IUCN Conservation Outlook Assessment 2017 **(archived)**
Finalised on 12 November 2017

Please note: this is an archived Conservation Outlook Assessment for Natural System of Wrangel Island Reserve. To access the most up-to-date Conservation Outlook Assessment for this site, please visit https://www.worldheritageoutlook.iucn.org.

Natural System of Wrangel Island Reserve

SITE INFORMATION

Country:
Russian Federation
Inscribed in: 2004
Criteria:
(ix) (x)

Site description:

Located well above the Arctic Circle, the site includes the mountainous Wrangel Island (7,608 km2), Herald Island (11 km2) and surrounding waters. Wrangel was not glaciated during the Quaternary Ice Age, resulting in exceptionally high levels of biodiversity for this region. The island boasts the world’s largest population of Pacific walrus and the highest density of ancestral polar bear dens. It is a major feeding ground for the grey whale migrating from Mexico and the northernmost nesting ground for 100 migratory bird species, many endangered. Currently, 417 species and subspecies of vascular plants have been identified on the island, double that of any other Arctic tundra territory of comparable size and more than any other Arctic island. Some species are derivative of widespread continental forms, others are the result of recent hybridization, and 23 are endemic. © UNESCO

SUMMARY

2017 Conservation Outlook

Significant concern

While the existing management regime has been effectively maintaining the values of the remote and nearly uninhabited Wrangel Island Reserve since its inscription as a World Heritage site in 2004, and while these values appear well preserved to date, the long-term conservation outlook of the property mainly depends on the impact of emerging threats – construction of a military base on the island, geophysical prospecting for oil in the immediate site vicinity, as well as climate change.

Current state and trend of VALUES

Low Concern
Trend: Data Deficient

The current state of the World Heritage values appears to be of low concern as no major deterioration has been reported since inscription. The overall trend of most of the values appears stable although a systematic monitoring system for climate change, impacts from military activities and tourism is not operational yet and some trends may thus have escaped detection. In the light of evidence of negative impacts of climate change, military activities and tourism, on some of the values of the property, the lack of an effective monitoring system for this major potential threat leads to an assessment of the trend of the World Heritage values as Data Deficient.

Overall THREATS

High Threat

The property has enjoyed a period of very limited anthropogenic impact since the designation of Wrangel Island Reserve in 1975, and its values are in a satisfactory state as a result. However, current and emerging threats including; activities and infrastructure related to military base, climate change, and

potentially unsustainable tourism oil/gas exploration/exploitation, and maritime transportation and shipping, (especially of LNG and oil) and might soon compromise some of these values and require close surveillance and possibly a targeted management response.

Overall PROTECTION and MANAGEMENT

Some Concern

The property has enjoyed a period of limited anthropogenic pressure since the establishment of Wrangel Island Nature Reserve in 1975, which allowed it to maintain the integrity of its values in spite of a relatively poorly resourced management regime. However, a number of emerging threats from climate change, tourism development, oil exploration/exploitation exploitation and maritime navigation (including shipping and tourism) may increasingly challenge this regime and require its strengthening in key areas. While the extent of planned activities remains unclear, the potential for military activities as a serious threat to the property’s values.

FULL ASSESSMENT

Description of values

Values

World Heritage values

► **Exceptionally diverse and abundant terrestrial and marine Arctic mammal fauna**
Criterion:(x)

Seven species of resident terrestrial mammals, largest population of Polar Bear Ursus maritimus (350-600 dens on Wrangel Island and another 100 dens on Herald Island) (UNEP-WCMC, 2011). Largest rookeries of Pacific Walrus Odeobenus rosmarus, with up to 10,000 individuals (UNEP-WCMC, 2011). Several additional species of marine mammals in the vicinity, including Grey Whale Eschrichtius gibbosus and Finback Whale Balaenoptera physalus (EN) (UNEP-WCMC, 2011).

► **Exceptionally diverse Arctic avifauna**
Criterion:(x)

170 bird species recorded, 62 of which breed on Wrangel Island (MoNRE of the RF 2012). Possibly two endemic bird (sub-)species (Directorate of Wrangel Island Reserve, 2003). Very high bird diversity in comparison with other Arctic sites (UNEP-WCMC 2011). Important stopover on Pacific-Beringia flyway of bird mirgration (Alerstam et al., 2007; Hedenstrom et al., 2009; UNEP-WCMC, 2011). Only large breeding accumulation of Snow Goose Chen caerulescens in Asia (Boyd & Cooke, 2000; UNEP-WCMC, 2011).

► **Exceptionally diverse Arctic invertebrate fauna**
Criterion:(x)

Invertebrate fauna very rich for Arctic standards, includes 31 species of spider, 58 species of beetles, and 42 species of butterflies, including many species that are usually only found much further South (UNEP-WCMC, 2011).

► **Exceptionally rich Arctic plant diversity and endemism**
Criterion:(x)

417 plant species and sub-species of vascular plants, including 21 endemic species and 4 endemic subspecies (UNEP-WCMC, 2011), 331 moss and 310 lichen species (MoNRE of the RF, 2012), and northernmost occurrence of several plant communities (Sekretareva 1994, 1998). Highest plant diversity in the high Arctic (MoNRE of the RF 2012).

► **Exceptional example of past and ongoing speciation**
Criterion:(ix)

Wrangel Island holds an unparalleled 21 species and 4 subspecies of endemic flora (Petrovsky, 1997), numerous endemic invertebrate species and several endemic vertebrate subspecies or isolated populations considered to be in the process of speciation, such as the Wrangel Lemming (UNEP-WCMC, 2011; WHC, 2004).

► **Exceptional example of an Arctic island ecosystem with exceptionally long-lasting succession**
Criterion:(ix)

Ecological succession at Wrangel Island has been uninterrupted by glaciation (Gualtieri et al. 2005), which has lead to a unique diversity of ecosystems, communities and habitats on the island (Sekretareva, 1994, 1998; UNEP-WCMC, 2011). As a result, Wrangel Island has the highest biodiversity of any high Arctic Island (UNEP-WCMC, 2011).

Assessment information

Threats

Current Threats

High Threat

Human impact within Wrangel Island Reserve has been minimal and localized for a long time. Recently, a military base has been constructed on the island and its operations, while extent of planned activities are unclear, may represent a very serious threat to the sites values and integrity. Furthermore, oil prospecting in the vicinity of the property that has recently been undertaken represents a very serious threat to the site's values and integrity. Plans for increasing visitation and expansion of tourism infrastructure are also of concern.

▶ Solid Waste

Data Deficient
Inside site, localised(<5%)
Outside site

The waste dump near Ushakovskoe has been reported to have been cleaned however, any potential remaining impacts are unclear (State Party of the Russian Federation, 2015). Close to 4000 barrels removed and 45.000 were supposed to be removed in 2016-17 (Information provided to the UNESCO/IUCN Reactive Monitoring Mission, 2017).

▶ Roads/ Railroads

Low Threat
Inside site, localised(<5%)
Outside site

Numerous tracks from before the designation of the Reserve are still visible; current policy is to use existing tracks (IUCN, 2004). Overland traffic, for tourism and operations, through riparian areas may impact habitat for

riparian species including avifauna. Increased use is expected with potential further development of tourism industry (Comm. during UNESCO/IUCN Reactive Monitoring Mission, 2017).

▶ Housing/ Urban Areas

Low Threat
Inside site, localised(<5%)

There are some abandoned military and civilian settlements from before the reserve's designation, some with waste and contained oil accumulations (IUCN 2004). They have little impact on the ecosystem in their vicinity and there are plans to successively remove abandoned settlements and waste (MoNRE of RF 2011).

▶ Oil/ Gas exploration/development

High Threat
Outside site

Geophysical prospecting that was being conducted in the vicinity of the site might have had serious negative impacts, particularly on some marine mammals and some bird species (Programme of complex geophysical investigations in the areas of "Northern Wrangel -1", "Northern Wrangel - 2" and "Southern Chukchi" in 2014-2015, in Russian).

▶ Invasive Non-Native/ Alien Species

Low Threat
Inside site, scattered(5-15%)

Reindeer herds led to localized overgrazing of tundra vegetation and trampling damage to nesting birds (UNEP-WCMC, 2011). This might recur if reindeer or muskoxen populations are poorly managed.

▶ War, Civil Unrest/ Military Exercises

Very High Threat
Inside site, extent of threat not known
Outside site

Construction of a naval military base began on Wrangel Island in late 2014 (various news sources, e.g. http://www.themoscowtimes.com/business/article/russia-starts-building-

military-bases-in-the-arctic/506650.html). This can have very serious impacts on the fragile environment of the island not only during the construction phase, but also due to continuous human presence during its future operation.

Potential Threats

High Threat

There are several potential threats which might increasingly compromise the integrity of the property's values, unless appropriate measures to assess and control them are taken. The extent to which climate change affects the values of the property needs to be measured more systematically, and tourism development could become a threat unless planned carefully and based on a rigorous EIA. Threats due to increased activities related to industrial marine development (exploration and development of hydrocarbon reserves), commercial navigation and ice breaking, in the vicinity of Wrangel Island Reserve, unless monitored and managed, may represent very serious threats to the sites values and integrity.

► Temperature extremes

High Threat
Inside site, throughout(>50%)
Outside site

Although a marked reduction of sea ice cover in the Arctic Ocean (Stroeve et al., 2012) and climate change induced shifts in the terrestrial environment of the high Arctic (Prowse et al., 2009) have been documented, and although secondary effects of these phenomena on terrestrial ecosystems (Jia et al., 2009) and Arctic marine mammals (Gleason & Rode, 2009; Schliebe et al., 2008) have been found in other locations of the high Arctic, only very limited data linking the status of natural values to climate change are available from the property. The only exception is anecdotal evidence of increased walrus mortality during a year of marked pack-ice retreat (Ovsyanikov et al., 2007). Therefore, these effects of climate change are considered potential – if highly likely – threats to the property (UNEP-WCMC, 2011).

► Tourism/ visitors/ recreation

High Threat

Inside site, localised(<5%)

Although currently relatively tightly controlled and localized (MoNRE of RF, 2012), disturbance by tourists has had a noticeable effect in the past and might increase, if accessibility and visitor numbers increase (IUCN, 2004). Some tourist accommodation has been constructed and new overland vehicles purchased. Plans exist for increased visitation especially through cruise ships (increase in numbers and stops within the boundary of the property) UNESCO /IUCN Reactive Monitoring Mission (2017)

► Hunting (commercial/subsistence)

Low Threat
Inside site, extent of threat not known

The property is near the northern margin of the occurrence of several mammal species of the property and hunting them might have a devastating effect on these marginal and vulnerable populations (IUCN, 2004).

► Shipping Lanes

High Threat
Outside site

A northern sea route has had limited activity due to harsh climatic conditions and low population density and industrial activity. With thickness and extent of ice reduced (relative to averages) (Stephenson et al., 2013), increases in maritime transportation (especially for LNG and oil) and industrial activity has, even at low levels, potential negatively impact ecosystem processes and biodiversity.

Protection and management

Assessing Protection and Management

► Relationships with local people

Mostly Effective

Only two local families present – majority of property uninhabited. Generally

limited potential for conflict, because of extremely small population.

▶ Legal framework

Mostly Effective

Wrangel Island and Herald Island designated as Strict Nature Reserve (Zapovednik) by Decree 189, 1975 (UNEP-WCMC, 2011). Enforcement by Reserve staff generally considered effective, but some damage from careless behavior of rotational staff on site (IUCN, 2004; UNESCO/IUCN Reactive Monitoring Mission 2017, draft report).

▶ Enforcement

Some Concern

Concerns have recently been raised regarding infractions related to human wildlife conduct (recent reported killing of polar bear). The recent UNESCO/IUCN reactive monitoring mission (2017) has requested, but has not yet received information regarding the current status of this case.

▶ Integration into regional and national planning systems

Mostly Effective

Property relatively isolated. 2009-13 management plan linked to wider plan for sustainable development of Chukhot Autonomous Region. Included into national 3-yr plan for high-priority PAs in the Russian Federation (MoNRE of RF, 2011). However, practical integration into national planning system has also been reported as weak (IUCN, 2004).

▶ Management system

Mostly Effective

“Wrangel Island Mid-term Management Plan for 2009 – 2013” was submitted to WHC in 2009 (MoNRE, 2008) and was considered a substantial management plan but is lacking in-depth tourism plan (particularly serious in light of current tourism development projects) and clear provisions on climate change impact monitoring (WHC, 2009). the 2013-2017 management plan is now at the end of its term and will require a review of implementation to inform preparation and implementation of a new management plan. The relationships between the federal ministry, local management and regional

government require a review to clearly articulate roles and responsibilities management (UNESCO/IUCN Reactive Monitoring Mission 2017, draft report).

► Management effectiveness

Some Concern

Values of site are sufficiently protected overall currently (IUCN, 2004), even if this owes more to lack of anthropogenic pressure than active management. There appears to be no plan nor human resources to support management of the marine component of the Reserve (IUCN Consultation, 2017).

► Implementation of Committee decisions and recommendations

Some Concern

Request of WHC at 28.COM to complete and submit management plan for the property mostly met by 33.COM, but Ministerial approval of the plan was unclear at that time.
Environmental Impact Assessments for construction and activities associated with the military base and for oil exploration, requested by the World Heritage Committee, have not been prepared (WHC 36COM 7B.20 and 39COM 7B.25)

► Boundaries

Mostly Effective

Boundaries generally sufficient, but there is an indication of exclusions for Ushakovskoe settlement and immediate surroundings and a marine component however no formal maps and survey descriptions have been received by the World Heritage Centre. A 24 nautical miles protected zone around islands was established by in 2013.

► Sustainable finance

Some Concern

Annual operational funding for ongoing management seems to have declined while project based (construction and clean up) funds have increased. Tourism revenues may increase (IUCN Consultation, 2017).

► Staff training and development

Some Concern

Staff of 20 including 3 scientists and 2 educational staff at inscription (mostly stationed outside the property) (UNEP-WCMC, 2011), 7 security inspectors being trained according to management plan (WHC, 2008), but no further information on staff training and development programmes available. For the current management cycle, here is concern over positions not being filled or under filled and staff retention (RM Mission 2017).

► Sustainable use

Some Concern

Property used for reindeer herding and tourism, but sustainable management measures for either are unclear. Potential for increased disturbance by tourists with the expansion of tourism infrastructure and activities is on concern (IUCN Consultation, 2017).

► Education and interpretation programs

Mostly Effective

The Property is very remote. Ecological museum and interpretative trails are being planned (MoNRE of RF, 2011). Onsite and remotely delivered interpretation could better elaborate on biodiversity values and ecosystem processes rather than focused on wildlife viewing opportunities related to large mammals (IUCN Consultation, 2017).

► Tourism and visitation management

Some Concern

The property very remote and little visited (at least three groups annually currently UNESCO/IUCN, 2017, draft report). New or renovated tourism accommodation, ecological museum and interpretative trails are being planned and some have been constructed (MoNRE of RF, 2011, WHC, 2008; UNESCO/IUCN, 2017, draft report). Human waste and fuel management facilities and processes are inadequate for any increase in human presence /activity. Disturbance to animals and human wildlife conflicts could

potentially significantly increase (IUCN Consultation, 2017).

▶ Monitoring

Some Concern

Weather monitoring at Ushakovskoe, regular research with a monitoring effect on 15 animal species (particularly Polar Bear, Snowy Owl, Snow Goose), vegetation cover, condition of watercourses, historical objects are being undertaken (UNEP-WCMC, 2011; WHC, 2012), but systematic long-term general and climate change impact monitoring programme merely planned, not operative (UNEP-WCMC, 2011; WHC, 2008).

▶ Research

Mostly Effective

Extensive scientific research programme (particularly on Polar Bear, Snowy Owl, Snow Goose) has been ongoing since establishment of the reserve, mainly being carried out by visiting scientists, but full potential of property for research has not been met yet (UNEP-WCMC, 2011).

Overall assessment of protection and management

Some Concern

The property has enjoyed a period of limited anthropogenic pressure since the establishment of Wrangel Island Nature Reserve in 1975, which allowed it to maintain the integrity of its values in spite of a relatively poorly resourced management regime. However, a number of emerging threats from climate change, tourism development, oil exploration/exploitation exploitation and maritime navigation (including shipping and tourism) may increasingly challenge this regime and require its strengthening in key areas. While the extent of planned activities remains unclear, the potential for military activities as a serious threat to the property’s values.

▶ Assessment of the effectiveness of protection and management in addressing threats outside the site

Some Concern

A number of threats from outside the site's boundaries have recently

emerged with oil prospecting and increasing maritime navigation being the most serious ones. It is unclear to what degree it can be mitigated at the level of site management.

State and trend of values

Assessing the current state and trend of values

World Heritage values

▶ **Exceptionally diverse and abundant terrestrial and marine Arctic mammal fauna**

Low Concern
Trend:Data Deficient

Some evidence of increased Pacific Walrus mortality, which may not be systematically monitored, possibly due to sea ice retreat, in 2007 (Ovsyanikov, 2007). No reports about negative population trends in other mammals of the property although in general, sea ice retreat following climate change is known to also affect Polar Bears (Gleason & Rode, 2009).

▶ **Exceptionally diverse Arctic avifauna**

Low Concern
Trend:Stable

No deterioration of conservation status of any bird species or community has been reported since inscription, partly due to reduction of trampling by livestock on the property (which affects Snow Geese). However, a recovery of reindeer and muskoxen standing stock has been reported recently (UNEP-WCMC, 2011).

▶ **Exceptionally diverse Arctic invertebrate fauna**

Good
Trend:Data Deficient

No deterioration of conservation status of any invertebrate species or community has been reported since inscription, but there is no monitoring of

these species. (UNEP-WCMC, 2011).

▶ Exceptionally rich Arctic plant diversity and endemism

Low Concern
Trend:Stable

No deterioration of conservation status of any plant species or community has been reported since inscription, partly due to reduction of grazing pressure on the property. However, a recovery of reindeer and muskoxen standing stock has been reported recently (UNEP-WCMC, 2011).

▶ Exceptional example of past and ongoing speciation

Good
Trend:Stable

The overall value of the property as a speciation hotspot has remained intact since the creation of Wrangel Island Nature Reserve and no major negative trends have been reported since.

▶ Exceptional example of an Arctic island ecosystem with exceptionally long-lasting succession

Low Concern
Trend:Stable

The overall ecosystem values of the property have remained undisturbed since the creation of Wrangel Island Nature Reserve and no major negative trends have been reported since. No negative impacts of climate change on terrestrial ecosystems of the property were reported in 2012 (SOC Report 2012), although some limited impacts may have gone undetected, due to the incomplete monitoring system.

Summary of the Values

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

Low Concern

Trend: Data Deficient

The current state of the World Heritage values appears to be of low concern as no major deterioration has been reported since inscription. The overall

trend of most of the values appears stable although a systematic monitoring system for climate change, impacts from military activities and tourism is not operational yet and some trends may thus have escaped detection. In the light of evidence of negative impacts of climate change, military activities and tourism, on some of the values of the property, the lack of an effective monitoring system for this major potential threat leads to an assessment of the trend of the World Heritage values as Data Deficient.

Additional information

Benefits

Understanding Benefits

► Food, Fishing areas and conservation of fish stocks

No information on coastal fisheries around Wrangel Island is available but it is likely that some fisheries activities are ongoing.

► Food, Livestock grazing areas

Livestock grazing on the property (reindeer and muskoxen) has first declined and then started to recover again (UNEP-WCMC, 2011). It is likely to contribute significantly to the livelihoods of the few local inhabitants.

► Health and recreation, Outdoor recreation and tourism

Tourism is currently practiced at low intensity on site, but there are plans to upgrade tourism use (MoNRE of RF, 2011; WHC, 2012).

► Knowledge, Importance for research

The site has already contributed significantly to the overall scientific understanding of the Arctic (UNEP-WCMC, 2011). Additionally, it may turn into a biological climate change impact monitoring centre (IUCN, 2004), if the

required monitoring programmes are developed.

Summary of benefits

Due to its remoteness, extremely low population and hostile conditions, Wrangel Island Reserve offers only limited direct benefits. At the same time, the property is of considerable value not only to nature conservation, but also to science (a role that could be further strengthened) and as a place to experience the natural beauty of the Arctic.

Projects

Compilation of active conservation projects

№	Organization/ individuals	Project duration	Brief description of Active Projects
1	Administration of Wrangel Island Nature Reserve		Various research projects on the ecosystem and biota of the property (some with direct relevance to conservation), partly in cooperation with Russian universities and research institutes; see (MoNRE of RF, 2011) for list.

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