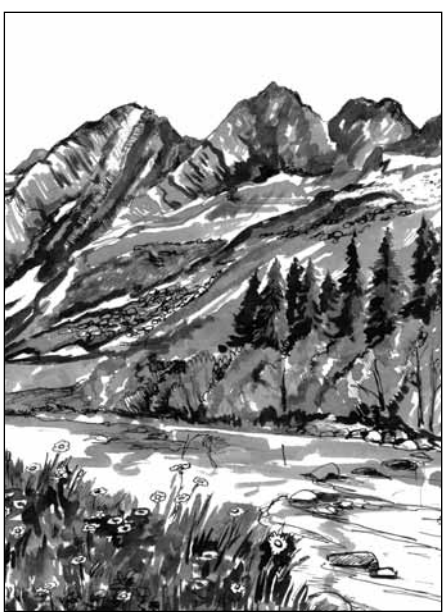
***Acknowledgement:** Maps of Russia's protected areas that are featured in this issue were prepared using the Protected Areas GIS database of the Biodiversity Conservation Center/International Socio-Ecological Union. For more information, please consult http://oopt.info/gis/database-eng.html*

ON THE COVER



A mountainous landscape of the Western Caucasus. Cover drawing by I. Timukhin.

Voice from the Wild (A Letter from the Editors)

This fortieth issue of *Russian Conservation News* goes to press just days after Russian President Vladimir Putin released a statement on April 26, 2006, concerning the necessity of re-routing a planned oil pipeline beyond the watershed of Lake Baikal. Conservationists and private citizens across Russia welcomed this decision, a triumph of environmental stewardship and social responsibility over the bottom-line interests of big business. In fact, though, the victory is the entire world's to celebrate. Lake Baikal, the oldest and deepest of our planet's lakes, with twenty percent of the earth's freshwater resources, is widely regarded as one the world's greatest natural treasures. In fact, for its outstanding natural values and for its importance to humankind as a whole, the lake was inscribed on the United Nations Educational, Scientific, and Cultural Organization (UNESCO) World Heritage List ten years ago, in 1996.

In this special issue of *RCN*, we examine Russia's World Natural Heritage sites - there are seven in addition to Lake Baikal – and the implementation of the UNESCO Convention concerning the Protection of World Cultural and Natural Heritage (Convention) in the Russian Federation. For many of the almost thirty Russian protected areas that are included in the country's World Natural Heritage sites, this prestigious international status has yielded real, tangible gains. One of the greatest benefits that we see in inscription is that it has helped to further raise awareness about and to popularize the territories, both in Russia and beyond its borders. This increased attention has certainly helped generate new funding and other opportunities for the protected areas, as well increase advocacy for their protection.

In the course of our work to prepare this journal, we also came to the conclusion that many important issues related to the Convention's implementation in Russia and to the Russian sites themselves remain unresolved and require careful attention. Chief among the problems we have noted is the dearth of Russian federal legislation that specifically and substantively addresses Russia's World Natural Heritage sites. It is not entirely clear to many authorities, elected officials, representatives of the business community, and the general public what types of activities are permitted and prohibited on the territories of World Natural Heritage sites; nor are there established procedures for resolving disputes concerning these territories. Another problem that might have potential repercussions on dispute resolution is the fact that the boundaries of three of Russia's World Natural Heritage sites – Virgin Komi Forests, Lake Baikal, and Volcanoes of Kamchatka – are imprecise and require clarification.

Yet another shortcoming that we have identified in our study of Russia's implementation of the Convention is a lack of coordinated management – both on federal- and site-specific levels. Despite the vast size of some of Russia's World Natural Heritage sites (the largest, Lake Baikal, occupies more than twice the area of Switzerland) and the complexity of their composition, none have specialized management plans or discrete staffing and budgets. If sites were to develop these important attributes, work across them would be better coordinated and more effective; and it would be easier to attract targeted funding to support activities benefiting an entire site, and not just one of its component parts.

That the resolution of these and other problems have been identified by protected area managers and Russian and international conversation organizations as priorities for the future, gives us at *RCN* hope that important steps toward the more effective management and protection of Russia's World Natural Heritage sites will be made in the near term. Given the steady encroachment on some of Russia's highly valuable natural territories by Russia's economy-driving extractive industries, this becomes an increasingly urgent task, for Russia and for the world.

Introduction to World Natural Heritage Sites in Russia

World Natural Heritage Sites in Russia

By ***Olga Krever*** *and* ***Aleksey Butorin***

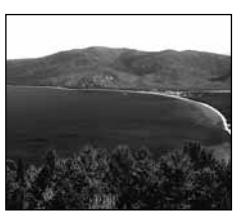
Map by M. Dubinin.

1 World Natural Heritage Sites on the Territory of the Russian Federation

1. Virgin Komi Forests
2. Lake Baikal
3. Volcanoes of Kamchatka
4. Golden Mountains of Altai
5. Western Caucasus
6. Central Sikhote-Alin
7. Uvs Nuur Basin
8. Natural System of Wrangel Island Reserve

The Convention concerning the Protection of World Cultural and Natural Heritage (World Heritage Convention, or Convention) was adopted at the seventeenth session of the UNESCO General Conference on November 16, 1972, and came into effect on December 17, 1975. The primary objective of the Convention is to unite the efforts of the international community to identify, protect, and provide comprehensive support to globally outstanding monuments of culture and natural objects. In 1975, twenty-one states ratified the Convention and today States Parties to the Convention number 180 states.

To strengthen the effectiveness of the Convention's work, in 1976, a Committee and Fund for World Heritage were created, and within two years, the first cultural and natural sites were inscribed on the World Heritage List. The Galapagos Islands (Ecuador), Yellowstone National Park (USA), Nahanni National Park (Canada), and Simen National Park (Ethiopia) were among the first natural sites to receive World Heritage status. In recent years,



the list has become highly representative, both of the planet's diverse regions, and in the number of sites. As of the beginning of the year 2006, the list includes 160 natural, 628 cultural, and 24 mixed natural-cultural sites in 137 countries around the world. Universally known natural sites such as the Great Barrier Reef, Hawaiian Islands, the volcanoes of Kamchatka, the Grand Canyon, Mount Kilimanjaro, and Lake Baikal are protected under the Convention. The total area of World Natural Heritage sites comprises more than 13% of the territory protected in specially protected nature areas worldwide.

Russia (as the former Soviet Union) signed the World Heritage Convention in 1988 and is now represented on the World Heritage List by fifteen cultural and eight natural sites. At present, the following sites in Russia have World Natural Heritage status: Virgin Komi Forests, Lake Baikal, Volcanoes of Kamchatka, Golden Mountains of Altai, Western Caucasus, Central Sikhote-Alin, Uvs Nuur Basin, and the Natural System of Wrangel Island Reserve. In the number of its natural sites inscribed on the list, Russia shares third place among nations with Canada, after Australia, with eleven sites, and the United States, with twelve sites. Thirty Russian specially protected nature areas (in whole or in part) have World Heritage status, among which eleven are strict nature reserves (zapovedniks) and five are national parks.

Russia is indisputably rich in unique natural complexes, which are, very importantly, undisturbed by human activities. According to the approximate estimates of scientists, Russia has close to twenty territories that are worthy of World Natural Heritage status. The most prospective sites were identified as part of a joint project on boreal forests, which was implemented by UNESCO and The World Conservation Union (IUCN).

In early 2005, Russia's Ministry of Natural Resources proposed that the Putorana Plateau, Magadan Nature Reserve, the Commander Islands, and Daurian Steppes be included on the Tentative List for the Russian Federation, which presents the territories that Russia may decide to nominate for inscription on the World Heritage List in the future. The aforementioned sites were selected based on an analysis of their natural significance, which was carried out by scientific and public organizations and approved by the Ministry of Natural Resources during the period 2000-2004. During this period, documentation necessary for submission to the UNESCO World Heritage Centre was prepared for all territories. In addition, for all territories, executive organs from the corresponding subjects of the Russian Federation sent proposals to Russia's Ministry of Natural Resources about their inscription on the UNESCO World Heritage List. In January 2006, the Putorana Plateau nomination was submitted to the World Heritage Centre.

Work is currently being carried out to present on the World Heritage List those natural sites included on the Russian Federation's Tentative List. Work is also underway to expand Russia's Tentative List of prospective and nominated natural complexes with the addition of sites such as the Green Belt of Fennoscandia, the Kuril Islands, the Great Watershed of Valdai, the Lena Pillars, the Volga Delta, and the Bikin River Valley. The expansion of Russia's Tentative List is a critical step toward inscribing new sites; since 2003, the World Heritage Centre has accepted for consideration only those nominations that state parties have previously declared on their Tentative Lists.

Olga Krever *is the Head of the Division of Legal Regulation in the Sphere of Specially Protected Nature Areas, within the Ministry of Natural Resources of the Russian Federation.* ***Aleksey Butorin*** *is the Director of the Natural Heritage Protection Fund and a Scientist at the Institute of Geography, Russian Academy of Sciences.*

Organizations Participating in the Nomination of Russian Natural Properties

The following non-governmental and scientific organizations have participated in the preparation of Russia's World Natural Heritage nominations over the years: Greenpeace-Russia, German Society for Nature Conservation (Naturschutzbund Deutschland, NABU), World Wide Fund for Nature (WWF), Natural Heritage Protection Fund, Biodiversity Conservation Center, the Save Pechora Committee, Greens of Kamchatka, Altai-21st Century, "Northern Caucasus" Working Group, "Brok," "Taiga" Environmental Group, Institute of Geography (Russian Academy of Sciences), Dresden Technical University, Moscow State University's Departments of Geography and Biology, Russian State Design and Survey Institute (*Rosgiproles* Institute), Pacific Institute of Geography (Far Eastern Branch of the Russian Academy of Sciences), Institute of Biological Problems of the North (Russian Academy of Sciences), Altaisky State University and Ubsunursky International Biosphere Center.
In addition, staff of many of Russia's zapovedniks and national parks significantly contributed to the organization of field research and document preparations. *Information provided by the* ***Natural Heritage Protection Fund.***






The Benefits of World Heritage Status in Russian Practice

*By **Aleksey Butorin***

Unquestionably, World Heritage status brings with it numerous advantages, both in terms of nature conservation and in garnering comprehensive support for territories inscribed on the World Heritage List. The Convention concerning the Protection of World Cultural and Natural Heritage (World Heritage Convention, or Convention) offers its States Parties and their inscribed sites broad legal, informational, economic, and networking opportunities, which have been developing and improving for more than three decades.

At present, the Convention is one of the most effective global instruments to protect natural and cultural objects. The need to fulfill obligations within the framework of the Convention, as well as the attention and scrutiny international experts and the global community as a whole give to inscribed sites, has helped put a stop to a number of industrial or economic projects, which, if carried out, would have been harmful to Russian World Natural Heritage objects. Illustrative examples of this are Lake Baikal, the Golden Mountains of Altai, the Virgin Komi Forests, and the Western Caucasus, where the necessity of regulating economic activity on the World Heritage object stimulated a number of nature conservation activities. In the case of Lake Baikal, for instance, World Heritage status helped facilitate the adoption of a new federal conservation law, "On Protecting Lake Baikal." World Heritage status also helped prevent the construction of a road through the territory of Kavkazsky Zapovednik, which is part of the Western Caucasus World Heritage site, and helped preserve the territorial integrity of Yugyd Va National Park, which is part of the Virgin Komi Forests site.

Benefits of World Heritage Status for Russia's World Natural Heritage Sites

- Additional guarantees of the full preservation and integrity of unique natural areas
- Increase in the prestige of natural areas and the institutions governing them
- Increase in the popularity of territories inscribed on the World Heritage List
- Greater capacity to attract financial support for World Heritage sites, first and foremost from the World Heritage Fund.
- Development of alternative types of natural resource use, including ecological tourism and traditional trades
- Organization of monitoring and inspection of conservation activities in natural areas

*Compiled by **Aleksey Butorin.***

High profile events involving World Heritage sites, like this trip to Uvs Nuur Lake, attract the attention of authorities, scientists, and the public to the importance of preserving natural heritage. *Photo by A. Butorin.*

The prestige associated with World Heritage status can serve as motivation for placing new territories under protection. During the preparation of several World Natural Heritage nominations, local governments have adopted decisions to expand existing specially protected nature areas and create new ones. For instance, during work on the Bashkirian Urals nomination *(Editor's Note: this nomination was submitted to the World Heritage Centre in 1998, but not selected for inscription)*, the government of the Republic of Bashkiria agreed to establish an entomological special purpose reserve, Altyn Solok Zakaznik (93,580 hectares). In 1997, during the preparation process of the Western Caucasus nomination, four specially protected nature areas, with a total combined area of 12,869 hectares, were created in the Republic of Adygea. Together with Kavkazsky Biosphere Zapovednik, these four protected areas – one nature park and

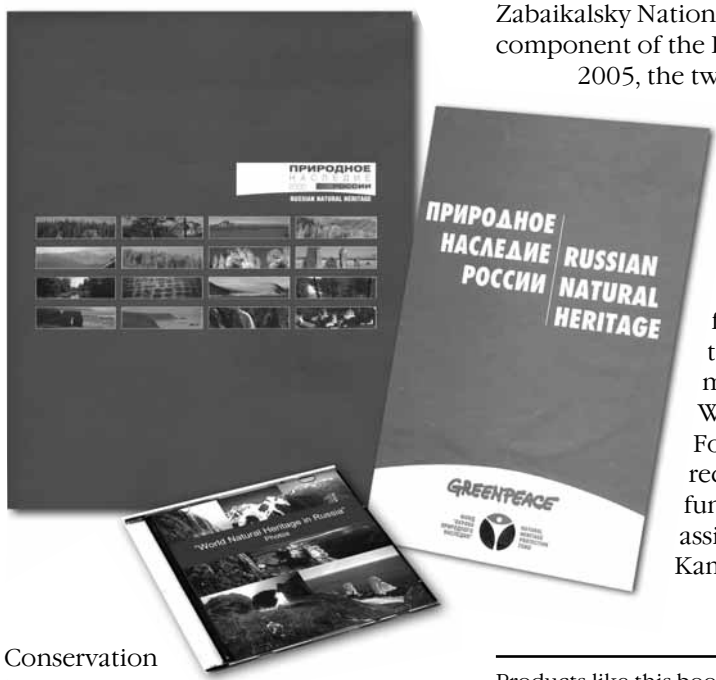
three nature monuments – all received World Heritage status in 1999. The preparation of the Central Sikhote-Alin nomination facilitated the creation of a 746,484 hectare regional-level special purpose landscape reserve, Verkhnebikinsky Zakaznik, as well as the preparation of documents necessary to create Udege Legend National Park *(Editor's Note: According to a January 23, 2006, press release from Russia's Ministry of Natural Resources, the Ministry is currently approving with stakeholder ministries and organs documents related to the creation of Udege Legend National Park, as well as three other national parks.)*

With World Heritage status often comes wider recognition and a higher profile. Numerous activities have been undertaken to popularize Russia's World Natural Heritage sites. A variety of printed promotional materials such as hardcover album-style books, calendars, and booklets have been published. A series of video films was produced and information about Russia's World Natural Heritage sites was posted on numerous websites, including that of the UNESCO World Heritage Centre. High profile events such as international expeditions to Russian natural complexes during the nomination preparation process, visits by UNESCO and World Conservation Union (IUCN) experts to Russian sites, and World Heritage inscription ceremonies have made specially protected nature areas with World Heritage status more attractive to local government and business, and, in a number of cases, targets of concrete financial and technical assistance.

Several Russian World Natural Heritage sites have also received financial support from international governments and organizations. For example, Pechoro-Ilychsky Zapovednik, which is part of the Virgin Komi Forests World Heritage site, has received targeted support through the Komi Model Forest Project, a boreal forest conservation initiative financed by the Swiss Agency of Development and Cooperation and implemented by the World Wide Fund for Nature (1996- 2002) and the Silver Taiga Foundation (2002-2006).

Another important foreign donor for Russia's World Natural Heritage sites has been the United Nations Development/Global Environmental Facility (UNDP/GEF). Currently, UNDP/GEF is implementing a $13.8 million (with GEF funding totaling $7.6 million, and CIDA funding totaling $3.1 million) project, "Biodiversity Conservation in Four Specially Protected Areas on the Kamchatka Peninsula: A Demonstration of the Sustainable Approach," which specifically targets four components of the Volcanoes of Kamchatka World Heritage site. Another UNDP/GEF initiative that, when approved by Russia's Ministry of Natural Resources, will create new funding opportunities for a Russian World Natural Heritage site is the "Biodiversity Conservation in the Russian Part of the Altai-Sayan Ecoregion" Project. The project, which has a total project budget of $6 million (with GEF funding totaling $3.5 million), incorporates the Golden Mountains of Altai World Heritage site. UNDP/GEF is now in the process of preparing a project, "Biodiversity Conservation of Virgin Forests in the Upper Reaches of the Pechora River", which will incorporate the Virgin Komi Forests World Heritage site.

The German World Heritage Foundation, working together with the Russian "Natural Heritage Protection Fund," has, in recent years provided funding to a number of Russian specially protected nature areas that are inscribed on the World Heritage List. In 2003-2004, these two organizations awarded grants to facilitate internet access for Kronotsky Zapovednik, which is part of the Volcanoes of Kamchatka site, and to Zabaikalsky National Park, which is a component of the Lake Baikal site. In 2005, the two funds assisted Yugyd Va National Park, which is a component of the Virgin Komi Forests site, in creating infrastructure for ecological tourism development. The German World Heritage Foundation also recently approved funding technical assistance for Yuzhno-Kamchatsky Zakaznik.



Products like this book, poster, and compact disk help inform the public about Russia's World Natural Heritage sites.

Despite the isolated examples mentioned above, significant efforts have not been undertaken in Russia to use World Natural Heritage site status to improve the socio-economic situation in the regions where the sites are located. For a number of reasons, World Natural Heritage status in Russia has heretofore been used for a single goal: to attract legal instruments of the Convention to mitigate the impacts of development activities on World Heritage sites and on surrounding territories. This "one-sided" approach in implementing the Convention can instigate conflicts with host regions and with territorial organs of local management, which in turn, could stall the process of nominating new territories.

To create a positive image of World Heritage status, it is important that

work be undertaken to demonstrate that it is not a prohibitive mechanism, but a mechanism for alternative development. In the short-term, industrial development projects may yield greater economic benefits than those brought by traditional trades, ecological tourism, or participation in international partnership activities, such as the Partnerships for Conservation Initiative (PACT) Programme. However, in the long run, the overwhelming majority of territories subject to industrial development lose a great number of their valuable qualities, which makes them unfit for recreational, scientific, educational, and nature conservation purposes.

Aleksey Butorin *is the Director of the Natural Heritage Protection Fund and a Scientist at the Institute of Geography, Russian Academy of Sciences.*

World Heritage Status Brings Sites Increased Opportunities for International Collaboration and Assistance

The World Heritage Convention calls upon the international community to participate in the protection of cultural and natural heritage of universal value through the provision of collective assistance. The Convention also establishes procedures and channels through which States Parties may request international assistance for cultural or natural heritage sites within their territories. The Convention further established a Fund for the Protection of World Cultural and Natural Heritage of Outstanding Universal Value, called the "World Heritage Fund," which functions as a trust fund from which the World Heritage Committee can allocate funding. A brief overview of this important resource, as well as other select key sources of support that have evolved since the Convention was adopted by UNESCO in 1972, follows below.

The World Heritage Fund

The World Heritage Fund was created in 1972 by the Convention with the purpose of assisting States Parties in identifying, preserving, and promoting World Heritage sites. Contributions to the Fund are made by States Parties, on a compulsory or voluntary basis. The World Heritage Committee allocates funding on a priority basis, with particular focus on the most threatened sites, as well as on sites situated in developing countries. Annually, about $4 million is made available to States Parties requesting assistance in one of the following five categories: preparatory assistance, technical cooperation, emergency assistance, training, and educational and promotional assistance. The majority of awarded grants do not exceed $30,000, although some projects valued at more than $100,000 have been funded. Russia received $30,000 from the World Heritage Fund to carry out a training seminar in 1999 targeting the needs of natural heritage sites. The World Heritage Fund also provided funding for a seminar on boreal forests, which took place in St. Petersburg in fall 2003.

The Partnerships for Conservation Initiative (PACT) Programme

Launched in 2002 by the World Heritage Centre, PACT is a solutions-oriented approach to sustainable World Heritage conservation, which aims to raise awareness and to mobilize sustainable recourses for the long-term conservation of World Heritage. It aims to involve a network of companies, foundations, conservation and research institutions, and media organizations interested in assisting in the implementation of the World Heritage Convention. Funding priority is given to sites inscribed on the List of World Heritage in Danger, as well as to World Heritage conservation initiatives addressing themes such as sustainable tourism, forests, cities, earthen architecture, and marine sites. PACT is also working to expand the existing network of bilateral and multilateral partnership and intergovernmental institutions to maintain a system of international cooperation. Under the auspices of this initiative, agreements concerning the incorporation of World Heritage into development programs have been concluded with such diverse partners as: the World Bank, the Inter-American Development Bank, the United Nations Development Programme/Global Environmental Facility (UNDP-GEF) Small Grants Programme, the Agence Française de Développement, the European Union, and the Japanese Bank for International Cooperation.

United Nations Foundation

The United Nations Foundation is one of the World Heritage Centre's major partners. The Foundation, established in 1998 with Ted Turner's $1 billion gift to support UN causes and activities, has partnered with the World Heritage Centre to support and promote the management and conservation of World Natural Heritage sites. Since its inception, the Foundation has contributed over $32 million for the effective management and protection of World Natural Heritage sites.

Funds-in-Trust

Funds-in-Trust are donations given by countries to support specific projects with defined goals and objectives. Funds-in-Trust projects have been established with the Governments of the Netherlands, France, Italy, Japan, and Spain, and with Flemish authorities.

Compiled by ***RCN Editors*** *using the UNESCO World Heritage Centre's "World Heritage Information Kit."*

UNESCO's World Heritage List and the Place of Russian Natural Territories on It

By ***Nikolai Maxakovsky***

A great number of various specially protected nature areas are included among the World Natural Heritage sites inscribed on UNESCO's World Heritage List. This includes almost 150 national parks, including 4 in Russia; no fewer than 120 nature reserves, including 11 Russian zapovedniks; and close to 25 regional-level nature parks, of which 7 are located in the Russian Federation. In addition, the territory of close to 60 biosphere reserves - Russia's Kavkazsky Biosphere Zapovednik being one of them - coincides, partially or entirely, with World Natural Heritage sites. Nearly twenty Wetlands of International Importance such as the Selenga Delta, which falls within the borders of the Lake Baikal World Natural Heritage site, similarly coincide with sites inscribed on the World Heritage List.

Russia's eight World Natural Heritage sites comprise just five percent of the 160 such sites that have been identified worldwide. Nevertheless, Russia's sites occupy a very important place on the List because they are entrusted with the responsibility of "representing" almost all of northern Eurasia. Comparing Russia's World Natural Heritage sites with foreign natural monuments having the same status allows one to depict more clearly the international significance of the zapovedniks and parks in Russia that have World Natural Heritage status.

Value of World Natural Heritage Sites

Only the world's most famous natural phenomena are included among the natural objects of global significance inscribed on the World Heritage List. For instance, on the list one finds: the Grand Canyon, the Earth's deepest canyon, with depths of more than 1,500 meters; Yellowstone Park, with the planet's largest concentration of geysers; the planet's most active volcano, Kilauea, which is part of the "Hawaii Volcanoes National Park" property, in the US; the world's largest river delta, that of the Ganges and Brahmaputra Rivers, which is included in the "Sundarbans National Park" property, in India and Bangladesh; the Earth's tallest peak, Mt. Everest, which rises up above Nepal's Sagarmatha National Park; Africa's tallest mountain, Kilimanjaro in Tanzania; and the world's largest collection of coral reefs and islands, Australia's Great Barrier Reef.

The position of Russia's sites on the UNESCO List – in terms of their value - should leave no doubt in anyone's mind. These sites can rightfully be considered the common property of all humanity. Each of them possesses, to a greater or lesser extent, traits that may be universally recognized as unique, both on a regional and global scale.

The Virgin Komi Forests, for instance, comprise the most extensive massif of untouched northern taiga in Europe. Lake Baikal is the most ancient (25 million years) and the deepest (1,620 meters) freshwater lake on the planet. It also boasts one of the highest levels of endemism, with 75% of all species and forms being endemic. The Volcanoes of Kamchatka site includes Klyuchevskaya Sopka, which, at 4,750 meters, is the highest active volcano in Eurasia, and the Valley of Geysers, which is one of the largest accumulations of geysers on the planet. The Golden Mountains of Altai site, which provides habitat to several globally rare species of animals including the snow leopard (*Unica unica*), includes Mount Belukha, which at 4,506 meters, is the highest point in Altai and Siberia as a whole, as well as Teletskoye Lake, one of Siberia's largest lakes. The Western Caucasus site encompasses one of Europe's largest massifs of untouched mountain forests, which offers habitat to a population of rare mountain bison (*Bison bonasus montanus*). The Central Sikhote-Alin is a highly valuable mixed coniferous-broad leaved forest that provides habitat for the IUCN Red Data Book-listed Siberian Tiger (*Panthera tigris altaica*). The Uvs Nuur Basin presents a combination of contrasting landscapes, which ranges from high alpine to sand deserts, that is unique across Eurasia. The Natural System of Wrangel Island Reserve, which is home to the world's largest assemblage of polar bear birth dens, has extremely high biological diversity among all Arctic islands.

It is important to note that two Russian objects, Kamchatka and Baikal, are inscribed on the List according to all four selection criteria. Only 17 of 160 natural phenomena inscribed on the List are worthy of this distinction, with Yellowstone and Grand Canyon National Parks in the US being among them.

Geographic Distribution

Considering the diverse representation of countries on the UNESCO List – some countries have many sites, others have a single site, and others still, not a one – the distribution of World Natural Heritage sites worldwide is highly inequitable. Some regions are relatively more saturated with these sites: the Mediterranean, South East Asia, the mountainous "Wild West" of Canada and the US, the Caribbean Basin, Equatorial Africa, and the eastern shore of Australia, together with New Zealand and adjacent islands. There exist, however, "gaps" on the distribution map of World Natural Heritage sites: Central Eurasia (Mongolia, Kazakhstan, and northern China), the Arab Peninsula and Persian Gulf countries, the more developed prairie regions of the US and Canada, the Canadian Arctic, the Sahara Desert, and arid regions of Australia.

Although Russia possesses eight World Natural Heritage sites, it appears on the global World Heritage map as something of a "gap" due to the country's vast size. Especially underrepre-

Most of Russia's World Natural Heritage sites are situated in the country's mountainous regions. *Photo by S. Trepet.*

sented are the European part of the country, the northern regions of Siberia, and the Russian Far East. Indeed, almost all of Russia's World Natural Heritage sites seem to be "crowded" into they country's remote mountainous or coastal areas. These areas are situated primarily outside of the plains regions, which are occupied by zonal vegetation such as tundra, forest, steppe, and forest-steppe. The only site that is an exception to this rule is the Virgin Komi Forests, which is located in the continent's interior.

For this reason, the rich biological and landscape diversity of Russian nature is, on the whole, represented far from adequately. True, certain consolation can be taken in the fact that some of Russia's World Natural Heritage sites are striking in the diversity of their natural complexes, which significantly increases their representativeness. In the Golden Mountains of Altai and Uvs Nuur Basin sites, for instance, one encounters almost all landscape types characteristic to Central Eurasia: glacial alpine mountains, alpine meadows, mountain tundra, forests, forest-steppe, semi-desert, and deserts. Diverse landscapes types are also encountered in the Lake Baikal World Natural Heritage site. The inscription on the List in 2004 of Wrangel Island, the northernmost World Natural Heritage site, is an important breakthrough in the Arctic zone. If World Natural Heritage status is conferred upon additional Russia protected areas - above all, this refers to prospective properties on which work is still being carried out such as the Great Watershed of Valdai, the Greenbelt of Fennoscandia, and the Putorana Plateau - then the established spatial-geographic "imbalance" might be significantly corrected.

Typological Diversity

The natural sites inscribed on the UNESCO List are exceptionally diverse. They represent the Earth's most varied ecosystems and natural phenomena. Encompassing this diversity is, essentially, one of the primary objectives of the experts who formulate the List. For this reason, alpine regions, volcanoes and geysers, massifs of virgin forest in various natural zones of the Earth, territories of desert, steppe and savannah, tundra and open woodlands, as well as caves and waterfalls, rivers and lakes, wetlands, river deltas and mangroves, fjords, reefs, atolls, and islands all figure on the List.

Against this backdrop, Russia's natural World Heritage sites may seem at a cursory glance to be, as a whole, quite homogenous type-wise. As already noted, they are primarily located in alpine areas, at elevations of 1,500-2,000 meters and more. Such are the Western Caucasus, Virgin Komi Forests, Altai, Central Sikhote-Alin, the mountain ranges surrounding Lake Baikal, and Kamchatka's highest volcanoes. Only the Wrangel Island and Uvs Nuur Basin sites deviate from the "alpine ranks," although, strictly speaking, mountains can be found there as well. This disproportional distribution by type is partially corrected thanks to both the significant size of the majority of Russian World Natural Heritage sites, as well as their cluster structure. This allows them to encompass not just alpine areas, with their glaciers, waterfalls, caves, and other elements of typical alpine relief; but also low mountain areas, overgrown with forests; mountain plateaus; and sometimes also adjacent plains, such as the Pechora Lowland included in the Virgin Komi Forests site. As World Natural Heritage status is conferred on new Russian territories in the future, for example the Great Watershed of Valdai, which represents a hilly lake zone of European mixed forests, the typological diversity of such objects will increase.

Conclusion

Having analyzed the current representativeness of Russia's natural territories inscribed on the UNESCO World Heritage List, one can conclude that, despite the definite imbalance, that is to say, the inequality in the geographic distribution of sites and their inadequate typological diversity, that exists on the whole, Russia is gradually moving toward occupying a worthy spot on this prestigious international list. However, the matter of increasing the number of World Natural Heritage sites (ideally, up to 15-20 sites), the desirability of them more adequately reflecting Russia's natural-landscape diversity, and, above all, the importance of establishing effective management of sites that have already received this high status, merits further discussion. Only in this case will Russia's zapovedniks and parks become full-fledged members of the global "family" of World Natural Heritage sites.

Nikolai Maxakovsky *is a Senior Scientist at the Russian Research Institute for Cultural and Natural Heritage in Moscow.*

International Seminar on Baikal Attracts Specialists to Discuss Alternative Nature Use on World Natural Heritage Sites

*By **Zhanna Irodova***

During the summer of 2005, more than thirty people representing various Russian and foreign organizations implementing work under the UNESCO Convention concerning the Protection of World Cultural and Natural Heritage gathered in Pribaikalsky National Park, on the shores of Russia's famous Lake Baikal, to participate in a seminar called "Management of World Natural Heritage Sites: Developing Alternative Nature Use." Participants included managers of specially protected nature areas that are inscribed on the World Heritage List, and representatives from scientific and non-governmental organizations, as well as from the local Irkutsk Oblast government. The event, which took place August 15-19, 2005, was organized jointly by the Russian Natural Heritage Protection Fund and by the host reserve, Pribaikalsky National Park. A number of organizations – the German Federal Agency for Nature Conservation, the Institute of Geography (within the Siberian Branch of the Russian Academy of Sciences), the UNESCO World Heritage Centre, Moscow State University, the Russian Research Institute for Cultural and Natural Heritage, Greenpeace-Russia, and The World Conservation Union (IUCN) – supported the seminar.

The selection of Lake Baikal as the site of the 2005 seminar was not without good cause. Lake Baikal was inscribed on the World Heritage List as a natural site in 1996, having met all four natural criteria; the site is comprised of three zapovedniks, three national parks, and two zakazniks. Numerous NGOs are also active in the region. The training seminar offered participants the opportunity to become acquainted with the site, with efforts underway to protect it, and with many of the people collaborating to do so. Arkady Kalikhman, Program Director of the Baikal Center for Ecological and Citizen Initiatives, for instance, shared with participants information about work to establish the Great Baikal Trail, a hiking trail planned to extend around Lake Baikal. Tamara Savenkova of the Institute of Geography, Siberian Branch of the Russian Academy of Sciences, presented participants with an overview of the strategic management of organizations protecting the lake and adjacent territories.

While focusing on the development of alternative nature use, the seminar addressed two primary themes: World Natural Heritage sites as a foundation for economic development in Russia; and the interrelation between ecological tourism and the sustainable development of World Natural Heritage sites.

The lectures by Nikolai Maxakovsky, a faculty member at the Russian Research Institute for Cultural and Natural Heritage, were fundamental for the seminar. In addition to offering a general overview of World Natural Heritage, Maxakovsky also presented examples of alternative types of nature use on World Natural Heritage sites in other countries. He closely analyzed and studied Russia's World Natural Heritage sites, and for each of them, proposed collaboration with analogous sites abroad. Without a doubt, such collaboration would be very useful for Russian territories by helping them to establish international contacts and to develop these relationships. It is also possible that analogous territories might share similar problems and that solutions that have been successfully applied abroad, might also be applicable in Russia. The international exchange of experience in the fields of environmental education and ecotourism has already proven very productive. Vera Chizhova, a professor at Moscow State University, who is a highly regarded Russian specialist in the field of ecotourism, and who attended the Baikal seminar, expressed her belief that the introduction of a new type of ecotourism that has been popularized abroad, "green," or ecological-cultural tourism, would be very relevant for Russia.

Art Pedersen, of UNESCO's World Heritage Centre, expressed his thoughts and proposals about using World Heritage status for the conservation and sustainable development of territories bearing this distinction. He also spoke about how such sites

Spotlight on the Natural Heritage Protection Fund

The Natural Heritage Protection Fund's mission is to provide for the overall support of World Heritage sites, as well as to facilitate the acquisition of this status for new natural sites in Russia and other CIS states. The Fund, which was established in the year 2000, provides technical and financial assistance to World Heritage sites, including: their enhancement in compliance with the World Heritage Convention, management plan development, organization of seminars for the staff of component properties, promotion of World Heritage sites in Russia and abroad, and assistance in developing alternative nature management practices. The Fund also coordinates the interaction of World Heritage sites and regional non-governmental and scientific organizations with the UNESCO World Heritage Centre and with other international environmental and financial organizations working within the framework of the Convention.

*Information provided by the **Natural Heritage Protection Fund.***

might serve as a platform for regional economic development.

Yuri Buivolov, a specialist with Russia's Ministry of Natural Resources, shared his views on this subject. He sees increasing the management effectiveness of World Heritage sites as being the main task at present. Alexey Blagovidov from IUCN spoke in detail about how local communities can participate in alternative nature use activities in specially protected areas. He also noted which Russian territories have been most successful in this sense. Over the course of the seminar, the heads of the zapovedniks and national parks inscribed on the List also shared preliminary results of similar activities carried out within their reserves.

Among the topics inspiring the most active discussion among participants were: the interrelation between the development of tourism and protection, the sustainable development of World Heritage sites, the use of World Heritage status, and opportunities and difficulties of interaction among World Natural Heritage territories. At the close of the seminar, a working group drafted a series of proposals. Among them, the following are notable: the development of comprehensive regional programs to develop ecotourism on World Natural Heritage sites; the initiation of work in this sphere with the World Heritage Centre; the creation of a system of environmental education; and involving regional business and government in problem solving and local communities in ecologically-oriented activities.

At the seminar, participants agreed upon the necessity of creating coordinating councils for World Natural Heritage sites. Such councils are especially important for sites comprised of several protected areas and are envisioned as being the foundation of an Association of World Natural Heritage Sites of the Russian Federation, which is already being planned for the future. I think that these plans can realistically be realized. The first steps toward doing so will be discussed at the next training seminar, which will take place in summer 2006 and focus on work with local communities.

Zhanna Irodova *is the Deputy Director for Environmental Education at Katunsky Zapovednik.*

Seminar Series Yields Draft Program for World Heritage Convention Implementation in Russia

The August 2005 seminar was one of three such seminars carried out during the period 2003-2005, within the framework of a special training program for managers of Russian protected areas inscribed on the World Heritage List. The program is being implemented by the Natural Heritage Protection Fund, a Russian non-governmental organization, with support from the German Federal Agency for Nature Conservation (BfN). The first seminar in the series, “Management of World Heritage Sites in the Russian Federation,” was held August 11-17, 2003, on the Isle of Vilm in Germany. The second seminar, “Sustainable Development as the Basis of Preserving World Natural Heritage Sites: Management Planning,” was held on the Curonian Spit, a peninsula straddling the Russian-Lithuanian border, May 17-21, 2004. During the course of the seminar series, participants drafted a medium-term program for the implementation of the World Heritage Convention in Russia. Key elements of the program included:

- Developing a concept and a special Federal Program for the implementation of the Convention, specifically as it concerns natural sites.
- Introducing amendments to Russian federal legislation and to regional laws that will define the legal status of World Natural Heritage sites.
- Compiling a list of Russian natural sites recommended for nomination to the World Heritage List.
- Establishing World Heritage site coordination centers, which is especially important for sites that incorporate several protected areas with different statuses. The coordination centers should become the foundation for the future Association of Russian World Natural Heritage Sites.
- Developing a strategy for identifying alternative funding for World Heritage sites. Maintaining contacts with members of the World Heritage Centre's PACT Program.
- Developing management plans for Russian World Natural Heritage sites.
- Describing the borders of World Natural Heritage sites.
- Developing a system of reactive monitoring in World Natural Heritage sites; developing a unified method of acquiring, processing, and presenting information on the conservation status of World Natural Heritage sites.
- Attracting the attention of local communities, regional businesses, and local government to World Heritage site-related issues.
- Developing alternative employment opportunities for local communities (such as ecological tourism or traditional folk crafts); applying low-cost job growth and wage-push mechanisms to environment-oriented production.
- Providing informational support to World Heritage sites (such as publishing an informational bulletin, translating and disseminating World Heritage-related literature, designing web-sites for World Heritage sites).
- Organizing annual training seminars, working meetings, and exchange programs with World Heritage sites outside of Russia. Initiating cooperation between "twin sites".
- Preparing nominations for territories included on the "Tentative List" of the Russian Federation, Magadan Nature Reserve and Commander Islands; and for the trans-boundary nominations Green Belt of Fennoscandia (Russia-Finland-Norway) and Daurian Steppes (Russia-Mongolia-China).

Information provided by the ***Natural Heritage Protection Fund****.*

Russian-German Collaboration in Protecting World Heritage

*By **Peter Schmidt** and **Aleksey Butorin***

Since 1995, Germany has provided the Russian Federation with active assistance in work to implement the Convention concerning the Protection of World Cultural and Natural Heritage. During the period 1995-2002, within the framework of an agreement on collaboration in the sphere of environmental protection, The German Federal Agency for Nature Conservation (BfN) provided financial and scientific assistance in the preparation of ten nominations.

Four of these territories have already received UNESCO World Heritage status: Volcanoes of Kamchatka (1996); Western Caucasus (1999); Curonian Spit (2000); and Uvs Nuur Basin (2003). Two additional nominations – Putorna Plateau and Magadan Nature Reserve – were prepared and presented on the Russian Federation's Tentative List of natural objects, and the Putorana Plateau was submitted to the World Heritage Centre in 2005. The Russian part of the Green Belt of Fennoscandia nomination has been completed and is planned to be submitted to the World Heritage Centre as a transboundary nomination (with Finland and Norway). The Vodlozersky National Park and Bashkirian Urals nominations were not inscribed on the World Heritage List after a World Conservation Union (IUCN) expert evaluation in 1998 found that they did not satisfy requirements for natural uniqueness. The possibility of preparing a repeat nomination for this site under the cultural landscape criteria is being considered.

A number of German organizations took part in jointly preparing nominations with Russian colleagues. The German Federal Agency for Nature Conservation (BfN) provided financial assistance for the preparation of all nine nominations and participated in the preparation of the Putorana Plateau nomination. Dresden University of Technology assisted with the Bashkirian Urals, Western Caucasus, Curonian Spit, Putorana Plateau, and Magadan Nature Reserve nominations. The German Society for Nature Conservation (NABU) helped with the preparation the Volcanoes of Kamchatka, Green Belt of Fennoscandia, Vodlozersky National Park, Bashkirian Urals, Western Caucasus, and Uvs Nuur Basin nominations. The International Academy for Nature Conservation, Island of Vilm, participated in the preparation of the Vodlozersky National Park and Green Belt of Fennoscandia nominations.

Since 2003, BfN has provided support for a training program for managers of Russian specially protected nature areas that are part of natural sites inscribed on the World Heritage List. Under this program, the Natural Heritage Protection Fund, a Russian NGO, has conducted three international training seminars on topics including the implementation of the Convention, management plan preparation, and developing alternative nature use. Independent experts and German specialists from Marburg University, the BfN, and the German World Heritage Foundation provided significant assistance in conducting the seminars.

During the period 2003-2005, the German World Heritage Foundation, together with the Natural Heritage Protection Fund, provided technical assistance to Kronotsky Zapovednik, Zabaikalsky National Park, and Yugyd Va National Park (components of the Volcanoes of Kamchatka, Lake Baikal, and Virgin Komi Forests sites, respectively) in providing the territories with email access and equipping them for ecological tourism. In 2006, the German World Heritage Foundation allocated funding to purchase vehicles for another component of the Volcanoes of Kamchatka site, Yuzhno-Kamchatsky Nature Park.

Participants in a 2005 training seminar funded by the German Federal Agency for Nature Conservation (BfN). *Photo provided by A. Butorin.*

An international conference marking ten years of Russian-German collaboration within the framework of the Convention concerning the Protection of World Cultural and Natural Heritage (Convention) will be held this summer at the Institute of Geography (Siberian Branch of the Russian Academy of Sciences) in Irkutsk. Participants in the event, who will include representatives of various governmental bodies, non-governmental organizations, and academic institutions, will review Russian-German collaboration in this sphere to date and will also identify priorities for future joint work. Participants will also revise and ratify a strategy and action plan for implementing the Convention in the Russian Federation.

***Peter Schmidt** is a professor at the Institute for General Ecology and Environmental Protection, within the Faculty of Forestry, Geosciences and Hydrosciences at Dresden University of Technology. **Aleksey Butorin** is the Director of the Natural Heritage Protection Fund and a Scientist at the Institute of Geography, Russian Academy of Sciences.*

Case Studies: World Heritage Status and What it Means for Russia's Protected Areas

Introduction to the Case Studies Section

A **note from the editors:** in the following section of the journal, we offer readers the chance to familiarize themselves with the eight Russian territories that have to date been inscribed on the UNESCO World Heritage List for their outstanding natural attributes. For each of Russia's World Natural Heritage sites, we present first a brief introductory text, and then a longer and more specific article about the site or a particular issue affecting it.

Our introductory pages offer general descriptions of the sites, which detail some of their most outstanding natural values. We are sure that these superlative-laden snapshots will offer readers clear understanding of why the sites were selected to receive this prestigious international recognition and why their protection is a global priority. Accompanying these texts, you'll also find detailed maps of the World Heritage sites, which will help you to place them within Russia and within their respective regions.

For your reference, we also provide information about the protected nature areas that comprise or are included in each territory. You'll notice immediately the diversity of protected areas that have been included in the sites. Federal-level protected areas – zapovedniks, national parks, and federal zakazniks – are by and large the backbone of most sites. However, numerous regional level protected areas – including regional zakazniks, nature monuments, and nature parks – have also been conferred with World Heritage status. The complex composition of the Lake Baikal site we believe merits particular attention. This site was planned on geographic principles to encompass the entire Lake Baikal basin, or watershed, and not to coincide exclusively with specific existing protected areas.

In our case study articles, which follow each respective introductory text, you'll see that some authors have chosen to focus on positive achievements made possible thanks to World Heritage status, while other correspondents have offered their insights into significant conservation threats that have emerged despite it. It would be very difficult in the scope of this one publication to offer an exhaustive treatment of each site, but we feel that when considered as a whole, our "case study" articles offer readers a broad and balanced understanding of some of the different issues affecting Russia's World Natural Heritage sites today.

Photo by S. Trepet.

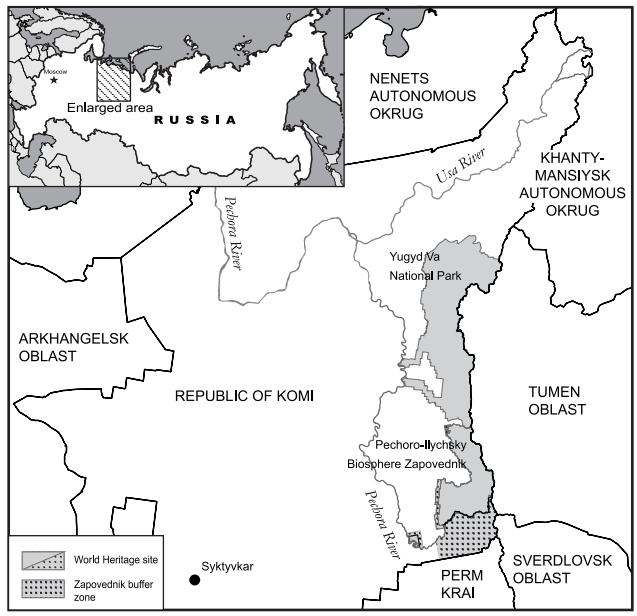
Virgin Komi Forests

Inscribed on the World Heritage List: 1995
Criteria for inscription: Natural Criteria (ii), (iii)*
Total area: 3.28 million hectares
Protected areas comprising the site: 1. Pechoro-Ilychsky Biosphere Zapovednik (721,322 hectares); 2. Pechoro-Ilychsky Biosphere Zapovednik Buffer Zone (666,000 hectares); 3. Yugyd Va National Park (1,891,701 hectares)
** For a description of these selection criteria, please see the journal's rear inside cover.*

Virgin Komi Forests was Russia's first natural site to be inscribed on the UNESCO World Heritage List. This nomination opened a new page in the history of environmental protection in Russia. The site consists of two protected nature areas, Pechoro-Ilychsky Biosphere Zapovednik and Yugyd Va National Park. Together, they comprise the largest remaining massif of virgin forests in Europe, which is nearly undisturbed by human activities.

Virgin Komi Forests is a genuine treasury of the taiga. Its territory provides habitat to more than 40 mammal species, including brown bear (*Ursus arctos*), sable (*Martes zibellina*), and moose (*Alces alces*); 204 bird species, including species listed in the Russian Red Data Book such as white-tailed eagle (*Haliaeetus albicilla*) and osprey (*Pandion haliaetus*); and 16 fish species, the most valuable of which are two glacial relict species, Arctic char (*Salvelinus alpinus*) and Arctic grayling (*Salvelinus alpinus*).

The site's territory stretches for more than 300 kilometers from north to south along the western slope of the sub-polar and northern Ural Mountains in the Republic of Komi. This mountain system has a significant influence on the region's climate. On eastern slopes, typical Siberian flora abruptly replaces European species and plant forms that are typical for the moist western slopes of the Urals Mountains. Natural complexes form complex mosaics in some places; along narrow river valleys, taiga vegetation extends high up into the mountains.



Map by M. Dubinin.

Spruce (*Picea sp.*) and fir (*Abies sp.*) trees, the main tree species in the site's forests, are accompanied by Siberian pine (*Pinus sibirica*), which grows here at the northwestern edge of its natural range. Central and northern taiga forests are followed by forest-tundra. Mountain tundra and rocky areas nearly devoid of vegetation occupy large areas. It is here that the Pechora River begins its 1,809 kilometer-long flow to the Barents Sea and joins with its crystal clear tributaries.

The Kozhim River flows through the taiga forests of Yugyd National Park.
Photo by E. Shubnitsina.

Conservation Threats: Possible renewal of gold mining activities in the Kozhim River Valley, which is located in the northern part of the World Heritage site; and possible decrease in the territory comprising the World Heritage site.

Materials for this and subsequent site descriptions provided by ***Greenpeace-Russia*** *and the* ***Natural Heritage Protection Fund.***

Protecting Territory and Developing Tourism in Yugyd Va National Park

By ***Elena Shubnitsina***

Typical mountainous landscape in the Narodnaya River Valley in Yugud Va National Park. *Photo by E. Shubnitsina.*

Yugyd Va National Park was created in 1994 by a decree of the Russian Government with the goal of preserving the unique natural landscapes of the northern and sub-Arctic Ural Mountains, although scientists had proposed and offered justification for the park's creation as early as the 1970s. One of the primary reasons for inscribing the park on the World Heritage List was to increase its status in hopes of mitigating the growing threats presented by industrial companies and authorities eager to utilize the park's rich natural resources. Indeed, in the 1980s, intensive mining activity in the upper reaches of rivers in the Ural Mountains cast doubt on the future of the region's natural resources and its landscapes. The Kozhim River, one of the most beautiful rivers in the Ural Mountains, which has long attracted tourists, particularly suffered. The infamous Pechora Cooperative, and the later the "Terra" company, mined for gold along the shores of the Kozhim River. In the course of just one decade, their activities transformed the river's amazing valleys into "lunar landscapes."

Representatives from industrial circles in the Komi Republic were opposed to the borders that scientists proposed for the park because they had other plans for the territory: they intended to utilize the region's natural resources. In order to justify preserving the Kozhim River Basin within the park's borders, two environmental impact assessments were carried out, first on the republic level, and later on the federal level. The experts' findings were unanimous: the majority of the catchment area of the Usa River, a large tributary of the Pechora River, forms in the Kozhim River Basin, and industrial activity in the upper reaches of the spawning rivers there would inflict irreversible harm upon the Pechora River Basin.

Since then, attempts to "clarify," or, more accurately, to alter, the park's borders by seizing territory from its very center for the purposes of mining valuable minerals, persist. The then head of the Komi Republic, Yuri Spiridonov, had approved a number of documents that would alter the park's territory such that the Kozhim River no longer fell within its borders. However, all these attempts were overturned by court decisions that found them to be illegal. Nevertheless, mining enterprise representatives have not abandoned their efforts to alter the park's borders. In November 2004, the Government of the Komi Republic issued a decree "concerning the confirmation of Yugyd Va National Park's borders," according to which close to 36,000 hectares of alpine tundra at the very center of the park, its most pristine and vulnerable part, would be "removed" for gold mining. The decree was based on the results of forest survey work, which seemed to determine that the park has a "surplus of land." However, because only land surveyors can precisely determine a territory's area, and they have not yet done so in the park, the forest surveyors' findings are not conclusive.

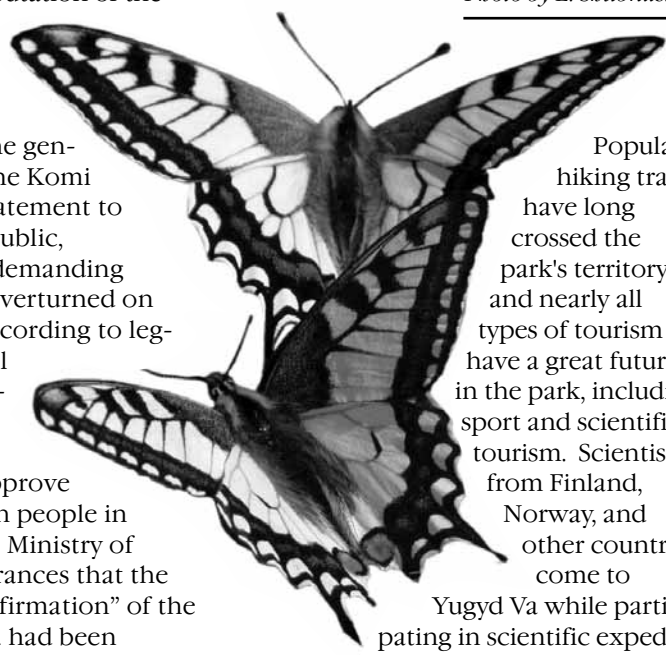
Non-governmental organizations appealed to the public prosecutor of the Komi Republic with the request that the legality of the decree be ascertained. Specialists and ecologists felt that the Komi Republic was unjustified in its actions and that its interests in having a "detailed review" of the park's territory conducted were nothing more than a transparent attempt to alter the park's borders. In addition, they recognized that the integrity of Russia's largest national park was not all that was at stake. Because the protected area has World Heritage status, the international reputation of the Russian Federation was also on the line.

On May 20, 2005, the general prosecutor of the Komi Republic issued a statement to the Head of the Republic, Vladimir Torlopov, demanding that the decree be overturned on the grounds that, according to legislation, the national park is federal property and only federal organs can determine its area and approve its borders. Although people in the Komi Republic's Ministry of Nature offered assurances that the previous year's "confirmation" of the borders of Yugyd Va had been approved by the Ministry of Natural Resources of the Russian Federation, it became clear that no such approval had been given and that the Government of the Russian Federation had not adopted a decision in the matter. Furthermore, the forest survey work, upon which the decision to remove the park's territory had been based, was conducted in a one-sided manner, without participation by the administration of the national park, and without undergoing an environmental impact assessment. This example illustrates just how difficult it is to preserve protected nature in the face of competing interests.

Some parts of the Kozhim River still bear the scars of past gold mining activities carried out along its course. *Photo by E. Shubnitsina.*

One of the park's primary goals, in addition to protecting nature and carrying out environmental education-related activities, is creating conditions for regulated tourism and recreation.

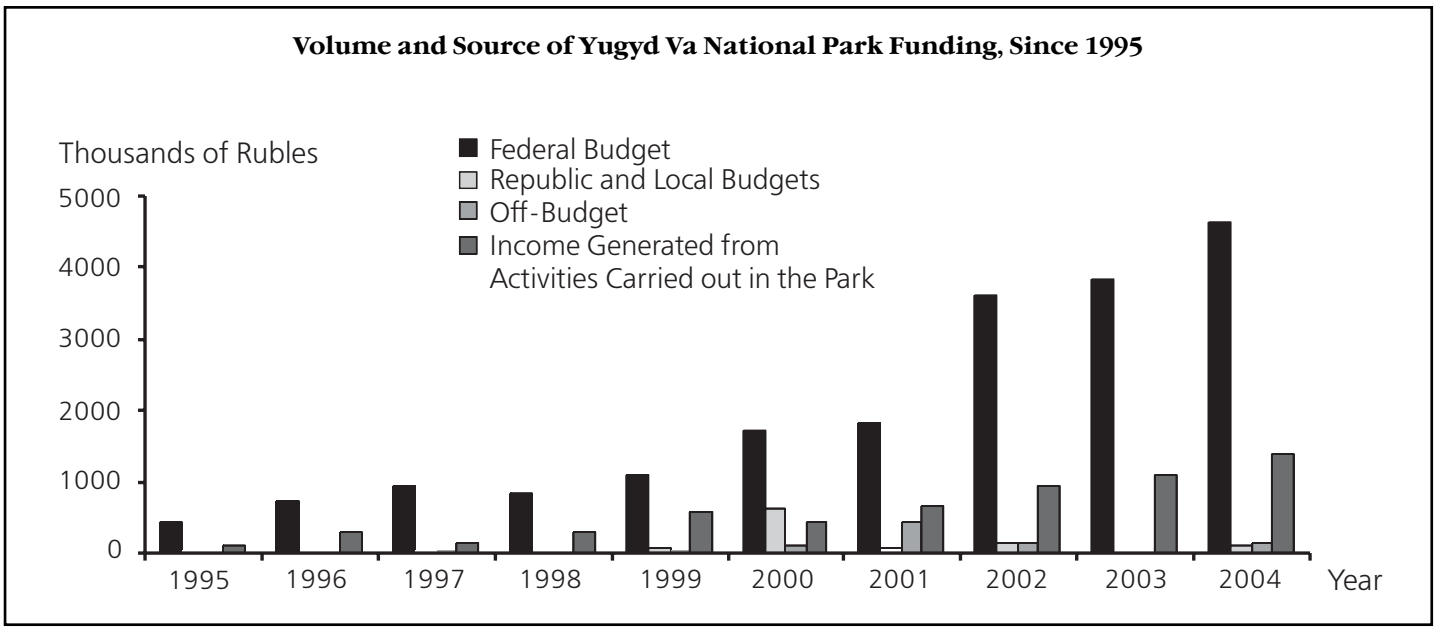
Photo by E. Shubnitsina.



Popular hiking trails have long crossed the park's territory and nearly all types of tourism have a great future in the park, including sport and scientific tourism. Scientists from Finland, Norway, and other countries come to Yugyd Va while participating in scientific expeditions and every year students from institutes of higher learning in the Komi Republic and elsewhere in Russia spend their field practice here.

The number of people wanting to come to Yugyd Va increases with every year and this is an indicator not only of economic stabilization in Russia, but also of the park's work to attract tourists. However, to this day, a significant portion of tourists visiting the park's territory remain "wild," meaning that their activities are unregulated. The reasons for this are manifold, but inadequate financing of the park and staffing shortages are among the primary ones. Just 53 people, including 37 people in the protection service, staff Yugyd Va, a territory occupying almost 2 million hectares. In other words, there is one inspector for every 50,000 hectares of land in the park.

Some people believe that the solution to the park's staffing problem lies in "cutting back" its territory. "Why so much territory?" they ask.



Over the last decade, tourism and other activities have become an increasing source of income for Yugyd Va National Park, growing from 102,000 rubles in 1995 to 1,394,900 rubles in 2004. *Diagram provided by E. Shubnitsina.*

"The park's management can't handle such a giant anyway." However, the great value of the park is precisely its territorial integrity and lack of fragmentation. Establishing control over such a territory is certainly not easy. There aren't enough people; means of transportation and communications are inadequate. But these are resolvable problems. After all, the park wasn't established just for one decade and it has already proven its right to exist.

In recent years, income generated from activities carried out in the park such as tourism have comprised close to a quarter of the park's operating budget. Federal funding, of course, is insufficient to cover all needs. Work to equip the territory must be carried out with the park's own efforts or with donor money. In 2005, the park received two grants: one from the Natural Heritage Protection Fund and the German World Heritage Foundation to develop ecological tourism in the sub-Arctic Urals, and one from the Swiss Directorate of Development Cooperation and Humanitarian Aid to protect the Kozhim River. Work with local communities, which is a good tradition for the park, is an important component of these projects.

These rafters on the Balbano River are among the increasing number of tourists visiting Yugyd Va National Park each year. *Photo by E. Shubnitsina.*

In order for the park to successfully fulfill its objectives, it must address several main issues, including resolving the issue of nature use within the park and developing environmental tourism, which means developing the park's infrastructure and creating a visit center in Syktyvkar, the capital of the Komi Republic, among other activities.

In conclusion, I would like to emphasize the fact that the park's financial problems are certainly important, but not the main issue. It is equally important that people realize that unique natural complexes belong to all humanity, to both simple people and to those invested with power and authority. No amount of protection and no tranche of funding will yield results, if people on all levels – from the local population to the governments of Komi Republic and Russian Federation – do not realize the importance of protecting the natural heritage of the Virgin Komi Forests.

Elena Shubnitsina *is the Deputy Director of Yugyd Va National Park.*

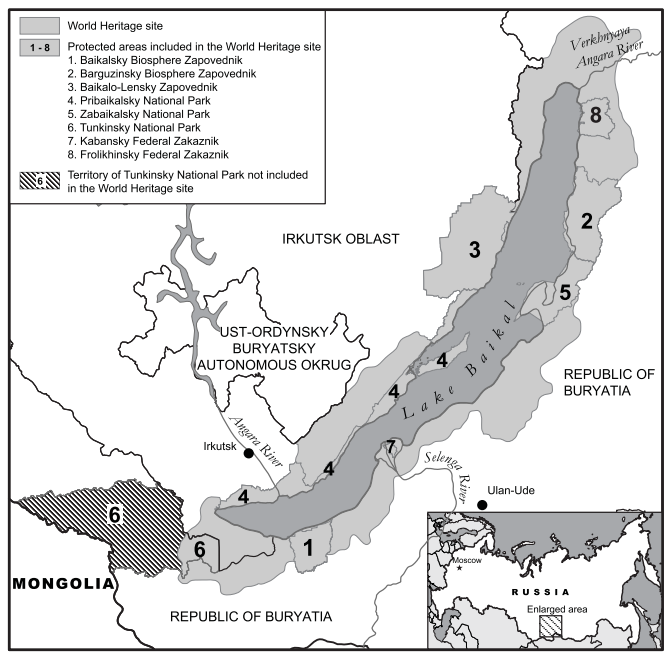
Lake Baikal

Inscribed on the World Heritage List: 1996
Criteria for inscription: Natural Criteria (i), (ii), (iii), (iv)*
Total area: 8.8 million hectares (encompassing the entire Lake Baikal basin)
Protected areas included in the site: 1. Baikalsky Biosphere Zapovednik (165,724 hectares); 2. Barguzinsky Biosphere Zapovednik (374,322 hectares); 3. Baikalo-Lensky Zapovednik (660,000 hectares); 4. Pribaikalsky National Park (418,000 hectares); 5. Zabaikalsky National Park (246,000 hectares); 6. Tunkinsky National Park (an uncalculated portion of the park's 1,183,662 hectares); 7. Kabansky Federal Zakaznik (12,100 hectares); 8. Frolikhinsky Federal Zakaznik (109,200 hectares)
** For a description of these selection criteria, please see the journal's rear inside cover.*

Lake Baikal is a lake of superlatives. It is the world's deepest (1,637 meters) and oldest (about 25 million years) freshwater lake. It contains 23,600 cubic kilometers of freshwater, which comprises more than 20% of the world's freshwater supply. The Lake Baikal basin is located in the central part of the Baikal rift zone, which is one of the Earth's largest ancient rift systems. Together with its basin, the lake comprises a very distinctive and delicate natural ecosystem, one which also facilitates the self purification process that produces Bailal's unbelievably clear water.

The lake's basin and the surrounding mountain ecosystems comprise one of Siberia's most important natural boundaries, where the borders of various flora and fauna complexes come together. Biogeocenosis are encountered here that are found nowhere else in the world. Isolated since antiquity, the Baikal basin provides habitat to some of the richest and most unusual freshwater fauna in the world.

Of the 2,630 plant and animal species and sub-species found in the lake to date, more than 80% cannot be found anywhere else in the world. Few are they in Russia who have never heard of the Baikal omul (*Coregonus autumnalis migratori*) or Baikal sturgeon (*Acipenser baerii baicalensis*). Two unique pelagic sculpin species, the greater and lesser golomyanka (*Comephorus baicalensis, Comephorus dybowskii*, respectively) representatives of a family endemic to Baikal, are well known among ichthyologists of the world. The lake ecosystem is crowned by a seal that is typically marine in its origins, the Baikal seal (*Phoca sibirica*).



Map by M. Dubinin

A view of Barguzinsky Zapovednik, Russia's first zapovednik, and one of eight federal protected areas included in the Lake Baikal World Heritage site. *Photo by V. Kantor (Greenpeace-Russia).*

Conservation Threats: Pollution of Lake Baikal by the Baikalsk Cellulose Kombinat, a paper and pulp mill in Baikalsk, a small city at the southern end of the lake; pollution of Lake Baikal through the Selenga River, Lake Baikal's largest tributary; unregulated construction along the lake's shores, which is made possible by weak legislation; possible construction of oil and gas pipelines; and possible mining of minerals in the lake basin.

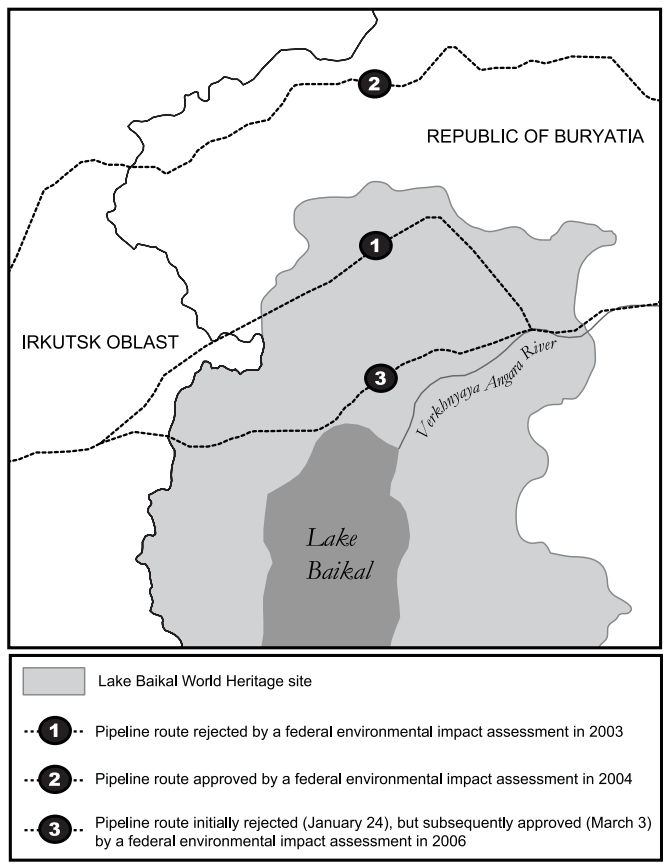
Oil Pipeline Construction Threatens Lake Baikal

By ***Mikhail Kreindlin, Andrey Petrov,*** *and* ***Ilya Sharapov***

For several years now, Russia's state-owned oil pipeline company, Transneft, has been working to develop a project for a pipeline that would carry oil from the oil-rich regions of western and eastern Siberia to the Pacific coast, for export to countries of the Pacific Rim. According to the project's first iteration, the pipeline would run from the city of Angarsk northward to the Baikal-Amur Mainline (BAM) Railroad, and then along the BAM to the port of Nakhodka in the Russian Far East. In October 2003, under extreme public pressure, the Committee for State Environmental Impact Assessments, within the Ministry of Natural Resources of the Russian Federation, rejected the project. Among other reasons for its decision, the committee cited the fact that the proposed pipeline would have crossed the catchment basin of Lake Baikal, a World Heritage site, and neared the lake's shore by as little as 12 kilometers.

After this initial rejection, Transneft prepared a revised version of the pipeline project in December 2003. According to this second option, the pipeline would be moved 80-100 kilometers away from Lake Baikal and beyond the boundaries of the World Heritage site. Despite numerous violations in environmental impact assessment procedure and the public's concerns about pipeline construction in the mountainous regions north of the lake, the state environmental impact assessment for the investment justification phase of the project, conducted by the Federal Service for Ecological, Technological, and Nuclear Oversight (*Rostekhnadzor*), resulted in a favorable finding. This outcome concerned Russia's environmental community, members of which urged both President Putin and Transneft's leadership to re-examine the situation. Nevertheless, on December 31, 2004, Russian Prime Minister Mikhail Fradkov issued a decree approving the blueprint for the Eastern Siberia-Pacific Ocean Pipeline System.

But Transneft, as it turned out, had no intention of adhering to this approved plan. Inspections conducted by the Federal Service for Oversight in the Sphere of Nature Use (*Rosprirodnadzor*) in June and September 2005 confirmed that Transneft was implementing work according to another plan altogether. The inspectors confirmed Transneft was indeed conducting surveying activities beyond the route approved by the state environmental impact assessment and within the World Heritage Site. They corroborated accounts that Transneft subcontractors had clear-cut a strip of forest along this unsanctioned pipeline route. After the second investigation in September, Russian Minister of Natural Resources Yuri Trutnev met with Transneft's president, Semyon Vainshtok, to discuss the investigation's findings. Trutnev suggested that the company consider all possible options for laying the pipeline route at a safe distance from Baikal, or otherwise risk the project losing a favorable finding from the state environmental impact assessment.



Near-Baikal segments of pipeline routes proposed by Transneft during the period 2003-2006. *Map by M. Dubinin, using information provided by Greenpeace-Russia.*

Nevertheless, Transneft continued its work. In August 2005, the company completed the next phase of project documentation, the technical-economic justifications. At public hearings and in negotiations with *Rosprirodnadzor* representatives in Buryatia, Transneft officials presented technical-economic justification materials that supported the construction of the pipeline along the BAM Railroad and through the World Heritage site. The company had begun presenting this illegal option as if it were the officially approved route! In a letter sent to Andrei Malyshev, the acting head of *Rostekhnadzor*, Deputy Minister of Natural Resources Valentin Stepankov wrote that the materials Transneft prepared for the technical-economic justification phase did not correspond with legislative requirements of the Russian Federation. He also noted that Transneft had illegally altered the approved pipeline route by moving it closer to Lake Baikal, which according to law, would necessitate the favorable

finding from the state's initial environmental impact assessment being overturned.

Again, Transneft ignored all warnings and continued its work as if nothing were wrong. When questioned about the illegality of the company's activities, its leaders responded that they were acting according to direct orders from the government and the president.

In October 2005, the technical-economic justifications for this third version of the pipeline, which threatened to bring the oil pipeline within 800 meters of Lake Baikal, were submitted to *Rostekhnadzor* to undergo a state environmental impact assessment. Violations in established assessment procedure were committed from the very beginning. For example, according to Transneft's request, *Rostekhnadzor* divided the subject of the assessment, the Eastern Siberia-Pacific Ocean Oil Pipeline System, into two objects, the pipeline segment from Taishet to Skovorodino and the oil terminal at Perevoznaya Bay.

Despite active opposition by Transneft, Greenpeace-Russia, the World Wide Fund for Nature (WWF), and the Buryat Regional Union for Baikal conducted an independent public environmental impact assessment of the project. Their conclusions were unanimous: the oil pipeline would be a threat the environment, and the proposed route was nothing short of bewildering, given the other possible options in the Baikal region.

According to the route proposed by Transneft, 113 kilometers of the pipeline would run through the Lake Baikal World Heritage site. In addition, the proposed pipeline route would run through the Baikal Rift zone, where it would cross several high mountain ridges and one of Russia's most seismically active territories. According to data gathered by the Institute of the Earth's Crust, which is part of the Siberian Branch of the Russian Academy of Sciences, earthquakes in individual parts of this region can reach 10-11 points on the Medvedev-Sponheuer-Karnik, or MSK-64, macroseismic intensity scale, which has 12 levels of intensity. This area is also subject to significant impacts of erosion, flooding, and cryogenic processes. These factors make pipeline construction here a risky prospect. Any accident caused by a strong earthquake or by exogenic geological and other natural processes could lead to an ecological catastrophe, both along the pipeline route and in nearby areas, including Lake Baikal.

During an inspection carried out in June 2005, Greenpeace specialist Mikhail Kreindlin registers the illegal logging carried out by Transneft's subcontractors working along Lake Baikal's near-shore area before the proposed route received official approval. *Photo provided by M. Kreindlin.*

Yet, the project's developers did not estimate the possible impact that an accidental oil spill might have on Lake Baikal's unique ecosystems and its key component, the extensive wetlands of the combined deltas of the Upper Angara and Kichera Rivers. Nor did they present convincing evidence that they would ensure the ecological safety of proposed activities for the public, for the environment, and above all, for Lake Baikal's unique ecosystems. Analysis of the project shows that if the proposed pipeline were to be built, Lake Baikal – at the very minimum, its northernmost part – could be irreversibly harmed.

This grim possibility evoked much concern from the UNESCO World Heritage Committee. Participants in the 29th session of the UNESCO World Heritage Committee, which took place in Durban, South Africa, actively discussed Baikal's conservation status, devoting particular attention to Transneft's construction of the Eastern Siberia-Pacific Pipeline System and its threats to the lake. They decided to send a special mission to inspect the situation on the ground. Thus, in November 2005, a joint mission from UNESCO's World Heritage Centre and the World Conservation Union (IUCN) visited the Baikal Region.

The mission's participants became acquainted with the pipeline situation and listened to various points of view, including those of independent environmentalists, NGO representatives, and officials. They conducted numerous site visits around the lake, including to Baikal's northern shore, where the pipeline was planned to be laid; Baikalo-Lensky Zapovednik; and Pribaikalsky National Park. Their trip concluded in Moscow, where they met with leaders from the Ministry of Natural Resources, *Rosprirodnadzor*, and *Rostekhnadzor*. The mission's participants had hoped to meet with Transneft's leadership, but were only able to arrange a meeting with a staffer at the company's Severobaikalsk office, who refused to answer any questions and refused to help arrange a meeting with his supervisors in Moscow.

Based on their trip, the UNESCO-IUCN experts found that the situation on Lake Baikal was far from normal, and decided that, if the pipeline were run along the lake's shores, they would recommend that the World Heritage Committee place Lake Baikal on the List of World Heritage in Danger. They further stated that if Russian authorities continued to disregard the Committee's requirements concerning the lake's conservation, then Lake Baikal would be excluded from the UNESCO World Heritage List altogether. There have been no such precedents in the world, and for Russia, this would be a great embarrassment.

After the UNESCO-IUCN mission, the battle for Baikal entered a decisive phase. Famous Russian actors and musicians, deputies to the State Duma, and the public at large appealed to President Putin with their concerns about the pipeline project's possible

On April 21, 2006, hundreds of demonstrators turned out in Moscow to protest the Transneft pipeline route. *Photo by A. Troitsky.*

effects on Lake Baikal. Numerous academics from the Russian Academy of Sciences appealed to the head of *Rostekhnadzor*. They noted that the pipeline's route in the Baikal region could be changed and that it was also possible – and safer – to lay the pipeline along the territory of Yakutia, which would circumvent seismologically active regions north of Baikal and eliminate the threat of polluting Baikal with oil. On December 24, 2005, UNESCO's Director-General, Koichiro Matsuura, appealed to Russian Prime Minster Mikhail Fradkov with the request that plans to construct the pipeline through the World Heritage site be abandoned.

By the third week of January, it became clear that these efforts were not in vain. The members of the expert committee conducting the state environmental impact assessment of the technical-economic justifications for the first part of Transneft's Eastern Siberia-Pacific Ocean Pipeline System issued their findings. They found that the submitted materials did not fully coincide with the Russian Federation's environmental protection legislation and norms. They concluded that construction according to the proposed plan would be unacceptable, citing the fact that it presented great potential harm to the local population (in the event of a spill or accident) and to the lake, which they specifically identified as a World Heritage Site protected by Russian legislation and the UNESCO Convention. Finally, they recommended that the project be revised to include alternative options for running the pipeline beyond Lake Baikal's catchment basin.

Despite the expert committee's compelling conclusions, the head of *Rostekhnadzor*, Konstantin Pulikovsky, did not ratify the group's negative findings issued on January 24. Instead, in violation of both the federal law "On environmental impact assessment" and state environmental impact assessment procedures, he prolonged the federal environmental impact assessment process by thirty days and added 34 new experts to the committee. A significant portion of the new committee members had absolutely no prior experience in oil pipeline transport and some of them had previously spoken out in favor of the pipeline construction, meaning that they were neither independent nor objective. The work of the new committee was also organized in such a way that many of the experts were neither given the opportunity to familiarize themselves with materials related to the pipeline construction, nor were they informed of working group sessions. In addition, representatives of some NGOs were denied access to sessions, and among those who did attend, many were not allowed to voice their opinions. On March 1, 2006, the majority of experts came out in favor of the permissibility of construction on Baikal's shore, and by March 3, the experts' positive finding was approved by *Rostekhnadzor*.

This development launched a wave of protest against the construction of the pipeline in such close proximity to Lake Baikal. Thousands of privates citizens participated in demonstrations and rallies held in cities across Russia: Irkutsk, Ulan-Ude, Moscow, Novosibirsk, Rostov-on-Don, Omsk, Angarsk, Severobaikalsk, Kazan, and Cheboksari. In the Baikal region, the Governor and Legislative Assembly of Irkutsk Oblast came out against the pipeline's construction, as did the People's Khural of Buryaita. The issue also evoked great concern from the UNESCO World Heritage Committee and on March 10, 2006, the Committee's Chairperson Ina Marĉiulonytê sent a letter to Russian President Vladimir Putin expressing concern regarding the approval of the proposed routing of the pipeline through the Lake Baikal World Heritage site. In her appeal, she explained that the Committee may decide to inscribe the site on the List of World Heritage in Danger at its next session and also urged the re-examination of the proposed routing.

Some of the possible consequences of pipeline construction in the Lake Baikal watershed are grave indeed. Given the high seismology of the region and the real danger of terrorist acts targeting the pipeline, the likelihood of natural or human-caused accidents on the pipeline is quite high. As a result of such an accident, a significant quantity of oil would end up

Greenpeace-Russia and World Heritage

In the mid-1990s, Greenpeace-Russia became the first nature conservation organization in that country to initiate work within the framework of the UNESCO Convention Concerning the Protection of World Cultural and Natural Heritage. In 1994, the organization concluded an agreement with the Russian Federation's Ministry of Environmental Protection and Natural Resources to conduct work through the year 2000 to inscribe Russian natural territories on the list. Since then, the organization has continued its work both to prepare new World Heritage nominations for Russia's most valuable natural territories as well as to ensure constant control over the state of conservation of protected natural territories already inscribed on the List.
Information provided by ***Greenpeace-Russia.***

in Lake Baikal, which would irreparably harm the entire ecosystem of the northern part of the lake and have a catastrophic effect on the lives of people living in the region. With the start of pipeline construction in the Baikal region, the anti-pipeline protest movement would further grow and spread from the immediate Baikal region (Irkutsk Oblast and the Republic of Buryatia) to other parts of Siberia and across Russia, which would lead to increased social tensions and conflict. Finally, pipeline construction on the territory of the World Heritage site would inevitably lead to the Lake Baikal site being added to the World Heritage in Danger List. Such a development would negatively affect Russia's international reputation, creating an image of it as a country that would knowingly violate its international obligations; this would be particularly palpable during Russia's chairmanship of the "Group of Eight" during 2006. For these reasons, it is imperative that Transneft abandon its plans to build the "Eastern Siberia-Pacific Ocean" pipeline through the Lake Baikal Basin and World Heritage site, and instead begin developing another route option, specifically, that proposed by the Siberian Branch of the Russian Academy of Science to run the pipeline through Yakutia, well to the north of Lake Baikal.

Mikhail Kreindlin *is the Legal Expert for Greenpeace-Russia's Forest Program.* ***Andrey Petrov****, PhD, is Greenpeace-Russia's World Heritage Project Coordinator.* ***Ilya Sharapov*** *is the Assistant Coordinator of Greenpeace-Russia's Baikal Program.*

Late Breaking Update: Putin Insists that the Pipeline Route be Moved

On April 26, at a conference on the socio-economic development of regions in Russia's Siberian Federal Okrug, Russian President Vladimir Putin made a clear and decisive announcement concerning the hotly debated route of Transneft's Eastern Siberia-Pacific Ocean Pipeline, which up until that time threatened to approach Lake Baikal by as little as 800 meters. Before conference participants, who included leaders of fifteen Siberian regions, ministers representing six Russian ministries, representatives of the Russian Academy of Sciences, and the president of Transneft, Semyon Vainshtok, President Putin insisted that the pipeline be moved at least 40 kilometers to the north, beyond the Lake Baikal watershed. He further instructed that construction on the pipeline begin from two sides, and that all necessary documentation concerning the pipeline's route around Lake Baikal should be prepared by the time construction reaches the points where the lake would need to be circumvented.

Participants in a demonstration held in Moscow on April 21, 2006, hold a banner that reads, "Putin, save Baikal!" *Photo by A. Troitsky.*

Russian conservation organizations have welcomed this decision as a victory for both the environment and for civil society. At the same time, however, they remain wary of the company's intentions to follow through on the President's orders after the public outcry dies down in the future, and will vigilantly follow the situation to ensure that plans to move the pipeline beyond the Baikal watershed are realized.

In the future, project planners will begin examining alternative pipeline routes. Enjoying the support of leaders in Irkutsk Oblast and the Republic of Yakutia, scientists, and environmental organizations is the so-called "Yakutsky" option. This route, one of two proposed by the Siberian Branch of the Russian Academy of Sciences, would run along the Lena River circumventing the Lake Baikal Rift Zone. It would also offer maximum proximity to large eastern Siberian oil deposits. This proximity would increase the value of the deposits and the oil extraction companies working them might even consider participating financially in the construction of the arterial pipeline since they would need to be laying commercial pipeline from the deposits anyway and participation in the Transneft project would ultimately decrease their pipeline construction and subsequent maintenance costs. In addition, the development of this route would help develop the economically underdeveloped southern regions of Yakutia. If a planned oil processing plant is constructed in the region, Yakutia will be able to provide its own fuel and not be reliant upon delivery from the south, which is currently financed from federal and regional budgets; this would result in significant savings for both the federal and regional governments.

Text prepared by **RCN *Editors.***

> *"If there is even just a very minute, the smallest risk of polluting Baikal, then we must think of future generations and do everything not just to minimize this danger, but to eliminate it. And this means that the pipeline system that we're talking about must go beyond the northern border of Lake Baikal's watershed."*
> Russian President **Vladimir Putin,** April 26, 2006

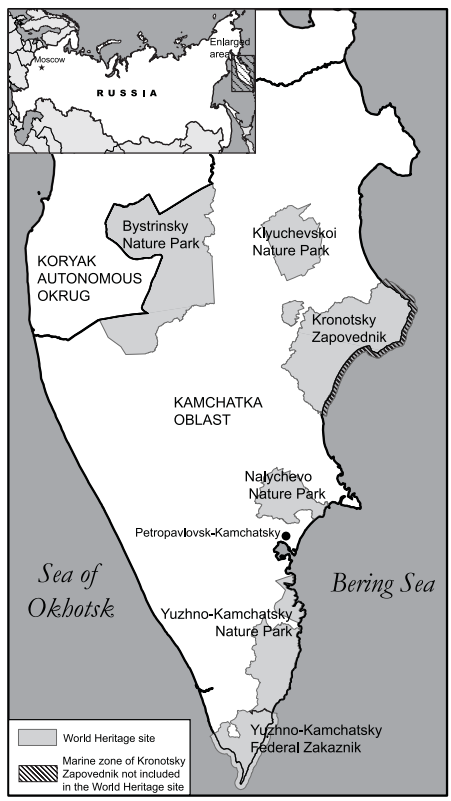
Volcanoes of Kamchatka

Inscribed on the World Heritage List: 1996, extended in 2001
Criteria for inscription: Natural Criteria (i), (ii), (iii) in 1996; Natural criterion (iv) in 2001*
Total area: 3.7 million hectares
Protected areas comprising the site: 1. Kronotsky Biosphere Zapovednik (1,007,134 hectares); 2-3. Yuzhno-Kamchatsky Federal Zakaznik and Yuzhno-Kamchatsky Nature Park (800,000 hectares); 4. Bystrinsky Nature Park (1,250,000 hectares); 5. Nalychevo Nature Park (265,000 hectares); 6. Kluchevskoi Nature Park (376,000 hectares)
** For a description of these selection criteria, please see the journal's rear inside cover.*

The Volcanoes of Kamchatka World Heritage site consists of six protected nature areas that together offer the fullest possible conception of the diverse volcanic activity in the region. Thirty active and approximately 300 extinct volcanoes are concentrated here on the Peninsula, as are over 150 thermal and mineral springs. Dozens of geysers, hot springs, fumaroles, waterfalls, sharp peaks of mountain ridges, mud wells, turquoise lakes, and carpets of multi-colored algae give the famous Valley of Geysers its fairy tale appearance. The Uzon Caldera is one of the peninsula's oldest and most interesting geological phenomena. The caldera is a huge depression with 200-800 meter-high walls and a total area of 100 square kilometers. A very large hydrothermal system has formed in the caldera and mineral and ore formation processes may be observed here.

These rare geological objects are accompanied by unique biological values. Of Kamchatka's 1,168 total plant species, 10% may be found in this region only. Approximately half of the world's population of Steller's sea eagle (*Haliaeetus pelagicus*) inhabits the peninsula, as do over 10,000 brown bears – the Kamchatka subspecies (*Ursus arctos beringianus*) is one of the world's largest bears – bighorn sheep (*Ovis Canadensis*), wild reindeer (*Rangifer tarandus*), sea lions (*Eumetopias jubatus*), and sea otters (*Enhydra lutris*).

The region provides important spawning habitat for Pacific salmon (*Oncorhynchus sp.*). From summer through until early winter, visitors to the peninsula can observe one of nature's unique phenomena: the migration of millions of salmon making their way upstream to their spawning sites.



Volcanoes of Kamchatka World Heritage Site. *Map by M. Dubinin.*

Bezymyannaya Sopka Volcano in Klyuchevskoi Nature Park is one of 30 active volcanoes on the Kamchatka Peninsula. *Photo by Y. Demyanchuk.*

Thousands of lakes and whole river systems nearly undisturbed by human activities – among the world's last corners of wild nature – are situated within the protected nature areas inscribed on the World Heritage List.

Conservation Threats: Poaching of salmon resources; and possible pollution from gold mining carried out on territories neighboring the World Heritage site.

Klyuchevskoi Nature Park Establishes International Contacts, Welcomes International Guests

*By **Anatoly Kargopoltsev***

Klyuchevskaya Sopka Volcano, the highest volcano on Kamchatka Peninsula and also the highest active volcano in Eurasia, rises above the village of Klyuchi. *Photo by R. Hooper.*

In 1995, three regional nature parks were established on the Kamchatka Peninsula: Nalychevo, Bystrinsky, and Yuzhno-Kamchatsky Nature Parks. In 1996, all three were inscribed on the UNESCO World Heritage List as part of the Volcanoes of Kamchatka nomination. Representatives of the first international nature conservation committees that visited the site supported its inscription on the List, but were surprised to learn that Kamchatka's most active group of volcanoes was not included as part of the nomination. They recommended that a second nomination including Kamchatka's Kluchevskaya Volcanic Group, world-renowned for its unique lunar landscapes and for the massive eruption, in 1975, of the Tolbachik Volcano, be submitted.

The group's recommendations positively influenced local decision makers on the ground, and in 1999, upon the initiative of the head of the Directorate of Kamchatka Nature Parks and the staff of the Institute of Volcanology (Far Eastern Division, USSR Academy of Science), the Governor of Kamchatka issued a resolution creating a new nature park, "Klyuchevskoi." Less than two years later, in December 2001, the UNESCO World Heritage site Volcanoes of Kamchatka was expanded to include one more territory, Klyuchevskoi Nature Park.

Due to both the park's remoteness and the financial problems facing the region, local authorities devoted little attention and funding to the park until 2003, when the first steps were made to catalyze activi-

Klyuchevskoi Nature Park at a Glance

Klyuchevskoi Nature Park occupies 376,000 hectares in the northeastern part of the Kamchatka Peninsula. Twelve volcanoes are compactly located on the park's territory, as are nearly 400 cinder cones, 47 glaciers, hundreds of lava flows, and vast lava plateaus formed here by prolonged eruptions. This is the most powerful volcanic massif on the Kamchatka Peninsula and across the Russian Federation as a whole. The volcanoes range in age from 7,000-50,000 years. No less than two eruptions occur annually, the duration of which ranges from several days to several months. The tallest volcano in Eurasia, "Klyuchevskoi" (4,750 meters), emits an average of up to 55 million tons of basalt material from depths of up to 30 kilometers.

In 1975, in the region of Tolbachik Volcano, the Great Tolbachik Fissure Eruption took place. In the total volume of igneous material released (more than 2 cubic kilometers) and the extent of its impact on the natural environment, it ranks as one of our planet's six most powerful fissure eruptions. The eruption site presently serves as a natural laboratory for the synthesis of new materials and for observing self-regeneration processes of flora and fauna. In the last 30 years, more than 25 previously unknown minerals have been discovered here.

The park is surrounded by a network of picturesque river valleys and lakes. Wild ducks, gesse, swans, and Steller's sea eagles (*Haliaeetus pelagicus*) nest here. The peninsula's largest river, the Kamchatka River, flows from the southwest to the northeast, and then eastward along the park's borders. The villages of Lazo, Kozyrevsk, and Klyuchi, which are home to loggers, fishermen, and hunters, are located along its banks. Indigenous peoples of Kamchatka - the Itelmen and Kamchadal – inhabit the area.

The presence of fir, broadleaf, and birch forests; alpine meadows; mountain tundra; and uplands creates favorable conditions for the region's diverse flora and fauna. Close to 400 plant species, including 17 that are listed in the Red Data Book of the Kamchatka Oblast, grow here. Bighorn sheep (*Ovis canadensis*), black-capped marmot (*Marmota camtschatica*), rock capercaillie (*Tetrao parvirostris*), wolverine (*Gulo gulo*), lynx (*Felis lynx*), Kamchatka brown bear (*Ursus arctos*), and moose (*Alces alces*) also inhabit the park.

ties in Klyuchevskoi Nature Park. Despite the fact that just two people staff the park, they were able, in three years' time, to establish collaboration with all organizations using the park's grounds, including with tour firms and scientific-research institutes carrying out their activities in the park. They also constructed hiking trails and, for the first time, conducted research on zoning the park's territory. They conducted outreach work with local communities and also established contacts with international nature conservation organizations. These international organizations have shared their experience and provided assistance that was very important in implementing and improving the effectiveness of planned activities.

The annual international seminars held in Russia for the directors of World Heritage sites, which were organized by the Russia Natural Heritage Protection Fund, with assistance from Germany's Federal Agency for Nature Conservation, have played a significant role in establishing these international contacts for Klyuchevskoi Nature Park. The training seminars conducted on Kamchatka as part of the UNDP/GEF project have been similarly important. Experts from World Wide Fund for Nature (WWF) offices in Germany, Canada, the US, and Russia have participated in the seminars and highlighted the global importance of environmental protection and biodiversity conservation.

At the directors' seminar held at Kurshskaya Kosa National Park in 2004, I was fortunate to make the acquaintance of many leaders of specially protected nature areas from other countries. Among them were Ron Hooper, the director of Jasper National Park in Canada, which is one of four national parks that comprise the Canadian Rocky Mountain Parks World Heritage site; and Brigitte Mayerhofer, a consultant specializing in UNESCO World Natural Heritage and a representative of the German World Heritage Fund. Ron has much experience organizing several national parks in Canada. Furthermore, the park of which he is now director, Jasper National Park, strongly resembles Klyuchevskoi Nature Park. Both are alpine parks with glaciers, peaks receding into the sky, alpine tundra, and alpine meadows. Climactic conditions are also analogous. Jasper National Park, however, lacks active volcanism, and Ron was particularly interested in this aspect of our park. Brigitte has visited many World Natural Heritage sites and is well familiar with the challenges that arise in implementing plans for their development; she also knows what missteps are commonly made and how to correct them.

Ron, Brigitte, and I spoke at length during the seminar and, with the assistance of Anastasia Kurbatova and Aleksei Butorin from the Russian Natural Heritage Protection Fund, formulated a plan: to organize a joint expedition through Klyuchevskoi Nature Park. The media attention that such an expedition would attract, as well as the meetings that expedition members would hold with local community members, would raise awareness about the park among a broader circle of conservationists and tourists, both in Russia and abroad. Local communities on Kamchatka would also develop an increased sense of pride in and responsibility for their region, a unique territory of international significance that attracts visitors from all around the world. The expedition would also demonstrate to the oblast government that international interest in the park remains high and that working to improve its territory would help preserve its natural landscapes, and flora and fauna, as well as facilitate funding for its long-term maintenance.

We corresponded extensively about the trip over the next two years. In May 2005, upon the initiative of Elena Kolb and Viktor Nikiforov, leaders at WWF Germany and WWF Russia, respectively, a large group of staff from specially protected nature areas on Kamchatka were invited to Germany to participate in a seminar on the issues facing their protected areas. The seminar offered us the rare opportunity to become acquainted with the activities of Germany's national parks. There, I saw what we should be striving for in our Russian parks; I also observed what value wild nature, untouched by civilization, might present for people. Such territories are now relatively few in Germany, but opportunities to preserve extensive areas of pristine wilderness still exist in Russia.

At the seminar, I made many new friends with like-minded Germans. I was amazed by their readiness to provide real assistance to our park. In just a matter of days, the Bremen-based private Manfred-Hermsen-Stiftung Foundation processed a grant that allowed us to purchase three power scythes. The foundation acquired the power scythes and delivered them to us at the airport just before our flight to Moscow. I would never have thought such efficiency possible, not even in my wildest dreams! By the beginning of the tourist season, we were using them to clear brush from roads and tourist trails. And all this was made possible thanks to the foundation representative, Stephanie Hermsen, and the WWF translator, Elena Kozlova. After this, I understood that our expedition plan was realistic. While we were still in Germany, Elena Kolb helped me to get in touch with Brigitte by phone and we agreed on our next steps.

Finally, on August 24, 2005, after much planning, we launched our expedition to Klyuchevskoi Park. We began in Petropavlovsk-Kamchatsky, to where Ron and Brigitte had flown. From there, we drove for 650 kilometers to the village of Klyuchi, where the Institute of Volcanology and Seismology's Kamchatka Volcano Station has been located since 1935. Our guests learned that, for seventy years now, intensive scientific research work has been carried out on the park's territory not only by Russian volcanologists, but also by specialists in other Earth Science fields from different countries of the world. Scientists from these countries come here every year with hope and frequently leave with discoveries.

The following day, we embarked on what would be twelve-day-long

Led by Klyuchevskoi Nature Park Director Anatoly Kargopoltsev, expedition members hiked to the crater of Bezymyannaya Sopka Volcano. *Photo provided by B. Mayerhofer.*

journey across Klyuchevskoi Park. We began at the Apakhonchich Seismology Station, and continued to the northeastern slope of Klyuchevskaya Sopka Volcano, and then on to Bezymyannaya Sopka Volcano. From there, we proceeded to the central part of the park, to the mountainous lava plateau of the Studennaya River, and then on to Tolbachik Volcano, and finally to the famous cone of the Great Tolbachik Fissure Eruption. This eruption, which took place in 1975, destroyed all surrounding vegetation and entirely changed the landscape's appearance. Thirty years after the eruption, life at the site is beginning to be restored; at the same time, lunar craters of these cones retain temperatures of up to 200-400° Celsius in some places.

During our hike, under a rainbow's arc, we made a forced crossing of a deep canyon of the Sukhaya Khapitsa River. Sinking right into the muck, we crossed a muddy stream at the base of Bezymyannyi Volcano, where we enjoyed an encounter with tourists from Germany, France, the US, Sweden, and Russia. We ascended the very active crater of the Bezymyannaya Sopka Volcano, observing the growth of its new dome. We descended beneath the clouds and rose above them, braving foul weather to ascend the crater of the Plosky Tolbachik Volcano. We contemplated a tranquil colony of Mongolian marmot (*Marmota sibirica*), and observed black-capped marmot (*Marmota camtschatica*) and brown bears (*Ursus arctos*). We were alarmed by the increase of household wastes left behind by park visitors, as well as by the lack of necessary infrastructure, equipment, and means of communication to provide for safe tourism and nature protection in the park. We met with representatives of the indigenous communities, accompanied them on their fishing trips, ate marvelous meals of salmon, and were concerned by the increasing levels of poaching in the region.

Expedition members Ron Hooper and Brigitte Mayerhofer stop to rest at an overlook above the Sukhaya Khapitsa River. *Photo provided by B. Mayerhofer.*

After our expedition, our guests met with the heads of Kamchatka Oblast's Directorate of Natural Resources. They spoke about their impressions of the park and recommended subsequent steps to implement priority activities. In closing they said, "We feel privileged to have had the opportunity to visit this territory. Klyuchevskoi Park is worthy of its status as a World Heritage site. This territory is unusually valuable for Kamchatka, for Russia, and for the entire world."

I believe that our goals for the expedition were realized. We found real support for our efforts to develop the park, and we found that support among specialists and practitioners, who were able to not only confirm the territory's value, but also provide practical assistance in developing management plans in the future. And our collaboration with them continues. Upon the recommendation of expedition participants, we submitted grant proposals to the German World Heritage Fund, as well as to WWF Russia and WWF Germany. In 2006, we plan to implement a joint program to research Yuzhno-Kamchatsky Nature Park, another component of the Volcanoes of Kamchatka World Natural Heritage site. Since the expedition, there has also been increasing support for our work among local decision makers: the oblast budget for the year 2006 included a new line for Klyuchevskoi Park and additional funds from the state program to support specially protected nature areas were also allocated.

I am confident that, in the near future, Kamchatka will become an example for Russia of how to treat nature with care. And this is being made possible thanks to participation in the process by committed people like the two Elenas, Anastasia and Aleksei, Viktor and Stephanie, as well as Brigitte and Ron, who came to help us using their own funds and during their vacation time. A great big thanks to them all for this support.

Anatoly Kargopoltsev *is the Director of Klyuchevskoi Nature Park.*

Golden Mountains of Altai

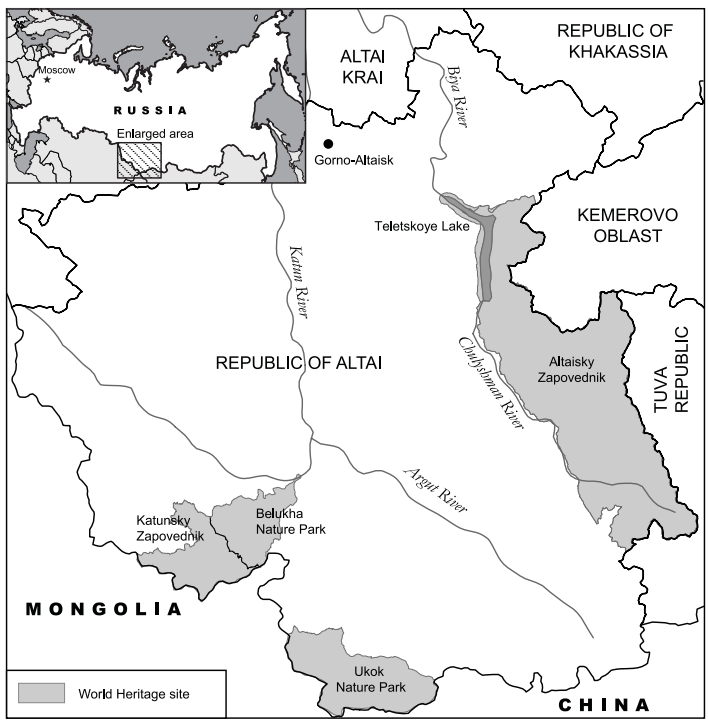
Inscribed on the World Heritage List: 1998
Criteria for inscription: Natural Criterion (iv)*
Total area: 1.64 million hectares
Protected areas comprising the site: 1. Altaisky Biosphere Zapovednik (881,238 hectares); 2. Katunsky Biosphere Zapovednik (150,079 hectares); 3. Belukha Mountain Nature Park (262,800 hectares); 4. Ukok Plateau Quiet Zone Nature Park (252,904 hectares); 5. Teletskoye Lake (93,753 hectares)
** For a description of these selection criteria, please see the journal's rear inside cover.*

Located at the junction of Central Asia and Siberia, in Russia's mountainous Altai region, the Golden Mountains of Altai World Heritage site is distinguished by its unique nature. There are few places in the world where one encounters such contrasting combinations of various landscapes over such a small area.

The region's flora and fauna are diverse and, to a great extent, unique. Altai pine forests – forests of Siberian pine (*Pinus sibirica*) that are the lifeblood and nourishment for numerous animal species – are still preserved in the Teletskoye Lake basin. Siberia's largest sub-alpine and alpine meadows are also found here. Also unique in the southern Altai region is the rich combination of vegetation types; here, semi-deserts, steppes, and tundra interact closely with one another.

The diversity of landscapes has enabled the origination and preservation in the Altai region of endemic species that often have limited habitats. Close to 60 mammal species, 11 amphibian and reptile species, and 20 fish species inhabit the area. Among rare mammal species, the snow leopard (*Uncia uncia*) is worthy of particular attention.

The region's geological history is also unique. It is "written" in the region's uncommon forms of relief, for example, in the high terraces of the Katun River, which amaze with their grandeur, or in Mount Belukha, which is crowned with glaciers and snowfields and rises almost 1,000 meters above nearby mountains ranges.



Golden Mountains of Altai World Heritage site. *Map by M. Dubinin.*

Peaking at 4,506 meters, Mount Belukha is Siberia's tallest mountain. *Photo by A. Butorin.*

River valleys in the Altai region, foremost those of the Katun and Chulyshman Rivers, present as deep, narrow canyons. The Chulyshman River Valley is very picturesque and is adorned by numerous waterfalls in the river's lateral tributaries. Altai's true gem is Teletskoye Lake. Because of its clear water, the majestic mountains framing it and rich wildlife, people call the lake "Little Baikal."

Conservation Threats: Jettisoned lower, sub-orbital stages of booster rockets launched from Baikonur Cosmodrome falling on the territory of Altaisky Zapovednik; poaching; and proposed construction of roads and pipelines to China through the Ukok Pleateau.

Examining Alternative Development Scenarios for the Ukok Plateau

By ***Mikhail Shishin***

The near-untouched Ukok Plateau is one of the natural objects comprising the Golden Mountains of Altai World Heritage site. *Photo by V. Kantor (Greenpeace-Russia*).

Participants in the twenty-second session of the World Heritage Committee held in Kyoto, Japan, in 1998 adopted a decision that was very important for the Altai Mountain Region. They chose to inscribe five of the region's natural territories – Altaisky and Katunsky Zapovedniks, Lake Teletskoye, the Mt. Belukha Mountain Massif, and the Ukok Plateau – on the UNESCO World Natural Heritage List. Almost simultaneously with the territories' acquisition of this prestigious international status, a real threat to one of them emerged. This was the proposal of a large-scale project to transform the Ukok Plateau, located at the borders of Mongolia, Kazakhstan, China, and Russia, into a transportation corridor.

People in countries across the region have periodically raised the issue of using the plateau for this purpose. Among the most active advocates of doing so are scientific and political circles in China's Xinjiang Uygur Autonomous Region, the largest province in northwestern China. They are persistently advancing a proposal to construct a transportation corridor, which would include a road and gas pipeline, from western Siberia, through the Ukok Plateau, and on to China. This idea has found support among a number of scientists in the Siberian Branch of the Russian Academy of Sciences, among bureaucrats, and, of course, among road construction firms hungry for a lucrative order from the government. Recently, the chorus of Russian and Chinese lobbyists singing the praises of the multi-corridor project (this is how people are referring to the road and gas pipeline together) has become more harmonious.

Initiators of the project have made two primary arguments in favor of constructing the transportation corridor. The first argument is geopolitical in nature and concerns the importance of Russia developing international relations with China and other Asian countries. Russia and China have actively participated in integration processes under the Shanghai Cooperation Organization, as well as in other multilateral international and bilateral projects, and this work has brought real benefit to the people of Russia and China. International relations experts

The Ukok Plateau provides habitat for the very rare snow leopard (*Unica unica*); road or pipeline construction through the area could threaten the great cat's very existence there. *Photo by V. Trigubovich.*

and politicians have quite fairly noted that this changing relationship signals the creation of a multi-polar, rather than mono-polar, world order. And as a region that links four countries, Altai plays a very important role in this new world order.

The second argument in favor of constructing the transportation corridor is an economic one. Construction of a road across the Ukok Plateau would facilitate increased trade development between China and southern Siberia. However, because of Russia's colonial export structure to China, trade along this road would be most profitable for China. More than sixty percent of Russia's exports to China are nonrenewable and renewable natural resources and products of their primary processing. This means that Russia would be exporting strategic resources along the transportation corridor such as lithium, vanadium, and molybdenum; timber; oil; and gas. In return, Russia imports low-quality Chinese consumer goods and agricultural products, which are less expensive than the Siberian equivalent due to favorable climatic conditions and cheap labor in Xinjiang Uygur Autonomous Region.

However, the potential construction of a transportation corridor through the Ukok Plateau poses a number of threats. The construction of the road and gas pipeline would, of course, damage the plateau's unique natural complexes. The Ukok Plateau provides habitat to numerous rare plant and animal species. Its role in stabilizing the water and air quality in southwestern Siberia is also very important to each country in the region. A significant portion of the local population of the Altai Republic perceives the road's construction as a violation of their native lands and their ancestor's graves. Indeed, the Ukok Plateau preserves invaluable cultural landscapes of great interest to people the world over. In the 1990s, for instance, archeologists from Novosibirsk found unique burial mounds (called *kurgan* in Russian) here dating back to the Scythian Era. The most widely known and highly prized find from the excavation was the "Ukok Princess," the mummified, tattooed body of a young woman who had lived about 2,500 years ago.

Among other concerns about the construction of a road through Ukok is the fact that it would serve as a direct channel by which legal and illegal Chinese immigrants could enter Russia. Many Russians are concerned by potential Chinese expansion into Russian territory, and view it as a convenient means by which for the Chinese to resolve demographic, public health, and possibly, political tensions in the northwestern region of China. Finally, if construction on the transportation corridor were begun, we might expect a visit to the Altai region by a UNESCO commission exploring the possibility of the Altai site being given "World Heritage in Danger" status. This would seriously tarnish the reputation of both the region and Russia as whole, which, of course, is extremely undesirable.

The obvious shortcomings of constructing a direct road from Russia to China through the Ukok Plateau do not mean that it is not worth developing collaboration with China or building roads in the region in general. The most rational and mutually-beneficial resolution to the Altai Region's transportation problem is to rebuild and further develop the Chuisky Tract, which extends for 600 kilometers from the city of Biisk in Altaisky Krai to the Mongolian border. A main transportation artery of the Altai Mountain Region, the tract has played a colossal role in strengthening Russia's position in the Central Asian region, as well as in its relations with Mongolia and China.

Developing a regional transport network on the foundation of the Chuisky Tract would entail first directly linking it to Mongolia's "Millennium Road," (a 2,000 kilometer-long road envisioned to cross the country longitudinally) that is, directly linking it with Mongolia right up to the Khingan Ridge. Access to the territory of Chinese Altai could then be gained through the far western Mongolian province of Bayan-Ulgi, located 60 kilometers from the Mongolian-Russian border-crossing at Tashant, and the Dayan-Nur crossing through the Mongolian Altai Ridge. The distance from Bayan-Ulgi Province to the Chinese border is just a little over 100 kilometers. The use of an already existing transportation crossing between western Mongolia and China near the Bulgan River is also possible. Additionally, some data suggest that China is already building a similar

highway. Of course, this option for developing a road network in the region should undergo environmental and other impact assessments in each country, although many experts believe that the public, the scientific community, and many influential politicians in the region would most likely accept this option.

And as for the Ukok Plateau? Experts support two general strategies for the region's development in the future. This first involves the production of ecologically clean products and the sustainable use of medicinal plant resources. The second strategy is to develop ecological tourism in the region of the plateau. The decision of the government of the Altai Republic in June 2005 to create a nature park on the plateau, the "Ukok Plateau Quite Zone" Nature Park, is a step forward in this process. The park will include special zones for educational and ecological tourism in addition to areas where these activities will be forbidden.

The region already draws hundreds of people from across the Altai Republic, who come for curative treatments in the thermal springs located near the plateau. There is growing interest in the plateau elsewhere in Russia, and in China and Mongolia. Kanas Nature Park, which is adjacent to the Ukok Plateau on the Chinese side, is visited by several hundred thousand tourists a year and is functioning effectively. The number of tourists visiting from the Mongolian side of Ukok has sharply increased as well.

Considering its unique biological diversity, its historical and cultural significance, and its relatively undeveloped state, one may predict increasing international interest in the Ukok Plateau and the Altai Region as a whole. The inscription of the plateau and other nearby sites on the UNESCO World Heritage List has already amplified this interest, as has the inclusion of the Altai Sayan Region on the World Wildlife Fund's list of 200 territories most important for biodiversity conservation. Adjacent specially protected nature areas in Mongolia and Kazakhstan are also in the process of preparing UNESCO World Heritage nominations, and scientists from China's Xinjiang Uygur Autonomous Region have recently expressed great interest in nominating the "Kanas" Nature Park to the UNESCO World Heritage List. With the inscription of these sites on the list, a truly unique international complex would be created, which would be very attractive to tourists and encourage the creation of international tourism routes. It would also bring the people of the four countries significantly closer and help save the Ukok Plateau's landscapes, natural complexes, and cultural treasures for current and future generations.

In addition to its outstanding natural features, the Ukok Plateau also preserves cultural and historic values. Here, a ring of stones marks an ancient burial site on the plateau. *Photo by V. Kantor (Greenpeace-Russia*).

Mikhail Shishin *is the Director of the Altai 21st Century Foundation, a non-governmental organization based in the city of Barnaul in Altai Krai.*

Conservation Alert!

On March 21, 2006, during an official visit to China, Russian President Vladimir Putin issued a statement about an agreement reached with the Chinese concerning the delivery of Russian natural gas to China. According to the memorandum signed by Russia's gas monopoly, Gazprom, and the China National Petroleum Corporation, Russia has committed to export up to 80 billion cubic meters of natural gas to China annually, beginning in 2011. The natural gas will be delivered along two routes, one from western Siberia and one from eastern Siberia. While discussing the memorandum with journalists in Beijing, President Putin, ostensibly comparing the two routes, noted that delivery from western Siberia would be "easier to implement" and "faster." In this regard, he spoke of plans to construct a new pipeline system, preliminarily called "Altai," that would cross the western portion of the Russian-Chinese border. Construction along this area might cause irreversible harm to the region's natural and cultural complexes, including those of the Ukok Plateau.

Text prepared by **RCN *Editors***.

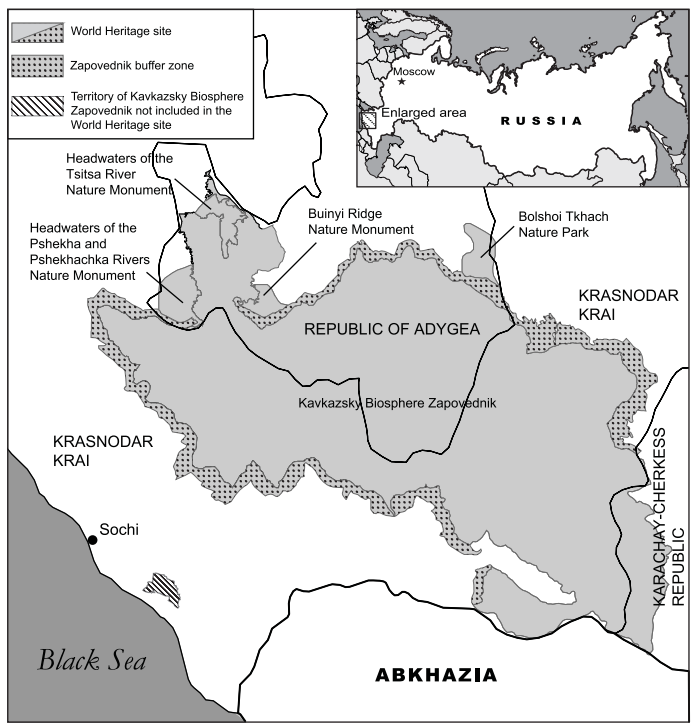
Western Caucasus

Inscribed on the World Heritage List: 1999
Criteria for inscription: Natural Criteria (ii), (iv)*
Total area: 300,000 hectares
Protected areas comprising the site: 1. Kavkazsky Biosphere Zapovednik and Buffer Zone (288,200 hectares); 2. Bolshoi Tkhach Nature Park (3,700 hectares); 3. Headwaters of the Pshekha and Pshekhashkha Rivers Nature Monument (5,776 hectares); 4. Headwaters of the Tsitsa River Nature Monument (1,913 hectares); 5. Buinyi Ridge Nature Monument (1,480 hectares)
** For a description of these selection criteria, please see the journal's rear inside cover.*

In the diversity of its flora and fauna, and in the state of their conservation, the western part of the Greater Caucasus Range has no equal - not only in the Caucasus region, but also among other mountainous areas in Europe and western Asia. A great number of rare, endemic, and relict plant and animal species that are threatened with extinction are concentrated on the site's territory. It is especially important for its preservation of little-disturbed habitat of highly vulnerable large mammal species such as mountain bison (*Bison bonasus montanus*), Caucasian red deer (*Cervus elaphus caucasicus*), West Caucasian tur (*Capra caucasica*), Caucasian chamois (*Rupicapra rupicapra caucasica*), a Caucasian sub-species of brown bear (*Ursus arctos*), and wolf (*Canis lupus*).

The Western Caucasus is distinguished by the exceptional species richness of its flora and fauna. Nine hundred and sixty-seven vascular plant species grow in just the high mountain zone. The high mountain flora of other mountain systems is significantly less rich in comparison.

Ancient and contemporary alpine glaciers have played a large role in forming the terrain of the Western Caucasus. Glacial troughs, karst lakes, and moraines are widely distributed here. In the limestone massifs in the northern part of the territory, numerous caves and cavities – including Russia's longest (more than 15 kilometers) and deepest (more than 1,600 meters) cave – form complex subterranean systems with rivers, lakes, and waterfalls.



Western Caucasus World Heritage site.
Map by M. Dubinin.

The vast diversity of mountain landscapes in the Western Caucasus supports the exceptional richness of the region's flora and fauna.
Photo by V. Kantor (Greenpeace-Russia).

On rocky outcroppings of various age and composition, very interesting remnants of extinct organisms may be observed. Thanks to the discovery of numerous gigantic ammonite shells – some more than one meter in diameter – the Belaya River Valley has acquired global renown.

The territory of the Western Caucasus site is abundant in picturesque objects: mighty waterfalls; jagged mountain peaks rising up to 3,360 meters in height; turbulent clear water mountain streams; crystal clear mountain lakes; immense trees, including majestic firs spanning 2 meters in diameter and reaching up to 85 meters in height; rare plants including orchids; and much more.

Conservation Threats: Poaching and unauthorized logging; and proposed projects to construct roads through the World Heritage site and develop ski resorts and other tourist infrastructure near the World Heritage site.

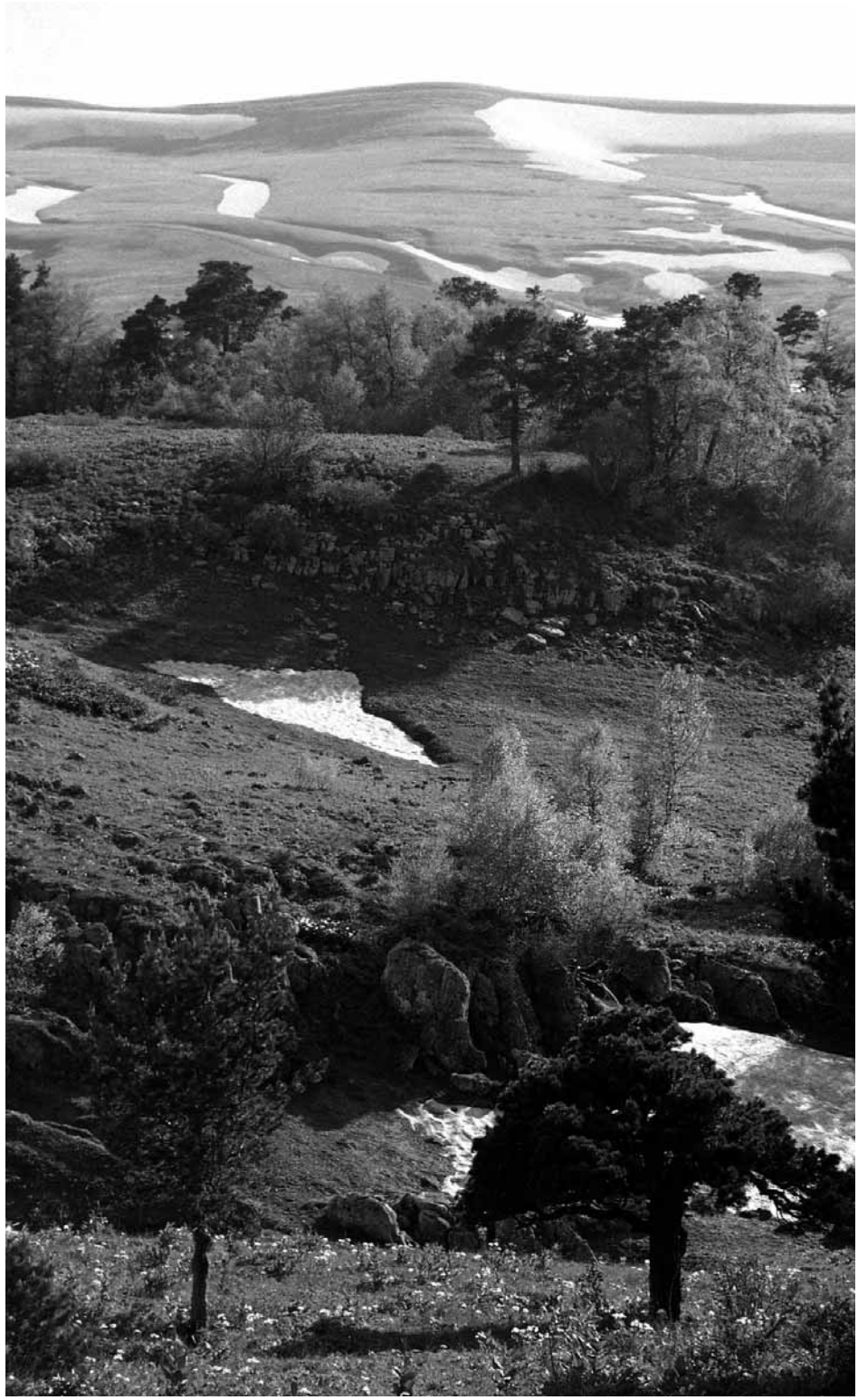
Extending the Western Caucasus World Heritage Site: Plans and First Steps

By ***Andrey Rudomakha***

The largest massif of mostly undisturbed mountainous territories in Europe and Western Asia is located in the western part of the Greater Caucasus Mountain Range. The territories are distinguished by their remarkable diversity of geology, ecosystems, and species, and are, in fact, the most valuable territories in Europe for biodiversity. Positioned between Europe and Asia, and isolated from other mountain ranges by seas and plains, the region boasts Europe's highest levels of floral and faunal endemism. For instance, of the 1,580 vascular plant species registered in the World Heritage site, approximately one third is endemic to the Caucasus. The Western Caucasus provides key habitat for many animal species and subspecies endemic to the Caucasus, such as the West Caucasian tur (*Capra caucasica*), Caucasian chamois (*Rupicapra rupicapra caucasica*), Caucasian red deer (*Cervus elaphus caucasicus*), and Caucasian mink (*Mustella lutreola turovi*), among others. Natural landscape diversity here is also extremely high.

The Western Caucasus World Natural Heritage site is comprised of several specially protected nature areas within three administrative subjects, or regions, of the Russian Federation: Krasnodar Krai, the Republic of Adygea, and Karachay-Cherkess Republic. Kavkazsky Biosphere Zapovednik forms the core of the Western Caucasus site. Also included in the site are: the section of Kavkazsky Biosphere Zapovednik's buffer zone that is located in the Republic of Adygea; Bolshoi Tkhach Nature Park; and three natural monuments - Buiny Ridge, the Headwaters of the Pshekha and Pshekhashkha Rivers, and the Headwaters of the Tsitse River.

In addition to the aforementioned territories, a significant part of Sochinsky



Plans to build a resort complex on the Loganaki Plateau, pictured here, threatens this unique natural object on the territory of Kavkazsky Zapovednik. *Photo by V. Kantor (Greenpeace-Russia).*

National Park, totaling approximately 57,000 hectares, was intended to be part of the World Heritage site. The inclusion of these lands, which comprise a single whole within the remaining massif of untouched nature of the Western Caucasus, was approved. However, for various reasons, they were ultimately not included in the World Heritage site. Other parts of the region's landscape, which were originally proposed for inclusion in the site – the Mzymta River Valley and Kurdzhips Gorge – were similarly excluded from the World Heritage site. Thus, there still remain many undisturbed natural territories in the Western Caucasus region that are not presently protected by World Heritage status.

In the future, if Russia as a whole and its western Caucasian regions in particular, become more oriented on nature conservation-related goals, it will be extremely important that efforts be undertaken to further expand the Western Caucasus World Heritage site. The existing site has already benefited significantly from its World Heritage status. In many respects, this status is helping to combat numerous threats – large-scale economic utilization and seizure of territory, chief among them – that have gathered over Kavkazsky Zapovednik. Specifically, these threats include: a project to build a road between Cherkessk and Adler, which would run through Kavkazsky Zapovednik; a project to construct an alpine ski resort on the Lagonaki Plateau in Kavkazsky Zapovednik; and plans to bring the 2014 Winter Olympics to Sochi and hold events in the region of the town Krasnaya Polyana, on the territories of Sochinsky National Park and Kazkazsky Zapovednik. World Heritage status has also helped popularize the specially protected nature areas comprising the site, as information about them has been broadly disseminated in UNESCO and IUCN publications, as well as on the websites of international organizations working within the framework of the Convention.

It is imperative that other existing specially protected nature areas in the region be included in the World Heritage site. These include: Teberdinsky Zapovednik and Damkhurts and Arkhyzsky Zakazniks in Karachay-Cherkess Republic; the section of Kavkazsky Biosphere Zapovednik's buffer zone that is located in Krasnodar Krai, as well as Sochinsky National Park's strictly protected zone, Sochinsky Federal Zakaznik, and Chernogorye Regional Zakaznik, also in Krasnodar Krai; and the natural monument, "Box Colchica Massif," in the Republic of Adygea.

It is also very important that the World Wide Fund for Nature (WWF) succeed in its efforts to create a "biosphere polygon" in Karachay-Cherkess Republic. This territory would unite Kavkazsky and Teberdinsky Biosphere Zapovedniks via a corridor along the Great Caucasus Ridge.

There are many other highly valuable parts of the massif of intact and mostly undisturbed territories of the Western Caucasus, which are also very important to include in the World Heritage site, but which do not yet have any protection status. In this regard, it is very important that new specially protected nature areas be established on these lands; in Krasnodar Krai, for instance, this might include the creation of Mezmaisky and Acheshbok Nature Parks (in Apsheronsk and Mostovskoi Districts, respectively). These natural areas are currently subject to significant development pressure. Large-scale logging is being carried out in both of these areas. In the region of Mezmai village, there are plans to create a large dolomite open quarry above the unique Kurdzhips Gorge, which was initially intended to be included in the World Heritage site. Thanks to the work of the non-governmental organization Environmental Watch on the North Caucasus, the first steps toward establishing these specially protected nature areas have already been taken and local authorities and nature protection bodies have approved their creation. Acheshbok Nature Park has even been approved by a decision of the local Mostovskoi District Administration.

It is also very important to expand the territory of Bolshoi Tkhach Nature Park, which is

Caucasian tur (*Capra caucasica*). *Photo by S. Trepet.*

already part of the World Heritage site. Due to opposition by the local forestry department, the park was established to protect just half of the territory that conservation planners deemed necessary. Widespread logging is now taking place on the land that was not included in the nature park.

Finally, new protected areas should be created – and subsequently included in the Western Caucasus World Heritage site – in the extensive region of Khatsavita-Markopidzh-Dzhentu, in Krasnodar Krai's Mostovskoi District, as well as in the Urupsky District of Karachaevo-Cherkessia. Work toward these goals is not currently being carried out, but is necessary, as there are plans to mine the Markopidzh apatite deposit and to build a ski resort and military training ground on Khatsavita Mountain.

Unfortunately, the numerous economic development plans that exist in regard to the pristine territories of the Western Caucasus, and their support by state structures is now seriously complicating work to expand the Western Caucasus World Heritage site.

Nevertheless, the critical situation that currently exists requires increased effort to expand the site, as it is possible that only this will help preserve many unique natural areas. In this regard, activity by international nature conservation organizations directed toward expanding the territory of the World Heritage site acquires particular significance.

Andrey Rudomakha *is the Coordinator of the Maikop-based non-governmental organization Environmental Watch on the North Caucasus.*

Typical mountain landscape of the Western Caucasus. *Photo by S. Trepet.*

The World Conservation Union (IUCN) on Expanding the Western Caucasus World Heritage Site

Several years ago, Russia submitted a nomination to the World Heritage Committee that proposed extending the Western Caucasus World Heritage site to include Teberdinsky Biosphere Zapovednik. As part of the evaluation process, experts from IUCN conducted a technical evaluation of the nomination in July 2003. They found that the nominated site would add value to the conservation objectives of the existing Western Caucasus World Heritage site. They noted that the new nomination was "distinct from the existing property in relation to its altitudinal and landscape variations, as it contains a more complete sample of alpine and sub-alpine features, which are not seen in the existing property." They also observed that Teberdinsky Biosphere Zapovednik is "characterized by a very high degree of naturalness, containing extensive tracts of undisturbed mountain forests and sub-alpine meadows which are only grazed by native animals."

Nevertheless, the IUCN technical evaluators did not recommend that the nomination be inscribed on the World Heritage List. They found that the distance between the new nomination and the existing site – forty kilometers – and an assessment of their values might "point more to the concept of a serial nomination than an extension to the existing site." The IUCN evaluation also noted that it was unclear how the new nomination might be managed collaboratively with the existing property. In conclusion, the IUCN Evaluation recommended that Russia carry out a comprehensive assessment of the Western Caucasus to identify all potential sites that may merit inclusion in a serial World Heritage site and that would represent all the outstanding universal values of the region.

Taking the findings from the IUCN Technical Evaluation into consideration, participants in the 28th session of the World Heritage Committee, held in Suzhou, China, in the summer of 2004, decided not to approve the proposed extension to the Western Caucasus site. The Committee also echoed IUCN's recommendation that an assessment of the Western Caucasus be carried out to identify other sites possibly meriting future inclusion in a World Heritage site.

Text prepared by **RCN *Editors*** *using materials from the IUCN Technical Evaluation of the nomination to extend the Western Caucasus site with the inclusion of Teberdinsky Biosphere Zapovednik, as well as from the "Report of the 28th Session of the World Heritage Committee."*

Central Sikhote-Alin

Inscribed on the World Heritage List: 2001
Criteria for inscription: Natural Criteria (iv)*
Total area: 395,000 hectares
Protected areas comprising the site: 1. Sikhote-Alinsky Biosphere Zapovednik (390,184 hectares); 2. Goralovy Federal Zakaznik (4,749 hectares)
** For a description of these selection criteria, please see the journal's rear inside cover.*

The southern Russian Far East is one of the planet's largest and least human-altered centers for the conservation of ancient coniferous-broadleaf and broadleaf forest communities. Thanks to the region's location along the great path of distribution for plant and animal species along the Asian Pacific coast, which ranges from the tropics to temperate latitudes, one observes here a very complex and variegated picture of the diffusion and mixing of heterogeneous elements of flora and fauna, particularly southern and northern elements.

Many rare and endangered species inhabit the site's territory, with a significant portion of them being preserved here only. Vascular plant species number nearly 1,200 species. More than 370 bird species have been registered within the Central Sikhote-Alin World Heritage site, while 71 mammal species inhabit the territory.

The mountainous region of the Sikhote-Alin is one of the world's last large, whole territories inhabited by the Amur tiger (*Panthera tigris altaica*); just approximately 500 of the great cats remain in total. Many other rare, endangered, and endemic species found on the site's territory require protection. Among them are the Amur goral, a type of goat-antelope, (*Nemorhaedus caudatus*), Asiatic black bear (*Ursus thibetanus*), Japanese and hooded cranes (*Grus japonensis, G. monacha*), black stork (*Ciconia nigra*), Chinese merganser (*Mergus squamatus*), Blakiston's fish owl (*Ketupa blakistoni*), ginseng (*Panax ginseng*), and rhododendron fauriei (*Rhododendron fauriei*).

Central Sikhote-Alin World Heritage site. *Map by M. Dubinin.*

Sea of Japan coast protected in Sikhote-Alinsky Zapovednik. *Photo by V. Kantor (Greenpeace-Russia).*

The region's picturesque terrain and deep rivers, together with its exceptionally diverse flora and fauna and the presence of exotic-looking plants and animals recalling the tropics, give the nature of the Central Sikhote-Alin traits that are completely unique. Numerous objects of great aesthetic and recreational value are situated on the territory of the World Heritage site: rocky massifs scattered amidst the taiga; waterfalls, lakes, and rapids; and the intricate rock formations, reefs, and sandy bays of the Sea of Japan coast.

Conservation Threats: Poaching; and possible future logging on territories neighboring the World Heritage site.

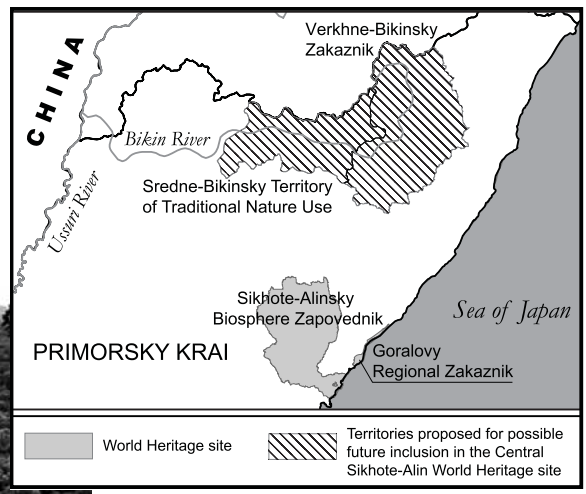
World Heritage Status for Unique Territories in the Bikin River Valley?

The Central Sikhote-Alin World Heritage site is currently comprised of two territories situated on 395,000 hectares in the eastern part of Primorsky Krai: Sikhote-Alinsky Biosphere Zapovednik and Goralovy Zakaznik. Initially, however, an expanded version of the site – with a total area of approximately 1.63 million hectares – was envisioned, and when the Central Sikhote-Alin nomination was submitted to the World Heritage Centre for consideration in the year 2000, the nomination proposed the inscription of two territories in addition to those that were ultimately inscribed. Those two territories were the Bikin Territory of Traditional Nature Use (TTNU) and Verkhnebikinsky Regional Zakaznik, both situated in the northeastern part of Primorsky Krai, in the middle and upper reaches of the Bikin River Valley.

The Bikin River basin is the only territory on the western slope of the Sikhote-Alin mountain system that remains largely unaffected by destructive human activities. The region preserves an intact massiff of Ussuri taiga, which provides habitat to many rare flora and fauna species, some of which are at the edge of their range. The high concentration of Amur tigers (*Panthera tigris altaica*) here is especially notable. According the World Wild Fund for Nature (WWF), as many as 50-80 Amur tigers, or about 15% of the Far Eastern population, inhabit the Korean pine forests of the Bikin River Valley. The Bikin River Valley is also of vital importance to a small indigenous nation, the Udege, whose traditional activities – hunting and fishing – and, indeed, entire way of life, are inextricably entwined with the region's natural resources.

World Conservation Union (IUCN) experts who conducted an evaluation of the nominated territories, including a site visit to them during summer 2001, found that the nomination did meet the criterion under which it was proposed - criterion (iv), related to the presence of the most important and significant natural habitats for *in situ* biodiversity conservation. At the same time, however, they recommended that inscription of the two Bikin River territories be deferred until their management was improved. The UNESCO World Heritage Committee, which reviewed the Central-Sikhote Alin nomination at its 25th Session, held in Helsinki in 2001, concurred with this opinion and encouraged Russia to improve management of the Bikin River protected areas before nominating them as an extension to the existing site.

Although the Bikin River valley provides key habitat to many rare species and is of vital importance to the indigenous Udege nation, this territory in northeastern Primorsky Krai was not included in the Central Sikhote-Alin site. *Photo by V. Kantor (Greenpeace-Russia).*



Map by M. Dubinin.

In their technical evaluation report, IUCN evaluators issued specific recommendations regarding the Bikin territories. For example, they suggested that Russia develop an effective and integrated collaborative management regime for the entire Bikin watershed, with indigenous people fully participating in the process. They also recommended that activities in areas adjacent to the Bikin watershed in both Primorsky and Khabarovsky Krais be regulated. They further advised that linkages between the Bikin protected areas and Sikhote-Alinsky Zapovednik be improved through the creation of a comprehensive network of protected nature areas, with full involvement of indigenous people.

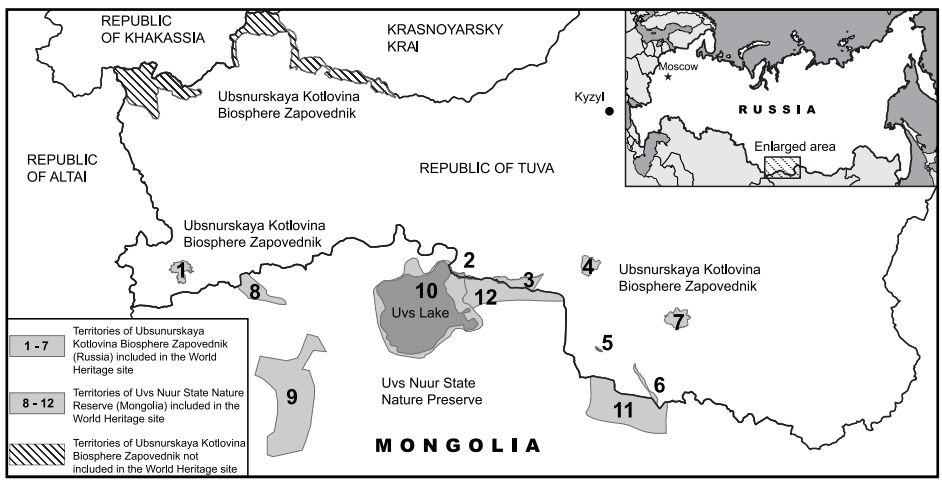
Consistent with these goals, work is now underway to obtain federal status for Verkhnebikinsky Zakaznik, which is currently a regional-level protected area; to develop a management plan; and to create, in the middle flow of the Bikin River, Russia's first federal-level territory of traditional nature use. Greenpeace-Russia, WWF-Russia, the Natural Heritage Protection Fund, and the Association of Indigenous Peoples of the North of Primorsky Krai are actively involved in these efforts. The preparation of a Bikin River Valley nomination to extend the current Central Sikhote-Alin World Heritage site remains a prospective direction for the future.

Text prepared by **RCN *Editors*** *with assistance from* ***Alexey Butorin****, of the Natural Heritage Protection Fund, and* ***Mikhail Kreindlin****, of Greenpeace-Russia.*

Uvs Nuur Basin

Inscribed on the World Heritage List: 2003
Criteria for inscription: Natural Criteria (ii), (iv)*
Total area: 1.069 million hectares
Protected areas comprising the site: 1. Ubsunurskaya Kotlovina Biosphere Zapovednik (Russia) (258,620 hectares); 2. Uvs Nuur State Nature Reserve (Mongolia) (810,233 hectares)
** For a description of these selection criteria, please see the journal's rear inside cover.*

Straddling the border of Mongolia and Russia, the Uvs Nuur Basin is one of the most uncommon locales in all of Central Asia. A unique complex of neighboring, closely interacting, and highly contrasting ecosystems – ranging from taiga to desert – is preserved in this region. Glaciers, snowfields, and mountain tundra in the alpine zone and sub-alpine meadows transition into the vast mountain taiga zone, which, in turn, alternates with forest-steppe, steppe, semi-arid desert, and even shifting sand dunes, creating, in, its beauty and diversity, a natural phenomenon. No where else on the Eurasian continent is it possible to see such diverse landscapes in such close proximity to one another.



Uvs Nuur Basin World Heritage site. *Map by M. Dubinin.*

The territory of the basin is located in an area where European-Siberian and Central Asian floral and faunal complexes interact with one another, which has determined its unusually high species diversity, compared to other temperate latitudes. High mountain and even tundra species – rock ptarmigan (*Lagopus mutus*), Altai snowcock (*Tetraogallus altaicus*), and snow leopard (*Uncia uncia*) – are encountered here. Taiga species include maral (*Cervus elaphus sibiricus*), lynx (*Felis lynx*), and wolverine (*Gulo gulo*). In steppe habitats, one finds Mongolian lark (*Melanocorypha mongolica*), Demoiselle crane (*Anthropoides virgo*), and long-tailed Siberian ground squirrel (*Citellus undulatus*), while houbara bustard (*Chlamydotis undulata*) and mid-day gerbil (*Meriones meridianus*) may be found in deserts. Three hundred and fifty-nine bird species have been identified here. Many relict species that have disappeared from other areas have found refuge in the sheltered conditions of the basin.

The northern edge of the great Gobi Desert begins in the Uvs Nuur Basin. *Photo by A. Butorin.*

The region is relatively sparsely populated, and the absence of industrial objects allows the basin to be preserved as a natural laboratory for studying biosphere processes. The types of human activities that have developed in the Basin (for example, nomadic livestock husbandry) organically blend into its landscapes and do not disturb natural processes.

The value of the site is not limited to its natural features. The cultural heritage objects – archeological monuments, many of which have not been studied to this day – located here are of great significance. Nowhere else in Central Asia are kurgans, or burial mounds, so densely concentrated; some estimates put the figure at 20,000, and the majority of them are older than the Egyptian pyramids. Thousands of cave drawings and stone sculptures – remnants of Middle Age settlements and Buddhist temples – shape this unique natural-cultural landscape.

Centuries-old traditions of Man's harmonious existence with nature are still carefully kept here. The ancient culture of steppe nomads is alive, while the famous Tuvan art of throat-singing is also preserved here.

Conservation Threats: Livestock pasturing; poaching; and possible future development of mineral resources deposits in the region.

Russia and Mongolia Collaborate to Preserve the Uvs Nuur Basin

Compiled using materials provided by the ***UNESCO Moscow Office***

Inscribed on the World Heritage List in 2003, Uvs Nuur Basin was Mongolia's first World Natural Heritage site and the first trans-boundary World Natural Heritage site for Russia. World Heritage Committee members immediately recognized the outstanding international significance of the basin, a natural phenomenon exceptional in both its beauty and landscape diversity, and inscribed the territory according to two selection criteria.

The Uvs Nuur Basin site boasts a great diversity of landscapes, from deserts to mountain taiga. *Photo by A. Butorin.*

Soon after the Uvs Nuur Basin's inscription on the list, the Mongolian National Commission for UNESCO initiated a project to elaborate a joint Mongolian-Russian site management plan for the new World Heritage site. The project aimed to facilitate the harmonious development of territories within the site and to improve trans-boundary collaboration. With support from the UNESCO World Heritage Centre, the Natural Heritage Protection Fund, a Russian non-governmental organization, implemented the Russian part of this international project during the summer and autumn of 2005.

Within the framework of the project, the Natural Heritage Protection Fund arranged two trips to Tuva for experts – Yuri Buivolov, Head of the Division for Specially Protected Nature Areas, within Russia's Federal Service for Oversight in the Sphere of Nature Use; Valery Chichagov, a professor at the Institute of Geography, within the Russian Academy of Science; and Alexey Butorin, Director of the Natural Heritage Protection Fund - to visit Kyzyl, the republic's capital. The participants also visited Ubsunurskaya Kotlovina Biosphere Zapovednik; seven of the zapovednik's nine cluster territories (those which are located within the basin) comprise the Russian portion of the trans-boundary World Heritage site.

During the trip, participants gathered information on the present state of conservation of the Russian part of the World Heritage site. They also conducted numerous meetings with local administrative and commercial structures, scientific organizations, and non-profit organizations, during which they proposed ways of developing and improving relations with the reserve. The trip's focal event was a republic-wide conference on the management of and prospects for developing the Russian part of the Uvs Nuur Basin World Heritage site. The conference took place in Kyzyl on September 8, 2005, with the support of the government of the Tuva Republic. At its close, conference participants prepared a resolution that reflected features, problems, and shortcomings in the management of the Russian part of the Uvs Nuur Basin World Heritage Site; the resolution also contained a list of priority activities for the period 2006-2011.

The resolution and other documents from the Russian part of the project were presented at the UNESCO Workshop for the Elaboration of a Joint Site Management Plan for the Uvs Nuur Basin Trans-boundary World Heritage Site, held in Ulangom, Mongolia, September 11-15, 2005. The international workshop participants adopted recommendations concerning the revision of existing management plans and the elaboration of a joint management plan for better conservation of the World Heritage site. Based on these recommendations and the results of the Russian and Mongolian parts of the project, an agreement was reached with UNESCO and IUCN concerning the necessity of continuing work to develop a management plan. The UNESCO expert assured conference participants that the project would be continued through 2006-2007, and promised future funding. A preliminary work plan for 2006-2007 was also established and the Russian and Mongolian specialists who will participate in the working group implementing activities under the plan were also determined.

Recommendations for Developing a Management Plan for the Uvs Nuur Basin World Heritage Site

Participants in the project to elaborate a joint Mongolian-Russian site management plan for the trans-boundary Uvs Nuur Basin World Heritage site compiled an extensive list of almost twenty recommendations for future implementation. A brief overview of some of these recommendations follows below.

Territorial Planning

- The possible creation of new territories and their subsequent inclusion in the World Heritage site should be reviewed.
- The boundaries of territories included in the World Heritage site as well as their buffer zones should be clarified.
- The possible introduction of functional zoning on individual management sites that are more problematic should be considered.

Improving Collaboration across Borders

- Collaboration among scientific groups and organizations should be improved.
- Information on the status of biodiversity and other natural components within the World Heritage site should be more widely available, including through the creation of GIS databases. Data preservation formats should be standardized.

Collaboration with UNDP/GEF Projects

- Particular attention should be devoted to collaboration with Russian and Mongolian UNDP/GEF projects to preserve biodiversity in the Altai-Sayan Region, above all those involving local communities in nature conservation activities and the development of plans to preserve individual rare and endangered animal species such as the snow leopard (*Panthera uncia*), Argali sheep (*Ovis ammon ammon*), and musk deer (*Moschus moschiferus*).

Species Conservation

- Human-made structures along some parts of the Russian-Mongolia border that prevent the free migration of rare species including the snow leopard and argali, should be removed.
- The preparation and implementation of projects to reintroduce wild animals, including rare species, should be coordinated and strictly controlled. The scientific foundation for possibly reintroducing the Mongolian gazelle (*Procapra gutturosa*) should be prepared and related issues should be coordinated.

Work with Local Communities and Regional Development

- Environmental education work with local communities should be improved and activities to involve local communities in nature conservation activities such as work to combat poaching should be developed.
- Particular attention should be devoted to using World Heritage status to improve local socio-economic conditions.

Expansion of the World Heritage Nomination

- Consideration of the World Heritage site's geological, historic, and cultural values should be incorporated into the joint research plan, with an eye toward possibly expanding the site under an additional selection criterion related to the representation of stages of the Earth's history.

Other Special Considerations

- Consideration should be given to issues of pasture use and the regulation of grazing pressure.
- The importance of studying the spread of avian flu and decreasing its threat to people on both sides of the border should be recognized.

A small herd of yak grazing with Tuva's highest mountain, Mongum-Taiga Mountain, in the background. *Photo by A. Butorin.*

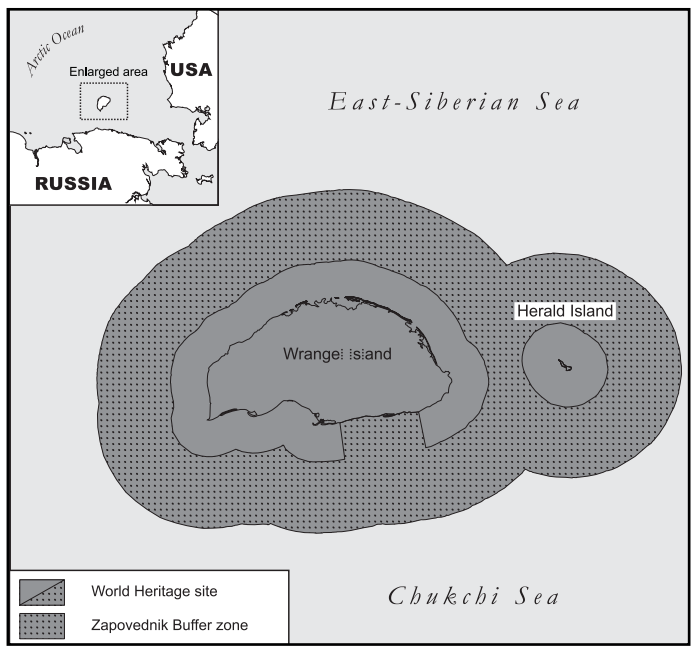
Natural System of Wrangel Island Reserve

Inscribed on the World Heritage List: 2004
Criteria for inscription: Natural Criteria (ii), (iv)*
Total area: 2.226 million hectares
Protected areas comprising the site: Wrangel Island Zapovednik (2.226 million hectares)
** For a description of these selection criteria, please see the journal's rear inside cover.*

Wrangel and Herald Islands boast the highest levels of floral and faunal species diversity in the Arctic. Typically Arctic and relatively southern Asian and American taxa have blended here. Vegetation communities include Pleistocene Epoch relicts that in certain places have landscape-forming significance; for that reason, the islands' landscapes are much closer to those of the Pleistocene Epoch than most others existing today.

Unique vegetation community types and endemic soil types are present on the island. Close to 40 endemic vascular plant, insect, bird, and mammal species inhabit the island. Some of these species are relicts and are among the least numerous species in the world. The islands and their surrounding marine zones provide key habitat for numerous rare and specially protected birds and animals. The largest bird colonies in the Chukchi Sea, which number up to 250,000-300,000 nesting birds, are situated on Wrangel Island. Prevalent among nesting birds species are: the thick-billed murre (*Uria lomvia*), black guillemot (*Cepphus grylle*) and black-legged kittiwake (*Rissa tridactyla*). Typical representatives of North Pacific marine avifauna, such as pelagic cormorant (*Phalacrocorax pelagicus*), horned puffin (*Fratercula corniculata*), tufted puffin (*Lunda cirrhata*) and common murre (*Uria aalge*) also nest there.

Wrangel Island is the location of the only large permanent snow goose (*Chen caerulescens*) colony in the Arctic. Wrangel and Herald Islands boast the highest density of ancestral polar bear (*Ursus maritimus*) dens in the world, with 300-600 female bears coming ashore to give birth each year. The reserve is also home to the world's largest population of Pacific walrus (*Odobenus rosmarus*).



Natural System of Wrangel Island Reserve World Heritage site. *Map by M. Dubinin.*

Wrangel Island is the site of numerous interesting and important paleontological finds. The skeletal remains of numerous Pleistocene and Holocene Epoch mammals including the wooly mammoth (*Mammuthus primigenius*), steppe wisant (*Bison priscus*), and wild horse (*Equus caballus*) are numerous, particularly in the island's plain regions. Remains of the wooly rhinoceros (*Coelodonta antiquitatis*) have also been found on the island, as have the remains of a previously unknown pygmy mammoth subspecies, (*Mammuthus primigenius wrangelensis*).

Conservation Threats:
Degradation of natural vegetation communities by increasing unregulated populations of introduced reindeer; and climate change.

Icy waters washing the shores of Wrangel Island. *Photo by A. Butorin.*

Overcoming a Difficult Period of Transition in the Russian High Arctic

By ***Nikita Ovsyanikov***

The first strict nature reserve in the Russian Arctic, Wrangel Island Zapovednik was established in 1976. The young zapovednik enjoyed its greatest period of development in the 1980s. During this decade, the reserve's headquarters were located on Wrangel Island, in the small village of Ushakovsky, which had a population of about 200 people, including a small number of indigenous Chukchi. Zapovednik staff lived fulltime on the island, leaving for the mainland on business trips or vacations only. The reserve's scientific staff wintered in the village and spent summers at field research stations out on the tundra in various parts of the island. Passenger flights to and from the island were carried out on a weekly basis and the zapovednik's basic supplies were delivered by boat during the summer and fall. The zapovednik was not the only institution or organization existing on the island at the time. A post office, store, local government office (the village council), and local branch of the state Border Service were also based in Ushakovsky. A polar meteorological station, which was affiliated with the state Hydro-Meteorological Service, was located on a spit adjacent to the village and a military base used to monitor airspace was located 20 kilometers to the north of Ushakovsky, on Cape Gavai.

Beginning in 1992, however, life on the island and work at the zapovednik began to change significantly, as the pains of Russia's post-Soviet socio-economic transition were felt particularly acutely in the Arctic regions. During the period 1992-1997, regular delivery of supplies to the village nearly ceased altogether, with the last sea-based fuel shipment to the island taking place in 1994. By 1996, regular passenger flights no longer serviced the island. By 1997, the village's service organizations stopped working entirely and both the village store and post office closed. Under these circumstances, life and work on the island became very difficult and by 1997, approximately two thirds of the village's residents, or over 130 people, had left the island.

The zapovednik was in a critical state. In 1995, regional authorities even proposed closing the reserve altogether. Yet, phasing down work on the zapovednik's territory and closing its island base would be tantamount to losing the island's infrastructure, including bases at Rogers and Somnitelnaya Bays and a network of field research stations. In order to prevent the complete cessation of work on the island and full evacuation, it was necessary, in 1997, to urgently reorganize the zapovednik and resettle from the island people who were not directly involved in the zapovednik's work or the work of the polar station. After a long and painful process, the zapovednik's office was transferred to Cape Schmidt in 1998. Work there had just barely begun when, due to budget cuts, regional authorities issued orders to transfer all federal institutions - including the zapovednik's office - from Cape Schmidt to the city of Pevek. This second relocation operation was begun in 2000, and finished in 2001.

Arctic poppies add color to the landscape on Wrangel Island. *Photo by N. Ovsyanikov.*

Despite these years of transition and relocation, the zapovednik continued its protection, monitoring, and research work on Wrangel Island, not stopping for a single season. The people working on the island during this period – scientists, inspectors, and technicians – were also able to repair some of the zapovednik's equipment; four field research stations; a base camp at Somnitelnaya Bay; and several structures in the village of Ushakovsky, which remains as the zapovednik's primary base during the winter period. They also repaired a guest home (for 11-12 people) and house for zapovednik staff (for 5-6 people) at Somnitelnaya Bay.

One can imagine what effort these accomplishments required, given the changes that had taken place on the island. Because of the difficult living and working conditions on the island, its increased isolation from the mainland, and the unpredictability of flights, many zapovednik staff had left the island, leaving the zapovednik's scientific and protection divisions understaffed compared to staffing levels in the 1980s. Those who remained began carrying out their research and monitoring activities on an expedition basis, meaning that staff members come to the island for a specific period of field work, and upon its completion, leave the island. Inspectors are stationed at the zapovednik on a rotational basis. Among the other organizations that previously existed in Ushakovsky, only the meteorological station, which has fallen into deep decline, and whose staff has been cut to 5-6 people, remains active. Without a support system in the village, field work on the island has become more challenging, as field researchers and rangers must, to a great extent, rely only on themselves. Financing expensive flights and updating the zapovednik's transportation remains a chief problem for the reserve. Because the island's landscapes are diverse and not easily traversed by ground transport, a helicopter is needed not just to transport people, but also to deliver supplies. Meeting the zapovednik's basic goals requires a least seven helicopter

flights (each 2.5 hours long) from the city of Pevek, on Chukotka's Arctic coast, to Wrangel Island, with the optimal number of trips to facilitate normal work being ten.

During 2000, the zapovednik's most difficult year financially, no federal funding was allocated for air deliveries. Nevertheless, the zapovednik's staff was able, even during the year 2000, to continue research and maintain the reserve's island base. This was made possible thanks to the implementation that year of additional projects such as those to film footage of the island, to receive groups of ecotourists, and to organize a geological expedition for the University of Washington. Also providing critical support – both of individual projects and the reserve's work as a whole – throughout the reserve's transitional period were the US Fish and Wildlife Service, the Canadian Wildlife Service, Pacific Flyway Study Committee, Polar Bears International, World Wildlife Fund, and International Fund for Animal Welfare. Most recently, two eco-tourism companies, Zegrahm & Eco-Expeditions and Poseidon Arctic Voyages, and the Murmansk Sea Steam Navigation Company, provided assistance by delivering supplies to the island by sea: construction materials, a small supply of fuel, and food supplies for winter and for field camps. However, it should be noted that the availability of such opportunities and occasional side projects is unpredictable and a reliable foundation for the reserve can not be based upon them alone.

In the future, the zapovednik – now the only Russian research base in the High Arctic carrying out long-term research of Arctic biota – hopes to modernize its base on the island and transform it into an Arctic research station equipped with modern technologies and facilities that would provide comfortable conditions for carrying out complex ecological research. Monitoring and studying the zapovednik's natural complexes is becoming even more important, considering the increasingly apparent and frequent signs that nature in the Arctic is reacting to global climate change. On Wrangel Island, for instance, researchers have observed clear changes in the status of the population and activity of polar bears, in the reproduction of Arctic terrestrial predators (arctic foxes, snowy owls, wolves and wolverines) and herbivorous animals (lemmings, ungulates, and geese) on the island, and in the island's populations of musk ox and reindeer and their impacts on vegetation. In 2000, wolves, occasional visitors to the reserve, appeared on Wrangel Island and the wolverine population increased, which should affect the entire fauna complex. In recent years, changes in individual parts of the island's coastline have also been observed; these changes are obviously related to changes in ice cover and storm activity of the Arctic Ocean. These are only the first likely signs of global climate change's affects on the island and its populations and in the future one may expect additional changes – to individual communities and the landscape as a whole.

But realizing plans to transform Wrangel Island Zapovednik into a well equipped, modern Arctic research station can be possible only within the framework of a comprehensive program to develop the zapovednik's infrastructure. The infrastructure that currently exists on the island, which has been preserved, and improved as much as possible thanks to the self-sacrificing work of the zapovednik's staff, was created using construction methods and technology dating back to the first half of the twentieth century. In no way does it correspond with the technologies that other countries use at their Arctic research stations. Nor can it support the implementation of all necessary research on the island, which is a truly unique living laboratory in which to study the effects of global climate change on nature. For the zapovednik, modernizing the island's scientific research stations is now a very high priority.

The reserve's acquisition of World Natural Heritage status in 2004 offers new stimulus and prospects for modernizing its base on the island. Upon adopting the decision to inscribe the reserve's natural system on the UNESCO World Heritage List, the World Heritage Committee recommended that the zapovednik prepare a management plan and strategy for its development. The committee suggested that the plan include strategies for: developing and managing tourism and visitation; implementing alternative energy sources; resolving transportation issues; implementing monitoring and research programs; preserving historic and paleontological objects; developing personnel policies for staff working on the island; and removing household wastes from the site of an old village at Somnitelnaya Bay. To achieve these goals, the Committee recommended that the reserve submit proposals to international funding organizations. Management plan development and funding identification are, of course, lengthy processes and the zapovednik is still in the early stages of this work. Nevertheless, the reserve's staff is hopeful that World Heritage status will enhance opportunities, as has been the case for other World Heritage properties in the past.

***Nikita Ovsyanikov**, one of the world's foremost polar bear researchers, is Deputy Director for Environmental Education at Wrangel Island Zapovednik.*

With the world's highest density of ancestral polar bear (*Ursus maritimus*) dens, Wrangel Island is a key habitat area for this species, recently listed as vulnerable on the 2006 IUCN Red List of Threatened Species. *Photo by N. Ovsyanikov.*

The Future

World Natural Heritage Sites in Russia: Future Prospects

*By **Alexey Blagovidov***

Russia's eight World Natural Heritage sites are by no means an exhaustive selection of the country's natural territories that are worthy of this international distinction. For this reason, one of the primary directions for future development is preparing new nominations and working to inscribe new sites on the List. Four are currently included on Russia's "Tentative List:" the Putorana Plateau, Magadansky Zapovednik, the Commander Islands, and the Daurian Steppes. There are still many other Russian territories in addition to these that satisfy criteria for inscription on the World Heritage List. Above all, these include: the Green Belt of Fennoscandia, the Bikin River Valley, Malaya Sosva Zapovednik, Pinezhsky Zapovednik, the Western Sayan, Tsentralno-Sibirsky Reserve, the Great Valdai Watershed, and the Tunguska Phenomenon, an area of swamps and bogs amidst the Central Siberian taiga. There are also several unique biogeographic regions within which it is necessary to select concrete objects, since the entire region can not be inscribed in the List. In the first place, these regions include the last northern-taiga fir massif untouched by logging in European Russia; the unique lake system of the Russian Northwest, which includes the interconnected lakes, Lake Ladoga, Lake Onega, and the Finnish Lake Saimaa; and the Western Siberian larch forests. The inscription of these objects on the World Heritage List would significantly increase the list's representativeness.

Map by M. Dubinin.

However, in order for these nominations to be submitted to the World Heritage Committee, good will is necessary from the Russian Government, as the designation depends on an initiative by the Ministry of Natural Resources. Such good will may be expected only in the case that its consequences will be obviously beneficial for the country and for the individuals involved. As far as the Russian natural sites inscribed on the World Heritage List are concerned, such benefits have not yet been demonstrated. In fact, at times, the designation seems to have the opposite effect, as it carries particular burdens and new responsibilities. In addition to the regular lengthy reports that government officials must submit to the World Heritage Committee about the status of the site, there is a constant need to react to situations when any – even insignificant – threat to the natural complexes arises. In accordance with the sites' high international status, officials are expected to report before the highest official channels on the reasons for the threat, its source, and the work underway to mitigate it. Numerous problems, a lack of financial resources, and the emotional – yet not always constructive – criticisms by environmental NGOs acutely concerned about the possible loss of the World Heritage sites, have created among experts in the Ministry of Natural Resources and among part of the national World Heritage Committee a negative perception of World Heritage sites as territories that bring more problems than benefits. At the same time, neither government officials, nor the personnel of those specially protected nature areas comprising the sites have yet learned how to effectively use to the World Heritage site image to receive additional benefits. Such perceptions could be changed if both the benefits of World Heritage site status and higher management standards were more clearly demonstrated.

For such sites to deliver more benefits for nature as well as people surrounding the protected area, an important task for the future is to create linkages between the preservation of natural landscapes and opportunities for positive income growth in local communities. At the same time, local communities should come to see the nature of their region as a unique, self-renewing resource, the sustainable use of which is based on principles of non-exhausting exploitation.

***Alexey Blagovidov** currently works as a Consultant for the World Conservation Union (IUCN) in Moscow.*

Spotlight on Russia's Tentative List

Note from the Editors: Active work is currently underway to expand the number of Russia's World Natural Heritage sites. As we've shared with readers elsewhere in this journal, a key step in the nomination process of new sites is their inclusion on "The Tentative List." *Russian Conservation News* is pleased to acquaint you with the four natural territories that are currently on Russia's Tentative List: Putorana Plateau, Commander Islands, Magadan Nature Reserve, and Daurian Steppes.

Putorana Plateau

Nomination status: Nomination submitted to the World Heritage Centre in 2005
Proposed criteria for inscription: Criteria (vii), (viii), (ix), (x)*
Total area proposed for inscription: 1,887,251 hectares
Protected area comprising the nomination: Putoransky Zapovednik (1,887,251 hectares)
** For a description of these selection criteria, please see the journal's rear inside cover.*

The Putorana Plateau boasts Russia's highest concentration of waterfalls; this waterfall on the Kureika River is the plateaus' most powerful. *Photo by A. Butorin.*

Situated in the northwestern part of the Central Siberian Plateau, the Putorana Plateau is Siberia's largest basalt highland, which has been virtually undisturbed by human activities. Vast canyons dissect the plateau's spectacular traprock ridges. The scale and number of waterfalls on the plateau are impressive; it is here that the highest concentration of waterfalls in Russia may be found. Numerous lakes having depths of up to 400 meters dot the plateau and the plateau's lake fjords are very picturesque. More than 1,300 plant species have been registered on the Putorana Plateau. The northeastern borders of the range of Siberian larch (*Larix sibirica*) and Siberian spruce (*Picea obovata*) pass along the plateau. The plateau is also the northernmost distribution limit in central Siberia for a number of species including Siberian flying squirrel (*Pteromys volans*), lynx (*Felis lynx*), sable (*Martes zibellina*), and black-billed capercaillie (*Tetrao parvirostris*). The migration route of Eurasia's largest population of wild reindeer (*Rangifer tarandus*), the Taimyr population, which numbers more than 600,000 individuals, passes through the plateau. An aboriginal form of big horn sheep, the Siberian snow sheep (*Ovis canadensis nivicola*), inhabits the region; this little-studied population was separated from the main range of the species about 15,000 years ago.

Commander Islands

Nomination status: Nomination prepared in 2003
Proposed criteria for inscription (subject to change): Criteria (vii), (viii), (ix), (x)*
Total area proposed for inscription: 3,648,679 hectares
Protected area comprising the nomination: Komandorsky Biosphere Zapovednik (3,648,679 hectares)
** For a description of these selection criteria, please see the journal's rear inside cover.*

Steller's Arch, a unique rock formation on the Bering Island coast. *Photo by E. Ponomariova.*

The Commander Islands form the westernmost extent the Aleutian Archipelago, which stretches between Asia and North America and supports biogeographic links between the two continents. Together with species having Asian origins, representatives of North American flora and fauna are also common here. Some of them, such as Canada goose (*Branta Canadensis*), bald eagle (*Haliaeetus leucocephalus*), glaucous-winged gull (*Larus glaucescens*), and red-legged kittiwake (*Rissa brevirostris*), are found no where else in Russia. Mountain tundra adds much to the unique beauty of the Commander Islands' natural complexes. The mountain tundra here has developed in the absence of permafrost and herbivores, which are factors that form tundra communities on the mainland. The islands' coastal zone and surrounding waters are renowned for their remarkable species diversity of rare marine mammals and sea birds; many of them, including the Stejneger harbour seal (*Phoca vitulina stejnegeri*), Steller sea lion (*Eumetopias jubatus*), humpbacked and right whales (*Megaptera novaeangliae, Eubalaena glacialis*), and short-tailed albatross (*Diomedea albatrus*), are listed in the Russian Red Data Book and on the IUCN Red List. The Commander Islands Shelf is one of the last shelf regions in Russia's Far Eastern commercial waters that has not been exposed to the massive effects of trawl fishing and has been preserved in its natural condition.

Magadan Nature Reserve

Nomination status: Nomination prepared in 2003
Proposed criteria for inscription (subject to change): Criteria (vii), (viii), (x)*
Total area proposed for inscription: 883,817 hectares
Protected area comprising the nomination: Magadansky Zapovednik (883,817 hectares)
** For a description of these selection criteria, please see the journal's rear inside cover.*


Magadan's Sea of Okhotsk. *Photo by A. Butorin.*

Magadansky Zapovednik, which is located near the western coast of the Sea of Okhotsk, is comprised of six units that represent the landscape diversity and natural complexes of Magadan Oblast. Model territories of northern Far Eastern taiga are preserved undisturbed here. The zapovednik provides habitat to 729 vascular plant species, as well as 32 fish species, 173 bird species, and 39 terrestrial mammal species. The largest seabird rookeries in the northern Pacific region are located in the reserve's coastal units. The zapovednik provides nesting habitat for birds on the IUCN Red Listed such as Steller's sea eagle (*Haliaeetus pelagicus*), osprey (*Pandion haliaetus*), peregrine falcon (*Falco peregrinus*), and the extremely rare Blakiston's fish owl (*Ketupa blakistoni*). The golden eagle (*Aquila chrysaetos*), white-tailed eagle (*Haliaeetus albicilla*), and Bewick's swan (*Cygnus bewickii*) may also be encountered in the reserve. A relict forest of Siberian spruce (*Picea obovata*) is situated in the reserve's Yamskoi unit, a full 1,000 kilometers away from the species' principal distribution areas in Yakutsk and Khabarovsk Krai. The northernmost reproductive rookery of Steller's sea lions (*Eumetopias jubatus*) in the Sea of Okhotsk is located on the largest of the reserve's Yamskiye Islands.

Daurian Steppes

Nomination status: Russian portion of this joint nomination with Mongolia and China has been prepared
Proposed criteria for inscription (subject to change): Criteria (ix), (x)*
Total area proposed for inscription (Russian portion): (44,752 hectares)
Protected area comprising the Russian portion of the nomination: Daursky Biosphere Zapovednik (44,752 hectares)
** For a description of these selection criteria, please see the journal's rear inside cover.*


Duarian steppe. *Photo provided by A. Troitsky.*

Located in southeastern Siberia, in southern Chita Oblast, Russia's Daursky Biosphere Zapovednik presents a number of well-preserved Central Asian steppe ecosystems. One of the world's largest flyways for waterfowl and near shore birds crosses the reserve's territory; thirty-seven of the species migrating along this route are listed in the Russian Red Data Book, while 20 are included on the IUCN Red List. The zapovednik has biosphere reserve status and its Torey Lakes are recognized as a Ramsar Wetland of International Importance. The nomination's territory provides habitat to 314 bird species and 47 mammal species including the dzeren, or Mongolian gazelle, (*Procapra gutturosa*), which is encountered nowhere else in Russia, and the rare Pallas' cat (*Felis manul*), and Daurian hedgehog (*Mesechinus dauuricus*). Flora includes 360 vascular plant species, of which three have been included in Russia's Red Data Book. The nomination also includes a belt of pine forest, which is a unique natural phenomenon in the steppes east of Lake Baikal.

Nomination descriptions prepared using materials provided by ***Greenpeace-Russia*** *and the* ***Natural Heritage Protection Fund.***