

Hawaii-Pacific Islands Cooperative Ecosystem Studies Unit

What are Cooperative Ecosystem Studies Units (CESUs)?

- Regional partnerships between government & universities/NGOs
- Based at university campuses and organized into a national network
- Ecosystem studies include biological, physical, social and cultural sciences
- Provide research, technical assistance, and education for natural and cultural resource managers

National CESU Network Map



What is the Hawaii-Pacific Islands Cooperative Ecosystem Studies Unit (HPI-CESU)?

A coalition of governmental agencies, NGOs and universities promoting cooperative research, education and technical assistance to support better stewardship of imperiled natural and cultural resources within the Pacific region.

HPI-CESU Partners

- University of Hawaii (Host Partner)
- American Samoa Community College
- Bishop Museum
- National Tropical Botanical Garden
- The Nature Conservancy
- Pacific International Center for High Technology Research
- University of California - Berkeley
- University of Guam
- University of Redlands
- Bureau of Land Management
- Department of Defense
- National Park Service
- Natural Resource Conservation Service
- U.S. Fish and Wildlife Service
- U.S. Forest Service
- U.S. Geological Survey

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Hawaii-Pacific
 Islands
 Cooperative
 Ecosystem
 Studies Unit



Hawaii Preservation Field School, Hawaii Volcanoes National Park (Dr. William Chapman, UH & NPS)



Hawaii Preservation Field School students document Fire Cache #4, a small utility structure on Hiina Pali Road in Hawaii Volcanoes National Park. One of the primary goals of the field school was to instruct students in inventory and survey techniques for buildings, structures, and landscapes, which they then applied in the field. Results of their work have contributed to the park's permanent historic property records for the Kilauea District. Photo by Hawaii Preservation Field School.

Developing New Techniques for Invasive Argentine Ant Control/Eradication to Protect Pollinators and Other Endemic Wildlife of Haleakala National Park (NPS)



HPI-CESU cooperater Dr. Paul Krushelnycky spreads bait in an Argentine ant study plot in Haleakala National Park. The alien Argentine ant, which can survive in high elevation native shrubland and subalpine habitats, threatens Hawaii's native arthropod fauna, which evolved in the absence of ants or other social insects. Photo by Kim and Forest Starr.

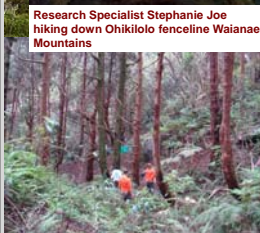
Oahu Army Natural Resource Program (DOD-Army)



Research Specialist Stephanie Joe hiking down Ohikilolo fenceline Waianae Mountains



OANRP staff monitoring vegetation recovery in the Waianae Mountains



OANRP outplanting rare and endangered species



Achatinella mustelina



Hesperomannia arbuscula

Select HPI-CESU Projects

Mapping Non-native/Invasive Plants on Midway Atoll NWR (Eastern Island, Sand Island, and Spit Island) for Early Detection and Rapid Response (USFWS)



Lagoon at Midway Atoll. Photo by Forest & Kim Starr.



Kim doing botanical survey on Midway Atoll. Photo by Forest & Kim Starr.



Kim and Forest re-discovering rare native popolo plant (*Solanum nelsonii*) on Spit Island, Midway Atoll.

Storm vulnerability assessments for coastal Pacific Island Network parks (Dr. Charles Fletcher, UH & NPS)



Pelekane Beach shoreline positions, transects and results. Shoreline change rates are displayed in graphs offshore. Each bar corresponds to a transect location (yellow shore-normal lines) on the shoreline. Negative rates (erosion) are indicated in red. Positive rates (accretion) are indicated in blue.



Ohalua Beach shoreline positions, transects and results.

Restoration of the Main Seawall, Kaloko-Honokohau National Historic Park (Dr. David Duffy, UH & NPS)



Baseline Assessment of the Coral Reef Habitat Adjacent to the Shores of Kohanaiki Development in Kaloko-Honokohau National Historical Park (Dr. James Beets, UH & NPS)



A diver photographs coral cover along a transect in Kaloko-Honokohau National Historical Park.

Plant Extinction Prevention Program (Dr. Clifford Morden, UH & USFWS)



Brighamia insignis. Photo by Anya Tagawa.



Hank Oppenheimer, Maui Nui PEP Coordinator, collects the fruit of an extremely rare mint, *Phyllostegia stachyoides*, a species that numbers fewer than 50 plants and known only from Maui, Molokai, and Hawaii Island. The collected seeds are stored at off-site facilities to serve as a safety net against extinction while the threats to the wild plants are managed. Plants grown from the seeds will eventually be used to stabilize the species.



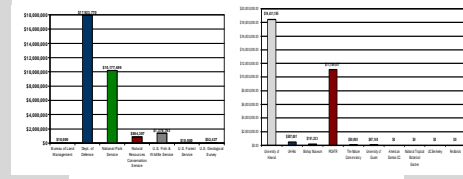
Kokia drynarioides. Photo by Anya Tagawa.



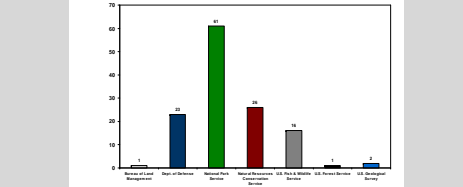
Phyllostegia floribunda. Photo by Anya Tagawa.

HPI-CESU Funding Levels 2004-2008

Dollars Awarded by Federal Agencies 2004-2008



Dollars Awarded to NGO Partners 2004-2008



Number of Projects by Federal Agencies 2004-2008

