

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

April 13, 2017

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

Board Members:

SUBJECT: REQUEST FOR APPROVAL TO ENTER INTO TWO (2) MEMORANDUMS OF AGREEMENT BETWEEN THE DEPARTMENT OF LAND AND NATURAL RESOURCES AND THE DEPARTMENT OF AGRICULTURE, FOR PROVIDING FUNDING ASSISTANCE FOR RAPID OHIA DEATH MONITORING PROGRAMS SUBJECT TO REVIEW AND APPROVAL BY THE DEPUTY ATTORNEY GENERAL.

AND

APPROVAL OF DECLARATION OF EXEMPTION UNDER CHAPTER 343, HAWAI'I REVISED STATUTES, AND CHAPTER 11-200, HAWAII ADMINISTRATIVE RULES.

Attached are two draft Memorandums of Agreement (MOA) between the Department of Land and Natural Resources (DLNR) and the Department of Agriculture (DOA). The MOAs provides a mechanism for DOA to provide funding to DLNR for surveys to be conducted on Hawaii Island to assess the extent of Rapid Ohia Death (ROD). The first MOA is to provide funding for technical expertise for mapping Rapid Ohia Death statewide using laser-guided imaging spectroscopy (LGIS). The second MOA is to provide funding for monitoring the spread of Rapid Ohia Death with small unmanned aerial vehicles in selected areas on Hawaii Island.

CHAPTER 343 - ENVIRONMENTAL ASSESSMENT:

The surveys are minor actions that will have no significant effects on the environment and is exempt from the requirement to prepare an environmental assessment in accordance with Chapter 343, HRS, and Chapter 11- 200-8, Hawaii Administrative Rules, under the Department' s Exemption Class 5, Exemption 1 & 2. (Exemption List for the Department of Land and Natural Resources, Reviewed and Concurred Upon by the Environmental Council on June 05, 2015):

Exemption Class 5: Basic data collection, research, experimental management, and

resource evaluation activities which do not result in a serious or major disturbance to an environmental resource.

1. Conduct surveys or collect data on existing environmental conditions (e. g. , noise, air quality, water flow, water quality, etc. ).
2. Non- destructive data collection and inventory, including field, aerial and satellite surveying and mapping.

DOFAW activities to be conducted under the terms of the MOA include aerial surveys of Hawai'i Island to detect ROD. These are minor actions that will have or no significant effects on the environment and are exempt from the requirement to prepare an environmental assessment in accordance with Chapter 343, HRS, and Chapter 11-200-8, Hawai'i Administrative Rules, under the Department's following exemption classes.

(Exemption List for the Department of Land and Natural Resources, Reviewed and Concurred Upon by the Environmental Council on June 05, 2015)

Exemption Class 5: Basic data collection, research, experimental management, and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource.

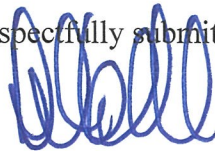
1. Conduct surveys or collect data on existing environmental conditions (e.g. noise, air quality, water flow,water quality, etc.).
2. Non-destructive data collection and inventory, including field, aerial and satellite surveying and mapping.

#### RECOMMENDATIONS:

That the Board:

1. Approve the two Memorandums of Agreement with the Department of Agriculture subject to review and approved as to form by the Department of the Attorney General and authorizes the DLNR Chairperson to sign the final documents.
2. Approve the Declaration of Exemption under Chapter 343, Hawaii Revised Statutes, and Chapter 11-200, Hawaii Administrative Rules.

Respectfully submitted,



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DAVID G. SMITH, Administrator  
Division of Forestry and Wildlife

APPROVED FOR SUBMITTAL:

A handwritten signature in blue ink, appearing to read "Suzanne D. Case", written over a horizontal line.

SUZANNE D. CASE, Chairperson  
Board of Land and Natural Resources

**MEMORANDUM OF AGREEMENT  
BETWEEN  
THE DEPARTMENT OF LAND AND NATURAL RESOURCES  
AND  
THE DEPARTMENT OF AGRICULTURE**

This Memorandum of Agreement is made effective the \_\_\_\_ day of April, 2017, by and between the State Department of Land and Natural “DLNR”, and the State Department of Agriculture hereinafter referred to as “DOA.”

**WITNESSETH:**

WHEREAS, pursuant to section 194-2, Hawaii Revised Statutes, the Invasive Species Council is authorized to designate state departments as the lead agency for various functions of invasive species control; and

WHEREAS, DOA is the lead state agency in preventing the spread of invasive species; and

WHEREAS, DLNR is the lead state agency protecting the State’s forests from invasive pests and diseases; and

WHEREAS, the parties agree that partnering their efforts to slow or prevent the spread of Rapid Ohia Death across the State is of urgent importance; and

WHEREAS, DLNR currently lacks the resources to conduct statewide surveillance and other studies to track the spread of Rapid Ohia Death in our State’s forests; and

WHEREAS, DOA requires tracking of the spread of Rapid Ohia Death to fulfill its function of developing quarantine policies and rules to prevent the spread of invasive species. To this end, DOA is willing to provide funding to DLNR for the activities set forth herein.

NOW, THEREFORE, in consideration of the mutual promises contain herein, the parties agree as follows:

**SCOPE OF SERVICES**

DLNR shall perform, or ensure the performance of the services set forth in the Carnegie Institution for Science’s Proposal for Mapping of Forests on Hawaii Island to

Directly Support Ground-based Actions Against Rapid Ohia Death, which is attached hereto and made a part hereof. Services shall include, but are not limited to the following:

1. Provide technical expertise for mapping Rapid Ohia Death statewide using laser-guided imaging spectroscopy (LGIS). DLNR shall provide the maps to the DOA.
2. Analyze map data and compare to data collected in 2016 to ascertain the change of the spread of Rapid Ohia Death on Hawaii Island. DLNR shall provide a report on the findings of this analysis.
3. Provide interpretation of analyzed data and management recommendations based on findings. DLNR shall provide recommendations for management actions to the DOA.

#### **COMPENSATION AND PAYMENT SCHEDULE**

In consideration for services to be rendered by DLNR, DOA agrees to pay DLNR a sum of money not to exceed TWO HUNDRED FIFTY THOUSAND AND NO/100 DOLLARS (\$250,000.00) tax inclusive, in accordance with the following provisions:

1. TWO HUNDRED FIFTY THOUSAND AND NO/100 DOLLARS (\$250,000.00) for the satisfactory completion of all services under this Memorandum of Agreement.
2. Any compensation paid to the Carnegie Institution shall be at a zero-overhead rate, and shall not include depreciation or maintenance costs for the Carnegie Airborne Observatory aircraft, sensor package or super-computer.

#### **TIME OF PERFORMANCE**

Performance of services shall commence on the effective date set forth above and all services shall be completed within one year from the effective date.

#### **MISCELLANEOUS**

1. Any modifications to this Memorandum of Agreement shall be made only by a Supplemental Memorandum of Agreement executed by both parties.
2. This Memorandum of Agreement shall be governed by the laws of the State of

Hawaii.

IN WITNESS WHEREOF, the parties hereto have executed this Memorandum of Agreement to be effective as of the date first above written.

DEPARTMENT OF LAND AND  
NATURAL RESOURCES

DEPARTMENT OF AGRICULTURE

By: \_\_\_\_\_  
SUZANNE D. CASE, Chairperson  
Department of Land and Natural  
Resources

By: \_\_\_\_\_  
SCOTT ENRIGHT, Chairperson  
Board of Agriculture

Date: \_\_\_\_\_

Date: \_\_\_\_\_

APPROVED AS TO FORM:

\_\_\_\_\_  
Deputy Attorney General

**MEMORANDUM OF AGREEMENT  
BETWEEN  
THE DEPARTMENT OF LAND AND NATURAL RESOURCES  
AND  
THE DEPARTMENT OF AGRICULTURE**

This Memorandum of Agreement is made effective the \_\_\_\_ day of March, 2017, by and between the State Department of Land and Natural, hereinafter referred to as "DLNR", and the State Department of Agriculture hereinafter referred to as "DOA."

**WITNESSETH:**

WHEREAS, pursuant to section 194-2, Hawaii Revised Statutes, the Invasive Species Council is authorized to designate state departments as the lead agency for various functions of invasive species control; and

WHEREAS, DOA is the lead state agency in preventing the spread of invasive species; and

WHEREAS, DLNR is the lead state agency protecting the State's forests from invasive pests and diseases; and

WHEREAS, the parties agree that partnering their efforts to slow or prevent the spread of Rapid Ohia Death across the State is of urgent importance; and

WHEREAS, DLNR currently lacks the resources to conduct statewide surveillance and other studies to track the spread of Rapid Ohia Death in our State's forests; and

WHEREAS, DOA requires tracking of the spread of Rapid Ohia Death to fulfill its function of developing quarantine policies and rules to prevent the spread of invasive species. To this end, DOA is willing to provide funding to DLNR for the activities set forth herein.

NOW, THEREFORE, in consideration of the mutual promises contain herein, the parties agree as follows:

**SCOPE OF SERVICES**

DLNR shall perform, or ensure the performance of the services set forth in the

University of Hawaii at Hilo's Proposal for Monitoring the Spread of Rapid Ohia Death with Small Unmanned Aerial Vehicles in Selected Areas on Hawaii Island, which is attached hereto and made a part hereof. Services shall include, but are not limited to the following:

1. Work with experts in small unmanned aerial systems (sUAS) to monitor and detect Ohia tree mortality associated with *Ceratocystis* on Hawaii Island.
2. Collect sUAS imagery once a month at four sites for 12 months to track the progression of the disease over time and to quickly determine the extent of new outbreaks as they appear.
3. Process and analyze of the data (along with additional sources of useful imagery) to generate new knowledge about *Ceratocystis*.

### **COMPENSATION AND PAYMENT SCHEDULE**

In consideration for services to be rendered by DLNR, DOA agrees to pay DLNR a sum of money not to exceed ONE HUNDRED TWENTY-FIVE THOUSAND ONE HUNDRED THIRTY-FOUR AND NO/100 DOLLARS (\$125,134.00) tax inclusive, in accordance with the following provisions:

1. EIGHTY-ONE THOUSAND THREE HUNDRED SEVENTY-SIX AND NO/100 DOLLARS (\$81,376.00) for aerial surveys (including but not limited to sUAS platform, software licencing, and ground transportation).
2. FORTY-THREE THOUSAND SEVEN HUNDRED FIFTY-EIGHT AND NO/100 DOLLARS (\$43,758.00) for expert imagery data analysis, DLNR's development and submission to the DOA of a Rapid Ohia Death containment strategy, and the satisfactory completion of all other services under this Memorandum of Agreement.

### **TIME OF PERFORMANCE**

Performance of services shall commence on the effective date set forth above and all services shall be completed within one year from the effective date.

### **MISCELLANEOUS**

1. Any modifications to this Memorandum of Agreement shall be made only by a Supplemental Memorandum of Agreement executed by both parties.



2. This Memorandum of Agreement shall be governed by the laws of the State of Hawaii.

IN WITNESS WHEREOF, the parties hereto have executed this Memorandum of Agreement to be effective as of the date first above written.

DEPARTMENT OF LAND AND  
NATURAL RESOURCES

DEPARTMENT OF AGRICULTURE

By: \_\_\_\_\_  
SUZANNE D. CASE, Chairperson  
Department of Land and Natural  
Resources

By: \_\_\_\_\_  
SCOTT ENRIGHT, Chairperson  
Board of Agriculture

Date: \_\_\_\_\_

Date: \_\_\_\_\_

APPROVED AS TO FORM:

\_\_\_\_\_  
Deputy Attorney General

DAVID Y. IGE  
GOVERNOR OF  
HAWAII



**STATE OF HAWAII**  
**DEPARTMENT OF LAND AND NATURAL RESOURCES**

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

SUZANNE D. CASE  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT

KEKOA KALUHIWA  
FIRST DEPUTY

JEFFREY T. PEARSON, P.E.  
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES  
BOATING AND OCEAN RECREATION  
BUREAU OF CONVEYANCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
CONSERVATION AND COASTAL LANDS  
CONSERVATION AND RESOURCES ENFORCEMENT  
ENGINEERING  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
KAHOOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS

## **DECLARATION OF EXEMPTION**

**from the preparation of an environmental assessment under the authority of Chapter 343,  
HRS and Chapter 11-200, HAR**

**Project Title:** Memorandums of Agreement Between the Department of Land and Natural Resources and the Department of Agriculture, for Providing Funding Assistance for Rapid Ohia Death Monitoring Programs

### **Project Description:**

Memorandums of Agreement (MOA) between the Department of Land and Natural Resources (DLNR) and the Department of Agriculture (DOA). The Department of Agriculture offered to award two allotments of funding \$250,000.00 and \$125,134.00 respectively to the DLNR's Division of Forestry and Wildlife (DOFAW) in support of DOFAW's work on Rapid Ohia Death (ROD). The MOAs provides a mechanism for DOA to provide funding to DLNR for surveys to be conducted on Hawaii Island to assess the extent of ROD. DLNR would receive the funds as a pass through to Carnegie Institution for Science (\$250,000.00) and University of Hawaii Hilo (\$125,134.00) to conduct aerial surveys.

The parties will jointly work on activities to monitor the spread of ROD across Hawaii Island. Funding provided to Carnegie is for technical expertise for mapping ROD statewide using laser-guided imaging spectroscopy (LGIS). Funding provided to UH Hilo is for monitoring the spread of ROD with small unmanned aerial vehicles in selected areas on Hawaii Island. Rapid Ohia Death (*Ceratocystis fimbriata*) was identified on Hawaii Island in 2014. The fungus attacks and can quickly kill ohia trees (*Metrosideros polymorpha*). Ohia is endemic to Hawaii and comprises approximately 80% of Hawaii's native forests. Remote sensing has been identified as a critically important contributor to forthcoming management strategies intending to control the spread of ROD. Without remote sensing that details the condition of each tree among all trees in the forest, field crews will not know where to apply tactical control measures to contain the disease. The remote sensing needs to be detailed from a biological standpoint, rather than from the traditional remote sensing standpoint of broad thematic maps of forest cover often reported by mapping scientists.

DOFAW has the capacity to perform the duties provided below indicated in the MOAs.

- Provide technical expertise for mapping Rapid Ohia Death statewide using laser-guided imaging spectroscopy (LGIS). DLNR shall provide the maps to the DOA.
- Analyze map data and compare to data collected in 2016 to ascertain the change of the spread of Rapid Ohia Death on Hawaii Island. DLNR shall provide a report on the findings of this analysis.
- Provide interpretation of analyzed data and management recommendations based on findings. DLNR shall provide recommendations for management actions to the DOA.
- Work with experts in small unmanned aerial systems (sUAS) to monitor and detect ohia tree mortality associated with *Ceratocystis* on Hawaii Island.
- Collect sUAS imagery once a month at four sites for 12 months to track the progression of the disease over time and to quickly determine the extent of new outbreaks as they appear.
- Process and analyze of the data (along with additional sources of useful imagery) to generate new knowledge about *Ceratocystis*.

**Consultation:**

The State Office of Environmental Quality Control (OEQC) requires that agencies exempting projects from the preparation of an environmental assessment under their respective lists of exemptions consult with agencies and individuals having jurisdiction or expertise as to the propriety of the exemption before declaring a project exempt. A copy of the draft declaration of exemption was transmitted to the University of Hawaii (UH), Pacific Cooperative Studies Unit (PCSU), the Department of Agriculture, Big Island Invasive Species Council, And UH Hilo. Each party provided their comments which stated that minimal or no significant impact on the environment will occur regarding the declaration of exemption from the preparation of an environmental assessment under the authority of Chapter 343, Hawaii Revised Statutes (HRS), and Section 11-200, Hawaii Administrative Rules (HAR).

CHAPTER 343 - ENVIRONMENTAL ASSESSMENT: The proposed recovery projects is a minor action that will probably have minimal or no significant effects on the environment and is exempt from the requirement to prepare an environmental assessment in accordance with Chapter 343, HRS, and Chapter 11-200-8, Hawaii Administrative Rules, under the Department's Exemption Class 5, Exemption 1 & 2.

(Exemption List for the Department of Land and Natural Resources, Reviewed and Concurred Upon by the Environmental Council on June 05, 2015):

Exemption Class 5: Basic data collection, research, experimental management, and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource.

1. Conduct surveys or collect data on existing environmental conditions (e.g, noise, air quality, water flow, water quality, etc.).
2. Non-destructive data collection and inventory, including field, aerial and satellite surveying and mapping.

DOFAW activities to be conducted under the terms of the MOA include aerial surveys of Hawaii Island to detect ROD. These are minor actions that will probably have minimal or no significant effects on the environment and are exempt from the requirement to prepare an environmental assessment in accordance with Chapter 343, HRS, and Chapter 11-200-8, Hawai'i Administrative Rules, under the Department's following exemption classes

**Cumulative Impacts of Actions in the Same Place and Impacts with Respect to the Sensitive Environment Will Not Be Significant.**

**Date of Final Agency Exemption List:** June 5, 2015

*I have considered the potential effects of the above listed project as provided by Chapter 343, HRS and Chapter 11-200 HAR. I declare that this project will probably have minimal or no significant effect on the environment and is therefore exempt from the preparation of an environmental assessment under the above exemption classes.*

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Suzanne D. Case, Chairperson  
Department of Land and Natural Resources

Original: Agency file  
Copy: Project file