

# Lana'i 2011-13



Worm  
Composting  
begins August  
2011 thanks to  
4-H!

**LHES Science  
Newsletter**  
Editor: Ms G.  
Vol. 1  
Issue 1

**“AG” AT LHES!**  
Year by year, K-12 students  
& teachers extend farming &  
sustainability efforts!

## Middle School Update:

Bridgette Beatty, science teacher, visited UH-Manoa with 5 students in July 2011 & 2012. Students became experts in vermiculture & learned other vital science skills they will share at school thanks to a 4-H grant!

Composting plans for 2012-13 are well underway.

HS & MS students will visit all classes, from seniors to kindergarteners.

They'll to teach everyone how to recycle green waste in the school cafeteria so we can fertilize our

new gardens & reduce landfill 'opala.

Thanks go to Environmental Science students who raised funds at the MS County Fair last spring, earning enough money for us to buy the bins we need to make this happen!



**Mary, Rebecca & Ms Beatty do hands on Vermiculture!**

## UPDATE ON OUR SCHOOL-COMMUNITY GARDEN! (pics on pg.2)

### COMMUNITY WORK DAY MAUI ... OCT. 2011

Maile Carpio & crew get funding to put up a deer fence around our future garden - in just 2 days! Students learn about sheep farming & conservation ag. from these experts at the same time!

### CWD & AMERICORPS ... APRIL 2012!

Maile returns with 12 Americorps interns to continue modifications to our greenhouse & garden. Students learn about food independence & permaculture from CWD's Rebekah Kuby!

### HONOLULU AGRICULTURE CONFERENCE ... SEPT. 2012!

A UH-CTAHR grant gets Ms G. & 3 students to a free 2 day event to tell others about our efforts & learn about agriculture careers & partnerships!

## COMMUNITY MAKES GARDENS HAPPEN!

From field trips to Bennie's Farm & the town Nursery (thanks Aunties Alberta DeJetley & Angie Espelita) to the Church of Latter Day Saints *Helping Hands* (thanks Uncle Jimmy & the gang) students on Lana'i learn first hand the challenges and benefits of agriculture.

Ms Galloway's biological and environmental science classes do propagation projects that get students out of the classroom and require them to apply what is learned in textbooks and online.

Local paper interviews students & shares our work in greenhouse & aquaponics!



Just as importantly, students must link their learning to what generations of kupuna, gardeners, plantation farmers and scientists can teach them at home and in town.

Coupled with help from county, university, state and federal sources, agriculture at LHES is *growing fast!*

### WANT TO GET INVOLVED?

CONTACT SCIENCE  
TEACHERS AT LHES!  
CALL (808) 565-7900

- Lisa Galloway  
extn. 280
- Bridgette Beatty  
extn. 250

## IMPRESSIVE ENERGY FROM GARDENERS!



Community Work Day gets the fence up!



Sophomores dig up the sod!



"Helping Hands" finishes the job!

# LOVE LIMU!

**LANA'I LIMU RESTORATION PROJECT GETS BIGGER & BETTER!**

LHES Juniors & Seniors plant & monitor limu since 2009!



## PROJECT TRIALS A CHALLENGE - BUT NEED IS GREAT!

**Hawaii's native limu (seaweed) is the start of the food chain that builds reefs, feeds the micro-organisms & all the sea creatures up the food chain - including us! Students learn along with others!**

On the northern coast of Lana'i overlooking Molokai is the Keomoku coast & Uncle Allen Kaiaikamalie's limu restoration site. Uncle worked for years with friends and family to learn about the plentiful limu he enjoyed harvesting as a child. Despite learning all he could about it, restoration efforts have been difficult.

In 2009 Ms Galloway and community member Robin Kaye began bringing LHES students to take part in this grassroots effort, and in March 2012 they secured a \$20,000 grant from the Hawaii Community

Foundation and NOAA to scale up the project. So far, only one experiment has been successful, but it's enough to encourage us!

This year Uncle's limu sea cage will be reinforced, rebuilding of a Hawaiian fishpond nearby will begin, and at the school greenhouse students will design their own tank experiments to propagate limu.

As well, community awareness and involvement is increasing. Next up - an attempt to remove the sediment that's been thwarting limu growth for the last 20 years!



### **Limu Manaua & Ogo**

Thanks go to limu expert Uncle Wally Ito who often sends us limu grown at Sand Island - the 2 types are closely related & delicious!

# SCIENCE STUDENTS OBSERVE FRESH WATER SPRINGS AT LOW TIDE



**E Alu Pu community stewards wrap limu**



**Uncle Allen welcomes visitors to the project!**

## Learning about the many uses of limu helps students dream big...


LHES Juniors & Seniors learn about the many uses algal products have, such as the making of carageenan used in so many foods and potash used to fertilize crops.

They also learn how sensitive limu is

**Did you know algae is used in cosmetics & polishes?!**

to its environment: temperature, salinity, light & nutrients make it tricky to grow!

All this helps us see how restoring limu might not only help the marine ecosystem - it could even be a profitable harvest for Lana'i one day!

<p><b>JOIN US!</b> Families, students, visitors &amp; friends are all welcome to take part in the Limu Project!</p>	<p><b>OCT.19/12</b> MIDDLE SCHOOL LIMU TRIP</p>	<p><b>OCT. 21/12</b> FAMILY LIMU DAY #2</p>	<p><b>OCT.26/12</b> MIDDLE SCHOOL LIMU TRIP</p>	<p><b>CLEAN UP MARINE DEBRIS WITH US!</b></p>
	<p>Juniors will help 7th graders wrap &amp; plant limu &amp; begin rebuilding a traditional pond, 9am-1pm!</p>	<p>Community members will return to plant more limu &amp; remove sediment from 1pm-4pm!</p>	<p>Juniors will help 7th graders monitor limu &amp; model the sea cage &amp; pond trials, 9am-1pm!</p>	<p>On every field trip we take the time to remove trash from the beaches of Maunalei Ahupua'a!</p>