



1. RESTORATION SUMMARY

December 2017 – March 2018

Water Security Grant Project

From December, 2017 through March, 2018, 142 volunteers out-planted 5,500 plants in Hakioawa Watershed for the Water Security Project. These included Naio (*Myoporum sandwicensis*) plants to improve the habitat for native insects such as the two endangered species of the Hawaiian Yellow-faced bee (*Hylaeus sp.*) found on Kaho'olawe.

Biosecurity Surveys

Two Invasive Alien Species were discovered on Kaho'olawe in March 2018. Khaki weed was found again at the LZ-1 shed at Lelehuna. This area will be marked for continued control. It is urged that all people accessing the island make sure their gear is clean of any seeds. In addition to khaki weed, slugs were discovered at the rain catchment near the summit. It is unknown how these slugs arrived on Kaho'olawe but they could have come in the soil of plants. In 2016, KIRC staff had to hold back and quarantine a shipment of potted food plants to Kaho'olawe due to the presence of earthworms on bananas and crayfish in buckets containing kalo. Slugs are a particular concern because not only do they disrupt the native biota they also harbor the parasitoid for rat lungworm disease.



Khaki Weed at LZ-1 Shed, invasive alien slug observed at Tanks 1 and 2



1. RESTORATION SUMMARY

December 2017 – March 2018

Blackburn's Sphinx Moth

In March, Christine Elliot, a graduate assistant from the University of Hawai'i surveyed for the endangered Blackburn's Sphinx Moth (*Manduca blackburni*).

27 transects were completed containing a total of 73 tree tobacco plants. Those plants contained 102 viable Blackburn's Sphinx Moth (BSM) eggs, 18 hollow eggs (that may represent eggs which were predated by some other invertebrate or possibly eggs which were never fertilized), and 12 larvae (10 1st instar and 2 2nd instar). Significantly, there was no evidence of *Trichogramma* wasp that parasitizes the BSM eggs.

Ms. Elliot remarked that it is extremely apparent that Kaho'olawe houses a critical reservoir population of BSM. Additional surveys are planned in the near future to understand more about this unique endemic endangered Hawaiian species.



Manduca egg on tree tobacco leaf along K1 road near Pu'u 'O Moa'ula Nui, 5th instar Manduca caterpillar on tree tobacco plant.



1. RESTORATION SUMMARY

December 2017 – March 2018

Kanaloa kahoolawensis

In December 2017, six cuttings were transported from Maui Nui Botanical Gardens to Native Nursery in lower Kula (Pulehunui). At the time of this report two cuttings at Native Nursery are still alive. Ho'olawa Farms has three *Kanaloa* plants and Maui Nui Botanical Garden has one.



Native Nursery 1st six cuttings December 6, 2017