Bear tourism in South Kamchatka Sanctuary (Russia): visitors and wildlife monitoring and management

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Introduction

A common justification for developing ecotourism opportunities within natural protected areas (PAs) is that ecotourism helps to secure long-term conservation of wildlife and habitats and also contributes to local socio-economic development.

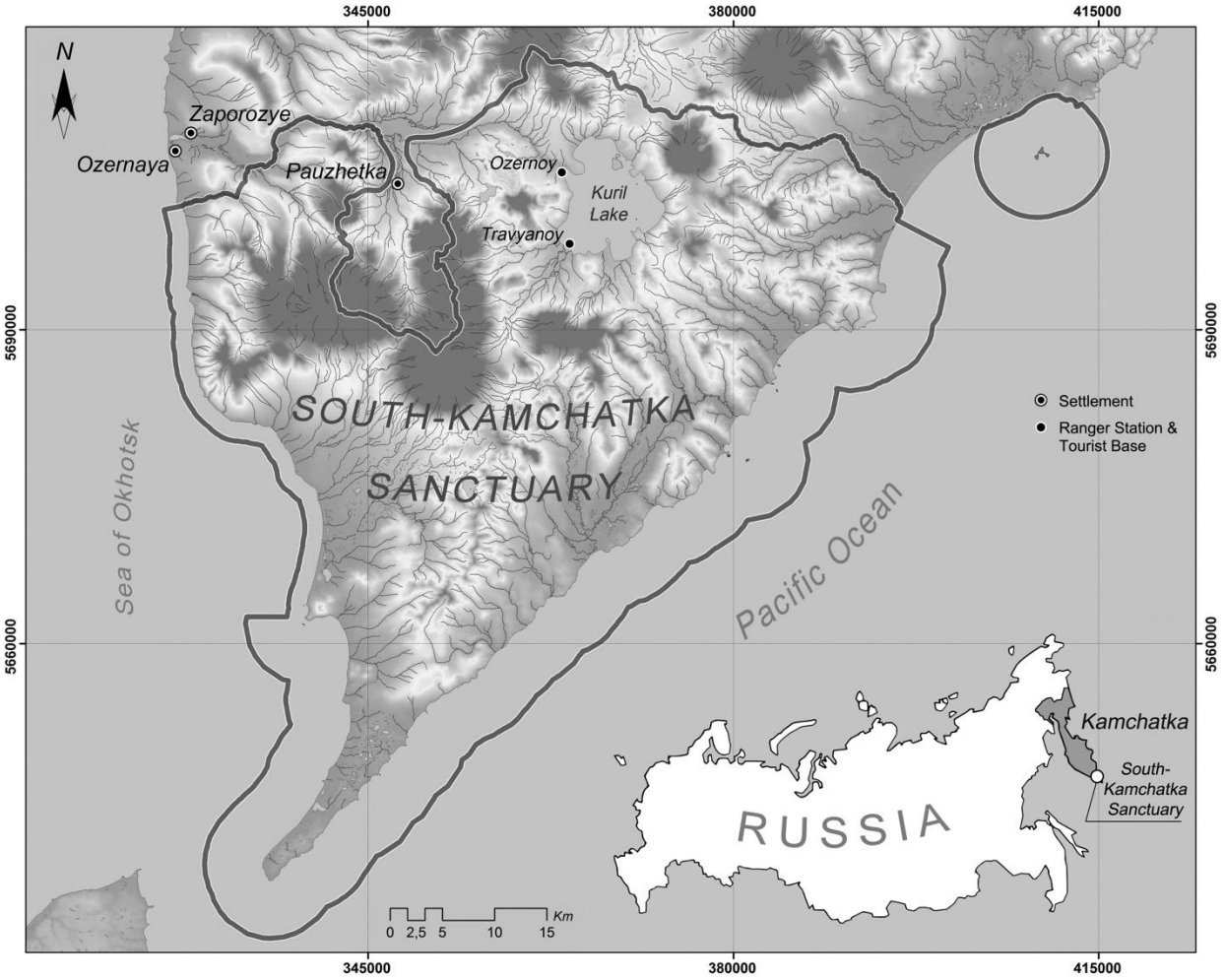
Although Russia has a long and rich history of nature conservation (its traditions go back to the 17th century), tourism development within Russian PAs started only in the early 1980s, with establishment of Russia's first national parks. Before this Russian PAs, represented originally by Russia's distinctive system of *zapovedniks* (strict nature preserves), emphasized preservation of ecosystems primarily for scientific purposes; as a result, management strategies for zapovedniks excluded all economic activities including tourism (Ostergen and Hollenhorst 1999; Watson et al. 2009). After the establishment of national parks, conservation policy for almost all categories of Russian PAs broadened to include environmental education and ecotourism.

Lack of experience managing the impacts of recreational visitors, however, has created many challenges for Russian PA managers who seek to achieve sustainable environmental, social and economic outcomes. In many cases, quite rapid opening of PAs for tourism has occurred in the absence of knowledge about environmental impacts, visitors' preferences, and local social and economic effects − all essential for successful management of tourism.

Perhaps the fullest study of such impacts and effects in Russia is now in progress at a long-protected nursery area for female brown bears (*Ursus arctos*) and their cubs, Kurile Lake in South Kamchatka Sanctuary. This paper offers a case study showing the potential for significant and rapid adjustments, in PAs in Russia and perhaps other nations, to diminish adverse impacts of human presence in critical areas of habitat for wildlife.

Background

South Kamchatka Federal Sanctuary (figure) is one of the most attractive areas for wildlife tourism in Russia. As well as being a part of UNESCO's World Heritage Site "Volcanoes of Kamchatka", an area now attracting visitors due to its primeval nature and picturesque scenery, the Sanctuary provides habitat for what may be the world's largest population of brown bears (*Ursus arctos*) within a single protected area. As a result, the Sanctuary is experiencing rapid growth in numbers of visitors. During the past 10 years the number of tourists, who travel to the Sanctuary mostly to view its abundant bears, grew 10 times and now has reached 4000 visitors per year. The majority of bear viewing activity occurs along the coast of Kurile Lake, where bears congregate to feed on the abundant runs of sockeye salmon that occur from the middle to the end of summer.



Location of the study area

At the same time that the Southern Kamchatka Sanctuary is a haven for wildlife, it also must be a neighbour to adjacent settlements with a total population of about 2,500 people. In this remote and isolated area, people's lives and local economies depend upon the exploitation of natural resources, most importantly through fishing. Ecotourism development in areas such as this can add significantly to the otherwise limited range of economic opportunities; ecotourism can simultaneously raise the level of environmental awareness of the area's residents and offer them alternatives to poaching and other forms of illegal activity.

Until last year, tourism development in the area was carried out without any scientific or research support. But with growth in the numbers of tourists, it is becoming necessary to design mechanisms to provide appropriate visitor experiences that can protect vulnerable ecosystems, reduce the negative impact of tourism, and provide benefits for local economies.

Methods

This paper presents results of our research projects, which focused on gathering knowledge needed to create tools to support sustainable tourism development in Southern Kamchatka, particularly in the basin of the Kurile Lake.

The project, which utilised an interdisciplinary approach, included zoological studies of bear-human interactions and sociological studies of visitors' use.

Zoological studies were conducted throughout the period of salmon runs, from late June until the end of September 2017. These studies aimed to improve understanding of the potential

individual-level and population-level effects of recreational activities in order to help develop tools to aid managers in making decisions about further recreational activities in brown bear habitats. Studies utilized direct observations as well as photo-traps, which were set up in areas with and without tourists, in order to collect data.
Sociological studies were conducted in the region's two most-popular tourist bases (Travyanoy and Ozernoy ranger stations) throughout the period when visitors use the area (from the middle of July until the end of September) in order to assess the current nature of bear viewing opportunities, significant factors that influence the quality of those opportunities, and public acceptability of current management startegies in bear viewing. The studies included observations of tourist activities and collections of sociological data using in-depth personal interviews (semi-structured), during which 449 questionnaires were collected. Interview topics included tourists' expectations and satisfaction, experience of crowding, feelings about interactions with brown bears, educational experiences resulting from bear-viewing programmes, and perceptions about future management of the area.
In order to develop our recommendations for sustainable tourism, we also drew on results and analysis from our previous studies devoted to assessment of ecosystem services and values of the area for local communities (Zavadskaya et al. 2017) and to attitudes of residents and tourists towards protected areas (Nikolaeva et al. 2015).

Results

Our study showed that bear viewing activities (tracking, photographing, using drones, travelling via boats and helicopters) in the basin of the Kurile Lake cause the full spectrum of impacts upon the area's population of brown bears that has been well described in other bear-viewing areas (Fortin et al 2016; Penteriani et al. 2017). Impacts on bears that we witnessed include: spatial and temporal avoidance, changes in the time spent at a habitat, changes in the number of bears present, changes in sex/age class of bears in a habitat, and changes in activity budget.
Our study of visitor use gave information for establishing acceptable carrying capacities for visitors and for developing and improving interpretative programmes intended to enrich visitors' recreational and educational opportunities. Although our study showed that most visitors give a positive evaluation to their experience in the Sanctuary, the study revealed a number of negative impressions. Some visitors contended that a discrepancy exists between ideals of ecotourism and the current impacts of tourism in the area; others expressed concerns about current management practices, about the extent of tourism development, about what could be called "touristization" of an area that is promoted to be wilderness, and about unacceptable levels of intervention by tourists in the lives of brown bears.
Combining the results of this study with those of our previous studies allowed us to reach the following principal outcomes, designed to help harmonize relationships between people and wildlife in the area:
1) A code of ethical bear viewing practices for the area was developed and implemented.
2) Hotspots with excessive recreational impacts and areas of potential conflicts over resource use in the area were identified, and as a result an optimal spatial structure for bear viewing opportunities was proposed.
3) In order to provide long-term support for management decisions designed to assure that bear viewing is compatible with conservation benefits and community-development benefits, an ongoing monitoring programme was developed and implemented − a programme that will monitor social and physical conditions, which are constantly changing and interacting in new ways, as well as monitor communities' involvement with tourism development.

4) A programme of detailed training for rangers and tourist guides, designed to improve understanding about the area and about bears' behaviour, as well as to minimize conflicts, was developed.
5) A programme that involves local communities with tourism development − including through educational events, promotion of local products to tourists, and logistical support − was developed and implemented.
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