

CHAPTER 1: PURPOSE AND VALUE

Mission Statement: *The mission of Hawaii's Comprehensive Wildlife Conservation Strategy is to guide conservation efforts across the State to ensure protection of Hawaii's wide range of native wildlife and the diverse habitats that support them.*

PURPOSE OF HAWAII'S COMPREHENSIVE WILDLIFE CONSERVATION STRATEGY

The purpose of developing Hawaii's Comprehensive Wildlife Conservation Strategy (CWCS) is to provide the opportunity for resource managers to develop a comprehensive planning process to help manage all of Hawaii's unique native wildlife. Hawaii's CWCS is truly comprehensive in scope, going beyond the initial legislative mandate to fully recognize the interconnectedness of Hawaii's diverse flora and fauna to create an integrated, strategic blueprint for the protection and recovery of Hawaii's biodiversity. Although the magnitude and scope of the work needed to protect and recover Hawaii's unique species are challenging, the Strategy will improve the biological, cultural, and economic well-being of the islands and their people.

LEGISLATIVE MANDATE AND GUIDANCE

Historically, wildlife funding at the national level has been targeted towards species that were hunted or fished for sport and towards species federally listed as threatened or endangered. Declining populations of non-game, non-endangered species throughout the nation and the lack of stable funding to address the needs of these species led to the creation of the Wildlife Conservation and Restoration Program (WCRP) for fiscal year 2001 and the State Wildlife Grants (SWG) program (2002 to present) by the United States Congress. These programs provide funds to state agencies to begin the work needed to protect and secure viable populations of the full range of wildlife and their habitats in each state. The Hawai'i Department of Land and Natural Resources (DLNR) holds the constitutional and statutory authority to protect wildlife resources and administers the use of these funds.

As a condition for participation in these Federal aid programs, Congress required states to develop a Comprehensive Wildlife Conservation Strategy (CWCS) to remain eligible for SWG funding. Each CWCS must include the following eight elements:

- 1) Information on the distribution and abundance of species of wildlife identified as "species of greatest conservation need," including low and declining populations, as the State fish and wildlife agency deems appropriate, that are indicative of the diversity and health of the State's wildlife;
- 2) Descriptions of the locations and relative condition of key habitats and community types essential to the conservation of species identified in (1);
- 3) Descriptions of problems which may adversely affect species identified in (1) or their habitats, and priority research and survey efforts needed to identify factors which may assist in restoration and improved conservation of these species and habitats;

- 4) Descriptions of conservation actions proposed to conserve the identified species and habitats and priorities for implementing such actions;
- 5) Proposed plans for monitoring species identified in (1) and their habitats, for monitoring the effectiveness of the conservation actions proposed in (4), and for adapting these conservation actions to respond appropriately to new information or changing conditions;
- 6) Descriptions of procedures to review the plan at an interval not to exceed ten years;
- 7) Plans for coordinating the development, implementation, review, and revision of the plan with Federal, State, and local agencies and Indian tribes that manage significant land and water areas within the State or administer programs that significantly affect the conservation of identified species and habitats;
- 8) Provisions to ensure public participation in the development, revision, and implementation of projects and programs.

The Hawai'i DLNR is leading the effort to collect the best available information from the many existing plans and programs and to coordinate with other local, State, and Federal agencies, non-governmental organizations, private landowners, and interested citizens to develop and implement the best approaches to ensure the long-term conservation of Hawaii's native wildlife through Hawaii's CWCS.

VALUE OF HAWAII'S CWCS

The value of Hawaii's CWCS toward achieving its mission lies in its ability to integrate the needs of the full range of native species and habitats into a coordinated effort that enhances the effectiveness of broad cooperation among agencies and landowners toward the conservation of native species and habitats. Much of the groundwork for this collaboration exists in Hawai'i in the form of numerous partnerships and existing management and species recovery plans. Although this conservation effort is characterized by working together and sharing information and responsibilities, no one document has synthesized all this information into a strategy for the entire State.

The value of having one document covering the needs of a diverse range of species groups makes Hawaii's CWCS a historic endeavor. Additionally, by working with and soliciting information from a broad range of governmental agencies, non-governmental organizations, and citizens, Hawaii's CWCS has helped to create consensus, excitement, support, and momentum to protect our native species. Whether or not our generation leaves a legacy of biodiversity to our grandchildren begins with the decisions and actions made today.

By identifying important species and habitats, key threats, and objectives and strategies for their conservation, and by creating a framework to measure the effectiveness of these strategies, Hawaii's CWCS lays the foundation for conservation of native wildlife and their habitats. By taking a proactive approach, Hawaii's CWCS takes a fiscally responsible stand. The CWCS focuses on actions to prevent species from reaching threatened or endangered status, providing a cost-effective alternative to recovering

species after they have been listed as threatened or endangered. Additionally, by emphasizing measures that benefit multiple species groups and habitats in which they reside, the CWCS is a change from single species management. The true challenge, however, will come with the implementation of this CWCS.

HAWAII'S UNIQUE WILDLIFE RESOURCES AND THEIR VALUES

A CWCS is especially important to Hawai'i, the United States, and even the world, because of the unique biology, cultural importance, and economic value of native Hawaiian species. The Hawaiian Islands are the most isolated archipelago in the world, situated in the middle of the Pacific Ocean more than 3,200 kilometers (2,000 miles) from the nearest continent. Because of this extreme isolation, relatively few life forms survived the rigors of the ocean crossing and reached the islands. Fewer still were able to successfully establish populations in the archipelago over its 70 million year history. Those that did, however, found a diversity of climatic and geological features that provided an enormous range of habitat types. With extremely limited gene flow from their distant, original populations, colonists rapidly adapted to their novel environments. For many such colonists, unique adaptations occurred simultaneously among populations that were isolated from one another on an island and between islands. Hawai'i provides a text-book example of adaptive radiation, the process by which many new species evolved from a single common ancestor in a relatively short time span.

Although Charles Darwin never visited the Hawaiian Islands, he was aware of their unique biology. If he had visited the islands, he would have discovered that Hawai'i surpasses the Galapagos Islands in the number and variety of species that evolved from a small set of original colonizing ancestors. Scientists now recognize that the world's premier showcase of adaptive radiation is the Hawaiian archipelago. The diversity of unique species that have evolved in the islands is nothing less than astounding, with plants and animals that are so distinctive that the archipelago has been described as its own biogeographic province that possesses the world's highest degree of endemism – 90 percent for terrestrial species and 15 to 20 percent for marine species.

The arrival of Polynesians approximately 1,600 years ago, and increasingly with the arrival of Westerners in 1778, contributed to the destruction of native habitats and introduced many novel threats to which the island's species had never been exposed. For more than 70 million years, the evolution of new species vastly exceeded losses to extinction. Yet after the arrival of humans to the islands, within what is a blink of an eye in geological time, numerous species began precipitous declines to extinction. These losses include at least half of the native bird life, hundreds of unique plant species, and undoubtedly thousands of lesser known taxa such as terrestrial insects and spiders that were lost before they were ever described. Today, with less than 0.2 percent of the land area of the United States, the Hawaiian Islands hold more than 30 percent of the nation's imperiled species. These include 317 taxa of plants and animals listed by the U.S. Fish and Wildlife Service (USFWS) as endangered or threatened, 12 taxa proposed as endangered, and 105 taxa as candidates for listing.

Despite this, in present day Hawai‘i, the link between Native Hawaiian culture and native species has not been lost and continues to be practiced in belief systems as well as traditional practices such as gathering of native plants and animals for hula, traditional medicines, carving, weaving, tool making, jewelry, and ceremonies. The special role and relationship Native Hawaiians have with the native species and ecosystems in the islands is perhaps most reflected in their increasing role in natural resource management in places such as the island of Kaho‘olawe; Limahuli and Lumaha‘i valleys on Kaua‘i; Mo‘omomi, Moloka‘i; and Keauhou, Hawai‘i where traditional management practices such as *kapu* (taboo) and *ahupua‘a* (watershed)-scale thinking predominate.

Native wildlife is also important to all of Hawaii’s residents. Based on a 2004 “Wildlife Values in the West” survey, a large majority of Hawaii’s residents (71.4%) strongly agree that it is important to take steps to prevent the extinction of endangered species (Teel & Dayer, 2005). Economically, wildlife viewing opportunities are worth hundreds of millions of dollars to the State’s \$10 billion a year tourism industry (U.S. Department of Interior, 2003). Hawaii’s native wildlife and their habitats also provide hundreds of millions of dollars in important goods and services to residents. A recent University of Hawai‘i study of the economic valuation of water quality, in-stream uses, species habitat, hunting, commercial harvest, ecotourism, and climate control estimated the value of services to be between \$7.4 to \$14 billion in the Ko‘olau Mountains of O‘ahu alone (Kaiser, 1999). Other examples of ecological services provided by native habitats include coral reefs that protect beaches, homes, and businesses from erosion, storms, and tsunami waves, and wetland habitats that filter the water supply. Finally, actions preventing the introduction of invasive species benefit people as well as native wildlife: invasive weeds increase the likelihood of wildfires that threaten homes and native habitats; introduced ungulates (hooved animals) denude native forest, causing soil erosion and sedimentation of streams and nearshore reefs and impacting fishing opportunities; plants such as *Miconia calvescens* provide much less erosion control than native trees, threatening billions of gallons of water provided by our watersheds; the coqui frog (*Eleutherodactylus coqui*) poses quality of life issues for residents while eating native invertebrates; and West Nile Virus and the brown tree snake raise public health and safety concerns.

ORGANIZATION AND FORMAT OF HAWAII’S CWCS

Hawaii’s CWCS is organized in a way that addresses the required eight elements at multiple scales, from the statewide perspective to island-specific and taxa-specific levels. Chapter 2, **Approach and Methods**, describes the processes used to develop the Strategy and addresses elements 7 and 8. Chapters 3 and 4, **State of Hawai‘i Overview** and **Statewide Conservation Needs**, provide a statewide overview outlining the current condition of the State’s natural resources, management activities, key threats to native species and habitats, and statewide conservation goals, objectives, and strategies. Chapter 5, **Marine Conservation Needs**, and Chapter 6, **Island Conservation Needs**, go beyond the statewide perspective to location-specific threats and strategies, including those for the Northwestern Hawaiian Islands. Chapter 7, **Species of Greatest Conservation Need**, provides details on all the listed wildlife taxa in fact sheets that

contain information for one taxa, closely related groups of species, or species facing similar threats. These Chapters (3-7) address required elements 1 through 5. Chapter 8, **Monitoring, Implementation, and Adaptive Management**, discusses existing and needed monitoring programs for species and habitats as well as implementation and review of the CWCS itself, addressing elements 6 and 7. Finally, supporting sections consisting of **Appendices, Glossary, and References** are included to provide additional detail.

References:

- Kaiser B, Krause N, Roumasset J. 1999. Environmental valuation and the Hawaiian economy. Honolulu: University of Hawai'i Economic Research Organization.
- Teel TL, Dayer AA. 2005. Preliminary state-specific results from the research project entitled "Wildlife values in the west 2004." Fort Collins: Human Dimensions in Natural Resources Unit, Colorado State University.
- U.S. Department of the Interior, Fish and Wildlife Service and U.S. Department of Commerce, U.S. Census Bureau. 2003. 2001 National survey of fishing, hunting, and wildlife-associated recreation. available at: <http://www.census.gov/prod/2003pubs/01fhw/fhw01-hi.pdf> (May 24, 2005).