

## BIISC Action Plan for 2000-2002

### Education

**Objective 1: Educate and inform the public, legislators, and public officials re: non-native invasive species (NNIS). Lobby for or against specific legislation as determined by the BIISC membership. Coordinate and collaborate with HDOA, DLNR, Hawaii County, CGAPS and other partners and agencies regarding regulatory focus on species and issues of importance.**

**Action A:** BIISC will contact Big Island legislators to inform them of critical NNIS issues as agreed by the group. Encourage responsible voting on issues that affect NNIS management.

**Who:** BIISC membership

**Measures of success:** Appropriate legislation is successful.

**When:** Continuing. Prior to next legislative session, Duane Nelson to develop, together with other invasive species committees and groups, a budget proposal to the Legislature for statewide program funding of \$700K.

**Accomplishment: Legislation passed, BIISC funded \$400,000 from the legislature for 2002 (\$71K less than 2001). Natural Areas Partnership was funded \$214,000.**

**Action B:** Develop and distribute information to help identify NNIS.

**Who:** Education Working Group (Michelle Clapper, Kealii Bio) with HDOA and DLNR  
**Measures of success:** Publication and distribution of ID cards and fact sheets of all 12 priority species.

**When:** By May 30, 2000.

**Accomplishment: Text, photos prepared, cards drafted, prototype prepared. Nearly ready to go to print. Need to finalize product, get cost estimate, secure funding, and get them printed & laminated.**

**Action C:** Broadly disseminate information on potential taxa of risk and pathways of introduction/movement. Encourage and evaluate self-policing to prevent sale, importation (intentional or accidental), and distribution of identified NNIS.

**Who:** BIISC Education Working Group with HDOA

**Measures of success:** Significant reductions in market share of known invasives, legislative improvements in addressing problems, widespread recognition of problem of aliens.

**When:** Ongoing

**Accomplishment: List of priority plants being evaluated using the Weed Risk Assessment.**

**Action D:** Broadly disseminate control and management information that incorporates safe, effective and environmentally sound materials and methods

**Who:** BIISC Integrated Control Methods Working Group with HDOA and CTAHR

**Measures of success:** Support publication and distribution of weed control manual authored by Phil Motooka and Guy Nagai. BIISC assistance to local NRCS and SWCD's to train farmers in noxious weed control under the Environmental Quality Improvement Program (EQIP).

**When:** July 30, 2000

**Accomplishment: \$10K of pass through money went to publication of Phil's manual. It will be printed after the final edit.**

**Action E:** Establish a NNIS Information System (hotline, website, list-server) that provides information on detection, distribution, and identification of NNIS on the Island of Hawaii. This site will also be a clearinghouse for reports of NNIS. Increase awareness of the HEAR website and provide BI information to HEAR ([www.hear.org](http://www.hear.org)). Provide easy means of information exchange between members and cooperators/partners. Make NNIS monitoring summaries available on the web along with interpretive tools to facilitate public use of NNIS data (individual plot locations will not be revealed to protect privacy).

**Who:** BIISC Education Working Group with HEAR, BIISC crew

**Measures of success:** Operational telephone hotline. All priority species and monitoring summaries on BIISC webpage on the HEAR site with current status of operations and news.

**When:** May 30, 2000.

**Accomplishment: Progress reports are posted on [www.hear.org/operationmiconia](http://www.hear.org/operationmiconia).**

## **Prevention**

**Objective 1: Identify NNIS entry pathways and taxa or life forms that pose potential significant threats to the economy, environment and quality of life on Hawaii. Work with local, state and federal agencies and industry representatives to develop screening methods and survey systems that are effective, objective and not unduly restrictive to potential beneficial uses by coordinating with CGAPS and other invasive species groups.**

**Action A:** 1) Review and then disseminate copies of currently used systems for NNIS screening (NZ, Australian, APHIS noxious species process, S. African, California?). 2) Co-sponsor conference including private organizations, agencies, and university researchers to identify workable means of improving quarantine protections in Hawaii.

**Who:** 1) Diane Ley, Joan Canfield, Fred Kraus to bring information on other quarantine systems to BIISC ; 2) Conference to be co-sponsored with CGAPS, other invasive species committees, Farm Bureau and Secretariat for Conservation Biology.

**Measures of success:** Active discussion and consideration of alternative quarantine systems in Hawaii. Production of lists of species of concern as candidates for further screening or action.

**When:** 1) May 30, 2000; 2) May 30, 2001.

**Accomplishment: Workshop on Weed Risk Assessment screening held with plant industry stakeholders, future workshops for public planned.**

**Action B:** Work with local, state and federal agencies and the Legislature to:

- 1) Implement recommendations of May 2001 conference (see above)
- 2) Work with each state, county, and federal agency to identify routine actions that lead to invasion or spread of invasive taxa and develop plans to prevent or mitigate these actions.
- 3) Promote routine NNIS risk assessment during project planning (i.e., during environmental assessment).

**Who:** BIISC with CGAPS and OEQC

**Measures of success:** Improved quarantine regulations and decrease of NNIS establishment. Routine OEQC, DOH and HDOA review of Environmental Assessments for consideration and mitigation of NNIS concerns.

**When:** Ongoing.

**Accomplishment: List of priority plants being evaluated using WRA.**

**Action C:** Discourage the active dissemination of NNIS by government agencies. Encourage agencies to use, recommend, or distribute either native species or non-invasive exotics that can substantially perform the same function as NNIS for reforestation, windbreaks, landscaping or other uses. Encourage agencies to follow Act 78 (encouraging planting of native species for all state contracts).

**Who:** BIISC Alternative Plant Materials Working Group with CGAPS and other invasive species groups and landscaping experts.

**Measures of success:** Revision of DLNR, HDOT, NRCS, and County nursery lists underway to no longer include NNIS. Progress toward NNIS not being distributed by government agencies on the Island of Hawaii and not being required for construction contract compliance.

**When:** Sept. 2001.

**Accomplishment: ???**

**Objective 2: Improve predictive capacity for range occupation and vulnerability of sites to invasions of potential or known NNIS not yet known on the Big Island.**

**Action A:** Work with and encourage research organizations (APHIS, HARC, USFS, ARS, USGS-BRD, UH, etc.) as appropriate.

**Who:** Jim Jacobi, Julie Denslow, coordinating with partners

**Measures of success:** New or improved prediction of NNIS and vulnerable ecosystems.

**When:** Ongoing

**Accomplishment:** Jim Jacobi doing the research, will post on Web and write paper.

## Detection

**Objective 1: Design and develop an early detection system for priority incipient populations NNIS on Hawaii. Identify potential ranges, inter- and intra-island pathways and introduction points of dissemination, and potential resources impacted for priority incipient species.**

**Action A:** Initiate accurate surveys and develop GIS maps of priority species.

Identify data gaps in effective control techniques for those species deemed to warrant control. Identify and use current information on off-island occurrence.

**Who:** BIISC Mapping Working Group and BIISC crew

**Measures of success:** Secure funding and hire a crew in CY 2000 to conduct surveys, detect, map and initiate control on priority incipient NNIS. Initiate distribution maps of priority species.

**When:** Secure funding by May 2000. Crew on board by summer 2000.

**Accomplishment:** BIISC Rapid Response Team leader hired in Feb 2002. Survey and control work initiated with EEWF. Funding secured for supervisor and crew.

**Action B:** Provide training in early detection for BIISC and partners. Improve taxonomic expertise & technologies for BIISC members, partners and the public.

**Who:** BIISC Education Working Group

**Measures of success:** Produce and distribute fact sheets for priority species. Develop and distribute training materials for species identification, survey methods and reporting protocol.

**When:** June, 2000

**Accomplishment:** ???

**Action C:** Increase funding through grants & agreements for detection on private lands (i.e., on those private lands where owners would like to participate on a voluntary basis).

**Who:** Strategic Plan and Budget Working Group

**Measures of success:** Adequate collaborative funding for two skilled biologists to conduct surveys, mapping and initial control of incipient populations in FY 2000.

**When:** May 30, 2000

**Accomplishment:** NFWF grant received Aug 2002 for Rapid Response Team to work on private lands, develop stewardship program.

**Action D:** Develop a NNIS detection and control database that with common variables and web-based linkages compatible with systems used throughout the state.

**Who:** Miconia Working Group with Phillip Thomas of HEAR

**Measures of success:** Operational database

**When:** June 2000

**Accomplishment:** Database is nearly operational, needs some tweaking.

**Action E:** Design and implement early detection system in cooperation with all BIISC partners. Work with private landowners, county, cultural organizations, state and federal agencies, extension services, agricultural industry associations, UH, and the research community in the design and implementation of an early detection system.

**Who:** BIISC Mapping Working Group

**Measures of success:** An operational, effective early detection system that identifies incipient populations before they escape limits of reasonable control.

**When:** October, 2000

**Accomplishment:** Highway Weeds Survey being conducted/used as one component of an early detection system.

### Control

**Objective 1:** Develop and routinely update lists of priority pests targeted for eradication or control either island-wide or region-wide and meet the control goals set for each species.

**Action A:** Provide annual review of BIISC target taxa, reporting on control success, methods, needs to meet future control objectives, and revisions to lists.

**Who:** BIISC membership

**Measures of success:** Annual revision of lists and species status, as necessary.

**When:** September of each year.

**Accomplishment:** List was updated in Feb 2002.

**Action B:** Develop network of volunteers to assist BIISC in control and eradication projects.

**Who:** BIISC membership working with community groups and leaders.

**Measures of success:** Have in place a sufficient network of locally based volunteers so that 10-20 people can be mobilized for any project as needed.

**When:** March, 2001.

**Accomplishment: Handbook for volunteer coordination was developed. Volunteers continue to work on Miconia control in Leilani Estates.**

**Action C.** Develop and implement an annual work plan that identifies control or eradication goals for each priority species with specific assignments for actions.

**Who:** BIISC membership and BIISC staff (when hired)

**Measures of success:** Control/eradication of each species as called for in the annual list of targets.

**When:** Annually

**Accomplishment: Initial survey work was conducted, planning process has been initiated.**

**Objective 2: Increase research, development, application and monitoring on control agents, especially for established NNIS species.**

**Action A:** Work with State, federal and private agencies to organize, prioritize and expand biocontrol development and application. Help the State secure funding for biocontrol R&D and application.

**Who:** BIISC Integrated Control Methods Working Group

**Measures of success:** New biocontrol efforts on target species.

**When:** Ongoing

**Accomplishment: New biocontrol efforts on Miconia and strawberry guava.**

~~**Action B:** Identify legal restrictions on biocontrol, specifically with respect to grasses; inform and lobby the legislature as appropriate.~~

~~**Who:** BIISC Integrated Control Working Group/CGAPS; potential intern project to identify barriers and make recommendations.~~

~~**Measures of success:** repeal of restrictive legislation~~

~~**When:** September 2000~~

**Accomplishment: This Action was deleted after it was determined that there are no such restrictions (had thought sugar cane).**

**Action C:** Develop and test effective methodology for mechanical and chemical control of target taxa. Obtain funding for additional needed tests.

**Who:** BIISC Integrated Control Working Group with CTAHR, USFS, APHIS, DOFAW, NPS, HDOA

**Measures of success:** Safe and effective control methods are identified and used for each priority species.

**When:** Ongoing

**Accomplishment:** Safe and effective control methods identified for Miconia, Bocconia. Phil Motooka's book being published. Control methods shared at Hawaii Conservation Conference, July 2002.

**Action D:** Encourage the UH to refill the Weed Scientist position in CTAHR when Phil Motooka retires to ensure continued expertise in the State for developing control methodology.

**Who:** BIISC Integrated Control Methods Working Group working with Farm Bureau, HDOA and others.

**Measures of success:** Continued staffing of the CTAHR Weed Scientist position.

**When:** Ongoing

**Accomplishment:** Phil not retired yet.

**Action E:** Obtain reliable funding for NNIS control work through the state legislature, federal assistance, private grants, county and private contributions. Seek long-term funding for BI NNIS control operations through the Legislature, Congressional delegation and private sources.

**Who:** BIISC Strategic Plan and Budget Working Group with CGAPS and other island invasive species committees.

**Measures of success:** Funding of NNIS control work is adequate to combat the problem, and provides sustainable support for an ongoing program.

**When:** Ongoing

**Accomplishment:** ???

**Action F:** Secure funding for two crews to start survey, mapping and control work in FY 2000. This crew will compliment efforts by other agencies and assist private landowners. These positions will initially be attached to Operation Miconia for organizational support.

**Who:** BIISC Strategic Plan and Budget Working Group

**Measures of success:** Funded positions starting in July, 2000.

**When:** July 2000

**Accomplishment:** Rapid Response Team Leader hired in Feb 2002. Funding for supervisor and crew secured.

### **Monitoring**

**Objective 1: Develop and implement NNIS monitoring methods and protocols on the Big Island that are cost-effective, reliable, and reportable. Monitoring data are compatible across agencies and are readily available to BIISC members and partners.**

**Action A:** Develop statistically valid monitoring methods for effectiveness of control.

**Who:** USGS-BRD, Earl Campbell

**Measures of success:** Handbook of appropriate monitoring methodologies produced. Methodologies implemented by BRD and BIISC field crew.

**When:** Handbook: December, 2000. Implementation: March, 2001.

**Accomplishment: 5% of areas surveyed for Miconia are monitored for thoroughness of ground surveys.**

**Action B:** Complete monitoring and reporting and analyze efficacy and results (i.e., response of vegetation) of all BIISC control actions as part of routine operations. Monitoring and reporting of NNIS control action is encouraged for all BIISC members.

**Who:** BIISC Mapping Working Group

**Measures of success:** All control operations are monitored and recorded in an easily accessible database.

**When:** Ongoing.

**Accomplishment: ???**

### **RESTORE Ecosystems Impacted by NNIS**

**Objectives 1: Improve knowledge of direct, indirect, and cumulative effects of NNIS on target and non-target species, improve methods for restoration, and improve general implementation of restoration activities.**

**Action A:** BIISC will cooperate with partners to restore NNIS affected lands, through information exchange, encouraging appropriate legislation and policies, and encouraging land management practices that maintain or improve productivity, restore habitats, and further ecological restoration.

**Who:** BIISC

**Measures of success:** Area reclaimed from NNIS and restored to desired use appropriate

for the landowner (private) or managing agency (public)

**When:** Ongoing

**Accomplishment: ???**

**Action B:** Work with partners to develop reliable and affordable native seed and plant sources.

**Who:** Nursery industry partners, DOFAW with BIISC

**Measures of success:** Readily available plant material for restoration following NNIS control. A list of nurseries providing native species and non-invasive exotics posted on the HEAR website.

**When:** Ongoing. Take in stages, with first five nurseries agreeing to supply native materials for these efforts identified by September, 2000.

**Accomplishment: ???**