International Journal of Ecosystems and Ecology Science (IJEES) **Vol. 14 (4):** 231-242 (2024)
https://doi.org/10.31407/ijees https://doi.org/10.31407/ijees14.4

UNIFIED METHODOLOGICAL FOUNDATIONS FOR SUSTAINABLE RECREATIONAL ENVIRONMENTAL MANAGEMENT: A FRAMEWORK FOR TOURISM AND NATURAL RESOURCE CONSERVATION

Tatiana Volkova[1*], Ekaterina Golubyatnikova[1], Anna Mamonova[1], Olga Ivlieva[1], Viktoriya Anisimova[1], Tatiana Rovovaya[1]

[1*]*Institute of Geography, Geology, Tourism and Service, Kuban State University, Krasnodar, Russia;*

[*]Corresponding Author T.A. Volkova, email: mist-next4@inbox.ru;

Received October 2024; Accepted November 2024; Published December 2024;

DOI: https://doi.org/10.31407/ijees14.428

ABSTRACT

The development of methodological foundations for organizing recreational environmental management is a significant step towards sustainable and efficient use of natural resources, contributing to environmental preservation and improving people's quality of life. The lack of a unified approach to recreational activities poses challenges for planning and management, as well as increasing the risk of harm to natural environments due to excessive use. In this context, the development and implementation of a standardized methodology for managing recreational use is crucial for the sustainable and efficient utilization of natural resources, while promoting environmental preservation and enhancing the quality of life for people. Based on an analysis of various factors such as natural conditions, cultural heritage, economic growth, infrastructure, and environmental issues, it is possible to assess the potential for future development in recreational environmental management. This assessment can help identify key challenges and develop strategies for addressing them. Through this process, we can gain a better understanding of how to sustainably manage recreational areas while preserving cultural and natural resources for future generations.

Keywords: ecological management, natural concervation, recreational impact assessment

INTRODUCTION

Creating a unified approach to organizing rational recreational environmental management across different territories ensures a consistent standard of quality and effectiveness of recreational activities and facilitates planning and management. Uniform methodological guidelines help prevent overuse of natural resources while ensuring their sustainable use, contributing to biodiversity conservation and ecological balance in recreational areas. The presence of uniform methodological rules allows for effective planning and management of recreational activities in a given area. This includes identifying optimal locations for infrastructure facilities, designing routes and recreation programs, and monitoring compliance with environmental regulations (Bekezhanov et al., 2023). Uniform methodological guidelines can serve as a foundation for attracting investment in recreational infrastructure

development, providing investors with a clear understanding of the opportunities and conditions for project implementation in a specific territory. These unified approaches also facilitate the integration of cultural and historical sites into recreational management plans, ensuring their harmonious coexistence with the natural environment. Rational recreational environmental management can contribute to improving the quality of life for the local population by creating new jobs, developing infrastructure, and raising awareness about environmental issues. However, at this time, it is difficult to talk about a single, generally accepted methodology for organizing recreational environmental management in the Russian Federation.

MATERIALS AND METHODS

The research employed generalization (specific-to-general and vice versa), analysis, forecasting, and economic assessment (analogy). It reviewed existing methods in environmental management, planning, monitoring, control, and efficiency assessment. A unified structure of methodological foundations was developed to address the unique characteristics of natural and recreational resource management, enabling the creation of effective environmental management programs.

Developing this structure required analyzing normative and methodological documents, identifying shortcomings, and highlighting features of various tourism and recreational types. The study also examined environmental impacts of recreational activities and proposed methods to control and mitigate them. In the Russian Federation, recreational activities are governed by federal laws, government standards, and sanitary regulations.

Key regulatory frameworks include:

- Federal Law "On Environmental Protection" No. 7-FZ (2002): Regulates the balance between society and the environment, ensuring rational resource use and ecosystem preservation (State Duma of the Federal Assembly of the Russian Federation, 2002; amended 2024).
- Land Code No. 136-FZ (2001): Defines recreational land use, prohibits non-conforming activities, and mandates its preservation (State Duma of the Federal Assembly of the Russian Federation, 2001).
- Water Code No. 74-FZ (2006): Ensures rational use and conservation of water resources by defining permissible loads and protection measures (State Duma of the Federal Assembly of the Russian Federation, 2006).
- Sanitary and Epidemiological Law No. 52-FZ (1999): Establishes safety standards for atmospheric air, water bodies, and soils in recreational areas (State Duma of the Federal Assembly of the Russian Federation, 1999).

Additional relevant standards include:

- GOST R 58737-2019: Classifies recreation areas and sets organizational requirements, including the calculation of recreational capacity and pollution control measures (Federal Agency for Technical Regulation and Metrology, 2019).
- GOST R 56642-2021: Defines requirements for ecological tourism, including maximum permissible environmental impacts (Federal Agency for Technical Regulation and Metrology, 2021).
- SanPiN 2.1.3684-21 (2021): Outlines environmental quality standards for economic activities, including recreational water safety and soil conditions (Chief State Sanitary Doctor of the Russian Federation, 2021).
- SanPiN 2.1.7.1287-03 (2003): Provides hygienic standards for soil safety in recreational areas (Chief State Sanitary Doctor of the Russian Federation, 2003).
- GOST 17.1.5.02-80: Establishes hygienic requirements for water bodies and recreational areas (USSR State Committee for Standards, 1980).
- "Strategy for the Development of Tourism in the Russian Federation until 2035": Analyzes trends in sustainable tourism and emphasizes collaboration for environmental and economic balance (Government of the Russian Federation, 2019).

These regulations form the basis for developing methodological principles for sustainable tourism and recreation management, as highlighted in recent studies (Dolgopolov et al., 2024). They aim to ensure ecological safety, minimize environmental harm, and promote sustainable development.

RESULTS

The developed unified structure of methodological foundations for the organization of recreational environmental management consists of five main stages:
1. Preparation of theoretical foundations for the organization of recreational environmental management.
2. Assessment of recreational resources.
3. Establishment of environmental regulations.
4. Development of a recreation management program.
5. Implementation of measures for sustainable recreational environmental management.
Each stage involves a number of essential studies that allow for a comprehensive examination of the characteristics of the area and resource base, in order to identify the most suitable type of recreational management.

Stage 1: Preparation of Theoretical Foundations for Recreational Management
1 Characterization of Physical-Geographical and Economic-Geographical Conditions in the Selected Area
The physical and geographical characteristics of the area suitable for recreational nature management include the following elements: Geological structure, including rock formations, relief, and tectonic features. Climatic conditions, such as temperature, precipitation, humidity, sunlight, wind patterns, and hazardous meteorological events. Hydrological features, including groundwater, surface water bodies, water levels, and hydrological risks. Soil and vegetation coverage, including soil types, fertility, erosion patterns, plant life, and protected plant species. Wildlife, including protected animals and those that may pose a threat to humans. Ecological situation, including the overall state of the environment and pollution levels. These elements define the opportunities and limitations for organizing recreational nature management, as well as influencing the development of various types of tourism and recreational activities. The economic and geographical conditions for the organization of recreational environmental management on the territory are characterized by several elements:
1. Socio-economic indicators: These include the population, infrastructure, and economy of the region, which are important for assessing the overall development of the area.
2. Recreational needs and financial situation: Understanding the recreational needs and financial capacity of the population is essential for planning activities that meet their requirements.
3. Economic attractiveness and investment potential: The economic attractiveness of a region and its investment potential play a significant role in determining whether it is suitable for recreational activities.
4. Political stability and security: A stable political environment and high levels of security are crucial for attracting tourists and ensuring their safety.
5. Existing tourist infrastructure: Accommodation, transportation, food, and entertainment facilities are all essential components of a successful tourism industry.
6. Legislation and regulation: The legal framework for nature protection and tourism is important to ensure compliance with regulations and standards. These factors influence the selection of a location for recreational management, as well as the types and forms of tourism activities, and ultimately determine the success of these activities.
2 Setting Goals and Objectives for Tourist and Recreational Activities
This stage involves the study of the theoretical and organizational aspects of recreational tourism, identification of the main factors and conditions affecting the development of tourism in the area, determination of the purpose and sub-goals for organizing recreational nature management, as well as the quantitative characteristics of goals (functional targets) and the detailed structure of the system for achieving these goals through the recreational nature management program. Tasks are set to organize recreational nature management in a specific area, including the description of measures for the organization of rational environmental management, such as the formation of a recreational complex and the use of natural resources while protecting the environment. This stage of the project involves the identification of possible forms and methods of using this combination of natural resources to organize tourist and recreational activities.
3 Definition of Recreational Environmental Management
This stage in the structure involves defining possible forms and methods of using this combination of natural resources to organize tourist and recreational activities.
4 Justification for the selection of the location based on a set of indicators

The selection of a location for tourist and recreational activities requires consideration of a range of physical, geographical, and economic indicators of the area, as well as meeting the set objectives. When selecting a location, it is important to conduct a thorough study and analysis of these indicators to determine the best region for establishing and developing a tourist and recreational complex.

Stage 2: Assessment of Recreational Resources

1 Assessment of the Tourism and Recreation Potential of natural Resources Using Various Methods

There are several different methods for evaluating the tourist and recreational potential of natural resources: a method for regional assessment of recreational conditions based on natural factors, an integrated approach to assessing the tourism potential of the area, a method for determining the overall value of a resource as a set of factors, a comprehensive evaluation, a way to assess the natural environment at different levels, and others. It is recommended to use a combination of methods to evaluate the tourism and recreation potential of natural attractions. These methods include:

1) Quantitative approaches: compiling lists of natural, historical, and cultural assets; medical and biological assessments (measuring the climate's comfort and how natural factors affect the human body).

2) Qualitative approaches: Aesthetic assessment (determining the degree of exoticism and uniqueness of resources, the emotional impact on people); Technological assessment (issues of technology and the use of natural resources for tourism, possibilities of engineering and construction development); Economic assessment (effectiveness of measures for more complete and rational use of resources);

3) UNESCO methodology: According to the natural factor, exceptional beauty is distinguished;

4) Scientific interdisciplinary research: Environmental assessment (monitoring pollution, impact of industrial facilities);

5) Complex methods: Cadastre of Tourist Resources (a set of information about a tourist region, including a quantitative and qualitative inventory of economic objects, data on their dynamics and degree of exploration, as well as the use of cartographic and statistical materials); GIS of Tourist Development of Territories (an information model of a tourist region that includes characteristics of its tourist and recreational potential, recreational zoning, and a specification of the region's features).

2 Identification of Factors that Stimulate and Limit the Organization of Recreational Environmental Management

Factors that stimulate the organization of recreational natural resource management include: availability of various recreational resources (natural, cultural, and historical), improvement of the environmental situation and protection of nature, creation of national parks and recreational areas, improvement of material well-being, and increase in leisure time. The factors limiting the organization of recreational environmental management include limited recreational resources, such as the exhaustion of certain types of resources, negative anthropogenic impact on natural landscapes, including construction and pollution, lack of control over the construction and use of recreational facilities, insufficient environmental literacy among the population and business leaders, and imperfection in the legislative and regulatory frameworks for nature protection and recreational management.

3 Identification of Existing Prerequisites for Implementing the Recreational Function of a Territory

To identify the prerequisites for the implementation of the recreational function of a territory, it is necessary to conduct a comprehensive assessment of its natural, cultural, historical, and socio-economic conditions. This involves studying: the diversity and quality of natural resources (landscapes, climate, water bodies), cultural and historical heritage (monuments, museums, historical sites), the socio-economic development of the area (infrastructure, accessibility of services, living standards of the population), and the supply and demand for recreational services on the market (population needs, competition, trends in industry development).

4 Determining the Volume of Natural Recreational Resource Reserves

The volume of natural resource reserves can be determined by the resource availability indicator. This indicator is the ratio between the size of the natural resource reserves and the scale of its use. Resource availability can be expressed in terms of the number of years that the proven reserves will last, or in terms of reserves per capita. These calculations take into account current rates of use and production. Determining the volume of natural resources, such as mineral waters, beaches, and forests, is necessary to estimate the potential capacity and level of development of a given territory.

5 Establishing the Area of Natural Recreational Resources

The area where natural recreational resources are distributed can be determined based on indicators such as aquifer size, beach size, wooded and watered area, and the boundary of a stable snow cover. This information allows for the identification of potential recreational areas and the establishment of boundaries for sanitary districts.

6 Determination of the Period of Possible Exploitation of Natural Recreational Resources

The period during which natural recreational resources can be used is determined based on the type of activity that takes place in the area, such as the duration of the favorable climatic conditions, the swimming season, and the period when stable snow cover is present. This information is needed to calculate the seasonality of tourism and understand the patterns of tourist traffic.

7 Considering the Immobility of Most Resources

Considering the immobility of most types of resources in a given territory is essential to determine the importance of recreational infrastructure and its flows to locations where they are concentrated.

8 Assessing the Capital Intensity and Operating Costs for Rapidly Creating Infrastructure and Achieving Social and Economic Benefits

The capital intensity and costs of operating recreational environmental management systems are estimated using three aggregate indicators: - The direct use cost (value); - Indirect use cost; - Potential use cost. The economic value of a resource is calculated as the sum of these three indicators: ECR = PS + SKI + SPI, where ECR stands for the economic value of the resource, PS represents the direct use value, SKI refers to the indirect use cost, and SPI stands for the potential (deferred) use cost.

Stage 3: Setting Environmental Regulations

1 Calculation of Recreational Capacity of the Territory

The recreational capacity of a territory refers to the number of people who can visit a particular area for leisure activities without causing significant harm to the environment. To determine this capacity, we need to gather information about the terrain, calculate the size of the planned recreational area, and find the maximum allowable load for different types of natural landscapes. To calculate the recreational capacity for a given area, we use the following formula: E = S x PD (persons/ha), where E represents the recreational capacity, S stands for the area of the planned recreation zone, and PD denotes the maximum permissible load for the specific type of natural landscape. By considering these factors, we can accurately assess the capacity of a given territory for recreational activities and ensure that visitors can enjoy their time while minimizing any potential environmental impact.

2 Calculation of the Ecological Capacity of the Territory's Resources

The methodology for calculating the ecological capacity of a territory's resources includes several stages:

1. Determination of the main environmental components with reproductive ability.
2. Assessment of the maximum possible human impact on the area.
3. Calculation of environmental technology intensity.
4. Determination of demographic capacity and reproductive potential.
5. Consideration of the strength of biogeochemical cycles.

This integrated approach allows us to assess all aspects of the environment and determine limits for economic activity and human impact that will keep the ecosystem stable.

3 Permissible Recreational Load on the Study Area

To calculate the permissible load on a specific area, we need to consider several factors:

- The capacity of the environment to absorb waste and pollution.
- The ability of the local ecosystem to recover from human activity.
- Potential impacts on local flora and fauna.

By taking these factors into account, we can determine the amount of recreational activity that is sustainable for the area. To calculate the permissible recreational load on the areas of the studied territory, several factors must be taken into account: the ecological capacity of the area, the throughput potential of recreational facilities and infrastructure, the species composition of biocenoses, the nature of the terrain, the properties of the soil cover, and other factors such as surface drainage, temperature regime, and susceptibility to erosion. Other factors that are usually taken into consideration in calculations of permissible recreational loads include sociogenic recreational resources, seasonal changes, and behavioral stereotypes of visitors, as well as the attitude of local residents.

The methodology for calculating permissible recreational loads includes the following steps:

1. Selection of target categories of visitors and development of a range of tourist products.
2. Determination of the timing of the tourist season and the number of visitors in each group.
3. Calculation of the permissible load based on the ecological capacity and infrastructure of the area.
4. Establishment of types of tourist and recreational activities and their environmental impacts;
5. Analysis of the ecosystem, functional and economic structure of the territory;
6. Allocation of current and future norms of recreational and tourist loads;

7. Determination of quantitative and qualitative aspects of recreational and tourist load standards. The maximum allowable recreational load should ensure sustainable ecosystem functioning and prevent damage to the environment.

4 Development of Standard Documents Justifying Environmentally Acceptable Impacts

Standard documents regulating recreational environmental management justify the environmentally acceptable impact on natural areas.

These include:

- Defining the goals and objectives of recreational environmental management;
- Analysis of existing environmental issues and constraints;
- Selection of optimal types of recreational activities and environmental management strategies;
- Development of regulations and standards for environmental impacts on natural areas; - Establishment of a monitoring system to track the state of natural resources;
- Implementation of measures to minimize negative impacts and restore disturbed ecosystems;
- Ensuring the implementation of developed documents and monitoring their effectiveness.

5 Creation of Environmental Passports

An environmental passport is a document that contains information about a territory's use of natural resources and its impact on the environment. This includes information about permits, impact standards, and payments for environmental pollution and natural resource use. The environmental passport also includes information about the company or individual responsible for the site, as well as general information about their activities and economic indicators. It provides information about the type, forms, and directions of their economic activity, as well as information about energy consumption and production. It also includes details about land use and permits for natural resource use and environmental protection. Finally, it includes a plan for environmental measures.

To create an environmental passport for a recreation area, the following steps are typically taken:

Collection and analysis of initial data: study of history, geography, climate, flora and fauna, infrastructure, and anthropogenic impact on the territory;

Assessment of the ecological state of the area: conducting studies on soil, water, air quality, vegetation, and wildlife, as well as identification of sources of pollution and environmental impacts;

Development of measures for nature conservation and sustainable use of resources: identifying priority areas and developing specific measures to improve the environment in the area;

Direct preparation of an environmental report: registration of a document including information about the main characteristics of the area, sources of pollution, measures for environmental protection, and measures to preserve biodiversity.

- Approval and approval of the environmental passport: submitting the document to relevant authorities for consideration and obtaining approval for its implementation.
- Implementation of measures for nature protection and rational use of resources: carrying out planned actions aimed at improving the ecological situation in the area.
- Monitoring and control of results: regularly inspecting and evaluating the effectiveness of measures, as well as making adjustments to plans and activities where necessary.

6 Environmental Assessment

Environmental assessments of recreational areas are conducted by government agencies such as Rosprirodnadzor to assess the impact of recreation activities on the environment. This includes verifying compliance with environmental regulations and assessing the risk category. To conduct the assessment, it is necessary to prepare materials for environmental impact assessments (EIA) and engineering and environmental surveys (EEI).

Stage 4: Development of a Recreational Nature Management Program

1 Determination of Types of Recreational Nature Management

The definition of types of recreational nature management is based on studying the forms and methods of using natural resources for recreation and health restoration, determining the limiting and stimulating factors for the development of various types of tourism and recreational activities using available natural recreational resources.

The main types of recreational nature management include: recreational water use, forest management, sanatorium and resort recreation, wellness, beach and bathing recreation, adventure recreation (sports tourism, mountaineering, fishing, hunting), scientific and educational recreation, ecological tourism, and agro-recreation.

2 Justification of the boundaries and status of a recreational area

Justification of the boundaries and status of a recreational area should take into account the following aspects: the purpose of the area, its location, accessibility, natural features, and the potential for recreation and tourism development.

– Analysis of natural features of the area, including topography, climate, soil, hydrology, and vegetation, considering the most vulnerable sites to anthropogenic activities.

– Assessment of the current state of recreational resources, infrastructure, and services available in the territory.

– Definition of goals and objectives for creating a recreational area, focusing on tourism, recreation, sports, environmental education, and preservation of natural heritage.

– Development of a concept for the recreational area's development, including zoning, infrastructure, environmental protection, and economic justification for the project.

– Conducting public hearings and coordination with stakeholders, such as local governments, public organizations, and the public.

– Preparation of documentation for obtaining necessary permits and approvals, as well as development of a project implementation plan.

Justification of the status of the recreational area in terms of purpose and use: recreational areas are intended for cultural, recreational, tourism and sports activities. They belong to the lands of settlements. Recreational lands are managed by the administrations of municipalities on whose territories they are located.

The justification should include:

- Definition of the main functions and objectives of the territory, such as organizing recreation, tourism, sporting events, and sports;
- Establishment of the legal status of recreational land in accordance with the Land Code of Russia:

Allocation of recreational areas in urban and rural areas, including parks, gardens, forests, squares, beaches, ponds, lakes, and reservoirs;

A ban on the construction or expansion of industrial, commercial, or warehouse facilities that are not related to recreational activities;

The use of sites for educational and tourism trails and routes through other people's land (easements);

Allocation of suburban green spaces outside the city, including forests and other vegetation that serve protective functions and provide recreational opportunities;

Coordination of any construction projects on these lands with environmental authorities, as well as restrictions on the use of forest resources in accordance with the Russian Forest Code.

3 Functional Zoning: Dividing the Territory into Different Zones for Various Recreational Activities and Purposes

Functional zoning of recreational areas involves dividing the territory into areas with different functions and purposes. This includes:

Integration with the surrounding natural environment: considering natural landscapes and features of the area.

Preservation and harmonious integration with nature.

Availability of infrastructure and services, such as hotels, restaurants, cafes, medical facilities, parking, and other amenities for a comfortable guest experience.

Aesthetics and design, including landscaping, architectural elements, and use of quality materials to create harmonious spaces.

Safety and accessibility, including fire safety measures, security systems, good lighting, and accessible routes for people with disabilities.

Sustainability and environmental responsibility are important aspects of our work. We strive to be energy efficient, using renewable and environmentally friendly resources. We also focus on water conservation and taking measures to reduce our negative impact on the environment.

The recreational areas are divided into several functional zones. These include a mass (active and intensive) recreation zone, a walking recreation area with specially organized and well-maintained routes, and a zone with minimum attendance. The number and type of functional zones depend on the size of the territory, as well as environmental, urban planning, and socio-economic factors.

4 Preparation of Proposals for the Development of Recreational Infrastructure

The preparation of proposals for the development of the recreational infrastructure in a given area should be based on data from research and be in line with the principles of sustainable recreational environmental management. Proposals for recreational infrastructure development may include:

- The construction of new or the renovation of existing facilities in the tourism industry such as hotels, resorts, recreation centers, campgrounds, and other tourist accommodations.

- Development of transportation infrastructure, including roads, railways, airports, and ports, to facilitate the movement of tourists and ensure the delivery of goods.
- Creation of modern information systems and technologies for promoting tourism products and services, as well as ensuring the safety and convenience of tourists.
- Development and implementation of measures to protect the environment and natural resources, which are the basis for tourism development;
- Training and retraining of personnel for the tourism sector, as well as advanced training of employees in the tourism industry;
- Conducting scientific research and development in the field of tourism, aimed at studying and forecasting the trends in the market for tourism services, as well as improving the methods and technologies used to provide these services.

Stage 5: Development of Measures for Rational Environmental Management in Recreation Areas

1 Application of Methods to Regulate Recreational Loads

To determine a set of methods for regulating recreational loads, we need to:
- Measure the level of damage to ecosystems;
- Normalize recreational load, determining the maximum number of visitors to the territory without significant damage to the ecosystem.
- Determination of the stage of recreational degradation of the ecosystem, characterizing the impact of the load on the natural complex;
- Use of indicators such as the composition and condition of grass-shrub and moss cover, roads and trails, soil compaction, and others;
-Application of test area methods (transects) or modeling to calculate quantitative characteristics of the load.

Among the methods for regulating recreational loads directly, it is worth noting the allocation of special zones, use of national parks and resort areas, environmental monitoring, adjustment of permissible load, rational improvement of tourist routes, control of tourist behavior, determination of environmental and physical factors limiting permissible recreational load, and determination of maximum permissible load.

2 Improvement of the Legislative and Regulatory Framework in the Field of Nature Protection in Recreational Areas

The improvement of the legislative and regulatory framework in the field of nature protection in recreational areas aims to improve the legal regulation of relations related to recreational activities in natural areas.

This measure is necessary to:
- Ensure the preservation of unique and typical natural complexes and objects;
- Minimize the negative impact on the environment when carrying out recreational activities;
- Observe the maximum permissible recreational capacity of the territories;
- Regulate relations related to tourism in specially protected natural areas;
- Approve plans for recreational activities and conclude agreements on their implementation in national parks;
- Lease land plots and establish easements and public easements for recreational activities in national parks; and - Restrict economic and other activities allowed in specially protected natural areas.

3 Forecasting the Prospects for the Development of Recreational Environmental Management in the Region

Forecasting the future of recreational environmental management in this region involves analyzing the current state of natural resources, historical and cultural landmarks, as well as the trends in the development of businesses within the recreational sector.

Discussion

The issue of planning tourist and recreational activities with a rational approach has been discussed for decades. In "Recreational Geography," N.S. Mironenko and I.T. Tverdokhlebov (1981) proposed a recreational cadastre—a systematic inventory of natural objects and phenomena, including geographical descriptions, usage recommendations, and protection measures. M.S. Nudelman (1987) expanded on this by detailing methods for maximizing the use of natural conditions for recreation while preserving resources.

M.A. Los (2012) emphasized that quality tourism depends on assessing and managing natural and human-modified geosystems sustainably. Similarly, M.A. Sarancha (2011) highlighted the importance of integrated evaluations for rationalizing resource use and balancing territorial development. However, Sarancha also identified methodological challenges in implementing such assessments.

V.Yu. Kuzin (2022) explored territory suitability for tourism, considering physiological, psychological, and ecological impacts. Kuzin's work underscores the necessity of minimizing environmental risks and designing sustainable tourism plans (Filonova et al., 2024; Mamikhin et al., 2023; Rednikova, 2023).
Practical methodologies include Preobrazhensky's (1975) criteria for evaluating bathing areas and Nepomnyashchy and Makeeva's (2020) approaches to managing water complexes. Long-term research by Avakian et al. (1990) and Svetskiy (2023) analyzed recreational use of water bodies, focusing on water quality and ecological audits. Kolotova (1999) and Komarova and Rogatnev (2012) developed methodologies for assessing recreational resources across various environments, from forests to urbanized areas.
The environmental impacts of tourism and the resilience of landscapes have been extensively studied. Chizhova (2006, 2011) developed methods for determining acceptable recreational loads, while Kuskov (2008) explored strategies to balance tourist impacts and maintain ecological sustainability. The official methodology for recreational load norms in Russia (1987) and the Limits of Acceptable Change (LAC) method (Kalikhman et al., 1999) serve as key frameworks. These approaches emphasize adaptive management and ecological monitoring to ensure sustainability.
In conclusion, a comprehensive understanding of landscape dynamics and degradation stages (Gladilina et al., 2023) underpins the development of rational recreational management strategies. This ensures compliance with environmental requirements while optimizing tourism's benefits (Stepanova et al., 2023).

CONCLUSIONS

Due to the variety of methodological approaches used in organizing various types of tourism and recreational activities, it is not possible to create a unified methodological framework that can be applied to different regions. Therefore, it is necessary to develop a unified methodological basis for organizing recreational environmental management for various types of activities in different areas.
Currently, there is no unified methodology for regulating recreational loads in Russia that can be used in all regions. The development of this methodology is a crucial task as it will allow for the effective management of recreational activities in different types of areas, considering their specific characteristics and features.

Acknowledgments. The research is carried out with the support of the Ministry of Science and Higher Education of the Russian Federation (No. FZEN-2023-0012 “Fundamental aspects of rational recreational environmental management and determination of anthropogenic load in the context of sustainable tourism development”).

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