

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

**Annual Report**  
**January 1 — December 31, 2019**

**Submitted to:**  
**Hau'oli Mau Loa Foundation**  
**Hawai'i Department of Agriculture**  
**Hawai'i Department of Land and Natural Resources**  
**Hawai'i Invasive Species Council**  
**National Park Service-Pacific West Region**  
**USDA Forest Service**  
**U.S. Fish and Wildlife Service-Pacific Islands Office**  
**University of Hawai'i-Pacific Cooperative Studies Unit**

## Introduction

### Acronym Index

BIISC: Big Island Invasive Species Committee  
CGAPS: Coordinating Group on Alien Pest Species  
DAR: DLNR Division of Aquatic Resources  
DLNR: Department of Land and Natural Resources  
DOFAW: DLNR Division of Forestry and Wildlife  
HCAF: Hawai'i Conservation Alliance Foundation  
HDOA: Hawai'i Department of Agriculture  
HDOA PQ: Hawai'i Department of Agriculture Plant Quarantine  
HIBP: Hawai'i Interagency Biosecurity Plan  
HMLF: Hau'oli Mau Loa Foundation  
ICS: Incident Command System  
KISC: Kaua'i Invasive Species Committee  
LFA: Little Fire Ant  
MISC: Maui Invasive Species Committee  
MoMISC: Maui-Moloka'i Invasive Species Committee  
NPS: National Park Service  
OISC: O'ahu Invasive Species Committee  
PIO: Public Information Officer  
RCUH: Research Corporation of the University of Hawai'i  
ROD: Rapid 'Ōhi'a Death  
TNCH: The Nature Conservancy of Hawai'i  
UH CTAHR: University of Hawai'i-College of Tropical Agriculture and Human Resources  
UH PCSU: University of Hawai'i-Pacific Cooperative Studies Unit  
UH: University of Hawai'i  
UHF: University of Hawai'i Foundation  
USDA APHIS: U.S. Department of Agriculture-Animal and Plant Health Inspection Service  
USDA FS: U.S. Department of Agriculture-Forest Service  
USFWS: U.S. Fish and Wildlife Service  
VIDA: Vessel Incidental Discharge Act

### Overview of CGAPS

Two significant reports (NRDC TNCH 1992; OTA 1993) found that Hawai'i had the nation's worst invasive species problem due to gaps in prevention, detection, and control programs. These reports concluded that increased communication, cooperation, and public participation could help close these gaps. In 1997 the Coordinating Group on Alien Pest Species, "CGAPS", (pronounced "C-GAPS") formed as a partnership of agencies and non-governmental organizations working together to close the gaps in Hawai'i's biosecurity programs.

CGAPS staff organizes quarterly meetings to facilitate communications and networking between the agencies and non-governmental organizations that work on invasive species, while the Steering Committee focuses on strategy toward the vision, "*Hawaii's natural environment, agriculture, economy, and the health, lifestyle, and culture of its people are protected from the impacts of invasive species.*"

CGAPS has five grant-funded staff employed through the Research Corporation of the University of Hawai'i (RCUH): Aquatic Legal Fellow (Andrew Porter), Terrestrial Legal Fellow (Stephanie Easley), Statewide ROD Outreach Coordinator (Ambyr Mokiao-Lee), CGAPS Planner (vacant), and the Program Manager/Public Information Officer (Christy Martin). Visit [www.cgaps.org](http://www.cgaps.org) for more information.



*The CGAPS mission is to coordinate and catalyze action among government and non-government partners to prevent and manage invasive species in Hawai'i, as well as communicate key issues to the public.*

## Acknowledgement of CGAPS Support

This past year was a year for planning, including strategic planning for CGAPS and the Hawai'i Invasive Species Council (HISC), and the drafting of the 2020-2024 Rapid 'Ōhi'a Death Strategic Response Plan. It was also a year of planning to build state capacity to co-enforce federal ballast water and biofouling regulations which will go into effect in December 2022. It is years like 2019 that require additional support from our partners. Mahalo first and foremost to the CGAPS Steering Committee and Chairs, including Chair Emeritus Angela Kieran-Vast, Chair Mark Fox, and Deputy Chair Kevin Hoffman. Mahalo also to Josh Atwood and Chelsea Arnott for collaborating on the process, and to Audrey Newman and Sheila Sarhangi for guidance and well-timed words of wisdom.

The CGAPS staff and projects are supported through grants, and we are deeply grateful for this support. Mahalo to Hau'oli Mau Loa Foundation, the Hawaii Department of Land and Natural Resources, Hawai'i Invasive Species Council, National Park Service (via HPI CESU agreement #P17AC01216 Mod2), USDA Forest Service (DOFAW pass-through), U.S. Fish and Wildlife Service, and the Hawai'i Department of Agriculture for financial support of CGAPS and its projects this past year.

CGAPS core funds were administered by the University of Hawai'i at Mānoa and the University of Hawai'i Foundation (UHF) through the Pacific Cooperative Studies Unit (PCSU). The Hawai'i Conservation Alliance Foundation and the O'ahu Economic Development Board also served as fiscal sponsors for some CGAPS projects, and we are grateful for this help.

Funding for the Legal Fellows program was administered by UHF through the UH William S. Richardson School of Law. Mahalo to Associate Dean Denise Antolini and Pamela Taura at the UH William S. Richardson School of Law for partnering with CGAPS. Funding for Rapid 'Ōhi'a Death (ROD) Strategic Response projects were administered by UHF through the UH College of Tropical Agriculture and Human Resources (UH CTAHR), and thank you to Drs. Mike Melzer and J.B. Friday for their leadership.

In-kind support is also appreciated and integral to our work. Mahalo to HDOA, DLNR, TNCH, Hau'oli Mau Loa Foundation, the Homer A. Maxey Conference Center, and Carol Fox for providing meeting spaces, and to DLNR DAR for providing office space for Andrew Porter, and to the UH Department of Botany for office space for the Program Manager, Planner, and ROD Statewide Outreach Coordinator.

Finally, thank you to PCSU Director Emeritus Dr. David Duffy, Director Dr. Shaya Honarvar, and the PCSU staff, and to Jung Song and Sylvia Flores of UHF. CGAPS is able to focus on the issues because this network takes care of the details. Mahalo nui loa!

### CGAPS Steering Committee

Hawai'i Department of  
Agriculture

Hawai'i Department of Land and  
Natural Resources (Division of  
Aquatic Resources and Division  
of Forestry and Wildlife)

Hawai'i Conservation Alliance  
Foundation

Hawai'i Invasive Species  
Council

The Invasive Species  
Committees of Hawai'i

The Nature Conservancy of  
Hawai'i

U.S. Department of Agriculture  
(Animal and Plant Health  
Inspection Service and U.S.  
Forest Service)

U.S. Department of Defense  
-Naval Facilities Engineering  
Command Pacific

U.S. Department of Homeland  
Security/Customs and Border  
Protection

U.S. Fish and Wildlife Service

University of Hawai'i-College of  
Tropical Agriculture and Human  
Resources

## CGAPS 2015-2019 Strategic Plan Progress

This was the final year of the 2015-2019 CGAPS Strategic Plan. In past annual reports, we provided details on the progress made during that year. This year, we provide a cumulative summary of the major milestones and progress on the Action Items toward each goal.

### Goal 1: Minimize the inter- and intra-state movement of pests

#### *Action 1: Support development of effective quarantine and inspection*

- 2015-2016: organized fed/state meetings to discuss prevention & inspection authorities, processes and gaps. Identified key issues, e.g. federal post-entry quarantine process, which led to changes, also engaged new agency staff in the “executive-level” discussion.
- 2015: began communications on the Hawai'i Interagency Biosecurity Plan concept with 2016 WCC announcement in mind. Worked with HISC staff, HDOA, and partners on the planning process, which helped identify priority quarantine and inspection needs, among other areas of need.
- 2017-2019: used HIBP to message needs at the Legislature and other opportunities.
- 2019: through the strategic planning process in tandem with HISC, winnowed the 147 HIBP actions to identify a subset of priorities that both CGAPS and HISC will focus on through 2025.

#### *Action 2: Find solutions to federal preemption*

- 2015-2019: CBP leadership (and member of the CGAPS Steering Committee) maintained a multi-agency/ UH Pest Risk Committee to discuss new pest advisories and issues where federal preemption and information-sharing restrictions might otherwise impact prevention and ED/RR efforts.
- 2016, 2018, 2019: worked with DOFAW and HDOA PQ staff to compile and submit Myrtaceae restriction packages for HDOA and USDA APHIS.
- 2018-2019 supported state Myrtaceae rulemaking process. In 2019 the draft rule went through public hearings and is awaiting Gov. Ige's signature.
- 2019 participated in calls with USDA regulators in Maryland to discuss the Myrtaceae petition. The draft federal rule is open for public comments (currently closing March 24, 2020).
- 2019 with partners, compiled and submitted one additional import



*More than 70 invasive species specialists from agencies, organizations, and academia participated in the 2020-2025 HISC & CGAPS Strategy Workshop, while dozens of others provided input through meetings and interviews.*

restriction request to USDA. Other requests will be submitted.

**Action 3. Support reinstatement of HDOA Detector Dog program**

- 2015-2017: provided support at the legislature and at DOI to secure federal funds for two dog/handler teams focused on brown treesnake interdiction. The next step is to rebuild capacity for non-BTS detection work at ports.
- 2018: through the ROD Strategic Response, supported the testing of a detector dog for identifying ROD-infected trees by scent.
- 2015-2019: supported partners in starting an LFA detector dog pilot project, although implementation has been delayed, a solution was identified to move forward in 2020.

**Action 4: Support the development of an effective hull-fouling and ballast water management program**

- 2015-2016: completed in-water hull cleaning risk assessment and mitigation report with SERC and DAR as a foundation for planning and future rules.
- 2016: drafted and worked with partners to introduce and pass an IUCN WCC biofouling resolution calling for an international binding instrument to address biofouling (replacing the current voluntary BMPs).
- 2016-2017: with DAR, consulted with vessel operators and prepared to update state ballast water rules to include inter-county ballast management.
- 2015-2018: worked with partners to review and provide comments on multiple versions of federal VIDA bills. Proposed concepts and language which was incorporated and signed into law on Dec. 4, 2018.
- 2018-2019: with DAR and partners, assessed available tools for mitigating biofouling and capturing and cleaning the effluent.
- 2019: assessed the scope of federal

regulation, state preemption and opportunities, and engaged partners and federal regulators to influence new federal standards and regulations which will go into effect in December 2022.

- 2019: worked with partners, vessel operators and stakeholders to assess the likely risk of VIDA and agree to the need to raise state capacity to co-enforce both ballast water and in-water cleaning/biofouling.
- 2019: Drafted legislation for 2020 and worked with key legislators to convey the situation and need for a team of ten to be able to co-enforce by 2022.



*CGAPS helped DLNR DAR create communication pieces used to build awareness and support to address ballast water and biofouling. House Finance Committee members and staff received a demonstration of these concepts during a site visit.*

**Action 5: Support voluntary and regulatory mechanisms that prevent inter-and intra-state movement of pests**

- 2015-2019: continued outreach to the nursery and landscape associations and other key audiences on use of the HPWRA and the Plant Pono website.
- 2015-2019: continued outreach to key audiences to promote use of pest BMPs in contracting and procurement processes.
- 2015-2019: worked with the Landscape Industry Council of Hawai'i and others to promote information/knowledge exchange via conferences, the LICH magazine, and other events.
- 2018-2019: supported the redesign of

[PlantPono.org](http://PlantPono.org) site led by BIISC and KISC partners.

**Action 6: Address lists regulating plants**

- 2016-2019: engaged plant industry groups throughout the planning process for rule change.
- 2017: via contractor, compiled information on invasive plants not known to occur in Hawai'i and an initial list of invasive plants that should be restricted for importation.
- 2018-2019: drafted a petition and proposed rule language to enable the listing of "harmful plants" for domestic import restriction.
- 2019: submitted draft rule and list to petition the Board of Agriculture to begin rulemaking, which was approved for initial review by the Committee on Plants & Animals.

**Goal 2: Expand Hawaii's Biocontrol Program**

**Action 1: Assist in developing messaging regarding the importance of biocontrol**

- 2015-2019: used 2012 survey work to assess public perception of biocontrol. Drafted messaging for biocontrol materials.
- 2018-2019: provided editorial support to DLNR and HDOA for environmental and cultural impact reviews and assisted staff in producing a new [biocontrol website](#) (currently on the HISC page).

**Action 2: Support the development of expanded capacity for biocontrol in Hawai'i**

- 2018: worked with partners to message the need for enhanced regional biocontrol capacity as one of the three top priorities for Gov. Ige's Western Governors Association Biosecurity Initiative.
- 2018-2019: worked with partners to build a coalition in support of new

regional biocontrol facilities and capacity, including a multi-year process for gaining state & federal support to construct new facilities.

- 2019: supported the initiative by meeting with and briefing congressional staffers and Congressman Case on the Regional Biocontrol & Containment Center and other issues.



*In conjunction with a panel discussion and screening of Saving 'Ōhi'a at the United States Botanic Garden in March, CGAPS Planner Chelsea Arnott, ROD Statewide Outreach Specialist Ambyr Mokiao-Lee, and Program Manager Christy Martin met with Hawaii's Congressional Delegates, including Senator Hirono.*

**Goal 3: Educate the public and decision-makers on importance of prevention\***

**Action 1: CGAPS will work with a professional contractor to develop a coordinated strategy**

- 2015-2019: maintained and led collaborative networks of communications professionals through the HISC Public Outreach Working Group, LFA Response outreach working group, ROD Outreach team, and others, to coordinate and support consistent messages and strategies.
- 2016-2017: worked with OISC to select a contractor to develop and conduct a coordinated LFA campaign. Although some limited progress was made, the project underscored the unique challenges of contracting this type of work when the issue is under the

- jurisdiction of multiple agencies.
- 2019: received funding and began working with Sheila Sarhangi to develop a strategic communications plan to achieve a single high-priority goal.

**Action 2: CGAPS will provide information support to decision-makers regarding prevention-based\* policies and programs**

As this Action is similar to Goal 5, progress is reported under that goal.

*\*Preventing the arrival or establishment of a species is less costly than the cost of controlling the species or its impacts once it is here. Further, eradication and control are much more difficult. However, focusing on prevention can inadvertently impact support and funding for necessary control measures for those species that are already present and causing harm.*

**Goal 4: Identify key invasive species threats and coordinate response plans**

**Action 1: Coordinate and develop strategies to detect, respond to, and control new invasive species**

- 2015-2017: with partners, participated in the O’ahu LFA Incident Command. Provided outreach and communications services to fill capacity gaps in the existing response structure of agencies.
- 2015-2019: coordinated an annual statewide LFA outreach campaign to engage the public in surveying for and reporting LFA infestations.
- 2015-2019: with partners, assisted in coordinating the response to ROD and organizing train-the-trainer workshops.
- 2017: with partners, facilitated the drafting and publication of the 2017-2019 ROD Strategic Response Plan.
- 2018: via a contractor, supported the development of ICS ROD response frameworks for each island.
- 2019: with partners, instituted a new ICS for eleven new LFA infestations on

O’ahu. Coordinated regular ICS calls and organized training opportunities for new staff statewide.



*The Hawai’i Ant Lab taught CGAPS staff and partners how to mix and apply an insect growth regulator that LFA deliver to queens, which acts as an ant birth control, leading colonies to die out.*

**Action 2: Facilitate research on key threats and pathways using risk-based assessments**

- 2015-2017: supported modification and testing of a science-based risk assessment tool for marine species introductions and provided it to agencies to facilitate informed aquaculture import/risk decisions and rapid response decisions. DAR has adopted use of this as one of its tools.
- 2018-2019: with partners, selected ten high-risk pest species that are not known to occur in Hawai’i and submitted them to a contractor to research and produce information that could be used to petition for additional import restrictions. Completion is expected in 2020.

**Action 3: CGAPS will evaluate the effectiveness of control responses**

- 2015-2019: worked with partners to assess gaps in response capacity, which led to communications with DOI on the need for federal support for early detection and rapid response for non-agricultural pests and pests that are not ED/RR priorities for USDA or other agencies.

- 2017-2019: participated in discussions with the staff of the National Invasive Species Council and DOI about responses to recent incursions in Hawai'i. Reviewed and provided input on the [use of ICS in invasive species responses](#).

**Action 4: Support the redevelopment of capacity for mosquito vector monitoring and response**

- 2015-2017: supported Hawai'i Department of Health by advocating for restoration of vector control. Mosquito monitoring and response capacity was restored in 2017.
- 2017-2019: provided communications support to partners working to better address mosquitoes. Conducted a public awareness and opinion survey and focus groups, and participated in planning meetings, which are ongoing.

**Action 5: Continue to help with effective pest reporting mechanisms**

- 2015: completed work on 643-PEST, the single-line toll-free pest hotline. All support functions transitioned to HDOA.
- 2017-2019: supported HISC staff in continuing to incorporate [online pest reporting](#) (and app), to move from a pilot project to full agency implementation, and integrate online and app reporting options in public outreach and media.

**Goal 5: Identify, synthesize, and share information about prevention and control measures**

**Action: Work with HISC and other partners to identify available data, develop indicators, and share to gain support for current and future work**

- 2015-2019: synthesized and provided information to decision makers on invasive species issues, targeted and provided information to key audiences, and worked with journalists and media personnel on stories.

- 2015-2019: supported DAR by providing organizational, legal, and communications services on AIS.
- 2016: contracted Dr. Lloyd Loope to research and produce a summary of our knowledge as [a guidance document for ROD](#) for Hawaii and the Pacific Region.
- 2017-2019: supported work by HISC and Hawai'i Green Growth (HGG) staff on [HIBP implementation indicators](#) on the Aloha + Challenge Dashboard.
- 2017-2018: planned and worked with partners and a contractor to produce a [documentary](#) to raise public awareness and support for addressing ROD.



*Saving 'Ōhi'a writer/editor Liza Sullivan, executive producer Christy Martin, producer/director Annie Sullivan Kopcsó, and sound designer Luke Bisagna at the Emmy Award ceremony for the Pacific Southwest Region in June, 2019.*

- 2017-2019: supported a new (soft-funded) position at DLNR DOFAW to manage multi-agency ROD survey and response data.
- 2018-2019: worked with partners to plan protocols for testing in-water cleaning technologies. In 2019, we participated in an assessment of international needs.
- 2019: researched and drafted memos and language for priority invasive species prevention issues.
- 2019: incorporated data tracking capacity in proposed new state ballast water & biofouling program.
- 2019: worked with a team to draft the [2020-2024 ROD Strategic Response Plan](#)



### **CGAPS Operational Goal 1:**

*Explore potential changes to the CGAPS organizational structure as part of, or a first step to, securing stable funding for at least one CGAPS staff position*

The potential benefits and drawbacks of keeping the CGAPS staff and projects under UH PCSU were examined and compared to alternate models, including how HCA employs staff and administers projects. The outcome, which came through clearly during the 2019 strategic planning process, is that **it is important to preserve the flexibility of staff to meet the needs of CGAPS partners and goals**, that may not be possible if that stable funding and structure included turning one or more positions into a civil service or other general-funded position. Further, **CGAPS staff association with the University is an asset**, as is the staff engagement with the research and technical resources at the University.

In the course of examining alternate options, PCSU Director Dr. David Duffy requested Christy's help with his transition plan, including a plan to solidify the position of PCSU and its projects within the University. After nearly three years of planning and two recruitments with a number of excellent candidates, Dr. Shaya Honarvar was selected in 2018 and began implementing the transition plan. At the close of 2019, PCSU was placed directly under the Dean of the College of Natural Sciences (it was formerly under the Department of Botany) and positioned PCSU to become an Organized Research Unit (ORU).

It may be helpful to note that 2015-2019 CGAPS Strategic Plan contractors Drs. Kim Burnett and Makena Coffman, urged CGAPS to consider situating CGAPS in a more established part of the university similar to UHERO, which is under the Social Science Research Initiative, a UH ORU. PCSU's transition moves CGAPS into a more established position.

### **CGAPS Operational Goal 2:**

*Grant-fund CGAPS priority projects through additional staff capacity, including a project manager*

CGAPS has been able to sustain the Program Manager/PIO and two Legal Fellow positions, and add outreach and planner positions. Hau'oli Mau Loa Foundation continues to be the sole funding source for the two Legal Fellow and Planner positions, and outreach staff initially hired through a 2016 HMLF ROD grant has been able to generate additional funding through grants from the US Forest Service and Hawai'i Tourism Authority for salary and projects.

There is tremendous competition for grants by the same groups that CGAPS advocates for. Therefore, CGAPS focused on raising additional state and federal funds to support priority projects. This included working with the ROD Strategic Response to raise more than \$2 million in funding annually for ROD since 2017, with new funds from the Legislature and Hawai'i Tourism Authority, nearly \$500K in additional federal funds secured through the leadership and help of Senator Schatz, and more than \$650K in private foundation funds through grant writing and fundraising. In 2019, CGAPS also embarked on a plan with DLNR DAR to build new capacity to address ballast water and biofouling through a 2020 legislative session bill which asks for ten civil service positions to supplement the single grant-funded staff. The proposed budget also includes a state-funded aquatic legal fellow position.

In 2015, this operational goal led the CGAPS Steering Committee members to adopt an internal agreement to spearhead funding requests of \$20K in support of the CGAPS PIO, an amount that would provide salary and basic operating funds, and similar to HGG's model. In 2016, seven sources contributed, which covered core costs even though funds were not awarded all at once. At that level of participation, the amount of core support for the Program Manager/PIO was significantly lower than the other years. The model of partner contributions can work, although the 2020-2025 Strategic Plan advocates for contributions for at least two core staff, which will take some creativity and effort to generate.

## 2019 HMLF Projects

In 2011, Hau'oli Mau Loa Foundation selected CGAPS as their partner to help achieve their mission to protect Hawaii's environment through preventing the arrival and establishment of new invasive species. Each year, the CGAPS Steering Committee prioritizes and submits a short list of projects for funding consideration, and 2019 was the eighth year of HMLF's ten-year funding commitment. Summaries are provided as updates on progress for some multi-year projects, and as final reports for others.

### **Little Fire Ant Detector Dog (2015-2016, extended to December 2019)**

HMLF funding for this pilot project (#14-1210-31-210) was extended through December 2019 when it termed. While progress was being made to **purchase a trained LFA detector dog and contract the vendor in Australia to come to Hawai'i to conduct handler training**, a collective agreement was made to allow the funds to be returned to HMLF with the intention of re-encumbering funds to be administered under the Hawai'i Conservation Alliance Foundation in 2020. CGAPS acknowledges and appreciates the understanding, flexibility, and continuing support of HMLF, UHF, PCSU, and HCAF in finding creative ways to begin this project that will be implemented collaboratively under the leadership of PCSU-Maui Invasive Species Committee.

### **Support for Hawai'i Green Growth (annual)**

With support from HMLF, CGAPS again contributed funds to **support the operating costs of Hawai'i Green Growth (HGG)**, administered through the O'ahu Economic Development Board. HGG convenes a more diverse group of business, agency, and NGO representatives to focus initiatives on a broader set of sustainability goals, and has led the way to provide access and accountability through measures featured on the State Dashboard. The Aloha + Challenge includes agency goals of implementing the Hawai'i Interagency Biosecurity Plan, protecting 30% of priority watershed forests, 30% of nearshore waters by 2030, and increasing local food production and renewable resources, all of which include invasive species messaging and can significantly help address invasive species issues.



*Hawai'i Green Growth Annual Member Event (photo by HGG)*

### **ROD Emergency Special Funding Projects (2017, 2018, 2019)**

For several years, HMLF has provided special additional support for emergency response work on ROD, which is deeply appreciated. The 2017, 2018, and 2019 ROD funds are administered by the University of Hawai'i Foundation and Office of Research Services because the University plays a key role in the research, response, and extension work on ROD.

The remaining 2017 funds for ROD Emergency Response (#16-1214-29-278) were expended in 2019, and that grant has termed. These funds provided crucial support that allowed the Kaua'i Invasive Species Committee to hire Kim Rogers to conduct **community outreach about ROD on Kaua'i** following the discovery that both pathogens that cause ROD were

present and killing trees on Kaua'i. Through HMLF support and matching DOFAW funds, Kim worked with partners to create a prioritized communications plan and a well-respected outreach and [community engagement](#) presence.

In 2018 HMLF provided funding that was used to contract Anders Lyons as a **ROD Emergency Response Planner** to work with key agencies and organizations on each island (except Hawai'i island) to facilitate, and in some cases prepare, ROD response frameworks using the Incident Command System (#17-1213-13-295). This year-long process completed in March, 2019 engaged dozens of offices and individuals on each island in local-level discussions on existing and needs for resource capacities, areas of responsibility, and communications. These facilitated discussions were a "tabletop" approach that brought people together to talk through the ROD response steps, from who would follow up on reports of sick trees, to the protocol for responding in the event that a sample turns out to be positive for ROD. When the less aggressive ROD pathogen was found on Maui and O'ahu in 2019, the responses were quick and organized. Further, the response on Maui occurred over the course of a couple of days, and since it was an ornamental plant and the landowner was supportive, the ROD tree was burned in place.

Funding provided for 2019 (#18-1212-22-321) has been extended through 2020 and is currently **filling a gap in funding which supports a lab technician housed at USDA ARS** to help process the hundreds of samples submitted each month for ROD pathogen testing. Funds also supported small contracts such as the layout and printing of the new 2020-2024 ROD Strategic Response Plan and the **design and testing of a more effective boot brush station**, which is currently underway in partnership with Hawai'i Volcanoes National Park and other ROD partners.

### **Testing In-Water Cleaning Technologies (2018 – 2019, extended through 2020)**

This project was delayed due to the passage of the Vessel Incidental Discharge Act in December, 2018, which made it unclear how in-water cleaning may or may not be regulated. CGAPS and DAR staff participated in an in-water cleaning technology workshop with international experts and regulatory officials organized by the Alliance for Coastal Technologies and the Maritime Environmental Resource Center, held in Honolulu in the spring of 2019. At the workshop, participants discussed the results of the Baltimore and Alameda cleaning tests from 2018 and the next steps for testing technologies. The day following the workshop, CGAPS and DAR hosted a biofouling roundtable with participants and Hawai'i regulatory agencies to share how different states, New Zealand, and Australia regulate biofouling. This collaboration is ongoing, and additional testing is being planned for spring 2020. Although it will be difficult to **plan and conduct testing of in-water cleaning technologies** before summer, those discharge standards are necessary for federal agencies to be able to draft the best discharge standards and regulations in the three years leading up to implementation under VIDA.



*International participants convened at the East West Center in April, 2019 to discuss the water quality and efficacy testing of in-water cleaning technologies. Many participants stayed to share how their state or nation regulates biofouling. Also attending were EPA and U.S. Coast Guard staff from Maryland.*

### **CABI Invasive Species Datasheets (2018, extended through 2020)**

This project is still underway and is expected to be completed in the spring of 2020. This project uses HMLF funds to support a contract with CABI, the Centre for Agriculture and Biosciences International, to **research and produce full biological and pest risk datasheets on six priority species that pose a risk if introduced to Hawai'i**, and post them on the CABI Invasive Species Compendium website ([www.cabi.org/isc](http://www.cabi.org/isc)). This would serve as a pilot project to assess whether or not CABI datasheets are beneficial in supporting risk assessments and prevention policies to mitigate risks posed by those species. In 2018, Dr. Michael Melzer, member of the CGAPS steering committee and lead scientist in the UH CTAHR Agrosecurity Laboratory, solicited from colleagues a list of suggested pests that are not-known to occur in Hawai'i, are considered high risk, and are not currently (explicitly) regulated. Over 100 species from a variety of biota types including nematodes, mites, weeds, algae, fungi, etc., were suggested, which were then prioritized and a list of ten were sent to CABI in spring of 2019.

### **CGAPS Legal Fellows (annual)**

The CGAPS Legal Fellows (#16-1214-24-273; #17-1213-13-290; #18-1212-17-316) are a collaborative project between the UH William S. Richardson School of Law and CGAPS. The goals of this program are to provide law school graduates with experience working in resource management agencies that they can draw from as their career advances, and to provide CGAPS and its partner agencies with legal research and policy assistance.

Andrew Porter continued in his role as the **CGAPS Aquatic Legal Fellow** and focused on the issues of ballast water and biofouling, and other issues important to the prevention of aquatic invasive species (AIS). Andrew worked closely with the DAR Ballast Water and Biofouling Coordinator, Jules Kuo, and the DAR AIS Program Manager, Kimberly Fuller, to help bridge the gap between the legal and scientific realms required for effective regulation.

Andrew started off 2019 with a legislative push to secure funding for the DAR ballast water and biofouling program in response to the State's expanded responsibilities under the Vessel Incidental Discharge Act of 2018. Pursuant to this effort, Andrew provided research for and assisted in drafting HB746/HB750/SB1162, authorizing DLNR to increase the Hawaii Department of Transportation-Harbors Division's existing port entry fee for commercial harbors, which would support DAR's ballast water and biofouling work at commercial harbors. These bills also requested the appropriation of funds to support staff and operational costs associated with aquatic biosecurity inspection, investigation, monitoring, management, compliance, and enforcement.

Although these bills did not move, they succeeded in garnering attention for the subject and began a dialogue with HDOT Harbors and others which resulted in Andrew working with DAR staff to draft SCR155/SR121, *Urging all applicable state agencies to work together with interested stakeholders, including the Honolulu Harbor Users Group, in assessing the risk of aquatic invasive species to Hawai'i, the vectors, and possible mitigations, in preparation for the establishment of new federal standards in*



*Following concerns about bill language, DLNR Deputy Bob Masuda and HDOT-Harbors Deputy Derek Chow (third and fifth from the left) worked together to engage stakeholders and staff from the agencies in learning about each other's work and needs in the area of protecting natural resources. SR 121 was passed, and multiple learning events were conducted in 2019.*

2022. SR121 was adopted by the Senate and called on Hawai'i agencies to work together and with stakeholders to assess the risk of various pathways of AIS introduction and provide a report of findings and recommendations to the Legislature in 2020.

In order to uphold the request of the Legislature in SR121, Andrew worked with DAR and CGAPS staff to hold a series of meetings with state agency personnel, the Honolulu Harbor Users Group, and other interested stakeholders. These meetings highlighted the importance of managing ballast water and biofouling, the state's role in developing and co-enforcing federal standards, the lack of DLNR capacity to manage these and other AIS introduction issues, and the need to raise capacity before the December 2020 implementation of new federal regulations. These meetings helped major stakeholders agree to work with DLNR DAR and CGAPS to develop bill language that would request state funds to support a team of ten new staff to expand capacity for the ballast water and biofouling program over the next two years. Andrew developed the initial draft of this legislation and worked with Christy and Stephanie and DAR staff to finalize language that incorporated or addressed stakeholder comments. The bill has since been introduced by members of the House and Senate.



*CGAPS helped DLNR and HDOT-Harbors organize and convene a meeting with vessel operators, stakeholders, NOAA, USFWS, U.S. Coast Guard, and UH AIS experts in November, 2019 to discuss ballast water, biofouling, and the actions that are needed to prepare for VIDA.*

Along with the state legislation, Andrew worked with EPA and USCG staff on the implementation of VIDA. In the spring, Andrew drafted an in-depth analysis of all AIS-related aspects of VIDA. This analysis was reviewed and discussed with the California State Lands Commission and was shared with the Hawai'i Attorney General's Office, the Hawai'i Department of Transportation, and the Hawai'i Department of Health. The analysis has been instrumental in educating state agencies on the intricacies of VIDA and helped guide the discussion in inter-agency meetings.

Federal agencies are currently in the phase of VIDA in which the EPA has two years to develop discharge standards for ballast water, biofouling, in-water cleaning, and approximately 28 other discharges incidental to the normal operation of a vessel. Key issues with implementation that Andrew has worked on are: 1) discerning what level of coordination the EPA has to have with the states while developing its regulations in order to meet the requirements of VIDA, and 2) what are the exact discharges that are considered "incidental discharges" covered under VIDA (i.e. – whether or not latent biofouling itself is considered an incidental discharge; whether or not VIDA will regulate in-water cleaning effluent—water that has been captured and cleaned for output back into the ocean, etc.).

Andrew also attended several meetings to help coordinate West Coast states' official comments on VIDA to the EPA. He also worked with the staff of the National Governors Association and the Western Governors Association on comments provided to the EPA on state expectations for the coordination process in the development of discharge standards.

Finally, Andrew worked with DAR AIS Program Manager Kimberly Fuller to identify a list of aquatic species that are not currently present in Hawai'i but that pose a high risk of being invasive if imported, and are not expressly prohibited for importation. In 2020 Andrew will finalize the list and will work with the Hawai'i Department of Agriculture to add them to the prohibited import list.

The **CGAPS Terrestrial Invasive Species Legal Fellow** position was filled by Stephanie Easley in June 2019. Stephanie supported the CGAPS team and HDOA in invasive species prevention efforts, and has provided a number of products that continue to inform our work. There were a number of questions that Stephanie is continuing to work through, including how to better address the pathways that most contribute to the introduction and spread of terrestrial pests. Stephanie researched methods available to States to prevent the introduction and spread of invasive species through the nursery trade and garden shops, which included reviewing other state programs and laws, and initiatives of the National Plant Board. She drafted template legislation for consideration by HDOA to address this pathway. A similar memo was prepared related to agricultural producers. Stephanie also researched the law and regulations in Hawai'i related to intransland movement of plant material to prevent the spread of invasive pests. She submitted a research memo on that subject to HDOA and CGAPS.

At the request of DOFAW partners, Stephanie researched the potential for invasive species introduction from raw wood and firewood brought into Hawai'i and prepared a research memo on the law and regulations related to restricting those imports for DOFAW and CGAPS. An online article by the Tax Foundation of Hawai'i about the 2012 U.S. Department of Transportation ruling that preempted Hawai'i from requiring airlines to collect and remit to HDOA a biosecurity fee led to one of Stephanie's current projects at the close of 2019. To date, Stephanie researched preemption issues related to the collection of a fee for inspection of air cargo brought into Hawai'i and options for the State to collect fees that could be used for increased inspection of cargo to prevent invasive species introductions. That research memo will be provided to CGAPS and HDOA in early 2020.

Stephanie is also continuing to provide a very high level of expertise in other federal/state issues such as VIDA and the federal petition to restrict myrtaceae imports.

Andrew is now considered the "senior legal fellow" in the network, and has assumed coordination duties for monthly "Fellows and Friends" meetings. With Associate Dean Denise Antolini on sabbatical during the fall 2019 and spring 2020 semesters, both Andrew and Stephanie have been tapped to speak on natural resources legal topics for UH William S. Richardson students.



*Associate Dean Denise Antolini (front, second from left) continued monthly "Fellows and Friends" meetings to provide networking and professional development opportunities. Former CGAPS Terrestrial Legal Fellow Kathryn Stanaway (back row, left), current Fellow Stephanie Easley (front row, right), and Aquatic Legal Fellow Andrew Porter (back row, center)*

### **Capacity Support for CGAPS Program Manager/PIO and Planner (annual)**

HMLF provided 100% of the funds supporting the **CGAPS Planner salary and operating costs** which supported Chelsea Arnott through March, 2019, and Lara Reynolds from July through October, 2019. HMLF funds also supported more than half of **salary and operating costs for the CGAPS Program Manager/PIO** (#16-1214-25-274; #16-1214-26-275; #17-1213-13-291; #18-1212-18-317), with additional funds received from the U.S. Forest Service through DOFAW, NPS (#P17AC01216 Mod2), HDOA, USFWS, and HISC.

The Program Manager/PIO position description lists public and policy maker outreach

and media-related duties at 50%; staff direction and supervision, partnership coordination, and partner project support services at 25%; grants and reports, planning, and project management at 20%; with 5% other duties as assigned. The Planner position description lists biosecurity project planning and coordination at 40%; outreach planning and coordination at 20%; partner communication at 20%, and 20% correspondence, report writing, and other duties. The following summarizes work of the Program Manager and Planner on activities not adequately reflected elsewhere in this report.

### **Policymaker Outreach**

CGAPS staff continued to provide information to agency heads and policymakers, including briefings, verbal and written testimony, participating in meetings and calls, and organizing site visits for staff of Hawaii's congressional delegates. The main topics of engagement in 2019 included ROD, ballast water and biofouling, raising biocontrol capacity, and prevention issues related to restricting invasive plants and myrtaceae. As in previous years, CGAPS staff continued to receive and respond to requests for information on a wide variety of invasive species topics. It is particularly gratifying to be able to respond with accurate information, even if received outside or normal work hours.



*CGAPS and DAR Ballast Water & Biofouling Coordinator Jules Kuo (center) partnered with Sause Bros. to host Knauss Sea Grant Fellow Omanjana Goswami and Kirsten Turner (third and second from right) from Congresswoman Gabbard's office in August, 2019. An ROV biofouling inspection demonstration and vessel tour of one of Sause's tug boats were learning opportunities for all.*

### **Outreach & Media Related Duties**

Although there were a number of outreach and media activities in 2019 (a list is provided for all staff later in this report), there were a number of opportunities related to ROD that were particularly satisfying. In 2019, CGAPS staff and outreach partners on each island organized and conducted multiple screenings of the ROD documentary, Saving 'Ōhi'a, a CGAPS product. The film continues to help educate and engage a wide audience, and has received wider recognition as an official selection at several film festivals and in May, 2019 it won three regional Emmy Awards. The film is posted online at [www.SavingOhia.org](http://www.SavingOhia.org) and through the support of Hawai'i Tourism Authority, it is being subtitled in Korean and Japanese, work that Ambyr is coordinating. Kaiini Kaloi, one of our Department of Interior (DOI) partners, also organized a screening and panel discussion at the Main Interior Building in Washington, DC as an event in recognition of Native American Heritage Month. The event was announced to DOI personnel nationwide and livestreamed as an official DOI training opportunity.

Christy also worked with DLNR ROD coordinator Rob Hauff and a small team to produce a new response plan and budget for the next five years. Support included organization of sections, text editing, photo and graphic selections, captions, and working with a UH Marketing and Publications designer to lay out the plan. The 2020-2024 ROD Strategic Response Plan was completed and announced through a DLNR press release just prior to the opening of the 2020 legislative session. Like the previous plan, this plan will be used as a resource that can help multiple agencies and organizations communicate their role and needs to a more diverse array of funders, as part of a larger effort.

## Stop the Ant—Statewide Outreach Campaign on the Little Fire Ant

CGAPS staff continued to coordinate the Little Fire Ant Response outreach working group with outreach specialist from KISC, OISC, MISC, BIISC, and the Hawai'i Ant Lab. Through the annual CGAPS funding request to HISC, \$15K was used by the working group to support the 5th annual "Stop the Ant Month" statewide campaign in October. As in past years, this group worked together to produce and broadcast radio ads, generated social media posts, pitched media stories and interviews, participated in community outreach events, and provided LFA test kits and signage for participating libraries, veterinarian offices, and other public locations statewide. Informational resources were also updated, including the Stop the Ant website, the LFA schools activity presentation and files, the print files for the LFA test kits, and the information brochure was revised. A grant to CGAPS from the Hawai'i Department of Agriculture supported brochure printing and shipping to partners for statewide use.

### Specific Stop the Ant Month Activities by Island:

KISC secured a [Kaua'i County Resolution](#), ran nearly 250 radio spots, successfully pitched stories featured in The Garden Island newspaper, distributed more than 500 test kits, and engaged ten classes which resulted in 139 ant samples from across the island. Whether the result of Stop the Ant month activities or not, in October a resident in Kilauea collected ant samples which were identified as LFA, the first [new detection of LFA on Kaua'i](#) since 1999.

On Hawai'i island, BIISC and HAL created and broadcast 408 radio ads and interviews, worked with Rep. Nicole Lowen and partners to host a [West Hawai'i LFA forum](#), handed out test kits, and were featured on an Island Conversations episode. BIISC also conducted [treatment training sessions](#) for several communities and created six Stop the Ant Facebook page posts with a total reach of 969 with 154 engagements - engagement rate 5.82% (a "good" rate is 2%), but on BIISC's page, they posted 14 LFA-related posts with a reach of 19,167 and 3004 engagements (10.32%). BIISC's Instagram featured 11 LFA-related posts, with 8405 impressions and 697 engagements (5.31%).

For Maui County, MISC created and broadcast 224 radio ads, held community meetings on LFA, conducted outreach at the Maui County Fair, and engaged several classes in surveying for LFA. October also marked the beginning of aerial treatment of the [Nāhiku infestation](#), which was covered in local news and was picked up nationally. Several [new infestations](#) also garnered media. LFA-related posts on MISC's Facebook page reached 6,280 and had 718 engagements (rate).

On O'ahu at the beginning of 2019, a single public-reported infestation in Kāne'ohe led Christy to organize an Incident Command as practice for new staff, and for scaling up a response if needed. A media release about the discovery led to additional public-reported infestations in other locations, each [confirmation followed by more media](#). In October, KSSK staff assisted with Stop the Ant Month by organizing an [interview with host Michael W. Perry](#) during the morning drive hour. At the close of 2019, there were 8 sites under active treatment and two additional sites that received the full cycle of treatments during the course of 2019 and are now in the monitoring phase for the next two years. Instead of running radio ads on O'ahu, CGAPS and OISC opted to plan and conduct a direct mail pilot project that was delayed in part



*With HISC funding, KISC's Outreach Specialist Jenny Allen and other new staff participated in an LFA survey and ID workshop organized by CGAPS and led by the Hawai'i Ant Lab in Hilo.*



by the number and size of active LFA sites on O'ahu. The pilot project will be conducted early in 2020.

Visits to [www.StopTheAnt.org](http://www.StopTheAnt.org) are tracked as one of the messages used in radio ads, stickers, and other materials. Metrics show 366 visits during the month of October. This is a 30% increase from the number of users in September, but a 25% drop from our numbers during October, 2018. However, visitors spent longer on this site; an average of 2:18 vs 1:45 last year.

### Addressing Biofouling & In-water Cleaning

Christy continued to work with Andrew and Stephanie on supporting aquatic biosecurity needs, but in particular, she focused on evaluating the science, regulatory, and programmatic needs related to biofouling and the in-water cleaning of vessel hulls, the section of VIDA which will preempt states from prohibiting or restricting the cleaning of vessel hulls in state waters. Because in-water cleaning is currently prohibited in virtually all state waters, there is no model for how this activity could be regulated in a way that assesses and mitigates water quality and AIS risk. Christy researched how the USCG currently operates, and provided a draft regulatory framework to serve as a clarifying tool for discussions with EPA and USCG.

### Staff & Partnership Coordination

Christy continued to supervise and guide the CGAPS staff and contractors, and assisted the CGAPS Steering Committee in its collaborative work. One of the priorities continued to be identifying and providing staff with learning opportunities. A good example was the staff trip to D.C. in May, 2019, which started by planning and drafting a briefing document with three main topics, going to the different meetings at congressional offices and USDA, and having Chelsea and Ambyr lead the discussion for their topic.

The majority of tasks associated with quarterly meeting planning, and other meeting coordination and support functions were carried out by Chelsea and Lara in the role of Planner. This significant support function was the key to our weekly strategic planning meetings with Audrey, the nine O'ahu LFA ICS team calls, the planning of the HDOT-Harbors/DLNR meeting with stakeholders, the coordination of calls related to Pacific regional biocontrol facilities, the work with CABI, and many more projects.



*It takes a village to do strategic planning. In preparation for the big Strategy Workshop in August, CGAPS and HISC staff met to discuss small group facilitation duties. Clockwise from the left, Audrey Newman, HISC's 643-PEST.org coordinator Elizabeth Speith, Sheila Sarhangi, now-former CGAPS Planner Lara Reynolds, Ambyr Mokiao-Lee, Andrew Porter, HISC Interagency Coordinator Randy Bartlett, Josh Atwood, and former CGAPS Planner (now HISC Planner) Chelsea Arnott.*

### Partner Support

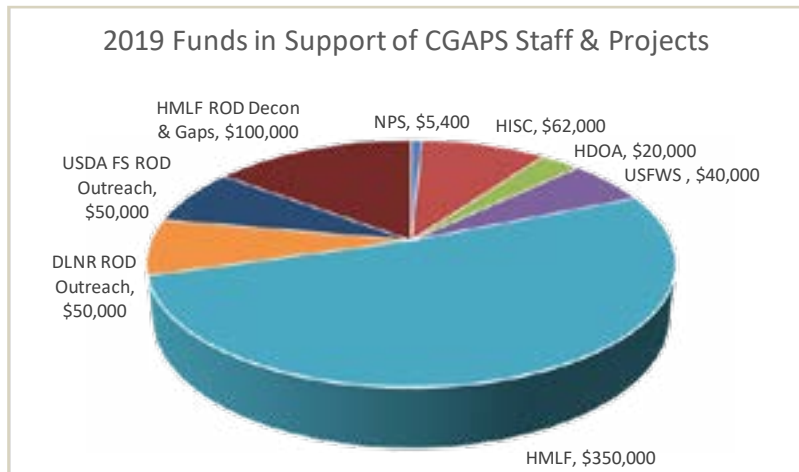
CGAPS continued to provide support to agencies by participating in the ROD Outreach Working Group and Strategy Working Group, the team that drafted the 2020-2024 ROD Strategic Plan, chairing the HISC Public Outreach Working Group, LFA Outreach Working Group, and as a steering committee member for DAR's Ballast Water and Hull-fouling program. CGAPS also assisted state and federal agencies by assessing outreach and communication needs for a variety of issues such as mosquito/avian disease control and biocontrol.

Christy has been a board member of the Landscape Industry Council of Hawai'i since 2011, and has assisted in planning and coordination of their annual conference each year, and

chaired the process in 2017 and 2018. In 2019, Chelsea joined the LICH board and chaired the conference planning process even after leaving CGAPS for the HISC Planner position. She investigated alternate meeting sites and worked with the Hawai'i Ag Leadership program to schedule the LICH conference the day before their Ag Conference, at the same venue, and even collaborated on registration and advertising.

### Grant Writing

As in previous years, the CGAPS manager was the lead for the majority of grant and report writing (except as noted for Ambyr, see the ROD Statewide Outreach Coordinator section below). In 2019, funding for CGAPS staff and projects totaled \$677,400. Not shown are the grants that CGAPS staff wrote or participate in, that go to support other staff or projects.



### ROD Statewide Outreach Coordinator (USDA Forest Service & DLNR DOFAW)

Although not currently considered a HMLF “project”, this RCUH position was established through a HMLF grant under Dr. Mike Melzer of CTAHR, and the ROD Statewide Outreach Coordinator, Ambyr Mokiao-Lee, works under the supervision of CGAPS. In 2019, funding for this position was provided by DOFAW as passthrough from the USDA Forest Service, which allowed Ambyr to continue her third year of coordinating and providing outreach messages and raising outreach capacity for the islands where ROD is not yet present or widespread. Ambyr also conducted direct outreach to various stakeholders such as landowners, leaseholders, forest users, conservation groups, visitors, residents, local government, and the general public.

During the past year, Ambyr conducted outreach on each of the islands, including 31 presentations, and participated in 10 workshops, 1 public meeting, three symposia, 25 community events, media interviews, and conferences, and hosted or co-hosted 8 documentary screenings with a direct reach of more than 3700 people. Although Ambyr and other outreach staff and outreach materials do not solicit public donations to support ROD work, the UHF donation account number is provided when asked. Following one of Ambyr’s presentations, a check for \$10,000 from the Omidyar Family Fund was received in support of the ROD Strategic Plan. In previous years, donations have been received from a variety of supporters, including 4th graders at the Kamehameha Schools Maui campus, the Hawai'i Island Pig Hunters, and many others.

By invitation, Ambyr also participated in an indigenous peoples Biosecurity Conference in New Zealand and presented about ROD. Ambyr also traveled to Washington, D.C. with Christy and Chelsea in March, and briefed Hawai'i Congressional delegates and staff on updates related to ROD.

Ambyr also helped revise the [outreach materials](#), including the ROD brochures, PowerPoint presentations, outreach displays, and she is part of a team that takes turns organizing social media posts and responses. In addition, Ambyr helped draft content for, maintain, and update the ROD website (30,000 users), the ROD Facebook page (4911 total following; and total engagement of 4777), Instagram (2250 followers), and E-news communications to over 1,600 people via Mailchimp.

Grant writing and reporting for salary and operating funds also continued to be part of Ambyr’s duties, and in 2019 Ambyr and Hawai’i Island ROD Extension staff Corie Yanger worked together to secure 2020 outreach funds from the Hawai’i Tourism Authority--their first “solo” grant.

**Media, Outreach, Presentations, Workshops & Events**

Staff participated in a number of outreach opportunities in 2019, this is an approximate list of the events where Ambyr Mokiao-Lee (AML), Chelsea Arnott (CA), Andrew Porter (AP) and Christy Martin (CM) provided outreach.

- 1/8 Presentation (CM): LFA presentation to Highlands Intermediate 7th grade science classes
- 1/10 CGAPS general meeting & Steering Committee meeting
- 1/14 Presentation (CM): LFA ID lab at Highlands Intermediate 7th grade science classes
- 1/14 Presentation (AML): ROD presentation to Punahou School 5th graders
- 1/19 Presentation (AML): ROD presentation and documentary showing to Hawai’i Trail and Mountain Club
- 1/24 Presentation (CM, DP): VIDA and building aquatic biosecurity capacity for Hawai’i for Honolulu Harbor User Group
- 1/28 Presentation (AML): ROD and effective outreach strategies presentation to teachers
- 1/28 Presentation (AML): ROD presentation to Punahou School 5th graders
- 2/6 Booth (AML, CM, CA): Ag Day at the Capitol outreach booths on ROD and the HIBP
- 2/7 Booth (AML): ROD outreach at Ag Awareness Day at O’ahu Urban Garden Center
- 2/8 Presentation (AML): ROD presentation to Kalaheo High School
- 2/9 Workshop (AML): ‘Ōhi’a Seed Banking Workshop & ROD
- 2/14 Presentation (CM): Saving Hawaii’s Forest Birds at Island Arks Symposium V in Rottnest Island, Western Australia
- 2/26 Public meeting (CA, CM): CGAPS petition to BOA on proposed Restricted Plant rules and list
- 3/2 Booth (AML): ROD outreach at City and County of Honolulu Lei Day Celebration
- 3/6 Workshop (AML): Master Gardener Workshop on planting ‘ōhi’a
- 3/7 Presentation (AP): Outreach on biofouling and in-water cleaning Hawai’i Fishing Fleet Symposium (AML): ROD Public Symposium in Hilo
- 3/11-3/12 Workshop (AML): ROD Outreach Workshop on Hawai’i island
- 3/14-3/15 Presentation (CM, CA, AML): Outreach on ROD, aquatic biosecurity, and biocontrol to Hawai’i congressional delegation and staff; and USDA APHIS in Washington, D.C.
- 3/15 Presentation (CM): Screening of Saving ‘Ōhi’a and panel discussion at the U.S. Botanic Garden, Washington, D.C.
- 3/21 Public meeting (AML): Documentary showing to public at Uloha
- 3/22 Booth (AML): ROD outreach at Windward Orchid Show



*More than 300 ant samples were collected by students of Pearl City Highlands, and all were screened and mapped. No LFA were found.*

- 3/23 Presentation (AML): ROD presentation for [the Invasive Species and Biosecurity Forum](#) at the UH Mānoa Law School
- 3/27 Presentation (AP): Aquatic Invasive Species Issues for UH William S. Richardson School of Law Administrative Law Class
- 3/29 Workshop (AML): 'Ōhi'a Seed Banking Workshop
- 3/30 Symposium (AML): ROD Public Symposium in Kona
- 4/13 Booth (AML): ROD outreach at Earth Day Event at Pearl Harbor
- 4/16 Interview (AML): News interview on ROD for Hawai'i News Now
- 4/18 Presentation (AML): ROD documentary showing at USDA Forest Service meeting
- 4/19 Booth (AML): ROD outreach at Moloka'i Earth Day event
- 4/20 Presentation (AML): ROD documentary showing at Lana'i Theatre
- 4/23-4/25 Booth (AML): ROD outreach at Merrie Monarch Festival (Hawai'i Island)
- 4/29 Presentation (AML): ROD documentary showing at Arcadia
- 4/30 Booth (AML): ROD outreach at Western Chapter ISA Conference on O'ahu
- 5/1 Booth (AML): ROD outreach at City and County of Honolulu May Day Festival
- 5/2 Presentation (CM): The Hawai'i-Pacific Weed Risk Assessment; Past, Present, and Future for Western Chapter ISA Conference on O'ahu
- 5/3 Booth (AML): ROD outreach at 'Ōhi'a Legacy Initiative's Plant Giveaway on O'ahu
- 5/7 Presentation (AML): ROD presentation to Punahou School 5th graders
- 5/8 CGAPS general meeting & Steering Committee meeting
- 5/11 Booth (AML): ROD outreach at Backyard Expo at O'ahu Urban Garden Center
- 6/1 Booth (AML): ROD outreach at Ocean Fest
- 6/6 Presentation (AML): ROD presentation for KUPU interns on Maui
- 6/6 Presentation (CM): The Hawai'i-Pacific Weed Risk Assessment & Plant Pono for Urban Forestry meeting on O'ahu
- 6/13 Workshop (AML): 'Ōhi'a Seed Banking Workshop on O'ahu
- 7/9 Interview (CM): ROD update and 'Ōhi'a Challenge [interview with Hawai'i News Now](#) at the Hawai'i Conservation Conference
- 7/9-7/11 Booth (AML): ROD outreach at Hawai'i Conservation Conference
- 7/15 Public Meeting (CM, CA, AML, SE): Comments on state myrtaceae rule
- 7/30 Presentation (AML): ROD presentation to Treehouse group on O'ahu
- 8/9 Public Meeting (AML): ROD presentation at public meeting in Hana, Maui
- 8/13 Site Visit (CM): Biofouling inspection demo with DAR for Congresswoman Gabbard's staff
- 8/19 Site Visit (CM): Biofouling inspection demo with DAR for Congresswoman Hirono's staff
- 8/21 Presentation (CM): Top Five Most Unwanted Pests for Airports at the HDOT Airports Division 6th Annual Wildlife Hazards Workshop on O'ahu
- 8/22 Presentation (CM): Top Five Most Unwanted Pests for UH CTAHR Invasive Species Symposium in Hilo



*The State of Hawai'i Office of Environmental Quality Control, DLNR and the William S. Richardson School of Law's Environmental Law Program hosted a public Invasive Species and Biosecurity Forum where Ambyr presented information on what people can do to protect 'ōhi'a.*

- 8/25 Event (AML, CM): 'Ōhi'a Love Fest. Documentary screenings, activities, multiple booths hosted by staff and partners in Hilo
- 9/6 Presentation (AML): ROD presentation at the Maui Bird Conservation Center
- 9/6 Presentation (AML): ROD presentation at Kealia National Wildlife Refuge on Maui
- 9/6 Booth (AML): Wailuku First Friday Event on Maui
- 9/10 Presentation (AML): ROD presentation to botany class at UH Mānoa
- 9/12 Booth (CM): With HISC staff and partners, provided biosecurity information for organizers of the 2020 Festival of the Pacific Island Arts
- 9/17 Presentation (CM): Top Five Invasive Species and Gaps for UH Mānoa agrosecurity class
- 9/19 Presentation (AML): ROD presentation at Hui Taumata Biosecurity Conference in New Zealand
- 9/19 Presentation (CM): The Hawai'i-Pacific Weed Risk Assessment & Plant Pono for UH Mānoa Landscape Architecture Masters class
- 9/20 CGAPS general meeting & Steering Committee meeting
- 9/24 Presentation (AML): ROD presentation and biosanitation to Hawai'i Department of Transportation on O'ahu
- 10/3 Presentation (AML): ROD presentation and biosanitation to Hawai'i Department of Transportation on Maui
- 10/3-10/6 Booth (AML): ROD outreach at Maui County Fair
- 10/9 Interview (CM): Stop the Ant month interview on KSSK
- 10/16 Presentation (AML): ROD presentation to Hawai'i Community Foundation
- 10/18 Presentation (AML): ROD presentation to Pearl City Rotary Club
- 10/22 Presentation (AML): ROD presentation to Ka Waihona Charter School
- 10/25 Booth (AML): ROD outreach at Boo at the Zoo Event
- 10/26 Booth (AML): ROD outreach at Make a Difference Day Event on O'ahu
- 10/28 Presentation (CM): Not-for-profits and opportunities for working on Invasive species for UH Mānoa Marine Option Program seminar class
- 10/30 Site visit (CM): With DAR staff, ballast water, biofouling, VIDA and raising state capacity for House Finance Committee at Anuenue Fisheries Research Center
- 11/1 Booth (AML): ROD outreach at Kaua'i DOFAW Arbor Day Event
- 11/2 Booth (AML): ROD outreach at Kaua'i Arbor Day Event
- 11/2 Presentation (CM): Stop the Ant at Honolulu City & County Arbor Day event at Foster Botanical Garden
- 11/4 Workshop (AML): 'Ōhi'a Seed Banking Workshop on O'ahu
- 11/5 Booth (AML): ROD outreach at Symphony of the Hawaiian Birds event on O'ahu
- 11/18 Booth (AML): ROD outreach at UH Mānoa GIS Day Event
- 11/22 Presentation (CM): VIDA for HDOT-Harbors & DLNR meeting with stakeholders
- 11/25 Workshop (AML): 'Ōhi'a Seed Banking Workshop on O'ahu
- 12/3 Presentation (AML): ROD presentation to Mānoa Elementary School
- 12/5 Presentation (AML): ROD presentation to Ka Waihona Elementary School
- 12/9 Presentation (AML): ROD presentation to Campbell High School
- 12/10 Presentation (AML): ROD presentation to Campbell High School
- 12/13 Presentation (CM): ROD documentary showing and discussion with U.S. Geological Survey-Water Resources
- 12/16 CGAPS general meeting & Steering Committee meeting
- 12/19 Presentation (AP, CM): VIDA and preemption of state ballast and in-water cleaning. Presentation to shipping industry representatives
- 12/21 Workshop (AML): 'Ōhi'a-Free Wreath Workshop on Hawai'i island

## 2020 HMLF Projects

Item	Projects	Term	Admin	Direct	Overhead	Total
1	Legal Fellowship Support. Partial salary & operating support for two legal fellows + 2 interns	12/31/2021	UHF	\$ 99,750	\$ 5,250	\$ 105,000
2	CGAPS Core Support. Partial salary & operating support for PIO and Planner, projects, PCSU project support	12/31/2021	UHF	\$ 114,000	\$ 6,000	\$ 120,000
3	Support for Hawai'i Green Growth. Annual support for multi-sector approach to sustainability, incl. invasive species priorities	12/31/2020	OEDB	\$ 23,364	\$ 1,636	\$ 25,000
4	Strategic Communications. Implement year 1 @ est. 20 hrs/mo, materials, travel, etc. for HISC/CGAPS priority/ies	12/31/2020	HCAF	\$ 67,500	\$ 7,500	\$ 75,000
5	Preventing New Invasive Plants. Contract for invasive plant specialist to draft and submit NAPPRA petitions, follow up on communications	12/31/2020	HCAF	\$ 22,500	\$ 2,500	\$ 25,000
<b>Total</b>						<b>\$ 350,000</b>

Item	ROD Supplemental Projects	Term	Admin	Subtotal	Overhead	Total
1	ROD Prevention Outreach & Diagnostics	12/31/2021	UHF	\$ 84,550	\$ 4,450	\$ 89,000
2	Survey of Public Awareness and Opinions on ROD	12/31/2020	HCAF	\$ 9,900	\$ 1,100	\$ 11,000
<b>Total</b>						<b>\$ 100,000</b>

