

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
Division of Forestry and Wildlife
Honolulu, Hawaii 96813

May 24, 2024

Chairperson and Members
Board of Land and Natural Resources
State of Hawai'i
Honolulu, Hawai'i

Board Members:

SUBJECT: APPROVAL OF A MEMORANDUM OF UNDERSTANDING BETWEEN THE HAWAII DEPARTMENT OF AGRICULTURE, THE DEPARTMENT OF LAND AND NATURAL RESOURCES, AND THE UNIVERSITY OF HAWAII FOR THE PREVENTION AND MANAGEMENT OF HIGH PRIORITY PESTS

AND

REQUEST A DELEGATION OF AUTHORITY TO THE CHAIRPERSON TO NEGOTIATE, APPROVE, AND EXECUTE A MEMORANDUM OF UNDERSTANDING FOR THE INTERAGENCY PREVENTION, RAPID RESPONSE, AND CONTROL OR ERADICATION OF HIGH-PRIORITY PESTS WITH THE HAWAII DEPARTMENT OF AGRICULTURE AND THE UNIVERSITY OF HAWAII.

SUMMARY:

This Board Submittal requests approval of a Memorandum of Understanding (MOU) between the Department of Land and Natural Resources Hawai'i Department of Agriculture (HDOA), and the University of Hawai'i (UH) for the prevention, rapid response, and control or eradication of high priority pests in the State of Hawai'i.

BACKGROUND:

The State Legislature has declared invasive species to be the single greatest threat to Hawai'i's economy, natural environment, and the health and lifestyle of Hawai'i's people and visitors. Invasive species can come in various forms such as animals, insects, or diseases and can affect both land and aquatic ecosystems. Invasive species can cause human health issues, attack food crops, and threaten native plants and animals such as birds, trees, flowers, insects, and corals thereby forever changing our unique Hawaiian natural landscape.

Over the past two decades, three invasive species; Little Fire Ant, Coconut Rhinoceros Beetle, and Coqui Frog; have continued to spread across the State. Prevention, response, and control/eradication efforts for these high-priority pests is an interagency collaboration amongst, but not limited to, the partners described below working at a statewide and county level.

Despite ongoing efforts to address these pests, there continue to be new detections and spread across the State. This MOU recognizes that no one entity can solve the problems alone, but for interagency response efforts to be effective, there is a need to establish regular communication amongst the partners and leadership, consistent survey/treatment methods, data sharing, and the development of county-based action plans that outline roles and responsibilities for all the partners.

The attached MOU and the little fire ant matrix (**EXHIBIT A**) were drafted by designated staff from the partners, and reviewed by the signatories and their respective attorney generals or legal council.

The Partners include the Hawai'i Department of Agriculture (HDOA), Plant Industry Branch; Department of Land and Natural Resources, Division of Forestry and Wildlife (DOFAW) and the Hawaii Invasive Species Council (HISC) which is administered by DLNR; the University of Hawai'i-Pacific Cooperative Studies Unit Island Invasive Species Committees, Hawaii Ant Lab (HAL), and Coordinating Group on Alien Pest Species (CGAPS); and the University of Hawai'i Coconut Rhinoceros Beetle Response Program.

Background information and details of the problems caused by Little Fire Ant, Coconut Rhinoceros Beetle, and Coqui Frog are set forth below:

- Little Fire Ant (LFA)
 - LFA are one the world's worst invasive species and have been spreading throughout Hawai'i. The ants are: reddish in color, only about 1.5mm; difficult to detect; and live on the ground and in trees. They have painful stings that can last for weeks, and they can cause blindness in pets. LFA causes economic problems by infesting agricultural lands impacting livestock and workers leading to crop loss. These ants also negatively impact parks, outdoor recreational areas, and schools. LFA are established across the Big Island, large populations exist on Kaua'i, and on O'ahu they have been spreading at alarming levels. LFA may have recently been eradicated from Maui.
- Coconut Rhinoceros Beetle
 - CRB are two inches in length, black, and with a horn. CRB feed on and threaten the health of palm trees and a variety of other trees and crops. CRB was first detected on O'ahu in 2013 and their populations have now reached critical levels impacting palm trees, crops, residents, businesses,

and tourists. CRB has spread to Kaua'i, and individual beetles have been recently detected on Maui and the Big Island.

- Coqui Frog
 - Coqui frogs are nocturnal small, brownish-colored frogs up to two inches. Coqui's have an extremely loud, repetitive distinctive mating call (where it gets its namesake "Ko-key, Ko-key"). Coqui's do not have natural enemies in Hawai'i and populations may exceed 10,000 frogs per acre, leading to the consumption of more than 50,000 insects per night. Coqui threaten native Hawaiian insect populations, including plant pollinators, and compete with Hawai'i's native birds. The noise levels have been measured at up to 80-90 decibels, comparable to that produced by a lawnmower, which interrupts sleep for residents and visitors.

RECOMMENDATION:

That the Board:

1. Approval of the concept of a Memorandum of Understanding between the Hawai'i Department of Agriculture, the Department of Land and Natural Resources, and the University of Hawai'i for the prevention and management of high-priority pests.
2. Authorize the Chairperson to negotiate, enter into, and amend a Memorandum of Understanding between the State of Hawai'i Department of Land and Natural Resources, Hawai'i Department of Agriculture, and the University of Hawai'i for the prevention, rapid response, and control or eradication of high priority pests in the State of Hawai'i, for the Little Fire Ant, Coconut Rhinoceros Beetle, and Coqui Frog, and further subject to the following:
 - a. Review and approval by the Department of the Attorney General; and
 - b. Such other terms and conditions as may be prescribed by the Chairperson to best serve the interests of the State.

Respectfully submitted,

for



DAVID G. SMITH, Administrator
Division of Forestry and Wildlife

APPROVED FOR SUBMITTAL:



DAWN N. S. CHANG, Chairperson
Board of Land and Natural Resources

Exhibit A: Interagency Memorandum of Understanding for the Prevention, Rapid Response, and Control or Eradication of High Priority Pests Among the Hawaii Department of Agriculture, Department of Land and Natural Resources, and the University of Hawaii.

Exhibit B: Little Fire Ant Roles and Responsibilities Matrix_4-08-2

INTERAGENCY MEMORANDUM OF UNDERSTANDING
FOR THE PREVENTION, RAPID RESPONSE, AND CONTROL OR ERADICATION OF
HIGH PRIORITY PESTS
Among The
HAWAII DEPARTMENT OF AGRICULTURE
And The
DEPARTMENT OF LAND AND NATURAL RESOURCES
And The
THE UNIVERSITY OF HAWAII

This Memorandum of Understanding (hereinafter referred to as “MOU”) is hereby made and entered into by and among the Hawaii Department of Agriculture, hereinafter referred to as "HDOA," the Hawaii Department of Land and Natural Resources, hereinafter referred to as "DLNR," and the University of Hawaii, hereinafter referred to as "UH." HDOA, DLNR, and UH are hereinafter collectively referred to as the “Signatories” and individually as "Signatory.”

Goal: The goals of this MOU are the prevention of new infestations, the containment and eradication of all incipient infestations, and the control/containment of existing infestations of coqui frog (*Eleutherodactylus coqui*), little fire ant (*Wasmannia auropunctata*), and coconut rhinoceros beetle (*Oryctes rhinoceros*) (hereinafter collectively referred to as “High Priority Pests”) through early detection and rapid response by all the Signatories and Partners to this MOU.

Background: Across the islands, invasive species have devastating impacts on agriculture and local food self-sufficiency, replace native ecosystems, diminish freshwater quality and quantity, and increase disease and other human health concerns. They are found on land, in streams, and throughout our coastal waters. The movement of invasive species globally continues to increase as commerce and transportation expand, and climate change opens new pathways. The State Legislature declared invasive species to be the single greatest threat to Hawaii’s economy, natural environment, and the health and lifestyle of Hawaii’s people and visitors in a 2015 report titled “*Can’t See the Forest for the (Albizia) Trees: An Invasive Species Update*”.

Because invasive species impact many sectors, prevention and management require strong, collaborative planning and coordination among diverse stakeholders. This threat is constant, and many of the existing problems caused by invasive species continue to worsen, which requires an ongoing, coordinated, and committed multi-agency response with clearly defined roles and responsibilities. The Hawaii Interagency Biosecurity Plan was launched in 2017 with the clear goal of better coordination amongst the State departments and organizations to improve biosecurity through the prevention and management of invasive species. This MOU aligns with that goal and furthers our collective progress on implementing the Biosecurity Plan.

TITLE: Interagency MOU for the Prevention, Rapid Response and Control or Eradication of High Priority Pests.

I. PURPOSE:

The purpose of this MOU is to document the cooperation, including the roles and responsibilities as set out in the MOU and attachments, in working together toward the shared goals of prevention, rapid response, and control or eradication of High Priority Pests among HDOA, DLNR, and the Hawaii Invasive Species Council (hereinafter referred to as "HISC") that is administered through DLNR, and projects of UH as follows: Big Island Invasive Species Committee hereinafter referred to as "BIISC"; the Kauai Invasive Species Committee, hereinafter referred to as "KISC," the Maui Invasive Species Committee, hereinafter referred to as "MISC"; the Molokai subcommittee of MISC, hereinafter referred to as "MoMISC"; the Oahu Invasive Species Committee, hereinafter referred to as "OISC"; the Coordinating Group on Alien Pest Species, hereinafter referred to as "CGAPS"; the Hawaii Ant Lab, hereinafter referred to as "HAL"; and Coconut Rhinoceros Beetle Response hereinafter referred to as "CRB Response." Collectively, hereinafter HDOA, DLNR, UH, HISC, BIISC, KISC, MISC, MoMISC, OISC, CGAPS, HAL, and CRB Response are collectively referred to as "Partners" or separately as a "Partner."

II. AUTHORITIES AND COALITIONS:

A. **HAWAII DEPARTMENT OF AGRICULTURE:** HDOA is mandated to implement Hawaii's biosecurity program. The Plant Industry (hereinafter referred to as "PI") Division plays an important role in inspecting domestic cargo and passengers at all ports of entry to prevent the importation of potentially harmful pests and regulates the importation and possession of nondomestic animals and microorganisms. The PI Division, through its Plant Quarantine (hereinafter referred to as "PQ") Branch and Plant Pest Control Branch, monitors the entry and establishment of detrimental plants, animals, insects, weeds, plant diseases, and other pests to protect Hawaii's agricultural industries, natural resources, and the public. PI, in consultation with its Pesticides Branch, may provide technical input on the legal use of pesticides in Hawaii to the Partners to treat invasive species. In addition, PQ agricultural inspectors examine imported cut flowers and plants. Importation and movement of plant material is one of the main pathways for the introduction and spread of harmful pests and diseases. HDOA possesses the regulatory authority to inspect agricultural commodities and quarantine them if a pest of concern is found. HDOA has statutory authority to enter onto private property for the control and eradication of pests.

1. HDOA is mandated under § 150A-51, Hawaii Revised Statutes ("HRS") to establish a biosecurity program, one objective of which is to "Respond effectively to eradicate, control, reduce, and suppress incipient pest populations and established pests." HRS § 150A-52(2).

2. HDOA is mandated under HRS § 141-3(b) to “so far as reasonably practicable, assist, free of cost to individuals, in the control or eradication of insects, mites, diseases, noxious weeds, or other pests injurious to the environment or vegetation of value; and in the investigation, suppression, and eradication of contagious, infectious, and communicable diseases among domestic animals; and shall in like manner distribute to points where needed, beneficial insects, or pathogens and other antidotes for the control of insects, mites, diseases, or other pests injurious to the environment or vegetation of value, and for the control or eradication of vegetation of a noxious character.”
3. HDOA is mandated by HRS § 141-3.5(a) to develop and implement a detailed control or eradication program for any pest designated by HDOA as a pest for control or eradication, using the best available technology in a manner consistent with state and federal law.

Coqui frog. The Coqui frog is designated as a pest under HRS § 141-3(a) and is designated as a pest for control or eradication by HDOA pursuant to chapter 4-69A, Hawaii Administrative Rules (“HAR”).

Little Fire Ant. LFA is designated as a pest for control or eradication by HDOA pursuant to chapter 4-69A, HAR.

Coconut Rhinoceros Beetle. CRB is designated as a pest for control or eradication by HDOA pursuant to chapter 4-69A, HAR.

B. **DEPARTMENT OF LAND AND NATURAL RESOURCES:** DLNR is mandated to enhance, protect, conserve, and manage Hawaii’s unique and limited natural, cultural, and historic resources held in public trust. DLNR, primarily through the Division of Forestry and Wildlife, administers various programs for managing established invasive species in Hawaii’s natural areas.

1. DLNR has promulgated chapter 13-124, HAR, to conserve and protect indigenous wildlife, as well as prevent or reduce harm to crops and human health and safety through control of injurious wildlife.
2. Release of injurious wildlife into the wild, or transport of injurious wildlife to islands or locations within the State where they are not already established and living in a wild state, is prohibited under Hawaii Administrative Rule 13-124-3(c).

3. **Coqui frog, Little Fire Ant, and Coconut Rhinoceros Beetle** are designated as injurious wildlife under HAR § 13-124, Exhibit 5.
 4. **The Hawaii Invasive Species Council:** HISC was established in 2003 for the special purpose of providing policy-level direction, coordination, and planning among state departments, federal agencies, and international and local initiatives for the control and eradication of harmful invasive species infestations throughout the State, and for preventing the introduction of other invasive species that may be potentially harmful. It is an interdepartmental collaboration composed of DLNR, HDOA, the Department of Health (hereinafter referred to as “DOH”), the Hawaii Department of Transportation, the Hawaii Department of Business, Economic Development and Tourism, and UH. The Council is placed within DLNR for administrative purposes only pursuant to HRS § 194-2(b). Chapter 194, HRS, describes the duties and authorities assigned to HISC. In addition to policy advocacy and project coordination, HISC manages an interagency grants program to help fill gaps between existing agency programs and extend current abilities through research and innovation. HISC is co-chaired by the Chair of HDOA and the Chair of DLNR.
- C. **UNIVERSITY OF HAWAII:** UH supports biosecurity primarily through laboratory and field research and cooperative extension services. UH’s College of Tropical Agriculture and Human Resources (hereinafter referred to as “CTAHR”) Cooperative Extension Services is a partnership among federal, state, and local governments responsible for providing science-based information and educational programs in agriculture, natural resources, and human resources. The Agrosecurity Laboratory operates under UH CTAHR to collaboratively address invasive species challenges in Hawai‘i.
- UH’s Pacific Cooperative Studies Unit (hereinafter referred to as “PCSU”) also collaborates with private, county, state, and federal natural resource management entities, including DLNR and HDOA. PCSU facilitates pooling resources from different sources and coordinating efforts to attack problems such as invasive species across the landscape at an appropriate scale. For example, PCSU administers the various island-based Invasive Species Committees (hereinafter referred to as “ISCs”) and HAL, discussed below.
- D. **UH PCSU, ISLAND INVASIVE SPECIES COMMITTEES:** The ISCs are island-based voluntary coalitions of government and nongovernment entities organized by UH PCSU. They include BIISC, KISC, MISC, MoMISC, and OISC. Each ISC has paid staff to carry out the committee's plans. The ISCs provide early detection of incipient species before they become irreversibly established. The ISCs also target a limited suite of

high-threat species at a landscape scale and may work with other partners and entities to develop and implement innovative control techniques. Each ISC has a robust public outreach and education program tailored to island issues and communities.

- E. **UH PCSU, COORDINATING GROUP ON ALIEN PEST SPECIES:** CGAPS is a statewide coalition of agencies and non-governmental organizations operating under PCSU, working together to protect Hawaii from invasive species. CGAPS was formed in 1995 to bring agencies and organizations together to close the gaps in Hawaii's invasive species programs in prevention, early detection/rapid response, and long-term control of harmful invasive species.

- F. **UH PCSU, HAWAII ANT LAB:** HAL is a specialized invasive ant management project under UH's PCSU. HAL's charter is to develop new ant treatment methodologies, assist affected businesses and residents, and take an operational lead in eradicating invasive ants on all of Hawaii's islands. HAL's current focus is preventing the spread of little fire ants (*Wasmannia auropunctata*) and eradicating incipient populations when eradication is possible. HAL also monitors for new ant species at ports and other locations statewide.

- G. **UH COCONUT RHINOCEROS BEETLE RESPONSE:** CRB_Response was formed out of the multi-agency rapid response effort to the first detection of coconut rhinoceros beetles on Oahu in 2013. As the response effort continued a more permanent program was developed under the University of Hawaii through the Department of Plant and Environmental Protection Services. The program's mission is to provide information to the public, research new tools and technology, prevent and respond to new detections on other islands, and provide expertise on management.

III. SCOPE:

This MOU sets out the cooperative efforts of the Partners to strengthen Statewide coordination, communication, and collaboration to enhance the response efforts and ongoing management for and control and eradication, where feasible, of High Priority Pests throughout the State of Hawaii, including the City and County of Honolulu, and the counties of Hawaii, Kauai, and Maui. This MOU reflects the current state of High Priority Pest management in Hawaii and will be reviewed and updated annually and used to brief any new administration and leadership on these cooperative efforts.

IV. STATEMENT OF MUTUAL BENEFIT AND INTERESTS:

The Partners each have an interest in protecting Hawaii's people, industries, and environment from the impacts of High Priority Pests. Increasing coordination in prevention, rapid response, and control and eradication will be beneficial to all Partners, increase efficiency by sharing resources and preventing duplication of effort, and increase the possibility for successfully preventing the establishment and spread of and controlling or eradicating, where possible, High Priority Pests across the counties of the State.

V. IT IS MUTUALLY UNDERSTOOD AND AGREED BETWEEN THE SIGNATORIES THAT:

The Partners will collaborate, coordinate, and work jointly with each other and with other stakeholders - including sister agencies at federal and state levels as well as private landowners, counties, non-governmental organizations, communities, and universities - to proactively identify and carry out projects to prevent the introduction and spread of, and control or eradicate, where possible, High Priority Pests.

The Partners will manage and be responsible for their activities when undertaking collaborative efforts related to High Priority Pests. They will oversee the proper utilization of their resources, funds, and personnel unless otherwise delegated through an Incident Command System implemented by HDOA. Each Partner will carry out its separate activities, where appropriate and applicable, in a coordinated and mutually beneficial manner under this MOU.

- A. **Applicable Law.** Each Partner shall perform under this MOU in accordance with all applicable federal, state, and local statutes, regulations, ordinances, and rules. In the event of a conflict between the provisions of the MOU or federal, state, or local law, the federal, state, or local law shall control.
- B. **Regular Meetings.** Partners will communicate on a regular basis to enhance the priorities and projects identified under this MOU and Attachments. The Partners will conduct business pertaining to this MOU by means of in-person meetings, conference calls, or other means.

1. Representatives of each Partner who works directly on field response will meet monthly each calendar year, in person or virtually, to coordinate response actions. Representatives of Partners will participate in additional meetings or island-based meetings as needed. Each Partner will designate a representative or representatives to attend meetings.
 2. The Signatories of this MOU agree to meet quarterly to evaluate the progress made under this MOU and adjust actions as needed to carry out its goals and purpose.
 3. The Signatories to this MOU shall update HISC on progress under this MOU at the regular semi-annual HISC meetings.
 4. The designated Partners and Signatories to this MOU will attend annual meetings to review the MOU and update it as needed.
- C. **Action/Response Plan.** Partners will develop action/response plans for each county, dependent on the High Priority Pest's establishment, to facilitate management actions for little fire ants within five months and for coconut rhinoceros beetle and coqui frogs within twelve months of the signing of this MOU. Responsibilities in the response plans can be modified for prevention and containment through consensus with all Partners.
- D. **Data Sharing.** Partners will develop standards and protocols to share data related to High-Priority Pests within twelve months of the signing of this MOU. This includes working to establish standard definitions for terms in common use and developing and contributing data to a shared data repository for Partners for little fire ant, coqui frog, and coconut rhinoceros beetle, from sample submission or field identification to the monitoring phase.
1. All shared data will be used solely for the purpose of performing each Partner's duties under this MOU, and, except to the extent disclosure of such information is required by law, all information shall be kept strictly confidential and not be made available to any individual or organization without the prior written consent of the Partner who provided the data.
 2. Where HDOA or DLNR has an ongoing investigation or legal proceeding that prevents the sharing of data, the data will not be shared until such time as the case or proceeding is formally and completely closed by HDOA or DLNR.
- E. **Survey and Treatment Protocols.** Partners will agree on and commit to consistent survey and treatment protocols for survey and control, including protocols for data

collection (data points, treatment records, dates, etc.) for High Priority Pests. Nothing in this commitment prohibits a Partner from establishing or using more stringent or data-intensive protocols.

- F. **Communications.** Partners will collaborate on shared messages and public communications protocols regarding High Priority Pests.

- G. **Points of Contact.** Each Partner will designate a point of contact from each county for the Partners and the public, including points of contact for public reports, sample submission, follow-up for each High Priority Pest, and participation in the development of the action/response plans. Each partner must designate a point of contact for little fire ant within thirty days after the signing of this MOU and for coconut rhinoceros beetle and coqui frogs, within sixty days after the signing of this MOU.
 - 1. Upon completion, the initial list of designated point of contacts and each list thereafter, including contact information, will be attached to this MOU. Each Partner may update its designated point of contact by email to all the other Partners.

- H. **Research.** Research in both the field and the lab is critical to developing new tools, technology, and protocols for detecting and managing high-priority pests and supporting the lead agencies in pursuing research projects. Partners will inform the Signatories annually of the need for priority research projects.

- I. **Detailed Response Matrices.** Partners will work cooperatively to develop, within three months from the date of signing of this MOU, detailed matrices for the prevention, rapid response, control, and eradication of little fire ant, coconut rhinoceros beetle, and coqui frog, that will inform the development of the county action/response plans. The matrix for each species shall set out roles and responsibilities for Statewide actions and each county by the appropriate Partners, including the designation of the “Lead” role (“L”) and “Assist” role (“A”). Once completed, a matrix shall be finalized and accepted in writing, signed by all Signatories. Any changes to a matrix shall be in writing, signed by all Signatories.
 - 1. **Little Fire Ant.** A response matrix for Little Fire Ant is attached as **Attachment 2** to this MOU. The Little Fire Ant matrix is a work in progress and may be revised, as described above.

 - 2. **Coconut Rhinoceros Beetle.** CRB Response will lead, and the Partners will participate in, the development of the response matrix for CRB with all Partners except HAL.

3. **Coqui Frog.** The Partners will participate in developing a response matrix for coqui frog with all Partners except HAL and CRB Response.
- J. **Urgency; Capacity.** The Partners understand the urgency of preventing the spread of coqui frogs, little fire ants, and coconut rhinoceros beetles and will prioritize and use their best efforts to respond cooperatively as described in the MOU and the response matrices to the extent of their authorities and available resources. The Partners will use their best efforts to respond accordingly to rapidly detect and eradicate in their “Lead” or “Assist” roles to the extent of their authorities, access permissions, and capacities. Notwithstanding the “Lead” and “Assist” designations in the attached current and future response matrices, if the designated Lead or Assist cannot respond to a known or suspected infestation in a timely manner, the other Partners can respond to the extent of their legal authorities and permissions.
- K. **Liability.** This MOU is not intended to create responsibility for any Partner for the acts or omissions of any other Partner. Each Signatory/Partner shall be liable for any loss, damages, or injury that may be caused by its respective agents and representatives to the extent determined by a court of competent jurisdiction or agreed to by the Signatory/Partner and provided that funds are appropriated and allotted for that purpose..
- L. **Participation in Similar Activities.** This MOU in no way restricts the Partners from participating in similar activities with other public or private agencies, organizations, and individuals.
- M. **Collaboratory Intent.** This MOU constitutes the mutual understanding of the Signatories’ intent to work collaboratively towards the goal of preventing, responding to, controlling, and eradicating High Priority Pests. This MOU creates no right, benefit, or responsibility, substantive or procedural, enforceable by law or equity. The Signatories acknowledge that this MOU is not a binding or enforceable agreement and shall not give rise to any obligations on the part of any Signatory and remains subject to the available resources of each Signatory.
- N. **Statutory and Regulatory Authority.** Nothing in this MOU is intended to alter, limit, or expand the Partners’ statutory and regulatory authority. Nothing in this MOU is intended to hinder, limit, restrict, or delay the exercise of any Partner’s statutory and regulatory authority, including, but not limited to HDOA’s authorities under §§ 141-3, 141-3.5, 141-3.6, 150A-5, 150A-6.1, 150A-9.5, 150A-11 , 150A -11.5, 150A -14, and 150A-53, HRS, DLNR’s authorities under HAR § 13-124, and the HISC authority under 194-2, HRS.

- O. **No Third Party Beneficiaries.** The Signatories do not intend the benefits of this MOU to inure to any third person not a signatory hereto. Notwithstanding anything contained herein, or any conduct or course of conduct by any Signatory, before or after signing this MOU, this MOU shall not be construed as creating any right, claim, or cause of action against any Signatory by any person or entity not a Signatory to this MOU.
- P. **Authority.** Each Signatory to this MOU hereby represents and warrants that he/she is authorized to execute and deliver this MOU in the capacity shown on the signature page hereof.
- Q. **Term of MOU.** This MOU shall take effect on the date of the last signature hereto and shall remain in effect for five years unless extended by the agreement of the partners.
- R. **Assignment.** This Agreement is not assignable, in whole or in part, by any signatory without the prior written consent of the other signatories.
- S. **Amendments.** This MOU shall not be amended except in writing and signed by the Signatories. Any written amendments shall be affixed hereto and shall become full conditions of this MOU.
- T. **Counterparts.** This MOU may be executed in counterparts, each of which shall be deemed an original, but all of which shall constitute the same Agreement.
- U. **Termination:** This MOU may be terminated by any Signatory to the extent of that Signatory's roles under the MOU by providing 60 days written notice for all the Signatories.
- V. **Entire Agreement.** This MOU expresses the Signatories' entire agreement and understanding. No other terms or conditions, whether oral or in writing, shall be considered a part of the Signatories' agreement.

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IN WITNESS WHEREOF, the Signatories have entered into this Memorandum of Understanding as of this nineteenth day of April 2024. This MOU is subject to approval by the Board of Land and Natural Resources.

HDOA:



Sharon Hurd
Chair
Department of Agriculture
State of Hawai'i

DLNR:



Dawn N. S. Chang
Chair
Department of Land and Natural Resources
State of Hawai'i

UH:



David Lassner
President
University of Hawai'i

MOU for High Priority Pests_4-19-2024


Final Audit Report

2024-04-19


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 Agreement completed.

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*L=Lead, A=Assist

Column1	Column2	Column3	Column4	Column5	Column6	Column7	Column8	Column9	Column10	Column11
Actions	HDOA PQ	HDOA PPCB	DLNR	HISC-643-PEST	CGAPS	HAL	MISC	MoMISC	OISC	KISC
Protocols, Reporting, and Evaluation: Common standards guide the work.										
Develop standards for survey, treatment, monitoring, and evaluation.	A	A				L	A			
Conduct annual evaluation of status and progress.	A			L/A			A			
Research and Development: New tools increase efficiency and effectiveness.										
Identify knowledge gaps and operational challenges, and prioritize needs.		A			A	A	A	A	A	A
Develop new tools, technology, and methods to detect & treat LFA.		L/A				L/A*	A/L		A	
Provide information to managers and the public on the best available tools	A	A			A	L	A	A	A	A
Resources: Adequate resources support statewide and island-specific goals.										
Identify resource needs for each island.			A	L	A	A	A	A	A	A
Work collaboratively to secure funding.			A	L	A	A	A	A	A	A
Track financial inputs and expenditures			A	L		A	A	A	A	A
Data Sharing:	L			L						

DRAFT: 8 April 2024; *L=Lead, A=Assist	Column1	Column2	Column3	Column4	Column5	Column6	Column7	Column8
Hawaii County LFA Status: Asset Protection	HDOA PQ	HDOA PPCB	DLNR	HISC-643-PEST	CGAPS	HAL	BIISC	Comments
Prevention:								
Support HDOA Plant Quarantine efforts.	L	A				X		
Encourage use of Best Management Practices by the horticultural industry.	L	A				X	X	BIISC: BMPs for LFA are part of our nursery endorsement program, Plant Pono.
Early Detection & Delimitation								
Residential (various zoning)								NO LEAD HAL: This does not occur on Hawaii Island, no need for lead
Commercial (non-ag)								NO LEAD HAL: This does not occur on Hawaii Island, no need for lead
Nursery	L	A				X	A	BIISC: Survey upon request HAL: Survey upon request
Commercial farms/agriculture								NO LEAD HAL: This does not occur on Hawaii Island, no need for lead
Non-commercial farms/agriculture								NO LEAD HAL: This does not occur on Hawaii Island, no need for lead
State Lands			A			X		HAL: Performed as needed ; BIISC: Survey upon request
County Lands						X		HAL: Performed as needed;BIISC: Survey upon request
Other						X		HAL: Performed as needed; BIISC: Survey upon request
Public Submission and ID Services								
Advertised group/agency for public submissions (Primary)						L	A	
Receive ant samples submitted by the public.	A					L	A	
Identify ants.	A					L	A	
Update reporters.						L	A	
"Rapid Response": Planning								
Engage necessary entities in response								
Engage and inform communities and necessary members of the public.								
Contact landowners: obtain permission for access and treatment.								
Develop site-specific treatment plans.								
Active Management/Treatments								
Residential (various zoning)							A	BIISC: provide treatments in residential areas as part of training for neighborhood huis

Commercial (non-ag)								NO LEAD HAL: This does not occur on Hawaii Island, no need for lead
Nursery	A	L				A		
Commercial farms/agriculture								NO LEAD HAL: This does not occur on Hawaii Island, no need for lead
Non-commercial farms/agriculture								NO LEAD HAL: This does not occur on Hawaii Island, no need for lead
State Lands			A			A	A	BIISC: Limited treatments ongoing as part of standing agreements (Hilo arboretum/CTAHR station)
County Lands						A		NO LEAD HAL: This does not occur on Hawaii Island, no need for lead
Other						A		NO LEAD HAL: This does not occur on Hawaii Island, no need for lead
Ports of Entry				L		L		
Landscape-scale management: public control efforts								IS THIS NEEDED? HAL: Yes. This is the only ongoing strategy for Hawaii Island (with few exceptions)
Community control projects							L	BIISC: Offers neighborhood support program
Training for private sector pest control services						L		
Long Term Surveillance (general surveillance & post treatment)								
Residential (various zoning)								NO LEAD HAL: This does not occur on Hawaii Island, no need for lead
Commercial (non-ag)								NO LEAD HAL: This does not occur on Hawaii Island, no need for lead
Nursery	A	L				A		
Commercial farms/agriculture								NO LEAD HAL: This does not occur on Hawaii Island, no need for lead
Non-commercial farms/agriculture								NO LEAD HAL: This does not occur on Hawaii Island, no need for lead
State Lands								HAL: Upon request
County Lands								HAL: Upon request
Other						L		HAL: CTAHR Facilities
Ports of Entry						L		
Regulation & Facilitation: Agency actions address spread via industry.								

Access to private property								NO LEAD BUT HAS TO BE HDOA HAL: This does not occur on Hawaii Island, no need for lead
Declare emergency								NO LEAD BUT HAS TO BE HDOA HAL: This does not occur on Hawaii Island, no need for lead
Declare quarantine area								NO LEAD BUT HAS TO BE HDOA HAL: specifically for nurseries??
Stop sale and movement	L							
Conducts trace backwards/forwards as necessary	A	L						
Identify problem businesses requiring regulatory actions.	L	A				A		
Engage businesses requiring regulatory actions.	A	L						
Performs Enforcement actions as necessary	A	L						
Communications								
Press release on new detections.								No longer necessary on the Big Island. Ants are present in every district.
Provide regular updates to partners and policy makers.	X	X				X	A	NO LEAD HAL: can provide updates on outreach/extension efforts, research, etc... but island-wide infestation status will not change. HDOA should provide status updates on nurseries and any control programs to assist the industry.
Status updates to affected communities								NOT NEEDED? Would agree that in the last couple of years, there is significantly less of this than there was even 5-6 years ago - Volcano, Ocean View, South Kona, Kohala, Na'alehu etc used to all be areas of high messaging for awareness. These areas are now infested at a level where many properties have ants and new households find them regularly, so targeted messaging about status to those communities is no longer useful. Messaging focuses on treatment.
Outreach and Education: Inform and inspire public reports of suspect ants.								
Educate and inform the community						X	X	There isn't really a lead for outreach on the Big Island; messages are pretty consistent across the island as the ants are widespread. Each entity (mostly HAL and BIISC) as well as some private groups run by community members, will engage in "campaings" and messaging for various areas depending on need/situation. Both HAL and BIISC participate in STA month every October, but messages are different than on the other islands.
Identify and prioritize target audiences and develop key messages.						X	x	

Conduct island- and audience-specific outreach and education campaign.						X	x	
Measure public awareness on a periodic basis.								
Provide training on how to survey for LFA.						X	x	Both BISC and HAL offer regular training sessions to the public that include both surveying and treatment (with methods specific to the Big Island, where the goal is not eradication but exclusion from defined property boundaries. Surveying for eradication requires a much more intensive process).
Provide extension services on treatment options.						X	X	
Training for private sector pest control services						L		

DRAFT: 8 April 2024; *L=Lead, A=Assist

	Column1	Column2	Column3	Column4	Column5	Column6	Column7	Column8
Maui County LFA Status: Containment/Eradication	HDOA PQ	HDOA PPCB	DLNR	HISC-643-PEST	CGAPS	HAL	MISC	MoMISC
Prevention:								
Support HDOA Plant Quarantine efforts.	L	A					A	
Encourage use of Best Management Practices by the horticultural industry.	L	A					A	
Early Detection & Delimitation								
Residential							L/A	
Commercial (non-ag)							L	
Nursery	L	A					A	
Commercial farms/agriculture	L	A					A	
Non-commercial farms/agriculture								
Public Lands (State, Federal, County)			A				L	
Public Submission and ID Services								
Advertised group/agency for public submissions				L			A	
Receive ant samples submitted by the public.							L	A
Identify ants.							L	A
Update reporters.							L	A
Rapid Response: Planning								
Engage necessary entities in response							L	
Engage and inform communities and necessary members of the public.							L	
Contact landowners: obtain permission for access and treatment.							L	
Develop site-specific treatment plans.						A	L	
Active Management/Treatments								
Residential (various zoning)							L	
Commercial (non-ag)							L	
Nursery	A	L					A	
Commercial farms/agriculture	A	L					A/L	

Non-commercial farms/agriculture							L	
State Lands			A				L	
County Lands							L	
Other							L	
Ports of Entry	A			L			A	A
Landscape-scale management: public control efforts								
Community control projects								
Training for private sector pest control services								
Long Term Surveillance (general surveillance & post treatment)								
Residential (various zoning)							L	
Commercial (non-ag)							L	
Nursery							L	
Commercial farms/agriculture							L	
Non-commercial farms/agriculture							L	
State Lands			A				L	
County Lands							L	
Other							L	
Ports of Entry				L		A	A	A
Regulation & Facilitation: Agency actions address spread via industry.								
Access to private property	L/A	L/A						
Declare emergency	L/A	L/A						
Declare quarantine area	L/A	L/A						
Stop sale and movement	L	L/A						
Conducts trace backwards/forwards as necessary	L	A						
Identify problem businesses requiring regulatory actions.	A	L					A	
Engage businesses requiring regulatory actions.	L	A					A	
Performs Enforcement actions as necessary	A	L						
Communications								
Press release on new detections.	A	A		A			L	

Provide regular updates to partners and policy makers.	A	A		A			L	
Provide status updates to affected communities				A			L	
Outreach and Education: Inform and inspire public reports of suspect ants.								
Educate and inform the community							L	
Identify and prioritize target audiences and develop key messages.							L	
Conduct island- and audience-specific outreach and education campaign.							L	
Measure public awareness on a periodic basis.								
Provide training on how to survey for LFA.						A	L	
Provide extension services on treatment options.						A		
Training for private sector pest control services								

Column9

Comments
MISC: assist with port surveys; willing to help with HDOA surveys and should have detector dog by summer.
MISC: Question re: certified (PQ) vs. non-certified nurseries on Maui.
What is a non-commercial farm? Subsistence farms?
Shouldn't MoMISC be the lead for receiving samples on Molokai? HAL: MoMISC can absolutely receive, ID, and update on public sample for Molokai. Since this matrix is broken up by county, rather than island, MISC is in a better position to act a county lead with MoMisc assisting by handling Molokai samples (just my take on it).
MoMISC = L?
MoMISC = L?
MISC has been Lead at some commercial farms

Subsistence farms? Many of the infestations on Maui have had gardens or commercial crops.
HAL: Non-commercial farms/ag lands can be many things including subsistence farms, hobby farms, homesteads, larger parcels zoned as ag, etc... I was trying to encompass the diversity of what might be considered unlicensed/non-commercial "agriculture"

MISC: Combine State and County to Public lands (State, County, Federal)?

NO NEED?

MISC: 5 years monitoring b4 eradication declared.

MISC: work closely with HDOA Communications before any press release goes out on new detections

MISC: suggest deleting this row as it is covered
Not part of the strategy at present
Not part of the strategy at present

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	Column1	Column2	Column3	Column4	Column5	Column6	Column7	Column8
City and County of Honolulu LFA Status: Containment	HDOA PQ	HDOA PPCB	DLNR	HISC-643-PEST	CGAPS	HAL	OISC	Comments
Prevention:								* = depends on funding and baseyard space
Support HDOA Plant Quarantine efforts.	L	A				A	A	L = Lead ; A = Assist
Encourage use of Best Management Practices by the horticultural industry.	L	A			A	A	L	
Early Detection & Delimitation								
Residential (various zoning)					A	A*	L*	CGAPS notes: We have been able to provide some assistance for survey & treatment when requested. I am not sure keeping all the "A"s is accurate but don't know how else to represent the "surge capacity" that we provide in these areas.
Commercial (non-ag)					A	L*	A*	
Nursery	L	A			A		A*	
Commercial farms/agriculture	A	A			A	L*	A*	
Non-commercial farms/agriculture					A	L*	A*	
State Lands			A		A	L*	A*	
County Lands					A		L*	
Other					A	L*	A*	
Public Submission and ID Services								
Advertised group/agency for public submissions (Primary)							L	
Receive ant samples submitted by the public.	A					A	L	
Identify ants.	A	A				A	L	
Update reporters.	A	A				A	L	
"Rapid Response": Planning								
Engage necessary entities in response	L/A	L/A			A	L/A	L/A	In my opinion, the way this would work is for the lead to be dependent on the property type. For example, if it is a nursery or zoned ag land, HDOA; if county or residential, OISC; if state, HAL. That's why I think it can be left for L/A for everyone.
Engage and inform communities and necessary members of the public.					A	A	L	
Contact landowners: obtain permission for access and treatment.	L/A	L/A				L/A	L/A	I think this should/could also be dependent on property type.
Develop site-specific treatment plans.	L/A	L/A				L	A	

Active Management/Treatments									
Residential (various zoning)					A	A*	L*		
Commercial (non-ag)					A	L*	A*		CGAPS notes: We have been able to provide some assistance for survey & treatment when requested. I am not sure keeping all the "A"s is accurate but don't know how else to represent the "surge capacity" that we provide in these areas.
Nursery	A	L			A				
Commercial farms/agriculture	A	L			A				
Non-commercial farms/agriculture					A	L*	A*		
State Lands				A	A	L*	A*		
County Lands					A		L*		
Other					A	L*	A*		
Ports of Entry	A	A		L		L	A		
Landscape-scale management: public control efforts									
Community control projects					A	L/A	L		HAL and OISC can co-lead community control projects (divide and conquer)
Training for private sector pest control services						L			
Long Term Surveillance (general surveillance & post treatment)									What does this mean? Is this the monitoring phase post-treatment?
Residential (various zoning)						A*	L*		
Commercial (non-ag)						L*	A*		
Nursery	A	L							
Commercial farms/agriculture	A	L							
Non-commercial farms/agriculture						L*	A*		
State Lands				A		L*	A*		
County Lands							L*		
Other						L*	A*		
Ports of Entry				L		L	A*		
Regulation & Facilitation: Agency actions address spread via industry.									
Access to private property	L/A	L/A							
Declare emergency	L/A	L/A							
Declare quarantine area	L/A	L/A							
Stop sale and movement	L	L/A							
Conducts trace backwards/forwards as necessary	L	A							

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	Column1	Column2	Column3	Column4	Column5	Column6	Column7
Kauai County LFA Status: Containment/Eradication	HDOA PQ	HDOA PPCB	DLNR	HISC-643-PEST	CGAPS	HAL	KISC
Prevention:							
Support HDOA Plant Quarantine efforts.	L	A					
Encourage use of Best Management Practices by the horticultural industry.	L/A	A					L/A
Early Detection & Delimitation							
Residential (various zoning)		A				A*	L
Commercial (non-ag)		A					L
Nursery		A					L
Commercial farms/agriculture		A				A*	L
Non-commercial farms/agriculture		A				A*	L
State Lands		A	A			A*	L
County Lands		A				A*	L
Other		A				A*	L
Public Submission and ID Services							
Advertised group/agency for public submissions (Primary)							L
Receive ant samples submitted by the public.							L
Identify ants.							L
Update reporters.							L
"Rapid Response": Planning							
Engage necessary entities in response							
Engage and inform communities and necessary members of the public.							
Contact landowners: obtain permission for access and treatment.							
Develop site-specific treatment plans.						A*	
Active Management/Treatments							
Residential (various zoning)						A*	
Commercial (non-ag)							
Nursery							
Commercial farms/agriculture						A*	
Non-commercial farms/agriculture						A*	
State Lands			A			A*	
County Lands						A*	
Other						A*	

Ports of Entry				L			
Landscape-scale management: public control efforts							
Community control projects							
Training for private sector pest control services							
Long Term Surveillance (general surveillance & post treatment)							
Residential (various zoning)							L*
Commercial (non-ag)							L*
Nursery							L*
Commercial farms/agriculture							L*
Non-commercial farms/agriculture							L*
State Lands			A				L*
County Lands							L*
Other							L*
Ports of Entry				L		L	A
Regulation & Facilitation: Agency actions address spread via industry.							
Access to private property	L/A	L/A					
Declare emergency	L/A	L/A					
Declare quarantine area	L/A	L/A					
Stop sale and movement	L	L/A					
Conducts trace backwards/forwards as necessary	L	A					
Identify problem businesses requiring regulatory actions.	A	L					
Engage businesses requiring regulatory actions.	L	A					
Performs Enforcement actions as necessary	A	L					
Communications							
Press release on new detections.	A	A		A			
Provide regular updates to partners and policy makers.			A	L		A	A/L
Status updates to affected communities							A/L
Outreach and Education: Inform and inspire public reports of suspect ants.							
Educate and inform the community							L
Identify and prioritize target audiences and develop key messages.							L

Conduct island- and audience-specific outreach and education campaign.							L
Measure public awareness on a periodic basis.							
Provide training on how to survey for LFA.							L
Provide extension services on treatment options.							
Training for private sector pest control services							