



Pacific Basin Information Node

PBIN Products and Services: Meeting State Needs

PBIN staff believe that the following projects are needed to address important biodiversity needs in the state.

Background

The collection, management, integration and dissemination of environmental information in the state of Hawaii are of the highest importance. The NBII Pacific Basin Information Node (PBIN) has been involved in this enterprise since January 2004 primarily through the Coordinating Group on Alien Pest Species (CGAPS) and projects to aid in data integration for the Island Invasive Species Committees (ISCs). Based on these experiences and in consultation with scientists and resource managers, PBIN staff believe that the following projects are needed to address important biodiversity needs in the state.

Upcoming Projects

Data Coordination/Long-term Database Support for the ISCs

The development and implementation of the ISC Statewide Reporting System has emphasized the need for a coordinating entity/organization that would provide long-term technical

guidance and support for Hawaii ISCs. This entity would work with the ISCs to ensure that the Statewide Reporting System standards and guidelines are in place and implemented over the long-term, allowing ISC data to be efficiently aggregated and contributed to statewide analyses and management objectives. This entity would also provide long-term database support. As state and federal reporting needs and on-the-ground management practices evolve over time, ISC databases (four of the five ISCs are using the same database system) will require maintenance and updates.

Agencies Involved: USFS, USFWS, USGS, ISCs

State Preparedness: Responding to Invasive Species Crises

The state is confronted with many invasive species and new threats appear on a regular basis. Those that are important – that is, having an immediate impact – require rapid reporting and tracking of eradication efforts. The latest example is the Erythrina gall wasp (*Quadrastichus erythrinae*) that many believe will potentially eliminate the native wiliwili (*Erythrina sandwicensis*) tree. In this case, there was an immediate need on a statewide level for coordination of information, cataloguing of early detection reports, mapping of known infestations, and aggregation of information regarding wiliwili (*Erythrina sandwicensis*) populations;

that is, reporting and analysis outside the normal, daily operations of the invasive species management community.

Agencies Involved: HISC, ISCs, HDOA, USGS-PIERC, other cooperating agencies

Hawaii Terrestrial Invasive Species Information System

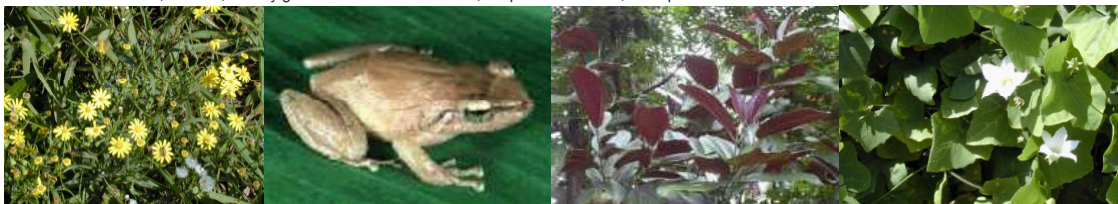
Data pertaining to terrestrial invasive species for all of Hawaii are currently held by many different agencies and organizations. These data are not easily or efficiently shared between all the relevant stakeholders. There is a need to develop the necessary technical infrastructure, data, and database standards and data sharing protocols to better integrate these data. To this point, the primary focus has been on the efficient management and aggregation of ISC data. This effort needs to be expanded to include all agencies and entities that collect invasive species information.

Agencies Involved: HISC, DLNR – DOFAW, ISCs, NPS, TNC, Watershed Partnerships, UH CTAHR, USDA-APHIS, HDOA

Hawaii Aquatic/Marine Invasive Species Information System

Data pertaining to aquatic and marine invasive species are currently held by many different agencies and organizations. Most of this information is currently shared only through

Photo credits: fireweed, miconia, and ivy gourd - Forest and Kim Starr; Coqui - Allen Allison, Bishop Museum



Invasive species from left to right: fireweed; coqui frog; miconia; ivy gourd

informal relationships among key stakeholders. There is a need to develop an information system to permanently archive these data, allow for queries of reports and annual surveys, and develop the database standards and data sharing protocols to allow for efficient data sharing and integration. These needs were elucidated at the Aquatic Invasive Species Workshop in December 2004.
Agencies Involved: HISC, DLNR – DAR, NOAA, Bishop Museum, University of Hawaii.

Hawaii Early Detection and Rapid Response Reporting System

Currently the state does not have an integrated system to receive, record, and catalogue invasive species reports across different organizations and agencies. There is a need for a database to store these reports, allow Web-based data entry, and facilitate the flow of information to the appropriate rapid responders. This tool would bridge the gap between early detection and rapid response. Currently, a tool is being developed as a pilot for Maui County. This tool, with further enhancements, could serve a model for a statewide system.

Agencies Involved: HISC, DLNR – DAR & DOFAW, HDOA, ISCs, Other Cooperating Agencies

Mobile GIS – Field Data Collection Using PDAs

Most organizations that currently collect invasive species information use standard paper field forms that require data to be manually entered into a database. There is a need to develop generic protocols that can be used by multiple agencies to link handheld mobile GIS devices (PDA) with an Access database back in the office. The mobile GIS would provide an alternative to a paper-based system and allow for the automated upload of field data.

Agencies Involved: ISCs, TNC

Pacific Island Alien Snake Database
PBIN and the USGS Florida Integrated Science Center developed a Web accessible SQL Server database for the USGS Brown Tree Snake Rapid



The collection, management, integration, and dissemination of invasive species information in the state of Hawaii are of the highest importance.

Response Team based in Guam to serve as a permanent repository for snake sightings reports on Pacific Islands. Phase 1 of this database development is complete. There is a need to further develop this application to integrate the product with the PBIN Mapping Service and provide greater reporting capabilities.

Agencies Involved: USGS, HDOA, USFWS

Threatened and Endangered/Native Species Information System

Data pertaining to threatened and endangered (T&E) and native species in Hawaii are currently held by many different agencies and organizations. The USFWS – Pacific Islands Office is responsible for collecting and analyzing this information to fulfill their legal mandate to administer the Endangered Species Act. Currently, the office does not have the necessary internal technical infrastructure (data management systems), documented data standards, or established protocols for data transfer and integration to meet these mandates in a manner that will most greatly contribute to the recovery of T&E and rare species in Hawaii. PBIN has been approached by USFWS to help solve these technical problems.

Agencies Involved: USFWS, TNC, DoD, DLNR – DOFAW, Other Cooperating Agencies

Technical Support/Data Management - Comprehensive Wildlife Conservation Strategy

The state of Hawaii has completed its Comprehensive Wildlife Conservation Strategy (CWCS). The plan identifies “Limited Information and Information Management” as one of the key threats to native wildlife. PBIN is identified in the plan (pages 27 and 123) as a potential collaborator that could

provide technical support and data management services.

Agencies Involved: DLNR – DOFAW & DAR, USFWS, Other Cooperating Agencies

Pacific Islands Coral Reef Data

Jim Maragos, a Coral Reef Biologist with the USFWS, had before 2000, surveyed thousands of reef sites in Hawaii, the tropical Pacific, and Southeast Asia over a period of 30 years, collecting data on coral biodiversity, abundance, percent cover, and population parameters; reef habitats and uses; and over 40,000 slides and photos covering hundreds of reefs and thousands of sites and species.

There is a need to put these photos and associated data into common modern electronic forms, allowing integration and comparisons over time and space, and make data readily available to others via the Internet.

Agencies Involved: USFWS

Acronyms Used:

DAR – Division of Aquatic Resources
DLNR – Department of Land and Natural Resources
DoD – Department of Defense
DOFAW – Department of Forestry and Wildlife
HDOA – Hawaii Department of Agriculture
NOAA – National Oceanographic and Atmospheric Administration
NPS – National Park Service
PIERC – Pacific Island Ecosystems Research Center
TNC – The Nature Conservancy
UH CTAHR – University of Hawaii College of Tropical Agriculture and Human Resources
USFS – U.S. Forest Service
USFWS – U.S. Fish and Wildlife Service
USGS – U.S. Geological Survey

For More Information

Dr. Mark Fornwall
NBII/PBIN Node Manager
Phone: 808-984-3724
E-mail: mark_fornwall@usgs.gov

Mr. Sky Harrison
NBII/PBIN Content Manager
Phone: 808-984-3722
E-mail: sharrison@usgs.gov

Find us on the Web at:
<<http://pbin.nbii.org>>.

The National Biological Information Infrastructure (NBII) <www.nbii.gov> is a broad, collaborative program to provide increased access to data and information on the nation’s biological resources.