IUCN Conservation Outlook Assessment 2014 **(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

2014 Conservation Outlook

Significant concern

The has been a very rapid "collapse" of the population Amur Tiger, which appeared to be due to multiple sources of mortality, including canine distemper, natural sources of mortality including infanticide, and poaching. The protection and management of the site is of some concern because of insufficient financial and human resources and lack of overall legal and management framework for the entire site which consist of several component protected areas. However, significant positive changes have been observed in of the components – Sikhote-Alin Zapovednik – since 2013 with increased anti-poaching efforts, use of SMART law enforcement monitoring systems, and more active patrolling. Nonetheless, the site remains under significant threat from poaching.

Current state and trend of VALUES

High Concern
Trend: Deteriorating

The has been a very rapid "collapse" of the population Amur Tiger, which appeared to be due to multiple sources of mortality, including canine distemper, natural sources of mortality including infanticide, and poaching. At the same time, the overall integrity of the forest ecosystems of the site appears to be satisfactory.

Overall THREATS

High Threat

The site is under very high threat from poaching, including of its most iconic species the Amur Tiger, as well as other large mammal species. There is also a significant risk of catastrophic forest fires, which seems to have increased as a result of climate change. This trend might continue in the future. Logging including illegal logging remains a potential threat because of the strong

economic interest, and because of the reportedly weak conservation regime of the component protected areas making up the property.

Overall PROTECTION and MANAGEMENT

Some Concern

The protection and management of the site is of some concern because of insufficient financial and human resources and lack of overall legal and management framework for the entire site which consist of several component protected areas. However, significant positive changes have been observed in of the components – Sikhote-Alin Zapovednik – since 2013 with increased anti-poaching efforts, use of SMART law enforcement monitoring systems, and more active patrolling. Similarly, there has been a strong push to improve facilities and capacity for tourism, and a stronger outreach program to the local communities.

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 Panthera tigris altaica, EN) 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)

There are ca. 15-21 tigers in the property (2010/11), according to monitoring data. Other globally threatened mammal fauna of the area include Himalayan Black Bear Ursus thibetanus (VU), and Long-tailed Goral Naemorhaedus caudatus (VU). Among the globally threatened birds, 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

Very High Threat

The site is under very high threat from poaching, including of its most iconic species the Amur Tiger, as well as other large mammal species. There is also a significant risk of catastrophic forest fires, which seems to have increased as a result of climate change. This trend might continue in the future.

► Fire/ Fire Suppression

High Threat
Inside site
Outside site

There were 15 forest fires within Sikhote-Alinskiy Nature Reserve, one of the component protected areas of the property, between 1994 and 1998. These affected between 5 and 180 ha each. Fires in this region lead to dramatic changes in the forest community, replacing old-growth forest with secondary forest of birch and larch. Fires are often triggered by nearby logging operations/tracks or farms, or by lightning, and their frequency also depends on climatic cycles (UNEP-WCMC, 2011). Catastrophic forest fires in the region surrounding the site typically occur every 30 years, and have multiple negative consequences for wildlife, particularly for large mammals; they are considered the main threat to terrestrial ecosystems in the Amur-Heilong region (Simonov & Dahmer, 2008).

► Temperature changes

Data Deficient
Inside site
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-Alinskiy Strict 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.

▶ Commercial hunting

Very High Threat
Inside site
Outside site

Poaching of tigers, particularly, in the areas surrounding the Sikhote-Alin Zapovednik, remains a serious problem. Other regularly poached species of the region (but not necessarily within the site) include Himalayan Black Bear, various deer species and various 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, particularly to buyers from neighboring China. 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.

▶ Other Biological Resource Use

Data Deficient
Inside site
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 occurs 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).

Potential Threats

Low Threat

Logging including illegal logging remains a potential threat because of the strong economic interest, and because of the reportedly weak conservation regime of the component protected areas making up the property.

▶ Logging/ Wood Harvesting

Low Threat

Inside site
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

Data Deficient

No information available.

► Legal framework and enforcement

Some Concern

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. Legislation would benefit from a stricter approach with regard to activities inconsistent with protection of Outstanding Universal Values of the sites. The recent Federal Law No. 365-FZ on “special economic zones in the Russian Federation” again weakens the legal basis for effective conservation of the Outstanding Universal Values of its World Heritage sites, even if it is currently not applied to this particular site.

► Integration into regional and national planning systems

Data Deficient

Information on the integration of the property into regional and national

planning systems is missing.

► Management system

Some Concern

The Central Sikhote-Alin site consists of two units. The southern unit consists of two protected areas: Sikhote-Alin Strict Nature Reserve and Goralij Zoological Reserve. The second, northern, unit consists of two contiguous areas: Bikin Territory of Traditional Nature Use for the Udege people and Verkhnebikinski Zakaznik (Justification for inscription, whc.unsesco.org). Sikhote-Alin Strict Nature Reserve (Zapovednik) used to have a management plan when inscribed (UNEP-WCMC, 2011), but no information about its current management system is available. The same is true for Goraliy Zakaznik.

► Management effectiveness

Some Concern

The Sikhote-Alin Zapovednik appears to be effectively managed. However, the management capacity of other component protected areas that make up this property is of some concern, as not all have the same level of protection. The coordination framework for the entire World Heritage site is unclear.

► 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.

► 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 also IUCN, 2001), but this recommendation has not been

implemented to date.

▶ Sustainable finance

Some Concern

The 2011 annual budget of the State Reserve was approximately 925,000, and the funding gap for the reserve was estimated as 50% in 2012. No information about the funding of the Goraliy Zakaznik is available.

▶ Staff training and development

Some Concern

Both component protected areas of the property are severely understaffed (e.g., only 21 inspectors for 400,000 ha in the State Reserve) and unable to pay sufficiently high wages (or provide staff accommodation, a common incentive in other Russian protected areas) to attract qualified staff. Monthly wages in 2012 were approximately 460 USD. No information about staff training/development programmes is available but it is unlikely that there are any.

▶ Sustainable use

Mostly Effective

No natural resource use is typically allowed in Strict Nature Reserves of the Russian Federation (such as Sikhote-Alinskiy Reserve), and it appears that no natural resource use is allowed in Goraliy Zakaznik (Bersenyev et al., 2006). This may in theory afford a high level of conservation but does not establish incentives for local populations to support sustainable management of the reserve.

▶ Education and interpretation programs

Data Deficient

No information about educational and interpretation programmes is available on the relevant website of the Ministry of Natural Resources and Ecology of the Russian Federation (MoNRE of RF, 2012).

▶ Tourism and interpretation

Some Concern

10-12 international visitor groups and about 1,700 local visitors (mainly to beaches) to the property in 2000 (UNEP-WCMC, 2011), and reportedly little development of ecological tourism in or around the reserve since. 227 visitors in 2011 brought ca. 1,800 USD of income.

► Monitoring

Data Deficient

The staff of Sikhote-Alinskiy State Reserve conduct monitoring of terrestrial and freshwater ecosystems, as well as flora and fauna (Bersenyev et al., 2006). No detailed information is available.

► Research

Mostly Effective

Sikhote-Alinskiy Strict Nature Reserve has been a centre of scientific research activities, 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). A Web of Science search yields 241 peer-reviewed articles in international scientific journals on the wider area (WoS, 2012).

Overall assessment of protection and management

Some Concern

The protection and management of the site is of some concern because of insufficient financial and human resources and lack of overall legal and management framework for the entire site which consist of several component protected areas. However, significant positive changes have been observed in of the components – Sikhote-Alin Zapovednik – since 2013 with increased anti-poaching efforts, use of SMART law enforcement monitoring systems, and more active patrolling. Similarly, there has been a strong push to improve facilities and capacity for tourism, and a stronger outreach program to the local communities.

► Assessment of the effectiveness of protection and management in

addressing threats outside the site
Data Deficient

No information available.

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:Data Deficient

The overall status of the ecosystems of Sikhote-Alinskiy Strict Nature Reserve was characterized as exceptionally good in 2006, primarily because of its remoteness (Bersenyev et al., 2006). However, some damage has been caused by forest fires, and more recent trends are unclear.

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

Poaching reportedly affects key wildlife populations inside the property, including that of Amur Tiger Panthera tigris altaica (EN), the abundance of which in Sikhote-Alinskiy Strict Nature Reserve has declined dramatically from 38-40 to 15-21 between 2005 and 2011. It is inferred that other wildlife populations have also been reduced by poaching during this period.

▶ **Endangered and endemic animal species**
Critical
Trend:Deteriorating

The has been a very rapid "collapse" of the population Amur Tiger Panthera tigris altaica (EN), which appeared to be due to multiple sources of mortality, and very poor recruitment of young for a few years. Based on known

reported deaths of tigers, sources of mortality were wide ranging, including canine distemper, natural sources of mortality including infanticide, and some poaching. This event was like a "perfect storm" when multiple sources of mortality occurred simultaneously. Surrounding the Zapovednik poaching remains a serious problem (IUCN Consultation, 2014).

Summary of the Values

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

High Concern

Trend: Deteriorating

The has been a very rapid "collapse" of the population Amur Tiger, which appeared to be due to multiple sources of mortality, including canine distemper, natural sources of mortality including infanticide, and poaching. At the same time, the overall integrity of the forest ecosystems of the site appears to be satisfactory.

Additional information

Key conservation issues

▶ **Exclusion of high value areas from the property**

National

Although included in the original nomination and recommended for extension of the property once an adequate management regime has been established in Decision 25.COM X.A in 2001, the exceptionally high value and extensive areas of Upper Bikin Zakaznik and Central Bikin Territory of Traditional Nature Use have not been included in the property to date. Their inclusion would significantly upgrade the overall Outstanding Universal Value of the property and might extend a sustainable management regime to areas where high biodiversity values persist (Butorin & Kreindlin, 2006).

▶ **Lack of clarity about status and trends of wildlife populations**

Local

Although monitoring is carried out in both component protected areas of the property, and there is information about tiger abundance and trends, no reliable data on the status and trends of other wildlife populations appear to be available.

Benefits

Understanding Benefits

► Is the protected area valued for its nature conservation?

The considerable nature conservation values are reflected by the sites designation as a Nature Reserve and inscription as a World Heritage site.

► Does management of the site provide jobs (e.g. for managers or rangers)?

The component protected areas of the property offered ca. 159 jobs in 1999, a number that could probably be increased if additional areas would be included in the property as recommended by Decision 25 COM X.A (2001). In addition, a significant number of jobs (possibly hundreds of jobs in tourism, natural resource use etc.) could be created in the course of tourism development and the development of sustainable natural resource use schemes within the property (Bersenyev et al., 2006).

► Sacred natural sites or landscapes

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.

▶ History and tradition, Wilderness and iconic features

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.
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.

Compilation of potential site needs

№	Site need title	Brief description of potential site needs	Support needed for following years
1	NA	Improvement of existing wildlife monitoring programmes to cover the entire World Heritage site	

№	Site need title	Brief description of potential site needs	Support needed for following years
2	.	Elaboration of a proposal for extension of the property to include Bikin valley.	
3	.	Development of comprehensive sustainable tourism strategy for the property.	

REFERENCES

№	References
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