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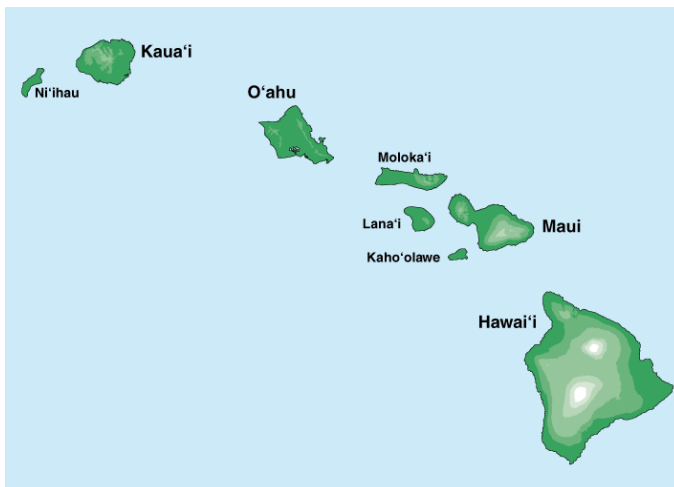
# State of Hawai'i Collaborative Plant Health Emergency Response Plan (PHERP)

*And Reference Manual*

Year 1 Final Version:

**December 30, 2013**

(revised from 2004 and 2009 drafts)



**United States Department of Agriculture**  
Animal and Plant Health Inspection Service (APHIS)  
Plant Protection and Quarantine (PPQ)



**Hawai'i Department of Agriculture (HDOA)**  
Plant Industry Division



**Hawai'i Invasive Species Council (HISC)**



**Coordinating Group on Alien Pest Species (CGAPS)**

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*This document was made possible through a grant from Hau'oli Mau Loa Foundation to the Coordinating Group of Alien Pest Species (CGAPS).*

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**State of Hawai'i  
Collaborative  
Plant Health Emergency Management Plan (PHERP)  
and  
Reference Manual  
Year 1 Final Version: December 2013**

**Prepared Through:**



**United States Department of Agriculture**  
Animal and Plant Health Inspection Service (APHIS)  
Plant Protection and Quarantine (PPQ)



**Hawai'i Department of Agriculture (HDOA)**  
Plant Industry Division



**Hawai'i Invasive Species Council (HISC)**



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## EXECUTIVE SUMMARY

The basic purpose of the Plant Health Emergency Response Plan (PHERP) and Reference Manual is to facilitate a successful collaborative interagency rapid response to a newly-discovered serious plant pest in Hawai'i, to prevent it from becoming established in the state or on a new island within the state. The Hawai'i Department of Agriculture (HDOA) is normally the lead agency (often assisted by federal USDA-APHIS-Plant Protection and Quarantine) for undertaking such response efforts, and this plan is intended to document additional resources and mechanisms that may increase the chances of successful pest eradications. To accomplish this, this plan aims to: 1) document who may be able to help when HDOA and USDA determine that the risks posed by a plant pest are high enough to warrant an elevated response, including local, state, and federal agencies/entities, academia, industry, etc. and 2) describe in some detail the Standard Operating Guidelines involved in a generic emergency response, primarily to help potential collaborators be able to help when called upon, and to give them conceptual preparation for the task.

Although there may be instances when special funding may become available in an emergency response, in the more normal instances, collaborating entities will need to operate on their own funding. As such, the importance of efficient communication, experienced leadership, and camaraderie among the collaborating entities in working toward solutions is obvious.

The PHERP uses concepts associated with National Incident Management System (NIMS), with emphasis on use of the Incident Command System (ICS). As integration of NIMS-related concepts into pest management may be new to some potential collaborators, explanations/primers have been included as part of the document.

This PHERP also presents formalized names for the types of collaboration used in a response as "Category of Response" (CoR): CoR Type 1 is HDOA response alone; CoR Type 2 involves HDOA and USDA; CoR Type 3 is the collaboration of HDOA, USDA and partners traditionally involved in natural resource or agricultural management (and is the main focus of this plan). CoR Type 4 is an enhanced operation in which Emergency Management (EM) / Civil Defense (CD) gets involved.

EM/CD has not yet been called upon to help in an emergency response to a plant pest in Hawai'i. The plan explores how this approach (CoR Type 4) might be effective and necessary in a high-stakes "Emergency" - essential for providing additional resources, logistical support and/or funding when the battle might otherwise be lost. Such a scenario could be enacted, for example, when the Chairperson of HDOA or DLNR would call on Hawaii's Governor to declare an Emergency, and a request to Civil Defense would be initiated to help secure and coordinate resources. An example of when the "full Emergency" scenario should be appropriate could involve discovery of an incipient population of Red Imported Fire Ant, a species that could do over \$200 million per year in economic damage to Hawai'i.

This PHERP is to be considered an evolving work in progress, and this 2013 version builds upon a draft started by USDA-APHIS in 2004. While many aspects have been substantially examined, it is recognized that as collaboration continues, changes will be made - largely in the area of the Standard Operating Guidelines and Roles, as well as continuing to examine what constitutes an emergency.

## ❖ SECTION 1: INTRODUCTION

### 1A. Purpose

The purpose of this Collaborative “Plant Health Emergency Response Plan” (PHERP) and Reference Manual (collectively referred to as “the Plan”) is to help strengthen communications and interagency capabilities statewide for a coordinated rapid response to incipient (newly arrived or detected<sup>1</sup>) plant pests, in either an agriculture or natural resources context.

The Hawai'i Department of Agriculture (HDOA) has traditionally been the lead agency in plant pest response, though in many cases there is likely to be a unified command with the United States Department of Agriculture, Animal and Plant Health Inspection Service, Plant Protection and Quarantine (USDA-APHIS-PPQ).

The focus of this plan is to document:

- who (which agencies and entities) may be able to help,
- how to best orchestrate that help, and
- how to most fully achieve effective response

when HDOA and / or USDA determine that the needed level of response requires additional assistance and participation to effectively deal with a new plant pest. In addition, the plan aims to provide clarity and transparency regarding response procedures for all those who may be involved in an emergency response.

### 1B. Implementation and Triggers

An emergency response is influenced by multiple triggers, including when:

- 1) A **plant health emergency** arises (defined in Section 1E, with further discussion in 2F)
- 2) An HDOA assessment in the field, involving careful delimitation as well as an understanding from the literature of pest biology, suggests that the incursion is not so widespread and robust as to make eradication impossible. For making this decision, factors which must be weighed on a case-by-case basis include:<sup>2</sup>
  - degree (apparent vigor and rate of spread) of the infestation;
  - how widespread the infestation is (determine distribution boundaries);
  - pathways of spread;
  - known methods to control;
  - ability to shut down pathways (establish quarantine measures); and
  - known biology and factors that may affect establishment, spread, and ability to control.

The HDOA assessment helps determine whether the agency can respond most effectively alone, with help from USDA-APHIS-PPQ (if their guidelines are met), or with help from additional partners to obtain a reasonable chance of eradication.

### 1C. Audience and Collaboration

The intended audience is all those who may be involved in such a collaborative response. Specifically, it is aimed at local, state, and federal agencies, academia, industry, and other collaborators as noted in Table 1 on the following page.

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<sup>1</sup> The relevant “incipient” time period varies tremendously depending on whether the organism is a tree (years) or an Erythrina gall wasp (days).

<sup>2</sup> Darcy Oishi, HDOA, pers. comm., October 14, 2013.

**Table 1: PHERP Audience and Entities in a Collaborative Plant Health Response**

<b>Lead Entities</b>	<b>Support Entities</b>	<b>Add'l Contributors</b>	<b>Unique Situations</b>
HDOA	CGAPS	Bishop Museum	Botanical Gardens
USDA-APHIS-PPQ	CTAHR Extension	County Officials and Departments	CBP
	DLNR-DOFAW	EPA	Civil Defense / Emergency Mgmt.
	HISC	Governor's Office	County Parks and Recreation (urban forestry / parks)
	ISCs	HDOH	Hawai'i Ant Lab
	Watershed Partnerships	HEDN	HDOT
		HTA	Law Enforcement
		Industry	Military, including Army Natural Resources Program
		PCSU	NPS
		USFS	PBARC (USDA-ARS)
		USFWS	Plant Boards (National and Western)
			SEB and FAC
			The Nature Conservancy
			University of Hawai'i
		Weed Risk Assessment	

*Acronyms of Collaborators in Table 1, in Alphabetical Order:*

- CBP: Customs and Border Protection
- CGAPS: Coordinating Group on Alien Pest Species
- CTAHR: College of Tropical Agriculture and Human Resources (University of Hawai'i)
- DLNR-DOFAW: Hawai'i Department of Land and Natural Resources, Division of Forestry and Wildlife
- EPA: Environmental Protection Agency
- HEDN: Hawai'i Early Detection Network
- HDOA: Hawai'i Department of Agriculture
- HDOH: Hawai'i Department of Health
- HDOT: Hawai'i Department of Transportation
- HISC: Hawai'i Invasive Species Council
- HTA: Hawai'i Tourism Authority
- ISC: Invasive Species Committees
- NPS: National Park Service
- PBARC: Pacific Basin Agricultural Research Center (USDA-Agriculture Research Service)
- PCSU: Pacific Cooperative Studies Unit (University of Hawai'i)
- SEB and FAC: State Emergency Board and Food and Agriculture Committee (USDA)
- TNC: The Nature Conservancy
- USDA-APHIS-PPQ: U.S. Department of Agriculture, Animal Plant Health Inspection Service, Plant Protection and Quarantine
- USFS: USDA Forest Service (U.S. Forest Service)
- USFWS: United States Fish and Wildlife Service

With the detection of an incursion, HDOA, possibly in conjunction with USDA-APHIS-PPQ, will review roles and authorities as appropriate to the pest and related circumstances. More specifically, HDOA will normally assess the problem, obtain the necessary identification, conduct delimiting surveys, assess the potential impact of the pest, evaluate the feasibility of control or eradication, and assess the need for assistance from other agencies and programs. This plan gives an inventory of who may be able to help with providing additional personnel, resources, and/or technical assistance.

## 1D. Background and Development

The development of this plan is a joint effort led by USDA-APHIS-PPQ and HDOA Plant Industry Division, coordinated through the multi-agency CGAPS partnership, and funded through a grant from the Hau`oli Mau Loa Foundation.

Since 2003, USDA-APHIS-PPQ has advocated that each state prepare emergency pest response plans. (Examples of some other state plans including Colorado, Oregon, and Rhode Island are available on the internet).<sup>3</sup> The first draft of such a plan for the State of Hawai'i was started by USDA-APHIS-PPQ in 2004, and this version of the Hawai'i PHERP builds upon that earlier effort. While the initial mandate/focus is for a plant health plan, the framework is adaptable for future responses to various types of pest emergencies throughout the state.

This PHERP went through a substantial review process, with three progressive drafts being circulated prior to the final version, as well as a full day tabletop exercise.<sup>4</sup> This review process and associated tabletop included input from biologists, natural resource and agricultural managers, industry, academia, policy and legal advisors, and those in civil defense / emergency management. Figure 1 above shows a schematic input diagram of the many entities involved.

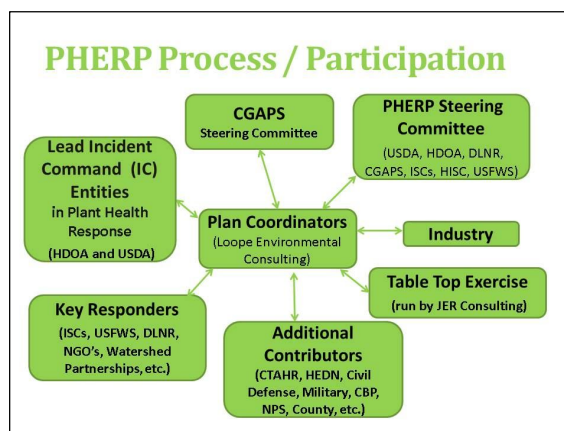


Figure 1. Schematic representation of the various entities involved with the development of the PHERP

### Steering Committee Members:

#### ❖ Coordinating Group on Alien Pest Species (CGAPS)

- Christy Martin

#### ❖ Hawai'i Dept. of Agriculture (HDOA)

- Neil Reimer, Plant Industry Division, and Darcy Oishi, Plant Pest Control Branch

#### ❖ Hawai'i Dept. of Land & Natural Resources (DLNR)

- Robert Hauff, Division of Forestry and Wildlife

#### ❖ Hawai'i Farm Bureau

- Janet Ashman

#### ❖ Hawai'i Invasive Species Council (HISC)

- Josh Atwood

#### ❖ Invasive Species Committees (ISCs)

- Teya Penniman

#### ❖ U.S. Department of Agriculture (USDA)

- Dorothy Alontaga, APHIS-PPQ

#### ❖ U.S. Fish and Wildlife Service (USFWS)

- Domingo Cravalho and Josh Fisher

#### ❖ Additional PHERP Steering Committee Consultants:

- ICS/NIMS Consultant to the Steering Committee: John Roberts of JER Consulting LLC

- Legal and Policy Consulting by Melissa Miyashiro, CGAPS

- Additional Consulting by Barry Brennan and Michael Meltzer, CTAHR

<sup>3</sup> Links to other State PHERPs: Rhode Island Plan: [http://www.dem.ri.gov/topics/erp/6\\_13.pdf](http://www.dem.ri.gov/topics/erp/6_13.pdf); Colorado Plan: <http://www.colorado.gov/cs/Satellite?blobcol=urldata&blobheader=application%2Fpdf&blobkey=id&blobtable=MungoBlobs&blobwhere=1251690371023&ssbinary=true>; Oregon Plan: [http://www.oregon.gov/ODA/PLANT/docs/pdf/plant\\_emergencyplan.pdf](http://www.oregon.gov/ODA/PLANT/docs/pdf/plant_emergencyplan.pdf).

<sup>4</sup> Tabletop Exercise occurred Nov 6, 2013 at UH-Hawai'i Manoa, organized through the Coordinating Group on Alien Pest Species (CGAPS) and moderated by John Roberts of JER Consulting LLC. Tabletop consisted of 11 participants and an additional 25 observers.



## 1E. Definitions

Terms commonly used in conservation and agriculture management can become somewhat vague through diverse usage. Definitions are presented here that are commonly agreed upon by the participating parties for the purpose of this document and associated activities:

- Emergency:** A plant health emergency is the occurrence of a detected incursion of a new (to Hawai'i or to a single Hawaiian island) plant pest species that is likely to cause, or has caused very significant damage to agriculture, natural resources, and/or the economy in Hawai'i. Further discussion on defining an emergency can be found in section 2F.
- Invasive Species:** An alien (non-native) species whose introduction causes or is likely to cause economic or environmental harm or harm to human health.<sup>5</sup>
- Plant Pest:** Any weed, disease, bacteria, fungi, viruses or non-vertebrate animal (including insects, mites, nematodes, or otherwise) that has deleterious effects on plants in the agriculture, horticulture, and/or natural environments.<sup>6</sup>  
-Note: A "plant pest" is generally a subset of invasive species, though in some cases it could be a native species.<sup>7</sup>
- Rapid Response:** A series of coordinated activities involving decision making and actions relating to (but not limited to) delimiting surveys, specific control activities, quarantine, public outreach, and education and interagency communication and coordination.<sup>8</sup> Depending on the specific situation, eradication may be an option, and assessments are made along the way to determine the feasibility of such an option.

### *Uniqueness of a Multi-island State:*

It is noteworthy to emphasize that Hawai'i is an island state and unique as far as invasions go due to its island biogeography. That is, it is not just whether a pest species gets to the State itself, but once here, whether it spreads from island to island. Some serious invasions are currently confined to just one or a few islands; when an invasive species establishes and spreads on one island, it sometimes demonstrates dramatically the severe impact it can potentially have on other islands, and in doing so may create resolve for emergency response to incipient populations on new islands.

## 1F. Objectives:

Clear and measurable steps to achieve the plan's purpose (1A) focus primarily on the clarification of authorities, communication pathways, and identification of resources likely to be available. This has been done through the following:

### **A. Identifying Existing Efforts and Roles:**

- 1. Identify, clarify, and document existing roles** of state and federal entities, as well as supporting agencies/non-governmental organizations (NGO's)/private sector in regard to plant pests (i.e., clarifying who is doing what, and what pests are they focusing on).

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<sup>5</sup> Clinton, W.J. 1999. Presidential Documents, Executive Order 13112 of February 3, 1999, Invasive Species. Federal Register, Vol 64, No. 25: 6183-6186

<sup>6</sup> This definition is adapted from USDA definition from the Plant Protection Act (PPA) (Chapter 104 Sec 7701) <http://www.aphis.usda.gov/brs/pdf/PlantProtAct2000.pdf> and [1] Hawai'i Revised Statutes, Chapter 150A.

<sup>7</sup> N. Reimer, Hawai'i Department of Agriculture (HDOA), pers. comm.

<sup>8</sup> Definition based on those from Colorado and Rhode Island PHERP 2010 -see links for footnote 3

2. **Catalog Hawaii's existing written pest response plans/efforts**, whether in finalized or draft form, including species-specific plans, and existing memoranda of understanding (MOUs) and memoranda of agreement (MOAs) including links / contacts for such plans.

#### **B. Identifying Gaps:**

1. **Identify and address gaps that may exist** to allow for better statewide response, including potential improvements to existing authorities for response, control, and eradication programs.
2. **Vet plan in a tabletop exercise** where partners can learn why and how to participate, identify gaps in coverage, and agree on how responsibility for action might be effectively transferred from one entity to another.
3. **Identify and integrate Emergency Management (EM) / Civil Defense (CD) type positions (as well as others who may not typically have been involved in pest or invasive species response in the past) into available response team-** via input into this plan and/or presence at the tabletop- to identify potential resources and establish contact mechanisms for a major incident.

#### **C. Clarifying Jurisdiction, Enhancing Communication, and Facilitating Collaborative Response - helping state, federal, and other entities work together:**

1. **Define triggers** that result in plan implementation.
2. **Identify and clarify lead authorities on various actions and species.** Who has jurisdiction over which species, in which geographical areas? Who is going to lead, and who is going to follow in multi-agency responses?
3. **Inventory potentially available personnel, materials, and funding resources**, who controls them, and how to access them.
4. **Establish clear lines of communications and key contacts**, including providing up-to-date references, and agency and industry contacts.
5. **Identify and clarify relevant information on regulations for environmental compliance, including permitting requirements and time frame.**
6. **Clarify action and operational steps for the response process.** (For example, pest identification needs to be done by "X" at "Y" agency.)
7. **Summarize information on emergency rulemaking and regulatory processes**, identifying aspects that could hinder or facilitate response actions and success.
8. **Explore the boundaries, limitations, and overlap of management response between agriculture and natural resource settings** - how response protocols and resources may differ, and how to better collaborate among those in the different fields.

#### **D. Integrating Industry:**

1. **Integrate agriculture and other industry groups** or organizations (landscape, nursery, ranchers, farmers, etc.) working in agriculture or natural resources into the communication and response lines.

#### **E. National Response Framework (NRF) and Incident Command System (ICS):**

1. **Increase awareness and understanding of NRF and ICS among all participating entities.**
2. **Help integrate ICS as a standard into multi-entity responses.**

#### **F. Tool for Managers:**

1. **Serve as a primer/training tool** for managers, incident commanders, and/or emergency participants unfamiliar with the existing entities or the processes that exist among federal, state, industry, research, and other public and private entities involved in biosecurity/pest management efforts in Hawai'i.
2. **Serve as a checklist of key aspects/ standard operating guidelines to integrate in a response.**
3. **Serve as compilation of information on some high-risk plant pest species that could trigger a collaborative response**, including relevant reference material.
4. **Be part of a national compendium of state plans** which may build upon successful strategies elsewhere and help regional and national incident responders unfamiliar with Hawai'i should a large scale response be needed.

### **1G. Limitations and Scope:**

Though this plan is meant to be relatively comprehensive, there are limitations to its scope. These limitations reflect an attempt to be realistic of where efforts could be best focused in the development time allotted. It is anticipated that in future revisions other important aspects may be addressed.

Examples of limitations include:

- Freshwater and marine aquatic plant pest aspects are not developed fully. (An Aquatic Invasive Species (AIS) Management Plan, produced in 2003, touched upon early detection and rapid response for freshwater and marine habitats.)<sup>9</sup> Further, vertebrate animals (e.g., snakes) and mosquitoes, groups of extreme importance and concern, are not addressed at all.
- Guided by HDOA / USDA, this plan will focus on the collaboration among HDOA / USDA and their agricultural and natural resources partners, rather than the actual internal policies and inner workings within HDOA or USDA.
- Focusing on the relationships and collaboration of natural resource and agriculture partners, there is less attention to the response efforts of civil defense / emergency management than may be seen in other State plans. Still, aspects of the National Response Framework (NRF), National Incident Management System (NIMS), and Incident Command Systems (ICS) do apply to responses among partners at this level, and the significance and importance of having civil defense/emergency management systems in place is recognized (see Category of Response (CoR) Type 4 Response, Section 2G, and discussions on civil defense in Section 2H).

## **1H. Fitting into the Larger Picture**

While this PHERP is intended to function as a stand-alone plan, there is a larger general State Response Plan referred to as “Volume III”, titled “State Plan for Emergency Preparedness Disaster Response and Assistance”, prepared by State Civil Defense<sup>10</sup> that is part of a larger response planning system. Figure 2 on the following page, helps explain how this PHERP fits into this larger picture.

Upon completion of this plan, it will fall under HDOA and the umbrella of the Hawai'i Invasive Species Council (HISC), be given endorsement by that council, who will also give it an organizational home and be an implementing body in conjunction with HDOA and USDA-APHIS-PPQ. In addition, the HISC Coordinator has agreed to be responsible for updating the contacts section in the “Summary Table of Key Contacts and Potential Resources”, Section 5D, and “Key Entities” found in Appendix B, as also discussed in Plan Maintenance and Updates, Section 8.

This plan will support enhanced emergency response for the state of Hawai'i by giving managers a ready toolbox, which facilitates:

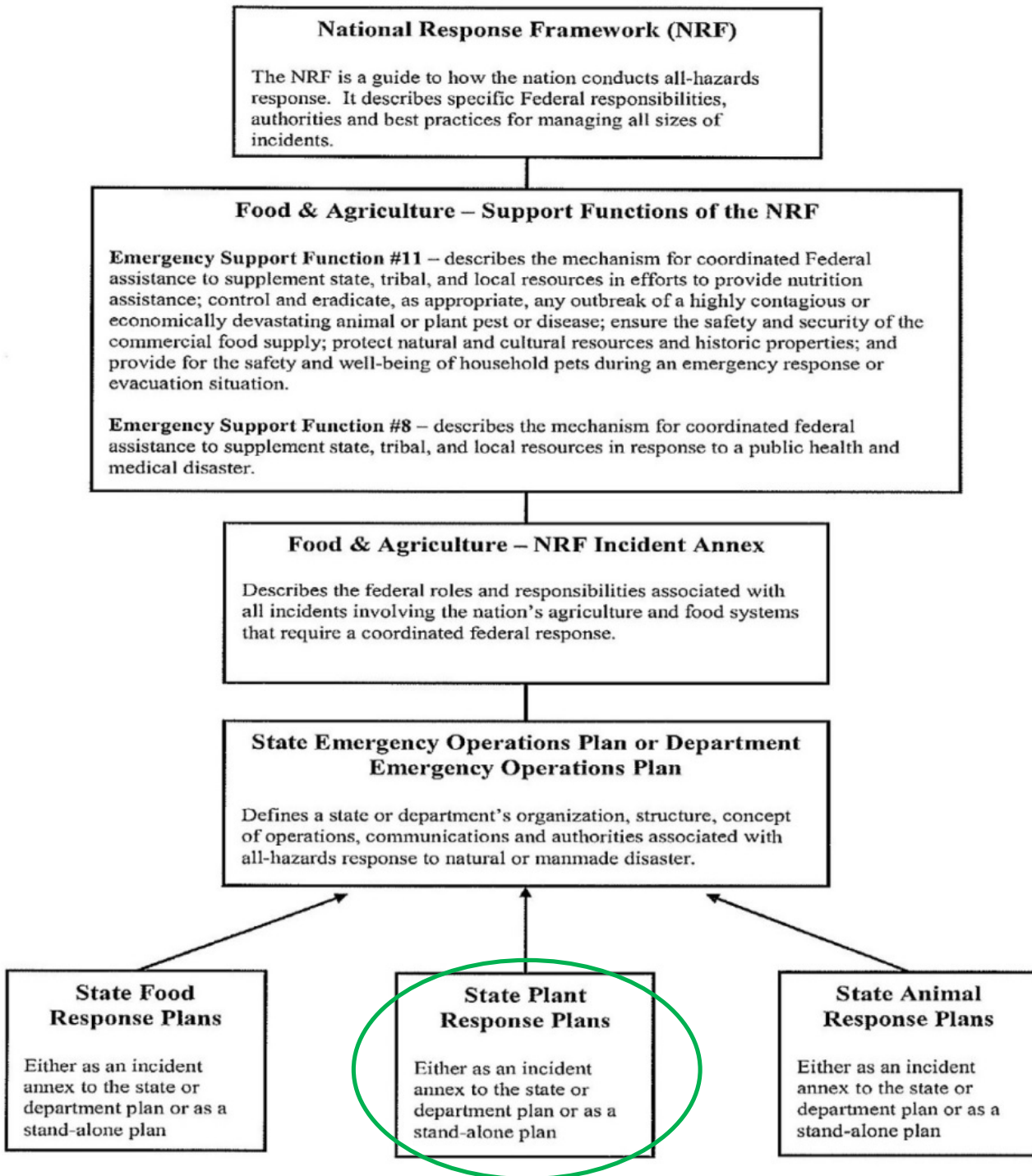
- *A better understanding of what the different entities do and how they will respond,*
- *Increased awareness of who is available to assist in a response, and*
- *Enhanced collaboration among all involved agencies, organizations, and industry partners.*

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<sup>9</sup> State of Hawai'i Aquatic Invasive Species Management Plan. 2003 [http://Hawaii.gov/dlnr/dar/pubs/ais\\_mgmt\\_plan\\_final.pdf](http://Hawaii.gov/dlnr/dar/pubs/ais_mgmt_plan_final.pdf)

<sup>10</sup> Written requests for information regarding Vol. III should be addressed to Doug Mayne, Vice Director of Civil Defense, State Department of Defense, for consideration. 3949 Diamond Head Road, Honolulu, HI 96816 (808) 733-4301

**Figure 2:** Visual Integration of PHERP with Other Response Entities within the National Response Framework<sup>11</sup>



<sup>11</sup> National Association of State Departments of Agriculture (NASDA) Food Emergency Response Plan Template, June 2011

## ❖ SECTION 2: BACKGROUND AND FOUNDATIONS

### Pre-Existing:

#### 2A. Situations and Assumptions

##### **1. Susceptibility of Hawai'i to Invasions:**

Hawai'i is inherently vulnerable to biological invasions. Invasions pose substantial threats to Hawaii's agriculture, natural resources, and quality of human life, including tourism, the current driver of Hawaii's economy. Hawai'i receives about as many new non-native species (not previously known to occur in the State) each year as the other 49 states of the US combined.<sup>12,13</sup> The fact that among U.S. states, Hawai'i stands out for its very high rate of colonization by non-native species (in spite of quarantine effort comparable to other U.S. ports of entry) was noted four decades ago by R.C. McGregor.<sup>14</sup> McGregor recognized that important factors contributing to Hawaii's high rate of invasion were the generally moderate and stable overall climate, reduced competition from native fauna, and the proximity of highly diverse habitats to ports of entry.

##### **2. Uniqueness of Hawai'i:**

Emphasis on conservation of Hawaii's remarkable endemic biodiversity and ecosystems received much increased attention beginning in the 1970s, and evolved further in the 1980s and 1990s. The Hawaiian Islands are justifiably famous for their biological uniqueness but have lost roughly half of their original native-dominated habitat. Hundreds of species have been lost to extinction. With only 0.4 percent of the land area of the United States, Hawai'i harbors over 25 percent of the country's federally listed endangered species.<sup>15</sup> Additionally, the realization that Hawaii's crucial watersheds can be degraded by invasive species has come to the forefront. While habitat destruction by humans has been a direct factor in Hawaii's ecological losses in the past, human-facilitated biological invaders are currently the primary agents of continuing degradation.

##### **3. Reality of Budget Cuts:**

HDOA has a long history of striving to prevent and manage invasions. Unfortunately, given Hawaii's relatively small economic base in relation to the enormity of the invasion problems, Plant Industry's workforce under HDOA has been underfunded and understaffed in relation to the magnitude of the task. Economic downturns have contributed to the impoverishment of Plant Industry's workforce. In 2007, Plant Industry had about 160 employees, a result of increasing recognition of the need for better addressing invasive species issues; that number dropped precipitously with the 2008-2012 recession so that the current number in 2013 was reduced by at least 40%.

##### **4. Quarantine:**

HDOA and its federal sister agency USDA-APHIS-PPQ, have a long track record of working together (sharing authority and expertise) to address Hawaii's agricultural quarantine issues. Hawaii's needs for prevention and management of invasive species are arguably greater than for the rest of the United States, because both tourism and agriculture (now diversifying) require a relatively pest-free environment in order to flourish.<sup>16</sup>

##### **5. HDOA as Lead Entity:**

The thrust of this plan is to explore how to best facilitate collaborative response to "plant health emergencies". When prevention fails and a serious new pest starts to establish in the State, there is often a short window of opportunity during which eradication may be achieved. HDOA has authority

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<sup>12</sup> Loope, L.L. 2010. Hawaiian Islands: invasions, Pages 309-319 in D. Simberloff and M. Rejmánek (Eds.), *Encyclopedia of Invasive Introduced Species*. University of California Press, Berkeley.

<sup>13</sup> [www.hear.org/articles/mcgregor1973](http://www.hear.org/articles/mcgregor1973)

<sup>14</sup> See footnote 13.

<sup>15</sup> Loope, L.L. 1998. Hawaii and Pacific islands. Pages 747-774 in M.J. Mac, P.A. Opler, C.E. Puckett Haecker, and P.D. Doran (editors), *Status and Trends of the Nation's Biological Resources, Volume 2*. U.S. Department of the Interior, U.S. Geological Survey, Reston, VA.

<sup>16</sup> Hollingsworth, R.D., and L.L. Loope. 2007. Learning from quarantine successes. *Proceedings of the Hawaiian Entomological Society* 39: 57-61.



and expertise (sometimes bolstered by that of USDA-APHIS-PPQ) that can be used to provide leadership in operations supported by other entities committed to addressing serious invasions. HDOA will often be leading the emergency response operation alone or conceivably at times with another sister agency such as DLNR-DOFAW.

#### **6. HDOA/USDA- APHIS-PPQ Relationship, including SPRO and SPHD Positions:**

HDOA and USDA-APHIS-PPQ have a formal memorandum of understanding (MOU), established working relationships, are familiar with each other's procedures, and are capable of leading a multi-agency emergency response operation together. Depending on their guidelines, USDA-APHIS-PPQ may not be able to take regulatory actions for certain pests, but may assist in other ways (e.g., providing response manuals, expertise, personnel to help). In some situations, a unified command structure may be created with USDA-APHIS-PPQ and HDOA. .

The State Plant Regulatory Official (SPRO), Neil Reimer, is based at HDOA, and the State Plant Health Director, (SPHD), Vernon Harrington, is based at USDA-APHIS-PPQ. Nationwide, SPROs generally coordinate the states' initial emergency response and are members of the National Plant Board (<http://www.nationalplantboard.org/>), which oversees state level pest detection and regulatory activities and coordinates survey activities between government agencies and private sector organizations. SPHDs direct federal APHIS-PPQ pest detection and regulatory activities in cooperation with state officials, and coordinate the initial PPQ emergency response.

#### **7. Effective Pool of Collaborators Available:**

Beginning in the 1970s, a strong focus on biodiversity and pest/invasive species issues has led to an expansion among conservation institutions operating in Hawai'i to complement the more traditional agriculture/resource management institutions, perhaps resulting in unprecedented potential for assisting in emergency response to plant pests. In addition, new institutions have arisen, including island-based Invasive Species Committees and Watershed Partnerships, to address localized invasive species issues, as well as Hawaii's Coordinating Group on Alien Pest Species (CGAPS) formed in 1995, fostering interagency collaboration to guide broad strategies to combat invasive species. Further, CTAHR is a major resource with 55-65 faculty and staff with agrosecurity responsibilities, and industry itself (predominately agriculture) has the potential to assist in emergency response in numerous ways.

#### **8. Use of ICS in a Response:**

The Incident Command System (ICS) will be used in a collaborative response to a plant health emergency. In the resulting ICS operation, a critical aspect for collaborators to recognize is that there is a chain of command and that they will be reporting directly to someone in that command chain (potentially an HDOA representative). Many who work in plant health response, are generally already well-versed in ICS. For those new to ICS, this plan includes an overview of ICS and of the related National Incident Management System (NIMS) aspects (see discussions in Section 2D, "Overview of the National Incident Management System" and Appendix I, "Extended ICS Primer").

#### **9. Integration of Civil Defense and National Incident Management System (NIMS):**

Some cases of collaborative emergency response may overwhelm normal capacity of HDOA/USDA-APHIS-PPQ and their collaborators, necessitating involvement from entities outside the agricultural and natural resource realm - including local emergency management officials, County or State Civil Defense, or in the case of an intentional introduction even FBI, FEMA, and Customs and Border Protection. This involvement would fall under the National Incident Management System (NIMS) and likely be coordinated through State Civil Defense. NIMS is a tool incorporated by most (if not all) other state PHERPs (e.g., Colorado, Oregon, and Rhode Island<sup>17</sup>). (This is further discussed in Section 2G, "Integrating State Emergency Response Systems / Civil Defense".)

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<sup>17</sup> Links to other State PHERPs given in footnote 3, Section 1D.

## 2B. Systems in Place for Prevention of Entry, Prevention of Establishment, and Surveillance<sup>18</sup>

*Purpose of this section:* This section is intended as a brief summary to acquaint the reader with systems already in place for prevention of entry and establishment, as well as an overview of surveillance systems.

### 1. Prevention of Entry

#### A. Domestic Trade:

##### 1. *Hawai'i Department of Agriculture (HDOA):*

- HDOA is the *only state* agency with responsibilities to prevent introductions at air and sea ports. Domestic quarantines cover interstate and intrastate movement of pests, and hosts.
  
- HDOA enforces state quarantines through:
  - *Inspection* of incoming goods and conveyances, and
  - *Permitting* and containment of organisms for research, and other restricted purposes.
  - *Quarantine Action:* HDOA would take quarantine action or refer it to USDA-APHIS-PPQ if HDOA does not have authority. That is, as the quarantine entity reviewing incoming domestic commodities, HDOA can refer shipments to USDA-APHIS-PPQ for action under federal domestic quarantines when HDOA's own authority is more limited. This cooperation between state and federal plant quarantines provides additional protection for Hawai'i from at-risk commodities moving in violation of mainland quarantine barriers.
  
- In an emergency, HDOA, as the enforcement authority would also be the agency which could make new quarantines to address the entry of new pests. Under a process established under Hawai'i Revised Statutes (HRS), interim ("emergency") rules (good for one year) can be instituted within one month; however it can take much longer if the issue is controversial. The process is outlined in HRS §150A-9.5 Interim rules. (This process was the one used successfully to allow interim interdiction of the rust *Puccinia psidii* from August 2007 through August 2008, to avoid new *P. psidii* strains that could more seriously damage 'ohi'a.)<sup>19</sup>

##### 2. *United States Department of Agriculture-Animal Plant Health Inspection Service-Plant Protection Quarantine (USDA-APHIS-PPQ):*

- USDA-APHIS-PPQ does not routinely inspect incoming domestic cargo,<sup>20</sup> but does enforce domestic regulations found in various regulations, such as:
  - the 7 CFR 301 Domestic Quarantine Notices,
  - the Federal Noxious Weed Act,
  - the Seed Act, and
  - the Plant Protection Act.

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<sup>18</sup> This section (2B) is updated from the chapter presented in the 2004 / 2009 draft version of the PHERP, originally prepared by Dorothy Alontaga, USDA-APHIS-PPQ, and has been reviewed and approved by HDOA and USDA-APHIS-PPQ.

<sup>19</sup> Loope, L.L. 2010. A summary of information on the rust *Puccinia psidii* Winter (guava rust) with emphasis on means to prevent introduction of additional strains to Hawaii: U.S. Geological Survey Open-File Report 2010-1082. <http://pubs.usgs.gov/of/2010/1082/>

<sup>20</sup> APHIS does not usually inspect cargo coming from the U.S. mainland to Hawai'i. APHIS does routinely inspect domestic cargo going from HI to the mainland in their substantial HI pre-departure operations.

Regulations for red imported fire ant, for hosts of *Phytophthora ramorum*, and for citrus pests are examples of federal domestic quarantines.

- In consultation with HDOA, USDA-APHIS-PPQ also permits interstate movement of plant pest organisms, biological control agents, and soil for research and other activities, and well as certifies and monitors containment facilities handling material under permit, and monitors and enforces biotechnology regulations.

## B. Foreign Trade:

### 1. *Department of Homeland Security-Customs and Border Protection (DHS-CBP):*

- Federal Quarantines are enforced for foreign import through the Department of Homeland Security, Customs and Border Protection (DHS-CBP). All foreign products are screened by DHS-CBP at the port of entry. They refer shipments of propagative material and plants to USDA for inspection. Otherwise, CBP is responsible for enforcing all pertinent USDA regulations. Inspection reports are entered into USDA databases.<sup>21</sup>

### 2. *USDA-APHIS-PPQ and HDOA:*

- USDA-APHIS-PPQ also enforces some regulations, notably involving shipments of plants for planting. USDA-APHIS-PPQ, in consultation with HDOA, also issues permits to allow certain items to come into the state from foreign countries. Under a post-entry agreement, HDOA and USDA-APHIS-PPQ allow certain plants for planting to enter into a restricted area (quarantine) for several months of observation before being released.<sup>22</sup>
- USDA-APHIS-PPQ, enforces foreign importation of propagative material through the Honolulu Inspection Station, and its permitting branch at the headquarters in Maryland. Title 7 CFR section 300-399 cover federal quarantine, compliance, and other agricultural quarantine matters.

## C. Intentional and Unintentional Introductions

To the extent that introductions arise from ignorance, public and industry education is crucial, as well as follow-up to help ensure the regulations and practices that provide safeguards against pest introductions are being sustained.

Additional aspects of response in handling intentional or malicious introductions are discussed in Section 5F: “Special Circumstances: Intentional and Smuggling Introductions”.

## **2. Surveillance and Prevention of Establishment: Summary of State, Federal, and Local Efforts**

Surveillance and early detection play a key role in successful plant health response. Without very early detection followed by a prompt response, most pests will quickly disperse and become ineradicable.

### A. HDOA:

- HDOA screens and follows up on information provided by the public through the pest reporting hot line, 643-PEST (see Section 2C)

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<sup>21</sup> Darcy Oishi, HDOA, personal comm. August 19, 2013

<sup>22</sup> Dorothy Alontaga, USDA, pers. comm., August 18, 2013



- Survey and detection is regularly performed by HDOA.
- HDOA publishes New Pest Advisories which can be downloaded at their website: <http://hdoa.hawaii.gov/pi/ppc/new-pest-advisories/> .
  - New Pest Advisories provide information on new pests and diseases that have become established in Hawai'i. New Pest Advisories are intended to educate the general public and industry to help reduce the spread of pests and diseases by being aware of their signs and symptoms and not moving them to other islands in the State.

#### B. USDA-APHIS-PPQ:

- Staffs a full-time Pest Survey Specialist who helps supervise the Cooperative Agricultural Pest Survey (CAPS) Survey Program (see 3C below), and provides funding for survey and detection projects by HDOA, university, and others through the CAPS.
- Provides assessment of exotic plant pests that are new to Hawai'i or other states and were not previously known to occur in the United States through the APHIS-PPQ New Pest Advisory Group (NPAG).
  - NPAG engages experts from various disciplines, resulting in a brief technical report that provides key information about the pest. NPAG recommendations are used by PPQ to determine if the organism should be an actionable quarantine pest and can be a resource available to HDOA of needed information and possible contacts for expertise on a particular pest.<sup>23</sup>
- Staffs the Smuggling Interdiction and Trade Compliance (SITC), “to detect and prevent the unlawful entry and distribution of prohibited and/or non-compliant products that may harbor exotic plant and animal pests, disease or invasive species”.
  - SITC collaborates with CBP and others statewide to perform outreach, as well as targeted and general market surveys for contraband that may harbor pests and act to stop the prohibited foreign trade of federal noxious weeds.
- May quarantine and remove suspect plants or articles under federal quarantines to prevent establishment.
  - These programs are updated in the USDA-APHIS-PPQ programs web page: [http://www.aphis.usda.gov/plant\\_health/index.shtml](http://www.aphis.usda.gov/plant_health/index.shtml)
  - The basis for these functions are covered in the USDA-APHIS-PPQ Emergency *Management Framework Manual* (see Section 2E): [http://www.aphis.usda.gov/plant\\_health/plant\\_pest\\_info/biosecurity/download/PHE-framework\\_2012.pdf](http://www.aphis.usda.gov/plant_health/plant_pest_info/biosecurity/download/PHE-framework_2012.pdf)

#### C. Cooperative Agricultural Pest Survey (CAPS) Program:<sup>24</sup>

- CAPS is an USDA-funded program through which HDOA and its collaborators (primarily with University of Hawai'i) receive funding to conduct surveys for specific agricultural pests of national concern. Hawai'i CAPS survey targets tend to be largely consistent from year to year. The biology and reason for concern of some of these CAPS species are discussed in Appendix H, “Background on Potential Targets”. Integration of CAPS survey method is discussed in Standard Operating Guidelines, Section 4, Step 4: Surveys and Preliminary Assessment.
- Surveys are also conducted by other agencies as prioritized by the USDA through the Cooperative Agricultural Pest Survey (CAPS) Program. Agencies that receive(d) funds

<sup>23</sup> For more on NPAG, see [http://www.aphis.usda.gov/plant\\_health/cphst/npag/](http://www.aphis.usda.gov/plant_health/cphst/npag/)

<sup>24</sup> Thanks to Neil Reimer (HDOA) and Lisa Ishibashi (APHIS-PPQ) for the information on the 2013 CAPS surveys.

for CAPS surveys include HDOA, UH, and Bishop Museum.

-2013 CAPS Surveys that USDA Funded for HDOA:

- Red Imported Fire Ant,
- Laurel Wilt disease,
- Hualongbing and Asian Citrus Psyllid,
- Turfgrass pests

-2013 CAPS Surveys that USDA Funded for University of Hawai'i (UH):

- Taro viruses,
- Corn diseases,
- Orchid viruses,
- Sweet potato viruses,
- Honey bee pests and diseases,
- Coconut pests: including red palm mite, red palm weevil, and coconut rhinoceros beetle; *Erwinia chrysanthemi* (renamed: *Dickeya dadantii*) and other bacterial pathogens on ornamentals,
- Phytoplasmas and viroids of palms: for the phytoplasmas and viroids survey: coconut cadang cadang viroid, coconut tinangaja viroid, *Candidatus Phytoplasma palmae*, *Candidatus Phytoplasma cynodontis*, and other phytoplasmas (whatever else is found during processing of the samples).

#### D. Additional Local Surveillance

1. **ISCs:** Five island-based Invasive Species Committees (ISCs), with state, federal, county, and private funding, provide early detection and rapid response actions for selected invasive plants and plant pests. For example, KISC, MISC, MoMISC, and OISC survey for Little Fire Ant, (LFA, *Wasmannia auropunctata*) and for naio thrips (*Klambothrips myopori*), and MISC conducts early detection surveys for banana bunchy top virus on Moloka'i.
2. **The Hawai'i Ant Lab** conducts survey and outreach for Little Fire Ant, primarily on Hawai'i island, but also has statewide responsibilities for invasive ant issues.
3. **CTAHR Extension** surveys for agricultural pests including nursery ornamentals.
4. **Multiple Additional Entities:** Groups and agencies such as USFWS, DLNR-DOFAW, NPS, Watershed Partnerships, and The Nature Conservancy all have some form of local surveillance on the lands they manage or are involved with.
5. **Industry:** Farmers, landscapers, growers and others are actively in the field and are a major potential source of additional surveillance as part of their day to day operations.

#### E. Suggestions for the Future in Regard to Surveillance:

There would be value in a full assessment of what surveillance is currently being done in Hawai'i, combining information from the independent agencies and entities as well as CAPS species. Such an assessment could be used to identify what additional surveying may be warranted.

### 3. Relationships between State and Federal Officials in Prevention

#### A. Relationship Between HDOA and USDA:

HDOA and USDA-APHIS-PPQ have a well-established relationship and a formal memorandum of understanding (MOU). In an emergency, managers use already established contacts to

- Confirm designation of the lead agency or agencies,
- Formulate the incident action plan,
- Quickly link to reliable information, the necessary expertise, and other valuable resources.

The manager contacted will direct the inquiries to the appropriate knowledgeable authority within their agency to quickly determine questions of authority and policy.

**B. Hawai'i Risk Assessment Committee**<sup>25</sup>

- Together, Hawaii's prevention regulatory agencies can connect to test, fact check and synergize individual preventative measures using the Hawai'i Risk Assessment Committee. Attended by numerous entities within USDA-APHIS, DHS-CBP, Department of Health and Human Services – Food and Drug Administration (DHHS-FDA), USFWS, and HDOA, the Hawai'i Risk Assessment Committee statement of purpose is the following:
  - 1) "Identify and review pathways in Hawai'i by which foreign biological threats and CITES (Convention on International Trade in Endangered Species) regulated commodities enter the United States;
  - 2) Assess the relative risks of the identified threats to agriculture (plant and animal);
  - 3) Track and audit users of these pathways for compliance/noncompliance with regulations;
  - 4) Produce recommendations on operational strategies that would maximize the efficiency and effectiveness of resources directed at agriculture inspection and pest mitigation."
- Each agency gathers statistical information to identify patterns and address possible gaps. The committee can coordinate concentrated inspections, "blitzes" for suspected pathways in containers and goods, identify seasonal trends and coordinate requested training and shared expertise.

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<sup>25</sup> Dorothy Alontaga, USDA-APHIS-PPQ, pers. comm. August 19, 2013.

## 2C. Reporting Systems in Place

### **Overview**

Having a method for the public to report potential pest species can be a critical step in detection and response. There are four key methods in place for public reporting:

- *Calling* HDOA at 643- PEST
- *Online* at Hawai'i Early Detection Network's (HEDN), "Report a Pest"
- *"Walk-ins"* to the HDOA office, which are especially prevalent on the Big Island of Hawai'i<sup>26</sup> as well as to the CTAHR Extension offices
- *Phone, email or "walk-in"* reports to the Invasive Species Committees.

Regardless of which method is used, the key is that information from all initial sources/recipients of the report, including the suspected determination, flows quickly to HDOA.

### **Hawai'i Department of Agriculture (HDOA) Pest Hotline: 643-PEST**

#### What it is:

Hawai'i residents are urged to use the Pest Hotline to promptly report sightings of invasive pests such as snakes, unusually aggressive stinging ants, and illegal or unknown animals. This Pest Hotline is also the Amnesty Line, where people can turn in illegal animals without fear of prosecution.



The Pest Hotline number, 643-PEST (7378), can be dialed from any island in the state, without dialing a "1" or an area code and without incurring any toll charges.

#### How it works:

- During normal business hours, HDOA's Pest Hotline relies on a computer program to route calls to the appropriate HDOA office on their respective island.  
-Comment: This means that the call goes to the nearest island or county based on where the calling phone is registered.
- On weekends or after-hours, calls are routed automatically to the HDOA office at the Honolulu International Airport, seven days/week.  
-If the calls are not answered, messages can be recorded and the next available day is when a callback may occur.
- An existing HDOA database used to log interceptions of pests at airports and harbors has been modified to also log pest hotline reports.  
-Comment: The Database is called "Invicta" and is part of a statewide system used by Plant Quarantine personnel. The Invicta system is also used at airports and maritime facilities, and facilitates the logging of cargo and/or baggage information, for all shipments to Hawai'i, whether by air or sea.<sup>27</sup>

#### Current Standing and Reality of 643-PEST System in Place:

It is well agreed on by those in agriculture and natural resources management that 643-PEST has excellent potential and the foresight in setting it up is noteworthy. However, with the development of this plan, it has also become apparent through interviews with those working in

<sup>26</sup> Darcy Oishi, HDOA, pers. comm., August 18, 2013

<sup>27</sup> From Website of DR Pacific, IT Solutions: <http://www.drpcapacific.com/clients.html>

the field, that there are some major concerns about what happens after the report is filed (based in part on “test calls” made by other entities). This has resulted in an “across the board” fragmentation among collaborators in using or promoting this number as a method to report pests versus other, organization-specific phone numbers (e.g., invasive Species Committees) or calling HDOA directly.<sup>28</sup>

Existing concerns over what happens when a member of the public calls in should be evaluated, to ensure there is a functioning flow chart or other type of step process in place that can be incorporated in future versions of this plan. HDOA acknowledges that this service is currently in need of such evaluation and potential associated overhaul, and as part of this plan development has agreed that while the public should be directed to use this number, those in resource management and industry as associated with this plan can call a direct contact at HDOA (as noted in the Standard Operating Guidelines, Section 4, Step 1 “Discovery and Reporting”, Item C.

### **Hawai’i Early Detection Network Suite of Products**

The Hawai’i Early Detection Network (HEDN) is a program designed to support invasive species public outreach and early detection efforts. It consists of a suite of web-based products and tools that facilitate the capture, management and referral of pest reports from the public; and increase public awareness of invasive species early detection.



The primary HEDN products ([www.reportapest.org](http://www.reportapest.org)) are the Report-A-Pest (RAP) online pest reporting system and Early Detection Toolkit. The RAP system ([www.reportapest.org](http://www.reportapest.org)) and Early Detection Toolkit are designed to encourage the early detection and rapid response for new and incipient invasive species. The program strives to foster and support active community surveillance for island-specific early detection target species.

- **Report a Pest (RAP):**

RAP provides a user-friendly online pest report form that guides the user to submit basic information about potential pest targets. An image upload capability and mapping interface (to potentially generate an exact location) are also provided. Pest reports are curated through a rule-based process that includes interaction with the public reporter; a review and assessment process that facilitates pest identification; a determination of “validity” (a report with a positive identification, preferably to the species level) and whether the report is “actionable” (a group or agency will respond or take action, whether that be control, monitoring, mapping or voucher collection); and referral to a rapid response agency if deemed necessary. All public pest reporters receive a response and follow-up email or call. This interaction is designed to encourage and support active community surveillance.

- **Early Detection Toolkit:**

The Early Detection Toolkit supports the RAP system. It consists of:

- online information for physical “walk-in” reporting locations for all islands;
- online island-specific pest species identification pages, which include commonly confused look-alike species;
- online information for best practices for specimen collection and photography;
- downloadable invasive species early detection field guides for Kaua’i, Moloka’i, Maui, and the Big Island (Hawai’i);
- active community outreach via targeted early detection workshops.

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<sup>28</sup> Over the past decade, among pests requiring a large scale response, only varroa mite was directly reported to the Pest Hotline. (Darcy Oishi, HDOA, pers. comm. 2013.)

A number of early detection workshops have been conducted on the Big Island, Maui, Lana'i, Moloka'i, and Kaua'i. The workshops teach community members about invasive species early detection and how important it is to report new and unusual species for identification and assessment. Participants learn about island-specific pest threats and pest reporting options. In addition, early detection field guides have been distributed to hundreds of community members. A full list of early detection field guides can be found at: [www.reportapest.org/volunteer.htm](http://www.reportapest.org/volunteer.htm).

For a description of HEDN associated products, such as the 643-PEST Hotline Online Report Form, Interagency Rapid Notification System (IRNS) and Pest Report Access Tool (PRAT), see <https://docs.google.com/document/d/1fpKboEGReyr3Hlw42-DCddipBA4-GantKfONdydopRI/edit?usp=sharing>.

#### 4. Additional Reporting Options: APHIS Report a Pest or Disease

On the national level, USDA-APHIS-PPQ, has a website titled "Report a Pest Disease"<sup>29</sup>, meant for public reporting. The link allows selection of the state of Hawai'i with the SPHD office number and the SPHD's e-mail contact. However, for Hawaii's purposes, the SPHD office refers the call information to an appropriate HDOA contact; thus the 643-PEST is the preferred reporting line for Hawai'i.



<sup>29</sup> [http://www.aphis.usda.gov/services/report\\_pest\\_disease/report\\_pest\\_disease.shtml](http://www.aphis.usda.gov/services/report_pest_disease/report_pest_disease.shtml)

## **2D. Overview of the National Incident Management System (NIMS)**

*-including Incident Command System (ICS) and Emergency Support Functions (ESF 11) -*

*Purpose of This Section:* It became clear during the development of this PHERP that many of the potential collaborators are largely unfamiliar with the National Incident Management System (NIMS), Incident Command System (ICS), and other related aspects, and/or have not yet had specific training or an understanding on how such systems would fit into a plant health emergency response.<sup>30</sup> This section was added to help ensure a general understanding of such emergency management systems among all those who may be participating in a response. (Appendix I gives additional detail on ICS.)

### **1. National Incident Management System (NIMS): The Framework<sup>31</sup>**

NIMS is a comprehensive, national approach to incident management that is applicable at all jurisdictional levels and across functional disciplines. It is intended to:

- Be applicable across a full spectrum of potential incidents, hazards, and impacts, regardless of size, location or complexity.
- Improve coordination and cooperation between public and private entities in a variety of incident management activities.
- Provide a common standard for overall incident management.

Under the Command and Management component within NIMS, fundamental elements exist to provide for a flexible, standardized incident management structure including two key elements:

- The Incident Command System (ICS).
- Multiagency Coordination Systems (MACS).

For more on NIMS:

**See NIMS: FREQUENTLY ASKED QUESTIONS,  
produced by the Department of Homeland Security at  
<http://www.fema.gov/pdf/emergency/nims/nimsfaqs.pdf>**

### **2. Incident Command System (ICS)**

ICS is a standardized framework for communications that emphasizes the need for a common operating picture. It was developed in the early 1970s by an interagency task force as a new approach to the problem of managing rapidly moving wildfires in California. ICS is now widely used throughout the United States and internationally for emergency and event management, including plant health emergencies. It is applicable to simple and complex emergencies.<sup>32</sup>

*Modular Organization of the ICS Organizational Structure:*

ICS is known for a modular organization that:

- Develops in a top-down, modular fashion, based on size and complexity of the incident.
- Is determined based on incident objectives and resource requirements. Only those functions or positions necessary for a particular incident are filled.
- Expands and contracts in a flexible manner. When needed, separate functional elements may be established.

<sup>30</sup> Some entities, such as HDOA, USDA, and DLNR have had extensive training with Incident Command Systems (ICSs) and related aspects.

<sup>31</sup> Information from document "NIMS: Frequently Asked Questions", produced by the Department of Homeland Security.  
<http://www.fema.gov/pdf/emergency/nims/nimsfaqs.pdf>

<sup>32</sup> APHIS Emergency Response Manual 2010. [http://www.aphis.usda.gov/import\\_export/plants/manuals/emergency/downloads/epm.pdf](http://www.aphis.usda.gov/import_export/plants/manuals/emergency/downloads/epm.pdf)

- Requires that each element have a person in charge, but that the maximum number of workers one person supervises is ideally five and no more than seven.

*Major Functions within ICS:*

There are 5 major management functions in ICS: Incident Command (IC), Operations, Planning, Logistics, and Finance / Administration as depicted in Figure 3 below.

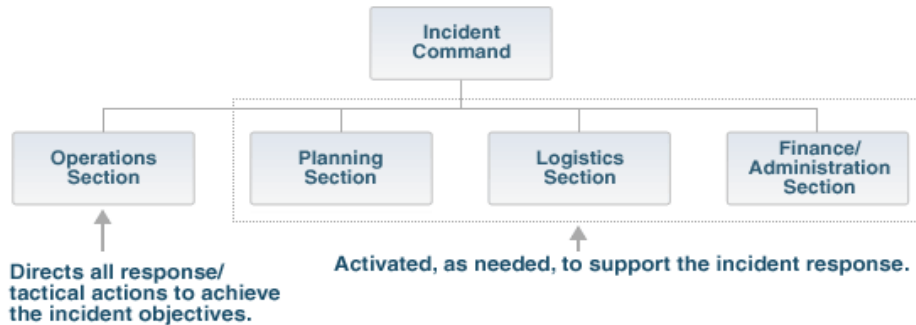


Fig 3: Major Sections within an ICS. Image from the ICS 100 online course, at <http://emilms.fema.gov/IS100b/index.htm>

*Scale:*

In all operations there is an Incident Command (IC) function which sets the objectives, strategies and priorities, and has overall responsibility for the incident. On small incidents and events, one person—the Incident Commander—may accomplish all management functions. The Incident Commander creates and staffs only the other sections that are needed.

*For more information on ICS, see Appendix I*

**3. MAC: Multi-Agency Coordination Team/System/Group**

MACS are designed to facilitate the process of multiagency coordination, which allows all levels of government and all disciplines to work together more efficiently and effectively. MAC Groups do not command the on-scene level of the incident, but rather support the Incident Command Post’s command and management efforts.

*-The Hawai’i Plant Health Response MAC is further discussed in Section 2I.*

**4. Emergency Management (EM) / Civil Defense (CD)**

An agency or department on the county, state, or federal level involved with planning, preparing, and coordinating operations in meeting disaster situations and coordinating post-disaster recovery operations.

*-Hawai’i specific EM / CD functions are discussed in Section 2H*

**5. ESF: Emergency Support Function.**

ESFs are support annexes to the State’s (or Federal) “Plan for Emergency Preparedness Disaster Response and Assistance”. There is both a Federal and State ESF 11 document. The State ESF 11 is the one (of 20 ESFs for the State of Hawai’i) that specifically applies to agriculture and natural resource emergencies and would be enacted by Civil Defense / Emergency Management and/or in a Governor Declared Emergency.

Emergency support functions are on the “coordination” (or support) side of a response, to support the existing ICS framework, and the ESF 11 function provides coordinated state-federal



response when a major emergency or disaster overwhelms state and local government ability to respond to certain public needs.<sup>33</sup>

#### *Integration of the State and Federal ESF 11:*

The federal ESF 11 Coordinator works as a liaison between HDOA, EM, all of USDA, and FEMA to allow for a single point of contact as well as some continuity for all the agencies involved. The Federal ESF 11 Coordinator can work side-by-side with the State ESF 11 Coordinator or from a distance, whichever the state prefers. The federal ESF Coordinator for Hawai'i, Todd Smith,<sup>34</sup> notes: "My goal is to provide HDOA and EM Agency technical guidance in what resources we (USDA) have available, what it might cost, and how to best [integrate] with FEMA ... [Once activated], the federal ESF 11 "would not disappear until the State ESF 11 Coordinator says they no longer need our support or FEMA says we are no longer needed..." -More detail on enacting integrating Civil Defense in a Response is given in Section 2G, 'Categories of Response' and Section 2H, "State Emergency Management and Governor Declared Emergency"; an excerpt from the State ESF 11 is also included as Appendix J.

#### **6. Trainings:**

The importance of having all potential collaborators familiar with the ICS system was succinctly stated by Crystal van Beelen, Disaster Preparedness Officer, City & County of Honolulu Department of Emergency Management: "It would be beneficial if all players involved in natural resource and agriculture management complete the National Incident Management (NIM) Incident Command System (ICS) basic courses so that they have an understanding of how local, state, federal and non-governmental agencies respond." Links to these courses are included at the end of Appendix I, "Extended ICS Primer".

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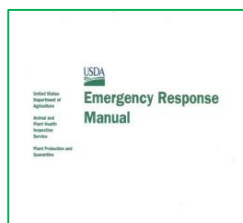
<sup>33</sup> For more information on ESF 11, see USDA –APHIS's webpage on ESF 11 at [http://www.aphis.usda.gov/emergency\\_response/esf\\_11/esf11.shtml](http://www.aphis.usda.gov/emergency_response/esf_11/esf11.shtml).

<sup>34</sup> Todd Smith, USDA-APHIS, ESF 11 Coordinator, FEMA Region IX, pers. comm., November 2013

## 2E. Plan Resources: USDA-APHIS-PPQ Support Documents

*Purpose of this Section:* Two reference documents are presented here that have been prepared by USDA-APHIS-PPQ, as user-friendly resources specifically relating to plant health emergencies. The intent in including these here is to bring the attention of *all* responders to these manuals and to encourage usage for increased standardization when responding to an emergency.

### 1) USDA-APHIS-PPQ Emergency Response Manual (ERM)



**Summary:** A field reference originally designed to help USDA-APHIS-PPQ employees quickly find the information they need when responding to a plant health emergency, the manual can be used by all as a reference when planning any response program that relies upon the Incident Command System (ICS) to manage a threat to U.S. agriculture and natural resources. The ERM describes the various roles in ICS of the command and general staff, and includes standard ICS documentation as well as a brief overview of the various stakeholders involved in a response.

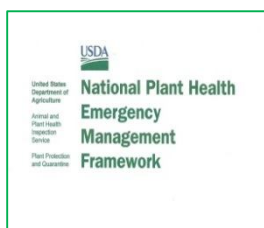
*The ERM Specifically Includes:*

- Descriptions of pertinent authorities
- Organizational guidelines for ICS that facilitate a quick response
- Directions for using ICS to develop and manage a response
- Detailed ICS Job Descriptions
- Instructions for developing an Incident Action Plan
- Lists of necessary activities
- Summaries of responsibilities of PPQ Headquarters and Regional Staff levels related to providing support and services in the field

**Web Address:**

[http://www.aphis.usda.gov/import\\_export/plants/manuals/emergency/downloads/epm.pdf](http://www.aphis.usda.gov/import_export/plants/manuals/emergency/downloads/epm.pdf)

### 2) USDA-APHIS-PPQ National Plant Health Emergency Management Framework



**Summary:** An overarching, higher level document that follows the overall tenets of emergency management (prepare, protect, mitigate, respond, recover). The 'Framework' describes the various stakeholders and activities that take place prior to, in preparedness of, in response to, and recovery from a plant pest introduction from a USDA-APHIS-PPQ perspective. All PPQ employees, Federal and State cooperators, and stakeholders should be familiar with and use the framework for guidance and to promote uniformity.

*The National Plant Health Emergency Management Framework Includes:*

- Description of roles and responsibilities of the interrelated components of PPQ's safeguarding systems, including:
  1. Plant Protection and Quarantine (Preparedness)
  2. Pest Exclusion
  3. Preparedness
  4. Response
  5. Recovery
  6. Roles and Responsibilities
  7. State Plant Protection Resources
- How USDA-APHIS-PPQ and cooperators respond to plant health and homeland security emergencies,
- The roles and responsibilities of PPQ Program Managers and State plant protection agencies in the various states, as well as the roles of other Federal agencies and other APHIS units.

**Web Address:**

[http://www.aphis.usda.gov/plant\\_health/plant\\_pest\\_info/biosecurity/download/PHE-framework\\_2012.pdf](http://www.aphis.usda.gov/plant_health/plant_pest_info/biosecurity/download/PHE-framework_2012.pdf)

### **Concepts Evolved as a Result of the Development of this PHERP:**

Through the development of the PHERP, the following concepts and foundations have been explored, discussed, introduced and agreed upon by the key entities responding to a situation. These aspects have been developed as the result of substantial input from the collaborators in this plan: via interviews, emails, reviews of earlier versions of this plan, as well as in-depth discussion at the associated Tabletop meeting held Nov. 6, 2013.

- **F. Defining What Is an Emergency**
  - **G. Delineating Four Category of Response (CoR) Types**
  - **H. Integrating State Emergency Response / Civil Defense into Plant Health Responses**
  - **I. Introduction and Creation of a Standard Multiagency Agency Coordination (MAC) group.**
- 

## **2F. Defining an Emergency: A Discussion**

In the opening paragraphs of this plan, a plant health emergency is described as “*the phenomenon of a detected incursion of a new (to Hawai‘i or to a single Hawaiian island) plant pest species that is expected to cause very significant damage to agriculture, natural resources and/or Hawaii’s economy*”. Yet, the term “emergency” at it relates to plant health, can have a complex range of meanings.

### **Two Types of Emergency: Plant Health Emergency and Governor Declared Emergency**

One potentially confusing issue when referring to an “emergency” is that an emergency can relate specifically to a plant pest response and/or to an official Governor Declared Emergency, or both. A Governor-Declared Emergency is discussed in Section 2H and is linked to “*an event or incident that occurs that could threaten the county’s, state’s or nation’s security, safety and/or health.*”<sup>35</sup> Droughts, fires, and tsunamis are all previously experienced Governor Declared Emergencies in Hawai‘i, clearly definable by the security, safety or health criteria.

The question then arises, in which cases would a plant health response warrant such a Governor Declared Emergency, and what defines a “regular” plant health emergency to begin with?

### **The Challenge: *Precise Criteria versus “It Depends”***

While having a set of refined criteria for what determines a plant health emergency may be highly desirable, pinpointing specific criteria may be overly simplistic, and further, not realistic. The reality is that each situation is unique, and the true answer may be “it depends”.<sup>36</sup> Certainly factors do exist, and in practice, HDOA typically makes a carefully-weighted decision (often assisted by USDA, a scientific advisory committee, and for future, the MAC group as discussed in Section 2I) on the appropriate response based on results of the following such factors (listed in no specific order):

- degree / size / scope (apparent vigor, rate of spread, and distribution) of the infestation
- potential impacts on human health and quality-of-life
- if it is an introduction of malicious intent
- known biology and factors that may affect establishment, spread, and ability to control
- potential severity of the pest’s economic impact
- potential severity of the pest’s impact on agricultural or natural resources
- pathways of spread
- known effective methods to control

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<sup>35</sup> Crystal van Beelen, Disaster Preparedness Officer, Department of Emergency Management, pers. comm., October 2013.

<sup>36</sup> Statement made from combined input from HDOA and USDA representatives, pers. comm. 2013.

- anticipated costs and time frame for results
- perceived ability to contain and eradicate the pest (based on size & scope, adequacy of control methods, known biology, etc.)

The decision then to request an Emergency declaration by the Governor would result when HDOA judges, based on the multiple factors above, that eradication may well be feasible with a heightened effort (with assistance and resources from Emergency Management) but not without such additional effort.

The problem of distinguishing a simple formula for characterizing what constitutes an emergency can perhaps best be understood through an example: *Using the example of the Red Imported Fire Ant (RIFA) and the goal of containment and eradication of the pest:*

-If found, RIFA would be a plant pest new to Hawai'i that poses a threat of high ecological and economic impact, likely qualifying as a pest worthy of declaring an emergency. However, if a single small RIFA nest was found after much search, and it was known to have been present for less than one month, an operation to eradicate the population might be relatively simple and perhaps wouldn't require EM involvement.

-Conversely, if there were 5000+ RIFA nests over at least 20 square miles, the feasibility of eradication would likely be considered negligible, even with a well-funded and highly effective collaborative response at CoR type 4 (see Section 2G). Therefore response to the infestation may not be considered a true emergency since eradication success would likely be impossible and it would turn into a long- term response involving integrated pest management (IPM) to the extent possible.

-But somewhere in the area in-between, the amount and location of the nests would render it potentially feasible for eradication, and that, combined with the other parameters (above), would qualify it for a highly rigorous emergency response, both on the plant health level and probably the Governor Declared Emergency level.

### **How to Move Forward:**

It is suggested that the newly formed MAC group consider confronting the question as to whether more specifics are desired for "what makes a plant health emergency", and if so, have a working meeting(s) to tackle this subject. Though there are a wide range of parameters that affect the final decision, it may be possible to develop a more concise and definitive characterization, and if so, it can be incorporated into future PHERP revisions.

## **2G: Delineating Four Categories of Response (CoR) Types to a Plant Pest**

*Purpose of This Section:* There are at least four different scenarios of collaborative involvement to a plant health emergency response. These categories are essentially already in place, and this PHERP is simply taking the opportunity to more formally outline and name the different types of involvement as “Collaborative Category of Response (CoR) Types”. (This PHERP focuses on Collaborative CoR Type 3.)

- Clarification: *The Collaborative CoR Types are NOT linked to the 5 ICS Levels / Types of Response Complexity that is associated with NIMS. Instead they are used simply to indicate the type of collaboration among the different partners (i.e., HDOA alone or HDOA + USDA or with other partners, etc.). ICS can and should be used within each type of CoR Type.*

**Who Decides the CoR Type?:** The initial decision of Collaborative CoR Type is generally made by HDOA, and can change as the incident evolves. The response type is based on a variety of factors, including those discussed in Section 2F, “Defining an Emergency.”<sup>37</sup>

### **Overview of the Different Collaborative CoR Types:**

#### **1. Collaborative CoR Type 1: HDOA**

*HDOA handles a plant health response on its own.*

#### **2. Collaborative CoR Type 2: HDOA + USDA-APHIS-PPQ**

*HDOA collaborates with USDA-APHIS-PPQ, and between the two agencies, they are able to handle the response on their own.*

-Comment: This is often the case with plant pests in Hawai‘i; and these two agencies work together on a regular basis. As discussed in Section 2A, “Situations and Assumptions”, HDOA and USDA-APHIS-PPQ have a formal MOU and the SPRO is based at HDOA, with the SPHD being based at USDA-APHIS-PPQ.

#### **3. Collaborative CoR Type 3: HDOA + USDA-APHIS-PPQ**

##### **+ Natural Resources and Agriculture Entities and Others**

*A situation is beyond the scope of what HDOA and USDA-APHIS-PPQ can collectively handle, and/or extends beyond their jurisdiction, and they bring in additional collaborators.*

-Comment: Potential collaborators include partners with substantial experience in rapid response -- the Invasive Species Committees (ISCs), other State entities such as DLNR-DOFAW, other Federal entities such as USFWS, as well as Watershed Partnerships, industry, and other entities that are appropriate in unique situations - see Table 1, page 2). Working together, they may have the resources, funds, and logistical support to pursue and find solutions to the issue. An example of this approach would be the Little Fire Ant on Maui (2009-2012) -- handled by a collaborative effort between HDOA, the Hawai‘i Ant Lab, Maui Invasive Species Committee (MISC) and Maui County.<sup>38</sup>

#### **4. Collaborative CoR Type 4: HDOA + USDA-APHIS-PPQ**

##### **+ Natural Resources and Agriculture Entities and Others**

##### **+ Civil Defense (Office of Emergency Management)**

*An operation in which Civil Defense /Emergency Management would be engaged for additional coordination with resources, logistical support and/or funding.*

-Comment: In this case the operation would likely be recognized as a true formal “Emergency”, normally enacted when the Chairperson of HDOA calls on the Governor to declare an Emergency, and a request to Civil Defense is initiated to help coordinate and secure resources (see Section 2H on State Emergency Management and Governor Declared Emergencies).

<sup>37</sup> Darcy Oishi, HDOA, pers. comm. 2013

<sup>38</sup> County involvement consisted of guidance by the County’s Environmental Coordinator and the Maui Office of Economic Development that provided funding to MISC for educational materials and LFA surveys.

## **2H. State Emergency Management and Governor Declared Emergencies**

*The Purpose of this Section:* To familiarize the reader (primarily natural resources and agriculture managers) as to what the function of Civil Defense / Emergency Management is, and how it may be incorporated into a response.

### **Background: What Is Emergency Management / Civil Defense?**

The Emergency Management (EM) function, also known as Civil Defense (CD)<sup>39</sup>, is responsible for coordinating preparedness, response, recovery, and mitigation of emergencies and disasters - including fires, volcanoes, floods, tsunamis, and hurricanes. All levels of government have an EM function, from local (county) to state to federal. Nationally, the function of EM falls under FEMA (Federal Emergency Management Agency), which falls under the Department of Homeland Security (DHS).<sup>40</sup>

Response to disasters and emergencies within EM is guided by the National Response Framework (NRF), built on concepts identified in the National Incident Management System (NIMS)<sup>41</sup> (see Section 2D, “Overview of NIMS”), to align key roles and responsibilities across the Nation. This Framework describes specific authorities and best practices for managing incidents that range from the serious but purely local to large-scale terrorist attacks or catastrophic natural disasters. The questions then become: “Why, when, and how is it appropriate to tap into such resources for a plant health emergency response?”

#### **• Why? - Benefits of Including Emergency Management in a Response**

“EM has the knowledge and experience to deal with large-scale responses to serious problems. In addition, it has access to resources that are not or may not be available to other state agencies or county government. Also available in a Governor Declared Emergency [see ‘How’ on next page] is use of the emergency fund set aside for such events.”<sup>42</sup>

#### **• When? - Drivers / Triggers for Engagement of Emergency Management**

*Drivers from the EM perspective:* EM activates when an event or incident occurs that could threaten the county’s, state’s or nation’s security, safety and health.<sup>43</sup>

*Drivers from a natural resource or agriculture manager’s perspective:* Taking into account what EM considers to activate, making a request to integrate EM into a plant health emergency response would then be assessing the factors discussed in Section 2F, “Defining an Emergency”, with focus on one or more of the following:<sup>44</sup>

##### **• Size and Scope:**

A likely trigger would occur when it becomes apparent that entities involved have exhausted, or will soon exhaust, their own resources. However, it is emphasized that involving EM may not be a factor based solely on size of the issue, but will depend on a variety of factors in the situation including those listed below.

##### **• Potential for High Impact in conjunction with High Costs and “Short” Time Frame for Results:**

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<sup>39</sup> All the counties except for O’ahu (City & County of Honolulu) are still referenced as County Civil Defense Agencies (i.e. Maui Civil Defense). In 2007, the City & County of Honolulu changed its name from O’ahu Civil Defense (CD) to the Department of Emergency Management (DEM). Hawai’i State Civil Defense and the other counties are contemplating changing their name from Civil Defense to Emergency Management to follow the national trend. Source: Crystal van Beelen, Disaster Preparedness Officer, Department of Emergency Management, pers. comm., October 2013

<sup>40</sup> Input from Peter J.S. Hirai, Honolulu Department of Emergency Management, pers. comm., October 2013.

<sup>41</sup> National Incident Management System <http://www.fema.gov/national-incident-management-system>

<sup>42</sup> Input from Steve Yoshimura, State Civil Defense, pers. comm., October 2013.

<sup>43</sup> Source: Crystal van Beelen, Disaster Preparedness Officer, Department of Emergency Management, pers. comm., October 2013

<sup>44</sup> Input from Darcy Oishi, Hawai’i Department of Agriculture, pers. comm., September 2013.

A key aspect in the case of HDOA Animal Industry's response plan for engaging EM response is the combination of high impact/short time frame for response, plus high cost for long term consequences.<sup>45</sup> This is the case for even smaller incidents because of potential impacts on human health for certain key animal diseases, such as ones that may have very broad impacts on the United States ability to export high value commodities such as beef.

From a plant pest response perspective, this type of request for engagement of EM could perhaps be triggered by a highly damaging plant pathogen such as lethal yellowing of coconuts and other palms. An appropriate insect pest example may be the Red Imported Fire Ant (RIFA, *Solenopsis invicta*), discussed earlier in Section 2F. RIFA is a much feared pest because of the high economic consequences -- the potential to cause over \$200 million per year in economic damage in Hawai'i;<sup>46</sup> RIFA also poses a human health and safety risk. If surveillance discovers an invading population at an early stage, eradication may be possible, but there is little or no room for trial and error and supplementary funding and emergency personnel would be necessary for response.

To be clear, this trigger refers not only to potential for high impact but also to the potential for an incident to quickly exceed local funding capacities *in conjunction with* the high probability of a relatively quick recovery period. That is, EM cannot be looked at as a long term monitoring source, but rather to deal with a short term/immediate issue, and then one of the local players continues with long term monitoring.

- *Impacts on Human Health.*

An example in the animal side of things would be bovine tuberculosis with major potential impacts on human health.

- *Introductions of Malicious Intent including Terrorist Activity* (see also Section 5F, "Special Circumstances: Intentional Introductions")

- *Procurement Issues and Laws:*

This may be a primary driver for engagement of Civil Defense. An example would be if off-duty police officers were needed to manage traffic or help secure a site in an incident, the State Civil Defense (SCD) can coordinate these actions.<sup>47</sup>

- **How? - Steps in Requesting CD / EM Assistance for a Plant Health Emergency**

EM can be engaged either 1) via lateral request or 2) by activation of the Governor through an emergency declaration. (See Figure 4 on next page). In the former, CD / EM is requested through one or more the Department Heads directly without a formal declaration of emergency by the Governor. The latter requires an emergency declaration by the Governor that specifically states activation of State EM / CD function. This declaration by the Governor is often a result of a department head request, due to the need for outside resources such as from other State Departments/Agencies (which includes Civil Defense under the State's Department of Defense).<sup>48</sup>

The primary difference in these two paths is that with the Governor declaring an emergency, EM gets activated. In contrast, if the request comes from a level lower than the Governor, then it is a request that EM will assess for whether to respond.

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<sup>45</sup> Darcy Oishi, Hawai'i Department of Agriculture, pers. comm., October 2013.

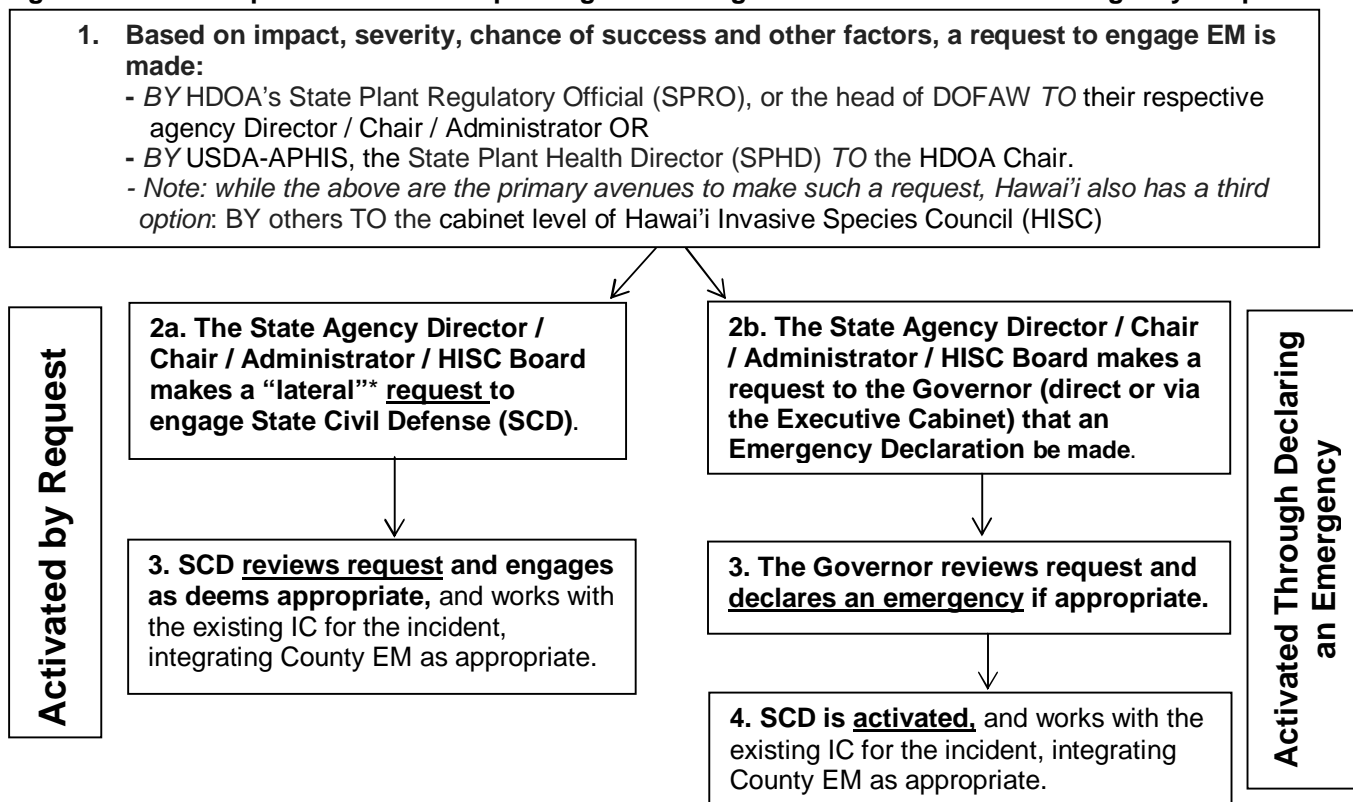
<sup>46</sup> Gutrich, J.J., E. VanGelder, and L. Loope. 2007. Potential economic impact of introduction and spread of the red imported fire ant, *Solenopsis invicta*, in Hawaii. *Environmental Science and Policy* 10: 685-696.

<sup>47</sup> Darcy Oishi, Hawai'i Department of Agriculture, pers. comm., October 2013.

<sup>48</sup> Steve Yoshimura, State Civil Defense, pers. comm., October 2013.

There are situations where it may be more realistic to move forward with integrating EM without the full on declaration of an emergency - e.g., a procurement issue<sup>49</sup> when many bulldozers are needed for a one day event, though reimbursement may become an issue without a declaration.

**Figure 4. Visual Representation of Requesting / Activating EM into a Plant Health Emergency Response**



**Once State Civil Defense (SCD) Is Activated:**

Once activated, SCD follows a set of protocols under the National Incident Management System (NIMS), integrating the "The State Plan for Emergency Preparedness Disaster Response and Assistance", as well as the appropriate Emergency Support Functions (ESFs – see Section 2D).

SCD would continue to work with the existing Incident Commander (IC), coordinating with the existing ICS set up. In some unique cases (human health, intentional malicious introductions, etc.) they may engage DHS/ DOJ / FBI who may take over IC for the incident and/or prioritize activity, but in most cases SCD would act in a support and coordination function.

- Note: While HDOA participates in Emergency Management training, up to this point (December 2013), Civil Defense has not yet been engaged to help with a plant pest issue (though animal industry through HDOA has engaged civil defense and been able to declare an emergency).<sup>50</sup>

**County EM in a Plant Health Response:**

The County level EM function falls under the State Civil Defense. County emergency management could assist as follows:

<sup>49</sup> Darcy Oishi, HDOA, pers. comm. October 2013

\* Note: A "lateral" would be if the Chair or HISC would contact Major General Darryl Wong, the head of State Civil Defense. A lateral literally means at the level of the Governor's cabinet. It is also possible for the SPRO or IC of a response to contact CD / EM direct. (Darcy Oishi, HDOA, pers. comm., October 2013.)

<sup>50</sup> The State Veterinarian is the only individual other than the Governor capable of calling a state of emergency.



- Respond to and mitigate any potential negative effects to the county through Emergency Operations Center coordination.
- Coordinate tactical level assistance to the State, e.g., heavy vehicles/equipment, botanists or urban forestry expertise.
- Assist in coordinating public messaging.

County EM would *normally be activated top down* through the SCD, and would not require any additional executive level request (level of chairperson of HDOA, USDA, DLNR etc. or level of Governor) so long as the potential hazards could or would affect the county. Once SCD is contacted by HDOA or other state agency to state agency communications, they would coordinate with the appropriate county department.

County EM *could also be activated bottom up* depending on the source trigger. For example, if a farmer calling 911 is the source (versus state agency to state agency), then engagement would likely proceed from the bottom up, with the police notifying County EM and they contact SCD, who contacts HDOA.

### **The Role of Federal Emergency Management Function in a Plant Health Emergency**

There is no “Federal Civil Defense” per se (that changed in 1975 with the creation of FEMA), and the relationship with the Federal level emergency management entities of DHS / FEMA is described in the introduction of this section.

While it is anticipated that County and State Emergency Management would be the most likely to engage in a large scale plant health emergency response in Hawai‘i, the Federal level emergency management entities potentially provide access to a great breadth of resources and expertise. For example, in the broader sense of a natural disaster, agriculture can be affected and there may be a spread of pests moved out of quarantine areas by weather or in the course of evacuations, of crop devastation, and other examples. In these cases, and when a “select agent”<sup>51</sup> is involved, Federal assistance would be activated under ESF 11, which is covered at [http://www.aphis.usda.gov/emergency\\_response/esf\\_11/esf11.shtml](http://www.aphis.usda.gov/emergency_response/esf_11/esf11.shtml), and integration is through the regional ESF 11 coordinator (see contacts below).

### **CONTACT INFORMATION:**

#### ***State Level:***

#### **Department of Civil Defense Division, State of Hawaii**

3949 Diamond Head Road, Honolulu, HI 96816 (808) 733-4301

- ✓ Steven Yoshimura  
Acting point of contact for this PHERP and associated responses, including integration of ESF-11. [syoshimura@scd.hawaii.gov](mailto:syoshimura@scd.hawaii.gov), 733-4300 x576 (office) or 354-4263 (work cell).
- Leighton Ah Cook, Branch Chief for Training, Education and Information  
[lahcook@scd.hawaii.gov](mailto:lahcook@scd.hawaii.gov), 733-4300 x521.
- Major General Darryl Wong, Adjutant General and Director
- Doug Mayne, Vice Director.

#### ***County Level***

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<sup>51</sup> The Federal Select Agent Program oversees the possession, use and transfer of biological select agents and toxins, which have the potential to pose a severe threat to public, animal or plant health or to animal or plant products. For more details, see: [http://www.aphis.usda.gov/programs/ag\\_selectagent/](http://www.aphis.usda.gov/programs/ag_selectagent/) and <http://www.selectagents.gov/>

### **O'ahu: City and County of Honolulu Department of Emergency Management**

650 South King Street, Honolulu, (808) 723-8960

- ✓ Melvin Kaku, Director, [mkaku@honolulu.gov](mailto:mkaku@honolulu.gov), (808) 723-8951
- ✓ Peter Hirai, Deputy Director, [PHirai@honolulu.gov](mailto:PHirai@honolulu.gov), (808) 723-8960
- ✓ Crystal van Beelen, Disaster Preparedness Officer  
[cvanbeelen@honolulu.gov](mailto:cvanbeelen@honolulu.gov), Bus (808) 723-8956, Cell: (808)-499-7435

### **Kaua'i County Civil Defense Agency**

Suite 100, 3990 Kaana Street, Lihue, [emops-kcda@scd.hawaii.gov](mailto:emops-kcda@scd.hawaii.gov)  
(808) 241-1800,

- Mark B.L. Marshall, Emergency Management Officer

### **Maui County Civil Defense Agency**

200 South High Street, Wailuku, [civil.defense@mauicounty.gov](mailto:civil.defense@mauicounty.gov)  
(808) 270-7285,

- Anna Foust, Emergency Management Officer

### **Hawai'i County Civil Defense Agency**

920 Ululani St., Hilo, [civil\\_defense@co.hawaii.hi.us](mailto:civil_defense@co.hawaii.hi.us)  
(808) 935-0031, (808) 935-3311 (after hours);

### ***Federal Level:***

- Todd L. Smith, USDA APHIS, ESF 11 Coordinator, FEMA Region IX  
160 Foss Creek Circle, #1172, Healdsburg, CA 95448  
Phone/Fax: (707) 431-1847; Cell: (970) 631-3279

*\*Note:* FEMA Region IX includes Hawai'i, California, Arizona, American Samoa, Nevada, CNMI (Mariana Islands), and Guam. As the ESF 11 Coordinator, Todd visits and keeps in touch with Hawai'i APHIS and FNS (Food and Nutrition Service) and trains them in the ESF 11 Desk officer duties. Todd would tell the SPHD office if the ESF 11 function is activated for FEMA. He would not necessarily physically occupy the ESF 11 desk service during an emergency disaster in Hawai'i; someone in APHIS already in Hawai'i would likely do that.<sup>52</sup>

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<sup>52</sup> Dorothy Alontaga, U.S. Department of Agriculture, pers. comm. September 2013.

## **2I. Establishment of a Standing Multi-Agency Coordination (MAC) Group**

*(To be consulted as part of Standard Operating Guidelines, Section 4, Step 3D)*

### **Description:**

Multi-Agency Coordination (MAC) groups are designed to facilitate the process of multi-agency coordination; they do not command the on-scene level of the incident, but rather support the Incident Command and on-site management efforts. In addition, a MAC allows for higher collaboration and transparency among the various response entities available.

A MAC, as described in the National Plant Health Emergency Management Framework<sup>53</sup> is very important for national emergencies, especially when coordination between other states and regions needs to be done above the state level. Or, at the state level, if there are wider issues and/or a pest response happening within a larger emergency, the MAC could help to set priorities for resources, etc., and advise the IC as to which options and equipment/personnel are available, or when there are access rights, governing procedures, etc.<sup>54</sup>

As part of the development of this plan, the Key and Support Entities (Table 1, page 4) have agreed that a standing MAC Group is needed and will be an important step as part of collaborative response to a plant health emergency. MAC groups can be established at any level; e.g., a group on each island or an overarching statewide group. Initially parties have agreed to move forward with a statewide MAC group; in the future this may be expanded to include island-specific MAC groups that work in conjunction with the statewide MAC.

### **Roles:**

The role of the MAC group is to provide a structure and process for inter-organizational collaboration and decision making in these key areas:<sup>55</sup>

- *Big picture planning / strategic planning* and focusing on priorities
  - As an example, to help the IC in making the decision whether the goal of a response is eradication or containment.
- *Logistics support*
- *Resource allocation:* Assist in deciding how to obtain resources and where to place them.
  - As an example, if the IC decides they need 50 people for control, the MAC group helps to figure out who/how to get them.
- *Assist with coordinating interagency issues regarding policies and priorities*
- *Coordinating incident related information*, including integration with a Joint Information Center (see Section 4, Step 6A-3<sup>rd</sup> bullet, for more on the JIC) as appropriate.

### **Representative Authority: Theory versus Reality**

In theory, the representatives to the MAC group should have the authority to make decisions on behalf of their entity, including committing agency (or department or entity) resources and funds.

In reality it is understood this is not always possible, and those who have such authority, such as the Chairperson, etc. may not be available to attend such meetings or may not have the direct on the ground field knowledge to be of the most assistance.<sup>56</sup> (The concern is that if representatives come to the table but cannot speak for their respective entity or commit to

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<sup>53</sup> [http://www.aphis.usda.gov/plant\\_health/plant\\_pest\\_info/biosecurity/download/PHE-framework\\_2012.pdf](http://www.aphis.usda.gov/plant_health/plant_pest_info/biosecurity/download/PHE-framework_2012.pdf) and see discussion in Section 2E

<sup>54</sup> Dorothy Alontaga, USDA-APHS-PPQ, pers. comm., December 2013

<sup>55</sup> Information integrated from ICS-400: Advanced ICS Student Manual, April 2008 ver2.

<sup>56</sup> Note: It is recognized that the Hawai'i Invasive Species Council (HISC) fulfils its mandate by providing policy level direction & coordination among most of the entities listed above at the Cabinet level, with the Chairs of HDOA and DLNR being co-chairs of the HISC with participation by others at the Cabinet level.

resources, then the effectiveness of such a group may decrease.) This issue can be dealt with if the representative has authority delegated to them by their chairperson or supervisor to act on their behalf.

### **Participation:**

At the Tabletop Meeting associated with the development of this plan, it was agreed upon that the Standing MAC Group initially would include the following representatives:

#### ❖ **HDOA:**

- *Neil Reimer*, Acting Administrator, Plant Industry Division, [Neil.J.Reimer@hawaii.gov](mailto:Neil.J.Reimer@hawaii.gov), 808-973-9535
- *Darcy Oishi*, Acting Manager, Plant Quarantine Branch, [Darcy.E.Oishi@hawaii.gov](mailto:Darcy.E.Oishi@hawaii.gov), 808-832-0566

#### ❖ **USDA-APHIS-PPQ:**

- *Stuart Stein*, Acting Plant Health Director, [Stuart.H.Stein@aphis.usda.gov](mailto:Stuart.H.Stein@aphis.usda.gov), 808-838-2780
- *Dorothy Alontaga*, State Operations Director, [Dorothy.S.Alontaga@aphis.usda.gov](mailto:Dorothy.S.Alontaga@aphis.usda.gov), 808-838-2789

#### ❖ **CTAHR**

- *Mike Melzer*, Assistant Researcher, [melzer@hawaii.edu](mailto:melzer@hawaii.edu), 808-956-2830  
(or as recommended by the Dean)

#### ❖ **DLNR**

- *Rob Hauff*, Forest Health Coordinator, [Robert.D.Hauff@hawaii.gov](mailto:Robert.D.Hauff@hawaii.gov), 808-587-4174  
(who may also bring in the DLNR island-specific coordinator during an incursion)

#### ❖ **HISC:**

- *Josh Atwood*, HISC Coordinator, [Joshua.P.Atwood@hawaii.gov](mailto:Joshua.P.Atwood@hawaii.gov), 808-587-4154

#### ❖ **ISCs**

- *Teya Penniman*, ISC representative / MISC Manager, [misc@hawaii.edu](mailto:misc@hawaii.edu), 808-573-6472 or 573-6471  
(who may also bring in the island specific ISC manager during an incursion, depending on where the incursion is happening) It is noted that Teya is located on Maui, whereas the other MAC members are on O'ahu, so her participation may be via conference call on certain meetings or discussions.

### **OTHERS:**

It is recognized that the entities above have typically been "regular players" in invasive species / pest management; these MAC members would discuss how to best integrate additional entities as appropriate into the Standing MAC group as important adjunct members. Suggestions include:

#### ❖ **Emergency Management / Civil Defense:**

*Comment:* As a result of the development of this PHERP and associated tabletop exercise, the role of Emergency Management / Civil Defense as a key player for certain responses has also been recognized.

- *Steven Yoshimura*, State Civil Defense, [syoshimura@scd.hawaii.gov](mailto:syoshimura@scd.hawaii.gov), 808-733-4300 x 576 (office) or 354-4263 (work cell)
- *Mel Kaku*, Director, Honolulu City/county Emergency Management, [mkaku@honolulu.gov](mailto:mkaku@honolulu.gov), 808-723-8951

#### ❖ **DOH, DOT, DBEDT, US Forest Service, and others:**

- These entities may have a functional role in the MAC group, to be determined by discussion with the named participants above.

#### ❖ **Industry**

- See Appendix C for a listing of a wide representation of industry members. In theory, one member from each area (landscaping, farming, coffee, shipping, etc.) could be integrated, for adjunct or other affiliate role to this MAC team.

### **Training:**

The members of the MAC will discuss and decide what minimum level of training they would like all the members to receive. Realistically, participants should become familiar with ICS, MAC,

and Area Command, and participate in a short MAC course and exercise, all of which can be scheduled at one time to ensure all participants are working with the same baseline knowledge. There are more in-depth MAC courses (I400 specifically), but members of the MAC can discuss what may be relevant to their group. The key is that members are functional and proficient in the area of coordination.

#### **NEXT STEPS:**

- ❖ Representatives from HDOA (Darcy Oishi and acting SPRO, Neil Reimer) and USDA-APHIS-PPQ (Dorothy Alontaga and acting SPHD, Stuart Stein) will have the responsibility for organizing the first MAC meeting, with a target date to have it happen by March 1, 2014. CGAPS (Christy Martin) has offered their assistance to these entities to assist with organizational logistics for this first meeting.

#### **Items to Consider at First Meeting:**

- Confirm who the appropriate team members would be for long term participation.
- Discuss roles and expectations.
- Confirm who will take on the role of MAC Coordinator and for what length of time.
- Create Operational Guidelines.
  - This MAC group will develop their own set of operational guidelines - including how often they meet, who facilitates, a standing process they follow in meetings etc.

#### **Items to Consider at Subsequent Meetings:**

- Discuss and evaluate whether a Standing IC Management Team, as discussed in Section 4, Step 3B, is appropriate.
  
- Consider whether there is a need for an Expert Advisory Team.

Comment: This would be a group that assists in ways that are outside the realm of both the Standing IC Team and MAC team, and would likely have different players for different ICS scenarios, based on the species. Examples of topics that have come up include:

  - Assisting the IC(s) to avoid making a plan that treads on others' jurisdiction.
  - Keep from making assumptions that are unrealistic or misguided (i.e., realistic timelines: false expectations that permissions can be granted quickly versus reality is 5-10 working days, EPA will not allow burning in the locations IC designates for destruction by burning, and so on).
  - Specialized knowledge: such as from quarantine officers, administrative personnel (procurement sources so purchases follow regulations), and other personnel who have experienced an emergency program and have expertise due to the experience and more extensive training.
  - *Example of Need of An Expert Advisory Team:*<sup>57</sup> During Hawai'i full-scale exercise using red imported fire ant (RIFA) as the selected scenario pest, a group of experts attended the IC's meetings to develop the overall plan to handle the RIFA incursion. The experts included city and county people who would advise on such matters as which jurisdiction RIFA activities fell under depending on location found (County, Sheriff's office, Coast Guard, etc.). Each expert would then be the contact or get the name and contact information so that the IC knew who would help if they ran into problems, expanded areas, etc. While the PHERP has a contact section (see Section 5D), in the formulation of what needs to get done, having advisors from multi-disciplinary entities that can fact/reality check the decisions that what is planned will work, or what needs to be done to make it work, is key.
  
- Look at possible environmental compliance issues ahead of time and have contacts/resolutions before a situation arises. (See section 3C on environmental compliance.)
  
- Establish an annual multi-agency training and exercise plan to include ICS aspects, and at the same time, do an annual review and update document. (also discussed in Section 6, Training and Exercises)

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<sup>57</sup> Carol Russell and Dorothy Alontaga, USDA-APHIS-PPQ, pers. comm., December 2013.

## ❖ SECTION 3: AUTHORITIES AND POLICIES RELATED TO EMERGENCY RESPONSE

### 3A. Overview of Authorities and Policies

*Purpose of this Section:* While Section 2B emphasized authorities for regulating at ports of entry to prevent entry of pest species, this section emphasizes the authorities and policies in place for responding to an emergency situation after a pest species has been detected.

#### 1. Overview

The State of Hawai'i has basic authorities relating to control and eradication management. This includes the ability to access lands for control, and to establish quarantine to prevent local transport of the pest to non-infested areas. In some cases, Federal authorities reinforce these state authorities.

#### 2. HDOA Authorities and Policies:

A. Accessing of Private Property: State authority to access private property for the purpose of pest control is limited to specified pest authorities and involves notification procedures prior to obtaining warrants and assistance from law enforcement authorities. The Statutes that define the authority of the HDOA Plant Pest Control Branch to access property for control/eradication efforts are found in the following sections of Chapter 141 in the Hawai'i Revised Statutes:

- sections 141-1 (survey, taxonomy, eradication and control, cooperative agreements, quarantine facility for biocontrol),
- 141-3 (designation of pests for control and eradication),
- 141-3.5 (control or eradication programs),
- 141-3.6 (right of entry to private property to control or eradicate pests).

*-See additional discussion of accessing private property in the FAQ Section 3B.*

B. Other pertinent laws are found in Chapter 150 (Seed Law) and Chapter 152 (Noxious Weed Law) in the Hawai'i Revised Statutes.

*-See additional discussion of the Noxious Weed Law and Rules in the FAQ Section 3B.*

C. Pertinent administrative rules are found in Chapters 4-67 (Seed Rules), 4-68 (Noxious Weed Rules), and 4-69A (Pests for Control or Eradication).

*-The latter rule includes an important list of insects, mites, vertebrates, and diseases officially designated as pests by the Hawai'i Board of Agriculture, enabling property access authority for pest control by court orders.*

**Web Address:**

**Rules for both Plant Pest Control and Plant Quarantine:**

<http://hdoa.hawaii.gov/admin-rules/>

**Hawai'i Revised Statutes (HRS) for both the HDOA Plant Quarantine Branch and Plant Pest Control Branch:**

[www.capitol.hawaii.gov/hrscurrent/Vol03\\_Ch0121-0200D](http://www.capitol.hawaii.gov/hrscurrent/Vol03_Ch0121-0200D)

#### 3. State Hawai'i Invasive Species Council (HISC) Authorities and Policies / HRS 194:

The HISC is said to be vested with authority by HRS 194 to delegate private property access for the control of invasive species. Such authority for property access would require "reasonable notice" (not defined in the statute) to the property owner.<sup>58</sup> However, to utilize

<sup>58</sup> Melissa Miyashiro, CGAPS Legal Intern, pers. comm., November 2013

this authority, a species must be recognized by the HISC as “invasive” (i.e., on an official “invasive species” list). This list does not exist yet but should within the next few years.<sup>59</sup>

#### **4. Other State Roles in Policies and Authorities: Civil Defense**

Civil Defense Act 76, passed by the 2011 Hawai'i State Legislature, provides for emergency management to go on private property to determine whether there is a hazard (such as dangerous trees or branches, or unstable boulders) and to mitigate it immediately (and even bill the property owner). It provides for obtainment of a warrant if entry is refused. This law may have some implications for addressing certain plant pests, but that remains to be determined.

#### **5. Federal USDA-APHIS-PPQ Authority:**

In addition to the Federal Quarantine authority at the border (Section 2B), USDA-APHIS-PPQ also has authority specifically for response situations.

- See the APHIS-PPQ Emergency Response Manual, Table of Contents, “Authority for Emergency Projects”, pp. 1-6 to 1-15, especially Declaration of Emergency and especially Declaration of Extraordinary Emergency on p. 1-9.  
[http://www.aphis.usda.gov/import\\_export/plants/manuals/emergency/downloads/epm.pdf](http://www.aphis.usda.gov/import_export/plants/manuals/emergency/downloads/epm.pdf)
- USDA-APHIS-PPQ, after an incursion of a federal quarantine pest is detected, can place a temporary hold on the sale of plants or commodities via a regulatory action (Emergency Action Notice or EAN). Such an action can assist HDOA briefly but meaningfully, but HDOA needs the ability to respond quickly with sustained longer term actions. EAN-type legal authority for HDOA, preferably sustainable, seems like an important legal provision for the State to pursue.

#### **6. Other Federal Roles in Policies and Authorities: FBI**

In order to fulfill the Department of Justice responsibilities under the Agricultural Bioterrorism Protection Act of 2002,<sup>60</sup> the Federal Bureau of Investigation (FBI) is responsible for conducting security risk assessments of individuals seeking access to listed agents and toxins and individuals or entities seeking to register under the Act. The FBI is also responsible for determining whether newly found organisms identified in the Act are intentional introductions, e.g. acts of bioterrorism.

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<sup>59</sup> Joshua Atwood, HISC Coordinator, pers. comm., August 2013

<sup>60</sup> [http://www.aphis.usda.gov/programs/aq\\_selectagent/](http://www.aphis.usda.gov/programs/aq_selectagent/)

### **3B. Frequently Asked Questions (FAQs) on Authorities and Policies**

#### **1. DOES APHIS HAVE AUTHORITY TO ENTER PRIVATE PROPERTY UNDER THE PLANT PROTECTION ACT OF 2000 OR OTHER REGULATION?**

USDA-APHIS-PPQ generally operates within the state's agricultural authorities to access private land (specifically addressed in the interagency Memorandum of Understanding between USDA-APHIS-PPQ and HDOA). However, the Plant Protection Act of 2000 does address warrants for entry to private lands in its Section 421: "The Secretary may enter, with a warrant, any premises in the United States for the purpose of conducting investigations or making inspections and seizures under this title."

And Section 415 of the Act provides for "Declaration of authority of extraordinary emergency and resulting authorities" which allows action by the Secretary of Agriculture without a warrant in certain circumstances, "after review and consultation with the Governor or other appropriate official of the State affected, [given] that the measures being taken by the State are inadequate to eradicate the plant pest or noxious weed."

**Web Address:**

**More information on Plant Protection Act:**  
[http://www.aphis.usda.gov/plant\\_health/plant\\_pest\\_info/weeds/downloads/PPAText.pdf](http://www.aphis.usda.gov/plant_health/plant_pest_info/weeds/downloads/PPAText.pdf)

*IN PRACTICE:* While substantial power MAY be available, USDA-APHIS normally operates under the state's agricultural authorities to access private land.

#### **2. WHAT IS THE PROCESS FOR HDOA TO ACCESS PRIVATE PROPERTY?**

Chapter 141, §§3-3.6, Hawai'i Revised Statutes (HRS), permits entry onto private property after (at least 5 days) notice for purposes of control or eradication of a designated pest, whether or not the landowner or occupier consents.

- Without landowner consent, a court order (from the district court for the circuit where the property is located) is necessary. The warrant may direct a police officer to assist HDOA in gaining entry to the property. An HDOA representative at the property is liable only for any acts beyond the scope of the person's authority.

Chapter 69A, Hawai'i Administrative Rules (HAR), establishes the procedure for the designation of pests for control or eradication.

- When the head of HDOA's Plant Industry Division has sufficient information to support a pest for the official designated pest list, this information is presented to the Board of Agriculture for consideration. The current (2008) list is published at the end of chapter 69A. (It includes 52 insects – including coconut rhinoceros beetle, coffee berry borer, little fire ant, and red imported fire ant; four mites -- including varroa mite but not red palm mite; eight "other pests" – including coqui frog; and 26 diseases – including coffee rust and lethal yellowing of coconuts.)

*IN PRACTICE:* Though ample authority may be achievable, HDOA is sensitive to negative response of private landowners and will rarely invoke authority for a court order to access private property, choosing to work only with consenting landowners unless a highly important eradication is being jeopardized. Darcy Oishi of HDOA-PPC (pers. comm., August 2013) explains: "In practice even New Zealand is loath to enter private property despite having much broader authority and a populace view point that is more knowledgeable and accepting of biosecurity and the necessity to take actions. The process for obtaining the court order is not as easy as it appears on paper."

#### **3. HOW LONG WOULD IT TAKE TO GET A HYPOTHETICAL NEW PEST APPROVED BY THE HAWAII BOARD OF AGRICULTURE (FOR PURPOSES TO INVOKE AUTHORITY TO ACCESS PROPERTY OR OTHER)?**

Hawai'i Revised Statutes (HRS) § 141-3(a) specifies that a pest must be designated by formal administrative rulemaking to trigger HDOA's authority to control and eradicate. A comprehensive change to the list would require a rule change in compliance with the Hawai'i Sunshine Law. This would involve public hearings on each island and final approval by the Board of Agriculture. It is hard



to give a timeline as it is quite variable and involves staff time, current priorities, expenses not in the budget, and numerous reviews by the Board and the Attorney General's office. The time it would take to designate a single pest that is not already listed under HAR Chapter 69A is a potential concern because it could considerably delay emergency eradication and control procedures.

*IN PRACTICE:* It is opined<sup>61</sup> that a pathway for expedited and temporary designation in an emergency may already exist within the HDOA statutory framework under HRS § 141-3(c). Although there may be an expedited process provided for in the statute, that procedure has not been tested in reality, and may not in fact be less burdensome or take less time than the standard procedure. In addition, the statute and procedure described are convoluted and vague. This is a potential area of concern and should be reviewed and analyzed further by legal experts. The matter is further complicated by the confusion regarding when and how HRS Chapter 150A and Chapter 141 intersect and/or overlap; recommendations for clarifying this confusion are also legal questions that require further review and analysis.

#### **4. CAN HDOA TRANSFER AUTHORITY TO ACCESS PRIVATE PROPERTY TO ANOTHER ENTITY?**

Chapter 141, §§3.6b HRS refers to authority of an “authorized agent.”

- “After notice as required by subsection (a), any member of the department or any agent authorized by the department may enter at reasonable times any private property other than dwelling places to maintain a pest control or eradication program, being liable only for damage caused by acts beyond the scope of the person's authority, or the person's negligence, gross negligence, or intentional misconduct. If entry is refused, the department member or agent may apply to the district court in the circuit in which the property is located for a warrant to enter on the premises to effectuate the purposes of this chapter. The district court may issue a warrant directing a police officer of the circuit to assist the department member or agent in gaining entry onto the premises during regular working hours or at other reasonable times.”

*IN PRACTICE:* Although allowed by statute to delegate authority to an “authorized agent”, HDOA has used in-house personnel to avoid any liability issues from authorizing someone else to enter with limited HDOA control over their actions. Although entering private property may seem straightforward, the reality is that judges are extremely reluctant to issue a warrant to enter private property for pests. HDOA has had success in the past only when it involved an eradication program by the department (or by APHIS-PPQ personnel, operating under an interagency Memorandum of Understanding) against a listed pest and only a few landowners were compromising the success of the eradication effort.

#### **5. WHAT ARE THE STATE NOXIOUS WEED AND RESTRICTED PLANT LISTS?**

Noxious Weed List: HRS §152 authorized rule-making by HDOA to establish criteria and procedures for designation of plants as noxious weeds for eradication and control. Rules (HAR, Title 4, Chapter 68) were made decades ago, establishing criteria for designation and procedures for initiating four forms of cooperative agreements (with landowners) for initiating noxious weed eradication or control projects. Rules specify that eradication projects must be limited to incipient infestations of noxious weeds on an island (or portion) designated as relatively free from that species. The list of noxious weeds for eradication and control appended to HAR Chapter 68 was last revised on June 18, 1992, when it contained 80 taxa, including three genera (*Melastoma*, *Miconia* and *Tibouchina*). As this last revision of the Hawai'i Noxious Weed Rules was over 21 years ago, a major update to the list (and to the legislation and rules) may be in order to be of more effective use in plant health emergency response.

Restricted List: HRS §150A-6.1 is a relatively recent statute that authorizes the Board/Department of Agriculture to maintain a list of restricted plants that require a permit for entry into the State. §150A-7 (b) provides that “It is a violation of [sections 150A-5 and 150A-6] to bring to or possess in the State any living creature that is prohibited or restricted, without a permit issued by the department.” Such

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<sup>61</sup> Melissa Miyashiro, legal fellow for CGAPS, Neil Reimer and Darcy Oishi, HDOA, pers. comm., December 2013

legislation appears to provide authority for a successful Plant Health Emergency Response for a seriously invasive plant on the restricted list. The department is asked to designate, by rule, as restricted plants, specific plants that may be detrimental or potentially harmful to agriculture, horticulture, the environment, or animal or public health, etc. The statute additionally states that plant species designated by rule as noxious weeds are automatically designated as restricted plants. It also gives authority for regulating or prohibiting the sale of specific plants on the list of restricted plants by rule. (As of 2013, no rules have been made for implementation of this statute, so in reality there is no list of restricted plants.)

*IN PRACTICE:* HDOA has in the past taken the position that 1) meaningful enforcement against an ever-lengthening restricted list for plants (requiring prevention of entry at the borders and regulating sale of restricted species) would add an unacceptable increase in workload for already overworked PQ inspectors, and 2) without effective enforcement, establishment of the rule would be counterproductive. The issue in relation to plant health emergency response is that if a known pest plant species is not on the restricted list, in theory there are no restrictions on importation, sales, or cultivation within the state. This situation makes mounting an eradication difficult – a situation that the ISCs face commonly. (They can remove plants from private property only with owner permission.) *Rauvolfia vomitoria* (see Case Study 4), a known pest which is still largely localized but spreading rapidly in Kohala of Hawaii island, is a potential candidate for a response under the PHERP.

## 6. HOW DOES FEDERAL NOXIOUS WEED LEGISLATION RELATE TO HAWAII?

Federal noxious weed legislation was promulgated in 1974. The law lists specific noxious weeds “to prevent their introduction into the United States or their dissemination within the United States”. It includes aquatic and wetland weed taxa (19), parasitic weeds (68), and terrestrial weeds (87). The designated weeds are mainly threats to agriculture, although weeds that threaten natural resources can be listed as well.

Web Address:

**REF: 7 CFR 360 Noxious Weed Regulations  
(includes list of taxa):**  
[http://cfr.regstoday.com/7cfr360.aspx#7\\_CFR\\_360p200](http://cfr.regstoday.com/7cfr360.aspx#7_CFR_360p200)

The 2010 revision included provisions for petitioning to add a taxon or remove a taxon from the noxious weed lists and the updated noxious weed list:

Web Address:

**2010 Revision of Noxious Weed List**  
[http://www.aphis.usda.gov/plant\\_health/plant\\_pest\\_info/weeds/downloads/7cfr360-11.pdf](http://www.aphis.usda.gov/plant_health/plant_pest_info/weeds/downloads/7cfr360-11.pdf)

Additionally, a new rule establishes a category of plants for planting which are “*Not Authorized Pending Pest Risk Assessment (NAPPRA)*”. This rule explains how to petition the USDA to place plants that are pests in a NAPPRA category (e.g., Is the plant known to occur in the United States, and if so is the plant under official control?). Potentially weedy plants were first added to the NAPPRA list in 2013

Web Address:

**“Not Authorized Pending Pest Risk Assessment (NAPPRA)” 2013**  
<http://www.regulations.gov/#!documentDetail:D=APHIS-2011-0072-0045>

*IN PRACTICE:* The list includes some species found in Hawaii that were widespread prior to 1974: *Melastoma malabathricum*, *Pennisetum clandestinum* (kikuyu grass), and *Prosopis pallida* (kiawe). Other species on the list have reached Hawaii since 1974 and have become highly problematic; most notably *Salvinia molesta*, *Senecio madagascariensis*, and *Solanum torvum*. *Arctotheca calendula*, a listed species, has naturalized from plantings on Maui within the past 5-10 years with little attention.<sup>62</sup> This legislation is undoubtedly potentially useful to protect Hawaii’s agriculture but arguably requires more attention from local authorities for surveillance and response to incursions. The CAPS program might profitably consider placing more emphasis on detecting new incursions of federal noxious weeds.

<sup>62</sup> Forest and Kim Starr, MISC, pers. comm. 2013.

### 3C. Environmental Compliance Issues

#### 1. Overview:

A critical element in an emergency response is environmental compliance with various laws and regulations; some of these could potentially impede a response or certainly add time to the ability to respond. Virtually all programs and emergency responses require documentation of compliance with environmental laws prior to the start of program activities. The primary concerns regard pesticide use (pesticides must meet state as well as federal regulations) and potential impacts on endangered species (potential impacts are scrutinized by both federal (U.S. Fish and Wildlife Service) and state (DLNR) agencies.

#### 2. Examples of Federal Acts and Policies that Are of Critical Importance to Pest Control Programs in Terms of Environmental Compliance Issues Include:

- National Environmental Policy Act (NEPA),
- Endangered Species Act (ESA),
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA),
- National Pollutant Discharge Elimination System (NPDES)
  - This is an additional Federal Act of interest that may affect response actions. It is a nationwide EPA permit program, dating back to 1972. The program applies to the application of pesticides in or near 'waters of the US' and requires a permit before pesticides may be used. In Hawai'i, the Health Department (Clean Water Branch) is the lead agency. DOH's rules have emergency provisions. Key points of NPDES in relation to the PHERP:
    - NPDES state general permit coverage is required when an agency or its partners will be applying a pesticide in or near a water of the US. There is no specified distance for 'near,' but, if through the application methods, pesticides will **directly** enter a waterway, then coverage is required. This is a federal EPA requirement that is enforced by DOH Clean Water Branch (CWB). General permit coverage can only be for four different use categories: mosquitos or other insect pests that spend part of their lifecycle in water; weeds and algae in water or water's edge; animal control in water or water's edge; and aerial forest canopy applications (aerial spraying of pesticide to suppress forest canopy pests in forests where streams are present). A rapid response could plausibly fall into any of these categories.
    - Filing for permit coverage can be expedited when a response to the pest is determined to be an emergency by the DOH CWB director. For a Declared Pest Emergency, filing the Notice of Intent (NOI) with CWB for pesticide discharge can occur after initial discharge as long as it is within 30 days. Details can be found in HAR 11-55 Appendix M: <http://health.hawaii.gov/cwb/files/2013/04/HAR1155.pdf>
- and other laws may apply depending on program locations and activities.

Web Address:

**USDA Emergency Response Manual**  
**For Summaries of the Above Federal Acts and Policies**  
**Regarding Environmental Compliance**  
[www.aphis.usda.gov/import\\_export/plants/manuals/emergency/downloads/epm.pdf](http://www.aphis.usda.gov/import_export/plants/manuals/emergency/downloads/epm.pdf)  
(The USDA Emergency Response Manual is also discussed in Section 2E of this PHERP)

#### 3. State Acts and Policies:

There are a variety of State rules and regulations in regard to environmental compliance, some well-known (such as State endangered species issues and pesticide restrictions), some agency-specific that may be applicable in a response (such as DLNR Land Division's conservation use rules with limits on clearing of forests that could impede a response). In addition, there are concerns to be aware of in terms of Department of Health and others. This plan is not intended to list all such rules and regulations, but rather simply to draw attention that adherence to such is essential in a plant health response.

#### 4. Pesticide Use:

The HDOA Pesticides Branch regulates the distribution and use of pesticides in Hawai'i to ensure user compliance with EPA and State regulations. In a plant health emergency response, the HDOA Pesticides Branch would normally work with the necessary state (primarily Department of Health) and federal authorities (primarily the Environmental Protection Agency) to find and be able to use treatments in Hawai'i. HDOA has considerable experience in navigating environmental compliance issues, and has generally been successful in receiving exemptions from most highly restrictive Hawai'i Department of Health requirements in emergency situations. Explanation of the emergency exemptions for restricted pesticides is at: <http://www.epa.gov/opprd001/section18/>

#### 5. How to Address the Full Range of State and Federal Requirements:

*Options to consider ensuring that environmental compliance issues will be met and actions documented:*

- **Within the IC structure, a regulatory position/ branch/team (under the Operations Section) could be created to address environmental compliance and other issues. This has been done in the past.<sup>63</sup>**

*-This could either be a standing position / team or on a per-incident basis,*

*-As a single position:* -this would likely be representative from HDOA Pesticides Branch.

*-As a team/ branch:* -this ideally would be a multi-agency effort and include representatives from HDOA Pesticides Branch, as well as Pesticide Registration (Christina Bauske) and Enforcement (Glenn Sahara or island staff ) personnel as well as USDA and DLNR and would consult USFWS and HDOH as needed.<sup>64</sup>

*-As part of this team, USFWS and DLNR can advise on navigating federal and state Endangered Species issues if there are any. While DLNR doesn't have an in-house environmental compliance position, they do have different staff members who are familiar with different regulations such as endangered species, injurious wildlife, and conservation use rules. HDOH would be involved for the human health and related environmental regulations.*

*AND / OR*

- **Make use of the proposed larger Multi-Agency Coordination Group (MAC) (described in section 2I).** This larger overarching group is specifically meant to assist with "big picture" challenges such as funding, environmental compliance, regulatory issues (e.g. need for interim rule), etc. The group could look at possible environmental compliance issues ahead of time and have contacts/resolutions before a situation arises. The MAC would then interact either directly with the IC, or with the designated Liaison Officer who would serve as a liaison between the IC and the MAC.

#### 6. Examples:

Potential models of environmental compliance in relation to eradications may include:

- USDA-APHIS. 2011. Coconut Rhinoceros Beetle Eradication Program on Guam, Environmental Assessment.<sup>65</sup>
- USDA-APHIS. 2013. Asian Longhorned Beetle Cooperative Eradication Program in Clermont County, Ohio. Revised Environmental Assessment.<sup>66</sup>

**The bottom line is that attention to environmental compliance must be taken into consideration early, whether by a MAC group, an individual position or team within the IC structure, or other method, to help facilitate efficient actions to ensure such compliance.**

<sup>63</sup> Darcy Oishi, HDOA, pers. comm., 2013

<sup>64</sup> See footnote 63

<sup>65</sup> <http://quaminsects.net/anr/sites/default/files/Coconut%20Rhinoceros%20Beetle%20EA%20expanded%20program%20Guam%20December%20final%202011.pdf>

<sup>66</sup> [http://www.aphis.usda.gov/plant\\_health/ea/downloads/2013/OHClermontCountyRevised\\_EA\\_May\\_final.pdf](http://www.aphis.usda.gov/plant_health/ea/downloads/2013/OHClermontCountyRevised_EA_May_final.pdf)

## ❖ SECTION 4: OPERATIONS: STANDARD OPERATING GUIDELINES

### 4A. Steps in a Collaborative Response: Overview:

#### **About the Standard Operating Guidelines:**

It is recognized that each pest situation is different, and these are meant to be guidelines for a response. The focus is on a Collaborative Category of Response (CoR) Type 3 or less, in which HDOA, USDA-APHIS-PPQ and additional partners are involved. If a situation warrants elevation to a Governor Declared Emergency, and/or CoR Type 4 Response, Civil Defense / Emergency Management will have a more significant role and in some cases steps enacted will supersede what is described here.

- Step 1: Discovery and Reporting**
- Step 2: Identification and Confirmation**
- Step 3: Establish Incident Command and Lines of Communication**
- Step 4. Surveys and Preliminary Assessment**
- Step 5. Initial Response**
- Step 6. Education and Outreach during a Response**
- Step 7. Containment and Control**
- Step 8. Recovery**

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#### **Re-statement of the Focus and Primal Goal of This Plan:**

##### *Focus:*

To document who (which agencies and entities) may be able to help, how to best orchestrate that help, and how to most fully achieve effective response when HDOA and / or USDA determine that they could use additional assistance and participation to effectively deal with a new plant pest, and to provide clarity and transparency regarding response procedures for all those who may be involved in an emergency response.

##### *Primary Goal:*

To strengthen statewide capabilities for a successful coordinated rapid response to incipient invasions in either an agriculture or natural resources context.

## **STEP 1: DISCOVERY AND REPORTING GUIDELINES**

Lead Entity: HDOA

Key Support Entities: APHIS-PPQ, CTAHR, DOFAW, ISCs, Watershed Partnerships

Additional Contributors: Bishop Museum, HEDN, PCSU, Industry, USFS, USFWS, Botanical Gardens, County Parks, HI Ant Lab, Military, NPS, TNC, UH

### **A. Key Points in the Discovery and Proper Reporting Steps Include:**

1. Someone finds the pest, AND notifies HDOA directly or indirectly
  - For public reporting, this means that the PEST hotline (see Section 2C) needs to be functioning correctly, and upon HDOA's receipt of the information, it gets forwarded to the appropriate person.
  - For collaborator agency or entity reporting (DLNR, ISC, CTAHR, Bishop Museum, etc.), it is important to quickly report the information direct to an HDOA contact.
2. Ideally, a specimen is provided; if not, specimen(s) will be collected as the next step of identification.

### **B. Reporting by the Public:**

There are 4 key methods in place for reporting by the public, as discussed in Section 2C:

1. by telephone at 643-PEST or local HDOA office.
2. online at HEDN's "Report a Pest"
3. in person at an HDOA PPC or PQ office on the island where the pest is found, for assistance in getting a report/specimen into the system.
  - *Big Island:* 974-4146 (Hilo, PQ ), 974-4141 (Hilo, PPC), 326-1077 (Kona airport, PQ)
  - *Kaua'i:* 274-3071(Lihue PQ/PPC)
  - *Maui County* 872-3949 (Mua Street); 872-3848 (Kahului airport)
  - *O'ahu:* 837-8413 (Honolulu International Airport), 837-8092 (After Hours / Emergency)
4. reporting to CTAHR or the ISCs

The critical component is that information from all initial sources/recipients of the sample, including the tentative (suspected) determination, flows quickly to the HDOA, AND that once HDOA receives the information it is filtered to the appropriate sources.

### **C. Reporting by Collaborators:**

It is recognized that collaborators are likely to contact one of the HDOA representatives direct (as opposed to calling the 643-PEST or using the Report a Pest online method). Per discussions in the development of this plan, it has been agreed on that reports by collaborators can be directed to:

- *Darcy Oishi*, Acting Plant Quarantine Branch Manager, [Darcy.E.Oishi@hawaii.gov](mailto:Darcy.E.Oishi@hawaii.gov) (808) 832-0566, OR
- *Bernarr Kumashiro*, Insect Taxonomist, HDOA Plant Pest Control Branch, [Bernarr.R.Kumashiro@hawaii.gov](mailto:Bernarr.R.Kumashiro@hawaii.gov) (808) 973-9534, OR
- *Neil Reimer*, Acting Administrator , Plant Industry Division, Hawai'i Department of Agriculture (HDOA); [Neil.J.Reimer@hawaii.gov](mailto:Neil.J.Reimer@hawaii.gov), (808) 973-9535, OR
- *Island specific HDOA representatives / liaison that they have already have working relationships with* (example: Mach Fukada on Maui, etc.)

### **D. Special Case of CTAHR in Reporting:**

CTAHR is extremely important as a player in reporting potential pests to HDOA. CTAHR faculty and staff are often involved with CAPS Survey components or otherwise may

encounter a possible NKTO (not known to occur) organism in the field; also CTAHR-CES extension agents are often brought specimens by farmers that may turn out to be something new. CTAHR also runs plant diagnostic clinics which may receive specimens of new plant pests.

Comment: In the past, there has been concern that important discoveries may be lost at some stage in the process, or at least that HDOA did not get the report promptly. In an effort to ensure that specimens from CTAHR personnel are promptly processed, identified and provided securely to HDOA, as well as to better communicate with USDA-APHIS-PPQ, NPDN, and CTAHR administrators, CTAHR has recently developed an extensive in-house “Plant Pest Notification Protocol”, which is reported to have greatly improved the situation.<sup>67</sup> The hiring of an Agricultural Security Specialist (currently in process as of December 2013) should further ensure that proper communication exists between the University and HDOA.

**Discovery and Reporting in Summary:**

**The key is that information from all initial reports flows quickly to the HDOA, regardless of where the species is found and located (i.e., via the public, DLNR, FWS, Watershed or TNC or private lands), and that upon reporting, there is a working system in place at HDOA for the information to go to the correct person.**

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<sup>67</sup> Michael Melzer and Barry Brennen, CTAHR, pers. comm. 2013.

## STEP 2: IDENTIFICATION AND CONFIRMATION GUIDELINES

Lead Entities: HDOA, APHIS-PPQ

Key Support Entities: CTAHR, Bishop Museum

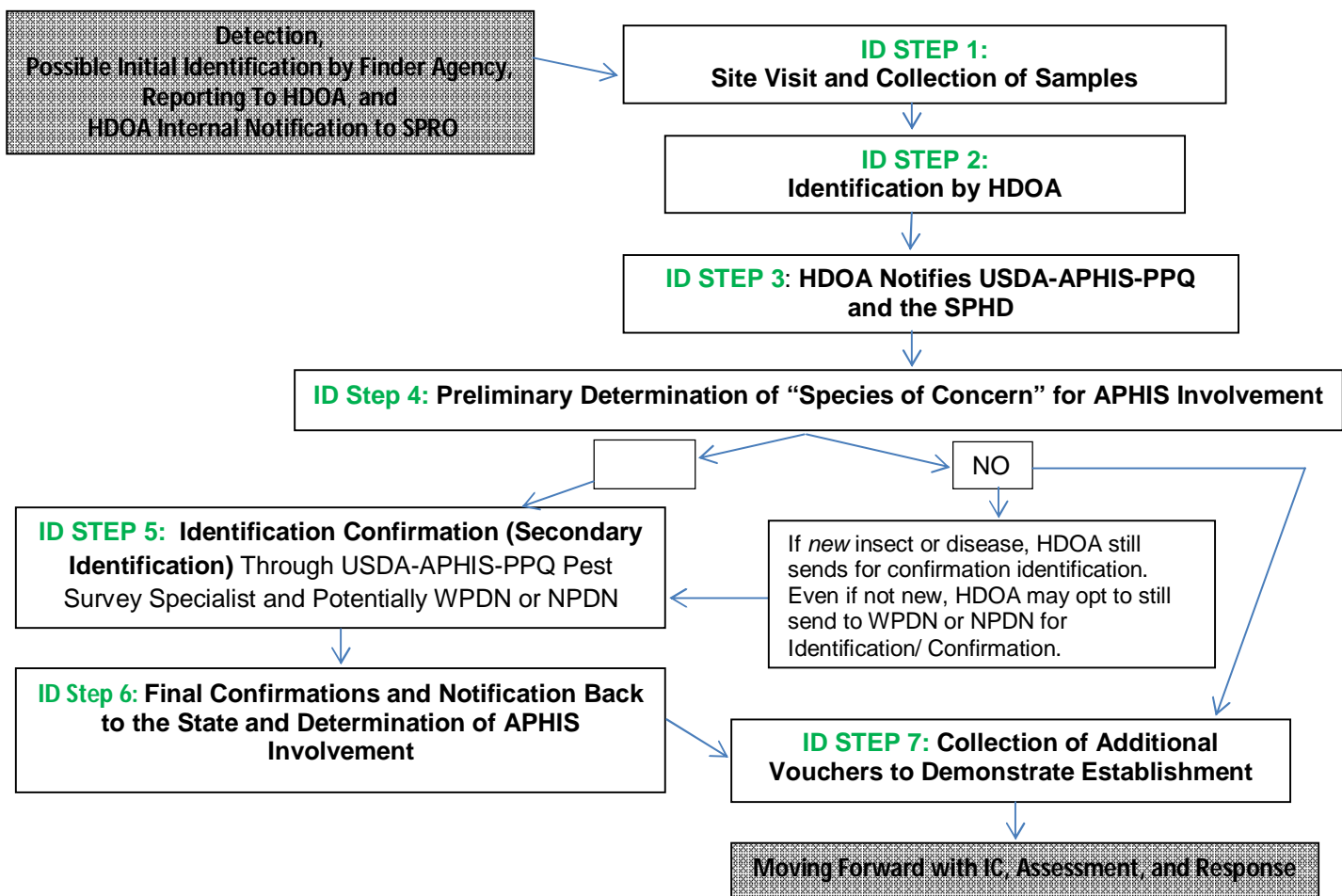
Additional Contributors: USFS, HI Ant Lab, Plant Boards, UH, PCSU, WRA

*The Purpose of this Section:* is to document the identification protocols that are already in place; not so much as a checklist for HDOA and USDA-APHIS-PPQ, but more so for other collaborators, to increase transparency regarding the detail and order of steps that must be followed for new pest identification. This section also outlines not only WHAT protocols need to be followed, but also details WHY such protocols are important to the regulating agencies of HDOA and USDA-APHIS-PPQ, and why it is a process that should be adhered to.

### A. Overview:

Prompt detection and accurate identification of a pest for potential emergency response is extremely important.<sup>68</sup> Hawai'i generally has a good record of prompt and accurate identification of new pest species. Recent history of the discovery and identification of new pests in Hawai'i is indicated by accounts in Appendix G, "Identification in Action: Summary of HDOA's New Pest Advisories"<sup>69</sup>

### B. Summary of Protocols/ Steps in Identification:



<sup>68</sup> APHIS-PPQ. 2010. Emergency Response Manual. Overview, pp. 2-1 to 2-19.

<sup>69</sup> HDOA New Pest Advisories can be found on the web at <http://hdoa.Hawaii.gov/pi/ppc/new-pest-advisories>



### Key Points in Identification and Confirmation Guidelines:

1. Information from all initial sources/recipients of the sample, including the suspected determination, flows quickly to HDOA.
2. HDOA will then contact USDA-APHIS-PPQ and / or Western Plant Diagnostic Network (WPDN) or National Plant Diagnostic Network (NPDN).  
-HDOA works very closely with the local USDA-APHIS-PPQ Pest Survey Specialist for identification and other matters. If the information doesn't get to HDOA, the species does not get into the system and is not going to trigger this collaborative response plan.
3. If official identification is required by USDA-APHIS-PPQ, a sample will be obtained per APHIS protocol and identified.  
-The determination, confirming or negating any tentative initial determination, will be communicated through APHIS channels back to both the PPQ Hawai'i State Plant Health Director (SPHD) and the HDOA State Plant Regulatory Official (SPRO).

### C. Frequently Asked Questions (FAQ) on Identification:

1. *Does It Matter Who Does the Identification?:*  
-Yes. A pest of "federal concern" found in Hawai'i must be verified by a state or federal official through chain of custody<sup>70</sup> (paper trail), including identification by an expert associated with a registered diagnostic laboratory,<sup>71</sup> chosen by USDA-APHIS.  
Example: If an official ID is required by APHIS, the "definitive ID" must come from the entity selected by APHIS, not some other authoritative source (e.g., the Bishop Museum).  
Comment: Certain pests can trigger trade reactions, so false or inaccurate information must be kept to a minimum, which protects the state against negative impact for a pest initially misidentified and not even present. Also, once a pest gets written up somewhere, it attains life on the internet which never seems to disappear and can be picked up on internet crawlers that report it, reinforcing the untrue information. It's hard to retract, so accuracy is important as early as possible.
2. *Does HDOA Have the Ability to Act without a Definitive Identification if the Pest is Causing Damage (and in the case of private land, if landowners are cooperative and willing to have their crop or plants destroyed)?*  
-Yes. HDOA can begin actions as long as people are agreeable to said actions. If it's something that they (or the collaborators they engage) have enough expertise to ID (for example, Coconut Rhinoceros Beetle) they can launch a full-scale response, though it would be initially limited to the State (in the generic sense because it could include partners). USDA would then need to confirm the ID via their protocols outlined in this section to bring resources in.

### D. Specifics and Details on the Identification Protocols and Steps

#### ✓ ID STEP 1: Site Visit and Collection of Sample

Specifics on How To Collect Sample: Each taxonomic group has its own specifics associated with it as far as methodology and preservation of good specimens<sup>72</sup> (e.g., alcohol is a good preservative for most insects but certain moths degrade in alcohol.) Appropriate metadata are also essential including: collector, date collected, location of find, method of collection, host, and description of the general environment. The best option for a specimen is to get advice from a contact at HDOA prior to sending.

#### ✓ ID STEP 2: Initial Identification by or for HDOA

In-House Identification by HDOA: HDOA works closely with their own entomologists and plant pathologists and taxonomists for its quarantine and survey activities. Key personnel at the state level

<sup>70</sup> Dorothy Alontaga, pers. comm. (2013)

<sup>71</sup> Darcy Oishi, HDOA, pers. comm. (2013)

<sup>72</sup> Input from HDOA Insect Taxonomist Bernarr Kumashiro, pers. comm., 2013.

are the Insect Taxonomist (Bernarr Kumashiro) or the Pathologist (Mann Ko). HDOA tries to identify anything new that is discovered; urgency is dictated by impacts. They also have working relationships with contacts at the California Department of Food and Agriculture (CDFA),<sup>73</sup> local experts at Bishop Museum, University of Hawai'i/CTAHR, and national and international experts.

If it is a species new to science: HDOA has to go through the process of finding a subject matter expert and ensuring the ID can be "validated" into the system.

Identification by Other Taxonomic Experts: It is recognized that some entities within the State (e.g., Bishop Museum, CTAHR, DLNR etc.) have taxonomic experts in house and may work with the same specialists that HDOA or APHIS does. While initial identification of plant pests may be pursued by the agency/group who finds the pest, using their own network of taxonomists and through any applicable protocols for their organization, it is important to report to HDOA early in this process in case the pest turns out to be a potential "pest of federal concern" and final identification must be made by an APHIS approved diagnostician.

Role of CTAHR in Identification: CTAHR is extremely important not only in reporting (as noted in Step 1) but also in identification. Specimens that come into the CTAHR system are routed through their Agricultural Diagnostic Service Center (ADSC), an institution that provides insect identification, disease diagnosis, and nematode counts; soil, plant, water, and feed analysis; and sales of seeds of vegetable and papaya cultivars developed by the college – a valuable resource available to industry and the public as well as a means of accomplishing important identifications of new pests. There is a CTAHR diagnostic lab in both Honolulu and Hilo, and they have an extensive pool of in-house identification expertise. CTAHR has its own reporting protocol to connect local and national resources. CTAHR's "Plant Pest Notification Protocol" is designed to assure that specimens from all initial source/recipients receive prompt attention from identifiers and the information and sample(s) flow quickly to HDOA. Contact: Raymond Uchida, 808-956-6706, [adsc@ctahr.hawaii.edu](mailto:adsc@ctahr.hawaii.edu)

### ✓ ID STEP 3: Notification to USDA-APHIS-PPQ and the SPHD Notified

Comment: Regular communication channels are already in place and HDOA and APHIS-PPQ are well-versed in each other's' procedures. HDOA reports new state and county records to APHIS on a timely basis through their regular in-house protocols and communications. HDOA is required by existing cooperative agreements to input new state or county records into one of two database systems, NAPIS or IPHIS, within 48 hours of a confirmed identification.

### ✓ ID STEP 4: Preliminary Determination of "Species of Concern" for APHIS Involvement: USDA-APHIS-PPQ asks "Is this a Species of Concern for APHIS?"

In most cases, HDOA's preliminary IDs are a good indication of whether this is likely to be an actionable pest. If the answer is:

**If YES:** If USDA-APHIS-PPQ determines that an official identification is required, they will use their *chain of custody*" protocol for sending it to their own specialist, often within USDA, though often they will consult with national and international specialists, especially in some instances where a species new to science may be involved.

Comment: Within USDA, the National Identification Services (NIS) coordinates the identification of plant pests in support of USDA's regulatory programs. NIS collaborates with scientists who specialize in various plant pest groups, including weeds, insects, mites, snails and plant diseases. These scientists are stationed at a variety of institutions around the country, including federal research laboratories, plant inspection stations, land-grant universities, and natural history museums.<sup>74</sup> Detailed information, including forms etc. for identification of new pest finds for the

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<sup>73</sup> Finds by CDFA from Hawai'i: Occasionally, California Department of Food and Agriculture (CDFA) finds a pest that is not known to occur in Hawai'i or the United States when the CA counties turn in interceptions found on Hawai'i commodities. There is also a CDFA entomologist who visits Hawai'i and sends new to Hawai'i and new to nation finds directly to the USDA ARS Systematic Entomology Laboratory (SEL) (D. Alontaga – USDA-APHIS and N. Reimer - HDOA, pers. comm., 2013). A remarkable instance of this involved the two-spotted leafhopper (*Sophonia rufofascia*), a pest from China, about 1988 (CDFA, California Plant Pest & Disease Report, Vol. 15 (1-2), January-May 1996, pp. 4-5).

<sup>74</sup> [http://www.aphis.usda.gov/plant\\_health/identification/index.shtml](http://www.aphis.usda.gov/plant_health/identification/index.shtml)

USDA-APHIS-PPQ is explained in the PPQ Emergency Response Manual and the APHIS Emergency Management Framework (See Section 2E) also explains the response guidelines within APHIS for new pests including a link to existing ones.

Additional Note for Pests of First U.S. Detection: Once the first U.S. detection is made for a new pest requiring a response by PPQ and States, subsequent new detections of what may or may not be the same species may require further confirmation by a PPQ–NIS recognized authority. Nationally known experts for particular taxa must confirm pest identifications before emergency actions are declared.

**If NO:** If a pest is not a significant quarantine pest to USDA-APHIS-PPQ, or not needing official ID, the HDOA still normally would determine if the preliminary ID done through the finder or other entities (Bishop, CTAHR, ISC etc.) is valid using their network of taxonomists [which likely already occurred in step 1].

Comment: HDOA's network, through necessity, bears some resemblance to APHIS' national network, largely due to the issue that Hawai'i receives about as many new non-native species establishing each year as establish in the rest of the U.S. combined; therefore a large number of taxonomists, including those on the mainland, are regularly consulted.

For Pests New (to Hawai'i) Insect or Plant Disease: If a species falls into this category, even if not needing USDA-APHIS-PPQ official ID, any *new* insect or plant disease is sent by HDOA to USDA for a confirming identification and appropriate vouchering regardless of whether action is taken.

✓ **ID STEP 5: Identification Confirmation (Secondary Identification) through USDA-APHIS-PPQ Pest Survey Specialist and Potentially WPDN or NPDN.**

Comment: The WPDN includes the University of Hawai'i/CTAHR, and creates reports that the SPHD and SPRO keep tabs on and is designed for high priority pests. Varroa mite, coffee berry borer, and others were routed through WPDN. Bernarr Kumashiro of HDOA is a participant in the (WPDN/NPDN). Certain key pests are routed through the WPDN or NPDN and this automatically triggers a response cascade which kicks into full gear when a diagnosis is made. Pests are typically routed through the networks when Hawai'i does not have the ability to render an ID or the pest is known to be of significance (e.g. RIFA).

Specifics on Process of HDOA Sending to USDA-APHIS-PPQ: HDOA (typically insect taxonomist Bernarr Kumashiro) will contact / alert APHIS, PPQ Pest Survey Specialist (Lisa Ishibashi, 808-838-2789, [yolisa.c.ishibashi@aphis.usda.gov](mailto:yolisa.c.ishibashi@aphis.usda.gov)) in the APHIS-PPQ Hawai'i State Plant Health Director's (SPHD's) office. She assists with sending the needed information and samples through proper protocols, and APHIS responds whether an official identification is required. It takes a few days to get it all done, but significant response planning can be happening simultaneously.

✓ **ID STEP 6: Final Confirmations and Notification Back to the State and Determination of APHIS Involvement**

Specifics: All final confirmations/determinations received from PPQ recognized authorities, positive or negative, are communicated through APHIS channels. PPQ–NIS reports to the PPQ Emergency and Domestic Programs (PPQ–EDP) staff in PPQ headquarters. PPQ–EDP then notifies the appropriate PPQ program managers and the Hawai'i State Plant Health Director (SPHD-Vernon Harrington) and the HDOA State Plant Regulatory Officer (SPRO-Neil Reimer) simultaneously.

Determination of APHIS involvement: Once identification is definitive through USDA-APHIS channels, APHIS sends a series of questions which then promulgates the type and level of involvement APHIS has in a response.

✓ **ID STEP 7. Collection of Additional Voucher Samples to Demonstrate Establishment.**

Comment: This can be done simultaneously during the identification process. In addition to positive identification of the pest, the ESTABLISHMENT of a pest must also be noted. Criteria for determining establishment are determined by the biology of the organism. In general, extent of distribution, multiple life stages, and presence on a variety of hosts are determinants of establishment (and also likelihood of successful control programs). Collecting multiple vouchers allows for a more accurate assessment of different life stages, which would help determine establishment of the pest.

#### ✓ID STEP 8. Collected Specimens to Be Ultimately Deposited at Bishop Museum.

Comment: The Bishop Museum is the official State Repository for collections of plants and animals. The museum is essentially obligated by State Law (legislated back in 1926) to preserve the collections of specimens within the State, and vouchers of all collected specimens (except those from National Parks) are to be deposited here.

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### **Example of the Identification Process in Action: Lobate Lac Scale 2012:**

-Recent documentation for a major pest, Lobate Lac Scale, illustrates the identification process-  
(based on an account by Kumashiro 2012).<sup>75</sup>

#### **Discovery and Initial Identification:**

October 12, 2012: An arborist from a tree service company brought samples of *Ficus benjamina* stems heavily covered by sooty mold to the HDOA's Taxonomy Lab on King Street in Honolulu.

#### **Collection of Sample:**

The sample was obtained from Moanalua Gardens, located in the Honolulu district, a few miles from the airport. HDOA Insect Taxonomist Bemarr Kumashiro and Walter Nagamine examined the samples, searched the literature, and strongly suspected that the pest was the lobate lac scale, *Paratachardina pseudolobata* Kondo and Gullan (Coccoidea: Kerriidae), a new state record. On that same afternoon, HDOA staff went to Moanalua Gardens and collected additional voucher samples from *F. microcarpa*, *F. benjamina*, *F. religiosa*, hibiscus, and mango. The vouchers showed that there were multiple life stages on multiple hosts, strongly confirming establishment of the pest.

#### **HDOA Alerts USDA-APHIS-PPQ and Goes through Identification Confirmation:**

On October 15, the acting State Plant Regulatory Official (SPRO), asked Kumashiro to process the sample through the National Plant Diagnostic Network (NPDN) protocol which involves rapid identification and notification to proper authorities. Kumashiro called the APHIS-PPQ Hawai'i State Plant Health Director's (SPHD) office in Honolulu and the Western Plant Diagnostic Lab at UC-Davis and notified the USDA-ARS Systematic Entomology Lab in Beltsville, MD, that samples for urgent identification would be coming. Because it takes time for mounted slides to dry, alcohol specimens were sent instead.

#### **Final Confirmations and Notification back to the State**

On October 19, SPRO N. Reimer received notification from USDA-APHIS-PPQ Emergency Domestic Programs that official ID at the Systematic Entomology Lab had confirmed as the Lobate Lac Scale (LLC), *Paratachardina pseudolobata*, previously known from the US only in Florida.

*Time from discovery to Identification Confirmation with USDA-APHIS-PPQ: 7 days*

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<sup>75</sup> Kumashiro, B.R. 2012. Lobate lac scale. <http://lifectahr.blogspot.com/2012/11/lobate-lac-scale.html>

### STEP 3. ESTABLISHMENT OF INCIDENT COMMAND AND LINES OF COMMUNICATION GUIDELINES

Lead Entities: HDOA, APHIS-PPQ

Key Support Entities: CGAPS, DOFAW, HISC, ISCs,

Additional Support (for Lines of Communications): CTAHR, Watershed Partnerships, HEDN, PCSU, Industry, SEB and FAC

**\*All lead and key support entities to this plan have agreed that ICS will be used in a collaborative response to plant health emergencies.\***

-The Incident Command System (ICS) is explained in brief in Section 2D, and in more detail in Appendix I. In brief, it is a structured management tool for command, control, and coordination of resources and personnel at emergency scenes. It uses a standard organizational structure along with common procedures and terminology that enables participating agencies and organizations to function together effectively and efficiently.

#### A. Instigate Initial Formal Contact and Consultation between the SPRO at HDOA and the and SPHD at USDA-APHIS-PPQ)

#### B. Establish Incident Command and Incident Management Team

Comment: An ICS will be established (normally by HDOA) to provide an effective and uniform response to plant health emergencies and will integrate Federal and State personnel to provide guidance, information and communication to other agencies, entities, agriculture community, and the public. The Incident Commander (IC) assumes leadership for emergency program response and management.

• *The IC will*

- ✓ Organize emergency project structure
- ✓ Establish priorities and direct activities
- ✓ Supervise response personnel
- ✓ Organize and authorize the response plan
- ✓ Ensure safety standards are met
- ✓ Ensure environmental compliance is met through direct authority or through the establishment of a team as detailed in Section 3C, "Environmental Compliance"

✓ **For a full list of IC duties, see the APHIS Emergency Response Manual:**  
(the manual is discussed on Section 2E of this PHERP)

page 5-1 at [http://www.aphis.usda.gov/import\\_export/plants/manuals/emergency/downloads/epm.pdf](http://www.aphis.usda.gov/import_export/plants/manuals/emergency/downloads/epm.pdf)

• *The IC can be the single Incident Commander for HDOA or with unified command*

Comment: HDOA will often be leading the emergency response operation alone or conceivably at times with USDA-APHIS-PPQ or another sister agency such as DLNR-DOFAW. While USDA-APHIS-PPQ may not be able to take regulatory actions for some pests, they may be able to assist in other ways (e.g., providing response manuals, expertise, personnel to help).

- *As the response begins, the IC can act with minimal staff for initiating the all-important delimiting survey phase (addressed in Step 4). If an ICS gets started and identification is still in flux, continued identification efforts fall under the Planning Chief.*
- *Filling of spots on the Incident Management Team will be led by the IC / HDOA and based on the needs and specifics of the situation.*

- **Standing Incident Management Team?**

Comment: The concept of a ‘Standing Incident Management Team’ (IM Team) was discussed at the Tabletop associated with this plan as a worthwhile concept with the idea that a pre-identified standing IM Team of readily available individuals may enable a more rapid response. This is a concept that has been agreed for discussion in the future (perhaps in future MAC or CGAPS meetings). The Standing IM Team is also noted in Section 8B, “Considerations for Future”.

**C. IC designates a Liaison Officer (LO) to Handle Communications Between Parties That are Directly Involved or Affected by the ICS.**

Comment: The Liaison Officer will help ensure that all parties involved are aware of each other’s actions, and that no entity “gets in front of an issue” when it may be another department’s authority, or that one party is not “caught off guard” by information release by another. If no Liaison Officer is appointed, the IC assumes that role.

**D. Evaluate Whether There is a Need to Convoke the Standing Multi-Agency Coordination (MAC) Group**

Comment: During development of this plan, it became clear that there are many individuals available who are willing to assist the IC (either direct or through the Liaison Officer in C above) in the “big picture” planning and problem solving aspects. The MAC group (as detailed in Section 2I) could be called in at this step to assist with challenges such as funding, environmental compliance, regulatory issues (e.g. need for interim rule), etc., as well as add transparency to the operations that HDOA and/or USDA are leading.

**E. Establish Public Information Officer (PIO)**

Comment: The PIO can either be within HDOA or in conjunction with another entity (for example-CGAPS), to set the basis for an overall communication policy during the regulatory response. If not the HDOA PIO, this position is responsible for working with the other entity PIO’s (see Step 7: Education Guidelines A) and has the authority to speak for the response.

Note: Even in the preliminary phases of a response, or within a small response this PIO should be established, even if it is the IC acting as such. In past exercises one of the issues raised was a need for an overall communication policy during a regulatory response.

**F. Preliminary Notifications to Entities**

Preliminary notifications should be given to appropriate supporting entities so that they are aware of the situation and that their assistance may be requested at some point. This can be done by either the LO or PIO, at the discretion of the IC.

**G. Assess CoR Type:**

HDOA (possibly in conjunction with USDA and the MAC group) along with the IC Team (including the LO and PIO) to meet, discuss, and make preliminary assessment of Category of Response (CoR) Type

Comment: Collaborative CoR Types are introduced in Section 2G. Essentially this step considers whether the response, at least at this phase, will be HDOA alone, or HDOA and USDA-APHIS-PPQ without additional collaborator assistance, or if wider collaboration will be needed for an effective response. The decision of initial CoR Type may change based in part on the results of the delimiting surveys in next steps (Step 4).

CoR Type Summary:

Type 1: HDOA Involvement

Type 2: HDOA + USDA Involvement

Type 3: HDOA + USDA + Natural Resources and Agriculture Entities, including Industry

Type 4: HDOA + USDA + Natural Resources and Agriculture Entities + Industry + Emergency Management

#### **H. Request Assistance:**

If it is a CoR Type 3 or above, the IC team (the people directly under the commander, which includes the liaison officer and the PIO) will meet, discuss who to engage, and the LO will make the necessary contacts to request assistance from collaborators. This will largely be dependent on island and geographic location, as well as experience / expertise and what training personnel have.

For contacts, use:

- *Section 5C of this plan:* “Matrix of Potential Roles” for a quick snapshot of potential entities available to help with the different aspects.
- *Section 5D of this plan:* “Summary Table of Potential Resources and Key Contacts” for actual contacts and specifics on resources that may be available.
- *Appendix B, “Description of Key Entities...”* for additional background information on the various entities available.

#### **I. Courtesy Notification / Preliminary Notification**

The PIO to extend out a “courtesy” / preliminary notification to additional parties not called on earlier (including State Civil Defense / Mayors’ Offices / Governor’s office if appropriate, as well as other parties in Table 1) to ensure keeping them abreast of the situation. This may or may not be in conjunction with a JIC (Joint Information Center), as discussed in Step 6, third bullet.



## STEP 4: SURVEYS AND PRELIMINARY ASSESSMENT GUIDELINES

Lead Entity: HDOA

Key Support Entities: APHIS-PPQ, DOFAW, ISCs, HISC, CGAPS,

Additional Support: CTAHR, Watershed Partnerships, USFS, USFWS, Bishop Museum, HI Ant Lab, Military, NPS, PCSU, PBARC, Plant Boards, TNC, Weed Risk Assessment, County Parks, Industry

### A. Special Circumstances: Military Lands or Intentional / Malicious Introductions:

*-If thought to be an intentional introduction:* see additional information on who to contact in Section 5F; *-If on military land,* see additional information in Section 5E, and then continue with the remaining guidelines in this section.

### B. Gather Information on Pest Biology and Control Methods / Creation of Scientific Advisory Committee:

Gather information on the pest from pertinent literature, local observations, as well as input from the scientific and management community. A key element would be creating a scientific advisory committee (formal or informal) specific to the pest in question, which HDOA has regularly done in the past.

### C. Establish Parameters for Survey Design:

Either the IC direct if a smaller operation, or under the under Operations Section if an incident management team, to create a survey coordinator / branch to provide valuable input and collaboration on how to design surveys based on biology of the species, habitats involved, jurisdictional capacity and access, etc.

Comment: This ideally would be a multi-agency effort and could likely consist of, in addition to HDOA, USDA, CTAHR Professors, DLNR, ISCs, etc., and HDOA's State Survey Coordinator, Cheryl Young would likely coordinate the effort.<sup>76</sup>

### D. Broad Reconnaissance:

- **The IC or the appointed LO to activate an alert (likely an email) among staff/collaborators for broad reconnaissance, inform of the situation, and seek information on possible outlying population(s) of the pest.**

Comment: Groups to include (in addition to HDOA and USDA-APHIS-PPQ): ISCs, CGAPS, DLNR, UH, among others.

- **Engage Listserves**

Comment: There are a number of existing listserves created by the Hawai'i Ecosystems at Risk (HEAR) project ([www.hear.org](http://www.hear.org)) that were used extensively in the past and continue to be used to some extent. The most pertinent listserves may be: -INVERTS-L, -ALLISCS-DISCUSS (for flowering plants), -PLANT PATHOLOGY, -CGAPS-L. and HEDN maintains their own list serve as well, [reportapest-maui@lists.hawaii.edu](mailto:reportapest-maui@lists.hawaii.edu).

Comment: As of 2012, the HEAR project and associated listserves no longer had dedicated funding. The website is presently archived (though still available to be accessed through the University of Hawai'i, but at this point there is no clear entity assuming responsibility in maintaining and updating it). If maintained and moderated, these listserves could become a valuable tool for getting reports on target species from across the state from key contacts. (Entomologists especially have at times made very effective use of INVERTS-L for getting tentative identifications and ranges.). Instructions for using the HEAR lists are given at <http://www.hear.org/heardlists/index.html> and <http://www.hear.org/heardlists/heardlistfaq.htm>

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<sup>76</sup> Prior to 2009, HDOA had its own staff Survey Coordinator (a survey entomologist), but they now rely on their APHIS-PPQ-funded CAPS entomologist (currently Cheryl Young) to coordinate this information. They do have plans for a Survey Entomologist in the future, but due to budget restraints, this may not happen in 2014.



- **Engage additional individuals who may be able to participate in the species-specific search.**

Comment: At this point, this would be more of an informal request - i.e., not actually going out of their way or requiring additional funding, but for those that are already involved in trimming palms, working in landscaping, etc., as this represents a vast resource pool of those already in the field. Example: Arborists, both those working in city parks and industry may be able to be on the lookout for a pest with or without an additional short training.

**E. Conduct a Trace Forward / Trace Back Effort to Identify the Origin of the Pest and Pathway:**

Comment: The source(s) of the pests needs to be known if at all possible. Though often a regulatory response, it may also be helped by the information in public outreach. While the origin of an infestation is seldom truly determined, it may be possible to determine the pathway. Even if a successful eradication occurs, if the pathway doesn't get determined, the initial problem of introduction has not been solved in order to prevent future infestations.<sup>77</sup>

Contact: The SITC (Smuggling Interdiction and Trace Compliance, a unit within APHIS PPQ, has substantial experience in this aspect, as well as tracking the associated distribution network and can be contacted to be a part of the IC team to help oversee this step by contacting the SPHD at USDA-APHIS-PPQ - [Vernon.Harrington@aphis.usda.gov](mailto:Vernon.Harrington@aphis.usda.gov)

**F. Conduct Detailed Delimiting Surveys on Known Population(s) and Search Extensively for Other Populations Beyond Boundaries of Known populations.**

If no work plan with detailed procedures is in place for a species, research available resources to establish appropriate procedures.

Comment: It helps immensely to have a work plan with detailed procedures in advance; however if no survey plan is in place, below are some resources available to help formulate survey procedures and plans:

- See *Little Fire Ant Plan* developed by Cas Vanderwoude and collaborators for emergency response when a small population of LFA was found on Maui in 2009.<sup>78</sup>
- *Survey Manuals:* There is an excellent new CAPS resource for pest response; the survey information is especially useful in Hawai'i for the many damaging pests of palms that threaten the U.S.  
-As an example, for Coconut Rhinoceros Beetle, there is an excellent publication available via the above URL (CAPS Survey Manuals): [http://caps.ceris.purdue.edu/webfm\\_send/2206](http://caps.ceris.purdue.edu/webfm_send/2206), giving four pages of information regarding how to survey for this species in particular.<sup>79</sup>

- **Web Address:**

**CAPS Survey Manuals**  
[http://caps.ceris.purdue.edu/survey\\_manuals](http://caps.ceris.purdue.edu/survey_manuals)

- *Survey Methods by Species:* A related URL also addresses approved survey methods. (If you go to that URL and click on one of the years, there is a nice listing of species, with methods for each one.)

- **Web Address:**

**Authoritative Source for the most up to date, CAPS Approved Survey Methods by Species:**  
[http://caps.ceris.purdue.edu/approved\\_methods](http://caps.ceris.purdue.edu/approved_methods)

- *APHIS-PPQ's New Pest Response Guidelines:* 14 pages of species-specific guidelines for such items as Survey Types, Detection Survey, Delimiting Survey After Initial U.S. Detection, Monitoring

<sup>77</sup> Dorothy Alontaga, USDA, pers. comm., October 2013

<sup>78</sup> Vanderwoude, C., T. Penniman, K. Paracuelles, F. Starr, and K. Starr. 2009. Operational plan for management of *Wasmannia auropunctata* (Little Fire Ant) on the island of Maui, Hawai'i. December 2009. Available at [www.littlefireants.com/maui%20plan%20public.pdf](http://www.littlefireants.com/maui%20plan%20public.pdf)

<sup>79</sup> Molet, T. 2013. CPHST Pest Datasheet for *Oryctes rhinoceros*. USDA-APHIS-PPQ-CPHST

Survey, Targeted Surveys, Sentinel Sites, Visual Inspection, Pheromone Traps, Chemical Lures, Trap Construction and Set-up, Trap Placement, etc.

- **Web Address:**

**APHIS-PPQ's New Pest Response Guidelines:**  
[www.aphis.usda.gov/import\\_export/plants/manuals/index.shtml](http://www.aphis.usda.gov/import_export/plants/manuals/index.shtml)

- As an example, the New Pest Response Guidelines manual for the Red Palm Weevil, *Rhynchophorus ferrugineus* (RPW), is representative and available at:  
[http://www.aphis.usda.gov/import\\_export/plants/manuals/emergency/downloads/nprg-redpalmweevil.pdf](http://www.aphis.usda.gov/import_export/plants/manuals/emergency/downloads/nprg-redpalmweevil.pdf)

**G. Confirm CoR Type of Collaboration:**

Based on these surveys and preliminary assessment, HDOA (working with MAC Group / IC team as appropriate) to determine whether earlier CoR Type (determined in step 3F) should change. If so, request additional collaboration as outlined in step 3G.

**H. Evaluate Whether Ready to Go with a Press Release (through the PIO) to Engage the Public.**

The PIO, in coordination with other lead entities in Communications and Outreach (see Step 6 or the Matrix of Entities in 5C), to determine if a press release is appropriate. If so, to ensure that other collaborating entities of this plan (even if not directly involved in the specific effort, and including State Civil Defense, Mayors' and Governor's offices) are included in the circulation. Depending on the circumstances, this may be in conjunction with the JIC (as discussed in Step 6A).

## STEP 5: INITIAL RESPONSE GUIDELINES

Lead Entities: HDOA, APHIS-PPQ

Key Support Entities: DLNR-DOFAW, ISCs, HISC

Additional Contributors: PCSU, USFWS, Military, NPS, TNC

### A. Prepare for Access:

*If pest is not already listed as a pest in HAR Chapter 69A, the Administrator of Plant Industry must propose it to Hawai'i Board of Agriculture to provide for acquisition of court orders for private property access and quarantine of movement if and when the need arises.*

Comment: As pointed out in Section 3B-FAQ no. 3, an expedited process for achieving this seems to exist, involving HRS § 141-3 and HRS § 150A but has not been fully tested. This situation requires prompt analysis, clarification, fixing if needed, and testing to avoid potentially serious delay. Also, as stated in Section 3B-FAQ no. 4, HDOA in practice must be doing active eradication of a given pest species before the private property access authority can be utilized effectively through the court system.

### B. Inventory Partners, Resource Needs and Availability, Including Appropriate Pesticides, and Follow with Acquisition Process.

### C. Determine the Need for Quarantine for the Area of the Infestation and Implement if Appropriate.

- *Provide measures for enforcing the quarantine and movement restrictions; and include a buffer zone, as well as appropriate movement restrictions for equipment, plants, or plant products.*
- *Identify and involve the activities and entities affecting entry, movement, and spread of the new pest (may be on a voluntary basis if no quarantine is in place).*  
Examples: green waste movement, nursery plants, soil in construction sites and nurseries and soil added to Hawai'i-produced soil amendments, vermiculture, inter-island private and public transportation, abandoned vehicle collection and transport, forestry plantings and removal for lumber, biomass, growers, fruit and vegetable vendors, local markets, mass plantings for soil erosion and conservation plantings, public and private landscapers, etc.
- *Assess whether an emergency interim rule will be needed/feasible for establishing the quarantined area.*  
Comment: The State's mechanism to stop movement is through the authority of statutes and rules as discussed in Section 2B, 3A, and 3B. If the pest in question is already listed in the pest list at the end of HAR Chapter 69A, the quarantine area can be established with relative ease. If the pest is not listed there, it will be important to expedite a rule change for getting the pest listed (as described in Section 3B-FAQ no. 3 and Step 5A above) but this process needs to be evaluated ASAP and fixed if needed to assure that it can promptly accomplish stopping movement.
- *Working with USDA, assess whether there is a need to issue an EAN (Emergency Action Notification).*  
Comment: An EAN (see Section 2B, Review of Systems in Place for Surveillance) is a mechanism to quickly assist in stopping the movement of potential agricultural pests, diseases, etc.; essentially it is a stop-gap measure until an equivalent HDOA process is enacted.

### D. Explore Possibilities for Funding

This will likely be done making use of the proposed larger Multi-Agency Coordination (MAC) Group (Section 2I), specifically meant to assist with "big picture" challenges such as funding, environmental compliance, regulatory issues etc.

The MAC would then interact either directly with the IC, or with the designated Liaison Officer, who could serve as liaison between the IC and the MAC.

Additional discussion on Funding is included in Section 7.

**E. Evaluate and Plan for Environmental Compliance Issues:**

Evaluate whether environmental compliance issues can best be handled by the Operations Section of the IC structure, or through the MAC, and proceed in addressing.

Comment: HDOA representative Darcy Oishi noted, "In most IC structures, a Regulatory Branch in the Operations Section would be created. This branch would be for interim rules, trace back/trace forward, investigations and if an emergency exemption is obtained for use of a pesticide, a Pesticides Regulatory Unit would be created."

For further detailed discussion on environmental compliance, see Section 3C

**F. Re-assess CoR Type to See if it has Changed from Type decided in Step 4G.**

**G. Re-assess if it is Appropriate to Move Forward with a Press Release as Noted in Step 4H.**

**H. Assess Need for Involvement of Emergency Management / Governor**

Comment: HDOA can use their direct channels or through HISC coordinator Joshua Atwood to ask for a convening of the heads of departments.

For further detailed discussion, see Section 2H,"State Emergency Response Systems and Governor Declared Emergencies".

## STEP 6: COMMUNICATION AND OUTREACH OPERATING GUIDELINES DURING A RESPONSE

Lead Entity: HDOA, CGAPS

Key Support Entities: ISCs, CTAHR, DOFAW, APHIS-PPQ

Additional Support: Watershed Partnerships, Bishop Museum, Botanical Gardens, County Parks, Hi Ant Lab, Industry, HISC, NPS, TNC, PCSU, HEDN, HTA, SEB and FAC

### Overview:

This section focuses specifically on communicating the issue and the urgency when a plant pest incursion is reported, at appropriate levels within agencies, and coordinating communication and outreach networks and messages throughout the various stages of the response.

Many entities in Hawai'i – in both agriculture and in biodiversity conservation - have worked hard to achieve public support for invasive species issues through education and outreach; as a result, there is fairly high degree of public awareness and an existing network of outreach and education professionals throughout the state. Such public understanding of, and support for, addressing pest issues are necessary prerequisites for any successful prevention and response program, both for allowing the public to be key assets in the earlier described steps of identification and reporting, as well as to garner momentum for political support.

### Key Points for Emphasis in Communication and Outreach:

1. Coordination of efforts and messages is critical.
2. Be clear and accurate in the information that is shared and do it as quickly as possible. (Rumor and other mis-information can spread quickly, so it's important that the accurate message is circulated in a time-sensitive manner.)
3. Key messages should be vetted to all the affected parties
4. Clearance should be obtained from those in authority before releasing information.

### A. Utilize the Public Information Officer (PIO) as Designated in Step 3E.

- ***PIO to Connect with Other Outreach and Communications Specialists from Key Support Entities:***

The PIO to directly connect with all the key and lead support entities noted above to identify needs and come up with a unified approach.

Comment: It is recognized that many of the entities and agencies involved have their own public education / outreach component. Coordination of efforts with the IC-designated PIO is an important factor in providing a single streamlined message to the public.

- ***Present a Unified Message: All press releases and other communications with the public related to a response to go through the designated Incident Command System PIO, and other communications should be vetted.***

Outreach and Communications specialists from other entities should direct communications through the PIO, and the PIO should involve other outreach and communications specialists to ensure that messages are consistent, and that tasks for developing materials may be shared. In addition, responses on neighbor islands may require greater sharing of responsibilities, as each County has additional capacities and networks that may be leveraged.

Comment: There is not currently a written communications protocol for inter-agency press releases, etc. in regard to pest (not limited to plants) response (both in terms of emergency or non-emergency responses). In discussion with multiple parties (including HDOA, USDA, ISC, DLNR, HISC, PCSU

and others) in developing this plan, this has apparently been a source of conflict in the past, and collaborating parties are in the process of working on this to present a unified approach in sharing of information with the public.

- **Assess Whether Able to Connect into the State JIC / JIS**

The JIC (Joint Information Center) is a “facility” that serves as the point of contact for all media; and the JIS (Joint Information System) is the agreed upon structure used to integrate information etc. Use of the JIS / JIC will ensure that federal, state, and local levels of government are releasing the same information during an incident.

Comment: State Emergency Management / Civil Defense makes use of the JIC through the State’s Emergency Operations Center (EOC).<sup>80</sup> Though use of the JIC / JIS has not been employed in the past with natural resource or agricultural management, Emergency Management representatives at the State and County level have noted that it may be an option to use. As Steve Yoshimura from Hawai’i Civil Defense noted, “A JIC can be activated during emergency and non-emergency situations.” Janelle Saneishi, the Public Information Officer for HDOA is the department representative to the JIC, and works with the State Emergency Management PIO when dealing with a JIC. In a non-Governor declared emergency, there are only two individuals who can activate a JIC - the Governor and the Deputy Director of Civil Defense. [To activate a JIC for a plant health emergency response], the head of HDOA could make a request to the Governor for use of the JIC, and if additional PIO personnel are needed, then HDOA would have the authority through the Governor to use other departments’ PIOs .

Example of Integrating the Items in 2a Above: Releases are cleared through the Incident Commander / Unified Command, MAC Group, and/or federal officials in the case of federally coordinated incidents to ensure consistent messages, avoid release of conflicting information, and prevent negative impact on operations. This formal process for releasing information ensures the protection of incident-sensitive information. Agencies may issue their own releases related to their policies, procedures, programs, and capabilities; however, these should be coordinated with the incident-specific PIOs and if applicable, the JIC.

## **B. Initiate and Sustain Outreach to the Public, Especially Those in Industry and Those Who May Be Directly Affected by the Pest Species or Be a Direct Contributor to It.**

- **For Reporting, Survey, and Response Purposes:** As noted in Step 4: Survey and Preliminary Assessment, the community (public, industry and others) represent a major resource pool available for determining the range of the pest (i.e., ask as many people in as many likely locations if they have seen the pest). It is important to continue to educate and train farmers, cooperatives, relevant industry, and other components of the informal surveillance system, beyond the initial report, so they understand their critical role in pest and pathogen detection (whether it’s an agriculture crop, palm pest, etc.) and are able to be knowledgeable in such identification

- **For Response Purposes:** Once those in industry and in the field are aware of how a pest species may affect them, they may be more apt to volunteer their efforts and resources to be involved in associated response and control efforts.

Comment: For these efforts, the most important contacts and communication pieces would be done directly by the designated PIO. Support entities can offer assistance on other communication needs as requested by the PIO and assist with supplemental communications. While the appropriate agencies will make direct contact with the site (e.g. a nursery) and potential vectors, they can ask the supporting entities for assistance in helping to draft articles or alerts for their review that would go out.

-Example: USDA APHIS has pest alerts for coconut rhinoceros beetle they will share with HDOA, who may modify or make their own as well; they will do the press releases, visit/call all area nurseries for delimiting surveys, conduct tracebacks and trace forwards to try to determine where the pest came from/where it might

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<sup>80</sup> Annex F: External Affairs: Hawaii Catastrophic Hurricane OPLAN, July 16, 2009, V 2.0

have spread, etc. CGAPS or other supporting entities might be asked to draft a short article for the Landscape Industry magazine or website. Any work from the supporting entity would have review and approval from the agencies in charge before going out.<sup>81</sup>

### **C. Target Policy Makers and Legislative Staff for Outreach Efforts:**

- ***When looking for additional funding or legal assistance from policy makers and legislative staff, a short, effective presentation should be prepared on the pest in question.***

This should be done by one versed and experienced in education (i.e., the support entities noted above, especially CGAPS or ISC members) to be able to raise the awareness of a specific group in a short period.

Comment: As part of this, it is critical HDOA and USDA-APHIS administrators also have the information compiled and ready to support this case, and that they are made aware of the extent of the situation. The conviction of these administrators is a key aspect in raising a response to the needed level.

- ***Encourage industry and related community groups to address policy makers about the specific pest species in question as it may relate to them.***

Comment: This will also involve item B above, with associated presentations to the industry and related community groups first to help ensure they are aware of how the issues may affect them.

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<sup>81</sup> Example provided by Christy Martin, CGAPS Communications Officer, pers. comm., 2013

## STEP 7: CONTAINMENT AND CONTROL GUIDELINES

Lead Entity: HDOA

Key Support Entities: APHIS-PPQ, ISCs, DOFAW, Hi Ant Lab, Watershed Partnerships, NPS, USFWS, Industry

Additional Support: TNC, Botanical Gardens, County Parks, PCSU, Plant Boards

**A. Contact Landowners** with a view toward establishing and maintaining positive relationships with them. If not done already, start assessing where court orders may be needed to access private property.

**B. Review and Finalize Methodology for Eradication Treatments and Monitoring of Effectiveness, as well as Continuing General Surveillance for the Target Pest.**

Comment: Each pest will have a different methodology, though pest groups (e.g., ants) will have commonalities. Ideally, a work plan with detailed procedures should be prepared in advance for as many likely invaders among offshore pests as possible.

-As an example, the operational plan for management of Little Fire Ant on the island of Maui<sup>82</sup> provides species-specific methodology:

- “Standard Operating Procedure: Containment of Little Fire Ants” (pp. 19-20):
- “Standard Operating Procedure: Distribution of ant bait granules” (pp. 21-23),
- “Standardized surveillance and monitoring procedure for surveys of Little Fire Ants” (pp. 24-29).

-Similarly, broad methodology and some relatively detailed methodology were developed nearly a decade ago for a RIFA (Red Imported Fire Ant) plan<sup>83</sup> but need to be enhanced with more detail.

**C. Treatment / Monitoring Units (Teams) are Assembled and Initiate Action**

**D. Ensure Necessary Logistical Arrangements Are in Place:**

Base of operations, vehicles to be used, acquisition of optimal pesticides, etc. are formulated, finalized, and enacted.

**E. Ensure a Proper Sanitation (including Waste Disposal) Protocol is in Place:**

The sanitation protocol would include proper disinfection of personnel, equipment, vehicles, etc., to prevent the inadvertent movement of the pest. Details will depend on the organism targeted in the emergency response and its host plant(s) and habitat.

• **Waste Disposal:**

For some responses, disposal of “waste” will be a very important consideration. For example, successful control of many pests of coconut and palms are likely to have a high requirement for disposal of infested and dead trees, requiring trucks for prompt transportation to an appropriate disposal site and burial or burning. (Leaving such material in place would allow continued reproduction of the pest in many cases, depending on pest biology.) Good communication with County waste management/disposal departments is obviously paramount.

Example: A possible ideal solution on O’ahu for waste disposal might involve H-power (Honolulu Program of Waste Energy Recovery); however various factors need to be looked at to determine whether that were to prove feasible specific to the plant pest.

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<sup>82</sup> Vanderwoude, C., T. Penniman, K. Paracuelles, F. Starr, and K. Starr. 2009. Operational plan for management of *Wasmannia auropunctata* (Little Fire Ant) on the island of Maui, Hawai’i. December 2009. Available at [www.littlefireants.com/maui%20plan%20public.pdf](http://www.littlefireants.com/maui%20plan%20public.pdf)

<sup>83</sup> Hawai’i Ant Group. 2007. A plan for prevention of establishment of new ant species in Hawai’i, with special attention to the Red Imported Fire Ant (*Solenopsis invicta*) and Little Fire Ant (*Wasmannia auropunctata*). August 2007 Revision. Available at [www.littlefireants.com/Hawai'i%20Ant%20Group%20\(2007\).pdf](http://www.littlefireants.com/Hawai'i%20Ant%20Group%20(2007).pdf)



Comment: As far as parameters as to what the OISC crew is able to take, in practice it is largely a matter of whether H-Power is able to accommodate them (i.e. they aren't busy with manual unloads). OISC can call them after 2pm, and they are told whether material can be dumped that day for incineration. Since use (or availability of use) is determined by weight, in the past OISC requested and were approved by the City & County to bring in a high volume of green waste (such as when they removed pampas grass from the golf courses).

**F. Data Acquisition and Storage Procedures Are Put in Place.**

- Ideally, a work plan with detailed procedures is prepared in advance. An example, “Data capture and management procedure for LFA surveillance” is provided on pp. 25-30 in Vanderwoude et al. 2009.
- For all collaborators, government and non-governmental: Pest survey data needs to get to the IC or IC Survey Coordinator (see Section 4, Step 4C, referencing IC Survey Coordinator) for input into APHIS national database.<sup>84</sup> HDOA's State Survey Coordinator, Cheryl Young, whose position is funded by the USDA-APHIS-PPQ CAPS program, is the person to guide entry in the NAPIS database.

**G. Review Earlier Standard Operating Guidelines in Steps 2-7 and Follow Up on Any Steps Skipped that May Be Appropriate.**

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<sup>84</sup> Dorothy Alontaga, Personal Communication, August 2013

## STEP 8: RECOVERY GUIDELINES:

Lead Entity: HDOA

Key Support Entities: APHIS-PPQ, ISCs, CGAPS, HISC, DOFAW, MAC Group

Additional Support: NPS

### Overview:

Demobilization is an important process, perhaps more difficult with many agencies/entities involved; the lead agencies and cooperators must take special care to ensure orderly, safe and efficient return of an incident resource to its original location and status.

#### A. If Success (Eradication) is Believed Near, Institute Intensive Follow-up to Monitor for Lingering Individuals of the Pest.

Comment: This may need to continue for months or years, depending on the pest's identity and biology.

#### B. Assess whether Trace Back Efforts Have Been Completed to the Best Ability Possible with the Circumstances.

Comment: As noted in Step 4E, even if a successful eradication occurs, if the origin of the infestation isn't determined, the initial problem of introduction has not been solved in order to prevent future infestations.<sup>85</sup>

#### C. Assess and Evaluate When to Determine the Emergency Response Complete.

This includes what should happen when the response moves out of the realm of an emergency response to something else, whether eradication is thought to be achieved or not.

Comment: After an emergency response, long-term operations, with reduced overall effort, are often still needed. When the emergency response achieves apparent eradication, there will likely still be a need for continued monitoring for a year or more to be sure that a population resurgence of the pest does not occur. If eradication was not achieved, there is need to keep former collaborators and the public informed as to the impact of the new pest, etc., for example to determine whether biocontrol is a high priority. This final step allows for the transitions to occur - whether that is be turned over to a local ISC or local DOFAW or some other entity.

#### D. When the Operation Reaches Resolution, a Complete Review of all Aspects Should Take Place

Comment: There should be a strong effort to seek from, summarize for, and provide feedback to all participating agencies/collaborators to improve the PHERP to optimize future emergency responses. Factors contributing to success or failure should be analyzed.

#### E. Ensure Good Communication about What Happened.

Comment: It is important to thoroughly inform participants/collaborators as well as potential future partners on other islands, including industry groups about the pest, and the associated response. The public should be informed as appropriate about results of the operation as well.

#### F. A Scientific Paper on the Operation, if Warranted.

Comment: Sharing information with the broader scientific community will foster awareness about Hawaii's unique situation and enhance communication exchange. One model to follow is that of Vanderwoude et al. (2010).<sup>86</sup>

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<sup>85</sup> Dorothy Alontaga, USDA, pers. comm., October 2013

<sup>86</sup> Vanderwoude, C., K. Onuma, and N. Reimer. 2010. Eradicating *Wasmannia auropunctata* (Hymenoptera: Formicidae) from Maui, Hawaii: The use of combination treatments to control an arboreal invasive ant. Proceedings of the Hawaiian Entomological Society 42: 23–31.

## **4B. USING THE RESPONSE STEPS IN A HYPOTHETICAL SCENARIO**

### ***Hypothetical Example of Unfolding Steps Potentially Leading to a Successful Collaborative Response Using Hawaii's State Plant Health Emergency Response Plan***

A pest is found in a routine CAPS (Cooperative Agriculture Pest Survey) survey, promptly reported to HDOA, and tentatively identified with some confidence. The pest appears to be a dramatically serious one. APHIS-PPQ has already published "New Pest Response Guidelines"<sup>87</sup> for this pest, facilitating understanding of pest biology, control methods, quarantine issues, etc.

The local APHIS-PPQ SPHD's office is informed and consulted. They assist with an absolutely definitive formal identification of the pest, which is rapidly obtained through proper channels. The pest is NKTO (not known to occur) in Hawai'i or elsewhere in the U.S. APHIS-PPQ will be a major participant in the response. At this stage, a trace forward and trace back effort is likely needed to try to pinpoint the pathway of the pest and close the pathway. The initial sites can potentially give indications as to what happened.<sup>88</sup>

A unified Incident Command is established. A standing MAC group is used to advise the Co-Incident Commanders, the SPHD and the SPRO. Since the pest is not included in the current "pest list" at the end of Chapter 69A of Hawai'i Administrative Rules, HDOA's SPRO must propose it for the pest list to the Hawai'i Board of Agriculture, using an expedited process, so that a court order to access private property for control. A quarantine is planned for preventing transport of infected host material.

A delimiting survey is performed and indicates that the initial infestation may be controllable, with very substantial effort. HDOA/PPQ staff and collaborators are enlisted to assess whether there may be other populations of the same pest beyond boundaries of the delimited population (none are found). Researchers are enlisted to address any needed information (particularly local information) on the pest beyond what is provided in APHIS-PPQ's "New Pest Response Guidelines."

A decision is made to move ahead, but it is determined that substantial additional help is needed beyond existing resources. Potential entities for assistance with personnel, equipment and/or expertise are contacted (with the aid of the inventory and contact information in the PHERP) and incorporated into the ICS operation. A comprehensive inventory of resource needs and availability is initiated, followed up by acquisition. A quarantine is formulated/established (requiring a rapidly enacted interim rule through the Hawai'i Board of Agriculture) for the area of the infestation and a buffer zone, as well as appropriate movement restrictions for equipment, plants, or plant products. Measures are provided for enforcing the quarantine and movement restrictions as well as for disposal of infected host material.

The Governor and his Cabinet are informed, as well as the Mayor and staff on the island where the infestation occurs. Are "emergency" declarations/measures warranted? Possibilities for funding are explored by the Incident Commanders, assisted by the MAC. Environmental compliance is evaluated and delegated. Public outreach is initiated. At a very early stage, landowners will be contacted to establish good relationships and to be prepared if there will be need for one or more court orders to access private property.

Methodology for eradication treatments and monitoring of effectiveness as well as continuing general surveillance for the target pest are reviewed and finalized. Treatment/monitoring teams are assembled. Necessary logistical arrangements<sup>89</sup> are formulated and finalized. Data acquisition and storage procedures are put in place.

Public outreach will be an important continuing part of the operation, involving close cooperation among HDOA, APHIS-PPQ, and collaborators.

Assuming apparent success (eradication!) of the operation, intensive follow-up will be crucial to monitor for lingering individuals of the pest. This will need to continue for months or years, depending on the pest's identity and biology. When the operation reaches resolution, a complete review of all aspects should take place, with a strong effort to provide feedback to improve the PHERP to optimize future emergency responses.

<sup>87</sup> APHIS-PPQ's "New Pest Response Guidelines, Red Palm Weevil," can be accessed at:

[http://www.aphis.usda.gov/import\\_export/plants/manuals/emergency/downloads/nprg-redpalmweevil.pdf](http://www.aphis.usda.gov/import_export/plants/manuals/emergency/downloads/nprg-redpalmweevil.pdf)

<sup>88</sup> Dorothy Alontaga, USDA, pers. comm. 2013.

<sup>89</sup> As a side note with logistics, HDOA and other state agencies are prohibited from purchasing of food items using government funds, even for an emergency response.

## ❖ SECTION 5: ROLES AND RESPONSIBILITIES

### 5A. Overview:

When responding to an outbreak of an emergency plant pest or disease beyond the scope of HDOA and USDA-APHIS, multiple entities are available to assist. This section details local, state, and federal agencies as well as other entities, and their *likely* level of involvement in a response effort.

**The following resource matrix and table are a compilation of who is out there to help and how they may do so:**

- **5C, “Matrix of Potential Roles for Assistance with a Plant Health Emergency Response”**  
-gives an “at glance” look at the agencies in terms of key activities they could potentially assist with, and whether they would play a primary or supporting role.
- **5D, “Table of Contacts and Summaries of Potential Resources”**  
-lists the entities one by one, highlighting key aspects such as funding, authority, resources, and key contacts
- **In addition, in Appendix B, there is a text section on “Expanded Descriptions of Agencies and Entities with Roles with Complete Contacts”**

#### Note:

The matrix and table in this section, as well as the associated text in Appendix B represent an attempt to summarize each entity for its potential role in a plant health emergency response. In almost all cases, the entities themselves have either sent in the text direct, or have had the opportunity to edit information related to them.

The Table of Contacts and Summaries of Potential Resources (Section 5D) and the Appendix B are items that the HISC Coordinator has agreed to take on updating on at least an annual basis (see Section 8, Plan Maintenance) and changes to these section should be sent to Josh Atwood, HISC Coordinator, [Joshua.P.Atwood@hawaii.gov](mailto:Joshua.P.Atwood@hawaii.gov).

## **5B. Listing of Key Entities in Hawai'i To Assist in a Collaborative Plant Pest Response**

Responding to an outbreak of an emergency plant pest or disease outbreak will require the coordination of multiple entities. A list of local, state, and federal agencies, as well as other entities, who may be available to assist, along with their likely level of participation roles in an outbreak are listed below. Refer to the matrix in 5C, the table in 5D, and the text in Appendix B for more specifics on each entity.

### **Lead Entities: (Page 69)**

- A. Hawai'i Department of Agriculture (HDOA)
- B. U.S. Department of Agriculture-Animal Plant Health Inspection Services- Plant Protection and Quarantine (USDA-APHIS-PPQ)

### **Support Entities: (Page70)**

- C. Coordinating Group on Alien Pest Species (CGAPS)
- D. College of Tropical Agriculture and Human Resources Cooperative Extension Services (CTAHR- CES, University of Hawai'i)
- E. Department of Land and Natural Resources: Division of Forestry and Wildlife (DLNR-DOFAW)
- F. Hawai'i Invasive Species Council (HISC)
- G. Invasive Species Committees (ISCs)
- H. Watershed Partnerships

### **Additional Contributors (Page 73)**

- I. Bishop Museum
- J. County Officials and Departments (including County Environmental Services or Public Works Department, green waste, convenience centers and transfer stations, H-power)
- K. Environmental Protection Agency (EPA)
- L. Governor's Office
- M. Hawai'i Department of Health (HDOH)
- N. Hawai'i Early Detection Network (HEDN)
- O. Hawai'i Tourism Authority (HTA)
- P. Industry, Trade Associations, and Groups (including Agriculture groups)
- Q. Pacific Cooperative Studies Unit (PCSU)
- R. U.S. Forest Service
- S. U.S. Fish and Wildlife Service (USFWS)

### **Contributors in Unique Situations (Page 79)**

- T. Botanical Gardens
- U. Customs and Border Protection (CBP)
- V. Civil Defense / Emergency Management
- W. County Parks and Recreation (urban forestry/parks)
- X. Hawai'i Ant Lab
- Y. Hawai'i Department of Transportation (HDOT)
- Z. Law Enforcement
- AA. Military, including Army Natural Resources Program
- BB. National Park Service (NPS, U.S. Department of the Interior)
- CC. PBARC
- DD. Plant Boards (National and Western)
- EE. SEB and FAC
- FF. The Nature Conservancy
- GG. University of Hawai'i
- HH. Weed Risk Assessment

## 5C. Matrix of Potential Roles for Assistance with a Plant Health Emergency Response (page 1 of 4)

Note: These are POTENTIAL areas in which these entities can contribute; it does not reflect a commitment to be of service in these areas in all emergency responses; rather it is acknowledgment that the entity has specific resources/ skills in the area, and may be available for assistance. For contacts and additional specifics, see Section 5D Summary Table and Appendix B

**KEY:**  
**P** = Primary Role  
**S** = Supporting Role

Area of Involvement	LEAD ENTITIES		SUPPORT ENTITIES					
	HDOA	USDA - APHIS- PPQ	CGAPS	CTAHR - CES	DLNR- DOFAW	HISC	ISC	Watershed Partnerships
Lead Agency	P	P/S			S			
Surveillance and Discovery	P	S		S	S		S	S
Reporting	P	S		S	S		S	S
Identification Services	P	P/S		P/S				
Establish ICS	P	S/P			S			
Lines of Communication		P/S	S	S		S	S	S
Delimiting Surveys	P	S		S	S		S	S
Preliminary Assessment	P	P / S		S	S		S	
Initial Response	P	S/P			S		S	
-Environmental Compliance	P	S			S			
- Outbreak Investigation	P	P/S		S				
-Issuing Plant Quarantine	P	S/ P						
Education and Outreach	P/S	S	P/S	P/S	S	S	S	S
Containment and Control	P	S			S		S	S
Disposal of Pests	S	S			S		S	
Recovery	P	S			S	S		
Transportation	P	S			S			
Specialized Equipment		S					S	
Legal Support	S	S	S		S	S		
Funding	S	S	S			S		

## 5C. Matrix Page 2

<p><b>KEY:</b>  <b>P</b> = Primary Role  <b>S</b> = Supporting Role</p>
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Area of Involvement	ADDITIONAL CONTRIBUTORS										
	Bishop Museum	County	EPA	Governor's Office	HDOH	HEDN	HTA	PCSU*	Industry	USFS	USFWS
Lead Agency											
Surveillance and Discovery								S	S	S	S
Reporting						S		S	S	S	
Identification Services	S							S		S	
Establish ICS											
Lines of Communication						S		S	S		
Delimiting Surveys								S		S	S
Preliminary Assessment	S							S			
Initial Response								S			S
-Environmental Compliance			S		S						S
- Outbreak Investigation								S			
-Issuing Plant Quarantine											
Education and Outreach	S					S	S	S	S		
Containment and Control			S					S	S		S
Disposal of Pests		S	S		S			S			
Recovery											
Transportation											
Specialized Equipment								S	S		
Legal Support				S				S			S
Funding		S		S			S	S		S	S

\* several of the other contributing entities are run as collaborative projects of PCSU as discussed on page 78



**5C. Matrix, Page 3**

**KEY:**  
**P** = Primary Role  
**S** = Supporting Role

Area of Involvement	CONTRIBUTORS IN UNIQUE SITUATIONS							
	Botanical Gardens*	CBP	Civil Defense	Urban Forestry County Parks*	HI Ant Lab	HDOT	Law Enforcement	Military*
Lead Agency								
Surveillance and Discovery					S			S
Reporting	S			S	S			S
Identification Services					S			
Establish ICS								
Lines of Communication								
Delimiting Surveys					S			S
Preliminary Assessment					S			
Initial Response								S
-Environmental Compliance								
- Outbreak Investigation		S			S		P / S	
-Issuing Plant Quarantine						S		
Education and Outreach	S			S	S			
Containment and Control	S			S	S			S
Disposal of Pests			S					
Recovery								
Transportation			S			S		
Specialized Equipment			S		S	S		
Legal Support							P / S	
Funding			S	S		S		

\* for lands they work with and manage

5C. Matrix, Page 4

**KEY:**  
**P** = Primary Role  
**S** = Supporting Role

*CONTRIBUTORS IN UNIQUE SITUATIONS, continued.*

<b>Area of Involvement</b>	<b>NPS*</b>	<b>PBARC</b>	<b>Plant Boards (National and Western)</b>	<b>SEB and FAC</b>	<b>TNC*</b>	<b>UH</b>	<b>Weed Risk Assessment</b>
Lead Agency							
Surveillance and Discovery	S				S	S	
Reporting	S				S	S	
Identification Services			S			S	S
Establish ICS							
Lines of Communication				S			
Delimiting Surveys	S				S		
Preliminary Assessment	S	S	S		S		S
Initial Response	S				S		
-Environmental Compliance							
- Outbreak Investigation		S					
-Issuing Plant Quarantine							
Education and Outreach	S			S	S		
Containment and Control	S		S		S		
Disposal of Pests							
Recovery	S						
Transportation							
Specialized Equipment							
Legal Support							
Funding	S						

\* for lands they work with and manage

## 5D. Summary Table of Key Contacts and Potential Resources

-See Appendix B and C for additional information and contacts for each entity.-

### LEAD ENTITIES

Agency/Entity	Possible Funding for Emergency Response?	Lands Covered in Normal Operations	Authority to Enter Lands	Summary of Equipment, Programs	Summary of Personnel	Primary HI Contact for Plant Health Response	Vehicles + Drivers?
<b>A.</b> <b>Hawai'i Department of Agriculture (HDOA)</b>	HDOA has some discretionary funding to enable travel to provide leadership for emergency response, but would need supplementary funds for prolonged responses.	Inspectors are normally focused at ports of entry, but have authority to act wherever needed (as do plant pest control personnel).	HDOA personnel and authorized agents possess authority to access public and private property for pest control/eradication purposes after notice requirements are met and with some caveats (e.g., need for court order in some cases).	HDOA has office equipment/supplies, and the equipment needed for pest identification, pesticide application, etc. They have capability for disseminating information to the public but can use help in emergency response communications.	HDOA's Division of Plant Industry, with about 95 employees, is comprised of three Branches -- Plant Quarantine (PQ), Plant Pest Control (PPC), and a Pesticides branch. Depending on the location of an emergency response, 5-15 HDOA employees are likely to be available.	<b>Acting Administrator, Plant Industry Division</b> Neil Reimer, <a href="mailto:Neil.J.Reimer@hawaii.gov">Neil.J.Reimer@hawaii.gov</a> (808) 973-9535  <b>Acting Plant Quarantine Branch Manager</b> Darcy Oishi, <a href="mailto:Darcy.E.Oishi@hawaii.gov">Darcy.E.Oishi@hawaii.gov</a> (808) 832-0566  <b>Insect Taxonomist</b> Bernarr.R.Kumashiro <a href="mailto:Bernarr.R.Kumashiro@hawaii.gov">Bernarr.R.Kumashiro@hawaii.gov</a> (808) 973-9534	HDOA has adequate vehicles to respond in some locations, not enough in others. PPC is heavy on SUVs and light on trucks although all vehicles have 4wd capabilities.
<b>B.</b> <b>USDA-APHIS-PPQ</b>	Potential for access to national APHIS funding for emergencies. Initial help of around \$10-20,000 from Farm Bill funding may depend on timing. Larger responses of high national incidents could be funded for large amounts via Commodity Credit Corporation (CCC), though may be rare.	APHIS-PPQ personnel in Hawai'i are normally focused at ports of entry, but have authority to act wherever needed (though often under state authority in emergency responses).	Generally operates within the state's agricultural authorities to access private land. However, the Plant Protection Act of 2000 does address warrants for entry to private lands in its Section 421: "The Secretary may enter, with a warrant..... for the purpose of conducting investigations or making inspections and seizures under this title."	-Equipment needed for pest identification, pesticide application, etc., including: first aid kits, GPS units, PDA devices, VTC, conference rooms. -Domestic identifiers (currently in the U.S. mainland) for some pests. -ICS trained and experienced staff -Possible assistance for disseminating information to the public through the APHIS Legislative and Public Affairs currently in CA and MD.	Over 100 permanent employees in Hawai'i, with an additional large contingent of part-time employees. Most are stationed at Hawai'i's ports of entry and engaged with protecting the U.S. mainland from pests carried by passengers and cargo departing Hawai'i. Depending on the location and timing of an emergency response, 5-15 APHIS-PPQ employees are likely to be available.	<b>State Plant Health Director</b> , <a href="mailto:Vernon.Harrington@aphis.usda.gov">Vernon.Harrington@aphis.usda.gov</a>  <b>Acting Plant Health Director</b> , Stuart Stein <a href="mailto:Stuart.H.Stein@aphis.usda.gov">Stuart.H.Stein@aphis.usda.gov</a>  <b>State Operations Support Officer</b> , <a href="mailto:Dorothy.S.Alontaga@aphis.usda.gov">Dorothy.S.Alontaga@aphis.usda.gov</a>  <b>Survey Specialist</b> , <a href="mailto:volisa.c.ishibashi@aphis.usda.gov">volisa.c.ishibashi@aphis.usda.gov</a>  Phone number for all the above is (808) 838-2780.	APHIS-PPQ has adequate vehicles for emergency response in some locations, not enough in others.  Trucks, cars and vans have strict regulations for operation by cooperators.

## SUPPORT ENTITIES

Agency/Entity	Possible Funding for Emergency Response?	Lands Covered in Normal Operations	Authority to Enter Lands	Summary of Equipment, Programs	Summary of Personnel	Primary HI Contact for Plant Health Response	Vehicles + Drivers?
<p><b>C.</b></p> <p><b>CGAPS</b></p>	no	none	none	Potential for major assistance, as needed, with communication needs before, during, and after emergency response.	Formed in 1995, the CGAPS partnership is comprised primarily of management-level staff from every major agency and organization involved in invasive species work in Hawai'i, including federal, state, county and private entities.	Christy Martin, PIO, O'ahu (808) 722-0995 <a href="mailto:christym@rocketmail.com">christym@rocketmail.com</a> <a href="http://www.cgaps.org">www.cgaps.org</a>	none
<p><b>D.</b></p> <p><b>CTAHR COOPERATIVE EXTENSION SERVICE (CES)</b></p> <p><b>(University of Hawai'i College of Tropical Agriculture and Human Resources (Extension))</b></p>	Possible, depending upon availability of appropriate federal or other extramural funds.	Agricultural lands, primarily, with landowner permission.	With permission.	CTAHR's Agricultural Extension Service has offices on major islands and provides a routinely used mechanism for farmers, nurserymen, ranchers, and public citizens to report and address potentially new pests that might feed into this plant health emergency response plan. Significant discoveries are communicated to HDOA. In certain circumstances, agents may get involved in a response.	There are about 60 faculty with full or partial extension responsibilities statewide. Each county's extension program is overseen by a CTAHR administrator. A 2013-2014 Directory of CTAHR is available at <a href="http://www.ctahr.hawaii.edu/site/People.aspx">http://www.ctahr.hawaii.edu/site/People.aspx</a>	<p><b>County Administrators:</b></p> <p><b>Hawai'i County</b> Russell Nagata (808) 981-5199 <a href="mailto:komohana@ctahr.hawaii.edu">komohana@ctahr.hawaii.edu</a></p> <p><b>Honolulu / O'ahu</b> Raymond Uchida (808) 956-7138 <a href="mailto:honolulu@ctahr.hawaii.edu">honolulu@ctahr.hawaii.edu</a></p> <p><b>Kaua'i County</b> Roy Yamakawa (808) 274-3471 <a href="mailto:lihue@ctahr.hawaii.edu">lihue@ctahr.hawaii.edu</a></p> <p><b>Maui County</b> Robin Shimabuku (808) 244-3242 <a href="mailto:kahului@ctahr.hawaii.edu">kahului@ctahr.hawaii.edu</a></p>	Yes, although limited in some locations.

## SUPPORT ENTITIES

Agency/Entity	Possible Funding for Emergency Response?	Lands Covered in Normal Operations	Authority to Enter Lands	Summary of Equipment, Programs	Summary of Personnel	Primary HI Contact for Plant Health Response	Vehicles + Drivers?
<p><b>E.</b></p> <p><b>DLNR-DOFAW</b></p> <hr/> <p><b>DOFAW Kaulunani Urban Forestry</b></p>	<p>DOFAW's mandate for protection of forests &amp; wildlife arguably makes it a logical State agency for leading in assistance for implementing the PHERP, pending broad institutional buy-in.</p> <hr/> <p>DOFAW's Kaulunani (Urban Forestry) program has a small grant program, with funds potentially available on relatively short notice</p>	<p>DLNR managed lands including Forest Reserves and Natural Area Reserves</p>	<p>Full authority on all DLNR managed lands. Island-wide (and State-wide) authority only with landowner permission.</p>	<p>Heavy equipment, chainsaws, vehicles, training and education, Incident Command System training, GIS support for both mapping and targeting surveys (for example, providing maps of host plants or veg types)</p>	<p>Potential staff support of ca. 4-6 per island for survey and control?</p>	<p><b>Statewide</b>  <a href="mailto:Roger.H.Imoto@hawaii.gov">Roger.H.Imoto@hawaii.gov</a> 808-587-4181</p> <p><a href="mailto:Robert.D.Hauff@hawaii.gov">Robert.D.Hauff@hawaii.gov</a> 808-587-4174</p> <p><b>Hawai'i</b>, 974-4220  <a href="mailto:Lisa.J.Hadway@hawaii.gov">Lisa.J.Hadway@hawaii.gov</a></p> <p><b>Maui</b>, 984-8107  <a href="mailto:Scott.Fretz@hawaii.gov">Scott.Fretz@hawaii.gov</a></p> <p><b>O'ahu</b>, 973-9787  <a href="mailto:David.G.Smith@hawaii.gov">David.G.Smith@hawaii.gov</a></p> <p><b>Kaua'i</b>, 274-3436  <a href="mailto:Galen.K.Kawakami@hawaii.gov">Galen.K.Kawakami@hawaii.gov</a></p> <hr/> <p><b>Kaulunani Urban and Community Forestry Program</b>            DLNR-DOFAW,            Coordinator,            Teresa Trueman-Madriaga, Coordinator            808-672-3383  <a href="mailto:ttn@hawaii.rr.com">ttn@hawaii.rr.com</a>  <a href="http://www.kaulunani.com">www.kaulunani.com</a></p>	<p>vehicles, drivers</p>

## SUPPORT ENTITIES

Agency/Entity	Possible Funding for Emergency Response?	Lands Covered in Normal Operations	Authority to Enter Lands	Summary of Equipment, Programs	Summary of Personnel	Primary HI Contact for Plant Health Response	Vehicles + Drivers?
<p><b>F.</b></p> <p><b>Hawai'i Invasive Species Council (HISC)</b></p>	<p>The HISC typically provides support for detection and response programs in each county, including the county-based Invasive Species Committees (ISCs). Depending on the timing and duration of response, HISC funds may be available to related activities.</p>	<p>N/A</p>	<p>N/A</p>	<p>HISC is a State interdepartmental collaboration established in 2003 by Hawaii's State Legislature. The HISC was created for the special purpose to provide cabinet / policy level direction, coordination, and planning for the control and eradication of harmful invasive species infestations throughout the State.</p>	<p>HISC brings together cabinet-level agency representatives for government coordination, support, or resource sharing between departments.</p> <p>HISC's support staff, including a Planner and an Interagency Coordinator, may be able to assist in coordination and outreach.</p>	<p><b>HISC Coordinator,</b> Joshua Atwood (808) 587-4154, <a href="mailto:joshua.p.atwood@hawaii.gov">joshua.p.atwood@hawaii.gov</a></p> <p><b>Website:</b> <a href="http://hisc.hawaii.gov">http://hisc.hawaii.gov</a></p>	<p>N/A</p>
<p><b>G.</b></p> <p><b>ISCs</b></p>	<p>The ISCs normally have some of their funding directed to early detection and rapid response for (unspecified) newly detected (incipient) pest species.</p>	<p>Island-wide, but only with landowner permission</p> <p>Hawai'i, Maui, Moloka'i, O'ahu, Kaua'i</p>	<p>Island-wide, only with landowner permission</p>	<p>Chainsaws, vehicles, education and outreach; data management and GIS support; experienced in application of herbicides / pesticides</p>	<p>Potential staff support per island for survey and control. Experienced in pesticide use.</p> <p>Hawai'i (14-16), 3-4 likely available Maui (15), 6 Moloka'i (2-3) O'ahu (13), 4-5 Kaua'i (8-9), 4</p>	<p><b>Hawai'i,</b> 933-3340 <a href="mailto:skaye@hawaii.edu">skaye@hawaii.edu</a></p> <p><b>Maui,</b> 573-6472 <a href="mailto:misc@hawaii.edu">misc@hawaii.edu</a></p> <p><b>Moloka'i,</b> 336-0625 <a href="mailto:lbuchanan@tnc.org">lbuchanan@tnc.org</a></p> <p><b>O'ahu,</b> 266-7994 <a href="mailto:oisc@hawaii.edu">oisc@hawaii.edu</a></p> <p><b>Kaua'i,</b> 821-1490 <a href="mailto:kgunder@hawaii.edu">kgunder@hawaii.edu</a></p>	<p>Vehicles, drivers for staff support</p>

## ADDITIONAL CONTRIBUTORS

Agency/Entity	Possible Funding for Emergency Response?	Lands Covered in Normal Operations	Authority to Enter Lands	Summary of Equipment, Programs	Summary of Personnel	Primary HI Contact for Plant Health Response	Vehicles + Drivers ?
<b>H.</b>  <b>Watershed Partnerships</b> (11, on five islands)	The WPs are highly capable of helping the lead agencies in implementing the PHERP, pending institutional buy-in of their leadership and funders. Funding flexibility could potentially be built in by funders.	DLNR managed lands including Forest Reserves and Natural Area Reserves	All DLNR managed lands. Other lands with permission.	GIS support for both mapping and targeting surveys, chainsaws, vehicles, heavy equipment; and education and public outreach,	Potential staff support per island for survey and control. Experienced in pesticide use. Hawaii 3 partnerships; Maui 3 partnerships, up to 12 or more staff; Lana'i 1 partnership?; Moloka'i 1 partnership O'ahu 2 partnerships Kaua'i 1 partnership	<b>Hawai'i</b> , 985-6197 <a href="mailto:tcolleencole@gmail.com">tcolleencole@gmail.com</a> . <b>Maui</b> , 573-6999 <a href="mailto:coordinator@eastmauiwatershed.org">coordinator@eastmauiwatershed.org</a> , <b>Moloka'i</b> , 553-5236 <a href="mailto:emisaki@tnc.org">emisaki@tnc.org</a> <b>O'ahu</b> , 453-6110 <a href="mailto:kmwpcordinator@gmail.com">kmwpcordinator@gmail.com</a> <b>Kaua'i</b> , 587-6257 <a href="mailto:tmenard@tnc.org">tmenard@tnc.org</a>	Vehicles for staff support
<b>I.</b>  <b>Bishop Museum</b>  (Bernice P. Bishop Museum)	Bishop Museum's current funding situation is sufficiently precarious that their personnel can't participate in emergency response without external funding; they can serve on scientific advisory panels based on area(s) of expertise.	N/A	N/A	The Bishop Museum's Hawaii Biological Survey (HBS) is an ongoing natural history inventory of the Hawaiian archipelago, and has annual records of the Hawaii Biological Survey since 1994. This is a primary source of research on new island and state records of our fauna and flora.  The Museum is the State repository for collections of plants and animals, and vouchers of all collected specimens need to be deposited here.	The staff at the Museum can assist with identifications of arthropods, mollusks, and plants, greatly aided by the collections.  Bishop Museum is a key resource for the ISCs, since that is where invasive plant specimens are sent.  O'ahu Early Detection botanists (with OISC) have been productively stationed at Bishop Museum as Research Associates.	<b>Senior Entomologist</b> Neal L. Evenhuis , 808-848-4138, <a href="mailto:neale@bishopmuseum.org">neale@bishopmuseum.org</a>  <b>Research Specialist</b> Clyde T. Imada, (Botany), 808-848-4175 <a href="mailto:cimada@bishopmuseum.org">cimada@bishopmuseum.org</a>  <b>Entomology Collections Manager,</b> Shepherd P. Myers, <a href="mailto:shepherd.myers@bishopmuseum.org">shepherd.myers@bishopmuseum.org</a>	N/A



## ADDITIONAL CONTRIBUTORS

Agency/Entity	Possible Funding for Emergency Response?	Lands Covered	Authority to Enter Lands	Summary of Equipment, Programs	Summary of Personnel	Primary HI Contact for Plant Health Response	Vehicles + Drivers?
<p><b>J.</b></p> <p><b>County Government</b> (Including County Waste Management Division for green waste disposal as well as incineration (i.e., H-Power))</p>	<p>Possible. Some County Governments are currently providing significant funding to Invasive Species Committees and Watershed Partnerships. County Councils are often supportive of county spending to address invasive species issues.</p>	<p>Potentially comprehensive</p>	<p>No special authority</p>	<p>In some instances, a county government may conceivably be willing and able to assist with providing personnel, logistical support and/or funding for emergency response efforts. In other instances, coordination with county solid waste management efforts may be crucial.</p> <p>All counties have a Department of Environmental Management or equivalent, managing disposal of waste materials, often important in plant health emergency responses.</p>		<p><b>Hawai'i County</b> Mayor: 961-8211 Landfill: East: 961-8083 West: 323-4411</p> <p><b>Honolulu/O'ahu</b> Mayor: 768-4141 Landfill: 768-3486 HPower: 682-0261</p> <p><b>Kaua'i County</b> Mayor: 241-4900 Landfill: 241-4839</p> <p><b>Maui County</b> Mayor: 270-7855 Landfill: 270-8230 Env. Coord.: 270-8250</p> <p><b>NOTE: Approach to the Mayors' Offices during a response should be made through the IC Team</b> (IC or via the PIO), working with the Chair of HDOA and/or DLNR, by State Civil Defense, or by one or more of the County Mayors.</p>	<p>N/A</p>

## ADDITIONAL CONTRIBUTORS

Agency/Entity	Possible Funding for Emergency Response?	Lands Covered in Normal Operations	Authority to Enter Lands	Summary of Equipment, Programs	Summary of Personnel	Primary HI Contact for Plant Health Response	Vehicles + Drivers?
<b>K.</b>  <b>U.S. Environmental Protection Agency (EPA)</b>	N/A	N/A	N/A	<p>The Honolulu EPA office serves the public, state and local agencies, businesses, and groups interested in the environment, environmental health issues and EPA regulations.</p> <p>They can provide information relevant to environmental compliance.</p>	EPA has a small contact office in Honolulu's Federal Building	<b>Congressional Liaison / Press Officer</b> Dean Higuchi (808) 541-2710 <a href="mailto:higuchi.dean@epa.gov">higuchi.dean@epa.gov</a>	N/A
<b>L.</b>  <b>Governor's Office</b>	Yes, approaching the Governor for funding in a serious plant health Emergency may be a very important strategy.	N/A	N/A	N/A	<b>Note: Approach to the Governor's Office during a response would properly be made through:</b> the IC Team working with the Chair of HDOA and/or DLNR, by State Civil Defense, or by one or more of the County Mayors.	<b>Office of the Governor,</b> The Honorable Neil Abercrombie 808-586-0034  <b>Office of the Lieutenant Governor,</b> The Honorable Shan Tsutsui 808-586-0255	N/A

## ADDITIONAL CONTRIBUTORS

Agency/Entity	Possible Funding for Emergency Response?	Lands Covered in Normal Operations	Authority to Enter Lands	Summary of Equipment, Programs	Summary of Personnel	Primary HI Contact for Plant Health Response	Vehicles + Drivers?
<b>M.</b>  <b>Hawai'i Department of Health (HDOH)</b>	N/A	N/A	N/A	HDOH has responsibilities for pesticide regulation, delegated by USEPA. In Hawai'i, the Health Department (Clean Water Branch) is the lead state agency for the National Pollutant Discharge Elimination System (NPDES). DOH's rules have emergency provisions.	HDOH is one of six agencies with votes on the Hawaii Invasive Species Council (HISC). Gary Gill, Deputy Director of DOH, serves as the DOH Director's representative on the Hawaii Invasive Species Council.	<b>Deputy Director for Environmental Health,</b> Gary Gill, <a href="mailto:gary.gill@doh.hawaii.gov">gary.gill@doh.hawaii.gov</a>  <b>Environmental Planning</b> Laura McIntyre, <a href="mailto:Laura.McIntyre@doh.hawaii.gov">Laura.McIntyre@doh.hawaii.gov</a>	N/A
<b>N.</b>  <b>Hawai'i Early Detection Network (HEDN)</b>	N/A	N/A	N/A	HEDN is a program designed to support invasive species public outreach and early detection efforts. It consists of a suite of web-based products and tools that facilitate the capture, management and referral of pest reports from the public; provide efficient methods of interagency communication; provide notification of incoming reports in near real-time; and increase public awareness of invasive species early detection.	Two part-time employees	Elizabeth Speith (808) 264-4757 <a href="mailto:speith@hawaii.edu">speith@hawaii.edu</a>  Sky Harrison (808) 264-2799 <a href="mailto:skyh@hawaii.edu">skyh@hawaii.edu</a>  website: <a href="http://www.reportapest.org">www.reportapest.org</a>  Hawai'i Biodiversity Information Network (HBIN), Pacific Cooperative Studies Unit (PCSU), UH- Mānoa	N/A

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Agency/Entity	Possible Funding for Emergency Response?	Lands Covered in Normal Operations	Authority to Enter Lands	Summary of Equipment, Programs	Summary of Personnel	Primary HI Contact for Plant Health Response	Vehicles + Drivers?
<p><b>O.</b></p> <p><b>Hawai'i Tourism Authority (HTA)</b></p>	<p>Yes, perhaps. There have been several recent HTA grant awards related to mitigating effects of invasive species, including Little Fire Ants.</p>	<p>N/A</p>	<p>N/A</p>	<p>HTA is a potential funding source for small grants, which might conceivably be timed to assist an ongoing emergency eradication effort.</p>	<p>A county government representative in each county.</p>	<p><b>Natural Resources &amp; Living Hawaiian Culture Representative</b> ,                      Kelii Wilson,                      (808) 973-2281   <a href="mailto:kwilson@hawaiitourismauthority.org">kwilson@hawaiitourismauthority.org</a></p>	<p>N/A</p>
<p><b>P.</b></p> <p><b>Industry and Associations</b></p>	<p>Industry can potentially advocate for funding from other (state, county) sources.</p>	<p>Farm industries can provide superb assistance through enlightened self-interest when new pest incursions occur on farmlands.</p>	<p>Farm industries can facilitate permission/access to potentially critical invaded lands.</p>	<p>Potential means of assistance for a plant health emergency:</p> <p>Communication link to members via phone, email, website.</p> <p>Informal surveillance and reporting</p> <p>Provide liaison with response team</p> <p>Help HDOA with control, eradication</p>	<p>Industry associations include farmers, landscape/nursery industry, flower &amp; foliage growers, foresters, ranchers, seed crop producers, sugar &amp; pineapple producers, coffee growers, fruit growers, macadamia nuts, orchids, as well shippers, etc.</p> <p>These associations provide a potentially effective link with Hawaii's agricultural producers in particular, who have much to lose by continual establishment of new pests.</p>	<p><b>Organizations and their contact information is given in Appendix C.</b></p>	<p>Much potential for vehicular assistance in navigating potentially difficult farm terrain on occasion.</p>

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<p><b>Q.</b></p> <p><b>Pacific Cooperative Studies Unit (PCSU)</b></p> <p><b>of the University of Hawai'i at Manoa</b></p>	<p>PCSU works through the Research Corporation of University of Hawai'i (RCUH) and is a potential conduit for funds being passed from funding entities to existing collaborators in the PHERP.</p>	<p>Varies for individual project staff. PCSU operates across state, federal and private lands thorough its projects.</p>	<p>Varies for individual project staff.</p>	<p>PCSU provides comprehensive administrative support to projects of such entities collaborating in this Plan as CGAPS, HISC, invasive species committees, watershed partnerships, Army environmental (OANRP), Hawaii Ant Lab, HEDN, and HPWRA.</p>	<p>The PCSU project staff of 350 has a variety of skills that could be re-purposed for short term emergency response.</p>	<p>David Duffy, Professor of Botany &amp; Unit Leader 808-956-8218 <a href="mailto:dduffy@hawaii.edu">dduffy@hawaii.edu</a></p>	<p>Yes for individual project staff. Projects have 2 -20 vehicles on each island.</p>
<p><b>R.</b></p> <p><b>USDA Forest Service</b> (primarily a research &amp; advisory agency in HI)</p>	<p>Prevention and suppression of insect and disease pests of trees (and emergency suppression)</p>	<p>USFS has authorities for spending funds on pest suppression on all forest lands, fed, state and private.</p>	<p>N/A</p>	<p>FS has no equipment available in Hawai'i.</p>	<p>Sheri Smith, Regional Entomologist, Susanville, CA; Phil Cannon, Regional Forest Pathologist Vallejo, CA; Ric Lopez, IPIF Director, Hilo, HI. FS also has access to other specialists (entomologists and pathologists) in the region and throughout the FS nationally on a case-by-case basis.</p>	<p><b>FS Pacific Islands Liaison</b>, Jodi Chew, Honolulu, 808-348-1926, <a href="mailto:jschew@fs.fed.us">jschew@fs.fed.us</a></p> <p><b>DOFAW, State liaison with FS</b>, Robert Hauff, Honolulu, 808-587-4174, <a href="mailto:Robert.D.Hauff@hawaii.gov">Robert.D.Hauff@hawaii.gov</a></p>	<p>None available.</p>

## Contributors in Unique Situations

Agency/Entity	Possible Funding for Emergency Response?	Lands Covered in Normal Operations	Authority to Enter Lands	Summary of Equipment, Programs	Summary of Personnel	Primary HI Contact for Plant Health Response	Vehicles + Drivers?
<p><b>S.</b></p> <p><b>U.S. Fish &amp; Wildlife Service (USFWS)</b></p>	<p>Not impossible in occasional instances, perhaps depending on timing and agency funding levels.</p>	<p>Responsibility for federally Endangered Species is theoretically statewide (or nationwide), but freedom to manage applies only to the National Wildlife Refuges.</p>	<p>FWS employees have maximum authority in National Wildlife Refuges. Otherwise, they have authority to act against invasive species only with landowner permission.</p>	<p>FWS manages wildlife refuges and is responsible for overseeing protection of federally Endangered Species. There may be the possibility of assistance from FWS in a challenging environmental compliance situation.</p>	<p>FWS has a large staff in Honolulu, with scattered staff across the Hawaiian islands. Some of these personnel may be available for emergency response in some instances. FWS has a small number of Law Enforcement personnel, who may be able to assist in enforcement aspects of invasive species issues.</p>	<p><b>Assistant Field Supervisor</b>, Earl Campbell, 808-792-9400, <a href="mailto:earl_campbell@fws.gov">earl_campbell@fws.gov</a></p> <p><b>Invasive Species Biologist</b>, Domingo Cravalho, 808-792-9445, <a href="mailto:domingo_cravalho@fws.gov">domingo_cravalho@fws.gov</a></p> <p><b>Invasive Species Biologist</b>, Joshua Fisher, 808-792-9452, <a href="mailto:joshua_fisher@fws.gov">joshua_fisher@fws.gov</a></p>	<p>Limited.</p>
<p><b>T.</b></p> <p><b>Botanical Gardens</b></p>	<p>no</p>	<p>Primarily their own lands. They are likely to detect a plant pest and report it, and help with emergency response.</p>	<p>N/A</p>	<p>Botanical Gardens have special responsibilities for caution and vigilance to avoid introducing source material for plant invasions and plant pests. Most of Hawaii's gardens are extremely aware and collaborative with entities concerned with plant health in addressing such issues. They also have an important role in educating the public on plant health issues.</p>	<p>National Tropical Botanical Garden, Lyon Arboretum, and Honolulu Botanical Gardens are among those gardens most active in plant health education programs.</p>	<p><b>National Tropical Botanical Garden</b> <a href="http://www.ntbg.org/">www.ntbg.org/</a> (808) 332-7324</p> <p><b>Lyon Arboretum</b> (808) 988-0456 <a href="http://www.hawaii.edu/yonarboretum">www.hawaii.edu/yonarboretum</a></p> <p><b>Honolulu Botanical Gardens</b> (808) 522-7060 <a href="http://www1.honolulu.gov/parks/hbg/">http://www1.honolulu.gov/parks/hbg/</a></p> <p><b>Contact Liaison:</b> Joshlyn Sand <a href="mailto:jsand@honolulu.gov">jsand@honolulu.gov</a></p>	<p>N/A</p>

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<b>U.</b>  <b>Customs and Border Protection (CBP)</b> -Department of Homeland Security, (DHS-CBP)	N/A	N/A	N/A	CBP is responsible for air/sea/military passengers/ cargo and air and sea conveyance entering the United States from foreign countries. CBP conducts exams and retains information relating to the entry of passengers and cargo, thus has potential for providing useful information on the source of a new infestation.	CBP has well over 100 employees with inspection responsibilities in Hawaii, mostly at Honolulu ports of entry. If it has been determined that an emergency response may relate to an area of CBP responsibility, the agency can assist with information that may be useful in determining the source of the incident.	<b>Port of Honolulu, Chief Agriculture Specialist,</b> James Kosciuk 808-356-4100 <a href="mailto:james.kosciuk@dhs.gov">james.kosciuk@dhs.gov</a>	N/A
<b>V.</b>  <b>Civil Defense (Emergency Management)</b>	In a Governor declared emergency, there is an emergency fund set aside for such events.	Potentially all	They can help in exercising special authority to assist in addressing the emergency.	They use NIMS, ICS, and Emergency Operations Centers, and involve State and County Departments in assisting in addressing the emergency.  CD/ EM has the knowledge and experience to deal with large-scale responses to serious problems. In addition, it has access to resources that are not or may not be available to other state agencies or county government	Civil Defense departments are relatively small, but they can mobilize substantial interdepartmental resources by implementing ESF-11.	<b>State of Hawai'i Civil Defense :</b> Steven Yoshimura, (808) 733-4300 <a href="mailto:syoshimura@scd.hawaii.gov">syoshimura@scd.hawaii.gov</a>  <b>County Emergency Management:</b>  <b>Honolulu:</b> Melvin Kaku, Director, (808) 723-8960 <a href="mailto:mkaku@honolulu.gov">mkaku@honolulu.gov</a>  <b>Kauai Lihue</b> (808) 241-1800  <b>Maui -Wailuku</b> (808) 270-7285  <b>Hawai'i -Hilo</b> (808) 935-0031, (808) 935-3311 (after hours)	yes



## Contributors in Unique Situations

Agency/Entity	Possible Funding for Emergency Response?	Lands Covered	Authority to Enter Lands	Summary of Equipment, Programs	Summary of Personnel	Primary HI Contact for Plant Health Response	Vehicles + Drivers?
<p><b>W.</b></p> <p><b>County Parks and Recreation</b></p>	<p>Possible for short term response.</p>	<p>Each County has a network of county parks, which require plant health management.</p>	<p>N/A</p>	<p>"We now have lots of capacity, 24 certified tree climbers, arborists, lift trucks, chainsaws for days, don't be afraid to call us. Our division head Stan Oka is very supportive of OISC and we have the flexibility to help." (-Austin Braaten, Parks and Recreation, C&amp;C of Honolulu, Nov 6, 2013)</p>	<p>County parks have personnel who may detect plant pests and could assist with emergency response from enlightened institutional self-interest. Health of coconut trees is particularly important in many of Hawaii's county parks.</p>	<p><b>Honolulu/Oahu</b> (808) 768-3003 <a href="http://www1.honolulu.gov/parks/aboutus.htm">www1.honolulu.gov/parks/aboutus.htm</a> -Joshlyn Sand <a href="mailto:jsand@honolulu.gov">jsand@honolulu.gov</a> -Austin Braaten <a href="mailto:abraaten@honolulu.gov">abraaten@honolulu.gov</a></p> <p><b>Hawai'i County</b> East : (808) 961-8311 West: (808) 323-4322 <a href="http://www.hawaiicounty.gov/parks-and-recreation/">http://www.hawaiicounty.gov/parks-and-recreation/</a></p> <p><b>Kaua'i County</b> (808) 241-4460 <a href="http://www.kauai.gov/Government/Departments/ParksRecreation/ParkFacilities/tabid/105/Default.aspx">http://www.kauai.gov/Government/Departments/ParksRecreation/ParkFacilities/tabid/105/Default.aspx</a></p> <p><b>Maui County</b> (808) 270-7230 <a href="http://www.co.maui.hi.us/index.aspx?NID=287">http://www.co.maui.hi.us/index.aspx?NID=287</a></p>	<p>yes</p>
<p><b>X.</b></p> <p><b>Hawai'i Ant Lab (HAL)</b></p>	<p>Normally have limited travel funds from HDOA or HISC</p>	<p>Have done effective LFA operations on Maui, Kaua'i. Based in Hilo and mostly conduct research &amp; advise re: LFA management</p>	<p>Only with permission, but often work with HDOA collaboration/ authority</p>	<p>Research, outreach/education, extension-type assistance with ants, especially LFA, but expertise/experience with RIFA and ants in general</p>	<p>HAL has 3-4 employees</p>	<p>Cas Vanderwoude Research Director 808-315-5656 <a href="mailto:casperv@hawaii.edu">casperv@hawaii.edu</a></p>	<p>limited</p>

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<p>Y.</p> <p><b>Hawai'i Department of Transportation (HDOT)</b></p>	<p>HDOT Highways Division has a Statewide Noxious Invasive Pest Program (SNIPP) that addresses invasive species issues. The program provides an avenue for requesting HDOT assistance for plant pest emergencies along state highways.</p>	<p>Hawaii's transportation network</p>	<p>Can be helpful in road closures as part of an effort to quarantine certain infected areas to prevent transport of the emergency pest.</p>	<p>Can be helpful if there is a need for road closures. Potential for sharing resources through the HISC.</p> <p>"Depending on the duration, HDOT regards a Plant Health Emergency Response as incidental and is able to provide traffic control devices from maintenance funds at our Highway District offices on Oahu, Hawaii, Maui and Kauai. In addition, we are able to quarantine areas at our Harbors and Airports using their maintenance funds." -David J. Rodriguez, 11-6-13</p>		<p><b>Special Assistant to the Director</b> David J. Rodriguez, -Also serves as the DOT representative on the HISC; <a href="mailto:David.J.Rodriguez@hawaii.gov">David.J.Rodriguez@hawaii.gov</a> ; 587-2165; <b>Oahu Administrator:</b> 831-6703, Pratt.Kinikaka@hawaii.gov <b>Kaua'i Administrator:</b> 241-3000, <a href="mailto:Raymond.J.McCormick@hawaii.gov">Raymond.J.McCormick@hawaii.gov</a> <b>Maui Administrator:</b> 873-3538, <a href="mailto:Ferdinand.Cajagal@hawaii.gov">Ferdinand.Cajagal@hawaii.gov</a> <b>Hawai'i Administrator :</b> 933-8866, <a href="mailto:Stanley.Tamura@hawaii.gov">Stanley.Tamura@hawaii.gov</a></p>	<p>N/A</p>
<p>Z.</p> <p><b>Law Enforcement</b></p>	<p>Possible for short term response.</p>	<p>N/A</p>	<p>Yes; with limitations</p>	<p>For plant health emergency responses, it will be necessary in some cases to work with local law enforcement entities to achieve necessary enforcement of quarantines and perhaps other issues.</p>	<p>N/A</p>	<p><b>An expanded presentation of relevant entities and their contact information are given in Appendix B.</b></p>	<p>N/A</p>

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<p><b>AA.</b></p> <p><b>U.S. Military</b></p> <p><b>Army, Navy, Air Force and Marines</b></p> <p>Includes O'ahu Army, Natural Resources Program (OANRP), U.S. Army Garrison Hawai'i, Schofield Barracks.</p> <p>Also includes a similar natural resources program at Pōhakuloa Training Area, a large military facility on Hawai'i island between Mauna Loa and Mauna Kea. (If difficulty arises in contacting them, check with Springer Kaye of BIISC).</p>	<p>OANRP could fund their own work as part of normal operations if it meets OANRP guidelines.</p>	<p>OANRP deals with large portions of Wai'anae and Ko'olau Mts., O'ahu.</p> <p><b>Note: On Oahu, nearly 25% of the 594 mi<sup>2</sup> island is controlled by the armed forces, with over 100 installations, involving Army, Navy, Air Force and Marines. This creates the need for reliable liaison individuals who can assist in obtaining permission for plant health survey and emergency responses through the relevant command structure.</b></p>	<p>Guidelines for Involvement: OANRP is limited to addressing threats that</p> <ol style="list-style-type: none"> <li>1) Affect military training,</li> <li>2) Are threats that are introduced via training, or</li> <li>3) Are threats that directly impact endangered species</li> </ol> <p>the military is required to manage. While this allows some leeway in working on a variety of invasive and pest issues, the connection to Army lands or training is an important component.</p>	<p>OANRP is currently responsible for managing more than 100 endangered species of plants, snails and birds on lands covered. They conduct regular weed surveys and have targeted 61 incipient weed species for eradication in their management units, including the notorious weed <i>Chromolaena odorata</i>. They have GPS, GIS, and data management capability.</p>	<p>The Military in Hawaii is generally supportive of efforts to address invasive species, and the OANRP, based at the U.S. Army Garrison Hawai'i, Schofield Barracks, is particularly exemplary and is open to collaboration in emergency response within their mission guidelines. There may be the possibility that military personnel (other than OANRP) could on occasion assist in plant health emergency response but this concept would need to be developed.</p> <p>The OANRP program has about 50 staff members and routinely collaborates with partner agencies, having participated in a number of collaborative invasive species control projects for coqui, naio thrips, fountain grass, and Chromolaena and is a willing contributor to emergency response on O'ahu if their guidelines allow it.</p>	<p><b>Liaison for plant health-related survey &amp; emergency accesses to military lands:</b></p> <p><b>Navy:</b> Cory Campora (808) 472-1408, <a href="mailto:cory.campora@navy.mil">cory.campora@navy.mil</a></p> <p><b>Army:</b> Mark Leong <a href="mailto:mark.k.leong@us.army.mil">mark.k.leong@us.army.mil</a> (808) 864-1038</p> <p><b>Air Force:</b> William E. Grannis <a href="mailto:william.grannis@us.af.mil">william.grannis@us.af.mil</a> (808) 449-4049</p> <p><b>Marines:</b> Lance Bookless <a href="mailto:lance.bookless@usmc.mil">lance.bookless@usmc.mil</a> (808) 257-6920 x226</p> <p><b>OANRP:</b> Michelle Mansker, Chief, USAG-HI, (808) 656-5301</p> <p><b>Pōhakuloa Training Area:</b> Lena Schnell, Senior Program Mgr (808) 969-3340</p>	<p>vehicles, drivers</p>

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<b>BB.</b>  <b>National Park Service (NPS)</b>	Not entirely impossible, but would likely require an MOU.	National Park lands	NPS employees can probably work outside Parks only with an MOU.	chainsaws, vehicles, education and outreach; data management and GIS support	Large contingent of NPS Resources Mgmt personnel at Hawai'i Volcanoes NP on Hawai'i & at Haleakala NP on Maui, with some also at Kalaupapa NHP on Moloka'i. Some of these employees may be potentially available to assist emergency response in certain instances.	<b>Hawai'i</b> 985-6085 <a href="mailto:david_benitez@nps.gov">david_benitez@nps.gov</a>  985-6098 <a href="mailto:rhonda_loh@nps.gov">rhonda_loh@nps.gov</a>  <b>Maui:</b> 572-4490, <a href="mailto:matt_brown@nps.gov">matt_brown@nps.gov</a>  <b>Exotic Plant Mgmt Team:</b> <a href="mailto:jeremy_gooding@nps.gov">jeremy_gooding@nps.gov</a>	Potentially, with MOU
<b>CC.</b>  <b>PBARC</b>  <b>U.S. Pacific Basin Agricultural Research Center (USDA-Agricultural Research Service)</b>	N/A	N/A	With collaboration and permission/authority	The mission of PBARC is to develop basic and applied information to strengthen agriculture in Hawai'i and the Pacific Basin in an environmentally acceptable and sustainable manner, including demonstrating appropriate strategies for managing crop pests and providing economically viable technologies for controlling quarantine pests.	PBARC's staff may be willing and able to assist with eradications in certain instances, when the special expertise of individual scientists may be needed. APHIS-PPQ and HDOA are generally familiar with the work of PBARC scientists from presentations at entomology conferences and past assistance.	Hilo, HI  <b>Acting Director, Research Food Technologist,</b> Marisa Wall, (808) 959-4343, <a href="mailto:marisa.wall@ars.usda.gov">marisa.wall@ars.usda.gov</a>  <b>Supervisory Research Entomologist,</b> <a href="mailto:eric.jiang@ars.usda.gov">eric.jiang@ars.usda.gov</a> , (808) 959-4340;  <b>Research Entomologist,</b> <a href="mailto:Peter.Follett@ars.usda.gov">Peter.Follett@ars.usda.gov</a> , (808) 959-4303	yes

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<b>DD.</b>  <b>Plant Boards (National and Western)</b>	N/A	N/A	N/A	Plant boards can help disseminate information relevant to addressing any national/regional repercussions of a plant emergency in Hawai'i. National APHIS-PPQ typically convenes a teleconference with the NPB shortly after the detection of a new plant pest or an outbreak has occurred to provide initial information about the incident.	The National Plant Board (NPB) is made up of the principal plant pest regulatory officials of each member commonwealth and state of the U.S and provides communication between the Eastern, Southern, Central, and Western Plant boards. Their mission is to facilitate the protection of agriculture, horticulture, forestry, and the environment on state, national and international levels.	Neil Reimer, HDOA Plant Industry, SPRO (State Plant Regulatory Official)  <a href="mailto:Neil.J.Reimer@hawaii.gov">Neil.J.Reimer@hawaii.gov</a> (808) 973-9535  U.S. Membership in the boards and contact information changes periodically but is continually updated at <a href="http://www.nationalplantboard.org/">http://www.nationalplantboard.org/</a>	N/A
<b>EE.</b>  <b>SEB and FAC (USDA State Emergency Board (SEB) and USDA Food and Agriculture Council (FAC))</b>	USDA Farm Service Agency (FSA) provides loans and in very limited situations for disaster assistance to qualified agricultural producers in the event of a Presidential or Secretarial Disaster Declaration, to assist agricultural producers to recover from natural disasters and meet other economic needs.	N/A	N/A	<b>SEB</b> responsibilities include the coordination of USDA emergency activities at the state level including identification of state-level or interagency issues related to incidents (especially "natural disasters") affecting agriculture and rural communities in prioritizing relief efforts.  The <b>FAC</b> provides policy-level, cross agency, decision-making and communication forum to achieve USDA goals and objectives and the delivery of programs to customers in agriculture and rural communities. The FAC is convened at the national, state and county levels.	<b>SEB and FAC</b> meet quarterly at the Federal Building in Honolulu.  The <b>FAC and SEB</b> is represented by all USDA agencies and invited stakeholders	<b>Executive Director, Hawaii and Pacific Basin Farm Services Agency (FSA)</b> Diane Ley Honolulu (808) 441-2704 Toll Free 1-866-794-1079 <a href="mailto:diane.ley@hi.usda.gov">diane.ley@hi.usda.gov</a>  (The State Executive Director of the Farm Service Agency chairs the SEB and participates in the FAC.)  <b>website:</b> <a href="http://www.fsa.usda.gov/hi">www.fsa.usda.gov/hi</a>	N/A

## Contributors in Unique Situations

Agency/Entity	Possible Funding for Emergency Response?	Lands Covered in Normal Operations	Authority to Enter Lands	Summary of Equipment, Programs	Summary of Personnel	Primary HI Contact for Plant Health Response	Vehicles + Drivers?
<p><b>FF.</b></p> <p><b>The Nature Conservancy, Hawai'i Program (TNCH)</b></p>	<p>TNCH is not generally a funding/granting entity but some funding for emergency response may be possible on a small scale.</p>	<p>TNCH lands.</p>	<p>Island-wide, with permission.</p>	<p>TNCH manages ten nature preserves on five islands totaling over 34,000 acres, and have a history of helping address invasive species issues.</p>	<p>Roughly 90 percent of the staff and budget of TNCH's "stewardship" or conservation management program is directed at control of pigs, goats, Axis deer, weeds, alien algae, and other pest species. TNCH may be able to assist in PHERP activities, depending on timing and location.</p>	<p>Trae Menard, Lihu'e 808- 587-6257 <a href="mailto:tmenard@tnc.org">tmenard@tnc.org</a>;</p> <p>Mark Fox, Honolulu 808-587-6234 <a href="mailto:mfox@tnc.org">mfox@tnc.org</a></p>	<p>Limited vehicles, drivers</p>
<p><b>GG.</b></p> <p><b>University of Hawai'i</b></p>	<p>N/A</p>	<p>N/A</p>	<p>As collaborators, with permission.</p>	<p>There is an enormous amount of specialized expertise in campuses and departments of the University of Hawai'i System potentially relevant to detection and emergency response to plant pests.</p>	<p>University of Hawai'i staff may be willing and able to assist with eradications in certain instances, when the special expertise of individual scientists may be needed. There are approximately 60 faculty and staff in the UH College of Tropical Agriculture and Human Resources (CTAHR) alone, who have one or more responsibilities for dealing with new (invasive) pests. Much additional expertise exists in departments in the UH College of Arts and Sciences and other Colleges.</p>	<p><a href="http://www.hawaii.edu/APHIS-PPQ">www.hawaii.edu/APHIS-PPQ</a> and HDOA, generally familiar with the work of UH scientists from presentations at entomology and plant pathology conferences as well as past assistance. Contact information and expertise for many if not most members of the UH faculty can be obtained by searching by name on the UH website,</p> <p>-CTAHR contact (J. Kenneth Grace, <b>Assoc. Dean and Assoc. Director of Research</b>, <a href="mailto:kennethg@hawaii.edu">kennethg@hawaii.edu</a>, 808-956-8131) can liaison for finding best expertise among CTAHR scientists for specific emergency response issues. A directory of CTAHR is available at <a href="http://www.ctahr.hawaii.edu/site/People.aspx">http://www.ctahr.hawaii.edu/site/People.aspx</a></p>	<p>Can usually provide their own transport, if needed.</p>

### Contributors in Unique Situations

Agency/Entity	Possible Funding for Emergency Response?	Lands Covered in Normal Operations	Authority to Enter Lands	Summary of Equipment, Programs	Summary of Personnel	Primary HI Contact for Plant Health Response	Vehicles + Drivers?
<p><b>HH.</b></p> <p><b>Hawai'i Pacific Weed Risk Assessment (HPWRA)</b></p>	N/A	N/A	N/A	<p>HPWRA is an important repository for information on ecology and biology of invasive weeds, including some that could become targets within the framework of the PHERP. The HPWRA Specialist could assist in obtaining the latest available information on any pest plant.</p>	Currently a staff of 1	<p><b>Weed Risk Assessment Specialist,</b>            Chuck Chimera  <a href="mailto:hpwra@yahoo.com">hpwra@yahoo.com</a>            808-573-6471</p> <p><b>website:</b>  <a href="http://www.plantpono.org">www.plantpono.org</a></p>	N/A



## 5E. Special Circumstances: Military Lands

### 1. Overview:

The Military in Hawai'i is generally very supportive of efforts to address invasive species, but given the complex realities of military missions and command structure, there are inherent barriers to easy communication.

This creates the need for reliable *liaison* individuals who can assist in obtaining permission for plant health survey and emergency responses through the relevant military command structure.

### 2. PHERP Liaison Contacts

If a plant pest is found on military lands, or access is needed for plant health related surveys or emergency access, contact these liaisons for plant health-related survey & emergency accesses to military lands: *(additional information is found in Appendix B)*

#### ❖ **Air Force:**

*William E. Grannis*

[william\\_grannis@us.af.mil](mailto:william_grannis@us.af.mil); 808-449-4049

#### ❖ **Army:**

*Mark Leong, US Army (civilian entomologist)*

Directorate of Public Works

U.S. Army Garrison, Hawai'i

948 Santos Dumont Avenue, Bldg 105, Wheeler Army Airfield

Schofield Barracks HI 96857-5013 USA

[mark.k.leong@us.army.mil](mailto:mark.k.leong@us.army.mil); 808-864-1038

#### ❖ **Marines:**

*Lance Bookless*

[lance.bookless@usmc.mil](mailto:lance.bookless@usmc.mil); 808-257-6920 x226

*Alternate: Todd Russell*

[todd.russell@usmc.mil](mailto:todd.russell@usmc.mil); 808-216-7135

#### ❖ **Navy:**

*Cory Campora, US Navy (civilian entomologist)*

NAVAC Hawaii OPHC3I

400 Marshall Road, Building A-4

Pearl Harbor Hawaii 96806-3139 USA

[cory.campora@navy.mil](mailto:cory.campora@navy.mil); 808-471-1170 x244

## **5F. Special Circumstances: Intentional and Smuggling Introductions:**<sup>90</sup>

### **1. Overview:**

In many if not most cases, it may be difficult to initially determine whether an introduction is intentional or malicious. Further, it may be unclear whether the introduction is a direct smuggling attempt or an inadvertent introduction from smuggling activities. However, despite the uncertainty that may exist as to the cause of the incident, an initial response to reduce the threat, protect the natural and agricultural resources, and protect public health will be the key goal.

In the case of one of these events (intentional, malicious, smuggling, etc.), *either USDA-OIG (Office of the Inspector General) or FBI-WMDD (Weapons of Mass Destruction Directorate) will likely take the lead after being notified.* The Incident Commander will be responsible for communications with OIG/WMDD, or can delegate the responsibility with consideration to the sensitivity of the issues.<sup>91</sup>

### **2. Initial Actions:**

(In almost all cases, these actions are to be taken by the IC, and if IC not established, then by an HDOA representative):

- **IF the Plant Pest Is a Suspected Introduction Related to :**
  - *Intentional or Malicious Actions,*
  - *Terrorist Activities and/or*
  - *An Intention to Do Harm to Public Safety, the Economy or Agriculture*

#### **THEN:**

##### **A. Notify USDA-APHIS (see Section 5D), Who Will Contact USDA-Office of the Inspector General (OIG) and if Applicable, the FBI.**

*Comments:*<sup>92</sup> USDA-OIG is the law enforcement entity of USDA, and as appropriate, they will contact USDA Investigative Enforcement Services (IES), as well as the National Operations Center, which then in turn will decide how to proceed, as well as notify the FBI and Department of Justice as appropriate. The USDA-OIG also works closely with plant diagnostics staff to ensure the proper handling and packing of any samples and their shipment to the appropriate research laboratory for testing and forensic analysis.

-The Agricultural Bioterrorism Protection Act of 2002 provides emergency authority and specific requirements for dealing with select agents (listed within the Act) and toxins related to bioterrorism, including handling and disposal of select agents. More information is available at [http://www.aphis.usda.gov/programs/ag\\_selectagent/](http://www.aphis.usda.gov/programs/ag_selectagent/)

##### **B. Notify State Civil Defense (see Section 2H)**

##### **C. After Notifications, HDOA to Send the Sample through the Western Plant Diagnostic Network (WPDN) especially if it were suspected to be potential select agent.**

*Comment:* Select agents list can be found at <http://www.selectagents.gov/>. The WPDN system (see Section 4, Step 2, #5), would then begin routing to involve the appropriate entities.<sup>93</sup> The identification would presumably suggest whether the agent is likely to be a deliberate or malicious introduction.

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<sup>90</sup> This section compiled from input from contacts at HDOA, DHS-CBP, and existing direction from the *National Response Framework, Emergency Support Function #11 - Agriculture and Natural Resources Annex* page ESF#11-8, available at <http://www.fema.gov/pdf/emergency/nrf/nrf-esf-11.pdf>

<sup>91</sup> Dorothy Alontaga, USDA-APHIS-PPQ, pers. comm. November 2013

<sup>92</sup> Actions of USDA as detailed in the *National Response Framework, Emergency Support Function #11* – see footnote above

<sup>93</sup> Darcy Oishi, pers. comm. October 2013

➤ **IF the Plant Pest Is Suspected to Be Related to *Smuggling*:**

**THEN:**

**A. Contact USDA-APHIS-PPQ, who would involve APHIS-Smuggling Interdiction and Trade Compliance Program (SITC).**

The mission of the SITC is to detect and prevent the unlawful entry and distribution of prohibited and/or non-compliant products that may harbor exotic plant and animal pests, disease or invasive species.

Comment: Within Hawai'i, in the past, suspected potential smuggling activities have usually involved HDOA-PQ, USDA-APHIS-SITC and FWS, with SITC doing back and forward traces. However, though the time of detection was always fairly far removed from the time of the first suspected activity so that it was impossible to resolve - it was useful to draw up the potential pathways for deliberate introductions.<sup>94</sup>

**B. If a suspected smuggled pest commodity or source was still in CBP's possession:**

CBP would keep it on hold and contact USDA-APHIS-IES and possibly Homeland Security Investigations or other agencies depending on what the issue was.

Comment: CBP investigations routinely involve federal and state collaboration and would specifically involve HDOA and USDA on a pest species issue. If CBP discovered that there is a deliberate malicious intention with something while CBP still controls it, the cargo/passenger/conveyance/item etc., then they would hold the item(s) pending resolution of the issue.<sup>95</sup>

**3. Communications and Handling Sensitive Information:**

Two important aspects to consider with communications specifically related to malicious intentions and smuggling related introductions are to:

- Determine *how* the agencies alert and confirm with each other that an introduction of this type was made, as well as how to handle ongoing sensitive communications, and
- Determine *who* specifically within the agencies are able to handle and store sensitive information.

These aspects should be discussed as part of ICS set up specific to an incident. Other aspects of general communications are covered in the "Communications" section of this plan, Section 4, Step 6.

**4. Entity Involvement:**

A full response involving intentional, malicious, and/or smuggling actions will likely involve a host of entities, including:

- CD / DEM: Civil Defense / Department of Emergency Management
- DHS-CBP: Department of Homeland Security, Customs and Border Protection
- FBI-WMDD: Federal Bureau of Investigation- Weapons of Mass Destruction Directorate
- FEMA: Federal Emergency Management Agency
- FWS: U.S. Fish and Wildlife Service
- HDOA-PQ: Hawai'i Department of Agriculture, Plant Quarantine Branch
- Police: Police Department - within each county in the state
- USDA: U.S. Department of Agriculture
  - USDA-IES: Investigative Enforcement Services
  - USDA-OIG: Office of the Inspector General
  - USDA-SITC: Smuggling Interdiction and Trade Compliance Program

<sup>94</sup> Darcy Oishi, HDOA, pers. comm., October 2013.

<sup>95</sup> James Kosciuk, DHS-CBP, pers. comm., October 2013.

## **5G. Examining Differences in Emergency Response Leadership for Natural Area Pests: State Agency Leadership / Overlap**

Natural area pests often get a foothold in non-natural settings near ports of entry, sometimes spreading quickly to remote natural areas, sometimes less so. DLNR-DOFAW has clear authority to address pests on DOFAW-managed lands (State Forest Reserves, Natural Area Reserves, and other lands zoned for conservation), but has rarely become involved in non-conservation lands. Could/should DLNR-DOFAW collaborate in addressing environmental pests outside its lands? (Yes, it is already doing this on a small scale on a case by case basis. Example: response to hala scale on O'ahu.)

There may or may not be need for clarification regarding what agency (HDOA or DLNR-DOFAW) has primary responsibility for addressing plant pests of the environment or agriculture on DLNR lands. A unified ICS command (DLNR and HDOA) would seem appropriate / optimal. One could argue that DLNR should offer to engage with HDOA to aggressively address a natural area pest when it is first detected. DLNR-DOFAW has staff on all major islands that could provide important leadership and trained personnel. Under what circumstances will DLNR-DOFAW participate/lead, given available resources? In practice, HDOA chooses its battles carefully, as do USDA, DLNR and the ISCs, but each of these entities acts with some degree of independence. There is clearly room for more mutual understanding and closely coordinated strategies. If there's a perceived threat to forested lands of the state, DLNR could/should participate, the degree to which would depend on resources available and how the threat was perceived by the invaded island's branch manager. For a very high profile pest, direction would probably come from the DOFAW administrator or the DLNR chair's office.

### **The Case of Naio Thrips: A Start Toward HDOA/DLNR Collaborative Leadership?**

Recent strategic response planning to address the potential for Naio thrips (*Klambothrips myopori*) to invade a new island may provide a good current example of how collaboration might work in some instances. During the initial low-elevation incursion and response on the Big Island several years ago, HDOA engaged promptly, maintained control of detection programs, and recruited other agencies for help. There was a line drawn, that once the thrips reached natural areas HDOA's ability for active control would disappear and DLNR staff would be in a better position to do detection and response programs. HDOA involvement would be predicated on the details. With DLNR, authority does factor in, but it also comes down to practical issues such as ease of access, readily available equipment, staff with the ability to get to the site, etc. There are a series of decision making processes internal to HDOA as well as to other entities that need to be brought forward.<sup>96</sup> DLNR-DOFAW has led in planning (in cooperation with HDOA) for implementation of a Naio thrips emergency response operation, and has also sought assistance from other partners in advance of an emergency.

### **Summary**

HDOA would logically be the lead if the initial detection is made in landscaping; DOFAW might logically be the lead if the detection were made in forest / wildland; and there are undefined times when a unified command may be in order. No formal process yet exists for achieving an appropriate division of labor, but HDOA and DLNR could work out a generic agreement, perhaps documented by a MOU, if they decided to do so. Using the principles of the PHERP, in future scenarios where DLNR-DOFAW plays a major role, it is likely that DLNR and HDOA would engage in a unified IC operation.

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<sup>96</sup> Darcy Oishi, HDOA, pers. comm.

## ❖ SECTION 6: Training and Exercises

Those who respond to emergencies need to keep their skills aligned with the latest technology and procedures. Training and practical exercises are two ways to keep these skills current; *exercises* provide practice and help in identifying areas where more training is needed, and *training* can then be targeted to those skills that need to be sharpened.

### **Past Exercises and Trainings:**

#### ❖ **IPHERP Tabletop Exercise 2013**

*Description:* Organized through the Coordinating Group on Alien Pest Species (CGAPS) and conducted through JER Consulting, this 1-day tabletop exercise focused on planning and operational coordination related to a plant health response. Reviews and suggestions from the tabletop have been incorporated into this PHERP.

*Contacts for follow up for report:* Detailed minutes and associated summary of the exercise are available through CGAPS from Christy Martin: [christym@rocketmail.com](mailto:christym@rocketmail.com).

#### ❖ **HDOA Plant Pest Control Varroa Mite ICS Scenario 2008**

*Description:* Following up on the RIFA exercise earlier that year (listed below), HDOA Plant Pest Control conducted an actual ICS incident addressing an incipient invasion of varroa mite in Hilo; they have since routinely used ICS in similar operations, and used the report of this incident in subsequent years' trainings.

*Contacts for follow up report:* Incident follow up, including completed sample ICS forms is available through HDOA from Neil Reimer: [neil.j.reimer@hawaii.gov](mailto:neil.j.reimer@hawaii.gov) or Darcy Oishi: [darcy.e.oishi@hawaii.gov](mailto:darcy.e.oishi@hawaii.gov).

#### ❖ **ICS / Red Imported Fire Ant (RIFA) Training and 'Hotwash' Follow Up - 2008.**

*Description:* Large-scale training exercise in which APHIS-PPQ and HDOA collaborated, emphasizing use of ICS in collaborative emergency plant health responses, including a tabletop exercise with a red imported fire ant invasion scenario. Numerous partners were involved, raising the profile of such activity.

*Contacts for follow up for report:* A detailed write up ('hotwash') of the exercise is available through USDA-APHIS-PPQ in Honolulu from Carol Russell: [Carol.E.Russell@aphis.usda.gov](mailto:Carol.E.Russell@aphis.usda.gov) or Dorothy Alontaga: [dorothy.s.alontaga@aphis.usda.gov](mailto:dorothy.s.alontaga@aphis.usda.gov).

#### ❖ **HDOA Plant Quarantine Has Had Recurring ICS Training Over the Past Five Years.**

*Contacts for follow up:* Training details can be obtained from Darcy Oishi [darcy.e.oishi@hawaii.gov](mailto:darcy.e.oishi@hawaii.gov)

#### ❖ **NPDN Testing of Standard Operating Procedures – 2006.**

*Description:* Real time two- week tabletop exercise with a plant pathogen and an insect vector with the goal to test the Standard Operating Procedure (SOP) developed by NPDN (National Plant Diagnostic Network) and USDA-APHIS-PPQ. Exercise was coordinated by CTAHR.

*Contacts for follow up report:* Exercise follow up, including initiation of a new notification protocol and identification of unresolved problems available through CTAHR Barry Brennan, [barryb@hawaii.edu](mailto:barryb@hawaii.edu)

### **Recommendations for Future Trainings:**

#### ❖ **ICS:**

*Agreed Upon Recommendations:*

All players involved in natural resource and agriculture management should at a minimum complete the National Incident Management System's (NIMS) Incident Command System (ICS) basic courses so that they have understanding of how local, state, federal and non-governmental agencies respond.

*HOW to Complete ICS Training:*

- There are links to free 3 hour ICS online course, at the end of Appendix I.
- HDOA is well versed in ICS and can be consulted for general questions through Darcy Oishi at [darcy.e.oishi@hawaii.gov](mailto:darcy.e.oishi@hawaii.gov)
- DLNR-DOFAW does substantial ICS training as part of their firefighting and other responsibilities, and has expressed willingness to accommodate the needs of entities that wish to assist in collaborative rapid response to plant health emergencies. Contact Wayne Ching at [Wayne.F.Ching@hawaii.gov](mailto:Wayne.F.Ching@hawaii.gov).
- The PHERP partners at State Civil Defense and Emergency Management are available to help with specific questions. Contact Steve Yoshimura at SCD: [syoshimura@scd.hawaii.gov](mailto:syoshimura@scd.hawaii.gov)
- The ICS/NIMS consultant to this plan, and facilitator of the associated tabletop, John Roberts of JER Consulting, is available for coordinating additional ICS and related trainings. [jerconsultingllc@aol.com](mailto:jerconsultingllc@aol.com)

❖ **Establish an Annual Multi-agency Training / Exercise Plan to Include ICS / MAC Workings, and other NIMS components, to be Reviewed and Updated Annually**

This was agreed upon in the PHERP Tabletop Exercise (2013). Training needs and exercises should be decided on collaboratively. The CGAPS Steering Committee or MAC group may be a good vehicle for proposing training and exercises based on each year of experience in plan implementation. Training should include entities that were a part of the 2013 tabletop as well as others identified in the exercise who may not have been present, including Dept. of Transportation, Shipping and other Industry, Law Enforcement, etc.)

❖ **Industry-specific Training for PHERP-related Events:**

Those who provide support in ways other than being direct participants in implementing this plan in the field (for example, reporting on unusual disease situations, helping with funding, etc.) may need some form of training; this includes the potential involvement of the business sector in planning, training, exercises and response for proactive solutions and alternatives.<sup>97</sup> The large 2008 RIFA training exercise by PPQ/HDOA noted above, increased awareness of many such participants. This type of training can be very important for those who have limited but important roles – if only to remind them of their potential to help and brief them on the ecological, financial, and related consequences of what may happen without such support

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<sup>97</sup> Partially adapted from APHIS-PPQ 2003, "Standards for Plant Health Emergency Management Systems."

## ❖ SECTION 7: Funding

### A. The Issues:

Funding for a sustained plant health emergency response effort in Hawai'i currently poses a substantial challenge. Part of the hope in developing this plan is to bring this issue to the forefront for future planning purposes within the individual entities / agencies.

Examples of challenges and concern in regards to funding include:

- Contingency funding for emergency response is rare to non-existent at this time in Hawai'i. Plan reviewers have expressed concern that most of the likely funding responses are either for a few weeks (retargeted money) or could take six months to a year to arrive (appropriations). How many of the potentially available agencies can actually turn around, drop what they are doing or hire new people, and purchase materials to mount a response? Or to put it in military terms, who has 'surge capacity'? This is a complex proposition, as there is no way of knowing what emergencies will arise in a given year, or even whether there will be emergency responses needed in a given year.
- One reviewer also called attention to difficulties posed by sometimes onerous State purchasing/acquisition rules. Strategies for how to obtain needed material resources in a timely fashion should be carefully evaluated (most feasibly by the standing MAC, see Section 21) before an emergency hits.
- Within HDOA, though those positions are base-funded, that agency has at times run short of scarce travel funds in years when emergencies have arisen. For the immediate future, such "discretionary funding" may depend on the continuance of the so-called barrel tax, one of the state's "special" funds.
- Another aspect to consider is that Federal agencies are prohibited from lobbying the U.S. Congress for funding. Other entities/individuals may want to explore opportunities for congressional legislative support.

### B. Solutions: Exploring Potential Funding Options:

As part of the development of this plan, it has been proposed that emergency response planning be integrated into discussions within individual agencies and groups, as well as with collaborative efforts such as CGAPS, HISC, the MAC Group (Section 21), etc. Below is a sampling of potential options for emergency response funding that could be explored further:

- Hawai'i Invasive Species Council (HISC)

In a plant health emergency, the HISC could serve as a forum for interagency discussion among cabinet members, potentially facilitating coordination or resource sharing between state departments. The HISC typically provides support for detection and response programs in each county, including the county-based Invasive Species Committees, and personnel from these programs may be able to assist in a response. Depending on the timing and duration of response, HISC funds may be available to related activities. HISC's support staff, including a Planner and a Communications Coordinator, may be able to assist in coordination and outreach.

- USDA-APHIS-PPQ

There may be some opportunity for funding through USDA in certain instances, when federal quarantine pests are involved. Though the USDA cannot lobby congress for funds; outside groups can and have approached congressional representatives for funding for bee pests such as varroa mite.

Another option falls under the Farm Bill: Section 10201 accepts suggestions for projects to be funded, which can contribute to an ongoing pest response. In the evolving 2014 Farm Bill "...projects are



organized around six goal areas: enhancing plant pest/disease analysis and survey; targeting domestic inspection activities at vulnerable points in the safeguarding continuum; enhancing and strengthening pest identification and pest ID technology; safeguarding nursery production; enhancing mitigation capabilities; and conducting outreach and education about these issues.”<sup>98</sup>

Comment: USDA APHIS (and the USFS) provided yearly funding for coconut rhinoceros beetle eradication/response in Guam, 2007-2013 (2013 Farm Bill funding: \$198,750).

- USDA-Forest Service

Forest Service regularly has funding available for certain forest insect and disease suppression projects as well as for invasive plant control through its State & Private Forestry Program. Forest Health Specialist and PHERP Steering Committee Member Rob Hauff of DLNR-DOFAW is well versed in what FS funding possibilities might be.

- Hawai'i Department of Transportation (HDOT)

HDOT can potentially provide assistance for plant pest emergencies along state highways, through their Statewide Noxious Invasive Pest Program (SNIPP).<sup>99</sup> One facet of this program involves “Early Detection and Rapid Response”, which is described as “Support and enhance the State’s capacity to identify, report and effectively respond to newly detected or localized invasive species.”

- Hawai'i Legislature

A potential approach might be to try to obtain some sort of contingency funding from the Hawai'i Legislature.

- Hawai'i Tourism Authority

Based on past funding of somewhat comparable projects, Hawai'i Tourism Authority (HTA) is likely a possible funding source for high-priority projects such as eradication of *Rauvolfia vomitoria* on the Big Island. Certain species addressed by this plan (e.g., LFA or RIFA) might be especially attractive for HTA to fund because of a strong potential for affecting tourism. Some of the ISCs and the Hawai'i Ant Lab have already successfully tapped an HTA source for several projects.

- 'Regular' Funding

Some entities may be able to devote regular funding to provide personnel for emergency response. Thus, even without additional designated emergency funding, there is some possibility that if many entities can pitch in when needed and efforts are within a 1-2 week time period, the costs will get diffused and funding may not become a key barrier to success.

Examples:

*-Invasive Species Committees (ISCs):* Though base funding does not exist for Hawai'i ISCs and they are dependent on annual funding from multiple sources (subject to the influence of economic cycles and related considerations), several of the ISCs normally have some of their funding directed to early detection and rapid response for the (unspecified) highest priority pests.

*-Hawai'i Watershed Partnerships:* Watershed Partnerships have staffs with potential capability and willingness for collaborative plant health emergency response in some circumstances. Funding for WPs is primarily through DLNR and the counties. This *may* allow flexibility for their funding sources (should they so choose) to give them the option to use a specified portion of their normal operating funds for an important local emergency invasive species emergency response, with criteria/stipulations identified in advance.<sup>100</sup>

## **D. Potential Programs to Reimburse a Farmer for Crop Damage Due to Eradication Efforts:**

Another perspective to consider is that concerns have been raised about economic damage to crops that that might occur as a result of emergency response efforts. (An example involved the successful eradication of Chrysanthemum White Rust in Hawai'i, in which a large number of chrysanthemum

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<sup>98</sup> Farm Bill text from the USDA-APHIS at: <http://www.aphis.usda.gov/section10201>

<sup>99</sup> SNIPP information available at <http://hidot.hawaii.gov/highways/landscape-architecture-program/>

<sup>100</sup> Randy Bartlett, East Maui Watershed Partnership, pers. comm. 2013



plants were destroyed, in January 2004 – see Case Study 2 in Appendix F). There seems to be no simple solution but opportunities should be explored when the need arises.

- *USDA Farm Service Agency (FSA)* provides loans in limited situations for disaster assistance to qualified agricultural producers in the event of a Presidential or Secretarial Disaster Declaration, to assist agricultural producers to recover from natural disasters and meet other economic needs. However, it is not clear if these loans could actually be available to farmers for reimbursement of damages from pest eradication efforts, though there might be some possibility that the damages in a certain instances could be tied to pests that escalated due to drought effects. Producers who experience loss of crops; unanticipated production expenses; loss of sales; or loss of markets due to Federal, State or County mandated eradication of pests, diseases, viruses, etc. may want to determine if they qualify for one of the various loan programs offered by the USDA Farm Service Agency.<sup>101</sup> The issue should be raised again if a need arises, probably best done through the State Emergency Board and/or the Food and Agriculture Council. Among USDA agencies, APHIS is apparently the only one that has authority and possible access to funds for reimbursement for expenses related to eradication. The Plant Protection Act of 2000<sup>102</sup> gives authority for the Secretary of Agriculture to decide to compensate owners for destruction of property; the Secretary may or may not do this, or the compensation may be limited in application and scope.

- *The Small Business Administration* is involved with “disaster loans,” at least in the event of a Presidential Disaster Declaration, and perhaps for State declared disasters. (In a Federally declared disaster, through FEMA, the SBA will normally be there.<sup>103</sup>) It may be of benefit to pursue this lead, by contacting the local SBA representative in Honolulu: District Director is Jane A. Sawyer, 500 Ala Moana Blvd, Suite 1-306, Honolulu, HI 96813, 808-541-2990. The tie-in between the SBA and USDA is indicated on the SBA website:

<http://www.sba.gov/content/sba-secretary-agriculture-disaster-declarations-with-open-deadlines>

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<sup>101</sup> Diane Ley, USDA Farm Service Agency, pers. comm., 2013

<sup>102</sup> Plant Protection Act of 2000: [http://www.aphis.usda.gov/plant\\_health/plant\\_pest\\_info/weeds/downloads/PPAText.pdf](http://www.aphis.usda.gov/plant_health/plant_pest_info/weeds/downloads/PPAText.pdf)

<sup>103</sup> Steve Yoshimura, Hawai'i State Civil Defense, pers. comm., 2013

## ❖ SECTION 8: PLAN MAINTENANCE AND ASPECTS FOR FUTURE

If this plan is to be used successfully, it will need periodic review, revision and updating.

### A. Recommendations for Maintenance:

1. **Key individuals and contacts (Section 5D and Appendix B) should be updated every 6-12 months.**

Comment: Notice of the update should be emailed out to all relevant parties, and the PHERP should be updated on its home location on the web through HISC and HDOA.

- The *HISC Planner / Coordinator* has agreed to be responsible for this.

2. **This plan will be reviewed and sent out for updates at least annually and for a full revision proposed every 3 years.**

Comment: Ideally, updating would be done collaboratively under the MAC group (see Section 2I), with leadership to include HDOA, USDA-APHIS-PPQ, and CGAPS.

- *USDA-APHIS-PPQ and the HISC Coordinator* will take the lead in initiating the update (though may not be the ones to actually do the update).

### B. Additions / Considerations for the Future...

*Coordination:*

1. **Implement MAC Group.**

As discussed in Section 2I, key collaborators to this plan have agreed to implement a Multi-Agency Coordination Group to address some of the big-picture issues. The next step for implementation of this plan is for the MAC group to meet and decide upon its direction.

2. **Continue to Expand the Relationship of those Working in Agriculture and Natural Resource Management with those in Emergency Management.**

Large strides have been made in this area through the development of this PHERP. Critical analysis of the transition between and relationships of a plant pest emergency response to broader emergency management of disasters are areas to focus on in the future.

3. **Evaluate Whether to Implement a Standing Incident Management Team.**

A pre-identified standing IMT (see Section 4, Step 3B), may provide for more rapid response. This is a concept that has been agreed on for discussion in the future (perhaps in future MAC meetings or related CGAPS meetings). An aspect to explore would be whether the standing ICS team would be most effective if set up as a multi-agency entity or if it can be primarily HDOA-filled, with backups from other entities available.

Comment: HDOA has agreed that there is a need for a standing IMT internal to HDOA and would like to see a pre-set one for key positions with APHIS-USDA-PPQ; they are also open to explore the areas for which a Standing *Multi-Agency* IMT would be a more appropriate path.

4. **Develop Additional MOUs.**

While there is an important Memorandum of Understanding between USDA-APHIS-PPQ and HDOA, additional ones between other entities have not yet been created. A first step may be trying to develop one between the ISCs and HDOA and/or CTAHR and HDOA to formalize their collaborative relationships for combatting pests.

*Policy:*

5. **Assign a CGAPS Legal Intern the Task of Pursuing in-depth Aspects of HDOA's Existing Authority Pertinent to Eradication and Where Needed Proposing How Gaps in Authority Might Be Filled.**

In general, identify and review legal and other processes that are areas of concern in Hawai'i for

emergency response to plant pests. Specifically, explore the usefulness of legislative history and intent for expediting emergency actions with existing statutes and rules -- the pathway for pest designation, authority to establish effective quarantine to prevent pest movement, accessing property, etc.

## 6. **Expand Listings of Serious Plant Pests already Present or Likely to Reach Hawai'i to Facilitate Emergency Response if and when They Do Get to Hawai'i.**

There are already lists of species considered pests (perhaps most importantly those found in HAR Chapter 4-69A as discussed in Section 3A.1 of this PHERP, but also the noxious weed list and restricted plant lists, as discussed in Section 3, FAQ no.5). The suggestion is that these lists be expanded to include additional species that are likely to get to Hawai'i for which eradication would be greatly aided by having them on the pest list prior to their arrival.

- Chapter 69A, HAR, establishes the procedure for the designation of pests for control or eradication.

- o When the head of HDOA's Plant Industry Division has sufficient information to support a pest for the official designated pest list, this information is presented to the Board of Agriculture for consideration. The current (2008) list is published at the end of chapter 69A. (It includes 52 insects – including coconut rhinoceros beetle, coffee berry borer, little fire ant, and red imported fire ant; four mites -- including varroa mite but not red palm mite; eight "other pests" – including coqui frog; and 26 diseases – including coffee rust and lethal yellowing of coconuts.)
- o The list of pests for control or eradication is important because it empowers HDOA with authority to designate quarantined areas (regulating movement of designated goods) as well as to access private property (with a court order if absolutely necessary) to survey for and treat the species listed. The existing list contains some important pest species not yet in Hawaii.

-Some specific suggestions for addition to the list:

Tawny (Raspberry) Crazy Ant (TCA, *Nylanderia fulva*)  
Red Palm Weevil, *Rhynchophorus ferrugineus* (Coleoptera: Curculionidae)  
South American Palm Weevil, *Rhynchophorus palmarum* (Coleoptera: Curculionidae)  
Palmetto Weevil, *Rhynchophorus cruentatus* (Coleoptera: Curculionidae)  
Red Palm Mite, *Raoiella indica* (Acari: Tenuipalpidae)  
Coconut Mite, *Aceria guerreronis* (Acari: Eriophyidae)

*Note: this is just a small sample of suggested species (which are discussed in more detail in Appendix H, "Background on Potential Targets, along with many others.) As one reviewer noted, "There are about 30 pests I would like to add to this list."*

*HOW to Accomplish?:*

This could be an issue that the newly formed MAC group, as discussed in Section 2I might address. Ultimately this would require a rule change through the Board of Agriculture; however the collaborators can early on work to agree on a list of species that have a strong chance of arriving or may exist already, and start increasing surveillance and other efforts while the rule making process is in progress.

## 7. **As Part of Creating the Listing Above, Identify the Species that Are Currently Not Being Surveyed for and Increase Surveillance Efforts.**

This is a prerequisite for success of many emergency response efforts. There would likely be value in a full assessment of what surveillance is currently being done in Hawai'i, combining information from the independent agencies/entities as well as CAPS species, and asking, "What is falling through the cracks?"

## 8. **Review Gaps in Regulatory Response for Federal Noxious Weeds.**

In discussions related to the PHERP, the question was raised as to whether there is a gap in regulatory response for federal noxious weeds in Hawai'i (See Section 3B – FAQ #6). Might

something be learned from these weeds? What reporting of these weeds took place when first found, delimiting survey, etc. At the time of detection, what was the distribution of these weed in the United States? Was the first detection in Hawai'i a first in the nation? What was the type of property ownership (private, county, state, federal, lands where response could have been addressed?)

*Additional Suggestions:*

The below suggestions are more related to prevention type aspects, however we have included them here because of the direct impact that prevention has on avoiding the need for emergency response.

**9. Develop Improved Diagnostic Capacity to Slow Down the Flow of Microbial Pests that Routinely Enter Hawai'i.**

**10. Streamline Prevention Rulemaking to Protect Hawaii's Important Plants/Crops of the Future.**

Comment: It has been suggested that there needs to be a vision of what plants are/will be important to Hawai'i in the future, and tighten up the regulations to protect them from bringing in new pests when they are imported. This is particularly important for propagative plant parts such as budwood and cuttings.