

Conflicts in Protected Areas within the European Part of the Russian Arctic: Systematization and a Mechanism for Their Resolution



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Abstract. It would be difficult to overestimate the role of protected areas in the conservation of the Arctic nature. Due to their fragility and vulnerability to anthropogenic impacts, Arctic natural complexes need special and stricter protection. The importance of preserving the nature of the Arctic is also due to the fact that maintaining the environment in an undisturbed natural state is one of the main ways to preserve the traditional culture and lifestyle of the indigenous peoples of the North. However, the processes of creation and functioning of protected areas are often accompanied by conflicts; this reduces the efficiency of the entire network of protected areas. The article uses our own algorithm to identify and classify conflicts in protected areas within the regions of the European part of the Russian Arctic. In total, we revealed 138 conflicts in 21.6% of protected areas; 70.3% of the conflicts are in the most acute stage of open confrontation. As a result of the research, we have developed a universal mechanism for

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resolving conflict situations in protected areas. The mechanism is of a closed nature and includes the following implementation stages: setting a goal; analyzing conflicts that arise during the creation and functioning of protected areas; identifying stakeholders and their interests; identifying the subject and stage of the conflict; arranging the work of a platform for coordinating the interests of stakeholders; taking into account the priority of sustainable development in the territory; setting specific tasks and choosing conflict resolution tools; monitoring conflict situations in protected areas. We believe that the implementation of the proposed mechanism will ensure a balance of interests of the local population, economic entities, authorities and other interested parties, and will also contribute to sustainable socio environmental and economic development in protected areas and in adjacent territories as well.

Key words: Russian Arctic, protected areas, conflict.

Introduction

In contemporary Russia, the processes of creation and functioning of protected areas are often of a conflict nature. The main foundation, on which the emergence of almost all conflict situations is based, is two antagonistic positions. According to the first one, the territory of high natural value should be preserved for future generations in its primitive form by turning it into a protected area. Basically, this position is promoted by individual eco-activists, representatives of public environmental organizations and the scientific community. In most cases, they advocate the strict protection regime which provides for the creation of an extensive protected area; it is prohibited to carry out any economic activity within its boundaries. Representatives of the second position, on the contrary, advocate the maximum use of the territory's natural resources, no matter what natural value it may have. For the most part, these are entrepreneurs of different levels who are primarily concerned with maximizing profits, rather than preserving the natural environment. Often they are not only against the creation of new protected areas, but also for the elimination or reduction of the area of the existing ones.

As we can see, these positions reflect the views of different social groups and people about the ecological and economic development of a particular natural area. However, we should remember that the normal functioning and sustainable development of any territory implies pursuance of a balance not only of ecological and economic systems, but also of the social system, in the center of which are local residents. There is often a "failure", which is another major cause of conflicts in protected areas. Without necessary knowledge, the local population is easily misled. On the one hand, when creating a new protected area, residents are often intimidated by prohibitions on conducting habitual economic activities, which constitute an important part of local population's life (ban on harvesting firewood, fishing, hunting, collecting wild plants, etc.). On the other hand, they are "intimidated" by the complete destruction of the natural habitat by enterprises in case of refusal to create protected areas. Meanwhile, it is the local population that acts as a kind of "mediator" of the two antagonistic positions, as, first, the people are interested in preserving the nature of its native territory, and second, they have certain economic requirements and need jobs. Despite this, the position of local residents cannot be considered deliberately "compromise" and base on it in the process of conflict resolution. Due to the lack of specific knowledge, the local population, as we have already noted, may fall under the influence of the most powerful public organizations or business structures, or may simply defend their momentary

interests and habitual way of life without thinking about the strategic prospects for developing the territory. This necessitates a detailed study and classification of conflicts including depending on the parties involved, their positions/motives.

To date, neither in the scientific literature nor in official documents there is no mechanism for resolving conflicts, related to the creation and functioning of protected areas. Moreover, the work itself on the study and description of conflict situations in protected areas is limited and fragmented. Therefore, the purpose of our study is to systematize conflicts, related to the creation and functioning of protected areas in the European part of the Russian Arctic, and to develop a mechanism for resolving such conflicts on its basis. To achieve this purpose, it is necessary to solve the following tasks:

1. To review the modern scientific literature, devoted to studying conflicts in protected areas and mechanisms for their resolution.

2. To form a theoretical and methodological basis for the study of conflicts in protected areas.

3. To collect and analyze information about conflicts in protected areas of the European part of the Russian Arctic, obtained by sending official requests to municipal authorities, conducting in-depth interviews with experts and reviewing publications in the media.

4. To highlight the most important characteristics of conflict situations in the Arctic protected areas: the parties and subjects of conflicts, the positions and actions of the conflicting parties, the stages at which conflicts are currently located.

5. To identify and describe the main structural elements of the mechanism for resolving conflict situations that arise during the creation and functioning of protected areas.

It is important to note that the Arctic macro-region is the research object for a reason, as it is the Arctic nature that is characterized by special vulnerability to anthropogenic impacts and requires immediate response to possible environmental

threats until the degradation of ecosystems has become irreversible. In addition, the preservation of nature in the Arctic in an undisturbed natural state is one of the main ways to maintain the vital activity and traditional culture of the indigenous peoples of the North.

The significance of the research is also emphasized by the vector set by the national project “Ecology” to increase the number of protected areas and their area in Russia, the development of ecotourism and the growth of the number of visitors to protected areas. Usually, these processes are accompanied by an increased risk of conflict situations, the need to coordinate divergent interests and take into account the opinions of all participants in a comprehensive manner. This determines the special relevance of the work, carried out by the authors, and creates a substantive request for the development of a mechanism for resolving and preventing conflicts in specially protected natural territories.

Theoretical review

Speaking about environmental conflicts, it is worth noting that this phenomenon has been analyzed in sufficient detail in science. Nevertheless, the vast majority of publications deal with conflicts of nature management in general [1–8], as well as the causes of their occurrence [9; 10] and possible ways of resolution [11].

At the same time, conflicts in protected areas are given much less attention. Among the foreign works of recent years, it is worth noting the works of A.B. Johannesen, A.A. Mbanze, C. Vieira da Silva, N.S. Ribeiro, J.L. Santos, J.V. Campos-Silva, C.A. Peres, J.E. Hawes, T. Haugaasen, C.T. Freitas, R.J. Ladle, P.F.M. Lopes. By modeling the socio-economic consequences of the development of protected areas in Africa, A.B. Johannesen demonstrates the reduction of land suitable for agriculture and hunting, which, in turn, leads to a decrease in the well-being of local communities and the emergence of conflicts [12].

Using the example of a natural reserve in Mozambique, A.A. Mbanze et al. show that the local population living outside the protected areas has less social support, compared to those living inside the protected areas. This generates different conflicts including those emerging when residents of settlements, outside the boundaries of protected areas, are forced to participate more often in the illegal extraction of natural resources in specially protected natural territories [13]. J.V. Campos-Silva and co-authors have made the same conclusions; they have studied the social aspects of the functioning of protected areas in the Amazon basin [14].

In Russia, the most famous and serious scientific research in the field of conflicts in protected areas are the works of Natalia A. Alekseenko [15; 16]. Her extensive work on the identification and typification of conflicts of nature management in individual protected areas of Central Russia formed the basis for the creation of appropriate maps. Despite the high value and depth of the conducted research, the directions of their application are primarily in the field of mapping and design of protected areas, rather than in the field of improving the management of these territories. In addition, the systematic work to identify conflicts under the leadership of N.A. Alekseenko is rather of a pilot nature and has been implemented only in a few protected areas. Similar studies on the detection of conflicts in individual protected areas of the Russian Federation were conducted by M.P. Kuznetsov and S.A. Pegov (Valdaisky National Park) [17], S.K. Kostovskaya, O.G. Chervyakova, and V.O. Stulyshapku (Kaluga Zaseki Nature Reserve) [18].

A.V. Bocharnikova [19] focuses on conflicts between the administration of protected areas and local residents including indigenous peoples, and also considers the possibility of applying a strategy of “co-management” to resolve conflicts. A.S. Krotik analyzes the legal problems of the organization and functioning of protected areas

of federal significance and disputes and conflicts arising on their basis regarding the use and disposal of land, wildlife, forest and other resources¹. Thus, the works of A.V. Bocharnikova and A.S. Krotik also cannot claim to be comprehensive in considering the whole variety of conflicts in protected areas and have both specific restrictions (in the first case, conflicts of local residents are considered, in the second – legal conflicts), and territorial (the object of analysis by A.V. Bocharnikova is protected areas only of Primorsky Krai) and level (A.S. Krotik pays attention only to federal protected areas).

The presented literature review helps to conclude that the problem of identifying, in-depth analysis and systematization of conflicts in protected areas still remains poorly understood. In addition, there are no attempts to develop a comprehensive mechanism for resolving conflicts, related to the creation and functioning of specially protected natural territories. Our research is aimed at filling this scientific gap.

Theoretical and methodological basis of the research

The conflict theory, the concept of sustainable development, the concept of landscape approach and the stakeholder theory have become the theoretical and methodological basis for the study of conflicts arising during the creation and functioning of protected areas.

The main provisions of *conflict theory*, developed by famous scientists R. Darendorf [20], L. Kozer [21], K. Boulding, G. Simmel [22], make it possible to consider conflicts in protected areas as dynamic systems that have a common pattern of development and are characterized by the processes of origin, formation and resolution. In addition, according to the theory under consideration, conflicts in protected areas are a natural and in some sense even

¹ Krotik A.S. Legal problems of organization and functioning of specially protected natural territories of federal significance: specialty 12.00.06 “Land law; natural resource law; environmental law; agrarian law”: *Candidate of Sciences (Law). Thesis Abstract*. Moscow, 2003. 24 p.

necessary phenomenon, since they are a source of development and improvement of the protected area system itself, as well as the mechanisms of their creation and functioning.

The concept of sustainable development, which has been widely publicized and disseminated throughout the world since the late 1980s and early 1990s, implies the adoption of a model of social development that provides equal opportunities to meet the needs of natural resources of current and future generations. In the traditional sense, the concept of sustainable development has a triune character and assumes a balanced development of three components: economic, social and environmental. However, in some interpretations, a fourth component appears – “institutions”, reflecting political, managerial, cultural and technological aspects [23]. The concept of sustainable development does not provide for the abandonment of nature management in general and the cessation of economic growth, but positions the rational use of natural resources and the conservation of biodiversity [24] while recognizing man as the main value and asset of any state. Thus, the consideration of conflicts on the territory of protected areas, as well as the search for ways to de-escalate and resolve them from the perspective of sustainable development presuppose taking into account the need to preserve not only the natural environment, but also to ensure sustainable economic development and maximize public well-being.

One of the ways to achieve the Sustainable Development Goals is the use of an integrated **landscape approach** in the management of natural resources [25]. To date, there is no single universally recognized definition of landscape approach in the scientific literature. In the most general sense, it can be interpreted as a theoretical basis for integrating the interests of various nature users in order to ensure sustainable and equitable use of environmental resources [26; 27]. In relation

to conflicts in protected areas, the landscape approach has great potential, since it helps to create a foundation for reaching a compromise between environmental protection and socio-economic development. The latter is achieved by establishing a dialogue between all interested parties, involving all parties to the conflict, primarily representatives of local communities, in joint management and decision-making regarding protected areas.

The creation and widespread dissemination of the **stakeholder theory** is associated with the name of the American Professor R.E. Freeman, who published the monograph “*Strategic Management: A Stakeholders Approach*” in 1984. It defined a “stakeholder”, which includes “any individuals, groups or organizations that significantly influence the decisions made by the firm and/or are influenced by these decisions” [28]. The simplified list of stakeholders of a modern firm included owners, consumers, consumer protection groups, competitors, mass media, employees, “Special Interest Groups”, environmentalists, suppliers, government agencies, local community organizations. The success and strategic development of any company at the same time directly depends on the interaction with stakeholders. The management of such interaction has been reflected in a new direction of management – “stakeholder management”, which has recently been increasingly used not only by private companies, but also by state and municipal institutions, non-profit organizations. In relation to conflicts in protected areas, the stakeholder theory and stakeholder management allows analyzing motives and interests of the parties involved in the conflict situation for a more detailed, as well as developing mechanisms for managing relations between them on the basis obtained.

Data and methods

To systematize conflict situations arising during the creation and functioning of protected areas, we have used the algorithm, developed by the authors,

presented in an earlier article [29]. The algorithm assumes the use of the following methods of scientific research:

- sociological methods are: written survey of employees of municipal authorities, conducting in-depth semi-structured interviews of experts to identify and describe existing conflict situations in protected areas; we have selected and interviewed 10 experts among managers of protected areas, representatives of economic entities, scientific and public environmental organizations in each studied region (the period of information collection: September 2019 – January 2020);
- analysis of information on conflict situations in protected areas, presented in official documents, mass media, as well as received from municipal authorities and experts;
- generalization, classification, analogy, and graphical modeling.

Results and discussion

Based on a detailed analysis and systematization of a large amount of information, received from the media, as well as from municipal authorities and experts, the authors have managed to present it briefly in the form of several tables (*Tab. 1–4*). Each table contains the most important information about all the conflicts in the protected areas of the European part of the Arctic: the parties and the subject of the conflicts, the positions and actions of the conflicting parties, as well as the stage at which the conflicts are at the moment. The dynamics of any conflict situation in a protected area include four stages. At the first stage, the conflict originates, which proceeds at an unconscious level. Awareness of the conflict by its parties arises at the second stage. At the third one, most acute conflict stage, active actions of the conflicting parties begin, aimed at defending their interests. The fourth, final stage, involves the resolution of a conflict situation.

There are 74 protected areas on the territory of the Murmansk Oblast, the total area of which is 191.25 thousand km², which corresponds to 13.2%

of the region's area. This is significantly lower than the standard, established by the Convention on Biological Diversity ratified in the Russian Federation (hereinafter the Convention) – 17% of the land area. Meanwhile, there are positive changes in this area in the region: over the previous 10 years (from 2011 to 2021), 9 new protected areas have been created in the region, while the area, occupied by protected areas, has grown by more than 30%.

As a result of the conducted research, we have identified 19 conflict situations in 17 protected areas of the Murmansk Oblast (or almost 23% of the protected areas of the region; see *Tab. 1*). Five conflicts were recorded on the territory of federal protected areas and fourteen on the territory of regional ones. Sixty-three percent of the detected conflicts are in the most acute stage of open conflict (3rd stage); the remaining 27% represent conflict situations in the final stage. At the same time, it is important to note that all conflicts, that are currently ending or have already been completed, have been resolved in favor of protected areas.

Separately, it is necessary to highlight conflicts during which public environmental organizations insist on the elimination of protected areas due to the absence of the object of protection itself. There are quite a lot of such conflict situations in the Murmansk Oblast – 7 (or almost 37% of all identified conflicts). The existence of protected areas with insignificant and unjustified objects of protection makes it difficult to form new protected areas in the region, and also creates an unfavorable image of protected areas as a whole.

In the vast majority of conflict situations, the conflict object is the object of protection of protected areas (73.7%), followed by the territory of protected areas in terms of its use for the construction of infrastructure, travel, exploration and extraction of natural resources (15.8%). Only in 10.5% of cases, water resources were the subject of conflict (Atlantic salmon in the Varzugsky Nature Reserve).

Table 1. Conflicts related to the creation and functioning of protected areas in the Murmansk Oblast

Name of the protected area	Parties to the conflict	Subject of the conflict	Description of the conflict	Conflict stage
Khibiny National Park	Mining companies / environmental organizations; institutions of science; travel companies and tourists	Territory of the park in the passage part	Construction of roads on the territory of the park by mining companies for ore transportation. A special working group was set up to resolve the conflict, and several working meetings were held. As a result, the companies abandoned their original plans.	4th stage – the conflict is resolved
Kanozersky Nature Reserve	Ministry of Natural Resources of Russia / environmental organizations	Objects of protection	Environmental organizations declare the absence of objects of protection and advocate the elimination of protected areas, and the Ministry of Natural Resources of Russia – for its preservation.	3rd stage
Murmansky tundrovyy (Murmansk tundra) Nature Reserve				
Tulomsky Nature Reserve				
Natural Monument “Astrophyllite of mount Eveslogchorr”	Entities engaged in illegal mining of minerals / Ministry of Natural Resources of Russia	Objects of protection are astrophyllite crystals	Destruction of the main object of protection – astrophyllite crystals by persons and organizations, engaged in illegal mining of minerals.	3rd stage
Nature Park “Rybachy and Sredny Peninsulas”	A Ministry of Defense of Russia / environmental organizations; institutions of science; Ministry of Natural Resources of the region	A Territory of the park under construction	A The Ministry of Defense of Russia claims to use the territory of the nature park for its own purposes. Negotiations between the conflicting parties are underway. B The necessity for additional inclusion in protected areas of valuable objects in need of protection, which were unreasonably excluded during the preparation of the regulations on the park. Ministry of Natural Resources of the region, under pressure from environmental organizations, is preparing amendments to the regulations on the reserve concerning the expansion of its borders.	A 4th stage – end of the conflict
	B Ministry of Natural Resources of the region / environmental organizations; institutions of science	B Objects of protection		B 4th stage – end of the conflict
Seidyavvr Nature Reserve	Federal Agency for Mineral Resources, ore mining and processing enterprises / Ministry of Natural Resources of the region; environmental organizations; institutions of science; travel organizations; local population; Small Indigenous Peoples of the North (Saami)	Territory of the nature reserve for exploration and extraction of minerals	The Federal Agency for Mineral Resources, ore mining and processing enterprises advocate the exclusion of all mineral deposits and ore occurrences from the boundaries of the nature reserve for their subsequent development.	3rd stage
Kolvitsky Nature Reserve	Ministry of Natural Resources of the region / environmental organizations; institutions of science	Objects of protection	Public environmental and scientific organizations consider inadequate the regime of protection of nature reserves, established by the Ministry of Natural Resources of the region, which contributes to the threat of disappearance of the objects of protection. The Ministry of Natural Resources of the region is working to adjust the regulations on the reserve taking into account the recommendations of scientific organizations.	4th stage – end of the conflict
Kutsa Nature Reserve				
Kaita Nature Reserve				

End of Table 1

Name of the protected area	Parties to the conflict	Subject of the conflict	Description of the conflict	Conflict stage
Varzugsky Nature Reserve	A User of fishing grounds / environmental organizations; institutions of science; travel organizations; local population B Poaching communities / environmental organizations; institutions of science; local population; Ministry of Natural Resources of the region; fishing control; user of fishing grounds	A Aquatic biological resources (Atlantic salmon) B Aquatic biological resources (Atlantic salmon)	A The user of the fishing grounds intensively extracts Atlantic salmon, as a result of which the number of this valuable fish breed is greatly reduced. Environmental, scientific organizations and the local population are in favor of tightening the protection regime of the nature reserve. B Illegal salmon fishing by poachers, leading to a reduction in the population of this valuable fish breed.	A, B 3rd stage
Geological-geophysical Polygon "Shuoni-Kuets"	Ministry of Natural Resources of the region / environmental organizations; institutions of science	Objects of protection	Environmental organizations declare the absence of objects of protection and advocate the elimination of protected areas, and the Ministry Natural Resources of the region – for its preservation. The Ministry Natural Resources of the region retains protected areas, referring to the fact that there is no single procedure for the liquidation of protected areas.	3rd stage
Geophysical Station "Lovozero"				
Glacial boulder near Apatites				
Biogroup of spruces				
Fluorites of the Yelokorgsky Pillowcase	Enterprise engaged in the harvesting of minerals / environmental organizations	Objects of protection – fluorite minerals	The company, engaged in the harvesting of minerals, planned to develop a mineral deposit in the protected area, which would lead to the destruction of the natural monument. The Ministry Natural Resources of the region refused to consider the liquidation of the natural monument for the subsequent destruction of the object of protection.	4th stage – the conflict is resolved
Amethysts of the Cape Ship	Entities engaged in illegal mining of minerals / environmental organizations	Objects of protection – amethyst crystals	Individuals and organizations, engaged in illegal mining of amethysts, destroy the main object of protection of the natural monument.	3rd stage

The Nature Reserve Fund of the Republic of Karelia consists of 149 specially protected natural territories with a total area of 10 thousand km², which is only 6% of the Republic's area and almost three times lower than the standard, established by the Convention. From 2011 to 2021, seven new protected areas appeared in the region, which led to an increase in the area of protected areas by almost 2 thousand km².

According to the results of the studies, we have identified conflicts only in 9 protected areas of the Republic of Karelia (see Tab. 2), or 6% of

all protected areas in the region. A total of 11 conflict situations were detected. The most "conflicual" protected areas were the Ladoga Skerries National Park and the Shaidomsky Nature Reserve, where two conflicts were recorded.

We should especially note the fact that the vast majority of conflict situations (almost 73%) are at the final stage, the remaining 27% are in the acute (3rd) stages of open conflict. Of the seven completed conflicts, five were resolved in favor of the protected areas.

Table 2. Conflicts related to the creation and functioning of protected areas in the Republic of Karelia

Name of the protected area	Parties to the conflict	Subject of the conflict	Description of the conflict	Conflict stage
Ladoga Skerries National Park	A Representatives of the tourism business / environmental organizations; institutions of science	A Territory of the park	A Representatives of the tourism business opposed the creation of the park and wanted to use the resources of this territory for the further development of their business. They set up local residents against the creation of protected areas, intimidated them with restrictions on agriculture activity. Environmental and scientific organizations have launched active educational and explanatory work among the local population. This helped to form a positive image of the new park.	A 4th stage – the conflict is resolved
	B Loggers / environmental organizations; institutions of science	B Territory of the park (tract “Chaika”)	B The site of the forest “Tract “Chaika” was included in the projected protected area due to its high biological value. However, this territory was leased from loggers, and they did not want to give it up. The National Park was created, but the tract “Chaika” was not included in it.	B 4th stage – the conflict is resolved
Valaam Nature Park	Representatives of the monastery, economic entities / directorate of protected area of the region	Territory of the park for construction, hunting and aquatic biological resources	Representatives of the monastery, economic entities violate the protection regime of the natural reserve: they build skeets on the territory of the park, carry out household work, catch fish with nets, and arrange poaching of moose. The administration of the monastery, as a rule, does not respond to the legitimate demands of the park staff and agrees to communicate only with representatives of the Ministry of Natural Resources of the region resolving disputes mainly through pressure “from above”. A few years ago, the department for the protection of the natural park was liquidated, and employees were laid off.	3rd stage
Shaidomsky Nature Reserve	A Loggers / environmental organizations; institutions of science	A Forest resources, valuable objects of flora and fauna	A Loggers conducted continuous logging on the territory of the nature reserve, which negatively affected the biological value of protected areas. The conflict was resolved through negotiations and amendments to the forestry regulations. Now only selective logging is carried out in the nature reserve.	A 4th stage – the conflict is resolved
	B Directorate of protected area of the region / environmental organizations; institutions of science	B Forest resources	B The Directorate of the protected areas of the region does not make changes to the protection regime of the nature reserve, which allows for selective logging. Environmental and scientific organizations are in favor of tightening the regime due to the high natural value of this territory. As a result of the negotiations, loggers plan to introduce a moratorium on logging within the boundaries of the nature reserve.	B 3rd stage
Lake Kovshozero Nature Reserve	Loggers / local population	Territory of the nature reserve in terms of passage and cattle grazing	Logging companies that carry out cutting and export of wood in the vicinity of Kovshozero, break up roads, sections of hay fields and pastures, pollute the lake with gasoline and diesel fuel. In addition, residents are concerned that the logging takes place on the very shore of the reservoir. Residents appealed to the supervisory authorities. The conflict has not been completed, however, after inspections by the supervisory authorities, entrepreneurs engaged in harvesting and exporting wood restored the road.	3rd stage

End of Table 2

Name of the protected area	Parties to the conflict	Subject of the conflict	Description of the conflict	Conflict stage
Chugozero Natural Monument	Representatives of the hunting industry / directorate of protected area of the region, environmental organizations; institutions of science	Territory of protected area	When creating a new protected area, it turned out that hunting grounds are located on the planned territory. The hunting grounds lobbied for the exclusion of its territory from the planned protected area, as a result of which the area of the latter has significantly decreased.	4th stage – the conflict is resolved
Zaonezsky Nature Park	Logger companies / environmental organizations; institutions of science	Forest resources	The planned territory for protected areas is leased from logging companies; they intended to carry out logging. Public environmental and scientific organizations have surveyed this area and established its high natural value. As a result of the negotiations, agreements were reached, according to which loggers announced a voluntary moratorium on logging activities in the territory planned for protected areas.	4th stage – the conflict is resolved
Yangozero Nature Reserve				
Pyalma River Nature Reserve				
Sunsky Bor Nature Monument	Company engaged in the exploration and production of sand and sand-gravel material / local population, institutions of science	Territory of protected area, planned for the extraction of natural resources	The mining company planned to develop a quarry to extract of sand and sand-gravel material. Local population opposed it. At the initiative of the local population, scientists were invited to substantiate the biological value of the forest. Local residents have repeatedly filed lawsuits to protect the Sunsky Bor in court. To date, the environmental prosecutor has issued a warning to the company's director about the inadmissibility of violations of the law when carrying out activities, related to the extraction of sand and sand-gravel material at the Yuzhno-Sunskoye subsurface area.	4th stage – the conflict is resolved

In half of the identified conflict situations, the subject of dispute was the territory of protected areas in terms of its use for the construction of infrastructure facilities, passage, cattle grazing, extraction of natural resources, in another 41.6% of cases, forest resources were the conflict subject.

There are 14 protected areas on the territory of Nenets Autonomous Okrug, the total area of the land part of which is 23.25 thousand km². Thus, only 13% of the area of the district has a conservation status with the minimum standard, established by the Convention of 17%. Despite this, it is worth noting a positive trend of increasing the number and area of protected areas in the last decade: since 2011, four new protected areas have been formed in the region, and the square, occupied by protected areas, has almost tripled.

As a result of the study, we have identified conflicts in 78% of the protected areas of the

district. Only in three protected areas of the region (Shoinsky, More-Yu and Khaypudyrsky Nature Reserves) there are no conflict situations. Nevertheless, the Khaypudyrsky Nature Reserve is also considered as potentially “conflictual” due to the oil and gas fields, located along its borders (see Tab. 3).

In total, we have recorded 18 conflict situations in the protected areas of Nenets Autonomous Okrug. The most “conflictual” protected areas of the region are the Nenetsky Nature Reserve and the Vaigach Nature Reserve, which account for almost 39% of all identified conflicts.

Currently, most conflict situations (67%) are in the most acute and active third stage, five more conflicts are in the stage of conception and awareness, and only one conflict has reached the fourth final stage.

Table 3. Conflicts related to the creation and functioning of protected areas in Nenets Autonomous Okrug

Name of the protected area	Parties to the conflict	Subject of the conflict	Description of the conflict	Conflict stage
Nenets Nature Reserve	A Rosneft / directorate of protected area	A Territory of protected area for the development of minerals	A Rosneft conducts geological exploration and prepares documents for the development of the Kumzhinsky field within the boundaries of the protected area. The company is in constant negotiations with the directorate of the reserve, but the development of the occurrence has not yet begun. With the work intensification, the conflict may escalate.	A 2nd stage
	B Yachtsmen, unorganized tourists, ship-owners / directorate of protected area	B Water area of the reserve and fauna objects (walruses)	B Yachtsmen, ship-owners, and tourists violate the regime of the reserve by unauthorized visits to the territory, while causing concern to Atlantic walruses. The directorate of the protected area has organized a temporary observation post. However, due to the seasonality of control and the remoteness of the territory, these measures have low effectiveness.	B 3rd stage
	C Poachers / directorate of protected area	C Aquatic biological resources of Korovinskaya Bay	C Poachers illegally extract aquatic biological resources in the Korovinskaya Bay.	C 3rd stage
	D Family and tribal communities / directorate of protected area	D Territory for pastures	D Family and tribal communities are interested in grazing deer in adjacent territories and areas of the reserve, which leads to overgrazing of deer, degradation of tundra, littering of protected areas.	D 2nd stage
Nenets Zoological Reserve	A Rosneft / directorate of protected area	A Territory of protected area for the development of minerals	A Rosneft conducts geological exploration and prepares documents for the development of the Korovinskoye field located within the boundaries of the protected areas. The company is in constant negotiations with the directorate of the reserve, but the development of the occurrence has not yet begun. With the work intensification, the conflict may escalate.	A 2nd stage
	B Family and tribal communities of Small Indigenous People of the North (SIPN) / directorate of protected area	B Territory for pastures, aquatic biological resources of the reserve	B The family and tribal communities of the SIPN are interested in grazing deer in adjacent territories and areas of the nature reserve. This leads to overgrazing of deer, non-compliance with pasture turnover, degradation of the tundra, littering of the territory with household waste. SIPN illegally catch aquatic biological resources in protected areas. Currently, the conflict has not acquired an acute form due to negotiations between the conflicting parties.	B 2nd stage
Vaigach Nature Reserve	A Family and tribal communities "Hebidya Ya", Bask companies / environmental organizations	A Fluff of common eider, king eider and barnacle goose	A The tribal community and entrepreneurs are engaged in collecting fluff for the production of clothing. This scares the birds and negatively affects their population. The resolution of the conflict is difficult due to the lack of a legislative framework regulating this type of activity (fluff harvest).	A 3rd stage

End of Table 3

Name of the protected area	Parties to the conflict	Subject of the conflict	Description of the conflict	Conflict stage
	B Local population, SIPN association/ environmental organizations C Local population, poachers / environmental organizations, Center for Nature Management and Environmental Protection (CNMEP)	B Category (status) of the protected area "Vaigach" C Valuable fauna objects (polar bears and walruses)	B Environmental organizations advocated changing the category of protected area and creating a national park on the basis of the Vaigach Nature Reserve. The local population opposed the creation of the park fearing eviction and a ban on economic activity, as a result of which the project to create a protected area was frozen. Currently, environmental organizations are actively engaged in ecological and educational work and create a positive image of the park. C Local population act as guides contributing to the development of illegal tourism on the nature reserve. Tourists visit the walrus rookery, thereby disturbing the animals. Poachers hunt walruses and polar bears for the extraction of fangs or skins.	B 4th stage – the conflict is resolved C 3rd stage
Nizhnepechersky Nature Reserve Pakhanchevsky Nature Reserve Vashutkinsky Nature Reserve Nature Monument "Kamenny Gorod" (Stone City)	Poachers / CNMEP	Aquatic biological resources	Poachers are engaged in illegal fishing of biological resources on the territory of protected areas.	3rd stage
Khaypudyrsky Nature Reserve	Subsoil user / CNMEP	Territory for the development of oil and gas fields along the nature reserve borders	The nature reserve was created in order to preserve coastal marching ecosystems (places of concentration of migratory birds). There may be a conflict with subsoil users who have licenses to develop oil and gas fields, located along the boundaries of protected area.	1st stage
Severn Timer Nature Park	A Poachers / CNMEP B Local population, poachers, reindeer breeders / CNMEP	A Aquatic biological resources B – Valuable object of fauna (wild deer)	A. Poachers are engaged in illegal fishing of biological resources in protected area. B Local population and poachers kill wild reindeer for food, and reindeer breeders – because of the removal of domestic females by males from herds.	A 3rd stage B 3rd stage
Natural Monument "Pym-Va-Shor"	Local population, tourists / CNMEP	Territory with a thermal spring	Residents of Haruta Rural Settlement act as guides for tourists who visit the territory of the natural monument uncontrollably. As a result, the territory is littered, buildings are destroyed, and rare plant species are lost (<i>Paeonia anomala</i>).	3rd stage
Nature Monument "Kan'on Bol'shiye Vorota" (Big Gate Canyon)	Poachers, tourists / CNMEP	Aquatic biological resources, valuable object of protection – agates, territory	Poachers are engaged in illegal fishing of biological resources on the territory of the natural monument, and tourists illegally collect semi-precious agate stones, leave garbage.	3rd stage

The subject of the emergence of the vast majority of the studied conflicts were the territory of protected areas (to extract natural resources and use them for pastures) and aquatic biological resources (36.4% each). The remaining 27.2% have conflicts over protected areas (wild reindeer, polar bear, walrus, etc.), as well as changes in the status of protected areas (transformation of the Vaigach Nature Reserve into a National Park).

Nature Reserve Fund of the Komi Republic consists of 234 protected areas with a total area of 54 thousand km², which corresponds to 13% of the republic's territory and is significantly inferior to the Convention standard. The Komi Republic has become the only region of the European part of the Russian Arctic where the number of protected areas has decreased over the past 10 years: from 239 in 2011 to 234 in 2021. The area, occupied by protected areas, has also decreased: from 56 to 54 thousand km², respectively.

As a result of the research, we have identified 32 conflict situations in the protected areas of the Komi Republic (see Tab. 4). Various kinds of conflicts occur in 11.5% of the protected areas of the region.

According to the majority of experts interviewed, violations that can escalate into conflicts exist in almost all protected areas of the Komi Republic. The main violators are the local population and tourists. The local population often does not know about the existence of protected areas or does not perceive this territory as specially protected: they continue hunting, fishing, harvesting berries, mushrooms, and hay. Recently, various snowmobile and all-terrain vehicles have become easily accessible; people use it to get to the most inaccessible protected areas. This leads to an increase in the number of violations of the protected areas regime and an increase in conflict situations.

Table 4. Conflicts related to the creation and functioning of protected areas in the Komi Republic

Name of the protected area	Parties to the conflict	Subject of the conflict	Description of the conflict	Conflict stage
Yugyd Va National Park	A Tourists, poachers / park administration	A Biological hunting and water resources, territory of protected area	A Illegal fishing and hunting is carried out on the territory of the protected area. Tourists travel throughout the park on various types of transport. As a result, ecosystems are degraded and the park territory is littered.	A 3rd stage
	B Reindeer breeders / park administration	B Territory of protected area for pastures	B On the territory of the protected area, unauthorized grazing of deer is carried out by reindeer breeders. This leads to the degradation of tundra communities of protected area.	B 3rd stage
	C Gold mining company / park administration	C Territory of protected area for mining	C It was assumed that part of the park's territory would be seized by a gold mining company, which had been fighting for the right to mine gold at the occurrence "Chudnoye" for many years. The Arbitration Court of Komi issued a decision on the liberation of the territory of the protected area by gold miners.	C 4th stage – end of the conflict
Pechora-Ilych Nature Reserve	A Tourists, poachers / nature reserve administration	A Territory of protected area (Manpupuner Plateau), aquatic biological resources	A Illegal fishing is carried out in the protected area, as well as passage through the territory and unauthorized visits by tourist groups to the Manpupuner plateau. The nature reserve administration built a house for inspectors on the plateau and organized a year-round duty.	A 3rd stage
	B Nature reserve administration / institutions of science	B Forest resources	B Employees of the reserve carried out illegal logging of forest plantations as part of their economic activities, which was actively opposed by representatives of scientific institutions of the region.	B 3rd stage

Continuation of Table 4

Name of the protected area	Parties to the conflict	Subject of the conflict	Description of the conflict	Conflict stage
Natural Monument "Vodopad na reke Khal'mer"yu" (Waterfall on the Halmeryu River)	Tourists / Center for Protected Areas	Territory of protected area	There is an unregulated tourist flow in the protected areas, unauthorized buildings where tourists and fishermen rest.	3rd stage
Enganepe Nature Reserve	Reindeer breeders / Center for Protected Areas	Forest resources	Periodically, reindeer breeders harvest wood in nature reserves to repair sleds.	3rd stage
Khrebtovyy Nature Reserve				
Podcheremsky Nature Reserve	Poachers / Center for Protected Areas	Aquatic biological resources	Illegal fishing is carried out on the territory of nature reserves.	3rd stage
Ilychsky Nature Reserve				
Syninsky Nature Reserve				
Sebys Nature Reserve	Oil exploration and production organizations / Center for Protected Areas	Territory of protected areas for the development of minerals	Geological organizations advocate geological exploration with the subsequent development of an oil field on the territory of the reserve. Currently, an attempt is being made to organize a referendum on this issue.	3rd stage
Adak Nature Reserve	Poachers / Center for Protected Areas	Aquatic biological resources, territory of protected area	Illegal fishing is carried out on the territory of the nature reserve, as well as cluttering of the territory with household garbage.	3rd stage
Chernorechensky Nature Reserve	Mineral exploration and production organizations / institutions of science	Territory of protected area for the development of minerals	When creating a protected area, scientists proposed a different territory. But due to the fact that licensed areas for exploration and extraction of minerals are located on it, the boundaries of the nature reserve being created were moved to a less valuable territory in terms of nature.	4th stage – end of the conflict
Vymsky Nature Reserve	A Poachers / Center for Protected Areas	A Biological aquatic resources	A Illegal fishing is carried out on the territory of the nature reserve.	A 3rd stage
	B Bauxite mining company / institutions of science	B Territory of protected area	B In connection with the activities of the bauxite mining company, the forest ecosystems, water and bottom sediments adjacent to the protected areas are polluted.	B 3rd stage
Sindorsky Nature Reserve	Poachers, tourists / Center for Protected Areas, institutions of science	Biological hunting and water resources, territory	Illegal fishing and hunting are carried out on the territory of the nature reserve. The territory is often visited by tourists.	3rd stage
Tybyunyur Nature Reserve	Poachers / Center for Protected Areas	Biological hunting resources	Illegal hunting of wild reindeer is carried out on the territory of nature reserves.	3rd stage
Verkhne-Lokchimsky Nature Reserve				
Dod-Nyur Nature Reserve	Poachers / Center for Protected Areas	Biological hunting resources	Illegal hunting of flying geese is carried out within the nature reserve.	3rd stage

End of Table 4

Name of the protected area	Parties to the conflict	Subject of the conflict	Description of the conflict	Conflict stage
Lunvyvnyur Nature Reserve	Poachers / Center for Protected Areas	Biological hunting resources, territory of protected areas	Illegal hunting of flying geese is carried out within the nature reserve. During the cranberry harvest, all-terrain vehicles move through the swamp, the swamp is polluted with household waste.	3rd stage
Tashnyur Nature Reserve				
Vazhelyu Nature Reserve	A Poachers / Center for Protected Areas	A Biological hunting resources	A Illegal hunting is carried out on the nature reserve.	A 3rd stage
	B Organizations / Center for Protected Areas	B Territory of protected area	B A lot of unauthorized landfills are recorded in the protected areas.	B 3rd stage
Soivinsky Nature Reserve	Tourists / Center for Protected Areas	Territory of protected area	Tourists litter the banks of the Soiva and Omra Rivers with household garbage.	3rd stage
Uninsky Nature Reserve	Poachers, tourists / Center for Protected Areas	Biological hunting resources, territory of protected area	Illegal fishing and hunting are carried out on the protected areas. Unauthorized bases, huts and other buildings for tourist activities are located in the nature reserve.	3rd stage
Yezhugsky Nature Reserve	Poachers / Center for Protected Areas	Biological hunting and water resources	Illegal fishing and hunting are carried out on the territory of the nature reserve, possibly for wild reindeer.	3rd stage
Pyzhemsky Nature Reserve				
Udorsky Nature Reserve				
Belaya Kedva Nature Reserve	Poachers / Center for Protected Areas	Biological hunting and water resources	Illegal fishing and hunting are carried out on the territory of the nature reserve.	3rd stage
Sodzimsky Nature Reserve				
Puchkomy Nature Reserve				

Currently, the vast majority of conflicts (94%) are in the most acute stage. Only two conflict situations have reached the completion stage, while one of the conflicts ended in favor of the protected areas (Yugyd Va National Park), and the other – in favor of economic entities, engaged in exploration and extraction of minerals (Chernorechensky Nature Reserve).

Most often, biological resources (water and hunting) are the conflict subject in the protected areas of the Komi Republic; they account for more than half of the identified conflict situations. Quite often, the subject of dispute is the territory of protected areas for exploration and extraction of minerals, pastures, construction of infrastructure facilities, as well as waste disposal (28.6%). In

the remaining 17% of cases, forest resources of protected areas are the conflict subject.

Thus, the studies, conducted in the regions of the European part of the Russian Arctic, allow concluding about the high degree of “conflict” of their protected areas. A threatening situation has developed in Nenets Autonomous Okrug, where conflicts occur in almost 80% of protected areas, while most of them are in the most acute stage (*Tab. 5*).

A rather difficult situation is observed in the Murmansk and Arkhangelsk oblasts [30], in which more than 20% of protected areas are “conflictual”. The least problems in this area are typical for the Republic of Karelia, where conflicts are observed only on 6% of specially protected natural territories,

Table 5. Summary data on conflicts in protected areas of the regions of the European part of the Russian Arctic, %

	Arkhangelsk Oblast	Murmansk Oblast	Republic of Karelia	Nenets AO	Komi Republic
Share of protected areas in the region	8	13	6	13	13
Share of "conflictual" protected areas in the total number of protected areas in the region	33	23	6	78	11.5
Share of conflicts in the third stage in the total number of conflict situations in the protected areas of the region	69	63	27	67	94

at the same time, the vast majority of them have already been resolved or are at the final stage.

Conclusions and recommendations

The data, obtained as a result of the conducted research, emphasize the high relevance of the problem of conflicts in protected areas. At the same time, the small share of protected areas in the total square of the regions of the European part of the Russian Arctic requires creating new protected areas, and this process is extremely rare without conflicts. In this regard, the authors have developed a universal mechanism for resolving conflict situations in protected areas (*Fig.*).

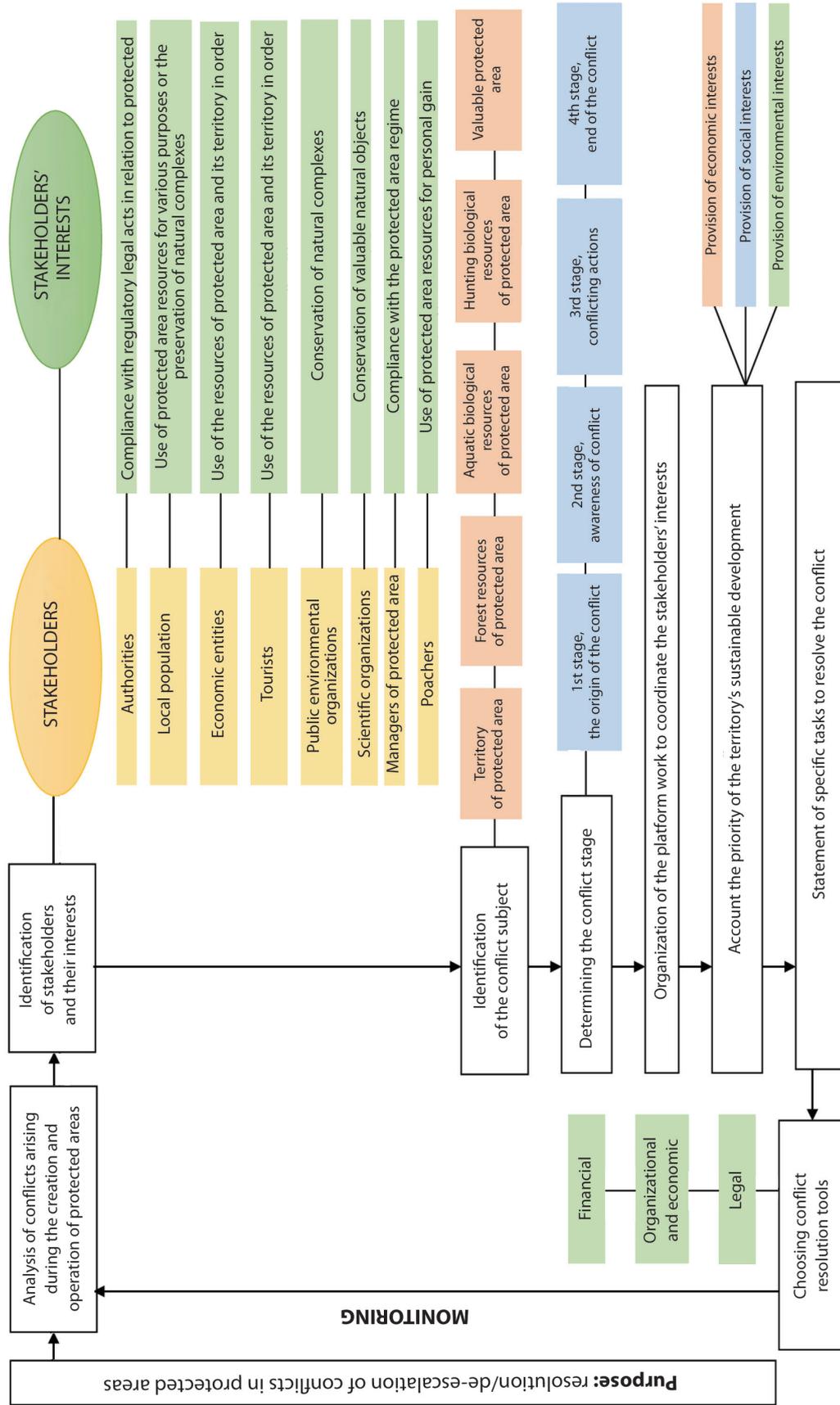
As the figure shows, the purpose of the mechanism is to resolve or de-escalate (if for some reason a full resolution cannot be achieved) the conflict in the protected areas. The success of achieving the goal will largely depend on the quality and depth of the analysis of existing conflict situations.

It is a comprehensive analysis of the conflicts that arise during the creation and functioning of protected areas that becomes the foundation for implementing the subsequent stages of the mechanism realization. Next, the stakeholders (parties to the conflict) are determined, as well as their true interests. At the same time, it is important to identify indirect participants who "set up" direct participants in the conflict or provide them with material/informational support. The analysis of the conflict situations in the protected areas of the European part of the Russian Arctic made it possible to identify the most common stakeholders and their immediate interests.

At the next stages, the conflict subject and its stages are revealed. We should remember that if the conflict has already moved into the most active and acute third stage, then its resolution will be significantly difficult and will require large resources. In this regard, the role of constant monitoring of conflict situations in protected areas and their detection at earlier stages increases.

Only after a detailed consideration and structuring of the conflict there is organization of the platform work to coordinate the stakeholders' interests. In our opinion, the best solution, given the wide prevalence and relevance of the problem of conflicts in protected areas, would be the organization of a permanent advisory and consultative authority on protected areas under the regional government or the head of the municipality. This institute is designed to take into account the needs and interests of local population, enterprises of the resource sector, as well as the preservation and protection of the unique natural complexes of the territory. At the same time, the creation of an advisory and consultative body under the head of the municipality sounds more preferable according to the authors. For instance, research studies, conducted in Norway, have shown that decentralization of the management system of protected areas, transfer of certain powers to the local level and the active involvement of local communities in decision-making processes have led to the adaptation of the network of protected areas to local socio-economic conditions and an increase in the level of support for nature protection from the local population [30].

Mechanism of conflict resolution in protected areas



The tasks of the advisory and consultative body on protected areas are:

- to organize the discussion of controversial issues, related to the creation and functioning of protected areas in the region;
- to prepare and provide objective and comprehensive information on the activities of protected areas in the region, as well as on planned protected areas;
- to initiate and participate in public discussion of issues, related to the activities of the management (directorate) of protected areas;
- to organize joint events with managers of protected areas, aimed at environmental education and arrangement of the protected areas;
- to consider draft regulatory legal acts and other documents, related to the creation and operation of protected areas in the region;
- to participate in anti-corruption work and evaluation of the effectiveness of the managers of protected areas;
- to interact with the media on the coverage of issues, discussed at meetings of the advisory and consultative body on protected areas.

The advisory and consultative body on protected areas has the right to determine a list of other priority legal acts and the most important issues, related to the creation and functioning of protected areas, which are subject to mandatory consideration at meetings. The advisory and consultative body should include representatives of state and municipal authorities, managers of protected areas, representatives of scientific and public environmental organizations, economic entities and local population.

When developing a consensus, it is imperative to take into account the priority of the territory's sustainable development. If possible, it is necessary to refrain from making such decisions that may harm at least one of the systems of the region: social, environmental or economic, and try to ensure their harmonious development as much as possible.

After the development of a joint solution, the stage of setting tasks begins, the achievement of which will lead to the resolution of the conflict situation, as well as the choice of specific tools for their implementation. At the same time, we can distinguish three main types of tools:

1. Legal instruments. They include regulatory legal acts of the regional and municipal levels, which determine the conditions for the creation and functioning of protected areas in the region. The advisory and consultative body on protected areas has the right to initiate work on the adoption of laws, as well as on amendments to existing regulations that would contribute to the resolution and prevention of conflict situations in protected areas.

2. Organizational and economic instruments are:

- informational and advisory support of local population and economic entities on the creation and functioning of protected areas;
- organization of training (workshops, seminars, study trips, etc.) of local population and managers of protected areas;
- coordination of the actions of the subjects in charge of which the regional protected areas are located.

3. Financial instruments are: tax incentives, subsidies, preferential loans, aimed at the development of entrepreneurial initiatives of the local population taking into account the territory's sustainable development. In addition, in this group of instruments, compensations should be allocated that have a natural or monetary expression and are aimed at resolving the conflict in protected areas.

After the implementation of the selected set of tools, it is necessary to assess their effectiveness: whether the tasks were achieved and whether the actions taken led to the resolution of the conflict. To this end, monitoring is carried out, aimed at identifying and analyzing conflict situations that

arise during the creation and operation of protected areas in the region. Consequently, the conflict resolution mechanism in protected areas acquires a closed character, and the proposed monitoring system becomes both the completion and the beginning of the mechanism.

Conclusion

Thus, we have fully achieved the purpose of the study. On the basis of the algorithm, proposed by the authors earlier, we have revealed and systematized the conflicts, related to the creation and functioning of protected areas in the European part of the Russian Arctic. In total, we have detected 138 conflicts in 22% of protected areas, of which 70.3% are in the most acute stage of open conflict actions. The situation in the Nenets Autonomous Okrug requires special attention, where conflicts occur in almost 80% of all protected areas in the region. A rather difficult situation has developed in the Murmansk and Arkhangelsk Oblasts, in which more than 20% of protected areas are “conflictual”. The situation is aggravated by the impact of specific Arctic features, in particular, the great vulnerability and fragility of Arctic natural ecosystems, the dependence of the vital activity of a significant part of the population on the preservation of the Arctic nature in an intact state (especially relevant for indigenous peoples of the North, as well as for local population, engaged in gathering, hunting and fishing). In addition, conflicts in protected areas significantly complicate the full use of employment opportunities for the local population in tourism. In conditions of inaccessibility and peripherality of the Arctic territory, where the possibilities of applying labor are severely limited, this may become almost the only alternative to unemployment.

The high relevance of the problem of conflicts in protected areas forced the authors to pay close attention to its solution. As a result of the conducted research, we have worked out a universal mechanism for resolving conflict situations in protected areas. It has a closed character and includes the following structural elements (implementation stages): goal setting; analysis of conflicts arising during the creation and functioning of protected areas; identification of stakeholders and their interests; identification of the subject and the conflict stage; organization of the platform work for coordinating the stakeholders’ interests; taking into account the priority of the territory’s sustainable development; setting specific tasks and choosing conflict resolution tools; monitoring conflict situations in protected areas.

According to the authors, the advisory and consultative body on protected areas should act as a platform for coordinating the stakeholders’ interests being permanently under the regional government or the head of the municipality. The study clearly defines the composition of such an authority, as well as the main tasks of its work.

The authors will continue their research on the inventory and systematization of conflicts in the protected areas of the Arctic regions of Russia because they believe that this work is the foundation for successful conflict resolution. The authors’ team hopes to implement the proposed mechanism for resolving conflict situations in the regions of the Russian Arctic. Its implementation will not only preserve the unique fragile natural complexes of the Arctic and increase the efficiency of the functioning of the network of protected areas of the Arctic regions, but also contribute to the balanced sustainable socio-economic development of their territories.

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