

*Interim*  
**State of Hawaii**  
**Strategic Plan for Invasive Species**  
**Prevention, Control, Research and Public Outreach**

**Executive Summary**

Hawaii is in the midst of a growing invasive species crisis affecting the islands' endangered plants and animals, overall environmental and human health, and the viability of its tourism and agriculture based economy.

Invasive pests already cost the State of Hawaii millions of dollars of crop losses, the extinction of native species, the destruction of native forests, and the spread of disease. But many more harmful pests threaten to invade Hawaii, causing further damages. Even one new pest - like the brown tree snake or the red imported fire ant - could change the character of our islands.

The purpose of this strategic plan is to provide the framework for a statewide invasive species prevention, control, research and public outreach program. Based on the lessons learned in combating invasive species in Hawaii, the budget plan has five integrated program components with specific recommendations, time frames and measures of effectiveness.

This Strategic Plan, and budget associated with it, strives to:

- Coordinate invasive species management and control programs for County, State, Federal and private sector entities by developing a structure for cooperators to work together to share resources and responsibilities to address specific invasive species issues;
- Increase inspection and other “prevention” capabilities to prevent high-risk invasive species and diseases (e.g. brown tree snake, West Nile Virus, etc.) from entry into the State, or to specific islands where they are not currently found;
- Accelerate the control of priority invasive species already present in the state (e.g. Miconia, coqui frogs, marine algae, etc.) by developing a more effective state-wide early detection and rapid response capability with the Island Invasive Species Committee and other response and control efforts;
- Leverage increased involvement and expertise from private and academic sectors to assure that Hawaii has access to the most up-to-date, effective and efficient research and technology tools to combat invasive species.
- Implement a coordinated state-wide invasive species public outreach program with shared resources and responsibilities among cooperating entities;

This Strategic Plan incorporates directives in the legislation creating the Hawaii Invasive Species Council, goals and tasks of the HISC Working Groups, expanded objectives, timeframes and measures of effectiveness, and funding mechanisms to support the program.

## **Current Status of Invasive Species in Hawaii**

Hawaii is in the midst of a growing invasive species crisis affecting the islands' endangered plants and animals, overall environmental and human health, and the viability of its tourism and agriculture-based economy. Invasive pests already cost the State millions of dollars of crop losses, the extinction of native species, the destruction of native forests and the spread of disease.

For example, *Miconia calvenscens*, an aggressive weedy tree from South America has already established itself in Hawaii and threatens Hawaii's tropical forests and the watersheds those forests support. It has already overrun two-thirds of Tahiti's rain forests. Decreasing water infiltration in just two of Hawaii's priority watersheds could amount to additional water cost of \$13 million annually.

But many more harmful pests threaten to invade Hawaii, causing further damage. Even one new pest - like the Brown Tree Snake - could change the character of our islands. The Brown Tree Snake poses a threat to several sectors of the economy.

In addition to the potentially devastating impact it could have on native animal populations, the snake; 1) poses a public health risk because it bites people and pets, 2) threatens poultry farms because it feeds on chickens and eggs, and 3) presents the risk of costly power outages because it climbs electrical power lines causing short circuits in the power supply. Together, these impacts could add up to \$123 million in annual costs to Hawaii.

The Red Imported Fire Ant is already well established in most of the southern mainland U.S. and just recently invaded California. Fire ants could wreak havoc in Hawaii if this ant species were to become established or related fire ant species already here continue to spread. Homeowners can expect to fight the pest much as they now do battle with termites.

In addition, the ant poses a threat to the agriculture industry, requiring treatment, reducing yields and damaging agricultural and electrical equipment. Costs caused by the Red Imported Fire Ant could amount to \$46 million annually.

West Nile Virus is a mosquito-transmitted disease that primarily infects and is spread by birds. Although they do not spread the disease, mammals, including humans can become infected and develop symptoms ranging from a flu-like illness to devastating and potentially fatal meningitis or encephalitis. An alarming number of infected people develop the most severe symptoms, potentially as many as 1 in 40 cases.

In 2003, Colorado spent over \$20 million on hospitalization costs for disease victims. Both the known mosquito vectors and host bird species such as house finches and sparrows are abundant in Hawaii. The disease is also fatal to many bird species and if introduced to Hawaii could cause the extinction of remnant populations of endangered birds that still subsist in lowland areas.

National experts and local staff identified increased testing, mosquito population monitoring and interagency communication as key elements in a prevention strategy. Due to its geographic isolation, Hawaii has an opportunity to prevent West Nile disease from reaching its shores.

## **Lessons Learned in Invasive Species Prevention and Control**

The State of Hawaii will always be burdened with invasive species prevention and control. We need to see that the latest technology and science is applied to assure actions are timely, effective and efficient. Public funding from the State of Hawaii alone cannot support all the efforts needed. It requires a concerted, cooperative effort.

An integrated action and funding plan that incorporates contributions from the County, State, Federal and private industry sources is needed to provide focus and fiscal resources for the ongoing invasive species prevention and control programs.

Furthermore, authorities for preventing and controlling invasive alien pests are spread across numerous State and federal agencies, making close coordination of activities among these agencies imperative.

Investments are needed in prevention, early detection and rapid response programs. Invasive species are controlled most efficiently and effectively, and at the lowest cost, early in the invasive process.

Hence, money that provides effective quarantine barriers to prevent invasive species from arriving and which provides rapid response teams to stop pests from becoming established should be the highest priority of the State in addressing alien invasions at this time.

Biological control is a key component of any effective long-term control program. Biological control uses predators and disease organisms of invasive pests from their native ranges.

Relatively small investments in outreach and education can leverage greater public understanding and voluntary compliance. Public acceptance and understanding of the State's goals and programs for controlling invasive pests is necessary if those programs are to be successful.

Hawaii has made great strides in educating its citizenry about the problems invasive pests pose. But the issues are frequently complex and continued efforts are needed to ensure public understanding and support over the long term.

Formal efforts to create a comprehensive invasive species program began with the Coordinating Group on Alien Pest Species (CGAPS), formed in 1995, consisting of senior staff in numerous Federal, State, County, and private entities actively involved in invasive species prevention, control, research, and public outreach programs.

Over the past eight years, CGAPS has assisted in the creation of plans and studies (e.g. State of Hawaii Aquatic Invasive Species Management Plan, Filling the Gaps in the Fight Against Invasive Species) as well as identifying overall programmatic capacity needs.

## **Hawaii Invasive Species Council (HISC)**

The 2003 State Legislature authorized the creation of the Hawaii Invasive Species Council (HISC) and stated “the silent invasion of Hawaii by alien invasive species is the single greatest threat to Hawaii's economy, natural environment, and the health and lifestyle of Hawaii's people and visitors.”

The HISC legislation and its ultimate implementation provide the institutional framework for leadership and coordination in acting on a statewide invasive species prevention and control program. The HISC has active participation and support by several State cabinet level positions.

### **Hawaii Invasive Species Council Tasks:**

- Advise the Governor and legislature on issues regarding invasive species.
- Create and implement a plan that includes the prevention, early detection, rapid response, control and education with respect to invasive species.
- Review state agency mandates and commercial interests that sometimes call for the maintenance of potentially destructive alien species as resources for sport hunting, aesthetic resources or other values.
- Suggest appropriate legislation to improve the State's administration of invasive species programs and policies.
- Provide annual reports on budgetary and other related issues to the legislature twenty days prior to each regular session.
- Provide support and direction to HISC working groups.

Hawaii is one of the four states in the nation that has recognized the need for coordination among all state agencies, at a cabinet level, that have responsibility to control invasive species on the ground, as well as regulate or promote the pathways in which invasive species can gain access into the state.

The goal of the Hawaii Invasive Species Council is to provide leadership, direction and coordination for invasive species prevention and control programs in Hawaii.

The creation of the HISC (whose members are the Directors of the Departments of Land and Natural Resources (DLNR,) Agriculture (DOA,) Business, Economic Development, and Tourism (DBEDT,) Health (DOH,) Transportation (DOT) and University of Hawaii (UH,) and other Department Directors (Hawaiian Home Lands (DHHL,) Commerce and Consumer Affairs (DCCA) and Defense (DOD)) now provide the institutional framework for leadership and coordination for such a program.

Under the co-leadership of DLNR Chairperson Peter Young and DOA Chairperson Sandra Kunimoto, the HISC has expanded the participation to include other department directors, over and above those stated in the legislation. There is a commitment from each state cabinet level member to actively participate in the Hawaii Invasive Species Council. In addition, commitments have been received from each County Mayor, as well as federal partners, to have active representation and participation on the Council.

The HISC approved a working group structure that will follow through on commitments from both Council members as well as cooperating partners, builds upon past work done in Hawaii and is consistent with other regional and national efforts.

HISC members assigned staff to participate in relevant working groups and involved cooperating partners to participate in their discussions.

## **Hawaii Invasive Species Council Working Groups**

Five Hawaii Invasive Species Council working groups were established:

- Interagency Working Group (Lead HISC Member: DOT)
- Working Group on Pests Not Present in Hawaii (Lead HISC Member: DOA)
- Working Group on Established Pests (Lead HISC Member: DLNR)
- Resources Working Group (Lead HISC Member: DBEDT)
- Public Outreach Working Group (Lead HISC Member: DOH)

Hawaii Invasive Species Council participating agency staff cooperatively identified the goals for the Working Groups that represent key aspects of a comprehensive program. The specific tasks listed are derived from the enabling legislation and from suggestions by Coordinating Group on Alien Pest Species members. These tasks have not been reviewed or prioritized by the working groups and it is expected that the specific tasks will change over time as progress is made in achieving the stated goals.

### **HISC Interagency Working Group**

**(Lead HISC Member: DOT)**

**(Participating HISC members: DLNR, DOA, DBEDT, DOH, DHHL, DOD, UH, DCCA, Counties)**

**Goals:** (1) Assure coordination in invasive species management and control programs of state, Federal and private sector agencies; and (2) Determine how agencies can work together to share resources and responsibilities best to address specific pest control problems.

### **HISC Interagency Working Group Tasks:**

- Advise, consult, and coordinate invasive species-related efforts with and between the departments of agriculture, land and natural resources, health, and transportation, as well as state, federal, international, and privately organized programs and policies.

- Coordinate efforts and issues with the federal Invasive Species Council and its National Invasive Species Management Plan.
- Coordinate with the counties in the fight against invasive species to increase resources and funding and to address county-sponsored activities that involve invasive species.
- Coordinate efforts with federal agencies to maximize resources and reduce or eliminate system gaps and leaks, including deputizing the United States Department of Agriculture's plant protection and quarantine inspectors to enforce Hawaii's laws.
- Develop a web based reporting system to improve communication between agencies that issue permits for the importation or movement of organisms and agencies responsible for enforcement.

### **HISC Working Group on Pests Not Present in Hawaii - (Prevention)**

**(Lead HISC Member: DOA)**

**(Participating HISC members: DLNR, DOT, DOH, UH, DCCA, DOD, Counties)**

**Goals:** (1) Review risks of pest entry into the State and to assist in the setting of priorities to prevent entry of high-risk pests; and (2) Determine how best to prevent the entry of new pests with shared resources and shared responsibilities of all agencies.

#### **HISC Prevention Working Group Tasks:**

- Incorporate and expand upon the state's weed risk assessment protocol to the extent appropriate for the council's invasive species control and eradication efforts
- Identify and record all invasive species present in the State.
- Reprioritize inspection and quarantine services for goods imported to the State based on new data provided by the Kahului Airport Pest Risk Assessment.
- Identify high priority pest species for which there is a high risk of introduction to Hawaii and develop monitoring and rapid response plans.
- Request APHIS to screen domestic traffic into Hawaii for living plant material (similarly to the screening that takes place between Hawaii and the mainland now).
- Develop a comprehensive "approved planting list" to ensure that no invasive species are being planted in State projects or by any state contractors. The plants on the list should be screened by the Weed Risk Assessment protocol.
- Identify specific improvements to quarantine inspection of domestic cargo and passenger arrivals at Hawaii ports.

- Support legislation to protect against introductions of brown tree snakes and other snakes from entering Hawaii.
- Develop a comprehensive and timely invasive species listing process for use by all state agencies.
- Review the structure of fines and penalties to ensure maximum deterrence for invasive species-related crimes.
- Identify species that are at high risk of being introduced to the State or being spread within the State by illegal trade.
- Coordinate and promote the State's position with respect to federal issues, including:
  - Quarantine preemption;
  - International trade agreements that ignore the problem of invasive species in Hawaii;
  - First class mail inspection prohibition;
  - Whether quarantine of domestic pests arriving from the mainland should be provided by the federal government;
  - Coordinating efforts with federal agencies to maximize resources and reduce or eliminate system gaps and leaks, including deputizing the United States Department of Agriculture's plant protection and quarantine inspectors to enforce Hawaii's laws;
  - Promoting the amendment of federal laws as necessary, including the Lacey Act Amendments of 1981, Title 16 United States Code sections 3371-3378; Public Law 97-79, and laws related to inspection of domestic airline passengers, baggage, and cargo;

**HISC Working Group on Established Pests  
(Early Detection, Rapid Response & Control)**

**(Lead HISC Member: DLNR)**

**(Participating HISC members: DOA, DOT, DOH, DHHL, DOD, Counties)**

**Goals:** (1) Review control programs and help set priorities for the control of pests already present in the state; (2) Determine how best to control established pests with shared resources and shared responsibilities of all agencies.

**HISC Response and Control Working Group Tasks:**

- Work with Island Invasive Species Committees and others in the detection, response and control of invasive species on each of the islands.

- Determine what species are invasive to trigger access provisions onto private lands.
- Review and update DOA's Noxious Weed List and DLNR's injurious wildlife list.
- Implement a decision making protocol for targeting species for eradication efforts.
- Identify a list of invasive species for immediate control action.
- Develop operational protocol so existing high-risk invasive species that could spread through inter- and intra-state movement are closely monitored and/or eradicated.
- Designate invasive vertebrate pests.
- Eliminate known existing invasive plant species from public projects and contracts.
- Review and revise regulations governing the introduction of biological control agents.
- Develop management plans for widespread vertebrate pests.

### **HISC Resources Working Group**

**(Lead HISC Member: DBEDT)**

**(Participating HISC members: DLNR, DOA, DOT, DOH, UH, Counties)**

**Goals:** (1) Seek public and private sector funding for invasive species management and control programs and to assist line agencies in resources needs to support priority programs; and (2) Share knowledge and expertise to determine if all available public and private sector funding are being tapped to support pest control programs and to seek untapped funds and resources.

### **HISC Resources Working Group Tasks:**

- Identify and prioritize each lead agency's organizational and resource shortfalls with respect to invasive species.
- Identify all county, state, federal and private funds expended for the purposes of the invasive species problem in the State.
- Identify all county, state, federal and private funds available to fight invasive species and advise and assist state departments to acquire these funds.
- Develop dedicated funding sources for invasive species prevention and control programs (e.g. Island Invasive Species Committees, biocontrol).



## **HISC Working Group on Public Outreach**

**(Lead HISC Member: DOH)**

**(Participating HISC members: DLNR, DOT, DOA, UH, DCCA, DHHL, Counties)**

**Goals:** (1) Develop and implement a coordinated invasive species media plan for HISC member agencies and others; and (2) Determine how all agencies can best support an invasive species media plan with shared resources and responsibilities.

### **HISC Public Outreach Working Group Tasks:**

- Identify high priority messages to focus education efforts and develop outreach plans with the Department of Education.
- Develop a business round table of private sector transportation entities (e.g. airlines, shipping) to identify invasive species outreach opportunities.
- Develop or utilize an existing website for both in reach to HISC members and partners as well as outreach for the general public for pertinent invasive species issues.

## **Strategic Plan Objectives, Time Frames and Measures of Effectiveness**

The purpose of this strategic plan is to implement the Administration's program and budget initiatives by providing the framework for a statewide invasive species prevention, response and control, research and public outreach program.

An effective program is one that has sufficient programmatic capability to prevent new invasive species from entering into the State of Hawaii, control those already here at a level that reduces the risks and mitigates the hazards at a level acceptable to the people of Hawaii.

The strategic plan has four integrated program components as well as support for the Hawaii Invasive Species Council with specific recommendations, time frames and measures of effectiveness.

### **Prevention**

**Prevention: Build up Prevention capabilities of the State of Hawaii to include; 1) increased numbers of and training for quarantine inspectors and their assistants; 2) specialists to identify new insects, plants, aquatic organisms, and diseases, and 3) technicians and supervisors and needed infrastructure to lead invasive species control efforts on the ground.**

#### **Prevention Objectives and Time frame:**

- Increase inspection capability with appropriate infrastructure such as creating sanitary corridors around ports that limit the ability of arriving invasive species to become

established (2 year).

- Increase trained expertise (botanist, pathologist, biotechnician) to support inspection operations (1 year).
- Increase canine inspection teams and provide with appropriate infrastructure (1 year).
- Reprioritize inspection and quarantine services for goods imported to the State based on new data provided by the Kahului Airport Pest Risk Assessment (2 years).
- Review the structure of fines and penalties to ensure maximum deterrence for invasive species-related crimes (2 years).
- Identify terrestrial and aquatic species that are at high risk of being introduced to the State or being spread within the State by illegal trade (1 year).
- Identify possible vectors and pathways of terrestrial and aquatic invasive species into and throughout Hawaii (1 year /ongoing).
- Assess and continue existing monitoring programs and identify efforts that could assist in more effective detection of aquatic invasive species (1 year).
- Minimize aquatic invasive species introductions and transfers via, researchers, ballast water, ballast sediments, hull fouling, and authorized introductions of nonnative species (ongoing).

#### **Prevention - Measures of Effectiveness**

- Number of invasive species prevented from arrival at ports of entry
- Develop sanitary corridors around ports of entry
- Identification of high-risk species threatening Hawaii with targeted inspections
- Increased fines for intentional introduction of invasive species

#### **Response and Control**

**Response and Control: Build-up Response and Control capabilities to conduct invasive species detection and control actions on the ground by increasing support to Island Invasive Species Committees and other cooperative efforts.**

#### **Response & Control Objectives and Time frame:**

- Increase the number of crews with supervision and appropriate infrastructure for both terrestrial and aquatic invasive species detection and control (1 year and ongoing).

- Immediately target high priority invasive species that are candidates for eradication in all or part of their range such as Coqui frogs on Oahu and Kauai (1-year & ongoing).
- Develop a process to identify terrestrial and aquatic invasive species and appropriate action strategies for immediate and/or long-term control (1 year and ongoing).
- Eliminate existing invasive plant species from public projects and contracts (2 years).

#### **Response & Control - Measures of Effectiveness**

- Number (area, #'s) of invasive species eradicated and/or controlled
- Implementation of the Aquatic Invasive Species, West Nile Virus, and red-imported fire ant plans
- Maintaining a zero tolerance for Miconia on the Islands of Kauai, Oahu and Molokai

### **Research and Applied Technology**

**Research: Implement Research and Applied Technology programs for critical projects such as biological control, more effective increased survey and detection efforts, taxonomic services, increased knowledge base of target organisms, economic impacts of invasive species, master geographical information system and associated database management, and implementing new technology for improved efficiencies in invasive species prevention, detection, response and control efforts.**

#### **Research and Applied Technology Objectives and Time frame:**

- Develop new technology (chemical, mechanical, biological) for large-scale treatment of priority invasive species (e.g. marine invasive algae) (2 years/ongoing).
- Expand off-site exploration and screening for biocontrol agents for high-risk invasive species (e.g. Miconia) already present in the State (2 years/ongoing).
- Establish an integrated and accessible process for linking pest hot line reports into a statewide geographical information system accessible to field crews actively controlling terrestrial and aquatic invasive species (2 year/ongoing).
- Develop new tools for effective early detection and monitoring of terrestrial and aquatic invasive species populations. (2 years/ongoing)
- Provide taxonomic services for identification of terrestrial and aquatic invasive species in a timely manner (1 year /ongoing).
- Finalize implementation of Weed Risk Assessment protocol (screening) or other comparable management measures (i.e. codes of conduct, pre-clearance or compliance agreements) of intentional introduction of plants (into the State and between islands) with the nursery and landscape industry (1 year/ ongoing).

- Develop protocol (screening) or other comparable management measures (i.e. codes of conduct, preclearance or compliance agreements) of intentional introduction of all freshwater, marine or terrestrial organisms (into the State and between islands) with the private sector (2 years/ ongoing).
- Develop technology with shipping industry for on-board treatment of ballast water and surface treatment to minimize hull fouling (2 years/ongoing)
- Obtain cooperation with airlines industry for more efficient screening and inspection of baggage and cargo (2 years/ongoing).

### **Research and Applied Technology - Measures of Effectiveness**

- New technology developed for marine algae removal
- Effective linkages between pest hotline and on the ground eradication of invasive species
- Increased number of biological control agents introduced
- New technology developed for on-board treatment of ballast water
- Cooperation with nursery and landscape industry for adoption of Weed Risk Assessment
- Dollars of private sector investment into invasive species programs

### **Public Outreach**

**Public Outreach: Develop a Public Outreach program in cooperation with the public and private sector for visitors and residents to increase voluntary compliance of quarantine laws, avoid accidental introductions of invasive species, and establishing an effective pest hotline that delivers timely information to managers on the ground.**

#### **Outreach Objectives and Time frame:**

- Identify high priority messages to focus education efforts and develop outreach plans with the Department of Education (2 years).
- Develop a business round table of private sector transportation entities (e.g. airlines, shipping) to identify invasive species outreach opportunities (2 years).
- Develop or utilize an existing website for in-reach to HISC members and partners as well as outreach for the general public for pertinent invasive species issues (1 year).
- Develop a Pest hotline available to the public that is integrated into a statewide geographical information system and interagency database that is accessible to field crews actively controlling terrestrial and aquatic invasive species (2 years).

- Develop a series of invasive species Public Service Announcements in cooperation with a variety of media outlets to encourage travelers and residents to not introduce or transport invasive species into and between islands (1 year and ongoing).

#### **Outreach - Measures of Effectiveness**

- Number of callers on pest hotline
- Number of education materials produced and distributed to target audiences
- Number of volunteers who assist with invasive species management stewardship
- Number of hits on invasive species web page

### **Hawaii Invasive Species Council Support**

#### **Hawaii Invasive Species Council Support: Provide administrative support for the Hawaii Invasive Species Council**

##### **HISC Support Objectives and Time frame:**

- Advise, consult and coordinate invasive species-related efforts with and between the departments of agriculture, land and natural resources, health, transportation, University of Hawaii, and other state, federal and private entities. (4 years)
- Coordinate efforts and issues with the Federal Invasive Species Council, the National Invasive Species Management Plan, the Hawaii Aquatic Invasive Species Advisory Council, Alien Aquatic Organism Task Force and any new proposed federal legislation (4 years).
- Coordinate with the Counties in the fight against invasive species to increase resources and funding and to address county-sponsored activities that involve invasive species (4 years).
- Coordinate efforts with federal agencies to maximize resources and reduce or eliminate system gaps and leaks, including deputizing the United States Department of Agriculture's plant protection and quarantine inspectors to enforce Hawaii's laws (2 years).
- Develop a web based mapping and communication system for partnership programs including the Invasive Species Committees that will provide information on the distribution, on going control work, and status of key invasive species such as Miconia, pampas grass (1 year).
- Develop a web based reporting system to improve communication between agencies that issue permits for the importation or movement of organisms and agencies responsible for enforcement (2 year).

- Identify all federal and private funds available to the State to fight invasive species and advise and assist state departments to acquire these funds (1 year).
- Review and update DOA's Noxious Weed List and DLNR's injurious wildlife list (1 year).
- Develop operational protocol so existing high-risk terrestrial and aquatic invasive species that could spread through inter- and intra-state movement are closely monitored and/or eradicated if found in new areas (2 years).
- Designate invasive vertebrate pests (2 years).

#### **HISC Support - Measures of Effectiveness**

- Active involvement of state agencies with the HISC
- Numbers of entities participating in HISC working groups
- Successful administration of all HISC monies
- Increased private and federal funds for invasive species programs in Hawaii.

## ***Preliminary Hawaii Invasive Species Council Budget Summary***

The Administration's invasive species budget calls for the expenditure of \$5,000,000 in state funds each year for four-years to provide support for both the operations of the Hawaii Invasive Species Council (HISC) and its cooperating partners to develop, and implement a partnership of Federal, State, County, and private entities for a comprehensive state-wide invasive species prevention, detection and control program.

State dollars will be matched (1:1) by non-state dollars or equivalent in-kind services making this an overall effort of \$40-million.

Although this budget request is under the Department of Land and Natural Resources, it will ultimately include and involve programs and projects through nine different departments, the four counties and federal and private partners. The funding will not replace any of the existing state, private, or federal funding, but will complement and expand on existing programs.

Running the comprehensive invasive species program through the HISC will not only provide maximum leveraging of state monies from all the HISC departments, but will also help promote increased and targeted funding from cooperating partners.

The overall goals of the Administration's budget request for the Hawaii Invasive Species Council are to:

- Coordinate invasive species management and control programs for County, State, Federal and private sector entities by developing a structure for cooperators to work together to share resources and responsibilities to address specific invasive species issues;
- Increase inspection and other "prevention" capabilities to prevent high-risk invasive species and diseases (e.g. brown tree snake, West Nile Virus, etc.) from entry into the State, or to specific islands where they are not currently found;
- Accelerate the control of priority invasive species already present in the state (e.g. Miconia, coqui frogs, marine algae, etc.) by developing a more effective state-wide early detection and rapid response capability with the Island Invasive Species Committee and other response and control efforts;
- Leverage increased involvement and expertise from private and academic sectors to assure that Hawaii has access to the most up-to-date, effective and efficient research and technology tools to combat invasive species.
- Implement a coordinated statewide invasive species public outreach program with shared resources and responsibilities among cooperating entities;

The funding is broken into four integrated components designed to: 1) maximize involvement of HISC members and cooperating partners; 2) leverage increased involvement from the private sector; 3) take advantage of available technical expertise in both the public and private sector; 4) address priority invasive species problems now (e.g. Miconia, brown tree snake, coqui frogs, West Nile Virus, etc) and 5) build up a comprehensive system of partnerships to address existing and potential invasive species in the future.

The state funding is broken into four integrated components:

- 1) Building up **Prevention** capabilities (**35% of total funding**) such as; 1) increased numbers of and training for quarantine inspectors; 2) specialists to identify new insects, plants and diseases and 3) technicians/supervisors and needed infrastructure to lead invasive species control efforts on the ground;
- 2) Establishing **Response and Control** programs (**30% of total funding**) to conduct invasive species detection, response and control actions on the ground;
- 3) Enhance **Research and Applied Technology** funding (**30% of total funding**) for critical projects such as biological control, more effective increased survey and detection efforts, taxonomic identification, master geographical information system and associated database management as well as a matching grants program to the private and university

sector for developing and applying technology for improved efficiencies in invasive species prevention and control efforts; and

- 4) Developing a **Public Outreach Program (5% of total funding)** in cooperation with the public and private sector for visitors and residents to increase voluntary compliance of quarantine laws, avoid accidental introductions of invasive species, and establishing an effective pest hotline that delivers timely information to managers on the ground.

This budget has been aligned with both the Hawaii Invasive Species Council Strategic Plan and the HISC working group structures to assure not only compatibility with existing efforts but also accountability with specific measures of effectiveness.

Lead HISC members will administer specific program components and HISC working groups will assure funding specifications address priority statewide issues and fit into HISC members' and cooperating partners' operational programs.

Partnerships to address invasive species issues have been responsible for the greatest improvements in Hawaii's ability to respond to recognized priority pests. Island Invasive Species Committees (ISCs) are now active on all islands, participating in early detection and rapid response programs for priority and incipient invasive species.

Many individual species plans have been developed (e.g. red imported fire ant, coqui frog, brown tree snake.) Yet, to date, there has not been a unifying strategic plan that brings together all of these activities.

## **Invasive Species Prevention, Response and Control, Research and Outreach**

Increasing success in invasive species projects in Hawaii has come largely from the formation of strong partnerships between State, County and Federal agencies and private groups. Just as many landowners and businesses are affected by the same invasive species concerns, many agencies are responsible for the pathways that bring potentially invasive species into Hawaii, regulate their movement and control their spread.

Combining limited resources, authority, and expertise has led to the creation of Invasive Species Committees that carry out on the ground actions and the Coordinating Group on Alien Pest Species that has allowed agency staff to develop integrated policies within the state.

County, Federal and private partners have identified almost \$15-million in invasive species funding that will be spent in Hawaii in fiscal year 2005. This is by no means a complete list and also includes some funding that is currently being matched by existing State funds.

One of the goals of the State's invasive species program initiative is to assure that all state dollars are matched by non-state sources (County, Federal or private) or in-kind services. The Strategic Plan for Invasive Species Prevention, Response & Control, Research and Outreach lays out a four-year comprehensive program that involves all of the agencies and private entities involved



in these efforts. The estimated overall annual cost for implementing this comprehensive plan is \$20 million a year.

The current initiative will provide the State's share of this broad partnership. We believe that it will also stimulate new non-state dollars and in-kind services, as well as provide the matching state source to maintain existing grants. These new dollars will come in the form of new County, Federal and private funds, as well increased community group (in-kind services) participation.

Each of the program components of the budget initiative is designed to engage and provide new opportunities for both state agencies and cooperating partners to attract and obtain new funding sources.

The goal of listing all of the projects is to give some sense of the scope of the commitment to invasive species issues that currently exists.

Table 1 provides an integrated HISC budget summary that shows requested FY 05 State funds, committed non-State funds, those non-State funds that require a match and potential new non-State funds. County, Federal and private partners have identified almost \$15,000,000 in invasive species funding that will be spent in Hawaii in fiscal year 2005. With an increase in State participation these same partners have identified over \$4.5 million in additional grants and programs that could be applied for, further improving Hawaii's invasive species programs.

The current initiative will provide the State's share of this broad partnership. We believe that it will also stimulate new non-state dollars and in-kind services, as well as provide the matching state source to maintain existing grants. These new dollars will come in the form of new County, Federal and private funds, as well increased community group (in-kind services) participation.

Table 2 displays the requested State dollars with the non-State dollars aligned by program component (Prevention, Response and Control, Research and Applied Technology, Public Outreach). Table 3 shows the diversity of Federal, County and private entities that are participating in this broad partnership. Finally, Table 4 is the specific details on proposed State, listed in accordance with State budget categories - Personnel (A), Current Expenses (B), Equipment (C) and Motor Vehicles (M). The out years (Fiscal Years 2006 to 2009) are estimated totals that are subject to change as the HISC programs develop.

**Table 1. Preliminary Integrated Preliminary Hawaii Invasive Species Council Budget Summary**

	<u>FY 05 State Funds</u>	<u>Committed Non- State Expenditures</u>	<u>Non-State Funding Requiring Match</u>	<u>Potential New Non- State Funds</u>
<b>Prevention</b>	\$2,000,000	\$2,777,500	\$0	\$1,475,000
<b>Response and Control</b>	\$1,373,000	\$8,641,500	\$1,289,000	\$1,300,000
<b>Research and Applied Technology</b>	\$1,314,000	\$1,366,500	\$218,500	\$1,475,000
<b>Public Outreach</b>	\$313,000	\$128,000	\$3,000	\$300,000
<b><u>Sub-Totals</u></b>	<u>\$5,000,000</u>	<u>\$12,913,500</u>	<u>\$1,510,500</u>	<u>\$4,550,000</u>
<b><u>Program total</u></b>		<u><b>\$17,913,500</b></u>		

**Table 2. Preliminary Invasive Species Project Funding State Fiscal Year 2005**

<u>State Funds</u>		<u>Non-State Funding</u>	
<b>Total State Funding:</b>	<b>\$5,000,000</b>	<b>Estimated County, Federal and Private Funding</b>	<b>\$12,913,500</b>
<b>Prevention</b>	<b>\$2,000,000</b>		<b>\$2,777,500</b>
<b>Key Proposed Actions</b>		<b>Key Actions Supported</b>	
<ul style="list-style-type: none"> <li>○ Increase inspection capabilities with appropriate infrastructure such as creating sanitary corridors around ports that limit the ability of arriving invasive species to become established (2 year).</li> <li>○ Increase trained expertise (botanist, pathologist, biotechnician) to support inspection operations (1 year).</li> <li>○ Increase canine inspection teams and provide with appropriate infrastructure (1 year).</li> </ul>		<ul style="list-style-type: none"> <li>○ Brown Tree Snake interdiction and rapid response training to Hawaii Department of Agriculture and Department of Land and Natural Resources: U.S. Department of the Interior</li> <li>○ Hawaii Department of Agriculture inspection support for priority pest species: U.S. Department of Agriculture</li> <li>○ Database development for interagency cooperation: U.S. Geological Survey – Pacific Basin Information Node</li> <li>○ Airport improvements that add cargo inspection facilities and reduce the likelihood that invasive species will establish around airports: U.S. Department of Transportation</li> </ul>	

**State Funds**

**Non-State Funding**

**Response and Control      \$1,373,000**

**\$8,641,500**

**Key Proposed Actions**

- Increase the number of crews with supervision and appropriate infrastructure for both terrestrial and aquatic invasive species detection and control (1 year and ongoing).
- Immediately target high priority invasive species that are candidates for eradication in all or part of their range such as Coqui frogs on Oahu and Kauai (1 year and ongoing).
- Develop a process to identify terrestrial and aquatic invasive species and appropriate action strategies for immediate and/or long-term control (1 year and ongoing).

**Key Actions Supported**

- Invasive algae control, coral reef protection, and aquatic invasive species planning and coordination: National Oceanic and Atmospheric Administration and the U.S. Fish and Wildlife Service
- Support for invasive plant species and disease control that threaten forest health: U.S. Forest Service
- Pass-through funding for controlling incipient and priority invasive species: U.S. Fish and Wildlife Service
- Development of software to track and manage multi-partner control efforts: U.S. Geological Survey – Pacific Basin Information Node
- Invasive species control in priority areas: National Park Service, Maui County and City and County of Honolulu, and private land owners including Kamehameha Schools

**State Funds**

**Non-State Funding**

**Research and Applied Technology**

**\$1,314,000**

**\$1,366,500**

**Key Proposed Actions**

- Develop new technology (chemical, mechanical, biological) for large-scale treatment of priority invasive species (e.g. marine invasive algae) (2 years/ongoing).
- Expand off-site exploration and screening for biocontrol agents for high-risk invasive species (e.g. Miconia) already present in the State (2 years/ongoing).
- Establish an integrated and accessible process for linking pest hot line reports into a statewide geographical information system accessible to field crews actively controlling terrestrial and aquatic invasive species (2 year/ongoing).
- Finalize implementation of Weed Risk Assessment protocol (screening) of intentional introduction of plants (into the State and between islands) with the nursery and landscape industry (1 year/ ongoing).

**Key Actions Supported**

- Implementation of ballast water technology and protocols: Coastal Zone Management Grant, U.S. Fish and Wildlife Service
- Aquatic invasive species distribution, biology and control methods: U.S. Fish and Wildlife Service
- Threats to forests and native ecosystems by invasive species: U.S. Geological Survey and Institute of Pacific Islands Forestry research staff
- Support to key research institutions such as the University of Hawaii and Bishop Museum to make information about introduced and potentially invasive species more available to managers

**State Funds**

**Non-State Funding**

**Public Outreach**

**\$313,000**

**\$128,000**

**Key Proposed Actions**

- Identify high priority messages to focus education efforts and develop outreach plans with the Department of Education (2 years).
- Develop a business round table of private sector transportation entities (e.g. airlines, shipping) to identify invasive species outreach opportunities (2 years).
- Develop or utilize an existing website for pertinent invasive species issues (1 year).
- Develop a Pest hotline that is integrated into a statewide geographical information system accessible to field crews actively controlling terrestrial and aquatic invasive species (2 years).
- Develop a series of invasive species Public Service Announcements to encourage travelers and residents to not introduce or transport invasive species into and between islands (1 year and ongoing).

**Key Actions Supported**

- Support to Coordinating Group on Alien Pest Species for Brown Tree Snake and other priority invasive species outreach materials for agencies, industry, residents and visitors: U.S. Fish and Wildlife Service and the Hawaii Community Foundation
- Website development and internet based mail lists to inform and connect all agencies and individuals interested in invasive species issues in Hawaii: U.S. Geological Survey - Pacific Biological Information Node

**Table 3. Invasive Species Spending in Hawaii**

	<b>Prevention</b>	<b>Response and Control</b>	<b>Research and Technology Outreach</b>
<b>Federal</b>			
Coastal Zone Management Grant for Ballast Water			\$60,000
D.J. Sport Fishing Restoration (freshwater)			\$58,500
D.J. Sport Fishing Restoration (weed control)		\$10,000	
Federal Aviation Administration to Hawaii Department of Transportation – Airports, Kahalui	\$1,000,000		
Hawaii Coral Reef Initiative - Aquatic Invasive Species Funding		\$250,000	
Institute of Pacific Islands Forestry staff and projects		\$100,000	\$400,000
National Fish and Wildlife Foundation - Maui		\$75,000	
National Fish and Wildlife Foundation - Molokai		\$32,000	
National Fish and Wildlife Foundation - Hawaii Island		\$150,000	
National Oceanic and Atmospheric Administration - Coral Reef for Invasives			\$50,000
National Oceanic and Atmospheric Administration Coral Reef for The Nature Conservancy - Hawaii - Algae Program		\$250,000	

	<b>Prevention</b>	<b>Response and Control</b>	<b>Research and Technology</b>	<b>Outreach</b>
<b>Federal continued</b>				
National Park Service - Haleakala National Park		\$1,220,000		
National Park Service - Hawaii Volcanoes National Park		\$2,500,000		
National Park Service - Kalaupapa		\$141,000		
National Park Service - Pacific Islands Emergency Pest Management Team		\$320,000		
U.S. Geological Survey - Pacific Biological Information Node - Bishop Museum	\$25,000		\$25,000	
U.S. Geological Survey - Pacific Biological Information Node - Florida Caribbean Science Center		\$10,000	\$20,000	
U.S. Geological Survey - Pacific Biological Information Node - Pacific Islands Ecosystem Research Center			\$75,000	\$75,000
U.S. Geological Survey - Pacific Biological Information Node - Smithsonian Institution		\$5,000		
U.S. Geological Survey - Pacific Biological Information Node - Hawaii Natural Heritage Program		\$15,000	\$45,000	
U.S. Geological Survey - Pacific Biological Information Node - Operations	\$5,000	\$20,000	\$43,000	



	<b>Prevention</b>	<b>Response and Control</b>	<b>Research and Technology</b>	<b>Outreach</b>
<b>Federal Continued</b>				
U.S. Department of Agriculture - Hawaii Department of Agriculture funding	\$400,000			
U.S. Department of Agriculture - Biocontrol support - Hawaii Department of Agriculture funding	\$122,500			
U.S. Department of Agriculture - Plant Pest Control - Hawaii Department of Agriculture funding		\$120,000		
U.S. Department of Agriculture, Animal and Plant Inspection and Health Service - Wildlife Services - Guam Brown Tree Snake Program	\$1,000,000			
U.S. Forest Service - Forest Health programs		\$90,000		
U.S. Forest Service - Prevention and Suppression - Big Island		\$150,000		
U.S. Forest Service - Prevention and Suppression - Kauai		\$100,000		
U.S. Forest Service - Prevention and Suppression - Maui		\$100,000		
U.S. Forest Service - Prevention and Suppression - Molokai		\$7,000		\$3,000

	<b>Prevention</b>	<b>Response and Control</b>	<b>Research and Technology</b>	<b>Outreach</b>
<b>Federal continued</b>				
U.S. Forest Service - Prevention and Suppression - Oahu		\$50,000		
U.S. Fish and Wildlife Service - Miconia		\$100,000		
U.S. Fish and Wildlife Service - Brown Tree Snake training support to Department of Land and Natural Resources	\$25,000			
U.S. Fish and Wildlife Service - Aquatic Invasive Species - to Division of Aquatic Resources		\$75,000		
U.S Fish and Wildlife Service for Bishop Museum		\$50,000		
U.S Fish and Wildlife Service grants		\$660,000		
U.S. Fish and Wildlife Service - via Office of Insular Affairs				\$50,000
U.S. Fish and Wildlife Service - via Office of Insular Affairs to Hawaii Department of Agriculture	\$200,000			
U.S. Fish and Wildlife Service Staff			\$160,000	
U.S. Fish and Wildlife Service to Hawaii Department of Agriculture		\$2,500		
U.S. Geological Survey - Pacific Island Ecosystems Research Center		\$1,150,000	\$380,000	

	<b>Prevention</b>	<b>Response and Control</b>	<b>Research and Technology</b>	<b>Outreach</b>
<b>County</b>				
Maui Board of Water Supply		\$180,000		
Maui County		\$180,000		
Oahu Board of Water Supply		\$125,000		
<b>Private</b>				
Aerators and other volunteer - Molokai		\$4,000		
Hawaii Community Foundation for Bishop Museum			\$50,000	
Kamehameha Schools - Big Island		\$400,000		
<b>Category Totals</b>	\$2,777,500	\$8,641,500	\$1,366,500	\$128,000
<b>Total</b>	<b>\$12,913,500</b>			

**Table 4a. Preliminary project budget projections.**

**Prevention**

4 Years

**Program A:** Build up **Prevention** capabilities of the State of Hawaii to include; 1) increased numbers of and training for quarantine inspectors and aids to assist in the inspection process; 2) specialists to identify new insects, plants, aquatic organisms, and diseases, and 3) technicians/supervisors and needed infrastructure to lead invasive species control efforts on the ground.

		<u>FY 05 Requirements</u>	<u>FY 06 Requirements</u>	<u>FY 07 Requirements</u>	<u>FY 08 Requirements</u>	<u>Sub-Total</u>
<b>A. Personal Services</b>						<b>\$5,510,000</b>
	Inspection support	16.00	\$440,000	\$880,000	\$880,000	\$440,000
	Botanist	1.00	\$27,500	\$55,000	\$55,000	\$55,000
	Pathologist	1.00	\$27,500	\$55,000	\$55,000	\$55,000
	Biotechnician	1.00	\$27,500	\$55,000	\$55,000	\$55,000
	Enforcement Trainer	1.00	\$27,500	\$55,000	\$55,000	\$55,000
	Technicians	6.00	\$135,000	\$270,000	\$270,000	\$270,000
	Dog Handlers	6.00	\$165,000	\$330,000	\$330,000	\$330,000
<b>B. Other Current Expenses</b>						<b>\$1,144,000</b>
	Increased inspection capabilities, laboratory support and facilities for additional staff		\$851,976	\$208,100	\$65,837	\$18,087
<b>C. Equipment</b>						<b>\$154,000</b>
	Dogs		\$9,000			
	Computers	8.00	\$100,000			
	Chemical Sprayers		\$45,000			
<b>L. Current Lease Payments</b>						<b>\$0</b>
<b>M. Motor Vehicles</b>						<b>\$192,000</b>
	Vehicles	8.00	\$144,000	\$48,000		
	<b>FY Total</b>		<b>\$1,999,976</b>	<b>\$1,956,100</b>	<b>\$1,765,837</b>	<b>\$1,278,087</b>
					<b><u>Program total</u></b>	<b><u>\$7,000,000</u></b>

Assume all staff to work for 6 months in first year as program is developed, half as many inspectors in last year  
 Technicians at \$45K per year including benefits  
 All other staff, inspectors, dog handlers and biologists at \$55K per year including benefits  
 Vehicles (sedans) at \$24K each, 4 in year 1, 2 in year 2

**Table 4b. Preliminary project budget projections.**

**Response and Control**

4 Years

**Program B:** Enhance **Response and Control** programs to conduct invasive species detection and control actions on the ground.

		<u>FY 05 Requirements</u>	<u>FY 06 Requirements</u>	<u>FY 07 Requirements</u>	<u>FY 08 Requirements</u>	<u>Sub-Total</u>
<b>A. Personal Services</b>						<b>\$4,823,000</b>
	Crew Supervisors	8.00	\$240,000	\$240,000	\$240,000	\$240,000
	Laborers	40.00	\$540,000	\$918,000	\$1,080,000	\$1,080,000
	Accountant	1.00	\$17,500	\$35,000	\$35,000	\$35,000
	Human Resources Specialists	1.00	\$17,500	\$35,000	\$35,000	\$35,000
<b>B. Other Current Expenses</b>						<b>\$600,000</b>
	Conduct high-priority field work, equipment and materials to support a large field crew		\$125,149	\$177,833	\$138,333	\$158,685
<b>C. Equipment</b>						<b>\$172,000</b>
	Safety Equipment and Tools		\$28,000	\$48,000	\$48,000	\$48,000
<b>L. Current Lease Payments</b>						<b>\$0</b>
<b>M. Motor Vehicles</b>						<b>\$405,000</b>
	Vehicles	9.00	\$405,000			
	<b>FY Total</b>		<b>\$1,373,149</b>	<b>\$1,453,833</b>	<b>\$1,576,333</b>	<b>\$1,596,685</b>
					<b><u>Program total</u></b>	<b><u>\$6,000,000</u></b>

Crew leaders at \$2040/month = \$30,000/year with 20% benefits  
 Laborers \$1890/month = \$27,000/year with 20% benefits  
 Accountant and HRS at \$35,000/year, .50 time in 1st year  
 Between 5-6 staff per truck  
 Allowing \$1000 per field staff per year in gear allowance  
 Other current expenses based on MISC EEWf experience for field work  
 Vehicles (heavy 4WD 7 trucks) at \$45K each

**Table 4c. Preliminary project budget projections.**

**Research and Applied Technology**

4 Years

**Program C:** Enhance **Research and Applied Technology** funding for critical projects such as biological control, more effective increased survey and detection efforts, taxonomic identification, master geographical information system and associated database management as well as a matching grants program to the private and university sector for developing and applying technology for improved efficiencies in invasive species prevention and control efforts.

			<u>FY 05 Requirements</u>	<u>FY 06 Requirements</u>	<u>FY 07 Requirements</u>	<u>FY 08 Requirements</u>	<u>Sub-Total</u>
<b>A. Personal Services</b>							<b>\$210,000</b>
	Grant Coordinator	1.00	\$35,000	\$35,000	\$35,000	\$35,000	
	Accountant	1.00	\$17,500	\$17,500	\$17,500	\$17,500	
<b>B. Other Current Expenses</b>							<b>\$5,765,000</b>
	Matching grant for biocontrol, survey and detection, taxonomic services, database management		\$748,000	\$765,192	\$852,955	\$1,468,853	
	Grants for developing and improving invasive species prevention and control efforts (Weed Risk Assessment, biocontrol, ballast water containment, container and baggage inspections)		\$488,125	\$485,625	\$485,625	\$470,625	
<b>C. Equipment</b>							<b>\$25,000</b>
	Computers	2.00	\$25,000				
<b>L. Current Lease Payments</b>							<b>\$0</b>
<b>M. Motor Vehicles</b>							<b>\$0</b>
		<b>FY Total</b>	<b>\$1,313,625</b>	<b>\$1,303,317</b>	<b>\$1,391,080</b>	<b>\$1,991,978</b>	
						<u><b>Program total</b></u>	<u><b>\$6,000,000</b></u>

Grant Coordinator for full time management and Accountant to work half time at \$35K per year including benefits  
Two computers, one for each staff person

**Table 4d. Preliminary project budget projections.**

**Public Outreach**

4 Years

**Program D:** Develop a **Public Outreach** program in cooperation with the public and private sector for visitors and residents to increase voluntary compliance of quarantine laws, avoid accidental introductions of invasive species, and establishing an effective pest hotline that delivers timely information to managers on the ground.

		<u>FY 05 Requirements</u>	<u>FY 06 Requirements</u>	<u>FY 07 Requirements</u>	<u>FY 08 Requirements</u>	
<b>A. Personal Services</b>	<b>Staff total</b>					<b>Sub-Total</b>
						<b>\$435,000</b>
	Information Officer	1.00	\$27,500	\$55,000	\$55,000	\$27,500
	Education Specialist	2.00	\$45,000	\$90,000	\$90,000	\$45,000
<b>B. Other Current Expenses</b>						<b>\$503,500</b>
	Increase voluntary compliance of quarantine laws, avoid accidental introductions of invasive species, establish a pest hotline		\$179,250	\$141,750	\$121,750	\$60,750
<b>C. Equipment</b>						<b>\$37,500</b>
	Computers	3.00	\$37,500			
<b>L. Current Lease Payments</b>						<b>\$0</b>
<b>M. Motor Vehicles</b>						<b>\$24,000</b>
	Vehicle	1.00	\$24,000			
	<b>FY Total</b>		<b>\$313,250</b>	<b>\$286,750</b>	<b>\$266,750</b>	<b>\$133,250</b>
					<b><u>Program total</u></b>	<b><u>\$1,000,000</u></b>

Education specialists at \$45K per year including benefits, assume 6 months in year one and year four (FY08)  
 Information officer at \$55K per year including benefits, assume 6 months in year one and year four (FY08)  
 Vehicle (sedan) @ \$24K in year one  
 Three computers at \$12,500 each

**Table 4e. Preliminary project budget projections.**

**Total Hawaii Invasive Species Council Budget by Program**

	<u>FY 05 Requirements</u>	<u>FY 06 Requirements</u>	<u>FY 07 Requirements</u>	<u>FY 08 Requirements</u>	<u>Project Total</u>
Prevention	\$1,999,976	\$1,956,100	\$1,765,837	\$1,278,087	\$7,000,000
Response and Control	\$1,373,149	\$1,453,833	\$1,576,333	\$1,596,685	\$6,000,000
Research and Applied Technology	\$1,313,625	\$1,303,317	\$1,391,080	\$1,991,978	\$6,000,000
Public Outreach	\$313,250	\$286,750	\$266,750	\$133,250	\$1,000,000
<b><u>Sub-Totals by FY</u></b>	<b>\$5,000,000</b>	<b>\$5,000,000</b>	<b>\$5,000,000</b>	<b>\$5,000,000</b>	
				<b><u>Program total</u></b>	<b><u>\$20,000,000</u></b>



**Table 4f. Preliminary project budget projections.**

**Total Hawaii Invasive Species Council Budget**

			<u>FY 05 Requirements</u>	<u>FY 06 Requirements</u>	<u>FY 07 Requirements</u>	<u>FY 08 Requirements</u>
<b>A. Personal Services</b>						
Prevention	Inspection support	16	\$440,000	\$880,000	\$880,000	\$440,000
Prevention	Botanist	1	\$27,500	\$55,000	\$55,000	\$55,000
Prevention	Pathologist	1	\$27,500	\$55,000	\$55,000	\$55,000
Prevention	Biotechnician	1	\$27,500	\$55,000	\$55,000	\$55,000
Prevention	Enforcement Trainer	1	\$27,500	\$55,000	\$55,000	\$55,000
Prevention	Technicians	6	\$135,000	\$270,000	\$270,000	\$270,000
Prevention	Dog Handlers	6	\$165,000	\$330,000	\$330,000	\$330,000
Response and Control	Crew Supervisors	8	\$240,000	\$240,000	\$240,000	\$240,000
Response and Control	Laborers	40	\$540,000	\$918,000	\$1,080,000	\$1,080,000
Response and Control	Accountant	1	\$17,500	\$35,000	\$35,000	\$35,000
Response and Control	Human Resources Specialists	1	\$17,500	\$35,000	\$35,000	\$35,000
Research and Applied Technology	Grant Coordinator	1	\$35,000	\$35,000	\$35,000	\$35,000
Research and Applied Technology	Accountant	1	\$17,500	\$17,500	\$17,500	\$17,500
Public Outreach	Information Officer	1	\$27,500	\$55,000	\$55,000	\$27,500
Public Outreach	Education Specialist	2	\$45,000	\$90,000	\$90,000	\$45,000
		<b>87</b>	<b>\$1,790,000</b>	<b>\$3,125,500</b>	<b>\$3,287,500</b>	<b>\$2,775,000</b>
<b>B. Other Current Expenses</b>						
Prevention	Increased inspection capabilities, laboratory support and facilities for additional staff		\$851,976	\$208,100	\$65,837	\$18,087
Response and Control	Conduct high-priority field work, equipment and materials to support a large field crew		\$125,149	\$177,833	\$138,333	\$158,685
Research and Applied Technology	Matching grant for biocontrol, survey and detection, taxonomic services, database management		\$748,000	\$765,192	\$852,955	\$1,468,853
Research and Applied Technology	Grants for developing and improving invasive species prevention and control efforts (Weed Risk Assessment, biocontrol, ballast water containment, container and baggage inspections)		\$488,125	\$485,625	\$485,625	\$470,625
Public Outreach	Increase voluntary compliance of quarantine laws, avoid accidental introductions of invasive species, establish a pest hotline		\$179,250	\$141,750	\$121,750	\$60,750
			<b>\$2,392,500</b>	<b>\$1,778,500</b>	<b>\$1,664,500</b>	<b>\$2,177,000</b>
<b>C. Equipment</b>						
Prevention	Dogs		\$9,000			
Prevention	Computers		\$100,000			
Prevention	Chemical Sprayers		\$45,000			
Response and Control	Safety Equipment and Tools		\$28,000	\$48,000	\$48,000	\$48,000
Research and Applied Technology	Computers	2	\$25,000			
Public Outreach	Computers	3	\$37,500			
			<b>\$244,500</b>	<b>\$48,000</b>	<b>\$48,000</b>	<b>\$48,000</b>
<b>L. Current Lease Payments</b>						
<b>M. Motor Vehicles</b>						
Prevention	Vehicles	8	\$144,000	\$48,000		
Response and Control	Vehicles	9	\$405,000			
Public Outreach	Vehicle	1	\$24,000			
			<b>\$573,000</b>	<b>\$48,000</b>	<b>\$0</b>	<b>\$0</b>
		<b>FY Total</b>	<b>\$5,000,000</b>	<b>\$5,000,000</b>	<b>\$5,000,000</b>	<b>\$5,000,000</b>
					<b>Program total</b>	<b>\$20,000,000</b>