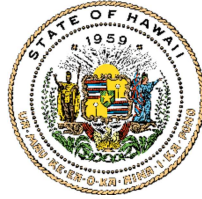


JOSH GREEN, M.D.
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA



DEPT. COMM. NO. 186

DAWN N.S. CHANG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE
MANAGEMENT

LAURA H.E. KAAKUA
FIRST DEPUTY

M. KALEO MANUEL
DEPUTY DIRECTOR - WATER

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

**STATE OF HAWAII | KA MOKU'ĀINA 'O HAWAII'
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA 'OIHANA KUMUWAIWAI 'ĀINA**

P.O. BOX 621
HONOLULU, HAWAII 96809

December 19, 2023

The Honorable Ronald D. Kouchi,
President
and Members of the Senate
Thirty-Second State Legislature
State Capitol, Room 409
Honolulu, Hawaii 96813

The Honorable Scott K. Saiki, Speaker
and Members of the House of
Representatives
Thirty-Second State Legislature
State Capitol, Room 431
Honolulu, Hawaii 96813

Dear President Kouchi, Speaker Saiki, and Members of the Legislature:

For your information and consideration, I am transmitting a copy of Budgetary and other Issues Regarding Invasive Species report as required by Section 194-2, Hawaii Revised Statutes (HRS), a copy of this report has been transmitted to the Legislative Reference Bureau and the report may be viewed electronically at <https://files.hawaii.gov/dlnr/reports-to-the-legislature/2024/FW24-Invasive-Species-Report-FY23.pdf>.

Sincerely,

A handwritten signature in black ink, appearing to be "Dawn N.S. Chang".

DAWN N.S. CHANG
Chairperson

Enclosure

**REPORT TO THE THIRTY-SECOND
LEGISLATURE STATE OF HAWAII
2024 REGULAR SESSION**

**BUDGETARY AND OTHER ISSUES
REGARDING INVASIVE SPECIES**



Prepared by:
THE STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF FORESTRY AND WILDLIFE

In response to Section 194-2, Hawaii Revised Statutes
Honolulu, Hawaii
September 2023

Purpose of this Report

Invasive species are non-native species whose introduction does, or is likely to, cause economic or environmental harm, or harm to human health. Invasive species do not fall exclusively under the mandate of any single state agency or sector. Recognizing this, the State Legislature in 2003 authorized the creation of the interagency Hawai'i Invasive Species Council (HISC, Act 85, Session Laws of Hawai'i 2003), and stated, "the silent invasion of Hawaii by alien invasive species is the single greatest threat to Hawaii's economy, natural environment, and the health and lifestyle of Hawaii's people and visitors."

This document meets the reporting requirements of Section 194-2, HRS, to annually report to the Legislature on budgetary and other issues regarding invasive species. Per Chapter 194, HRS, the HISC is an interagency board administered by the Department of Land and Natural Resources (DLNR), Division of Forestry and Wildlife.

The 2023 Legislative Session marked big changes in the Council with new Council and Legislative members including the new co-chairs from DLNR & HDOA, Dawn Chang and Sharon Hurd.



Purpose & Composition of the Hawai'i Invasive Species Council

Chapter 194, HRS, requires that the Hawai'i Invasive Species Council (HISC; Council) be composed of the chairs, directors, or designees of the State Departments of Agriculture (DOA), Land and Natural Resources, Health, Transportation, Business and Economic Development and Tourism, and the University of Hawai'i. The HISC's function is to coordinate and promote statewide action on invasive species prevention, control, outreach, and research.

The 2023 Legislative Session marked big changes in the Council with new Council and Legislative members including the new co-chairs from DLNR and HDOA, Dawn Chang and Sharon Hurd.



DAWN CHANG DLNR SHARON HURD HDOA KEATHLEEN HO DOH ANIA WIECZOREK UHCTAHR MARY ALICE EVANS DBEST EDWIN SNIFFEN DOT



SEN. RON KOUCHI SEN. MIKE GABBARD REP. LISA MARTEN SEN. LORRAINE INOUE REP. LUKE EVSLIN SENATOR LYNN DECOTE REP. ELLE COCHRAN SENATE - VACANT REP. KIRSTIN KAHAIALA

Importance of Managing Invasive Species in a Changing Climate

By investing in invasive species management, we are investing in climate resiliency for Hawai'i

Climate change and invasive, non-native species have direct and indirect negative impacts, and can combine to have synergistic effects on food security, trade, ecosystem function, public health, natural and cultural resources, and economies. In most cases, impacts and effects of these two change-drivers will worsen in the coming years, making it more critical than ever to invest in invasive species management. The negative impacts of invasive species include:

- Pests, weeds, and diseases degrade the resilience of forests and natural areas and damage the ecosystem services they provide.
- They smother, crowd out, sicken, and/or kill native plants and animals.
- Some change soil chemistry and nutrient cycling which favors more invasives.
- Some change the fire-susceptibility of large areas (island systems tend not to be naturally fire-adapted).
- Invasive species can reduce the ability of forests to store carbon, buffer severe weather, keep the soil moist, aid and accelerate water infiltration, and hold topsoil in place.

With climate change, crops and forests are less resilient and more prone to invasive species, exacerbating these impacts, which makes addressing invasive species a necessary component of climate resilience plans.



Photos Top to Bottom: Climate Change is already having a profound effect on island ecosystems across the Pacific, mosquitoes are moving into higher elevations threatening the last remaining populations of forest birds like the Kiwikiu, and drought plus invasive grasses are causing more frequent and intense wildfires.

Highlights for Fiscal Year 2023

3

Council meetings were held to approve the FY23 HISC budget, updates on the Biosecurity Plan, and brief the new Council (more on page 05)

\$3,830,870

in HISC funding to Support Interagency Project & Programs through the **FY23 HISC Appropriation** (more on page 06)

68%

Of the Actions in the **Hawai'i Interagency Biosecurity Plan** have initiated as of January 2023 (more on page 07)

2,310

Hawai'i Pacific Weed Risk Assessments have been conducted, including 610 during FY23 (more on page 08)

10

Interceptions of potential high-risk pests through the **Ports of Entry Monitoring (PoEM)** Program (more on page 09)

1,230

Public Pest reports were submitted and responded to by the **643PEST.org** facilitators (more on page 10)

2,166

Views for the 2023 **Hawai'i Invasive Species Awareness Month** webinar series (more on page 11)



Photos Top to Bottom: Legislative Site Visit to Mt. Ka'ala (Rep Ichiyama, Pierick, Perruso, Sen Keohokalole (DLNR); HNL Airport Biosecurity Display w Chair Chang, Christy Martin (CGAPS), Chair Hurd (HDOA); HISC site visit to mamaki farm to see invasive Ramie moth, Leyla Kaufman (HISC) & Michelle Au (JH).

Hawai'i Invasive Species Council Meetings



HISC continued to offer both virtual and in-person options for meeting attendees. From left to right: DLNR Board room with Chairs Hurd and Chang, DOT Deputy Tammy Lee, Senator DeCoite; Chelsea Arnott (DLNR-FW), Darcy Oishi (HDOA-PPBC); Christy Martin (CGAPS); Kathleen Ho (DOH); Mary-Alice Evans (DBEDT); Representative Evslin

The HISC’s function is to coordinate and promote invasive species prevention, control, outreach, and research. Chapter 194, Hawai'i Revised Statutes (HRS), establishes the interagency HISC and determines its composition and responsibilities. Several key responsibilities of the HISC include:

- Advise, consult, and coordinate invasive species-related efforts with and between departments.
- Identify agency resource shortfalls with respect to invasive species. This is achieved by tracking the implementation progress of the Hawai'i Interagency Biosecurity Plan and HISC/CGAPS 2025 Joint Strategy.
- Coordinate and promote the State’s position with respect to invasive species issues. This is achieved by adopting Council resolutions and testimony.
- Advise the governor and legislature on budgetary and other issues regarding invasive species. This is achieved by this report.

The Hawai'i Invasive Species Council conducted three meetings during fiscal year 2023. Per HRS 194, the Council must hold at least two Council meetings during the fiscal year. Meetings continued to offer both a virtual and in-person option for Council participants and members of the public. Summaries of each meeting are provided below:

- **August 17, 2022** - Approval of the HISC FY23 Budget.
- **October 20, 2022** - Informational briefing on Stony Coral Tissue Loss Disease (SCTLD) and Progress on the Hawai'i Interagency Biosecurity Plan (HIBP).
- **June 13, 2023** - Introduction of new Council Members and Designating HISC Support Staff to work with agencies on review and updates to the HIBP.

For more details on the Council meetings and to sign up to receive announcements about future meetings please visit <https://dlnr.hawaii.gov/hisc/meetings/hisc/>

Fiscal Year 2023 HISC Budget

Since its inception in 2003, the Hawai'i Invasive Species Council (HISC) has disbursed funding to support interagency invasive species projects that:

- Fill gaps between agency mandates or existing agency programs, and/or
- Advance our collective knowledge through research and development of new tools.

Funds are disbursed via an intra-governmental granting process wherein state, county, and federal offices may submit requests for funding and meet to collaboratively draft a recommended budget for HISC review.

In FY23 the Legislature appropriated \$5.75M to HISC through LNR402. After Division overhead, a Budget and Finance Office restriction, and program support for HISC, there is \$3,830,870 available to support 29 interagency projects and programs. A total of 57 applications were submitted totaling over \$8.2 million total requested funds, far exceeding what is available.

An additional \$3.1M in federal funding was secured from the DoD with leveraged funding provided by the State.

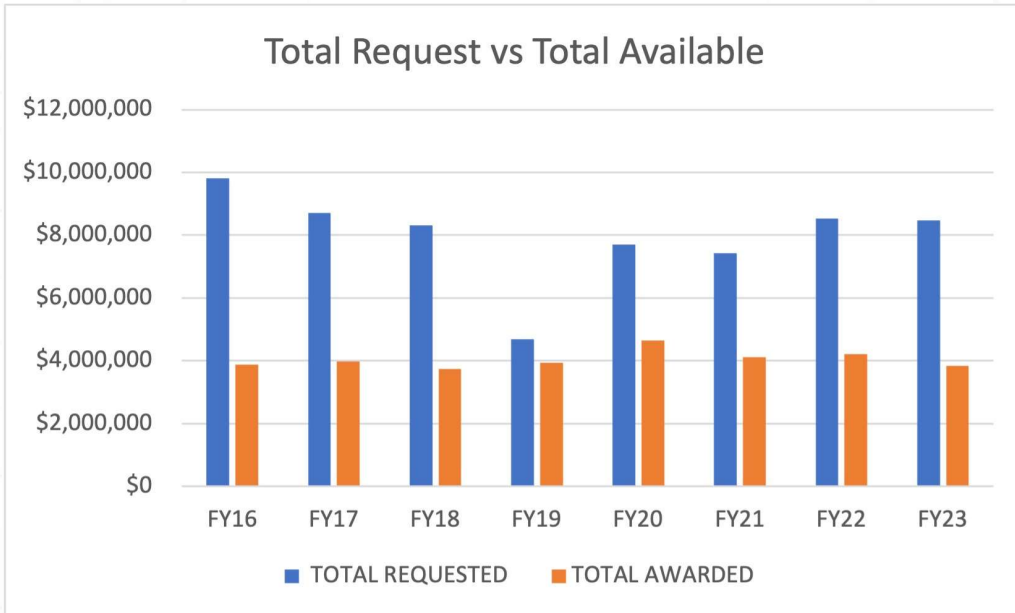
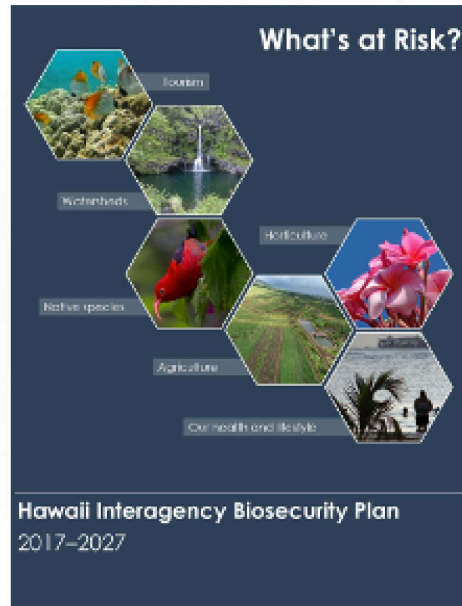


Figure 1 shows the total requested versus the total available of HISC funds over time. The full list of awarded projects can be found at <https://dlnr.hawaii.gov/hisc/fy23-funded-projects/>

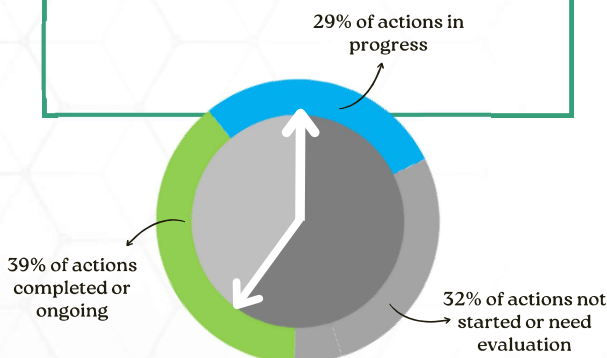
2017-2027 Hawai'i Interagency Biosecurity Plan

Hawai'i Interagency Biosecurity Plan (HIBP) is the State's 10-year vision roadmap to enhance biosecurity and invasive species mitigation.

The Hawai'i Interagency Biosecurity Plan (HIBP) addresses critical biosecurity gaps and provides a coordinated interagency path to a more secure future. It identifies 147 policy, process, and infrastructure actions to address the most pressing invasive species issues in Hawai'i to be carried out over a 10-year period. Highlights include identifying and managing high-risk pathways of foreign and domestic imports, minimizing the inter-island spread of pests, and establishing emergency response capacity.



As of January 2023, implementation has begun on 68% of the actions identified in the plan



As of January 2023, implementation has begun on 68% of the actions identified in the plan (Figure 2). Many accomplishments were achieved with the plan's inception in 2017 but much of the work remains.

At the June 2023 HISC Meeting, Council members directed HISC program support staff to work with each of the Departments on reviewing and updating the plan in order to revitalize action. An update on the plan will be presented at a November 2023 meeting.

More information of the plan and progress report can be found at <https://dlnr.hawaii.gov/hisc/plans/hibp/>

Hawai'i Pacific Weed Risk Assessment (HPWRA)

The HPWRA program assesses a plant's risk of becoming invasive in the Hawaiian Islands. This non-regulatory system uses a science-based method to screen plants imported into and/or planted within the state. The HPWRA is integral to state-wide prevention measures and is used by public and private entities and individuals to make informed planting and importation choices.

During FY23, an improved database, in collaboration with Hawaii Biodiversity Information Network was developed, and 62 assessments were completed, bringing the cumulative total to 2,310.

Assessments are posted on the [Plant Pono website](http://PlantPono.org) (plantpono.org) along with other information on native and non-invasive plants. Presentations promoting HPWRA and Plant Pono were also given to the Honokaa Public Library, the statewide 2023 Master Gardeners and the 2023 University of Hawaii Tropical Agriculture and Human Resources' Invasive Pest Conference.



The HP-WRA has been used to communicate on non-native plants' invasiveness that are already present in Hawai'i like Miconia and Fountain Grass, but it's most important function is preventing new invasive plant introductions and offering alternative non-invasive plant choices through PlantPono.org.

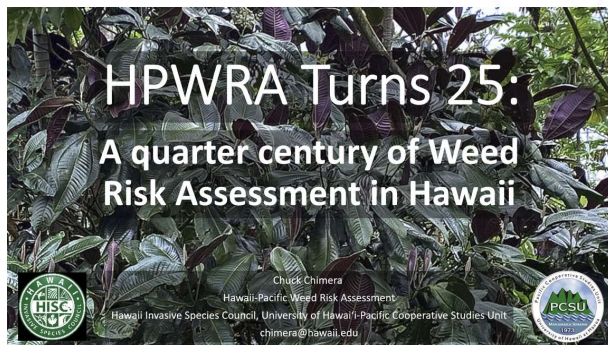
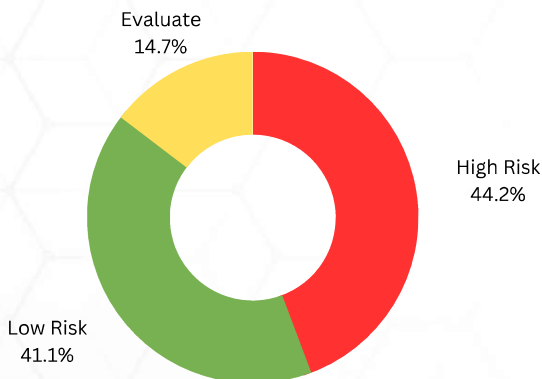


Figure 3: To date, 44.2% of the 2,310 plant species that were assessed by the HP-WRA came back as high-risk meaning they are predicted to become invasive if they are imported / introduced to Hawai'i. HP-WRA celebrates its 25th year anniversary in 2023. Chuck Chimera, the HISC HP-WRA Specialist, presented on the program at the 2023 CTAHR Invasive Pest Conference.

Ports of Entry Monitoring (PoEM) Program

The Program intercepted 8 potential Africanized Honeybee swarms at multiple airports and 2 adult CRB at Lihue Airport on Kaua'i.

The Ports-of-Entry Monitoring Program is an interagency collaboration coordinated by the HISC to survey for high-risk pests at ports.

The program surveys for mosquitoes, Coconut rhinoceros beetle (CRB), Africanized honeybees (also known as the "killer bee"), and numerous invasive ants at State airports. In FY23 surveys were expanded to include State seaports, and the addition of a new target, Japanese Beetle.

In FY23, the program intercepted eight honeybee swarms at different airports (all tested negative for Africanized genes) and two adult CRB at Lihue Airport (LIH) in May 2023. Little Fire Ant detections at Hilo and Kona Airport were followed up by treatments.

The CRB detections at Lihue airport were the first detections in Kaua'i County. These detections were part of routine trap monitoring for CRB by the Kaua'i Invasive Species Committee (KISC) staff. It is unsure how CRB reached Kaua'i (pathway of introduction), but the timely interception at the port of entry has been followed by an eradication response by partner agencies. Since this detection, additional traps have been deployed at LIH and other parts of the island. KISC staff is monitoring some of the additional traps deployed at LIH.

Finally, the program is also working on expanding partnerships and collaboration with the Department of Defense at Pohakuloa Training Area (PTA).



Photos Top to Bottom: The Ports of Entry Monitoring (PoEM) Program surveys State airports and seaports for 5 high-risk targets; Coconut Rhinoceros Beetle, Africanized Honeybees, mosquitoes, invasive ants, and the newest target, Japanese Beetle.

Hawai'i Pest Hotline 643pest.org



REPORT INVASIVE SPECIES
643-PEST
643pest.org
CALL OR CLICK TO PROTECT HAWAII

The 643pest.org commitment to multi-agency collaboration strives for seamless interagency data sharing and swift actions on reported pests. The 643PEST.org facilitator, who is part of the HISC Program Support, assists with pest identification and communicate about the background and control options for reported pests with the citizen reporters.

- The Hawaii Pest Hotline, accessible at 643pest.org, has **provided identification services, outreach, and management strategies** for the coconut rhinoceros beetle to over 450 individuals during FY23.
- 643pest.org **facilitated 530 confirmed pest reports** to organizations including the CRB Response Team, HDOA, DLNR, Hawai'i Ant Lab, and the ISCs for control actions.
- The volume of reports has been growing steadily in recent years. **Conservative projections indicate that the number of incoming reports may double by 2026.**
- Through data analysis, **trends can be identified to offer insights into the movements of invasive species** and highlighting species that might not be receiving adequate attention.

1,230 pest reports

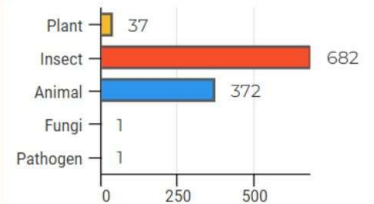


137 unique species ID



most reports from **O'ahu**

primarily **insects and animals** reported



statewide top 5

- 1) Coconut Rhinoceros Beetle (416)
- 2) Rose-ringed parakeet (45)
- 3) Oriental flower beetle (66)
- 4) Mongoose (63)
- 5) Coqui (55)



Live Data Dashboard

www.643pest.org/Dashboard.aspx

Hawai'i Invasive Species Awareness Month

Hawai'i Invasive Species Awareness Month 2023 (HISAM23) was the third year running featuring a month-long outreach effort focusing on Hawaii's invasive species issues. HISAM23 featured a series of virtual talks with over 300 live attendees, and over 2,000 YouTube views since.

The theme of this year's HISAM was "Mythbusters" featuring topics that commonly have misinformation or are misunderstood. Talks featured a wide range of invasive species topics from experts discussing wildfire, mosquito control, and use of natural enemies to control landscape-scale pests (biocontrol).

HISAM also recognizes individuals and businesses across the State that are going above and beyond to help control invasive species.



342 People attended virtual talks

You Tube **2,166** Views
bit.ly/HISAM23Playlist



9 Awards given to business leaders, community heroes, and island MVP's



Most Viewed HISAM 2023 Webinars

All recorded webinars can be found at:

<https://www.youtube.com/playlist?list=PLEvs-pqIGE6HLdhQdiuxc3ddUKYUlvMqO>

1



MYTHBUSTERS: Invasive Species Edition!
218 views
41.5 hrs total watch time

2



Biocontrol Myths
148 views
31 hrs total watch time

3



What the %#@! Is this Plant?
148 views
47.5 hrs total watch time

The primary recommendation of the HISC to the legislature in 2023 is to continue to implement the goals of Hawai'i Interagency Biosecurity Plan

Recommendations for the 2024 Legislative Session

The primary recommendation of the HISC to the legislature in 2023 is **to continue to implement the goals of Hawai'i Interagency Biosecurity Plan (HIBP)**, the State's 10-year vision roadmap to enhance biosecurity and invasive species mitigation. The legislature may wish to revisit the following items that were introduced in previous years but did not pass:

- **Aquatic biosecurity positions at the DLNR Division of Aquatic Resources** to implement a vessel biofouling and ballast water program (SB2533, HB1876)
- Additional **extension positions for the UH College of Tropical Agriculture and Human Resources** (SB2729, SB742)
- Funds to control Albizia trees (SB3135, SB948)
- **Creation of an invasive species emergency response** fund (HB2265, SB2713)
- Funding for **two-lined spittlebug and coffee leaf rust response** (SB3042, HB2532, SB2907)
- Establishing a **visitor green fee** (SB1349)
- Increasing recurring funds to the HISC to \$10M per year

Review of the 2023 Legislative Session

The 2023 legislative session included roughly 40 measures relating to invasive species. Two of these measures passed in addition to the State Budget Bill:

- HB300 Relating to the State Budget appropriated \$5.75M recurring funds to HISC through LNR402 which was subject to a 20% cut that carried over from FY23 reducing the amount of available HISC funding to support interagency projects. **An additional \$1.5M recurring was appropriated to the HISC.**
- SB743 Relating to **Coffee Leaf Rust** appropriates funds for the operation and implementation of the Pesticide Subsidy Program to address coffee leaf rust.
- SB1552 appropriates funds to the Department of Land and Natural Resources to **support the Hawai'i Ant Lab in mitigating the effects of little fire ants** in the State.

Prepared by:
THE STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF FORESTRY AND WILDLIFE

In response to Section 194-2, Hawai'i Revised Statutes
Honolulu, Hawai'i
September 2023

