



ZERO WASTE REVOLUTION

2015-2016 School Year

MONTHLY REPORT • FEBRUARY

Jack Johnson visits Lanikai

...along with a mainland film crew!

The highlight of February was a visit from Grammy-nominated singer/song-writer, surfer, and environmental activist Jack Johnson.

Jack and his wife, Kim, are well-known to local residents as the founders of **Kokua Hawaii Foundation**, whose mission is to support environmental education in the schools and communities of Hawaii. Their superb gardening program **AINA in Schools** is established at 15 schools on Oahu, including Lanikai PCS. Gardening, composting lessons, and nutrition classes at Lanikai are among the favorite campus activities at every grade level. Without a doubt, AINA created the foundation for the Zero Waste Revolution.



At the February 18th Morning Assembly, Jack Johnson sang three of his hit songs to the delight of his many fans.

Jack had come to do a composting lesson with the 3rd graders – specifically, to harvest a worm bin, separating worms from finished vermicast. Now Ms. Mindy has harvested literally hundreds of worm bins with 3rd graders over the past twelve years and no one has ever so much as raised an eyebrow. But when *Jack Johnson* shows up to do it, all heads snap to attention.

That's the power of celebrity! **Jeremy Kranowitz**, Executive Director of **Sustainable America**, knew this phenomenon would help to fulfill SA's mission to raise broad public awareness of food waste and solutions to increase the efficiency of the nation's food systems. Jeremy has partnered with **NationSwell**, a digital media company, to produce a series of 5- to 7-minute mini-videos featuring various celebrities dealing with food waste in fun, uplifting, creative ways.

NationSwell is a content provider to both *The Huffington Post* and *Reuters News Service*. Potentially, millions of people worldwide will click to see their favorite actor/musician/comedian doing something cool with food waste. Sustainable America (headquartered in – brrrrrrr – Fairfield, Connecticut) calculated that meeting with Jack Johnson mid-February in Hawaii would be a great way to kick off their video series.



Jack Johnson dispenses handfuls of worm-loaded vermicast for 3rd grade students to separate.



Lanikai students were very articulate on camera describing their experience in sorting and separating food waste, composting and gardening. Natalie McKinney, Executive Director of Kokua Hawaii Foundation, assisted with logistics.

The videographer is Thomas Shomaker from NationSwell.

Jeremy Kranowitz, Executive Director of Sustainable America with Jack and Kim Johnson, Kokua Hawaii Foundation.



Jeremy shared with us a story about the power of celebrity to effect social change. We all remember the TV sitcom *Cheers* that ran between 1982 and 1993. Set in a cozy neighborhood bar in Boston, *Cheers* had a terrific ensemble cast including Ted Danson, Shelley Long, Woody Harrelson, Kelsey Grammer, Rhea Perlman, etc. It was a very popular show – *everyone* watched *Cheers*, right?

When Mothers Against Drunk Driving (MADD) started a campaign to curb drunk driving, they came up with the concept of “designated driver” and met with the producer of *Cheers* to see if the concept and new term could be worked into the script. The producer said, sure, and after a few mentions from Sam the bartender folks out for a night of partying chose one among their group to stay sober and get everyone home safely. This happened nationwide virtually overnight. Soon afterward, statistics showed drunk driving accidents in steep decline.

MADD could have run Public Service Announcements for years and never achieve that kind of response. Jeremy says everyone in the business of raising awareness about an issue hopes to hit a similar sweet spot.

Jeremy noted that Jack was especially authentic in his involvement and that a level of comfort and commitment came through clearly in both his interview and the activity he led on camera. He does in fact serve as an AINA composting docent at his alma mater, Sunset Beach Elementary.

Jack purchased a Can-O-Worms bin from Waikiki Worm Company back in 2005 and still has it! The descendants of his original worm colony are still on the job.

Yep, Jack Johnson is the Real Deal.

Even so, it didn't take long for Jeremy to realize that there was a lot more going on at Lanikai School than a garden and some worms in box bins. After the taping with Jack and the students was completed, Ms. Mindy wired up and led a 30-minute tour of Lanikai's entire resource recovery operation including Big Blue and the Mulberry Gang worm colonies, our stunning hot compost array, bokashi blasters, Resource Recovery Room, green waste processing, and of course, Sort-It-Out Sam.

Hopefully, some of the Zero Waste Revolution will make it into the video, too. It was an honor to have the opportunity.



Dear Espie, Mindy, and Parker,

Thank you so much for taking time to show us around the incredible education institution you have created at Lanikai Elementary. I left so inspired by your school, and so jealous of the incredible experience that each student gains from their time at the school. It is definitely worth high praise in the video, and I hope it can be raised up to be an example for others to try to follow.

I was also stunned at Mindy's efforts to capture every scrap of food, paper and cardboard and return it to the soil. It's a level of efficiency not seen in many places.

Parker, please feel free to contact my colleagues Katrina and Heide about ways you might expand your lessons on food waste (or fuel waste) with your sixth graders.

I left Hawaii so inspired by what I found there, and so hopeful that we can take this message more broadly.

*Warm regards,
Jeremy*

*Jeremy Kranowitz
Executive Director
Sustainable America*

We operate in isolation and few on Oahu give a hoot about food waste reduction or resource recovery. It was so heartening to interact with mainlanders who participate fully in a powerful movement that is gathering momentum, expertise, and results across the nation. These websites reveal the bigger picture:
www.sustainableamerica.org
www.refed.com

Community outreach

Windward District Spelling Bee at Le Jardin Academy

Lanikai School business manager **Callie Lewis** also serves as coordinator for the Windward District Spelling Bee which was held at Le Jardin on February 7th. Callie decided to make it a Lanikai-style Zero Waste event, complete with food separation, reusable plates and washable plastic cups that were donated by Starbucks. Several parents, teachers, and administrators from other schools came up to ask about Zero Waste and express their thanks.

Ten pounds of food waste and ten pizza boxes were collected for processing. The only waste generated consisted of a few paper napkins. Can you spell “successful community outreach?” (Our students finished in 1st and 4th place!)



Kailua Intermediate School

KIS has a 2007-era 10-foot open Pipeline worm bin that **Wendy Rosen** inherited when she took over the garden manager job a few years ago. When Wendy visited Lanikai in September 2015 she was horrified to discover upon examining Big Blue that she was operating her bin all wrong and that her worm colony was, well, *really pathetic*. We told her we would be happy to get her back on track.

As is so often the case when the teacher who started the worm project transfers out, information is not passed on. The new worm bin manager has no clue who to ask or what to do and ends up winging it. The tiny handful of Wendy’s worms who survived were starved and skinny, the lump of vermicast they produced looked like gray putty and the wood trim of the bin had disintegrated and rotted off due to covering the bin with tight lids.

Mrs. Rosen agreed to follow our recommendations to the letter: she purchased a fresh pound of worms, lost the lids, set up a bed of mixed cellulose materials that we provided, covered the bed with a breathable shadecloth and fed the worms generously according to a strict protocol designed to encourage reproduction.

When we stopped by early in February to check on her progress, we were thrilled to see a vigorous quadrupled colony of wiggly wormies! Wendy will need to complete a harvest/re-bed in May and again in November, but by Spring of 2017 she should be completely up to speed with a productive worm system. We replaced and reattached the wood trim (see photo) and put on a fresh coat of paint – the bin looks good as new.

Wendy’s gardening program is expanding to include Boys and Girls Club kids over the summer, and she recently received a grant from Whole Foods to cover needed tools and equipment. KIS worms are now ready to do their part to support this fine effort.

Kainalu Elementary School

Kainalu's story is a sad tale of misunderstanding, disappointment, and well-intentioned generosity gone terribly wrong.

Parent volunteers Fe Bailey and Dyana ten Berge visited Lanikai and asked that we give them some tips. They were planning to harvest three AINA box bins on February 17th and transferring the worms into two big lateral-flow bins that had been donated to Kainalu Elementary by a construction company. Kids had already painted the bins with colorful artwork. Students, teachers, and volunteers were very excited about moving up to large-scale vermicomposting.

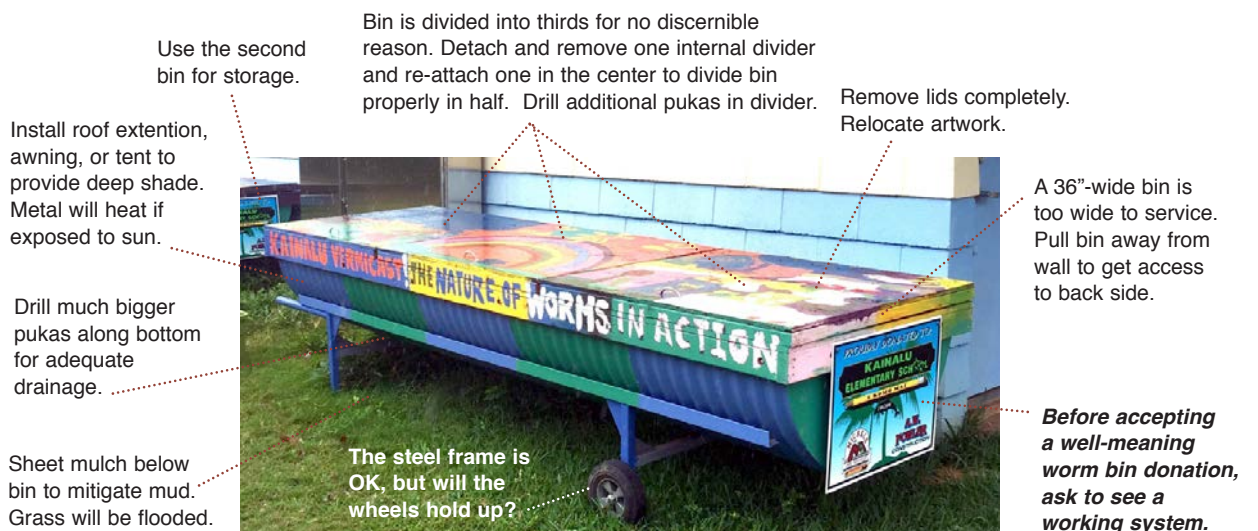
We visited the campus a week prior to this highly anticipated event, and found that their worms had not reproduced as they expected. Instead of six pounds of worms, they had barely nine ounces total. Worse, the huge bins donated to them were very obviously designed by someone who had *no idea whatsoever* how to house composting worms. The bins were divided inappropriately with inadequate drainage and aeration. Tight, heavy wooden lids would rot in no time from internal humidity. Made of metal that absorbs and conducts heat meant that if any sun touches any surface the worms will cook. So Kainalu currently has not one, but two, totally doomed-to-fail non-functional bins, with capacity far beyond the infrastructure they have available for food waste collection and on-going bin management.

We assisted them in re-bedding their nine ounces of worms to go another round with instructions that will promote propagation, and recommended they modify the bins. One of the two bins can stay as is and be used for storage of supplies and equipment. If all goes well, Kainalu may be ready to vermicompost at scale a year or two from now. Lanikai's simple, efficient, and effective vermicomposting model needs to be more strongly promoted so as to avoid these situations – very discouraging to those involved and a waste of time and energy.



*AINA box bins are designed only to teach the principles of vermicomposting, **not** to propagate worms. To get a two-pound ball like the one above, bedding must be thick and feeding must be consistently heavy.*

Diverting disaster at Kainalu – suggested modifications



Incredible compost keeps coming...

Harvesting hot compost piles at the rate of about one per month, our 4th grade Zero Heroes have become experts. Every student has had at least one opportunity to serve on a team. With experience, their efficiency has increased – it now takes less than an hour for the two classes, working in teams of six, to fill 16 boxes. Green Team students finish up what's left over recess.

Most of the initial fear of touching soil and interacting with bugs has disappeared, replaced with more interest and questions about the various critters still scurrying about, doing their jobs.

The Vermilion pile was built from 600 pounds of August lunch and snack waste and came due for harvesting in February – it yielded 22 full boxes.

Absolutely astonishing was the find of thirty – thirty! – rare and beautiful Hawaiian Blind Snakes near the bottom of the pile. One of only two snakes found in Hawaii, *Ramphotyphlops braminus* eat larvae, eggs, and pupae of ants and termites, whose nests are likely around and under our piles. What a treat!



Safe to handle, the students caught as many as they could and shared some show-and-tell with all the classrooms in A Building.

Treasures of all sorts abound in our compost piles.



Preparing to harvest the August pile, Vermilion.

Big Blue yields 150 pounds

We had barely harvested and screened the 400 pounds of vermicast from January's harvest of the Mulberry Gang worm bins, when it was time again to harvest Big Blue, who is on a August/February rotation.

Once again, the 2nd graders came through with flying colors. This was their second time to harvest, and the value of experience of was clearly in evidence. Last time a few kids did not want to touch, but this time everyone participated. Efficiency was way up. We had scheduled a full hour for each class but they finished in half the time. Kids particularly loved searching for and rescuing egg capsules from the vermicast to return to the bin along with the stray worms.

Second graders filled eight boxes, estimated at 150 pounds, with finished, clean vermicast. The Mulberry Gang harvest is meant for sale, but Big Blue's yield is reserved for our own use in gardens and to make vermicast tea.

Documenting our process proceeds

Big Blue's harvest was captured on tape by Gabe Cabagbag, cinematographer for our video. He scored some fantastic footage of students in hands-on heaven!



Second grade teachers Kristin Garcia and Barb VanDerCamp, pictured above, have been helpful and enthusiastic collaborators. In addition to harvesting, 2nd graders are in charge of watering the Big Blue worms every day, a big responsibility they take quite seriously.

Gabe also shot this month the lunchtime food waste collection and harvesting hot compost, and has completed extensive interviews with Ms. Mindy and Mr. Noh. The video project will be completed by the end of the school year.

Abundance excites and inspires

All of this abundance and attention has inspired a great many gardening projects to spring up all over campus. Who can look at such rich, beautiful soil amendments and not get the itch to plant something? It seems that every spare piece of ground has been appropriated for greenery of some kind. Our garden has gone viral.

A chunk of prime real estate was immediately prepped for the **Steve & Marilyn Katzman Perpetual Sunflower Patch** soon to be planted with a dazzling array of sunflower varieties. Ms. Kristi and her art students are designing a ceramic plaque and sunflower sculptures for the wall behind. Stay tuned for updates.

Who is buying our compost and vermicast?

A portion of the Lanikai compost and vermicast harvest was offered for sale to the community. Within hours of notification, these professional growers placed substantial orders, a solid validation of the quality of our soil products:

Ted Radovich, Ph.D., Associate Specialist
Sustainable & Organic
Farming Systems Laboratory,
Department of Tropical Plant
and Soil Sciences, UH Manoa



Jay Bost, Instructor
GoFarm Hawaii
University of Hawaii

Fran Butera,
Gardener-in-Chief
Foodscapes Hawaii



*Coming soon – the
Steve & Marilyn
Katzman Perpetual
Sunflower Patch!*

With compost and vermicast to spare, Mr. Sawyer finally got a chance to develop his **Lanikai Signature Soils** idea and get some trials going to determine the best mix for potting. He is using two empty Pipeline POD bins to store the various mixes.

Other projects underway include an expansion of the kindergarten plots with various herbs, a papaya mini-plantation installed outside the LC and a patch of native Hawaiian plants established by the portables.

Our regular grade-level gardens and science plots are producing high yields of vegetables and are nowhere near the end of their life cycles yet. Mr. Sawyer is diligently collecting all harvested produce, weighing it, and logging the data. This kind of rigor will be important to show the value of our program, not just in resource recovery, but in garden productivity.



Kyle Comforth from The Edible Schoolyard, left, with Kim Johnson, admire our hot compost data board outside the library entrance.

Visit from The Edible Schoolyard

Kyle Comforth of The Edible Schoolyard of Berkeley, California, was in town and invited by Kim Johnson to observe AINA lessons at Lanikai School. The Edible Schoolyard was founded in 1995, the brainchild of Alice Waters, owner of the renowned restaurant *Chez Panisse*. The Edible Schoolyard is the best-developed and most comprehensive school gardening program in the country, but Kyle was still impressed by our composting component, “the best I’ve ever seen,” she said, following our tour.

Kyle encouraged Espie and Mr. Sawyer to attend the ESY Academy this summer in Berkeley, a five-day edible education immersion with hands-on activities, presentations, guided discussion and curriculum-building sessions. Not to be missed! They are planning to attend.

Bottom line for February

This report covers the period from February 1-28, 2016. Leap day, February 29, will leap over to March. There were 19 school days during this period.

During this interim **1,587 pounds** of food waste was collected and processed via vermicomposting and hot composting technologies. The school year total to date is **9,803 pounds** of food waste recovered, representing a 100% landfill diversion rate.

- 100% of all HI-5 cans and bottles were collected and redeemed
- 95% of all paper and cardboard waste was collected and processed.

• **100% of all green waste was recovered!**
Lanikai custodians overthrew decades of habit and DOE custodial protocol to deposit branches, prunings, leaves, and other green waste next to the mulch pile for future chipping, rather than in the dumpster. The pile from this month would have filled an estimated 6-8 dumpsters. Instead of incurring economic and environmental costs, we get to keep the resource on campus, a benefit.



Other good news



Tom Gibson has come by from time to time to help us out with big or specialized projects, but he is now officially available every week for one or two days to assist Ms. Mindy and Mr. Sawyer. Tom has extensive knowledge of all aspects of composting and gardening. He managed the MOA Hawaii urban micro-farm in Nuuanu for the past three years, did all the carpentry work on Waikiki Worm Co.'s pipeline bins, knows his way around all manner of hand and power tools, and is a fine ceramicist and artist as well. We are very happy to have Tom as a part of this project – he has much to contribute.

Completely on their own, the first grade EA's organized their own Separation Station for the First Grade Play and Potluck event, pictured below. They

collected 24 pounds of food waste. Best of all, the little kids were spotted showing their parents how to scrape their plates and sort and separate their rubbish. *Hallelujah!* It's working!

