

priorities; a detailed description of management actions to be implemented to provide for these ecological needs; and a monitoring and adaptive management plan. We consult with the military on the development and implementation of INRMPs for installations with listed species. Bases that have completed and approved INRMPs that adequately address the needs of the species may not meet the definition of critical habitat discussed above, because they may not require special management or protection. We would not include these areas in critical habitat designations if they meet the following three criteria: (1) A current INRMP must be complete and provide a conservation benefit to the species, (2) there must be assurances that the conservation management strategies will be implemented, and (3) there must be assurances that the conservation management strategies will be effective, by providing for periodic monitoring and revisions as necessary. If all of these criteria are met, then the lands covered under the plan would not meet the definition of critical habitat.

Lands Under U.S. Army Jurisdiction

The Army has six installations under its jurisdiction on Oahu: Dillingham Military Reservation (DMR), Kawaihoa Training Area (KLOA), Kahuku Training Area (KTA), Makua Military Reservation (MMR), Schofield Barracks Military Reservation (SBMR), and Schofield Barracks East Range (SBER). All of these lands are administered by the Army Garrison, Hawaii, for various types of routine military training. The Army has completed an INRMP (Army 2002), an Ecosystem Management Plan (Army 1998), and an Endangered Species Management Plan (Research Corporation of Hawaii (RCUH) 1998) for all of the Oahu training areas. These plans encompass management actions that will benefit all 76 listed plant species for which critical habitat has been proposed on these Army lands. They have a completed Wildland Fire Management Plan (WFMP) for MMR (Army 2000) and a draft plan which includes the other five installations (Army 2003). The goal of the WFMP is to reduce the threat of wildfire which adversely affects threatened and endangered species on all six installations. The Army also provides monthly and annual summary reports (Col. W.E. Ryan III, Army, *in litt.* 2000–2002; Col. F.A. Quintana, Army, *in litt.* 2002–2003) regarding the natural resources management projects performed under the Ecosystems Management Program for all six installations (RCUH 1998, 1999, 2000,

2001 and 2002). These reports provide information on management actions which have been implemented and which of these have proven beneficial to populations of listed species.

The INRMP describes specific actions for each installation, including anticipated implementation schedules. It includes hundreds of ongoing and proposed actions within the time frame of the INRMP designed to address the variety of threats faced by these plant species at appropriate scales: Species-specific, small areas, watersheds, and installation-wide. Examples of management activities directed towards the conservation of listed plants and their habitat include: (1) Field surveys to identify new populations of threatened and endangered plant species in previously unsurveyed areas and areas of suitable habitat; (2) development of a web-based system for a rare plant database; (3) establishment of a GIS database to store data to be used to monitor threatened and endangered plant species; (4) maintenance a GIS database updated with results of field surveys; (5) determining effects of military actions on threatened and endangered plants species through monitoring known populations of threatened and endangered plant species; (6) evaluation and determination of plant propagation needs and storage facilities; (7) identification of research needs regarding pollination biology and establishment of a GIS database to store data to be used to monitor threatened and endangered plant species; (8) propagation and outplanting of threatened and endangered plant species; and (9) creation of a full-time horticulturist position to identify and implement management actions for threatened and endangered plant species (Army 2002).

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 transects; (2) development and establishment of a GIS database to maintain these transect data; (3) implementation of ungulate control measures as necessary in areas where there are populations or occurrences of threatened and endangered species; (4) evaluation of ungulate control efforts to determine if permanent management units are required; and (5) monitoring

and maintenance of existing fenced units. In addition, management actions for control of nonnative plant species include: (1) The control and eradication of nonnative incipient plant species, particularly in areas where threatened and endangered species occur; (2) control of widespread nonnative plant species where they threaten native plant communities; and (3) establishment of a GIS database for nonnative plant location data, and updating nonnative plant location maps to track and prioritize control efforts (Army 2002).

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 are important in providing a conservation benefit to the species, therefore, the plan provides a conservation benefit to the species.

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. Examples of those programs identified for funding include the Endangered Species Management, Biodiversity and Ecosystem Integrity, Watershed Management, Conservation Education and Outreach, and Pest Management. 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).

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 their existing INRMP to include additional monitoring of federally listed plants and their habitat at all of their Oahu installations to determine the success of identified management activities. 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,