Central Sikhote-Alin

2025 Conservation Outlook Assessment

SITE INFORMATION

Country: Russian Federation
Inscribed in: 2001
Criteria: (x)

The Sikhote-Alin mountain range contains one the richest and most unusual temperate forests of the world. In this mixed zone between taiga and subtropics, southern species such as the tiger and Himalayan bear cohabit with northern species such as the brown bear and lynx. The site stretches from the peaks of Sikhote-Alin to the Sea of Japan and is important for the survival of many endangered species such as the Amur tiger. © UNESCO

SUMMARY

2025 Conservation Outlook

Finalised on 11 Oct 2025

GOOD WITH SOME CONCERNS

The overall integrity of the forest ecosystems of the Central Sikhote-Alin World Heritage site appears to be in a good state, however, some concerns still exist. The Amur Tiger population seem stable, however the site remains under threat from poaching, affecting not only the Amur Tiger population, but also other wildlife. Industrial logging in areas adjacent to the site creates preconditions of direct and indirect threats to property, such as increased fire risks, poaching and interruption of species migration. The extension of the Central Sikhote-Alin with the Bikin National Park in 2018 almost tripled this site by size. Local Indigenous people have the right to use natural resources in Bikin National Park for traditional economic activities such as hunting, fishing and collection of non-timber products. A Council of Indigenous Minorities is active within the management authority to ensure the legal rights and interests of local people, which is likely to lead to support for the Park. A change in management in Sikhote-Alin Nature Reserve and the implementation of an integrated management plan for the entire property has led to a far more effective regime being established along with an impressively long history of monitoring and conservation management has dramatically changed the conservation outlook of this site. External threats to the site including illegal activities, disease, climate change and fire still pose substantial threats and any changes in management and funding for the site could easily see a return to higher level on conservation concern given the fragile environment and number of endangered species present. Possible gold exploration and mining in the buffer zone of the Sikhote-Alinsky Reserve in the Columbe River basin poses a serious threat.

FULL ASSESSMENT

Description of values

Values

World Heritage values

Vast complex of pristine temperate forest of exceptionally high plant biodiversity **Criterion:(x)**

A vast complex of pristine temperate forest (mainly of the spruce-fir-larch and pine-broadleaf type) of exceptionally high plant biodiversity with both temperate and subtropical flora, which is distributed along pronounced altitudinal belts, as well as latitudinal and continental/maritime gradients. Dominant tree species of the various zones include Mongolian Oak (Quercus mongolica), Japanese Elm (Ulmus japonica), Manchurian Ash (Fraxinus mandschurensis), Japanes Poplar (Populus maximowiczii) in the lower regions, and Korea Pine (Pinus koraiensis), various broadleaved species, Manchurian Fir (Abies nephrolepsis), and Yeddo Spruce (Picea ajanensis) higher up. The highest mountain tops are covered by alpine tundra. There are almost 1,200 species of plants recorded from the property, including over 180 species of trees and woody shrubs, as well as Wild Ginseng (Panax ginseng). There are also 384 species of mushrooms, 214 of lichens and 100 of mosses. Many of the plant species are endemic. The nomination document also documents 31 species of vascular plants and 12 rare lichen species in the property that are listed in the national Red Data Book of the Russian Federation (UNEP-WCMC, 2011). The vegetation of the Bikin River basin belongs to two botanical-geographical regions: the South-Okhotsk dark coniferous forests and the East-Asian coniferous broadleaf forests. There is a well-developed altitudinal zoning of the vegetative cover within the property, with a mountain tundra belt, a forest belt of dwarf Siberian Pines, a forest belt of Erman’s Birch, a fir-spruce forest belt, a spruce-pine forest belt, and a pine-broadleaf forest belt (World Heritage Committee, 2018).

Diversity of animal species at the margins of their distribution ranges and their unusual assemblages **Criterion:(x)**

There are 65 mammal species, 241 bird species, 7 species of amphibians, 10 of reptiles and 51 of fish within the site, distributed among 15 small-scale biogeographic regions. Species near the northern margin (such as Amur Tiger and Long-tailed Goral) and near the southern margin (such as the Wolverine) of their distribution range intermingle in the area, further enhancing its biodiversity. Subtropical species such as tiger and Himalayan bear share the same habitat with species typical of northern taiga such as brown bear and and moose (Justification for Inscription, 2001). The Bikin River National Park has a very uncommon bird species composition and ecologic structure, with 241 bird species, belonging to 17 families, including 171 nesting species (World Heritage Commitee, 2018).

Endangered and endemic animal species **Criterion:(x)**

Globally threatened mammal fauna of the area include Amur tigers (Panthera tigris altaica, (EN)), Himalayan Black Bear (Ursus thibetanus, (VU)), and Long-tailed Goral (Naemorhaedus caudatus, (VU)). After a recent decline tiger populations are stable (see below) as are those of the Goral (Zaumyslova & Bondarchuk, 2017). Among the globally threatened birds, the Red-crowned Crane (Grus japonensis, (EN)), Hooded Crane (Grus monacha, (VU)), Oriental Stork (Ciconia boyciana, (EN)), Far Eastern Curlew (Numenius madagascariensis, (VU)), Chinese Merganser (Mergus squamatus, (EN)), and Blakiston’s Fish-owl (Ketupa blakistoni, (EN)) are present (IUCN 2012, UNEP-WCMC, 2011). Among the reptiles, there is the rare and endemic Amur Racer (Elaphe schrenki), two species of pit vipers, and one lizard species. Freshwater species have co-evolved undisturbed since the Miocene, with 51 species in 15 families, including the endemic Far Eastern Brook Lamprey (Lampetra reissneri). 28 inspect species occurring in the property are listed in the Red Data Book of the Russian Federation (UNEP-WCMC, 2011).

Assessment information

Threats

Current Threats

High Threat

The risk of forest fires remains high, although no incidents have been recently reported. In combination with potential impacts from climate change and logging activities in adjacent locations, the site remains under high threat, especially due to the potential devastating impacts on forests. Geological exploration in the protection (buffer) zone of the Sikhote-Alin Nature Reserve may lead to pollution of water systems and disturbance of large animals, in particular the Amur tiger. Although unregulated fishing was significantly limited with the establishment of the Bikin National Park, fishing tourism surveillance and regulations need to be properly implemented to prevent illegal fishing. This is also relevant for illegal poaching, particularly of Amur tigers and ungulates.

▶ Fire & Fire Management

High Threat

(Forest fires)

Inside site, widespread(15-50%)
Outside site

Fire is a natural part of the forest system in Russia; however, fire can lead to dramatic changes in the forest community, replacing old-growth forests with secondary forests of birch and larch (UNEP-WCMC, 2011). Catastrophic forest fires in the region surrounding the site typically occur every 30 years, and have multiple negative consequences for wildlife (Simonov and Dahmer, 2008). Studies in the Bikin River Basin have shown that despite a large number of forest fires during the last millennia, there have not been any principal changes in forest species composition. This can be explained by the relatively local spread of fires due to the complex relief, along with the presence of fire refugia. Historically, fires often occurred in periods following low precipitation; however, since the end of the 19th century, a remarkable increase of fire frequency has coincided with periods of forest logging (Bobrovsky, 2019; State Party of the Russian Federation, 2017). Currently, forest fires are closely associated with the proximity of roads and recent logging activity along with climate change (Vladimirova et al., 2016; State Party of Russian Federation, 2024). Increased forest fire frequency caused by human activities, as well as decreased precipitation due to climate change, pose a high threat to the forest ecosystem and many endangered species (Gromyko, 2010). Fire management is a priority at the Central Sikhote-Alin World Heritage site. To ensure fire safety in 2022−2023, a total of 302.5 km of trails, roads and mineral strips were cleared in the protected area. The boundaries of the reserve are patrolled daily to detect hot spots, especially in areas with the highest risk of fire. The reserve uses a satellite monitoring system for thermal anomalies, this increases the efficiency of fire-fighting measures and allows fire teams to arrive at the fire site as soon as possible after the fire starts. Regular patrolling and the use of modern technologies (space monitoring, the use of unmanned aerial vehicles) make it possible to timely detect fires in the territory adjacent to the reserve and promptly take measures to prevent the fire from spreading to the territory of the reserve. In 2022−2023, no fires were registered on the territory of the reserve and the valuable forest ecosystems of the reserve were not damaged (State Party of Russian Federation, 2024).

▶ Logging, Harvesting & Controlling Trees

Low Threat

(Industrial logging)

Outside site

Logging in components of the Central Sikhote-Alin World Heritage site is strictly prohibited. However, large scale industrial logging in the territories adjacent to Bikin National Park and Sikhote-Alin State Nature Reserve creates preconditions of direct and indirect threats to property such as increased risks of forest fires and interruption of species migration (especially for ungulates). The already dense network of roads constructed for timber harvesting is increasing every year, allowing access to remote areas and leading to greater risks of poaching for the wildlife trade (IUCN, 2018; State Party of the Russian Federation, 2020). According to the State party, the existing configuration and size of the buffer zone of the Sikhote-Alin Nature Reserve are sufficient to protect the territory of the site from threats that arise outside the boundaries of the reserve, including logging operations (State Party of Russian Federation, 2024).

► Changes in Physical & Chemical Regimes, Changes in Temperature Regimes, Changes in Precipitation & Hydrological Regime

High Threat
Inside site, widespread(15-50%)
Outside site

(Increased frequency of drought, increased frequency and power of of typhoon)

The integrated Management Plan of the property identified the climate change impacts as major threats to the property, especially Sikhote-Alin Nature Reserve and Golralii Zoological Sanctuary. The average annual temperature since 1980th increased from a rate of 0.17°C/10 years to 0.27°C/10 years on the different slopes of the Sikhote-Alin. The evidence of the climate change impacts is notable in increased drought frequency during the spring and summer periods, early disappearance of snow cover, especially in coastal areas, heavy precipitation, that sharply raises river water levels, more frequent winds more than ≥ 34 m/s, especially during the vegetation period. The climate change, warming in particular, makes species (birds, insects, plants) not typical of the reserve appear in its territory, leading to outbreaks of leaf-eating insects, gypsy moth and rosy gypsy moth in particular, the growth of fungal diseases of the trees, the unlimited growth of the quantity of the sika deer in the coastal part of the reserve, which results in competition with the other hoofed animals for the food and habitat. Drying of oak forests is a potential threat in the oak forest strip of the coastal area of the Nature Reserve. For the first time, the drying of Mongolian oak in the territory of the reserve was recorded in 1979. At that time, the area of the affected oak forests was 16 hectares. Currently, the known area of dead oak standings, resulting from the impact of the fungi Biscogniauxia maritima (Xylariaceae, Ascomycota) in the coastal zone of the reserve is 112.2 hectares. According to the result of monitoring, the growth rate of affected areas of the forest has been increasing recently. The consequences of climate change impact are accumulating dry mass of dead forest, which increases fire hazards within property (State Party of Russian Federation, 2020 and 2024).

► Oil & Gas exploration/development , Mining & Quarrying

High Threat
Outside site

(Subsoil exploration)

A subsoil site ‘Glukhoye’ is located in the protection zone of the Reserve which may have potential impacts on the plant and animal diversity within the site and the overall ecosystem integrity of the area. Vostok Invest LLC was issued a subsoil use license (2022-2027) by the Department for Subsoil Use of the Far Eastern Federal District for geological exploration, including prospecting and evaluation of mineral deposits (gold ore) at the subsoil plot ‘Glukhoye’ located in the Krasnoarmeysky Municipal District of Primorsky Krai (State Party of Russian Federation, 2024).
The project documentation for the geological survey provides for the following works: surface mining (bulldozer trenches), drilling of boreholes (up to 410 metres deep), and associated construction. Bulldozers will be used and the ditches will be 3.5 metres wide. After testing, the ditches will be backfilled. The project documentation indicates that drilling will be undertaken to obtain the necessary data to assess the extent of the gold mineralisation for open pit mining. During ditching and backfilling, the mass of soil will inevitably flow into watercourses and through them into the Kolumbe River, which is the main waterway of the Sikhote-Alin Reserve on the western slope of the Sikhote-Alin Ridge. Thus, these works will cause damage to the natural complexes of the Reserve. In addition, two of the three areas to be developed have not been previously affected by geological exploration. According to space images, these areas are completely covered with forest. Consequently, clear cutting of the forest will be required. This area is also an ecological corridor between two specially protected natural areas (Sikhote-Alin State Reserve and Udegeyskaya Legenda National Park), important habitats for the Amur tiger. Geological exploration works, associated logging, road construction, constant noise pollution, and permanent presence of people will lead to disruption of the functioning of this corridor and, consequently, disturbance of the Amur tiger habitat. Geological works were due to start in February 2025 (IUCN Consultation, 2025).

▶ Hunting, Collecting & Controlling Terrestrial Animals

High Threat

(Poaching)

Inside site, scattered(5-15%)
Outside site

Other targeted species names
Naemorhedus caudatus, Panthera tigris, Ursus thibetus, Ursus arctos, Sus scrofa, Cervus elaphus, Cervus nippon

Poaching, particularly of tigers and ungulates, both within and adjacent to the Sikhote-Alin Nature Reserve and Bikin National Park, remains a threat. Other regularly poached species of the region include the Himalayan Black Bear and salmon species. Local markets in the vicinity of the site offer wild-sourced animal products of use in traditional medicine, such as bear gall bladders, as well as bear and badger fat and velvet antlers of deer. There is also poaching directly for the Chinese market (Lypustin et al., 2010). Poaching and over-harvest of prey species, including wild boar, red deer and sika deer, also threaten tiger populations, however currently there is a total ban on boar hunting until September 2025 to replenish the populations (IUCN Consultation, 2020; State Party of Russian Federation, 2024). New anti-poaching regimes (patrols, intelligence networks etc.) are operating along with extensive educational activities and have shown a positive effect (State Party of Russian Federation, 2024).
Poaching on the Plastun-Terney road passing through the Sikhote-Alinsky Nature Reserve presents a serious problem - in December 2024, the extraction of 4 deer was reported there (IUCN Consultation, 2025).

Potential Threats

Low Threat

Logging including illegal logging remains a potential threat because of the strong economic interest, however, at present the management of the site is being effective in mitigating this threat. Potential increases in tourism presents another threat. The “Main strategic directions for the development of eco-tourism in the Sikhote-Alin Nature Reserve for 2024-2030” document presents the Sustainable Tourism Development Strategy for the Sikhote-Alin Nature Reserve and its surrounding area. The main task that the proposed Strategy must solve is to ensure sustainable development of tourism without harm to nature and, first of all, to the territory of the reserve.

▶ Logging, Harvesting & Controlling Trees

Low Threat

(Illegal logging in the region)

Inside site, localised(<5%)
Outside site

Logging led to a 50% reduction of the extent of Korean Pine forests in the Amur-Heilong region (north of the site) between 1937 and 1996 (Simonov and Dahmer, 2008). In the early 2000s, 1.5-1.9 million m3 of timber per year were being removed illegally from Primorskiy Region, where all component parts of the site are located. Illegal and unsustainable logging is driven by the high demand from China, which instituted a domestic logging ban in 1998 (WWF Forest Programme, 2007). Although currently there seems to be no logging inside the site, illegal logging appears to be expanding in areas surrounding the site (IUCN Consultation, 2020).

▶ Recreational Activities

Low Threat

(Unregulated tourism)

Inside site, scattered(5-15%)

In the integrated Management Plan for the property, (2019 - 2023), unregulated tourism was considered one of the threats to Bikin National Park and Goralii Zoological Sanctuary. More than 1200 anglers were documented for a single day in 2014 just on the Bikin River (State Party of Russian Federation, 2017). Increased accessibility to the property could potentially also lead to increased threats from illegal fishing (State Party of the Russian Federation, 2020). Currently, there are 17 tourist routes and 38 camping sites for visitors in the “Bikin” National Park”. The number of visitors of "Bikin" National Park from 2020 to 2021 amounted to about 1150-1250 people. To reduce the impact of tourism, the park administration conducted annual monitoring along the tourist routes (impact on the soil, vegetation cover, wildlife disturbance, etc.), and counted the recreational load on a particular area. The “Main strategic directions for the development of eco-tourism in the Sikhote-Alin Nature Reserve for 2024-2030” document presents the Sustainable Tourism Development Strategy for the Sikhote-Alin Nature Reserve and its surrounding area. The main task that the proposed Strategy must solve is to ensure sustainable

development of tourism without harm to nature and, first of all, to the territory of the reserve. There is lacking information on tourism activities in the Goralli Zoological Sanctuary.

Overall assessment of threats

High Threat

The site remains under threat from poaching, including of its most iconic species the Amur Tiger, as well as other large mammal and salmon species. As populations of some of these mammals are fairly small, any incident has a major impact. There is also a significant risk of forest fires and other climate-related changes like increased likelihood and intensity of typhoons. Industrial logging, including potential illegal logging, remains a threat because of the strong economic interest and impacts on species migration. Indirectly, through the network of forest roads, it might also increase the risk of poaching and illegal fishing. However, the effective conservation management of the site is currently ensuring threats do not exceedingly impact the site. Possible gold exploration and mining in the buffer zone of the Sikhote-Alinsky Reserve in the Columbe River basin poses a serious threat. Logging including illegal logging remains a potential threat because of the strong economic interest, however, at present the management of the site is being effective in mitigating this threat. Potential increases in tourism presents another threat. The “Main strategic directions for the development of eco-tourism in the Sikhote-Alin Nature Reserve for 2024-2030” document presents the Sustainable Tourism Development Strategy for the Sikhote-Alin Nature Reserve and its surrounding area. The main task that the proposed Strategy must solve is to ensure sustainable development of tourism without harm to nature and, first of all, to the territory of the reserve.

Protection and management

Assessing Protection and Management

▶ **Involvement of stakeholders and rightsholders, including indigenous peoples and local communities, in decision-making processes** — **Mostly Effective**

The governance structure of nature reserves in Russia provides few opportunities for stakeholder involvement; Sikhote-Alin Nature Reserve, however, has an active education programme (see below) and is making attempts to better involve the small local population in management. For instance, ecological tourism, although limited, is increasing. The new Sustainable Tourism Development Strategy for the Sikhote-Alin Nature Reserve and surrounding area proposes ways to develop cooperation between the reserve and the local community in the field of tourism development (State Party of Russian Federation, 2024). Also, local people now have strictly managed access to parts of the Reserve for fishing and summer bathing. There is some local involvement in management e.g. local provision of information about possible or already happened violations (e.g. poaching). Sikhote-Alin Nature Reserve is an important employer in the town. Staff are known and the HQ and staff well integrated into the local community – and thus feedback into management activities is common. In the Bikin National Park, 674,184 hectares (58.1%) of territory is explicitly designated for exclusive traditional natural resource use by Indigenous People, who are living in adjacent settlements. Therefore, direct involvement of local people in management and the decision-making process is crucial for Bikin National Park. Resource use and cultural rights are acknowledged in both the establishment of a decree and regulations of the National Park, as well as a Council for Indigenous Minorities, with 15 elected members. Co-management principles have been introduced where the chair of the Committee for Indigenous Minorities serves as one of several Deputy Directors of the National Park, responsible for traditional nature resource use in the territory of the National Park. The National Park is also a major local employer. Bikin National Park is the first national park in Russia that fully takes into account the interests of the indigenous minorities of the North, Siberia and the Far East of the Russian Federation (hereinafter referred to as IM) living here. One of the main tasks set for the national park is the preservation of traditional IM economic activities on the territory of the national park. Today this is the only such specially protected natural reservation

(State Party of Russian Federation, 2024). All problems and issues related to the traditional IM crafts: hunting, fishing, tourism or the social sphere of settlements located in close proximity to protected areas, are discussed at the Council of Indigenous Minorities, which was created and operates under the administration of the Bikin National Park, and then brought to the general meeting of hunters.

► Legal framework — Some Concern

While the legal framework for protecting individual protected areas, particularly strict nature reserves and National Parks at the Federal level, is strong, the Russian Federation lacks a framework law to define the unified management of World Heritage sites, which often consist of several protected areas of various designations. This is also the case for the Central Sikhote-Alin Natural Heritage Site, where an effective overall management framework for all component parts is lacking. Most of the conservation activities, research and data tend to focus on the activities at Sikhote-Alin Nature Reserve and Bikin National Park, which currently makes up the majority of the site. At the same time, the Goralij Zoological Preserve component, which is a regional Protected Area, is suffering from a lack of coherent management and is not even mentioned in the state of conservation report (State Party of Russian Federation, 2020, 2022, 2024).
The buffer zone of the Sikhote-Alinsky State Nature Biosphere Reserve was established by Decree of the Governor of Primorsky Krai No. 93 dated March 5, 1997.
According to the decree, mining is allowed in part of the territory, which allows the Ministry of Natural Resources and Environment to coordinate geological exploration in the protected area of the reserve (IUCN Consultation, 2025).

► Governance arrangements — Some Concern

Both Sikhote-Alin State Nature Reserve and Bikin National Park are federal-level Protected areas under the Russian Ministry of Natural Resources. At the same time, the Goralii biological (zoological) Sanctuary is a regional Protected area managed by the Directorate for the Protection of Wildlife and Protected Areas of Primorsky Krai. The Coordination Council, created in 2019, aims to improve the efficiency of the integrated management of all property components. The Coordination Council consists of representatives from both Sikote-Alin State Nature and Bikin National Park is operational (State Party of Russian Federation, 2024) but no representative from Goralii Zoological Sanctuary. The Committee repeatedly asked the State Party to ensure that representatives from all component parts are represented on the Council (World Heritage Committee, 2021 and 2023) .

► Integration into local, regional and national planning systems (including sea/landscape connectivity) — Mostly Effective

Sikhote-Alin Nature Reserve is surrounded on three sides by State Forest Lands (GosLesFund) that are legislatively mandated to be managed as forests, and hence, by definition, they provide suitable corridors and linkage to the newly extended property component Bikin National Park and further to the greater Sikhote-Alin Mountain Ecosystem. However, large-scale logging activities going on in the wider Sikhote-Alin range is an issue for connectivity (IUCN, 2018) and better planning and regulations are needed to ensure long-term protection of the site’s values. There is wide collaboration with stakeholders around the protected areas. The northern boundary of Bikin National Park coincides with the border between the Primorsky and Khabaravsky Krays regions. Therefore, coordination and cooperation across sub-national administrative levels is important, including in terms of buffer zones and broader connectivity considerations. It has also been recommended that consideration be given to strategies ensuring connectivity of Amur Tiger habitat at the landscape level, including adding further areas to the property (IUCN, 2018). The newly adopted Amur Tiger Conservation Strategy (State Party, 2024) might play an important role in ensuring connectivity between the components of the property at the landscape level.

► Boundaries — Some Concern

The boundaries appear generally adequate, although Gorali Zoological Sanctuary occupies a very narrow coastal strip and may be subject to strong edge effects. In 2018, the World Heritage Site was extended to include Bikin National Park, established in 2015. The boundary of the newly established Bikin National

Park is adequately determined and land tenure rights fully transferred to the National Park in September 2018 by a Government Decree of the Russian Federation (WWF Russia, 2019). The process of establishing a buffer zone of the Bikin National Park is now at the final stage (State Party of Russian Federation, 2024) but the adequacy drafted Buffer zone of the National Park in terms of size and functionality is still questionable due to lack of information (Natural Heritage Committee, 2023). The size and configuration of the buffer zone of Sikhote-Alin State Nature Reserve are sufficient to protect the territory from large-scale logging operations. Logging operations outside the buffer zone are carried out following forest regulations (the State Party of Russian Federation, 2024). However, within the buffer zone, an exploration license for gold was issued in August 2022 for five years (the State Party of the Russian Federation, 2024). This activity might raise specific concerns once exploitation starts.

► Overlapping international designations — Mostly Effective

The Sikhote-Alin State Nature Reserve is a biosphere reserve and in this part the heritage site overlaps with the biosphere reserve programme.

There is some evidence that scientific research from the Biosphere Reserve programme is being utilised in the management of the World Heritage site (State Party of Russian Federation, 2024).

► Implementation of World Heritage Committee decisions and recommendations — Mostly Effective

The extension of the Central Sikhote-Alin World Heritage site to include Bikin National Park in 2018 was based on recommendations of the World Heritage Committee (2001). In the the decision of the inscription, the Committee strongly recommended the State Party a) to complete the process of configuration and designation of the property's buffer zone and b) finalize the preparation of the Integrated Management Plan for the extension, to provide a single and cohesive framework for the management of Bikin National Park and the existing World Heritage property Central Sikhote-Alin as a whole (World Heritage Committee, 2018). The process of configuring a buffer zone for Bikin National Park is in the final stages, along with proposals for the expansion of the boundaries of Sikhote-Alin Nature Reserve and an integrated management plan for all component parts has been developed, although this will need to be updated as the current plan period was 2019-2023. To further improve management of the property, a Coordinating Council was created in 2019. The Committee further encouraged the State Party to i) strengthen the involvement of local indigenous people in governance, planning and management; and, ii) develop and adopt a long-term vision in order to ensure connectivity of Amur Tiger habitat at the landscape level, as well as considering extending the property in the future (World Heritage Committee, 2018; 2023). While the former has been addressed, as stated above, regarding the latter, in 2024, the Russian Ministry of Natural Resources approved a new edition of the Amur Tiger Conservation Strategy in the Russian Federation until 2034, which responds to modern challenges and threats to the population of the rare predator (State Party of the Russian Federation, 2024). The strategy can play an important role in the development of ensuring connectivity between two components of the property, namely Sikhote-Alin state Nature Reserve and Bikin National Park. Additionally a new Amur Tiger Center was created whose task is to coordinate the actions of numerous government bodies, research and other structures related to the protection and use of wildlife, public organizations and associations, for the conservation of the Amur tiger (State Party of Russian Federation, 2024).

► Climate action — Data Deficient

As data analysis conducted by scientists from the reserve’s scientific department has shown, there is a direct relationship between the number of fires that occurred due to natural causes and climate change, which has been observed over the past 30 years (analysis of data from weather stations in Terney and Melnichny). The frequency and severity of tropical megastorms have increased significantly over the past 50 years and may increase further in the future due to global climate change.
The frequency of tropical cyclones in temperate and boreal monsoon forests has increased over the past 100 years. The main negative impact of the typhoon is associated with its consequences in the form of floods and windfalls. The most catastrophic impact on the forest ecosystems of the reserve was caused by Typhoon Lionrock, which passed through the territory on August 31, 2016 and caused extensive wind

phenomena, the area of which in the reserve was about 30 thousand hectares. One of the main consequences of these windfalls is a significant increase in the highest level of fire hazard class in the forest (State Party of the Russian Federation, 2024). Considering these developments, an effective climate adaptation and mitigation approach is necessary at the site level, however there is no information regarding how the management authorities are addressing climate change currently, although research and monitoring activities are being carried out.

► Management plan and overall management system — Mostly Effective

The majority of the site's land areas are in the Sikhote-Alin Nature Reserve, established 1935 and Bikin National Park, established in 2015. Sikhote-Alin Nature Reserve has a range of five-year and annual plans, which direct management (and make up the ‘management system’ for the site). These include plans on forestry and science. Annual operational plans linked to budgets include protection and infrastructure. Three-year ‘rolling’ budget plans are approved by the ministry. There is discussion on the need to develop a plan for ecotourism, as well as an integrated management plan for all the components of the site (State Party of the Russian Federation, 2020). Bikin National Park is federally owned, but it is exceptional among Russian National Parks in terms of resource use. On 674,184 hectares (58.1%) of the National Park territory (State party of Russian Federation, 2017), local Indigenous People are permitted to use natural resources for traditional economic activities e.g. hunting, fishing and collecting non-timber products, in line with the Federal decree establishing the Bikin National Park. Accordingly, the regulations of the Bikin National Park legal management framework were approved by the Ministry of Natural resources and Environment in 2016. In January 2017 a management authority of the National Park was established, where a Council of Indigenous Minorities is active to ensure legal rights and to represent interests of the local people. Since the establishment of the Park administration, it has paid special attention to infrastructure development (e.g. establishing check points, increasing mobility, border signs, visitor center etc.), capacity building and communication outreach (State party of Russian Federation, 2020). The Integrated Management Plan for the World Heritage Property "Central Sikhote-Alin" was developed in 2019 and signed off by the Deputy Minister of Natural Resources and Environment of the Russian Federation from 2019 through 2023. The implementation status is unknown due to an information deficit. The implementation of the management plan needs to be evaluated and updated.

► Law enforcement — Highly Effective

Sikhote-Alin Nature Reserve has a three year ‘rolling’ plan, which includes a protection strategy. There are also plans for patrolling, infrastructure, firefighting, etc. A database is maintained on wildlife offences / crime, which is also used to analyze threats. The Protection Units carry out joint patrolling with the Police, Hunting Supervision (adjoining hunting concessions) and Frontier Guards and with a forestry team in logging areas. Threat levels appear to be low; in 2014 six illegal hunts were recorded (of ungulates) and 64 trespasses into the reserve area. This led to fines of 275,000 roubles in total. However, while the reason for a slow recovery of the tiger population after a crash in 2010 is unknown, one possibility is that persistent poaching is preventing growth of the population. Despite the lack of road infrastructure, the National Park is accessible by boat in summer time and by snowmobile in wintertime and potential threats come from neighbouring settlements. In 2019, the Park administration therefore established three checkpoints in the territory and further five checkpoints are being planned (State Party of Russian Federation, 2020). Poaching levels seem to be low inside the Park, but poaching is difficult to address in the headwater areas of the Bikin River due to its remoteness. However, many key areas of the reserve are now equipped with CCTV cameras. With the support of the Wild Animal Conservation Society ANO, the SMART program launched in 2012 continues to operate in the Sikhote-Alin Nature Reserve to increase the effectiveness of anti-poaching activities by monitoring of raids (duration, territory coverage) using the SMART program and adaptive management of raids based on the results of this monitoring. The increasing number of ungulates seems to show success of this approach (State Party of Russian Federation, 2024). Since 2014, there have been 2 operational groups in the reserve, which are equipped with vehicles and all the necessary equipment for self-sustained operation for a long time. As of December 31, 2023, 6 government inspectors worked in these groups. During the period of permitted navigation of small vessels, employees of the protection department regularly patrol the marine area of

the reserve in order to identify and suppress violations of the reserve regime. Sea raids are carried out jointly with employees of the Ministry of Internal Affairs (MIA) and the Border Service of the Federal Security Service, the FSS Border Directorate. In Bikin NP the material and technical support for the activities of government inspectors has been significantly improved. Every year the number of raids to patrol the territory increases. As of December 31, 2023, there are five cordons operating on the territory of the national park (Ulma, Omorochka, Takhalo checkpoint, Khomyakovo checkpoint, Valinku scientific station), their arrangement is underway and it is planned to build two more cordons on the territory (State Party of Russian Federation, 2024).

► Sustainable finance — Mostly Effective

Sikhote-Alin Nature Reserve has been able to increase its budget (thanks to effective management and involvement in high profile international processes such as CA|TS). No information about the funding of the Goraliy Zakaznik is available. The recent establishment of the Bikin National Park was accompanied by an encouraging investment permitting the rapid establishment of critical infrastructure. Over the years, the National Park has benefited from several NGO and bilateral projects (WWF, 2019).

► Staff capacity, training and development — Mostly Effective

No information on Goraliy Zoological Preserve is available. However, staffing numbers and training are adequate in Sikhote-Alin Nature Reserve and Bikin National Park and gaps in capacity and training are being effectively mitigated. As of December 31, 2023, the number of employees of the Bikin National Park was 86 people. In Sikhote-Alin, the number of employees as of December 2023 is 58 people (State Party of Russian Federation, 2024).

► Education and interpretation programmes — Highly Effective

Both Bikin National Park and Sikhote-Alin Nature Reserve prioritise environmental education and interpretation programmes.

Employees of the Sikhote-Alin Nature Reserve scientific department work closely with school forestries of the region: “Taiga Brotherhood of Dym Dymych” (Terney village) and “Potapych” (Plastun village), preparing children for meetings, competitions, teaching the basics of forestry and geoinformation programs “QGIS” for creation, visualization and analysis of geospatial information. The cooperation between the reserve’s scientists and young nature researchers from the Uragus ecological and local history club has been going on for 53 years. The reserve's research staff conduct thematic lectures, practical classes, excursions into the wild for children, organize field research, educational field camps, expeditions, and have become scientific consultants and managers of research works and socially significant projects carried out by schoolchildren. An educational program for children on “Safe Conduct” aims to improve understanding of how to co-exist with tigers (Mukhacheva et al., 2015). The Bikin National Park has an active education programme targeting hunters, children and local residents through regular events such as the "Va: kchay ni" in March, dedicated to the closure of the hunting season; the "Bikin Day" in August, dedicated to the International Day of Indigenous People of the World; and the "Va: kchay ni" in October, dedicated to the opening of the hunting season and celebrating the establishment of the Bikin National Park. The children's club "Friends of Bikin National Park" is very active in engaging children through different activities (State Party of Russian Federation, 2020). Nature guides (employees of the ecological education department) lead environmental tours within the Reserve and provide educational information and booklets for visitors. The Sikhote-Alin Nature Reserve widely covers its environmental activities on its official website and social networks. In 2022, the reserve began publishing its own printed edition, “The Law of the Trail,” with a frequency of 4 issues per year, with a total circulation of 1,200 copies. Overall, in 2022−2023 alone, the reserve released various information products in an amount of more than 15,000 copies (State Party of Russian Federation, 2024). Other important aspects include the reserve's visitor centre with the exhibition of the Museum of Nature, photo and art exhibitions. Through travelling photo exhibitions on the basis of local history museums and other venues, more than 102 thousand people in 2022−2023 alone, could be sensitised for nature conservation in the Primorsky Territory (State Party of Russian Federation, 2024).

► Tourism and visitation management — Highly Effective

In February 2018, the Government of Russia approved a Complex programme for tourism development in Bikin National Park (WWF Russia, 2017) and the tourism strategy "Main strategic directions for the development of eco-tourism in the Sikhota-Alin Nature Reserve for 2024-2030" has been developed (State Party of the Russian Federation, 2024) forming the framework for ecotourism development.
The reserve actively cooperates with 10 travel companies to receive tourist groups. Based on the results of systematic work to provide high-quality tourism products, the Sikhote-Alin Nature Reserve has been highly praised and over the past few years has been the winner of the regional award “In 2022, the Sikhote-Alin Nature Reserve, together with the Tourist Information Center of the Primorsky Territory ANO, held a strategic session with the participation of tour operators of the region, local residents and administration, during which the strengths and weaknesses of the region in the tourism market were identified. In 2023, a comprehensive sociological study among visitors was conducted on the territory of the Sikhote-Alin Nature Reserve, collecting feedback from guests about the quality of the reserve’s tourism products and evaluating the environmental effect of eco-tourism. This is the first study of the kind in the Russian nature reserve system. Today, the reserve has 7 approved walking ecological routes ranging from 4.1 to 95 km (by car) and 1 water route. In 2022, a new tourist route “Trail of Tigers” was improved and opened, the task of which is not only to introduce tourists to the cedar-broad-leaved taiga zone but also to relieve the tourist flow from the coastal tourist cluster of the reserve (State Party of Russian Federation, 2024). Tourist numbers have fluctuated between about 2700 and 4000 visitors per year (State Party of the Russian Federation, 2020). In The administration of the Bikin National Park, together with the Council of Indigenous Minorities, is working to create an integrated network of tourist routes passing through the territory of the Bikin National Park and stopping places for visitors, which are located in areas of the IM traditional way of life. Also, in order to improve the professional competence of IM guides and residents of nearby villages, training sessions are held (State Party of Russian Federation, 2024). Currently, there are 17 tourist routes and 38 stopping areas for visitors on the territory of the Bikin National Park. The number of visitors to this World Heritage Site cluster during 2023 was 1,750.

► Sustainable use — Mostly Effective

No natural resource use is typically allowed in Strict Nature Reserves of the Russian Federation (such as the Sikhote-Alin Nature Reserve), and it appears that no natural resource use is allowed in Goralij Zoological Preserve (Bersenyev et al., 2006). However, Bikin National Park is especially designed to allow traditional natural resource use such as hunting and fishing in the Traditional Use Zone (674,184 hectare) by Indigenous People, who are living in adjacent settlements. The National Park has also a Recreational Zone (109,625 hectare) located along the Bikin River and parts of some of its main tributaries, where recreational activities including fishing tourism is allowed. Fishing tourism is controlled through an entrance point to the National Park. Indigenous resource use is granted in defined areas to individuals. It requires no permits and there are not quota system.

► Monitoring — Mostly Effective

Sikhote-Alin State Reserve has monitoring records going back 80 years, all of which are available in the HQ office, and monitoring protocols are in place. Monitoring of tigers (through both track counts and camera trap monitoring) and ungulate population status is included in the long-term research plan. Habitats are mapped (in the 1980s a detailed map and report of all forests were made with details of species, age, etc.). Permanent monitoring of key habitats is carried out. The monitoring is carried out through permanent sample plots and ecological transects in different natural zones. There are 45 sample plots in primary and 22 in secondary ecosystems and six ecological transects exist. Water sources are mapped. Hydro-biological monitoring of water sources both in the core area and buffer zone is part of the Research program. SMART monitoring of law enforcement activities has existed since 2011 (CA|TS, 2015). Currently, the following monitoring activities are carried out annually inside of Bikin National Park: meteorological observation; monitoring of the main animal and bird species; and monitoring of the Tiger population through camera traps (State Party of Russian Federation, 2020).To monitor the degree of threats to the ecosystems of the reserve, employees of the scientific department of the reserve and specialists of the Russian Academy of Sciences conduct monitoring, on the territory of the reserve and the adjacent territory, for assessment of the state of forest ecosystems and the number of common animal species, including the Amur tiger (State Party of Russian Federation, 2024). Monitoring is highly

effective but it is questionable how the findings are used for property management and linked to the state of conservation of OUV.

► Research — Mostly Effective

Sikhote-Alin Nature Reserve has been a center of scientific research activities for many decades, with several monographs and ca. 500 scientific articles published. Scientific work in the reserve is carried out in accordance with the Scientific Research Plan, which is approved annually at a meeting of the Scientific and Technical Council. Scientific research in the reserve is carried out both by staff members and third-party specialists on the basis of agreements on scientific and technical cooperation. The staff of the scientific department is 9 employees, 5 of whom have higher education and conduct independent scientific research (State Party of Russian Federation, 2024). International scientific cooperation exists, especially with the Wildlife Conservation Society (Bersenyev et al., 2006). Since establishing the Bikin National Park, the administration has been undertaking inventories of the Park's fauna and flora and studies of predatory vertebrates in the reference ecosystems of the Bikin River Basin (State Party of the Russian Federation, 2020).

► Effectiveness of management system and governance in addressing threats outside the site — Mostly Effective

An effective management system is ensuring threat levels are kept low. However, potential impacts from threats linked to illegal activities, disease (e.g. canine distemper, WCS, 2014) and climate change remain possible. Large-scale logging activities in the wider Sikhote-Alin range, and especially around the Sikhote-Alin Nature Reserve, are affecting the ungulate population, it increases the risk of forest fires and poaching for the wildlife trade and is also an issue for connectivity. Better development planning at the regional level, dialogue with the logging industry, and regulations are needed to ensure long-term protection of the site’s values.

► Effectiveness of management system and governance in addressing threats inside the site — Mostly Effective

Forest fires pose the most significant threat to the property, particularly within the Sikhote-Alin Nature Reserve. Each year, the reserve's administration developed a fire prevention and suppression plans tailored to fire hazard conditions, which are then approved by the Russian Ministry of Natural Resources. During 2022-2023, 320.5 km of trails, roads, and mineral firebreaks were cleared to mitigate the risk of fires. Early fire detection is ensured through regular patrols, satellite monitoring, and the use of unmanned aerial vehicles (State Party of the Russian Federation, 2024). In recent years the coordination of the overall property and the effectiveness of law enforcement, education and visitation has been significantly improved.

Overall assessment of protection and management — Mostly Effective

The protection and management of Sikhote-Alin Nature Reserve underwent a major change in 2013 leading to stronger, more dynamic, adaptive and scientific management. The population of tigers has been secured and is increasing again and the reserve is acting as an exemplar of good management in the region and beyond. Bikin National Park was established in 2015 and was inscribed as an extension to the Central Sikhote-Alin World Heritage site in 2018. The Park administration has made great progress and the participatory approach, including a Council for Indigenous Minorities representing indigenous peoples interests in the administration, is likely to lead to local support for Bikin National Park. All individual components have an adequate management system and legal framework for protection and an overarching integrated management plan supports overall coordination. However, this now needs updating. Another positive development is the tourism strategy "Main strategic directions for the development of eco-tourism in the Sikhota-Alin Nature Reserve for 2024-2030" which proposes solutions to ensure sustainable development of tourism without harm to nature and, first of all, to the territory of the reserve. In need of improvement is the integration and reporting of the Goralij Zoological Preserve component, which is a regional Protected Area, and is suffering from a lack of coherent management and is not mentioned in the state of conservation reports.

State and trend of values

Assessing the current state and trend of values

World Heritage values

▶ **Vast complex of pristine temperate forest of exceptionally high plant biodiversity**

Low Concern
Trend:Deteriorating

The overall status of the ecosystems of Sikhote-Alin State Nature Reserve and Bikin National Park was characterized as exceptionally good in 2006, primarily because of its remoteness (Bersenyev et al., 2006). Monitoring systems are in place and no major change has been detected. Although climate change, forest fires and logging pose some threat to this value, and the destruction caused by high winds of the typhoon LionRock in 2016 greatly increased the risk of catastrophic fires. Oak forest decline is a potential threat in the coastal oak forest belt of the reserve. For the first time, the drying out of Mongolian oak on the territory of the reserve was recorded in 1979. At that time, the area of affected oak forests was 16 hectares. Currently, the known area of dead oak plantations in the coastal zone of the reserve is 100 hectares (State Party of Russian Federation, 2024).

▶ **Diversity of animal species at the margins of their distribution ranges and their unusual assemblages**

Low Concern
Trend:Stable

Poaching has reportedly affected key wildlife populations inside the property, including that of Amur Tiger. Incidences in the Sikhote-Alin Nature Reserve are less common than in the surrounding forests. However, because both tigers and prey range outside the boundaries of the Reserve, poaching can impact the Reserve even when it occurs outside of its boundaries (IUCN Consultation, 2020). Nevertheless, current poaching levels are perceived as low inside the component parts in large part due to improved law enforcement and surveillance (State Party of Russian Federation, 2024). Potential for poaching is still high due to the dense network of logging roads through the territories adjacent to both component parts.

▶ **Endangered and endemic animal species**

Low Concern
Trend:Improving

Research has shown that the population size of the site's Amur tigers is stable: Russian scientists counted 750 Amur tigers along with their cubs (State Party of Russian Federation, 2024). The tiger has adjusted its food supply and began to hunt other species of ungulates, the number of which has been steadily increasing over the past 10 years. For effective implementation of the Amur Tiger Conservation Strategy in the Russian Federation, in 2013 the Amur Tiger Center was created whose task is to coordinate the actions of numerous government bodies, research and other structures related to the protection and use of wildlife, public organizations and associations, for the conservation of the Amur tiger. The outlook for this species can therefore be considered improving. Indicators of effective work to preserve a unique natural site are an increase in the number of ungulates and species listed in the Red Book of the Russian Federation (Amur tiger, Amur goral), as well as the stable state of all ecosystems of the Reserve, which is reflected by data from constant scientific monitoring (State Party of Russian Federation, 2024).

Summary of the Values

▶ **Assessment of the current state and trend of World Heritage values**

Low Concern
Trend: Stable

The Amur Tiger population is currently stable with Russian scientists recently recording 750 Amur tigers along with their cubs. Poaching has reportedly affected key wildlife populations inside the property, including the Amur Tiger, however currently this threat is effectively being managed

through law enforcement and surveillance efforts. Potential for poaching and illegal wildlife trade is still high through the road network created for industrial logging activities in adjacent territories of the site. The overall integrity of the forest ecosystems of the site appears to be in a good state, however, climate change, forest fires and logging pose some threats.

Additional information

Benefits

Understanding Benefits

► **Wilderness and iconic features,**
Sacred natural sites or landscapes,
Sacred or symbolic plants or animals,
Cultural identity and sense of belonging

The forests inside and around the site are one of the most unusual and bio-diverse wildernesses in Eurasia, with considerable wilderness values and iconic importance. The forest and many places, features and species within Bikin National Park are of intangible cultural and spiritual value for Indigenous People of the region. Tigers and bears are major spiritual symbols.

Factors negatively affecting provision of this benefit :
- Climate change Impact level - High
- Pollution Impact level - Low
- Overexploitation Impact level - Low
- Invasive species Impact level - Low
- Habitat change Impact level - Low

► **Outdoor recreation and tourism,**
Natural beauty and scenery

Nature based tourism is practiced at a very moderate intensity on the property (UNEP-WCMC, 2011). If developed in a responsible way, the site may offer a unique opportunity to experience an undisturbed wilderness and biodiversity. This might also contribute significantly to income generation for its component protected areas and the socio-economic development of the region. The forest offer locally wild-collected medicinal and traditional medicinal plants for local Indigenous People.

Factors negatively affecting provision of this benefit :
- Climate change Impact level - High
- Pollution Impact level - Low
- Overexploitation Impact level - Moderate
- Invasive species Impact level - Low
- Habitat change Impact level - Low

► **Legal subsistence hunting of wild game,**
Collection of wild plants and mushrooms,
Fishing areas and conservation of fish stocks

The intact and productive forest in the Bikin National Park is teeming with fish and wildlife, and is rich in countless other non-timber products which underpins the local livelihood system for Indigenous People living in adjacent settlements.

Factors negatively affecting provision of this benefit :
- Climate change Impact level - Low, Trend - Continuing
- Overexploitation Impact level - Moderate, Trend - Continuing
- Habitat change Impact level - Low, Trend - Continuing

Summary of benefits

The property provides a wide range of conservation benefits, as well as resources, which underpins the local livelihood system for Indigenous People. At the same time, it appears that some potential benefits such as those associated with tourism and sustainable biodiversity resources management are currently underused, and could be turned into an income and livelihood supporting instrument for the protected areas constituting the property, as well as the people living around it. This could also be used to incentivize local inhabitants to support the sustainable management of the Outstanding Universal Value of the property.

Projects

Compilation of active conservation projects

№	Organization	Brief description of Active Projects	Website
1	Different organizations involved tiger conservation	The Russian Geographical Society established the Amur Tiger Center in 2013 at the initiative of Vladimir Putin, the Russian Federation President. The non-budgetary organization aims to coordinate and support numerous organizations involved in the Amur tiger preservation and implements several projects	https://amur-tiger.ru/en?filter=all
2	Conservation Assured|Tiger Standards	The Sikhote-Alin Nature Reserve was the second site globally to be awarded CA|TS Approved status after undergoing a rigorous peer reviewed assessment of its tiger conservation and management.	https://conservationassured.org/
3	The Severtsov Institute of Ecology and Evolution at Russian Academy of Science (IEE RAS)	The Amur Tiger Programme aims to develop a scientific platform for the conservation of the Amur Tiger living in Russia. The objective of the programme is to study the distribution range of Amur Tiger population, the number and migration routes, and way to use landscape.	http://programmes.putin.kremlin.ru/en/tiger/program

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