



Hawaii Foam Products, LLC.

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April 3, 2008

To: House Committee on Economic Development & Business Concerns
Representative Kyle T. Yamashita, Chair / Representative Glenn Wakai, Vice Chair

By: Gilbert Yamada
Hawaii Foam Products, LLC.

Re: HCR 192 & 161 REQUESTING THE ESTABLISHMENT OF A VOLUNTRARY COMPLIANCE PROGRAM TO ENCOURAGE COMMUNITIES AND BUSINESS TO CONVERT TO EXPANDED POLYSTYRENE FOAM ALTERNATIVE PRODUCTS

Chairs & Committee Members

Voluntary compliance is fine but we question the validity of your resolution.

In paragraph 1, polystyrene poses a threat to the general health and welfare of Hawaii's ecosystem and environment, but also the general health and welfare of Hawaii's citizens.

Polystyrene (Styrofoam) has been used for over 30 years. We have not heard of anyone getting sick or causing death. This resin is approved and controlled by the Federal Food and Drug Administration. In the earlier bills, benzene was illustrated as the carcinogen, but after written clearance from our resin manufacturers that benzene was not in our resin, we find these issues removed. We ask this committee to address this issue to the Federal Food and Drug Administration.

The land fill issue should not become a problem, as these are alternatives to dispose of Styrofoam, either by H Power, (waste to energy), recycle back to resin or utilizing new technology from Japan, converting plastic to oil.

In paragraph 5, it states that polystyrene creates a dense black irritating smoke at H Power. We extrude polystyrene resin in our plant at 425° degree temperatures and there is no dense black irritating smoke containing acidic gases and over ninety different chemicals, including carbon monoxide and the known neurotoxin and possible carcinogen styrene. We have air quality inspectors monitor the air quality in our plant and our air quality is fine.

Finally, polystyrene should be treated the same as aluminum cans, glass bottles, plastic bottles. Polystyrene has many alternative uses, such as waste to energy, recycle back to resin or recycle plastics back to oil.

Our concerns are increased costs to business. Because of the weak dollar, the usage of biofuel from our agriculture products, our food costs such as rice, corn and wheat have escalated tremendously and creating an inflationary spiral for the people of Hawaii. In a period of one year, rice and spaghetti have doubled *in cost.*

**THE UNIVERSITY OF HAWAII ENVIRONMENTAL CENTER IS
PLEASED TO SUBMIT THIS TESTIMONY IN ACCORDANCE
WITH ACT 132 OF 1970 WHICH CREATED THE CENTER.
AUTHORS ARE MEMBERS OF THE UNIVERSITY COMMUNITY.**

RL: 2211

LATE TESTIMONY

HCR 192
REQUESTING THE ESTABLISHMENT OF A VOLUNTARY COMPLIANCE PROGRAM
TO ENCOURAGE COMMUNITIES AND BUSINESSES TO CONVERT TO
EXPANDED POLYSTYRENE FOAM ALTERNATIVE PRODUCTS

House Committee on Economic Development & Business Concerns

Public Hearing – April 4, 2008
9:30 a.m., State Capitol, Conference Room 325

By
Mary Tiles, Department of Philosophy and Chair of the Sustainability Council
Erin Woods, Environmental Studies
Peter Rappa, Environmental Center

HCR 192 requests the Department of Business, Economic Development, and Tourism (DBEDT) create a voluntary compliance program to encourage communities and businesses to convert to products other than expanded polystyrene foam products that it creates a list of alternatives to commonly used expanded polystyrene foam products, and make the information available to the public. We emphasize that our testimony on this measure does not represent an official position of the University of Hawaii.

Expanded polystyrene foam products such as styrofoam are detrimental to the natural environment. They are non-biodegradable and non-recyclable. These products, much like plastic bags, float around and continually pollute the different ecosystems that they come into contact with. Expanded polystyrene foam products are made from hazardous chemicals that are possibly carcinogenic. Expanded polystyrene foam products also encourage the use of one-time, single use goods. These one-time use goods increase the amount of waste entering Hawaii's already overburdened landfills. The City of San Francisco passed an ordinance effective June 1, 2007 that required food vendors who sell prepared food to use compostable or recyclable to-go containers.

It is a good precautionary measure to encourage the search for economically and environmentally suitable alternatives to expanded polystyrene foam products. The issues here are, however, complex, and the quest for products that can be recommended as substitutes for polystyrene is far from straightforward. This means that many agencies do not currently have an adequate knowledge base for promoting specific products. What are the alternatives made from? What are the consequences of using that resource for this purpose? How are they manufactured? How far do they have to travel? How do they

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break down? All these questions need to be asked and answered before an adequate substitute can be responsibly recommended.

There is certainly a public service function DBEDT could serve by researching these matters and making the information available to businesses, state agencies and their customers.

Thank you for the opportunity to comment on this resolution.

Representative Kyle T. Yamashita, Chair
~~Representative Glenn Wakai, Vice Chair~~
Economic Development and Business Concerns Committee
April 4, 2008

LATE TESTIMONY

IN SUPPORT OF H.R. 161 and H.C.R. 192

Regarding Immediate Effects of H.R. 161 and H.C.R. 192:

- Because Hawai'i relies so heavily on tourism, we have a vested interest in maintaining a pristine environment, which includes a move away from polystyrene.
- Polystyrene is an unsustainable product both because of non-biodegradable waste issues and leaching, and because it is a petroleum product. With Peak Oil on the horizon, it is only a matter of time before polystyrene along with other plastic products become too expensive to use.
- If state departments and agencies move to sustainable options, market demands will create more sustainable, more affordable, and more readily available polystyrene alternatives to Hawai'i businesses and consumers, which will positively impact the economic aspects of Hawai'i's sustainable future.

Regarding Long-Term Sustainability Concerns for Hawai'i:

- Recycling efforts should be made IN ADDITION TO consumer shifts to sustainable products. This is not an Either/Or situation. Recycling efforts are simply not enough.
- The debate on polystyrene should not be a Paper Vs. Plastic issue. Both items are environmentally unfriendly, and both are ultimately unsustainable. Instead, government, businesses and other organizations should be looking to other sustainable alternatives, which do currently exist.
- Because nothing breaks down in modern landfill, it is also necessary to look at landfill alternatives IN ADDITION TO switching to biodegradable products. Hawai'i needs commercial composting facilities in order to process waste for a sustainable future.
- Similarly, Hawai'i will also need to look at electricity alternatives to the unsustainable, environmentally unfriendly choices that are most widely used in our world. Clean energy infrastructure must be built IN ADDITION TO moves toward more sustainable products and better waste processing facilities.

In Conclusion

I support H.R. 161 and H.C.R. 192. Passage of these resolutions is one of many steps necessary to create an economically and environmentally sustainable future for Hawai'i. The businesses and consumers of Hawai'i deserve governmental support in this endeavor.

I am available to answer questions. Thank you for this opportunity to testify.

~~Naomi Corlew~~
808-944-5554

LATE TESTIMONY

HOUSE COMMITTEE ON ECONOMIC DEVELOPMENT & BUSINESS CONCERNS
Friday, April 4, 2008 - 9:30 A.M. – State Capitol Room 325

Re: Strong support for:

HCR192/HR161 – REQUESTING THE ESTABLISHMENT OF A VOLUNTARY COMPLIANCE PROGRAM TO ENCOURAGE COMMUNITIES AND BUSINESS TO CONVERT TO EXPANDED POLYSTYRENE FOAM ALTERNATIVE PRODUCTS

Aloha Chair Yamashita, Vice-Chair Wakai, and Members of the Committee:

The Sierra Club O`ahu Group is in strong support of HCR192/HR161, HCR193/HR162, and HCR191/HR160. Each of these resolutions represents an important step toward eliminating harmful waste and pollutants and transforming our island into a more sustainable place to live. The use of styrofoam products and non-biodegradable plastic bags has a significant detrimental environmental impact. This detrimental impact could easily be avoided by encouraging the use of readily available and affordable alternatives to these harmful products.

The State has spent considerable time, energy, and resources on figuring out how to encourage sustainable practices in Hawai'i. Passage of these resolutions is a simple, concrete way to begin implementation of the objectives and recommendations of the 2050 Sustainability Report. The 2050 Sustainability Report specifically encourages all government agencies to adopt sustainable practices, including by purchasing biodegradable products. Public support for sustainability measures is overwhelming and the time to take action of these recommendations is now.

The harmful effects of using styrofoam products and non-biodegradable plastic bags on both public health and our island ecosystem are well documented. Encouraging the State and private businesses to eliminate the use of styrofoam and non-biodegradable plastic bags protects marine mammals and other wildlife, makes economic sense, reduces the volume of waste headed for our already overflowing landfill, and will encourage the production of biodegradable products by local sugar cane companies.

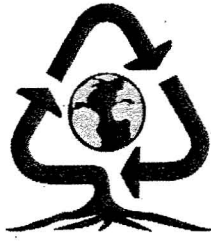
Many businesses using styrofoam and non-biodegradable plastic bags are willing to make a change for the health of our communities and environment. Passage of these resolutions is one step toward giving both the State and private business the encouragement needed to make this change happen.

Mahalo for this opportunity to provide testimony and for your support of these important resolutions.

Sincerely,

Randy Ching
Chair, Sierra Club O`ahu Group
oahurandy@yahoo.com

LATE TESTIMONY



Styrophobia.com

a natural way to go...

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Email: info@styrophobia.com

Ph: (808) BE GREEN

Testimony before the: Committee on Economic Development and Business Concerns (EDB)

Chair Yamashita, Vice Chair Wakai and members of the committee

April 4th, 2008 9:30am, Conference Room 325

Re: Support for HCR ¹⁹²~~148~~ Requesting the establishment of a voluntary compliance program to encourage communities and businesses to convert to expanded polystyrene foam alternative products.

I am writing in strong support of this resolution, which is a short-term compromise from a bill banning Styrofoam disposables in the State.

In the event testimony is submitted by industry lobbyists attempting to mark the statements in this resolution as unsubstantiated, we address each of the key issues below confirming the facts with references. The birds, seals, turtles, and fish of the Hawaiian Islands are dying, our beaches are polluted with plastic, we pay State and City workers to try and keep up with the loose and tumbling litter that never even makes it to the landfill.

Cities across the mainland such as San Francisco, Oakland, and Toronto and many others have won this environmental battle with powerful plastics lobbies and legislated outright bans on these products. This resolution offers simple encouragement to the public, to business, and to the Counties to change our polluting ways. Let's be an example for the world – the plastic is at our doorstep.

Mahalo for your kokua in supporting this resolution and for your public service,

Mike Elhoff

Marine Ingestion

In June 2006, the United Nations reported that there are, on average, around 46,000 pieces of plastic litter per square mile of ocean worldwide, causing the death of over 100,000 marine mammals and turtles and one million seabirds each year as a result of eating or getting entangled with plastic debris.

Polystyrene Spherules in Coastal Waters Edward J. Carpenter 1, Susan J. Anderson 1, George R. Harvey 1, Helen P. Miklas 1, and Bradford B. Peck 1 Woods Hole Oceanographic Institution, Woods Hole, Massachusetts 02543

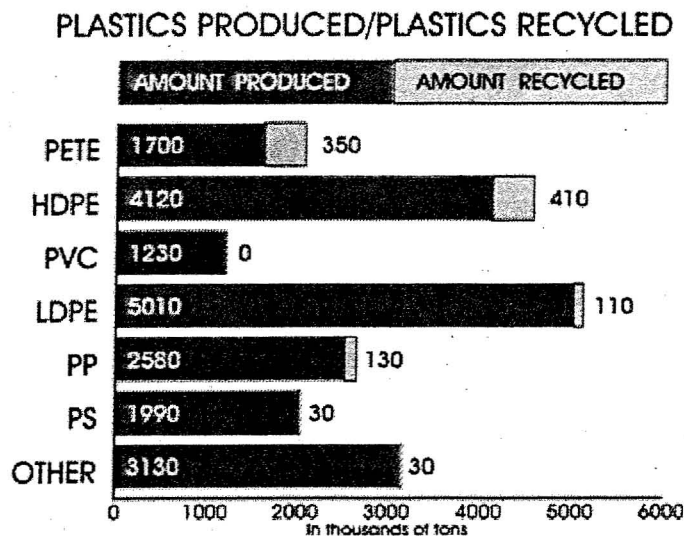
Polystyrene spherules averaging 0.5 millimeter in diameter (range 0.1 to 2 millimeters) are abundant in the coastal waters of southern New England...White, opaque spherules are selectively consumed by 8 species of fish out of 14 species examined...Ingestion of the plastic may lead to intestinal blockage in smaller fish.

Harmful marine debris such as plastic bags, rubber, balloons and confectionery wrappers is frequently ingested by marine species, which confuse them with prey species. Most marine species feed non-selectively and may consume marine debris, particularly ones accumulated in the vicinity of food items. This debris usually causes a physical blockage in the digestive system, leading to internal injuries and pain. Turtles frequently ingest plastic bags, confusing them with jellyfish which is common prey for all turtles. Research indicates at least 56 species of sea birds confuse fish eggs and crustaceans with polystyrene balls and plastic buoys, and so consume the debris. Eventual starvation may occur. Injury and fatality to vertebrate marine life caused by ingestion of, or entanglement in, harmful marine debris.

Advice to the Australian Minister for Environment and Heritage from the Threatened Species Scientific Committee on a public nomination of a Key Threatening Process under the *Environment Protection and Biodiversity Conservation Act 1999*

Recycling

More than 15 million tons of Polystyrene "PS" (aka Styrofoam) is produced each year, but less than 2% is recycled (see chart). Styrofoam can not be practically recycled, it can not be composted, and it is **never biodegradable**.



"In recent years, several plastics recycling companies have closed their doors. They claimed they could not sell their products at a price that would allow them to stay in business. Thanks to the relatively low cost of petroleum today, the price of virgin plastic is so inexpensive that recycled plastic cannot compete. The price of virgin resin is about 40 percent lower than that of recycled resin.

Because recycled plastic is more expensive, people aren't exactly lining up to buy it. Surveys conducted by Procter & Gamble and others show that while most people expect their plastic to be recycled, they won't go out of their way or pay a few cents more to buy a bottle made of recycled plastic."

Source: Hawaii Food Industry Association website - <http://www.eia.doe.gov/kids/energyfacts/saving/recycling/solidwaste/plastics.html>

Health

1. From the **US Navy** (Sept. 2007): Naval Medical Center San Diego Nutrition Management Department is taking the lead Sept. 20 to protect its patrons and the environment. Balboa Café, the name given to the

hospital galley, will systematically replace polystyrene (Styrofoam) take-out containers with more environmentally friendly biodegradable products. The full conversion will include 14 items with plans to phase in the remaining 12 by the end of the year.

The first items to be introduced are a compostable paper cup and a hinged, three compartment container made from sugar cane. These two items were chosen for the initial kick-off due to their high volume use. Hite said studies have shown the use of Styrofoam, which was initially developed during World War II as flexible electrical insulation, can have a long-term impact on health. In a 1986 U.S. Environmental Protection Agency Human Tissue Survey, styrene was found in 100 percent of all human fat tissues sampled.

"Styrofoam containers lose weight as styrene is absorbed into the food and drink held in the containers," said Hite. Styrene is unwittingly consumed and stored in human fatty tissue where it accumulates. Several factors determine the impact of styrene on an individual such as frequency of use and personal physiological factors. Those more sensitive to styrene build up may experience fatigue, nervousness, difficulty sleeping, blood abnormalities and carcinogenic effects. About half of the galley patrons manage their time with take out. That hectic pace motivated Laeske to want to help educate galley customers on the harmful effects of Styrofoam. For example, **microwaving food in Styrofoam is particularly dangerous.**

2. The present studies have proved that styrene and some other aromatic compounds leach continuously from polystyrene (PS) bottles used locally for packaging. Water samples in contact with PS were extracted by a preconcentration technique called as "purge and trap" and analyzed by gas chromatograph-mass spectrometer (GC/MS). Eleven aromatic compounds were identified in these studies. Maximum concentration of styrene in PS bottles was 29.5 microg/L. Apart from styrene, **ethyl benzene, toluene and benzene** were also quantified but their concentrations were much less than WHO guide line values. All other compounds were in traces. Quality of plastic and storage time were the major factor in leaching of styrene. Concentration of styrene was increased to 69.53 microg/L after one-year storage. **In Styrofoam and PS cups studies, hot water was found to be contaminated with styrene and other aromatic compounds.** It was observed that temperature played a major role in the leaching of styrene monomer from Styrofoam cups. Paper cups were found to be safe for hot drinks. Environmental Control Department, Directorate General for Royal Commission at Yanbu, P.O. Box 30031 Yanbu Al-Sinaiyah, Kingdom of Saudi Arabia. maqbool_60@yahoo.com

3. **"What are the Health Effects?** Short-term: EPA has found styrene to potentially cause the following health effects when people are exposed to it at levels above the MCL for relatively short periods of time: nervous system effects such as depression, loss of concentration, weakness, fatigue and nausea. Long-term: Styrene has the potential to cause the following effects from a lifetime exposure at levels above the MCL: liver and nerve tissue damage; cancer.

How much Styrene is produced and released to the environment? Production of styrene was 10.7 billion lbs in 1993. It is released into the environment by emissions and effluents from its production and its use in polymer manufacture. Consumers may be exposed to styrene through contact with resin products used in fiberglass boat construction and repair, and in auto body fillers. **Styrene may also leach from polystyrene containers used for food products."**

United States Environmental Protection Agency. Pollution Prevention and Toxics. November 1994 EPA 749-F-95-019. OPPT Chemical Fact Sheets Styrene Fact Sheet (CAS No. 100-42-5) <http://www.epa.gov/safewater/dwh/c-voc/styrene.html>

Price

Styrofoam vs Paper vs Sugar Cane Bagasse - we took same case weight paper items manufactured by few different companies and compared the prices to bagasse prices. For a 10" plate, that's 1 cent more. Let's put 1 cent for the environment, for tourism, and our health!

	Pactiv Styrofoam	Chinet Paper	Pactiv Paper	World Centric Bagasse
9" Plate, 500 count/ea.	\$28 / .06ea	\$62 / .12ea	\$62 / .12ea	\$45 / .09ea
7" Plate , 1000 count/ea.	\$36 / .04ea	\$91 / .09ea		\$62 / .06ea
10" Plate, 500 count/ea.	\$48 / .10ea		\$87 / .17ea	\$57 / .11ea
10" 3 Compt. Plate 500 ct./ea.	\$48 / .10ea		\$83 / .16ea	\$57 / .11ea
12 oz bowls, 1000 count/ea.	\$36 / .04ea	\$70 / .07ea	\$67 / .06ea	\$68 / .07ea

Fuel Value

The Hawaii Food Industry Association (HFIA) has claimed that styrofoam has a high fuel value for burning at HPower incinerator. The weight of biodegradable (44g) to Styrofoam (10g) plates is 4.4 times. Styrofoam has a energy/weight value of 16,000BTU/lb. and biodegradable at 6,400BTU/lb. or 2.5 times the fuel energy by weight. Thus, biodegradable plant fiber containers offer $4.4/2.5 = 1.8$ **times the fuel value over their styrofoam counterpart**. The styrofoam argument **fails** at HPower. Biodegradables will produce more BTU energy when burned. As confirmed in a phone interview with HPower officials, in addition to the higher overall fuel value, biodegradables burn at a lower temperature for a longer time, thus producing a more even combustion and higher overall boiler energy. Styrofoam has a high BTU/lb, but very little weight and a lot of volume. On a large scale waste diversion, such as the result of this legislation, converting to biodegradables offers almost twice the power.

Landfill Volume and Commercial Composting

Plastics lobbies claim that styrofoam takes up a very small percentage by weight, of the landfill. We know that styrofoam is light, but takes up a lot of volume. Our landfill is overflowing with volume. Let's report what really matters. Outer-Islands have no incinerator and therefore landfill or commercial composting are the only options. This resolution will encourage commercial composting and landfill diversion. Plastics are the #1 enemy of commercial composting facilities, contaminating product and raising costs. Biodegradable containers and bags help, not hurt composting efforts.

Not Paper vs. Styrofoam: Hawaii-made Sugar cane fiber!

While it is true paper can cost more, sugar cane fiber is very close in price as shown above. By staying with polystyrene, what's the environmental cost we are paying in trash collection, turned off tourists, increased fish prices, and landfill issues? The plastics lobby claims paper is worse than plastic for the environment – they have left out renewable plant fibers, such as Sugar Cane Bagasse – whose production is by far the lowest carbon footprint of all options. Sugar cane absorbs CO2 during growth, is **locally grown**, and is a byproduct, otherwise inefficiently burned due to its initial water content. By making food service ware, we can close the cycle on locally produced, grown, and composted.

Local Agriculture

There presently are two major sugar cane companies remaining in Hawaii. We currently import our biodegradable plates, cups, bowls, and take-out containers. The fact is these products could all be made

in Hawaii, by local companies, using local waste product. These companies will not move to manufacturing without a major shift away from styrofoam. Thus, no incentives to change, no local manufacturing. Please encourage local agriculture by passing these resolutions.

Change

Previous testimony by Hawaii Foam Products / K Yamada Distributors was that they might be put out of business by this bill. The fact is KYD offers a vast array of products other than styrofoam, and it is by diversifying that businesses adapt and grow. We believe KYD could benefit by diversifying into sugar cane molded products. We also point out to legislators to what real effort has been made over the decades as a major local producer of styrofoam, at public recycling awareness? This pollutant can not just be mass-produced without taking responsibility for the ecological consequences. McDonald's recognized this 18 years ago by eliminating styrofoam. The resolutions are a compromise that gives time for Hawaii Foam Products to adapt.

Proven Success

The City of San Francisco passed legislation completely banning food service styrofoam in 2007. In less than a year, according to the City agency SFEnvironment, they have an 80% compliance among the 1,440 restaurants and food establishments sampled. This - without one fine being issued. The bill works, and works well. The City had minimal expenditures, just a basic public education notice and vendor notification. Further, compostable service-ware and food scraps are now out of the landfill and being sent to a commercial composting facility. A resolution for the State of Hawaii promoting environmentally-friendly alternatives is a step in the right direction.

The Facts of the Resolution – A Summary

1. Polystyrene is not biodegradable.
2. There is no recycling program for polystyrene in Hawaii. The American Chemistry Council has stated "...recycling food service polystyrene does not make economic sense..." and "In the future, we will continue to see an absence of polystyrene food service recycling programs, because in business, economics rule over emotion. Recycling companies, like any other business, must make a profit to survive."
3. Styrofoam blows into the ocean, is ingested in marine mammals and birds.
4. Polystyrene contains Styrene, which has been proven to migrate to food when heated. Styrene is classified as a possible human carcinogen by the International Agency for Research on Cancer (IARC) and the WHO. The U.S. Environmental Protection Agency (EPA) has described styrene as "a suspected carcinogen" and "a suspected toxin to the gastrointestinal, kidney, and respiratory systems, among others."
5. Polystyrene is a petroleum product and as such, non-renewable.
6. Polystyrene when burned "contain cancer-causing chemicals such as benzene and formaldehyde, plus various poly-aromatic hydrocarbons and carbon monoxide." Grant Pfeifer - Washington State Department of Ecology.
7. Styrofoam is lightweight, white in color, non biodegradable, and is easily visible and blows in the wind. As such, it is seen by residents and tourists as litter, detracting from the natural beauty of the islands.
8. Biodegradable and compostable alternatives are available, economically competitive, and currently being used in place of styrofoam. This resolution will serve to make them even more competitive by improved economies of scale.

LATE TESTIMONY

April 3, 2008

To: House committee on Economic Development and Business Concerns (EDB)

Att: Kyle T. Yamashita, Chair

Re: Testimony in Support of HCR 191, HCR 192, and HCR 193

I am writing in support of HCR 191, HCR 192 and HCR 193. As the Kokua Festival Coordinator and an involved member of the Plastic Free Haleiwa Coalition, I feel strongly that we need to seek out alternatives to plastic and styrofoam. We have found the alternatives to plastic and styrofoam and put them into practice through our annual Kokua Festival event.

The Kokua Festival is a benefit concert for the Kokua Hawaii Foundation, a 501c3 nonprofit here in Hawaii. We support environmental education in Hawaii's schools and communities. The Festival is a functioning example of what can be done here in Hawaii.

At the Kokua Festival, we have Zero Waste areas. These areas are staffed with volunteers from Kamehameha, Kahuku, Mid-Pacific, and Punahou schools who assist us in educating the crowd. These areas have four waste bins; a food scraps bin, a compostable bin, a recycling bin, and finally a very small rubbish bin. We ask our booth vendors, as well as the Waikiki Shell vendors, to use biodegradable and compostable materials for their food service. We do not permit plastic bags to be used or sold.

We teach the event attendees to scrape their plates thoroughly, the food scraps are given to pig farms for food and since the plates, forks, napkins, straws, cups...are all made of biodegradable and compostable materials we shred them after the event with green waste so the waste then returns to dirt. We encourage the attendees to bring their own reusable water bottle and offer free, cold, filtered water, thus cutting back on plastic water bottles and the amount of recycling and waste at the event. By the time the event attendee gets to the last bin, which is rubbish, there isn't anything for them to throw away!

Due to the landfill issues here in Hawaii, we must choose alternatives to plastic and styrofoam. What may seem an impossible obstacle is possible, just ask the 16,000 attendees of the Kokua Festival if it can be done. We are fortunate to have so many people that help us at the Festival, but those people are the youth of Hawaii and they want to see change. Let's follow their example and get rid of single-use plastic and styrofoam in Hawaii.

Thank you for your time.

Aloha,
Katie Pere

Kokua Festival Coordinator
Kokua Hawaii Foundation, Director of Greening and Events