



2016 Report to the Hawai'i Invasive Species Council

Detection and control of Cane ti (*Tibouchina herbacea*) at Poamoho, O'ahu



Poamoho's mud can be tough on boots and tabis. It is clear there is enough dirt to harbor vegetative parts and seeds, which is why OISC uses dedicated gear and washes gear after every operation.

The O'ahu Invasive Species Committee conducts surveys and control for invasive species that threaten the island's watersheds, forests, economy, agriculture and quality of life. The OISC field crew spends 90% of their work hours either on the ground or in a helicopter looking for and removing invasive species. We target species that are not yet established on the island, but would cause major damage if not controlled. OISC operations are guided by the OISC steering committee which is made up of representatives of conservation organizations and land managers. 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 2002. In 2016, HISC awarded OISC, the Ko'olau Mountain Watershed Partnership (KMWP) and the Natural Area Reserve Program (NARS) \$28,431 for surveys and control of cane ti (*Tibouchina herbacea*). OISC leveraged additional funds from the US Forest Service and the Watershed Partnerships Program for this project. The deliverables and accomplishments described below include HISC funded activities and reflect the work of OISC, KMWP and NARS.

Cane ti threatens priority watershed habitat in Poamoho, an area in the northern Ko'olau Range that hosts 11 animals and 18 plants with federal status, meaning these species are vulnerable to or have a high risk of extinction. The O'ahu Army Natural Resources Program (OANRP) discovered the highly invasive cane ti (*Tibouchina herbacea*) in the Poamoho region in 2008. This aggressive weed was not known to be naturalized on O'ahu, but it is widespread on both Hawai'i 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 suppress regeneration of 'ōhi'a.

Cane ti poses a major threat to Ko'olau forests, especially the near-pristine summit regions, as it thrives in wet forest conditions, produces hundreds of tiny seeds and is spread by broken stems or via wind, birds, and pigs. We suspect that the population in Poamoho was accidentally introduced by hikers that had recently been hiking on Maui or Hawai'i Island. Plant material capable of reproducing can be carried on shoes, clothes, and backpacks.



Above: one of the rare lobelias that would be threatened if cane ti was allowed to run rampant. Below: fuzzy leaves and bright pink flowers help identify *Tibouchina*



At Poamoho, the plant was believed to be confined to a small area near the summit that has been continuously monitored since 2008. However, it was discovered in fall of 2013 that plants had spread downstream, and had been present long enough to mature and set seed. OISC, KMWP and NARS began control efforts in 2014 and were able to ramp up efforts in 2015 with HISC funds.

In 2016, OISC, KMWP and NARS surveyed 203 acres in Poamoho, delimiting outward from historical points and downstream from the core infestation. Crews removed or treated 1,420 immature and 40 mature plants. As crews become more familiar with the “core” infestation located just below the summit ridgeline, they are able to sweep it faster and expand surveys farther outward.



Above: Fog can sometimes move in unexpectedly at the summit

Unfortunately, as the crews expand outward, they are finding patches of mature plants extending into the Punalu'u watershed and getting to where the terrain becomes quite steep. Some of these have been difficult to reach on foot in order to treat. In addition, a single immature plant was discovered by another natural resources organization along the 'Aiea Ridge Trail. OISC walked the lower part of the 'Aiea Ridge Trail and did ground sweeps and used binoculars to look for additional plants around where the original plant was found. So far nothing has been found. Cane ti has been found and removed from the Poamoho Trail before, so it is possible that hikers are inadvertently spreading it around.

A large part of OISC's outreach message has always been to emphasize the importance of washing boots and gear between hikes and we will continue to deliver that message to other conservation organizations, outdoor recreation groups and the general public.

OISC, KMWP and NARS crews decontaminate on a daily basis to prevent spreading plants to areas not currently infested. Inside the core infestation, crews wear Tyvek suits that can be bagged and later incinerated to ensure seeds and vegetative material are not spread. Plants are either treated on site with herbicide or hand-pulled, bagged and then later incinerated.

Due to the additional plants found on the windward side of Poamoho, OISC sent two crewmembers to Maui in order to ensure they would have an aerial search image of the plant. Although it is expensive to rent a helicopter, the amount of ground that can be covered at once makes it more cost-effective than ground surveys. Being able to see naturalized cane ti in Maui's wildland areas, helped cement the crews' search image and also helped them better understand how the species behaves.

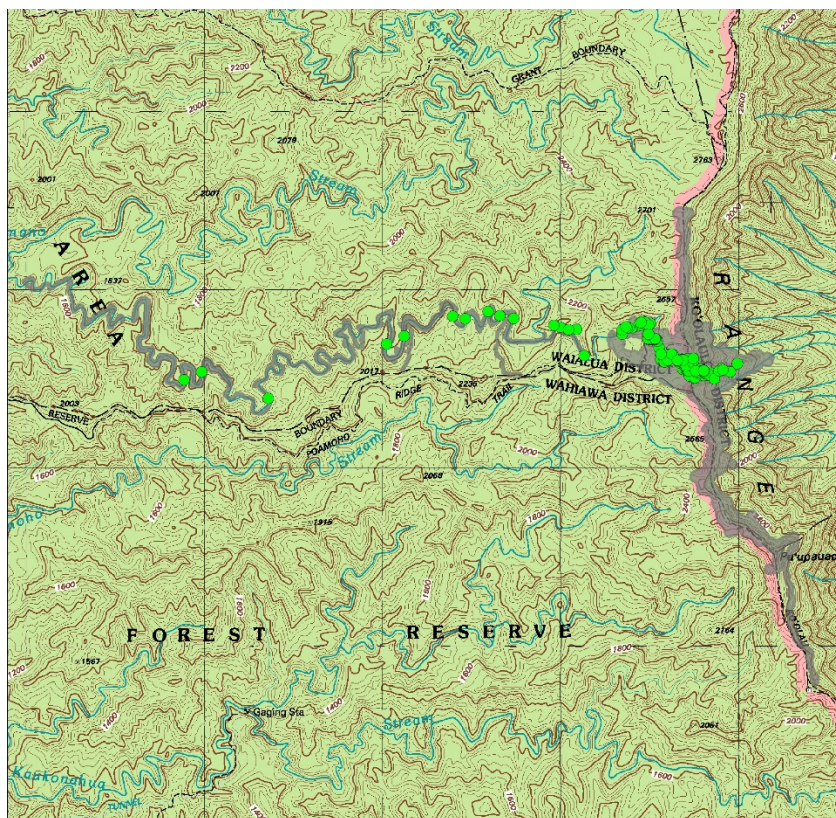
Although we were disheartened by the new finds of cane ti this year, we still think it is worth pursuing eradication of this species island-wide. Seeing the extent of its foothold on Maui made us realize how much native 'ōhi'a forest this species can displace. While the logistics of managing this species are difficult, there is much to be lost if we quit.

There are positive developments as well. Only 40 mature plants found this year, which is still a low number for a species that sets seed annually. As part of its work on other species, KMWP has done extensive surveys of the area south of the Poamoho Trail and not run across any cane ti. If the species was truly out of control in this area, it is likely it would be growing here as well.



OISC crewmember scoping a safe way down to some plants that need to be treated on the Windward side of Poamoho.

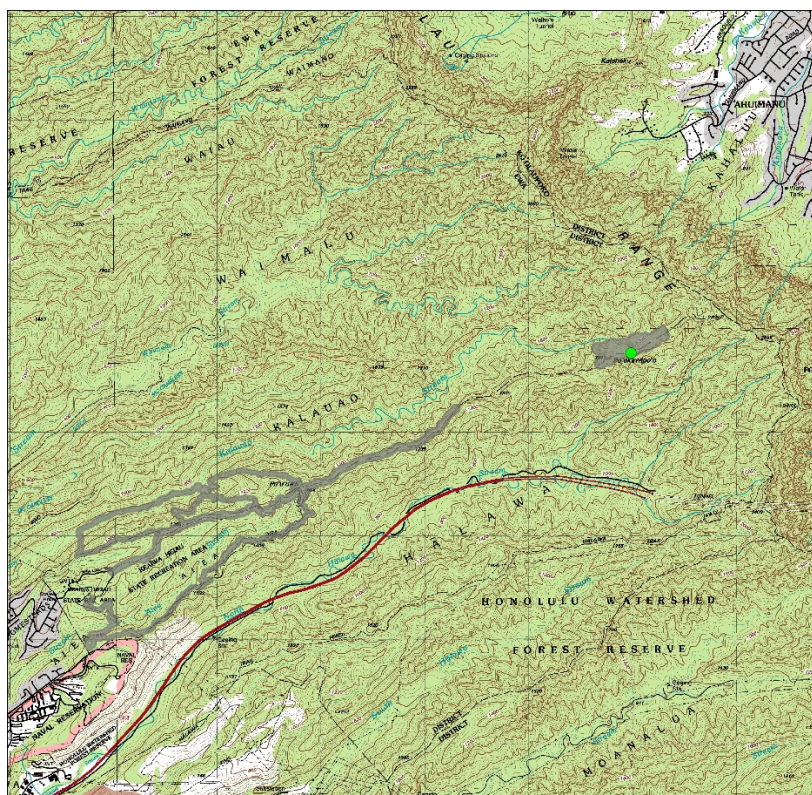
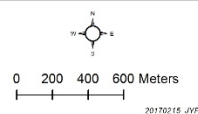
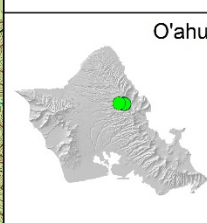
Deliverables	Deliverable met?
Three joint multi-day camping trips to survey and remove <i>Tibouchina herbacea</i> . Approximately 60 acres surveyed by ground or with binoculars and all plants found and removed.	Yes: OISC and partners surveyed 203 acres in Poamoho including 9.21 miles of streambed during several camping trips and day trips.
One annual helicopter survey.	Yes, OISC surveyed 89.702 acres of outlier areas by helicopter.



***Tibouchina herbacea* surveys
partnering with
KMWP and NARS
Poamoho**

Jan. 1, 2016 - Dec. 31, 2016

- Treatment points
- Surveys



***Tibouchina herbacea* surveys
partnering with
KMWP and NARS
Aiea**

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