



## Hawai'i Volcanoes National Park — Hawai'i

Hawai'i National Park was established on August 1, 1916 by President Woodrow Wilson. At that time, the 13th National Park included both the summits of Kīlauea and Mauna Loa as well as the summit of Haleakalā on Maui. Together, these three areas were named Hawai'i National Park. It wasn't until 1961 that these protected lands were separated into what we now know as Hawai'i Volcanoes National Park (HAVO) and Haleakalā National Park. In July 2003, 116,000 acres were added to HAVO through the acquisition of the Kahuku Ranch. HAVO now totals 333,000 acres of rich natural, cultural, and geological landscapes.

**Cultural History:** Hawai'i Volcanoes National Park is a reservoir of cultural history. Stretching from its beautiful sandy shores to its mountainous terrain, this park is home to 333 archeological sites consisting of 2,169 features as well as the vibrant living culture attached to them. Our significant cultural resources also include the Kūpuna (cultural advisors) who, through consultation, assist and educate us about these resources. Hawaiians believe that Hawai'i Volcanoes National Park, in its entirety, is a powerful source of mana (guiding spiritual power) and is wahi kapu (sacred land).

**Natural History:** As one explores this expansive park, they are bound to experience a natural resource full of life and beauty. Some of these wonders are not as easily experienced as others such as rare, endangered, and threatened native endemic flora and fauna. These unique species, whether it is the Hawaiian petrel ('ua'u), *Pterodroma sandwichensis*, that nest only on the high slopes of Mauna Loa or the 'ohai (*Sesbania tomentosa*) found along our coastal shores, are prized jewels the Park Service works hard to protect.

### Inventory and Monitoring

**Highlights:** The I&M program played a role in several inventories at HAVO in an effort to document at least 90% of vascular plant and faunal species present. These inventories provide information crucial to the development of monitoring protocols. Some noteworthy plant inventories were con-

ducted at the Kahuku Ranch and a remote volcanic trench in the Ola'a rainforest, with emphasis placed on developing plant checklists, mapping distributions of rare plants and alien weeds, and describing rare plant communities.

Terrestrial fauna inventories included both native and non-native birds, mammals, invertebrates, and herpetofauna (reptiles and amphibians). A seabird inventory used marine radar to identify seabird flight corridors within HAVO. A second inventory incorporated ground and auditory searches for seabird colonies on Mauna Loa. The relative abundance of shore and water birds was estimated in a park shoreline inventory. Also, forest birds were inventoried to generate estimates of abundance and occurrence. Three endangered forest birds were detected within the newly acquired Kahuku unit, thereby adding to HAVO's species list.

An inventory of the Hawaiian hoary bat, the only native terrestrial mammal in Hawaii, was conducted to assess distribution in the park and adjacent areas. Other mammal inventories such as pig activity was studied to determine the effects of population density on native vegetation. Rodents were surveyed to determine species abundance and distribution along an elevational gradient. Some invertebrates that were inventoried include native *Drosophila* pomace flies, *Megalagrion* damselflies, and *Omiodes* moths, as well as invasive yellowjackets, ants, and leafhoppers. Finally, although this list is not exhaustive, anchialine pools and associated communities were also inventoried.

Due to the sheer size, and



ecological and historical importance of HAVO within the National Park Service, most I&M Vital Signs

monitoring protocols will be implemented in the park. From monitoring protocols regarding invasive plants, to forest birds, to climate, cave communities, and more, HAVO is a key Pacific Island Network park for implementing I&M's monitoring program.

**Current Issues in Management:** To better manage natural resources at HAVO there is a need for more information on the health and trends of ecosystems found within the park. Landscapes and ecosystems change rapidly due to volcanic activity, alien species invasions, and the manipulative management actions needed to restore native ecosystems. Management priorities at HAVO include the identification, control, and removal of invasive species inside



the park as well as those species that are threatening to invade and alter park ecosystems.



Likewise, the loss of biodiversity is a major concern. Park management is working to stabilize selected Threatened and Endangered species, and Species



of Concern, through species reintroduction and habitat restoration programs. Other management goals include the maintenance of soundscapes, lightsapes, and wilderness, as well as control of disturbance sources such as fire.

### Come visit us:

HAVO is located 28 miles west of Hilo on Hawai'i Island. On the Web at: <http://www.nps.gov/havo/>

**Photos from top to bottom:** Feral sheep in Kahuku, ocean-entry lava flows, ripe 'ohelo berries, and an 'ua'u (Hawaiian petrel) preparing for take-off.