

# **SREPORT**

to

**STATE OF HAWAI‘I  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
HAWAI‘I INVASIVE SPECIES COUNCIL**

from

**UNIVERSITY OF HAWAI‘I**  
Office of Research Services  
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**Pacific Cooperative Studies Unit  
University of Hawai‘i at Mānoa**

**HAL statewide funding 2022**

**Report July 1 to Dec 31 2022**

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## **SUMMARY**

The Hawai‘i Ant Lab (HAL) is a collaborative project of the Pacific Cooperative Studies Unit (PCSU), University of Hawai‘i. This contract is for the partial provision of core funds to allow the Hawai‘i Ant Lab to provide ongoing support for invasive ant management statewide and maintains a critical mass needed to provide these support services. This report relates to PCSU account 4506136.

The HAL is a point-of-contact for conservation agencies, industry and members of the public on all aspects of identification and control of invasive ants. The HAL is developing a regional and global reputation as a center of excellence and cutting-edge research on biosecurity, pest ant management and ant taxonomy. Daily services provided by the Hawai‘i Ant Lab include the following:

- Operate and maintain a 24/7 telephone contact service for members of the public.
- Provide a diagnostic service to members of the public and other conservation agencies.
- Develop, update and promote the [www.littlefireants.com](http://www.littlefireants.com) website
- Produce “fact sheets” providing practical advice to residents and industry.
- Provide ongoing advice, expertise and assistance to island invasive species committees as needed.
- Regular speaking engagements to associations and societies, including public displays.
- Conduct monthly training days for residents and industry groups.

- Provide training in identification, awareness and control practices to other agencies such as island ISCs, Hawai‘i Department of Agriculture and DLNR.
- Manage new detections of LFA on neighbor islands, develop and implement eradication plans for these.
- Prevent and mitigate infestations that threaten public safety or act as vectors for inter- and intra- island spread of invasive ants.

### **Program highlights**

#### **Operations**

During the reporting period, Operations continued within the restrictions mandated as a result of the Sars-CoV-2 pandemic which changed as infection rates declined in Q3.

A total of 14 surveys (4,842 vials) and 21 treatment events were completed. These were primarily conducted at critical sites deemed a high priority on Hawai‘i island. These sites included the major points of entry, greenwaste distribution facilities and properties managed by the UH College of Tropical Agriculture and Human Resources. Table one provides a summary of activities for the reporting period.

HAL operations staff also collaborated in the development and refinement of a new data collection and management system (NRDS) which is slated to become the predominant data collection system statewide.

**Table 1. Summary of survey and treatment activities for July to December 2022**

| Location          | #surveys  | target    | # vials      | # treatments |
|-------------------|-----------|-----------|--------------|--------------|
| CTAHR Komohana    | 1         | 1         | 283          | 4            |
| CTAHR Waiakea     | 0         | 1         | 2,017        | 5            |
| Hilo greenwaste   | 3         | 3         | 420          |              |
| Hilo sea port     | 2         | 2         | 645          | 8            |
| Hilo airport      | 2         | 2         | 1,432        | 4            |
| Kawaihae sea port | 1         | 1         | 274          |              |
| Kona airport      | 2         | 2         | 1,170        | 4            |
| Kona greenwaste   | 3         | 3         | 618          |              |
| <b>total</b>      | <b>14</b> | <b>15</b> | <b>4,842</b> | <b>21</b>    |

## Extension

HAL receives ant samples for identification, e-mails, and calls from members of the public and industry requesting advice and resources for surveillance and treatment activities. Table 2 summarizes these activities. Public and industry interaction is slowly returning to pre-pandemic levels with the exception of presentations and informational booths at conferences, workshops and plant societies.

A total of 421 public enquiries were recorded. The source of public enquiries was split approximately equally between Hilo and districts to the north and south (Table 3). Contact from residents in west Hawaii are proportionally lower which reflects the increase to calls for HAL in Kona.

**Table 2. General extension metrics for reporting period.**

| source                    | Q3 '22 | Q4 '22 | total |
|---------------------------|--------|--------|-------|
| Calls and email enquiries | 88     | 182    | 270   |
| Walk-ins and mail         | 51     | 100    | 151   |
| Ant specimens             | 277    | 103    | 380   |
| At presentations          | 258    | 93     | 351   |
| AM-Zoom                   | 2      | 2      | 4     |

**Table 3. Source of public enquiries, HAL Hilo, July-Dec 2022.**

|              |     |
|--------------|-----|
| Hilo         | 29% |
| North Hilo   | 16% |
| South Hilo   | 22% |
| West Hawai'i | 26% |
| Other        | 7%  |

Nineteen in-person training events, reaching 351 persons, were scheduled and completed during the reporting period (Table 3). The team continues to update extension and training materials to reflect advances and changes to treatment and survey methods, availability of registered pesticides and other information related to invasive ants. New fact sheets and extension materials were developed and distributed as appropriate to pesticide distributors, libraries, and other locations over the island for public access. The website continues to be improved to keep pace with contemporary standards.

During the Covid-19 pandemic, the extension team pivoted from in person training, presentations, and event booths to mostly online training and interaction. Some in-person training events continued for small groups when these were able to be conducted in outdoor locations and within social distancing guidelines and other safety measures in place. During Q4 as pandemic restrictions declined, extension staff resumed in-person contact but retained the virtual extension tactics previously developed. The monthly training classes have remained virtual and this has allowed participation statewide.

**Table 3. Summary of stakeholder presentations for the reporting period.**

| Date       | Description                           | type         | #  | staff                  |
|------------|---------------------------------------|--------------|----|------------------------|
| 7/9/2022   | Macnut Association Meeting booth      | Booth        | 20 | Heather and Alison     |
| 7/28/2022  | Ant Management Zoom                   | Presentation | 10 | Alison                 |
| 7/29/2022  | Hilo Orchid Show Booth                | Booth        | 25 | Heather and Melody     |
| 7/30/2022  | Hilo Orchid Show Booth                | Booth        | 25 | Melody and Alison      |
| 7/31/2022  | Hilo Orchid Show Booth                | Booth        | 25 | Alison                 |
| 8/8/2022   | Kamehameha School                     | Presentation | 60 | Heather and Melody     |
| 8/9/2022   | Kamehameha School                     | Presentation | 60 | Heather and Melody     |
| 8/25/2022  | Ant Management Zoom                   | Training     | 6  | Melody                 |
| 9/2/2022   | Farm Visit                            | Training     | 1  | Heather and Melody     |
| 9/2/2022   | Farm Visit                            | Training     | 11 | Heather and Melody     |
| 9/29/2022  | Ant Management Zoom                   | Training     | 15 | Melody                 |
| 10/14/2022 | Farm Visit                            | Training     | 1  | Heather and Melody     |
| 10/28/2022 | Hawaii Island Landscapers Association | Booth        | 20 | Heather and Melody     |
| 11/6/2022  | Hawaii Tropical Fruit Growers Meeting | Booth        | 50 | Heather and Melody     |
| 11/17/2022 | Ant Management Zoom                   | Presentation | 10 | Melody                 |
| 11/17/2022 | Honokaa Library Presentation          | Presentation | 4  | Melody                 |
| 11/18/2022 | Farm Visit                            | Training     | 2  | Heather and Melody     |
| 12/8/2022  | Farm Visit                            | Training     | 1  | Melody                 |
| 12/9/2022  | Farm Visit                            | Training     | 5  | Heather, Melody, Donny |

## Research

### *Publications*

A manuscript detailing the LFA eradication effort at Kalihiwai, Kauai was completed and submitted to the journal *Biological Invasions* in July, 2021 and is currently under review. A preprint of this manuscript is available here <https://www.researchsquare.com/article/rs-697858/v1.pdf?c=1631903796000> . A literature review synthesizing research on LFA over the past 90+ years has been submitted to the *Annals of the Entomological Society of America*. No preprint is available as of yet. A third publication is in progress detailing the results from a 2020 Laboratory experiment testing efficacy of Entrust SC™ in the HAL gel bait.

### *NRDS App Beta Testing*

We have been testing a new survey and data collection app for ant surveys through the Mamalupoepoe project and have been working with the developers to refine and streamline the apps workflow. The app is intended to standardize data collection among partners working on the Mamalupoepoe project and has great potential to standardize data collection for ant surveys

when multiple partner organizations and agencies are involved. We plan to fully implement using the app during airport surveys and potentially for all other ant survey work.