



**STATE OF HAWAII  
DEPARTMENT OF EDUCATION**

P.O. BOX 2360  
HONOLULU, HAWAII 96804

OFFICE OF THE SUPERINTENDENT

December 17, 2021

The Honorable Ronald D. Kouchi, President  
and Members of the Senate  
State Capitol, Room 409  
Honolulu, Hawaii 96813

The Honorable Scott K. Saiki, Speaker  
and Members of the House of Representatives  
State Capitol, Room 431  
Honolulu, Hawaii 96813

Dear President Kouchi, Speaker Saiki, and Members of the Legislature:

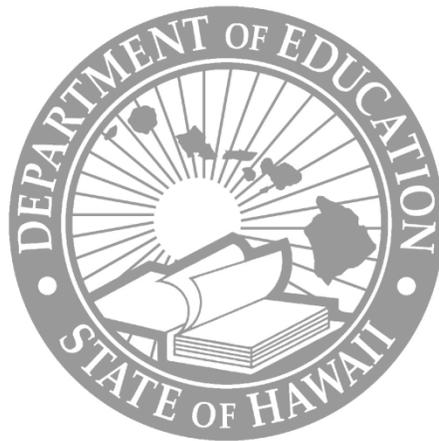
For your information and consideration, I am transmitting a copy of the annual report, Composting Pilot Project Working Group, pursuant to Act 207, Session Laws of Hawaii 2018. In accordance with Section 93-16, Hawaii Revised Statutes, I am also informing you that the report may be viewed electronically at: <http://www.hawaiipublicschools.org/VisionForSuccess/SchoolDataAndReports/StateReports/Pages/Legislative-reports.aspx>.

Sincerely,

Keith T. Hayashi  
Interim Superintendent

KTH:at  
Enclosure

c: Legislative Reference Bureau  
Hawaii State Public Library System  
University of Hawaii  
Office of Facilities and Operations



State of Hawaii  
Department of Education

# **Annual Report on Composting Pilot Project Working Group**

December 2021

Act 207, Session Laws of Hawaii 2018, requires the composting pilot project working group to annually report on its findings and recommendations.

## Composting Pilot Project Work Group

The Composting Pilot Project Work Group (Working Group) was initially convened on November 13, 2019, at a planning charrette. The current makeup of the Working Group is provided in the table below:

<u>Name</u>	<u>Organization</u>	<u>Office</u>	<u>Title</u>
Alan Gottlieb			Community Volunteer
Allyn Tam	Hawaii State Department of Education	Office of Facilities and Operations/Auxiliary Services Branch	Energy Conservation Coordinator
Bob Leinau			Community Volunteer
Brian Miyamoto	Hawaii Farm Bureau Federation		Executive Director
Jay Bost	University of Hawaii	GoFarms Hawaii, Windward Oahu Program	Farm Coach and Site Manager
Jennifer Milholen	Kokua Hawaii Foundation		Waste Reduction Coordinator
Jeremy Koki	Hawaii State Department of Education	Office of Facilities and Operations/School Food Services Branch	Acting Administrator
Jess Hay	Hawaii Department of Health		Environmental Engineer
Kalani Matsumura	University of Hawaii at Manoa	College of Tropical Agriculture and Human Resources	Extension Agent
Lauren Kaupp	Hawaii State Department of Education	Office of Curriculum and Instructional Design	Education Specialist, Science
Lene Ichinotsubo	Hawaii Department of Health	Solid Hazardous Waste	Environmental Engineer
Miles Yoshioka			Community Volunteer
Natalie McKinney	Kokua Hawaii Foundation		Senior Program Director
Randall Tanaka	Hawaii State Department of Education	Office of Facilities and Operations	Assistant Superintendent
Theodore J. K. Radovich, Ph.D.	University of Hawaii at Manoa	Department of Tropical Plant and Soil Sciences	Extension Specialist, Researcher & Professor
Todd Low	Hawaii Department of Agriculture	Aquaculture Development	Special Projects

## Program Applications to Date

Thus far, there have been 13 applicants to the pilot program. A summary of the applications is provided in the table below:

School	Composting Type
Enchanted Lake Elementary	Green Waste, Food Waste, Vermiculture
Honaunau Elementary School	Green Waste, Food Waste, Vermiculture, Bokashi/Microorganisms, Vermicast Tea
Kaelepulu Elementary School	Green Waste, Food Waste, Vermiculture
Kailua Intermediate School	Green Waste, Food Waste, Vermiculture
Kaimuki Middle School	Green Waste, Food Waste, Vermiculture
Kainalu Elementary	Green Waste, Food Waste, Vermiculture
Kaiser High School	Green Waste, Food Waste, Vermiculture
Kamaile Academy PCS	Green Waste
Kaohao School	Green Waste, Food Waste, Vermiculture, Bokashi/Microorganisms, Vermicast Tea
Waianae Intermediate	Green Waste
Waikiki Elementary School	Green Waste, Food Waste, Vermiculture, Bokashi/Microorganisms, Vermicast Tea
Waikoloa Elem. & Middle School	Green Waste, Food Waste
Waipahu Intermediate	Green Waste, Food Waste, Vermiculture, Bokashi/Microorganisms

## Program Expenses to Date (August 31, 2021)

The costs expended are provided in the table below:

School	Composting Supplies Delivered to Schools	Cost
Enchanted Lake Elementary	Share Chipper/Shredder	\$1,958
Honaunau Elementary School	Supplies Delivered	\$4,866
Kaelepulu Elementary School	Share Chipper/Shredder	\$1,958
Kailua Intermediate School	Share Chipper/Shredder	\$1,958
Kaimuki Middle School	Supplies Delivered	\$3,430
Kainalu Elementary	Share Chipper/Shredder	\$1,958
Kaiser High School	Supplies Delivered	\$1,099
Kamaile Academy PCS	Supplies Delivered	\$1,494
Kaohao School	Share Chipper/Shredder	\$1,958
Waianae Intermediate	No supplies ordered at this time.	\$0
Waikiki Elementary School	Supplies Delivered	\$3,011
Waikoloa Elem. & Middle School	Supplies Delivered	\$2,676
Waipahu Intermediate	Supplies Delivered	\$1,181
<b>Grand Total</b>		<b>\$27,547</b>

## Program Status (November 2021)

Due to the COVID-19 pandemic, the food waste composting component of the pilot program has been limited even after the return of students to school campuses.

Currently, all schools are adapting to COVID-19 pandemic challenges, with staffing and in-person learning challenges. However, all educators and composting supporters are tirelessly pushing through.

All participating schools are doing some form of composting. Other than Windward Zero Waste Schools, COVID-19 restrictions have hindered food waste recycling efforts. Minimal collection efforts are being practiced. Assistance is being provided to the schools for collecting cafeteria preparation waste, which encourages composting.

## School Progress Reports (October 2021)

Several of the following updates have been provided by the school directly. Others have been summarized based on communications with the school leads and in-person visits to the school campus.

### Honaunau Elementary School

#### *SY 2021-2022 Quarter 1 Update:*

The Garden Program has re-opened its gates and in-person garden classes are being held every week for Kindergarten through 5<sup>th</sup> grade. The school is redesigning the garden, installing new classroom tents, restarting the compost system, and relocating and expanding the plant nursery. The next project will be to rebuild the garden beds.

Due to COVID-19 restrictions, Honaunau Elementary is not able at present to collect snack and lunch food waste from campus for its garden composts. Eventually, the goal is to re-develop food collection systems for the composting program again. Unfortunately in July 2021, two of the garden staff left due to other time commitments. The program is down to one garden coordinator but a hiring ad will be posted shortly to fill the part-time position.

The students are excited to be back in the garden. The program is taking things slowly and safely during these uncertain times, steadily securing the garden's infrastructure, funding, and curriculum. The school has expanded its composting areas, from one to three composting locations throughout the garden. This has been demonstrated to students through composting garden waste materials, the concept of accessible compost, and localizing soil production.



***SY 2020-2021 Quarter 4 Update:***

The Honaunau School garden program has survived a challenging year. Although teachers have not had much teaching time with students, the school has maintained its garden space and is excited to revive the in-person garden program in fall 2021.

The garden program is eager to move the storage container from its current location to the school campus, which would allow the riding mower to be stored safely. In addition, the compost tumbler has arrived and is ready to be used. In the upcoming summer, the school will assemble its new tents, restart compost piles, and organize plans for the collection and compost of lunch scraps.

The garden program intends to address the current needs of students. Thus far, the garden is perfect for providing students a safe processing space to re-grow their hopes and skills for the future. Just before the prior school year ended in May 2021, Ali, one of our garden staff, initiated a program with the 3rd-grade class focusing on emotional awareness and resilience. The goal is to promote the development of social and communication skills and to reduce stress through creativity and interaction with the environment. The garden staff is energized to continue the development of “The Healing Arts with Nature Program” this fall, in addition to our other curriculum.

**Kaimuki Middle School**

The production data is trending lower when compared to the prior school year. The school restarted its worm bin last year and overfed it for the first three months to stimulate growth in the colony. Due to the workload demand, the school is not currently composting 100 percent of the green waste from campus.

	<b>Previous Year</b> (6/1/2020 - 6/1/2021)	<b>Current Year</b> <b>So Far</b> (6/1/2021 - 10/1/2021)
<b><i>Worm Bin</i></b>		
Food waste fed to worms	1,753 pounds	228 pounds
Food waste to compost	812 pounds	143 pounds
Vermicast harvested	203 pounds	125 pounds
Profit from sale of worms/vermicast	\$1,865	\$140
<b><i>Composting</i></b>		
Campus green waste composted	3,370 pounds	750 pounds

The school has shared video updates on the composting projects with their school community. Also, the school plans to kick off its KMS Science and Engineering Fair next quarter and will encourage composting experiments.

## **Kaiser High School**

### ***July 1, 2021 Update:***

The school plans on opening with 100 percent in person this next school year, which would help to set up the composting operations. Students voluntarily worked outside of school time to pull weeds and clear the area planned for composting. The school expressed difficulty on carrying out composting operations based on the number of students participating via in-person learning.

### ***October 28, 2021 Update:***

The school is ramping up the composting program. So far they've collected about 160 lbs of food waste from the cafeteria food. The school plans to assign pick-up and drop-off schedules to get more buy-in from the students. Also, the school has requested 10 more buckets and 5 more shovels because the Kaiser High School campus is large.

## **Kamaile Academy PCS**

### ***August 2021 Update (on-site visit):***

The garden area appears to be rundown and dry. The school's vision includes revitalizing and greening up the garden. The workers continue to adjust to the challenges caused by COVID-19 such as limited face time with students (20-minute learning sessions, 3 times per month). The school received its initial supply order and 1 semi load of mulch donated by Island Topsoil on September 23, 2020. The school is using the donated soil to start composting piles featuring onsite green waste and creating four 5-gallon buckets of cafeteria prep waste. Most food waste is currently being provided to pig farms.



## Waikiki Elementary School

### *October 27, 2021 Update (on-site visit):*

Waikiki Elementary's garden is mature and their composting operation is efficient. However, the garden manager has recently stepped into other teaching roles and the school continues to recruit a full-time sustainability instructor without success. In a part-time capacity, the garden manager collects cafeteria prep waste for worms and hot composting. Due to staffing needs, the school has had difficulty collecting data frequently and accurately.



## Waikoloa Elementary & Intermediate School

The school is using three kinds of composting: food, mulch, and worms. Their students are engaged and enjoying the program.

The school is optimistic regarding their compost progress, but there have been some issues with their green waste composting pile. Their pile is being kept moist and covered, but the wind keeps blowing the tarp away. The school collects a minimal amount (0.25 to 1 lb) of lunch scraps on Wednesdays for their worms in their 25-gallon size food compost bin. The school food waste goes to a local piggery. In addition, Waikoloa is also offering a Composting 201 session this fall.



## Waipahu Intermediate School

### *October 5, 2021 Update (on-site visit):*

The gardening/composting lead is working with cafeteria staff to collect vegetable/fruit preparation waste, collaborating with tree trimmers for mulch, and collecting garden waste. The school is applying for a Samsung grant to extend their composting skills and garden to their community.



Students created 26 miniature composting buckets for their science classes, creating different experiments with varying amounts of water and varying ratios of carbon to nitrogen. The science students flip the composted contents every couple of days to add oxygen but were unsuccessful in preventing anaerobic microbes from taking over. Unfortunately, they have an infestation of coconut rhinoceros beetles. The school had a field team and some students catch over 100 larvae and approximately a dozen adult rhinoceros beetles. The school anticipates having to level the field and mulch piles to eradicate the infestation before more composting can occur. They are looking for solutions to storing the compost as the temperature cools, since the beetles may continue to try to get in.

The school continues to document and take photos of the process and outcomes. After starting over, the plan is to use new strategies such as using old compost between the layers to speed up the development process. The school also hopes to expand the program with more students participating via in-person learning.