IUCN Conservation Outlook Assessment 2014 **(archived)**
Finalised on 07 November 2014

Please note: this is an archived Conservation Outlook Assessment for Ujung Kulon National Park. To access the most up-to-date Conservation Outlook Assessment for this site, please visit https://www.worldheritageoutlook.iucn.org.

Ujung Kulon National Park

SITE INFORMATION

Country:
Indonesia
Inscribed in: 1991
Criteria:
(vii) (x)

Site description:

This national park, located in the extreme south-western tip of Java on the Sunda shelf, includes the Ujung Kulon peninsula and several offshore islands and encompasses the natural reserve of Krakatoa. In addition to its natural beauty and geological interest – particularly for the study of inland volcanoes – it contains the largest remaining area of lowland rainforests in the Java plain. Several species of endangered plants and animals can be found there, the Javan rhinoceros being the most seriously under threat. © UNESCO

SUMMARY

2014 Conservation Outlook

Significant concern

The values for which Ujung Kulon National Park was inscribed on the World Heritage List are all still present, and most of them are in good condition. Management is considered to be mostly effective, and has for at least the past nineteen years succeeded in completely averting rhino poaching. However, the current situation of the Javan Rhino is considered to be critical, and urgent and significant management intervention is required to ensure that its population is able to grow. The main threat to the rhino and Ujung Kulon's other World Heritage values is the overabundance of the palm Arenga obtusifolia. So far, no attempts have been made to eradicate and control this species on a large scale, due to a lack of appropriate methods. For these reasons, the Conservation Outlook of Ujung Kulon National Park is of significant concern. However, it has to be noted that experiments to eradicate Arenga in the Javan Rhino Study and Conservation Area (JRSCA) are starting to show positive results. If these experiences can be successfully replicated on a large scale throughout the national park, and the rhino population responds positively to the increased habitat thus made available, the Conservation Outlook of this site would likely be 'good with some concerns'.

Current state and trend of VALUES

High Concern
Trend: Stable

In general terms the current state of conservation of the values of Ujung Kulon National Park appears to be of low concern, although insufficient data is available to assess to what extent these values may have been affected by the overabundance of the palm Arenga obtusifolia. What is evident is that the Javan Rhino population, although still breeding, has seen a decline since the 1980s. Urgent action is required to increase the amount of habitat available to the rhino to allow its population to grow. The recent creation of the Javan Rhino Study and

Conservation Area (JRSCA) is starting to show positive results in that regard, and it is hoped that the experiences gained there will be replicable in the entire national park. Until the Javan Rhino population has been confirmed to be growing again, its situation remains critical, and therefore, the overall assessment of the current state of Ujung Kulon's World Heritage values is considered to be of high concern.

Overall THREATS

High Threat

It has to be emphasized that encroachment and other illegal activities do not currently appear to be having a significant impact on the Outstanding Universal Value of the site. Nevertheless, overall threats are considered to be "High", given the significant threat from the overabundance of Arenga obtusifolia.

Overall PROTECTION and MANAGEMENT

Mostly Effective

Overall, the protection and management of Ujung Kulon National Park is considered to be effective. Intensive monitoring by highly motivated Rhino Protection Units ensures that illegal activities remain largely under control. Despite occasional conflicts, the overall relationship between park management and local people is considered to be good.

FULL ASSESSMENT

Description of values

Values

World Heritage values

► **Most extensive lowland rainforest remaining on Java**
Criterion:(x)

Ujung Kulon National Park contains the most extensive remaining lowland rainforest on the island of Java, a habitat type that has virtually disappeared elsewhere on the island and is under severe pressure elsewhere in Indonesia and Southeast Asia (SOUV, 2014).

► **Critical habitat for threatened animal species**
Criterion:(x)

The site provides invaluable habitat critical for the survival of a number of rare and threatened animal species. In addition to Javan Rhinoceros, the site is home to 29 other species of mammals, including the Critically Endangered Javan Leopard (Panthera pardus melas), the Endangered Banteng (Bos javanicus), Dhole (Cuon alpinus) and Fishing Cat (Prionailurus viverrinus), and three endemic primate species: the Endangered Javan Gibbon (Hylobates moloch) and Javan Surili (Presbytis comata) and the Vulnerable Javan Lutung (Trachypitecus auratus). Among amphibians and reptiles are numerous frogs and toads, as well as two species of python and two species of crocodile, the Vulnerable False Gharial (Tomistoma schlegelii) and the Salt-water Crocodile (Crocodylus porosus). Over 270 species of birds have been recorded for the park (SOUV, 2014).

▶ Critical habitat for rare plant species

Criterion:(x)

Ujung Kulon is floristically diverse, with 10 distinct plant community groups comprising 39 different plant communities (Hommel, 1987). 57 species of rare plants have been recorded in the park (SOUV, 2014).

▶ Landscape of exceptional beauty

Criterion:(vii)

Krakatau is one of the natural world's best-known examples of recent island volcanism. The physical feature of Krakatau Island combined with the surrounding sea, natural vegetation, succession of vegetation and volcanic activities combine to form a landscape of exceptional beauty (SOUV, 2014).

▶ Stronghold for Javan Rhinoceros

Criterion:(x)

The site is home to the last remaining population of Javan or Lesser One-horned Rhinoceros (Rhinoceros sondaicus) in the world, numbering between 35 and 44 animals (SOUV, 2014; International Rhino Foundation, 2014). No Javan Rhinos exist in captivity anywhere. With the extinction of the Vietnamese subspecies in 2010, Ujung Kulon is the last remaining hope for the survival of the species.

Assessment information

Threats

Current Threats

High Threat

The threat from encroachment and other illegal activities is relatively low, although the impact of poaching on birds has not been quantified. The most

significant current threat to the site is the overabundance of Arenga obtusifolia, which results in reduced availability and diversity of habitats for threatened species. Javan Rhino is particularly sensitive to this threat. The rhino population in Ujung Kulon has been very small for many generations, and has been isolated for at least 80 years, which may be causing a lower than normal reproductive success rate as a result of inbreeding depression. The threat to the marine portion of the site from destructive fishing methods and other illegal fishing is not insignificant.

► Housing/ Urban Areas, Crop production

Low Threat
Inside site
Outside site

The Honje Mountains, which form the mainland portion of Ujung Kulon National Park and which are connected to the peninsula by a narrow isthmus, are fully surrounded by 19 villages, each consisting of a number of kampongs. While the villages and their agricultural fields are mostly located outside the boundaries of the site, two kampongs (including their agricultural fields) are partially or completely located within the boundaries, namely Ciakar and Legon Pakis, respectively (Van Merm, 2008). The rate of encroachment is relatively low, but has grown from 400 hectares in 1990 to 3436 hectares in 2008. This trend could be halted with the development of JRSCA since 2010-2011 (Ramono, pers. comm. 2014).

► Fishing / Harvesting Aquatic Resources, Commercial hunting, Subsistence hunting

Low Threat
Inside site
Outside site

According to Sadjudin (1999), many of the 270 bird species found in Ujung Kulon have a high market value. Bird poaching is therefore a common practice in the park. Other species targeted by poachers may include small mammals and Green Turtle (Chelonia mydas). Illegal shrimp fishing is also practiced (Konstant, pers. comm. 2014). These illegal activities can be controlled by intensive patrols and alternative livelihood provided to the surrounding communities (Ramono, pers. comm. 2014). There have been no incidents of rhino poaching for at least 19 years (International Rhino

Foundation, www.rhinos.org, accessed 23 September 2014).

► Fishing / Harvesting Aquatic Resources

High Threat
Inside site

Dynamite fishing and other unsustainable fishing methods disturb the integrity of healthy coral reefs and the marine ecosystem (Ramono, pers. comm. 2014). Fishing is permitted close outside the boundaries of the park, but illegal fishing occurs in the marine portion of Ujung Kulon National Park.

► Mining/ Quarrying

Data Deficient
Inside site

There is a demand for high quality sand from Anak Krakatau, to be used as construction material. Anak Krakatau is easily accessible by sea, making it difficult to control sand exploitation (Ramono, pers. comm. 2014). The current level of impact from this activity is unclear, but as it is a form of mining it is not compatible with the World Heritage status of Ujung Kulon National Park, which includes the Krakatau Islands.

► Hyper-Abundant Species

Very High Threat
Inside site

Arenga obtusifolia, locally known as Langkap, is a native palm species that is overabundant in Ujung Kulon National Park. In 2007 it was estimated that Langkap covers around 60% of the Ujung Kulon Peninsula (Ministry of Forestry, 2007), and it is likely to have spread further since. It out-competes most other plants by forming a dense canopy where very little light penetrates, and is a significant threat to the Javan Rhino by reducing the availability of habitat and food plants (Van Merm, 2007). It is also likely to have a significant impact on the habitat of other species of animals and plants. Experiments are currently being undertaken to remove stands of Langkap and stimulate regeneration of Rhino food plants. These activities are currently restricted a number of sample plots within the Javan Rhino Study and Conservation Area (JRSCA), and are starting to show positive results (Konstant, pers. comm. 2014). If proven successful, urgent action should be

taken to replicate these methods throughout the national park in order to control the spread of Langkap.

Potential Threats

High Threat

The biggest potential threat stems from the high volcanic activity of Anak Krakatau, which is included in the boundaries of Ujung Kulon National Park World Heritage Site, and indeed a part of its Outstanding Universal Value. Although the likelihood of a cataclysmic event such as the one of 1883 is relatively small, even a tsunami resulting from a smaller eruption could cause widespread destruction in the low lying areas of Ujung Kulon, and have a catastrophic impact on the Javan Rhino.

► Volcanoes, Earthquakes/ Tsunamis

High Threat
Inside site
Outside site

Although the Krakatau Islands are part of the Outstanding Universal Value (OUV) of Ujung Kulon National Park, as one of the world's best-known examples of recent island volcanism, the continued high level of activity of Anak Krakatau is also a threat to the values of the site. The famous eruption of 1883 caused a tsunami with a height of 15 metres, which destroyed the old growth forests along the flat beaches of the Ujung Kulon peninsula (Hoogerwerf, 1970). Explosive magmatic (strombolian) eruptions of Anak Krakatau have occurred regularly between 2007 and 2011, with the largest recent eruption recorded on 2 September 2012, when the ash cloud reached a height of 1000 metres (PVMBG , 10 May 2014). While the likelihood of another cataclysmic event such as the one in 1883 is relatively low, even a tsunami from a smaller eruption could have a devastating impact on the low lying parts of Ujung Kulon, and could be disastrous for the Javan Rhino.

► Mining/ Quarrying

High Threat
Outside site

Gold mining occurs outside the site (Ramono, pers. comm. 2014), very close to its north-eastern boundary. No information is available regarding the

current impact from this activity on the OUV of the site, and these appear to be limited. However, potential direct (loss of forest cover, contamination of ground water) and indirect (increased risk of poaching, illegal logging, etc.) impacts are significant and should be carefully monitored.

► Roads/ Railroads

Low Threat
Outside site

Road development outside the national park has facilitated access to nearby areas. This increases the risk of illegal activities such as encroachment and illegal logging. On the other hand, these roads facilitate the transport of agricultural products, thus increasing revenue for farmers (Ramono, pers. comm. 2014), and reducing local communities' dependence on the park for their livelihoods.

► Housing/ Urban Areas, Crop production, Livestock Farming / Grazing

Low Threat
Inside site
Outside site

The new district of Cibaliung will become a growing center of development that may demand resources from conservation areas. The new District will cover entirely Ujung Kulon National Park (Ramono, pers. comm. 2014).

Protection and management

Assessing Protection and Management

► Relationships with local people

Mostly Effective

The Indonesian Rhino Foundation (YABI) has a strong cooperation with the Park Management Authority, and ensures intensive patrolling by Rhino Protection Units (RPUs). These RPUs consist of one Park Ranger and otherwise entirely of local people (Konstant, pers. comm. 2014), who are therefore closely involved in the management of the park. On the other hand, in some instances there may be occasional conflict between local

people and Park Management, particularly in the enclave kampongs of Legon Pakis and Ciakar (Van Merm, 2008). Overall the relationship with local people may be considered to be mostly effective.

► Legal framework and enforcement

Mostly Effective

The Indonesian laws protecting the site are technically sound. Low incidences of encroachment and illegal logging suggest that law enforcement is generally effective. Rhino Protection Units have law enforcement powers as long as they are accompanied by a Park Ranger (Konstant, pers. comm., 2014).

► Integration into regional and national planning systems

Mostly Effective

Ujung Kulon National Park and the Krakatau islands fall within different provinces (Banten and Lampung, respectively), however both parts are being managed well (Ramono, pers. comm. 2014). Ujung Kulon National Park, and the Javan Rhino specifically, are included in the national Strategy and Action Plan for the Conservation of Rhinos in Indonesia 2007-2017 (Ministry of Forestry, 2007). Ujung Kulon National Park is a National Strategic Area on the basis of its environmental importance (www.ujungkulon.org, accessed 23 September 2014).

► Management system

Highly Effective

A long-term management plan (2001-2020) is in place, which aims to establish Ujung Kulon as a sustainable and beneficial national park through the realization of five management objectives, including improvement of local community welfare; development of ecotourism; protection of flora, fauna, ecosystems and cultural sites; scientific, technical and educational development; and sustainable use of biodiversity. Five inter-related management programmes are in place to achieve these objectives, i.e. Integrated Javan Rhino Management, Primates Management, Marine Management, Buffer Zone Management, and Ecotourism Management (UNEP-WCMC, 1991, updated 2011; www.ujungkulon.org, accessed 24 September

2014).

► Management effectiveness

Mostly Effective

Although no Management Effectiveness Evaluation appears to be available for Ujung Kulon National Park, its management is said to be mostly effective (Ramono, pers. comm. 2014), and the positive assessment of most of the other Protection and Management topics here tends to support that statement. On the other hand, many of the objectives of the Strategy and Action Plan for the Conservation of Rhinos in Indonesia 2007-2017 remain yet to be met.

► Implementation of Committee decisions and recommendations

Data Deficient

The State of Conservation of Ujung Kulon National Park has never been examined by the Committee, hence no decisions or recommendations were made by the Committee in that regard.

► Boundaries

Some Concern

The boundaries of the site are mostly appropriate. However, at Legon Pakis and Ciakar there is some dispute about the boundaries. When the status of the Honje Mountains was upgraded from a production forest to a Nature Reserve in 1967, the change of status caused the existing kampong of Legon Pakis to become an illegal enclave, which sometimes results in conflict between the villagers and park management (Van Merm, 2008).

► Sustainable finance

Mostly Effective

The main source of funding is central government, which collects revenue from entry fees (UNEP-WCMC, 1991, updated 2011). Entry fees range from Rp. 5,000.- (USD 0.42) to Rp. 225,000.- (USD 18.77) per person per day for Indonesian nationals and foreigners respectively, and additional fees are paid for different activities, such as research and tourist activities (www.ujungkulon.org, accessed 24 September 2014). In addition, Park

Management has established a number of partnerships for the implementation of management activities, including with WWF, the Indonesian Rhino Foundation (YABI), RARE/UNESCO, and others (a full list of partners is available on www.ujungkulon.org).

► Staff training and development

Highly Effective

Rhino Protection Units receive specific training for the job, and may occasionally benefit from development opportunities such as study trips to other parts of Indonesia (Sumatra) or the world (India). The level of motivation of RPUs is very high.

► Sustainable use

Mostly Effective

A Public Use Planning programme is in place to manage the use of the park and its resources, be it for subsistence or commercial purposes, to ensure that it is sustainable. Among other objectives, the Public Use Plan aims to develop local economies through ecotourism, while ensuring that visitor impacts remain within the Limits of Acceptable Change (www.ujungkulon.org, accessed 24 September 2014).

► Education and interpretation programs

Mostly Effective

The national park and its conservation value, in particular the Javan rhino, feature prominently in local primary schools (Van Merm, pers. obs. 2008). Some educational/interpretation material is also available at Park Headquarters in Labuan.

► Tourism and interpretation

Mostly Effective

There is a Visitor Centre at the Park Headquarters in Labuan, which provides some information about the park’s iconic species. However, not all visitors to the park will pass Labuan, as visitor permits can also be obtained at the accommodation facilities on Handeuleum and Peucang islands. In addition to the accommodation provided on these islands, visitors also have the option

to stay in home stays in the surrounding villages. Some local people are directly involved in ecotourism by working as guides and porters, and a variety of activities is provided by the local ecotourism organisation Kagum in Ujung Jaya (Van Merm, 2008). Park Management, in partnership with PT. Fordiso, has developed the smartphone application “TNUKpedia”, which has been especially developed to provide information on various topics and ecotourism objects (www.ujungkulon.org, accessed 23 September 2014). While the application (currently only available in Indonesian) is still limited in the information it provides, it represents an innovative approach to presenting park information to visitors.

► Monitoring

Mostly Effective

Intensive day-to-day monitoring is provided by the Rhino Protection Units. In addition to signs or direct sightings of rhinos, the RPUs also record sightings of Banteng, as well as instances of illegal activities encountered and/or investigated (Konstant, pers. comm. 2014). On average, RPUs spend 14-22 days per month on patrol. In addition to this day-to-day monitoring, WWF and the International Rhino Foundation manage a network of camera traps, which provides valuable data about the rhino population, as well as other species.

► Research

Mostly Effective

Much research has been conducted on Javan Rhinoceros, Banteng, and the avifauna, marine resources and landscape ecology of Ujung Kulon. Other research has focused on orchids, anthropology, mangroves, deer and monitor lizard, and rattan. The Krakatau islands have also been the subject of much research, particularly their recolonization by plants and animals (UNEP-WCMC, 1991, updated 2011).

Overall assessment of protection and management

Mostly Effective

Overall, the protection and management of Ujung Kulon National Park is considered to be effective. Intensive monitoring by highly motivated Rhino Protection Units ensures that illegal activities remain largely under control.

Despite occasional conflicts, the overall relationship between park management and local people is considered to be good.

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

Mostly Effective

Ujung Kulon National Park is an isolated protected area in a rural landscape. Outside threats relate to mining and a growing human population. There is currently no evidence that the mining activities close to the boundary of the national park are having a negative impact on its values, although more research and monitoring is required to confirm that. Low incidences of encroachment and other illegal activities indicate that potential threats from a growing human population are being effectively managed.

▶ **Best practice examples**

Intensive protection and monitoring by Rhino Protection Units, as well as engagement with local communities and awareness-raising campaigns, have resulted in zero rhino poaching for the past 19 years (International Rhino Foundation, website accessed 24 September 2014).
The smartphone application TNUKpedia represents an innovative approach to presenting park information to visitors and is the first such application available for any national park in Indonesia.

State and trend of values

Assessing the current state and trend of values

World Heritage values

▶ **Most extensive lowland rainforest remaining on Java**

Low Concern
Trend:Stable

Lowland rainforests in South-east Asia are a highly threatened ecosystem due to conversion to agricultural land and commercial plantations. In contrast, the lowland rainforests of Ujung Kulon remain generally in a good

condition, and are barely impacted by encroachment and illegal logging. The main concern is the overabundance of Arenga obtusifolia palm, which out-competes most other plants, and causes habitat degradation. In 2007, this palm was reported to be established in 60 percent of the peninsula (Ministry of Forestry, 2007), and it is likely that this figure has increased since. Given that Arenga is native to the area, it has been hypothesized that the natural succession process in Ujung Kulon may end with a consociation of Arenga (Yayasan Mitra Rhino et al., 2004).

► Critical habitat for threatened animal species

Low Concern
Trend:Stable

Other than for the rhino, there is not much information readily available on the population sizes and trends of Ujung Kulon's other species. According to the IUCN Red List of Threatened Species (www.iucnredlist.org, consulted on 25 September 2014), the Banteng population in Ujung Kulon is between 500 and 800 animals – the largest population on Java and possibly in the world. Poaching (mainly of birds) may be a threat to some species, but is generally considered to have a low impact (Konstant, pers. comm. 2014). The overabundance of Arenga, which has an impact on the rhino, may also be having an impact on other species, but there is currently insufficient data available to quantify any such impact.

► Critical habitat for rare plant species

Data Deficient
Trend:Data Deficient

There is insufficient data available to assess the status of rare plant species in Ujung Kulon, and whether the overabundance of Arenga is having an impact on these species.

► Landscape of exceptional beauty

Low Concern
Trend:Stable

There is no evidence of any of the elements that contribute to the outstanding natural beauty of the landscape having been lost or significantly deteriorated, although coral reefs may have been impacted by destructive

fishing methods.

► Stronghold for Javan Rhinoceros

Critical
Trend:Stable

When censuses started in 1967, the rhino population was estimated at 25 animals. By 1983 the population had reached 58 – 69 animals, but this growth was not sustained and the population has seen a slight decline between 1983 and 2004, when it was estimated at around 50 animals. The most recent confirmed estimates are of 35 – 44 rhinos (International Rhino Foundation, website accessed 17 September 2014), although the latest data is currently being analysed to produce an updated estimate (Konstant, pers. comm. 2014). According to the International Rhino Foundation (www.rhinos.org, accessed 17 September 2014), available evidence suggests that only 4 to 5 females are still breeding, and it is believed that the rhino population has reached the carrying capacity of its current habitat, and that it cannot grow any larger without intervention. In response to this concern, the International Rhino Foundation, through its implementing partner YABI and with the support of other partners, has created the 4,000 ha Javan Rhino Study and Conservation Area (JRSCA) in the south-western Gunung Honje area, with among others the objective to expand the rhino habitat through intensive habitat management. Control of Arenga palm (Langkap) in JRSCA has significantly increased visitation by rhinos to feed on the young browse plants that have shown good recolonization within one year of clearing sample plots of Arenga (Ramono and Konstant, pers. comm. 2014).

Summary of the Values

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

High Concern

Trend: Stable

In general terms the current state of conservation of the values of Ujung Kulon National Park appears to be of low concern, although insufficient data is available to assess to what extent these values may have been affected by the overabundance of the palm Arenga obtusifolia. What is evident is that the Javan Rhino population, although still breeding, has seen a decline since

the 1980s. Urgent action is required to increase the amount of habitat available to the rhino to allow its population to grow. The recent creation of the Javan Rhino Study and Conservation Area (JRSCA) is starting to show positive results in that regard, and it is hoped that the experiences gained there will be replicable in the entire national park. Until the Javan Rhino population has been confirmed to be growing again, its situation remains critical, and therefore, the overall assessment of the current state of Ujung Kulon’s World Heritage values is considered to be of high concern.

Additional information

Key conservation issues

▶ Javan Rhino conservation

Global

Given that the Javan Rhino's entire global population is restricted to Ujung Kulon National Park, its protection and the conservation of its habitat are crucial management priorities.

▶ Securing habitat for Javan Rhino translocation

Regional

With a violent eruption of Anak Krakatau and a devastating tsunami being a matter of "when" rather than "if", the translocation of some Javan Rhinos to a secure location outside Ujung Kulon, but within its former natural range, is of utmost importance. The JRSCA is intended to become a staging area for a population of founder animals before they are translocated. So far, efforts to identify suitable and secure habitat for establishing a new population of Javan Rhinos have not been successful.

▶ Habitat management

Local

The overabundance of the palm Arenga obtusifolia is the most urgent threat to the Javan Rhino, as it reduces the availability of suitable habitat. Intensive habitat management is required to control Arenga and restore degraded

habitat, with the aim to give the rhino population room to grow again.

▶ **Livelihood and community development**

National

Adequate livelihood and community development programmes are key to keeping illegal activities under control.

▶ **Protection of coastal areas**

National

Illegal fishing and destructive fishing methods have been noted as a high threat to the Outstanding Universal Value of the site. Control of illegal fishing is an important issue, and adequate human, financial and material (eg. boats) should be provided.

▶ **Boundary demarcation**

Local

Boundary demarcation should be improved, especially in the Gunung Honje area.

Benefits

Understanding Benefits

▶ **Is the protected area valued for its nature conservation?**

The site protects the largest remaining tract of lowland rainforest on Java, and is home to a range of endangered species, including three endemic primates, and the entire global population of Javan Rhinoceros.

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

Rhino Protection Units consist primarily of local people

▶ **Fishing areas and conservation of fish stocks**

Legal fishing outside the boundaries of the site is an important source of

income for some of the surrounding communities.

▶ **Access to drinking water**

Local communities depend on water from the site for domestic use (drinking, cooking, washing), and for subsistence agriculture.

▶ **History and tradition, Wilderness and iconic features**

There is a Ganesha statue at the summit of Mount Raksa on Panaitan Island, dating from the 1st century AD. Other sacred/spiritual sites include Sanghyang Sirah Cave at the extreme western tip of the Ujung Kulon Peninsula.

▶ **Sacred natural sites or landscapes**

The iconic Krakatau Islands are included in the site. The 1883 eruption of Krakatau is world famous, and was the loudest explosion in recorded history. Half of the island of Krakatau was blown away in the explosion. A new island, Anak Krakatau (the Child of Krakatau), emerged from the waves in August 1930, and has been growing at an average rate of 6.8 meters per year since the 1950s.

▶ **Outdoor recreation and tourism**

Panaitan Island is a well known spot for surfers the world over, and other forms of tourism represent a source of income for local communities. The local ecotourism organization Kagum offers a range of tourist activities.

▶ **Importance for research, Contribution to education, Collection of genetic material**

The site is a natural laboratory for geology, biology and evolution, and features prominently in local primary schools. Much research has been done in the site (see section "Research" in the assessment of "Protection and Management"), and Anak Krakatau is subject to many studies by volcanologists the world over.

▶

Carbon sequestration, Soil stabilisation, Coastal protection, Flood prevention, Water provision (importance for water quantity and quality), Pollination

These benefits can reasonably be assumed to all be present, but detailed information to quantify these benefits is not available.
Data deficient

Summary of benefits

The site is of major importance for nature conservation, as it protects the largest remaining lowland rainforest on Java, as well as many endangered species, including three endemic primates, and the entire global population of Javan Rhinoceros. Its protection provides jobs to local people (patrolling, tourism), and local communities depend on the site for their livelihoods (use of water, important fish spawning area, etc...).

Projects

Compilation of active conservation projects

№	Organization/ individuals	Project duration	Brief description of Active Projects
1	Local district authorities		Community development
2	WWF Indonesia		Community development, camera trapping, habitat studies
3	Aksi Konservasi Badak Jawa		Water pipeline project to supply water to Cegog village.
4	YABI, International Rhino Foundation (IRF)		Javan Rhino Study and Conservation Area
5	Yayasan Badak Indonesia (YABI)		Rhino Protection Units, rhino conservation and genetic studies, habitat management

Compilation of potential site needs

№	Site need title	Brief description of potential site needs	Support needed for following years
1	Park Management, YABI, WWF	Rhino habitat management throughout the Ujung Kulon Peninsula and Mount Honje, particularly focussed on control of Arenga obtusifolia and restoration of degraded habitat.	
2	Government of Indonesia, YABI, IRF	Identify and secure a second habitat for translocation of Javan Rhinos.	

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