

## What do you do with 829 tons of algae?

*Kimo Franklin, Community Coordinator for Invasive Algae Removal, Mālama Maunalua*

Mālama Maunalua is a community-based group that has emerged to help care for the Maunalua region of southeast O'ahu. Mālama Maunalua is dedicated to creating a healthy Maunalua region, described as the area from Kawaihoa (Koko Head area, East O'ahu) to Kūpikipiki'ō (Black Point) to the Ko'olau ridgeline. Mālama Maunalua collaborates with more than a dozen partners including the Polynesian Voyaging Society, Hui Nalu Canoe Club, Mālama Hawai'i, NOAA, the University of Hawai'i, and The Nature Conservancy, working together to create a community-based marine education and resource stewardship program in Maunalua Bay.



- Our Mission: To Conserve and Restore a Healthy and Productive Maunalua Bay Through Community Kuleana
- Our Vision: A Maunalua Bay where marine life is abundant, the water is clean and clear, and people take kuleana in caring for the Bay

In an effort to understand the processes impacting the Bay, in 2006 Mālama Maunalua began working with scientists from the University of Hawaii (UH), NOAA, The Nature Conservancy (of Hawai'i), and others to identify the constituents contributing to the decline of this once productive resource. They identified 3 major threats to the Bay:

- Invasive alien algae (non-native seaweeds)
- Land-based sediment and pollutants, and
- Unsustainable harvesting/fishing practices.

It has been determined that removing the invasive algae is a critical first step in restoring clear waters and abundant marine life to Maunalua Bay.

### “The Great Huki”

The Maunalua Bay Reef Restoration Project, otherwise known as “The Great Huki” is a project of The Nature Conservancy, Mālama Maunalua, and Pono Pacific. The Great Huki was initiated in 2009 with a grant from The National Oceanic and Atmospheric Administration (NOAA) under the American Recovery and Reinvestment Act of 2009. As of September 10, 2010, Pono Pacific has cleared over 736 tons of non-native algae and 11.9 acres. Approximately 700 people have participated in community hukis and have cleared about 93 tons and 0.73 acre. Where did this alien limu go?





Not a single pound of the invasive algae has gone to a landfill. It is all being composted. Our next step is to make a useful product out of the invasive algae available to farmers, plant nurseries, landscapers and the community. A Maunaloa farmer (Ed Otsugi), a Kamilo Nui plant nursery (Glenn Nii), a community based non-profit organization (Kokua Kalihi Valley), and a local compost manufacturing firm (Hawaiian Earth Products) have already used the invasive algae to compost, grow produce, crops and plants.

### History of Kamilo Nui Valley

Kamilo Nui was part of a vast agricultural complex during traditional times and was known as the "Famous Sweet Potato Planting Place" called "Ke Kula o Kamauwai." Pahua heiau is a well-preserved agricultural heiau at the foot of Kamilo Nui valley, on land owned by the Office of Hawaiian Affairs (OHA). Pahua heiau is recorded in ancient chant as being related to 'uala (sweet potato) production in the area.

### Limu Compost

Mālama Maunaloa, its partners and the community have been diligently working in close relationship with the University of Hawaii at Mānoa's College of Tropical Agriculture for scientific guidance in their composting and sustainability efforts using the invasive alien algae removed from Maunaloa Bay.



Aloha 'Āina 'o Kamilo Nui (at Chrysanthemums of Hawaii), a non-profit organization, has provided space on their farm in Kamilo Nui valley in Maunaloa to drop invasive algae and formulate trial compost piles for monitoring and evaluation. Currently there is one drop pile consisting of invasive algae only and five (5) trial compost piles incorporating the invasive algae and other materials such as shredded organic matter, grass clippings, horse manure, chicken manure and microbes. 'Uala (sweet potatoes) have been planted there recently using the invasive algae.



There are plans for clearing additional space on the farm to increase the size of the project in anticipation that a larger amount of algae will be dropped there. Hence, larger scale composting will take place incorporating the data gained from the trial piles. With the learning of the most efficient and quickest way to break down the invasive algae, there is hope that a viable soil amendment or compost can be created using the invasive alien algae (specifically the species *Avrainvillea amadelpha* aka Leather Mudweed) for farmers, landscapers and the community at large to use.



In addition to finding an effective way of ridding Maunaloa Bay's inshore of an invasive alien algae that took hold some 30 years ago, Mālama Maunaloa is creating a model for contemporary ahupua'a (ridge-to-reef) management practices in Hawai'i by working to turn that algae into a viable soil amendment for use in local agricultural ventures, creating new possibilities for sustainability in the islands.

Pahua heiau can again become a striking symbol for an agriculturally revived Maunaloa.



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