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To the history of the creation of biosphere reserves and natural parks in the Soviet Union

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Abstract. By the early 1960's due to the development of industrial production, the natural environment of the Soviet Union faced a threat of reduction of many endemic species. Biosphere reserves became the places where any human activity was strongly forbidden and scientists can conduct ecological research. Soviet biosphere reserves became an important instrument for international ecological cooperation. Creation of new national parks led to the spreading semi-protected territories. The aim of this article is to show how Soviet scientists worked out the principles of natural parks and biosphere reserves in the Soviet Union. That research will be of interest to geographers, biologists and conservation activists involved in different ecological activities.

1. Introduction

Since the beginning of 1960s, natural environment in the USSR began to experience a large anthropogenic pressure from industrial production. Similar problems with environmental pollution in the rest of the world gave reason to foreign scientists to talk about future catastrophic changes in the natural environment. In 1965, the French ornithologist Jean Dorst published the book *Avant que Nature meure* (Before Nature Dies) [1]. In 1968, a translation of the book was published in the USSR. In the preface to the Russian edition, the author noted that at present, humankind has the opportunity to explore the territory of previously inaccessible deserts, swamps and mountains. According to Jean Dorst, in the USSR, with its developed industrial production, many more places have remained, inhabited by unique animals and rare plants that existed in harmony with local biocenosis. However, then the threat of early human development loomed over this biocenosis.

In 1972, a conference concerning the environmental issues in USSR took place in Stockholm and the works to create biosphere reserves started. Nature reserves in the USSR allowed protecting rare species of animals and plants, but they were poorly adapted to study the impact of industrial production on the natural environment. In 1978, the first biosphere reserves received UNESCO certificates and were included into the worldwide net of environmental monitoring.

Creating natural resorts aimed at giving tourists a possibility to visit protected areas without harming the environment. Tourists visiting of the reserves was also impossible, because they could damage valuable species. It was needed to create special forms of protected areas that could be used to conduct scientific research of the natural environment and organize leisure for tourists in nature.

The aim of this article will be to describe how Soviet scientists worked out the principles of natural parks and biosphere reserves. The article is also showing how that new types of protected territories could support protection and nature resources network (PNA) in the Soviet Union.



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2. Materials and methods

The object of this study is the history of the creation of natural parks and biosphere reserves in the USSR. In preparing of the article, we used scientific literature and documents preserved in the archives of the Russian Academy of Sciences. The research is based on the documents about the work of environmental scientists who were part of the Scientific Council on Biosphere Problems of the USSR Academy of Sciences.

In our research, we used the methods of environmental history. One of them is content analysis of scientific reports and other archival sources, which helped us to define the role of scientists and scientific institutions in the process of creating biosphere reserves and national parks.

3. Creation of nature parks

Until the 1960s only nature reserves and *zakazniki* (the areas with strong limitations of any economic activities) existed in the Soviet Union, so international experience in creating a form of protected areas intended for tourists to relax and teach them to take care of nature was very important. The United States had extensive experience in organizing national parks: in 1872 Yellowstone National Park was created, which was initially managed by the American army, and later in 1916, after the creation of the National Park Service (an agency of the USA government, which manages such protected territories as national parks and other conservation properties), it came under its control.

In 1961, Soviet geographers, headed by Innokenti Gerasimov, director of the Institute of Geography, USSR Academy of Sciences, visited the United States. This trip was an introduction to the US experience in environmental protection and the use of natural resources. During the trip, Soviet scientists visited United States National Parks Service of the US Department of the Interior, United States Forest Service and Rural Development and Agricultural Research Services departments of the US Department of Agriculture, and also a research centre "Resources for the Future". Soviet scientists paid special attention to the Yellowstone National Park and the Great Smoky Mountains National Park. After the trip, Innokenti Gerasimov noticed that American national parks had achieved greater success in organizing tourism than Soviet reserves, so Soviet people were supposed to learn from the Americans [2].

In 1963, vice-president of the Soviet Geographical Society Stanislav Kalesnik visited Mount Rainier National Park, where he explored local trail system and ecosystems. His knowledge and book *A guide to the trails of Mount Rainer National Park*, which he took from the USA, helped Soviet scientist in the planning and creation of similar of natural parks in the Soviet Union [3]

In 1965, Innokenti Gerasimov returned to the idea of creating nature parks in the USSR. He proposed the creation of a Baikal nature park. Innokenti Gerasimov's proposal was original because this park was aimed to become a source of pure Baikal water for high-tech industrial production. In order to maintain the high quality of Baikal waters, part of the drainage basin of the lake should have been recognized as a territory with protected status. Control over economic activity in the territory of Lake Baikal and the organization of holiday centre (*sanatorium* in Russian) recreation there should have been carried out by a special institution. A similar natural park was also designed in the Lake Seliger area on the Valdai Hills.

In 1966, the newspaper Komsomolskaya Pravda published an article by Innokenti Gerasimov and Vladimir Preobrazhensky, which said about the need to create a system of natural parks in the USSR. Natural parks were not to be considered as territories with many restrictions on their use, but places for tourists to relax. To protect animals and plants, the territory of natural parks was to be divided into areas open to visitors, where they could spend the night in a tent or park their cars, and into reserved areas that tourists would not be allowed to visit without a guide [4].

In 1969, Innokenti Gerasimov published his report in *Communist* magazine, outlining the general plan for the transformation of nature, where he paid his special attention to the special role of nature reserves as keeps of wildlife. According to Gerasimov's plan, the nature reserves should become the basic type of natural ecosystems, which will be strictly protected from any human activity and

transformation of its territory into anthropogenic ecosystems. The comparison of eco-systems in nature reserves and industrial districts should give an answer about the damage to nature which was made by humans. In that concept, natural parks were semi-protected territories with very limited human activity.

The first national (natural) parks in the Soviet Union – Losiny Ostrov National Park and Sochi national park were created in 1983. The project for creating Baikal nature park was developed in 1986 in the form of Pribaikalsky national Park and Zabaykalsky national park [5]. Valdaysky national park was established in 1990. National parks were relatively new to Russia, so the most widespread types of protected territories in Russia were zakazniks and natural monuments. In the most developed regions they were considered the core component for the regional protection of biodiversity and provision of a PNA network [6].

4. Creation of biosphere reserves

The first reference to the creation of reserves for scientific research on environmental change is associated with a meeting in March 1970 at the UN headquarters in New York, where the program of the conference on environmental protection, which was planned to be held in 1972 in Stockholm, was developed. This meeting was attended by a Soviet delegation led by Viktor Kovda, who worked with international organizations from the 1970s, and who participated in the elaboration of desertification as a global environmental issue [7]. Soviet delegation with the support of the delegations from France and Czechoslovakia promoted a conception of alarming destruction of the environment, which was connected with many social and economic reasons when capitalist countries and big corporations vastly exploited the nature of developing countries. At the top of the agenda of the forthcoming conference, it was proposed to put the report of the UN Secretary-General U Thant about an analysis of the causes of the biosphere destruction and measures for its preservation.

In his report, Viktor Kovda pointed out that in order to reduce the USSR lag in biosphere research, a network of observation stations should be created. In 1972, the UN Conference on the Human Environment in Stockholm approved the Earth's Patrol, which was launched as a part of the United Nations Environment Program. Creation of a global system for environmental monitoring, which was proposed by a professor of Chicago University Gilbert White, had the great importance for that UN ecological program [8]. In 1973, the need to create biosphere reserves was discussed by a group of experts from United Nations Educational, Scientific and Cultural Organization, UNESCO. Within the framework of UNESCO's "Man and the Biosphere Program", the creation of a biosphere reserves network around the world began [9].

On May 23, 1972, an agreement was signed between the USSR and the USA on cooperation in the field of environmental protection. Soviet and American scientists began to collaboratively prepare a research project on biosphere reserves [10]. On July 3, 1974, after the visit of the American President Richard Nixon to the Soviet Union, a Soviet-American agreement on cooperation in the field of environmental protection was signed, according to which both countries agreed to allocate within their territory places for biosphere reserves aimed at preserving valuable plants and animals of the world, as well as conducting research on more effective environmental protection measures" [11].

In May 1976, according to this agreement, the first Soviet-American symposium on biosphere reserves was held in Moscow. According to the results of the symposium, the head of science's council concerning the protection of biosphere, Academy of Sciences of the Soviet Union, Alexander Vinogradov entrusted Innokenti Gerasimov, Vladimir Sokolov and Yuri Israel to prepare proposals for the organization of a network of biosphere reserves in the USSR. In a note prepared by the scientists, it was proposed to create five biosphere reserves in different parts of the country [12].

In the summer of 1977, the USSR was visited by a delegation of the United States Environmental Protection Agency, led by Douglas Castle, co-chairman of the Soviet-American commission for cooperation in the field of environmental protection. The purpose of the visit of the American delegation was to verify the implementation of the intergovernmental agreement between the USSR and the USA in the field of environmental protection and determine the prospects for further cooperation [13].

In October 1978, at a return meeting in the United States, Soviet and American scientists agreed on an environmental monitoring program in biosphere reserves in their countries. American scientists did not support the Soviets in their choice of territories for the placement of biosphere reserves. As a result of the positions coordination, it was decided to create the following biosphere reserves in the USSR: Berezinsky Biosphere Reserve, Caucasus Biosphere Reserve, Sary-Chelek Biosphere Reserve, Sikhote-Alin Biosphere Reserve, Repetek Biosphere Reserve, Prioksko-Terrasny Biosphere Reserve and Central Chernozemny Biosphere Reserve [14]. Soviet scientists established that biosphere reserves as 'ecological laboratories', where the core zone of this reserve was strongly protected from human activity so that scientists could carry out their research in a serene and untouched environment.

On the proposal of Soviet scientists, the Bureau of the International Coordinating Council of the Man and the Biosphere Program approved the application for the inclusion of 7 Soviet biosphere reserves in the global network. This decision was supported at the XX General Conference of UNESCO in Paris in November 1978, after which these reserves received Biosphere Reserve certificates of UNESCO [13].

At this session of the General Conference of UNESCO, Soviet scientists came up with a proposal to hold an international scientific conference on biosphere reserves in the USSR. This initiative was approved and Soviet scientists, led by the scientific secretary of science's council concerning the protection of biosphere Alexander Grin, began preparations of the atlas and guide to the world's biosphere reserves for the upcoming congress, as well as instructions for conducting environmental monitoring in biosphere reserves [15]. That international congress on biosphere reserves took place in Minsk in September 1983.

When creating biosphere reserves, Soviet scientists also collaborated with scientists from other countries. For example, on May 21, 1974, agreements on environmental cooperation were signed between the USSR and the United Kingdom of Great Britain and Northern Ireland. In 1976 – 1977, the USSR Academy of Sciences, together with British scientists, participated in the project of creating biosphere reserves on the territory of both countries. Soviet scientists shared their materials about ecological monitoring in the Soviet Union, which were necessary for future Soviet-British symposium on biosphere monitoring [11]. In the time of Cold War sharing that information about biological sciences was less prohibited area for international cooperation, than exchange of any data about oceanography, radiology and some other fields of research, which had military importance [16].

5. Conclusion

The creation of national parks and biosphere reserves in the Soviet Union was intended not only to provide effective protection to territories unique in their natural diversity, but also to develop various recreational activities. Soviet scientists visited national parks in the United States, France and other countries, where they borrowed ideas on organizing this new type of protected areas. Soviet scientists provided the structure and tasks for a new type of protected areas - biosphere reserves, which were supposed to have a clearly defined reference function, giving scientists the opportunity to compare the "clean" core of the reserve with territories that experienced serious environmental pressure. Since the mid-1980s there has been a tendency to transfer nature reserves into the biosphere category so that they represent all the major biomes (important communities of plants and animals) of the country.

The participation of the Russian nature reserves in the UNESCO "Man and the Biosphere Program" and their receipt of "certificates of strong protection" became the evidence of their biodiversity uniqueness.

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