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Conflicts in Protected Natural Areas of the Arctic Region: Identifying, Analyzing and Finding the Solutions*



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Abstract. The increased attention paid by the state and the public to the Russian Arctic in recent years has led to a new round of its economic development. Nevertheless, major features of the Arctic nature are its vulnerability and the difficulty of recovery after anthropogenic impacts. This fact, as well as the exceptional climatic, ecological and cultural significance of the nature of the Russian Arctic, predetermines the need for its careful protection and for preservation of its fragile ecological balance. The defining role in these processes belongs to protected natural areas (PNS). Our paper emphasizes that one of the main barriers to the development of the network of protected natural areas both in Russia as a whole and in its Arctic territories consists in numerous conflict situations and disputes related to the organization and existence of protected areas. In the framework of the study, we develop a universal algorithm for analyzing the conflicts related to the establishment and functioning of protected areas. The proposed algorithm was tested on the example of the Arkhangelsk Oblast – the largest region in the European part of the Russian Arctic. Using content analysis, systematization, expert survey and general scientific research methods, we identify 58 conflict situations in 35 currently functioning protected areas and in two protected areas that are planned to be created in the region; we classify the situations according to the parties, subject and phase of the conflict. On the basis of this work, we formulate a set of specific recommendations to address, prevent and reduce the number of conflicts in the protected areas of the Arkhangelsk Oblast.

Key words: protected natural areas, conflict, Arkhangelsk Oblast, Russian Arctic.

Introduction

Protected natural areas are an indispensable tool for the conservation of natural areas with high environmental, cultural, aesthetic, scientific and recreational value. According to the Convention on Biological Diversity ratified in our country, the share of protected areas in the total area by 2020 should be at least 17% of land and 10% of marine areas. As of 2016 in the Russian Federation, protected areas of the land part with inland waters comprised slightly more than 11% of the total area of the country. In the regional context, only ten subjects of the Russian Federation have reached and exceeded the international standard: they are the city of Sevastopol, the republics of Sakha (Yakutia), Kabardino-Balkaria, Altai, Karachay-Cherkessia, Ingushetia, Chechnya, North Ossetia-Alania, Primorsky Krai and the Astrakhan Oblast. As we can see, this list contains only one Arctic subject of the Russian Federation – the Republic of Sakha (Yakutia). Meanwhile, the Arctic regions, whose nature is unique and most vulnerable to human impacts, have a longer period of restoration of disturbed natural landscapes.

Scientists agree that the Arctic is an ecological filter and “weather kitchen” for the whole planet [1]. Arctic ice plays a huge role in the reflection of solar radiation, thus contributing to the cooling of the atmosphere and the formation of the Earth’s climate. If there were no ice cover in the Arctic, the temperature in this macroregion would increase by more than 40°C [2]. As a result, most of our planet would become uninhabitable due to extremely high temperatures. The nature of the Arctic is not only of major climatic importance, but also forms the basis of the life of its indigenous peoples. Environmental issues are most acute for them due to fact that they entail the risks of destruction of the native habitat, original culture, worldview and traditional crafts (reindeer herding, fishing, gathering berries and mushrooms, etc.). From this point of view, the development of a network of protected areas in the Russian Arctic is of critical importance for maintaining ecological balance, biodiversity and cultural traditions not only in our country but throughout the world.

In our opinion, one of the most important reasons for the insufficient development of the network of protected areas both in the Arctic macroregion and in the country as a whole consists not so much in the problem of substantiating the uniqueness of natural and cultural attractions that need to be preserved, as in the clash of interests of different parties. It should be remembered that the establishment and operation of protected areas affects the interests of many actors: the local population, authorities at various levels, entrepreneurs, environmental organizations and others. As a rule, they have a multidirectional nature, which leads to the emergence of various kinds of disputes and conflicts. As a result, unresolved disputes often cause negative implications for protected areas and for nature in general:

1. The establishment of new protected areas is delayed or significantly stretched in time. Dvinsko-Pinezhsky Reserve, which was planned to be established in the Arkhangelsk Oblast for more than ten years, is a telling example in this regard. Initially, the heads of districts, regional and district deputies opposed the establishment of the Reserve. They said they feared that if protected areas are established, it would lead to the closure of a number of forest industry enterprises, reduce tax revenues and increase unemployment. The heads of timber companies also expressed a negative attitude toward the idea of creating a new reserve, as they did not want to lose their rental base. The compromise was reached only after several years of negotiations, as a result of which a protocol was signed on the coordination of the boundaries of Dvinsko-Pinezhsky Reserve. However, the process of creating a new protected area has not yet been completed.

2. The size of protected areas is reduced. Another protected area planned to be created in the Arkhangelsk Oblast and located on the

Solovetsky archipelago is forced to exclude part of the sea area from its intended boundaries. The reason for this was the conflict with the local population and representatives of Arkhangelsk algae-processing plant, which carries out industrial extraction of algae (kelp and fucus) in this area; the management of the plant said the inclusion of the sea area in the protected area would reduce the raw material base of the enterprise, reduce its output and lead to a reduction in the number of jobs.

3. The efficiency of protected areas is reduced. Thus, when creating the National Park (NP) "Onega Pomorie" in the Arkhangelsk Oblast, the interests of the local population and economic entities (fishing collective farm "Zarya", fishing collective farm named after Kalinin) were not taken into account. As a result, the boundaries of the Park included the water area where the local population was fishing for centuries, and fishing collective farms engaged in industrial fishing. Since the establishment of the National Park, these activities have been banned, thus leaving many residents without an important source of income, and the fishing collective farms had to reduce their catches. This decision also led to a decrease in the availability of fresh fish products in nearby large cities. Disregard for the opinion of the local population concerning the formation of the borders and the regime of the National Park provoked numerous violations, including poaching, which greatly reduces the efficiency of the functioning of this protected area.

All of the above explains the high importance and relevance of the present study and predetermines its goal, which consists in developing and testing a universal algorithm for analyzing conflict situations arising in the course of establishment and functioning of protected areas on the example of one of the Arctic regions of Russia.

Research methodology

Despite the high relevance of the study of conflict and controversial situations in protected natural areas, the vast majority of modern studies of both Russian and foreign scientists in the field of protected areas are devoted to the problems of conservation of natural complexes, study of natural processes in the biosphere and control over the changes in its condition, as well as environmental education and tourism development (A.A. Tishkov [3, 4], N.A. Sobolev [5], E.M. Lapteva [6], D.V. Panchenko [7]; researchers from the Institute of Biology of Komi Science Center of the Ural Branch of RAS [8]; I.A. Lavrinenko, O.V. Lavrinenko, N.M. Nikolaeva, S.A. Uvarov [9], N. Dudley, M. Hockings, S. Stolton, [10], S.V. Degteva, V.I. Ponomarev, S.W. Eisenman, V. Dushenkov [11], J. Siitonen, R. Penttilä, H. Kotiranta [12], O.P. Tikkanen, I.A. Chernyakova [13], K.J. Wendland, M. Baumann, D.J. Lewis, A. Sieber, V.C. Radeloff [14], M. Elbakidze, P. Angelstam, [15], S.K. Juvonen, A. Kuhmonen, T. Opdahl, O. Höjer [16], J. Mikkola, B. Storrack, T. Lindholm [17], etc.).

At the same time, a very limited number of researchers deal with the problems of studying and solving conflict situations related to the creation and functioning of protected areas. The most authoritative national scientists in this field include N.A. Alekseenko, A.V. Drozdov, A.A. Medvedev, A.A. Tishkov, E.A. Belonovskaya, A.N. Krenke, N.G. Tsarevskaya, and others. N.A. Alekseenko, A.V. Drozdov, and A.A. Medvedev carry out the mapping of nature management conflicts in protected areas of the Moscow and Kaluga oblasts. These authors propose a classification of conflicts depending on the following features: source, object of conflict, form, degree of complexity, manifestation, dynamics, duration of development, intensity, nature of the boundaries of the conflict. In our study carried

out under the supervision of N.A. Alekseeva, we emphasize the special importance and relevance of the research, which today is the most systematic and in-depth work on the study of conflicts in protected natural areas.

M.P. Kuznetsov and S.A. Pegov analyze in detail the socio-economic conflicts on the territory of Valdaisky National Park and offer main ways to resolve them [18]. The authors pay special attention to the flaws in the legal framework governing economic activity in the protected areas, as well as the flaws in the territorial structure of the Park, as the main causes of many conflicts.

A broad view of conflicts in protected natural areas and their typology is presented in the works of RAS Institute of Geography (A.A. Tishkova, E.A. Belonovskaya, A.N. Krenke, N.G. Tsarevskaya). The authors have developed a classification of conflicts in protected areas depending on two features: scale (local, regional and global conflicts) and objectives (conflicts of values, infrastructure conflicts, conflicts related to the regulation of different types of economic activity). They also propose an original concept of the conflict of values in the consumption of goods produced by natural ecosystems.

As we can see from the presented review, the problem of identifying and analyzing conflict situations in protected natural areas is studied insufficiently. To date, there is no single algorithm to detect and structure a conflict, thus there is no key to its successful solution. In addition, there are no studies on the systematization of conflicts in protected areas of the Arctic regions of Russia, where nature conservation is of great ecological and cultural importance. Our present study is aimed at addressing these gaps.

Currently, scientific literature contains dozens of different definitions of such a complex and ambiguous concept as conflict, none of which can be accepted as universal [19]. The use of a definition depends largely

on the characteristics of the studied objects and phenomena. From the point of view of the objectives of the study, we propose to understand the conflict as the confrontation of subjects who are carriers of antagonistic values, interests and goals, in which at least one side perceives the actions of the other as a threat to its interests.

Like any complex object, the conflict is characterized by a certain structure. The main structural elements of the conflict include: 1) the parties to the conflict – the subjects who are carriers of antagonistic values; 2) the subject of the conflict – the object of the real or ideal world, which is the reason why the conflict occurs; 3) the image of the conflict situation – the display of the subject of the conflict in the minds of the subjects of conflict interaction; 4) the motives of the conflict – internal motivating forces that push the subjects of interaction to the conflict (motives appear in the form of needs, interests, goals, ideals, beliefs); 5) the actions of the parties of the conflict – together they form a conflict interaction, without them the conflict could not exist; 6) the conditions of the conflict – factors or circumstances that determine its characteristics and the possibility of occurrence [19, 20].

The dynamics of the conflict predetermine the presence of four stages in its development:

- Stage 1 – the emergence of a conflict situation. This stage presupposes the emergence of a conflict occurring at an unconscious level, at least for one of the parties.

- Stage 2 – awareness of the conflict. At this stage, the parties perceive the conditions of the conflict and are aware of their participation in it.

- Stage 3 – conflict actions. The stage of open conflict, when the parties show antipathy to each other and give negative assessments.

- Stage 4 – the end of the conflict. At this stage, there is a choice of strategy and style of

behavior in the conflict and ways to resolve it. It is important to note that the conflict may come to an impasse and not be resolved, but may have a full (satisfaction of both parties to the conflict) or partial (subjective satisfaction of at least one of the parties to the conflict) resolution.

An algorithm for analyzing conflict situations arising in the course of establishment and functioning of protected areas

In order to identify, structure and classify conflicts in protected areas in a particular area or region, we propose a generic algorithm for analyzing conflict situations arising in the course of establishment and functioning of protected areas, based on the collection and processing of extensive empirical material.

In selecting the sources of information for the analysis of conflicts in protected areas, we are guided by the following principles:

1. The principle of complexity. This principle assumes that the selected sources of information should reflect the diversity of views of all the main parties to the conflict, as well as the most knowledgeable and competent external observers. In addition, obtaining information for the analysis of conflict situations in protected areas should be based on both literary and sociological research methods.

2. The principle of openness. According to this principle, the information used should not represent state and commercial secrets and for the most part should be freely available (in printed materials, on Internet sites).

3. The principle of cost. The principle is to minimize the financial, labor and time costs required to collect information for the analysis of conflicts in protected areas. Guided by this principle, we deliberately refused to conduct mass sociological research that requires significant financial and time investments in their organization and processing of the information received.

Thus, the proposed algorithm for the analysis of conflict situations arising in the course of establishment and functioning of protected areas of the region includes six main stages.

The first stage is the formation of a database of protected natural areas located in the region. At this stage, of official documents (laws, regulations, agreements, etc.) are analyzed so as to collect information on the number of protected areas, their category, location, and features of the protection regime.

The second stage implies conducting a content analysis of publications in the media on conflict situations in the establishment and functioning of protected areas in the region. This stage allows us not only to identify a significant part of the conflicts, but also to determine the frequency of mentioning the most relevant and resonant of them, to identify the main participants (parties) of the conflict, their main motives, and the subject of the conflict situation.

At the third stage, official requests are prepared and sent to the local authorities of the territory in which the protected areas are located, with a request to report on existing conflicts, disputes and disagreements related to the establishment and operation of the protected areas. This stage is of great importance due to the following: 1) often local governments act as a party to the conflict, which helps get information firsthand; 2) if local self-government bodies are not a party to the conflict in the protected area, they, nevertheless, are in close “proximity” to the conflict situation: they receive and register appeals from local residents and economic entities; 3) the process of sending official requests to local self-government bodies is characterized by minimal financial, time and labor costs. Standard applications can be sent via a special form on the official website of local governments or via e-mail. According

to the Federal Law “On the procedure of consideration of appeals of citizens of the Russian Federation” dated May 2, 2006 No. 59-FZ, the requests are considered by local authorities within 30 days from the date of their registration, which makes it possible to get the information in a month.

During the fourth stage, experts are selected and interviewed in order to identify conflicts related to the creation and operation of protected areas. The selection of experts should take into account the principle of complexity: experts should represent various organizations and institutions – both public and scientific, and included in the structure of public authorities directly involved in the protection of the environment, the study and development of the network of protected areas and its management. We think it is more convenient to conduct an in-depth interview, which involves a long conversation according to the general program, but without specifying the questions. This helps bring the expert to a confidential and “live” conversation, following which the interviewer receives the most detailed, deep and often unique information.

At the fifth stage, the information on conflicts in the protected areas of the region obtained during the 2nd, 3rd and 4th stages is systematized and analyzed. At this stage, a list of conflict situations associated with the establishment and functioning of protected areas in the region is formed, and the structure of each conflict is determined by identifying its parties, subject, motives and stage. The result of the fifth stage is the formation of an information database on conflict situations in the protected areas of the region; the database is convenient for subsequent use (mapping, forecasting, finding solutions, etc.).

At the sixth stage, recommendations are worked out concerning the elimination or mitigation of conflicts in the protected areas of the region identified during the analysis.

Analysis of conflict situations arising in the course of establishment and functioning of protected areas in the Arctic region (on the example of the Arkhangelsk Oblast)

In order to test the proposed algorithm for analyzing conflict situations arising in the course of establishment and functioning of protected areas, we decided to choose the Arkhangelsk Oblast as the object of testing, since it is one of the most interesting regions of the Russian Arctic in terms of natural and climatic conditions. The choice of this Arctic subject of the Russian Federation is due to the following reasons: a) the Arkhangelsk Oblast is the largest subject of the European part of the Russian Arctic, having the greatest length from North to South and the most pronounced zoning; b) there are several natural zones in the Oblast: Arctic deserts, tundra, forest tundra, and taiga; preservation of the natural diversity of each natural zone is of great importance for the region and for the Arctic as a whole; c) the land area of protected areas in the Arkhangelsk Oblast is only 47.2 thousand km², which corresponds to 8% of the area of the region. This is two times lower than the standard adopted in the Convention and may indicate the presence of unresolved conflicts in the field of protected areas.

At *the first stage*, a database on protected areas of the Arkhangelsk Oblast was formed. Due to the diversity of natural complexes and the presence of unique natural objects, an extensive network of protected areas has been formed in the region; this fact is of great importance for the preservation of biodiversity and maintaining the ecological balance in the Arctic. The network of protected natural areas of the region includes 107 protected areas; among them:

– eight protected areas of federal significance, including one reserve (Pinega), four national parks (Kenezersky, Vodlozersky, Russian Arctic and Onega Pomorie), two arboretums and one botanical garden;

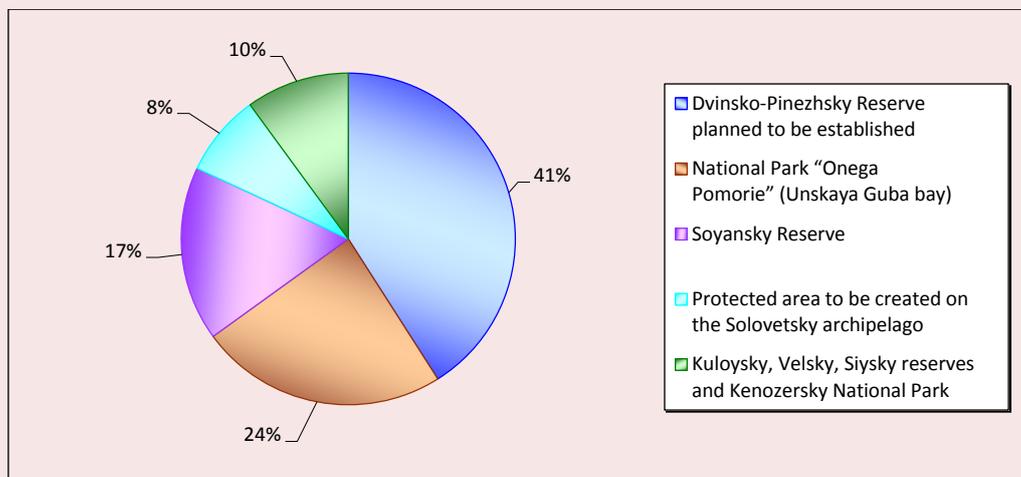
– 99 protected areas of regional significance, including 33 nature reserves and 66 natural monuments.

These protected areas are located unevenly, although they are represented in all the districts of the Arkhangelsk Oblast. The area they occupy varies from 0.3% (in Shenkursky District) up to 30% of the district (in Primorsky District).

At *the second stage* of the study, we carried out the content analysis of media publications. The bulk of information about the conflicts in protected areas of the Arkhangelsk Oblast was obtained from major regional information and analytical publications (newspapers *Moskovsky komsomolets Arkhangelsk*, *Pravda Severa*, *Ekho Severa*), and from information sources at the municipal level. Their detailed analysis revealed 59 references to conflict situations related to the functioning and establishment of protected areas of the Arkhangelsk Oblast. Almost 41% of the publications we analyzed (*Fig. 1*) concern the establishment of Dvinsko-Pinezhsky Reserve on the territory of Pinezhsky, Kholmogorsky, Vinogradovsky and Verkhnetoemsky districts.

Dvinsko-Pinezhsky Reserve that is planned to be created is located in the center of the interstream area of the Northern Dvina and Pinega rivers, where an area of undisturbed thousand-year old forests, which is the largest in Europe and which represents the standard of the wild Northern taiga, is preserved. Thirteen out of 24 publications dated 2017–2018 reflect the actions of the main parties to the conflict: public environmental organizations, timber companies, and legislative and executive authorities of local and regional levels. District heads, regional and district deputies, as well as heads of timber companies, opposed the creation of the reserve due to fears of the need to abandon part of their rental base and, as a result, to shut down a number of enterprises of the forest industry; in addition, there is a risk

Figure 1. Publications in the media on the subject of conflict situations related to the establishment and functioning of protected areas of the Arkhangelsk Oblast (in % of the number of publications found)



of growing unemployment, social tensions, and reducing the standard of living of local residents. However, recent publications reflect a positive trend in the resolution of the conflict. In April 2018, a protocol was signed on the coordination of the boundaries of Dvinsko-Pinezhsky Reserve between the heads of the largest timber companies in the region, the World Wildlife Fund, Greenpeace Russia and the Government of the Arkhangelsk Oblast. A large number of regional media publications were devoted to this event.

Soyansky Biological Reserve located on the territory of Primorsky and Mezensky districts of the Arkhangelsk Oblast ranks second according to the frequency of its mentioning of conflict situations among protected areas of regional significance. More than half of the publications about Soyansky Reserve dedicated to the violations of its regime, including poaching (illegal hunting and fishing on spawning salmon streams). A quarter of the publications reflect the resonant events associated with the visit and recreation of the authorities in the huntsman's house on the territory of Soyansky Reserve. The remaining

publications deal with illegal logging and littering of the Reserve.

The National Park "Onega Pomorie" is the most "conflict-ridden" (24% of all publications) among the protected areas of federal significance in the Arkhangelsk Oblast. Most of the analyzed materials about the National Park, published in the period from 2014 to 2016, contain information on fishing opportunities in Unskaya Guba bay. Parties to the conflict are local people, fishing farms, and the administration of Primorsky District; they advocate for the exclusion of Unskaya Guba bay from the boundaries of the National Park and for granting the collective fishing farms their lost right to catch navaga. Another party is represented by the management of the National Park, which exercises control over the execution of the regime under which industrial fishing in Unskaya Guba bay is prohibited in the territory of "Onega Pomorie". The rest of the publications are devoted to the collection of fees for visiting the Park and poaching.

Eight percent of publications cover the conflict situation related to the proposed creation of a federal reserve on the Solovetsky archipelago. The parties to the conflict are local

residents, the scientific community, public authorities, and the employees of Solovetsky Museum-Reserve. We described the essence of this conflict situation in the introduction to our paper.

The remaining 10% of publications are devoted to conflicts in Siysky Reserve (illegal logging), Kuloysky Reserve (poaching), Velsky Reserve (ensuring the safe passage of animals through the roads) and Kenozersky National Park (illegal construction and fishing).

As part of *the third stage* of the analysis of conflict situations arising in the course of establishment and operation of protected areas in the Arctic region, we prepared and sent official requests to the heads of municipalities of the Arkhangelsk Oblast, on the territory of which the protected areas are functioning. In total, 22 requests were sent: 19 – to the municipal districts of the region and three – to the cities of regional significance.

Having analyzed the official answers received from the authorities of the municipal level of the Arkhangelsk Oblast, we find out the following:

1. According to local authorities, there have been no conflicts, disputes and disagreements related to the establishment and functioning of protected areas in their territories in the majority of administrative-territorial units of the Arkhangelsk Oblast (Leshukonsky, Konoshskiy, Ustyansky, Plesetsky, Vilegodsky, Vinogradovsky, Shenkursky, Primorsky, Kargopolsky, Nyandomsky, Kholmogorsky, Lensky districts, the city of Severodvinsk and the town of Novodvinsk).

2. In eight municipalities of the region, according to the executive authorities of the municipal level, there are the following conflicts, disputes and disagreements:

– mismatch of the name and location of the natural monument “Talitsky klyuch” (Onezhsky District); according to the administration of the municipal entity “Onezhsky

Municipal District”, the true name of the natural monument is “Taletsky klyuch”, and the location should be determined by the passport to this natural monument dated 1986;

– the meeting of the Deputies of the municipal entity “Verkhnetoemsky Municipal District” supported the appeal of the Municipal Assembly of the municipal entity “Vinogradovsky Municipal District” to the federal and regional legislative and executive authorities, in which they asked to prevent the establishment of “Dvinsko-Penezhsky” reserve of regional significance as of December 27, 2016 (Verkhnetoemsky District); it is interesting to note that in its answer the administration of Vinogradsky District did not consider it necessary to point out the existence of this appeal;

– disagreement of local residents with the expansion of Shilovskiy Reserve (Krasnoborsky District), in connection with which a letter was sent to the Governor of the Arkhangelsk Oblast;

– identification of a threat to the normal existence of I.M. Stratonovich dendrological garden (Arkhangelsk) on the part of ZAO Engineering and Construction Firm “Instroy”; it is recorded in the appeal of NARFU to the administration of the municipal entity “City of Arkhangelsk” on August 28, 2014, in which it is noted that the construction of high-rise property and parking lots carried out by Instroy in the vicinity of the arboretum, violates insolation completely; as a result, the existing ecosystem is facing irreversible catastrophic consequences: death of plants and loss of historic gardens;

– comments of the Administration of the municipal entity “Kotlassky Municipal District” related to the need to adjust the boundaries of Solvychegodsky Reserve in terms of excluding the territory of the town of Solvychegodsk, the territory intended for the expansion of the cemetery in the vicinity of the village of Andreevskaya, and the road

“Zabolotye–Solvychevodsk–Yarensk” (Kotlassky District) from its composition;

- the infringement of the interests of the local population recorded in the appeal of the Council of Deputies of the municipal district “Soyanskoe” from December 25, 2013 to the government of the Arkhangelsk Oblast; the appeal concerns the fact that local population residing in the village of Soyana constantly uses spawning salmon rivers for transportation; the appeal also deals with the rent of forest land for recreational purposes (Mezensky District) in coordination with the local authorities of the municipal district “Soyanskoe”;

- local residents who consider themselves hostages of Verkolsky Reserve (Pinezhsky District) show their discontent about the zoning of the reserve and the restriction of travelling by motor boats, snowmobiles and wheeled transport; in addition, local residents have designated areas in which they want to harvest industrial and fuel wood for their own needs; but their requirements did not coincide with the vision of the Center for Nature Management and Environmental Protection of the Arkhangelsk Oblast (hereinafter – the Center for NMEP AO) that acts in the interests of the reserve;

- illegal logging in Timanovsky coniferous forest, Tarasovskiy pine forest, Shunemsky coniferous forest, Bereznikovskiy pine forest, Korenevskiy coniferous forest and Vorontsovskaya grove, as well as the littering with production and consumption waste and waste lumber in protected areas of Velsky District, especially in Zeleny Bor.

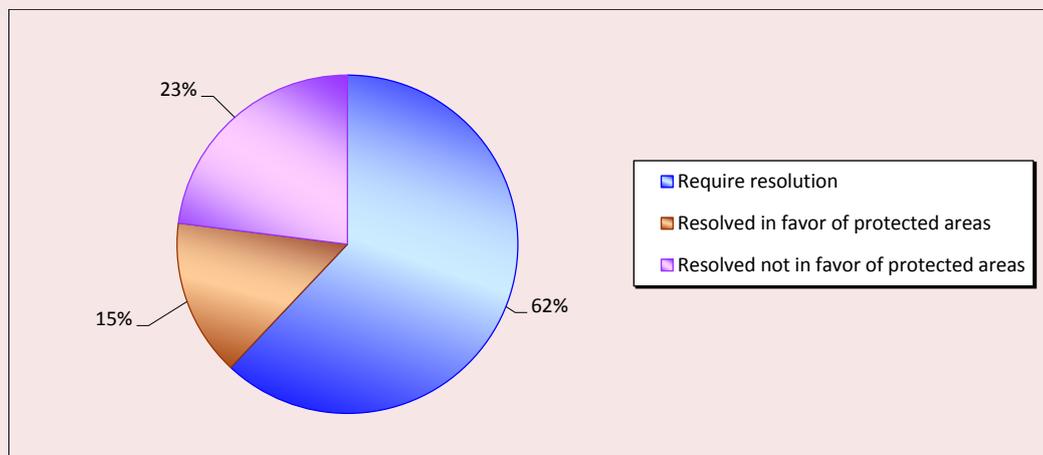
At *the fourth stage*, 12 experts from among the representatives of environmental organizations, public authorities, managers of protected areas and scientists of the Arkhangelsk Oblast were selected for the expert survey. An in-depth interview lasting from one and a half to two hours was conducted

with each expert. As a result of processing the data obtained during the expert survey, 47 conflicts were identified in 24 protected areas of the Arkhangelsk Oblast. At the same time, more than 62% of federal protected areas and 54% of regional reserves have certain conflict situations. According to experts, the following protected areas should be recognized as the most “conflict-ridden”: Primorsky Landscape Reserve, Soyansky Biological Reserve and the National Park “Onega Pomorie”.

Currently, 38% of all conflicts identified in the expert survey are in the stage of completion. Nevertheless, more than half of them ended up not in favor of protected areas: the area of protected natural area was reduced and the protection regime was made less strict (*Fig. 2*).

Examples here are the arboretum of the Northern Arctic Federal University (urban construction on the area designated for the expansion of the arboretum), Primorsky and Soyansky reserves (they lost the areas that are of interest to resource companies), Chugskiy Reserve (active operation of the plaster quarry is threatening the greater part of the protected natural sites of the reserve), Uftyugo-Ileshskiy Reserve (its actual area is smaller than planned, because of the tenants of the forest fund), and others. Pinezhskiy Reserve and Kenozerskiy National Park, which have existed for more than 25 years, are good examples of conflict resolution from the point of view of the interests of protected areas. Thus, in the territory adjacent to Pinezhskiy Reserve, active environmental and educational work is carried out both with the local population and with tourists; the work gives positive results. Kenozerskiy National Park has taken a number of active measures to resolve conflict situations: educational work with the local population has been organized, a special employee in the Park’s Directorate has been assigned to coordinate the construction and reconstruction of residential and non-residential

Figure 2. Resolution of conflict situations related to the establishment and operation of protected areas of the Arkhangelsk Oblast (% of the total number of identified conflicts)



facilities of the local population, a microloan fund has been created to maintain the traditional way of life of villagers, transport infrastructure has been created and reconstructed, etc.

The subjects identified in the expert survey of conflicts related to the functioning and establishment of protected areas in the Arkhangelsk region are as follows:

1. The territory of protected areas. This subject of conflict can be divided into the following groups:

- construction in a protected area (Soyansky, Primorsky, Kozhozersky reserves etc.);
- travelling in the territory of a protected area (NP “Onega Pomorie”, Verkolsky, Shelovsky, Klonovsky reserves, etc.);
- visiting the territory of a protected area (NP “Onega Pomorie”, Pinezhsky reserve);
- the territory of protected areas to be used for construction, as well as the placement of linear objects (Belomorsky Reserve, Arboretum of the Northern (Arctic) Federal University, etc.);
- the territory of protected areas to be used for exploration and mining (Soyansky, Primorsky, Chugsky reserves);

- the territory of protected areas to be used for grazing deer (Kuloysky Reserve);
- the territory of protected areas to be used as the landfill of household waste (Permilovsky Reserve).

2. Forest resources, which are divided into:

- wood resources, industrial and fuel wood (Verkolsky, Monastyrsky, Filatovsky, Uftyugolleshsky reserves, etc.);
- non-wood forest resources – mushrooms, berries (Shilovsky Reserve).

Along with the territory, forest resources are the most common subject of conflict situations in protected areas of the Arkhangelsk Oblast (Fig. 3).

3. Aquatic biological resources (NP “Onega Pomorie”, Soyansky, Lachsky reserves, etc.).

4. Hunting biological resources (Klonovsky, Puchkomsky, Vilegodsky, Soyansky reserves, etc.).

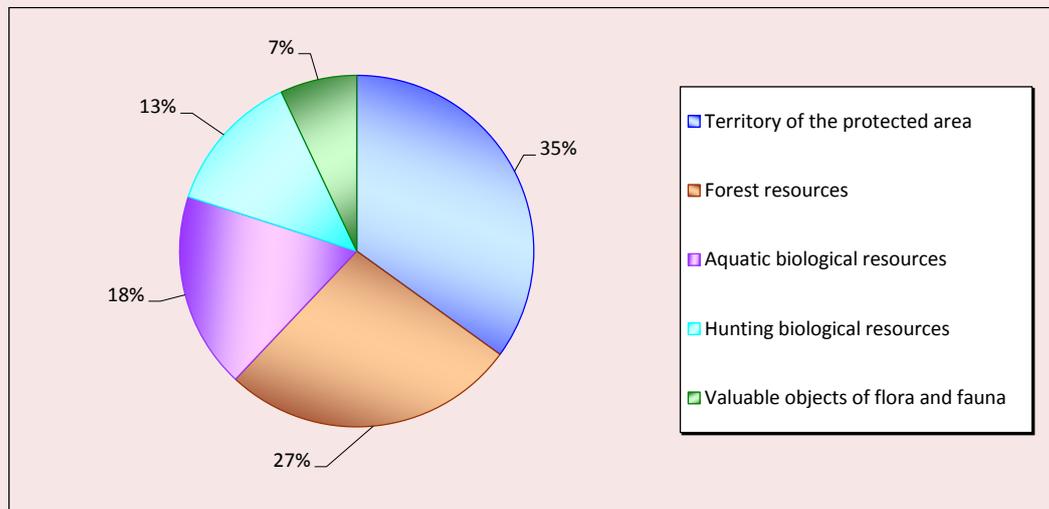
5. Valuable objects of flora and fauna (Soyansky Reserve, natural monument “Golubinsky Karst Massif”).

The parties to the conflicts that are related to the establishment and functioning of protected areas of the Arkhangelsk Oblast and

Fragment of the table that systematizes and structures the conflicts related to the establishment and functioning of protected areas in the Arkhangelsk Oblast (on the example of Primorsky Landscape Reserve)

Parties to the conflict	Subject of the conflict	Motives of the conflict	Stage of the conflict	Actions aimed to resolve the conflict
A. Mineral exploration and production enterprises/- environmental public and scientific organizations	A. Territory of the Reserve	A. Mining enterprises claim the territory of the Reserve for exploration and mining. Environmental public and scientific organizations advocate for the preservation of the area and undisturbed territory of the Reserve.	A. Stage 4 – end of the conflict	A. Conflicts are resolved in favor of resource-producing enterprises. The territories of the Reserve of interest to the companies are removed from its composition.
B. Scientists/- scientists	B. Valuable objects of flora and fauna	B. Some scientists justify from a scientific point of view the necessity to withdraw the quarters from the territory of the Reserve as a result of the loss of their natural value; other scientists oppose them, believing that this territory is still of great importance.	B. Stage 3 – conflict actions	B. Absent.
C. Illegal loggers /- Center for NMEP AO	C. Forest resources	C. Illegal logging takes place on the territory of the Reserve. The Center for NMEP AO considers this process as a violation of the protected areas regime and a threat to biodiversity.	C. Stage 3 – conflict actions	C. The Reserve does not have the necessary material, technical and human resources to patrol the vast territory and prevent violations.
D. Illegal collectors of fossils of the Vendian period /- Center for NMEP AO	D. Area with fossils of the Vendian period	D. The fossils of the Vendian period are collected illegally on the territory of the Reserve. The Center for NMEP AO considers this process as a violation of the protection regime and loss of natural value of the territory.	D. Stage 3 – conflict actions	D. The Reserve does not have the necessary material, technical and human resources to patrol the vast territory and prevent violations.
E. Residents of the city of Arkhangelsk and Primorsky District /- Center for NMEP AO	E. Territory, hunting resources, biological water resources, buildings	E. Residents of Arkhangelsk and Primorsky District visit the territory of the Reserve for the purpose of illegal hunting, fishing and lodging in illegal buildings (huts). Center for NMEP AO considers this process as a violation of the protected areas regime and a threat to biodiversity.	E. Stage 3 – conflict actions	E. The Reserve does not have the necessary material, technical and human resources to patrol the vast territory and prevent violations.

Figure 3. Subjects of conflict situations in the media, related to the establishment and functioning of protected areas of the Arkhangelsk Oblast (% of the total number of the subject of identified conflicts)



identified during the expert survey include: the Centre for Nature Management and Environmental Protection (26% of the total number of the conflicting parties); local population (17%); scientific organizations and societies (9%); the management of a reserve or national park (7%); environmental non-governmental organizations (6%); tourists (6%); government (5%); entrepreneurs (5%); poachers (4%); forestry companies (4%); exploration and mining enterprises (3%); illegal loggers (2%); representatives of the Russian Orthodox Church (2%); construction companies, organizations engaged in the construction of linear objects (2%); fishing collective farms (1%); representatives of horticultural associations (0.5%); reindeer herding teams (0.5%).

The fact that the Center for NMEP AO is frequently a party to the conflict is explained by the fact that the Center is responsible for compliance with the protection regime at regional protected areas, thereby automatically becoming an antagonist of any violators, whether poachers, illegal loggers, tourists or others.

At *the fifth stage*, the extensive data on conflicts in protected areas of the Arkhangelsk Oblast obtained as a result of content analysis of the media, official responses of municipal authorities and expert surveys were systematized and presented in the form of a table. It contains the most important information about each conflict situation related to the establishment and functioning of protected areas in the region: the parties to the conflict, their motives, the subject and stage of the conflict, as well as the actions taken to resolve it. Since the whole table is quite extensive, this paper contains only a fragment of it; this fragment can serve as a model for systematizing and structuring conflict situations in protected areas of the region (*Table*). As an example, we have chosen Primorsky Landscape Reserve, one of the most “conflict-ridden” protected areas of the Arkhangelsk Oblast.

Conclusions and recommendations

Thus, on the basis of systematized information on conflict situations related to the establishment and functioning of protected areas in the Arkhangelsk Oblast, we draw the following conclusions.

- Current or already completed conflicts occur in 35 functioning protected areas and in two areas planned to be established in the region. This means that almost a third of all existing protected natural areas in the Arkhangelsk Oblast are marked by the presence of conflict situations, which once again emphasizes the importance of research in this field.

- A total of 58 conflict situations were identified during the work, the subject of most of which are the territory of the reserve and its forest resources. At the same time, only 18 of the 58 conflicts in protected areas of the Arkhangelsk Oblast are in the process of completion, while the rest are still not resolved, which has a negative impact on the efficiency of the protected areas, biodiversity conservation and maintaining the fragile balance of Arctic ecosystems.

- More than half of the identified conflicts are concentrated in eight protected areas: National Park “Onega Pomorie”, Soyansky, Primorsky, Kuloysky, Verkolsky, Belomorsky, Klonovsky reserves and the natural monument “Golubinsky Karst Massif”. At the same time, the most conflict-ridden ones are Primorsky Landscape Reserve (7 conflicts), Soyansky Biological Reserve (7) and the National Park “Onega Pomorie” (4 conflicts). It is important to note that the conflicts in Soyansky Reserve and NP “Onega Pomorie” appeared both in the media and in the official responses of local governments and interviews with experts. This fact directly indicates the high relevance and severity of conflict situations in these protected areas.

Analysis of the information obtained during the study of media publications, official responses of local authorities and expert survey allows us to offer the following recommendations to eliminate and reduce the number

of conflicts related to the establishment and functioning of protected areas in the Arkhangelsk Oblast (*sixth stage*):

1. To create the Public Council for protected areas of the Arkhangelsk Oblast under the Ministry of Natural Resources and Forestry of the Arkhangelsk Oblast. The Public Council for protected areas of the Arkhangelsk Oblast is designed to ensure that the needs and interests of residents of the Arkhangelsk Oblast, enterprises of the resource sector are fulfilled and the unique natural complexes of the region are preserved and protected. The Council should be a standing advisory body.

The composition of the Public Council should include: representatives of the Ministry of Natural Resources and Forestry of the Arkhangelsk Oblast, the Center for Nature Management and Environmental Protection of the Arkhangelsk Oblast, scientific organizations and public environmental organizations, and representatives of resource-extracting enterprises.

2. To organize public councils for protected areas under the administrations of municipalities located in the territories adjacent to protected areas. As in the case with the regional Public Council, the Public Council for protected areas under the administration of the municipality should be a permanent advisory body that takes into account the needs of residents of the municipality, and helps preserve and protect the unique natural complexes.

The composition of the Public Council for protected areas under the administration of the municipality should include: representatives of the administration of the municipality, a structural unit of the Center for Nature Management and Environmental Protection of the Arkhangelsk Oblast (hunter), representatives of forestry, educational institutions, and local population.

3. To organize and implement environmental education:

- to organize the work with the media at the regional and district levels to educate the population (getting acquainted with the natural values of protected areas, the activities of the Center, the Regulation on Protected Areas, responsibility for violation of protected areas) and highlight the problems associated with the establishment and functioning of protected areas;

- to organize the work with educational institutions (kindergartens, schools, colleges, technical schools, universities); to this end, it is necessary to develop a plan of standard presentations for students of educational institutions at various levels, which would include brief information about the location of protected areas, valuable objects of protection, the regime of protected areas and the activities of the Center;

- to create an information stand in each municipality located on the adjacent protected area (in the administration of the municipal entity or in shops), which will provide information relating to the activities of the protected area;

- to make a proposal to the Ministry of Education and Science of the Arkhangelsk Oblast concerning the introduction of educational programs in biology and geography within the regional component of the block of educational hours, containing information about protected areas of the Arkhangelsk Oblast;

- to develop and publish a textbook for schools of the Arkhangelsk Oblast, dedicated to protected natural areas of the region;

- to organize and held meetings of the local population living in neighboring protected areas with leading scientists engaged in various studies related to the functioning of protected areas.

4. To implement regular research aimed to study protected areas of the Arkhangelsk Oblast:

- to continue inventory work related to protected areas of the Arkhangelsk Oblast;

- to monitor especially valuable natural objects, flora and fauna;

- to make scientific research findings available to all stakeholders (the Center for NMEP AO, public councils on protected areas, etc.).

5. To carry out forest management works on the territory of protected areas in order to update their zoning. This will allow the local population to allocate areas for economic activities, which will contribute to the leveling of conflicts related to the functioning of protected areas.

6. To make an inventory and to register the roads located in protected natural areas of the Arkhangelsk Oblast. This activity will help officially allocate those roads that actually exist in the protected areas and are used by the population. In turn, this will make it possible to attract funding for the reconstruction and maintenance of these roads.

7. To increase funding for the Center for NMEP AO, which will increase the staff of structural units (huntsmen), improve their material and technical equipment, and help implement the above activities.

Conclusion

Thus, the goal of our study has been fully achieved. Our algorithm for analyzing the conflict situations arising during the establishment and functioning of protected areas of the region is universal and can be applied to any administrative-territorial entity of the Russian Federation. The algorithm is characterized by comprehensive coverage of the views of all stakeholders (representatives of environmental organizations, state and municipal authorities, managers of protected areas, scientists) and by the use of various

complementary sources of information (media, official documents, interviews of experts). Its implementation provides the most accurate and reliable data to identify the conflict, structure it and carry out its comprehensive analysis.

Having tested the developed algorithm on the example of one of the Arctic regions of the Russian Federation, we identify and analyze 58 conflicts occurring in 35 operating and 2 planned protected areas of the region. On the basis of the study, we formulate a set of specific recommendations for their elimination, reduction and prevention, aimed at improving the organizational structure and activities of public advisory councils under the state

and municipal executive authorities and at implementing environmental education, forest management, inventory and research. The results of our work aroused great interest in the executive authorities of the Arkhangelsk Oblast and were used in their activities in order to make and adjust management decisions in the field of environmental protection.

Conducting similar studies in other regions of the Russian Arctic will help form an extensive database of conflicts in the protected areas of the macroregion, which will later become the basis for the development of evidence-based recommendations for their resolution and preservation of the unique and fragile nature of the Arctic regions of the Russian Federation.

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