



## 2022 Report to the Hawai'i Invasive Species Council



OISC field staff hiking down an uluhe covered ridge in search of OISC's highest priority target species, *Miconia calvescens*.

The O‘ahu Invasive Species Committee (OISC) protects O‘ahu’s watersheds, ecosystems and agriculture by preventing harm from invasive species before those species become uncontrollable. The OISC field crew conducts surveys and control for invasive species that have not yet become abundant enough to damage the island’s agriculture and ecosystems, but likely would cause harm if not controlled. By removing invasive species before the effects are felt, we can prevent labor-intensive and costly remediation measures later.

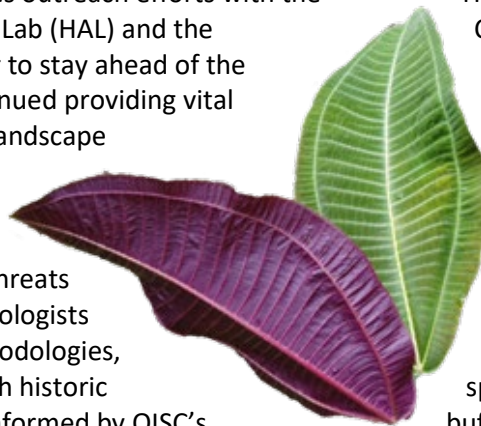
OISC operations are guided by the OISC steering committee, which is made up of representatives of conservation organizations and land managers island-wide. Many of the people who serve on OISC’s steering committee today were giving up their weekends to control invasive species as volunteers when OISC was first formed back in 2001. For 2022 operations, HISC awarded OISC \$662,303 for surveys and control of priority invasive species and outreach. OISC raised an additional \$727,282 from other sources. The deliverables and accomplishments described below include HISC-funded activities and leveraged funds.

In 2022, OISC continued steady progress towards stopping the spread of incipient invasive species, including: miconia (*Miconia calvescens*), devil weed (*Chromolaena odorata*), cane ti (*Tibouchina herbacea*) Himalayan blackberry (*Rubus armeniacus*), and Cape ivy (*Delairea odorata*). OISC served as the co-lead for the multi-agency effort across O‘ahu to detect the two fungal pathogens that cause Rapid ‘Ōhi‘a Death (ROD). In partnering with the Māmalu Poepoe program, OISC facilitated early detection trap checks for coconut rhinoceros beetle (*Oryctes rhinoceros*) and Africanized honey bee (*Apis mellifera scutellata*) at Honolulu’s Daniel K. Inouye International Airport. OISC assisted the Hawai‘i Ant Lab (HAL) with little fire ant (*Wasmannia auropunctata*) surveys and outreach. OISC is the primary outreach agency for little fire ant on O‘ahu and coordinates outreach efforts with the (HDOA), the Hawai‘i Ant Lab (HAL) and the Species (CGAPS) in order to stay ahead of the ant outreach, OISC continued providing vital students, teachers, the landscape other stakeholders regarding watershed

In order to combat the threats posed by these target species, OISC deploys teams of field biologists with expertise in off-trail hiking, survey and control methodologies, helicopter safety, and species identification. Areas with historic species locations and the areas adjacent to historic locations as informed by OISC’s buffering system, are surveyed regularly until regional eradication is achieved. The eradication timeline varies by species and is determined by a number of environmental and biological factors specific to each target species. Typically, field staff will systematically scour survey sites along transects, by ground or air, and will control species immediately



**Above: Miconia destroys the understory and promotes erosion, this photo is from Tahiti where miconia has taken over vast amounts of forest.**





upon discovery. This system allows OISC to adapt our strategy to any species that the committee deems necessary for our organization to control.

### **Miconia (*Miconia calvescens*)**

Miconia is the highest-priority target for OISC because once established, it will severely degrade O'ahu's watersheds. Miconia's shallow root systems and leaf morphology promote excessive soil runoff during heavy rains by funnelling rainwater to the ground with tremendous force, thereby reducing soil retention. These characteristics indicate that a miconia-dominated forest is more prone to detrimental flooding impacts, including erosion and landslides, more so than a native-dominated forest. More landslides will mean more opportunities for weed invasion in our upper watersheds and the effects of increased landslides and flooding hazards will be felt throughout communities surrounding forests invaded by miconia.

Miconia incursion will not only harm our terrestrial ecosystems and surrounding communities, but this species will also damage our marine ecosystems. Increased stream sedimentation and stormwater runoff will deposit excessive nutrients and nonpoint source pollution into our nearshore waters, aiding the spread of invasive algae and decreasing prime habitat characteristics for native marine species. Characteristics like higher turbidity and lower dissolved oxygen from excess sedimentation and runoff will push native species out of these areas and invite non native species who thrive in these conditions to invade these areas.

Unfortunately, miconia seeds remain viable in the soil for at least 18 years, making this a project that requires long-term financial commitment. OISC's strategy is to survey the entire estimated seed bank of miconia every two to three years to find and remove trees before they mature. OISC utilizes a 1,600 meter buffering system around known plant locations. The inner 800 meter buffer is surveyed by ground, must be surveyed on a 3-year rotating schedule, and is the preferred method for detecting individual trees. Any areas deemed too steep to safely survey within the 800 meter ground buffer are surveyed by helicopter. The outer 800 meter buffer is surveyed once and then every 7 years when possible. This is the preferred method for detecting stands of miconia that have gone undetected in order to discover any outlier spread. These buffer distances have been informed by dispersal distance analysis and studies on biological vectors known to aid the spread of miconia.

In 2022, OISC conducted miconia surveys in 15 different watersheds across 2,616 acres by ground, 3,973 acres by air, and an additional 164 survey acres along O'ahu roadsides. Crews removed 861 immature and 6 mature miconia trees in 2022, protecting a total of 6,754 acres of forest across the island. The mature miconia trees were removed from the Ka'alae'a, Kalihi, Makiki, and Mānoa watersheds. After discovering a mature miconia tree toward the outskirts of the miconia buffer in Mānoa, the ground buffer expanded 49 acres and the aerial buffer an additional 48 acres. Although we strive for no buffer expansion, this is a relatively small increase, especially when compared to recent years. This suggests our miconia detection strategy is working well in spatially containing the infestations. OISC's systematic control of miconia continues preventing the type of single-species stands that occur in Tahiti where this species threatens two-thirds of the forest and is directly threatening 25% of native forest species with extinction.



**Left: staff hand pull miconia keiki discovered in a tangle of hau bush.**



**Right: staff fell a large mature miconia after collecting reproductive material for incineration.**

The long-lived seedbank makes this species difficult to eradicate. Trees are sometimes missed because of thick vegetation and we have not been able to meet our goal of preventing maturation of trees in all watersheds. However, we have been able to prevent this species from establishing. When OISC first began surveys in 2002, we removed 40 mature and 3,347 immature trees from 2,042 acres. In 2022, OISC removed 6 mature trees over 6,754 acres, a drop in mature tree densities by over 92% since 2002, while reducing the number of mature trees by 85% and doubling the number of acres surveyed.

#### **Devil weed (*Chromolaena odorata*)**

*Chromolaena odorata* is known as “devil weed” and for good reason. It is toxic to livestock and humans and a weed of conservation and agricultural concern throughout Africa and the Pacific. Populations of this species are currently known to occur at the Kahuku Training Area (KTA), ‘Ahupua’a ‘O Kahana State Park, ‘Aiea Loop Trail, Camp Smith, and a multitude of locations between Malaekahana and Pūpūkea on O‘ahu’s north shore. Additionally, individual plants have been detected in Hau‘ula and Mākaha, but no reproducing populations have been discovered during follow-up surveys. A lone plant on the outskirts of Lanikai Beach was also detected several years ago, but subsequent surveys revealed no additional recruitment.

In 2022 OISC field staff surveyed 99 acres of Mākaha valley trails over the course of this reporting period during our annual camping operation with a team of six to survey along trails and around historic point locations for detection and control of devil weed. Field crews completed 99 acres of survey and removed 2 mature and 1 immature from the watershed across 230 hours of staff time. Partner agency staff from the Wai‘anae Mountains Watershed Partnership also detected a single individual along a fenceline that they maintain and reported it to OISC after treatment. Staff from partner agencies who work in this location have opportunistically found individual plants in the area, which has helped to direct OISC’s efforts to focus on trails in addition to historic locations within the valley. Although our surveys have not revealed large patches of devil weed in Mākaha valley, this plant’s ability to hitchhike on clothing and disperse itself has resulted in multiple detections by OISC partners.



In addition to devil weed survey and control operations in Mākaha, OISC conducts annual surveillance and control efforts in Kahana and at KTA. Field teams survey areas known to have recurring historic devil weed populations twice per year. Staff remove flowers and seed heads of any mature plants they encounter and any seedlings too small for adequate field disposal. All vegetative material that cannot be disposed of in the field is hiked out in sealed containers and incinerated at waste facilities to ensure this species is not spreading through the transportation of green waste. Locations with high population densities in these two areas are chemically treated using a truck mounted power-sprayer or precision helicopter spray with low concentrations of non-toxic herbicides. All other plants are hand-pulled and hung securely to dry out roots leading to plant death. Within KTA, OISC marks densely populated locations for follow-up treatment by the Army Natural Resources Program (ANRP), and within Kahana, OISC staff aerially treat high-density areas.

**Staff collecting devil weed flowers before they have a chance to set seed.**



Some devil weed infestations on O‘ahu are now too large for OISC to be able to eradicate this species island-wide. Therefore, OISC has partnered with the Army Natural Resources Program (ANRP), the Department of Forestry and Wildlife (DOFAW), the Big Island Invasive Species Committee (BIISC) and the Hawai‘i Department of Agriculture (HDOA) to test a biocontrol agent for future release. This gall-forming fly, *Cecidochares connexa*, has been released within several other Pacific countries as a means to help control devil weed and has shown promising results. Currently, this biocontrol agent is undergoing host-specificity testing at the Pacific Basic Agricultural Research Center’s (PBARC) biocontrol facility in Hilo. OISC continues collecting data on island-wide populations and plans to assist with the release of the biocontrol agent when it becomes available for distribution.

In combatting the spread of this tenacious species, OISC will continue to focus efforts on the edges of the infestation zones and move forward with supporting the biocontrol process. In total across O‘ahu, OISC controlled 1,062 mature plants and 3,967 immature across 1,391 survey acres in 2022.



**Staff collecting wood chips from a symptomatic 'ōhi'a tree to test for ROD.**

#### **Rapid 'Ōhi'a Death (*Ceratocystis huliohia* and *Ceratocystis lukuohia*):**

Rapid 'Ōhi'a Death (ROD) is a forest disease caused by two species of fungal pathogen within the genus *Ceratocystis*. The pathogens have killed 'ōhi'a trees across thousands of acres on Hawai'i Island. So far, only the less virulent of the two species (*C. huliohia*) has been detected on O'ahu. Utilizing high-resolution aerial imagery and data collected during biannual reconnaissance helicopter flights, OISC and its partners collect wildland samples of the most symptomatic and safely accessible trees. A total of 11 trees since 2019 have tested positive for *C. huliohia*, and of the three positive detections in 2022, two came from residences situated on the windward side of the Ko'olau Range. These residential samples stem from members of the public reporting dead or dying 'ōhi'a on their property, showing that OISC outreach continues to play a crucial role in successful ROD response.

In order to maintain a robust early detection and rapid response effort for ROD, OISC co-leads the O'ahu ROD working group with staff from DOFAW, CGAPS, and ANRP. This working group implements strategies determined at the statewide level and addresses any island-specific considerations for response. Distributing sampling efforts between multiple partner agencies allows for a more complete effort across multiple land-ownerships to ensure that all safely accessible symptomatic trees are sampled. In 2022, OISC continued facilitating bimonthly meetings and will continue to co-lead this multi-agency partnership.

OISC performed early detection surveys over 233,969 acres of O'ahu's 'ōhi'a forest by ground and air in 2022. Forest health surveys using the United States Forest Service Digital Mobile Sketch Mapping (DMSM) software allowed for two full island-wide surveys across 233,866 acres of 'ōhi'a forest throughout the Ko'olau and Wai'anae Ranges. Additionally, staff surveyed 83 acres of O'ahu trails and responded to 2 of the 3 positive *C. huliohia* detections. The third positive detection in Mākaha was felled with assistance from DOFAW staff in early 2023.

The work on O'ahu is part of a statewide effort that is conducting early detection using the same methodology on all islands and is done in close cooperation with the Ko'olau Mountains Watershed Partnership (KMWP), DOFAW, and other partner agencies. In total, OISC collected 24 samples of 'ōhi'a, including 12 samples from 11 public reports of dead or dying trees.

#### **Cape Ivy (*Delairea odorata*)**

Cape ivy invades dry forests on the Big Island and can smother native plants. The OISC crew has been monitoring and controlling a cape ivy infestation in Pālehua in the Wai'anae Mountains since 2009.



Through persistent treatment, the infestation has been drastically reduced from patches that were too numerous to count to only 8 individual immature plants and zero mature plants in 2021. In total during 2022, OISC surveyed 53 acres at known sites across the 100-acre region, removing 192 immature plants.

Despite a steady decline in population numbers over the last 7 years of continual survey and treatment, staff detected a large patch of plants at a known site. This site had an abandoned house up until 2021 and the new resident has made some habitat modifications in the area, likely resulting in the uptick in detected plants. OISC removed all detected plants and will continue to scrutinize this area to ensure all regrowth and recruitment are dealt with.

A table showing the decline in plants is shown below:

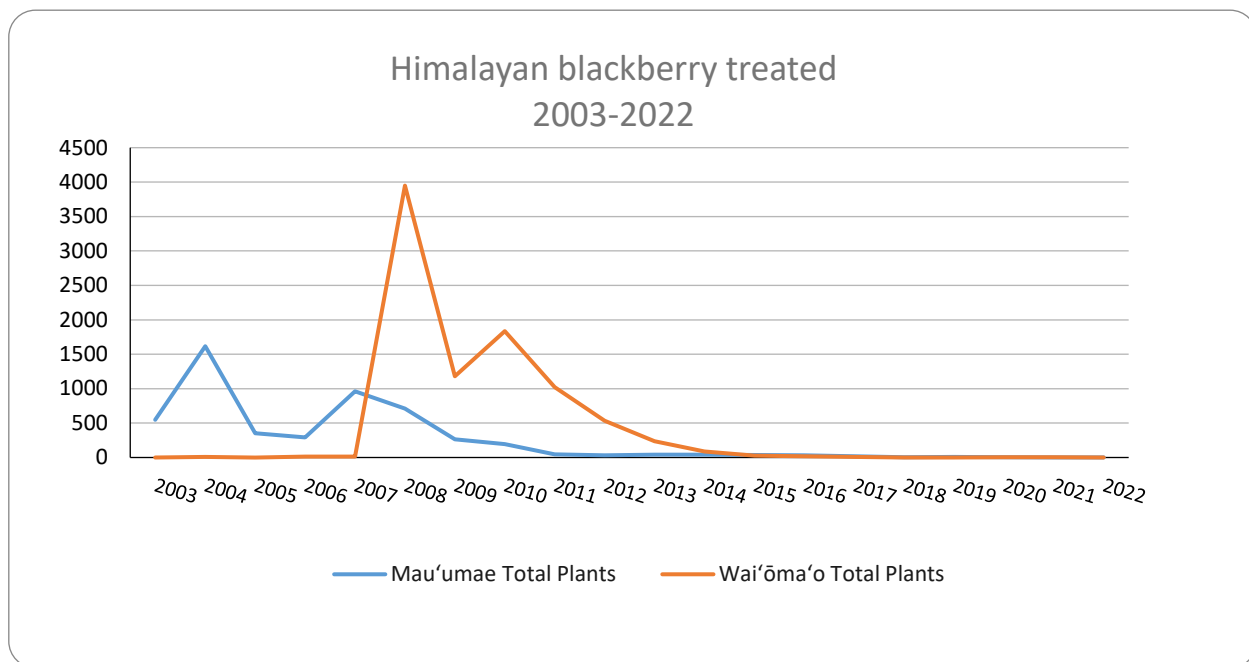
Year	Mature	Immature	Acres
2022	0	192	53.92
2021	0	8	52.80
2020	0	27	85.65
2019	0	44	79.46
2018	0	150	78.85
2017	1	503	217.59
2016	1	1,365	291.36
2015	6	1,384	126.11

**Staff meticulously hand pull cape ivy plants within an asparagus fern patch, making sure to remove any fragments or roots, and bag them for incineration. Cape ivy can be seen in the foreground.**



**Himalayan blackberry (*Rubus discolor*; syn: *Rubus armeniacus*)**

Himalayan blackberry is a thorny vine that is a serious problem in the Pacific Northwest. OISC staff have been told that it was planted on public land by a resident of Pālolo for fruits and to dissuade trespassers. It has since spread up the valley into the native 'ōhi'a forest, threatening the native species there. Himalayan blackberry is difficult to control since it is resistant to available herbicides and re-grows easily from cut stems and roots. Despite these challenges, OISC has drastically reduced Himalayan blackberry numbers. Staggered chemical treatments reduced population numbers enough that OISC now focuses on manual removal for this species. OISC conducted 29 acres of ground surveys in 2022 around known accesible sites. OISC has reduced the number of Himalayan blackberry from 2,724 plants in 2008 to only 1 immature plants in 2022.



A table and graph demonstrating the decline in plant numbers for each location is shown below:

Action Year	Mature	Immature	Acres	Total People Hours
2022	0	1	29.31	250
2021	0	4	32.73	250
2020	0	4	33.11	240



2019	0	7	28.76	184
2018	0	5	29.28	248
2017	0	23	58.23	485

### Cane Ti: (*Tibouchina herbacea*)



**Staff inspecting a cane ti hotspot wearing Tyvek suits to prevent contamination.**

Cane ti threatens priority native watershed habitat in Poamoho, an area in the northern Koʻolau Range. ANRP staff discovered the highly invasive cane ti (*Tibouchina herbacea*) in the Poamoho region in 2008. This aggressive weed was not known to be naturalized on Oʻahu, but it is widespread on both Hawaiʻi island and Maui where it is beyond the scope of eradication. On these islands, cane ti forms dense thickets that crowd out native plant growth and can proliferate in pockets of intact native forest. In 2022, OISC surveyed 437 acres by ground and air, controlling a total of 122 mature and 690 immature plants within the Poamoho region.

Field staff conducted aerial helicopter surveys across 405 acres on the windward and leeward sides of the Poamoho summit, adjacent to core populations, in order to delimit outlier populations and inform aerial treatment locations in areas inaccessible by ground. Utilizing the helicopter precision spot spray method, OISC treated these outlier populations in early 2023 and that data will be included in the FY23 report. Both aerial and ground operations are conducted in conjunction with control efforts from the Natural Ecosystems

Management & Protection (NEPM) sector of DOFAW, and staff from KMWP.

### EARLY DETECTION & RAPID RESPONSE

Early-detection and rapid-response (EDRR) is a critical component for the biosecurity of our island and our state. Despite funding shortfalls in 2022, OISC continues to fill a crucial role in EDRR activities for Oʻahu. Mostly through outreach until more funding becomes available, OISC fields public reports of target and high-priority pests and responds either with direct field intervention or delegation to partner agencies.

**Africanized honey bee (*Apis mellifera scutellata*):**

OISC conducts early detection surveys via trap checks for Africanized bees at Daniel K. Inouye International Airport in Honolulu and Honolulu Harbor as part of a collaborative statewide effort coordinated by the Ports of Entry/Exit Biosecurity Monitoring Program (formerly, the Māmalu Poepoe Program). This Ports Biosecurity program is a partnership between the Hawai'i Department of Transportation (HDOT) and the Hawai'i Invasive Species Council (HISC) established to conduct early detection of high-priority pests at Hawai'i ports of entry and exit. In past years, OISC has facilitated trap checks at the airport but expanded in late 2022 to include areas at Honolulu Harbor.



OISC conducted trap checks for this species once per month during what historically has been the low bee activity season (October – April) and twice per month when bee activity tends to increase (May – September). This strategy resulted in a total of 11 traps checked a total of 20 times at the Daniel K. Inouye Airport and 7 traps checked 2 times at the Honolulu Harbor. OISC staff did not detect any Africanized honeybees in 2022.

**Coconut Rhinoceros Beetle (*Oryctes rhinoceros*)**

Coconut rhinoceros beetle (CRB) is currently limited to O'ahu and a separate CRB response team is taking the lead for the response. OISC assists with tree surveys and trap checks at the Daniel K. Inouye International Airport in Honolulu to supplement the island-wide efforts. CRB damage can kill coconut and other palms and is a widespread problem on neighboring Pacific Islands. In 2022, OISC conducted 13 trap checks of 10 traps and conducted 1 palm survey to check for beetle damage. One CRB was confirmed in a trap and the palm survey yielded potential damage that will continue to be monitored at regular intervals. Unfortunately, CRB has now become widespread across the island and the statewide



strategy is shifting to preventing this species from infiltrating neighbor islands. OISC will continue checking traps in order to help prevent this species from travelling through O'ahu ports and infesting novel locations statewide.

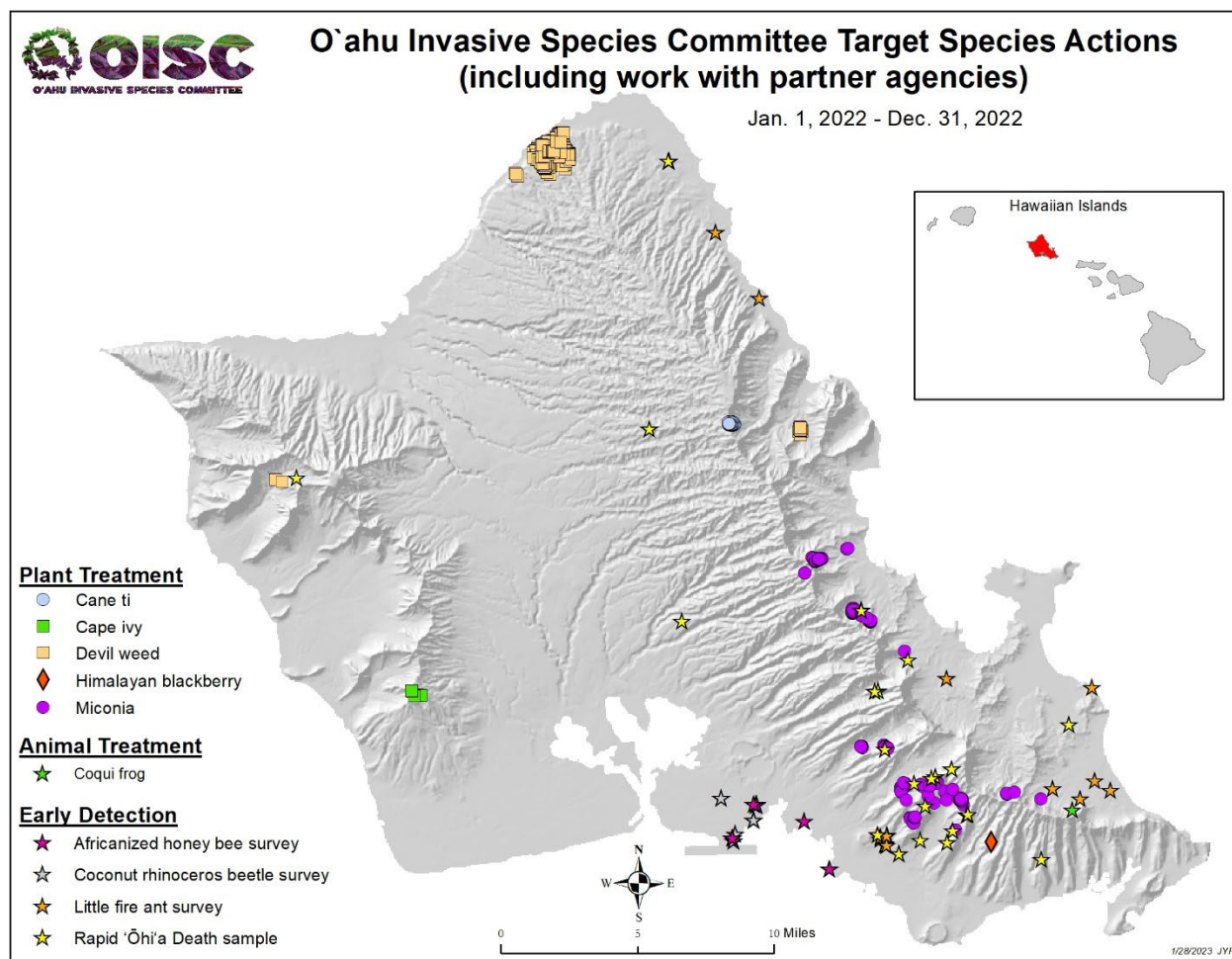
#### **Little Fire Ant (LFA) (*Wasmannia auropunctata*)**

LFA is a tiny stinging ant that is established on Hawai'i Island and was accidentally introduced to O'ahu in two separate locations. OISC has primarily focused on outreach for this species since 2019, but does assist HDOA and HAL with field survey and treatments on occasion. In 2022 OISC assisted in 7 surveys, 10 treatments, and spent two days testing potted plants at the annual Punahou Plant Sale. These efforts took place island-wide, mostly along the windward coast where the species continues to spread. The primary responding agency for LFA survey and control is the HAL, and OISC has worked diligently to secure additional funding to assist in the face of increasing LFA populations. In 2023, OISC will have an Early Detection Rapid Response (EDRR) Technician to assist HAL more regularly and outreach staff will continue assisting HAL whenever possible to stifle the spread of this injurious pest. Funding is also being sought to increase positions at OISC to establish a full team dedicated to EDRR and would focus heavily on LFA survey and control within the next few years should sufficient funds become available.

#### **Coqui Frog (*Eleutherodactylus coqui*)**

OISC provides monitoring support to the HDOA for early detection of coqui frogs by responding to public reports and passing on that information along to appropriate points of contact. Coqui frogs can be stowaways on plants and other items such as vehicles, boats and construction materials from areas on Hawai'i Island with large coqui frog populations. Whenever possible, OISC assists with response to these public reports on O'ahu through coordinated monitoring and subsequent control efforts with HDOA staff.

In 2022, OISC was not awarded funding specific to coqui frog control operations but did assist in planning a multi-agency response led by HDOA, the Department of Land and Natural Resources (DLNR), and the Hawaii Invasive Species Council (HISC). This response strategy was formulated after a wildland population was detected by HDOA staff in the Waimānalo forest. OISC consulted with the Maui Invasive Species Committee (MISC) since they have an extensive coqui control program, but ultimately the multi-agency cohort decided to utilize an aerial treatment method given the restrictions of this remote site. In a single day, OISC assisted with 83 drops of diluted citric acid mixture at known infestation sites using a helicopter and a component of aerial fire-fighting equipment called a bambi bucket. Each bucket contained approximately 60 gallons of mixture and OISC staff navigated the pilot to the site and collected data from inside the helicopter.



A spatial overview of all OISC field operations taking place across O'ahu.



# OISC ANNUAL OUTREACH REPORT 2022



*OISC Outreach & Education Associate, Jamie Miller, at Honolulu Makers Market Bloom Garden & Art Festival at Ward Shopping Center. July 17, 2022*

OISC outreach program is dedicated to promoting our mission to prevent, detect, and eradicate invasive species on O‘ahu.

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# oisc

**O'AHU INVASIVE SPECIES COMMITTEE**  
**[www.oahuisc.org](http://www.oahuisc.org)**





## OISC OUTREACH TEAM

OISC outreach program is dedicated to promoting our mission to prevent, detect and eradicate invasive species on O'ahu through presentations to area schools and communities, creating and distributing educational materials, conducting regular volunteer trips, and by working with partner organizations' outreach efforts. The Outreach Program also works to secure access for the field crew.

There are two outreach team members: the Outreach Coordinator and the Outreach & Education Associate. The coordinator is responsible for overseeing the outreach program, developing strategies to meet OISC goals and funding objectives, delivering outreach messaging at community events and presentations, securing access for field operations, and supervising the Outreach & Education Associate. The associate position is responsible for developing content and managing social media accounts, presenting the Ho'ike LFA Activity and school presentations (K-12).



*L: Erin Bishop, OISC Outreach Coordinator*

*R: Jamie Miller, Outreach & Education Associate*

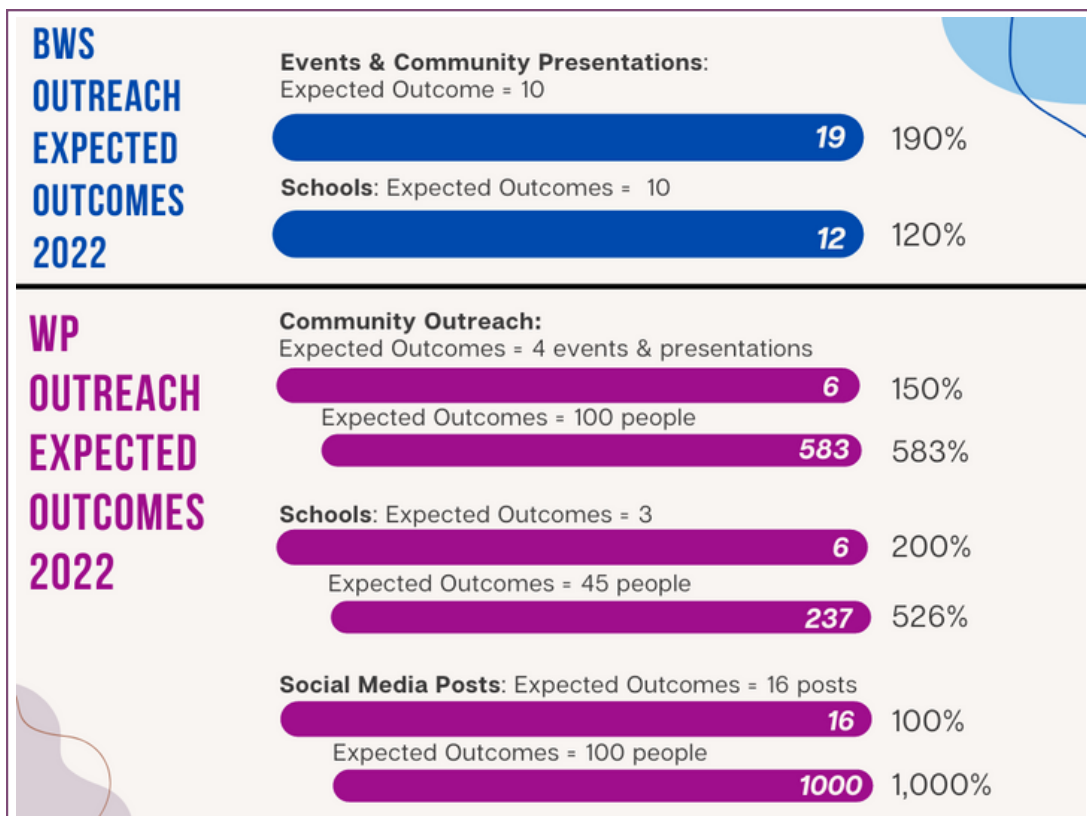
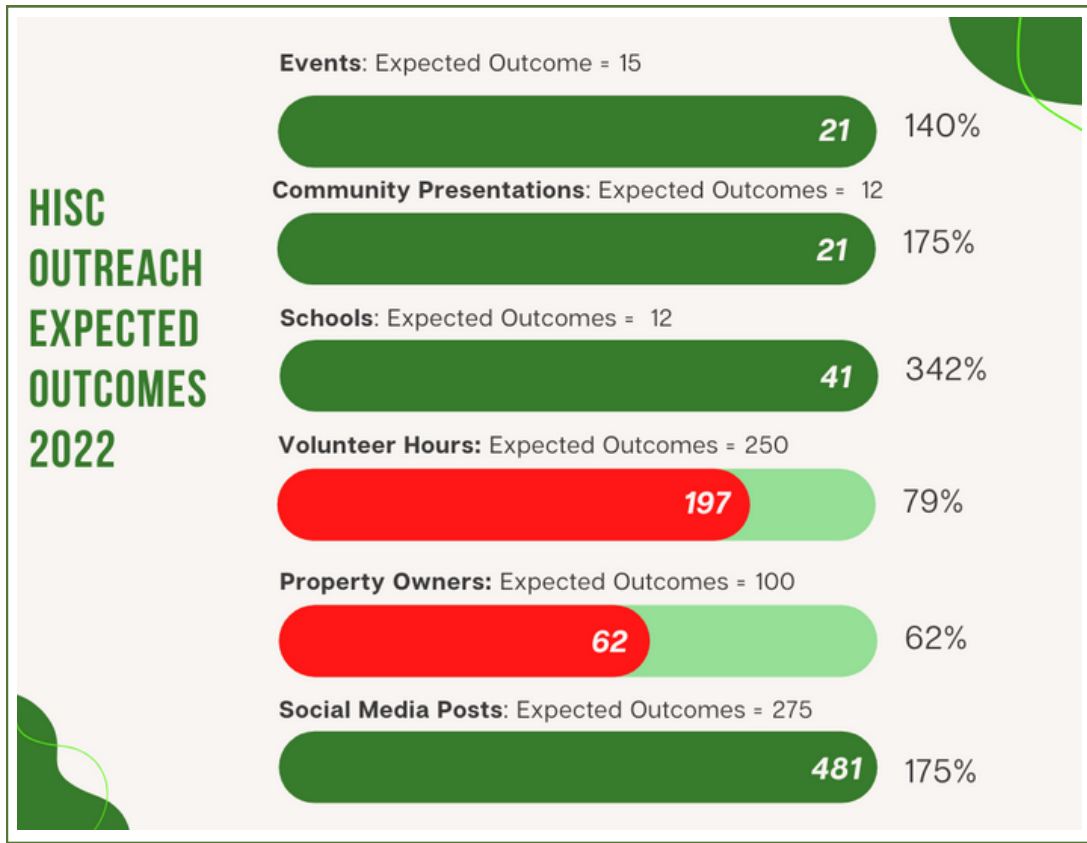
## 2022 FUNDER GOALS:

OISC received funding from the Hawai'i Invasive Species Council (HISC), the Honolulu Board of Water Supply (BWS), and the Watershed Partnerships (WP) for outreach activities in 2022.

We reached or exceeded all expected outcomes except in two areas; property owners reached (for access) and volunteer hours. These shortfalls are directly tied to COVID-19 restrictions limiting in-person contact for access permission via door-to-door work, and the protracted policy change in RCUH volunteer program procedures.

Funder	Expected Outcomes	Completed
HISC	Display at 15 events	21
	12 community presentations	21
	12 school presentations including Hoike LFA activity	41
	250 volunteer hours	197
	100 property owners contacted	62
	275 posts to social media	481
	Watershed Curriculum (HaSTA & HEEA)	Yes
	Assist with Stop the Ant Month	Yes
	Assist with HISAM	Yes
	5% engagement rate (social media)	15%
BWS	Display at 10 community events	19
	10 school presentations	12
	HaSTA & HEEA watershed health curriculum	Yes
WP	16 social media posts (cane ti)	16
	>100 people engaged on social media (cane ti)	1,000
	3 school presentations (cane ti)	6
	>45 students at school (cane ti)	237
	4 events and/or community presentations (cane ti)	6
	>100 people engaged at event/community presentations (cane ti)	583





**T**he Hawai'i Invasive Species Awareness Month (HISAM) is an annual campaign organized by the Hawai'i Invasive Species Council (HISC), in which OISC participates. Overall, HISAM hosted 26 webinars and live feeds during the month of February. There were a total of 626 participants in 2022, an increase of 91 participants from 2021.

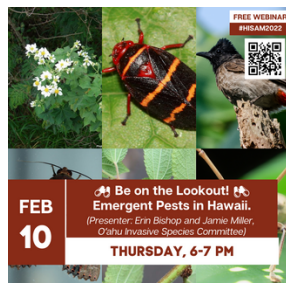


During HISAM, OISC hosted a "Be on the Look Out" (B.O.L.O) webinar panel which received 93 YouTube views, and gave an interview with HNN's Sunrise edition promoting HISAM.

- Links to HISC 2022 HISAM webinars: <https://dlnr.hawaii.gov/hisc/2022hisam/>.

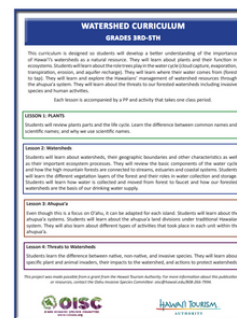


Erin Bishop on HNN Sunrise (2/4/2022)



**W**atershed Curriculum developed by OISC in early 2019 is designed for students grades 3-5 and adheres to the Next Generation Science Standards (NGSS). The lesson consists of four sections; Plants, Watersheds, Hawaiian Land Divisions, and Threats. Each section is accompanied by a recorded webinar, PowerPoint, classroom activity, and three vocabulary worksheets.

The Watershed Curriculum is available for download on OISC Website and links are posted on the Hawaii Science Teachers Association (HaSTA) website and the ClimbHI Bridge, an online portal that connects businesses, educators and students. OISC also attended the HaSTA Conference on Sept. 17, 2022 promoting the Watershed Curriculum. The curriculum has been viewed on OISC website 229 times in 2022, and 707 times since it posted in 2019.



*\*The Hawaii Environmental Education Alliance (HEEA) has not been consistently active since 2018. Updates to their website have lapsed and it is unclear whether or not they have any active staff.*

- OISC: <http://www.oahuisc.org/watershed-curriculum/>
- ClimbHI Bridge: <https://climbhi.org/portals/>
- HaSTA: <https://hasta.wildapricot.org/Learning-Resources>
- \* <http://heea.org/resource/about.aspx?s=131711.0.0.89929>: LINK NO LONGER WORKING



**Spot the Ant Month** (STA) is an annual statewide outreach campaign led by CGAPS with each island's ISC taking leads for their respective county. The actionable request to the public was to request an ant collection kit and submit ants for identification. On O'ahu, kit requests increased by 34%, and samples submitted increased by 2%. This a positive trend that the collaborative group agreed to continue to move forward with in 2023.



[www.StopTheAnt.org](http://www.StopTheAnt.org)

Outreach Type (Oct. STA Month)	Type Total
Article/Print (Star & Midweek)	421,487
Distributed Product (340 mailed LFA KITS)	490
Event (2)	200
Hoike (4) Sept 1-Oct 31	151
Interview (2)	200
Presentation (3)	56
School Visit (1)	115
Social Media (posts)	20
Social Media (engagement)	597 (5%)
Social Media (reach)	14192
Social Media (Paid Reach 37% of total reach)	5261
Samples Submitted	77
Legislator Outreach	31

STA Month October 2022	Kits Requested 2022	Samples Submitted 2022	Return Rate 2022
Hawaii Is	126	64	51%
Maui	135	41	30%
Oahu	340	77	23%
Kauai	98	108	110%
TOTALS	684	290	42%

To incentivize submissions, 20 winners from those that submitted ant samples to receive a STA Month YETI tumbler. OISC was responsible for coordinating and implementing.



OISC was also responsible for creating and placing ads in a Sunday Star Advertiser and printing of The Midweek. We also secured and created content for the KHON social media campaign to promote kits and ant submissions. As part of the KHON advertising package, OISC and HAL did an interview on Living 808.



Heather Forester (HAL) and Erin Bishop (OISC) discussing STA Month on KHON Living 808 with host John Veneri (10/17/2022).



Ads in the Star Advertiser (10/2/) and Midweek (10/5/).

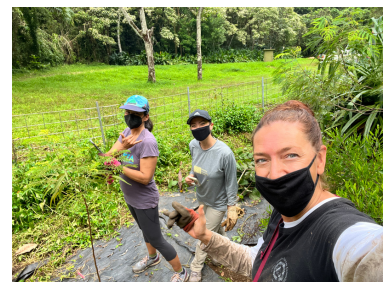
## 2022 OISC PROGRAM GOALS:

OISC outreach program has in-house goals and objectives that align with, and often go above our funding projected outcomes (AKA "deliverables"). Priority issues and messaging were identified at the beginning of 2022 and a strategy was developed to meet all our in-house and funder objectives.

1. Increase awareness and knowledge about miconia impacts on environmental services provided by watersheds in Hawai'i.
2. Increase volunteer involvement in the devil weed crew.
3. Increase public knowledge of OISC operations and messaging
4. Increase reporting (ED/RR).
5. Resume volunteer activities.

## SPECIES MESSEGING: HIGH PRIORITY

- Miconia (*Miconia calvescens*)
- Little Fire Ant (*Wasmannia auropunctata*)
- Devil Weed (*Chromolaena odorata*)
- Rapid 'Ōhi'a Death (*Ceratocystis* spp.)
- Cane Ti (*Tibouchina herbacea*)
- ED/RR - Reporting



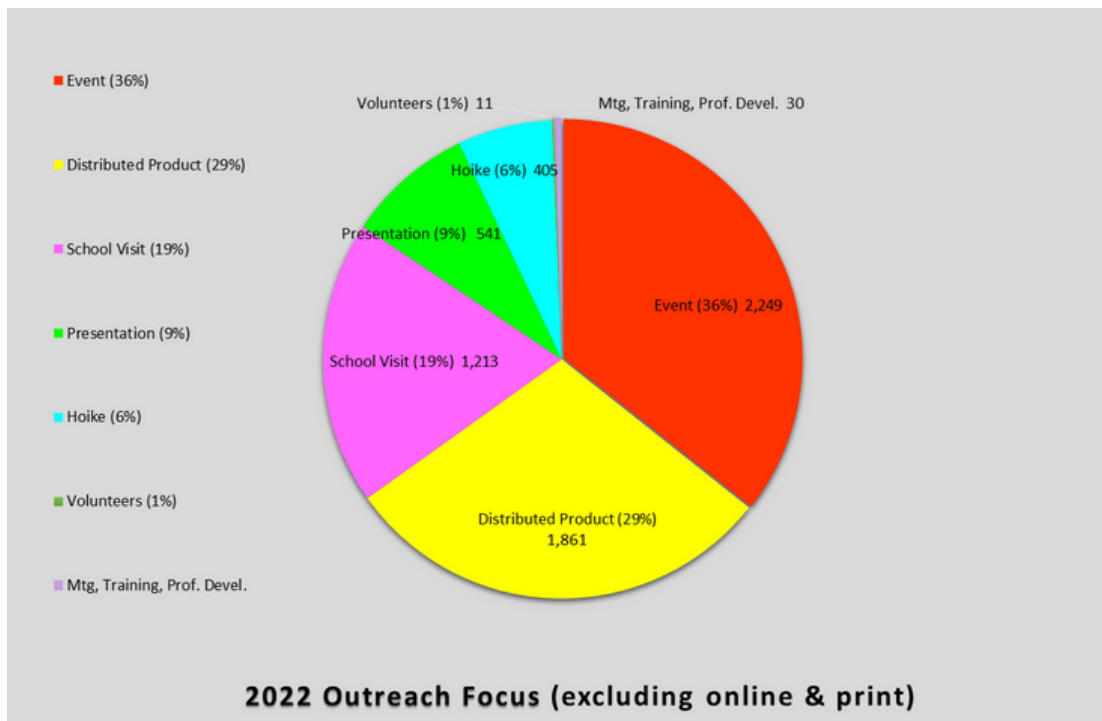


## 2022 COMPLETED OUTREACH: 465,355

In total, the outreach team has served our message 465,355 times over the course of 2022. When you subtract the ads audience (421,487) from the total, the outreach for 2022 was 43,868. This is a 13% decline in outreach from 2021 which was 50,430.

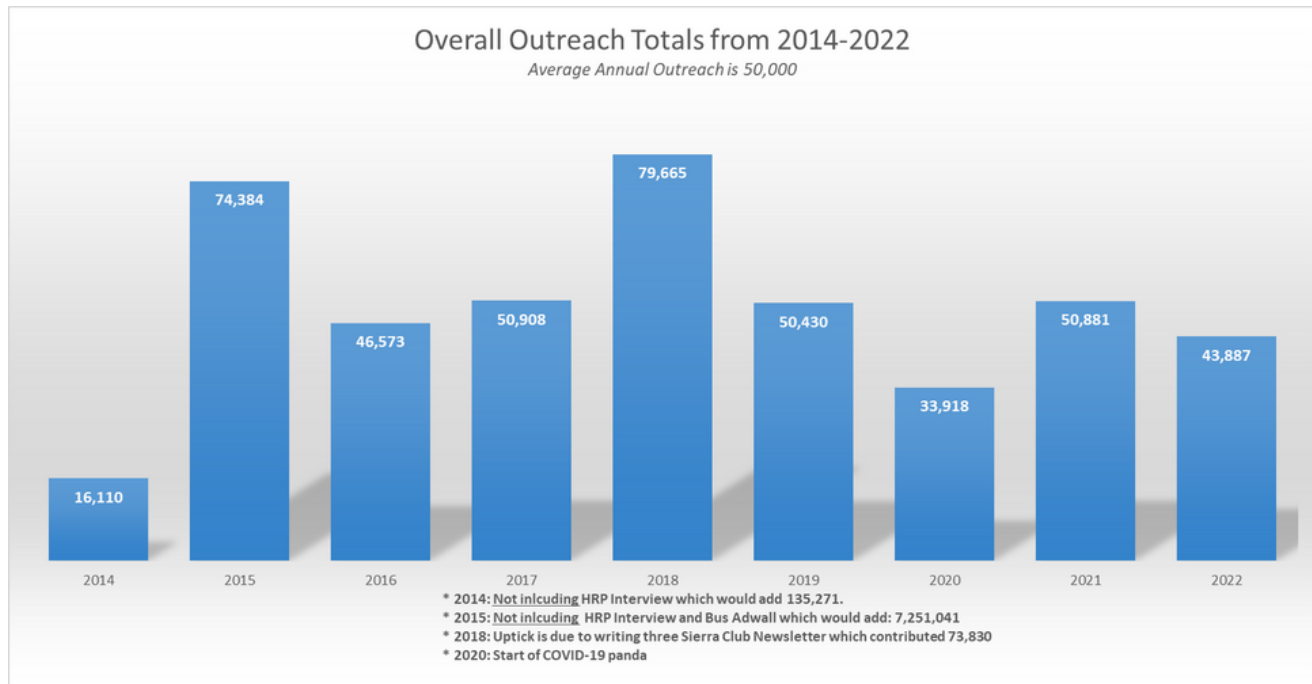
This decline is due to a reduced number of students visited. Even though we visited more schools in 2022 (30 schools) than in 2021 (17 schools), most schools in 2021 had virtual attendance so they could do entire classes. There is also a decline in online engagement from 2021 which is thought to be due less people online post-lockdowns and telework.

Type	Audience
Article - Ads	421,487
Article - Contributed	200
Distributed Product	1,861
Events	2,249
Hoike	405
Interview	201
Meeting	7
Presentation	541
Professional Development	10
School Visits	1,213
Social Media (engagement)	24,983
Training	13
Volunteer Trip (OISC)	170
Volunteer Trip (AAP)	8
Website	12,007
<b>TOTAL</b>	<b>465,355</b>

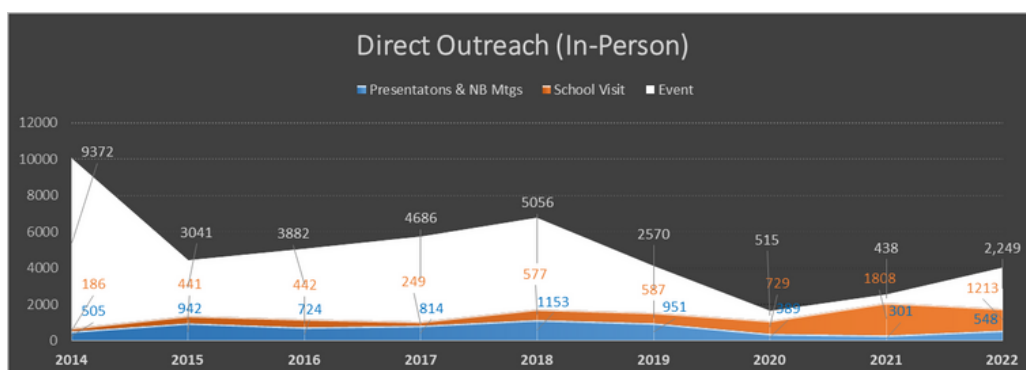


*Detailed table of 2022 outreach in Appendix 1*

**OVER THE YEARS:** On average, outreach totals are around 50,000 annually. There are some huge estimates that spike totals when doing radio interviews or mass print ads...but those have been teased out (as described under the chart) to get a more realistic overview.

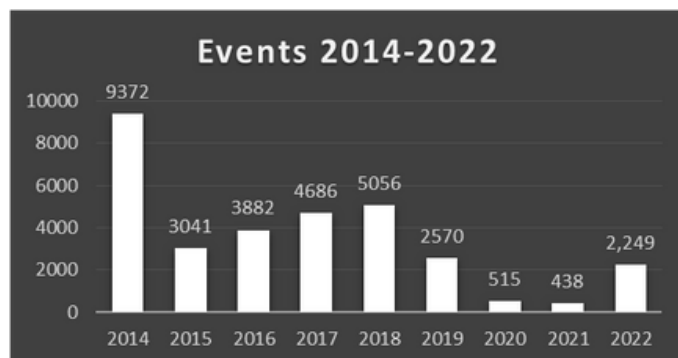


The most common outreach types for both OISC purposes and for funding are: events, community presentations, school visits, social media, website, and volunteer activities. The "bonus" outreach types are written articles, radio/tv interviews and print ads, and distributing products. While the latter gets a wider audience and higher numbers, the outreach quality lends more to exposure of issues rather than comprehension of why it's an issue and actions needed to mitigate them. Used in combination, messaging can be quite effective in generating desirable actions, whether that be reporting, supporting legislation, garnering access for field operations or actions like decontamination practices.



OISC attended **21 unique events** in 2022 and saw an exponential increase in audience numbers from the previous year as in-person events resumed.

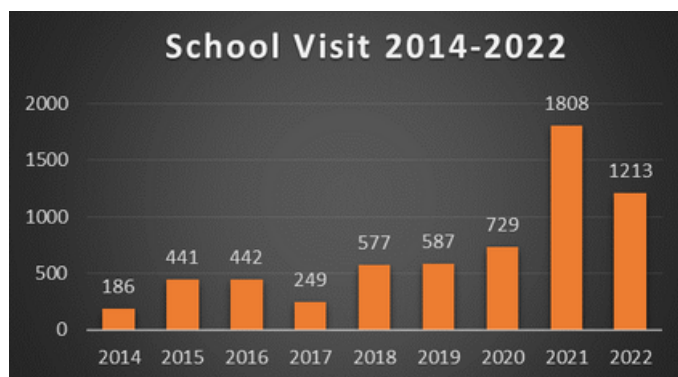
*EB = 18 events, JM = 15 presentations, ND = 1 event*



FUNDER	UNIQUE EVENTS	AUD. TOTAL
HISC	21	2249
BWS	12	1385
WP	2	440
OANRP	4	440

OISC presented to 44 classes to **30 schools** in 2022. Up from 17 schools in 2021. For HISC reporting purposes, the Ho'ike LFA Activity is added to the school totals (30+11 Ho'ike = 41).

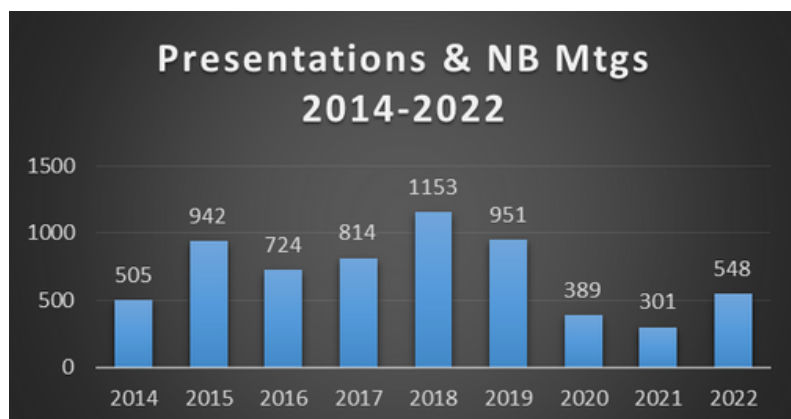
*EB = 5 presentation, JM = 25 presentations*



FUNDER	UNIQUE SCHOOLS	AUD. TOTAL
HISC	30	1213
BWS	12	556
WP	6	237
OANRP	0	0

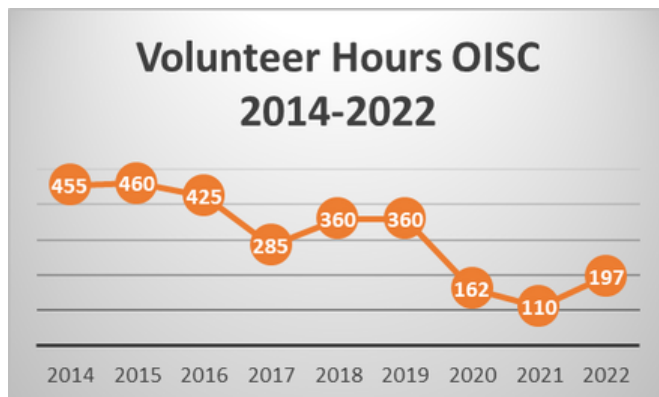
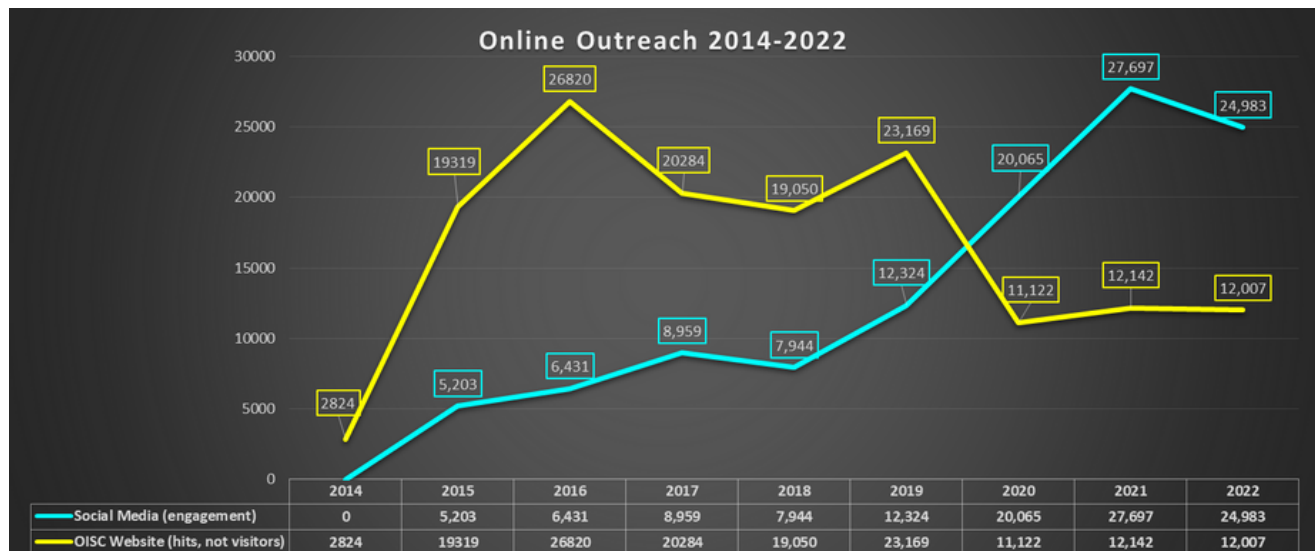
OISC gave 26 presentations to **21 unique groups** in 2022. The chart on the right excluded meetings, of which there was an audience of seven in 2022.

*EB = 13 presentation, JM = 9 presentations*



FUNDER	UNIQUE PRESENTATION	AUD. TOTAL
HISC	21	541
BWS	7	243
WP	4	143
OANRP	5	85
Wtshed	13	268





OISC Outreach staff with volunteers with the Adopt-A-Park program at Pūpūkea-Paumālu (devil weed surveys).

OISC now has an agreement with Adopt-A-Park that allows us to conduct volunteer trips on at Pūpūkea-Paumālu State Park Reserve. In 2022, we conducted two (2) trips that added an additional 27 hours to the overall **volunteer total of 197 hours**.

OISC also coordinated with Hawai'i Motocross Association (HMA) to develop a volunteer program with their members. OISC designed and provided signage for their check-in station and medical building as well as identifying hotspots for them to work on. HMA hadn't sent any data to OISC about work done by volunteers, but did inform OISC that they put all of the signs up.



Signage at Kahuku Motocross Track. PC: Terry Galpin (HMA)

## INVASIVE PLANT CONTROL AREA

## DEVIL WEED

DEVIL WEED SEEDS STICK TO MUD & CLOTHING.

CLEAN BIKES & GEAR  
THOROUGHLY AFTER  
RIDING AT KAHUKU TRACK

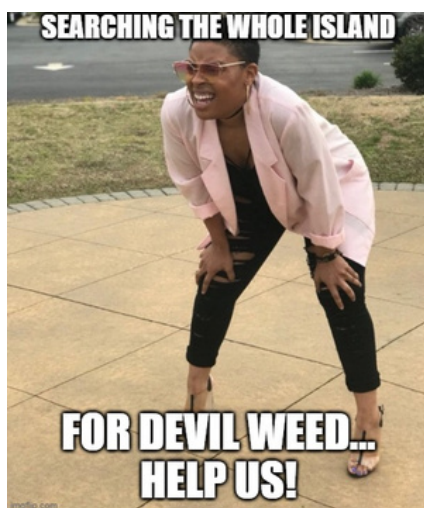
REPORT DEVIL WEED  
www.643PEST.org or 643PEST free phone app

MORE INFO & PICS

20220 Devil Weed Crew	
Volunteer Hours	170
Unique Trails	23
Miles of trails	238
Hours	170
Unique Vols	11
Imm	698
Mat	120



COVID-19 restrictions and PCSU's new volunteer policy has had significant impacts on how we conduct volunteer opportunities. To compensate, OISC developed the self-led volunteer program "Devil Weed Crew (DWC)" implemented in 2021 and revamped with a "DWC Challenge" in 2022 to include incentives such as stickers, cups, and t-shirts. While we saw a spike in Aug and Sept and the challenge generated a lot of interest, follow-through was only from a few individuals.

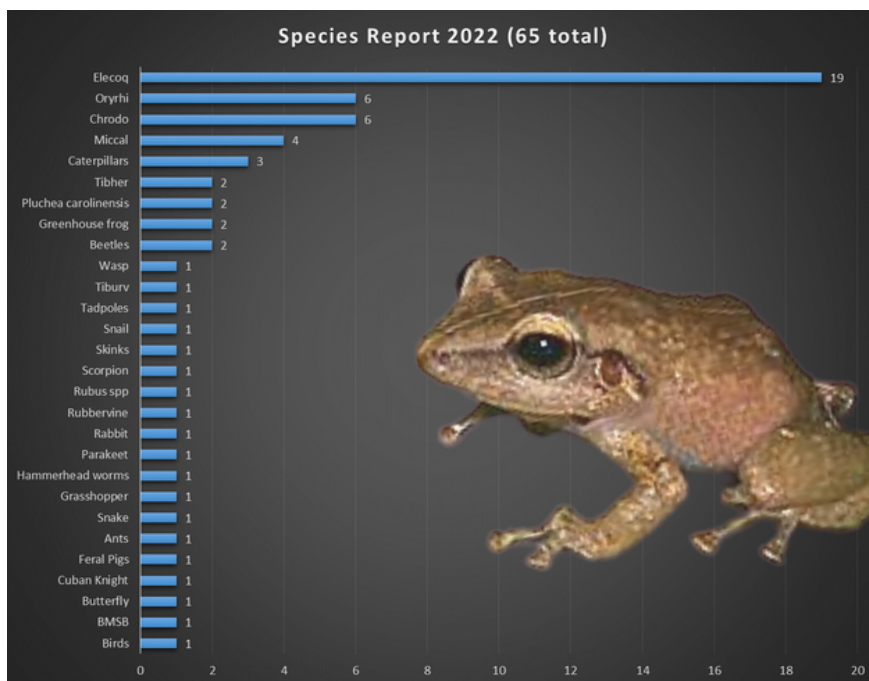


How to use AllTrails to record & report surveys.

## Devil Weed Crew 2022

- Launched in February 2021.
- DWC Challenge began 2022.
  - Survey 5 mi...get a hat (gave away 6)
  - Survey 15 mi...get a 20oz tumbler. (gave away 6)
  - Survey 20 mi...get a t-shirt.(gave away 2)
- FB Group (62 members).
- List of trails to be surveyed on website (kept up to date with latest surveys).
- Look-a-like guide for volunteers upon request (via survey monkey).
- Rack card on how to use the AllTrails app to survey.
- Five (5) videos for YouTube
  - [Devil Weed Seeds and Flowers](#)
  - [Devil Weed Crew...how to for early detection trail surveys for devil weed](#)
  - [Devil Weed Crew Volunteer Presentation](#)
  - [ID ME Chromolaena odorata](#)
  - [Invasive Species and Agriculture: A Closer Look at Devil Weed](#)


- **PUBLIC REPORTS:** OISC received a total of 65 public pest reports this year, excluding ROD and LFA reports. The most common reports were coqui suspects with 19, followed miconia at six. Of the reports, 13 were OISC or HDOA targets.



Actionable Reports 2022 (13)	
coqui	6
chrodo	2
miccal	1
oryrhi	3
Tiburv (Big Is.)	1

**LFA/ANTS:** In 2022, 596 inquiries were made to HAL, OISC or 643Pest. OISC fielded 500 (83%) of those inquiries about ants and/or requests for LFA test kits in 2022. In total, 462 LFA Kits were mailed out and 194 ant samples were submitted by the public, 15 of those samples were positive for little fire ants.

OISC Outreach staff trained and facilitated the testing of all plants donated (>1,000) to the Punahou Carnival for their plant sale and assisted HAL on eight (8) LFA surveys an/or treatments in 2022.

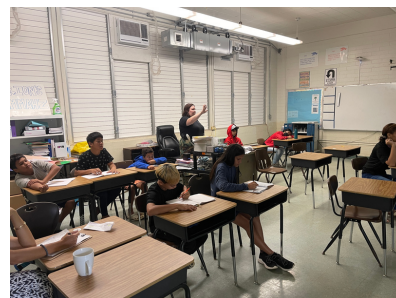
Ant Inquiries 2022 	
All Calls	596
OISC response	500
Mailed kits	462
Samples	194



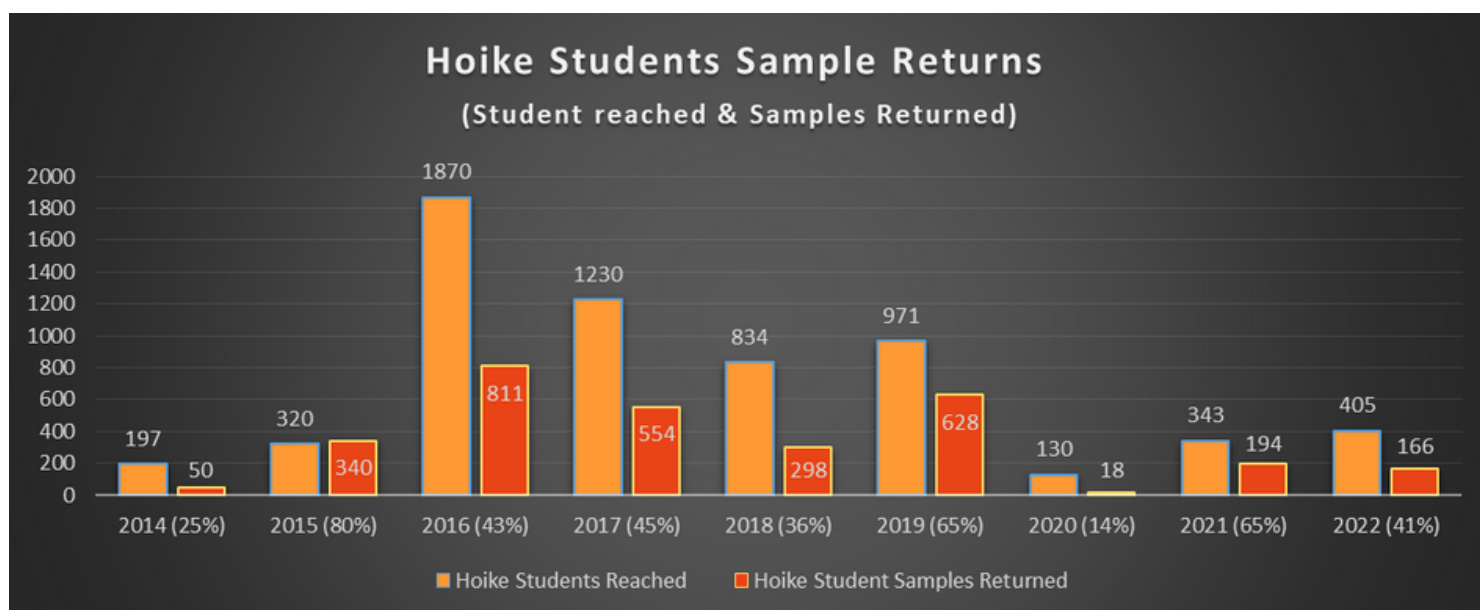
Erin Bishop (OISC) & Jamie Miller (OISC) testing donated plants for the Punahou Carnival Plant Sale (Feb. 2022).



**Ho'ike LFA Activity:** The Ho'ike is starting to rebound as in-class activities have resumed in 2022. The OISC goal was to reach 12, and we nearly reached that with 11 presentations, 405 students reached and 166 samples received. That is a 41% return rate which is not as high as we'd like to see (at least 50%), but that is attributed to very few teachers requiring the samples as part of a graded assignment.



Jamie Miller (OISC) presenting Ho'ike to students.



OISC Outreach & Education Assistant spent 23 days, presenting to 34 classes at 11 schools and scout troops. One of the student samples from Hau'ula came back positive for LFA. The sample and information were given to HAL to follow-up. The status of that detection site is unknown at the time of this report.



Boy Scouts participating in the lab portion (ant ID) of the Ho'ike LFA Activity.

### Hoike 2022

Unique schools	11
Students reached	405
Days	23
# of times presentation given	34
Samples rec'd	166
Return Rate	41%
Pos LFA	1

**Presentation Evaluations:** Outreach staff sends evaluations to teachers and attendees of our presentations to gauge how our content and messaging are being received. In 2022, our overall performance was evaluated 73 times for 33 different presentations with an overwhelmingly positive response.

TOTAL EVALS: 73 EVALUATIONS FOR 33 PRESENTATIONS

- 100: 51 (70%)
- 96-99: 8 (11%)
- 95-90: 10 (14%)
- 90-85: 3 (4%)
- 85-80: 1 (1%)

Improvement suggestions were: include a hands-on activity, worksheets with terms, more videos, and brainstorming activities. Outreach staff will incorporate these suggestions in 2023.

The presenter delivered the material in a clear and structured manner.	The presenter was knowledgeable about the topic and any related issues.	The presenter maintained audience interest during the entire presentation.	The presenter was well organized and prepared.	The presenter was enthusiastic about the topic.	The presenter was confident and well spoken.	The visual aids were effective.	The presentation was concise and informative. Knowledge was imparted.
98%	99%	95%	99%	98%	99%	98%	97%

## KALEI'OPU'U ELEMENTARY

*Mahalo to the teachers and students of Kalei'opu'u!!*





EB: 31 evals for 6 presentations (10, 100%, 1, 95%)

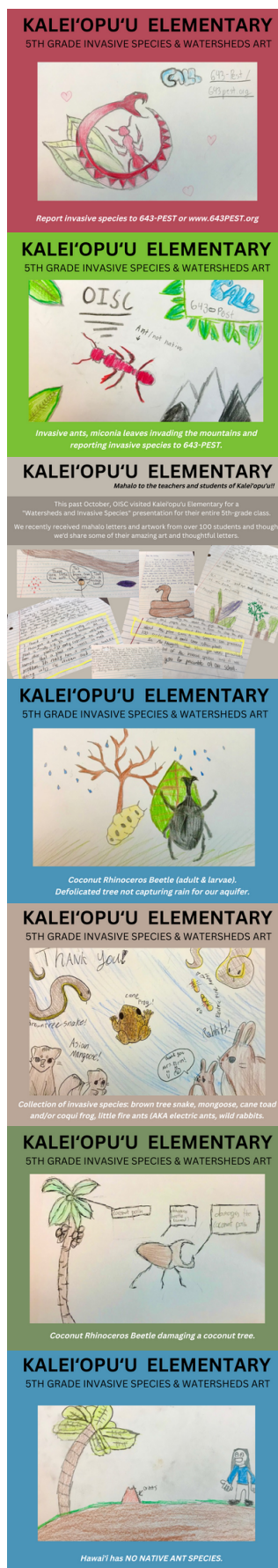
"Thank you for presenting to us, we really enjoyed it and learned a lot! Erin was very well spoken and really broke the information down in an easy to digest manner. This week we had all little ones (5-6 year olds) so their attention span is bit shorter. Not the presenter's fault at all of course. Maybe 15-20 min. long instead of 20-30 min. for the younger ones? Thanks again! We hope you can present to Zoo Camp again!" - Honolulu Zoo Summer Camp Program

"Excellent presentation! Very interesting information. the students were so engaged and excited to see the various invasive species specimen. They really learned a lot." - Kaleipouu Elementary

JM: 42 Evals for 27 presentations (20: 100%, 5 >90%, 2 80%-85%)

"Jamie Miller is a tremendous asset to OISC! She's contagiously passionate about conservation and knowledgeable about connecting real world jobs with educational pathways that are helpful to students as they develop their sense of stewardship and furthering their academic careers". - Kaiser High

"Mahalo to Kumu Jamie for coming in and talking with our keiki. Jamie has previously done a virtual meeting with us, came to our students 2nd trimester project presentations with q&a from community experts, and lastly came to do a watershed presentation. The many visits with Kumu Jamie helped to build a relationship between her and our students. Because of this pilina with her, students were comfortable engaging with Jamie, asking questions about the watershed, and soliciting feedback for their own end of year projects focused in uka. The presentation was very age appropriate, engaging, and Jamie was very flexible, adjusting and adding to student questions and interests." - Malama Honua





**Access Permissions:** OISC Access requested access from 62 landowners. The HISC goal for 2022 was 100. This shortfall is the direct result of suspending door-to-door access permission strategies due to COVID-19. The highlight of access this year is that only 0% of requests were denied, though 10 property owners were unreachable. There were also 2 deaths of property owners that made getting access an impossible request at this time. Also notable was that 191 emails, phone calls, letters, and texts were used to exemplify the time needed and used for Access Permissions. Despite not reaching the goal of 100 property owners and 10 no responses (pending), the crew was still able to reach their HISC goal for miconia ground surveys.



<b>Total Owners</b>	<b>62</b>
<b>Total Calls</b>	<b>191</b>
<b>Not Needed</b>	<b>2</b>
<b>Pending</b>	<b>10</b>
<b>Yes</b>	<b>50</b>
<b>No</b>	<b>0</b>



JANUARY 2023

PAGE 1

# 2022 SOCIAL MEDIA REPORT

O'AHU INVASIVE SPECIES COMMITTEE



Prepared by Jamie Miller, Outreach and Education Associate  
Approved by Erin Bishop, Outreach Coordinator





## INTRODUCTION

Throughout 2022 we continued to share information about the important work we do on O'ahu. Through this, we posted a total of **481 times** on our combined channels. Last year we tried new approaches to tracking and learned more about creating video content. We consistently delivered our messaging while maintaining good engagement rates. This report breaks down our messaging and performance on each channel, including goals as we move forward in 2023.

## PROFILES DISCUSSED IN THIS REPORT

- @oahuisc Instagram profile
- @oahuisc Facebook profile
- @oahuisc TikTok Profile
- Oah'u Invasive Species Committee YouTube profile





# CROSS-CHANNEL PERFORMANCE

Different platforms offer us different ways to connect with the public online. Depending on the content and observing what does well on each channel, we decide which platforms are the best way to share our message. Overall in 2022, we were able to reach **95,467 individual accounts through Instagram and Facebook!** We also have a regular audience of over 5,700+ individuals who subscribe to our content. Highlighted below are key metrics for the year, including how many times we mentioned some of our main messages.

## KEY PERFORMANCE INDICATORS

TOTAL REACH | **165,961**

TOTAL POSTS | **481**

TOTAL ENGAGEMENTS | **29,443**

TOTAL FAN BASE | **5,721**

INCREASE IN FAN BASE | **15.85%**

KEY MESSAGES OF 2022	GOAL TO POST	# POSTED
ED/RR REPORTI	12	15
BIOCON SUCC	12	9
BIOCON - GEN	6	7
CHRODO	36	24
COQUI	anytime	1
DECON	24	20
FLD CREW	48	51
LFA	24	34
MICCAL	24	18
NEWS/Events	anytime	10
ROD	12	22
WATERSHEDS	24	20
CANE TI	16	16

	Dec '21	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
OISC Reach	16870	8,650	15,608	17,047	15,503	9,977	9,538	17,584	17,048	13,349	18,295	9,795	13,567
OISC Engagement	1999	1020	1147	1612	1275	1486	1287	3161	3894	1633	2697	2407	3364
OISC Rate (Engagement)	12%	12%	7%	9%	8%	15%	13%	18%	23%	12%	15%	25%	25%
New Fans/month	67	70	89	133	84	45	26	123	78	127	39	42	121
Fan Base each month	4744	4814	4903	5036	5120	5165	5191	5314	5392	5519	5558	5600	5721
# of posts/month	34	32	64	47	40	31	23	44	36	27	58	32	47
% increase in fans		1.48%	2.00%	3.00%	1.64%	0.87%	1.00%	2.31%	1.45%	2.30%	0.70%	0.75%	2.12%

TOTALS/YR	
165,961	OISC Reach
24983	OISC Engagement
15%	OISC Rate (Engagement)
907	New Fans 2022
5721	Fan Base 2022
481	# of posts 2022
15.85%	% increase in fans



## INSTAGRAM: STATS AND TRENDS

Instagram is still our best tool for engaging with the public online. Our fan base continues to grow and in 2022 we passed our goal of 3,000 followers! I'm looking forward to continuing to grow our fanbase and hitting 4,000 followers next year. Looking forward, I would like to continue to keep our engagement rates consistent, create more video content, and collaborate with other conservation creators.

### Wins for 2022:

- Engagement rate remained consistent.
  - 6.5% - 9.9% Avg. 8.1%
- Engaged an avg. of 725 accounts/mo.
- Easy to read sharable graphics.
- 288,000+ Impressions. That is how many times our content was seen. This includes accounts that saw the same content more than once.

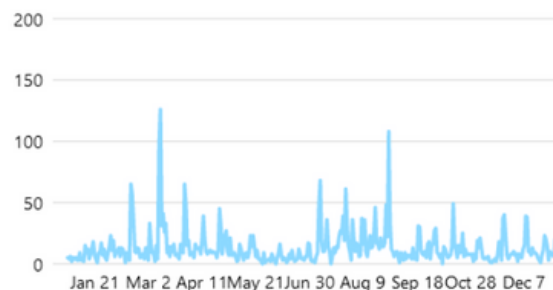
### Goals for 2023:

- New icons and organization for the story threads that live on our home page.
- Increase Reel creation; 12 this year.
- Increase fan base to 4,000 followers.
- Try collaborating with 2 new profiles of popular conservation creators.

IG TOTALS	
Engagements:	23,687
Posts:	170
Total Followers:	3,172
DEC 2021 Followers:	2,543
Net Gain:	626
Reach:	48,777

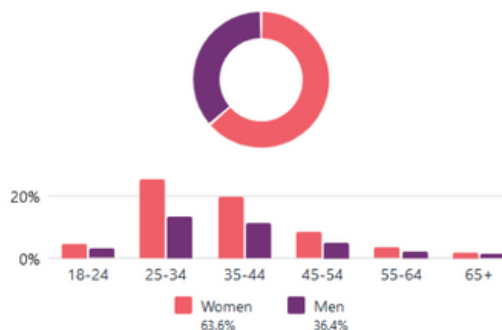
### Profile Visits

4,752 ↑ 3.2%



## Follower Stats

Age & gender ⓘ



Honolulu, HI

29.3%

Kailua, HI

4.5%

Kaneohe, HI

3.5%

Hilo, HI

2.7%

Keaau, HI

1.8%

# TOP POSTS OF THE YEAR: INSTAGRAM

These were the top posts of 2022 based on likes.



1

## Healthy Watersheds Love Native Plants Reel

- Likes; 286
- Comments: 1
- Shares: 5
- Reach: 3,412



2

## Wiliwili Biocontrol Success Story

- Likes; 283
- Comments: 10
- Shares: 22
- Reach: 1,597



3

## Most Abundant Tree in Hawaiian Forests

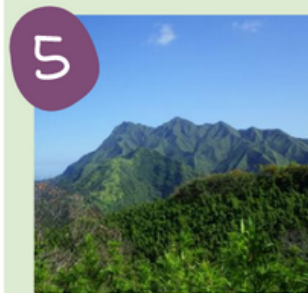
- Likes; 276
- Comments: 22
- Shares: 98
- Reach: 1,808



4

## Halloween Inspo Ideas

- Likes; 262
- Comments: 7
- Shares: 110
- Reach: 1,686



5

## Konahuanui Watershed Peak

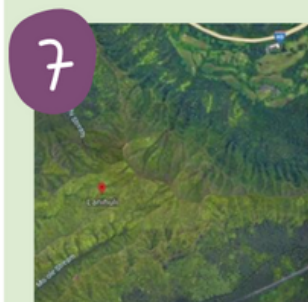
- Likes; 262
- Comments: 7
- Shares: 10
- Reach: 1,941



6

## Miconia Handpull with MK Narration

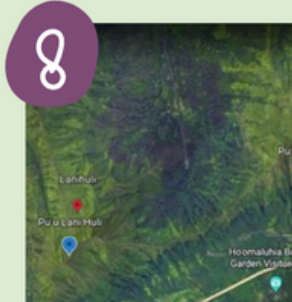
- Likes; 241
- Comments: 10
- Shares: 10
- Reach: 3,045



7

## Ko'olau Peak Lanihuli

- Likes; 234
- Comments: 5
- Shares: 19
- Reach: 2118



8

## Ko'olau Peak Kahua'uli

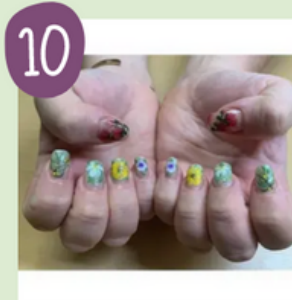
- Likes; 226
- Comments: 3
- Shares: 18
- Reach: 1,784



9

## Welcome Post Siobhan

- Likes; 226
- Comments: 3
- Shares: 1
- Reach: 1,122



10

## Native Plant Manicure

- Likes; 224
- Comments: 22
- Shares: 80
- Reach: 1,223





## FACEBOOK: STATS AND TRENDS

Facebook continues to prove to be a vital tool for sharing information, especially for lengthier posts that have multiple links in them (on Instagram you can only share one link). We saw growth in our fanbase on Facebook and in 2022 we met our goal of 2,000 followers! Our content was shared over 400+ times. We also learned more about how to protect ourselves from Facebook trolls and cut them from our profile.

### Wins for 2022:

- We received 1,230 link clicks on links within our content.
- Reached an avg. of 300+ accounts per post.
- We only had 28 unfollows all year.

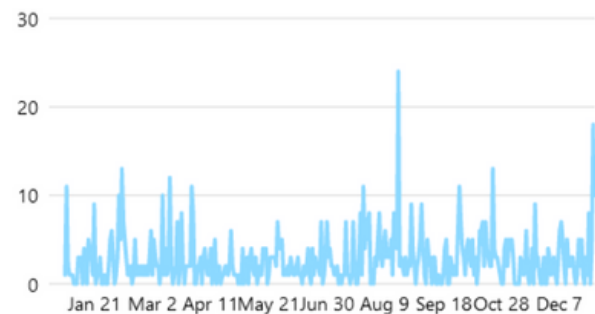
### Goals for 2023:

- Getting creative with news ways to talk about our target species
- Make webinar ads more engaging.
- 2,500 followers

FB TOTALS	
Engagements:	4,677
Posts:	230
Total Followers:	2,000
DEC 2021 Followers:	1787
New followers:	254
Reach:	46,690

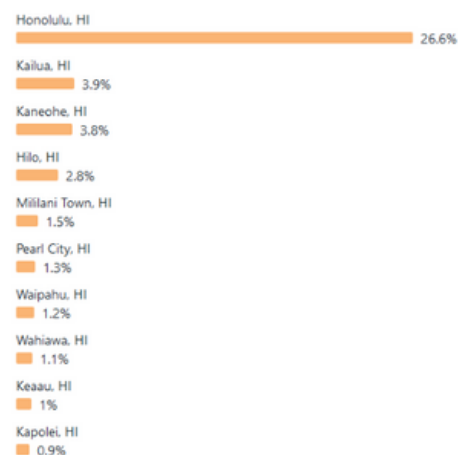
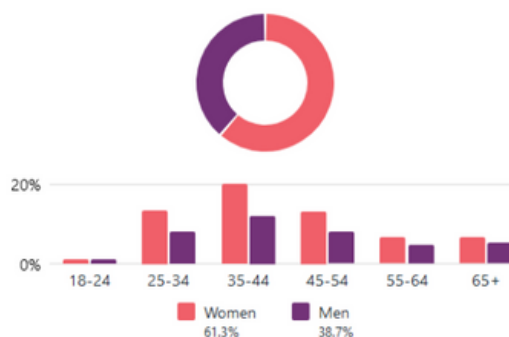
### Facebook Page Visits

1,005 ↓ 13.4%



## Follower Stats

Age & gender ①



# TOP POSTS OF THE YEAR: FACEBOOK

These were the top posts of 2022 based on likes and reactions.

<p><b>1</b></p> 	<p><b>HISAM Kāhuli Snail Talk</b></p> <ul style="list-style-type: none"> <li>• Likes; 102</li> <li>• Comments: 1</li> <li>• Shares: 5</li> <li>• Reach: 1,442</li> </ul>	<p><b>2</b></p> 	<p><b>Watershed Appreciation</b></p> <ul style="list-style-type: none"> <li>• Likes; 83</li> <li>• Comments: 2</li> <li>• Shares: 8</li> <li>• Reach: 1,852</li> </ul>
<p><b>3</b></p> 	<p><b>Common Melastomes</b></p> <ul style="list-style-type: none"> <li>• Likes; 75</li> <li>• Comments: 4</li> <li>• Shares: 10</li> <li>• Reach: 2,044</li> </ul>	<p><b>4</b></p> 	<p><b>LFA HAL Treatment</b></p> <ul style="list-style-type: none"> <li>• Likes; 72</li> <li>• Comments: 14</li> <li>• Shares: 14</li> <li>• Reach: 4,980</li> </ul>
<p><b>5</b></p> 	<p><b>Aloha Friday 'Ōhi'a Blossoms</b></p> <ul style="list-style-type: none"> <li>• Likes; 53</li> <li>• Comments: 2</li> <li>• Shares: 5</li> <li>• Reach: 494</li> </ul>	<p><b>6</b></p> 	<p><b>SE and Large Miconia Leaf</b></p> <ul style="list-style-type: none"> <li>• Likes; 50</li> <li>• Comments: 5</li> <li>• Shares: 5</li> <li>• Reach: 1,905</li> </ul>
<p><b>7</b></p> 	<p><b>Native Plant Manicure</b></p> <ul style="list-style-type: none"> <li>• Likes; 45</li> <li>• Comments: 4</li> <li>• Shares: 5</li> <li>• Reach: 1,078</li> </ul>	<p><b>8</b></p> 	<p><b>Large Devil Weed Find</b></p> <ul style="list-style-type: none"> <li>• Likes; 44</li> <li>• Comments: 7</li> <li>• Shares: 3</li> <li>• Reach: 620</li> </ul>
<p><b>9</b></p> 	<p><b>Welcome Post Siobhan</b></p> <ul style="list-style-type: none"> <li>• Likes; 44</li> <li>• Comments: 0</li> <li>• Shares: 1</li> <li>• Reach: 535</li> </ul>	<p><b>10</b></p> 	<p><b>Pacific Rim Island Conservation Story</b></p> <ul style="list-style-type: none"> <li>• Likes; 42</li> <li>• Comments: 3</li> <li>• Shares: 5</li> <li>• Reach: 335</li> </ul>



# CAMPAIGNS

Throughout the year we worked with partner organizations on a few social media campaigns. Below are some of the graphics we created for the different campaigns.



## HAWAI'I INVASIVE SPECIES AWARENESS MONTH

HISC is the lead agency in this collaboration. We created our own webinar ads and then shared other organization's graphics.



## SUMMER OF 'ŌHI'A LOVE

This was the 2nd year collaborating with BWS on this campaign. We took turns posting questions about 'ōhi'a and R.O.D. Participants who answered correctly won decon kits and were entered into win a grand prize. Option was given to pick up prizes at OISC baseyard.



## STOP THE ANT MONTH

This campaign involves all organizations participating in LFA work across the state. OISC created a variety created statewide graphics for all organizations to use and was in charge of the Yeti cup giveaway. OISC is the lead for STA Month outreach on O'ahu.



## HALLOWEEN CONTEST

This was a new collaboration with BWS and other conservation organizations. OISC created the graphics for this and helped to spread awareness about it. It was fun seeing all the costumes once the contest was over.



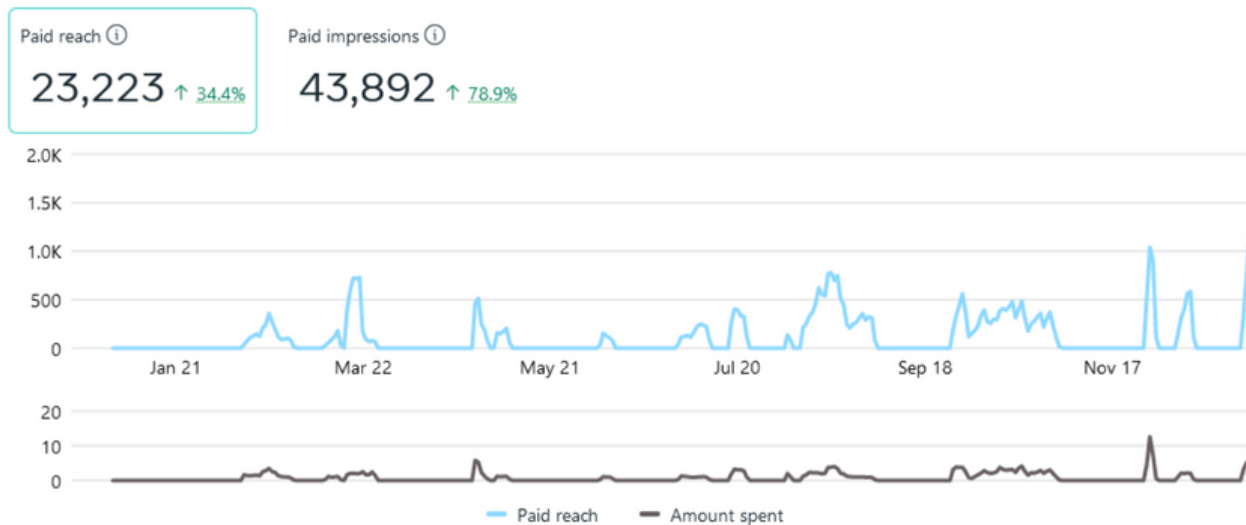


## AD BOOST

Throughout the year we use funds to boost some of our social media posts in order to reach more of our target audiences. We focus this money on posts with a higher priority message. **In 2022 we spent a total of \$290.91** on boosting posts on Instagram and Facebook. This was compared to \$234.31 in 2021. The funds helped us reach a total of **23,223 more accounts**. Many of these accounts are people that don't already follow us which serves as a good tool for growing our fanbase.

Month	Budget (\$)	Spent
Jan	15.00	0.00
Feb	25.00	28.97
Mar	15.00	25.61
Apr	25.00	11.57
May	15.00	9.36
Jun	35.00	4.18
Jul	30.00	26.18
Aug	30.00	47.37
Sep	30.00	9.45
Oct	50.00	82.94
Nov	15.00	4.76
Dec	15.00	40.52
<b>TOTAL</b>	<b>300.00</b>	<b>290.91</b>

For next year I would like to keep the budget the same at \$300. Last year, we reworked the budget with \$250 and left \$50 for flex spending. This allowed us to add to our budget as things came up. Those flex funds were used in the summertime for the Devil Weed Crew swag campaign.



## SOCIAL BEE

In an effort to make tracking engagement and messaging easier, we spent a small number of funds on a program called Social Bee. They offered different categories for your posts and provided metrics within those categories. After trying it out for a few months, we decided not to continue because it was missing a few key metrics and we were still having to manually track all our messaging.



## TIKTOK: STATS AND TRENDS

While TikTok remains a platform we don't post consistently on, we still doubled the number of videos we posted in 2022 compared to 2021, and our views increased by 450%. Our IG Reels perform much better than our TikTok since we already have a large fan base on Instagram. I will continue to keep an eye out for relatable trends to increase our views on TikTok. Also, I will continue to cross-post IG Reels on TikTok to maximize views of content. The goals from 2022 are ones I am carrying over into 2023.

TIKTOK TOTALS	
Engagements:	144
Posts:	9
Video Views:	5626
Total Followers:	58

### Goals for 2023:

- Post more content, 12 TikToks next year
- Keep things simple! Don't overcomplicate the content.
- Pay more attention to trends
- 100 followers



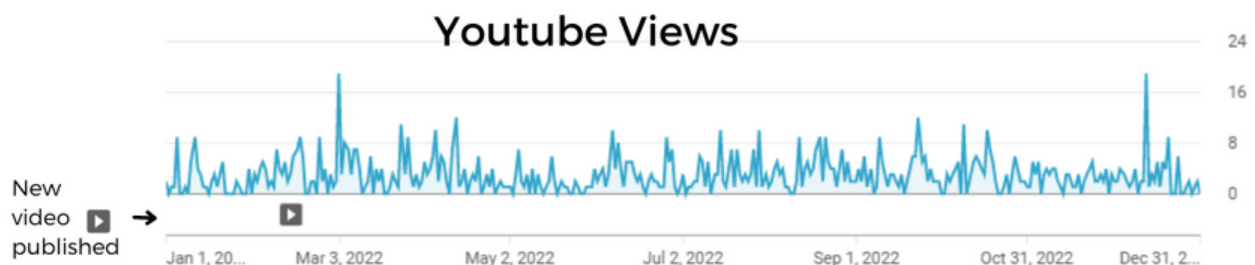
## YOUTUBE: STATS AND TRENDS

Not much changed in 2022 for our YouTube channel. YouTube still serves as an educational hub for our longer videos. The content there is much different from the other platforms. Oftentimes, we use our other platforms to direct followers to our YouTube channel where they can view presentations, identification videos, and more. While we only posted one video last year, our total views still rose 9%.

YOUTUBE TOTALS	
Videos Posted	1
Views	1,102
Watch time (hours)	38.1
Total Subscribers	35
New Subscribers	11

### Goals for 2023:

- Organizing playlists for easy access
- Continue to add presentations
- Add an OISC overview video and add to front page of channel
- Continue growing subscribers base







## LOOKING FORWARD

Looking forward to 2023 we will continue to use social media to spread awareness and gain support for the important work we do. I'm developing a new way of tracking our social media goals so they remain at the forefront of my daily strategy. I'm looking forward to creating even more, fun educational content, connecting with more people, and showing them the importance of keeping invasive species out of our watersheds.

## FOCUSED GOALS

- Growing our fanbase on all platforms
- Diversifying our content with more videos and easy-to-read graphics
- Creating more video content
- Creating goal tracking sheet for 2023
- Continue to align messaging with the current objectives of our organization.





# APPENDIX...DETAILS OF ALL OUTREACH 2022

## TOTAL REACH: 465,355

Outreach Type	Audience
<b>Article - authored</b>	<b>421487</b>
Two (2) LFA Ads in Star Ad & Midweek in October	
<b>Article - contributed</b>	<b>200</b>
Contributed to two (2) Civil Beat Stories: Chrodo Dogs and Pampas Grass/Noxious Weed List	
<b>Distributed Product</b>	<b>1861</b>
DWC Guides	49
LFA Kits Passed Out	1345
LFA Kits Mailed	467
<b>Events (21 events over 24 days)</b>	<b>2249</b>
(21 events over 24 days)	
<b>Hoiike</b>	<b>405</b>
11 schools	
23 days to 34 class periods	
166 samples (41% ROI)	
1 positive LFA in Hau'ula	
<b>Interview</b>	<b>201</b>
LFA: Living 808 & KTUH Radios Science Zone	
Thrips: KHON Story (phone interview)	
HISAM: HNN Sunrise Interview	
<b>Meeting</b>	<b>7</b>
LFA: Punahou Carnival Plant Sale	
<b>Presentation</b>	<b>541</b>
26 presentations given to 21 unique groups	
<b>Professional Development</b>	<b>10</b>
Attended CommPac Presentation Training (CGAPS)	
Waihee BWS Tunnel Tour and KMWP Workday	
<b>School Visit</b>	<b>1213</b>
Presented to 44 classes at 30 unique schools.	
<b>Social Media</b>	<b>24983</b>
Engagement rate of 15% cumulative across all platforms.	
Gained 907 new fans (18% increase from 2021).	
481 posts across all platforms.	
<b>Training</b>	<b>13</b>
LFA training for Punahou Carnival Volunteers & MISC chrodo site visit.	
<b>Volunteer Trip OISC (hrs)</b>	<b>170</b>
Unique Trails	25
Miles of trails	238
Hours	170
Unique Vols	11
Imm	698
Mat	120
<b>Volunteer Trip Other</b>	<b>8</b>
Adopt-A-Park hours	27 hrs
<b>Website</b>	<b>12007</b>
<b>TOTAL</b>	<b>465,355</b>



**LINK TO GOOGLE DRIVE EXCEL DOC.  
FOR DETAILS ON EACH OUTREACH  
TYPE INCLUDING FUNDER EO  
BREAKDOWNS:**

<https://docs.google.com/spreadsheets/d/1bjPRh40H5ytBLIe75C5rdgXv0S-ZLuU7/edit?usp=sharing&ouid=108814632114028959927&rtpof=true&sd=true>