

The background of the cover is a photograph of a rocky shore. The rocks are dark and wet, with some areas reflecting light. In the foreground, there are several long, narrow, parallel grooves or channels carved into the rock surface, which are likely petroglyphs. The overall scene is somewhat dimly lit, with a soft light source visible in the upper center, creating a misty or atmospheric effect.


**Nomination for Inscription on the World Heritage List**

# **Petroglyphs of the Lake Onega and the White Sea**

## **Management Plan Volume II**

**Russian Federation**

**2020**



**NOMINATION** was developed by the Russian Scientific and Research Institute of Cultural and Natural Heritage named after D.Likhachev (Heritage Institute) at the request of the Ministry of Culture of the Russian Federation.

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## INTRODUCTION

The Convention concerning the Protection of the World Cultural and Natural Heritage was adopted by the 17th Session of UNESCO's General Conference on November 16, 1972 and entered into force on December 17, 1975. Russia signed the Convention in 1988.

The main objective of the Convention is to unite the efforts of the international community to identify, protect and comprehensively support globally outstanding cultural monuments and natural sites.

In pursuance of the Convention, the World Heritage List is maintained in the manner set out in the Operational Guidelines for the Implementation of the World Heritage Convention.

The status of a World Heritage site is by all means very attractive in terms of a number of advantages, both from a cultural conservation prospect and regarding comprehensive support for the territories included in the World Heritage List. The Convention offers broad opportunities in the legal, informational and economic field.

The key advantages can be shortlisted in the following way:

- additional guarantees aimed towards the conservation and integrity of unique cultural and natural complexes;
- top priority in raising funds to support World Heritage sites from federal and regional budgets or international sources;
- greater prestige of the territories and institutions managing them;
- promotion of sites inscribed into the World Heritage List;
- creation of additional monitoring and control mechanisms focusing on the site conservation progress through such international tools as regular reporting and reactive monitoring;
- access to the top-of-the-notch heritage conservation technology and developments.

Currently, the Convention is the most effective global tool for the protection of natural and cultural sites. Receiving real benefits for World Heritage sites imposes certain responsibility on countries for their preservation. The most important indicators evidencing compliance with national obligations on implementing the Convention include the creation of statutory protection mechanisms and development of a management plan for World Heritage sites.

A management plan is an integrated planning document designed to reflect the specifics of a particular site, to set future goals and objectives, to record the system of interested parties and their respective mutual rights and obligations in relation to the nominated site.

The main obligation of the Russian Federation under the Convention concerning the Protection of the World Cultural and Natural Heritage is to conserve the outstanding universal value of a site intended to be inscribed on the World Heritage List, to ensure the integrity and authenticity of its components and to create conditions for the sustainable development of the site and its area based on public cultural heritage conservation policies underlain by national law and appropriate financial support.

Management plan is one of the main tools for the conservation of the site and its sustainable development.

Management plan allows developing, based on the complete and unambiguous comprehension of the site's parameters by all participants involved in the management process, a long-term strategy and effective mechanisms for preserving the outstanding universal value of the site for future generations.

## **METHODOLOGY FOR DRAFTING A MANAGEMENT PLAN**

Article 4 of the Convention concerning the Protection of the World Cultural and Natural Heritage says that "Each State Party to this Convention recognizes that the duty of ensuring the identification, protection, conservation, presentation and transmission to future generations of the cultural and natural heritage <...> situated on its territory, belongs primarily to that State." In this connection, a proper protection and management system is an integral component of a site claiming to be inscribed or already inscribed on the World Heritage List since such system ensures the preservation of the unique value parameters of the site in the long term and its transmission to future generations.

In accordance with the Operational Guidelines for the Implementation of the Convention concerning the Protection of the World Cultural and Natural Heritage (WHC.17/01 dated July 12, 2017), each nominated site must have an appropriate Management Plan or other documented management system describing how the outstanding universal value of such World Heritage site should be conserved, preferably involving various stakeholders (Article 108 of the Guidelines).

As part of the management of a World Heritage site, focus is made on the features and properties that are associated with or express the potential outstanding universal value (OUV). The purpose of management is to ensure that OUV, authenticity and integrity of the site are preserved in the future by managing its parameters. Accordingly, OUV constitutes a key management reference.

There are no specific preferences when creating a management plan. The key point is its effectiveness, accessibility and the mechanism for its practical application. In Russia, management plans constitute a tool that is not widely known and has no practical application. Only the "Bolgar Historical and Archaeological Complex" (approved in 2016) and the "Uspensky Cathedral and the Monastery of the Island Town of Sviyazhsk" (approved in 2017 together with its nomination dossier) have management plans approved by the World Heritage Center. The Russian Federation has a total of 17 cultural heritage sites inscribed into the UNESCO's World Heritage List; management plans pertaining to some sites are still in the process of being developed or approved by the World Heritage Center. It is absolutely clear that it is necessary to boost efforts on creating and practically using management plans in Russia as effective mechanisms for conserving heritage sites for future generations.

As already mentioned above, there are no defined standards for drafting a management plan, however, the member states of the World Heritage Convention are encouraged to focus on the following information guidelines while preparing a Management Plan:

- information guide "Management of World Cultural Heritage Sites" (UNESCO / ICCROM / ICOMOS / IUCN, 2013);
- practical guide "World Heritage Management Plans" (Birgitta Ringbeck, German Commission for UNESCO, 2008);
- Preparing World Heritage Nominations (second edition, 2011).

The following are fundamental documents for drafting nomination dossiers and management plans:

- Convention concerning the Protection of the World Cultural and Natural Heritage (1972);
- Operational Guidelines for the Implementation of the Convention concerning the Protection of the World Cultural and Natural Heritage (WHC.17/01 version, July 12, 2017).

The following materials are also used at certain stages while developing a management plan:

- World Heritage and Tourism in a Changing Climate (UNESCO and UNEP, 2016);
- Managing Tourism at World Heritage Sites (Arthur Pedersen, 2002);
- Managing disaster risks for World Heritage (UNESCO / ICCROM / ICOMOS / IUCN, 2010);
- Tourism, culture and sustainable development (UNESCO, 2006);
- World Heritage and Buffer Zones (Oliver Martin / Giovanna Piatti (Ed.), UNESCO, 2009);

This management plan was developed in conjunction with the development of the nomination dossier for "Petroglyphs of the Lake Onega and the White Sea" as a site requiring inscription into the UNESCO World Heritage List. These efforts have resulted in the successful creation of a realistic vision of how the site should be managed in both short and long term, including insight into changes and challenges that may arise as a result of the site being inscribed into the World Heritage List.

When creating the management plan, a correlation was made referencing the key sections of the nomination dossier, such as 2.b. History and Development; 3. Justification for the Inscription on the World Heritage List; 4. State of conservation and factors affecting the site; 5. Protection and management; and Section 6. Monitoring.

For the effective implementation of the management plan, a deep and comprehensive analysis of the current condition of the site and its needs was carried out in order to create the most convenient document to be used in practice. The detailed analysis allowed considering both the strengths of the site and existing problems. The management plan for "Petroglyphs of the Lake Onega and the White Sea" outlined a range of general and particular strategic goals and objectives that are primarily aimed at preserving the site's OUV, sustainable development of the site and its territory and the effective interaction of all interested parties in the site management and conservation processes.

This management plan for "Petroglyphs of the Lake Onega and the White Sea" was developed in accordance with the requirements set out in the Convention concerning the Protection of the World Cultural and Natural Heritage and Operational Guidelines for its implementation and takes into account the methodological materials and recommendations issued by UNESCO and its advisory bodies. The management plan covers the period **up to 2027** subject to potential adjustments and refinements based on the results of monitoring activities.

In line with applicable site conservation priorities, the strategic goals underlying the "Petroglyphs of the Lake Onega and the White Sea" management plan are as follows:

- preservation of the outstanding universal value of the site;
- creation of conditions for the sustainable development of the territory using the cultural heritage site as a key factor;
- ensuring that the management plan is implemented.

The proposed management plan mechanisms designed to achieve the strategic goals and, above all, to preserve the outstanding universal value of the site, are based on the rules of the applicable law of the Russian Federation and offer the entire range of required tools to ensure the safety, preservation, use and promotion of the site.

During the preparation of the Management Plan, the following tasks were accomplished to enable the achievement of the strategic goals:

- unique features (parameters, attributes) constituting the site's OUV were defined;



- the existing management system of the site was comprehensively analyzed;
- interest groups associated with the site were identified;
- factors affecting the safety and condition of the site were assessed;
- a package of legal, organizational, financial, material, technical, informational and other steps aimed at ensuring the conservation, use, promotion and state protection of the site were developed.

- tools were developed to implement the strategic goals set out in the Management Plan and balanced performance targets were created to enable assessing whether whether the Plan is efficiently implemented.

The "Petroglyphs of the Lake Onega and the White Sea" management plan was prepared based on the integration approach that requires the transparency of work progress, involvement of the maximum number of interested groups, raising awareness of the local community about the site's OUV, its key parameters and potential, world heritage system and management principles (legal basis and legal framework, management structures and approaches to management and protection) and delineation of general responsibilities between all interested parties.

To create the management plan, a working team was created to include specialists in conservation, management and promotion of World Heritage sites being experienced in preparing such documents, experts with academic degrees of Doctors (Professors) or Candidates of Science (PhD), members of the International Council on Monuments and Sites (ICOMOS), certified experts authorized to conduct state historical and cultural expert reviews aimed at recognizing monuments as World Heritage sites and especially valuable sites pertaining to the cultural history of the Russian Federation's peoples and specialists in geography and cartography.

The Plan was developed in several stages. The first stage included preliminary planning operations that made it possible to define the goals of management planning.

Further, participants of the process collected data and assessed the condition of the site, including field surveys. At the final stage, proposals were drafted to elaborate on responsive measures in general and for the future in the long term.

The preparation of the management plan for "Petroglyphs of the Lake Onega and the White Sea" took account of the experience of Russian organizations managing world heritage sites and sites nominated for inscription on the World Heritage List, namely, Kenozersky National Park, Vladimir-Suzdal Museum Preserve, "Kizhi" Museum Preserve, "Island Town of Sviyazhsk" Museum Preserve, Solovetsky Monastery and Museum, reference materials, data of the first and second cycles of regular reporting and results of the monitoring visits made by the developers of the Management Plan.

The developers of the Management Plan express their gratitude to the Department for the Protection of Cultural Heritage of the Republic of Karelia, Republican Center for the State Protection of Cultural Heritage Sites, Belomorsky Regional Museum of Local Lore "White Sea Petroglyphs" and Archeology Sector, KarRC RAS, Institute of Language, Literature and History for the research and statistical materials they made available and their kind assistance in the preparation of the Management Plan.

## **1. OUTSTANDING UNIVERSAL VALUE**

### **1.1 Justification of Outstanding Universal Value**

The Petroglyphs of the Lake Onega and the White Sea are located in the north-west of Russia in the Republic of Karelia. It is one of the largest rock art sites of the world as regards the number of images and the spread of the concentration of rock art.

The property is serial and includes two components: Petroglyphs of the Lake Onega and Petroglyphs of the White Sea. The components are located at a distance of 300 kilometres from each other. The petroglyphs of the Lake Onega are located along the eastern shore of the Lake Onega along the distance of 18.5 kilometres and include more than 1,200 figures in 25 groups (22 parts of the component) located on 17 capes and 6 islands. The total area of the component is about 10 hectares. Petroglyphs of the White Sea are located 6-8 km from Belomorsk, on small and large islands in the branching delta of river Vyg, occupying a territory of 1.8 kilometres from the north to the south and 0.6 km from the west to the east, including at least 3,400 individual figures in 11 groups (11 parts of the component). The total area of the component is 1.2 square kilometres.

The Petroglyphs of the Lake Onega and the White Sea are the unique source of data on the population of this area in the Neolithic period (6 -7 thousand years ago).

Karelian rock art emerged and developed as a long artistic practice within one epoch (Neolithic). The sufficient period of time, as well as an elaborate set of skills, were necessary to create, consolidate and maintain this tradition. The results of scientific studies conducted recently allowed to clarify the exact periodization and development stages of the Petroglyphs of Karelia. Therefore, the outcomes of archaeological, geological, paleobotanical and paleo-geographical research prove the emergence and development of the Petroglyphs of the Lake Onega and the White Sea, including their features and natural dynamics in details.

The petroglyphs represent a powerful layer of human culture as the unique samples of Prehistoric art, reflecting the beliefs and lifestyle of Neolithic fishermen, gatherers, forest and sea hunters of the North.

The property includes historical, cultural and natural elements represented by the petroglyphs of various periods in their authentic archaeological directly related to the creators of these masterpieces. It is necessary to highlight that the environmental context of the property is fully preserved and represented in its diversity: primordial granite formations smoothed by the glacier and polished by waves over millennia; the pristine untouched landscape of the shore of the Lake Onega shore with its rocky capes and sand dunes covered with pine forests; the picturesque landscape of the river Vyg dividing the stone bed into a network of branches; small creeks with rapids and small rocky islands.

The Petroglyphs of Karelia are the outstanding example of Neolithic rock art with unique themes, distinguished quality of carving and special artistic expressiveness, which conditions the international significance of the cultural heritage site as the representation of the collective creative genius of Neolithic people.

The property is an example of inseparable unity of nature and creativity of man resulting in impressive open-air rock art galleries that bear the evidence of the cultural traditions of the diverse Prehistoric population of the North. The petroglyphs maintain the information about their mythology, beliefs, daily life and activities as the only one invaluable visual evidence of this extinct culture.

The Petroglyphs of Karelia were created during the climatic optimum of the Holocene age (about 6.3-6.8 thousand years ago), reflecting the social change in Neolithic without any alterations or chronological additions comparing to other rock art sites in Northern Europe.

The Petroglyphs of the Lake Onega and the White Sea are one of the largest sites of Prehistoric art in the world both by the number of carvings and areas of rock art concentrations. The property is well conserved and has maintained its integrity and authenticity, carrying priceless information on Neolithics for the global community and future generations.

The components of the serial property, Petroglyphs of the Lake Onega and Petroglyphs of the White Sea constitute the coherent image of the Neolithic in North Fennoscandia.

### **1.2 Criteria under which inscription is proposed**

**Criterion (i):** The Petroglyphs of the Lake Onega and the White Sea served as an important place for the performance of Prehistoric cults and rituals. The unique mysterious and obscure semantic motifs of the petroglyphs full of symbolism, metaphors and Prehistoric realism; skilful use of features of rock surface and colours; quality and artistic expressiveness of carving reflects the outstanding character of the rock art sites as a collective creative genius of Neolithic people of global significance.

**Criterion (iii):** The Petroglyphs of the Lake Onega and the White Sea are unique and mysterious examples of rock art representing the diversity of Neolithic people and the variety of their daily activities. The components of the property represent the emergence and the evolution of the successive creative practice, which allow tracing the development of this extinct cultural tradition from sketchy figures to detailed multi-figured complex narrative compositions. The property bears extremely valuable information on material and spiritual culture, economy, ideas and beliefs of the Neolithic for present and future generations of mankind.

**Criterion (iv):** The rock art sites of the Lake Onega and the White Sea are well-preserved and outstanding examples of petroglyphs associated with Neolithic age, an important stage in human history. The Neolithic period, marking the beginning of a fundamentally new stage in the evolution of human culture, was associated with the transition from foraging to food-producing households (the so-called Neolithic revolution) in the southern regions, while in the forest zone of the European North it was marked by a profound and qualitative changes in the material culture (the emergence and widespread distribution of ceramics, new stone tools, and higher degree of adaptation to local natural conditions) and beliefs of the Prehistoric population, which was also reflected in the emergence of several independent centres of rock art, including petroglyphs and rupestrian drawings, in the Northern Fennoscandia. The Petroglyphs of the Lake Onega and the White Sea are one of the rarest examples of Neolithic rock art presented in its purest form without any earlier or later additions. Neolithic artefacts of Karelia from over 500 archaeological sites and the pure complex of rock art of the Lake Onega and the White Sea provide an opportunity to study this period, its material and spiritual culture in deep and comprehensive ways.

### **1.3 Statements of authenticity and integrity**

#### **Integrity**

The Petroglyphs of the Lake Onega and the White Sea property includes 2 component parts with 33 parts of the components: 11 parts at the White sea and 22 parts at the Lake Onega. The total amount of petroglyphs of both components is at least 4,500. The boundaries of the Petroglyphs of the

Lake Onega and the White Sea property are determined in accordance with the legislation of the Russian Federation and based on the results of the interdisciplinary research, including historical, cultural and history of art studies and visual landscape analysis. The boundaries are aimed to protect, conserve and ensure the sustainable development of already identified and studied cultural heritage sites as well as their natural environment. Parts of the components of the property, their boundaries and buffer zones are of an adequate size for a comprehensive presentation of the property and its OUV.

The themes of the rock images presented in both components are close in meaning with repeated cases of mutual influence, which is obvious evidence of contacts between the creators of the Onega and White Sea rock paintings, who shared the same chronological framework, perception of the world and culture. At the same time, the Petroglyphs of the Lake Onega and the Petroglyphs of White Sea distinguish from each other by some features and preferences (due to natural environment), representing the value conveyed by the property and constituting together the comprehensive representation of the Northern Neolithic period as the most outstanding Prehistoric art site in the European part of Russia.

All attributes and elements of the property demonstrate an adequate degree of conservation and retain their original natural and cultural context. In total, over half of the petroglyphs have the highest degree of conservation. Both the immediate area of the rock carvings and the surrounding landscape have not been affected by adverse effects of development or neglect.

#### **Authenticity**

Despite millennia passed from the moment of their creation, the petroglyphs are in adequate condition and clearly visible. It is not possible to restore any lost or destroyed elements of the petroglyphs, therefore, their authentic form, materials and purpose survived exactly as they were designed in the Neolithic age and they fully represent the beliefs of Prehistoric people regarding the surrounding world, their practices and lifestyle.

The Petroglyphs of the Lake Onega and the White Sea is one of the rarest examples of Neolithic rock art, as a representation of rock art of the specific period. It was scientifically proved that the Prehistoric rock art of the Lake Onega and the White Sea belongs to the Neolithic age without any earlier or later additions. The property represents a unique opportunity to study the authentic Neolithic culture comparing to petroglyph groups in other countries, where images of the later historical period were carved above the earlier ones. The authenticity of Neolithic rock art allows understanding better the spiritual and material culture of Prehistoric inhabitants of the North, their mythological beliefs, aesthetic preferences and values.

Since their emergence 6.5-7 thousand years ago, the Petroglyphs of Karelia have been preserved in almost pristine form. Such a high degree of preservation as compared to other rock art sites in the world is conditioned by the strength of the oldest crystalline formations, Archaean gneiss granites. The natural landscape surrounding the parts of the components have not been affected by major changes since the Neolithic age and until now it remains mostly unaffected by human activities.

The conservation of the petroglyphs is potentially threatened by slow natural processes of weathering, smoothing by ice or water, overgrowth by various kinds of lichens and anthropogenic impacts associated with uncontrolled tourism. Since 2000, systematic archaeological monitoring is

conducted at the property, including monitoring of the current state of conservation of the petroglyphs and their surrounding environment with minimized anthropogenic impact.

#### 1.4 Attributes of outstanding universal value

The table below shows the intrinsic attributes (features) of the site's outstanding universal value that, in turn, have a range of their own parameters and properties and link to the status of a World Heritage site.

Table 1. OUV attributes

| Attribute (feature) No. and name              | Attribute parameters   |
|---|--|
| <b>1. Peculiarities of creation technique</b> | <ul style="list-style-type: none"> <li>- creation tools</li> <li>- gouge depth (surface/shallow/medium/deep)</li> <li>- dimensions of carved out sections</li> <li>- edges of grooves (smoothed/torn)</li> <li>- creation technique</li> </ul>   |
| <b>2. Image parameters</b>                    | <ul style="list-style-type: none"> <li>- position</li> <li>- grouping (single images/group of images)</li> <li>- location (orderly/chaotic)</li> <li>- manner (naturalistic/schematic/ conditional)</li> <li>- gouge direction (in profile/en face)</li> <li>- plotline</li> <li>categories (figurative/abstract/undefined)</li> </ul> |
| <b>3. Materials</b>                           | <ul style="list-style-type: none"> <li>- rock</li> <li>- mineralogical composition</li> <li>- texture</li> <li>- color</li> </ul>  |
| <b>4. Surroundings</b>                        | <ul style="list-style-type: none"> <li>- surrounding natural landscape</li> <li>- archaeological sites</li> <li>- peculiarities of the terrain and water area</li> </ul>   |
| <b>5. Intangible heritage</b>                 | <ul style="list-style-type: none"> <li>- mythological importance</li> <li>- folklore, site related superstitious beliefs</li> </ul>  |

#### 1.5 Composition of the Petroglyphs of the Lake Onega and the White Sea

The table below presents the parts of the components “Petroglyphs of the Lake Onega” and “Petroglyphs of the White Sea”, their coordinates in WGS 84, the size of the territories of the components and their buffer zones. The table represents the composition of the Petroglyphs of the Lake Onega and the White Sea nominated property. Currently, 6 parts (7 groups of petroglyphs) of the Petroglyphs of the Lake Onega component and 6 parts (6 groups of petroglyphs) of the Petroglyphs of the White Sea component have a designation as identified cultural heritage properties (these parts are given with the sign - \*). According to the Russian legislation, an expert certified by the Ministry of Culture of the Russian Federation conducted a state historical and cultural expertise, which justified the necessity to include the parts of the components of the Petroglyphs of

the Lake Onega and the White Sea nominated property to the State Code of the Highly Valuable Cultural Heritage Properties of the Peoples of the Russian Federation. Currently, the act of the expertise result is on the stage of approval. The inclusion of the elements of the site in the State Code of the Highly Valuable Cultural Heritage Properties of the Peoples of the Russian Federation will ensure their maximum protection at the state level and will guarantee the preservation of the outstanding universal value of these archaeological monuments.

| Nº        | Name of Component and Part   | Coordinates,<br>WGS 84                   | Territory of<br>the<br>component<br>(hectares) | Territory<br>of buffer<br>zone<br>(hectare) |
|-----------|--|--|--|---|
| <b>1.</b> | <b>Petroglyphs of the Lake Onega</b>   |  | <b>6 944,14</b>                                | <b>15 100</b>                               |
| 1.1       | Petroglyphs of the cape Peri<br>Nos I *  | 61° 40' 55.1835" N<br>36° 02' 28.0776" E |  |   |
| 1.2       | Petroglyphs of the cape Peri<br>Nos II *<br>Petroglyphs of the cape Peri<br>Nos III *                                      | 61° 40' 55.3744" N<br>36° 02' 14.8376" E |  |   |
| 1.3       | Petroglyphs of the cape Peri<br>Nos IV *   | 61° 40' 52.8957" N<br>36° 02' 16.5128" E |  |   |
| 1.4       | Petroglyphs of the cape Peri<br>Nos VI *   | 61° 40' 49.7611" N<br>36° 02' 16.9243" E |  |   |
| 1.5       | Petroglyphs of the cape Peri<br>Nos VII  | 64° 29' 10.1253" N<br>34° 40' 21.5775" E |  |   |
| 1.6       | Petroglyphs of the cape Besov<br>Nos (northern group) *  | 61° 40' 31.2301" N<br>36° 01' 49.5520" E |  |   |
| 1.7       | Petroglyphs of the cape Besov<br>Nos (central group)*  | 61° 40' 21.3386" N<br>36° 01' 18.9809" E |  |   |
| 1.8       | Petroglyph on the cape Besov<br>Nos  | 61° 40' 27.9119" N<br>36° 01' 31.1327" E |  |   |
| 1.9       | Petroglyphs of the cape Gazhij<br>Nos  | 61° 39' 28.9748" N<br>36° 03' 50.5716" E |  |   |
| 1.10      | Petroglyphs of the cape Kareckij<br>Nos  | 61° 41' 41.6100" N<br>36° 03' 22.8811" E |  |   |
| 1.11      | Petroglyphs of the cape<br>Kladovec  | 61° 39' 56.2910" N<br>36° 02' 31.7516" E |  |   |
| 1.12      | Petroglyphs of the cape<br>Korjushkin Nos  | 61° 39' 54.3287" N<br>36° 03' 03.7645" E |  |   |
| 1.13      | Petroglyphs on the peninsula<br>Kochkovnavolok (group "A"),<br>Petroglyphs on the peninsula<br>Kochkovnavolok (group "B"), | 61° 47' 59.5115" N<br>35° 57' 20.3929" E |  |   |

|      |  |  |              |            |
|------|--|--|--------------|------------|
|      | Petroglyphs on the peninsula Kochkovnavolok (group "C")                            |  |              |            |
| 1.14 | Petroglyphs on the peninsula Kochkovnavolok (group "D")                            | 61° 47' 59.5115" N<br>35° 57' 20.3929" E |              |            |
| 1.15 | Petroglyph on Mihajlovec island  | 61° 43' 47.6393" N<br>36° 00' 45.5151" E |              |            |
| 1.16 | Petroglyph on the cape Chjornyj  | 61° 44' 54.5252" N<br>36° 01' 25.5881" E |              |            |
| 1.17 | Petroglyphs of Moduzh island   | 61° 40' 56.2580" N<br>36° 02' 32.8279" E |              |            |
| 1.18 | Petroglyphs on Bol'shoj Golec island   | 61° 44' 39.7015" N<br>35° 53' 52.2789" E |              |            |
| 1.19 | Petroglyphs on Bol'shoj Gurij island I,<br>Petroglyphs on Bol'shoj Gurij island II | 61° 38' 12.3447" N<br>36° 05' 44.0904" E |              |            |
| 1.20 | Petroglyphs on Malyj Gurij island  | 61° 38' 12.2553" N<br>36° 05' 32.6971" E |              |            |
| 1.21 | Petroglyphs in the mouth of the river Vodly  | 61° 47' 56.8981" N<br>35° 57' 35.5693" E |              |            |
| 1.22 | Petroglyphs in the mouth of the river Chjornaja                                    | 61° 39' 54.9752" N<br>36° 03' 00.6454" E |              |            |
| 2.   | <b>Petroglyphs of the White Sea</b>  |  | <b>105,4</b> | <b>457</b> |
| 2.1  | Petroglyphs Zalavruga  | 64° 29' 53.1674" N<br>34° 40' 28.2696" E |              |            |
| 2.2  | Petroglyphs Besovy Sledki  | 64° 29' 05.1284" N<br>34° 39' 51.6005" E |              |            |
| 2.3  | Petroglyphs Erpin Pudas I  | 64° 29' 20.2203" N<br>34° 40' 08.6823" E |              |            |
| 2.4  | Petroglyphs Erpin Pudas II *   | 64° 29' 16.7727" N<br>34° 40' 11.6254" E |              |            |
| 2.5  | Petroglyphs Erpin Pudas III  | 64° 29' 11.1014" N<br>34° 40' 19.5543" E |              |            |
| 2.6  | Petroglyphs Erpin Pudas IV *   | 64° 29' 10.1253" N<br>34° 40' 21.5775" E |              |            |
| 2.7  | Petroglyphs on the no-name islands I   | 64° 29' 28.7162" N<br>34° 40' 01.6443" E |              |            |
| 1.8  | Petroglyphs on the no-name islands II*   | 64° 29' 28.7162" N<br>34° 40' 01.6443" E |              |            |
| 1.9  | Petroglyphs on the no-name islands III*  | 64° 29' 25.9113" N<br>34° 40' 04.3213" E |              |            |
| 1.10 | Petroglyphs on the island  | 64° 29' 29.1208" N                       |              |            |

|                         |                                  |  |                               |
|-------------------------|----------------------------------|--|-------------------------------|
|                         | Bol'shoj Malinin *               | 34° 40' 14.1741" E                       |                               |
| 1.11                    | Group of petroglyphs Zolotec I * | 64° 29' 31.6557" N<br>34° 39' 55.0430" E |                               |
| <b>Total (hectares)</b> |                                  |  | <b>7 049,54</b> <b>15 557</b> |

### 1.6 Boundaries of the nominated property

#### Petroglyphs of the Lake Onega Component

The boundaries of the territory of the Petroglyphs of the Lake Onega component are stretched to around 20 kilometres in length from the north to the south (from point 1 to point 6). The maximum length of the boundaries from the west to the east is 7,6 kilometres (from point 4 to point 10), the minimum is 866 metres (from point 1 to point 14). The western boundary is set along the extreme points of the most distant parts of the component located on the islands of the Lake Onega, including Gurij island, Mihajlovec island and Bol'shoj Golec island towards the cape of Kochkov-Navolok; the northern boundary passes through the water 850 m west of Zayats Island through the base of Kochkovnavolok peninsula to the right bank of Vodla river; the eastern boundary runs from the north to the south along the coastline of the Lake Onega; the southern boundary passes mainly through the water to the Gurij Islands, enveloping them from the south and west, running 2 kilometres to the south of the river of Chjornaja, parallel to the river.

*Table of coordinates of turning points of the boundary of the component "Petroglyphs of the Onega Lake"*

| Turning point | Coordinates of turning points in the World Geodetic System (WGS-84) |                   |
|---------------|---|-------------------|
|               | North Latitude  | Eastern Longitude |
| 1             | 61°38'04.57" N  | 36°05'41.57" E    |
| 2             | 61°40'27.85" N  | 36°00'37.58" E    |
| 3             | 61°43'39.68" N  | 36°00'28.02" E    |
| 4             | 61°44'13.69" N  | 35°53'08.39" E    |
| 5             | 61°45'17.24" N  | 35°54'58.68" E    |
| 6             | 61°48'35.29" N  | 35°55'46.37" E    |
| 7             | 61°48'36.57" N  | 35°57'55.49" E    |
| 8             | 61°48'01.90" N  | 35°58'05.24" E    |
| 9             | 61°45'33.30" N  | 36°02'01.05" E    |
| 10            | 61°44'40.81" N  | 36°01'47.21" E    |
| 11            | 61°43'01.67" N  | 36°03'44.92" E    |
| 12            | 61°40'44.87" N  | 36°03'52.05" E    |
| 13            | 61°39'29.36" N  | 36°04'15.65" E    |
| 14            | 61°38'24.07" N  | 36°06'23.67" E    |



## Petroglyphs of the White Sea Component

The boundaries of the Petroglyphs of the White Sea component is stretched for the length of around 1.8 kilometres from the north to the south (from point 9 to point 1), for the maximum length of 785 metres from the west to the east and for the minimum length of 423 metres (from point 8 to point 10). The western boundary runs along the bank of the river of Nizhny Vyg from Vygostrovskaya hydroelectric power station to the right bank of the dam of Belomorskaya hydroelectric power station; the northern boundary passes through the land, crossing in one place the Old Town (Zalavruga), perpendicular to the Vygostrovsky reservoir; the eastern boundary passes through land, mainly through wetlands or rocky outcrops, and further along the northern edge of the village Vygostrov; the southern boundary passes by land along the right bank of the dried river Vyg, crosses the power line and goes on to the dam and the Besovy Sledki pavilion, then goes on the right side of the dam of the Vygostrovskaya hydroelectric power plant.

*Table of coordinates of turning points of the boundary of the component “Petroglyphs of the White Sea”*

| Turning point | Coordinates of turning points in the World Geodetic System (WGS-84) |                   |
|---------------|---|-------------------|
|               | North Latitude  | Eastern Longitude |
| 1             | 64°30'50.48" N  | 34°42'12.54" E    |
| 2             | 64°29'00.66" N  | 34°40'06.08" E    |
| 3             | 64°30'44.84" N  | 34°42'09.01" E    |
| 4             | 64°30'38.71" N  | 34°42'11.06" E    |
| 5             | 64°30'32.24" N  | 34°42'07.59" E    |
| 6             | 64°30'23.55" N  | 34°42'04.48" E    |
| 7             | 64°30'19.07" N  | 34°41'54.19" E    |
| 8             | 64°30'44.89" N  | 34°40'59.97" E    |
| 9             | 64°30'49.17" N  | 34°41'52.59" E    |
| 10            | 64°30'51.66" N  | 34°41'53.91" E    |
| 11            | 64°30'51.57" N  | 34°42'01.47" E    |

### 1.7 Boundaries of the buffer zone

The buffer zone is established to protect archaeological sites (dwellings, settlements, locations), including already identified and studied sites as well as areas, which might had been suitable for Prehistoric population settlement and have a research potential. The buffer zone also serves for environmental protection, protection of rare plant species and animals. The buffer zone consists of two parts. Part I includes 22 parts of the Petroglyphs of the Lake Onega component located in the Pudozhsky District of the Republic of Karelia. Part II comprises 11 parts of the Petroglyphs of the White Sea component located in Belomorsky District of the Republic of Karelia.

The boundaries of the buffer zones were developed according to the boundaries that had been already set in accordance with the results of the conducted studies, protection zones and boundaries of the lands with historical and cultural designations.

### **Petroglyphs of the Lake Onega Buffer Zone**

The boundary of the buffer zone of the Onega Lake Petroglyphs stretches for around 21 km in length from north to south (from point 6 to point 15). The boundary of the Lake Onega buffer zone repeats the boundary of the component on the south, west and north sides; the eastern boundary crosses the Pudozhskoye lesnichestvo, Gakuga district forestry from north to south with the maximum length of 13 km from the west to the east (from point 4 to point 12) and the minimum length of 1,8 kilometres from the west to the east (from point 6 to point 7). The eastern boundary of the buffer zone is maximum 6 km away from the boundary of the component (from point 12 to point 14).

*Table of coordinates of turning points of the boundary of the buffer zone of the component “Petroglyphs of the Onega Lake”*

| Turning point | Coordinates of turning points in the World Geodetic System (WGS-84) |                   |
|---------------|---|-------------------|
|               | North Latitude  | Eastern Longitude |
| 1             | 61°38'04.57" N  | 36°05'41.57" E    |
| 2             | 61°40'27.85" N  | 36°00'37.58" E    |
| 3             | 61°43'39.68" N  | 36°00'28.02" E    |
| 4             | 61°44'13.69" N  | 35°53'08.39" E    |
| 5             | 61°45'17.24" N  | 35°54'58.68" E    |
| 6             | 61°48'35.29" N  | 35°55'46.37" E    |
| 7             | 61°48'36.57" N  | 35°57'55.49" E    |
| 8             | 61°48'01.90" N  | 35°58'05.24" E    |
| 9             | 61° 47' 35.6" N   | 35° 59' 45.9" E   |
| 10            | 61° 46' 46.4" N   | 36° 01' 34.9" E   |
| 11            | 61° 46' 36.7" N   | 36° 04' 58.9" E   |
| 12            | 61° 44' 30.4" N   | 36° 08' 06.9" E   |
| 13            | 61° 43' 16.4" N   | 36° 08' 21.3" E   |
| 14            | 61° 41' 07.4" N   | 36° 10' 50.1" E   |
| 15            | 61° 38' 00.2" N   | 36° 11' 12.2" E   |

### **Petroglyphs of the White Sea Buffer Zone**

The boundaries of the buffer zone of the White Sea petroglyphs component extend from north to south for 3,5 km (from point 19 to point 13), from west to east for 1,5 km (from point 8 to point 16), and repeat the boundaries of the component territory from south to west; the eastern and northern boundaries of the buffer zone do not coincide with the boundaries of the component.

The buffer zone is limited by the right bank of Kisly Pudas anabranch in the east and by the right bank of the supply and discharge channels of Belomorskaya hydroelectric power station in the north. The southern boundary runs parallel to the northern boundary of the village of Vygotstrov, passing to the east along the northern boundary of the cemetery of the town of Belomorsk, then, running along the left side of the road connecting the settlement of Sosnovets and Belomorsk. The western boundary runs along the dam of the water reservoir of the Vygotstrovskaya hydroelectric power station, then, along the left side of the road connecting Sosnovets and Belomorsk and further along the eastern shore of the water reservoir of the Belomorskaya hydroelectric power station.

*Table of coordinates of turning points of the boundary of the buffer zone of the component “Petroglyphs of the White Sea”*

| Turning point | Coordinates of turning points in the World Geodetic System (WGS-84) |                   |
|---------------|---|-------------------|
|               | North Latitude  | Eastern Longitude |
| 1             | 64°30'50.48" N  | 34°42'12.54" E    |
| 2             | 64°29'00.66" N  | 34°40'06.08" E    |
| 3             | 64°30'44.84" N  | 34°42'09.01" E    |
| 4             | 64°30'38.71" N  | 34°42'11.06" E    |
| 5             | 64°30'32.24" N  | 34°42'07.59" E    |
| 6             | 64°30'23.55" N  | 34°42'04.48" E    |
| 7             | 64°30'19.07" N  | 34°41'54.19" E    |
| 8             | 64°30'44.89" N  | 34°40'59.97" E    |
| 9             | 64°30'49.17" N  | 34°41'52.59" E    |
| 10            | 64°29'59.63" N  | 34°40'26.70" E    |
| 11            | 64°30'23.61" N  | 34°40'24.29" E    |
| 12            | 64°30'44.89" N  | 34°40'59.97" E    |
| 13            | 64°30'50.48" N  | 34°42'12.54" E    |
| 14            | 64°30'21.37" N  | 34°42'03.42" E    |
| 15            | 64°29'55.7" N   | 34°40'46.7" E     |
| 16            | 64°30'03.04" N  | 34°41'37.42" E    |
| 17            | 64°29'32.98" N  | 34°41'42.85" E    |
| 18            | 64°29'18.63" N  | 34°41'42.70" E    |
| 19            | 64°28'57.36" N  | 34°41'38.01" E    |
| 20            | 64°28'50.99" N  | 34°41'07.53" E    |

**LAYOUT OF THE COMPONENTS OF THE SITE  
"PETROGLYPHS OF THE LAKE ONEGA AND THE WHITE SEA"  
AND ITS BUFFER ZONE**



**LEGEND**



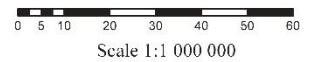
Boundary of the buffer zone



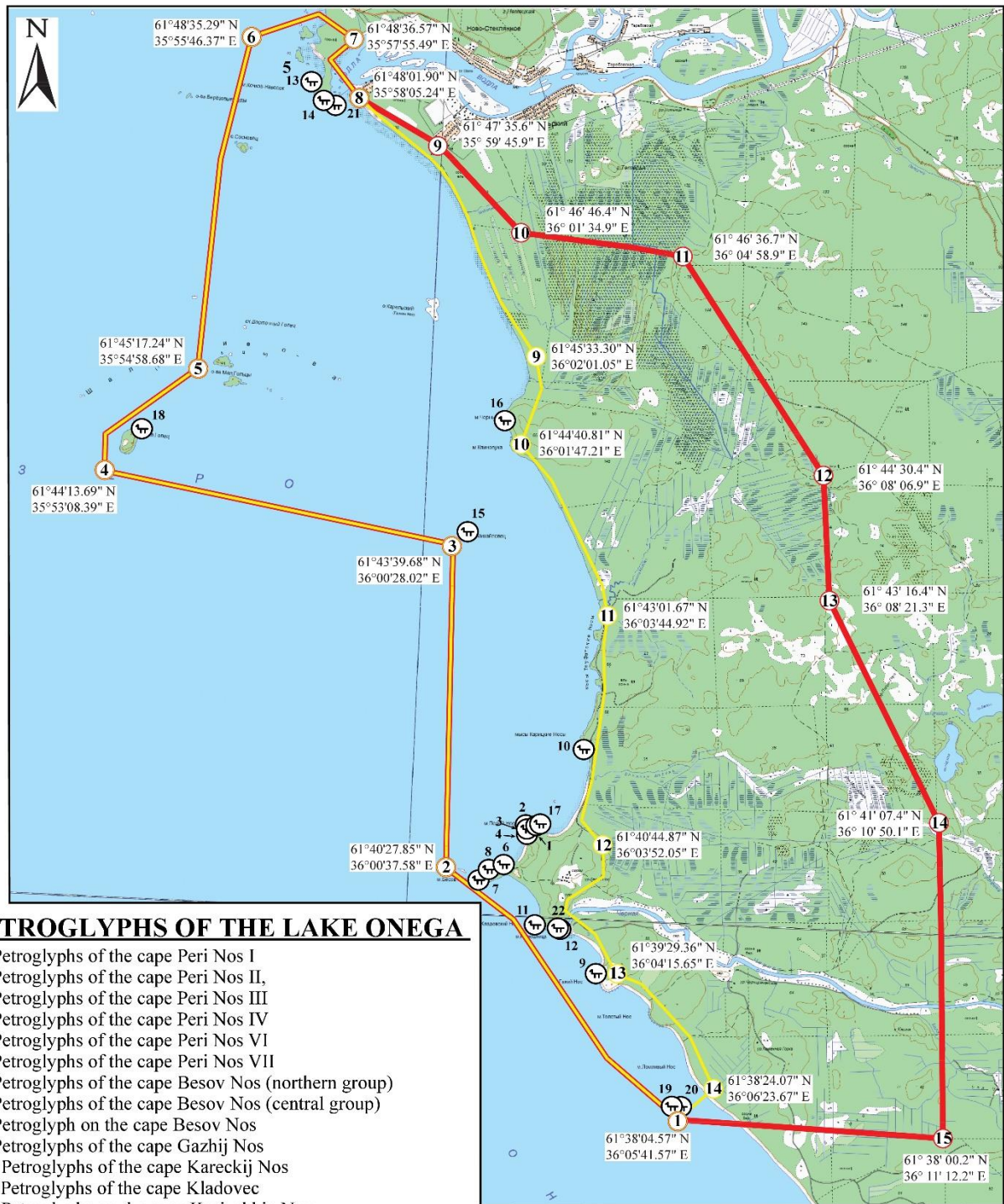
Boundary of the component part



Coordinates in WGS 84



## Territory of the Component “Petroglyphs of the Lake Onega” and its buffer zone



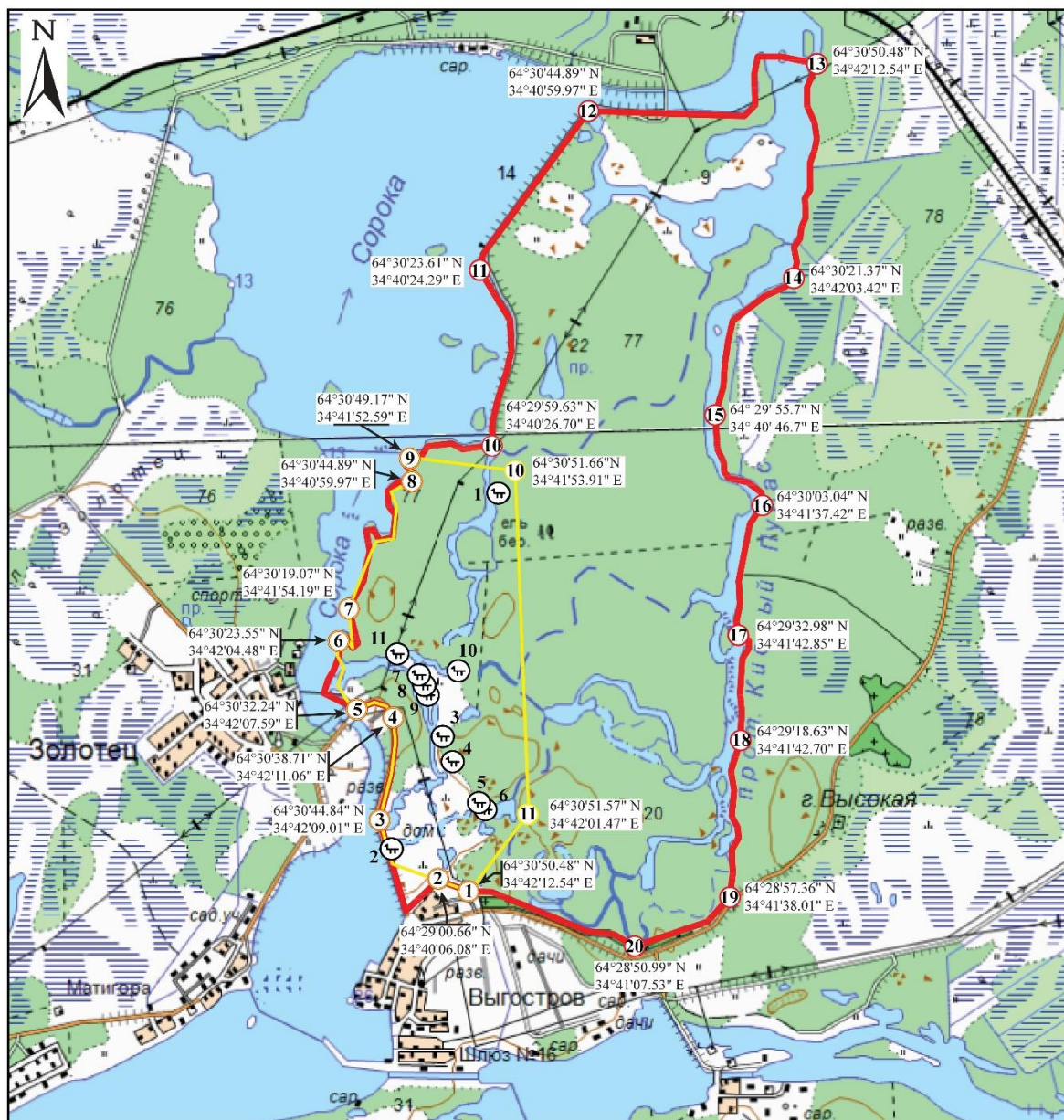
### **PETROGLYPHS OF THE LAKE ONEGA**

1. Petroglyphs of the cape Peri Nos I
2. Petroglyphs of the cape Peri Nos II,  
Petroglyphs of the cape Peri Nos III
3. Petroglyphs of the cape Peri Nos IV
4. Petroglyphs of the cape Peri Nos VI
5. Petroglyphs of the cape Peri Nos VII
6. Petroglyphs of the cape Besov Nos (northern group)
7. Petroglyphs of the cape Besov Nos (central group)
8. Petroglyph on the cape Besov Nos
9. Petroglyphs of the cape Gazhij Nos
10. Petroglyphs of the cape Kareckij Nos
11. Petroglyphs of the cape Kladovec
12. Petroglyphs on the cape Korjushkin Nos
13. Petroglyphs on the peninsula Kochkovnavolok (group “A”),  
Petroglyphs on the peninsula Kochkovnavolok (group “B”),  
Petroglyphs on the peninsula Kochkovnavolok (group “C”)
14. Petroglyphs on the peninsula Kochkovnavolok (group “D”)
15. Petroglyph on Mihajlovec island
16. Petroglyph on the cape Chjornyj
17. Petroglyphs of Moduzh island
18. Petroglyphs on Bol'shoj Golec island
19. Petroglyphs on Bol'shoj Gurij island I,  
Petroglyphs on Bol'shoj Gurij island II
20. Petroglyphs on Malyj Gurij island
21. Petroglyphs in the mouth of the river Vodlja
22. Petroglyphs in the mouth of the river Chjornaja

### **LEGEND**

- Boundary of the buffer zone (15100 ha)
- Boundary of the component part (6944,14 ha)
- 18 Turning points
- 19 Petroglyphs

## Territory of the Component “Petroglyphs of the White Sea” and its buffer zone



### **PETROGLYPHS OF THE WHITE SEA**

1. Petroglyphs Zalavrugа
2. Petroglyphs Besovy Sledki
3. Petroglyphs Erpin Pudas I
4. Petroglyphs Erpin Pudas II
5. Petroglyphs Erpin Pudas III
6. Petroglyphs Erpin Pudas IV
7. Petroglyphs on the no-name islands I
8. Petroglyphs on the no-name islands II
9. Petroglyphs on the no-name islands III
10. Petroglyphs on the island Bol'shoj Malinin
11. Group of petroglyphs Zolotec I

0 300 600 900 1 200

Scale 1:30 000

### **LEGEND**

- |  |   |
|--|---|
|  | Boundary of the buffer zone (457 ha)      |
|  | Boundary of the component part (105.4 ha) |
|  | Turning points                            |
|  | Petroglyphs                               |

## **2. DISCRIPTION OF THE SITE (GENERAL DISCRIPTION, HISTORY, MODERN USE)**

### **2.1 General description**

The proposed nominated property Petroglyphs of Lake Onega and the White Sea is located in the north-west of Russia in the Republic of Karelia, a picturesque region of Northern Europe. Republic of Karelia is a federal subject of Russia North-eastern border of Republic of Karelia is washed by the White sea.

The nominated property is a serial one and it includes two components (petroglyph complexes): petroglyphs of Lake Onega and petroglyphs of the White sea. The monuments are located 330 km apart from each other, in the south-eastern and the north-eastern parts of the Republic of Karelia. Petroglyphs of Lake Onega are located along the eastern shore of Lake Onega within a distance of 18.5 km, including more than 1,200 figures in 25 groups located at 17 capes and 6 islands. Petroglyphs of the White sea are located 6-8 km from Belomorsk, on small and large islands in the branching delta of river Vyg, occupying a territory of 1.8 km from north to south and 0.6 km from west to east, including at least 3,400 individual figures in 11 groups.

Petroglyphs of Lake Onega and the White Sea are the unique samples of primitive monumental art that are among the most important ancient cultural and historical attractions of the Northern Europe. They form an individual major centre of Neolithic rock art characterized by originality and mystery of its pictures, diversity of themes, vivid imagery, abundance of scenes and multi-figure compositions, good preservation, exceptionally expressive natural surroundings and cultural context represented by nearby ancient settlements.

The nominated property is a serial one as its components reflect the cultural and functional relations preserved for a long time stipulating respectively cultural, chronological, evolutionary and landscape-ecological interrelation.

Components of the nomination, namely Petroglyphs of Lake Onega and the White Sea are located more than 300 km apart from each other in slightly different biomes: middle and northern taiga, respectively. Of course, both rock complexes have independent outstanding value, but they were linked to each other by ancient waterways through most of their active time for about 500-700 years. Comparative analysis of petroglyph carving technique, semantics of basic and original images, hunting compositions and overall similar cultural context (Neolithic Pit-Comb Ware culture) indicate direct contacts between the populations of both territories and trace the origin of White Sea rock art traditions from the Onega one. Both the role and content of such outstanding phenomena as rock art of Karelia can only be fully revealed in a serial nomination.

Complexes of Petroglyphs of Lake Onega and the White Sea form kind of sanctuaries under the open sky together with the surrounding landscape, with each of these having its own characteristics, similarities and obvious differences thus naturally supplementing each other. Similarities are due to the shared timeline, connatural environment and common culture, while the differences are associated with the local traditions and preferences. The same technique used in carving the figures (pecking), presence of common basic themes, similar or in some cases even identical petroglyphs indicate possible direct contacts between the population of both territories and a certain continuity in creative practices during the evolution of rock art of the Lake Onega and White Sea.

Rock art appeared on the granite cliffs of the eastern bank of Lake Onega and the White sea only 6.6-7 thousand years ago and it was only active during Neolithic era, being drastically different

from the similar monuments of Northern Europe created over many millennia and dating back to various eras. Petroglyphs of Karelia were created by representatives of archaeological Pit-Comb Ware culture. This layer of middle and final Neolithic period antiquities is well represented in the basin of Lake Onega and south-western White sea area.

Comparison of Petroglyphs of Lake Onega and the White Sea can be prominent in clarification of peculiar development of rock art of various local areas. All petroglyphs of the White sea are located on islands while those of Lake Onega are mostly located at the capes. In the White sea area predominant are the figures carved for their entire silhouette while it is common for the Onega ones to be only traced along the contour or half contour. In general, the White sea petroglyphs are more realistic than the Onega ones as there are fewer fantastic characters. Onega cliffs also include multi-figure compositions though their plots and there are fewer details than in the best rock paintings of the White sea. There are notable differences in compositions. Bird images are common in the Onega sanctuary while in the White sea area such representations are few; mostly replaced by high-sided boats with a moose head stem post with visible differences from the linear Onega carvings. However, a small petroglyph group was discovered recently in the lower reaches of the Vyg river with carvings of similar narrow boats adorned with swan heads. Onega rock paintings have plenty of half-human half-animal figures almost unknown in the White sea area, where carvings of people are much more common: hunters for forest and sea animals and birds. Except one case, there are no solar or lunar carvings among the White sea petroglyphs, but there are bows, arrows, skis, plenty of sea animals and sea hunt scenes, animal and human footprints that are either not represented or very rare at the Onega cliffs.

However, similarities between Petroglyphs of Lake Onega and the White Sea are significant. Both at Lake Onega and in the White sea areas pictures were carved on the sloping rock outcrops near the water, grouped in isolated clusters. These clusters have some variations in their themes, number of carvings, density of placement and degree of conservation. Central rock paintings are standing out dominated by large and even giant anthropomorphic and zoomorphic figures. The places of localization of clusters have expressive landscape features and certain natural uniqueness especially intensifying the human perception of the surrounding environment. There is a range of close art correlations between the two petroglyph centres regarding the imagery of birds, anthropomorphic figures in profile, scenes of hunt for white whale, moose and bear, propagation of human race etc. The cultural context is represented by settlements of Neolithic Pit-Comb Ware culture and Rhomb-Pit Ware culture also indicating the direct contacts between the populations of both areas.

The range of plots represented in the both petroglyph complexes of Karelia is rather close: anthropomorphic images, forest and sea animals, waterfowl, boats etc. Moreover, the analysis of stylistic features of Petroglyphs of Lake Onega and the White Sea from the art standpoint fixes numerous cases of interaction and obvious contacts between the creators of these rock paintings. These features and a range of some other ones allow us to speak about the common beliefs and culture of population as well as chronological proximity of Onega and White sea petroglyphs. Onega petroglyph tradition, appearing a little earlier, could give a certain impetus to emergence and development of carving traditions for the White sea cliffs and lower reaches of the Vyg river.



According to the archaeological, geographical and palaeographical data, the rock art of Karelia was interrupted abruptly due to natural processes associated with sharp rise in water level and drowning of the rock paintings, and, most likely, never got renewed again.

Thus, Petroglyphs of Lake Onega and the White Sea together with surrounding natural landscape present a unique evidence of extinct cultural rock art tradition of the Northern Europe.

### **Description of the components of the nominated property**

#### **Petroglyphs of the Lake Onega**

Rock carvings of Lake Onega are located in isolated groups on flat or inclined smooth sections of capes and coastal islands along the eastern bank of Lake Onega, for almost 20 km. Eight groups are located in the mouth of the Vodla river on the Kochkovnavolok peninsula, on islands Bolshoy Golets, Mikhailovets and on the cape Chernyj. The rest petroglyph spots are located to the south, in the area of former Besov Nos village on the capes Karetsky Nos, Peri Nos, Besov Nos, Kladovets Nos and Gazhyi Nos as well as on small islands Koryushkin, Moduzh, Malyi and Bolshoy Guriy, being a part of the protected natural landscape: Muromsky landscape reserve of regional significance. In total, there are 1,224 images in the Onega rock art complex, with more than half of them focused on the capes Kladovets Nos, Peri Nos and Besov Nos. The last cape with its three symmetrically arranged figures of a demon, a burbot and an otter is considered to be the central part of the ancient sanctuary.

The special peculiarity of Onega petroglyphs is evident in the themes and composition of the carvings. They include birds, animals, mysterious signs in shape of a circle and a crescent (solar and lunar symbols) often supplemented by small details in the form of “rays” or “hands” as well as fantastical images combining human and animal features. However, the most striking and unusual feature is the abundance of waterfowl images, mostly swans. Perhaps, for the residents of eastern bank of Lake Onega the imagery of swan was somehow connected with their totemic forefathers. Such preference is unique and not seen anywhere else in the rock art of Northern Fennoscandia and Europe in general.

A great advantage of Onega petroglyphs in comparison with other concentrations of rock art of Northern Europe is their pristine picturesque natural landscape: long rocky capes cut the vast expanse of the lake, alternating with coves with dune shores overgrown with pine trees; a chain of small granite islands lies not far from the coast.

49 archaeological monuments were identified in the immediate vicinity of the rock carvings, comprising remains of ancient settlements and a Neolithic burial ground; most of these monuments are culturally and chronologically related to the petroglyphs.

Comprehensive research of the recent decades allowed establishing the dating and periodization as well as tracing the general evolution of Onega petroglyphs. It is presumed that petroglyphs first began to appear on rock surfaces of capes Koryushkin Nos, Kladovets Nos and Gazhyi Nos, then, almost simultaneously, on capes Peri Nos and Karetsky Nos (figures of the lower tier), later on cape Besov Nos.

Small sketchy outlines of waterfowl are predominant in the earliest carvings, usually swans. There are also images of simple linear boats with rowers shaped as protrusions perpendicular to the boat body as well as symbolic signs on the form of silhouette or contour circles. The latter are interpreted as the earliest solar symbols. The middle stage of development of Onega petroglyph has the highest diversity of themes and stylistic features and techniques never encountered before. First

of all, it is the use of natural features of microrelief and colour of rocks in creation of a range of images or complete interrelated compositions. As before, ornithomorphic themes prevail, but their range was significantly extended and there is fantastic or exaggerated waterfowl imagery now too. At the same time there are plenty of complex sign carvings with solar and lunar theme as well as a variety of anthropomorphic figures, including those dualistic in nature, including for example, moose-man, bird-man, or even boat-man. The final stage is represented by contour petroglyphs of Kochkovnavolok peninsula existing for a fairly short period. It is then when the large (1-1.5 m long) and even giant (up to 4 m long) images appear. The range of plots is considerably narrowed: there are still images of swans and, to a lesser extent, moose, as well as occasional figures of boats and humans.

### **Petroglyphs of the White sea**

The complex of White sea petroglyphs comprises 11 groups of rock carvings located on 7 former islands of river Vyg delta in its outflow to the White sea. As of now, it is one of the largest clusters of the Northern Europe, comprising 3,411 separate figures.

Running in its stone bed, the Vyg river formed a branched network of streams and side channels, was full of rapids, stone islands, waterfalls, whirlpools and cataracts. As of now, the ancient landscape was slightly modified due to construction of the White Sea–Baltic Canal and hydroelectric power plants. The river bed got drained greatly simplifying the access to small petroglyph groups previously located on small remote islands. In the periods of regular discharges through the Vygostrovskaya hydroelectric power plant the landscape becomes almost like as it was in the original times.

The largest amount of petroglyphs is located in Zalavruga (about two thousands) and islands Shoyrukshin (more than 500) and Erpin Pudas (more than 200). Groups of 7-100 figures are identified on the nameless islands.

White sea petroglyphs are distinct in originality and diversity of themes; some of their plots are rarely or never found on the similar objects of Northern Fennoscandia. The petroglyphs are clearly aligned towards hunting. Predominant are the images of boats, both crewed and empty ones, there are also numerous images of labour and hunting equipment (bows, arrows, spears, skis and ski sticks), various human and animal footprints, often the hunter himself is depicted. Rare and unusual images include the trees with birds or animals (lynx) sitting on their tops. In one case, a river bed is carved: a long and very winding one, with side streams and an island; boats with crew are depicted along the river bed.

Judging by the area of rock paintings (about 1 ha) and number of figures (more than two thousand), the Zalavruga petroglyph group was the main sacred centre in the lower reaches of the Vyg river. The monument is unique in the large number of flat surfaces covered with carvings, often combined in complex multi-figure compositions with abundance of small striking details. They are made in realistic and often expressive manner.

The most popular themes are hunts for sea (at least 70 scenes) and forest animals, sometimes hunt for waterfowl and upland fowl. Several groups display images of processions of people with some items in their hands (reminding of ritual rods with moose heads), there are also scenes of hostile confrontation (with wounded and dead characters). The perfect quality and the level of artistic expression of narrative scenes of Zalavruga are unparalleled on the world scale; they give us

the information not present in archaeological materials, namely targets and methods of hunting, fine details of armaments and everyday life.

More than 80 archaeological monuments are identified and studied, dated from Neolithic age to the late Middle Ages, including 42 camp sites coincident to the rock art.

According to palaeographical and geographical data, the White sea petroglyphs, just as the Onega petroglyphs, were created in the Neolithic age by the population of the Pit-Comb Ware culture and the later Rhomb-Pit Ware culture and probably appeared here several hundred years after the Onega ones.

The first stage of the White sea rock art is represented by northern and southern groups of Besovy Sledki, Erpin Pudas I, II and IV. There are certain similarities with the petroglyphs of Lake Onega of the middle stage, manifesting in almost identical images of humans and boats. Researchers associate the subsequent stages of evolution of the White sea rock art with small island groups in the bed of river Vyg (Zolotets I, Erpin Pudas III). The highest stage of development of the White sea petroglyphs are the unique narrative compositions of Zalavruga, especially evident in multi-figure scenes of hunt for sea animals (white whale and ringed seal), forest animals (reindeer, moose and bear) as well as water and upland fowl (geese and woodcocks). The final stage of development of the White sea petroglyph tradition is represented by the giant mural of Staraya Zalavruga with its giant expressive images of reindeer, total length of about 3 meters.

## **2.2 History of discover and study of petroglyphs**

This section covers:

- information about the historical and archaeological investigations conducted in respect of the site;
- availability of databases containing information about the site;
- assessment of the degree of knowledge about the site, the availability of reliable information about the site, the degree of availability of information;
- information about the ongoing preservation works: conservation, restoration, repair, adaptation.

### **Component “Petroglyphs of the Lake Onega”**

The history of discovery and study of Onega petroglyphs is a long process which continues to present. It is caused by an unrelenting interest of experts and amateurs to unusual and mysterious archaeological monuments as well as evolving methods for their research and photo fixation which allows to get new information. There are 4 stages in their research.

#### **The first stage is pre-revolutionary (1848-1914).**

K. Grevingk, a geologist from St. Petersburg, and P. Shved, a teacher from Petrozavodsk, discovered rock engravings (“Olonec carvings”) on the eastern shore of the Lake Onega in 1848. Two years later, they published the first information about the monuments (Shwed, 1850, Grevingk, 1850). Owing to these small publications, Onega petroglyphs were introduced into the scientific discourse. The publications were accompanied by sketches of petroglyphs, made with a pencil by eye, therefore, often they distorted the real outlines of the figures engraved on the rocks. In 1949 the first copies of Onega petroglyphs were made by Pudozh county land surveyor N.V. Yumatov, but those graphic materials were not preserved.

After a considerable break (over 50 years), the works of the expedition of a Swedish archaeologist G. Hallstrom in 1910 and 1914 became an important milestone of the first stage.

Together with his colleagues M. Berkitt (The University of Cambridge) and B.Schnitger (The University of Stockholm), G. Hallström during two field seasons took photos and copied 412 figures found in 7 groups and in 25 subgroups (agglomerations). The First World War did not allow to complete the research that had started so successfully.

Only a small part of the materials for Onega petroglyphs, collected by these scientists, were published much later. The unpublished materials of G. Hallström (plans, schemes, copies of petroglyphs) are kept in the archives of Umeå University. These materials are of considerable interest for us as they contain the data about rock canvas in the Cape Peri Nos II which in 1934 was separated from the main mass and delivered to the Hermitage. The copies by the Swedish scientist were fairly precise, taken on a see-through tracing paper from rock sections with petroglyphic images where the carvings were previously painted with chalky solution.

### **The second stage - the pre-war period (1928-1940).**

Serious scientific research of Onega petroglyphs was not performed till the end of the 1920s. In 1928-30 and in 1934-35 documenting of petroglyphs and excavations of neighbouring ancient dwellings were carried out by the archaeological expeditions of A. Y. Bryusov (Moscow) and the founder of the Russian petroglyphic science V.I. Ravdonicas (Leningrad). The research resulted in the in-depth academic publication of V.I. Ravdonicas (1936) with good quality copies, accompanied with photos and plaster models of individual, most interesting images, as well as the monographs of A.M. Linevsky (1939) and A. Y. Bryusov (1940). Some articles of polemical character appeared in print.

The work of V.I. Ravdonicas “Rock images of The Lake Onega” (1936) presents a detailed catalogue of all petroglyphs of Eastern coast of Lake Onega known for that moment. It gives general schemes of petroglyphic locations. The article of B.F. Zemlyakov which included a brief information on region geology and ancient dwellings discovered in the vicinity of rock art images was published in the Appendix to the book of V.I. Ravdonicas. This monograph was highly valued both in the USSR and abroad, becoming an example for similar publications. Scientific importance of this publication is still high despite certain imperfections.

The shortcomings include incompleteness of data, absence of accomplished compositions in groups with a big number of images, neglect to details of microlandscape (natural cracks, splits), certain inaccuracies in connection of the figures and their outlines, not always precise orientation in respect to the sides of the world. In general, 1930s proved to be very fruitful for studying the petroglyphs of The Lake Onega (both field and office research). Over 400 individual figures were discovered and published, the Scandinavian copying technique was practiced, allowing to keep record of comparatively big rock sections with ancient engravings. At that time the main directions and methodology of research work on this problem were identified. However, fieldwork for identifying petroglyphs, as it became known later, was still far from its completion.

### **The third stage - 1960-1990s**

The third stage was the most successful, especially in terms of expanding the territory of petroglyphic complexes using more accurate and complementary ways of revealing and documenting rock monuments.

A new surge of interest to the theme of rock images of Karelia facilitated major discoveries of petroglyphs in the White Sea in 1963-1967 (“New” Zalavruga, groups of Bezymyannye islands and etc.) made in 1960s. During these years articles by K.D. Laushkin, the follower of V.I. Ravdonicas appeared in scientific and popular science editions. He made another attempt to fully reveal the

functional purpose of Onega petroglyphs. But the most significant event in petroglyphic research was the publication of a monograph by U.A. Savvateev "Zalavruga," part 1, containing the entire corpus of sources on the petroglyphs of the White Sea with a broad historiographical overview and a general review of the general problems of rock art. Two sections of this book are dedicated to Onega rock carvings.

They were comprehensively described and the main goals and issues in connection with them were outlined. The author analyzes common and distinctive features of petroglyphs of The Lake Onega in comparison to similar monuments of the White Sea. The petroglyphs of the Cape Peri Nos III, which became exhibits of the Hermitage, were first published in this work. "Zalavruga" set tasks in relation with studying Onega rock art. In 1972-1979 the research team of U.A. Savvateev performed purposeful and continuous field work in Onega petroglyphs and ancient dwellings located in the neighbourhood. The search for new petroglyphs, copying, detailing and updating of the former documentation and preparations of map documents were continued. Eleven (11) new clusters were discovered in the course of works, a few figures were discovered underwater in breakaway granite blocks in the vicinity with the capes (Kladovec Nos, Besov Nos, Peri Nos, Kareckij Nos). It was planned to publish a full catalog of monuments (including the whole array of new materials), to touch upon on the problems of dating, cultural identity, interpretation, to conduct a comparative and systematic analysis of the archaeological materials of neighboring settlements in order to discover the monuments synchronized with rock art. Unfortunately, the manuscript, accepted by Iskusstvo publishing house, could not be published. Only some sketchy information and drawings of the most impressive figures were included in the popular science publications.

Since 1982, Onega rock engravings became the subject of intense attention of amateurs from Tartu and Tallinn (Estonian Society for the Study of Prehistoric Art under the guidance of V. Poikalainen). Different professionals participated in the expedition to the eastern coast of The Lake Onega, including engineers, surveyors, photographers, artists whose professional skills were used in the full scope. The method of photometric documentation using the marks of coordination grid on rocks (1 x 1 m). The shoot was performed from the staircase, from the height of 2.5 – 3 meters.

Large figures were shot in segments by an auxiliary coordinate grid (0.5x0.5 m). In the late 1980s and early 1990s, Estonian researchers made a discovery in Kochkovnavok peninsula, near the mouth of the river Vodla. Here they discovered three previously unknown groups of images (Lebediny Nos A, B, C). Soon the detailed catalogue of rock art monument on the Kochkovnavok peninsula and Bol'shoj Golec island was published. It features around 1/6 of all known petroglyphs of The Lake Onega. The catalogue structure is based on graphic information of different hierarchical levels, ranging from the plans of petroglyphic groups to individual images which are united by the common binding system at all levels. The publication presents a fairly accurate general map of the territory and a layout of monuments with binding of petroglyphs to compass points, mentioning the details of microrelief, splits and scars of rock surfaces.

This information was missing in previous publications. Although it should be noted that in certain cases the binding of petroglyphs was incorrect, there were some petroglyphs identified by mistake, or, on the contrary, some images were missing. The mistakes and inaccuracies of documentation were often conditioned by a poor preservation state of rock art on the Kochkovnavolok peninsula. Apart from this, graphite copying of petroglyphs was rarely applied (although for that time it was the most specific method for petroglyphic fixation).

#### **The fourth stage: from 1997 to 2016.**

This stage is connected with systematic comprehensive field research of Karelian archaeologists from the Karelian Research Center of the Russian Academy of Sciences and Petrozavodsk State University in collaboration with Norwegian colleagues from the University of Tromsø and the institutions Riksantikvaren (Oslo), and in collaboration with British colleagues from the University of Cambridge under the guidance of N.V. Lobanova.

The work was carried out within the scope of a few Russian and collaborative projects: Karelian and Norwegian project "Preservation of rock art of Karelia (1997-2002)," "Preservation and presentation of Zalavruga petroglyphs (2007-2008)," a microproject of TACIS "Stone book of the White Sea (2006), "Documenting Petroglyphs of the White Sea (2001-2015)", the RHSF project "Creation of petroglyphic database of North Fennoscandia (2005-2007)," cross-border cooperation project "Bridge of Rock Art: Connection of Times (2013-2014), R&D project "Development of methodology for protection of rock art monuments from negative natural and anthropogenic exposure (2013)."

Rescue excavations of ancient dwellings in the vicinity of Onega petroglyphs with participations of scientists including geologists, ecologists, and lichenologists were also carried out in 2012-2013. During this period, a lot of work was done, not only in terms of documenting monuments, but also in terms of their preservation, conservation and use for tourism and educational purposes. One of the main results became creating of the system of database management "SDM Petroglyphs of Karelia." This database contains topographic plans, photographs and graphical copies of images, their detailed description (general and specific in the figures with dimensions, orientation, height above the water, the depth of engraving, the degree of preservation, parametric data, various interpretations of individual figures or compositions).

In the period 1997-2001, in 2008 and in 2013, lichenologists from the Forest Institute of Karelian Research Center of the Russian Academy of Sciences (M.A. Fadeyev) and Petrozavodsk University (A.A. Sonin), archaeologists from the Institute of Language, Literature and History and Petrozavodsk University conducted their research. Field material was collected to determine the species composition of rock biodestructors, to elucidate the processes of rock surface erosion, and to describe rock geomorphology. These works were of great importance for the development of methodology and preservation methods of Onega engravings, focused to define the exposure of lichens onto rock petroglyphic surface and find the methods to reduce their negative impact on the monuments. Lichenobiotics monitoring allowed to identify the most difficult petroglyphic groups in The Lake Onega in terms of preservation, as well as to offer practical recommendations for their preservation and conservation, environmentally safe methods to slow down destructive processes. Researchers founded 6 sites (three on the Kochkovnavolok peninsula, one on the Cape Kareckij Nos and two in the central cape of Besov Nos) to monitor lichenobiots, identified species of epilithic lichens growing on some petroglyphs. Mainly these cristose lichens, sometimes foliated, the most challenging zones at the height of 1.8-2 m above the waterline level in the Kochkovnavolok peninsula and in Kareckij Nos, at the height of 1.5 m in Besov Nos were identified. Researchers offered recommendations and methods of safe rock cleaning from lichens. It was recommended to clean lichens with usual detergents and with participation of lichenologists and only where the degree of overgrowing with lichenobiots is the highest (for instance, in the Kochkovnavolok peninsula, Lebediny Nos where almost all figures needed cleaning).

Geological and geomorphological work along the eastern coast of The Lake Onega was carried out back in the 1980s. (Kostin, 1989), then in 2008 and in 2013. As a result, they found out that the rocks here were composed of charnockites and enderbites. These rocks belong to the group of granites and consist mainly of minerals such as plagioclase and quartz with a certain proportion of biotite, pyroxene, etc. They are highly resistant to weather and mechanical influences: the dissolution of minerals of these rocks is very slow both in both water and under the influence of organic acids released by lichens. This allowed for a fairly good preservation of ancient rock engravings.

From Gurij Islands and the Cape Tolstij in the south and to Golci in the north, Kareckij Complex consisting of enderbite and charnockitoids, was identified. They differ by the dark gray and gray colour; brownish biotite is present in all varieties of rocks. Kareckij Nos and Peri Nos are composed mainly of charnockitoids. They gradually change into enderbites in the vicinity of Mihajlovec island.

In the district of Gurij island they interchange with each other, and in Golci only enderbites were identified. For the lower reaches of the river Vodly with the Kochkovnavolok peninsula and to the north (up to the Losiyi Islands) coarse-grained (rapakivi-like) granites would be more typical. The colour of granitoids is red, grayish-pink, gray. One should mention the absence of xenoliths – the rock fragments which shape oval sports of dark gray colour being inscribed into petroglyphic compositions (Bolshoi Gury island, Peri Nos, etc.).

During 2005-2016 new effective methods of revealing and documenting Onega petroglyphs, adapted to local location peculiarities, quality of rock surface and degree of site preservation, often complementing and clarifying each other were implemented. As the experience shows, the full scale research could not be limited to the research of proper petroglyphs, and a broad context which has been studied for a long time, is of great importance. The field method of documenting the petroglyphs of Lake Onega included the method of black film borrowed from Norwegian rock art experts, area and panoramic photography, photogrammetry, which made possible to considerably expand the body of petroglyphic sources and clarify old data. From 2006 the most accurate way for the time being of copying petroglyphs on micalent paper and China rice paper (from 2016) has been implemented while documenting rock art of Onega and the White sea. Owing to this, a unique imprint is obtained where one can trace not only the outlines of figures, but their relief, and rock relief beyond petroglyphs.

In 2004 and 2008 the images which had been preserved in inverted granite slabs (4 rock fragments that broke away from rock mass yet in the ancient times) in the Cape Peri Nos VI, where two of those were delivered to the National museum of Karelia which were included in the museum exhibition.

Underwater works, initiated by U. A. Savvateev as early as 1972-73, were also continued. In 2008-2010 another granite slab with rock art near the cape Kladovec Nos was discovered by divers from St. Petersburg. Underwater research next to the eastern coast of The Lake Onega can not be considered accomplished, scientists can forecast a number of breakaway rock fragments with figure engravings. “The submarine museum of rock art” is asking for special attention, planning and financing. Even the objects discovered in the beginning of 1970s and in 2000s at the bottom of the lake do not have exact coordinates of their position, detailed description, proper photos and copies.

In 2015, the monograph of N.V. Lobanova “Petroglyphs of The Lake Onega” was published. The publication gave the complete and trustworthy picture of unique sites of archaeological heritage

– Onega rock images as well as their natural and cultural context. Many materials were published for the first time, the old materials were significantly specified and upgraded. The monograph analyzes the history of studies of monument and the methods of their research, specific features of locations, chronology and periodization, ancient and modern natural environment; it justified the connection of some ancient dwellings with rock art. This publication is based on the detailed catalogue of Onega petroglyphs which included the known data for 2014. The book featured a large number of black and white and colour illustrations and a brief English summary.

Thus, it can be said that archaeological research in the territory of Onega petroglyphs was carried out systematically and purposefully (in fact, it was an annual archaeological monitoring from 1998 to 2016), but the natural science research (geology, geomorphology, lichenology, ecology) was performed sporadically, with large breaks, and not in all petroglyphic groups. As a result, there is insufficiently complete database showing the real degree of preservation of rock art canvases and natural processes which can negatively affect the monuments.

### **Component “Petroglyphs of the White Sea”**

The history of discovery and research of petroglyphs of the White Sea present a long process that continues up to the present times. It was caused by the unrelenting interest of experts and amateurs towards such unusual and mysterious archaeological monuments as well as developing methods of their search and documentation allowing to get new information. There are a few stages in their study.

**The first stage** is the pre-war period (1926-1939).

The first group of petroglyphs of Besovy Sledki in the island Shoirukshin was discovered by an ethnography student A.M. Linevsky from Leningrad University in 1926. Local citizens (pomory) who started developing the White Sea coast as early as in the XII century undoubtedly knew about the existence of these rock art images and were most likely wary of them. Their origin was attributed to evil powers, hence the name ‘Chertovy Sledki’ derived from here. The pathfinder changed its name to Besovy Sledki, obviously, by analogy to Besov Nos. 10 years later (in September 1936) new rock images in this district were discovered by the expedition of the Leningrad archaeologist V.I. Ravdonikas on the islands Bol’shoj Malinin (Zalavruga), Erpin Pudas (2 points) and Shoirukshin (southern group). As V.I. Ravdonikas noted, the discovery of the big group of petroglyphs in the central rock of Zalavruga (the accurate name *Zalavruda*) was absolutely exceptional in its scientific and artistic value.

There, in his opinion, the masterpieces of the Neolithic art of Northern Europe were featured in full. In the same period, a Moscow archaeologist A.Y. Bryusov carried out the successful research and excavations of ancient rock art settlements. In 1938 the images of these petroglyphs were published in the catalogue by V.I. Ravdonikas “Rock art of the White Sea.” It describes seven groups of petroglyphs, counting up to 615 figures located on three islands: Shoirukshin island (which includes two groups – Southern and Northern Besovy Sledki), Bol’shoj Malinin island (three groups of Zalavruga) and Erpin Pudas island (2 groups).

**The second stage** (1963-1972) is connected with the complex works performed by the researchers from the Karelian branch of the USSR Academy of Sciences. The White Sea archaeological expedition of the Institute of Language, Literature and History lead by U. A. Savvateev (geologists and paleogeographers from the Institute of Geology) discovered and registered other 31 groups of



petroglyphs in the lower reaches of the river Vyg: 26 groups in Zalavruga, another group (the third) in Erpin Pudas island and four groups on nameless islands.

The large groups of petroglyphs, including hundreds of individual figures, were found as a result of excavations of the settlements of Zalavruga I and Erpin Pudas I. The new data on the White Sea petroglyphs and the natural environment during their functioning was presented in the monograph "Zalavruga" by U.A. Savvateev and in the monograph by E. I. Devyatova (1976).

The first work contains the entire corpus of sources on petroglyphs of the White Sea with a broad historiographical overview and an essay on the general issues of rock art. In total, U.A. Savvateev described about 1200 new figures. Only preliminary brief information featuring photos of the monument and graphic drawings of 25 images is dedicated to the third group of petroglyphs discovered in Erpin Pudas island. Later, the magazine "Soviet Archaeology" published a special article about this site.

The monograph written by E.I. Devyatova thoroughly examined the natural situation in the epoch of petroglyphs, the dynamics of its changes in the era of the Holocene, offering a general chronology and periodization of the petroglyphs of the southern-western region of the White Sea.

**The third stage** is modern (2000-2016).

Since 1973 to 2000 the field studies of the petroglyphs of the White Sea were not actually carried out, apparently due to this fact the information about the sites was published and the database was not being replenished. In 2001, the research of the petroglyphs of the White Sea resumed thanks to the activity of an international Karelian-Norwegian project "Conservation of Petroglyphs of Karelia" lead by N.V. Lobanova. The main goal of this project was to create a database of Karelian petroglyphs based on the complete and comprehensive field documentation. It was not possible to fully achieve the goal for the White Sea petroglyphs as the field works were conducted only during two field seasons on several groups (in Staraya Zavaluga, Erpin Pudas and nameless islands, located to the north of Besovy Sledki). The largest cluster of drawings on New Zalavruga (about 2 thousand figures) remained outside the project scope. A joint project with the Norwegian colleagues was carried out in 2007-2008 with the goals and objectives remaining the same. During 2002-2012, one of the programmes dedicated to the White Sea petroglyphs was carried out jointly with the University of Cambridge. As a result of the above mentioned project, complete data on the monuments was collected and archive materials were studied.

The third stage can be considered very successful, especially in terms of expanding the territory of the White Sea petroglyphic complexes in terms of more accurate ways of documenting the rock monuments. It became possible due to the comprehensive field studies of archaeologists from Karelian Research Centre of the Russian Academy of Sciences, Petrozavodsk State University, in collaboration with Norwegian colleagues from the University of Tromsø and the Research centre Riksantikvaren (Oslo), as well as the British colleagues from the University of Cambridge. During this period a great scope of work was performed, not entirely limited to documenting the monuments, but in terms of preservation, conservation, and use for touristic and educational purposes. One of the key results was establishing the database management system (DMS) titled "Petroglyphs of Karelia." This database features topographic plans, photos and graphite copies of images, their detailed description (common and detailed description of figures, mentioning dimensions, orientation, height above waters, depth of engraving, degree of preservation, parametric data where various interpretation of separate figures or compositions were given). Along with archaeologists and

geologists, lichenologists (lichen experts) from the Forest Research Institute of Karelian Research Center of the Russian Academy of Sciences (M.A. Fadeev) and Petrozavodsk University (A.A. Sonin) conducted their research. The field material was collected to determine the species composition of rock bio-destructors, explaining the processes of rock surface erosion, description of rock geomorphology. These works significantly influenced the development of methodology and preservation methods of Onega engraving, being focused on defining the exposure of lichens on rock surface with petroglyphs and defining methods to decrease their degree of negative exposure on the monuments. The monitoring of lichenobiotics allowed to identify the most problematic petroglyphs in terms of preservation in the lowest reaches of Vyg as well as to offer practical recommendations for their preservation and conservation, safe methods, slowing down the destructive processes in terms of environmental conservation.

The micro-project of the European Union "The Stone Book of the White Sea," realized in 2006 (curated by L. Lehtinen, Finland, Kierikki Center) allowed to implement new methods of documenting petroglyphs (including the so called mikalant copying method and area photography). Moreover, the recommendations for preservation and the use of the White Sea petroglyphs for tourism and educational purposes were developed at the international workshop in Belomorsk.

In 2007 archaeologists of the Institute of Language, Literature and History of Karelian Research Centre of the RAS continued documenting petroglyphs of Zalavruga and a new group of Zolotec within the framework of the second Karelian-Norwegian project "Preservation and Presentation of Karelian Monuments." The main attention was focused on the most poorly preserved groups of New Zalavruga. The outlines of the figures were revealed under a black film. They carried out their continuous graphic copying and photographing in groups and registered the mutual arrangement of petroglyphs on a rocky surface.

Geological and geomorphological works, initiated in the 1960s, were continued in 2007-2008 and in 2014. In geological aspect the region of location of the White Sea petroglyphs is characterized by the development of the most ancient of crystalline formations. This series is a complex of polymetamorphic subsurface rocks whose age is not less than 3 billion years. The field work allowed to define the character of subsurface rocks, to reveal the most weathered areas and outline some ways to reduce the processes of rock erosion.

The international project within the scope of the cultural cross-border cooperation program of the European Union "Bridge of Rock Art: The Link of Times" (the grantee is the travel agency "Karelika"), Petrozavodsk collaborates with the research, educational and tourist structures of Karelia and Finland). The elements of tourist infrastructure in the territory of Zalavruga were built, a renovation project for "Besovy Sledky" pavilion was launched, and the tradition of hosting primitive art festivals was established.

Throughout 2005-2016 new efficient methods were applied to reveal and document the White Sea petroglyphs (the black film method, area and panoramic photography), which gave the opportunity to expand the body of petroglyphic sources and update the old data.

Recent fieldwork has shown that the quantitative resource of the White Sea petroglyphs is far from being exhausted. New images were revealed in many known big groups, discovered by U.A. Savvateev (New Zalavruga, Erpin Pudas III), among the small clusters registered by the expedition of V.I. Ravdonicas (Erpin Pudas 1-2), as well as in small nameless islands. Thanks to the mutual collaboration of Russian and international colleagues, application of the new methods of research and

documentation of petroglyphs the quantitative and qualitative potential of the monuments has been considerably enlarged.

During the field works of 2005-2012, new groups of petroglyphs were discovered in Zalavruga in Erpin Pudas island, at the threshold of Zolotec and in nameless islands. New information considering practically all rock art settlements, known earlier, was updated. There were rare and even unique themes among newly found figures.

Nowadays there is a scientific discussion about dating of petroglyphs of Karelia. Thus, E.M. Kolpakov, a major expert on this topic, an employee of the Institute of the History of Material Culture of the Russian Academy of Sciences, Doctor of History, expresses a number of objections to the absolute uniqueness of some petroglyphs of these two complexes.

There are also foreign viewpoints on the dating of Karelia's petroglyphs. L. Janik (2010) and J.M. Gjerde (2010) independently concluded studies on the petroglyphs of the White Sea that rely on the geological data, but emphasize a relative chronology based on comparison with the settlement data, and argue that the rock art is older than previously thought. Janik (2010: 94) dates it between c. 5600 BP and 4000 BP (4600–2000 BC), while Gjerde suggests a range between c. 5300 and 2000 BC. The internal chronology of the art is problematic, although it is possible to divide the figures into phases based on their elevations and the radiocarbon dates from the adjacent settlements, suggesting that there is a relational chronology based on the land uplift (Gjerde 2010b: 291–300). T. Lødøen (University of Bergen, Norway) is not convinced that the rock art of Karelia is left by only Neolithic groups, especially since the images seem to have such a focus on hunting perspectives which just as well have been left by foraging groups in the Late Mesolithic as in Norway and Scandinavia overall.

The challenge of dating Karelian petroglyphs has not been finally solved yet. Its accuracy largely depends on the general archeological and geological study of the both Onega Lake and White Sea coasts, which is not yet complete enough. Besides, there are many serious discrepancies in the given points of view, quite understandable and objectively justified: some of them rely mainly on the archeological materials, others - on the geological-palinological and geological-stratigraphic ones.

To date, the analysis and systematization of all collected factual data on archaeology, geology, paleobotany and paleo-geography allow us to present the time of appearance and functioning of the Onega Lake and the White Sea petroglyphs, the nature and dynamics of natural processes in more detail and reasonably than before. And on the whole the conducted researches have already given interesting results and give hope for the further success. In the future, most likely, we will not talk about revision, but only about specification of the proposed dating of petroglyphs of Karelia.

### **2.3 Present State of Conservation**

This section analyzes and assesses the state of the components and their elements of the “Petroglyphs of the Lake Onega and the White sea” (physical condition, degree of preservation, integrity/authenticity) and their environment (presence of disturbance/distortion/loss of the environment).

#### **Component “Petroglyphs of the Lake Onega”**

Despite the high strength of the crystalline rocks (unique Karelian granitoids), on which the petroglyphs of the Lake Onega were carved, there is a number of problems hindering the effective

use of these unique monuments in the area of tourism and education. They include negative natural and anthropogenic factors such as weathering of rocks, smoothing by ice and water, breaking of pieces of rocks containing images, fouling of various species of lichens or algae, vandal inscriptions and drawings, sometimes carved nearby or even directly on the ancient rock carved images. Breaking of rocks with petroglyphs is caused by water, ice, and temperature fluctuations. It is especially noticeable on the capes of Kladovec Nos, Besov Nos and Peri Nos VI, where there are many fragmentarily conserved figures. Some of them were completely destroyed after breaking of the rock part off the massif.

The state of different groups and clusters of the Petroglyphs of the Lake Onega is not the same. The rock paintings of Besov Nos, Peri Nos, Gazhij Nos, Guryeh Islands, Bol'shoj Goltsa and Moduzh differ in the stability of physical state and have been almost unchanged during the last decades. The greatest concern is caused by the petroglyphs of the Kochkovnavolok Peninsula which is located really close to the village of Shalsky. The crystalline rocks that make up this site are less strong than in Besov Nos. These petroglyphs are of particular value in the Onega complex. They reflect the final stage in the development of rock art, there are unique petroglyphs. They are complex and apparently contain mythological scenes, a different correlation of the main plots, and so on.

In 2013, within the framework of Research, development, experiment and design work almost all the damages the petroglyphs due to anthropogenic reasons were recorded. Their number slightly exceeds 100: about 50 of them are located on the Cape of Besov Nos (the western tip of the cape), 4 on the cape Kladovec Nos, over 20 in the mouth of the Chjornaja River, over 20 are on the cape Korjushkin Nos and on Korjushkin Island, some petroglyphs are damaged on Peri Nos and the Kochkovnalok peninsula, no less than 40 damages were found on the island of Bol'shoj Golec. It should be noted that the number of vandal carvings which damaged the ancient images to some extent is very low, only 3. At the same time, even though some damages do not directly affect petroglyphs, they violate the integrity and identity of the monuments of rock art, and significantly worsen their aesthetic perception and impression.

Table 3. Assessment of the state of parts of the component "Petroglyphs of the Lake Onega»

| <b>Component Part</b>   | <b>Assessment of the State</b> |
|---|--------------------------------|
| <b>1. Petroglyphs of the cape Peri Nos I</b>  | Satisfactory state             |
| <b>2. Petroglyphs of the cape Peri Nos II, Petroglyphs of the cape Peri Nos III</b> | Satisfactory state             |
| <b>3. Petroglyphs of the cape Peri Nos IV</b>                                       | Satisfactory state             |
| <b>4. Petroglyphs of the cape Peri Nos VI</b>                                       | Satisfactory state             |
| <b>5. Petroglyphs of the cape Peri Nos VII</b>                                      | Satisfactory state             |
| <b>6. Petroglyphs of the cape Besov Nos (northern group)</b>                        | Satisfactory state             |
| <b>7. Petroglyphs of the cape Besov Nos</b>   | Not rated                      |

|  |   |
|--|---|
| <b>(central group)</b>   |   |
| <b>8. Petroglyph on the cape Besov Nos</b>   | Not rated   |
| <b>9. Petroglyphs of the cape Gazhij Nos</b>   | Satisfactory state  |
| <b>10. Petroglyphs of the cape Kareckij Nos</b>  | Satisfactory state  |
| <b>11. Petroglyphs of the cape Kladovec</b>  | Not rated   |
| <b>12. Petroglyphs of the cape Korjushkin Nos</b>  | Satisfactory state  |
| <b>13. Petroglyphs on the peninsula Kochkovnavolok (group "A"), Petroglyphs on the peninsula Kochkovnavolok (group "B"), Petroglyphs on the peninsula Kochkovnavolok (group "C")</b> | Conservation rate of group A - Many petroglyphs have a weak degree of conservation resulted from erosion processes or anthropogenic factors (traces from modern fires).<br>Conservation rate of group B – Not rated<br>The degree of conservation of the petroglyphs of group C is very low, some conserved fragmentarily.  |
| <b>14. Petroglyphs on the peninsula Kochkovnavolok (group "D")</b>   | Satisfactory state  |
| <b>15. Petroglyph on Mihajlovec island</b>   | Not rated   |
| <b>16. Petroglyph on the cape Chjornyj</b>   | Good state.   |
| <b>17. Petroglyphs of Moduzh island</b>  | Satisfactory state  |
| <b>18. Petroglyphs on Bol'shoj Golec island</b>  | Good state.   |
| <b>19. Petroglyphs on Bol'shoj Gurij island I, Petroglyphs on Bol'shoj Gurij island II</b>   | Good state.<br>However, petroglyphs are strongly smoothed by waves. At present, the rock images have completely cleared of microliths, due to noticeable fluctuations in the water level in the Lake Onega. The carvings are visually well visible. At the same time, petroglyphs located on the lowest parts of the coast are not always available for study when the water level in the lake fluctuates and they get under water. |
| <b>20. Petroglyphs on Malyj Gurij island</b>   | Satisfactory state. However, petroglyphs are now covered with lichens and are therefore poorly visible on the surface of the grey rock.   |
| <b>21. Petroglyphs in the mouth of the river Vodly</b>   | Not rated   |
| <b>22. Petroglyphs in the mouth of the river Chjornaja</b>   | Satisfactory state  |

## Component “Petroglyphs of the White Sea”

The landscape surrounding the petroglyphs of the White Sea has partially lost its primordial character. The construction of the White Sea-Baltic Canal and two hydroelectric power stations had influenced the Rock Art. Running in its stone bed, the Vyg river formed a branched network of streams and side channels, was full of rapids, stone islands, waterfalls, whirlpools and cataracts. As of now, the ancient landscape was slightly modified due to construction of the White Sea–Baltic Canal and hydroelectric power plants. The river bed got drained greatly simplifying the access to small petroglyph groups previously located on small remote islands. In the periods of regular discharges through the Vygostrovskaya hydroelectric power plant the landscape becomes almost like as it was in the original times.

During the construction of the Vygostrovskaya hydroelectric power station a dam was constructed. It buried the southern group of the petroglyphs of Besovy Sledki, discovered by V.I. Ravdonikas in 1936. A protective pavilion of concrete was erected above the northern group of Besov Sledki in 1968. It was a branch of the municipal museum of local lore.

Rock paintings inside the building were displayed to tourists all year round, but now the pavilion is closed with a view to preserving the petroglyphs due to an emergency condition. The landscape changes are insignificant on the main cluster of rock carvings Zalavruga. This place is almost a ready open air museum of primitive art.

The largest cluster of rock paintings in Karelia is located here. It numbers 2 thousand figures, located in more or less isolated clusters. Two parts of the monument, named Old and New Zalavruga, were singled out.

Some groups of the petroglyphs of New Zavaluga (IV, VI, VIII, XII, XX) are well conserved and attract visitors. On the Old Zalavruga, the panel with the drawings is badly damaged by erosion, most of the figures are not visible, except for the north-eastern slope of the rock, where unique compositions can be seen.

Table4. Assessment of the state of parts of the component "Petroglyphs of the White Sea»

| Component Part                       | Assessment of the State  |
|--------------------------------------|--|
| <b>1. Petroglyphs Zalavruga</b>      | The petroglyphs of Zalavruga have one of the highest conservation degree among the White Sea rock carvings. The rock canvas of the northern flank (Old Zalavruga) is characterized by a lower degree of conservation than the groups of New Zalavruga. The main groups with the largest number of figures have a good conservation degree (IV, V, XIV, XX-XXIII), others have a satisfactory degree, with the exception of groups III, XVI, where many carvings are damaged by erosion, rocky potholes. Some have even disappeared due to natural effects (weathering, exfoliation). |
| <b>2. Petroglyphs Besovy Sledki</b>  | Not rated  |
| <b>3. Petroglyphs Erpin Pudas I</b>  | Not rated  |
| <b>4. Petroglyphs Erpin Pudas II</b> | The degree of conservation is relatively low. The carvings are very poorly conserved and poorly visible on the rock due to the destruction of the rock surface as a result of weathering processes.  |

|   |  |
|---|--|
| <b>5. Petroglyphs Erpin Pudas III</b>                 | The degree of conservation of the group is comparatively low. Some carvings have partially or completely disappeared as a result of negative natural weathering processes.   |
| <b>6. Petroglyphs Erpin Pudas IV</b>                  | The degree of conservation is satisfactory.  |
| <b>7. Petroglyphs on the no-name islands I</b>        | The degree of conservation is good.  |
| <b>8. Petroglyphs on the no-name islands II</b>       | The degree of conservation of this group of rock carvings is extremely low due to the processes of weathering and fouling by lichens. Some carvings might have completely disappeared; others are only partially conserved.  |
| <b>9. Petroglyphs on the no-name islands III</b>      | The degree of conservation of the group is comparatively low. The upper part of the rock surface with petroglyphs was eroded, some figures are only partially preserved, some of the carvings have now disappeared as a result of the natural negative impact: weathering, lichen fouling. The lower section has a satisfactory degree of preservation.  |
| <b>10. Petroglyphs on the island Bol'shoj Malinin</b> | The degree of conservation is satisfactory.  |
| <b>11. Group of petroglyphs Zolotec I</b>             | The group of rock paintings Zolotec I has one of the lowest conservation degrees among the petroglyphs of the White Sea. The section of rocky surface with petroglyphs is strongly eroded, many figures have been conserved only partially, some of the carvings have disappeared as a result of the negative natural impact of weathering, smoothing effects of ice and water, as well as fouling of lichens, mosses and algae. |

#### **2.4 Current use of the site**

The archaeological heritage site "Petroglyphs of the White Sea" is currently used for organizing tourist excursions, mostly regulated. The two most representative and visually remarkable objects are Zalavruga (Staraja and Novaja) and Besovy Sledki, other groups of petroglyphs (Erpin Pudas III with the so-called "Karelian Kamasutra") are used to a low extent, the others are not used at all.

According to visitation monitoring in 2008-2015, the number of visitors varies between 13-15 thousand people for 3-4 months (June - September).

On the territory of Zavaluga, the most popular site, the necessary elements of the tourist infrastructure have already been set up: the archaeological heritage site is guarded around the clock during the summer season, elements of the tourist infrastructure (information boards and signs, well-maintained forest trails, benches, wooden walkways, observation platforms, covered awnings, souvenir kiosks, caretaker's house and household facilities) were made taking into account the goal of minimal interference in the natural context and taking into consideration the features of the

relief. The Belomorsk Municipal Museum "Petroglyphs of the White Sea" is responsible for the conservation of the monument and the surrounding area. The protective pavilion "Besovy Sledki" is on the balance of the same municipal institution.

The archaeological heritage site "Petroglyphs of the Lake Onega" is used for organizing tourist excursions, mostly unregulated. The most representative and visually remarkable sites are 4 capes with petroglyphs: Kladovets Nos, Besov Nos, Peri Nos III-IV, the remaining groups of petroglyphs are used to a small extent.

According to preliminary data, the number of visitors varies between 3-4 thousand people for 3 summer months. They enter the territory of the monuments mainly by water (by boats on the River Chernaya or by boat on the Lake Onega). The land road from the nearest village of Karshevo to Besov Nos is sometimes swamped, there are many destroyed bridges across rivers and streams. For this reason tourists use heavy off-road vehicles that damage the natural environment.

In 1999 information boards, nameplates and indexes were installed, elements of tourist infrastructure (shelters from rain, benches, equipped with fireplace, built toilets) were built on the territory of the petroglyphs of the Lake Onega. The information boards, sign posts and direction signs have been maintained up to now.

#### **Accompanying tourist and information infrastructure**

1. On the territory of the Belomorsky municipal district, there is the Belomorsk regional museum of local lore "Petroglyphs of the White Sea ". The collection includes objects of culture of the White Sea peoples, economy and life; materials on the history of the region amounting to more than 5 000 items of storage. In 2008, the exposition and exhibition hall was opened, where besides the basic exhibition, up to 10-12 thematic exhibitions are issued each year. Outside the exhibition there are thematic excursions "Petroglyphs of the White Sea ".

Near the museum there is a parking lot, an equipped bicycle park, a bus stop and parking lots for private taxis.

Within the walking distance there is a shopping center, a pharmacy, and a cafe. In the building of the museum there is a souvenir shop, a toilet, and an ATM of VTB-24 bank.

The Belomorsky district is visited by approximately 29 800 tourists per year (according to the data of collective accommodation sites).

In addition, there is a large percentage of unaccounted tourists, up to 70% of the flow. They independently visit the sights of the district, mainly "Petroglyphs of the White Sea " archeological complex, pass through the area on the way to the Solovetsky Islands, go rafting along the rivers of the district. Given the transport accessibility of the area, the tourist flow arrives:

- from the north (Murmansk),
- from the east (Arkhangelsk, Vologda),
- from the South (Moscow, St. Petersburg).

2. On the territory of the Pudozhsky municipal district there is a Pudozh History and Local Lore Museum named after A.F. Korablev", which conducts trips to the peninsula of Kochkovnavolok, where the petroglyphs are located.

3. In accordance with the Decree of the Prime Minister of the Republic of Karelia No. 344-P as of 25.12.2000 (within the framework of the implementation of the republican target program "Tourism Development in the Republic of Karelia for the Period of 2000-2002" and the TACIS project "Development of border tourism in the Russian part of the Barents Euro-Arctic region) at the



initiative of the Ministry of Culture of the Republic of Karelia, the Information Tourism Center of the Republic of Karelia and the corresponding information tourist portal Karelia [<http://www.ticrk.ru>] were created.

The Information and Tourist Center includes is a chain of souvenir and gift shops "Karelian Craft", which carries out retail trade in products of craftsmen and designers of Karelia both through outlets and through the online store [kareliancraft.com](http://kareliancraft.com).

## 2.5 Factors affecting the site

Factors affecting the site can be divided into two groups:

- natural factors, i.e. those associated with the influence of environmental factors;
- man-made factors. i.e. those associated with human activities.

The table shows the factors that affect or jeopardize the site's OUV.

Table 5. Factors affecting the site

| Factor         | Description of the threat  | by time of occurrence: historical (completed) or current (existing) | by duration: periodic or permanent | by impact spectrum: selective or general | by impact magnitude: extreme, strong or moderate | Conservation options   |
|----------------|--|---|------------------------------------|--|--|--|
| <b>Natural</b> |  |   |                                    |  |  |  |
| Lichens        | Lichen hyphae penetrate into minerals through cracks expanding them as they grow, i.e. disintegrate them mechanically. Due to the high density of the lichen cover, the drawings become poorly visible or not visible at all | historical or current   | permanent                          | general                                  | strong   | The following is recommended in Karelia: Cleaning of petroglyphs using alcohol solution (method developed in Norway):<br>96% ethyl alcohol<br>0.5l per 1m2 of the surface to be cleaned<br>Sweden and Norway used to cover drawings with paint, erect structures over rock paintings or clear the figures from |

|                       |   |                       |           |         |          |   |
|-----------------------|---|-----------------------|-----------|---------|----------|---|
|                       |   |                       |           |         |          | lichens (failed to ensure proper conservation)  |
| Water (waves and ice) | Ice (adverse impact): Freezing of moisture in rock cracks triggers their further expansion and separation of the rock surface. Soil gets inside the expanding cracks giving rise to the growth of mosses, lichens and higher plants and enhancing the destruction of the stone. Waves (favorable effect): prevents intense lichen growing | historical or current | permanent | general | strong   | Sealing of cracks with special compounds. To optimize the hydrological mode, canopies and drainage systems are installed. |
| Wind                  | Images and surfaces are damaged by wind   | historical or current | permanent | general | moderate | Red granites of Onega Lake and crystalline schist of the White Sea  |

|  |   |         |         |           |          |  |
|--|---|---------|---------|-----------|----------|--|
|  |   |         |         |           |          | coast are notable for low degree of weathering.  |
| <b>Recreational (accidental) anthropogenic threats</b> |   |         |         |           |          |  |
| Vandalism  | Making of inscriptions right on the images or near them                                       | current | regular | selective | extreme  | Visitors' inscriptions are gouged out, smoothed and then filled with a pre-finishing compound and silicon based organic binder. Inscriptions made with paint are eliminated with special solutions.  |
| Bonfires   | Making of bonfires on the images or near them   | current | regular | selective | strong   | Information plates with notifications; installation of fences and grids without attaching them to rocky surfaces with images. Permanent presence of security guards on the site. Development and arrangement of a bypass route and alternative car parks to reduce the visit |
| Surface abrasion                                       | Abrasion or damaging of paintings or surface as a result of tourists' and vacationers' visits | current | regular | selective | moderate |  |
| Littering  | Accumulation of household wastes generated by tourists and                                    | current | regular | selective | strong   |  |

|   |  |         |         |           |          |  |
|---|--|---------|---------|-----------|----------|--|
|   | vacationers  |         |         |           |          | load. Construction of covered walkways or bridges; fit-out of rest areas, installation of toilets and containers for garbage. Fit-out of paths on the site to completely prevent walking on rocks or trampling of vegetation cover   |
| <b>Household (systemic) anthropogenic threats</b> |  |         |         |           |          |  |
| Lessees of forest resources                       | Forest harvesting operations of various types and fires result in the original landscape being disturbed                       | current | regular | selective | strong   | The availability of a risk management plan as part of the monument management plan constitutes a pre-requisite basis for arranging the proper protection of the rock paintings. Such a plan must be developed together with specialists in various fields (archaeologists, ecologists, |
| Subsoil users                                     | Installation and operation of maritime and inland water transportation facilities; development of fields and mineral resources | current | regular | selective | moderate |  |

|                   |  |         |           |           |          |  |
|-------------------|--|---------|-----------|-----------|----------|--|
| Linear facilities | High-voltage Vygostrovskaya hydroelectric power station and related linear facilities; existing road (to "Besov Nos" lighthouse); projected gas pipeline | current | permanent | selective | strong   | sociologists, psychologists, recreation specialists, restorers) and contemplate interdisciplinary researches of a natural scientific origin (botanical, petrographic, etc.). |
| Hunting grounds   | Public and secured hunting grounds   | current | regular   | selective | moderate |  |
| Fishing           | Industrial, amateur and sport fishing  | current | regular   | selective | moderate |  |

### **3. LEGISLATIVE AND REGULATORY MEASURES IMED TO PROTECT AND GUARD THE SITE**

#### **3.1 International law**

According to Article 15(4) of the Constitution of the Russian Federation, generally accepted principles and standards of international law and treaties to which the Russian Federation is a party are an integral part of its legal framework. If an international treaty of the Russian Federation sets rules which are different from those contemplated by law, then the rules of the international treaty shall prevail.

Cultural heritage sites are first of all subject to the provisions of the Convention concerning the Protection of the World Cultural and Natural Heritage (Paris, November 16, 1972) and its implementation Guidelines (as adopted and regularly updated by the World Heritage Committee at its sessions, up-to-date version is 2016). The rules of the Implementation Guidelines are binding on the States Parties to the Convention. The sections of the Guidelines dealing with monitoring and reporting procedures are the most demanded for the sites inscribed on the World Heritage List.

International law acts:

#### **International treaties**

Convention concerning the Protection of Cultural Property in the Event of Armed Conflict (May 14, 1954);

Convention for the Protection of the Architectural Heritage of Europe (October 03, 1985);

European Cultural Convention (Paris, December 19, 1954);

Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property (November 14, 1970)

The UNIDROIT Convention on Stolen or Illegally Exported Cultural Objects (June 24, 1995).

#### **Declarations and recommendations**

Declaration of Principles of International Cultural Cooperation (proclaimed on November 4, 1966 by the 14th session of UNESCO's General Conference);

Universal Declaration on Cultural Diversity (proclaimed on November 02, 2001 by the 31<sup>st</sup> session of UNESCO's General Conference);

Budapest Declaration on World Heritage (adopted by the 26<sup>th</sup> session of the World Heritage Committee; Budapest, 2002);

Recommendation concerning the Safeguarding of Beauty and Character of Landscapes and Sites (adopted on December 11, 1962 by the 12<sup>th</sup> session of UNESCO's General Conference)

Recommendation concerning the Preservation of Cultural Property Endangered by Public or Private Works (adopted on November 19, 1968 by the 15<sup>th</sup> session of UNESCO's General Conference);

Recommendation on the protection of cultural and natural heritage at national level (adopted on November 16, 1972 by the 17<sup>th</sup> session of UNESCO's General Conference);

International Charter for the Conservation and Restoration of Monuments and Sites (Venice Charter) (Venice, 1964);

Charter on Cultural Tourism (Brussels, 1974);

Nara Document on Authenticity (Nara, 1994);

ICOM Code of Ethics for Museums;

Principles for the recording of monuments, groups of buildings and sites (Sofia, 1996).

Considering the fact that the site is being nominated as a monument of archaeological heritage, **special topic-specific international instruments** apply to the site alongside with the Convention of 1972.

These include the European Convention on the Protection of the Archaeological Heritage (London, May 06, 1965), revised in Valletta on January 16, 1992); the Charter for the Protection and Management of Archaeological Heritage (Lausanne, October 10, 1990), UNESCO Recommendations on International Principles Applicable to Archaeological Excavations (New Delhi, December 05, 1956) and regulations issued by ICOMOS's International Committee on the Management of Archaeological Heritage (ICAHM):

- The Salalah Guidelines for the Management of Public Archaeological Heritage Sites and the Salalah Guidelines for Archaeological Heritage Sites and Archaeological Parks (approved as doctrinal on March 20, 2017 in New Delhi);
- Objectives and procedures of the ICOMOS International Committee on the Management of Archaeological Heritage (ICAHM) dated October 25, 2008.

Table 6. Characteristics of the main topic-specific international instruments relating to archaeological heritage

| Name of instrument   | Key provisions   | Effect on the nominated site   |
|--|--|--|
| <b>European Convention on the Protection of the Archaeological Heritage (London, May 06, 1965), revised in Valletta on January 16, 1992)</b> | Defines the notion of "archaeological heritage", requires the mandatory inventory-taking of archaeological heritage sites, offers the possibility of creating national archaeological parks; introduces a procedure for compulsory authorization of archaeological excavations by government authorities through the issue of appropriate permits and monitoring activities at sites being part of archaeological heritage; contributes to the promotion of archaeological heritage both within the expert community and among the general public. | The convention constituted the basis for the introducing into the Russian laws dealing with the protection of monuments of a number of key provisions covering archaeological monuments, including a mechanism for issuing permits authorizing archaeological operations (open list) |
| <b>Charter for the Protection and Management of Archaeological Heritage (Lausanne, October 10, 1990)</b>                                     | Enshrined the principles of an interdisciplinary approach to handling archaeological heritage, participation of the local community in the conservation of archaeological heritage, preferred use of minimally invasive non-destructive methods in the course of archaeological excavations, popular   | The Charter is pro-actively used by Russian specialists, including members of the ICOMOS Russian National Committee when handling archaeological heritage properties   |



|  |  |   |
|--|--|---|
|  | interpretation of the heritage with spotted and limited use of reconstruction; called for the intensification of scientific exchange and improvement of the quality of education relating to archeology  |   |
| <b>The Salalah Guidelines for the Management of Public Archaeological Heritage Sites and the Salalah Guidelines for Archaeological Heritage Sites and Archaeological Parks</b> | The principles and recommendations introduce a sustainable management model for archaeological heritage sites that is notable for the following: <ul style="list-style-type: none"> <li>- common understanding of the heritage by all participants of the management process;</li> <li>- cyclic planning;</li> <li>- capacity building;</li> <li>- transparency and openness;</li> <li>- a comprehensive understanding of archaeological heritage as part of the surrounding cultural landscape;</li> <li>- a clear definition of the site's boundaries;</li> <li>- security related zoning;</li> <li>- continuous monitoring;</li> <li>- resource analysis;</li> <li>- involvement of local communities.</li> </ul> | The principles and recommendations are used in the preparation of management plans and other strategic planning documents for Russian archaeological sites being candidates for inscription on the UNESCO World Heritage List, in particular, the "Petroglyphs of Lake Onega and the White Sea" |

### 3.2 Russian legislation

In the current Russian legislation there are no normative legal acts directly regulating relations related to the legal status of world heritage sites, and these relations are detailed in numerous domestic normative legal acts.

The archaeological heritage sites are complex, where both of natural and cultural elements are combined. In this regard, the protection status of the components of “Petroglyphs of the Lake Onega and the White Sea” property, determined by the norms of the current legislation and legal acts of the federal and regional levels, ensures protection of both the properties themselves and their environment.

The process of incorporating the properties of archaeological heritage included in the nomination “Petroglyphs of the Lake Onega and the White Sea” into state protection was gradual and reflected the stages of identifying and studying these unique monuments and strengthening the system of protecting cultural heritage sites in the Russian Federation.

Under Decree of the Council of Ministers of the RSFSR (Russian Soviet Federative Socialist Republic) dated 30.08.1960 № 1327 "On further strengthening of the protection of cultural monuments in the RSFSR" rock art in the White Sea and Pudozh districts of the Karelian ASSR

(Autonomous Soviet Socialist Republic of the Soviet Union) received a protection status as monuments of state significance.

Decrees of the Council of Ministers of the Karelian ASSR No. 199 dated 21.04.1971 and No. 149 dated 20.04.1987 clarified the list of properties to be protected by the state.

In 2013 and 2016, activities aimed at establishing the boundaries of the territories of cultural heritage sites that are part of the complexes “Petroglyphs of the Lake Onega” and “Petroglyphs of the White Sea” were carried out.

The boundaries of the territories were determined by the orders of the Ministry of Culture of the Republic of Karelia. The orders defined the subject of protection, including a rock surface with engraved petroglyphs or a rocky surface with carved petroglyphs and a natural and historical landscape depending on the particular property's characteristics.

In 2017, an expert certified by the Ministry of Culture of Russia carried out a historical and cultural examination in accordance with the requirements of the current legislation. The examination justifies the need to include the components of “Petroglyphs of the Lake Onega and the White Sea” property in the Code of Especially Valuable Properties of Cultural Heritage of the Peoples of the Russian Federation due to the fact that the site has exceptional value from the point of view of archaeology, history, ethnography and culture. Currently, the report on the results of the state historical and cultural expert assessment is under discussion.

Inclusion of the nomination elements in the State Code of Especially Valuable Properties of Cultural Heritage of the Peoples of the Russian Federation will ensure their maximum protection at the state level and will guarantee the conservation of the outstanding universal value of these monuments.

Conservation of the historical, cultural and natural environment surrounding archaeological monuments included in the nomination “Petroglyphs of the Lake Onega and the White Sea” is ensured through a number of protective measures:

*1. Establishment of protection zones*

The orders issued by Chairman of the Government of the Republic of Karelia No. 518-r dated 05.09.1996 and 163.03-r dated 25.03.1998, approved the zones of protection of the petroglyphs of the Lake Onega and archaeological monuments of the White Sea, respectively.

*2. Attributing to the category of land of historical and cultural significance*

The land plots within which archaeological sites are located belong to the lands of historical and cultural significance (Article 99 of the Land Code of the Russian Federation). The legal regime applied to such lands is regulated by Federal Law No. 73-FZ, the Land Code of the Russian Federation and Federal Law No. 122 dated July 21, -FZ "On state registration of rights to real estate and transactions with it."

*3. The establishment of the boundaries of a specially protected natural area and the regime of land use*

Most of the groups of the petroglyphs of the component the Petroglyphs of the Lake Onega (18 groups) are located within the boundaries of the specially protected natural reserve “Muromsky Landscape Reserve of Regional Significance”.

The state landscape reserve of local significance "Muromsky" was established in the Pudozhsky district of Karelia in compliance with the resolution No. 390 of the Council of Ministers of the Karelian ASSR as of 13.11.1986. Decree of the Government of the Republic of Karelia No. 304-P

dated December 28, 2009 transformed the status of the reserve from being the reserve of local significance into the state complex Muromsky Landscape Reserve of Regional Significance. It was done with a view to conserving typical and unique natural complexes and properties, monuments of history and culture of the south-eastern part of the Republic of Karelia, maintaining the ecological balance, as well as developing tourism and creating conditions for active recreation of the population. The same document approved the regulations on the reserve and established a special regime for the protection of the territory. The total area of the specially protected natural area reaches 32 600.0 hectares.

The implementation of protective measures envisaged by the statutory fixed status of the property elements includes various directions, including the following:

1. *Legislative and normative regulation*

The system of protection and management of the property of the archaeological heritage is based on the legislation of the Russian Federation (Federal Law No. 73-FZ, Town Planning Code of the Russian Federation, Land Code of the Russian Federation) and regional legislation (Law of the Republic of Karelia No. 883-ZRK as of 06.06.2005 "On properties of cultural heritage (monuments of history and culture) of the peoples of the Russian Federation in the Republic of Karelia "(hereinafter - Law of the Republic of Karelia No. 883-ZRK).

Federal Law No. 73-FZ regulates relations in the field of preservation, exploitation, promotion and state protection of cultural heritage properties (monuments of history and culture) of the peoples of the Russian Federation and aims at implementing the constitutional right of everyone to access cultural values and the constitutional duty of everyone to care for the conservation of the historical and cultural heritage, to preserve monuments of history and culture. It also ensures the realization of the rights of the peoples and other ethnic communities in the Russian Federation to conserve and develop their cultural and national identity, to protect, restore and conserve the historical and cultural environment, to protect and conserve sources of information on the birth and development of culture.

Federal law regulates the implementation of archaeological activities and establishes the requirement to obtain permit from the Ministry of Culture of Russia (Open Sheet, rus. *Открытый Лист*), which is issued on the basis of documentation justifying the need for work to be performed and confirming the qualifications of the experts involved.

Activities associated with properties of archaeological heritage included in the nomination "Petroglyphs of the Lake Onega and the White Sea" are also regulated by the following normative legal acts:

- Decree of the Government of the Russian Federation No. 127 dated February 20, 2014 "On Approval of the Rules for the Issuance, Suspension and Termination of Permits (Open Sheets) for the Work on Identification and Study of Properties of the Archaeological Heritage";
- Rules for issuing, suspending and terminating permits (Open Sheets) for works on the identification and study of properties of the archaeological heritage (approved by the Decree of the Government of the Russian Federation No. 127 dated February 20, 2014);
- Methodology for determining the boundaries of the territories of archaeological heritage sites (recommended by the letter of the Ministry of Culture of Russia No. 12-01-39 / 05-AB as of 27.01.2012);

- Resolution of the Government of the Russian Federation No. 569 as of 15.06.2009 "On Approval of the Regulations on State Historical and Cultural Expertise";
- Order of the Ministry of Culture of Russia № 954 as of 03.10.2011 "On the approval of the Regulations on the Unified State Register of Cultural Heritage Properties (Monuments of History and Culture) of the Peoples of the Russian Federation";
- Order of the Ministry of Culture of Russia No. 1906 as of 02.07.2015 "On the approval of the form of the passport of the cultural heritage property";
- Decree of the Government of the Russian Federation No. 1143 as of 06.10.1994 "On approval of the Regulations on the State Code of Exceptional Valuable Properties of Cultural Heritage of the Peoples of the Russian Federation".

The regional legislation establishes general norms to be applied to monuments of regional importance, determines the list of measures aimed at their conservation, and also implements the powers for state protection of properties of cultural heritage of federal significance, transferred in accordance with the federal law.

## 2. *Passports*

To further preserve the outstanding universal value of the site, its sustainable development and effective management and monitoring of the state of preservation of the site, it is necessary to make an additional inventory of groups of petroglyphs with clarification of the names and status of state protection.

## 3. *Monitoring compliance with the regimes established for the territory of the property, its components and elements*

The state control over the compliance with the requirements of the legislation in the field of preservation, exploitation, promotion and state protection of cultural heritage sites included in "Petroglyphs of the Lake Onega and the White Sea" property proposed for inclusion on the World Heritage List is carried out by the Ministry of Culture of the Russian Federation (federal level) and Cultural Heritage Protection Department of the Republic of Karelia (regional level) in collaboration with local government administrations of Belomorsky and Pudozhsky districts (municipal level) and law enforcement agencies.

The complex of control measures includes the annual monitoring of the state of monuments and the surrounding landscape; unscheduled inspections in case of complaints submitted by citizens, legal entities and local self-government bodies about violations in the field of protection of archaeological monuments; identification of administrative offenses and criminal offenses committed against cultural heritage sites; preparation of applications to law enforcement agencies; control over the execution of issued orders.

The following protection regimes operate on the territory of the property "Petroglyphs of the Lake Onega and the White Sea":

- *Regime of using the territory of the archaeological heritage site*

According to Article 5.1 of the Federal Law No. 73-FZ, the following activities are prohibited on the territory of the monument: construction of capital construction facilities and the increase in spatial characteristics of capital construction facilities existing on the territory of the monument; construction, reclamation and other works, except for activities aimed at conservation of the monument or its individual elements and the historical, town-planning or natural environment of the monument. It is permitted to conduct economic activities that do not contradict the requirements

established with a view to ensuring the preservation of the monument and its functioning in modern conditions.

The activities as follows are considered to violate the requirements ensuring the conservation of the monument and prevent its operation in modern conditions:

- implementation of any earthwork and construction work, including the construction of temporary and capital underground and surface facilities, line facilities, cell towers;
- carrying out of explosive, geological prospecting and other kinds of works connected with excavation of turf, soil, stone;
- laying of utilities;
- arranging rest places for tourists, car parks, grounds for storage of any substances, materials or equipment, making fires;
- dumping and disposing of industrial, domestic and agricultural waste on the territory of the monument;
- using wheeled and caterpillar vehicles;
- deforestation, except for sanitary cutting and maintenance cutting without the use of wheeled and caterpillar vehicles, using manual mechanisms and tools;
- grazing;
- carving of new images and inscriptions;
- berthing and dragging of small-sized swimming equipment, sports, sailing and recreation crafts;
- pulling of metal cables for fixed fishing nets.

Activities that do not contradict the requirements ensuring the conservation of the monument and its functioning in modern conditions, include as follows:

- works on the study and conservation of the archaeological heritage;
- carrying out scientific emergency response archaeological works or conservation and rescue measures coordinated with the authorized state body dealing with the protection of cultural heritage sites;
- carrying out works on the improvement of the territory, including arrangement of view points, museumification of petroglyphs, setting paths, installation of information boards, stands and showcases associated with monuments and not violating the natural landscape, in agreement with the authorized state body for the protection of cultural heritage sites;
- conservation of the hydrogeological and ecological conditions required to ensure the conservation of monuments and their territory.

A special regime for using a land plot within the boundaries of which a monument is located envisages the possibility of carrying out archaeological field work in accordance with the procedure established by the current legislation, as well as the possibility of providing citizens with access to the specified property.

▪ *regimes of land use within the boundaries of protection zones of cultural heritage sites*

The zones of protection of the petroglyphs of the Lake Onega and the White Sea include the following zones of protection:

- territory of the protected cultural layer (the site where the system of strata formed historically as a result of the activities performed by ancient people);

protection zones of the cultural layer (provide conditions for the conservation of the cultural layer in natural conditions);

- protection zones of the petroglyphs (the area immediately surrounding the rocks with petroglyphs, designed to ensure their conservation and appropriate use);
- protection zones of the landscape (it ensures the conservation of the natural landscape of water bodies and relief, interconnected with rock images and affecting their integrity);
- zone of archaeological observations (the territory where it is possible to identify monuments of archaeology).

Compliance with exploitation regimes applied to land plots located within the boundaries of the approved protection zones ensures the conservation of the elements of “Petroglyphs of the Lake Onega and the White Sea” property in their historical and natural environment.

- *properties where town planning activities of special regulation are applied*

Elements of “Petroglyphs of the Lake Onega and the White Sea” property are attributed to the sites of urban development of special regulation in accordance with the current Russian legislation.

Urban development is subject to special regulation in cases when provision of private, public or state interests in the field of urban development is impossible or difficult without the introduction of special rules to be applied when using the territory.

Special regulation of town-planning activities is carried out by means of the following:

- introduction of special state standards, state town-planning standards and rules;
- introduction of a special procedure for the development, agreement and approval of town planning documentation;
- issuing special construction permits.

- *regime of using the territory located within the boundaries of a specially protected natural area*

According to the Decree of the Government of the Republic of Karelia No. 304-P as of December 28, 2009, any activity is forbidden on the territory of the Muromsky Landscape Reserve of Regional Significance if it contradicts the purposes of creating a reserve or harms natural complexes and components. The following activities are also forbidden:

- geological study, exploration and development of minerals;
- carrying out of blasting operations;
- offering land for individual housing construction, as well as for horticulture and gardening;
- using and parking vehicles off the roads and designated places;
- making fires outside the equipped fireplace;
- destroying or damaging information stands and other information signs and sign posts, as well as equipped ecological trails and rest places.

- *Regime of lands of historical cultural significance*

A special legal regime is applied to lands of historical and cultural significance. It prohibits activities incompatible with the main purpose of these lands. The main purpose of an archaeological heritage site is to conserve and use it. Any economic activity may be prohibited on lands of historical and cultural designation as well as on the land of archaeological monuments which are subject to research and conservation, according to the Land Code of the Russian Federation.

Violation of the norms defined by federal legislation in the field of conservation, use, state protection and promotion of cultural heritage properties entails administrative or criminal liability envisaged by the Code of the Russian Federation on Administrative Offenses No. 195-FZ as of 30.12.2001 (Articles 7.13-7.16) and The Criminal Code of the Russian Federation No. 63-FZ as of June 13, 1996 (Article 243-243.3).

The penalty is envisaged in the form of an administrative fine for the following offenses:

- violation of the requirements of the legislation on the protection of cultural heritage sites (monuments of history and culture) of the peoples of the Russian Federation;
- organization or carrying out of earthwork, construction or other works without the permit issued by the body exercising state supervision over the state, content, conservation, exploitation, promotion and state protection of properties of cultural heritage;
- destruction or damage caused to cultural heritage sites;
- failure to fulfil the obligation to suspend works which may worsen the condition of the cultural heritage property or violate its integrity and conservation; carrying out archaeological field work without permit;
- illegal change of the legal regime of land plots designated for historical and cultural purpose.

Destruction or damage caused to cultural heritage sites classified as exceptionally valuable properties of cultural heritage of the peoples of the Russian Federation as well as cultural heritage sites included on the World Heritage List is a criminal offense and entails punishment up to imprisonment for up to six years.

Table 7. General information on the status of archaeological heritage sites

| ##                         | Name          | Location   | Availability of protection document  | Availability of cadastral file                      | Information about the location of the site's boundaries   | Registered by the Federal Service for State Registration, Cadaster and Cartography (Rosreestr) |
|----------------------------|---------------|--|--|---|---|--|
|                            |               |  | (available/not available; details; valid/not valid)  | (available/not available; details; valid/not valid) |   | (available/not available; details)   |
| <b>Belomorsky District</b> |               |  |  |   |   |  |
| 1                          | Besovy Sledki | Republic of Karelia, Belomorsky District, near Vygostrov village | Decree No. 1307 issued by the Council of Ministers of the RSFSR (Annex 1) issued on August 30, 1960; Resolution No.199 issued by the Council of Ministers of the KASSR on April 21, 1971 |   | Information regarding the location of the boundaries of the site "Territory of the cultural heritage site (historical or cultural monuments) of federal importance "Rock paintings Besovy Sledki" (3rd–2nd millennia B.C.), Belomorsky District, 2016 | no information found on Rosreestr's public map   |
| 2                          | Erpin Pudas I | Republic of Karelia, Belomorsky District, near Vygostrov village | Decree No. 1307 issued by the Council of Ministers of the RSFSR (Annex 1) issued on August 30, 1960; Resolution No.199 issued by the   |   | Information regarding the location of the boundaries of the site "Territory of the cultural heritage site (historical or cultural monuments) of federal importance  | no information found on Rosreestr's public map   |



|   |                 |  |   |  |  |  |
|---|-----------------|--|---|--|--|--|
|   |                 |  | Council of Ministers of the KASSR on April 21, 1971   |  | "Rock paintings Erpin Pudas" (3rd–2nd millennia B.C.), Belomorsky District, 2016   |  |
| 3 | Erpin Pudas II  | Republic of Karelia, Belomorsky District, 0.9 km north of Vygostrov village, 0.3 km north-east of Vygoostrovskaya HPP's building, 0.7 km north-north-east of Besovy Sledki's pavilion, on the northwestern extremity of the nameless island. | Order No. 629 issued on November 21, 2016 by the Ministry of Culture of the Republic of Karelia; Resolution No. 199 issued by the Council of Ministers of the KASSR on April 21, 1971 |  | Information regarding the location of the boundaries of the site "Territory of the cultural heritage site (historical or cultural monument) of federal importance "Rock paintings Erpin Pudas II" (4th millennium B.C.), Belomorsky District, 2016 | no information found on Rosreestr's public map |
| 4 | Erpin Pudas III | Republic of Karelia, Belomorsky District, 0.3 km north of Vygostrov village, 0.4 km north-east of Besovy Sledki Museum   | Order No. 142-r issued by the Chairman of the Republic of Karelia's Government on August 12, 1994 - the document was not found, Resolution No.199 issued by the Council               |  | Information regarding the location of the boundaries of the site "Territory of the cultural heritage site (historical or cultural monuments) of federal importance "Rock paintings Erpin Pudas III" (4th–3rd millennia B.C.),                      | no information found on Rosreestr's public map |

|   |                   |  |  |  |  |  |
|---|-------------------|--|--|--|--|--|
|   |                   |  | of Ministers of the KASSR on April 21, 1971  |  | Belomorsky District, 2016  |  |
| 5 | Erpin Pudas IV    | Republic of Karelia, Belomorsky District                         | Order No. 585 issued on October 26, 2016 by the Ministry of Culture of the Republic of Karelia; Resolution No. 199 issued by the Council of Ministers of the KASSR on April 21, 1971 |  | Information regarding the location of the boundaries of the site "Territory of the identified cultural heritage site" "Rock paintings Erpin Pudas IV" (4th millennium B.C.), Belomorsky District, 2016   | no information found on Rosreestr's public map |
| 6 | no-name islands I | Republic of Karelia, Belomorsky District, near Vygostrov village | Resolution No.199 issued by the Council of Ministers of the KASSR on April 21, 1971  |  | Information regarding the location of the boundaries of the site "Territory of the cultural heritage site (historical or cultural monuments) of federal importance "Rock paintings on nameless islands" (2nd millennium B.C.), Belomorsky District, 2016 | no information found on Rosreestr's public map |

|   |                     |  |   |  |  |
|---|---------------------|--|---|--|--|
| 7 | no-name islands II  | Republic of Karelia, Belomorsky District, 0.9 km north of Vygostrov village, 0.3 km north-east of Vygoostrovskaya HPP's building, 0.7 km north-north-east of Besovy Sledki's pavilion, on the northwestern extremity of the nameless island. | Order No. 629 issued on 21-Nov-16 by the Ministry of Culture of the Republic of Karelia; Resolution No. 199 issued by the Council of Ministers of the KASSR on April 21, 1971 | Information regarding the location of the boundaries of the site "Territory of the identified cultural heritage site" "Petroglyphs on nameless islands II" (4th millennium B.C.), Belomorsky District, 2016  | no information found on Rosreestr's public map |
| 8 | no-name islands III | Republic of Karelia, Belomorsky District   | Order No. 629 issued on 21-Nov-16 by the Ministry of Culture of the Republic of Karelia; Resolution No. 199 issued by the Council of Ministers of the KASSR on April 21, 1971 | Information regarding the location of the boundaries of the site "Territory of the identified cultural heritage site" "Petroglyphs on nameless islands III" (4th millennium B.C.), Belomorsky District, 2016 | no information found on Rosreestr's public map |
| 9 | Zolotets I          | Republic of Karelia, Belomorsky District, Petroglyphs "Zolovets", 400 m east of Zolotets   | Order No. 245 issued on July 05, 2007 by the Ministry of Culture and Public Relations of the  | Information regarding the location of the boundaries of the site "Territory of the identified cultural   | no information found on Rosreestr's public map |

|    |                         |   |   |  |   |  |
|----|-------------------------|---|---|--|---|--|
|    |                         | village, 300 m north of Vygostrovskaya HPP, 330 kV line route.  | Republic of Karelia   |  | heritage site" "Zolotets I group of petroglyphs" (3rd millennium B.C.), Belomorsky District, 2016   |  |
| 10 | Zalavruga               | Republic of Karelia, Belomorsky District  | Decree No. 1327 issued by the Council of Ministers of the RSFSR (Annex 1) on August 30, 1960; Resolution No.199 issued by the Council of Ministers of the KASSR on April 21, 1971 |  | Information regarding the location of the boundaries of the site "Territory of the cultural heritage site (historical or cultural monuments) of federal importance "Rock paintings Zalavruga" (3rd–2nd millennia B.C.), Belomorsky District, 2016 | Cadastral number: 10:11:0073504:247 Permitted use: For accommodating cultural heritage sites of the Russian Federation's peoples (historical and cultural monuments), including archaeological heritage sites as per the document: for accommodating archaeological monument "Zalavruga" |
| 11 | Bol'shoj Malinin Island | Republic of Karelia, Belomorsky District, 1 km north of Vygostrov village, 0.45 km north-east of Vygoostrovskaya HPP's building, 0.8 km north-north-east of Besovy Sledki's pavilion, on the northwestern | Order No. 629 issued on November 21, 2016 by the Ministry of Culture of the Republic of Karelia   |  | Information regarding the location of the boundaries of the site "Territory of the identified cultural heritage site" "Petroglyphs on Big Malinin Island" (4th millennium B.C.), Belomorsky District, 2016  | no information found on Rosreestr's public map   |

extremity of the Big Malinin Island.

### Pudozhsky District

|    |                       |   |   |  |  |
|----|-----------------------|---|---|--|--|
| 12 | Bol'shoj Gurij Island | Republic of Karelia, Pudozhsky District, the eastern shore of Lake Onega, 18.5 km south of Shalsky village, SW extremity of Big Guri Island | Decree No. 149 issued by the Council of Ministers of the RSFSR on April 20, 1987; Resolution No.199 issued by the Council of Ministers of the KASSR on April 21, 1971 | Information regarding the location of the boundaries of the site "Territory of the cultural heritage site (historical or cultural monuments), archaeological heritage site "Rock paintings on Big Guri Island" (4rd–2nd millennia B.C.), "Rock paintings (petroglyphs) of Lake Onega on Big Guri Island" (3rd–early 2nd millennium B.C.), Pudozhsky District, 2016 | no information found on Rosreestr's public map |
|----|-----------------------|---|---|--|--|

|    |                    |   |   |                            |  |  |
|----|--------------------|---|---|----------------------------|--|--|
| 13 | Malyj Gurij-Island | Republic of Karelia, Pudozhsky District, the eastern shore of Lake Onega, 18.5 km south of Shalsky village, S extremity of the island | Resolution No.149 issued by the Council of Ministers of the KASSR on April 20, 1987   |                            | Information regarding the location of the boundaries of the site "Territory of the cultural heritage site (historical or cultural monuments) of federal importance "Rock paintings (petroglyphs) of Lake Onega on Small Guri Island" (3rd–early 2nd millennium B.C.), Pudozhsky District, 2016 | no information found on Rosreestr's public map |
| 14 | Cape Gazhij Nos    | Republic of Karelia, Pudozhsky District, the eastern shore of Lake Onega, 17 km south of Shalsky village                              | Decree No. 1327 issued by the Council of Ministers of the RSFSR on August 30, 1960; Resolution No.199 issued by the Council of Ministers of the KASSR on April 21, 1971 | Land management file, 2013 |  | no information found on Rosreestr's public map |

|    |                                 |   |   |                               |   |  |
|----|---------------------------------|---|---|-------------------------------|---|--|
| 15 | Cape Korjushkin<br>Nos          | Republic of Karelia,<br>Pudozhsky District,<br>the eastern shore of<br>Lake Onega, 10 km<br>west of Karshevo<br>village                         | Order No. 585 issued<br>on October 26, 2016<br>by the Ministry of<br>Culture of the<br>Republic of Karelia;<br>Order No. 1649<br>issued by the Council<br>of Ministers of the<br>KASSR on<br>September 29, 2017 |                               | Information<br>regarding the<br>location of the<br>boundaries of the site<br>"Territory of the<br>identified cultural<br>heritage site"<br>"Petroglyphs on Cape<br>Koryushkin Nos"<br>(5th–4th millennium<br>B.C.), Pudozhsky<br>District, 2016 | no information found<br>on Rosreestr's public<br>map |
| 16 | mouth of the<br>river Chjornaya | Republic of Karelia,<br>Pudozhsky District,<br>the eastern shore of<br>Lake Onega, 13,4 km<br>west of Karshevo<br>village, on Koryushkin<br>ait | Order No. 176 issued<br>by the Russian<br>President on<br>February 20, 1995   | Land management file,<br>2013 |   | no information found<br>on Rosreestr's public<br>map |
| 17 | Cape Kladovec                   | Republic of Karelia,<br>Pudozhsky District, 16<br>km south of Shalsky<br>village, 0.36 km west<br>of the mouth of<br>Chernaya River.            | Decree No. 1327<br>issued by the Council<br>of Ministers of the<br>RSFSR on August 30,<br>1960; Resolution<br>No.199 issued by the<br>Council of Ministers<br>of the KASSR on<br>April 21, 1971; Order          | Land management file,<br>2013 | Information<br>regarding the<br>location of the<br>boundaries of the site<br>"Territory of the<br>cultural heritage site<br>(historical or cultural<br>monuments) of<br>federal importance  | no information found<br>on Rosreestr's public<br>map |

|    |                                |  |   |                            |  |  |
|----|--------------------------------|--|---|----------------------------|--|--|
|    |                                |  | No. 176 issued by the Russian President on February 20, 1995  |                            | "Rock paintings of Cape Kladovets Nos" (3rd–2nd millennia B.C.), Pudozhsky District, 2016  |  |
| 18 | Cape Besov Nos (central group) | Republic of Karelia, Pudozhsky District, the eastern shore of Lake Onega, 14.5 km south of Shalsky village | Decree No. 1327 issued by the Council of Ministers of the RSFSR on August 30, 1960; Resolution No.199 issued by the Council of Ministers of the KASSR on April 21, 1971; Order No. 175 issued on April 11, 2017 by the Ministry of Culture of the Republic of Karelia; Order No. 1646 issued on September 29, 2017 by the Ministry of Culture of the Russian Federation | Land management file, 2013 | Information regarding the location of the boundaries of the site "Territory of the cultural heritage site (historical or cultural monuments) of federal importance "Rock paintings of Cape Besov Nos" (central group) (3rd–2nd millennia B.C.), Pudozhsky District, 2016 | no information found on Rosreestr's public map |
| 19 | Cape Besov Nos                 | Republic of Karelia, Pudozhsky District, the eastern shore of Lake Onega, 14.2 km                          | Order No. 585 issued on October 26, 2016 by the Ministry of Culture of the  |                            | Information regarding the location of the boundaries of the site   | no information found on Rosreestr's public map |



|    |                                 |  |  |                            |  |  |
|----|---------------------------------|--|--|----------------------------|--|--|
|    |                                 | south of Shalsky village   | Republic of Karelia; Decree No.1327 issued by the Council of Ministers of the RSFSR on August 30, 1960; Resolution No.199 issued by the Council of Ministers of the KASSR on April 21, 1971; Order No.1646 issued by the Ministry of Culture of the Russian Federation on September 29, 2017 |                            | "Territory of the identified cultural heritage site"<br>"Petroglyph on Cape Besov Nos"<br>(15th–16th millennia B.C.), Pudozhsky District, 2016 |  |
| 20 | Cape Besov Nos (northern group) | Republic of Karelia, Pudozhsky District, the eastern shore of Lake Onega, 14 km south of Shalsky village | Decree No. 1327 issued by the Council of Ministers of the RSFSR on August 30, 1960; Resolution No.199 issued by the Council of Ministers of the KASSR on April 21, 1971; Order No. 175 issued on April 11, 2017 by the Ministry of Culture of  | Land management file, 2013 |  | no information found on Rosreestr's public map |

|    |                  |  |   |                            |   |  |
|----|------------------|--|---|----------------------------|---|--|
|    |                  |  | the Republic of Karelia; Order No. 1646 issued on September 29, 2017 by the Ministry of Culture of the Russian Federation   |                            |   |  |
| 21 | Cape Peri Nos I  | Republic of Karelia, Pudozhsky District, the eastern shore of Lake Onega, 13 km south of Shalsky village | Decree No. 1327 issued by the Council of Ministers of the RSFSR on August 30, 1960; Resolution No.199 issued by the Council of Ministers of the KASSR on April 21, 1971; Order No. 175 issued on April 11, 2017 by the Ministry of Culture of the Republic of Karelia | Land management file, 2013 |   | no information found on Rosreestr's public map |
| 22 | Cape Peri Nos II | Republic of Karelia, Pudozhsky District, the eastern shore of Lake Onega, 13 km south of Shalsky village | Decree No. 1327 issued by the Council of Ministers of the RSFSR on August 30, 1960; Resolution No.199 issued by the Council of Ministers  | Land management file, 2013 | Information regarding the location of the boundaries of the site "Territory of the cultural heritage site (historical or cultural | no information found on Rosreestr's public map |

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|----|-------------------|--|---|----------------------------|---|--|
|    |                   |  | of the KASSR on April 21, 1971; Order No. 175 issued on April 11, 2017 by the Ministry of Culture of the Republic of Karelia  |                            | monuments) of federal importance<br>"Rock paintings (petroglyphs) of Cape Peri Nos (Peri Nos II) (3rd–2nd millennia B.C.), Pudozhsky District, 2016   |  |
| 23 | Cape Peri Nos III | Republic of Karelia, Pudozhsky District, the eastern shore of Lake Onega, 13 km south of Shalsky village | Decree No. 1327 issued by the Council of Ministers of the RSFSR on August 30, 1960; Resolution No.199 issued by the Council of Ministers of the KASSR on April 21, 1971; Order No. 175 issued on April 11, 2017 by the Ministry of Culture of the Republic of Karelia | Land management file, 2013 | Information regarding the location of the boundaries of the site<br>"Territory of the cultural heritage site (historical or cultural monuments) of federal importance<br>"Rock paintings (petroglyphs) of Cape Peri Nos (Peri Nos III) (3rd–2nd millennia B.C.), Pudozhsky District, 2016 | no information found on Rosreestr's public map |

|    |           |        |  |   |                            |  |
|----|-----------|--------|--|---|----------------------------|--|
| 24 | Cape Peri | Nos IV | Republic of Karelia, Pudozhsky District, the eastern shore of Lake Onega, 13 km south of Shalsky village | Decree No. 1327 issued by the Council of Ministers of the RSFSR on August 30, 1960; Resolution No.199 issued by the Council of Ministers of the KASSR on April 21, 1971; Order No. 175 issued on April 11, 2017 by the Ministry of Culture of the Republic of Karelia | Land management file, 2013 | no information found on Rosreestr's public map |
| 25 | Cape Peri | Nos VI | Republic of Karelia, Pudozhsky District, the eastern shore of Lake Onega, 13 km south of Shalsky village | Decree No. 1327 issued by the Council of Ministers of the RSFSR on August 30, 1960; Resolution No.199 issued by the Council of Ministers of the KASSR on April 21, 1971; Order No. 175 issued on April 11, 2017 by the Ministry of Culture of the Republic of Karelia | Land management file, 2013 | no information found on Rosreestr's public map |

|    |                   |  |   |                            |  |  |
|----|-------------------|--|---|----------------------------|--|--|
| 26 | Cape Peri Nos VII | Republic of Karelia, Pudozhsky District, the eastern shore of Lake Onega, 12.5 km south of Shalsky village | Decree No. 1327 issued by the Council of Ministers of the RSFSR on August 30, 1960; Resolution No.199 issued by the Council of Ministers of the KASSR on April 21, 1971; Decree No.152-P issued by the Government of the Republic of Karelia on November 29, 1999 | Land management file, 2013 |  | no information found on Rosreestr's public map |
| 27 | Moduzh Island     | Republic of Karelia, Pudozhsky District, the eastern shore of Lake Onega, 13 km south of Shalsky village   | Decree No. 1327 issued by the Council of Ministers of the RSFSR on August 30, 1960  | Land management file, 2013 |  | no information found on Rosreestr's public map |
| 28 | Cape Kareckij Nos | Republic of Karelia, Pudozhsky District, the eastern shore of Lake Onega, 11 km south of Shalsky village   | Decree No. 1327 issued by the Council of Ministers of the RSFSR on August 30, 1960; Resolution No.199 issued by the Council of Ministers of the KASSR on  | Land management file, 2013 |  | no information found on Rosreestr's public map |

April 21, 1971

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|----|--------------------|--|--|--|---|--|
| 29 | Mikhajlovec Island | Republic of Karelia, Pudozhsky District, the eastern shore of Lake Onega, 7 km south west of Shalsky village | Order No. 585 issued on October 26, 2016 by the Ministry of Culture of the Republic of Karelia; Order No. 1648 issued by the Russian Ministry of Culture on September 29, 2017 |  | Information regarding the location of the boundaries of the site "Territory of the identified cultural heritage site" "Petroglyph on Mikhailovets Island" (5th–4th millennium B.C.), Pudozhsky District, 2016 | no information found on Rosreestr's public map |
| 30 | Cape Chjornyj      | Republic of Karelia, Pudozhsky District, the eastern shore of Lake Onega, 5 km south of Shalsky village      | Order No. 585 issued on October 26, 2016 by the Ministry of Culture of the Republic of Karelia; Order No. 1647 issued by the Russian Ministry of Culture on September 29, 2017 |  | Information regarding the location of the boundaries of the site "Territory of the identified cultural heritage site" "Petroglyph on Cape Cherny" (4th millennium B.C.), Pudozhsky District, 2016             | no information found on Rosreestr's public map |

|    |                                    |  |   |  |  |  |
|----|------------------------------------|--|---|--|--|--|
| 31 | Bol'shoj Golec Island              | Republic of Karelia, Pudozhsky District, the eastern shore of Lake Onega, 7 km south west of Shalsky village                     | Decree No. 149 issued by the Council of Ministers of the KASSR on April 20, 1987      |  | Information regarding the location of the boundaries of the site "Territory of the cultural heritage site (historical or cultural monuments) of federal importance "Rock paintings (petroglyphs) of Lake Onega on Big Golets Island" (3rd–early 2nd millennium B.C.), Pudozhsky District, 2016 | no information found on Rosreestr's public map |
| 32 | peninsula Kochkovnavolok (group A) | Republic of Karelia, Pudozhsky District, the eastern shore of Lake Onega, 750 m south west of Shalsky village (Ustye settlement) | Decree No. 152-P issued on November 29, 1999 by Government of the Republic of Karelia |  | Information regarding the location of the boundaries of the site "Territory of the cultural heritage site (historical or cultural  | no information found on Rosreestr's public map |
| 33 | peninsula Kochkovnavolok (group B) | Republic of Karelia, Pudozhsky District, the eastern shore of Lake Onega, 750 m south west of Shalsky                            | Decree No. 152-P issued on November 29, 1999 by Government of the Republic of Karelia |  | monuments) of federal importance "Petroglyphs on the Kochkovnavolok peninsula (group A)"   | no information found on Rosreestr's public map |

|    |                                    |  |   |  |   |  |
|----|------------------------------------|--|---|--|---|--|
|    |                                    | village (Ustye settlement)   |   |  | (4th millennium B.C.), Pudozhsky District; "Petroglyphs on the Kochkovnavolok peninsula (group B)" (4th millennium B.C.), Pudozhsky District; "Petroglyphs on the Kochkovnavolok peninsula (group C)" (4th millennium B.C.), Pudozhsky District, 2016.                      | no information found on Rosreestr's public map |
| 34 | peninsula Kochkovnavolok (group C) | Republic of Karelia, Pudozhsky District, the eastern shore of Lake Onega, 750 m south west of Shalsky village (Ustye settlement) | Decree No. 152-P issued on November 29, 1999 by Government of the Republic of Karelia |  |   |  |
| 35 | peninsula Kochkovnavolok (group D) | Republic of Karelia, Pudozhsky District, the eastern shore of Lake Onega, 600 m south west of Shalsky village (Ustye settlement) | Decree No. 152-P issued on November 29, 1999 by Government of the Republic of Karelia |  | Information regarding the location of the boundaries of the site "Territory of the cultural heritage sites (historical or cultural monument) of federal importance "Petroglyphs on the Kochkovnavolok peninsula (group D)" (4th millennium B.C.), Pudozhsky District, 2016. | no information found on Rosreestr's public map |



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|----|--------------------------|--|---|---|--|
| 36 | mouth of the river Vodly | Republic of Karelia, Pudozhsky District, the eastern shore of Lake Onega, 400 m south west of Shalsky village (Ustye settlement) | Resolution No.149 issued by the Council of Ministers of the KASSR on April 20, 1987 | Information regarding the location of the boundaries of the site "Territory of the cultural heritage site (historical or cultural monuments) of federal importance "Rock paintings (petroglyphs) in the mouth of the Vodla River" (3rd–2nd millennium B.C.), Pudozhsky District, 2016 | no information found on Rosreestr's public map |
|----|--------------------------|--|---|---|--|

#### **4. PARAMETERS OF STAKEHOLDERS INTERESTED IN THE DEVELOPMENT AND MANAGEMENT OF THE SITE**

In developing a Management Plan, it is necessary, in line with the recommendations of UNESCO, to use a team approach and ensure the involvement of all interested parties in the planning processes at all stages of work such as preliminary planning, data collection, condition assessment and development of response measures/proposals.

Given the complexity of the task, wide range of interested parties and the range of knowledge and experience required, the team approach will contribute to:

- the involvement of key interested parties and the community in a broader sense since the preparation of the Management Plan and will also help convey the concept of the World Heritage and implications of the site being inscribed on the World Heritage List for managing such site to the end user;

- common understanding of the existing management system (legal basis and legal framework, management structures and approaches), development plans and policies and types of land tenure systems the site is currently subject to;

- common understanding by interested parties of the site's OUV, conditions of authenticity and integrity and factors affecting the property;

- joint liability of and support from all interested parties in relation to the management approaches and actions that are necessary to maintain the site's OUV;

- a unifying planning approach, involving the distribution of tasks among all involved organizations and interested parties in order to create an optimal structure for the decision-making process that will ensure sustainable management of the site in the future.

Interested parties mean those parties that are involved in the management and use of the property. Such key parties may include or represent the owner/manager of the site, the state being a party to the Convention, national heritage agencies, local authorities, other government agencies, local communities, indigenous people, universities, researchers, scientists, local enterprises, tour operators, non-governmental organizations and user groups (e.g., fishermen, forest users, tourists, researchers). When developing a Management Plan, it is recommended to involve interested users as they can provide extremely important and reliable information.

Managing interested parties' involvement includes, among other things:

- communication with interested parties;
- informing about activities, results and objectives associated with the development of the site;
- meeting the needs or expectations associated with the site;
- discussion of issues which may arise in the course of managing the site.

The key tasks here are to ensure that the interested parties do correctly understand the objectives of managing the nominated site; to receive support from the interested parties and minimize their resistance.

It should also be understood that the sooner the interested parties begin to be involved in the process of creating the management system and the preparation of the site management plan, the easier it will be to give proper consideration to the changes proposed by them as well as to remove possible adverse reactions to the involvement of a new potential participant of the process.

In analyzing the risks associated with involving interested parties in the management of the site, three typical reactions should be taken into account with respect to the creation and development of the nominated site:

- support;
- expectation (including a neutral one);
- resistance.

The following are the key factors associated with the supporting of the site by interested parties:

- matching interests of the parties and site management objectives;
- motivation for the parties.

The following are the key factors (risks) that may create a neutral or negative attitude on the part of the interested parties towards the site:

- lack of complete information regarding the site related activities;
- inconsistency in the implementation of the site related plans;
- lack of clear understanding of a connection between the site related operations and intended goals;
- unclear deadlines and prospects for achieving the intended results;
- lack of a clear site management structure or leader;
- lack of support from government authorities in respect of the site;
- contradictions between the interests of the parties and the site related results.

It is also obvious that the attitude of interested parties towards the site may dynamically change at various stages of the site's existence – from the development of nomination dossier to the functioning of the site and its management system.

To analyze and consider the risks associated with the involvement of interested parties in the management of the site at all stages of its development, it is recommended:

1. To periodically prepare so-called "road maps" analyzing interested parties;
2. To create and maintain a "Potential Issues Log" to be potentially used by the managers of the site to record problems that may arise in connection with interested parties in the following indicative format:

- description of the problem;
- date of registration;
- applicant;
- responsible person;
- expected date of solution;
- current progress;
- resolution date (actual date when the problem is resolved);
- solution (how the problem was resolved).

The involvement of interested parties is a prerequisite for the implementation of the integrated approach to managing of World Heritage sites. In this connection, let's consider the main interested parties that are or may be involved in the conservation, management and sustainable development of the site "Petroglyphs of Lake Onega and the White Sea."

The table below shows the structure of the site management system at the international, national and regional levels, parameters, competencies and roles of stakeholders.

Table 8. Parameters of stakeholders

| Scope/ area of activities | Entity   | Role/functions   |
|---------------------------|--|--|
| <b>International</b>      | UNESCO World Heritage Committee  | The main decision-making body within the framework of the Convention concerning the Protection of the World Cultural and Natural Heritage  |
|                           | UNESCO World Heritage Center   | Coordinator of the Convention concerning the Protection of the World Cultural and Natural Heritage being in charge of the day-to-day management of the World Heritage system   |
|                           | International Council for the Preservation of Monuments and Sites (ICOMOS)                                   | One of the advisory bodies of the World Heritage Committee. Performs expert assessments of nominations seeking the status of cultural heritage sites, conservation reports and impact assessment reports describing influence on world cultural heritage sites' OUV, participates in advisory missions and reactive monitoring missions  |
|                           | International Center for the Study of the Preservation and Restoration of Cultural Property (ICCROM)         | Preservation of the World Cultural Heritage through training, dissemination of information, research, support for cooperation. One of the advisory bodies of the World Heritage Committee.   |
| <b>Federal</b>            | Commission of the Russian Federation for UNESCO at the Ministry of Foreign Affairs of the Russian Federation | Governmental coordinating body ensuring cooperation between the Government of the Russian Federation, federal executive authorities, including other bodies and organizations, scientists and specialists with UNESCO.   |
|                           | Cultural Heritage State Protection Department, Ministry of Culture of the Russian Federation                 | <ul style="list-style-type: none"> <li>- Government protection, monitoring and supervision of compliance with the laws of the Russian Federation dealing with cultural heritage;</li> <li>- Licensing of activities associated with the conservation of cultural heritage sites included in the register or identified cultural heritage sites;</li> <li>- Issuing of assignments and permits ordering or authorizing conservation activities in respect of cultural heritage sites of federal importance, whose list is established by the Russian</li> </ul> |

|                 |  |  |
|-----------------|--|--|
|                 |  | <p>Government;</p> <ul style="list-style-type: none"> <li>- Certification of specialists in the conservation and preservation of cultural heritage sites (including rescue archaeological fieldwork) and in the restoration of other cultural values.</li> </ul>   |
| <b>Regional</b> | The Government of the Republic of Karelia:   | <ul style="list-style-type: none"> <li>- Establishment of regional legislative base;</li> <li>- Coordination of regional authorities' activities.</li> </ul>   |
|                 | Cultural Heritage Protection Department of the Republic of Karelia   | Preservation, use, promotion and government protection of cultural heritage sites.   |
|                 | State Public Institution "Republican Center for the State Protection of Cultural Heritage Sites" (subordinate institution of the Cultural Heritage Protection Department of the Republic of Karelia) | <p>Government protection of cultural heritage sites:</p> <ul style="list-style-type: none"> <li>— monitoring compliance with laws dealing with the conservation, use, promotion and government protection of cultural heritage sites;</li> <li>— creation and maintenance of a unified state register of cultural heritage sites;</li> <li>— inspection of cultural heritage sites;</li> <li>— approval of various types of documentation dealing with the conservation of cultural heritage sites;</li> <li>— other functions and services aimed at preventing damage to, deterioration or destroying of cultural heritage sites, changing their appearance or interiors, violating the prescribed tenure system or protecting the sites from adverse effects of the environment.</li> </ul> <p>Conservation of cultural heritage sites:</p> <ul style="list-style-type: none"> <li>- arrangement of repair and restoration work aimed at ensuring the physical safety of cultural heritage sites.</li> </ul> <p>Use of cultural heritage sites:</p> <ul style="list-style-type: none"> <li>- establishment of land tenure systems for cultural heritage sites in order to ensure their preservation.</li> </ul> <p>Promotion of cultural heritage sites:</p> <ul style="list-style-type: none"> <li>- dissemination of information on the diversity and value of the cultural heritage of Karelia and information on its preservation, use and government protection.</li> </ul> |
|                 | Ministry of Culture of the   | Executive authority of the Republic of Karelia   |

|  |  |
|--|--|
| <p>Republic of Karelia</p>   | <p>enforcing state policies and performing functions focusing on culture, art, tourism, archives, museums, libraries and education in culture and art in the Republic of Karelia.</p>  |
| <p>Scientific Expert Council for the Historical and Cultural Heritage of the Republic of Karelia, Ministry of Culture of the Republic of Karelia</p> | <p>Participates in the consideration of the most critical issues in the process of developing managerial decisions pertaining to the conservation, use, promotion or government protection of historical and cultural heritage in the Republic of Karelia.</p> <p>Provides advisory, scientific or expert assistance to the activities of the Ministry to enhance the effectiveness of government protection and preservation of cultural heritage sites in the Republic of Karelia, preservation of items and collections of the Russian Federation's museum assets, and participates in shaping state policies dealing with the conservation, use, promotion and government protection of historical and cultural heritage in the Republic of Karelia.</p> |
| <p>Tourism Department of the Republic of Karelia</p>   | <p>Implements public policies and performs tourism related functions.</p>  |
| <p>Ministry of Natural Resources Management and Environment of the Republic of Karelia</p>   | <ul style="list-style-type: none"> <li>- Protection and use of wildlife properties;</li> <li>- Protection, federal state supervision and regulation of the use of wildlife and their habitats;</li> <li>- State policies relating to the timber processing and mining industries.</li> </ul>   |
| <p>Directorate for Specially Protected Natural Territories of Regional Importance of the Republic of Karelia</p>                                     | <ul style="list-style-type: none"> <li>- Ensuring the functioning of specially protected natural territories of regional importance, compliance with special protection modes or other rules associated with the protection or use of natural resources in such territories;</li> <li>- Raising the environmental awareness of the population;</li> <li>- Participation in the creation of new regional specially protected natural territories in the Republic.</li> </ul>  |
| <p>State-Financed Institution "Information Tourist Center of the Republic of Karelia"</p>  | <p>Collection, processing, storage and distribution of integrated information on local tourist resources and new technology for their use</p>  |

|                                |   |  |
|--------------------------------|---|--|
|                                |   | with the purpose of providing informational support for tourists, state and local government authorities, non-profit and public organizations.   |
| <b>Municipal</b>               | Administration of the Belomorsky Municipal District (Department of Culture)   | Development and improvement of areas where petroglyphs are located.  |
|                                | Municipal state-financed institution "Belomorsky regional museum of local lore "White Sea Petroglyphs"                        | Promotion of the site and development of site tourism.   |
|                                | Administration of the Pudozhsky municipal district  | Development and improvement of areas where petroglyphs are located.  |
|                                | Municipal state-financed institution "A.F. Korablev Pudozhsky Museum of Local History and Lore"                               | Field trips to the Kochkovnavolok Island.  |
| <b>Local</b>                   | Local non-governmental organizations  | Preservation and protection of cultural values.  |
|                                | Local community   | - Business activities on the site;<br>- arrangement of recreational activities on the site for profit-generation purposes (including illegal, e.g., unregistered trading activities).  |
|                                | Volunteers  | - preservation and protection of cultural values;<br>- promotion of cultural heritage.   |
|                                | Tourists  | Visiting the site for recreational purposes.   |
|                                | Business community  | - arrangement of recreational activities on the site for profit-generation purposes;<br>- arrangement of business activities on the site for profit-generation purposes;<br>- construction, reconstruction and operation of linear facilities. |
| <b>Scientific institutions</b> | Archeology Sector, Institute of Language, Literature and History, Karelian Research Center of the Russian Academy of Sciences | Research work focusing on petroglyphs.   |

|                               |  |   |
|-------------------------------|--|---|
|                               | Forest Institute of the Karelian Research Center of the Russian Academy of Sciences (IL KarRC RAS) | Research work focusing on the natural landscape in the area where petroglyphs are located.  |
|                               | Institute of Biology, Environment and Agrotechnology of Petrozavodsk State University              | Research work focusing on flora and fauna in the area where petroglyphs are located.  |
|                               | D.S. Likhachev Russian Research Institute of Cultural and Natural Heritage                         | Basic organization being in charge of conserving world heritage of the States Members of the Commonwealth of Independent States.              |
|                               | Institute of Archaeology, Russian Academy of Sciences  | Research work focusing on archeology.   |
| <b>NGOs and civil society</b> | ICOMOS National Committee, Russia  | Expert assessments, advisory and financial assistance, arrangement of professional discussions in cooperation with international authorities. |



## **5. DEVELOPMENT OF STRATEGIC GOALS AND OBJECTIVES ASSOCIATED WITH THE MANAGEMENT OF THE SITE "PETROGLYPHS OF THE LAKE ONEGA AND THE WHITE SEA"**

The main conceptual goal of the management system is to preserve the national cultural heritage site, and in the long term possibly the World Heritage Site, and its outstanding universal value to the international community, Russia as a signatory to the Convention for the Protection of World Cultural and Natural Heritage, the Republic of Karelia, the local community and other stakeholders (see Chapter 4. Stakeholders interested in the development and management of the site). It is well known that World Heritage sites are a driving force for urban/rural/community development and a unifying element that emphasizes the historical continuity of generations and represents the present and future of the territory. Therefore, in addition to the inclusion of conservation measures for the proposed World Heritage Site, the planned activities should be linked to the present and future development realities of the site and its surroundings.

The management plan of the site "Petroglyphs of the Onega Lake and the White Sea" is the result of a collective and interactive approach, which is based on understanding the complexity of the nominated site and takes into account a wide range of stakeholders, as well as the full range of tasks set and predictable challenges.

Identification of the range of problems and challenges related to the sustainable development of the Petroglyphs of the Onega Lake and the White Sea, defined the content of strategic objectives of the management plan and the process of developing the cycle of short-term (2020), medium-term (2021-2023) and long-term activities (2024-2027). By placing the site in the most general context, without being too detailed, it was possible to foresee its future in the long term and to propose activities consistent with this vision. On the basis of the conclusions and proposed strategic goals and objectives, it was decided to develop a vision for the site in the long term of eight years - the optimal time frame for the initial phase - of inscription on the World Heritage List (taking into account the current challenges) and of the creation of conditions for further sustainable development. This formulation of the vision formed the basis for the development of a management policy, annual work plans and implementation strategy, which entails regular monitoring of the management plan and consultations with stakeholders.

Definition of the concept (statement of vision of the site), strategic goals and objectives, action program is based on the results of the SWOT-analysis of the site qualities, the existing system of site management, as well as external and internal factors affecting the site. Due to the fact that the concept is the most general characteristic describing the site as stakeholders plan to see it in 20-30 years, it gives a brief idea of the key directions of the OUV conservation and sustainable development of its territory for the next two-three decades.

The concept of development of the cultural heritage site is presented in the format of strategic goals and objectives (sections 5-8), the Action Plan for the implementation of the Management Plan and the system of indicators to analyze the implementation of the Management Plan (Annex 1). This concept is determined by the preservation of a potential OUV of the site with sustainable development of its territory in conditions of public consent regarding its conservation and use. Effective management and monitoring of the site are the key tools for implementation of the concept, which in turn implies involvement of stakeholders at local, regional and federal levels in the process of conservation and sustainable development on the basis of consistent and unambiguous understanding of strategic goals.

In order to develop proposals for response, "Petroglyphs the Onega Lake and White Sea" site was considered in the general context and the following aspects were highlighted as part of the long-term forecast of its future:

- further development of the site management system should aim at establishing a specialized management organization with the necessary authority and financial and human resources (Chapter 8. Necessary tools for the implementation of the World Heritage site management plan, subsection 8.1. Establish a site management system);

- improvement of the site specific standards and methods for the conservation, use, promotion and state protection of the heritage (Chapter 6. OUV preservation (measures aimed to ensure the safety and integrity of the site);

- establishment, sustainable development and operation of a museum reserve (Chapter 8. Tools for implementing the World Heritage Site Management Plan);

- economic potential of the World Heritage Site and its use in sustainable regional development processes - attributing the components of the "Petroglyphs of the Onega Lake and the White Sea" in the Pudozhsky and Belomorsky districts to special "city-forming" destinations: creating additional jobs and increasing the attractiveness of municipal districts for the local population, reducing the outflow of working age population, improving the economic situation in the Pudozhsky and Belomorsky districts (Chapter 7. Suggestion regarding sustainable development of the world heritage site);

- in order to ensure the physical integrity and authenticity of the elements of the site, organization of a well-thought-out and well-functioning system of regular comprehensive preventive maintenance based on monitoring of the state of archaeological sites, preventive protection and conservation of petroglyphs. (Chapter 6. Conservation of the VUC (measures to ensure the conservation and security of the site), sub-section 6.1.2 Improving Conservation of Monuments).

- in order to ensure the physical integrity and authenticity of the elements of the site, organization of a well-thought-out and well-functioning system of regular comprehensive preventive maintenance based on monitoring of the state of archaeological sites, preventive protection and conservation of petroglyphs. (Chapter 6. OUV preservation (measures aimed to ensure the safety and integrity of the sites, sub-section 6.1.2 Improvement of monument conservation efforts).

Thus, the concept (vision statement) of the site "Petroglyphs of the Lake Onega and the White Sea", based on the ideas and principles of the World Heritage Convention can be formulated as follows:

*The site "Petroglyphs of the Lake Onega and the White Sea" strives to become an inclusive site of cultural heritage with an active local community - the keeper of the unique culture of the Russian North, local traditions and customs, which draws its inspiration from the unique archaeological sites that are the pride and national heritage of the Republic of Karelia and Russia. At the same time "Petroglyphs of the Lake Onega and the White Sea" is a site where the significance of the world heritage is fully recognized, valued and understood by present and future generations. Users and site managers will strive for the highest standards of conservation, protection and promotion of the site, as well as sustainable planning and development of the site, an effective balance between tourism and science in the management of the site.*



The achievement of strategic goals set for the site "Petroglyphs of the Lake Onega and the White Sea" is based on the "5 Cs" concept (strategic objectives of the World Heritage Convention):

- Credibility
- Conservation
- Capacity-building
- Communication
- Communities

In 2002, the 26th session of the World Heritage Committee adopted the Budapest Declaration on World Heritage:

"We, the World Heritage Committee, will co-operate and seek the assistance of all partners for the support of World Heritage. For this purpose, we invite all interested parties to co-operate and to promote the following objectives:

- a. strengthen the **Credibility of the World Heritage List**, as a representative and geographically balanced testimony of cultural and natural properties of outstanding universal value;
- b. ensure the **effective Conservation of World Heritage properties**;
- c. promote the development of effective **Capacity-building measures**, including assistance for preparing the nomination of properties to the World Heritage List, for the understanding and implementation of

the World Heritage Convention and related instruments;

d. increase **public awareness, involvement and support for World Heritage through communication.**"

The fifth "C", **communities**, was added to the strategic objectives of the World Heritage Convention in 2007 by the 31st Session of the Committee pursuant to resolution 31 COM 13B:

"Adds a "Fifth C" for "Communities" to the existing Strategic Objectives which were adopted as the Budapest Declaration on World Heritage by the World Heritage Committee at its 26th session (Budapest, 2002) which should read as follows:

"To enhance the role of the Communities in the implementation of the World Heritage Convention."

Therefore, the strategic objectives for developing the site "Petroglyphs of the Lake Onega and the White Sea" are as follows:

Strategic Objective 1 - Preserving the site's OUV (Section 6 of the Management Plan);

Strategic Objective 2 - Facilitating the sustainable development of the site (Section 7 of the Management Plan);

Strategic Objective 3 - Ensuring effective site management and monitoring (Section 8 of the Management Plan).

The onsite monitoring system consists of three components: regulatory framework (Section 3. Legislative and regulatory measures aimed to protect and safeguard the site), institutional framework and resources (Section 8. Necessary tools for the implementation of the site management plan).

The management plan involves the continuous participation of all interested parties (Section 4. Description of entities interested in the development and management of the site) through planning, implementation and monitoring tasks.

SWOT analysis was used as a strategic planning method for developing objectives and techniques for achieving them (where **S** is strengths, **W** is weaknesses, **O** refers to opportunities and **T** means threats). SWOT analysis was performed for each of the three strategic objectives set out in the management plan.

Table 9. SWOT analysis for the site "Petroglyphs of Lake Onega and the White Sea"

| Strategic Objective 1 - Preserving the site's OUV |  |   |
|---|--|---|
|   | S (strengths)  | W (weaknesses)  |
| INTERNAL ENVIRONMENT                              | <ul style="list-style-type: none"> <li>- Petroglyphs of Lake Onega and the White Sea are notable for their relatively good physical condition and authenticity;</li> <li>- regular monitoring of the cultural heritage sites' (CHS) safety and integrity;</li> <li>- implementation of measures for the protection and conservation of petroglyphs;</li> <li>- the CHSs are well studied. There is a lot of studies, published monographs, articles and collections devoted to the petroglyphs of</li> </ul> | <ul style="list-style-type: none"> <li>- not all of the CHSs being part of the site "Petroglyphs of Lake Onega and the White Sea" have a federal status as many of them are identified;</li> <li>- there is no concept of "buffer zone" in national legislation;</li> <li>- no subject or protection areas are determined for the CHSs;</li> <li>- protection and conservation techniques are not applied on an ongoing basis as</li> </ul> |

|                             |  |  |
|-----------------------------|--|--|
|                             | <p>Karelia;</p> <ul style="list-style-type: none"> <li>- international and Russian projects aimed at conserving and promoting archaeological heritage sites;</li> </ul>  | <p>there is no comprehensive action program;</p> <ul style="list-style-type: none"> <li>- lack of a Risk Management Plan;</li> <li>- no sufficient measures are taken to protect the surrounding natural landscape;</li> </ul>   |
|                             | <b>O (opportunities)</b>   | <b>T (threats)</b>   |
| <b>EXTERNAL ENVIRONMENT</b> | <ul style="list-style-type: none"> <li>- identification and determination of ways to reduce the adverse impact of various influencing factors at early stages;</li> <li>- opportunity to establish partnerships in the field of world heritage, including the strengthening of cooperation between representatives of regional and municipal authorities in connection with heritage development.</li> <li>- opportunity to initiate international projects with the involvement of foreign experts specializing in world heritage;</li> </ul> | <ul style="list-style-type: none"> <li>- a property that has not been assigned the federal status has less legal protection;</li> <li>- at the national level, there is no legislative framework regulating the functioning of the territory of the World Heritage site or its buffer zone -&gt; the boundaries of the buffer zones and a draft land tenure project covering the area falling within the boundaries of such zones are developed based on the requirements of international instruments;</li> <li>- lack of preparedness for handling risks or threats;</li> <li>- adverse impact of natural and anthropogenic factors on the site's OUV;</li> <li>- threat of destruction of the natural landscape;</li> </ul> |

| <b>Strategic Objective 2 - Sustainable Development of the World Heritage site</b> |  |  |
|---|--|--|
|   | <b>S (strengths)</b>   | <b>W (weaknesses)</b>  |
| <b>INTERNAL ENVIRONMENT</b>   | <ul style="list-style-type: none"> <li>- unique natural landscape;</li> <li>- development programs for the Pudozhsky and Belomorsky Districts;</li> <li>- high tourist potential of the Republic of Karelia/ Pudozhsky District/Belomorsky District;</li> <li>- unique culture of the Russian North;</li> <li>- good transport links, new federal highways running across the Republic;</li> </ul> | <ul style="list-style-type: none"> <li>- outflow of the local community of working age from the areas where petroglyphs are located;</li> <li>- the ignorance of the local community about the importance of petroglyphs, their outstanding universal value, authenticity and integrity;</li> <li>- remote location of two components from each other - 300 km;</li> <li>- the properties are difficult to access;</li> <li>- lack of tourist infrastructure;</li> <li>- existing tourist infrastructure is notable for high prices: transport, hotels, catering points;</li> <li>- illegal local businesses: water transportation, tourist accommodations;</li> </ul> |

|  |  |  |
|--|--|--|
| <b>EXTERNAL ENVIRONMENT</b>  | <b>O (opportunities)</b>   | <b>T (threats)</b>   |
|  | <ul style="list-style-type: none"> <li>- self-determination of the local community and cultivating a sense of pride in the national heritage;</li> <li>- preservation of the unique culture of the Russian North;</li> <li>- creation of a favorable investment climate; development of small and medium-sized local businesses -&gt; creation of new jobs and pro-active involvement of the local community in the development, conservation and promotion of the site;</li> <li>- improving the welfare of the local community and its living conditions;</li> <li>- sustainable development of the surrounding territory;</li> <li>- development of eco-tourism;</li> <li>- management of natural and anthropogenic risks;</li> </ul> | <ul style="list-style-type: none"> <li>- indifferent attitude of the local community to petroglyphs;</li> <li>- small tourist flow due to the remote location of the site;</li> <li>- potential issues with accommodation, catering and transportation if the tourist flow increases;</li> <li>- competition between the representatives of the local community in connection with the provision of illegal tourist services;</li> </ul> |
| <b>Strategic Objective 3 - Ensuring effective site management and monitoring</b> |  |  |
| <b>INTERNAL ENVIRONMENT</b>  | <b>S (strengths)</b>   | <b>W (weaknesses)</b>  |
|  | <ul style="list-style-type: none"> <li>- availability of an independent body responsible for the protection of monuments – Cultural Heritage Protection Department of the Republic of Karelia</li> <li>- the project called "Pages of a Stone Book" developed by the Ministry of Culture of Karelia in preparation for the celebration of the 100th anniversary of the Republic's birth;</li> <li>- advanced and higher education institutions – the "forge" of human resources for the future site management system.</li> </ul>  | <ul style="list-style-type: none"> <li>- lack of a control system at the site;</li> <li>- lack of a security or monitoring system;</li> <li>- insufficient financing;</li> <li>- HR deficit;</li> <li>- conflicts between interested parties, uncovered opposition and competition for the management of the site;</li> <li>- lack of proper coordination between regional and municipal authorities.</li> </ul>                         |
| <b>EXTERNAL ENVIRONMENT</b>  | <b>O (opportunities)</b>   | <b>T (threats)</b>   |
|  | <ul style="list-style-type: none"> <li>- public support from government authorities;</li> <li>- the "Pages of a Stone Book" project as the basis for arranging a museum preserve on the territory accommodating the site;</li> <li>- attracting young experts specializing in core disciplines to bring the management system to life.</li> </ul>  | <ul style="list-style-type: none"> <li>- impossibility of nominating the site for inscription on the World Heritage List without a management, protection and monitoring system;</li> <li>- corruption schemes;</li> <li>- controversies between and uncovered intransigence of interested parties;</li> </ul>   |

## **6. OUV PRESERVATION (MEASURES AIMED TO ENSURE THE SAFETY AND INTEGRITY OF THE SITE)**

The preservation of the outstanding universal value of the site is the main strategic objective of the Management Plan and includes two sub-objectives:

- 1) conservation of the site's elements;
- 2) preservation of the natural landscape.

The preservation of the outstanding universal value of the site will be ensured by the creation of a system enabling the effective conservation of the site's elements, comprehensive scientific and legal monitoring of the condition of archaeological monuments, collection and storage of all information relating to them. The analysis of such data will be used to draft current, annual and long-term action plans.

The preservation of the landscape surrounding the petroglyphs consists in the protection of natural objects in order to fully preserve the integrity and appearance of the landscape as an integral attribute of the nominated site.

## 6.1 System for the effective conservation of the site's elements

### 6.1.1 Improvement of the legal protection of monuments

#### 6.1.1.1 Cultural Heritage Site status

Archaeological heritage sites are substantially integrated monuments that combine the features of natural, historical and cultural sites. In this connection, the protection status assigned to the protectable elements of the site "Petroglyphs of the Lake Onega and the White Sea" under the applicable laws and regulations of the federal and regional levels would protect both the site as such and its surrounding environment.

The table below shows the composition of the components of "Petroglyphs of Lake Onega and the White Sea" and also the archaeological properties' statuses as at the end of 2019.

Table 10. Statuses of archaeological properties proposed to be nominated for inscription on the World Heritage List

| Lake Onega Petroglyphs |   |         |  |
|------------------------|---|---------|--|
|                        | Name  | Status  | Document evidencing registration with government authorities and inclusion in the register |
| 1                      | Petroglyphs on the peninsula Kochkovnavolok (group 'A') | Federal | Decree No.152-P issued by the Government of the Republic of Karelia on November 29, 1999   |
| 2                      | Petroglyphs on the peninsula Kochkovnavolok (group 'B') | Federal | Decree No.152-P issued by the Government of the Republic of Karelia on November 29, 1999   |
| 3                      | Petroglyphs on the peninsula Kochkovnavolok (group 'C') | Federal | Decree No.152-P issued by the Government of the Republic of Karelia on November 29, 1999   |
| 4                      | Petroglyphs on the peninsula Kochkovnavolok (group 'D') | Federal | Decree No.152-P issued by the Government of the Republic of Karelia on November 29, 1999   |
| 5                      | Petroglyphs on Malyj Gurij island                       | Federal | Resolution No.149 issued by the Council of Ministers of the KASSR on April 20, 1987        |
| 6                      | Petroglyphs on Bol'shoj Golec island                    | Federal | Resolution No.149 issued by the Council of Ministers of the KASSR on April 20, 1987        |



|    |  |         |  |
|----|--|---------|--|
| 7  | Petroglyphs of Moduzh Island                   | Federal | Decree No.142-r issued by the Chairman of the Government of the Republic of Karelia on August 12, 1994 |
| 8  | Petroglyphs of the cape Gazhij Nos             | Federal | Resolution No.199 issued by the Council of Ministers of the KASSR on April 21, 1971                    |
| 9  | Petroglyphs in the mouth of the river Vodly    | Federal | Resolution No.149 issued by the Council of Ministers of the KASSR on April 20, 1987                    |
| 10 | Petroglyphs in the mouth of the river Chernaja | Federal | Order No. 176 issued by the Russian President on February 20, 1995                                     |
| 11 | Petroglyphs of the Cape Kladovec               | Federal | Resolution No.199 issued by the Council of Ministers of the KASSR on April 21, 1971                    |
| 12 | Petroglyphs of the cape Karetskij Nos          | Federal | Resolution No.199 issued by the Council of Ministers of the KASSR on April 21, 1971                    |
| 13 | Petroglyph on the cape Besov Nos               | Federal | Order No. 1646 issued by the Ministry of Culture of the Russian Federation on September 29, 2017       |
| 14 | Petroglyphs of the cape Korjushkin Nos         | Federal | Order No. 1649 issued by the Ministry of Culture of the Russian Federation on September 29, 2017       |
| 15 | Petroglyph on Mihajlovec island                | Federal | Order No. 1648 issued by the Ministry of Culture of the Russian Federation on September 29, 2017       |
| 16 | Petroglyph on the cape Chernyj                 | Federal | Order No. 1647 issued by the Ministry of Culture of the Russian Federation on September 29, 2017       |

|    |   |            |  |
|----|---|------------|--|
| 17 | Petroglyphs of the cape Besov Nos (central group);  | Identified | Order No. 175 issued on April 11, 2017 by the Ministry of Culture of the Republic of Karelia |
| 18 | Petroglyphs of the cape Besov Nos (northern group); | Identified | Order No. 175 issued on April 11, 2017 by the Ministry of Culture of the Republic of Karelia |
| 19 | Petroglyphs of the cape Peri Nos I;                 | Identified | Order No. 175 issued on April 11, 2017 by the Ministry of Culture of the Republic of Karelia |
| 20 | Petroglyphs of the cape Peri Nos II;                | Identified | Order No. 175 issued on April 11, 2017 by the Ministry of Culture of the Republic of Karelia |
| 21 | Petroglyphs of the cape Peri Nos III;               | Identified | Order No. 175 issued on April 11, 2017 by the Ministry of Culture of the Republic of Karelia |
| 22 | Petroglyphs of the cape Peri Nos IV;                | Identified | Order No. 175 issued on April 11, 2017 by the Ministry of Culture of the Republic of Karelia |
| 23 | Petroglyphs of the cape Peri Nos VI;                | Identified | Order No. 175 issued on April 11, 2017 by the Ministry of Culture of the Republic of Karelia |
| 24 | Petroglyphs of the cape Peri Nos VII;               | Federal    | Decree No.152-P issued by the Government of the Republic of Karelia on November 29, 1999     |

|    |   |         |   |
|----|---|---------|---|
| 25 | Petroglyphs on Bol'shoj Gurij island I  | Federal | Resolution No.199 issued by the Council of Ministers of the KASSR on April 21, 1971 |
|    | Petroglyphs on Bol'shoj Gurij island II |         |   |

### White Sea Petroglyphs

|   | Name                                  | Status     | Document evidencing registration with government authorities and inclusion in the register             |
|---|---------------------------------------|------------|--|
| 1 | Petroglyphs Besovy Sledki             | Federal    | Decree No. 1327 issued by the Council of Ministers of the RSFSR on August 30, 1960 (Annex 1);          |
| 2 | Petroglyphs Zalavruga                 | Federal    | Decree No. 1327 issued by the Council of Ministers of the RSFSR on August 30, 1960 (Annex 1);          |
| 3 | Petroglyphs Erpin Pudas I             | Federal    | Decree No. 1327 issued by the Council of Ministers of the RSFSR on August 30, 1960 (Annex 1);          |
| 4 | Petroglyphs Erpin Pudas II            | Identified | Order No. 629 issued on November 21, 2016 by the Ministry of Culture of the Republic of Karelia        |
| 5 | Petroglyphs Erpin Pudas III           | Federal    | Decree No.142-r issued by the Chairman of the Government of the Republic of Karelia on August 12, 1994 |
| 6 | Petroglyphs Erpin Pudas IV            | Identified | Order No. 585 issued on October 26, 2016 by the Ministry of Culture of the Republic of Karelia         |
| 7 | Petroglyphs on the no-name islands I  | Federal    | Decree No. 1327 issued by the Council of Ministers of the RSFSR on August 30, 1960 (Annex 1);          |
| 8 | Petroglyphs on the no-name islands II | Identified | Order No. 629 issued on November 21, 2016 by the Ministry of Culture of the Republic of Karelia        |

|    |  |            |  |
|----|--|------------|--|
| 9  | Petroglyphs on the no-name islands III     | Identified | Order No. 629 issued on November 21, 2016 by the Ministry of Culture of the Republic of Karelia                  |
| 10 | Group of petroglyphs Zolotets I            | Identified | Order No. 245 issued on July 05, 2007 by the Ministry of Culture and Public Relations of the Republic of Karelia |
| 11 | Petroglyphs on the island Bol'shoj Malinin | Identified | Order No. 629 issued on November 21, 2016 by the Ministry of Culture of the Republic of Karelia                  |

Out of the 25 groups of Lake Onega petroglyphs, 18 CHSs have been assigned the federal status and 7 are newly identified sites. Out of the 11 groups of White Sea petroglyphs, 5 CHSs have been assigned the federal status and 6 are newly identified sites.

In 2013 and 2016, work was carried out to establish the boundaries of the areas housing the cultural heritage sites that are part of "Petroglyphs of the Lake Onega and the White Sea" complexes. The boundaries of the areas were approved by orders issued by the Ministry of Culture of the Republic of Karelia, the protectable items were determined, including, depending on the parameters of a particular site, a rocky surface with carved out petroglyphs thereon or a rocky surface with carved out petroglyphs thereon plus natural historical landscape.

In 2017, in line with the requirements of applicable law, an expert certified by the Russian Ministry of Culture carried out a historical and cultural review substantiating the need to inscribe the constituent parts of "Petroglyphs of the Lake Onega and the White Sea", having exceptional value from an archaeological, historical, ethnographic and cultural perspective, in the Code of particularly valuable cultural heritage sites of the peoples of the Russian Federation. The report stating the results of the state historical and cultural expertise review is currently undergoing the approval process.

The inclusion of the nominated elements in the State Code of Particularly Valuable Cultural Heritage Sites of the Russian Federation's Peoples will ensure their maximum protection at the national level and guarantee the preservation of the outstanding universal value of these monuments. In accordance with Article 24(1) of Federal Law No.73-FZ, only federal CHSs can be classified as especially valuable.

### 6.1.1.2 The site's territory and buffer zones

Federal Law No.73-FZ dated June 25, 2002 "On Cultural Heritage Sites (Historical and Cultural Monuments) of the Russian Federation's Peoples" is currently the main regulation governing the process of conserving historical and cultural heritage in the Russian Federation.

The Russian legislation dealing with cultural heritage sites currently lacks the terminology of the Convention concerning the Protection of World Heritage (1972) and, *inter alia*, Russian laws have no concept of a "buffer zone". In pursuance of an instruction issued by the President of the Russian Federation requiring the inclusion of the provisions of the UNESCO Convention in the Russian law, at the end of 2017 the Ministry of Culture of the Russian Federation prepared a draft Federal Law "On Amending the Federal Law "On Cultural Heritage Sites (Historical and Cultural Monuments) of the Russian Federation's Peoples and certain legislative instruments of the Russian Federation" (as regards the establishment of a procedure for performing international obligations arising from the Convention concerning the Protection of the World Cultural and Natural Heritage dated November 16, 1972). This document clarifies the situation regarding buffer zones: if the law enters into force, the territory of the buffer zones will match the area territory of the protectable zones.

Article 3 of the law defines the notion of an archaeological heritage site: "Partially or fully hidden traces of human existence in past eras existing in the soil or under water (including all archaeological items and cultural layers associated with such traces) with are archaeological excavations or finds being the main or one of the main sources of information about them. Archaeological heritage sites include, *inter alia*, settlements, burial mounds, soil burials, ancient burials, ancient colonies, encampments, stone sculptures, steles, rock paintings; remains of ancient fortifications, production facilities, canals, ships, roads, places of ancient religious rituals and cultural layers attributable to archaeological heritage sites." Article 4 of the Federal Law introduces the concept of "protection zones": "In order to ensure the conservation of a cultural heritage site in its historical environment within the territory adjoining it, protection zones shall be established for the cultural heritage site: protection zone, development and business regulation zone, natural landscape protection zone." In the Russian practice, it is the protection zones that are taken as the basis for defining buffer zones when nominating sites for inscription on the World Heritage List.

Given the fact that there is no concept of "buffer zone" in the current national legislation, the boundaries of buffer zones and land tenure project covering the area within the boundaries of such zones at "Petroglyphs of Lake Onega and the White Sea" site were developed based on the requirements of international instruments. In pursuance of the Operational Guidelines for the implementation of the Convention, buffer zones are designed for protecting cultural heritage sites and their surrounding landscape.

In accordance with the current Russian legislation, functional zoning requirements (types of permitted use) shall be established while developing requirements for town planning regulations defining the boundaries of cultural heritage protection zones (Regulation No.972 on protection zones approved by the Government of the Russian Federation on September 12, 2015). Based on the provisions of the World Heritage Convention and its implementation Guidelines, a buffer zone is established "in each case through appropriate mechanisms", i.e. it must be based on the nation-wide heritage protection system. In accordance with federal laws, protection zones are established to

ensure the preservation of cultural heritage sites in the surrounding historical and natural environment. A draft federal law developed by the Ministry of Culture of Russia says that all of the zones established to protect a cultural heritage site will simultaneously be recognized as a buffer zone of the site inscribed on the World Heritage List.



Therefore, the priority task is **to recognize all constituent parts of the nominated site as CHSs of federal importance and to establish the boundaries of their protection zones.**

*Protection zones set for petroglyphs to date:*

❖ *Order No. 518-r issued by the Chairman of the Republic of Karelia's Government on September 05, 1996 (amended on April 29, 1999) "On the establishment of protection zones for monuments of archeology, history and culture in the Republic of Karelia" -> Temporary protection zones for the Onega petroglyphs and archaeological monuments located within these zones in the Pudozhsky District:*

*The project envisages the following protection zones for the monuments of the eastern shore of Onega Lake in the Pudozhsky District of the Republic of Karelia:*

- a) zone designed to protect the cultural layer of ancient monuments (settlements, seasonal encampments, burial grounds, medieval encampments);*
- b) zones designed to protect the Onega petroglyphs located on capes or islands;*
- c) zones designed to protect the area where the Onega Lake petroglyphs are located;*
- d) zones of archaeological observations.*

❖ *Decree No.221 issued by the Chairman of the Government of the Republic of Karelia "On recognizing lands in the territory of the archaeological complex "White Sea Petroglyphs" in the Belomorsky District as lands of historical and cultural purpose" on April 9, 1998 -> Annex No. 2 "Land tenure system applicable to the lands of historical and cultural purpose located in the territory of the archaeological complex "White Sea Petroglyphs" in the Belomorsky District of the Republic of Karelia":*

*The following protection zones shall be established in order to conserve the unique archaeological monuments (petroglyphs, ancient man's encampments) and their natural environment on the lands of historical and cultural purpose located in the territory of the archaeological complex "White Sea Petroglyphs":*

- petroglyphs protection zone;*
- ancient sites cultural layer protection zone;*
- landscape protection zone.*



The analysis of the current progress associated with the conservation of the elements of the "Petroglyphs of Lake Onega and the White Sea" site and maintenance of its OUV has discovered the need for the orderly improvement of the existing CHS handling system and **the urgent need for the**

**implementation of the full range of legal measures aimed to ensure government protection as soon as possible.**

### **6.1.2 Improvement of monument conservation efforts**

#### **6.1.2.1 Monitoring**

Monitoring is used as part of integrated scientific operations carried out on a cultural heritage site as one of methods aimed at researching, recording and maintaining the safety, integrity and authenticity of the site.

The study of petroglyphs in Karelia started as early as in the mid-19th century, when in 1848 rock paintings ("Olonetsky carvings") were first discovered on the eastern shore of Onega Lake. However, such operations became systematic and complex from the end of the 1990s thanks to the field researches undertaken by archaeologists from the Karelian Research Center of the Russian Academy of Sciences and Petrozavodsk State University in collaboration with foreign colleagues from Norway (University of Tromsø and Riksantikvaren institution, Oslo) and Great Britain (Cambridge University).

Thanks to such studies, a huge amount of work was completed, one of the main results of which was the creation of the database management system (DBMS) "Petroglyphs of Karelia", which contained topographic plans, photographs, graphite copies of images, detailed descriptions (general and specific descriptions by figures including dimensions, orientation, height above water, gouge depth), degree of preservation, parametric data and various interpretations of individual figures or compositions.

The conservation condition of the cultural heritage sites comprised in the "Petroglyphs of the Lake Onega and the White Sea" is monitored by experts from the Cultural Heritage Protection Department of the Republic of Karelia, State-Funded Institution of the Republic of Karelia "Republican Center for the State Protection of Cultural Heritage Sites, Institute of Language, Literature and History (Karelian Research Center of the Russian Academy of Sciences), Forest Institute of the Karelian Research Center of the Russian Academy of Sciences with the participation of the Institute of Biology, Environment and Agrotechnology of Petrozavodsk State University and Directorate for Specially Protected Natural Territories of Regional Importance of the Republic of Karelia. However, for the time being, the condition of the monuments is not regularly monitored; there is no system governing monitoring activities or appointed responsible persons; the existing number of available officers is insufficient to perform full monitoring.



Regardless of the number of visitors, all components of the site must undergo a conservation status monitoring procedure. The monitoring must be carried out:

- in accordance with GOST 56198-2014 "Monitoring of the technical condition of cultural heritage sites. Immovable monuments";
- on a regular basis;
- with the involvement and training of local residents;
- in accordance with international standards relating to documentation, analysis, assessment, storage and dissemination of information on conservation progress;

- conservation progress reports must be made available to all interested parties.

The following is recommended:

- annually: monitoring of the conservation progress of rock paintings (petroglyphs), finding and selecting ways to reduce the impact of natural or anthropogenic processes (on an open list basis);
- annually: monitoring of the lichen biota plus development and testing of gentle methods capable of slowing down destructive processes;
- quarterly: monitoring of the condition of the surrounding natural and historical landscape;
- quarterly: monitoring of compliance with applicable land tenure systems.

#### 6.1.2.2 Physical conservation of cultural heritage sites

"Petroglyphs of the Lake Onega and the White Sea" are notable for their relatively good physical conservation and authenticity, which, first of all, is due to the very nature of the oldest crystalline rocks on which images were carved out. Granite gneisses belong to the group of granites and consist mainly of such minerals as plagioclase and quartz with a small fraction of biotite, pyroxene, etc. Karelian granite is frost-resistant and durable; it has excellent physical and chemical properties, rich color pattern and unique shades. Granite gneiss rocks are notable for high wear resistance to weather and mechanical stresses: minerals dissolution processes affecting such rocks are very slow both in water and due to the effect of the organic acids secreted by lichens. By these indicators, Karelian granites have no analogues in the world, being the strongest. Slow natural processes, such as weathering of rocks, impact from water and ice, splintering of rock massifs have led to some damage to and destruction of elements. Nonetheless, the survived items have the entire set of features enabling the impartial and convincing manifestation of OUV.

Factors affecting the site can be divided into two groups:

- natural factors, i.e. those associated with the influence of environmental factors;
- man-made factors. i.e. those associated with human activities.

The factors that affect or threaten the OUV of the site are discussed in detail in Section 2.5 "Factors affecting the Site" in the Management Plan.

Currently, the work on the physical conservation of the cultural heritage properties is ongoing in two directions that are schematically shown in the table below.

Table 11. Protection and conservation techniques for the petroglyphs of Karelia

| PROTECTION AND CONSERVATION TECHNIQUES FOR THE PETROGLYPHS OF KARELIA  |                   |
|--|-------------------|
| vandal carvings  | epilithic lichens |
| MONITORING:  |                   |
| archaeological, geological-geomorphological, lichenometric   |                   |
| DOCUMENTING:   |                   |
| <ul style="list-style-type: none"> <li>- photographic documentation: photographing of individual petroglyphs, groups of petroglyphs, landscape from the water or air; aerial (mosaic) photography method by I.Y. Georgievsky</li> <li>- documenting of the relief of the rock surface, relief of petroglyphs, natural and anthropogenic</li> </ul> |                   |



factors: copying of images onto mica-coated paper using metallic paint

- database management system (DBMS) "Petroglyphs of Karelia"

|   |  |
|---|--|
| Filling of vandal inscriptions (Russian technique that is actively used on the site called "Tomsk Pisanitsa" in the Kemerovo Region): | Cleaning of petroglyphs using alcohol solution (method developed in Norway): |
| Inscriptions are cut off -> cut off sections are then sealed with cement and tinted   | 96% ethyl alcohol<br>0.5l per 1m <sup>2</sup> of the surface to be cleaned   |



In order to ensure the physical integrity and authenticity of the site's components, it is necessary to organize **a regular comprehensive preventive maintenance system** based on the monitoring of the condition of the archeological properties and preventive protection and conservation of petroglyphs since today's operations aimed at the physical conservation of the cultural heritage properties are far from regular.

Preventive conservation is one of the priority areas for ensuring the conservation of the site's OUV. In most cases, preventive measures (including regular monitoring and managing of visitor behavior) are capable of preventing damage to rock art monuments, reducing the need for more dangerous, expensive or invasive interventions aimed to preserve the site's OUV in the future.

To reduce the anthropogenic risks, it is necessary to consider the implementation of the following measures aimed at the preventive maintenance of the OUV of the site's components that are open to the public:

- Installation of CCTV cameras;
- Arrangement of security services involving the representatives of the local community;
- Installation of interpretation boards showing information describing the international significance of the site.

To mitigate environmental impact, it is necessary to arrange systematic and regular monitoring in respect of rocky surfaces to detect their overgrowing with lichens or climatic effects (cracks, erosion, chipping or splintering of rocky surfaces) in order to eliminate them and minimize the risk exposure of the heritage site in the future. Considerable work has been done over the past years to document the components of the site. However, in the course of the documentation work, no up-to-date digital methods were used. The creation of comprehensive documentation should be given proper consideration alongside with the creation of a GIS database for the site's components containing digital visual materials and involving the use of 3D modeling.

### **Case-study: Russian experience in digital documenting. Kanozero petroglyphs<sup>1</sup>**

*In order to collect accurate data on the Kanozero petroglyphs, study them, monitor the condition of the rocky surface and more effectively monitor the condition of the site, the staff of the "Kanozero Petroglyphs" Museum of Rock Art and volunteers created a set of records documenting the monument using up-to-date methods in 2017. The scientists used a 3D modeling technique, a.k.a. SfM (Structure from Motion): it involves the photographing of the surface from different angles with a field of viewpoints being created on a computer to create a 3D image of the rocky surface and carvings. This technique was much cheaper for the museum as compared to laser scanning (OLS – Optical laser Scanning), which is widely used in the West. The museum staff and volunteers took the photos of the properties using the nighttime mode and illumination from different angles most accurately showing the elements of the microrelief. The data of such type of monitoring may also be used to create a 3D model based on such technology as RTI (Reflectance Transformation Imaging).*

### **6.1.3 Improvement of risk preparedness**

The effective conservation system embracing the elements of the site "Petroglyphs of the Lake Onega and the White Sea" suggests measures aimed to ensure the safety and security of the site.

In line with UNESCO's Guideline "Managing Disaster Risks for World Heritage", it is necessary to develop a World Heritage risk management plan aimed at preventing or mitigating any adverse impact of a disaster on the World Heritage site as well as mitigating risks to which the site's value is exposed: including risks targeting the authenticity, integrity or sustainable development of the site in its natural environment.

It is recommended to create a Risk Management Plan considering the factors that affect or threaten the OUV of the site as were discussed in detail in Section 2.5 "Factors affecting the Site" in the Management Plan.

A risk management plan is normally recommended to contain the following key sections<sup>2</sup>:

- Objectives, scope, goals and responsible institutions;
- Identification of risks and threats; assessment of their impact: How do you identify and measure risks arising out of disasters?
- Prevention and mitigation of consequences: how do you prevent or mitigate risks arising out of disasters?
- Emergency action and response plan: How do you prepare for and respond to emergencies?
- Recovery plan: How do you recover from the effects of natural disasters?
- Implementation: how do you plan your work?

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<sup>1</sup> V.A. Laikhachev. Kanozero petroglyphs: New study methods and new finds. Paperwork by the Kola Science Center of the Russian Academy of Science, 2017

<sup>2</sup> Managing Disaster Risks for World Heritage, Paris, UNESCO World Heritage Center (World Heritage related information guide)

One of the key problems relating to the effectiveness of a risk management plan is the lack of coordination between cultural heritage management systems and organizational structure, decision-making procedures and emergency response plans focusing on natural disasters in the city or region where the target site is located. Therefore, a risk management plan for a heritage property must be integrated into the existing management plan and site management procedures. When it comes to the site "Petroglyphs of Lake Onega and the White Sea", it is recommended to create a Risk Management Plan in close cooperation with regional and municipal authorities, namely:

- Cultural Heritage Protection Department of the Republic of Karelia;
- State Public Institution "Republican Center for the State Protection of Cultural Heritage Sites";
- Tourism Department of the Republic of Karelia being part of the Ministry of Culture of the Republic of Karelia;
- Ministry of Natural Resources Management and Environment of the Republic of Karelia;
- Regional Directorate for Specially Protected Natural Territories;
- Administration of the Pudozhsky municipal district;
- Administration of the Belomorsky municipal district;

It is absolutely necessary to involve specialists in civil defense, protection of the population and areas from emergency situations, fire and water safety in the Republic of Karelia in the development of the Risk Management Plan, namely representatives of the Main Department of the Ministry of Emergency Situations of the Republic of Karelia.

The main action and response team under the disaster risk management plan must consist of site managers and officers responsible for such units as administration, maintenance, monitoring and security. It is also very important to ensure the involvement of local authorities, local community leaders, local scientists and researchers, disaster management organizations, the police, health services and emergency response. They must be involved in the process of creating and developing the disaster risk management system and plan. If there are any organized groups of local communities, they should also be involved in this process.

There are three main stages of disaster risk management: before, during and after disasters. Pre-disaster preparedness measures must include risk measurement, prevention and mitigation of specific hazards (maintenance, monitoring, development and implementation of various disaster management strategies and programs). Pre-disaster precautionary emergency measures must include the creation of an emergency team, evacuation plan, evacuation procedures, warning system and a temporary storage for valuables.

It is necessary to develop and implement, during a disaster, various emergency response procedures aimed to save people and heritage.

Post-disaster measures include damage assessment, treatment of damaged components of the heritage through interventions such as conservation, restoration, recovery and upgrading.



**A risk management plan** is necessary to provide clear, flexible and practical guidance for the managers of a site. By relying on such plan in case of an adversity, it is possible to significantly

minimize the adverse consequences for a site. The risk management plan needs to be integrated into the future site management system (please refer to Section 8.1 Creation of the site management system)

#### 6.1.4 Cooperation

In order to ensure interaction between government authorities, professional community and other interested parties and to get a wide range of specialists and the public involved in addressing issues associated with the state protection of cultural heritage sites (including archeology monuments comprised in the nomination "Petroglyphs of Lake Onega and the White Sea"), the following teams have been established in the Republic of Karelia:

- Scientific Expert Council for the Historical and Cultural Heritage of the Republic of Karelia reporting to the Cultural Heritage Protection Department of the Republic of Karelia. The Scientific Expert Council is an interdepartmental deliberative body that participates in the consideration of the most important issues when making management decisions associated with the conservation of cultural heritage in the Republic of Karelia. Involving a wide range of specialists and the public, the Scientific Expert Council issues opinions and recommendations on concepts, republican state programs and projects relating to the conservation of the Republic of Karelia's cultural heritage, research materials or other matters relating to the conservation of the Republic of Karelia's cultural heritage (Order No.64 issued by the Cultural Heritage Protection Department of the Republic of Karelia on May 03, 2018 "On approving the Regulation on the Scientific Expert Council for the Historical and Cultural Heritage of the Republic of Karelia reporting to the Cultural Heritage Protection Department of the Republic of Karelia");

- interdepartmental action group specially established for dealing with the protection of petroglyphs in Karelia. The group includes representatives of the Cultural Heritage Protection Department of the Republic of Karelia, State-Funded Institution of the Republic of Karelia "Republican Center for the State Protection of Cultural Heritage Sites, Federal State-Funded Institution "Karelian Research Center of the Russian Academy of Sciences", local governments and travel companies. In order to create a future platform to enable the public to freely discuss tasks and challenges associated with the management of the site (including conservation, promotion, use) by all involved parties, a Coordination Council is expected to be created based on the action group to be responsible for the protection and development of Karelian petroglyphs. Since 1994, the petroglyphs of Lake Onega and the White Sea and ancient encampments located in close vicinity to their locations have been the subject of research under Russian and international projects: Onega Project (1994-95), implemented jointly with Norwegian, Swedish and Finnish researchers; Karelian-Norwegian projects "Conservation and Presentation of Karelian Petroglyphs" (1997 to 2002, 2001 to 2002, 2007 to 2008), Karelian-British project "Documenting Petroglyphs of the White Sea Region" (2001 to 2015); EU project "Stone Book of the White Sea"; Russian project "Creating a Search and Information System for Petroglyphs of Karelia and Northern Fennoscandia" (2007 to 2009); Karelian-Finnish project relating to the EU program "RockArtBridge."



As to cooperation in relation to the development and conservation of the site "Petroglyphs of Lake Onega and the White Sea", the following is recommended:

- To ensure effective interaction with the National Committee of ICOMOS (for Russia), it is necessary to create a **Regional Office of ICOMOS in the Republic of Karelia**;

- It is necessary to create a **resource center of the World Cultural Heritage in the Republic of Karelia** based on Petrozavodsk State University to provide resources required to support interaction between Russian and foreign experts in studying and conserving monuments of ancient rock art, including art historians, archaeologists, geologists and heritage protection specialists, and to put research results in practice in connection with activities aimed to conserve and manage the site;

*The creation of World Heritage resource centers within existing research institutions and institutions of higher professional education is one of the new formats of optimizing research and educational resources for introducing innovative conservation and management methods in respect of World Heritage sites.*

*World Heritage resource centers' activities would be focused on three priority areas:*

### **1. Educational activities**

- *training of personnel to be involved in the conservation and management of World Heritage sites;*

- *advanced training of personnel to be involved in the conservation and management of World Heritage sites;*

- *implementation of World Heritage related educational programs in institutions of higher professional education.*

### **2. Research activities**

- *studying of current issues associated with the conservation and management of specific World Heritage sites;*

- *studying of current issues associated with the conservation and management of special categories of World Heritage sites;*

- *development of scientific cooperation with research institutions in Russia and abroad;*

- *performance of research work, including heritage impact assessments, under government programs.*

### **3. Innovative and technological activities**

- *practical testing of the results of research activities in order to put the same into conservation and management practices covering specific World Heritage sites;*

- *conduct of applied researches to ensure the sustainable development of the areas in which certain World Heritage sites are located;*

- *development of validation mechanisms for specific World Heritage sites.*

*One of the first resource centers devoted to world cultural heritage in Russia was opened at Kazan (Volga Region) Federal University in 2017. The center's activities are aimed to provide resource support for the effective conservation and management of World Heritage sites in the Republic of Tatarstan (Historical and Architectural Complex of the Kazan Kremlin, Bulgarian Historical and Archaeological Complex, Uspensky Cathedral and the Monastery of the Island Town of Sviyazhsk).*

- It is necessary **to boost cooperation with foreign organizations in connection with World Heritage**. E.g. with the International Center for the Study of the Preservation and Restoration of Cultural Property (ICCROM).

## **6.1.5 Research on the cultural heritage site**

### **6.1.5.1 Petroglyph study**

The Lake Onega and White Sea Petroglyphs were widely known both in Russia and abroad as early as in 1930s. They are well researched (including their natural and cultural contexts) with the rock art being fully catalogued. The heritage items are featured in Russian, English, German, and Finnish research papers, catalogues, reference books, encyclopedias, articles, popular books, and even in fiction. *An Old Tale Carved Out of Stone*, a short novel by A.M. Linevski for school children about the Lake Onega and White Sea Petroglyphs has won universal acclaim. Over 100 publications cover or address petroglyphs at least to some extent, of these 11 monographs (including fundamental ones by V.I. Ravdonikas and Yu.A. Savvateev).

Currently, the Karelian petroglyphs are studied by Nadezhda Valentinovna Lobanova, Candidate of History, Senior Researcher in Archeology of the Institute of Language, Literature and History of the Karelian Research Centre of the RAS. In 1988, N.V. Lobanova defended a candidate thesis in the Institute of Archeology of the RAS on Neolithic Sites with Pitted-Combed Ceramics in the Lake Onega Basin. Nadezhda Valentinovna has authored over 80 research papers, two monographs and popular science books on petroglyphs. N. Lobanova has discovered new petroglyph groups and archeological camps nearby. Years 1997 through 2014 saw Lobanova involved in Russian and international projects to preserve and use the Karelian petroglyphs (see Section 6.1.4 Collaboration for the project list). N.V. Lobanova is a stakeholder in petroglyph preservation, popularization, and management; she arranges site excursions, participates in international conferences and projects, is an active and devoted popularizer of the unique Karelian heritage, notably the petroglyph sites that inspired her entire career.

### **6.1.5.2 Archeological excavations of ancient settlements in the petroglyph area and the search for new petoglyphs groups**

The landscape around the Lake Onega and White Sea Petroglyphs is an area with good archeological coverage. The eastern bank of Lake Onega, the capes, islands, shores of the Chjornaja and Vodla Rivers, lands within a few meters through kilometers from the Lake Onega Petroglyphs host over 60 explored archeological heritage sites: camps, settlements, grave field. 43 archeological sites are in close vicinity to the Lake Onega Petroglyphs. These settlements date back to as early as Mesolithic through the late Middle Ages.

The banks and islands, often near rapids, in the Vyg delta, the lands within a few meters through kilometers from the White Sea petroglyphs host over 80 archeological heritage sites: settlements, camps, and locations; 24 sites with sufficient exploration are located in close vicinity of the petroglyphs. The sites date back to the Neolithic epoch through late Middle Ages.

The findings in the petroglyph area give new insights of the natural environment that saw the creation of the archeological sites, its fauna, and interaction between ancient humans and nature. The settlements, camps, and locations provide information on the their chronologies, reveal cultural and historical connections between the sites, trace the stages of humankind development in the region. Discovering and studying ancient settlements around the petroglyphs, special geological and geomorphological, palynological, and paleographic research help explore their chronology and periods, and date the petroglyphs themselves.

There are still new archeological sites to be discovered. Nadezhda Lobanova believes in potential new archeological discoveries along the banks of the Sustrezha river and Lake Chernoye (“The Lake Onega Petroglyphs” component) and new rock art on smooth surfaces of the archeological landscape to the north, in the direction of the Belomorskaya Hydroelectric Power Station..



Therefore, the Lake Onega and White Sea Petroglyphs require, as a field of concern, consistent research to create science based grounds for the preservation, use, popularization, and state protection of archeological sites. The Lake Onega and White Sea Petroglyphs have long been under research, still to be continued into the future. as scientists get more and more interested with new methods of research and recording of data that help gain new information.

The main petroglyph research areas are as follows:

- finding ancient camps in petroglyph areas, finding new picture groups, scientific excavation of camps in petroglyph areas, and studying the pictures themselves;
- holding scientific conferences, seminars, field seminars on petroglyphs;
- publishing articles, monographs, making popular science publications about petroglyphs, making a catalogue of the Lake Onega and White Sea Petroglyphs.

Note that due to the site’s international and cross-disciplinary significance, the phenomenon of the Lake Onega and White Sea Petroglyphs in general and its components in particular has been the subject of research of a number of institutions both in Russia, and abroad. This fragmentation of academic effort has resulted in the lack comprehensive long-terms site studies needed for its preservation, sustainable development and management.

For this reason, the Lake Onega and White Sea Petroglyph Site Management Plan provides for the **implementation of a comprehensive site research strategy** based on the monitoring of published academic research involving stakeholders. The strategy is intended to solve the primary tasks related to the preservation of the site outstanding universal value, including documenting site components, invasive and non-invasive archeological exploration of the site area, underwater exploration of the surrounding cultural landscape. Finally, the proposed strategy also provides for new ways of disseminating research results.

A **comprehensive academic research strategy of the site for 2019–2026** is required to facilitate comprehensive cross-disciplinary research projects that meet the demands of the OUV preservation and sustainable site area development. The strategy must be developed by a group of stakeholders: Russian and foreign academic research institutions.

**Regular monitoring of published academic research papers** is exceptionally desirable to detect bottlenecks in the scientific research of Lake Onega and White Sea Petroglyphs, and to detect key stakeholders – Russian and foreign academic research institutions and leading researchers studying various components of the site. The monitoring results need to be published on the web-site of the site to help disseminate information on research results.

Non-invasive geophysical methods can become one of the main tools of archeological research at the location of the Lake Onega and White Sea Petroglyphs. A series of geophysical research is recommended to collect vast data and documents on primaevial camps on the territory

without using destructive methods that might damage the wider neighbourhood of the site. Some of the most promising methods include lidar, aerial photography, georadiolocation, and magnetometry.

Archeological excavation in the wider neighbourhood of the site should follow a unified strategy developed by stakeholders. This requires a number of consultative meetings to be held involving Russian and foreign institutions, universities, and other academic research organizations. Moreover, ways of recording invasive archeological research and further site preservation issues should be addressed before any excavation even starts. The findings should be analyzed and stored in regional museums.

The research should be published on a timely basis both in Russian and English. Grant programmes may be introduced to support young specialists and researchers and facilitate participation in Russian and international seminars and conferences. These measures will help disseminate site research results increasing the number of English publications.

## 6.2 Natural landscape preservation and revitalization

The OUV of the Lake Onega and White Sea Petroglyph Site is substantiated, inter alia, with the perfect harmony between the archeological site and the landscape around:

*“The nominated site has historical-cultural and **natural components** featured by the rock art and a significant number of other archeological artefacts of various epochs, including those directly related to the rock art creators, and **valuable natural points of interest**, such as ancient granite day stone smoothed with glaciers and polished by waves for millennia, pristine unimpaired landscape of the Onega embankment with alternate rocky capes and pine-treed sand dunes, the picturesque Vyg delta breaking the rock mass into a ramified network of sleeves and side streams with rapids and rocky islands.”*

*“The site is an example of **an inseparable unity of the creations of nature and creations of human** who created impressing open-air rock art galleries, and is a genuine evidence of the cultural traditions of the primeval local people – fishermen, foragers, and forest hunters of the North.”*

The unique natural landscape and its protection are critical for the preservation of the outstanding universal value of the Lake Onega and White Sea Petroglyph Site. The natural landscape in the petroglyph area is an integral part of the OUV of the nominated site.

Most of the petroglyph groups of the Lake Onega Petroglyph component (18 groups) are within the natural protected territory of the Muromsky Landscape Reserve of Regional Significance.

The Muromsky State Local Landscape Reserve of Local Significance was established in the Pudozhsky District of Karelia subject to the Resolution of the Council of Ministers of the Karelian ASSR No. 390 dd 13.11.1986. For the purposes of preserving typical and unique ecosystems and natural sites, historical and cultural monuments of the South East of the Republic of Karelia, maintaining ecological balance, as well as developing tourism and facilitating people’s active recreation, the Resolution of the Government of the Republic of Karelia No. 304-P dd 28.12.2009 transformed the reserve of local significance into the Muromsky State Integrated (Landscape) Reserve of Regional Significance. The same document adopted the reserve regulation and established the territory protection mode. The total area of the natural reserve is 32 600.0 ha.

The Resolution of the Government of the Republic of Karelia No. 304-P dd 28.12.2009 bans any activities in the Muromsky Landscape Reserve if it contradicts the purposes of the reserve or damages the ecosystem and natural components. The bans include:



- geological research, exploration and development of natural resources;
- explosive activities;
- provision of land plots for private housing construction, and any type of gardening;
- driving or parking vehicles outside roads or other designated places;
- burning fire outside designated places;
- destroying or damaging information boards, stands, plates, signs or pointers, and equipped ecological paths and leisure areas.

The White Sea petroglyph component does not have a dedicated protected natural zone. Nevertheless, the protection of the landscape around the petroglyphs is based on draft general requirements to the land use regime within the buffer zone of the Lake Onega and White Sea Petroglyph Site. The buffer zone of the Lake Onega and White Sea Petroglyph Site allows the following activities:

- subject to a project approved by a competent cultural heritage site protecting authority, works related to organization of public services and amenities on the area around the petroglyphs, arranging scenic viewpoints, museumification of the rock art, arranging paths, lighting, stands, display units related to the monument without interfering with the natural landscape, academic research;
- cleaning the area from deadwood and brushwood, academic research on the site in compliance with applicable law;
- arranging tourist paths, landscape friendly construction intended to preserve archeological monuments, forest sanitation, tourist visits, their accommodation in dedicated and equipped locations.

The buffer zone of the Lake Onega and White Sea Petroglyph Site does not allow the following activities:

- agricultural and other fatigue duties that distort the landscape and are not related to the preservation purposes;
- forest clearing (other than forest sanitation, and silvicultural activities that help preserve and improve growing stock);
- cattle grazing;
- arranging tourist leisure areas and car parks;
- driving wheeled transport outside roads and dedicated places (other than driving and parking wheeled motor vehicles in snowy season and cases related to conservation and protection of forests);
- driving caterpillar vehicles;
- storage of waste and other materials;
- building of bonfires;
- application of new pictures or inscriptions;
- destroying or damaging information boards, stands, plates, signs or pointers, and equipped paths and leisure areas.



In general, the main activities to preserve and revitalize the unique natural landscape in the petroglyph area are as follows:

- preservation of scenic views, panoramas, and significant vantage points of the cultural heritage items;
- establishing restrictions that enable the preservation and help visual perception of the cultural heritage items in their natural environment;
- carrying regular and systematic preservation activities on the site area and its buffer zone.

The natural surrounding of the Lake Onega and White Sea Petroglyph Site is located in the natural zone of the taiga and has a unique ecological value: the region is a unique host for large gatherings of waterfowl and preserved fauna typical for the natural zone of the taiga.

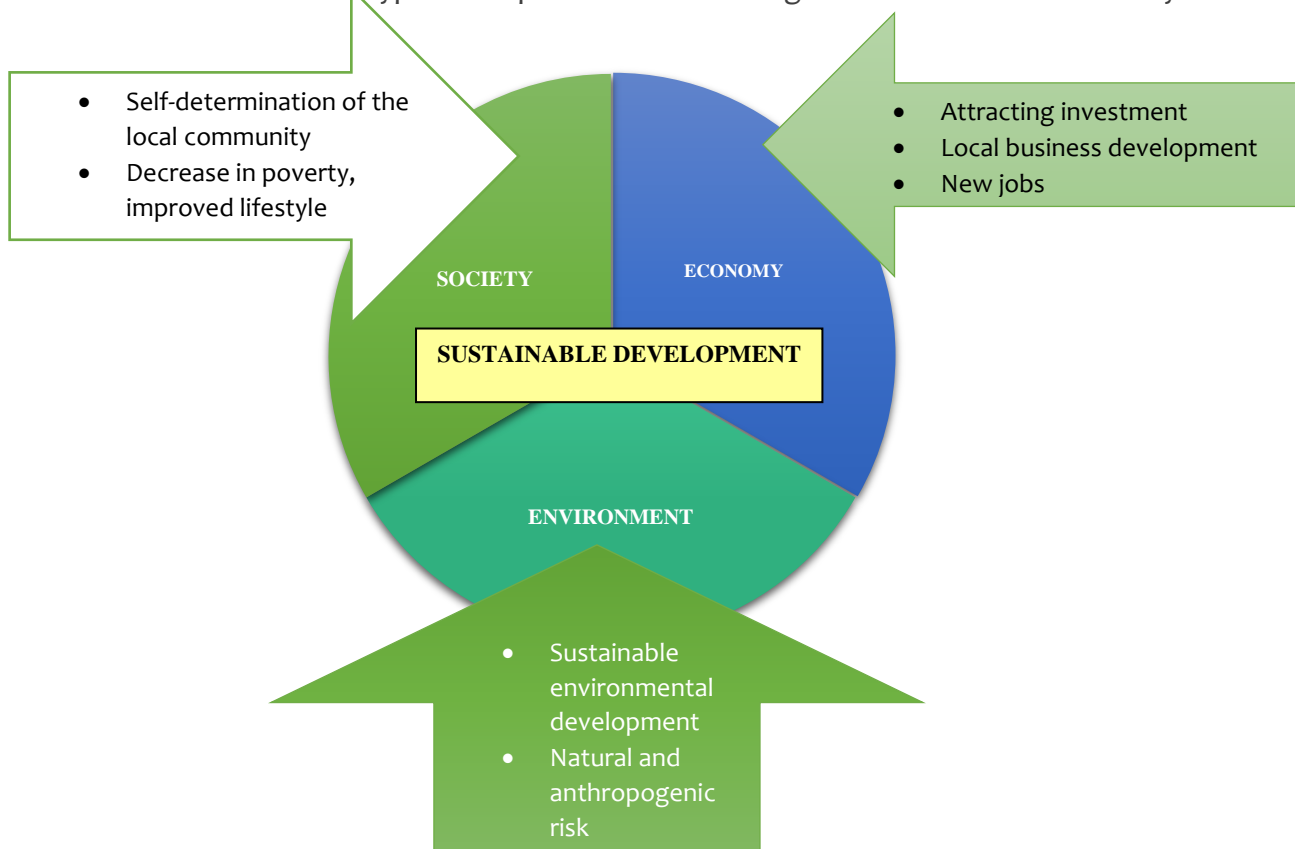
The research carried out in the Belomorsky and Pudozhsky Districts shows that the environment of the site has been maintained for millennia, therefore, further research on the interaction between the primaeval cultures and the environment, including the impact of such interaction on the environment, have a high academic potential. Research of the Lake Onega and White Sea Petroglyph Site landscape will require the use of cross-disciplinary research methods, including paleozoological and paleobotanical ones, that will help find samples of the flora and fauna of the site area from the rare endemic species of the Paleolithic Age to the larger modern surrounding. The research results should also be compared to modern data.

#### 7. SUGGESTION REGARDING SUSTAINABLE DEVELOPMENT OF THE WORLD HERITAGE SITE

Any suggestions regarding sustainable development of the Lake Onega and White Sea Petroglyphs World Heritage Site goes hand in hand with the actual economic and social condition of the Republic of Karelia and the plans regarding the development of the Pudozhsky and Belomorsky Districts where the nomination components are located.

The world heritage status will have a positive impact both on the development of the site and the region in general. Scheme 1 shows some connections between sustainable development and the world heritage status.

Scheme 1. Some types of impact of world heritage sites on area sustainability



The following tasks are supposed to help achieve the strategic purpose of creating an environment for the sustainable development of the Lake Onega and White Sea Petroglyph Site:

- 1) socio-economic development of the area;
- 2) sustainable tourism development in the area, including integration of the site in inter-regional and regional tourism;
- 3) encouraging the development of the local community, including increasing people's awareness of the site and increasing local community's role in the site activities;
- 4) popularizing and promoting the nominated site, and arranging an efficient use of its potential. Targeted programmes for certain social categories: children, youth, senior people.

***Transforming our world: the 2030 Agenda for Sustainable Development (UN Resolution) and its 17 sustainability goals***

*The United Nations General Assembly adopted Resolution A/RES/70/1 at the Summit of the United Nations on sustainable development held in New York on 25 September 2015. Clause 54 of the Resolution states 17 sustainable development goals (hereinafter, the SDGs) officially known as Transforming our world: the 2030 Agenda for Sustainable Development. It is an ambitious international document intended to «promote shared prosperity and well-being for all over the next 15 years»<sup>3</sup>. The new world-improving strategies are unique as they, unlike other documents, “call for action by all countries, the poor, the rich, and the middle class people to contribute to prosperity and protect the planet.”<sup>4</sup>*

*To improve the world, the 17 SDGs focus on the following: ending poverty, ending hunger, healthy life and well-being, quality education, gender equality, clean water and sanitation, affordable and clean energy, decent work and economic growth, industrialization, innovation and infrastructure, reducing inequality, sustainable cities and communities, sustainable consumption and production, action to combat climate change, preservation of marine ecosystems, preservation of land ecosystems, peace, justice and efficient institutions, partnership for sustainable development<sup>5</sup>.*

***Goal 11. The 2030 Agenda for Sustainable Development: sustainable cities and communities***

*Goal 11. The 2030 Agenda for Sustainable Development: sustainable cities and communities intended to promote open, safe, resilient and environmentally sustainable cities and communities. “The future we want for all means cities with opportunities, access to basic services, adequate power supply, housing, transport and a lot more,” states the Agenda for Sustainable Development<sup>6</sup>. Subclause 11.4 points out that making cities and communities inclusive, safe and sustainable requires stringer efforts to protect and conserve the world's cultural and natural heritage.*

<sup>3</sup> <http://www.un.org/sustainabledevelopment/development-agenda/>

<sup>4</sup> <http://www.un.org/sustainabledevelopment/development-agenda/>

<sup>5</sup> <https://www.un.org/sustainabledevelopment/ru/sustainable-development-goals/>

<sup>6</sup> <https://www.un.org/sustainabledevelopment/ru/issues/prosperity/cities/>

## 7.1. Socio-economic development of the territory

### 7.1.1 Site area description

Table 12. Location in brief

| The Republic of Karelia <sup>7</sup>   | Pudozhsky Municipal District of the Republic of Karelia <sup>8</sup><br>[The Lake Onega Petroglyph component]   | Belomorsky Municipal District of the Republic of Karelia <sup>9</sup><br>[The White Sea Petroglyphs component]   |
|--|---|--|
| <p><b>Location:</b> North West, part of the North-Western Federal District of the Russian Federation</p> <p><b>Area:</b> 180.5 thd km<sup>2</sup> (1.06% of the Russian Federation)</p> <p><b>Population:</b> 622484 (as of 1 January 2018): 500558 – urban population, 121926 – rural population</p> <p><b>Residential communities:</b> 126 municipalities, of which 2 are urban districts (Petrozavodsky, Kostomukshsky), 3 cities of republican significance (Petrozavodsk – 266.4 thd people); Sortavala – 34.6; Kostomuksha – 30.3), 16 municipal districts, 22 urban and 86 rural settlements.</p> <p><b>Capital City:</b> Petrozavodsk</p> <p><b>Natural component:</b> coniferous forest (over</p> | <p><b>Location:</b> South East of the Republic of Karelia</p> <p><b>Area:</b> 12.7 thd m<sup>2</sup>.</p> <p><b>Residential communities:</b> 68</p> <p><b>Population:</b> 18.5 thd people (1 January 2018), over 50% live in the Pudozhskoye Urban Settlement.</p> <p><b>Administrative centre:</b> the City of Pudozh</p> <p><b>Natural component:</b> ca. 70% of the area is forests, over 85% of land is classified as the forest reserve land</p> <p><b>Cultural and historical monuments:</b> 348: 152 architectural monuments, 13 monuments of history and art, 181 archeological monuments.</p> <p><b>Natural resources:</b> non-metallic (dimension gabbro-norite, gabbro-diabase) – proven resources of dimension stone (granite, gabbro) is over 60 mln m<sup>3</sup>. There are huge deposits of</p> | <p><b>Location:</b> North East of the Republic of Karelia</p> <p><b>Area:</b> 12.8 thd km<sup>2</sup></p> <p><b>Residential communities:</b> 59</p> <p><b>Population:</b> 16.3 thd people (as of 1 January 2018), Belomorsk accommodates 59.36% of the district population</p> <p><b>Administrative centre:</b> the City of Belomorsk</p> <p><b>Natural component:</b> over 50% swamps, 40% forest, the rest being the White Sea basin</p> <p><b>Land resources:</b></p> <p>Water reserve land – 4801 ha</p> <p>Forest reserve land – 1249808 ha</p> <p>Reserve land – 8487 ha</p> <p>Agricultural land – 9139 ha</p> <p>Settlement area – 3997 ha</p> <p>Land of protected areas and sites – 4 ha</p> |

<sup>7</sup> According to the official site of the Republic of Karelia: <http://www.gov.karelia.ru/gov/index.html>; State Center for State Protection of Cultural Heritage of the Republic of Karelia: <http://monuments.karelia.ru/>; the investment portal of the Republic of Karelia: <http://kareliainvest.ru/>

<sup>8</sup> According to the official site of the Pudozhsky Municipal District: <http://www.pudogadm.ru/>

<sup>9</sup> According to the official site of the Belomorsky Municipal District: <http://belomorsk-mo.ru/>

|  |   |   |
|--|---|---|
| <p>49% of the area), over 60 thousand lakes (the most famous being Lake Onega and Lake Ladoga), swamp (20%), waterfalls, rivers (27 th rivers, the longest Karelian river being the Kem – 360 km)</p> <p><b>Cultural and historical monuments:</b> state protection covers 4603 cultural heritage items, including monuments of archeology, history, architecture, and art</p> <p><b>Natural resources:</b> iron ore, titanium, vanadium, molybdenum, noble metals, diamonds, mica, construction materials (granites, diabases, marbles), ceramic raw materials (pegmatites, spar), apatite-carbonate ores, alkali amphibole asbestos</p> <p><b>Main industries:</b> metallurgy, mining, wood processing, paper industry.</p> <p><b>Transport:</b> Length of motor-roads – 7822 km. The main transport is railways (2800 km), water transport is also well-developed due to the republic’s geographic location (the White Sea, Lake Onega, White Sea–Baltic Canal)</p> | <p>peat.</p> <p><b>Main industries:</b> Logging, wood processing, mining, bakery and confectionery</p> <p><b>Transport</b></p> <p><b>Airlines:</b> two runways (the city of Pudozh and the settlement of Päl’mä), no longer in operation.</p> <p><b>Motorways:</b> federal motor-road A119 Vologda – Medvezhyegorsk.</p> <p><b>Waterways:</b> the Vodla River, heavy-lift river- and sea-craft with deadweight up to 5000 tons up to 28 km from the river mouth, and up to 1000 tons up to the berths of the settlement of Podporozhye. The shortest way between the settlement of Shalsky and Petrozavodsk is over Lake Onega.</p> | <p>industry, power engineering, transport, communications, radio broadcasting, television and information technology lands, lands designated for space activities, defence and security lands and other special-purpose lands – 3492 ha</p> <p><b>Cultural and historic monuments:</b> over 200 monuments of historic and cultural heritage</p> <p><b>Natural resources:</b> granite, sand-and-gravel, molybdenum ore, gold</p> <p><b>Main industries:</b> fishing, fish processing, trout farms, logging, wood processing, ragstone excavation and gravel production, hydro power (Belomorskaya HES and other power stations of the Vyg River HES cascade).</p> <p><b>Transport:</b> The area is easily accessible from any direction and practically for any means of transport. The district is crossed by a railway and federal motor-road heading northwards. They are paralleled by the White Sea–Baltic Canal.</p> |
|--|---|---|

### 7.1.2 Investment Passport of the Republic of Karelia<sup>10</sup>

The Republic of Karelia has an favourable economic and geographic position: it is close to the central well-developed regions of Russia and Western Europe and has a developed transportation network. As part of the Northern Economic Region of the Russian Federation, the Republic of Karelia shares a 798 km border with Finland, which is the longest border between the Russian Federation and European Union. The Russian regions bordering Karelia are the Leningrad and Vologda Oblasts to the South, the Murmansk Oblast to the North, and the Arkhangelsk Oblast to the East. The North-East of the republic is washed by the White Sea. The republic is a land of 60 thd lakes, the biggest ones being Lake Ladoga and Lake Onega.

Karelia has a well-developed transport network as it is a transit zone: the Russian-Finnish border operates 3 international vehicle and 2 railway checkpoints, and 2 simplified checkpoints for vehicles. The transport network of motor, water (White Sea–Baltic Canal), and rail ways connect the republic with Russia’s central and eastern regions, and northern ice-free port of Murmansk through Finland with European countries. The Petrozavodsk Airport has regular flights to Moscow.

The Republic of Karelia has a high natural resource potential. Republic’s main natural wealth is the Karelian forest. The forests cover an area of 14.9 mln ha (over 49% of the republic). Of them, the forest reserve lands covers 14.5 mln ha, and protected natural areas of federal significance (national parks and nature reserves) cover 367.7 thd ha. Year 2017 saw 10.97 bnRUB invested in the forest industry. Over 50 types of mineral resources have been discovered in Karelia with 992 deposits of ore and non-metallic raw materials: iron ore, titanium, vanadium, molybdenum, noble metals, diamonds, mica, construction materials (granites, diabases, marbles), ceramic raw materials (pegmatites, spar), apatite-carbonate ores, alkali amphibole asbestos.

As of 2017, the economic breakdown of the industrial sector is as follows: 38.3% – mining, 29% – forest industry, 13.3% – electric power, gas, and steam supply, 6.7% – food production, 2.1% – metallurgy, 1.4% – water supply, 9.2% – other.

The Gross Regional Product per capita amounts to 371 452 RUB as of end 2016 (33rd among Russian federal subjects). Average monthly salary is 34 779 RUB. (as of 2017, 24th among Russian federal subjects). Karelia’s position in the national economy: Karelia supplies 70% of all Russian trout, produces ca. 30% of iron-ore pellets, 20% of paper, 15% of wood pulp and pulp made of other fibers.

Karelia maintains trade both with other Russian regions and foreign partners: Finland (republic’s main partner, up to 20% of external turnover), Germany, Turkey, the Netherlands, the UK, France – the total turnover being 69.4%. Republic’s external trade turnover amounted to 1.382 mln USD in 2017.

The republic sees active development of small and medium businesses, provides special incentives for entrepreneurs (targeted grants, partially subsidized expenses, tax preferences). As of 2017, the main economic sectors are wholesale and retail (33%), construction and transport (13%), real estate transactions (10%). Tourism, however, only accounts for 3%.

Tourism is one of the fastest-growing sectors in the region: year 2017 saw over 2 mln tourists visiting the republic.

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<sup>10</sup> According to the Investment Portal of the Republic of Karelia: [kareliainvest.ru](http://kareliainvest.ru)

The republic has a good research, innovation and human resources potential: Karelia hosts 5 state institutions of higher education, 28 institutions of secondary education, with 7 academic institutes under KarRC RAS, 3 academic research institutes and 5 comprehensive research institutes carrying out academic research.

The republic supports 2 Territories of Priority Socio-Economic Development (TPSED), Nadvoitsy and Kondopoga, that apply tax preferences, simplified administration and other incentives to attract investment and promote socio-economic development. Kostomuksha and Pitkäranta are expected to join the TPSED programme.

The main investment fields in the republic:

- Innovations
- Pulp and paper industry
- Wood processing industry
- Mining industry
- Machine building
- Tourism
- Construction
- Fishery
- Agroindustry
- Shipbuilding development
- Creation of fish and marine bioresource processing facilities
- Construction of an oriented standard board (OSB) plant
- Construction of a sea port in Belomorsk
- Development of small hydropower industry
- Production of medical equipment and inventory

### **7.1.3 The Republic of Karelia 2020 Socio-Economic Development Plan**

The Republic of Karelia celebrates its 100th anniversary in 2020. State Committee for the Preparation of the 100th Anniversary Celebration of the Republic of Karelia chaired by the Secretary of the Russian Security Council was formed in accordance with the Decree of the President of the Russian Federation “On the 100th Anniversary Celebration of the Republic of Karelia” No. 517 dd 24.05.2013.

Resolution of the Government of the Russian Federation No. 1662-r dd 17 November 2008 approved the 2020 Concept of Long-Term Social and Economic Development of the Russian Federation, that targets, as its national development goal, a level of economic and social development that matches Russia’s status of a global power of the 20th century, a leader in global economic competition and reliably ensuring national security and implementation of people’s

constitutional rights. A strategic benchmark of the Concept is ensuring balanced socio-economic development of the Russian regions, reducing inter-regional gaps in socio-economic condition and quality of life in the regions.

For the purposes of the 2020 Concept of Long-Term Social and Economic Development of the Russian Federation, the Resolution of the Russian Government No. 570 dd 9 June 2015 approves the 2020 Federal Target Programme for the Development of the Republic of Karelia. The Programme is intended to develop and implement Karelia's economic potential by increasing the competitiveness of basic and creating new production and economic sectors, and by providing infrastructure for economic development.

The key target indicators of the programme implementation are:

- increased capex in 2020 vs 2013;
- reduced unemployment in 2020 vs 2013;
- new jobs;
- new industrial areas;
- construction of regional gas pipeline sections to provide economic growth subjects with access to the gas line;
- construction and reconstruction of common motor-roads of regional significance of the Republic of Karelia;
- increase in the share of common motor-roads of regional significance of the Republic of Karelia that comply with standard requirements to the total mileage of common motor-roads of regional significance of the Republic of Karelia;
- construction of a rail-way approach to the commercial seaport to ensure rail-way transport turnover up to 20 mln tons a year;
- construction and reconstruction of artificial bridgework;
- reconstruction of the frontier rail-way station;
- re-equipment of the railway checkpoint at the state border of the Russian Federation;
- reconstruction of the quay wall to ensure water transportation for Karelia's distant areas;
- reconstruction of the republican bus terminal in Petrozavodsk and the supporting bus station network of the Republic of Karelia;
- reconstruction of landing areas to ensure air transportation in the Republic of Karelia;
- construction and reconstruction of fire stations in the Republic of Karelia;
- increase in the share of land plots with required infrastructure provided or to be provided for housing construction to families of 3 or more children in the total amount of land plots for multi-child families;
- providing families of 3 or more children with land plots for housing construction provided with required infrastructure;
- full and timely attraction of funds from extrabudgetary sources.

The 2020 Federal Target Programme for the Development of the Republic of Karelia is implemented in two stages: 2016–2017 and 2018–2020. The programme budget totals to 134 889.3 mRUB and consists of federal and regional budget funds, and extrabudgetary sources.

The Programme provides for the following project on the territory of the Lake Onega and White Sea Petroglyphs World Heritage Site.



In the Pudozhsky District:

- development of the power infrastructure (gasification) as part of the communal services construction and reconstruction activities;
- reconstruction of the quay wall in the settlement of Novosteklyannoye of the Shalsky Rural Settlement;
- construction of a gas pipeline to provide power facilities for mineral resource development;
- upgrade of 5 fire station buildings in the settlement of Shalsky.

In the Belomorsky District:

- construction of an oil refinery in Belomorsk;
- reconstruction and upgrade of 5 fire station buildings in Belomorsk;
- construction of a mining and refining facility at the Lobash molybdenum deposit (Molybdenum-Karelia Limited Liability Company);
- construction of an oil refinery in Belomorsk (Innovative Industrial Group Limited Liability Company).

The 2020 Federal Target Programme for the Development of the Republic of Karelia is expected to achieve the following results:

- improved investment and entrepreneurial climate in the Republic of Karelia favouring investment, development of export oriented and import substituting production, higher competitiveness of the Republic of Karelia in the North-Western Federal District due to eliminated infrastructure restrictions on economic development;
- key indicators of socio-economic efficiency (vs 2013):
- a 1.5 increase in capex in comparable prices;
- lower general unemployment by 0.7 p.p.;
- 18 thousand new jobs.

The Republic of Karelia is an important frontier and peripheral region with an economic and strategic component. Subject to the 2020 Russian National Security Strategy (approved by the Decree of the President of the RF No. 537) dd 12 May 2009), ensuring sustainable development both on national and regional scale is an important component of security and socio-economic prosperity of the country. In this respect, the 2020 Federal Target Programme for the Development of the Republic of Karelia is targeted at sustainable and progressive development of the region, decent and comfortable life, and higher competitiveness of the region.

## **7.2 Sustainable tourism development on the site area**

According to the World Travel and Tourism Council's estimates, the tourism sector amounted to 10.4% of the global GDP in 2017<sup>11</sup>. Tourism and world heritage are natural partners that complement each other. In fact, all world heritage sites become tourist attractions, which is an advantage for the sites on the one hand, and a problem for the site managers on the other hand.

Generally, heritage is a powerful resource that activates sustainable development strategy. Local communities being the main drivers of sustainable development can develop local economies as small businesses in tourism and social services, expand cultural services, eradicate poverty and diversify entrepreneurship. In other words, using the potential of the culture and natural heritage in

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<sup>11</sup> Travel & Tourism Economic Impact 2018 World

socio-economic terms guarantees area sustainability and sustainable development of the site and its neighbourhood.

The site being naturally exposed to great risks due to large amounts of visitors, requires a reasonable model of sustainable tourism development and an action plan against risks and threats to be developed.

*The United Nations World Tourism Organization, UNWTO defines sustainable tourism as “Tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities”<sup>12</sup>*

*The UNWTO states that stable balance must be established between the three dimensions of tourism development to guarantee its long-term sustainability:*



*Therefore, according to the UNWTO, sustainable tourism should:*

- 1) Make optimal use of environmental resources that constitute a key element in tourism development, maintaining essential ecological processes and helping to conserve natural heritage and biodiversity.*
- 2) Respect the socio-cultural authenticity of host communities, conserve their built and living cultural heritage and traditional values, and contribute to inter-cultural understanding and tolerance.*
- 3) Ensure viable, long-term economic operations, providing socio-economic benefits to all stakeholders that are fairly distributed, including stable employment and income-earning opportunities and social services to host communities, and contributing to poverty alleviation.*

<sup>12</sup> UNWTO's web-site <http://sdt.unwto.org/content/about-us-5>

### **How tourism can help achieve the Sustainable Development Goals**

*In the context of the 2030 Agenda for Sustainable Development, tourism can make direct or indirect contributions to the achievement of all the goals (17 Sustainable Development Goals and 169 sub-goals). In particular, tourism as a strategic tool is part of Goals 8, 12 and 14 that address sustainable economic growth, sustainable consumption and production, and sustainable use of oceans and sea resources.*

*“Use of tourism advantages will have a decisive impact on the achievement the Sustainable Development Goals and implementation of the development programme after 2015.”*

*Ban Ki-moon, Secretary-General of the UN, World Tourism Day 2014*

*The United Nations Conference on Sustainable Development (Rio+20) held in 2012 saw heads of states approve the 10 Year Framework of Programmes on Sustainable Consumption and Production Patterns (10YFP) and stated that global sustainable development requires fundamental changes in production and consumption.<sup>13</sup>*

*Since February 2018, the 10 Year Framework of Programmes on Sustainable Consumption and Production Patterns has been operating as a collaborative platform, the One Planet – Sustainable Tourism Programme, to bring together existing initiatives and partnerships and facilitate new projects and activities to accelerate the shift to sustainable consumption and production (SCP) in tourism.*

*The programme focuses on four areas of work: 1) integrating SCP in tourism related policies and frameworks; 2) promoting collaboration among stakeholders for the improvement of the tourism sector’s SCP performance; 3) fostering the application of guidelines, tools and technical solutions to mainstream SCP for destinations, enterprises and tourists; and 4) enhancing sustainable tourism investment and financing<sup>14</sup>.*

### **7.2.1 Tourism Passport of the Republic of Karelia<sup>15</sup>**

#### **Tourism governing authorities**

The regional level – The Tourism Administration of the Ministry of Culture of the Republic of Karelia

The municipal level – 61% of the republic’s municipalities have an officer or a department in charge of tourism development.

#### **Documents governing the development of the area**

- The Law of the Republic of Karelia on Certain Issues of the Small and Medium Businesses Development in the Republic of Karelia No. 1215-ZRK dd 03.07.2008;
- The State programme of the Republic of Karelia for the Development of Tourism in the Republic of Karelia in 2016–2020 approved by the Resolution of Government of the Republic of Karelia No. 11-P dd 28 January 2016. The programme provides for 1 mln organized tourists a year and 1 bnRUB of annual extrabudgetary investment in the tourism infrastructure.

#### **Priority types of tourism**

<sup>13</sup> The 10 Year Framework of Programmes on Sustainable Consumption and Production Patterns (10YFP) <https://sustainabledevelopment.un.org/index.php?page=view&type=400&nr=1444&menu=35>

<sup>14</sup> One Planet – Sustainable Tourism Programme <http://sdt.unwto.org/about-10yfp-stp>

<sup>15</sup> Based on the Unified Tourism Passport of the Republic of Karelia, 2016. The Ministry of Culture of the Republic of Karelia

Ethnocultural tourism: over 4600 cultural heritage sites – monuments of architecture and urban development, history, archeology, 18 historic-cultural and ethnocultural areas, 5 cities, historic settlements;

Active tourism: jeep-tours, rafting, White Sea diving, cycling trips, snowmobile safaris;

Event tourism: Onega sailing regatta, City Day, Olonetsky Games of Father Frosts, Kindasovo (Kinnas), Traditional shipbuilding and navigation festival, Jänisjärvi Hare Lake International Fishing Festival;

Rural tourism: over 500 families receive tourists in rural homesteads, serving over 10 000 people a year;

Country-side tourism: country-side houses, tourist centres, park-hotels;

Environmental tourism: the Three Bears Zoo

### **Seasonal fluctuations of tourism services**

The hot season: May through September (60–80% of tourists);

Smallest flow: autumn, spring;

All-season and inter-seasonal tourism services are currently being promoted (jeep trips, snowmobile and quadricycle safaris); event tourism is of particular focus.

### **Tourist flows**

Russian Federation: Moscow, Saint Petersburg, Murmansk, Vologda

Abroad: Finland, Sweden, Germany, Italy, France, Spain, China

### **Main tourist attractions of the Republic of Karelia**

- Petrozavodsk points of interest;
- The Kizhi Island (the Medvezhyegorsky District);
- The Kizhi Necklace (the Medvezhyegorsky District);
- Valaam, the Valaam Monastery (the Sortavala District);
- the Solovki, the Solovetsky Islands (the Arkhangelsk Oblast);
- the Marcial Waters Resort (the Kondopoga District);
- the Kivach Falls (the Kondopoga District);
- Petroglyphs: Besov Nos (Lake Onega) and the Vyg River (the Belomorsky District);
- the seita of the Kuzova Islands in the White Sea and atop Mount Vottovaara (the Muyezerky (Mujehdjärvi) District);
- the labyrinths of the Solovetsky Islands (the Arkhangelsk Oblast);
- The Ruskeala Marble Quarry (the Sortavala District);
- Ancient villages: Shyoltozero (Šoutjärvi), Kinerma (Kinnermy), Manga (Man'gu), Rubchoila (Rubčoilu), Korza (Korzu);
- Karelian points of interest related to the Karelo-Finnish epos of Kalevala: Voknavolok (Vuokkiniemi), Kalevala (Ukhta), Voynitsa (Vuonnini);
- Skerries of Lake Ladoga (Sortavalsky, Lahdenpohja, Pitkäranta Districts);
- Architectural points of interest of near Lake Ladoga;
- Ancient volcanoes;
- the Vazhozersky Monastery, Muromsky Monastery;
- Military historic points of interest of Karelia: the Medvezhyegorsk Defence Line, the Mannerheim Line.

### **Annual tourist flow**

The total volume of inbound organized tourist and sightseer flow in the Republic of Karelia amounted to: 595 thd people in 2013; 655 thd people in 2014; 750 thd people in 2015.

### **Tourism economic contribution**

The total gross income from all types of inbound tourism in the Republic of Karelia amounts to 4.5% of Karelia's GRP.

### **Investment projects<sup>16</sup>**

The Federal Target Programme for the Development of Domestic and Inbound Tourism in the Russian Federation for 2011–2018 provides for the Republic of Karelia to create South Karelia and White Sea Petroglyphs tourist recreation and caravanning tourism clusters (Resolution of the Government of the RF No. 534 dd 11 June 2016).

Clusters in general:

- South Karelia tourist recreation cluster: a complex of 10 tourist activity centres united with a network of routes and projects in five municipal districts of the republic within 1–3 hour distance from each other providing 218 facilities of tourism infrastructure, 53 facilities of tourist observation, and 36 facilities of the supporting infrastructure.

The total investment to be attracted to the cluster amounts to 2 714 800 000 RUB, including extrabudgetary funding – 1 900 000 000 RUB, budgetary funding – 814 800 000 RUB (of which 135 800 000 RUB – the budget of the Republic of Karelia, 679 000 000 RUB – the federal budget).

The South Karelia tourist recreation cluster is expected to yield the following results by 2018:

- Additional annual tourist flow up to 250 thd people;
- Increase in group accommodation capacity by 1772 beds (less camping);
- 789 new jobs.

- The White Sea Petroglyphs caravanning cluster: As the White Sea petroglyphs are on the itinerary of more than 90% organized groups and individual tourists visiting Historic and Architectural Complex of the Solovetsky Islands, and on known domestic and international tourist routes to Valaam, Kizhi Island, and the Kuzova Islands, the caravanning cluster is intended to create and develop a tourist infrastructure on archeological heritage sites, promote the White Sea petroglyph brand and the tourism product – open-air museum.

The project provides for:

- Installing protective equipment and fences on tourist routes
- Installing whether shelters and equipped areas for rest and dining
- Installing billboards with rules and information on health risks
- Developing tourist routes taking into account the climate.

The total investment to be attracted to the cluster amounts to 63,6 mRUB, including extrabudgetary funding – 44,5 mRUB, budgetary funding – 19,1 mRUB (of which 3,82 mRUB – the budget of the Republic of Karelia, 15,28 mRUB – the federal budget).

The White Sea Petroglyphs tourist recreation cluster is expected to yield the following results by 2018:

- Annual tourist flow to increase by 36 thd people (of which 10% foreigners);

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<sup>16</sup>According to the Investment Portal of the Republic of Karelia, <http://kareliainvest.ru/republic-for-investors/projects/turizm/>

- Increase in group accommodation capacity by 150 beds;
- Creation of 50 new jobs;
- Site integration into existing tourist routes of the Russian North West;
- Organizing an inter-regional theme platform for event tourism

The implementation of the tourist recreation and caravanning clusters of South Karelia and the White Sea Petroglyphs is expected to increase the annual tourist flow (including sightseers) to the Republic of Karelia by 160 thd tourists, create 840 new jobs and more than 2000 beds in group accommodation facilities.

Total investment in Karelian cluster projects is 3279.6 mRUB (federal budget funds – 787.3 mRUB, the budget funds of the Republic of Karelia – 196.9 mRUB, extrabudgetary sources – 2295.4 mRUB).

### **7.2.2 Tourism Passport of the Pudozhsky District<sup>17</sup>**

#### **Tourism governing authorities**

- The Pudozhsky Municipal District Administration: Chief Specialist in Culture and Tourism.
- The Economic Department of the Pudozhsky Municipal District Administration: chief specialist in charge of tourism development and other issues.
- The Architecture, Urban Planning, Property and Land Department of the Pudozhsky Municipal District Administration.

#### **Documents governing the development of the area**

The Departmental Programme for the Development of Tourism in the Pudozhsky Municipal District in 2014–2018 (Decision No. 53 dd 30.05.2014 of the VII Session of the 3rd Council of the Pudozhsky Municipal District). Total planned finance – 931.0 kRUB.

#### **Priority types of tourism**

Cultural and educative tourism: a large number of architectural and historic monuments;

Active tourism: fishing, cycling tours, rafting or kayaking on river rapids and lakes.

Environmental tourism: the Vodlozersky Natural National Park, the Muromsky State Integrated Landscape Reserve of Regional Significance.

Rural tourism: The historic village of Päl'mä, Village Chat-In (evening get-togethers with folklore elements in the settlement of Krasnoborsky), Karelian Kalitki (kalitki baking master-class in the village of Yarchevo).

#### **Tourist flows**

The main tourist flow comes from the Vologda Oblast through the Medvezhyegorsky District, by water in summer.

#### **Main tourist attractions**

- The Vodlozersky National Park;
- the Ilyinsky Pogost, the Saint Elijah Vodlozersky Male Monastery;
- the Alexander Nevsky Podvorye Cathedral of the Murom Monastery;
- the A.F. Korablev Pudozhsky Local Lore and History Museum;
- the Lake Onega Petroglyphs;

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<sup>17</sup> Based on the Unified Tourism Passport of the Pudozhsky District the Republic of Karelia

- the Chernaya River and Shalitsa River glass factories;
- the Nemetskaya Mountain in Steklyanny;
- the Great Patriotic War beds of honour in the villages of: Rimskoye, Tuba, Peschanoye, Avdeevo, Pudozh, Bochilovo, the settlement of Shalsky;
- The monument at the Red Army cemetery in Pudozh;
- The memorial sign to the victims of political repressions in the Chernaya Rechka landmark (9 km from Pudozh).

#### **Annual tourist flow**

The district is visited by 20 000 tourists (the Vodlozersky National Park receives ca. 7000 visitors a year). Up to 65% are non-organized independent tourists.

#### **Proposed investment projects**

Tourist infrastructure development in the Pudozhsky District of the Republic of Karelia: tourist infrastructure development and creation of additional tourist flows on account of the cluster approach. The project covers 9 years with 800 mRUB of expected total project cost.

The Onega Petroglyphs eco-archeological park: museumification of archeological sites and conservation of natural landscape through creating an infrastructure and year-round research centre. The expected project cost is 250 mRUB within a public-private partnership.

### **7.2.3 Tourism Passport of the Belomorsky District<sup>18</sup>**

#### **Tourism governing authorities**

The Municipal Treasury Inter-Settlement Institution of the Administration for Physical Culture, Youth Affairs, and Tourism Development of the Belomorsky Municipal District

#### **Documents governing the development of the area**

The Municipal Programme for the Development of Physical Culture, Sports, Tourism, and Youth Policies in 2016–2020 in the Belomorsky Municipal District.

#### **Priority types of tourism**

Cultural and educative: The White Sea petroglyphs, the Church of Peter and Paul (1625) in the village of Virma, the Church of Nicholas the Wonderworker (1602), the Chapel of the Mandylyon (1672) on Troitsky (Trinity) Island of Lake Mujehdjärvi);

Active tourism: hunting, fishing, rafting, cycling tours;

Environmental tourism: two landscape reserves: Shuyostrovsky (10 thd ha) and Soroksky (73.9 thd ha)

Religious tourism: the Cathedral of Zosimas, Sabbatius and Herman of Solovky, the memorial cross in Belomorsk. the Solovetsky Monastery (the Sapphire Motor Ship from Belomorsk).

Sports tourism: municipal tournaments

#### **Tourist flows**

Given district's transport accessibility, the tourist flow comes:

- from the north (Murmansk),
- east (Arkhangelsk, Vologda),
- the south (Moscow, Saint Petersburg).

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<sup>18</sup> Based on the Unified Tourism Passport of the Belomorsky District of the Republic of Karelia

### **Main tourist attractions**

- the wooden Church of Peter and Paul
- the wooden Church of Nicholas the Wonderworker
- A sawmill workshop of the Petr Belyaev and Heirs Co.
- Bed of honour of the soldiers who perished in the Great Patriotic War in 1941–1945 with Vasily Ivashkin (1908–1942), Hero of the Soviet Union, buried
- Bed of honour of the canal builders
- Zalavruga rock art
- Besovy Sledky rock art.
- Seafaring boat of the 18th century.
- The White Sea–Baltic Canal structures

### **Annual tourist flow**

Tourist flow in the district amounts to ca. 29 800 people a year (according to group accommodation facilities' data). Moreover, up to 70% of the tourist flow is not accounted for. They visit the points of interest on their own, mainly the White Sea Petroglyphs archeological site, transit to the Solovetsky Islands, or go rafting along the district rivers.

### **Investment projects**

- Creating the Hyperborea tourist cluster in the Belomorsky District of the Republic of Karelia in 2015–2018: with 379.2 mRUB of total investment, the investment project provides for the following action plan:

- construction of motel's second phase (40 beds) and camper site (15 lots) in the settlement of Pushnoy.

- Completion of the reconstruction of the Gandvik Hotel in Belomorsk.
- A 100-bed eco-hotel in Belomorsk (holding title: the White Sea Petroglyphs).
- Arranging of ski and cycling tracks near Belomorsk's eco-hotel.
- A 500 m<sup>2</sup> thematic exhibition hall in Belomorsk.
- Development of the Okhtinskoye hunting facility.

- Developing a system of tourist routes (including fishing, hunting) in the Belomorsky and Kemsky Districts (including the development of the Vyg River 10 km rafting route, fishing routes in the villages of Gridino and Kalgalaksha of the Kemsky District).

- Reconstruction of the Besovy Sledky pavilion of the White Sea Petroglyphs tourist recreation cluster in 2016–2020: the Besovy Sledky pavilion is planned for reconstruction and rational use with expected investment in amount of 24.20 mRUB.

### **7.2.4 Tourism development guidelines**

- For the purposes of the sustainable tourism development strategy;
- in accordance with the 5Cs strategy of the World Heritage Convention (see Section 5 “Development of Strategic Goals and Tasks in the Lake Onega and White Sea Petroglyph Site Management”);

- in accordance with the sustainable tourism concept as defined by UNWTO (see Section 7.2 “Sustainable Tourism Development on the Site”);

- as part of the 2020 Federal Target Programme for the Development of the Republic of Karelia, the State programme of the Republic of Karelia for the Development of Tourism in the



Republic of Karelia in 2016–2020, the Departmental Programme for the Development of Tourism in the Pudozhsky Municipal District in 2014–2018 and the Municipal Programme for the Development of Physical Culture, Sports, Tourism, and Youth Policies in 2016–2020 in the Belomorsky Municipal District;

- and in accordance with the principles and provisions of the 1972 Convention Concerning the Protection of the World Cultural and Natural Heritage and its Operational Guidelines,

The management and development of the Lake Onega and White Sea Petroglyphs World Heritage Site shall be governed by the following guidelines:

1) as part of accelerated socio-economic development of the site area, the development of the resort and recreation service complex for tourism development: improving transport accessibility of the view points, construction of tourist infrastructure, creation of a centralized route network with tourist service centres;

2) active investment policy to attract funds for ensuring a balanced social and economic development of the municipality and increasing its competitiveness on the tourist service market;

3) attracting local people to making decisions with the authorities governing tourist activities in the site area;

4) active interaction and collaboration of all stakeholders to achieve social consensus and enhance conservation processes, popularize the world heritage site and reduce its risks;

5) promotion of the Lake Onega and White Sea Petroglyphs' image to ensure efficient and optimal use of the site potential.

6) balanced distribution of the benefits from the tourist use of the site and investing the profit in the protection, conservation and management of the heritage site to avoid negative impact and improve site management, monitoring, and security systems.

#### **7.2.5 2027 site tourism development perspective**

World cultural heritage (the Kizhi Pogost World Heritage Site, the World Heritage List nominee Lake Onega and White Sea Petroglyphs), national customs and traditions of the Russian North, unique nature and the landscape around, favourable ecological situation, favourable geopolitical location near the border make tourism in the Republic of Karelia a priority development vector for the decades to come. In this respect, sustainable tourism development in the Lake Onega and White Sea Petroglyph Site area is a promising economic sector of the region.

In accordance with the site area tourism development guidelines, socio-economic situation of the Republic of Karelia and relevant municipalities, and in accordance with the regional tourism development programmes, the tourism development perspective on the Lake Onega and White Sea Petroglyph Site area and the neighbourhood until 2027 provides for the following.

##### Economic component:

- Creating a favourable investment climate, detecting and supporting main and promising points of growth of the tourism sector at the site, attracting investment to the site;
- Creating and developing small and medium businesses in tourism, creating new jobs, involving people in creating new tourist services;

*In accordance with the 2016–2020 Pudozhsky Municipal District Comprehensive Socio-Economic Development Programme, the district administration made a list of vacant land plots that may be used for investment projects, including for the construction of tourist infrastructure (13 sites) with a total*

area of 36.5 ha.

- Improved economic situation of the Pudozhsky and Belomorsky Municipal Districts on account of tourism development at the site of the Lake Onega and White Sea Petroglyphs → improved quality of life and well-being of the local people on account of new jobs in the tourist sector → reduced out-migration from the above districts.
- Development of tourist infrastructure intended to increase tourist flow as a result of popularizing the site of the Lake Onega and White Sea Petroglyphs as a world heritage site: expanded hotel room stock, expanded number of dining and leisure areas, expanded road-side infrastructure, road repair in rural areas.

Currently, based on the Unified Tourism Passport of the Pudozhsky District the Republic of Karelia, the Pudozhsky District has catering and accommodation facilities operating in close vicinity to the Lake Onega Petroglyphs component (officially registered; less services provided by local residents illegally):

- Accommodation facilities: Karshevo Guest House (the village of Karshevo, 14 beds), guest houses in the village of Shalsky (16 beds), OOO Karelonego Guest Houses (the village of Shalsky, 42 beds), the Onego Hotel, (Pudozh, 90 beds), the Uyut Motel, (Pudozh, 60 beds), the OOO TF KarelOnego Hotel (Pudozh, 40 beds), At Papa Karlo's Guest Houses (Pudozh, 50 beds).
- Catering facilities (Pudozh): the Nostalgie Café, the Belye Nochy Café, the Shturval Café, the Uyut Café, the Pudozhskoye Raypo Café, the Dorozhniye Café, the PU-22 Students' Canteen, the Bistro Café, the Svetlana Café & Bar, the Sportmenu Café, the Sushi-ot-Katyushi Café.

Based on the Unified Tourism Passport of the Belomorsky District of the Republic of Karelia, the White Sea Petroglyphs component has the following operating facilities (officially registered; less services provided by local residents illegally):

- Accommodation facilities (Belomorsk): the Gandvik Hotel (90 beds), the Na Gertzena 16 Hotel, the Chayka Mini-Hotel, the Sarafan Mini-Hotel.
- Catering facilities (Belomorsk): Pomorskaya Kukhnya Restaurant, the Slastyona Café, the Aquatoria Café, the Gorodok Café, the Europa Café, the Rechnoye Café, OOO Sever Snack-Bar.

- Promotion of the site as a tourist facility for a multi-day stay (given its seasonal accessibility by tourists); development of specific types of tourism, including priority development of cultural and educative, active, rural, and environmental tourism.
- Promotion of the Lake Onega and White Sea Petroglyph Site on the international and Russian tourist markets, participation in international tourism projects;

The White Sea Petroglyphs site (Zalavruga) holds primaeval art festivals as part of the Russian-Finnish Rock Art Bridge project financed under the European Neighbourhood and Partnership Instrument, the northern countries cross-border collaboration programme.

- Inclusion of the Lake Onega and White Sea Petroglyph Site in a network of inter-regional and regional excursion programmes.

The main excursion programmes for tourists coming to the Republic of Karelia (in accordance with the Unified Tourism Passport of the Republic of Karelia):

- Petrozavodsk – Kondopoga – the Kivach Falls – Hirvas – Marcial Waters bus excursion. Classical excursion around the Central Karelia;
- Petrozavodsk – Valaam – Ruskeala one-day bus excursion ;
- Excursion to the Kizhi Island. One-day hydrofoil trip with visits to world-famous monuments of

wooden architecture: the Church of Transfiguration of Jesus, the Church of Intercession of the Theotokos, Oshevnev's House etc.

– Petrozavodsk is also a starting place for excursions to the Solovetsky Islands (the Arkhangelsk Oblast).

The socio-cultural component:

- The development of ethnic identity of the ethnicities living together in the site area; consolidation of various social and ethnic groups; the development of patriotism in society: the world heritage site being a special pride of a member country of the World Heritage Convention in general, and the host community in particular.

*Ethnicities in the Republic of Karelia: 76.6% Russians, 9,2% Karelians, 5,2% Belorussians, 2,7% Ukrainians, 2% Finns, 0,75% Vepsians.*

- Conservation of historic settlements, conservation and restoration of the unique architecture of the Russian North;
- Conservation and revival of the cultural traditions of the site area: revival of folk art, crafts and trades, folk parties and traditional folk festivals;

*Tourist souvenirs, including pieces of folk arts, crafts and trades*

*The Pudozhsky District: wood carving (bird of happiness, kantele, souvenir spoons, pictures), Novozaimskaya clay toy, birch bark (torcs, necklaces, horns, roses), beadwork (friendship bracelet, floral compositions), salt dough (framed panels, small toys), wood-chip, willow, rushlight weaving (baskets, birds of happiness), textile weaving, macramé etc.*

*The Belomorsky District: unique pieces of handicraft – bags, purses and wallets, magnets, bandanas, mittens, homespun mats, amulet dolls, and other handicraft in various traditional and modern techniques – patchwork, textile weaving, ornamental knitting, printing handicraft, birch bark, stone handicraft etc.*

Event tourism. The Belomorsky District:

*The Zalavruga site of the White Sea petroglyphs holds a Primaeval Art Festival on 12 June every year: the festival participants are dressed up like primaeval people. The festival holds interactive games with traditional northern competitions in bravery, strength, and adroitness; stage shows about ancient people and rock art. The visitors go on excursions, take master-classes, make copies of the petroglyphs, ancient decorations, clay souvenirs, pictures as a keepsake, try to make fire without matches or lighters.*

Environmental component:

- Managing tourism impact on the natural environment: reducing negative impact on the natural component, monitoring tourist impact on nature, conservation of the unique natural landscape;
- Development of traditional and alternative use of natural resources, environmental tourism;

*Unique natural objects near the Lake Onega and White Sea Petroglyph Site:*

– *The Pudozhsky District: The Vodlozersky National Park, assigned a biosphere reserve status in 2001 by UNESCO (the first in the Russian national park system) and the Muromsky Landscape Reserve that hosts most the archeological sites of the Lake Onega Petroglyphs component.*

– *The Belomorsky District: two landscape reserves: Shuyostrovsky (10 thd ha) and Soroksky (73.9 thd ha) created to protect multiple sea animals and birds.*

### **7.2.6 Sustainable development of tourist infrastructure**

A potential growth in the number of visitors to the site of Lake Onega and White Sea Petroglyphs in the future requires consideration of sustainable development issues of the tourist infrastructure of the site components. At the same time, the development plans for the tourist infrastructure of the site must be in line with the goal of preserving the OUV of the site. Therefore, the elements of the tourist infrastructure proposed by the management plan take into account preservation of the OUV and integrity of the site, complementing the existing infrastructure for receiving visitors.

Note that locations of the proposed infrastructure elements depend on the visiting routes implemented on the site components that are open for tourists. Infrastructure element installations must take into account the archeological component of the international significance of the site. Future visitor infrastructure elements must be temporary structures, sufficient, and installed in strategic places. The infrastructure elements must be located where: first, they make a minimum impact on the archeological or natural components of the Lake Onega and White Sea Petroglyph heritage, second, the largest visitor flows and, therefore, the biggest demand for tourist infrastructure is expected, such as leisure areas, toilets, and souvenir shops.

The following elements of temporary tourist infrastructure were defined for the purposes of sustainable tourism development on the visitable site components:

#### **Souvenir shops**

Souvenirs make not only beautiful tangible memories, but also good gifts that increase awareness of the site. The souvenirs sold on the site components must be closely related to the site. Moreover, most of the revenue from the souvenir sales must be used for site preservation and research. Currently, only one site component has souvenir shops: the Zalavruga Petroglyphs (the White Sea Petroglyphs component). An increase in the number of temporary souvenir shops in the hot season on other visitor accessible site components should be considered as well. The solution will support the host community and business.

#### **Benches and leisure areas**

The visitable site components have a relatively small area. Note that such visitors as families and seniors need places for rest. Benches and leisure areas should be installed along walking routes.

Their design should blend with the environment of the components. They must not be stationary. The most adequate solution could be wooden benches, picnic and leisure areas.

#### **Toilets**

Toilets are essential in terms of arranging visits to the heritage sites. They must be sufficient, located in various places to serve the growing number of visitors. Bio-toilets should be preferred to stationary toilets.

#### **Waste containers**

Separate waste collection containers (paper, plastic, metal, organic substances) should be installed in various places. Their design should blend with the component environment.

### **7.2.7 Organizing tourist routes**

Currently, the two clusters of the Lake Onega and White Sea Petroglyph Site are not

connected with a common tourist route. The significant distance between the two clusters (over 300 km) is a key issue for sustainable tourism development on the site. The issue could be resolved by creating a separate two-day tourist route that covers the visitable components both at Lake Onega and the White Sea with overnight stops in nearby settlements for rest. The solution can also contribute to the development of the local communities and business.

A potential future growth in tourist flow on the site of the Lake Onega and White Sea Petroglyphs requires consideration of opening and equipping other site components for visits. The selection of new components for visits must primarily take into account both tourist safety, and security of the rock art monuments themselves.

#### **7.2.8 Site visit management**

Managing visits to the Lake Onega and White Sea Petroglyph Site is a priority task to be solved as part of the site development. Currently, the Belomorsky District Local Lore Museum of the White Sea Petroglyphs (Municipal Budgetary Institution) only organizes controllable visits to the Zalavruga Petroglyphs (a component of the White Sea Petroglyphs).

### **The Belomorsky District Local Lore Museum of the White Sea Petroglyphs (Municipal Budgetary Institution)**

The museum opened in 1961 and currently holds a collection of the Pomor household and cultural items, a collection of archeological excavation items from the downstream Vyg River (stone axes, knives, arrow and spear heads, scraper, grinding stones), historic documents, photos, personal items of the Belomorsky District dwellers, including those of heroes and participants of the Great Patriotic War of 1941–1945. In 2008 the museum opened an exposition hall where it holds ca. 10 thematic exhibitions every year.

The museum employs 7 people: the director, the custodian of the museum holdings, methodologist, 2 lecturers, and museum attendant.

On 25 September 2014, the White Sea Museum was granted a 29652 m<sup>2</sup> forest reserve land plot with the Zalavruga archeological monument to use in perpetuity. Certificate of State Registration of Title 10 АБ 666334 dd 25.09.2014. On 2 April 2015, the White Sea Museum was granted operative management over the Besovy Sledky pavilion. Certificate of State Registration of Title 10 АБ 691724 dd 02.04.2015.

Currently, due to the reconstruction of the Besovy Sledky pavilion, only the Zalavruga petroglyphs receive organized visitors. The Museum offers a 2.5–3 hours guided vehicle and pedestrian excursion to the White Sea petroglyphs to groups of 30 people or below. Visits to Zalavruga are free of charge: any tourist may reach the White Sea petroglyphs on their own and view the archeological heritage site.

Interaction with the regional and municipal authorities regarding the conservation, management and popularization of the site is carried out on a routine basis through inspections, reports, museum participation in the Panel for Preservation and Research and Practice Conferences of the Ministry of Culture of the Republic of Karelia.

Popularization of the White Sea Petroglyphs archeological site, including bringing up a conscientious attitude of the host community and tourists to the monument, and its promotion on the tourism service market are a priority task of the White Sea Museum. The White Sea Museum was the beneficiary of the International Rock Art Bridge Project, initiated and held annual Primaeval Culture Festival (the Primaeval Culture Festival was supported by the Timchenko Foundation in 2018), took multiple parts in of the Radio Russia Karelia broadcasts related to the preservation of cultural heritage, the Primaeval Culture Festival was awarded a Project Idea prize at the 5th Russian National Event Tourism Contest in 2018. The museum employees authored articles in the Belomorskaya Tribuna, a local newspaper. The museum has a web-site and is represented in social media.

The White Sea Museum is aiming to expand tourism services on the archeological site of the White Sea Petroglyphs, that is why it attracts small businesses and private entrepreneurs to sell souvenirs and provide catering at its events. Two self-employed local dwellers sell souvenirs, including of own making, during the tourist season. Weekends and days with large groups of visitors see itinerant trade supported by the White Sea Art Salon and catering provide by at least three local cafés (non-recurrent events).

The Zalavruga archeological site does not account for visitors on regular basis. The museum has made multiple attempts to monitor the flow involving volunteers but their data are uncertain. Accurate headcounts are only available for the sightseers served by the museum employees in accordance with

applications and financial documents.

The White Sea Museum provides excursion services in accordance with the price list of the services provided by the Local Lore Museum of the White Sea Petroglyphs (Municipal Budgetary Institution) approved by the Resolution of the Belomorsky Municipal District Administration No. 215 dd 28.03.2018. Travel agencies and large groups enjoy discounts (price list attached).

**Extract from the price list concerning the petroglyph services:**

| No. | Service description   | Price (RUB, per person)             |  |                 |              |
|-----|---|-------------------------------------|--|-----------------|--------------|
|     |   | Adults                              |  | Children        |              |
|     |   | Russian nationals, foreign tourists | Subject to agreements with travel agencies | School children | Preschoolers |
| 1.  | The Zalavruga Petroglyphs excursion   |                                     |  |                 |              |
| a)  | group up to 15 people   | 200                                 | 160  | 100             | 50           |
| b)  | group over 15 people  | 180                                 | 140  | 100             | 50           |
| c)  | with an interactive programme (photos with replicas of primaeval tools and in a primaeval costume, making picture copies) | 250                                 | 200  | 120             | 100          |
| 13  | A master class by a subcontractor (entrance fee included)   | 150                                 | 150  | 150             | 150          |
| 15  | Museum educational games (the White Sea, the Neolithic Camps), entrance fee included                                      | 50                                  | 50   | 50              | 20           |

See below the statistics of the number of excursions and museum visitors in accordance with the 8-NK Annual Report Form:

| Year | number of excursions | visitors. |
|------|----------------------|-----------|
| 2007 | 59                   | 1300      |
| 2008 | 136                  | 4600      |
| 2009 | 298                  | 11000     |
| 2010 | 290                  | 7400      |
| 2011 | 230                  | 5700      |
| 2012 | 244                  | 7000      |
| 2013 | 2217                 | 7000      |

|      |     |      |
|------|-----|------|
| 2014 | 280 | 7100 |
| 2015 | 428 | 7200 |
| 2016 | 390 | 7900 |
| 2017 | 305 | 7500 |

The Lake Onega Petroglyphs component, unlike the White Sea Petroglyphs, is off the popular tourist routes and is less accessible. The most visited petroglyph group of Lake Onega is the petroglyphs of Cape Besov Nos. Non-organized tourists reach it from the settlement of Shalsky by a boat rented from the local people. Tourists also visit the site by land walking from the village of Karshevo along the country road through the forest to Cape Besov Nos. These access methods are, unfortunately, illegal as the road goes through the Muromsky State Natural Reserve where car driving or parking is forbidden out of common roads.



The future site management system must provide for controllable visits to components of the Lake Onega Petroglyphs and White Sea Petroglyphs. To conserve the outstanding universal value of the site, organize sustainable development of the site area and the landscape around, contribute to the efficient management of and protect the site from negative impact, we recommend:

- calculate the maximum permissible anthropogenic load on the site and the adjacent area;
- develop additional excursion routes to organize controllable tourist flows;
- bring under regulations any activities within the site area and its buffer zones, comply with the general land use provisions within the buffer zones (for the Lake Onega Petroglyph component, the restrictions set for the Muromsky Landscape Reserve of Regional Significance): we recommend organizing regular inspections of the site area to detect violators.
- establish water transportation route operation modes: control over personal vehicles, counteraction against “jeepers,” legalize boat renting;
- organize observation and control over the tourist flow at the main archeological heritage sites (Zalavruga – the White Sea Petroglyphs, and Besov Nos – the Lake Onega Petroglyphs) by organizing supervision services at the local level (involving local people where possible);
- organize excursion support to archeological heritage sites (other than Zalavruga) involving local lore museums and local people as guides to minimize negative impact on the site (arson, mechanical damage, modern graffiti and carvings) and prevent emergencies related to sites’ labour capacity and changeable weather.

### **7.3. Setting up conditions for the sustainable development of local communities**

Communities play a vital role in the conservation of world heritage sites. A community in terms of world heritage is a dynamic process where people become heritage custodians and get involved in the site conservation process ensuring its sustainable development. A host community is group of people who live on the site or in its neighbourhood, or a group of people whose faith, cultural traditions and activities go hand in hand with the site.



The host community of the Lake Onega and White Sea Petroglyph Site is diverse and numerous: it includes rural and urban people who live in the settlements near the site components.

The local communities of the Pudozhsky and Belomorsky Districts are the main custodians of the unique culture of Russian North, local customs and traditions, they create and pass down the inimitable spirit of their land to their descendants. Local people's active and continuous participation is essential to productive and, first of all, sustainable area development and conservation of the outstanding universal value of the site of the Lake Onega and White Sea Petroglyphs.

Efficient site management requires consideration of the local people's needs, establishing direct relationship with them, and involving them in the site management and development system, keeping them aware of the events under the Management Plan, and helping them with social and economic problems.

The host community is the main custodian of the original culture and traditions, the main resource driving the Management Plan to achieve the main target: preserve the outstanding universal value of the Lake Onega and White Sea Petroglyph Site, develop its surrounding area, and conserve the unique natural landscape of Karelia which is an OUV attribute of the nominee site.

### **7.3.1 Local community description**

#### **Pudozhsky District<sup>19</sup>**

The population of the district with an area of 1270 ha amounts to 18528 people (as of 1 January 2018), with 9044 living in urban settlements. The urban population amounts to 48.81%, the rural population being 51.19%. Population density: 1.5/km<sup>2</sup>.

Ethnicities in the district: 83.6% Russians, 9.5% Belorussians, 2.4% Ukrainians, 0.9% Karelians, 0.3% Finns, 0.1% Vepsians. The district is a home to people of up to 40 ethnicities.

The district hosts 316 registered entities of all types of incorporation. As of 1 January 2018, Rostat's Statregister accounts for 363 private entrepreneurs who do business without incorporation.

Unemployment does not exceed 3.3%. However, the district experience continuous out-migration of employable people resulting in a disproportionately larger share of unemployable seniors in the population.

The local population is mainly engaged in the following industries: wood logging and processing, mining, food, and agriculture.

#### **Belomorsky District**

The district with an area of 1280 ha is a home to 16.3 thd people as of 1 January 2018, with the city of Belomorsk accounting for 59.36% of the entire district population. Average population density is 1.3/km<sup>2</sup>.

Ethnicities: Russians, Karelians, Belorussians, Ukrainians.

Registered unemployment is 5.4%.

The local population is mainly engaged in the following industries: timber industry, subsurface management, mining, fishery, tourism.



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<sup>19</sup> The official web-portal of the Republic of Karelia: <http://gov.karelia.ru/Regions/pudozh2.html>

Given the seasonality in potential site visits and increased tourist flow as a result of gaining the UNESCO World Heritage status, it is fair to assume that the nominated components of the Lake Onega and White Sea Petroglyphs in the Pudozhsky and Belomorsky Districts will become **special city-forming sites**: summers will require an increased number of employees involved on the site resulting in additional jobs and higher attractiveness of the municipal districts for the local people which should reduce out-migration of employable people.

### **7.3.2 Interaction with local communities**

Sustainable area development of the Lake Onega and White Sea Petroglyph Site requires that host community involve in the site conservation and management processes. In this respect, the management plan provides for a number of specialized activities intended to involve both separate groups of the local people (youth, seniors, local businesses), and facilitate interaction among the local communities of the Lake Onega and White Sea site clusters.

#### **7.3.2.1 Youth involvement**

As the youth out-migrates from the Pudozhsky and Belomorsky Districts to large cities and given their important role in the conservation and sustainable development of the Lake Onega and White Sea Petroglyph Site, the management plan must provide for the following activities to involve young people in the site component conservation and management:

- direct involvement of young people in the site conservation: attracting and training them in site conservation monitoring further employing them in the site administering bodies;
- organizing young volunteer camps on the site components;
- train in tourism business and provide subsidies for opening small tourism businesses to young people from the settlements near the site components.

#### **7.3.2.2 Senior people's involvement**

The senior people living in the settlements near the site components are bearers of intangible cultural heritage that goes hand in hand with the site of the Lake Onega and White Sea Petroglyphs. Moreover, senior people are skilled in traditional crafts that may be used for the sustainable tourism development on the site. In this respect, involving senior people of the local community requires:

- implementing a long-term programme intended to ensure inter-generational ties between the youth and the seniors of the host community.
- introducing silver volunteering programmes on the site, i.e. involving people over 50 years of age in volunteer projects.

#### **7.3.2.3 Local business involvement**

Local businesses' involvement in sustainable tourism development on the site contributes to the socio-economic development of the settlements in close vicinity to the components of the Lake Onega and White Sea Petroglyph Site. Currently, local small businesses' involvement in tourism services on the visitable site components is low. Increasing local business involvement requires:

- implementing training programmes in doing small tourism business;
- developing and implementing a code of conduct in tourism business on the site of the Lake Onega and White Sea Petroglyphs;
- implementing a subsidies programme for small tourism businesses targeting the site host community.

#### **7.3.2.4 Facilitating interaction among the local communities of the site clusters**

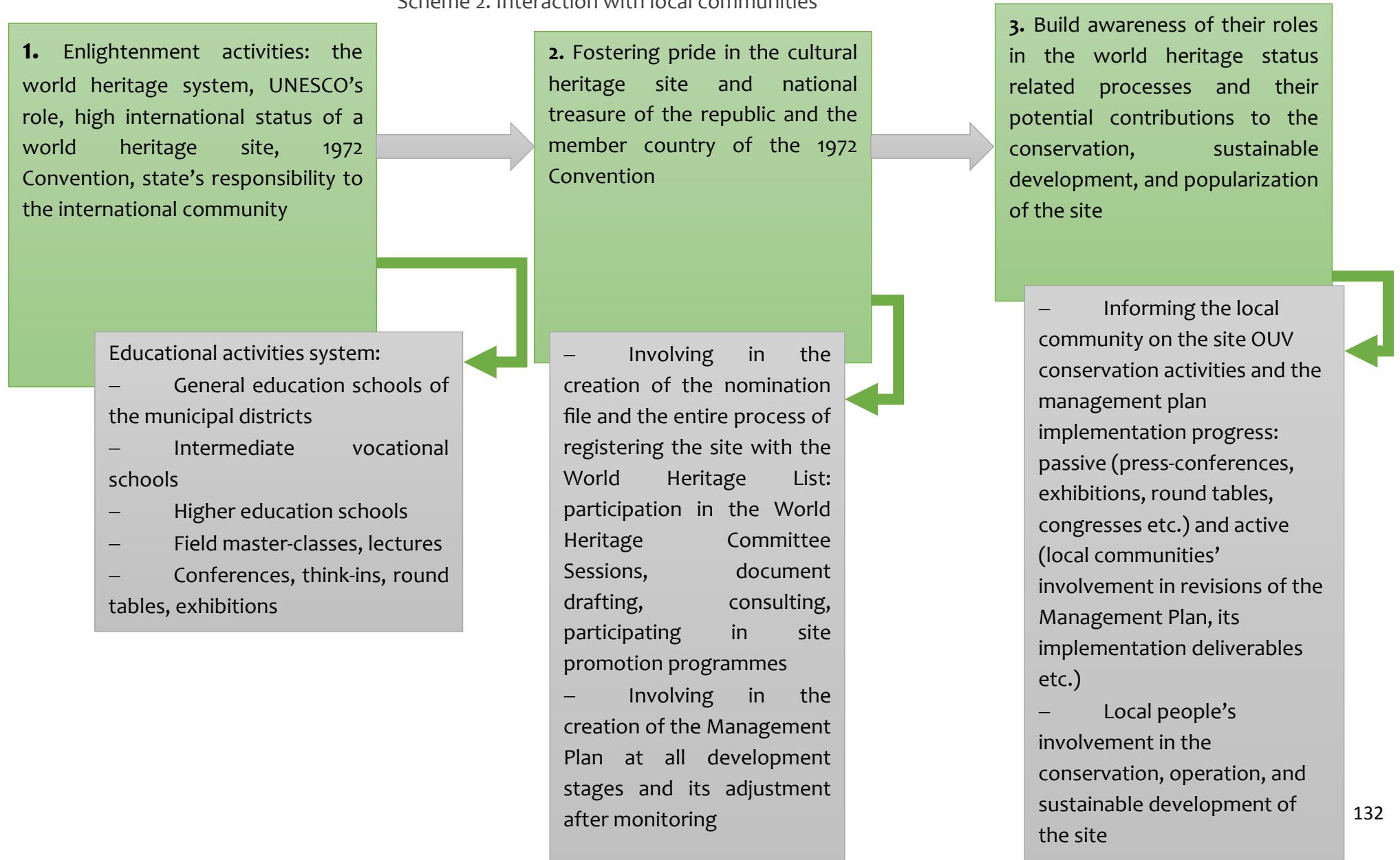
Interaction among the local communities of the clusters of the White Sea and Lake Onega site

is currently low. Facilitation interaction among the local communities is essential in terms of ensuring the integrity of the components of the Lake Onega and White Sea Petroglyph Site. This purpose requires following activities ensuring interaction among the local communities of the site components:

- organizing cross-excursions for school children on the components;
- holding Local Dweller Days at different site components of the Lake Onega and White Sea Petroglyph Site;
- holding various events that facilitate experience sharing among the settlement administrations in the Pudozhsky and Belomorsky Districts.

The following schemes show the activities that facilitate interaction with the local communities and their involvement in the conservation, operation, and sustainable development of the site.

Scheme 2. Interaction with local communities



Scheme 3. Potential processes of local community's involvement in the conservation, operation, and sustainable development of the site

|   |   |
|---|---|
| <p><b>Tourism</b></p> <ol style="list-style-type: none"> <li>1. <b>Museum and site guides</b></li> <li>2. <b>catering, accommodation facility, souvenir shop employees</b></li> <li>3. <b>creation of own souvenirs</b></li> <li>4. <b>creation of road infrastructure, facilitation of transportation</b></li> </ol>   | <p><b>Transmission of cultural traditions</b></p> <ol style="list-style-type: none"> <li>1. <b>creation of pieces of folk art</b></li> <li>2. <b>revival of craft workshops</b></li> <li>3. <b>holding folklore fests</b></li> <li>4. <b>revitalization of the Karelian village</b></li> </ol>  |
| <p><b>AREAS OF WORK</b></p>   |   |
| <p><b>Preservation of site OUV</b></p> <ol style="list-style-type: none"> <li>1. conservation and regeneration of the historic and natural environment and cultural landscape that is an integral part of the outstanding universal value of the site</li> <li>2. archeological monitoring of the site area and conservation of the archeological heritage site</li> <li>3. site security and safeguarding</li> </ol> | <p><b>Conservation of the unique natural landscape</b></p> <ol style="list-style-type: none"> <li>1. natural environment conservation activities in accordance with the zoning layout of the site area, its buffer zone and adjacent areas</li> <li>2. environmental enlightenment of tourists on the site</li> <li>3. participation in the cleaning of the site area, its buffer zone and neighbourhood</li> </ol> |

## **7.4 Popularizing and promoting the nominated site, and arranging an efficient use of its potential**

### **7.4.1 Promotion**

The site tourist promotion will focus on attracting visitors who, in turn, bring additional revenue for the site conservation and research activities, also ensuring sustainable economic development of the local community. At the same time, the tourism promotion activities will help disseminate information about the Lake Onega and White Sea Petroglyph Site and its international significance; attract charity funds, and increase awareness of the site among stakeholders regarding sustainable tourism development on the site.

The status of a potential world heritage site is a brand per se that is able to attract Russian and foreign visitors. However, attracting tourists should take account of potential negative impact on the site preservation that might result from an increase in tourist activity. Sustainable tourism, in this respect, needs more active promotion to ensure quality visits to the site components for various tourist groups.

#### **7.4.1.1 Promotion on the Russia market**

The site is popular with Russian visitors who prefer active and cultural tourism. Further site promotion activities on the Russian tourist market may include interaction with travel agencies, installation of billboard in the Republic of Karelia, presentations on radio and TV, and other activities adapted to the site's target audience. More precise targeting of the site audience should be based

on visitor analysis, including the information known to the visitors before they come to the site, and the information on heritage interpretation methods preferred by visitors (information panels, audio guides, excursions). The analysis should adapt the concept of excursion and educative activities conducted on the visitable components.

#### 7.4.1.2 Promotion on the international market

The Lake Onega and White Sea Petroglyphs, being hard to access and distant from the key points of interest and cities visited by international tourists, are not generally known to international tourists. International tourist market promotion of the site should include the following measures:

- Promotion through internet marketing: social networks, TripAdvisor, Wikitravel, lonelyplanet.com and other resources;
- Participation in international tourist fairs;
- Involving journalists and bloggers in the site promotion;
- Publishing articles in international tourist magazines, including airline magazines;
- Disseminating information about the site in hotels, airports, and railway stations in Petrozavodsk.

#### 7.4.2 Branding and positioning

Site branding as part of its promotion should take into account its OUV. Currently, the site does not have an integrated that could be used in its promotion. The site branding could use the most popular carvings of the Lake Onega and White Sea Petroglyphs.

In terms of sustainable development, the most promising types of tourism that takes into account the sites' natural environment are active, cultural, and environmental tourism. The site should be promoted on the tourist market accordingly.

The table below shows the measures of the Management Plan intended to popularize and promote the Lake Onega and White Sea Petroglyph Site and make efficient use of the site potential.

Table 13. Measures intended to popularize and promote the Lake Onega and White Sea Petroglyph Site

| Activities                            | Methods  | Entity in charge/Recommended measures   |
|---------------------------------------|--|---|
| <b>Academic research</b>              | Prepare and publish academic, popular science, and reference papers on the Karelian Petroglyphs.   | The Archeological Sector of the Institute of Language, Literature and History of the Karelian Federal Research Centre of the RAS (KarRC RAS, Federal State Budgetary Research Institution)  |
| <b>Popularization on the Internet</b> | Publishing information about the site: <ul style="list-style-type: none"> <li>– official site of the nominee site;</li> <li>– official sites of the regional and municipal executive authorities;</li> </ul> | Executive authorities: <ul style="list-style-type: none"> <li>– The Cultural Heritage Site Administration of the Republic of Karelia;</li> <li>– Pudozhsky Municipal District Administration;</li> <li>– Belomorsky Municipal District</li> </ul> |

|  |   |  |
|--|---|--|
|  | – sites of the regional and municipal museums.  | Administration.<br>Museums:<br>– the National Museum of the Republic of Karelia;<br>– The Belomorsky District Local Lore Museum of the White Sea Petroglyphs (Municipal Budgetary Institution);<br>– the A.F. Korablev Pudozhsky Local Lore and History Museum   |
| <b>Popularization through tourist information centers</b>        | Allocation of information and promotion materials in information centers  | – The Republic of Karelia Tourist Information Centre (State Budgetary Institution);<br>– The Petrozavodsk Tourist Information Centre (Petrozavodsk Municipality Budgetary Institution);<br>– The Onezhsky Bereg Inter-Regional Centre for Cultural and Spiritual Development (Non-commercial Partnership); |
| <b>Site popularization and promotion through exhibitions</b>     | Participation in international specialized exhibitions and fairs  | – “Hunting. Fishing. Tourism” (Karelia)<br>– Moscow International Travel & Tourism Exhibition, MITT (Moscow, Russia)<br>– Intourmarket (Moscow, Russia)<br>– Leisure (Moscow, Russia)<br>– MATKA-Nordic Travel Fair (Finland)<br>– WTM London (the UK)<br>– ITB Berlin (Germany)                           |
| <b>Promotion through partner-targeted advertising activities</b> | Information tours for promoting the site on the Russian and international levels:<br>— for federal mass media;<br>— for Russian and foreign tour operators. | The Republic of Karelia Tourist Information Centre (State Budgetary Institution)   |
| <b>Popularization and promotion through social</b>               | Vkontakte<br>Facebook   | Executive authorities (where available)  |

|  |   |  |
|--|---|--|
| <b>networks</b>  | Instagram<br>Telegram   | Museums (where available)  |
| <b>Popularization and promotion through region's tourist information resources.</b>              | Advertising across the region, promotional publications about the region, regional sites and video content  | <ul style="list-style-type: none"> <li>– www.visitkarelia.travel, the Tourist Karelia portal, www.all-karelia.ru, the Recreation in Karelia portal</li> <li>– www.visitpetrozavodsk.ru, portal of Petrozavodsk, the capital city of Karelia</li> <li>– Karelia travel guide: published under the departmental special-purpose programme since 2006, published by Scandinavia LLC</li> <li>– Map of Karelia; published by Scandinavia LLC, since 2004</li> <li>– Karelian Districts' Tourism Potential brochures; layout designed and printed by M-Press Media Publishing</li> <li>– Brochures on types of tourism; page layout designed and printed by M-Press Media, Petrozavodsk, 2011.</li> </ul> |
| <b>Site promotion through education</b>  | Disseminating information about the UNESCO system, world cultural and natural heritage, sustainable development   | UNESCO Academic Department of Wooden Architecture Research and Conservation of the Petrozavodsk State University   |
| <b>Site promotion through collaboration with foreign partners</b>                                | For the future: making a collaboration agreement with the ICCROM (International Centre for the Study of the Preservation and Restoration of Cultural Property) and holding international courses under the auspices of the ICCROM | ICCROM: an inter-state organization for preserving world cultural heritage through training, dissemination of information, research, collaboration, and public campaigns.  |
| <b>Site promotion and popularization through the UNESCO World Heritage Volunteers Initiative</b> | Site participation in the UNESCO World Heritage Volunteers Initiative. The initiative was launched in 2008 under the UNESCO World Heritage Education  | <p>Navigator School Tourist Club of the Solnechny Mir Museum and Education Complex</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><i>The Navigator 1159 team went on an expedition in the White Sea</i></p> </div>  |



|                                 |                |  |   |
|---------------------------------|----------------|--|---|
|                                 |                | <p>Programme to involve young people in the conservation and promotion of the UNESCO World Heritage through annual volunteer camps at UNESCO World Heritage sites, as well as cultural and natural heritage sites on the Preliminary World Heritage Lists.</p> | <p><i>6 July through 7 August 2015 with the Zalavruga archeological monument research programme as part of the expedition. The expeditionists studied the petroglyphs guided by N.V. Lobanova, Leading Researcher of the ILLH of the KarRC RAS, carried out excavations and shaft exploration, staged a theatre show “In Search of Northern Lands, or How Two Tribes, Deer Golden Horn and Chief Big Bear United into One” as part of the International Stone Bridge Festival in Belomorsk.</i></p> |
| <b>Popularization souvenirs</b> | <b>through</b> | Using petroglyph images in the souvenirs of the republic   | <p>Souvenir production + local people.</p> <p>Current main souvenirs: items made of Karelian birch, leather, birch bark, items with Trans-Onega embroidery, shungite. The petroglyph symbols do not appear on them. Magnets and other souvenirs with the petroglyph images are only sold in Zalavruga. The range should be expanded and include petroglyphs in the souvenirs of the entire region to make the petroglyphs a recognizable brand.</p>   |

## 8. TOOLS FOR IMPLEMENTING THE WORLD HERITAGE SITE MANAGEMENT PLAN

### 8.1 Creating the site management system

The actual site management system of the Lake Onega and White Sea Petroglyph Site is based on Russian law that defines the powers of the federal, regional, and municipal authorities. The system also provides for the involvement of local communities represented by the population of the municipal districts and region, tourists, non-governmental organizations, and business communities (primarily those involved in tourism).

The development and implementation of a state cultural heritage conservation policy, general control over compliance with international and Russian law regarding the Lake Onega and White Sea

Petroglyph Site is carried out by the Russian Ministry of Culture and the Commission of the Russian Federation for UNESCO under the Russian Ministry of Foreign Affairs.

The management of the nominated site area, its buffer zone and the neighbourhood includes various spheres and is carried out by:

- Cultural Heritage Protection Department of the Republic of Karelia;
- Ministry of Culture of the Republic of Karelia and municipal district administrations (managing museum activities on the regional and municipal levels);
- Ministry of Natural Resources and Ecology of the Republic of Karelia (natural landscape management);
- Tourism Administration of the Republic of Karelia under the Ministry of Culture of the Republic of Karelia (regional tourism management).

Further development of the management system provides for creating a specialized managing organization with relevant powers, financial, and human resources.

In 2017 the Republican Centre for State Protection of Cultural Heritage Sites (a State Budgetary Institution under Cultural Heritage Protection Department of the Republic of Karelia) had a project implemented under the title “The Development of the Management System Concept for the World Heritage List nominee site of the Lake Onega and White Sea Petroglyphs” assessing the risks and defining the stakeholders interested in the site development and management (contractor: Lesnaya Territoriya LLC). The research singled out subject groups, defined their interests and powers with regard to the site of the Lake Onega and White Sea Petroglyphs and proposed a site management system improvement concept based on stage-by-stage reforming of the executive authority structure (in particular, by modifying and amending the powers of Cultural Heritage Protection Department of the Republic of Karelia and allocating the finance required for site management). The reform stages include: (1) appointing a specialist in charge from among the officers of Cultural Heritage Protection Department of the Republic of Karelia; (2) creating a special Unit within the Department in charge of coordinating the site management; (3) creating an independent site management and development service.

Currently, the most efficient way of promoting the site to the World Heritage List and resolving its management and protection issues is appointing a specialist in charge from among the officers of Cultural Heritage Protection Department of the Republic of Karelia who would supervise the WHS issues under the annual (2020) and mid-term event programmes (2021–2023) in cooperation with the Republican Centre for State Protection of Cultural Heritage Sites (State Budgetary Institution), the Pudozhsky and Belomorsky District Administrations, local people and business community.

The peculiarities of the nominee site of the Lake Onega and White Sea Petroglyphs, being its multiple components, the distance between the nominee components, hard-to-reach natural landscape around the sites, require the development and implementation of heritage conservation, popularization, and state protection methods and standards adequate to the site. In this respect, drafting project documentation for classifying the world heritage site components as a cultural heritage site of federal significance in the form of a place of interest (international term “site”) will be a first significant step on the way to organizing an efficient site management system.

**The 1972 Convention Concerning the Protection of the World Cultural and Natural Heritage:**

**Article 1**

**sites:** human creations or joint creations of humans and nature, the zones, including archeological places of interest, with outstanding universal value in terms of history, esthetics, ethnology, or anthropology.

**Federal Law on Cultural Heritage Sites (Monuments of History and Culture) of the Peoples of the Russian Federation No. 73-FZ dd 25.06.2002 (amd. 03.08.2018)**

**Article 3. Cultural Heritage Site (Monuments of History And Culture) of the Peoples of the Russian Federation**

[...] places of interest (sites) are human-made creations or nature and human-made creations, including traditional places of folk arts and crafts; centres of historical settlements or fragments of urban planning and development; memorial places, cultural and natural landscapes related to the history of origin of the peoples or other ethnic unities in the Russian Federation, historic (including military) events, life of outstanding historic people; archeological heritage sites; religious ceremony venues; graves of mass repression victims; religious and historic places.

**Article 56.4. State protection of places of interest (sites)**

1. Protected items of a place of interest (sites) are its architectural, geological, landscape, space and volume, layout, stylistic features, valuable elements of housing and amenities, joint nature and human-made creations, items of architectural, historical, archeological, ethnological, and ecological interest, functional purpose and memorial value of the specified place of interest.

Subject to Clause 5.1.3 FZ-73, Cultural Heritage Protection Department of the Republic of Karelia shall set forth requirements regarding conservation activities within the borders of the places of interest for the purpose of its protection. The area of the place of interest shall be the territories of site components. These requirements will be taken into account in municipal spatial planning, urban development regulation, land use and development documents which will help conserve the unique natural landscape in the are of the Karelian petroglyphs and their OUV for the generations to come.

Coordination of conservation, research, and popularization activities in the Pudozhsky and Belomorsky Municipal Districts of the Republic of Karelia should involve the creation of a single reserve museum to be located in the area of the place of interest (site). The coordination centre could be the Belomorsky Local Lore Museum, and the Pudozhsky Local Lore Museum could become its branch with significantly expanded functionality and funds.

**Federal Law on the Museum Fund of the Russian Federation and Museums in the Russian Federation No. 54-FZ dd 26.05.1996**

**Article 26.1. Reserve Museums (adopted by Federal Law No. 19-FZ dd 23.02.2011):**

“A reserve museum is a museum duly provided with land plots with places of interest classified as historic and cultural reserves or ensembles.

Reserve museum’s area comprises land plots specified in Part One of this Article, other land plots duly granted to the reserve museum in connection with the creation of the reserve museum and during the time of its activity.

In addition to the activities carried out by museums in accordance with this Federal Law, other federal laws, and other regulations of the Russian Federation, laws and regulations of the subjects of the

*Russian Federation, the reserve museum ensures conservation of the cultural heritage sites granted to it, provides people with access, and carries out specified site conservation, research, and popularization activities.*

*The reserve museum also may:*

*within the area of the reserve museum, carry out activities intended to support the historic activities (including support to traditional life style and use of natural resources) carried out in the ways developed on and specific for such area, as well as folk arts, crafts and trades;*

*carry out tour operations and provide information services;*

*create conditions for tourist activities;*

*carry out environmental protection activities;*

*maintain and operate the infrastructure (including the buildings, residential and non-residential premises), transport vehicles required by the reserve museum to ensure people's access to the granted cultural heritage sites, carry out tour operations, create conditions for tourist activities."*

*Article 27. FZ-54 specifies that reserve museums in the Russian Federation are intended to:*

- identify, collect, store, study, and publish museum items and museum collections;*
- ensure safekeeping, examination and popularization or cultural heritage sites and people's access to them;*
- support the maintenance regime of the places of interest;*
- preserve established activities, including support to traditional life style and use of natural resources, and support and develop folk arts, crafts and trades;*
- carry out tourism activities, tour operations and provide information services;*
- carry out educational activities.*

To ensure the coordination of activities on conservation, studies and promotion of the property within the territories of Pudozhsky and Belomorsky municipal districts of the Republic of Karelia, it is preferable to establish a single museum-reserve located within the territory of the future remarkable place. The proposed budgetary institution "Historical and Archaeological Natural Museum of Karelian Petroglyphs" will be the management structure of the World Heritage site.

The establishment of an open-air museum of rock art similar to the existing international institutions managing such World Heritage sites as Alta (Norway), Tanum (Sweden) and Tamgaly (Kazakhstan) would assist to face the issues related to the sustainable development of cultural, educational and ecological tourism. Interpretation of the heritage of the petroglyphs would provide the accessibility of the museum for every type of visitors. It is necessary to define certain priority areas (rock carvings) open for visitation, developed code of conduct for the visitors as well as to keep the account of the number of visitors.

Its main goals and tasks will be the following:

- preservation of a unique petroglyphic sanctuary, including not only the places with images, but also the unaffected by anthropogenic activities natural landscape and neighboring archaeological sites (the sites of the Mesolithic epoch - the Iron Age, late medieval settlements, the Neolithic burial ground);

- development of a short-term, medium-term and long-term program of action for the property;

- complex monitoring of the property and the surrounding landscape (archaeological, lichenometric, geological-geomorphological and ecological-recreational);
- development of measures for conservation of petroglyphs;
- definition of the recreational capacity of the territory (recreational load on petroglyphs and natural complexes), creation of tourist infrastructure, development of sustainable tourism, awareness-raising about rock art sites;
- landscaping, installation of the elements of tourist infrastructure, taking into account minimal interference in the natural context and the features of the relief.

In order to form an efficient management structure, it would be expedient to divide the process of creating a museum into several stages, providing a gradual transition from the management of components by municipal museums to the creation of a single structure of regional subordination.

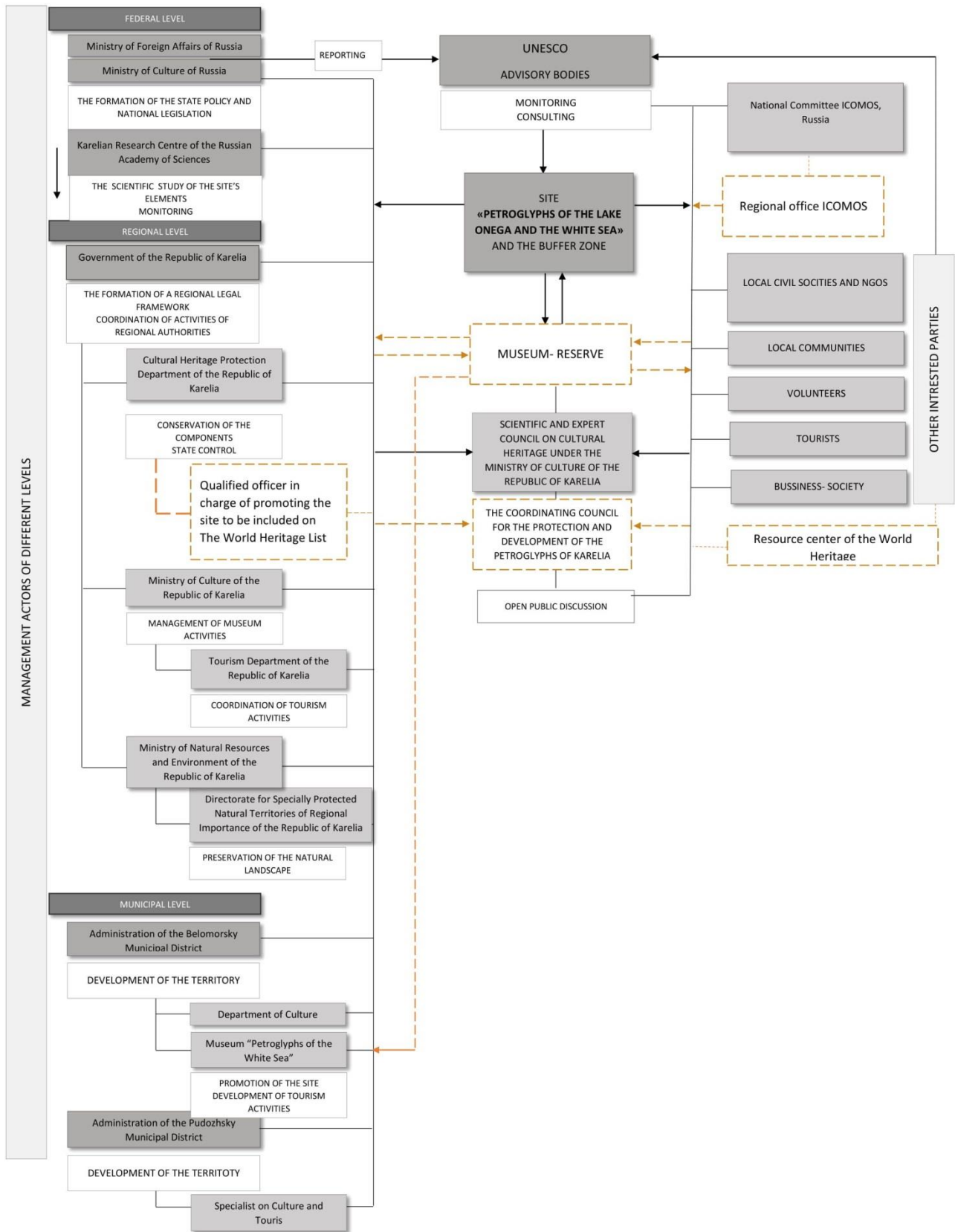
This mechanism will allow to ensure the maximum use of the existing potential of museum institutions of the White Sea and Pudozhky regions, the Directorate of Specially Protected Natural Areas of the Republic of Karelia, with a gradual increase in funding from the budget of the Republic of Karelia and a phased formation of the staff structure of the institution. The proposed option is at the first stage to establish a coordination center of regional subordination with a minimum allowable number of staff at the museum.

Taking into account that in accordance with the Federal Law No. 54-FZ "On the Museum Fund of the Russian Federation and Museums in the Russian Federation" dated May 26, 1996, the key activity of museum-reserves as museum-type institutions is storage, identification, collection, study and publication of museum objects and museum collections, the proposed mechanism of creating a structure for the management of petroglyphs of the Lake Onega and the White Sea will allow at the first stage to concentrate the activities of the institution on the organization of interaction with the local community, building of tourist flows and creating the necessary infrastructure.

Besides, it is supposed to use the scientifically grounded name "Historical and Archaeological Natural Museum of Karelian Petroglyphs", which will, among other things, contribute to the effective solution of tasks on promotion of petroglyphs as a brand of the republic, development of corporate style and logo of the institution.

The scheme below shows the current state of the site management system and its development perspectives as part of the concept of creating a united reserve museum. The planned elements of the management systems intended to conserve, popularize, and use the site, are shown in dotted lines.

Scheme 4. Lake Onega and White Sea Petroglyph Site Management System



### **Case-studies: Russian and foreign experience in organizing reserve museums**

❖ A Russian petroglyph complex that is worth mentioning is the **Tomskaya Pisanitsa Museum** (the Yashkinsky District of the Kemerovo Oblast) that opened in 1989. The reserve museum has 280 rock images of 4000–1000 BC. This Russian project may be considered a successful museumification attempt of an open-air rock art monument in its natural environment. The Tomskaya Pisanitsa Reserve Museum consists of 12 exposition zones, including administrative, architectural and ethnographic (Shor ulus Kezek), Asian rock art museum, Archaeodrom Museum Complex, including reconstructions of ancient and Mediaeval burials and houses of the Siberian peoples, natural history museum etc. The Asian rock art museum is the first specialized institution of this type in Russia. This open-air complex's scope cannot go unmentioned; it is a winner of a number of high ranking awards, including the Window to Russia Russian National Contest of the Kultura newspaper in 1998 and the Best Museum of the Year Award. The rock art monument is one of the view zones, it's culmination. The approaches to the pictures are furnished with billboards, staircases, pavilions and banistered bridges to ensure visitors' safety.

❖ **The Sammallahdenmäki burial site** was inserted in the UNESCO World Heritage List in December 1999 as the first pre-historic archeological site in Finland. The Site at the coast of the Gulf of Bothnia is the largest and most complete, in terms of represented archeological artefacts, Bronze Age burial site in Finland and Scandinavia. The plot includes 36 burials on an area of 36 ha.

This open-air heritage site is operated by a small local museum in the nearby city of Rauma, 20 km away from the archeological heritage site. The site is visitable free of charge all year round with an option to hire a guide. The site is well furnished for independent visits: the information billboards display information about the site in particular and the Bronze Age in general. The information is displayed in Finnish, Swedish, and English languages with brochures in French and German. Each information point is furnished with ecological utility structures with bio-toilets. The offered route is 1.5 km, the tourists are oriented by information signs.

Notably, in the run up to the Republic of Karelia's 100th anniversary celebration, for the purposes of conserving, landscaping, efficient use and popularization of the Karelian petroglyphs, The Karelian Ministry of Culture has developed the Old Tale Carved Out of Stone Project that provides for a Karelian museum of primaeval rock art and petroglyphs to be created on the basis of the Besovy Sledky pavilion in Belomorsk. The project is intended to attract investment from the federal, republican, and local budgets and extrabudgetary sources (total finance being 150.040 mRUB Implementation period: 2018–2020). The project can be perfectly synchronized with the action plan for creating a united reserve museum on the site of the Lake Onega and White Sea Petroglyphs.

The Old Tale Carved Out of Stone Project provides for the creation of a primaeval rock art centre (primaeval art museum) and experimental archeological reconstructions that will unite the areas of the Pudozhsky and Belomorsky Districts hosting the unique rock canvases with petroglyphs.

With regard to the Lake Onega Petroglyphs, the project provides for the following:

- develop and implement walking routes in the form of wooden flooring and observation platforms with tourist group itineraries;
- arranging tent camps and scientific research expeditions;
- arrange a berth in the mouth of the Chernaya River;
- install information billboards and plates;

- locations of archeological reconstructions (primaeval villages with reconstructed ancient housing, clothes, stone, leather, bone, wood processing workshops, theatre shows of fire making methods, hunting, fishing etc.).

In accordance with the Old Tale Carved Out of Stone Project, the abandoned light-house on Cape Besov Nos shall be re-equipped, after repair, as a small exhibition space with an observation platform. The project also provides for the revitalization of the village of the Besov Nos as an ethnographic space with tourist infrastructure.

With regard to the Lake White Sea Petroglyphs, the project provides for the following:

- Repair and reconstruct, in part, the Besovy Sledky pavilion and arrange the adjacent area;

*The protective pavilion of Besovy Sledky was built in 1968. Tourist access was restricted in 1999 due to its critical condition. The pavilion reconstruction project was initiated in 2017 with support of the State Committee for the Celebration of the 100th Anniversary of the Republic of Karelia. The project is financed from extrabudgetary sources (the Russian Railways and the Preobrazheniye Cultural Development Foundation). The Committee initiated preparation for the pavilion reconstruction and archeological activities around the pavilion to arrange conditions for the repair and reconstruction of the pavilion to create supporting infrastructure and refurbish the White Sea Petroglyphs area.*

*Site commissioning was scheduled for the Republic Day (7 July 2018). However, due to organizational, technical, and financial issues, the commissioning was shifted to 4Q 2018.*

*The pavilion is of essential for tourism development in the north of Karelia as it enables using the unique site throughout the year for excursions. The pavilion project provides for visits by disabled people, a scenic viewpoint, a space for exhibitions, conferences, and master classes, and a petroglyph observation platform.*

- Create a visit centre in the village of Vygostrov with an adequate an tourist recreation facility;

- Fit out the White Sea Petroglyphs site: develop and implement walking routes in the form of wooden flooring, bridges and observation platforms with tourist group itineraries, install information billboards;

- Fit out the approach road to the Zalavruga petroglyphs, fit out the entrance group;

- Reconstruct the Belomorsk White Sea Petroglyph Museum, furnish all the premises of the building as a museum centre.



The planned reserve museum will become an important element in preservation of the historic, cultural and natural heritage of the Republic of Karelia in its authenticity and integrity.

The reserve museum must be a non-profit organization created to conserve, museify, study, and display to general public the Lake Onega and White Sea Petroglyph Cultural Heritage Site, an open-air archeological monument, and the unique Karelian natural landscape around it.

The structure and powers of the institution administration, their appointment and operating procedures shall be developed and implemented in the Charter of the reserve museum.

The preliminary conceptual project of the museum includes the following priority areas for the museum:



I. Ensuring the conservation of archaeological sites (direct groups of petroglyphs, parking lots) and their further museumization.

II. Development of scientific, educational and innovative activities of the museum.

III. Creation of material and technical base of the museum and its equipping with modern technical means.

To develop these basic directions, it is necessary to:

- continue archeological research as a basis for the formation of stock collections and expansion of the open-air exposition, as well as expansion of scientific knowledge about Karelian petroglyphs;

- specify the borders of the museum and adjust its protection zones taking into account the submission of the nomination dossier for the UNESCO world heritage site;

- create sufficient infrastructure ensuring the functioning of the main directions of the museum's research, stock and exhibition activities;

- construct museum complexes (visit-centers, pavilions);

- construct Petrozavodsk head office;

- improve the open-air exposition and recreation areas for museum visitors.

The above mentioned measures will enable the museum to provide:

A) organization of modern forms of recording collections and processing of statistical information, as well as compliance with regulatory requirements for storage and scientific processing of museum collections, installation of appropriate equipment;

B) creation of two exposition complexes of the Visit Center with archeological reserves in the Belomorsky and Pudozhsky districts, and the head office in Petrozavodsk with exposition zones.

The future institution, inter alia, will:

- Store, conserve, restore, collect, and exhibit museum items; form museum archives and library; form an electronic data base of the stored items;

- do scientific research in archeology, paleontology, nature, history, culture; carry out archeological works on archeological heritage sites; organize scientific conferences, symposiums, round tables on the heritage items stored in the reserve museum and relevant subjects; organize exhibitions in the region, the country, and abroad;

- account for and certify the historic and cultural monuments, identify new items of historic and cultural heritage, register them in a historic and cultural monument list;

- carry out an expert evaluation of valuable cultural artefacts; carry out an expert historic and cultural evaluation of archeological heritage sites;

- organizer further training for the reserve museum employees, internship, exchange specialists with Russian and foreign archeological reserve museums;

- develop monitoring plans, organize control over the petroglyph groups; develop a cultural heritage site restoration programme; approve restoration projects, their cost estimates; carry out methodological and operating control over the project, restoration, repair and other works on cultural heritage sites;

- support the maintenance regime, safeguarding and visiting procedures of the places of interest assigned to the reserve museum;

- organize tourist recreation activities on the cultural heritage site, including excursions, lectures, consulting for site visitors; create a visitor friendly environment, including mobility impaired

people (rules adopted by the 2011–2020 State Accessibility Programme of the Russian Federation): individual and public transport, communications, IT, auxiliary equipment, stairs, wheelchair ramps, pavement surfaces, leisure areas, public building entrance areas, transport stops etc.

- carry out promotional and publishing activities; popularize the historic and cultural heritage;
- hold folk and thematic festivals, concerts, and entertainment programmes related to the reserve museum profile; arrange the revival of folk crafts and trades, and souvenir production;
- organize environmental protection; ensure control over protection mode of the ecosystem that is part of the reserve museum; arrange forest protection, arrange fire protection measures for the forest zone, buildings and structure on the reserve museum area; organize rational use of natural resources; expand environmental tourism and ecological enlightenment of the population.
- any other profitable activities for the purposes of the Museum.

The reserve museum's operations should be supported by a Coordination Council comprising state and local officials, reserve museum employees, members of public, research and creative organizations, non-profits, and other organizations proposed by the reserve museum director following advice. The Coordination Council will be a joint consultative body under the reserve museum and will ensure interaction among all stakeholders for the purposes of the site OUV conservation, sustainable development of the site and the adjacent landscape, management system monitoring, and achieving social consensus. The Coordination Council should meet once every half a year.

As its main tasks, the Coordination Council shall:

- Participate in the monitoring of efficiency of the management system and management plan implementation; contribute corrections to the management plan (where necessary); participate in annual (2020), mid-term (2021–2023), and long-term (2024–2027) implementation programmes; contribute to the development of new cycles of the management plan;
- Review the issues of the neighbouring area development, its efficient use; review implementation issues of the institution operating plan; review financial statements;
- Discuss regulations regarding the development of the WHS and the neighbouring natural landscape; consider suggestions regarding the creation/liquidation of the reserve museum branches;
- Contribute to information campaigns and professional information exchange regarding the conservation, use, and development of the WHS;
- Other arrangements intended to develop and conserve the site in its natural environment.

The reserve museum is expected to take charge of a number of socio-economic functions:

- conserve the unique culture of the Russian North; revive its customs and traditions; revive the local traditional cuisine and crafts and trades;
- conserve region's historic and cultural heritage, its natural diversity and the unique landscape;
- contribute to social consolidation; involve the local people in the conservation of their heritage; enhance their ethnic identity; increase general cultural level;
- increase region's economic level by attracting funds and creating jobs in sustainable industries.

Generally, such reserve museum project may only be successfully implemented with state support. Russian and foreign experience should be analyzed identifying economic and social issues related to the efficient use of the tourist resources and their development and conservation of the historic and cultural heritage, elaborating the museum operating system, attracting qualified people and setting up a management system. The reserve museum will help develop both domestic and inbound tourism.

## **8.2 Resource support of the management system**

### **8.2.1 Staffing**

#### **8.2.1.1 Staffing levels and expertise (professional, technical, maintenance)**

In the conservation and management of the Petroglyphs of the Lake Lake and the White Sea property, specialists from various fields are involved, representing the following institutions which ensure interaction at the regional and municipal levels:

The Office for the Protection of Cultural Heritage Properties of the Republic of Karelia numbering 12 people, including specialists in protecting the cultural heritage sites and ensuring control in the field of state protection of cultural heritage sites.

State institution of the Republic of Karelia "Republican Center for State Protection of Cultural Heritage Sites" numbering 23 specialists, including architects, builders-restorers, historians, philologists, lawyers.

Ministry of Culture of the Republic of Karelia numbering 28 people, including specialists from the Tourism Department (the department for coordination of tourism activities).

The Institute of Language, Literature and History of the Karelian Research Center of the Russian Academy of Sciences (a specialized archaeological museum (organization of lectures, excursions, practical classes and consultations, research activities, including basic research and publications) and the archaeology sector) - 6 researchers 1 Doctor of Historical Science and 3 PhDs of Historical Science).

Forest Institute of the Karelian Research Center of the Russian Academy of Sciences (laboratory of landscape ecology and forest ecosystem protection) - 17 researchers (including 2 Doctors of Sciences and 12 PhDs of Science).

State Information Center "Information Tourist Center of the Republic of Karelia" numbering 27 people.

Administration of the Belomorsky Municipal District - Department of Culture (1 specialist), Belomorsk Regional Museum " Petroglyphs of the White Sea " (7 employees).

The administration of the Pudozhsky municipal district allocated a leading specialist in culture and tourism (1 person).



The management plan in short-term (2020) and mid-term (2021–2023) provides for Cultural Heritage Protection Department of the Republic of Karelia appointing **a qualified officer in charge of promoting the Lake Onega and White Sea Petroglyph Site to the UNESCO World Heritage List.** The above officer will:

- be in charge of site management, conservation, and popularization, increasing local people’s and social awareness of the world heritage;
- implement the management plan and related implementation programme;
- review and modify the management plan and related activities; determine budgets of planned activities;
- coordinate all stakeholders;
- monitor the site and its conservation state, monitor the implementation of the management plan; report on the monitoring indicators.

Such specialist must have a university degree in the field (see Clause 8.2.1.2 “Sources of qualified personnel in conservation and management methods”), speak foreign languages (English/French being mandatory for communicating with UNESCO in terms of world heritage), understand the UNESCO system and the world heritage programme, be competent in international and Russian law regarding the protection of cultural heritage sites. A public service experience will be an advantage, as well as sufficient knowledge of sustainable development and cultural heritage site management programmes. Such specialist must be skilled in organizing events, public relations, and have technical knowledge. Implementation of the Lake Onega and White Sea Petroglyph Site Management Plan requires the creation of conditions for continuous training of a responsible specialist (see Clause 8.2.1.2 “Sources of qualified personnel in conservation and management methods”).

The human resources policy under the concept of creating a unified reserve museum in the Karelian petroglyphs area should provide for the creation of **a particular future museum structure** with employees of certain qualifications intended to conserve, promote, and manage the world heritage site.

Below the is a proposed staff structure efficient operations of the future reserve museum regarding conservation of the site OUV:

- Director
- Deputy Director
- Academic Secretary
- Head of branch (visit center in Belomorsk)
- Head of branch (visit center in Pudozh)
- Specialist in recording museum objects
- Curator of museum objects
- Researcher (visit-center in Belomorsk)
- Researcher (visit center in Pudozh)
- Scientific employee
- Restorer
- Energy engineer
- Museum security engineer
- Museum methodist
- Systems engineer
- Economic manager

- Museum curator (visit-center in Belomorsk)
- Museum curator (visit center in Pudozh)
- Museum curator
- Wardrobe maker (visit center in Belomorsk)
- Wardrobe maker (visit center in Pudozh)
- Building maintenance worker (visit-center in Belomorsk)
- Building maintenance worker (visit center in Pudozh)
- Office janitor (visit-center in Belomorsk)
- Office janitor (visit center in Pudozh)
- Cashier (visit center in Belomorsk)
- Cashier (visit center in Pudozh)

### **8.2.1.2 Sources of expertise and training in conservation and management techniques**

The main source of qualified personnel is the Petrozavodsk State University (Petrozavodsk State University), which includes the Institute of History, Political and Social Sciences and the Institute of Physical Culture, Sports and Tourism.

The Institute of History, Political and Social Sciences offers education in two major programs - History of Russia and Historical and Cultural Tourism.

The program "History of Russia" provides fundamental historical and humanitarian training and offers a wide range of practices, including archaeological work (conducted on petroglyphs).

Within the framework of the program "Historical and Cultural Tourism", along with the history study, students master the technology of tourist activities, management and marketing of tourism services, study economics and legal foundations of entrepreneurship in tourism, new information technologies. The training system includes the practice of tour operating and museum activities, visiting business forums, conferences and seminars on the tourism development in Karelia and Russia. A special focus in the system of teaching students is placed on foreign languages and preparing for rendering tourist services.

Graduates of PetrSU are in demand as teachers, civil servants (in government and local government bodies), in travel agencies, museums, cultural institutions, advertising agencies.

The Department of Tourism of the Institute of Physical Culture, Sports and Tourism PetrSU is a regional educational site of the project "National system of training and professional development of tourism industry professionals", which enables the implementation of the programs of additional professional education, including in the remote format. The following educational programs are implemented: "Tourism" (technology and organization of excursion services), "Hospitality" (hotel and restaurant activities), "Service" (service of engineering systems of hotels, tourist complexes and sports facilities).

There is a volunteer movement at the university, which encourages the involvement of young specialists in the conservation of archeological monuments included in the nominated property.

In addition, the UNESCO Department "Study and Conservation of Wooden Architecture" was established on the basis of PetrSU. It can provide methodological assistance in resolving issues related to the World Heritage site.

Training in the field of methods of conservation and management of the property is carried out through involving specialists engaged in the conservation, exploitation and popularization of the nominated property in the following activities:

- Educational programs implemented at the regional and municipal level (holding thematic lectures);
- Training seminars organized at the local (local government administration) and regional levels (the National Museum of the Republic of Karelia and the Karelian Scientific Center of the Russian Academy of Sciences);
- Seminars held at the federal (Ministry of Culture of Russia, Likhachev Institute of Heritage) and regional levels (cooperation with other regions of the Russian Federation in which the World Heritage sites are located).



The concept of a united reserve museum on the Karelian petroglyph area requires conditions for **continuous training** of the personnel involved in the site conservation. Personnel training must focus on special programmes covering world heritage:

– internship in specialized universities abroad with courses in World Heritage. Many universities offer heritage related courses; some courses specialize in World Heritage, including those below. The list is not exhaustive:

- Brandenburg University of Technology, Cottbus, Germany, World Heritage Studies (M.A.), Heritage Conservation and Site Management (M.A.)
- Deakin University, Melbourne, Australia, Cultural Heritage and Museum Studies (M.A.)
- Turin School of Development, Turin, Italy, World Heritage and Cultural Projects for Development (M.A.)
- UCL Institute of Archaeology, London, the UK, Cultural Heritage Studies (M.A.)
- University College Dublin, Dublin, Ireland, World Heritage Management (M.S.)
- University of Amsterdam, Amsterdam, the Netherlands, Conservation and Restoration of Cultural Heritage (M.A.)
- University of Minnesota College of Design, Minneapolis, the USA, Heritage Conservation and Preservation (M.S.)
- University of Queensland, Queensland, Australia, Environmental Management (M.S.)
- University of Tsukuba, Tsukuba, Japan, World Cultural Heritage Studies (M.A.)
- Wildlife Institute of India, Uttarakhand, India, Post Graduate Diploma in Wildlife Management
- University of Birmingham, Birmingham, the UK, World heritage Studies (M.A.)

– international courses offered by ICCROM (International Centre for the Study of the Preservation and Restoration of Cultural Property) with a status of UNESCO's advisor organizing programmes of highly qualified training in the field of cultural heritage conservation for museum employees, restorers, cultural professionals. ICCROM courses are both a training platform, and an efficient tool of exchanging experience, finding new approaches, and creating business contacts.

– exchange programmes with reserve museums, state authorities and academic institutions dealing with world heritage issues;

– participation in conferences and seminars related to heritage site conservation and popularization issues;

– taking additional field-specific training: cultural heritage site management (see school list above), landscape management, risk management, sustainable development);

– mandatory training in foreign languages. The minimum requirement is a good command of English/French to organize communication with the UNESCO regarding world heritage.

### **8.2.2 Financial resources**

In accordance with the norms of the current legislation, the sources of funding for the conservation, promotion and state protection of cultural heritage are: the federal budget; budgets of the subjects of the Russian Federation; budgets of municipalities, extra-budgetary revenues

In accordance with the norms of the current legislation, financing of works related to the conservation, promotion, state protection of sites included in the nomination is carried out at the expense of the federal, regional and municipal budgets within the framework of the state programs of the Russian Federation, the Republic of Karelia and municipal programs of the Belomorsk and Pudozh Municipal Districts.

Program financing plans are formed on the basis of applications sent by the relevant state executive bodies. The project financing method is cycle-based and involves the extension of funding if the amount of planned work exceeds one project cycle.

Most of the funds are allocated from the federal and regional budgets, but public-private partnerships should be taken into account as promising sources of funding.

*In particular, the following works are being held in the region:*

- within the framework of the federal target program “Culture of Russia (2012-2018)” in 2016 2.1 million rubles were allocated from the federal budget for monitoring the status and utilization of Petroglyphs of Lake Onega and the White Sea;*
- “Creation of ‘Petroglyphs of the White Sea’ tourist and recreational complex” investment project (as part of the federal target program “Development of domestic and inbound tourism in the Russian Federation” (approved by the Russian Federation governmental decree No. 644, dated 2 Aug 2011). Implementation period: 2015-2017. Total funding volume: 63.6 million rubles.*
- “Reconstruction of the pavilion ‘Besovy sledki’ in ‘Petroglyphs of the White Sea’ tourist and recreational complex within the larger project of building and rational use of modern tourist and recreational facilities in the Belomorsk municipal area” project Proposed funding volume 24.2 million rubles. Period of implementation: 2016-2020.*
- “The Leaves of the stone book” museum concept. The project involves the reconstruction of cultural sites in order to build Primitive Rock Art Center, including measures for the improvement of the territory of Petroglyphs of Lake Onega and the White Sea. Total amount of funding 150.040 million rubles. Period of implementation: 2018-2020.*

The following is a number of federal, regional and municipal target programs, from which it is potentially possible to obtain funds for carrying out the work to preserve outstanding universal value, integrity, and authenticity of the elements of the site, as well as sustainable development of the territory:

- Federal target program “Development of the Republic of Karelia for the period up to 2020” (the federal target program is implemented in 2 stages: 2016-2017 and 2018-2020. Total budget of the program is 134 889.3 million rubles, including federal and regional budget, as well as off-budget funds. Reconstruction of cultural infrastructure sites – Budget allocation for 2019 is 300 million rubles)

- Federal target program “Development of domestic and inbound tourism in the Russian Federation (2019-2025)” (Expected amount of financing of the future program is 387 billion rubles, of which 306 billion rubles are extra-budgetary funds)

- Republic of Karelia State Program “Culture of the Republic of Karelia” for 2014-2020 (one of the tasks is the conservation of cultural heritage and increasing the availability of cultural values and information for the people. The volume of Republic of Karelia for the implementation of the state program is 4 032 218.3 thousand rubles)



- Republic of Karelia State Program “Development of tourism in the Republic of Karelia” for 2016-2020, approved by the Republic of Karelia government decree No. 11-П on Jan 28, 2016. Planned outcome of the program includes reaching the number of 1 million organized tourists per year and 1 billion rubles of extra-budgetary investments in tourism infrastructure per year.

- Republic of Karelia State Program “Replenishing and utilization of natural resources and environmental protection” for 2014-2020 (the amount of funds allocated for the implementation of the state program is 11011900.48 thousand rubles)

- Republic of Karelia State Program “Development of physical culture, sports, tourism and improving the efficiency of youth policy of the Republic of Karelia” for 2014-2020 (one of the goals is to create conditions for successful socialization and effective self-realization of youth in the Republic of Karelia, develop youth potential in the interests of socio-economic development of the region; 1386579.00 thousand rubles)

- Municipal program “Development of physical culture, sports, tourism and youth policy for 2016-2020 in Belomorsk Municipal District”

- Municipal program “Development of culture for 2016-2020 in Belomorsk Municipal District” (Total amount is 189 397,0 thousand rubles, including 15 897,5 thousand rubles of the sub-program “Preservation, rational and effective use of historical and cultural heritage”; and 105 485,7 thousand rubles from the sub-program “Development of cultural and leisure activities, and traditional culture”)

- Municipal program “Development and support for small and medium-sized businesses in the Belomorsk Municipal District for 2015-2020” (Total program funding 22240 thousand rubles, including 1290 thousand rubles from the budget of Belomorsk Municipal District; and 18550 thousand rubles from the budget of the Republic of Karelia; and 2400 thousand rubles from the federal budget)

- Municipal program “Patriotic education of children and youth of the Belomorsk Municipal District for 2016-2020” (one of the goals is the development of volunteer movement as a tool of civil and patriotic education)

- Municipal program “Youth of Pudozh district” for 2018-2022 (Conditions for socialization and self-realization of youth)

#### **8.2.2.1 Calculation of the approximate cost of works within the framework of the management plan**

In order to calculate the approximate cost of the procedures provided under the project plans for the annual (2020), medium-term (2021-2023) and long-term (2024-2027), it is advisable to analyze the information about the initial maximum price of a number of public contracts with comparable procurement targets presented on the official website of the Uniform State Procurement Information System (<http://zakupki.gov.ru>).

This process of calculating the approximate cost will be explained further using the example of designation of the site territory as cultural heritage site in the form of landmark.

Table 15. Procurement prices. Designation of museum and reserve as cultural heritage site in the form of landmark

| No. | Procurement site name   | Procurement No.                                   | Initial Max Price <sup>20</sup> , rubles |
|-----|---|---|--|
| 1   | Implementation of the development of project for border demarcation and protection of the historical settlement of federal significance in Suzdal, Vladimir region as well as project documentation for designation of the territory of the state Vladimir-Suzdal Museum and Reserve as an site of cultural heritage of federal significance in the form of a landmark site | Procurement No. 0173100007715000563 <sup>21</sup> | 9 834 460.51                             |
| 2   | Implementation of the development of project documentation for designation of the territory of “Khmelita” Griboyedov State Historical, Cultural and Natural Museum as site of cultural heritage of the federal significance in the form of a landmark site  | Procurement No. 0173100007715000565 <sup>22</sup> | 10 001 346.98                            |
| 3   | Implementation of the development of project documentation for designation of the State Art and Architectural Palace and Park Museum and Reserve ”Tsarskoye Selo” as site of cultural heritage of federal significance in the form of a landmark site   | Procurement No. 0173100007715000568 <sup>23</sup> | 6 063 455.42                             |
| 4   | Implementation of the development of project documentation for designation of the territory of Sholokhov Museum and Reserve as site of cultural heritage of the federal significance in the form of a   | Procurement No. 0173100007714001606 <sup>24</sup> | 7 506 704.15                             |

<sup>20</sup>According to article 22 of Russian Federal Law No. 44-FZ dated Apr 5, 2013 “On the contract system of procurement of goods, works and services for state and municipal needs” in order to determine the initial maximum price (hereinafter “IMP”) of considered contracts by state clients a market research was conducted using the method of comparable market prices (market analysis) of organizations performing works similar to works under contract tendered.

<sup>21</sup><http://www.zakupki.gov.ru/epz/order/notice/ok44/view/common-info.html?regNumber=0173100007715000563>.

<sup>22</sup><http://www.zakupki.gov.ru/epz/order/notice/ok44/view/common-info.html?regNumber=0173100007715000565>

<sup>23</sup><http://www.zakupki.gov.ru/epz/order/notice/ok44/view/common-info.html?regNumber=0173100007715000568>

<sup>24</sup><http://www.zakupki.gov.ru/epz/order/notice/ok44/view/common-info.html?regNumber=0173100007714001606>

|   |  |  |                 |
|---|--|--|-----------------|
|   | landmark site  |  |                 |
| 5 | Implementation of the development of project documentation for designation of the territory of Yesenin Museum and Reserve as site of cultural heritage of the federal significance in the form of a landmark site. | Procurement No.<br>0173100007714000966 <sup>25</sup> | 7 319<br>551,12 |

The analysis of government contracts showed that the initial maximum price calculated on the basis of market research using comparable market prices method varied between 6.1 and 10.0 million rubles. Average cost (calculated as simple average of considered values) is 8 145 103.64 rubles. After rounding up to next higher the value 8.2 million rubles are recorded as average cost if designation of site of federal importance in the form of landmark site. Average costs for implementation of other works see in Appendix 1.

Table 16 shows financing volumes for the works under the management plan in accordance with the schedule of activities (2020, 2021-2023, 2024-2027), strategic objectives and directions. See Appendix 1 for the average cost of each individual event<sup>26</sup>.

Table 16. Calculation of the approximate cost of activities within the framework of the management plan<sup>27</sup>

| Annual work plan (2020)  |                  |
|--|------------------|
| <b>Strategic objective 1 Preservation of OUV</b>                             |                  |
| <b>Area: Effective conservation of site components</b>                       | 8 800 000 rubles |
| <b>Area: Conservation and revitalization of the landscape</b>                | 500 000 rubles   |
| 9 300 000 rubles   |                  |
| <b>Strategic objective 2 Establishment of stable development of the site</b> |                  |
| <b>Area: Stable development of tourism</b>                                   | 2 000 000 rubles |
| <b>Area: Stable development of community</b>                                 | 200 000 rubles   |

<sup>25</sup> <http://www.zakupki.gov.ru/epz/order/notice/ok44/view/common-info.html?regNumber=0173100007714001606>

<sup>26</sup> In order to calculate the approximate cost of the procedures envisaged under the action plan for the annual work plan (2020), mid-term work plan (2021-2023) and long-term work plan (2024-2027), information on the initial maximum price of a number of government contracts with comparable types of work presented on the official website of the unified information system in the field of procurement was analyzed (<http://zakupki.gov.ru>). For the estimated sum of financing by activities, an average sum of financing (obtained by calculation as an arithmetic average) is given. Accordingly, the funding figures are approximate, subject to review and refinement.

This section of the Management Plan should be further elaborated taking into account the changing modern situation and specificity of suggested projects; the proposed measures with deadlines for their implementation, responsible parties and financial support for 2020-2027 require constant discussion, revision and agreement with the Government of Karelia.

<sup>27</sup> Statistics does not include: project "The Leaves of the Stone Book" developed by the Ministry of culture of Karelia during the preparation for the celebration of the 100th anniversary of the founding of the Republic Project implementation term is 2018-2020 Regional budget. Total funding volume: 150.040 million rubles.

|  |                   |
|--|-------------------|
| Area: Site publicity and promotion   | 2 700 000 rubles  |
| 4 900 000 rubles   |                   |
| <b>TOTAL: 14 200 000 rubles</b>  |                   |
| <b>Mid-term work plan (2021–2023)</b>  |                   |
| <b>Strategic objective 1 Preservation of OUV</b>                             |                   |
| Area: Effective conservation of site components                              | 12 550 000 rubles |
| Area: Conservation and revitalization of the landscape                       | 1 500 000 rubles  |
| 14 050 000 rubles  |                   |
| <b>Strategic objective 2 Establishment of stable development of the site</b> |                   |
| Area: Stable development of tourism  | 11 500 000 rubles |
| Area: Stable development of community  | 4 000 000 rubles  |
| Area: Site publicity and promotion   | 25 300 000 rubles |
| 40 800 000 rubles  |                   |
| <b>Strategic objective 3 Implementation of the management plan</b>           |                   |
| Area: Establishment of the management system                                 | 8 200 000 rubles  |
| Area: Provision of the resources   | 3 000 000 rubles  |
| 11 200 000 rubles  |                   |
| <b>TOTAL: 66 050 000 rubles</b>  |                   |
| <b>Long-term work program 2024-2027</b>                                      |                   |
| <b>Strategic objective 1 Preservation of OUV</b>                             |                   |
| Area: Effective conservation of site components                              | 10 200 000 rubles |
| Area: Conservation and revitalization of the landscape                       | 1 000 000 rubles  |
| 11 200 000 rubles  |                   |
| <b>Strategic objective 2 Establishment of stable development of the site</b> |                   |
| Area: Stable development of tourism  | 3 000 000 rubles  |
| Area: Stable development of community  | 5 900 000 rubles  |
| Area: Site publicity and promotion   | 24 000 000 rubles |
| 32 900 000 rubles  |                   |
| <b>Strategic objective 3 Implementation of the management plan</b>           |                   |
| Area: Establishment of the management system                                 | 15 000 000 rubles |
| Area: Provision of the resources   | 8 000 000 rubles  |
| 23 000 000 rubles  |                   |
| <b>TOTAL: 67 100 000 rubles</b>  |                   |

Chart 1. Statistics by works

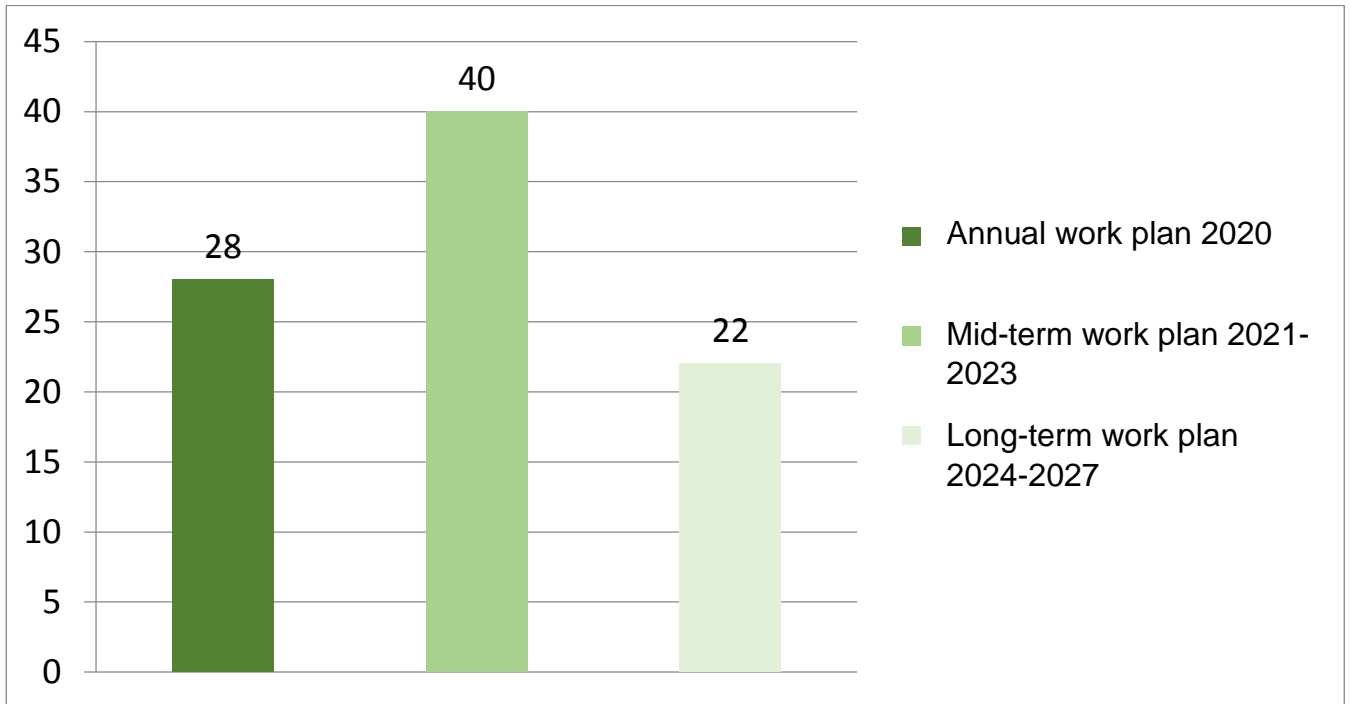
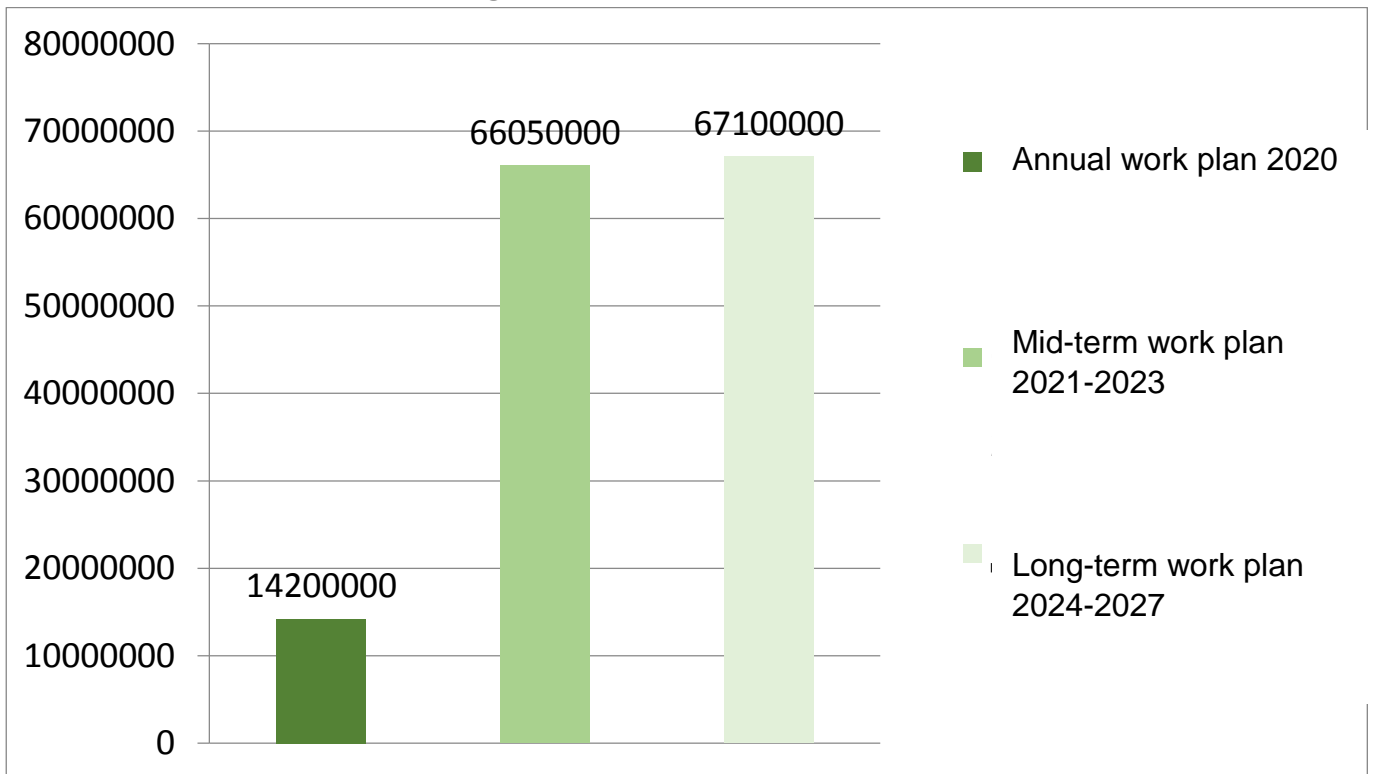


Chart 2. Statistics by financing<sup>28</sup>



<sup>28</sup> Statistics does not include: project “The Leaves of the Stone Book” developed by the Ministry of culture of Karelia during the preparation for the celebration of the 100th anniversary of the founding of the Republic Project implementation term is 2018-2020 Regional budget. Total funding volume: 150.040 million rubles.

### 8.2.2.2. Public-private partnership (PPP)

Public-private partnership (PPP) is one of the effective tools to attract private investment in the field of conservation of cultural heritage. According to the Concept of Long-Term Socio-economic Development of the Russian Federation until 2020, the intensification of the use of PPP for the development of cultural and educational tourism and the conservation of cultural heritage is one of the main directions of modernization of the country's economy. PPP is also recognized as the most important area of development of culture and tourism in the State Cultural Policy Strategies until 2030.

PPP is regulated by the following legal acts:

- Federal law No. 115-FZ “On concession agreements” dated Jul 21, 2005;;
- Federal law No. 224-FZ “On public-private partnership and municipal-private partnership in the Russian Federation as well as amendments to certain legislative acts of the Russian Federation” dated Jul 13, 2015..

Despite the need to make changes in the legislation regulating conservation of cultural heritage and to achieve consensus among the authorities, public organizations, representatives of the scientific community, and the private sector about the use of PPP in relation to the conservation of cultural heritage, this investment attraction tool is one of the most relevant.

The most promising area of application of PPP to attract additional funding for the sustainable development of the Petroglyphs of Lake Onega and the White Sea is the creation and development of tourism infrastructure. With this PPP model, the private sector can be involved in the implementation of the project of sustainable development of tourist infrastructure at the site, further operating this infrastructure on the basis of a long-term concession agreement.

### 8.2.3 Affiliate network as a resource

As of 2018, there are 1092 heritage sites in the UNESCO World Heritage List, more than 30 among those are rock art sites. These works of ancient masters feature not only brilliant iconography of ancient images, but also the peculiarities of their histories, modern management strategy, consideration they receive from the government agencies and the local population. All this is not exclusively determined by the cultural traditions of the respective countries, but also to a greater extent by the economic situation and social tolerance. In order to include these monuments in the UNESCO list significant protection and conservation measures were taken in their territory, information about the importance of the site was widely disseminated. Monuments of Russian rock art are not listed in the World Heritage List, but several have the potential of getting listed in the future. In this regard, Petroglyphs of Lake Onega and the White Sea is a promising cultural site with great potential, but also with a large number of unsolved problems and possible obstacles to the recognition as OUV.

The experience of other Russian as well as foreign archaeological sites is extremely important for Karelian petroglyphs. Therefore, for conservation and sustainable development of this site it is necessary to establish and develop contacts with partner institutions and similar organizations.

Table 14. Partner network

| Potential partner organizations and cultural sites |   |
|--|---|
| 1. International level                             | UNESCO world heritage sites: Petroglyphs    |
| 2. Northern European Region                        | Kanozero (Arkhangelsk region, Russia), Alta |

|   |  |
|---|--|
|   | (Norway), Tanum (Sweden), Nämforsen (Sweden), Vingen (Norway), Sammallahdenmäki (Finland)                |
| <b>3. 3. All-Russian cultural heritage sites</b>                                  | Petroglyphic art sites: Tomsk Pisanitsa, Sikachi-Alyan, Oglakhty, Shulgan-Tash, etc.                     |
| <b>4. Objects of archaeological heritage of Russia In the World Heritage List</b> | Bolgar Historical and Archaeological Complex   |
| <b>5. Museums and Reserves of Russia</b>  | 72 sites   |
| <b>6. International expert community</b>  | ICOMOS, in particular the International ICOMOS Council on Rock Art                                       |
| <b>7. Russian expert community</b>  | ICOMOS National Committee, Russia  |
| <b>8. Research institutions</b>   | RAS Institute of Archaeology, Russia D. S. Likhachev Research Institute of Cultural and Natural Heritage |

### 8.3 Management Efficiency Monitoring

Management Efficiency Monitoring involves monitoring the effectiveness of the established management system, the heritage site and the establishment of new strategic directions for the utilization of new opportunities.<sup>29</sup>

At the national level, periodic reporting is one of the main mechanisms for monitoring the implementation of the principles of the 1972 World Heritage Convention.

#### **Periodic reporting**

Article 29 of the World Heritage Convention:

1. The States Parties to this Convention shall, in the reports which they submit to the General Conference of the United Nations Educational, Scientific and Cultural Organization on dates and in a manner to be determined by it, give information on the legislative and administrative provisions which they have adopted and other action which they have taken for the application of this Convention, together with details of the experience acquired in this field.

Paragraph 201 of the The Operational Guidelines for the Implementation of the World Heritage Convention:

Periodic Reporting serves four main purposes:

- a) to provide an assessment of the application of the World Heritage Convention by the State Party;
- b) to provide an assessment as to whether the Outstanding Universal Value of the properties inscribed on the World Heritage List is being maintained over time;
- c) to provide up-dated information about the World Heritage properties to record the changing circumstances and state of conservation of the properties;
- d) to provide a mechanism for regional co-operation and exchange of information and experiences between States Parties concerning the implementation of the Convention and World Heritage conservation.

<sup>29</sup> Managing Cultural World Heritage. UNESCO/ICCROM/ICOMOS/IUCN, 2013

*Periodic Reporting is made on the regional basis and is cyclic in nature. First two cycles of Periodic Reporting took place in 2000-2006 and 2008-2015. Region of Europe and North America (including Russia) will report the status of its cultural heritage in 2022-2023.*

Also, under the framework of interaction with the World Heritage Center there is such inspection instrument as reactive monitoring. This procedure allows the provision of reliable information about the state of heritage sites under threat.

### **Reactive monitoring**

*Paragraph 169 of the The Operational Guidelines for the Implementation of the World Heritage Convention:*

*To this end, the States Parties shall submit specific reports and impact studies each time exceptional circumstances occur or work is undertaken which may have an impact on the Outstanding Universal Value of the property or its state of conservation by 1 February of the year of examination of the property by the Committee, for the properties inscribed on the List of World Heritage in Danger, and for specific cases of utmost urgency.*

*Paragraph 172:*

*The World Heritage Committee invites the States Parties to the Convention to inform the Committee, through the Secretariat, of their intention to undertake or to authorize in an area protected under the Convention major restorations or new constructions which may affect the Outstanding Universal Value of the property Notice should be given as soon as possible (for instance, before drafting basic documents for specific projects) and before making any decisions that would be difficult to reverse, so that the Committee may assist in seeking appropriate solutions to ensure that the Outstanding Universal Value of the property is fully preserved.*

Monitoring procedures not only allow to control the implementation of the management plan, the quality of the organization of the management system at the site, but also allow a timely and qualitative response to the risks and threats to the OUV site in order to minimize the negative effects of various factors of influence on the site and to organize competent cooperation of the institution responsible for the management of the site with parties concerned.

Management efficiency monitoring is based on monitoring indicators, which in turn reflect the status of the conservation of the OUV site. The system of indicators for assessment of quality of implementation of the management plan for the Petroglyphs of Lake Onega and the White Sea cultural site is based on the analysis of the results, reports of organization departments responsible for the implementation of the management plan. The system of indicators reflects selected direction of development of the site through a system of strategic objectives outlined in the Management Plan as well as the related management tasks.

*Paragraph 132.6 of the The Operational Guidelines for the Implementation of the World Heritage Convention:*

*States Parties shall include the key indicators in place and/or proposed to measure and assess the state of conservation of the property, the factors affecting it, conservation measures at the property, the periodicity of their examination, and the identity of the responsible authorities.*

Monitoring indicators for the management plan for the Petroglyphs of Lake Onega and the White Sea cultural site are developed in order to reflect:



- whether the proposed control system works in practice; the effectiveness of its application in relation to the site;
- the development of the state of the site of cultural heritage;
- how effectively the community and parties concerned are involved in the processes of conservation, management and promotion of the site and what benefits they receive in the case of active participation in these processes.

For these purposes, monitoring indicators evaluate the processes within the cultural site management system, as well as the results of these processes. Indicators are presented in both quantitative and qualitative formats. An effective system of monitoring and evaluation helps the manager of the site and parties concerned to determine whether the strategic objectives of the management plan are achievable, and also gives the opportunity to improve the system of site planning and management. Effective monitoring and evaluation can provide foundation for adjustments to the management plan and changes to the program of works on the site.

The monitoring process of the management plan is presented according to the following algorithm (see section “Plan of Works for the Implementation of the Management Plan and the System of Indicators for the Analysis of the Implementation of the Management Plan”):

- Strategic objective of the Management Plan;
- Sub-goals for each specific strategic objective;
- Activity (for conservation of outstanding universal value, creation of conditions for sustainable development of the site, implementation of the management plan); terms of implementation; sources of financing and responsible executive;
- Formula of the indicator for monitoring and evaluation;
- Measurement unit;
- Monitoring/evaluation period.

**Appendix 1. Plan of Works for the Implementation of the Management Plan and the System of Indicators for the Analysis of the Implementation of the Management Plan<sup>30</sup>**

**Annual work plan (2020)**

| <b>Strategic objective 1 Preservation of OUV</b>   |   |   |   |                              |
|--|---|---|---|------------------------------|
| <b>Area: Effective conservation of site components</b>   |   |   |   |                              |
| <b>Works</b>   | <b>Responsible party</b>                  | <b>Terms of implementation and budget</b>               | <b>Monitoring indicator (measurement unit)</b>                                      | <b>Monitoring period</b>     |
| 1. Designation of nominated site of cultural heritage as site of cultural heritage of federal importance | Ministry of Culture of Russian Federation | 01/2020<br><br>(Federal budget)                         | Decrees   | 02/2020                      |
| 2. Approval of protected areas' borders and land use regime of all nominated CHS's                       | Ministry of Culture of Russian Federation | 02/2020<br><br>(Federal budget)<br><br>7 000 000 rubles | Decrees   | 03/2020                      |
| 3. Monitoring of state of conservation of the rock drawings (petroglyphs), rock paintings, and           | RAS Karelia Research Center               | Starting annually                                       | 01/2020<br>Reports on the state of conservation of the rock drawings (petroglyphs), | Starting annually<br>01/2020 |

<sup>30</sup> In order to calculate the approximate cost of the procedures envisaged under the action plan for annual work plan (2020), mid-term work plan (2021-2023) and long-term work plan (2024-2027), information on the initial maximum price of a number of government contracts with comparable types of work presented on the official website of the unified information system in the field of procurement was analyzed (<http://zakupki.gov.ru>). For the estimated sum of financing by activities, an average sum of financing (obtained by calculation as an arithmetic average) is given. Accordingly, the funding figures are approximate, subject to review and refinement.

This section of the Management Plan should be further elaborated taking into account the changing modern situation and specificity of suggested projects; the proposed measures with deadlines for their implementation, responsible parties and financial support for 2020-2027 require constant discussion, revision and agreement with the Government of Karelia.

|  |  |   |  |                                 |
|--|--|---|--|---------------------------------|
| lichen biota   |  | (Regional budget)<br>150 000 rubles                       | rock paintings, and lichen biota   |                                 |
| 4. Monitoring of state of surrounding natural and historical landscape   | Cultural Heritage Protection Department of the Republic of Karelia jointly with Directorate of specially protected natural areas of regional importance of the Republic of Karelia | Quarterly<br>(Regional budget)<br>150 000 rubles          | Reports on the state of surrounding natural and historical landscape   | 04/2020,<br>08/2020,<br>12/2020 |
| 5. Monitoring of observance of land use regimes  | Cultural Heritage Protection Department of the Republic of Karelia   | Quarterly<br>(Regional budget)<br>150 000 rubles          | Reports on the observance of land use regimes  | 04/2020,<br>08/2020,<br>12/2020 |
| 6. Report publication on the state of conservation of petroglyphs; rock paintings; lichen biota; status of the surrounding natural and historical landscape; on the observance of land use regimes | Cultural Heritage Protection Department of the Republic of Karelia   | 12/2020<br>(Regional budget)<br>(under official contract) | Reports are published on the Department of Protection of Cultural Heritage Sites of the Republic of Karelia web site | 12/2020                         |

|  |  |  |  |                                |
|--|--|--|--|--------------------------------|
| 7. Formulation and implementation of a system of regular comprehensive preventive maintenance of nominated CHS's | Cultural Heritage Protection Department of the Republic of Karelia | 05/2020 – 09/2020<br>(under official contract)   | Program for the system of regular comprehensive preventive maintenance                                       | 12/2020                        |
| 8. Installation of video surveillance cameras in the site zones open to the public                               | Murom reserve;<br>Petroglyphs of the White Sea Museum              | 05/2020 – 09/2020<br>(Regional budget;<br>municipal budget)<br>450 000 rubles            | Contract specification<br>(number of video surveillance cameras installed)                                   | 12/2020                        |
| 9. Providing security service in the site zones open to the public   | Murom reserve;<br>Petroglyphs of the White Sea Museum              | 05/2020 – 09/2020<br>(Regional budget;<br>municipal budget)<br>(under official contract) | Employment contracts<br>(number of specialists involved)   | 12/2020                        |
| 10. Monitoring of published research papers on Petroglyphs of Lake Onega and the White Sea                       | RAS Karelia Research Center  | Starting 01/2020 semi-annually<br>(under official contract)                              | List of published research papers on Petroglyphs of Lake Onega and the White Sea<br>(number of publications) | Starting 01/2020 semi-annually |

|   |  |  |  |          |
|---|--|--|--|----------|
| 11. Formulation and implementation of a unified integrated strategy for scientific research of the site   | Karelia Research Center of the Russian Academy of Sciences; Cultural Heritage Protection Department of the Republic of Karelia; scientist and expert community; potential research partners in Russia and abroad | 01/2020 – 05/2020<br>(Regional budget; grant funds)<br>(under official contract) | strategy for scientific research of the site for 2020-2027 | 06/2020  |
| <b>Area: Conservation and revitalization of the landscape</b>   |  |  |  |          |
| 12. Formulation and implementation of temporary procedure for assessing the impact on the natural landscape   | Cultural Heritage Protection Department of the Republic of Karelia   | 01/2020-04/2020<br>(Regional budget)<br><br>500 000 rubles                       | Approved algorithm for landscape impact assessment         | 12/2020  |
| <b>Strategic objective 2 Sustainable development of the site</b>  |  |  |  |          |
| <b>Area: Socio-economic development</b>   |  |  |  |          |
| 13. Inclusion of conservation and sustainable development of the site into regional and municipal strategic documents on socio-economic development | The government of the Republic of Karelia, Cultural Heritage Protection Department of the Republic of Karelia, Pudozh District Administration, Belomorsk District Administration                                 | 01/2020<br>(Regional budget)<br>(under official contract)                        | Documents on socio-economic development (number)           | 12/2020  |
| <b>Area: Sustainable development of tourism</b>   |  |  |  |          |
| 14. Implementation of the project “The Leaves of the Stone Book” developed by the Ministry of culture of Karelia during the                         | Ministry of Culture of the Republic of Karelia, Government of the Republic of Karelia, Belomorsk District  | 2020<br>[project implementation term is 2018-2020]                               | Report on Project Implementation                           | Annually |

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| preparation for the celebration of the 100th anniversary of the founding of the Republic            | Administration, Pudozh District Administration,<br>Tourism Department of the Government of the Republic of Karelia  | (Regional budget)<br>(total funding 150 040 million rubles)                 |   |         |
| 15. Installation of parts of temporary tourist infrastructure in site components open to the public | Cultural Heritage Protection Department of the Republic of Karelia, Department of tourism of the Government of the Republic of Karelia  | 01/2020 - 12/2020<br><br>(Regional budget)<br>2 000 000 rubles              | Contracts with contractors, reports on the works performed<br>(number of installed parts)       | 12/2020 |
| 16. Creation and promotion of tourist routes around site components open to the public              | Cultural Heritage Protection Department of the Republic of Karelia, Department of tourism of the Government of the Republic of Karelia  | 01/2020- 12/2020<br><br>(Regional budget)<br><br>(under official contract)  | Materials on strategic planning of tourist routes<br>(number of routes created)                 | 12/2020 |
| 17. Providing for attendance recording in site components open to the public                        | Cultural Heritage Protection Department of the Republic of Karelia, Department of tourism of the Government of the Republic of Karelia, Belomorsk District Administration, Pudozh District Administration, Belomorsk district Petroglyphs of the White Sea Museum of local lore | 01/2020 – 12/2020<br>(Regional, municipal)<br><br>(under official contract) | Site attendance reports<br>(number of tourists recorded quarterly, semi-annually, and annually) | 12/2020 |
| 18. Inclusion of the site in the  | Tourism Department of the   | 01/2020 – 12/2020   | Programs of inter-regional  | 12/2020 |

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| existing inter-regional and regional tourist routes   | Government of the Republic of Karelia, Government of the Republic of Karelia  | (Regional)<br><br>(under official contract)  | and regional tourist routes<br><br>(number of routes)   |
| <b>Area: Sustainable development of the local community</b>   |   |  |   |
| 19. Formulation and implementation of a program to attract local youth to monitoring and tourist service in site components       | Cultural Heritage Protection Department of the Republic of Karelia, Department of tourism of the Government of the Republic of Karelia, Belomorsk District Administration, Pudozh District Administration | 01/2020– 05/2020<br><br>(Regional budget; municipal budget; grant funds)<br><br>(under official contract)  | Report and program to attract local youth<br><br><br><br><br><br><br><br><br><br><br><br><br><br>06/2020                                    |
| 20. Formulation and implementation of a program to attract silver volunteers to monitoring and tourist service in site components | Cultural Heritage Protection Department of the Republic of Karelia, Department of tourism of the Government of the Republic of Karelia, Belomorsk District Administration, Pudozh District Administration | 06/2020 – 12/2020<br><br>(Regional budget; municipal budget; grant funds)<br><br>(under official contract) | Report and program to attract silver volunteers<br><br><br><br><br><br><br><br><br><br><br><br><br><br>12/2020                              |
| 21. Cross-guided tours for school groups on site components   | Belomorsk District Administration<br>Pudozh District Administration   | Starting 01/2020 annually<br><br>(Municipal budget)<br><br>(under official contract)                       | Report on excursions (number of excursions and number of participants)<br><br><br><br><br><br><br><br><br><br><br>Starting 01/2020 annually |
| 22. Carrying out an event on  | Cultural Heritage Protection  | Starting 02/2020   | Report on events held<br><br><br><br><br><br><br><br><br><br><br>Starting 02/2020   |

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| sharing of experience between administrations of localities in Pudozh and Belomorsk district regarding organization of tourism on the site components        | Department of the Republic of Karelia, Department of tourism of the Government of the Republic of Karelia, Belomorsk District Administration, Pudozh District Administration                              | annually<br>(Regional budget, municipal budget)<br><br>200 000 rubles                  |   | annually                  |
| <b>Area: Site publicity and promotion</b>  |   |  |   |                           |
| 23. Research of the visitors' profiles and adaptation of excursion programs  | Cultural Heritage Protection Department of the Republic of Karelia, Department of tourism of the Government of the Republic of Karelia, Belomorsk District Administration, Pudozh District Administration | 05/2020 – 09/2020<br>(Regional budget)<br><br>700 000 rubles                           | Research materials                                    | 09/2020                   |
| 24. Representation of the site in international specialized exhibitions and fairs  | Cultural Heritage Protection Department of the Republic of Karelia, Department of tourism of the Government of the Republic of Karelia  | Starting 01/2020 annually<br>(Regional budget, federal budget)<br><br>2 000 000 rubles | Exhibition participation report<br>(number of events) | Starting 12/2020 annually |
| <b>Strategic objective 3 Implementation of the management plan</b>   |   |  |   |                           |
| <b>Area: Establishment of the management system</b>  |   |  |   |                           |
| 25. Development and coordination of the roadmap (action plan) to promote the nominated object Petroglyphs of Lake Onega and the White Sea to the UNESCO list | The government of the Republic of Karelia jointly with Cultural Heritage Protection Department of the Republic of Karelia, the Administrations of Belomorsk and Pudozh districts                          | 01/2020- 06/2020<br>(Regional budget)<br><br>(under official contract)                 | Roadmap   | 4th quarter of 2020       |



| Area: Provision of the resources  |  |   |   |                     |
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| 26. Appointment of a specialist from the staff of the Office of the Republic of Karelia in charge of protection of cultural heritage and authorization to supervise the processes of promotion of the nominated object “Petroglyphs of Lake Onega and the White Sea” to the UNESCO list | Cultural Heritage Protection Department of the Republic of Karelia   | 2020<br>(Regional budget)<br><br>(under official contract)              | Office staff schedule                     | 4th quarter of 2020 |
| 27. Preparation of budgeting for implementation of works under management plan, additional fundraising, including participation in federal target programs  | Cultural Heritage Protection Department of the Republic of Karelia jointly with the Government of the Republic of Karelia, Belomorsk and Pudozh District Administrations | 03/2020-09/2020<br>(Regional budget)<br><br>(under official contract)   | Management plan implementation budget     | 4th quarter of 2020 |
| Area: Management efficiency monitoring  |  |   |   |                     |
| 28. Management plan implementation monitoring (first semi-annual report)  | Cultural Heritage Protection Department of the Republic of Karelia   | 03/2020 – 09/2020<br>(Regional budget)<br><br>(under official contract) | Monitoring indicators                     | 4th quarter of 2020 |
| Mid-term work plan 2021–2023  |  |   |   |                     |
| Strategic objective 1 Preservation of OUV   |  |   |   |                     |
| Area: Effective conservation of site components   |  |   |   |                     |
| Works   | Responsible party  | Terms of implementation and budget                                      | Monitoring indicator and measurement unit | Monitoring period   |

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| 1. Monitoring of state of conservation of the rock drawings (petroglyphs), rock paintings, and lichen biota  | RAS Karelia Research Center  | 2021-2023<br>Annually<br><br>(Regional budget)<br><br>150 000 rubles     | Reports on the state of conservation of the rock drawings (petroglyphs), rock paintings, and lichen biota            | Annually  |
| 2. Monitoring of state of surrounding natural and historical landscape   | Cultural Heritage Protection Department of the Republic of Karelia jointly with Directorate of specially protected natural areas of regional importance of the Republic of Karelia | 2021-2023 quarterly<br>(Regional budget)<br>150 000 rubles               | Reports on the state of surrounding natural and historical landscape   | quarterly |
| 3. Monitoring of observance of land use regimes  | Cultural Heritage Protection Department of the Republic of Karelia   | 2021-2023<br>quarterly<br>(Regional budget)<br>150 000 rubles            | Reports on the observance of land use regimes  | quarterly |
| 4. Report publication on the state of conservation of petroglyphs; rock paintings; lichen biota; status of the surrounding natural and historical landscape; on the observance of land use regimes | Cultural Heritage Protection Department of the Republic of Karelia   | 2021-2023<br>Annually<br>(Regional budget)<br>查(under official contract) | Reports are published on the Department of Protection of Cultural Heritage Sites of the Republic of Karelia web site | Annually  |
| 5. Installation of interpretation boards with information about the international value of the site  | Cultural Heritage Protection Department of the Republic of Karelia, Belomorsk and Pudozh District  | 05/2021 – 05/2022<br>(Regional budget; municipal budget; grant funds)    | Contracts with contractors, reports on the works performed<br>(number of installed parts)                            | 05/2022   |

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|    |  | Administrations   | 2 500 000 rubles  |   |         |
| 6. | Comprehensive documentation with the creation of GIS database of site components with visual digital material prepared through 3D modeling | RAS Karelia Research Center   | 01/2021-12/2022<br>(Federal budget; regional budget; grant funds)<br>1 000 000 rubles | Report on comprehensive documentation, GIS database | 12/2022 |
| 7. | Formulation and implementation of risk management plan   | Cultural Heritage Protection Department of the Republic of Karelia, Republican Center for the State Protection of Cultural Heritage, Department of Tourism of the Republic of Karelia in the Ministry of Culture of the Republic of Karelia, Ministry of Nature Management and Ecology of the Republic of Karelia, Regional Directorate of SPNA, Pudozh Municipal District Administration, Belomorsk Municipal District Administration, RAS Karelia Research Center, scientist and expert community, Main | 01/2021-12/2021<br>(Regional budget)<br>2 000 000 rubles                              | Risk management plan                                | 12/2021 |

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|  | Department of the Ministry of Emergency Situations of Russia in the Republic of Karelia   |  |  |          |
| 8. Establishment of ICOMOS regional office in the Republic of Karelia                  | Cultural Heritage Protection Department of the Republic of Karelia, Republican Center for the State Protection of Cultural Heritage, RAS Karelia Research Center, scientist and expert community, ICOMOS National Committee, Russia                 | 01/2021 – 06/2021<br>(Regional budget)<br>(under official contract)  | Constitutional documents of ICOMOS regional office in the Republic of Karelia                  | 06/2021  |
| 9. Establishment of World Cultural Heritage Resource Center in the Republic of Karelia | Cultural Heritage Protection Department of the Republic of Karelia, Republican Center for the State Protection of Cultural Heritage, RAS Karelia Research Center, scientist and expert community, ICOMOS regional office in the Republic of Karelia | 06/2021-12/2021<br>(Regional budget; grant funds, including federal target programs)<br><br>1 500 000 rubles | Constitutional documents of World Cultural Heritage Resource Center in the Republic of Karelia | 12/2021  |
| 10. Holding science conferences on the topic of petroglyphs                            | Cultural Heritage Protection Department of the Republic of Karelia, Republican Center for the State Protection of Cultural Heritage, RAS  | 2021-2023<br>Annually<br>(Regional budget)<br>500 000 rubles (Annually)                                      | Conference program, list of participants<br>(number of events held)                            | Annually |

Karelia Research Center,  
 scientist and expert  
 community, ICOMOS  
 National Committee, Russia

**Area: Conservation and revitalization of the landscape**

|  |   |  |  |          |
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| 11. Geocological research of the natural landscape | Ministry of Nature Management and Ecology of the Republic of Karelia, Directorate of Specially Protected Natural Areas of Regional Importance of the Republic of Karelia, Archaeology Section of the Institute of Language, Literature and History of the Russian Academy of Sciences<br>Karelia Research Center, Institute of Forest of the Russian Academy of Sciences<br>Karelia Research Center, Institute of Biology, Ecology and Agricultural Technology of Petrozavodsk State University, Murom Landscape Reserve of Regional Importance | 2021-2023<br>Annually<br>(Regional budget; grant funds, including federal target programs)<br>500 000 rubles | Research results<br>(number of researches conducted) | Annually |
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**Strategic objective 2 Establishment of stable development of the site**

**Area: Stable development of tourism**

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| 12. Implementation of the project “The Leaves of the Stone Book” developed by the Ministry of culture of Karelia during the preparation for the celebration of the 100th anniversary of the founding of the Republic | Ministry of Culture of the Republic of Karelia, Government of the Republic of Karelia, Belomorsk District Administration, Pudozh District Administration, Tourism Department of the Government of the Republic of Karelia  | 2021<br>[project implementation term is 2018-2021]<br>(Regional budget)<br><br>(total funding 150 040 million rubles) | Report on Project Implementation | Annually |
| 13. Research in order to determine the maximum permissible anthropogenic load on the site and its adjacent territory   | Cultural Heritage Protection Department of the Republic of Karelia, Republican Center for State Protection of Cultural Heritage, Russian Academy of Sciences Karelia Research Center, Institute of Forest of the Russian Academy of Sciences Karelia Research Center, Institute of Biology, Ecology and Agricultural Technology of Petrozavodsk State University, Murom Landscape Reserve of Regional Importance | 01/2021 – 12/2021<br>(Regional budget)<br>1 300 000 rubles  | Report on research conducted     | 12/2021  |
| 14. Arrangement of tour  | Cultural Heritage Protection   | 03/2021 -06/2022  | Tour services programs           | 06/2022  |

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| services on the components of the site open to the public involving the community | Department of the Republic of Karelia, Department of tourism of the Government of the Republic of Karelia, Belomorsk District Administration, Pudozh District Administration   | (Regional budget, municipal budget)<br>200 000 rubles  |                                  |         |
| 15. Formulation of additional tour circuits                                       | Cultural Heritage Protection Department of the Republic of Karelia, Department of tourism of the Government of the Republic of Karelia, Belomorsk District Administration, Pudozh District Administration  | 06/2022 – 09/2023<br>(Regional budget, municipal budget)<br>(under official contract)                  | Tour circuit programs            | 09/2023 |
| 16. Development of tourist infrastructure   | Cultural Heritage Protection Department of the Republic of Karelia, Department of tourism of the Government of the Republic of Karelia, Murom Landscape Reserve of Regional Importance, Belomorsk district Petroglyphs of the White Sea Museum of Local Lore | 01/2021 – 12/2023<br>(Regional budget; municipal budget, federal target programs)<br>10 000 000 rubles | Development programs and reports | 12/2023 |

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| 17. Formulation and implementation of a program to attract investment in tourism sector in Pudozh and Belomorsk districts                                     | Government of the Republic of Karelia, Pudozh District Administration, Belomorsk District Administration  | 01/2021 – 12/2021<br>(Regional budget; municipal budget, federal target programs)<br>(under official contract) | Report, Investment Attraction Program      | 12/2021                   |
| <b>Area: Stable development of community</b>  |   |  |  |                           |
| 18. Holding Summer youth volunteer camp at the site   | Cultural Heritage Protection Department of the Republic of Karelia, Pudozh District Administration, Belomorsk District Administration   | Starting 06/2021 annually<br>(Regional budget; municipal budget; grant funds)<br>300 000 rubles (annually)     | Report, camp program, list of participants | Starting 06/2021 annually |
| 19. Conducting a training course for the community about operating small businesses in the field of tourism, including the production self-produced souvenirs | Cultural Heritage Protection Department of the Republic of Karelia, Department of tourism of the Government of the Republic of Karelia, Belomorsk district Administration, Belomorsk district Petroglyphs of the White Sea Museum of Local Lore | Starting 01/2022 annually<br>(Regional budget; municipal budget; grant funds)<br>300 000 rubles                | Report, list of participants, program      | 01/2022                   |
| 20. Development and implementation of subsidy program for small business in the field of tourism for local youth  | Cultural Heritage Protection Department of the Republic of Karelia, Department of tourism of the Government   | 01/2022 - 03/2022<br><br>(Regional budget; municipal budget; grant   | Report, subsidy program                    | 03/2022                   |



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|  | of the Republic of Karelia, Pudozh District Administration, Belomorsk District Administration   | funds)<br>(under official contract)  |   |                           |
| 21. Holding site's Locals Day  | Cultural Heritage Protection Department of the Republic of Karelia, Department of tourism of the Government of the Republic of Karelia, Pudozh District Administration, Belomorsk District Administration                                     | Starting 09/2021 annually (Regional budget; municipal budget; grant funds)<br>300 000 rubles | Event regulations, event report               | Starting 09/2021 annually |
| 22. Formulation and implementation of educational program on world cultural heritage within the educational institutions of the Pudozh and Belomorsk districts | Cultural Heritage Protection Department of the Republic of Karelia, Ministry of Education of the Republic of Karelia, UNESCO Associated Schools of the Republic of Karelia, Pudozh District Administration, Belomorsk District Administration | 01/2022-12/2022<br>1 000 000 rubles  | Report, educational program                   | 12/2022                   |
| 23. Regular consultations with the community about the implementation of the management plan   | Cultural Heritage Protection Department of the Republic of Karelia, Pudozh District Administration, Belomorsk District Administration,  | Starting 01/2021 annually<br>(under official contract)                                       | Повестка дня, отчет о проведении консультаций | Starting 01/2021 annually |

Murom Landscape Reserve  
of Regional Importance,  
Belomorsk district  
Petroglyphs of the White Sea  
Museum of Local Lore

**Area: Site popularization and promotion**

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|--|--|--|-----------------------------------|------------------|
| 24. Formulation and implementation of comprehensive program for the tourist promotion of the site in the Russian and international markets           | Tourism Department of the Republic of Karelia  | 01/2021-03/2021<br>(Regional budget)<br>(under official contract)                        | Report, tourist promotion program | 03/2021          |
| 25. Creation of site brand name and logo   | Tourism Department of the Republic of Karelia  | 04/2021-07/2021<br>(Regional budget)<br>500 000 rubles                                   |                                   |                  |
| 26. Placement of information about the site on official websites of regional and municipal executive bodies;<br>27. local museums and municipalities | Cultural Heritage Protection Department of the Republic of Karelia, Pudozh Municipal District Administration, Belomorsk Municipal District Administration, Republic of Karelia National Museum, Belomorsk district Petroglyphs of the White Sea Museum of Local Lore, Pudozh Korablyov Local History Museum. | 01/2021 – 12/2021<br>(Regional budget,<br>municipal budget)<br>(under official contract) | Report on work completed          | 12/2021          |
| 28. Preparation and  | RAS Karelia Research Center  | Starting 01/2021 annually  | Publications                      | Starting 12/2021 |

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| publication of scientific, popular science and reference works on Karelian petroglyphs   |   | (Regional budget; grant funds)<br>3 000 000 rubles<br>(Annually)       | (number of publications)   | annually |
| 29. Placement of information and promotional merchandize in information centers  | Tourist Information Center of the Republic of Karelia; Petrozavodsk Tourist Information Center; Onega Coast Interregional Center for Cultural and Spiritual Development   | 2021 – 2023<br>(Regional budget)<br>2 000 000 rubles<br>(Annually)     | End product (number of items produced)   | Annually |
| 30. Placement of site advertisement on specialized websites in the Republic of Karelia (“Karelia Tourist”, “Visit Petrozavodsk”), in guidebooks (“Map of Karelia”, “Karelia Regional Tourism Potential”), etc. | Tourism Department of the Republic of Karelia   | 2021-2023<br>(Regional budget)<br>2 000 000 rubles<br>(Annually)       | Report on work completed (number of items produced)  | Annually |
| 31. Social networking:<br>32. popularization and promotion of the site through Vkontakte, Facebook, Instagram, Telegram, etc.  | Pudozh District Administration, Belomorsk district Administration, Republic of Karelia National Museum; Belomorsk district Petroglyphs of the White Sea Museum of local lore, Pudozh Korablyov Local History Museum | 2021-2023<br>(Regional budget, municipal budget)<br>300 000 (annually) | Report on work completed (number of social networks covered, platform audience and attendance) | Annually |

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| 33. Organization of a volunteer camp at the site (as the site included in Preliminary List of Russian Federation) under UNESCO World Heritage Volunteers initiative. | Ministry of Culture of the Republic of Karelia, Cultural Heritage Protection Department of the Republic of Karelia; Pudozh Municipal District Administration; Belomorsk Municipal District Administration, Archeology Sector of the Institute of Language, Literature and History of RAS Karelia Research Center, UNESCO Study and Preservation of Wooden Architecture Department of Petrozavodsk State University, Navigator School Tourist Club, Sunny World Museum and Study Center, World Cultural Heritage Resource Center | 2021-2023<br>Annually<br>(Regional; municipal, grant support, federal target programs)<br>300 000 rubles | Reports on World Heritage Center Volunteer Camp | Annually            |
| <b>Strategic objective 3 Implementation of the management plan</b>   |   |  |   |                     |
| <b>Area: Establishment of the management system</b>  |   |  |   |                     |
| 34. Implementation of the development of project documentation for designation of World Cultural Heritage List nominated site components as                          | Cultural Heritage Protection Department of the Republic of Karelia  | 01/2021- 09/2021<br>(Regional budget)<br>8 200 000 rubles  | Project documentation                           | 4th quarter of 2021 |

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| site of cultural heritage of federal significance in the form of a landmark site   |   |  |  |                           |
| 35. Designation of Petroglyphs of Lake Onega and the White Sea site as cultural heritage site in the form of landmark  | Ministry of Culture of Russian Federation<br>Cultural Heritage Protection Department of the Republic of Karelia       | 2022-2023<br>(Federal budget)<br>(under official contract)         | Decree                                   | 2022-2023                 |
| <b>Area: Provision of the resources</b>  |   |  |  |                           |
| 36. Department of Protection of Cultural Heritage Sites of the Republic of Karelia, Department of tourism of the Government of the Republic of Karelia, Belomorsk District Administration,   | Government of the Republic of Karelia Jointly With Cultural Heritage Protection Department of the Republic of Karelia | Starting 01/2021 annually<br>(Regional budget)<br>1 000 000 rubles | Event participation reports              | Starting 01/2021 annually |
| 37. Pudozh District Administration, Belomorsk district Petroglyphs of the White Sea Museum of local lore, Pudozh Korablyov Local History Museum : participation in Russian and international conferences, seminars, courses on conservation and management of world heritage sites |   |  |  |                           |
| 38. Preparation of budgeting for implementation of works   | Cultural Heritage Protection Department of the Republic   | Starting 01/2021 annually<br>(Regional budget)                     | Management plan<br>implementation budget | Starting 01/2021 annually |

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| under management plan, additional fundraising, including participation in federal target programs   | of Karelia jointly with the Government of the Republic of Karelia, Belomorsk and Pudozh District Administrations   | (under official contract)                                    |                               |                           |
| 39. Establishment and development of partner network with institutions related to cultural heritage (world, national) and archaeological heritage (world, national) sites | Cultural Heritage Protection Department of the Republic of Karelia, Belomorsk and Pudozh District Administrations, Belomorsk district Petroglyphs of the White Sea Museum of Local Lore, Pudozh Korablyov Local History Museum | Starting 01/2021 (Regional budget) (under official contract) | Partner cooperation agreement | Starting 01/2021 annually |

**Area: Management efficiency monitoring**

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| 40. Management plan implementation monitoring and correction (if necessary) | Cultural Heritage Protection Department of the Republic of Karelia, Department of tourism of the Government of the Republic of Karelia, Belomorsk District Administration, Pudozh District Administration, community, ICOMOS regional office, World Cultural Heritage Resource Center in the Republic of Karelia | Starting 01/2021 semi-annually (Regional budget) (under official contract) | Monitoring indicators | Starting 01/2021 semi-annually |
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## Long-term work program 2024-2027

| Strategic objective 1 Preservation of OUV  |   |  |  |           |  |
|--|---|--|--|-----------|--|
| Area: Effective conservation of site components  |   |  |  |           |  |
| 1. Monitoring of state of conservation of the rock drawings (petroglyphs), rock paintings, and lichen biota  | RAS Karelia Research Center<br><i>Museum and Reserve</i>  | Annually<br><br>(Regional budget)<br><br>150 000 rubles    | Reports on the state of conservation of the rock drawings (petroglyphs), rock paintings, and lichen biota            | Annually  |  |
| 2. Monitoring of state of surrounding natural and historical landscape   | Cultural Heritage Protection Department of the Republic of Karelia jointly with Directorate of specially protected natural areas of regional importance of the Republic of Karelia<br><i>Museum and Reserve</i> | Quarterly<br>(Regional budget)<br>150 000 rubles           | Reports on the state of surrounding natural and historical landscape   | Quarterly |  |
| 3. Monitoring of observance of land use regimes  | Cultural Heritage Protection Department of the Republic of Karelia<br><i>Museum and Reserve</i>   | Quarterly<br>(Regional budget)<br>150 000 rubles           | Reports on the observance of land use regimes  | Quarterly |  |
| 4. Report publication on the state of conservation of petroglyphs; rock paintings; lichen biota; status of the surrounding natural and historical landscape; on the observance of land use regimes | Cultural Heritage Protection Department of the Republic of Karelia<br><i>Museum and Reserve</i>   | Annually<br>(Regional budget)<br>(under official contract) | Reports are published on the Department of Protection of Cultural Heritage Sites of the Republic of Karelia web site | Annually  |  |

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| 5. ICCROM international course training of specialists directly related to the conservation and management of nominated OUVs | Cultural Heritage Protection Department of the Republic of Karelia   | 2024 - 2027<br>(Regional budget)<br>100 000 rubles<br>(Annually) | Certificates of completion<br>(number of specialists trained)       | Annually |
| 6. Holding science conferences on the topic of petroglyphs   | Cultural Heritage Protection Department of the Republic of Karelia, Republican Center for the State Protection of Cultural Heritage, RAS Karelia Research Center, scientist and expert community, ICOMOS National Committee Russia, ICOMOS regional office in the Republic of Karelia, World Cultural Heritage Resource Center, Museum and Reserve | Annually<br>(Regional budget)<br>500 000 rubles<br>(Annually)    | Conference program, list of participants<br>(number of events held) | Annually |
| 7. Holding field seminars on conservation of petroglyphs   | Cultural Heritage Protection Department of the Republic of Karelia, Republican Center for the State Protection of Cultural Heritage, RAS Karelia Research Center, scientist and expert community, ICOMOS National Committee Russia, ICOMOS regional office in the Republic of Karelia, World Cultural Heritage Resource Center,                    | Annually<br>(Regional budget)<br>500 000 rubles<br>(Annually)    | Seminar program, list of participants<br>(number of events held)    | Annually |



|   |  |  |  |         |
|---|--|--|--|---------|
|   | Museum and Reserve   |  |  |         |
| 8. Publication of Petroglyphs of the Lake Onega and the White Sea catalogue                         | Cultural Heritage Protection Department of the Republic of Karelia, Republican Center for the State Protection of Cultural Heritage, RAS Karelia Research Center, scientist and expert community, ICOMOS National Committee Russia, ICOMOS regional office in the Republic of Karelia, World Cultural Heritage Resource Center, Museum and Reserve | 01/2024 – 12/2024<br>(Regional budget)<br>400 000 rubles                       | Petroglyphs of Lake Onega and the White Sea catalogue in Russian and English | 12/2024 |
| 9. Formulation and implementation of a grant program to support young professionals and scientists. | Cultural Heritage Protection Department of the Republic of Karelia, Republican Center for the State Protection of Cultural Heritage, RAS Karelia Research Center, World Cultural Heritage Resource Center, Museum and Reserve  | 01/2025-12/2025<br>(Regional budget; grant funds)<br>(under official contract) | Grant program  | 12/2025 |
| <b>Area: Conservation and revitalization of the landscape</b>                                       |  |  |  |         |
| 10. Formulation and implementation of a comprehensive landscape research program for 2023-2026.     | RAS Karelia Research Center, Museum and Reserve, Republican Center for the State Protection of Cultural Heritage   | 01/2024 – 06/2024<br>(Regional budget; grant funds)<br>1 000 000 rubles        | Comprehensive program for landscape research in 2024-2027                    | 03/2024 |

| Strategic objective 2 Sustainable development of the site |  |   |   |  |         |  |
|---|--|---|---|--|---------|--|
| Area: Sustainable development of tourism                  |  |   |   |  |         |  |
| 11.   | Formulation and implementation of visit management system for Petroglyphs of Lake Onega and Petroglyphs of the White Sea site components | Cultural Heritage Protection Department of the Republic of Karelia, Department of Tourism of the Government of the Republic of Karelia, Republican Center for the State Protection of Cultural Heritage Sites, RAS Karelia Research Center, Museum and Reserve, World Cultural Heritage Resource Center | 01/2024 – 05/2024<br>(Regional budget)<br>(under official contract)<br>500 000 rubles | Visit management system for Petroglyphs of Lake Onega and Petroglyphs of the White Sea site components | 05/2024 |  |
| 12.   | Formulation and implementation of the program for the development of ecological and rural tourism at the site in 2024-2030               | Cultural Heritage Protection Department of the Republic of Karelia, Department of tourism of the Government of the Republic of Karelia, Museum and Reserve, World Cultural Heritage Resource Center   | 01/2024 – 12/2024<br>(Regional budget)<br>1 000 000 rubles                            | 2024-2030 Ecotourism development report and program  | 12/2024 |  |
| 13.   | Research of the impact of tourism on natural landscape   | Cultural Heritage Protection Department of the Republic of Karelia, Department of Tourism of the Government of the Republic of Karelia, Republican Center for the State Protection of Cultural Heritage Sites, RAS  | 1/2025 – 12/2025<br>(Regional budget)<br>500 000 rubles                               | Research materials   | 12/2025 |  |

|   |   |   |   |         |
|---|---|---|---|---------|
|   | Karelia Research Center, Museum and Reserve, World Cultural Heritage Resource Center  |   |   |         |
| 14. Formulation and implementation of a program to preserve and promote intangible cultural heritage of the Pudozh and Belomorsk districts, including folklore, crafts, traditional holidays, and integration of intangible cultural heritage elements into existing tourist routes | Cultural Heritage Protection Department of the Republic of Karelia, Department of Tourism of the Government of the Republic of Karelia, Republican Center for State Protection of Sites of Cultural Heritage, RAS Karelia Research Center, Museum and Reserve, Pudozh District Administration, Belomorsk District Administration, Museum and Reserve, World Cultural Heritage Resource Center | 1/2026 – 12/2026<br>(Regional budget)<br>1 000 000 rubles   | Report and program to preserve and promote intangible cultural heritage | 12/2026 |
| <b>Area: Sustainable development of the local community</b>   |   |   |   |         |
| 15. Formulation and implementation of a program to strengthen intergenerational ties within the community   | Belomorsk District Administration, Pudozh District Administration, Museum and Reserve, Republican Center for the State Protection of Cultural Heritage  | 1/2024 – 12/2024<br><br>(Municipal budget, grant funds, federal target programs)<br>(under official contract) | Report and program to strengthen intergenerational ties                 | 12/2024 |
| 16. Consultation with the community about the results of  | Cultural Heritage Protection Department of the Republic of  | 12/2027<br>(Regional budget,  | Report on consultations held  | 12/2027 |

|   |   |  |  |                           |
|---|---|--|--|---------------------------|
| the first management plan and development of the second management plan taking into account the wishes of community   | Karelia, Pudozh District Administration, Belomorsk District Administration, Museum and Reserve, World Cultural Heritage Resource Center | municipal budget)<br>(under official contract)<br>300 000 rubles               |  |                           |
| <b>Area: Site popularization and promotion</b>  |   |  |  |                           |
| 17. Arrangement of information tours for representatives of federal and foreign media, Russian and foreign tour operators   | Tourist Information Center of the Republic of Karelia, Museum and Reserve   | Starting 02/2024 annually<br>(Regional budget)<br>1 000 000 rubles<br>Annually | Report on events held (number of events)   | Starting 12/2024 annually |
| <b>Strategic objective 3 Implementation of the management plan</b>  |   |  |  |                           |
| <b>Area: Establishment of the management system</b>   |   |  |  |                           |
| 18. Creation of a united Petroglyphs of Lake Onega and the White Sea on the territory of the landmark site  | Government of the Republic of Karelia   | 2024-2027<br>(Regional budget)<br>15 000 000 rubles                            | Decree   | 2024-2027                 |
| <b>Area: Provision of the resources</b>   |   |  |  |                           |
| 19. Lifelong education programs for the Museum and Reserve personnel: advanced training with a focus on world cultural heritage, internships abroad in specialized universities with training programs on world cultural heritage; exchange programs with museums and | <i>Museum and Reserve</i>   | 2024-2027<br>(Regional budget)<br>1 000 000 rubles<br>(Annually)               | Reports on participation in events, training programs, scientific internships, training certificates | Annually                  |

|  |  |   |                                      |                 |
|--|--|---|--------------------------------------|-----------------|
| <p>reserves, governmental organizations, and scientific institutions dealing with world cultural heritage; participation in conferences and seminars on preservation and promotion of heritage sites; additional highly specialized education (management of cultural heritage, landscape management, management and risk minimization, sustainable development); compulsory foreign language study.</p> |  |   |                                      |                 |
| <p>20. Attraction of off-budget funding for Museum and Reserve</p>   | <p><i>Museum and Reserve</i></p>   | <p>2024-2027 off-budget funding (under official contract)</p> | <p>Museum and Reserve budget</p>     | <p>Annually</p> |
| <p>21. Expansion of the partner network with institutions in the field of cultural (world, national) and archaeological heritage sites (world, national)</p>   | <p>Cultural Heritage Protection Department of the Republic of Karelia, Belomorsk and Pudozh District Administrations, Belomorsk district Petroglyphs of the White Sea Museum of Local Lore, Pudozh Korablyov Local History Museum Petroglyphs of Lake Onega and the White Sea Museum and</p> | <p>2024-2027 (Regional budget) (under official contract)</p>  | <p>Partner cooperation agreement</p> | <p>Annually</p> |

Reserve

**Area: Management efficiency monitoring**

|   |   |  |                                |
|---|---|--|--------------------------------|
| 22. Monitoring of the management system and its effectiveness following the implementation of the first management plan and development of the second management plan | Cultural Heritage Protection Department of the Republic of Karelia, Pudozh District Administration, Belomorsk District Administration, Museum and Reserve | 2027<br>(Regional budget)<br>(under official contract) | Monitoring results report 2027 |
|---|---|--|--------------------------------|

## Appendix 2. Factors affecting the site

The list of factors affecting the site given in the following table and the values or characteristics affected is not exhaustive and can be supplemented (in case of new impact types or threats).

| Factor         | Description of threat  | by time of occurrence: historical (completed) or present (current) | by duration: permanent or periodic | by area of impact: selective and general | by intensity of impact: extreme, strong and moderate | Conservation methods   |
|----------------|--|--|------------------------------------|--|--|--|
| <b>Natural</b> |  |  |                                    |  |  |  |
| Lichens        | Lichen hyphae penetrate the minerals through cracks, widening them further while growing, that is disintegrating them by mechanical means. Due to high density of the lichen layer, the paintings become poorly visible, or not visible at all | historical and present   | permanent                          | general                                  | strong   | Recommendations for Karelia: cleaning the petroglyphs with alcohol solution (a technique developed in Norway):<br>96% ethyl alcohol<br>0.5L of alcohol per square meter of surface cleaned<br>In Sweden and Norway techniques of coating drawings with paint, construction of structures over rock paintings, cleaning |

|                       |   |                        |           |         |        |  |
|-----------------------|---|------------------------|-----------|---------|--------|--|
|                       |   |                        |           |         |        | figures from lichens were employed (but did not provide necessary conservation)  |
| Water (waves and ice) | Ice (negative impact): freezing of moisture in the cracks of rocks leads to their further expansion and stratification of the rock surface. Soil gets in deepening cracks enabling mosses, lichens, and higher plants to grow, speeding the destruction of the rock. Waves (positive impact): prevent massive lichens overgrowing | historical and present | permanent | general | strong | Repairing cracks using special compounds. Canopies and drainage systems are installed to optimize the hydrological regime. |



|  |   |                        |           |           |          |  |
|--|---|------------------------|-----------|-----------|----------|--|
| Wind   | Paintings and the surface underneath gets damaged due to influence of wind                      | historical and present | permanent | general   | moderate | Red granites of Lake Onega and White Sea crystal shales have low degree of weathering  |
| <b>Recreational (casual) anthropogenic threats</b> |   |                        |           |           |          |  |
| Vandalism  | Cutting inscriptions on the paintings and near them   | present                | periodic  | selective | extreme  | Inscriptions made by visitors are smoothed and strayed, filled with finishing and silicon-organic binder. Painted inscriptions are removed with special solutions.   |
| Bonfires   | Making bonfires on the top of the paintings and near them                                       | present                | periodic  | selective | strong   | Installation of information signs, fences, grates without attaching them to the rock surfaces with images. Constant presence of security at the site. Development and arrangement of bypass routes and alternative parking to reduce the massive visitor loads. Construction of covered paths or |
| Surface abrasion                                   | Abrasion and damage to paintings and surfaces as a result of visits by tourists and vacationers | present                | periodic  | selective | moderate |  |
| Littering  | Placement of daily waste by tourists and vacationers  | present                | periodic  | selective | strong   |  |

|  |   |         |          |           |          |  |
|--|---|---------|----------|-----------|----------|--|
|  |   |         |          |           |          | bridges, organization of leisure areas, toilets and containers for garbage collection. Construction of the paths at the site to completely eliminate walking on rocks and trampling vegetation |
| <b>Economic (systemic) anthropogenic threats</b> |   |         |          |           |          |  |
| Forest resources lease holders                   | Various wood harvesting and fires lead to the damage to natural landscape                             | present | periodic | selective | strong   | Risk management plan as a part of site management plan is a necessary foundation for the organization of   |
| Subsurface users                                 | Construction and operation of sea, inland water transport facilities, development of mineral deposits | present | periodic | selective | moderate | proper protection of rock paintings. Such plan should be developed with specialists in various fields (archaeologists, ecologists, sociologists,   |

|                          |   |         |           |           |          |   |
|--------------------------|---|---------|-----------|-----------|----------|---|
| Electric line facilities | Vyg Island High-voltage Hydro Power Plant and electric line facilities connected to it; road (for Besov Nos lighthouse) | present | permanent | selective | strong   | psychologists, recreation specialists, restorers) and involve interdisciplinary research of a naturally scientific nature (Botanical, petrographic, etc.) |
| Hunting areas            | Public and dedicated hunting areas  | present | periodic  | selective | moderate |   |
| Fisheries                | Commercial, recreational, and sport fishing   | present | periodic  | selective | moderate |   |