

Hawai'i Wildlife Action Plan

What is a wildlife action plan?

Congress asked each state to develop a wildlife action plan, known technically as a comprehensive wildlife conservation strategy. These proactive plans examine the health of wildlife and prescribe actions to conserve wildlife and vital habitat before they become more rare and more costly to protect.

Hawai'i snapshot

Geography: The Hawaiian Islands are the most isolated archipelago in the world, situated more than 3200 km (2000 mi) from the nearest continent. Hawai'i provides a textbook example of adaptive radiation, the process by which many new species evolve from a single common ancestor in a relatively short time span. With the world's highest degree of endemism, 90 percent for terrestrial species and 20 percent for marine species, the diversity of unique species that have evolved in the islands is virtually unparalleled. Furthermore, the combinations of temperature and precipitation found in Hawai'i include nearly 95% of the climatic variation in the Earth's tropics, resulting in an extremely diverse range of habitat types founds at all elevations.

Landscape: Hawai'i is often referred to as the extinction capital of the United States, possessing one-third of the species federally listed as endangered. Much of



South Kona Mesic Forest on the island of Hawai'i/Hawai'i DLNR

Hawaii's biological diversity however, is still in existence and can be conserved with well-planned management and collaborative efforts. Given the endemic nature of many of the species found in Hawai'i, the focus for highlighting wildlife was on native species that were grouped into ten categories: terrestrial mammal, birds, terrestrial invertebrates, freshwater fishes, freshwater invertebrates, anchialine pond fauna, marine mammals, marine reptiles, marine fishes, and marine invertebrates. Based on public feedback, Hawai'i included native plants as well. Hawaii's CWCS is a historic endeavor, as never before has the state attempted to address the needs of so many of its unique species in such a comprehensive manner, from the mountains to the sea.



Federally endangered Hawaiian hawk/Hawai'i DLNR

"By building on earlier conservation and research efforts, the CWCS uses the best possible science available to establish statewide objectives and strategies to address the challenges facing our native wildlife and habitat."

*-Linda Lingle,
Governor of Hawai'i*



Wildlife: management in Hawai'i focuses on preventative measures and threat abatement. The major threats to Hawai'i's wildlife include habitat loss and degradation, invasive species introductions, excessive extractive uses, uneven compliance with existing laws, management constraints, and inadequate funding for research and management.

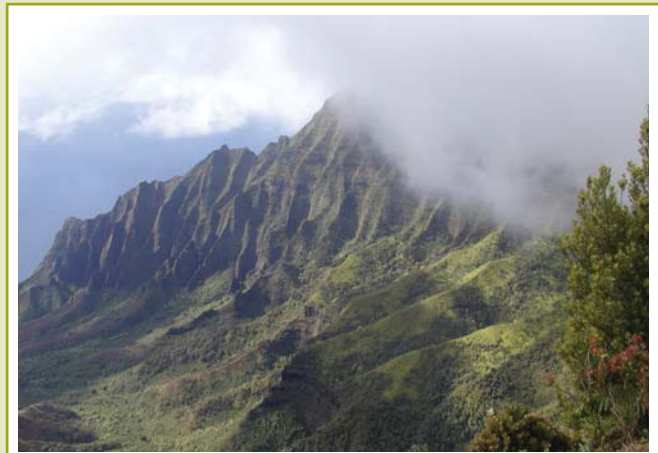
final plan, Hawai'i's CWCS team developed advisory groups, conducted workshops and public meetings, and used a website as well as a mailing list to jointly develop its CWCS through a collaborative process. This approach to the overall planning and strategy development was chosen in the recognition that conserving and protecting Hawai'i's unique native wildlife and habitats for future generations is everyone's responsibility, duty, and honor.

Hawai'i's planning approach

From the beginning, Hawai'i's CWCS was a collaborative effort involving partners such as government agencies (federal, state, county), non-profit organizations, universities, private landowners, researchers and scientists, community members, partnership initiatives, resource user groups such as hunters, recreationists, fishermen, Native Hawaiians, and the public at large. Primary staffing and project management was provided by the Department of Land and Natural Resources and the University of Hawaii Pacific Cooperative Studies Unit. From developing the list of species of greatest conservation need to finalizing the

Primary challenges to conserving wildlife in Hawai'i

The primary threats to wildlife in Hawai'i include habitat loss and degradation, introduced invasive species, limited information and information management, uneven compliance with existing conser-



Cliff and Ridge habitats (these areas are usually native and require preventative management actions)/DLNR

Wildlife	Species of greatest conservation need*	Threatened/endangered listed species
Snails	800+**	41+
Invertebrates	5,000+***	3
Fishes	159****	0
Reptiles	6	5
Birds	77	34
Mammals	27	8
Totals	5769+	91

*The Totals included are from the submitted document page 3-13 and do not include any revisions conducted since submission.

**Including terrestrial and aquatic species

***Does not include snails (noted above), nor all marine invertebrates

****Including fresh and marine

Wildlife highlights

Highlight habitats	Wildlife (examples)	Issue (examples)	Action (examples)
Habitat example Montane Mesic habitats Ownership: public and private	<ul style="list-style-type: none"> • Ohia (<i>Metrosideros polymorpha</i>) • I'iwi (<i>Vestiaria coccinea</i>) • <i>Achatinella</i> spp. 	Conversion to pasture land, invasive weed species, browsing by feral ungulates such as pigs and goats, clearing for commercial tree planting	Through supporting public-private partnerships such as watershed partnerships to work with private landowners to identify areas in need of conservation and restoration
Lowland dry habitats Ownership: public and private	<ul style="list-style-type: none"> • Wiliwili (<i>Erythrina sandwichensis</i>) • Hawaii Amakihi (<i>Hemignathus virens</i>) 	Invasive weed species, habitat loss, browsing by feral ungulates, fire	Identify priority habitats for protection and restoration initiatives
Coastal habitats Ownership: public and private	<ul style="list-style-type: none"> • Naupaka kahakai (<i>Scaevola sericea</i>) • Wedge-tailed shearwater (<i>Puffinus pacificus</i>) • <i>Megalagrion</i> spp. 	Development, habitat degradation by invasive species, fire	Support protected areas such as wildlife sanctuaries and refuges and activities centered on restoration and prevention
Freshwater aquatic habitats (streams) Ownership: public and private	<ul style="list-style-type: none"> • O'opu 'alamo'o (<i>Lentipes concolor</i>) • Newcomb's snail (<i>Erinna newcombi</i>) 	Insufficient instream flow due to diversions and dams, Pollution through sedimentation, inadequate protections of mid-elevation streams, multiple landowners, inadequate data on fauna	Establish instream flow standards throughout the state, identify priority streams in need of protection and management activities, increase efforts to collect data to assess stream fauna and health, work with landowners to protect priority streams

Recommended actions to conserve Hawaii's wildlife

vation laws, rules, and regulations, overharvesting and excessive extractive use, management constraints such as inadequate or conflicting policies, and inadequate funding. Due to their evolutionary history and high levels of endemism, Hawaii's wildlife species are particularly susceptible to the threats posed by the introduction and spread of introduced species and pathogens. Non-native species may out-compete native species or may directly harm native species through predation, infection, and interbreeding and hybridization. Hawaiian terrestrial animals evolved in the total absence of mammalian predators and are extremely vulnerable to predation by these introduced species, especially rats (*Rattus* spp.), feral cats (*Felis silvestris*), and mongoose (*Herpestes auro-punctatus*). Rats have been implicated in the decline in native bird populations during the early 1900s. Feral cats are extremely skilled predators and have been responsible for the extinction of birds on other islands.

Given that Hawai'i is the main transportation hub for the Pacific involving military, tourism, and commercial transport, the state

Restoration of native plants by a school group on O'ahu/ Hawai'i/DLNR



is at high risk for invasive introduction which will affect not only native wildlife and habitats but also the human population via diseases such as West Nile Virus, and the economy via animals such as the Brown Tree Snake.

Working together for Hawaii's wildlife

Hawaii's CWCS was developed collaboratively with many partners and interested members of the public. The Department began by alerting people to this initiative via a mailing to over 600 organizations and individuals, as well as by creating a website to share information and gather feedback from the public. The Department also built on existing and

prior conservation efforts with analysis of management and recovery plans and data resources. From these methods we developed a mailing list to consistently update partners on the development of the plan, as well as to solicit feedback on various products such as the list of SGCN and the species fact sheets (which were also made available on the website for review and comment). Additionally, the Department participated in several outreach forums such as Earth Day events and conferences in which booths and presentations were made about the CWCS. Technical workshops and public meetings were held on six islands to share the first draft of the plan, and based on the feedback from these meetings a second draft of the plan was developed and made available via the website and mail. This resulted in the plan that was submitted to the National Advisory Acceptance Team.



Area suffering from feral pig damage in 1998/Hawai'i DLNR



Same area in 2005 restored with fencing and removal of feral pigs/Hawai'i DLNR

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