



**STATE PROCUREMENT OFFICE  
NOTICE OF AND REQUEST FOR EXEMPTION  
FROM CHAPTER 103D, HRS**

1. TO: Chief Procurement Officer  
2. FROM: DLNR/DOFAW

Department/Division/Agency

Pursuant to §103D-102(b)(4), HRS, and Chapter 3-120, HAR, the Department requests a procurement exemption to purchase the following:

3. Description of goods, services or construction:

The Bishop Museum's Hawaii Biological Survey (HBS) was established by State legislation (HRS§6E-61) in 1992 and is the premier authority for information about Hawaii's biota, both terrestrial and aquatic. The Museum maintains the most complete record/collection of established introduced species in Hawaii, regularly publishes new distributional records and taxonomic updates, and provides ad hoc taxonomic and identification services to the management community. The HBS is to work in conjunction with the Hawaii Invasive Species Council agencies (HISC) to develop a public database of scientific information for all alien species within Hawaii. This will serve to better identify those aliens that are invasive, identify new incipient invasions, indicate the information supporting these assessments, and highlight taxa for which data are deficient. In addition the museum will provide taxonomic identification services. Current efforts will be improved to provide information relevant to HISC agencies and the public involved in invasive species management. This helps the HISC fulfill its duties, it is charged with identifying and recording all invasive species in the state (HRS§194-2 (a)(6)) and is consistent with the goals of the HBS.

4. Name of Vendor: Bishop Museum  
Address: 1525 BERNICE ST  
Honolulu HI 96817-2704

5. Price:  
\$160,000

6. Term of Contract: From: 12/01/08 To: 04/15/10

7. Prior Exemption Ref. No.

8. Explanation describing how procurement by competitive means is either not practicable or not advantageous to the State: The procurement of these services represents the HISC's contribution to an existing program of work funded from multiple sources; the HISC is effectively co-sponsoring HBS's work as well as requesting specific informational services. In addition the plants and animals collected and stored at Bishop Museum represent the single largest collection of native and alien taxa present in Hawaii, this is resource available to no other provider of similar services, databased information will be made public. The HISC has asked for the information to be expanded with respect to alien and invasive species. No other provider can provide access to this collection and the relevant information it contains. The HISC established through HRS 194 approved the spending of funds at its September 3 2008 meeting (Attached budget and minutes). Administration and related costs are covered by the Bishop Museum.

9. Details of the process or procedures to be followed in selecting the vendor to ensure maximum fair and open competition as practicable:

The State mandated the HBS's goals "The survey shall consist of an ongoing natural history inventory of the Hawaiian archipelago to locate, identify, evaluate, and maintain the reference collections of all native and non-native species of flora and fauna within the State for a wide range of uses" and those of the HISC, which is charged with "...identifying all invasive species in the State". The project was considered by the HISC and was found to be consistent with its legal duties and the HISC Strategy 2008-2013 at its Sept 3, 2008 meeting.

**REQUEST FOR EXEMPTION FROM CHAPTER 103D, HRS (Cont.)**

10. A description of the agency's internal controls and approval requirements for the exempted procurement:  
 The proposal was presented to the Hawaii Invasive Species Council as part of a budget proposal and was approved at the September 3, 2008 meeting of the Council. The Hawaii Invasive Species Council Coordinator will ensure that the project is started according to the HISC's needs, and require reports when half the funds are spent, and at the project's conclusion.

12. A list of agency personnel, by position, who will be involved in the approval process and administration of the contract:

Name	Position	Involvement in Process	
Chris Buddenhagen	HISC Coordinator	<input type="checkbox"/> Approval	<input checked="" type="checkbox"/> Administration
Patrick Chee	Invasive Spp. Coordinator	<input type="checkbox"/> Approval	<input checked="" type="checkbox"/> Administration
Paul J. Conry	DOFAW Administrator	<input checked="" type="checkbox"/> Approval	<input type="checkbox"/> Administration
Laura H. Thielen	Co Chair HI Invasive Spp Council	<input checked="" type="checkbox"/> Approval	<input type="checkbox"/> Administration
		<input type="checkbox"/> Approval	<input type="checkbox"/> Administration
		<input type="checkbox"/> Approval	<input type="checkbox"/> Administration

13. Direct inquiries to: Department: DLNR/DOFAW  
 Contact Name: Chris Buddenhagen  
 Phone Number: 808-587-4154  
 Fax Number: 587-0160

Agency shall ensure adherence to applicable administrative and statutory requirements

14. *I certify that the information provided above is, to the best of my knowledge, true and correct.*

*PSL*

*[Signature]*

*11/10/08*

Department Head

Date

**Reserved for SPO Use Only**

15. Date Notice Posted 11/14/08

The Chief Procurement Officer is in the process of reviewing this request for exemption from Chapter 103D, HRS. Submit written objections to this notice to issue an exemption from Chapter 103D, HRS, within seven calendar days or as otherwise allowed from the above posted date to:

Chief Procurement Officer  
 State Procurement Office  
 P.O. Box 119  
 Honolulu, Hawaii 96810-0119

REQUEST FOR EXEMPTION FROM CHAPTER 103D, HRS (Cont.)

Chief Procurement Officer's comments:

This approval is for the solicitation process only, HRS section 103D-310(c) and HAR section 3-122-112, shall apply.

16.

APPROVED     DISAPPROVED     NO ACTION REQUIRED

 11/21/08  
Chief Procurement Officer                      Date

HAWAII INVASIVE SPECIES COUNCIL  
PLANT QUARANTINE CONFERENCE ROOM  
DEPARTMENT OF AGRICULTURE  
WEDNESDAY, SEPTEMBER 3, 2008  
2:09PM-2:35 PM

DRAFT MINUTES

**ITEM 1. CALL TO ORDER**

At 2:09 PM Co-chair Kunimoto called the meeting of the Hawaii Invasive Species Council to order. The following were in attendance:

MEMBERS:

Ms. Sandra Kunimoto, DOA  
Ms. Laura Thielen, DLNR  
Mr. Francis Paul Keeno, DOT

Mr. Laurence Lau, DOH  
Ms. Liz Corbin, DBEDT

ABSENT MEMBER:

Mr. Sam Callejo, UH

Others:

Mr. Chris Buddenhagen, HISC  
Mr. Christopher Dunn, UH  
Mr. Dan Clark, USFWS  
Mr. Domingo Cravalho, DOA-PQ  
Mr. Earl Campbell, USFWS  
Mr. Fred Kraus, Bishop Museum  
Mr. Patrick Chee, DLNR/DOFAW  
Mr. Paul Conry, DLNR/DOFAW  
Mr. Rob Hauff, DLNR/DOFAW

Mr. Tony Montgomery, DLNR/DAR  
Ms. Carol Okada, DOA- PQ  
Ms. Dorothy Alontaga, USDA-PPQ  
Ms. Julia Parish, OISC  
Ms. Pamela Matsukawa, AG  
Ms. Priscilla Billig, HISC  
Ms. Susan Gray-Ellis, DBEDT  
Ms. Teya Penniman, MISC

**ITEM 2. APPROVAL OF MINUTES FROM JULY 9, 2008**

Typos and errors were noted by Member's Lau, Co-chair Kunimoto, and Earl Campbell. Member Lau gave written instructions to Buddenhagen.

Co-chair Kunimoto instructed staff to make the amendments.

Unanimously approved as amended (Member Keeno/Corbin).

**ITEM 3. BRIEFING ABOUT BUDGET RECOMMENDATION FROM THE RESOURCES WORKING GROUP CHAIR.**

Member Corbin is also chair of the Resources Working Group and was in charge of presenting the budget recommendation. Corbin thanked all the working group chairs and Buddenhagen for their help. Described how each working group chair was presented with high and low budget requests and a one page proposal- the low requests came in about \$380,000 over the available \$4 million. The Resources working group met for 2.5 hours on August 14 2008. Working group chairs presented their requests, and their

requests were discussed, and at the end a general discussion was had about how to balance the budget. There was not set process for making the decision, and the group discussed the process. It went pretty well but it was difficult because there was more need than there were funds available. Corbin thought the process wasn't an ideal process, and thought the process could be more open and transparent. One of the first tasks of the resources working group will be to address this issue. Corbin thought it could be useful to use a panel of experts that don't have a stake in it. It was a bit difficult because time was short, and the proposals were not done via an RFP. Standardization of the proposals and an independent review panel are options to be considered, and perhaps an evaluation of past work.

Corbin presented the figures for each of the working groups which are reflected in the submittal, with the funded amount indicated being the amount agreed by consensus. See submittal at end of minutes.

There was a suggestion that some other funds might be available for some of the prevention items, and if they become available it was hoped that the Research and Technology Working group might have some of the funds to augment the RFP process they run, because they had \$200,000 less funding than the in 2008.

The role of the group was to help the chairs of the working group to agree on the budget.

Member Lau: Raised concerns about the overhead for projects funded through the Pacific Cooperative Studies Unit, indicating that the overhead was over \$240,000 just for the invasive species committees. He wanted to know if this funding model was necessary and desirable.

Buddenhagen indicated that the rate was 11%.

Paul Conry administrator for DOFAW indicated that the overhead amount was negotiated with the university on a 5 year basis. Federal projects are charged 40%. This rate was considered to be the best option available, and other private companies were considered and PCSU was competitive.

Buddenhagen noted that the service they provide was valuable, and that the invasive species committees were not state agencies, they work on public and private lands and rely on good will for access to private properties- their acceptance in the community is probably helped by their non-state non-official status.

Co-chair Thielen asked when the 5 year term ends. Conry said thought it ended at the end of the current financial year.

Co-chair Thielen asked that the rates be revisited during the negotiation phase.

Earl Campbell indicated that the overhead is cheaper for State agencies than for Federal agencies. A number of Federal entities also contribute to the Invasive Species Committees, administrative and personnel issues are handled on a centralized basis, it is effective for cost, and allows both federal and state monies to be combined in common projects where it is simple to come up with and show match.

**ITEM 4. APPROVAL OF BUDGET RECOMMENDATION FROM THE RESOURCES WORKING GROUP.**

Member Lau noted that the budget could be subject to restrictions that were imposed this year.

Co-chair Kunimoto noted that the restrictions would likely apply to the budget, but the Council needs to be approve the budget so that the staff could move forward and agencies can implement their projects. Additional steps could be needed in light of the conditions and restrictions being in place by the governor.

Co-chair Thielen noted that restrictions depend largely on the changing economic situation.

Co-chair Kunimoto are Department Chairs are being restricted with respect to spending and signing authorities are reduced.

Co-chair Thielen noted that staff need to anticipate more drawn out time-tables in light of this.

**Members Lau/Keeno- moved/seconded a motion to adopt the budget recommended by the resources working group subject to executive budget policies now and in the future.**

Paul Conry noted that the process for setting the budget was a tough process with some pros and cons, but the process was clearly collaborative within each of the working groups and worked well he suggested that the Council should support and approve the budget.

**Unanimously approved.**

**ITEM 5. NEW BUSINESS**

**ITEM 6. PUBLIC COMMENTS**

**ITEM 7. ADJOURNMENT.**

**Meeting was adjourned by Co-chair Kunimoto at 2:35 PM.**

September 3, 2008

Chairpersons and Members  
Hawaii Invasive Species Council  
State of Hawaii

Council Members:

**SUBJECT:** Approval of the 2008-2009 Fiscal Year Budget for the Hawaii Invasive Species Council (HISC)

The invasive species budget initiative calls for the expenditure of \$3 million in State special funds and \$1 million in general funds for State Fiscal Year 2009 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) voluntarily by non-state dollars or equivalent in-kind services making this an overall effort of at least \$8 million. Redistributing the percentages allocated to each budget area, as compared to the budget proposed in the Interim State of Hawaii Strategic Plan for Invasive Species Prevention, Control, Research and Public Outreach, builds on the lessons learned in the first three years of the HISC budget initiative. This also acknowledges the successful Hawaii Department of Agriculture Biosecurity initiative and its service fee establishment, as well as coqui frog control funding.

Although this budget request is under the Department of Land and Natural Resources, it includes and involves programs and projects through multiple departments, the four counties and federal and private partners. The funding will not replace state agency, private, or federal funding, but will support the development of innovative approaches that address gaps in capacity and build on existing cooperative programs. The goal of this funding is to build successful new programs which better protect Hawaii from invasive species and encourage the incorporation of these programs into agency operations.

A more transparent process for balancing the budget between working groups was implemented. Projects were proposed in public meetings of the working groups. The resources working group then met with working group chairs in a public meeting format to determine how funds were to be allocated to projects proposed by each of the HISC working groups. Working groups put together their proposals for funds that included high and low estimates to address their needs. Working group chairs and participants were fully aware that their proposals had to be viewed in the context of a \$4 million budget. The working groups put forward proposals with merit but their requested funds exceeded available funds by between \$380,000 and \$1.1 million. Funding restrictions have affected HISC and indeed all participating agencies and collaborators are anticipating a need for downsizing their programs due to budget restrictions on state and federal budgets. If the recently passed HB2843 is implemented successfully the funds it generates could be

available for additional and improved prevention efforts at ports and airports in Hawaii. A number of high profile and costly pests, plus a multitude of more minor pests have yet to establish in Hawaii and prevention is considered a cost-effective strategy to avoid the costs associated with their establishment in Hawaii (e.g., brown tree snake, red imported fire ant, and West Nile Virus).

A detailed budget request is attached. The overall goals of the Administration's budget request for the Hawaii Invasive Species Council are to:

- Advise the governor and legislature on budgetary and other issues regarding invasive species.
- 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.
- Educate the public and private sector about invasive species to positively affect perception, action and funding for control and prevention.
- Review risks of pest/invasive species entry into the State; and implement measures and improve Hawaii's capacity to prevent the entry of new pests/invasive species with shared resources and shared responsibilities of all agencies.
- Review priorities for the control of pests already present or recently arrived in the state; and implement cost-effective eradication and control programs against incipient and established pests with shared resources and shared responsibilities among private, not-for-profit, county, state and federal agencies.
- Encourage researchers to address the problems created by invasive species and the development and implementation of new technology to prevent or control the establishment of invasive species. In particular, to develop effective, science-based management approaches to control invasive species; effectively communicate and apply the results of research to the field; and promote interagency collaboration and stimulate new partnerships.

The State funding is broken into four integrated components, as well as a separate administrative budget:

- 1) Building up Prevention capabilities \$573,400 (14% of total funding). Projects include;
  - a. \$307,300 to the Hawaii Department of Health – Develop the capacity of the Department to prevent the establishment of West Nile Virus by providing supplies and support for the State Laboratory, Vector Control Branch and Environmental Education to promote awareness and public participation.
  - b. \$97,700 to the Hawaii Department of Land and Natural Resources – To sustain two technicians to continue the screening of plants grown and used commercially in Hawaii via the locally developed Weed Risk Assessment (WRA). So far, the Maui Association of Landscape Professionals, the

Landscape Industry Council of Hawaii, Kauai Landscape Industry Council, the Oahu Nursery Growers Association and a number of individual companies have agreed to adopt the voluntary Codes of Contact that include screening plants using the WRA and promoting non-invasive alternatives. The HISC passed a resolution that state agencies conducting planting operations should request HPWRA scores, when available, as one of the tools to assist decision makers in determining whether to plant a particular species. For species that have scored as potentially invasive in Hawaii, this information should underscore the need for containment plans or remediation efforts if they become necessary. HPWRA and outreach staff should work with state and county agencies to identify the agencies with planting guidelines, seek to gain their support of this recommendation and inform them of the weed risk assessment services we provide.

- c. \$84,200 to the Division of Aquatic Resources – To support prevention projects to minimize the introduction of alien aquatic organisms in Hawaii from hull fouling and ballast water. This would include funds for regulation changes, compliance measures, early detection efforts, specialized equipment and marine invertebrate taxonomic expertise.
- d. \$54,200 is for an apiarist to be based in the Department of Agriculture. He or she will help in efforts to facilitate effective management and regulation of honeybees and their pests, especially the varroa mite, a pest that has had a major impact on honeybee colonies on Oahu. Members of the lucrative queen and bee-rearing industry on the Big Island are particularly concerned about the recent arrival of this pest in Hilo and its potential to devastate their industry.
- e. \$30,000 for a Hawaii Ant Projects Coordinator to work for the Department of Agriculture to bring about more effective protection of Hawaii's environment from harmful alien ants, with special emphasis on prevention and control of the little fire ant (present on the Big Island) and the red imported fire ant (still absent from Hawaii). In early 2007 the "Hawaii Invasive Ant/Red Imported Fire Ant Prevention Plan" was updated. To this end, the interagency Hawaii Ant Group was resurrected to get input and agreement on potential plan revisions some funds from FY2008 will also be used to hire someone for a year. The plan identifies further actions needed to address this threat. The position was recently advertised and should be filled shortly.

3) Developing Response and Control programs \$2,092,700 (52% of total funding) to conduct invasive species detection, response and control actions on the ground and in the water. Projects include:

- a. \$1,616,300 – Interagency invasive species committees guide on-island field crews in each of the counties implementing early detection, rapid response, eradication or containment programs for incipient invasive species, working on public and private lands. The four invasive species committees target more than 30 species of plants and animals in areas

covering tens of thousands of acres; some of their more high profile targets include Miconia, coqui frogs, pampas grass and ants.

- b. \$411,400 is for the Division of Aquatic Resources – This statewide program addresses marine and freshwater invasive species, through local control, early detection and rapid response efforts. Control of algae on reefs using the Supersucker, algae suppression strategies, habitat restoration of wetlands, outreach and control of incipient invasive invertebrates are key focus areas.
- c. \$65,000 – Environmental Assessment (EA) Coordinator for biocontrol projects will support the EA process for biocontrol programs implemented by the USDA and HDOA using up-to-date scientific methods. The coordinator will identify stakeholders, conduct outreach, collect input, write draft assessments, and address regulatory issues as appropriate.

4) Research and Applied Technology funding \$500,000 (13% of total funding) for new research and technology projects.

- a. \$330,000 – Projects addressing invasive species will be solicited via a public notice of request for proposals, to encourage competition among providers to obtain the most advantageous proposal(s) that the market can support. Last year 15 high quality research and technology projects were funded at a cost of \$782,156; these were selected from a pool of 48 proposals that addressed coqui frog and general invasive species issues with funding requests totaling approximately \$2.8 million.
- b. \$10,000 – An international workshop seeks to develop collaborative projects with other countries in the South Pacific to do research on biocontrol agents for shared pests, with the desired end point of obtaining biocontrol agents for priority pests at reduced cost. Funds will allow USDA and HDOA staff to participate.
- c. \$160,000 – Bishop Museum’s Hawaiian Biological Survey program will provide up to the minute information about the status of alien and invasive plant and animal species present in Hawaii, as well as identification services for introduced species. There are already 5,314 alien species documented as established in the wild, many thousands more are known to occur. This supports one of the HISC’s legal mandates “For those species that do arrive in Hawaii, identify and record all introduced and invasive species present in the State.” Extra attention will be given to incipient species, and the information is expected to support management efforts and regulatory and policy issues that require agencies to know which species are present in Hawaii.

5) Public Outreach Program \$312,200 (8% 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 establish an effective pest hotline reporting system that delivers timely information to managers on the ground. Funds fully cover specialist outreach staff on Kauai, the Big Island, and a

statewide role base on Oahu. In addition, half the salary is included for Oahu and Maui outreach positions. Increased emphasis on statewide messages identified in the recently updated HISC strategic plan are expected to provide better uptake in the community. Specific collaborative efforts with appropriate agencies, groups and organizations are expected to increase the impact of the outreach team. Effectiveness of the outreach effort is measured through a third party survey.

6) HISC Support functions \$521,700 (13% of total funding) includes two HISC support positions, overhead, a fee, and mandated 8% budget restrictions on general funds. This Central Service fee (7%) is included in the budget this year to fairly allocate the cost of these fees across all the programs receiving funding from the Natural Area Reserve Fund. Central Service fees are estimated to total up to \$900,000 for the Natural Area Reserve Fund overall and \$210,000 is the proportionate amount that should be assessed on the \$3,000,000 being allocated to the HISC program from the Natural Area Reserve special fund. The DOFAW overhead (\$96,700) is calculated to be 3% for funds that are administered through DOFAW – some funds, such as the Central Service fee and funds transferred through journal voucher to member agencies, are not subject to the fee. The HISC support positions include a half-time Grant and Budget Manager to contract for research and technology application services and other projects, such as community outreach grants. The second HISC support position is a HISC Coordinator who will provide opportunities for more effective communication between members and meeting support.

Central Services Fee	\$210,000
Staff and Support	\$135,000
DOFAW overhead	\$96,700
Budget restrictions	\$80,000

This budget request 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 member and cooperating partner operational programs.

**RECOMMENDATION:**

That the Hawaii Invasive Species Council approve the proposed FY08-09 budget allocation as presented above and summarized below to implement the State of Hawaii's Strategic Plan for Invasive Species Prevention, Control, Research, and Public Outreach.

Budget requests and recommended funding for financial year 2009

PREVENTION	Requested		Funded
	High	Low	
Ant prevention and control techniques	\$60,000	\$50,000	\$30,000
Pathogen detection and ID	\$49,000	\$29,000	\$0
Apiarist for varroa mite work	\$90,000	\$65,000	\$54,200
Ballast Water and Hull Fouling Program	\$95,000	\$95,000	\$84,200
Weed Risk Assessment	\$122,440	\$108,570	\$97,700
WNV detection and suppression	\$378,104	\$318,104	\$307,300
	<b>\$794,544</b>	<b>\$665,674</b>	<b>\$573,400</b>
<b>RESPONSE AND CONTROL</b>			
BIISC	\$576,000	\$408,100	\$397,300
MISC	\$520,000	\$430,680	\$430,700
OISC	\$499,631	\$424,000	\$413,200
KISC	\$490,426	\$385,999	\$375,100
AIS	\$524,441	\$422,283	\$411,400
EA coordinator biocontrol	\$90,000	\$65,000	\$65,000
	<b>\$2,700,498</b>	<b>\$2,136,062</b>	<b>\$2,092,700</b>
<b>RESEARCH AND TECHNOLOGY</b>			
RFP	\$424,000	\$534,000	\$330,000
Biocontrol capacity building	\$20,000	\$10,000	\$10,000
Alien species database	\$256,000	\$156,000	\$160,000
	<b>\$700,000</b>	<b>\$700,000</b>	<b>\$500,000</b>
<b>OUTREACH</b>			
Staff	\$210,000	\$210,000	\$210,000
Materials/Services/PSAs	\$109,229	\$109,229	\$102,200
RFPs	\$50,000	\$25,000	\$0
Americorp Stipends	\$13,000	\$0	\$0
	<b>\$382,229</b>	<b>\$344,229</b>	<b>\$312,200</b>
<b>HISC SUPPORT</b>			
DOFAW Overhead (3%)	\$109,500	\$109,500	\$96,700
Central Services Fee (7% of 3 M)	\$210,000	\$210,000	\$210,000
Support Staff	\$135,000	\$135,000	\$135,000
Budget restriction 8%	\$80,000	\$80,000	\$80,000
	<b>\$534,500</b>	<b>\$534,500</b>	<b>\$521,700</b>
<b>Total</b>	<b>\$5,111,771</b>	<b>\$4,380,465</b>	<b>\$4,000,000</b>

## HISC Alien Species Database Proposal

The Hawaii Invasive Species Council is charged with identifying and recording all invasive species in the state (HRS§194-2 (a)(6)). Much information to meet this charge is available in the scientific literature and in Bishop Museum collections, yet no collation of such data is available for use by managers. Without a credible record of species invasiveness, legislative and management action against such species can be difficult to defend, and understanding the magnitude of the problem and the effectiveness of preventive management becomes anecdotal.

The Bishop Museum's Hawaii Biological Survey (HBS) was established by State legislation (HRS§6E-61) in 1992 and is the premier authority for information about Hawaii's biota, both terrestrial and aquatic. The Museum maintains the most complete record of established introduced species in Hawaii, regularly publishes new distributional records and taxonomic updates, and provides *ad hoc* taxonomic and identification services to the management community.

The Bishop Museum proposes as part of the HBS, and in conjunction with an ongoing program focused on early detection of new alien introductions, to develop a public database of scientific information for all alien species within Hawaii. This will serve to better identify those aliens that are invasive, identify new incipient invasions, indicate the information supporting these assessments, and highlight taxa for which data are deficient.

Invasiveness is a product of the distributional breadth, abundance, and impact of a species; consequently, information on these three variables, as well as habitat, will constitute the core of the database. As available, information on introduction pathways and dates of first introduction/record will also be collated so as to better assess historical trends in species invasion. The database will include all major taxonomic groups within the state – plants, vertebrates, terrestrial and marine invertebrates. Relevant data will be retrieved from the scientific literature, government reports, personal communication with pertinent land managers, and from Museum collections. As part of this initiative the Museum will also strengthen and formalize its alien-species identification services and will immediately work with other agencies to incorporate into this new database relevant information residing in other local databases. These actions will serve to identify at the earliest possible date patterns that may suggest establishment of new populations or species, thereby allowing for rapid management response, if so desired.

The database will be made available to managers and the public via a website that will include an interactive feature allowing for solicitation, vetting, and rapid inclusion of updated information from informed outside parties. This feature will allow interested members of the public and management community to be engaged in the process of maintaining and improving the quality of available information and will allow for these updates to occur in a close approximation to real time. The Museum will work closely with the U.S.G.S. Pacific Basin Information Node (PBIN) to design the database and to ensure that all data and web interfaces conform to national standards.

It is anticipated that it will take several years of effort to develop and fully populate the database because of the large and growing number (5314 by end of 2007) of alien species present within Hawaii. Two years of funding is sought from HISC to design the database and begin populating it with data for high-priority target taxa from each major taxonomic group. This should be sufficient to demonstrate proof of concept and

usefulness to managers. After that point, Bishop Museum will approach the Legislature to fund perpetual update and management of the database and associated identification services, via a line item to the HBS.

Benefits of the database:

- Provide single, compiled source of information on all alien species in Hawaii
- Provide summary statistics about invasives and their trends in Hawaii
- Provide real-time updating of information from management and research communities
- Meet HISC strategic plan goal of identifying and compiling information on all invasive species in the state
- Serve entire invasives-management community by providing information useful for:
  - Preventing inter-island movement of known invasives
  - Identifying invasives at high risk of movement within the state
  - Identifying which species justify triggering private-property access provisions for control purposes
  - Identifying incipient populations liable to rapid eradication
  - Sharing among all stakeholders relevant information to assist in management of invasives
  - Taxonomic identification
  - Informing Legislature and general public of management needs and progress

**Year 1 Budget**

<b>Tasks</b>	<b>Budget</b>
Database design	\$ 9,370
Website design construction	\$ 7,488
Data generation (2700 hr)	\$100,531
Taxonomic identification services	\$ 10,611
Overhead	\$ 32,000
<b>TOTAL</b>	<b>\$160,000</b>