

DAVID Y. IGE
Governor

SHAN S. TSUTSUI
Lt. Governor



SCOTT E. ENRIGHT
Chairperson, Board of Agriculture

PHYLLIS SHIMABUKURO-GEISER
Deputy to the Chairperson

State of Hawaii
DEPARTMENT OF AGRICULTURE
1428 South King Street
Honolulu, Hawaii 96814-2512
Phone: (808) 973-9600 FAX: (808) 973-9613

TESTIMONY OF SCOTT E. ENRIGHT
CHAIRPERSON, BOARD OF AGRICULTURE

BEFORE THE SENATE COMMITTEE ON WAYS & MEANS

MARCH 31, 2017
9:30 A.M.
CONFERENCE ROOM 211

HOUSE BILL NO. 1578 HD1 SD1
RELATING TO CLIMATE CHANGE

Chairperson Tokuda and Members of the Committee:

Thank you for the opportunity to testify on House Bill No. 1578 HD1 SD1 that establishes the 13-member Carbon Farming Task Force, an 8-year effort assigned to identify agricultural and aquacultural activities and best practices that provide carbon sequestration benefits that may be used to establish a carbon farming certification. The Task Force is established within the Office of Planning and the Director serves as the chairperson. There is an appropriation to the Office of Planning for FY2017-18 and the same sum for FY2018-19. The Department of Agriculture supports the intent of this measure to the extent that it will benefit and improve efforts to increase food self-sufficiency in Hawaii, otherwise we defer to the Office of Planning.

Thank you for the opportunity to comment on this measure.



DAVID Y. IGE
GOVERNOR OF
HAWAII



SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

KEKOA KALUHIWA
FIRST DEPUTY

JEFFREY T. PEARSON, P.E.
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

Testimony of
SUZANNE D. CASE
Chairperson

Before the Senate Committee on
WAYS AND MEANS

Friday, March 31, 2017
9:30 AM
State Capitol, Conference Room 211

In consideration of
HOUSE BILL 1578, HOUSE DRAFT 1, SENATE DRAFT 1
RELATING TO CLIMATE CHANGE

House Bill 1578, House Draft 1, Senate Draft 1 proposes to establish a carbon farming task force which would identify agricultural or aquacultural practices beneficial to the mitigation of climate change, to the sustainability and climate resilience of Hawaii's agriculture, as well as to water quality and reef protection. **The Department of Land and Natural Resources (Department) supports this initiative and provides the following comments.**

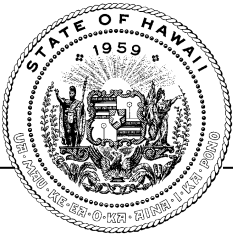
The Department is charged with the stewardship and management of the State's terrestrial and aquatic areas including its natural resources. Climate change poses an imminent threat to these natural resources. As shown by research and as already practiced around the world, climate-smart agriculture can have multiple environmental and economic benefits.

Among the different land uses, forest ecosystems and long rotation systems such as agroforests, permaculture, home gardens, and boundary plantings have the capacity to sequester greenhouse gases in plant biomass and in long-lasting wood products. Many agroforestry systems can also increase below-ground carbon storage, both in plant biomass and soil organic matter. In addition to higher rates of carbon storage, agroforestry systems provide benefits such as improved soil protection and ameliorated microclimatic conditions due to their wind break effect, improved soil fertility through higher content of soil organic matter and higher biological activity, improved nutrient cycling, reduced soil toxicities, more efficient use of solar energy, and reduced pests and diseases, by integrating trees and shrubs into agricultural practices. These benefits are consistent with the objectives of this measure.

To correspond with international technical terminology, the Department recommends to use the term “carbon sequestration” or “carbon storage” instead of “carbon content”. Also, the Department suggests changing SECTION 3 (a) (6) on page 4, lines 15-16 (Highlighted in yellow) as follows for clarification purposes:

(6) Identify ~~[ways that ecosystems and]~~ agroforestry ~~[systems]~~ practices that can be used to ~~[mitigate]~~ enhance carbon ~~[content]~~ sequestration in Hawaii; and

Thank you for the opportunity to comment on this measure.



**OFFICE OF PLANNING
STATE OF HAWAII**

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Web: <http://planning.hawaii.gov/>

DAVID Y. IGE
GOVERNOR

LEO R. ASUNCION
DIRECTOR
OFFICE OF PLANNING

Statement of
LEO R. ASUNCION
Director, Office of Planning
before the
SENATE COMMITTEE ON WAYS AND MEANS
Friday, March 31, 2017
9:30 AM
State Capitol, Conference Room 211

in consideration of
HB 1578, HD1, SD1
RELATING TO CLIMATE CHANGE.

Chair Tokuda, Vice Chair Dela Cruz, and Members of the Senate Committee on Ways and Means.

HB 1578, HD1, SD1 establishes a carbon farming task force to identify agricultural or aquacultural activities and best practices that provide carbon sequestration benefits that may be used to establish a carbon farming certification, establishes the task force within the Office of Planning (OP) for administrative purposes, and makes an appropriation. The Director of OP or the Director's designee shall serve as chairperson of the task force.

The Office of Planning (OP) supports the intent of HB 1578, HD1, SD1, which includes an appropriation for \$100,000/year for fiscal year 2017-2018 and 2018-2019 in order to fully address the scope of work of the carbon farming task force. We recommend that Section 4 of the bill (page 9, lines 13-19) be amended to read as follows:

SECTION 4. There is appropriated out of the general revenues of the State of Hawaii the sum of \$100,000 or so much thereof as may be necessary for fiscal year 2017-2018 and the same sum or so much thereof as may be necessary for fiscal year 2018-2019 for the administration and operation of the carbon farming task force, including the establishment and filling of one part-time equivalent (0.5 FTE) temporary planner position, which shall be exempt from chapter 76, Hawaii Revised Statutes, to provide support to the carbon farming task force, in accordance with this Act.

The sums appropriated shall be expended by the office of planning for the purposes of this Act.

Thank you for the opportunity to testify on this measure.



Email: communications@ulupono.com

SENATE COMMITTEE ON WAYS & MEANS
Friday, March 31, 2017 — 9:30 a.m. — Room 211

Ulupono Initiative Supports HB 1578 HD 1 SD 1, Relating to Climate Change

Dear Chair Tokuda, Vice Chair Dela Cruz, and Members of the Committees:

My name is Kyle Datta and I am General Partner of the Ulupono Initiative, a Hawai'i-based impact investment firm that strives to improve the quality of life for the people of Hawai'i by working toward solutions that create more locally produced food; increase affordable, clean, renewable energy; and reduce waste. Ulupono believes that self-sufficiency is essential to our future prosperity and will help shape a future where economic progress and mission-focused impact can work hand in hand.

Ulupono supports HB 1578 HD 1 SD 1, which establishes the carbon farming task force, because it aligns with our goals of creating more locally produced food and increasing the production of clean, renewable energy in Hawai'i.

Ulupono Initiative analyzes both agriculture and renewable energy sectors as part of our mission. In particular, we seek projects that find a common nexus between agriculture and renewable energy.

It is economically difficult to run an agricultural operation in Hawai'i, especially for our small farmers. According to the 2012 Agricultural Census, 88 percent of Hawai'i's farms are under 50 acres in size. For the local agricultural industry, soil health and fertility is the economic foundation for local food production. Many of Hawai'i's farmers already practice farming techniques that strengthen the land and environment.

This task force will identify benchmarks and best practices for carbon sequestration, which helps fight climate change and rising seas levels, a major threat to island economies. Once identified, best practice knowledge will spread and be adopted more easily by our local farmers and ranchers. Ultimately, once best practice techniques are quantified and measured, this can lead to certifications and financial incentives to further push our local farmers and ranchers to adopt more environmentally friendly practices while helping their fiscal profitability. Our local farmers and ranchers are positive stewards of the land and are our first line of defense for protecting and managing the agricultural lands in our islands.

Investing in a Sustainable Hawai'i



We believe that by collaborating, we can help produce more local food and support an economically robust homegrown agriculture industry, which strengthens our community with fresh, healthy food. As Hawai'i's energy issues become more complex and challenging, we appreciate this committee's efforts to look at policies that support renewable energy production.

Thank you for this opportunity to testify.

Respectfully,

Kyle Datta
General Partner

From: mailinglist@capitol.hawaii.gov
Sent: Thursday, March 30, 2017 6:17 AM
To: WAM Testimony
Cc: nredfeather@kohalacenter.org
Subject: Submitted testimony for HB1578 on Mar 31, 2017 09:30AM

HB1578

Submitted on: 3/30/2017

Testimony for WAM on Mar 31, 2017 09:30AM in Conference Room 211

Submitted By	Organization	Testifier Position	Present at Hearing
Nancy Redfeather	Hawaii Island School Garden Network - The Kohala Center	Support	No

Comments: I think it would be wise to "name" at the end of the Task Force Member Summary, One member from the Hawai'i Farm Bureau, and One Member from the Hawai'i Farmers Union United. Also, one Extension Agent from CTAHR-UH Manoa, and ONE CTE Specialist from Hawai'i Department of Education. Having more members with the knowledge and skills needed to actually make the correct decisions would be helpful.

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SENATE COMMITTEES ON ECONOMIC DEVELOPMENT, TOURISM, & TECHNOLOGY AND
AGRICULTURE & ENVIRONMENT Friday, March 31, 2017 — 9:30 AM
In SUPPORT HB 1578 Relating to Climate Change

Dear Chair Tokuda and Members of the Ways & Means Committee:

On behalf of Surfrider Foundation's Oahu Chapter, I am writing in strong support of HB1578, which creates a Carbon Farming Task Force in the state of Hawai'i.

Sustainable and healthy soils are a pertinent part of a future Hawai'i that reduces the impact that agriculture land is having on our oceans – the largest economic engine for our State. One of the most successful programs of Surfrider Oahu is its Ocean Friendly Gardens & Surfblitz program which teaches home owners, school children, and businesses how to create healthy soils that retain storm water runoff. Through organic soil enrichment, we can also take huge strides in creating land that fosters its ability to sequester carbon from our atmosphere. The combination of having soils that are healthy enough to be large sinks for pollution and to be sources of home grown food production, makes HB 1578 a key step forward in a sustainable Hawai'i that takes responsibility for its part in reducing the impact of climate change.

This bill will help to identify future possibilities in agriculture that lead to regenerative soils and increased abilities of our land to harness its true potential to mitigate the effects of climate change. The benefits of creating healthier soils for food growth also mean less reliance on fossil fuel based transportation to bring food to our islands. By harnessing the power of photosynthesis, plants convert carbon dioxide into energy and send as much as 40% of that carbon down through their roots to feed hungry microorganisms living in the soil.

The Food and Agriculture Organization of the United Nations (FAO) and the United States Natural Resources Conservation Service (NRCS) have both identified soil health and soil carbon as critical factors for climate resilience, food production, and climate change mitigation. Many of Hawai'i's soils are currently degraded, but we have the opportunity to reverse that trend.

There is great need to figure out ways that we can incentivize a Hawaii with regenerative soils through tax credits, composting programs, and the future of value added products from this industry. Taking initial steps in the form of a task force and information gathering is a prudent step towards this future. By using the collective knowledge of stakeholders, farmers, scientists, community groups, and citizens concerned with this issue we

will be able to formulate a program that creates a robust future for sustainable agriculture in Hawai'i.

Mahalo for taking the time to consider this testimony,

A handwritten signature in black ink, appearing to read 'Rafael Bergstrom'. The signature is stylized with large, bold letters and a prominent horizontal stroke across the bottom.

Rafael Bergstrom
Oahu Chapter Coordinator, Surfrider Foundation.



Board of Directors:

House Finance Committee

Hawai'i Alliance for Progressive Action strongly supports: HB1578

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Walter Ritte Jr.

Karen Shishido

Leslie Malu Shizue Miki

Kekaulike Prosper Tomich

Cade Watanabe

Dear Chair Tokuda, Vice Chair Dela Cruz and members of the Committee,

My name is Anne Frederick and I am the Executive Director for the Hawai'i Alliance for Progressive Action (HAPA). HAPA is a statewide environmental, social and economic justice organization. HAPA's fair and sustainable food systems work focuses on protecting Hawai'i's environment and the health of its residents from the potentially harmful pesticide impacts and promoting regenerative agriculture. HAPA engages over 10,000 local residents annually through our work.

I am writing in strong support of HB1578, which creates a Carbon Farming Task Force in the State of Hawai'i.

The Food and Agriculture Organization of the United Nations (FAO) and the United States Natural Resources Conservation Service (NRCS) have both identified soil health and soil carbon as critical factors for climate resilience, food production, and climate change mitigation.

Many of Hawai'i's soils are currently degraded, but we have the opportunity to reverse that trend. Often taken for granted, healthy soils provide numerous benefits including: reduced sediment, erosion and dust; increased fresh water retention; improved water quality; reduced salinity; improved plant health and crop yields; a reduced need for synthetic inputs; and sequestered carbon dioxide.

HB1578 is an important measure for the future of agriculture in Hawai'i.

I urge you to support HB1578. Thank you kindly for considering HAPA's testimony in strong support of the measure.

Respectfully,

Anne Frederick, Executive Director
Hawai'i Alliance for Progressive Action



Senate Committee on Ways and Means

Hawai'i Center for Food Safety strongly supports: HB1578, HD1, SD1

Dear Chair Tokuda, Vice Chair Dela Cruz and members of the committee:

My name is Dr. Ashley Lukens and I am the Director for the Hawai'i Center for Food Safety (CFS). CFS is a nationwide public interest, sustainable agriculture nonprofit organization whose mission centers on furthering the public's right to know how their food is produced, through labeling and other means. We have over 800,000 farmer and consumer members across the country, including nearing 11,000 in Hawai'i. On behalf of CFS and our members, I thank you for the opportunity to speak to you today regarding this important bill.

I am writing in strong support of HB1578, HD1, SD1 the Carbon Farming Task Force Bill. It is well established that agriculture contributes roughly 1/3 of greenhouse gas emissions globally¹. However, unlike other sectors like energy and transportation, agriculture also has the potential to sequester carbon emissions in terrestrial ecosystems. As noted in HB1578, HD1, SD1 states around the country are creating different mechanisms to offset carbon emissions. Hawai'i has an opportunity to create a Carbon Farming Task Force that creates incentives for farmers and ranchers to improve the resilience of their land in the face of escalating climate uncertainty.

Many of Hawai'i's soils are currently degraded, but we have the opportunity to reverse that trend. Often taken for granted, healthy soils provide numerous benefits including: reduced sediment, erosion and dust; increased freshwater retention; improved water quality; reduced salinity; improved plant health and crop yields; a reduced need for synthetic inputs; and sequestered carbon dioxide.

CFS advises that the proposed Carbon Farming Task Force base their incentives on the suite of soil management practices recommended by the USDA's Natural Resources Conservation Service with the following nuance: much of the potential for carbon sequestration in tropical ecosystems lies in above-ground biomass. The Carbon Farming Task Force must recognize this and include methods that increase plant biomass and biodiversity in its incentive programs. Any proposed carbon measurements should reflect Hawai'i's unique climate and geography.

It is worth noting that the discipline of soil science is changing rapidly and research is ongoing

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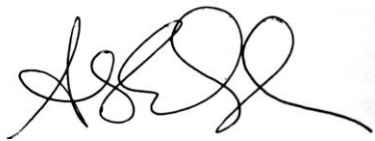
office@centerforfoodsafety.org

centerforfoodsafety.org

related to how quickly soils can sequester carbon. Therefore, CFS recommends the Task Force allow for innovative demonstration projects that currently fall outside of the generally recognized methods of soil management. For example, silvopasture—the integration of trees and shrubs in pastures with animals—can contribute to some of the highest sequestration rates in tropical ecosystems.²

The creation of a Carbon Farming Task Force is paramount to Hawai'i's food sovereignty, as well as our food and climate security.

Respectfully,

A handwritten signature in black ink, appearing to read 'Ashley Lukens', written in a cursive style.

Ashley Lukens, PhD
Director, Hawai'i Center for Food Safety

From: mailinglist@capitol.hawaii.gov
Sent: Thursday, March 30, 2017 12:42 PM
To: WAM Testimony
Cc: milholen.jennifer@gmail.com
Subject: *Submitted testimony for HB1578 on Mar 31, 2017 09:30AM*

HB1578

Submitted on: 3/30/2017

Testimony for WAM on Mar 31, 2017 09:30AM in Conference Room 211

Submitted By	Organization	Testifier Position	Present at Hearing
Jennifer Milholen	Styrophobia	Support	No

Comments:

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March 30, 2017

RE: Support for HB 1578 (Relating to Climate Change)

Ways And Means (WAM) Committee Hearing on Fri., 3/31, 9:30am, Rm. 211.

Dear Chair Tokuda and Members of the Ways & Means Committee,

As the Hawaii Manager of the Surfrider Foundation, I am writing in strong support of HB 1578, which would create a Carbon Farming Task Force for Hawaii. The Surfrider Foundation's five chapters in Hawaii and our extensive network of supporters believe this bill will help reduce the threats of climate change and increase our self-sufficiency in food production.

Healthy soils are a crucial part of Hawai'i's future and will help reduce the impact that agricultural lands are having on our oceans. Surfrider Oahu's Ocean Friendly Gardens & Surfblitz program teaches home owners, school children, and businesses how to create healthy soils that retain storm water runoff. Through organic soil enrichment, we can also take huge strides in creating land that fosters its ability to sequester carbon from our atmosphere. The combination of creating healthier soils that can become large sinks for carbon pollution and increasing home-grown food production will be a big step forward in reducing the effects of climate change and dependence on imported foods.

This bill will help create agricultural solutions that lead to regenerative soils and increased abilities to mitigate the effects of climate change. The benefits of creating healthier soils for food growth also mean less reliance on fossil fuel-based transportation to bring food to our islands. By harnessing the power of photosynthesis, plants convert carbon dioxide into energy and send as much as 40% of that carbon down through their roots to feed hungry micro-organisms living in the soil.

The Food and Agriculture Organization of the United Nations (FAO) and the United States Natural Resources Conservation Service (NRCS) have both identified soil health and soil carbon as critical factors for climate resilience, food production, and climate change mitigation. Many of Hawai'i's soils are currently degraded, but we have the opportunity to reverse that trend.

There is great need to figure out ways that we can incentivize regenerative soils through tax credits, composting programs, and the future of value added products from this industry. Taking initial steps in the form of a task force and information gathering is a prudent step towards this future. By using the collective knowledge of stakeholders, farmers, scientists, community groups and concerned citizens, we can formulate a program that creates a robust future for sustainable agriculture in Hawai'i.

Mahalo for your consideration and support of this worthy bill.

Aloha,

Surfrider Foundation Hawaii Chapters * 2927 Hibiscus Pl. * Honolulu, HI 96815
808-381-6220 * scoleman@surfrider.org * www.surfrider.org



Stuart Coleman
Stuart H. Coleman, Hawaii Manager

From: mailinglist@capitol.hawaii.gov
Sent: Wednesday, March 29, 2017 8:54 AM
To: WAM Testimony
Cc: kaulanad@gmail.com
Subject: *Submitted testimony for HB1578 on Mar 31, 2017 09:30AM*

HB1578

Submitted on: 3/29/2017

Testimony for WAM on Mar 31, 2017 09:30AM in Conference Room 211

Submitted By	Organization	Testifier Position	Present at Hearing
Kaulana Dameg	Individual	Support	No

Comments:

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From: mailinglist@capitol.hawaii.gov
Sent: Wednesday, March 29, 2017 11:02 PM
To: WAM Testimony
Cc: birdofparadise@hawaii.rr.com
Subject: Submitted testimony for HB1578 on Mar 31, 2017 09:30AM

HB1578

Submitted on: 3/29/2017

Testimony for WAM on Mar 31, 2017 09:30AM in Conference Room 211

Submitted By	Organization	Testifier Position	Present at Hearing
Andrea Nandoskar	Individual	Support	No

Comments: Aloha-please support HB1578 which will establish the Carbon Farming Task Force. Climate change is here, it's real and we need to do everything in our power to halt further greenhouse gas emissions and mitigate the emissions already in the atmosphere. Carbon sequestration is potentially part of the solution. And though it's not related to this bill please adopt a plant-based diet! Emissions from animal agriculture equal the largest source of greenhouse gases in the world. While we work on other solutions we must all change our diet! Watch the film "Cowspiracy" for details. Mahalo for supporting this bill.

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From: mailinglist@capitol.hawaii.gov
Sent: Wednesday, March 29, 2017 10:24 PM
To: WAM Testimony
Cc: blackbird4aloha@hotmail.com
Subject: *Submitted testimony for HB1578 on Mar 31, 2017 09:30AM*

HB1578

Submitted on: 3/29/2017

Testimony for WAM on Mar 31, 2017 09:30AM in Conference Room 211

Submitted By	Organization	Testifier Position	Present at Hearing
Merle Hayward	Individual	Support	No

Comments:

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From: mailinglist@capitol.hawaii.gov
Sent: Wednesday, March 29, 2017 9:41 PM
To: WAM Testimony
Cc: klahaela@gmail.com
Subject: Submitted testimony for HB1578 on Mar 31, 2017 09:30AM

HB1578

Submitted on: 3/29/2017

Testimony for WAM on Mar 31, 2017 09:30AM in Conference Room 211

Submitted By	Organization	Testifier Position	Present at Hearing
Jennifer Kimiko LaHaela Walter	Individual	Support	No

Comments: Promoting soil health ultimately leads to sustained agriculture and healthy reefs! Please support this important bill and give farmers and ranchers the incentives they deserve to protect our precious, albeit degraded, soils here in Hawaii! Thank you.

Please note that testimony submitted less than 24 hours prior to the hearing, improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

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From: mailinglist@capitol.hawaii.gov
Sent: Wednesday, March 29, 2017 9:02 PM
To: WAM Testimony
Cc: kshimata@hawaiiantel.net
Subject: Submitted testimony for HB1578 on Mar 31, 2017 09:30AM

HB1578

Submitted on: 3/29/2017

Testimony for WAM on Mar 31, 2017 09:30AM in Conference Room 211

Submitted By	Organization	Testifier Position	Present at Hearing
Kathy Shimata	Individual	Support	No

Comments: Everything we can do to support farming will improve our lives.

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From: mailinglist@capitol.hawaii.gov
Sent: Wednesday, March 29, 2017 8:55 PM
To: WAM Testimony
Cc: tboh18@yahoo.com
Subject: Submitted testimony for HB1578 on Mar 31, 2017 09:30AM

HB1578

Submitted on: 3/29/2017

Testimony for WAM on Mar 31, 2017 09:30AM in Conference Room 211

Submitted By	Organization	Testifier Position	Present at Hearing
Ted Bohlen	Individual	Support	No

Comments: This bill is a good first step toward using better farming practices to address climate change. Please pass it! Mahalo!

Please note that testimony submitted less than 24 hours prior to the hearing, improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

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From: [Michele Harman](#)
To: [WAM Testimony](#)
Subject: In support, HB1578, 3/31 930 am, Conf Rm 211
Date: Thursday, March 30, 2017 9:52:54 AM

Aloha Chair Tokuda and the Committee on Ways and Means,

I'd like to voice my support for the passage of HB1578 which relates to climate change and the Carbon Farming Task Force.

I have studied and worked in resource management in Hawai'i for over 10 years. I read HB1578 and see it has an exciting opportunity for us to build resiliency and grow sustainable technologies, practices, education, and jobs.

Apologies for the short letter. I just wanted to note that this bill looks like an important step in the movement towards a healthier future. Thank you for your time, aloha, michele

1635C 10th Ave
Honolulu, HI, 96816

From: [Boisvert-Jorgensen](#)
To: [WAM Testimony](#)
Subject: Support of HB1578 / WAM 3/31/17 9:30AM
Date: Thursday, March 30, 2017 9:24:07 AM

Dear Chair Tokuda,

We are writing to support HB1578.

Establishes the Carbon Farming Task Force within the Office of Planning to identify agricultural and aquacultural practices to improve soil health and promote carbon sequestration in the State's agricultural and aquacultural sectors. Appropriates funds.

Thank you for your time and attention to this critical bill.

Sincerely,
Mr. Kim Jorgensen
Ms. Denise Boisvert-Jorgensen
225 Kaiulani Ave #1604
Honolulu, HI 96815

From: mailinglist@capitol.hawaii.gov
Sent: Thursday, March 30, 2017 11:39 AM
To: WAM Testimony
Cc: bob-marion@hawaiiintel.net
Subject: Submitted testimony for HB1578 on Mar 31, 2017 09:30AM

HB1578

Submitted on: 3/30/2017

Testimony for WAM on Mar 31, 2017 09:30AM in Conference Room 211

Submitted By	Organization	Testifier Position	Present at Hearing
Marion McHenry	Individual	Support	No

Comments: I strongly support this bill. It will create incentives for farmers and ranchers that are improving our soil and protecting and improving food security for our state.

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From: [Nadia Garcia](#)
To: [WAM Testimony](#)
Subject: Testimony in Support SB 1578 HD 1 SD 1
Date: Thursday, March 30, 2017 3:08:53 PM

SENATE COMMITTEE ON WAYS AND MEANS
Friday, March 31, 2017 — 9:30am — Room 211
In SUPPORT HB 1578 Relating to Climate Change

Dear Chairperson Tokuda, Vice Chair Dela Cruz, and Members of the Committee:

My name is Nadia Garcia and this is my testimony in support of HB 1578 HD 1, SD 1 relating to climate change. I am testifying as an individual.

The Carbon Farming Task Force proposed in this bill would create incentives for farmers and ranchers to employ these climate-friendly practices and turn their farms into carbon sinks.

I am compelled to support Climate friendly farming practices in Hawaii because it is an efficient way to express the ethos of which is representative of our relatively small state at this critical time.

As an island community, it is paramount our legislators support farmers by giving them the means to optimize the material they are given, such as soil, to address our ecological distress related to climate change. It would be an excellent step in our pursuit of adapting to the challenges posed by climate change, and therefore an intelligent thing to do.

There are many impacts of climate change unique to Hawaii, as identified by the University of Hawaii Sea Grant. This includes a decrease in northeasterly trade winds which drive orographic precipitation on windward coasts, trends in declining rainfall, rising temperatures and more. Our islands are geographically and environmentally complex and therefore requires our utmost attention and pragmatism.

Carbon sequestration at ground level would also importantly enhance crop yields. As put by Verena Seufert, a researcher at the Institute for Resources, Environment and Sustainability (IRES), "...land conversion for agriculture is the leading contributor to habitat loss and climate change."

By increasing the potency of crop yields through management of the soil, we would be weakening the need for farmers to acquire more land, thereby decimating the leading contributor to habitat loss and climate change. We should be focused on making the land of which we already have more efficient in itself, instead of having to acquire more land which would have detrimental effects on our initiative to address climate change. If passed, this bill would also help balance the playing field between organic and conventional gardening. Research has shown that on average, the yield of an organic crop is 19 to 25 per cent lower than under conventional management and environmental benefits of organic agriculture diminish once lower yields are accounted for. By passing this bill, we would be helping to balance the unfair playing field between organic and conventional farming. This would in turn help people whom seek food autonomy, for organic is one way that consumers have control over and knowledge of how their food is produced since it is the only farming system

regulated by law.

This bill would help our community to a vast extent by reducing frivolous acquisition of land which lead to the negative effects specific to our state related to climate change. This bill would optimize resources we already have in a sustainable and effective way. Please pass this bill and let our local farmers to be proactive in regards to the effects of our changing environment as well as be encouraged by support from the legislature.

Sincerely,

Nadia Garcia
1181 Kukila Street
Honolulu, HI, 96818
[\(808\) 284-2279](tel:(808)284-2279)

Senate Ways and Means Committee

Dear Chair Tokuda, Vice Chair Dela Cruz and Members of the Committee:

My name is Rebecca Ryals, PhD, and I am writing in strong support of HB1578. I am an Assistant Professor of Agricultural Ecosystem Ecology at the University of Hawai'i at Mānoa. However, today I am providing personal testimony in support of HB1578. My research studies how carbon moves into, within, and out of ecosystems, and on the biogeochemical mechanisms driving changes in soil health, carbon storage, and agricultural production. I thank you for the opportunity to speak to you today regarding this important and timely bill.

It is well established that agriculture contributes roughly 1/3 of greenhouse gas emissions globally. However, agriculture is also an invaluable solution to climate change by increasing the amount of carbon stored in plant biomass and soil organic matter. High levels of soil carbon are a hallmark of healthy soils, providing numerous benefits for water quality, erosion control, and crop yields. The global importance of soils as a climate change solution and as a strategy to feed a growing human population has been globally recognized in the Paris 4 per 1000 Initiative. To achieve ambitious climate and food security goals, it is essential to support the farmers, ranchers, and scientists who can implement carbon-sequestering practices and document benefits and tradeoffs of innovative farming practices.

Hawai'i's climate and geography provide unique challenges and opportunities for carbon farming. Dry grassland and shrub land ecosystems tend to sequester carbon below ground in soil organic matter whereas wet and tropical forests store carbon predominantly in above-ground biomass. The Carbon Farming Task Force will allow Hawai'i to review the islands' distinct terrestrial carbon dynamics so it may recommend appropriate criteria for any future funding mechanisms.

While high levels of soil organic matter are a general indicator of soil health, a singular focus on soil carbon does not necessarily ensure a thriving agro-ecosystem. To that end, the Task Force should also consider how its recommendations affect small-scale farmers and how soil carbon sequestration can be achieved while increasing plant, animal, and soil microorganism biodiversity.

The creation of a Carbon Farming Task Force would be a positive first step towards fostering agricultural practices that mitigate climate change, enhance ecosystem health, and improve Hawai'i's food sovereignty. I strongly urge you to help Hawai'i take that first step, and pass this bill.

Respectfully,

A handwritten signature in cursive script, appearing to read "Rebecca Ryals".

Rebecca Ryals, PhD

Assistant Professor

Department of Natural Resources and Environmental Management

University of Hawai'i at Mānoa