WILDLIFE AND NATURAL AREAS

Many of Maui’s natural areas and wildlife are in designated State and National Parks, nature preserves, forest reserves, natural area reserves, and private lands. These lands contribute to the quality of life on Maui, attract visitors, provide habitat for native species, and are inextricably tied to the Hawaiian culture.

Maui’s natural areas and wildlife are key components of the island’s identity. As the island experiences an increase in population and subsequent demand for development, Maui’s natural areas and wildlife will experience increased challenges, requiring strong management and protection.

Waterfall in Kīpahulu.
Maui’s natural areas and undeveloped open space provide wildlife plant and animal habitat for many of Hawai‘i’s native and endangered species. Furthermore, these areas are resources for the island’s residents and visitors. Many wildlife and natural areas contain rainforests and dryland forests and other disappearing Hawaiian ecosystems that are critical for the survival of many native species.

Native wildlife is important to residents. According to the Wildlife Values in the West (2005) survey, a large majority of Hawai‘i’s residents (71.4 percent) strongly agree that it is important to take steps to prevent the extinction of endangered species. Wildlife-viewing opportunities are worth hundreds of millions of dollars to the State’s tourism industry, according to the United States Department of Interior.

The Countywide Policy Plan, at page 46, establishes the following policies:

“Preserve and reestablish indigenous and endemic species’ habitats and their connectivity.”

“Expand coordination with the State and nonprofit agencies and their volunteers to reduce invasive species, replant indigenous species, and identify critical habitat.”

A strong foundation of programs and partnerships to protect endangered species is in place. The State and Federal government have the primary responsibility for managing endangered species; however, the County should continue to play a key supportive role through its land use planning and regulatory responsibilities.
With Maui’s continually growing population, previously undeveloped areas are experiencing increased development pressure, particularly in the State Agricultural District. Many agriculturally designated lands are home to threatened and endangered species that could be harmed by development. The County can ensure greater protection of flora and fauna resources by requiring assessments for development in areas with medium, high, and very high concentrations of threatened and endangered species.

The Natural Area Partnership Program (NAPP) was created within the Division of Forestry and Wildlife, State Department of Land and Natural Resources, to protect privately owned lands with intact Native Hawaiian ecosystems and essential habitat for endangered species. The program provides private landowners with assistance to protect land in perpetuity through transfer of fee title or a conservation easement to the State or a cooperating entity.

Programs such as NAPP are vital to the preservation of natural areas; however, they rely on private landowners to voluntarily initiate the partnership. An inventory and evaluation of NAPP-eligible lands could be conducted to identify lands that add to contiguous native ecosystems and provide vital habitat for native species. For lands identified as possessing these characteristics, proactive steps could be taken to encourage property owners to protect the land.

To fund the acquisition of important natural areas, the County may apply for grants from the Land Conservation Fund, pursuant to Section 173A-5, Hawai`i Revised Statutes, to obtain funding for the acquisition of land and easements for watershed protection, parks, coastal areas, scenic resources, and other natural areas.

**Cyanea mceldowneyi, endemic to East Maui.**
Maui is biologically diverse and characterized by high levels of endemism (species unique to the island) in animals and plants, with more than 10,000 species found nowhere else on Earth. Rates of endemism are typically 99 percent to 100 percent for terrestrial insects, spiders, and land snails; 90 percent for plants; more than 80 percent for breeding birds; and 15 percent to 20 percent for aquatic fauna.\(^9\)

The longevity of a species is directly related to the health of its habitat. In addition to the individual species, the native habitats can be considered endangered because of habitat fragmentation. Vast expanses of Maui’s native habitats have already been lost; therefore, preservation of remaining habitat is vital to the survival of many species.

Historically, activities such as logging, agriculture, grazing, military use, fire, and urban, rural, and residential development have claimed more than half of Hawai‘i’s native habitats. At low elevations, where development pressures are highest, less than 10 percent of native vegetation remains, according to the Wildlife Study.\(^10\) Native flora is in need of conservation; more than 250 species are federally listed as threatened or endangered.

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\(^10\) Id
Horizon across from Keālia Pond.

The upper elevations of West Maui and Haleakalā provide vital habitat for endangered and endemic plants and animals. With the threat of habitat destruction and invasive species in the lower elevations of the island, many native species have been forced to adapt to higher elevation. East Maui, in particular, has been identified as containing some of the last remaining intact Native Hawaiian ecosystems in the State. The Waikamoi Preserve, within East Maui, protects hundreds of native species. The koa-ʻōhiʻa forest within the preserve provides a sanctuary for many endangered plants and animals. State and Federal lands, such as State Forest Reserves and Haleakalā National Park, also provide habitat for many endangered species and protect sensitive habitat.

Kanahā Pond Wildlife Sanctuary in Kahului provides vital habitat for native waterbirds. Keālia Pond National Wildlife Refuge, on Maui’s south shore, provides critical habitat for many endangered bird species. The refuge protects some of the last remaining native wetland habitat in the State.

Hawaiʻi presents both an opportunity and challenge for conservation. While the threats to Hawaiʻi’s native species persist, recent years have seen greater awareness of the need to take action to conserve biodiversity, more assertive political will to take steps to address the problems, and wider community involvement in projects.11

Maui’s native species and their habitats are also important cultural resources for Native Hawaiians. Historically, feathers from forest birds were used to make elaborate capes, lei, and helmets for the aliʻi. In present-day Hawaiʻi, the link between Native Hawaiian culture and native species has not been lost, as seen in the continuation of traditional practices such as gathering of native plants for hula, medicinal uses, carving, weaving, and ceremonies.

The greatest threat to native and endemic species of Hawaiʻi is invasive species. Because of their evolutionary history, Hawaiʻi’s native plants and animals are particularly susceptible to the threats posed by the introduction and spread of invasive species and pathogens. The introduction of invasive species causes environmental and economic harm. Non-native species may out-compete native species or may directly

harm native species through predation or infection. Non-native species may also threaten native species through interbreeding and hybridization, leading to the loss of the native species as a unique species. The Wildlife Study estimated that more than 6,000 introduced terrestrial and aquatic species were established and that approximately 26 percent to 30 percent of species in Hawai‘i are non-native. While many introductions do not pose a threat to native habitats, approximately 10 percent of the established non-native species are highly invasive or pose significant threats to Hawai‘i’s ecosystems.

No other state has experienced a similar invasion of non-native competitors, predators, habitat-modifiers, vectors of infectious disease, and pathogens, according to the Wildlife Study. Over a nine-month period, the State Department of Agriculture discovered more than 100 alien species entering the island via air cargo, as reported in the Kahului Airport Pest Risk Assessment (2002).

Feral ungulates pose a major threat to native plants by consuming and trampling native understory plants. In turn, this has created conditions favoring non-native plant infestation and establishment, preventing the establishment of ground-rooting native plants, and disrupting soil-nutrient cycling.

Actions that will assist conservation efforts include the protection of existing native habitats from feral animals, invasive plant control and eradication, monitoring of populations, and additional research on methods to address the role of invertebrates and disease. Furthermore, education and outreach efforts will teach residents and visitors about invasive species, how to avoid introduction, and how to eradicate those that are already a nuisance.

**SUMMARY OF WILDLIFE AND NATURAL AREAS ISSUES**

Maui’s wildlife and natural area resources are key components of the island’s identity. Interconnected natural landscapes that provide habitat for native and endangered species can be affected and degraded by a few activities that reduce their habitat value. Major issues affecting Maui’s wildlife and natural areas include:

- Lack of integrated environmental resource planning and management
- Loss of natural areas and wildlife habitat
- Introduction of invasive species

**GOAL, OBJECTIVES, POLICIES, AND ACTIONS**

**Goal:**

2.4 Maui’s natural areas and indigenous flora and fauna will be protected.

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13 Id.
### Objective:

**2.4.1** A comprehensive management strategy that includes further identification, protection, and restoration of indigenous wildlife habitats.

### Policies:

- **2.4.1.a** Identify and inventory the following:
  1. Natural, recreational, and open space resources;
  2. Flora and fauna with medium, high, and very high concentrations of threatened or endangered species; and
  3. Location and extent of invasive species.

- **2.4.1.b** Require flora and fauna assessment and protection plans for development in areas with concentrations of indigenous flora and fauna; development shall comply with the assessment and protection plan and shall use the avoidance, minimization, and mitigation approach respectively, with an emphasis on avoidance.

- **2.4.1.c** Support the implementation of Hawai‘i’s Comprehensive Wildlife Conservation Strategy (October 2005).

### Implementing Actions:

- **2.4.1-Action 1** Develop, and regularly update, an island-wide Environmental Resources Sites’ database to serve as a basis for decision making to include the following: natural preserves; watersheds; wetlands; streams; dryland forests; critical habitat areas; natural barrier resources; and other sensitive landforms and features on an Environmental Resources Map.

- **2.4.1-Action 2** Prepare the following, in coordination with the State and resource partnerships:
  1. An inventory of key habitats that lack regulatory protections; and
  2. An inventory of NAPP-eligible lands.

- **2.4.1-Action 3** Increase wildlife and natural area planning expertise throughout the County government.

- **2.4.1-Action 4** Amend existing regulations to require flora and fauna assessments and protection plans for development in areas with identified concentrations of indigenous flora and fauna.

### Objective:

**2.4.2** A decrease in invasive species through programs and partnerships that eradicate undesirable species and protect native habitat.

### Policies:

- **2.4.2.a** Prevent the introduction of invasive species at all of Maui’s airports and harbors.

- **2.4.2.b** Encourage the State to increase funding in support of invasive species interception, control, and eradication.
2.4.2.c Encourage the State to develop programs that allow students to participate in invasive species eradication projects.

Implementing Actions:

2.4.2-Action 1 Work with Federal and State agencies to develop and implement procedures for the inspection of incoming cargo, passenger baggage, and vehicles for invasive species and prohibited plants and animals.

2.4.2-Action 2 Pursue Federal and other dedicated funding for invasive species intervention at harbors and airports.

2.4.2-Action 3 Pursue Federal and other funding for public/private partnerships to develop and implement environmental protection programs.

Objective:

2.4.3 Greater protection of sensitive lands, indigenous habitat, and native flora and fauna.

Policies:

2.4.3.a Secure an interconnected network of sensitive lands, greenways, watercourses, and habitats.

2.4.3.b Protect Maui’s sensitive lands (see Sensitive Lands on Protected Areas Diagrams).

2.4.3.c Promote innovative environmental-planning methods and site-planning standards that preserve and re-establish indigenous flora and fauna habitat, to preserve and restore connected habitat corridors and open space.

2.4.3.d Utilize protection tools such as conservation easements, land trusts, land banks, Purchase of Developments Rights (PDRs), Transfer of Development Rights (TDRs), and other stewardship tools to acquire natural areas.

2.4.3.e Encourage discussions with communities to designate heritage areas that protect recreational and cultural lifestyles and resources.

2.4.3.f Support the expansion of Haleakalā National Park, and the creation of new national parks, where appropriate and supported by local communities.

2.4.3.g Encourage reforestation efforts that increase native species’ habitat.

2.4.3.h Utilize the Natural Area Partnership Program (NAPP) and other programs to protect natural lands.

2.4.3.i Support increased dedicated funding for the acquisition, protection, restoration, or preservation of important natural areas or open space through the following: grants from the Land and Water Conservation Fund; dedicated funding from real property taxes or other appropriate revenues; bond issues; real estate transfer tax; revenues from the...
Transient Accommodations Tax; development mitigation fees; and other appropriate funding sources.

**Implementing Actions:**

2.4.3-Action 1 Develop management plans for the reforestation of native species’ habitats and institute rest periods for designated areas threatened by overuse.

2.4.3-Action 2 Develop an inventory of lands, and prioritize urban and rural wilderness areas that are threatened by human impacts and are strong candidates for preservation.