



ZERO WASTE REVOLUTION

2016-2017 School Year

MONTHLY REPORT • SEPTEMBER

Composting curriculum revised

Lanikai School is deeply grateful to be an AINA campus – a beneficiary of Kokua Hawaii Foundation’s AINA (Actively Integrating Nutrition and Agriculture) in Schools program. AINA provides the leadership, structure, and curriculum that established and maintains our popular gardening program that most would agree has achieved legendary status!

Lanikai also stands heads and shoulders above the rest as Hawaii’s only campus with a fully integrated, comprehensive Resource Recovery and composting operation, with well over seven tons of food waste processed annually on site – a 100% landfill diversion rate.

Forty-five minute AINA lessons are provided eight times over the year for each grade to include gardening, nutrition, and composting. Third graders study composting.

Observing last year’s program, it became clear that Lanikai students had long outgrown the AINA composting curriculum.

Although many of the basic concepts examined remain the same, the rudimentary, small-scale AINA projects are no longer applicable to our unique situation nor relevant to our knowledgeable students, who by 3rd grade have spent a full year caring for a major worm system and assisted in two 150-pound vermicast harvests. They have been sorting and separating food and snack waste for composting since kindergarten.

The decision was made to break from the AINA composting curriculum and create our own, which would explore composting as students experience it on a large scale and in much greater depth academically. Lessons would include mastering hose/tool handling and other operational skills as well.

This determination was not made lightly, as it will require a great deal of on-going effort to design, test, implement, and train docents to deliver a more demanding and sophisticated program to challenge our 3rd graders. As the leaders in on-site school composting, we are compelled to raise the bar. We think our students deserve it. The folks at KHF had no objections. The lesson plans to the first three sessions on Hot Composting (scheduled 9/1, 10/6, and 11/17) are attached to this report.



In addition to the monthly AINA composting experience, every 3rd grader gets a private lesson and an opportunity to assist each time a new layer is added to the compost pile. Composting teams of two measure temperatures and logs data on all our active piles.

Focus on future staffing

It is imperative that new Resource Recovery staff be identified, trained, and funded within the next few months to take over in January, so it was exciting to host six experienced Environmental Educators from the **Hawaii Nature Center** who came for a tour on September 8th. Nature Centers have evolved a lot since back in the day (1970-77) when Ms. Mindy was a staff naturalist at Sharon Audubon Center in Connecticut, Blandford Nature Center in Grand Rapids, Michigan, and the Denver Museum of Natural History. These institutions now offer programs not only in academics and field work, but also in what they call Sustainability Practices. Back in the day, it was called “agriculture” – gardening, composting, building water catchment systems, beekeeping, making soap and natural cleaners, recycling, etc. – the real-world practical side of environmental education.



Ms. Mindy's exit strategy

Over the course of this project I have slid precipitously and painfully from my mid-sixties into my late sixties, and I can no longer handle the rigorous physical demands of the job – the daily duties of Resource Recovery requires the strength, stamina, and energy of youth. The end of December marks the termination of the current grant and it seems like an appropriate time to pass the baton.

The Zero Waste Revolution is a stable, tested, viable program that will prosper just fine without me. I plan to find a way to move up to a supervisory and training position to shepherd in the next phase of Zero Waste expansion to the Complex, District, Island, and State levels.

All current commitments to the Lanikai program beyond December (the design and implementation of the new AINA curriculum, for example), will be honored. I won't be far away.

MJ

This area of endeavor is enjoying quite a revival and has been greatly elevated in status and acceptance as more and more people recognize the value of working in concert with nature in our daily lives. At Lanikai School, we proudly exhibit the best example of sustainability practices integrated into a school setting to be found anywhere. The Nature Center staff was duly impressed, and wondered out loud how they could extend their duties to include regular hours of field employment at Lanikai Public Charter School.

They expressed their interest to HNC Executive Director, **Jeeyun Lee**, and soon afterward Jee and Development Manager **Monica Coldwell** appeared on campus to see the Lanikai model for themselves. They took a side trip to observe the lunch catch and composting activity at Ka'elepulu Elementary, where Lanikai's turnkey system was successfully adopted overnight. Kainalu Elementary is next up, chomping at the bit to extend their food waste reduction efforts. Clearly the interest is growing. Finding a way to meet the demand for trained, experienced, paid support staff could catapult these and other area schools well beyond where they could go on their own. It would be ideal to have a team of capable practitioners in place who could service more than one campus.

Jee felt that Resource Recovery staffing at satellite sites was well within the mission of Hawaii Nature Center and agreed to discuss it with her administrative staff and Board of Directors.

The Hawaii Nature Center, a well-regarded, prestigious non-profit founded in 1981 with programs on Oahu and Maui, has established, well-developed funding sources. The potential for financial support of a staffing partnership are under discussion.

In the meantime, KUPU and the **Hawaii Youth Conservation Corps of Hawaii's State AmeriCorp Project** provided Lanikai School with interns for three full days in September. **Samantha Luhn, Jordan Nelson, and Kirah Orián** arrived eager to help and learn. They are part of KUPU's E2U Environmental Educational Leadership program which focuses on academics – they had no experience with any of the practices and technologies that have become a way of life on Lanikai's campus. It didn't take them long to pick up the basics. They were also willing to help out Lindsey at Ka'elepulu when she desperately needed additional hands to manage Grandparents' Day lunch catch and composting.

Interns were so delighted to get out of air-conditioned rooms to sweat, haul mulch, lug buckets, that Sam and Jordan – who live in the area – asked their supervisor for more. They are scheduled a few days a week through December. Kirah is from the North Shore and felt confident after her stint with Lanikai to initiate a Separation Station at Sunset Beach Elementary to help them get started with food waste recovery.



KUPU interns Jordan, Samantha and Kirah have been a tremendous help both at Lanikai and Ka'elepulu.

Every effort will be made to train these capable young women to manage the maintenance and understand the rhythms of our various living systems. They may or may not find this brand of the environmental work their cup of tea, but they will learn a lot and will help establish the apprentice program we want to develop. There is no way to learn our systems from a book, YouTube, or a weekend workshop. To gain experience and expertise, practitioners have to do it, repeat it, then repeat it again and again over time to establish a feel for variability and to appreciate how all the parts fit together.

There is no funding from KUPU beyond the internship program.

Funding through the State Department of Education

The ultimate goal to institutionalize Resource Recovery and Zero Waste practices throughout the public school system is to source, train, and fund staff through the DOE custodial pool. While educators are initially interested in learning new skills, the actual daily job is 99% custodial and is likely to secure a more sustainable future in the hands of custodians, not teachers.

This proposed path is the core of the legislation co-authored by Representative Chris Lee and Farm to School Coordinator Robyn Pfahl to be drafted in November for the upcoming legislative session.

State changes take years. In the meantime, Nature Center and KUPU-based staff will bridge the gap and will undoubtedly contribute great value to the program as it evolves beyond Lanikai.

Monkeypod root invasion

Two compost piles were harvested in September and although the compost was of excellent quality and abundant (two cubic yards per pile), both presented quite a vigorous invasion of roots from the nearby monkeypod tree at their bases. There was only a hint of this invasion from the piles last harvested from the same location, but now there is enough growth to suck the goodness from our piles if it gets much worse.

A potential solution is to line the base with layers of cardboard underneath a thick mulch pad. This may work, may make it worse, or make no difference. No way to know until we try.

If root invasions persists, the only solution is to move the hot composting operation or have a concrete slab installed. Neither is an acceptable option, so fingers are crossed that heavy sheet mulching will do the trick.



*Thirteen 8th grade students from **Hawaii Baptist Academy Middle School** – all members of the National Jr. Honor Society – were accompanied by their principal George Honzaki (far right) on a tour September 12th. This group has been tasked with collecting lunch waste to feed the school's worm bin, and they wanted to learn how Lanikai organized their Separation Station.*

As suggested by their advisor, they were also put to work hauling mulch to cover the layers of cardboard that hopefully will serve as a barrier against the opportunistic monkeypod roots.

Still no dishwasher – lunch trash doubles

Another month has gone by and there is still no sign of the promised dishwasher. Our caterer purchases expensive biodegradable single-use items out of her pocket and has not passed on the cost to parents by increasing the cost of lunches. Maybe such an increase would get the attention of the Board to move this project along.

The volume of lunch trash has doubled since last year. This is shameful, expensive, damaging, and embarrassing. Our bragging rights as Hawaii's only Zero Waste campus are revoked until this issue is resolved and the dishwasher is installed.

Extension for video project requested

We asked that our cinematographer, Gabe Cabagbag, provide us with a more content-rich version of *Welcome to Lanikai School's Zero Waste Revolution*. The first version was very pretty but didn't capture the details that we hoped would make our story powerful and inspiring. Gabe worked very hard and at our request shot several new segments and interviews and totally re-edited the film. Now we have enough fabulous footage for a full-on documentary bound for Cannes or Sundance! Our challenge has been to cut it down. This is a very daunting process and is taking much more time than anticipated, so an extension on the grant was requested and approved. Making movies is harder than it looks. We have a few more months to finalize. Stay tuned.

Now for the **GOOD** news...

We're #1! Lanikai School wins a national award from the U.S. Environmental Protection Agency!

Data for the 2014-2015 School Year was submitted in March. During this 183-day period our little school collected and processed 14,433 pounds of food waste and beat out everyone else in the country! This represents a 100% landfill diversion rate, difficult for most schools to achieve since waste collection is not fully centralized or systematized on most campuses as it is at Lanikai. Credit goes to Mr. Sawyer and the 6th graders who do an outstanding job running the Separation Station at lunch every single day, and to Sort-It-Out Sam and the Sort-It-Out Samurai for collecting snack waste from every corner of the campus.

September 26, 2016

Aloha Espie (and Mindy),

Congratulations! I am pleased to inform you that EPA would like to recognize Lanikai School with a **national Food Recovery Challenge award** for your achievements in reducing wasted food. You have earned this award in the Schools K-12 category.

Please confirm your point of contact and address for the congratulatory letter. We would also like to know if Lanikai School is interested in being featured by EPA for your great work, for example in a press release, on our website, in social media, or highlighted in talking points at events. If so, please email me a few sentences describing what your organization did to achieve its 2015 results, a quote and/or a related photo (of your facility location, of staff, or activities related to your food recovery efforts).

We anticipate publically announcing all the awardees the week of November 21st and ask that you hold off on your own media efforts until further notice.

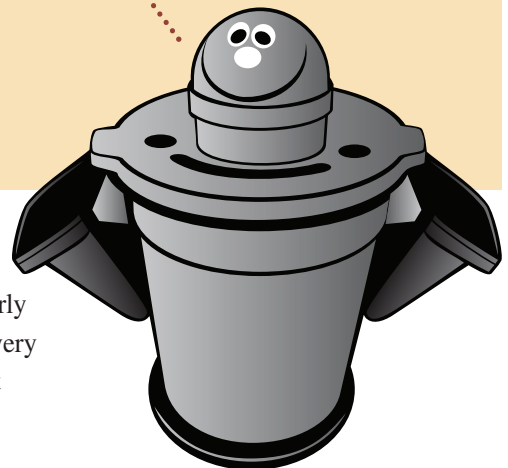
Again, congratulations!

Best,

Wendi

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We did it!
We won a national award
from the EPA!



Congratulations to every Lanikai student, teacher, and staff member who separates food waste at lunch and properly uses Sort-It-Out Sam every day. We won this Food Recovery Challenge award because we as a community think and act seriously about waste and strive to do the right thing.

Community outreach

Presentation at North Shore Youth Food Summit

One hundred and thirty students from five Oahu schools – Leilehua High, Kahuku High & Intermediate, Sunset Beach Elementary, Lanikai Elementary Public Charter, and Kalaheo High Schools – attended the 3rd Annual North Shore Youth Food Summit held September 23rd at Waimea Valley. The event was coordinated by the North Shore Community Land Trust and Kokua Hawaii Foundation.



The theme this year was “Food Waste,” with a featured presentation from Oahu’s only true experts on the topic, Lanikai School! Student Council

members **Johnny Sawyer, Ella Chapman, and Jake Graham** did a masterful job describing how we have organized collection of food waste both in the cafeteria and throughout the campus with Sort-It-Out Sam.

Students also heard from Chef Ed Kenney and KHF co-founder Jack Johnson about the issue and then toured one of four farms on the North Shore. Mohala Farms, Kahuku Farms, Twin Bridge Farms, and Malama Loko Ea Foundation hosted the field trip portion of the Summit. It was a fun and inspiring day for all!



Soil and soil amendments to be tested

Certified agronomist **Peter Bunn**, associated with the the UH GoFarm Hawaii program, visited Lanikai this month to collect samples of our soil, compost, and vermicast for extensive nutrient and microbial analysis. These tests, which can run into the thousands of dollars, are being performed through CTAHR at no charge to Lanikai. It is important to have scientific data to back up the results we see and help us to plan for the future.

Mr. Sawyer, who completed Ag Curious, Ag Exposure, and is currently attending the Ag School component of the GoFarm program, continues to increase his knowledge of sustainable agricultural practices as well as deepen Lanikai School’s relationships within the educational and ag community.

He envisions 1/4-acre urban microfarms on school campuses in collaboration with waste-based on-site soil production.



Peter Bunn, CPAg, of Crop Nutrient Solutions, Inc.

Bottom line for September 2016

This report covers the period from September 1 through September 30, 2016. There were 19 school days during this period.

During this interim **1,691 pounds** of food waste was collected and processed via vermicomposting and hot composting technologies. The total so far this year is **4,098 pounds**, and represents a 100% landfill diversion rate.

- 100% of all HI-5 cans and bottles were collected and redeemed.
- 100% of all green waste was recovered.
- 95% of all paper and cardboard waste was diverted from the dumpster. There are several big sheet mulching projects planned for next month so excess cardboard from a 4th grade project has been piling up to the roof in anticipation of burial. Additional effort has been made to catch up with the overload of paper.

New compost customer appreciates quality

The compost piles Turquoise and Purple were harvested during September, each yielding more than two cubic yards of top-rate soil amendment. Aloha Green Farms, who holds one of eight million-dollar Hawaii licenses to grow and distribute medical marijuana, purchased a full cubic yard as well as 30 pounds of vermicast. They said after an exhaustive search both locally and on the mainland, that Lanikai School is producing by far the best soil they have seen, and have asked to be notified whenever surplus compost and vermicast is available.

Pumpkin Patch takes over the world

Testament to the quality of our soil amendments, the pumpkin patch planted in late July has exploded across the ridge of the Horseshoe, sending lush 15- and 20-foot vines – loaded with blossoms – racing out in every direction. We had to hustle to keep mulch under the fast-growing vines, which would outrun us in a couple of days. This has been the biggest and most exciting crop project to date!

The row was heavily amended with both compost and vermicast and watered by irrigation. We hope to have a number of Jack O' Lanterns and cooking pumpkins by Halloween.

