the methods of visual express observations were used at the recreation sites of tourists, seasonal and local visitors. Previously, the selection of representative sites (territories) for further observations and research was carried out by a combined automobile and pedestrian route method. The most visited for

various purposes natural complexes associated with biotopes were selected as representative sites. Observations were carried out simultaneously on weekdays and weekends in the morning, afternoon and evening. The number of recreants, vehicles, and types of recreational activities were recorded on these territories.

In the selected representative sites, a five-stage scale of recreational digression was used to assess the transformation of natural complexes under the influence of recreation (Kazanskaya, 1972). Recreational digression is changes in natural complexes (mainly in forest biotopes) under the influence of their intensive use for recreation of the population. The use of the methodology for assessing the digression of natural complexes (Chizhova, 2011), in our opinion, is successfully combined with the ideology and methodology of the limits of permissible changes (Stankey et al., 1985; McCool & Cole, 1997). Interpretation of the results obtained on the identified areas of recreational impact, similar in landscape properties, type and intensity of recreational use, allowed us to determine the types of recreational use areas.

Results and Discussion

As a result of the conducted research, an idea has been formed about the diversity of forms and results of recreational use of the territory of the reserve. They reflect both the species and the territorial structure of the recreational impact on the natural complexes of the reserve, as well as the result of this impact, expressed through the digression index. The following criteria formed the basis for the allocation and typology of recreational use territories: types of recreational activities by groups of vacationers in this territory; type of natural complex, the degree of its transformation and disturbance.

As types of recreational activities were identified: camping, picking mushrooms and berries, fishing, walking, dog walking, swimming, picnic, motor vehicles riding. The types of natural complexes are represented by several groups of typical biotopes here, isolated in forests, on the coast and beaches of the bay and inland reservoirs of the reserve. Depending on the prevailing activity of certain groups of vacationers (tourists, weekend visitors, summer residents and locals), various forms of recreation arrangements were determined on the territory: parking of vehicles, parking with a tent, picnic sites, garbage localization or simply transit (pass-through) territories.

The following types of recreational use territories were identified:

- Forest territories: mushroom and berry lands, forest territories within the boundaries of settlements used for active and passive recreation, the territories performing transit functions within woodlands, garbage localization zones (forest areas adjacent to beaches and tourist parking areas).
- Beaches.
- Parking and picnic areas.
- Parking.
- Territories of organized recreational facilities (residential and household buildings for recreational purposes).

Of undoubted interest from the point of view of the structure of anthropogenic impact on the natural complexes of the reserve is the distribution of the above-described types of recreational use territories according to the forms of recreation organization (organized and spontaneous). The facts of the manifestation of anthropogenesis as a result of unorganized forms of recreation prevail, and the smallest number of them (tourist parking) is inherent for tourists, the largest – are typical for seasonal and local population activity.

The assessment of the current levels of tourist and recreational load on the natural complexes of the reserve was based on the following criteria: the ratio of modified and little-modified natural complexes; the density of the road and path network; the stage of digression; assessment of the complex according to the LAC method. Calculations of the impact assessment using the LAC methodology show that the natural complexes of the most popular recreation areas are in poor condition, due to their high attendance by all groups of vacationers, as well as the presence of tourist parking areas used during the warm period. For these territories, a high and medium potential threat of biodiversity loss has been noted. The woodlands where mushrooms and berries are harvested are in a conditionally satisfactory condition. However, access to them by car leads to the expansion of the network of forest roads and to the degradation of vegetation cover.

As a result, according to the levels of tourist and recreational load, four types of territories of the Kurgalsky Reserve were identified:

1. Territories with a low level of tourist and recreational load are wetlands, remote and hard-to-reach areas of the reserve, where

areas of undisturbed or slightly disturbed natural complexes prevail. For recreational purposes, they are used by seasonal and local populations. Stages of digression from 2 to 3. Assessment of the state of natural complexes according to the LAC method - "good".

2. Territories with an average level of tourist and recreational load are areas with undisturbed or slightly disturbed natural complexes and small areas of disturbed natural complexes with a developed road and path network in the central parts of the reserve. For recreational purposes, they are mainly used by seasonal and local populations. Stages of digression from 2 to 3. Assessment of the state of natural complexes according to the LAC method - "good".
3. Territories with a high level of tourist and recreational load are areas in the central parts of the reserve with disturbed and severely disturbed natural complexes, with a dense road and path network. For recreational purposes, they are used by all groups of visitors. Stages of digression from 2 to 5. Assessment of the state of natural complexes according to the LAC "satisfactory" method.
4. Territories with a very high level of tourist and recreational load are areas with severely disturbed natural complexes, with a dense road and path network, with garbage localization, located on the coasts of bays and lakes. For recreational purposes, they are used by all groups of visitors. Stages of digression from 3 to 5. Assessment of the state of natural complexes according to the LAC method "satisfactory" and "poor". Types of territories 3 and 4 pose high risks of biodiversity loss.

According to the LAC methodology, 4 compliance classes (out of 6) were allocated for the reserve. For individual territories of the reserve, according to their compliance class, the directions of their recreational use are recommended, which will not cause undesirable changes in the natural environment, and which can become the subject of monitoring according to selected indicators of the state of natural and social conditions. The cartographic representation of the characteristics of the territory of the Kurgalsky Nature Reserve by "compliance classes" allowed to create a basis for the targeting and accuracy of spatial solutions for optimizing the reserve function and recreational function in the reserve.

For the purposes of natural destination management, the LAC methodology is certainly the most progressive in comparison with the widespread methodology for quantifying recreational capacity and recreational load, both in foreign and domestic practice. However, in most studies, the object of its application is national parks and route methods of their recreational development (McCool & Cole, 1997). Most adherents of LAC ideology indicate zoning and proper creation of places to visit among the load management tools (Miller et al., 2018; McCool & Cole, 1997). In turn, spatial solutions, such as zoning, cannot be worked out once and for all, but must be dynamic, based on a system of continuous monitoring of the state of natural complexes and recreational load (Miller et al., 2018).

Conclusion

In the conditions of the dominance of amateur tourism in the territories of natural reserves that are not national parks, and are characterized by the free movement of recreation subjects diverse in goals, values and types of occupations, a special approach to managing the tourist flow is in demand. It should be based on the ideology and methods of Limits of Acceptable Change in combination with an assessment of the digression of natural complexes and the potential threat of reducing the biological diversity of biotopes.

For our and similar research objects – nature reserves with an area-based method of distributing amateur tourism flows - for effective management, it seems appropriate to combine zoning tools and operational monitoring of natural complexes. Operational monitoring should be based not on computational methods for determining recreational capacity and load, but on an assessment of the state of natural complexes and components under recreational influence. Moreover, the dynamism and efficiency of such monitoring should be provided by the methods of visual express observations, the content of which combines the LAC methodology and the assessment of the stage of digression of natural complexes in combination with an assessment of the potential threat of reducing the biological diversity of the biotopes of the territory.

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