

## 7.0 Information Management

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### Implementation database

The Army utilizes an access database that contains queries and fields specifically tailored for information management for the Makua Implementation Plan (MIP). This database has proven to be invaluable in the management of the profuse amounts of data that has been gathered in the process of carrying out the MIP. This database currently tracks data related to rare plants, rare snails, and weed control. Specific data collected are the location, status, threats, and management of the individual *in situ* target taxa, population units (PUs), management units (MUs), and reintroduction sites across the island of Oahu. Additionally, this database contains data on numerous non-MIP target taxa of additional significance (i.e. additional federally listed species, candidate species, or species of concern). This information can be queried in multiple ways to analyze data and aid in management decisions.

The Army access database is utilized jointly with geodatabases and shapefiles that associate all the rare species, and management actions for weed control in the access database in spatial form. The Army access database can be linked to these geodatabases and shapefiles to make added information such as Management Unit, Management Designation, Number of plants in a population, etc available when utilizing the maps. Field maps and ArcReader documents are linked to the access database so that when a record such as a rare plant or weed control area (WCA) is being viewed in the database there is a quick link to visual information on the subject.

### Data integration and inter-agency cooperation

The success of the OIP will depend on the cooperation of multiple agencies, combining efforts to eliminate duplication of effort, sharing lessons learned, and thus increasing effectiveness. The Makua Implementation Team (MIT), assembled for the development of the MIP, has been a great learning process for the Army and the various members of the MIT, on the level of coordination and teamwork required to effectively carry out the various actions described in the MIP. The MIT continues to struggle with landownership issues as they relate to MIP actions. However, as the implementation of the IP continues, knowledge is gained that will aid in eventual successful species stabilization. The Army and the Oahu Implementation Team (OIT) hope to utilize the experience gained from the Makua implementation process. Modifications to various data gathering and landownership protocols have already benefited both the MIP and the OIP.

Thus far, the Army Natural Resources program has worked hard to standardize data collection, mapping, and GIS database management systems. The data collected by the Army natural resources staff has been entered in to the Army Rare Plant Database and GIS and has been made readily available to the various partnering agencies and individuals. In turn, this organization of data has been essential to the Army in the management of numerous species, propagules, reintroductions, populations and management units, etc. The availability of data to all members of both the MIT and the OIT has and will continue to aid in the adaptive management approach to species stabilization. In this way, the status of populations are monitored and adjustments to management practices are made in order to meet the stabilization goals of the MIP and the OIP. For this reason, all data gathered for the OIP will be integrated into the Army database and will be available to any partners involved in the implementation of the Oahu plan. Currently, the

State is working on the development of a State-wide rare plant database that will be compatible with the Army's current system.