

Early Detection and Control of Invasive Species



Yep, the BIISC Crew was wearing face masks in 2019, before it was cool! When you need to find every last plant in a Little Fire Ant-infested forest, you suit up!

The BIISC field crew works island-wide to eradicate or control the highest risk invasive plants and wildlife threatening our environment, economy, and way of life. HISC funds supported a portion of costs for a five-person plant control crew tasked with eradicating eleven target species from the island of Hawaii. Funds also partially supported the Program Manager, Data and GIS Analyst, and Fiscal Associate. Emergency wildlife response was also funded by HISC through the end of February, 2019, when our last wildlife biologist left the program. At that point, feral rabbit and Axis Deer response was handed off to DOFAW.

In 2019 the Plant control crew continued its efforts to eradicate some of the highest-risk early invaders across the island of Hawaii. The Plant Crew followed an established action plan with clearly stated goals and standards to measure and report progress toward success. Maintaining this well-trained crew ensures their availability to assist with other agency needs. The BIISC crew is often called upon to pitch in on small contracts to knock back more widespread, high-impact weeds in key sites, including conservation areas and potential inter-island dispersal pathways such as military training lands. BIISC's work in 2019 was also supported by the Hawaii Division of Forestry and Wildlife, Natural Area Reserves System, the Hawaii Army National Guard, the Hawaii Department of Agriculture, and the US Fish and Wildlife Service.

2019 Deliverables/Expected Outcomes:

- **200 miles of roadsides will be surveyed for new species:**
 - 200 miles of roadsides were surveyed. Two new island records, *Digitalis purpurea* (Foxglove), and *Stenocarpus sinuatus* (Firewheel Tree) were documented, and are pending confirmation as newly naturalized species on the island of Hawaii. The small stand of Foxglove was located near the border of a Natural Area Reserve and is currently being managed as a Rapid Response (eradication) target.
- **Provide rapid response capacity to new outbreaks of high-risk plants within 30 days, and within 72 hours for introduced wildlife, including snakes, rabbits, and deer, and devastating diseases like ROD (Rapid Response).**
 - Two populations of rabbits were surveyed by the BIISC Wildlife Biologist in January and February 2019. Maps and contact information were provided to HDOA and DOFAW.
 - One credible Axis Deer report merited a field response in early 2019. Roads and accessible properties were surveyed on foot. Maps and contact information were provided to DOFAW.
 - After separation from BIISC in February the wildlife biologist position was not filled.
 - Both newly-detected species of invasive plants were well-researched, scored, and surveyed within 30 days of detection. One (Firewheel) is undergoing continued monitoring as flowers and fruit have yet to be observed. The other (Foxglove) has been adopted as a rapid-response target.
- **Nine target pest species will be advanced toward eradication according to timelines laid out in the BIISC Target Species Action Plan;**
 - Pampas Grass was eradicated in 2019.
 - All nine species have advanced toward eradication in 2019 except for Photinia, which could not be accessed due to ROD-related restrictions in place by the landowner. New funding and renegotiated sanitation restrictions have allowed work to resume on Photinia in 2020.
 - Six of the nine target species were mapped at fewer than 2 mature plants per acre.
 - The BIISC Action Plan has been updated to reflect current status of all nine species.
- Provide monthly (12) hands-on workshops to control the impacts of species like Albizia, Ficus, and Cinnamon Tree, which can be managed through citizen and partner networks.
 - The BIISC Field Crew assists with hands-on trainings, led by the BIISC Outreach Team. In 2019 we held 34 hands-on workshops, including nine focused on plant control.
- Standardized methods and the risk assessment procedures used to prioritize target species will be published on the BIISC website;
 - This long-term goal was finally realized at the end of 2019. BIISC now has thorough written procedures detailing procedures to rate both the risk and feasibility of controlling newly detected invasive plants on the island of Hawaii. The process is not yet posted on the website, but a user-friendly version is under review.



Interns Josie and Axl join veteran Field Leader Shannon to survey for rubbervine in Ka`u, to protect our coastal and dry forest conservation lands.

- **Other efforts and accomplishments:**

In addition to making steady progress on eradication targets, the BIISC Plant Crew continued to provide field support to conservation partners, funded by grants and service contracts from those partners. In 2019 BIISC field crews removed pyrogenic fountain grass, monotypic faya tree, and smothering toilet-brush ginger from Natural Area Reserves; suppressed miconia, alstonia, and little fire ants on training areas for the Hawaii Army National Guard; assisted with arthropod surveys on the Mauna Kea Summit; hosted a Youth Conservation Corp team; and controlled gorse in outlying areas on Mauna Loa with the Three Mountain Alliance and NARS. The plant crew's efforts on eradication targets were additionally funded by the Hawaii Department of Agriculture.