

their INRMP to cover the 3 species on lands the Army is in the process of acquiring as part of the Transformation of the 2nd Brigade 25th Infantry Division (Transformation). They have a completed Wildland Fire Management Plan (WFMP) for MMR (Army 2000). The goal of the WFMP is to reduce the threat of wildfire which adversely affects threatened and endangered species on PTA. The Army also provides summary reports regarding the natural resources management projects performed under the Ecosystems Management Program for PTA (Evans 1998; Evans 1999; Schnell 1998; Schnell 1999; Sherry 1999; RCUH 1997; RCUH 1998; USAG—HI 2000). These reports provide information on management actions which have been implemented.

The INRMP describes specific actions for PTA, including anticipated implementation schedules. It includes many ongoing and proposed actions designed to address the variety of threats faced by these plant species at appropriate scales: species-specific, small areas, and installationwide. The list of ongoing and proposed actions detailed in the INRMP focuses management activities into the areas of wildfire management, nonmilitary human land use, feral ungulate control, invasive plant control, and other nonnative species control. As an example, some of the management actions that address feral ungulate control include: (1) The establishment and evaluation of permanent ungulate monitoring programs; (2) maintaining ungulate exclosure fencing; (3) using small-scale fencing to protect individuals and groupings of critically endangered plants; (4) removal of ungulates from fenced areas; (5) continuing semiannual aerial censuses of ungulates with support from the National Park Service; and (6) using hunter-generated ungulate harvest data to monitor ungulate population trends. In addition, management actions for control of nonnative plant species include: (1) development of a Targeted Alien Plant Taxa list used to prioritize control efforts; (2) control of *Pennisetum setaceum* near rare plant locations; (3) control of *Salsola kali* (Russian thistle) when infestations; (4) continuing to control of *Solanum pseudocapsicum* (Jerusalem cherry); and (5) updating the Target Alien Plant Taxa list as species and priorities change. The INRMP also includes propagating and outplanting threatened and endangered plant species back into areas that are managed for ungulates, weeds, and fire (Army 2001). Other important activities in the INRMP include: (1) Conducting field

surveys to identify new populations of threatened and endangered plant species in previously unsurveyed areas and areas of suitable habitat; (2) maintaining a GIS database updated with results of field surveys; (3) determining effects of military actions on threatened and endangered plants species through monitoring known populations of threatened and endangered plant species; (4) evaluating and determining plant propagation needs and storage facilities; and (5) identifying research needs regarding pollination biology and establishment of a GIS database to store data to be used to monitor threatened and endangered plant species (Army 2001).

In 1998 PTA constructed a greenhouse with automatic climate controls affected by temperature and wind speed. Adjacent to the greenhouse is a plant holding compound used to provide an opportunity for plants scheduled for outplanting to adapt to conditions more similar to those they will encounter when they are moved to completely natural environments. All 12 of the listed species are being propagated at the facility. More common native species are propagated for revegetation projects. In addition to the propagation efforts, seeds are collected for storage at the National Seed Storage Laboratory at Colorado State University. These seeds will be critical to restoration of listed species in the event none remain in the wild. PTA staff periodically conduct germination tests on some of these seeds.

Currently there are several fenced areas on PTA that are managed for threatened and endangered plants. These include 755 ha (1,864 ac) of Kipuka Kalawamauna; 2,026 ha (5,004 ac) of Kipuka Alala; 202 ha (50 ac) of Puu Kapele; and 14 ha (33 ac) of *Silene hawaiiensis* habitat. Temporary emergency exclosures have been placed around individuals of *Hedyotis coriacea*, *Neraudia ovata*, *Portulaca sclerocarpa*, *Schiedea hawaiiensis*, *Silene lanceolata*, *Solanum incompletum*, *Tetramolopium arenarium* and *Zanthoxylum hawaiiense*.

The comprehensive list of ongoing and proposed management activities detailed in the INRMP addresses each of the management actions detailed above that the Service considers important in providing a conservation benefit to the species; therefore, the plan provides a conservation benefit to the species.

#### (2) Provides Assurance the Plan Will Be Implemented

In terms of providing assurances that the management plan will be

implemented, the INRMP provides implementation schedules and identifies funding needs for each installation through the year 2006, when the 5-year update is due. Examples of those programs identified for funding include the Ecosystem Management Actions, Saddle Road Realignment Support, Biodiversity and Ecosystem Integrity, Pest Management, and Conservation Education and Outreach. The Army has committed to increased funding for their wildland fire program to ensure proactive fire management that will benefit threatened and endangered plant species through increased protection of habitat on their lands. They have also committed to continued funding of actions that benefit habitat restoration, species stabilization, and threat abatement (Anderson, *in litt.* 2003). Apart from these specific efforts, however, the Army has a statutory obligation to manage its lands in accordance with its INRMP, and we have no reason to believe that this will not happen.

#### (3) Plan Provides Assurances That the Conservation Plan Will Be Effective

The plan does provide assurances that the conservation effort will be effective. The Army will fund and engage in activities that have been demonstrated to benefit threatened and endangered species (*e.g.*, ungulate and invasive weed control). In addition to the extensive monitoring provisions contained in the INRMP and provided by the reporting procedures, the Army has agreed to amend its existing INRMP to include additional management actions for listed plants and their habitat at PTA. Based upon this information, activities will be revised to provide for the optimum conservation benefit to the listed plant species and their habitat (Col. David L. Anderson, Army, *in litt.* 2003). Thus, the Army will monitor the effectiveness of its management actions and modify them, as necessary, to ensure their effectiveness.

Thus, the Service has determined that lands on the island of Hawaii which fall under U.S. Army jurisdiction do not meet the definition of critical habitat in the Act. According to the Service's published recovery plans, the major extinction threats to island of Hawaii plants involve the persistent and expanding presence of alien species and their associated impacts. In general, for most of these species there is less relative concern associated with Federal activities or proposed development. Recovery of these listed species will require active management such as plant propagation and reintroduction, management of fire risk, alien species