

Park fence serves as the upper fence boundary for HNAR. Additionally, fences have been constructed to separate three distinct management units: Puu Alaea Unit, Poouli Unit, and Kuhiwai/Waielele Unit. Since the removal of pigs in these upper forest units of the HNAR, vegetation monitoring has been implemented to determine recovery of native plant species. Currently, a fence is being constructed along the 1,100 m (3,600 ft) contour of the HNAR which will comprise the "middle forest unit" (William Evanson, DLNR, pers. comm., 1999).

The nonnative plant control program within HNAR focuses on habitat-modifying nonnative plants (weeds). A weed priority list has been compiled for HNAR, and control and monitoring of the highest priority species are ongoing. Weeds are controlled manually, chemically, or through a combination of both. Monitoring transects help locate developing populations of other priority weed species and, if necessary, removal of these populations is conducted (DLNR 1989).

Because *Geranium multiflorum* and *Clermontia samuelii* ssp. *hanaenis* and their habitats within the upper areas of HNAR (above 1,525 m (5,000 ft) elevation) are permanently protected and managed by State law and because the continued successful management of this area is assured by State funding, HRS 195-9 (Natural Area Reserve Fund; Heritage Program; established) establishes in the state treasury a special fund known as the natural area reserve fund to implement the purposes of this chapter, including the identification, establishment, and management of natural area reserves \* \* \* the fund shall be administered by the department [DLNR]. Since its establishment, DLNR has received funding for this program each year from the Legislature and funding for natural resource programs such as this is a high priority and unlikely to be discontinued (Randy Kennedy, Native Resource Program Manager, DOFAW, pers. comm. 2003). This area is not in need of special management considerations or protection. Therefore, we have determined that the State land within the upper areas of HNAR does not meet the definition of critical habitat in the Act, and we are not designating this area as critical habitat. Should the status of this reserve change, for example by revocation or modification of the NAR, we will reconsider whether it then meets the definition of critical habitat. If so, we have the authority to propose to amend critical habitat to include such area at that time (50 CFR 424.12(g)) as workload and resources allow.

### Private Lands

*The Nature Conservancy of Hawaii's Waikamoi and Kapunakea Preserves, which are located on the northeastern slopes of Haleakala and in the West Maui mountains, respectively*

Lands within The Nature Conservancy of Hawaii's (TNCH) Maui preserves were not included within proposed critical habitat. Sixteen species (*Alectryon macrococcus*, *Argyroxiphium sandwicense* ssp. *macrocephalum*, *Asplenium fragile* var. *insulare*, *Bonamia menziesii*, *Colubrina oppositifolia*, *Ctenitis squamigera*, *Cyanea lobata*, *Diplazium molokaiense*, *Geranium arboreum*, *Geranium multiflorum*, *Melicope balloui*, *Phlegmariurus munnii*, *Plantago princeps*, *Platanthera holochila*, *Remya mauiensis*, and *Sanicula purpurea*) are reported from TNCH's Waikamoi and Kapunakea Preserves, which are located on the northeastern slopes of Haleakala and in the West Maui mountains, respectively (TNCH 1997, 1998; GDSI 2000; HINHP Database 2000). Both preserves were established by grants of perpetual conservation easements from the private landowners to TNCH and are included in the State's Natural Area Partnership (NAP) program, which provides matching funds for the management of private lands that have been permanently dedicated to conservation (TNCH 1997, 1998).

Under the NAP program, the State of Hawaii provides matching funds on a two-for-one basis for management of private lands dedicated to conservation. In order to qualify for this program, the land must be dedicated in perpetuity through transfer of fee title or a conservation easement to the State or a cooperating entity. The land must be managed by the cooperating entity or a qualified landowner according to a detailed management plan approved by the Board of Land and Natural Resources. Once approved, the six-year partnership agreement between the State and the managing entity is automatically renewed each year so that there are always six years remaining in the term, although the management plan is updated and funding amounts are re-authorized by the board at least every six years. By April 1 of any year, the managing partner may notify the State that it does not intend to renew the agreement; however, in such case the partnership agreement remains in effect for the balance of the existing six-year term, and the conservation easement remains in full effect in perpetuity. The conservation easement may be revoked by the landowner only if State funding is terminated without the concurrence

of the landowner and cooperating entity. Prior to terminating funding, the State must conduct one or more public hearings. The NAP program is funded through real estate conveyance taxes which are placed in a Natural Area Reserve Fund. Participants in the NAP program must provide annual reports to the DLNR and DLNR makes annual inspections of the work in the reserve areas. See Haw. Rev. Stat. sections 195-1—195-11; Hawaii Administrative Rules section 13-210.

Management programs within the preserves are documented in long-range management plans and yearly operational plans. These plans detail management measures that protect, restore, and enhance the rare plants and their habitats within the preserves and in adjacent areas (TNCH 1997, 1998, 1999). These management measures address factors which led to the listing of the ten species including control of nonnative species of ungulates, rodents, and weeds. In addition, habitat restoration and monitoring are also included in these plans.

The primary management goals for both Kapunakea and Waikamoi Preserves are to (1) prevent degradation of native forest by reducing feral ungulate damage; (2) improve or maintain the integrity of native ecosystems in selected areas of the preserve by reducing the effects of nonnative plants; (3) increase the understanding of threats posed by small mammals and reduce their negative impact, where possible; (4) prevent extinction of rare species in the preserve; (5) track the biological and physical resources in the preserves and evaluate changes in these resources over time; (6) identify new threats to the preserves before they become established pests; and (7) build public understanding and support for the preservation of natural areas, and enlist volunteer assistance for preserve management (TNCH 1997, 1998).

The goal of the ungulate program is to bring pig populations to zero as rapidly as possible. Specific management actions to address feral ungulate impacts include the construction of fences, including strategic fencing (fences placed in proximity to natural barriers such as cliffs), annual monitoring of ungulate presence transects, and trained staff and volunteer hunting. Since axis deer may also pose a threat to the preserves, TNCH is a member of the Maui Axis Deer Group (MADG) and staff meet regularly with other MADG members to seek solutions. In Waikamoi Preserve, the management actions also include working with community hunters in