IUCN Conservation Outlook Assessment 2017 **(archived)**
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Ogasawara Islands

SITE INFORMATION

Country:
Japan
Inscribed in: 2011
Criteria:
(ix)

Site description:
The property numbers more than 30 islands clustered in three groups and covers surface area of 7,939 hectares. The islands offer a variety of landscapes and are home to a wealth of fauna, including the Bonin Flying Fox, a critically endangered bat, and 195 endangered bird species. Four-hundred and forty-one native plant taxa have been documented on the islands whose waters support numerous species of fish, cetaceans and corals. Ogasawara Islands' ecosystems reflect a range of evolutionary processes illustrated through its assemblage of plant species from both southeast and northwest Asia, alongside many endemic species. © UNESCO

SUMMARY

2017 Conservation Outlook

Good with some concerns

The outstanding values of the site – high plant and invertebrate diversity with high levels of endemism – have been relatively well preserved to date. However, the relatively recent invasion of green anole (Anolis carolinensis) to Ani-jima Island and expansion of invasive flatworm (Platydemus manokwari) to the land snail habitat of Chichi-jima Island pose a high threat to these values. Commendable ongoing efforts to control invasive alien species have had some success, for example eradicating cats, goats and rats from some islands, however, some species are persistent and require sustained effort, such as green anole, flatworms and the invasive African big headed ant (Pheidole megacephala). Increases in visitation and establishment of air services to the islands are the main potential threats, especially as they may increase the risk of alien species invasions. Biosecurity measures for the property require improvement. Components of the property are protected as wilderness area, national park, national wildlife protection area, forest ecosystem reserve and natural monument. The Ministry of the Environment, Forestry Agency and Agency for Cultural Affairs effectively enforce laws concerning the protection of Ogasawara Islands. Comprehensive management and action plans are in place; however, funding for protection and management has decreased and may not be sufficient to sustain effective long-term invasive species control programmes.

Current state and trend of VALUES

Low Concern
Trend: Stable

The World Heritage values of the site, namely ongoing ecological and evolutionary processes and high levels of endemism, have so far been well preserved. However, these values remain under high threat from invasive alien species. The fragile ecology of these oceanic islands could be further threatened by increasing tourism demand and access, which is evident following the

inscription of the islands onto the World Heritage List.

Overall THREATS

High Threat

Invasive species represent by far the most serious threat to the ongoing ecological processes on the islands. Commendable progress has been achieved in mitigation and eradication, particularly for larger mammal pests such as cats, goats and rats. However, the level of threat remains high as evidenced by further infestations of green anole and the flatworm (Platydemus manokwari), concerns about invasive ant species and weaknesses in the biosecurity measures for visitors to the islands and for inter-island movements. Increases in visitation and establishment of air services to the islands are the main potential threats, however, the level of both threats is, for the moment, low.

Overall PROTECTION and MANAGEMENT

Mostly Effective

The component protected areas of the site are protected under different designations with the Ministry of the Environment, Forestry Agency and Agency for Cultural Affairs effectively responsible for law enforcement concerning the protection of Ogasawara Islands. The management plan and action plan for the protection and management of the property are being implemented effectively by the Ministry of the Environment, Forestry Agency, Tokyo Metropolitan Government and Ogasawara Village with the local community’s participation facilitated through a Regional Liaison Committee. Funding has to date been sufficient, however it has fallen considerably following inscription. The management authorities have made impressive efforts to address invasive species threats to the islands’ fragile ecology. However, stakeholders have advocated additional funding to match the magnitude of the invasive species control challenge.

FULL ASSESSMENT

Description of values

Values

World Heritage values

► **Valuable evidence of fine-scale evolutionary processes**
Criterion:(ix)

The Ogasawara Islands provide valuable evidence of evolutionary processes through their significant ongoing ecological processes of adaptive radiation in the evolution of endemic plants, insects and the land snail fauna. When taking into account their small area, the Ogasawara Islands show exceptionally high levels of endemism in land snails and vascular plants. The examples of fine-scale adaptive radiation between and sometimes within the different islands of the archipelago are central to the study and understanding of speciation and ecological diversification. This is further enhanced by the relatively low extinction rates in taxa such as the land snails (World Heritage Committee, 2011).

► **Exceptionally high levels of endemism in selected taxonomic groups**
Criterion:(ix)

The property has a very high percentage of endemic species in selected taxonomic groups, resulting from evolutionary processes. Within the flora, the site is an important centre for active, ongoing speciation with some 441 documented taxa of native plants including 161 taxa of endemic vascular plants and 88 taxa of endemic woody plants. The property also exhibits remarkably high levels of endemism among insects and land snails. There are 1,380 insect species, 379 of which are endemic; and of 134 species of land snails, 100 are endemic. It is the combination of both the concentration

of endemism and extent of adaptive radiation evident in the Ogasawara Islands which sets the property apart from other places illustrating evolutionary processes (IUCN, 2011; World Heritage Committee, 2011).

Other important biodiversity values

► Valuable birdlife habitat, especially for seabirds

The property is an Endemic Bird Area (EBA) and five of Japan’s 167 Important Bird Areas (IBAs) are located in the Ogasawara Archipelago. Of the 195 recorded bird species, 14 are on the IUCN Red List (IUCN, 2011).

Assessment information

Threats

Current Threats

High Threat

Invasive species represent the most serious threat to the ongoing ecological processes on the islands. Significant progress has been achieved in mitigation and eradication; however, the level of threat remains high as evidenced by the spread of green anole, further expansion of the invasive flatworm (Platydemus manokwari) and the potential for the introduced African big-headed ant (Pheidole megacephala) to have serious impact on land snails. Biosecurity measures could be improved.

► Invasive Non-Native/ Alien Species

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

Alien invasive species continue to present the most significant immediate and future threat (IUCN, 2011; IUCN Consultation,2017; Kachi, 2010; Sugiura,

2015). Incidences of invasive plant occurrence were observed after eradication of goat and black rat (Ogasawara Islands World Natural Heritage Scientific Council, 2011). Rats were eradicated from uninhabited islands using poison baits in 2011, however the rat population recovered on uninhabited Ani-jima Island after the eradication of goats (IUCN Consultation, 2017). Invasive flatworm (Platydemus manokwari) continues to expand to the snail habitats on Chichi-jima Island (Ogasawara Islands World Natural Heritage Scientific Council, 2012). Research carried out in 2016 suggests the invasive African big-headed ant (Pheidole megacephala) is a more significant threat to land snails than initially realised (Uchida et al., 2016). P. megacephala expanded its distribution from Chichi-jima to Haha-jima Island in 2015. A major effort was made to eradicate these ants with two-thirds of nests eliminated in 2016. However, eradication of the last remaining nest in southern Haha-jima has not been finalised (IUCN Consultation, 2017). Green anole (Anolis carolinensis) was found in 2013 to have spread to uninhabited Ani-jima Island only 500 m from the inhabited Chichi-jima Island. The lizard threatens the ecology of the island including two endemic insect species (A dragonfly – Hemicordulia ogasawarensis and tiger beetle – Cicindela bonina) reported to be on the verge of extinction (Kawakami, 2010). Electric fencing and actions to control green anole from Ani-jima are ongoing but have so far failed to eradicate this species (IUCN Consultation, 2017; Japan News/World News, 2016).

Efforts to control cats, goats and rats from uninhabited islands have been more successful but problems still remain in attaining complete eradication. Biosecurity policies and procedures for incoming tourists and inter-island movements are still in need of improvement (IUCN Consultation, 2017).

► Housing/ Urban Areas

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

Only two islands are inhabited (Chichi-jima and Haha-jima), both have small resident populations living in urban settlements. There are likely impacts from these settlements (possible encroachment and pollution), however, the IUCN evaluation mission found no evidence of adverse impacts and the urban interface is mostly well-managed. Recent surveys show strong environmental

awareness and stewardship among the residents, which has increased following World Heritage listing (Havas et al., 2016).

Potential Threats

Low Threat

Increase in visitation and establishment of air services to the islands are the main potential threats. Evidence suggests dramatically increasing interest in the property following World Heritage listing, however, the long sea journey to reach the islands continues to limit visitation to manageable levels. Unregulated access from independent vessels has the potential to increase visitation and threaten biosecurity. Plans for a residents-only air service between the islands and Tokyo are still in place, however, details are lacking.

► Utility / Service Lines

Low Threat
Outside site

The establishment of air services to the islands through an airstrip on Chichi-jima Island has in the past been under discussion and will likely continue to be debated. Most residents seem strongly supportive but appear to favour a small-scale solution for residential and emergency use (IUCN, 2011). Stakeholder reports suggest that plans for an airstrip (for residents only) remain current. Government supported proposals linked to the 5th anniversary of World Heritage inscription in 2016 are reported to be on hold awaiting budget and an environment impact assessment (IUCN Consultation, 2017).

► Tourism/ visitors/ recreation

Low Threat
Inside site, extent of threat not known

The site is very well protected through a strict access control regime with many sensitive areas off-limits to visitors or only accessible through guided tours (IUCN, 2011). Predictions at the time of inscription were that tourism interest would increase and this appears to have happened. Media reports indicate a surge in interest in the property following inscription with the number of visitors having dramatically increased since World Heritage listing,

rising from just under 21,000 in the 12 months before to 31,000 in the year after, more than doubling during peak months. The number of cruises too has surged, tripling to 12 in 2011 and set to nearly quadruple in 2012 to 47 (Japan Times, 2012).

► Habitat Shifting/ Alteration, Ocean acidification, Temperature extremes

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

There are likely impacts of climate change, such as on species compositions, ranges, seasonal cycles and habitat preferences, and trophic dynamics with alien invasive species, etc. In addition, a higher frequency and intensity of natural disasters such as landslides, typhoons and droughts could impact the islands in future (IUCN, 2011; Sugiura, 2016). Oceanic island ecosystems often have limited adaptive capacity and these systems may be more susceptible to climate related change.

Protection and management

Assessing Protection and Management

► Relationships with local people

Highly Effective

A Regional Liaison Committee was established in 2006 and meets annually to facilitate the community's participation in management decisions. Research conducted since inscription regarding residents' attitudes reveals good levels of awareness of World Heritage, a strong sense of stewardship and environmental responsibility and relatively high levels of community engagement in active management (Havas et al., 2016).

► Legal framework

Mostly Effective

The components of the property are protected as wilderness area, national park, national wildlife protection area, forest ecosystem reserve and natural

monument. The Ministry of the Environment, Forestry Agency and Agency for Cultural Affairs effectively enforce laws concerning the protection of Ogasawara Islands.

► Enforcement

Mostly Effective

Much of the property is inaccessible and, whilst visitation has increased since listing, it remains generally low. Some incidents of vandalism to vegetation have been reported in Chibusayama and some unaccompanied tourists visiting the Sekimon area (Japan Times, 2012).

► Integration into regional and national planning systems

Mostly Effective

Action plans under the management plan are integrated within the policies and plans of the Tokyo Metropolitan Government and Ogasawara Village at regional and local scales.

► Management system

Mostly Effective

The multi-agency management system combining three central agencies and two local administrations is complex, however, the Regional Liaison Committee provides an effective mechanism for coordination. Good participatory management approaches are evident (Havas et al., 2016). The revision of the management plan for the property and the Ogasawara Islands Ecosystem Conservation Action Plan, which shows the conservation strategy for the ecosystems on each island and roadmaps, are the current topics of discussion in the Scientific Council and the Ogasawara Regional Liaison Committee.

In 2017, Ogasawara World Heritage Centre was established by the Ministry of the Environment as a base for the conservation of rare species that are among the attributes of Outstanding Universal Value, and for countermeasures to alien species. The centre has started its operations with the cooperation of related parties.

► Management effectiveness

Mostly Effective

A formal evaluation of management effectiveness has not yet been carried out. However, there is evidence of significant investment in management, particularly targeting invasive alien species (IUCN, 2011; IUCN Consultation, 2017).

► Implementation of Committee decisions and recommendations

Some Concern

Committee decisions and recommendations have mostly been implemented, however, the control of invasive alien species has experienced both successes and setbacks, such as the newly emerging invasions of green anole and invasive flatworm. The Committee’s request to consider further expansion of the marine park zones of the property has not yet been addressed.

► Boundaries

Mostly Effective

Boundaries are clearly defined and understood.

► Sustainable finance

Some Concern

Budgets for preventing expansion of green anole and invasive flatworm were increased in 2013, but the allocation of funds was delayed in response to green anole being discovered on Ani-jima Island between the two fiscal years of 2012 and 2013. The budget to build a new World Heritage Centre was suspended in the fiscal year 2014 by the Ministry of the Environment. Budgets appear to have dropped significantly from those reported at the time of evaluation – from 11 million to 1.76 million USD per annum (IUCN, 2011; Japan News/World News, 2016). Stakeholders have raised concerns about the need to increase funding commensurate with the scale of required alien invasive species work (IUCN Consultation, 2017).

▶ Staff training and development

Data Deficient

Evaluation of effectiveness of staff training in Ogasawara Islands has not yet been carried out.

▶ Sustainable use

Mostly Effective

The Ecotourism Master Plan includes regulation of the number of visitors to Minami-jima Island, Sekimon Trail on Haha-jima Island and specifies a certification program required for tour guides.

▶ Education and interpretation programs

Mostly Effective

A visitor centre run by the Tokyo Metropolitan Government as well as tourism organisations such as Ogasawara Whale Watching Association provide education and interpretation programmes. Tourism operators are receptive to introducing improved guide qualification systems to ensure protection of sensitive areas (IUCN Consultation, 2017).

▶ Tourism and visitation management

Some Concern

Ecotourism operations provide an opportunity to interpret the values of Ogasawara Islands to visitors under an Ecotourism Master Plan which has been prepared for the islands. Tourism demand has increased since World Heritage listing. Control measures include a strict ceiling on the number of hotels and beds in Ogasawara Islands imposed up to now. A new vessel was introduced for the trip between Tokyo and the Islands and the shipping operators have voluntarily imposed a reduced capacity (750 from 1,000 passengers) to limit impacts. Concerns have been raised about an increase in the number of independent vessels arriving at Futami Port in Chichi-jima Island. Passengers have to use small boats to land at Futami Port and hence they do not carry much luggage, but it may add a new pathway of alien invasive species introduction because of the lack of quarantine staff at Futami Port (IUCN Consultation, 2017). There is a general need to improve

biosecurity policies and procedures (IUCN, 2011).

► Monitoring

Mostly Effective

Monitoring of tourism impact on sensitive ecosystems such as Minami-jima Island, Sekimon Trail and Higashi-daira Trail has been carried out by the Tokyo Metropolitan Government, Forestry Agency and Ministry of the Environment with the participation of scientists and NGOs. The Ministry of Environment were reportedly planning to investigate the ecological impact of increased tourism on Japan’s four natural World Heritage sites: Yakushima, Shiretoko, Shirakami and Ogasawara (Japan Times, 2012).

► Research

Mostly Effective

Research on the conservation of endemic species and eradication of invasive alien species has been carried out by the Ministry of the Environment, Forestry Agency and the Tokyo Metropolitan Government with the participation of scientists and NGOs including the Boninology Institute. Additional research focus is needed on climate change impacts (IUCN, 2011).

Overall assessment of protection and management

Mostly Effective

The component protected areas of the site are protected under different designations with the Ministry of the Environment, Forestry Agency and Agency for Cultural Affairs effectively responsible for law enforcement concerning the protection of Ogasawara Islands. The management plan and action plan for the protection and management of the property are being implemented effectively by the Ministry of the Environment, Forestry Agency, Tokyo Metropolitan Government and Ogasawara Village with the local community’s participation facilitated through a Regional Liaison Committee. Funding has to date been sufficient, however it has fallen considerably following inscription. The management authorities have made impressive efforts to address invasive species threats to the islands’ fragile ecology. However, stakeholders have advocated additional funding to match the magnitude of the invasive species

control challenge.

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

The principal threat to the property's values relates to invasive alien species. Biosecurity measures need to be improved to mitigate the threat of further human induced introductions. There is evidence of significant increase in tourism demand and increasing numbers of independent vessels accessing the islands. In addition, proposed air services entail potential changes to the accessibility of the islands. This could change both the numbers and the type of visitors to the property as the current journey by boat requires a greater investment of time and effort than a short flight from the Japanese mainland (IUCN, 2011).

▶ **Best practice examples**

The authorities are to be commended for well-resourced programmes to control invasive species. These programmes have been developed based on assessing and adapting global best practice island ecosystem management. The Ogasawara Islands have established a number of excellent cooperative programmes with other countries expert in island invasive species control such as New Zealand (IUCN, 2011).

State and trend of values

Assessing the current state and trend of values

World Heritage values

▶ **Valuable evidence of fine-scale evolutionary processes**
Low Concern
Trend:Stable

Despite significant concerns regarding the impact of invasive species on certain species, the fine-scale evolutionary processes for which the islands

were inscribed continue to function.

▶ **Exceptionally high levels of endemism in selected taxonomic groups**

Low Concern
Trend:Stable

High levels of endemism are a product of the islands' biogeographic isolation and evolutionary history. These high levels of endemism persist but are dependent on vigilant quarantining and access controls as well as ongoing effective invasive species control programmes.

The Ministry of the Environment designated 14 species of land snails of the genus Mandarina on Ogasawara Islands as National Endangered Species in 2016, based on the Act on Conservation of Endangered Species of Wild Fauna and Flora. For six of these species, a Plan for a Protection and Recovery Programme was formulated and farming and breeding are ongoing (IUCN Consultation, 2017).

Summary of the Values

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

Low Concern

Trend: Stable

The World Heritage values of the site, namely ongoing ecological and evolutionary processes and high levels of endemism, have so far been well preserved. However, these values remain under high threat from invasive alien species. The fragile ecology of these oceanic islands could be further threatened by increasing tourism demand and access, which is evident following the inscription of the islands onto the World Heritage List.

▶ **Assessment of the current state and trend of other important biodiversity values**

Low Concern

Trend: Stable

Evidence at the time of the IUCN evaluation suggests that the island's birdlife values remain intact, especially on the more remote islands within the

property.

Additional information

Benefits

Understanding Benefits

▶ **Importance for research**

Triggered by the World Heritage nomination and inscription, the property has been a focus of research and action on controlling invasive species. Excellent engagement with the community as well as the presence of the site-level Institute of Boninology has contributed to a major cooperative effort from governments, communities, academics and NGOs. Communities receive benefits from this programme, for example, the control of feral cats increased the number of iconic species such as Japanese wood pigeon (Columba janthina nitens).

▶ **Outdoor recreation and tourism**

Since 1988, Ogasawara Islands have been recognised as ideal sites for ecotourism including whale-watching operations. World Heritage inscription promotes this practice including regulation of visitor numbers to important habitats. A certification system for tour guides has been in operation since Ogasawara Islands were recognised as a potential World Heritage site in 2003. Communities receive benefit from tourism.

Strict carrying capacities for visitors are needed or protect the natural amenity of the property and not jeopardise the tourism values.

▶ **Natural beauty and scenery**

All components are legally protected with nature conservation objectives foremost. Recent research indicates island residents value nature and appreciate the related tourism benefits which derive from this (Havas et al.,

2016).

Invasive species and climate change impacts could seriously undermine the natural landscape values of the islands.

Summary of benefits

The property, with careful management of tourism including biosecurity and access, has great potential to provide ongoing tourism benefits to local people and businesses as well as expanding the wider tourism offerings in Japan. Attitude research conducted among local residents since inscription reveals good levels of awareness of World Heritage, a strong sense of stewardship and environmental responsibility and relatively high levels of community engagement in active management (Havas et al., 2016). The property is also an invaluable centre of research on oceanic island ecology and has been a recent focus of best practice in the management of challenging alien invasive species problems.

Projects

Compilation of active conservation projects

№	Organization/individuals	Project duration	Brief description of Active Projects
1	Ministry of Environment	From: 2016	The Ministry of the Environment designated 14 species of Mandarina in Ogasawara Islands as National Endangered Species in 2016 based on the Act on Conservation of Endangered Species of Wild Fauna and Flora. For six of these species, a Plan for a Protection and Recovery Programme was formulated and farming and breeding are ongoing.
2	Ministry of Environment		Plans to investigate the ecological impact of increased tourism on Japan’s four natural World Heritage sites: Yakushima, Shiretoko, Shirakami and Ogasawara (Japan Times, 2012).

№	Organization/individuals	Project duration	Brief description of Active Projects
3	Ministry of Environment	From: 2014 To: 2016	Development of conservation measures for endangered species.
4	Ministry of Environment	From: 2017	The Ministry of the Environment decided to conduct a comprehensive academic study in 2017 to assess the value of the ecosystem on Nishinoshima Island, which has seen ongoing intermittent lava eruption and deposition since 2013. Most of the island is covered in lava, providing a valuable place for the observation and study of ecosystem regeneration and succession. The timing of the study will be decided depending on the eruptive conditions.
5	Tokyo Metropolitan Government	From: 2017	For Minami-iwoto Island which is designated as a Wilderness Area based on the Nature Conservation Law, a comprehensive study on the natural environment is currently ongoing by Tokyo Metropolitan Government, 10 years since the last study in 2007, with the aim of understanding the current situation and collecting basic information for the conservation management of the island.

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