IUCN Conservation Outlook Assessment 2017 **(archived)**
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Please note: this is an archived Conservation Outlook Assessment for Central Sikhote-Alin. To access the most up-to-date Conservation Outlook Assessment for this site, please visit https://www.worldheritageoutlook.iucn.org.

Central Sikhote-Alin

SITE INFORMATION

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

Site description:

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

2017 Conservation Outlook

Good with some concerns

A change in management in Sikhote-Alin Nature Reserve leading 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 including illegal activity, disease, climate change and fire still pose substantial threats and clearly 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.

Current state and trend of VALUES

Low Concern
Trend: Stable

Although there was a rapid “collapse” of the Amur Tiger population, due to multiple sources of mortality, and very poor recruitment of young for a few years the population is now rising and populations seem stable and are clearly able to recover after collapse. By 2015, tigers were increasing again to a population of between 13 (2015 track counts analysis) to 20 individuals (2015 track counts plus camera traps analysis).

The overall integrity of the forest ecosystems of the site appears to be in a good state.

Overall THREATS

Low Threat

The site remains under threat from poaching, including of its most iconic species the Amur Tiger, as well as other large mammal 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. Logging including illegal logging remains a potential threat because of the strong economic interest. However, the effective conservation management of the site is currently insuring threats do not greatly impact the site.

Overall PROTECTION and MANAGEMENT

Mostly Effective

The protection and management of Sikhote-Alin Nature Reserve underwent a major change in 2013 (including a new manager) 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.

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).

► 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 (such as Amur Tiger) and near the southern margin (such as the Wolverine Gulo gulo) 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 Alces Alces (Justification for Inscription, 2001).

▶ **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 coevolved 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 siteremains under threat from poaching, including of its most iconic species the Amur Tiger, as well as other large mammal 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 fire. Although these threats remain high, management is being effective in mitigating these threats at present.

► Temperature extremes

Data Deficient
Inside site, throughout(>50%)
Outside site

Climate change has lead to an 0.6-1.7 degree increase in mean annual air temperatures, higher temperature and precipitation variability, decreased precipitation, seasonal shifts in precipitation, and increased frequency of extreme events including floods, droughts and autumn dust storms in the region. This has led to decreased precipitation and increased fire frequency in Sikhote-Alin Nature Reserve. Large mammal populations have reportedly benefited from an overall milder climate in the reserve (Kokorin, 2006). However, it is impossible to draw a conclusion about the overall effect of climate change on the site and its trend.

► Fire/ Fire Suppression

High Threat
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 forest with secondary forest 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 & Dahmer, 2008). Fire management is a priority at the site. There were 70 fires from 1977 to 2013, affecting more than 23,000 ha (Pimenova et al., 2016). In 2013 however only 25ha of the site was impacted by fire (CA|TS Assessment 2015).

▶ Other Biological Resource Use

Data Deficient
Inside site, extent of threat not known
Outside site

Local markets around the site seasonally offer locally wild-collected ferns, mushrooms, fruits, nuts and berries, ornamental plants, medicinal and traditional medicinal plants (including Wild Ginseng and other species listed in the Red Data Book of the Russian Federation) (Lypustin et al., 2010). It is known that collection of Korean pine nuts has occured illegally in the site, and perhaps collection of other products as well, but the impact of collection is on the site's values are unclear (IUCN Consultation, 2014).

▶ Hunting (commercial/subsistence)

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

Poaching of tigers, particularly, in the areas surrounding the Sikhote-Alin Zapovednik, remains a serious threat. Other regularly poached species of the region (but not necessarily within the site) include Himalayan Black Bear, as well as various deer and salmon species. Local markets in the vicinity of the site offer potentially 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 reportedly also poaching directly for the Chinese market (Lypustin et al., 2010). It is not clear if any of these products come from the site itself. New anti-poaching regimes (patrols, intelligence networks etc) have reduced poaching (CA|TS Assessment 2015).

Potential Threats

Low Threat

Logging including illegal logging remains a potential threat because of the strong economic interest, however again at present the management of the site is being effective in mitigating this threat.

▶ Logging/ Wood Harvesting

Low Threat

Inside site, extent of threat not known
Outside site

Logging has led to a 50% reduction of the extent of Korean Pine forests in the Amur-Heilong region, where the site is located, between 1937 and 1996 (Simonov & Dahmer, 2008). 1.5-1.9 million m3 of timber per year were being removed illegally from Primorskiy Region in the early 2000s, where the site is 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, some illegal logging might occur in the future.

Protection and management

Assessing Protection and Management

► Relationships with local people

Mostly Effective

The governance structure of nature reserves in Russia provides few opportunities for stakeholder involvement; Sikhote-Alin however has an active education programme (see below) and is making attempts to better involve the small local population in management. For instance, there are plans to develop ecological tourism but at present this is at a very low scale with home stays (40-50 tourists in 2014) involving five local families. 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. The proposed extension (being reviewed by the WH Committee in 2018) of the site to include the Bikin River Valley would result in the site including management of a protected landscape used by the indigenous Udege people.

► Legal framework

Some Concern

While the legal framework for protection of individual protected areas,

particularly strict nature reserves, 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. Conservation activities, research and data thus tend to focus on the activities at Sikhote-Alin Nature Reserve which currently makes up the majority of the site.

► 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 analysis threats. The Protection Units carry out joint patrolling with the Police, Hunting Supervision (adjoining hunting concessions) and Frontier Guards and with forestry team in logging areas. Threat levels are low; in 2014 six illegal hunts were recorded (of ungulates) and 64 trespasses into the reserve area. This lead to fines of 275,000 roubles in total.

► Integration into regional and national planning systems

Highly Effective

Sikhote-Alin 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 greater Sikhote-Alin Mountain Ecosystem. There is wide collaboration with stakeholders around the PA.

► Management system

Mostly Effective

The majority of the site is in the Sikhote-Alin Nature Reserve. This site has a range of five yearly and annual plans which direct management (and make up the 'management system' for the site). These include five year plans (and also annual 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.

here is discussion on the need to develop a plan for ecotourism.

▶ Management effectiveness

Highly Effective

The coordination framework for the entire World Heritage site is unclear. However, the Sikhote-Alin Zapovednik management structure includes annual audits which equate to management effectiveness with multi-agency auditing (Ministry, Health, Forestry, Fire control, Police, ect.). Sikhote-Alin Nature Reserve has also undertaken a very detailed assessment of its management with regards to tigers through the Conservation Assured | Tiger Standards (CA|TS) assessment system and was the second site to receive approved status under this system in 2015.

▶ Implementation of Committee decisions and recommendations

Mostly Effective

There has been only one recommendation of the Committee in relation to the property: Decision 25.COM X.A (2001) recommended inclusion of Upper Bikin Landscape Preserve and Central Bikin Territory of Traditional Nature Use in the property, but this recommendation has not been implemented to date. This recommendation has not been implemented to date, but it is due to be discussed at the 2018 WH Committee meeting and is currently being evaluated.

▶ Boundaries

Mostly Effective

The boundaries appear generally adequate although Goraliy Zakaznik occupies a very narrow coastal strip and may be subject to strong edge effects. Decision 25.COM X.A (2001) recommended inclusion of Upper Bikin Landscape Preserve and Central Bikin Territory of Traditional Nature Use in the property (see above).

▶ 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.

► Staff training and development

Highly Effective

No information on Goraliy Zakaznik is available. However staffing numbers and training are adequate in Sikhote-Alin Nature Reserve and gaps in capacity and training are being effectively mitigated.

► 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 Goraliy Zakaznik (Bersenyev et al., 2006).

► Education and interpretation programs

Mostly Effective

There is one qualified interpretation professional on the staff of the Sikhote-Alin Nature Reserve. Interpretation and presentation programmes are conducted mainly with school children. Plans to upgrade to visitor centre are in place (CA|TS, 2015). A tiger “Safe Conduct” educational programme has also taken place (Mukhacheva et al., 2015). Nature guides (employees of ecological education department) provide site information and extension materials are distributed by them. The website of Sikhote-Alin reserve and Facebook account of the reserve exist and are updated periodically. There are also booklets for visitors.

► Tourism and visitation management

Mostly Effective

10-12 international visitor groups and about 1,700 local visitors (mainly to beaches) visited the property in 2000 (UNEP-WCMC, 2011). There is no tourism management plan in the reserve, although there are plans to develop one. New tourism trails have been developed covering about 1% of the reserve (not far from the main town and along the coastal edge). There

have been a few homestays arranged for tourist. The site is very remote and major tourism will never be an option or threat.

► Monitoring

Highly 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 tiger and ungulate population status is included in the long term research plan. Habitats are mapped (in 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 source both in core area and buffer zone is the part of Research programme. MIST and SMART are also used (CA|TS, 2015)..

► Research

Mostly Effective

Sikhote-Alin Strict Nature Reserve has been a centre of scientific research activities for many decades, with several monographs and ca. 500 scientific articles published. There is international scientific co-operation, including with the Wildlife Conservation Society (Bersenyev et al., 2006).

Overall assessment of protection and management

Mostly Effective

The protection and management of Sikhote-Alin Nature Reserve underwent a major change in 2013 (including a new manager) 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.

► Assessment of the effectiveness of protection and management 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) and climate change remain possible.

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:Stable

The overall status of the ecosystems of Sikhote-Alin Strict Nature Reserve 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.

▶ **Diversity of animal species at the margins of their distribution ranges and their unusual assemblages**
High Concern
Trend:Stable

Poaching has reportedly affected key wildlife populations inside the property, including that of Amur Tiger. However incidences in Sikhote-Alin Nature Reserve have reduced and in 2014 just six illegal hunts (of ungulates) and 64 trespasses into the reserve area were recorded (CA|TS, 2015).

▶ **Endangered and endemic animal species**
High Concern
Trend:Improving

Although there was a rapid "collapse" of the Amur Tiger population, due to multiple sources of mortality, and very poor recruitment of young for a few

years. The population is now rising and populations seem stable and are clearly able to recover after collapse (Miquelle et al, 2015). As reported in the 2014 Conservation Outlook Assessment there had been a major fall in numbers (from 17 adults in 2010 to six in 2012) (Miquelle et al, 2015) but a rapid recovery has been ongoing. By 2015, tigers were increasing again to a population of between 13 (2015 track counts analysis) to 20 individuals (2015 track counts plus camera traps analysis) (CA|TS 2015). soSources of mortality were wide ranging, including canine distemper, natural sources of mortality including infanticide, and some poaching.

Summary of the Values

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

Low Concern

Trend: Stable

Although there was a rapid “collapse” of the Amur Tiger population, due to multiple sources of mortality, and very poor recruitment of young for a few years the population is now rising and populations seem stable and are clearly able to recover after collapse. By 2015, tigers were increasing again to a population of between 13 (2015 track counts analysis) to 20 individuals (2015 track counts plus camera traps analysis).

The overall integrity of the forest ecosystems of the site appears to be in a good state.

Additional information

Benefits

Understanding Benefits

► **Wilderness and iconic features**

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.

► Outdoor recreation and tourism

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.

► Sacred natural sites or landscapes

Parts of the site and particularly the areas recommended for its further extension have high cultural/spiritual importance to the Udege indigenous people of the area (UNEP-WCMC, 2011).

Summary of benefits

The property provides a wide range of conservation and other benefits. 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/ individuals	Project duration	Brief description of Active Projects
1	WWF Russia		Various projects on Tiger conservation, community co-managed PAs (including in Bikin area), anti-poaching and anti-logging activities.

№	Organization/ individuals	Project duration	Brief description of Active Projects
2	Wildlife Conservation Society (USA)		PA network creation, anti-poaching activities, veterinary programmes in relation to possible canine distemper infections in tigers, tiger-friendly business initiatives.
3	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 it tiger conservation and management.

Compilation of potential site needs

№	Site need title	Brief description of potential site needs	Support needed for following years
1	.	Development of comprehensive sustainable tourism strategy for the property, with a focus on developing livelihoods .	
2	.	Elaboration of a proposal for extension of the property to include Bikin valley.	
3	NA	Improvement of existing wildlife monitoring programmes to cover the entire World Heritage site	

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