

WORLD HERITAGE NOMINATION -- IUCN SUMMARY

409: HAWAII VOLCANOES NATIONAL PARK (USA)

Summary prepared by IUCN (April 1987) based on the original nomination submitted by USA. This original and all documents presented in support of this nomination will be available for consultation at the meetings of the Bureau and the Committee.

1. LOCATION:

Lies in the south-east part of the island of Hawaii, the eastern-most island of the State of Hawaii, and includes the summit and south-east slope of Mauna Loa and the summit and south-western, southern and south-eastern slopes of the Kilauea volcano. The core of the park lies at 19°11'-19°33'N, 155°01'-155°39'W.

2. JURIDICAL DATA:

The national park was created in 1916 by Act of the U.S. Congress. The area of the park was more than doubled as a result of Congressional authorizations in 1922, in 1928 and in 1938. The 'Ola'a Forest Tract was donated in 1951 and 1953. The 'Ola'a Forest Tract, being separated from the core by parcels of private land is, according to Executive Order 1640, not technically part of the national park. The park was accepted as part of the Hawaii Islands Biosphere Reserve in 1980. The national park now covers 87,940ha.

3. IDENTIFICATION:

The park extends from the southern coast, with its volcanic sea cliff headlands to the summit calderas of Kilauea (the most active volcano in the world, with more than 50 recorded eruptions in the last 33 years up to 1985) and Mauna Loa volcanoes. The latter is a massive, flat-domed shield volcano built by lava flow layers and is considered to be the best example of its type in the world extending from 5,581m below sea level to 4,169m above. The climatic gradient is abrupt from east to west resulting in the climate varying with altitude from tropical humid to alpine desert with average temperatures ranging from 22°C at sea level to 7°C at 3,400m and cooler still on the summit of Mauna Loa.

Twenty-three distinct vegetation types have been described for the park, ranging from the very diverse tropical rainforest of 'Ola'a to the scrub and grassland of Ka'u and the alpine tundra of Mauna Loa, grouped into five major ecosystems namely, subalpine, montane seasonal, montane rainforest, submontane seasonal and coastal lowlands. The 'Ola'a Forest tract, over 4,000 ha in size, is probably the largest remaining tract of virgin ohia and fern forest in the Hawaiian Islands. The park also contains remnants of a variety of upland native plant communities, characteristic of pre-18th century colonization habitats. Some of the endemic plant species are confined to a single valley or mountain slope, with native flora numbering 41 species, with a further 40 listed as rare and warranting special attention.

A number of vulnerable, endangered, and rare endemic bird species are present including nene goose, Hawaiian hawk, Hawaiian crow, and three members of the honeycreeper family. Endemic birds recorded from the park include the common 'apane', the scarce 'amakihi', the endangered Hawaiian creeper, the short-eared owl and the Hawaiian thrush.

The park is rich in archeological remains particularly along the coast with native villages, temples, graves, paved trails, canoe landings, petroglyphs, shelter caves, agricultural areas and two major archeological sites.

4. STATE OF PRESERVATION/CONSERVATION:

Management is carried out in accordance with a master plan and a natural resources management plan. The park is divided into three land-use zones: primary use zone for concentrated visitor use, wilderness threshold zone, and back country zone, the largest and least-used zone. Hunting of wild pigs (and goats) by local residents is permitted and control methods including fencing, baiting, trapping, snaring and hunting have resulted in reduced foraging impacts in a 4,000 ha area of the park. Mongooses, cats, dogs, and several species of alien birds and insects continue to disrupt native ecosystems. Heavy browsing by goats still denudes the landscape of shrubs and prevents regeneration of many native plant species.

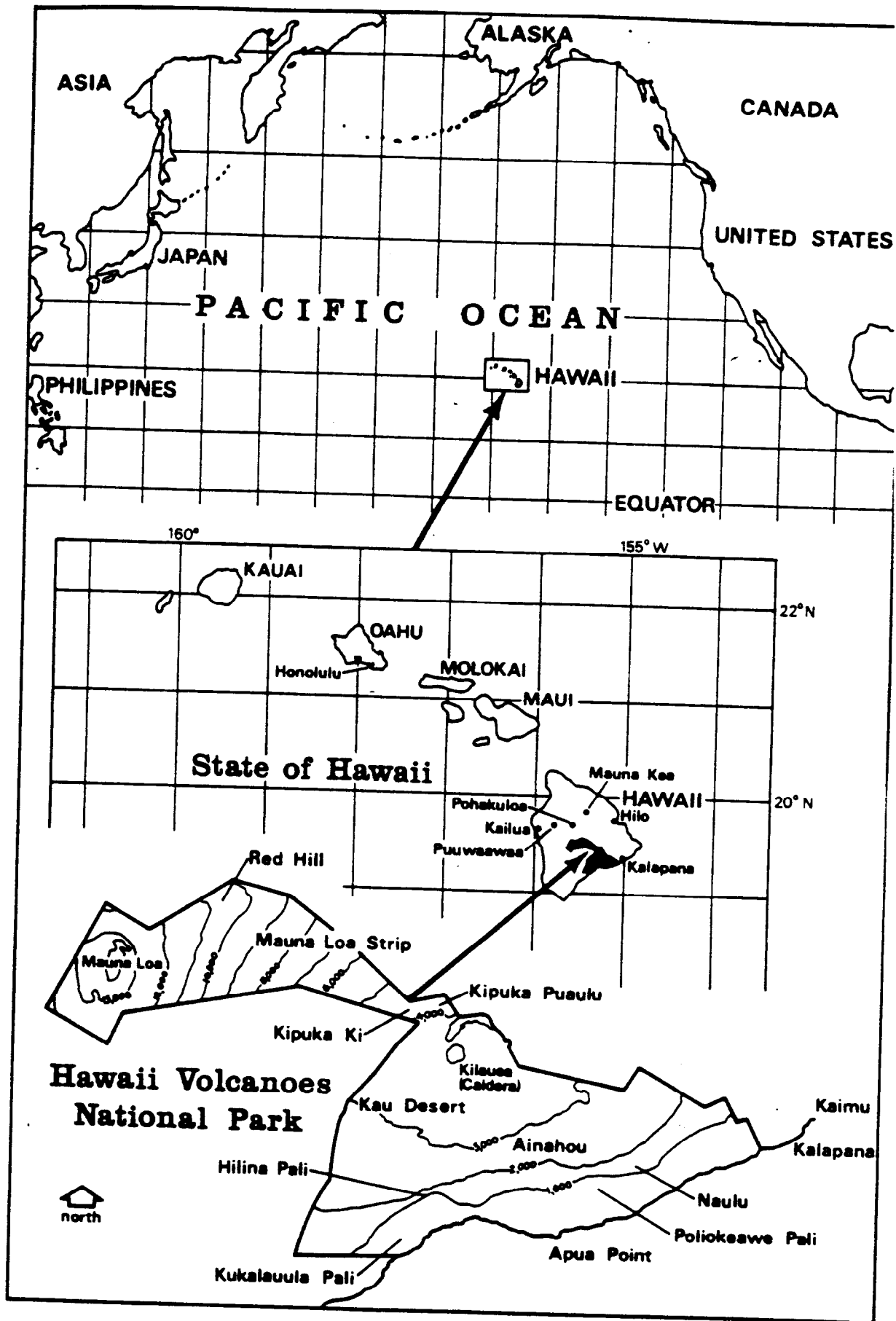
There is a volcanic geological research programme, directed by US Geological Survey scientists based at the Hawaiian volcano Observatory which was founded in 1912 on the rim of the Kilauea Caldera. Mauna Loa and Kilauea are the most studied and best understood volcanoes in the world. Staff positions include Management Ecologist, Park Interpreter, Research Scientist and Archeologist.

5. JUSTIFICATION FOR INCLUSION ON THE WORLD HERITAGE LIST:

The Hawaii Volcanoes National Park nomination, as presented by the Government of USA provides the following justification for designation as a World Heritage property:

a) Natural property

- (i) Earth's Evolutionary History. The site is a unique example of island building through on-going volcanic processes. It also contains excellent examples of biotic successional stages following volcanic activity.
- (iii) Exceptional Natural Beauty. The park's landscape contains dramatic volcanic sea cliffs, a huge summit caldera plus a range of volcanic features such as lava tubes, pit craters, and caves.
- (iv) Habitat of Rare and Endangered Species. The park has a small area of some of the most pristine dry forest remaining in the Hawaiian Islands. There are several endangered birds and rare plant species.



The location of Hawaii Volcanoes National Park in reference to the State of Hawaii

409 HAWAII VOLCANOES NATIONAL PARK (USA)

1. DOCUMENTATION

- (i) IUCN Data Sheet
- (ii) Consultations: B. Cahn, G. Stankey, A. Holt, R. Dasmann, L. Hamilton, O. Hamann
- (iii) Additional Literature Consulted: C.P. Stone and J.M. Scott, 1985, Hawaii's Terrestrial Ecosystems: Preservation and Management
- (iv) Site visit: 1984

2. COMPARISON WITH OTHER SITES

There are 6 protected areas in the Hawaiian Islands over 10,000 ha. in size. The Hawaii Volcanoes National Park is by far the largest and has the most volcanic features. The Kilauea crater in the Park is one of the most studied volcanic sites in the world having a Geological Station since 1912. Kilauea is also the most active large volcano in the world erupting more than 50 times in the last 34 years. Mauna Loa is in fact the greatest volcanic mass on earth rising from the ocean floor with a relief 600m. higher than Mt. Everest. Additionally, Mauna Loa is recognised as one of the best examples of a shield volcano in the world.

Most of the Park's volcanic features (sea cliffs, calderas, lava tubes, etc.) are also found on other volcanic islands such as the Canaries or Iceland. The biological succession processes are similar to other sites as well except for the many endemic Hawaiian species that are found in the Park.

In summary, the Hawaii Volcanoes National Park is the most exceptional protected area in the Hawaiian Islands both in terms of its volcanic display and its species assemblage. Scenically, it is less spectacular than a number of other volcanoes and it is primarily distinguished by its size and level of activity.

3. INTEGRITY

Like all natural areas in Hawaii the Park has been subject to considerable biological alteration since man's arrival so that it displays numerous evidence of human disturbance. Direct removal or alteration of native forest for growing sugar, pineapple plantations, ranching and logging, has altered the native biota of the forest habitats, particularly at low and middle elevations. Ranching activities and the introduction of species such as the pig Sus scrofa (4,000 at a density of 30-50 pigs per square kilometre), goat Capra hircus (previously 15,000-20,000 now 10 individuals within marked areas) and mongoose Herpestes auropunctatus have had serious biological consequences, including destruction of native ecosystems and widespread extinction of endemic species. Pockets of standing water, created by the wallowing of the feral pigs, provide breeding places for mosquitos, resulting in serious avian malaria. The spread of non-native plant species is also attributed to dispersion by the feral pigs. Mongooses, cats, dogs and several species of alien birds and insects continue to disrupt native ecosystems. Heavy browsing by goats still denudes the landscape of shrubs and prevents regeneration of many native plant species.

All of these problems are being addressed in the context of the national resources management plan. The control programs undertaken on the basis of solid scientific research have been a model for removal of alien animals and plants (including illegal narcotics) on oceanic islands. Threats from geothermal development on adjacent lands and the intrusiveness of helicopter overflight have also been reduced through political action. A land exchange has now been authorized that will add 2,300 ha. to the Park.

4. ADDITIONAL COMMENTS

The cultural milieu in which the 'goddess of the volcano' plays an important spiritual part in the legends of the local people, is a strong component in management of the Park.

5. EVALUATION

What is most outstanding about the Hawaii Volcanoes National Park is the significance of the on-going geological processes that are so easily observed there. As one of the world's most active volcanoes it serves as an excellent example of island building through volcanic processes. It has been an exceptionally productive area for science and has developed research procedures that are now standard world-wide. It, therefore, clearly meets Criteria (ii) of the Convention. The Park's values on the basis of Criteria (i) and (iii) are less evident and its biological values, though significant, are secondary to its overall theme of active vulcanism.

6. RECOMMENDATION

The Hawaii Volcanoes National Park should be added to the World Heritage List. The Park authorities should be encouraged to continue their commendable work in geological research and control of exotic species.

