

Greenhouse Gas Sequestration Task Force

MINUTES

Thursday, February 28, 2019: 1:32 PM
Hawaii State Art Museum
Ground Floor, Multipurpose Room
250 Hotel Street
Honolulu, Hawaii 96813

ATTENDANCE

- Members Present: David Forman (WS Richardson School of Law); Christian Giardina (DLNR); Scott Glenn (OEQC); Alan Gottlieb (Hawaii Cattlemen’s Council); Ashley Lukens (Center for Food Safety); Philipp LaHaela Walter (State DLNR Division of Forestry and Wildlife); Sandy Ma (OP); Michael Madsen (State DoH Clean Air Branch); Robert Miyasaki (Department of Transportation); Melissa Miyashiro (Blue Planet Foundation); Robert “Rocky” Mould (City and County of Honolulu); Ben Sullivan (County of Kauai); Ron Whitmore (County of Hawaii); and Earl Yamamoto (DoA)
- Present Still Need To Be Confirmed: Jonathan Deenik (UH CTAHR) and Kealoha Fox (Climate Change Mitigation and Adaptation Commission)
- Members Excused / Absent: Bobby Farias (Kunoa Cattle Company)
- Members Excused / Absent and Still Need To Be Confirmed: Susan Crow (UH CTAHR)
- Office of Planning Staff Present: Leo Asuncion (Planning Program Administrator); Danielle Bass (State Sustainability Coordinator); Justine Nihipali (Planning Program Manager); and Lisa Webster (MACZAC Administrative Assistant)
- Others Present: Rep. Chris Lee (Hawaii State Legislature); Greg Friel (Haleakala Ranch); Jordan Jokiel (Haleakala Ranch); Henry Curtis (Life of the Land); Linnea Bower (UH Manoa); Erin Dunable (AECOM); Malake`a Ane (Maui County); Jayme Barton (Hawaii Agriculture Research Center); Ikaika Hussey (Iliili Corp.); Stephanie Mock (Oahu RC&D); Mike Kido (SanHI); Keith McFall (State DoH Clean Air Branch); Aki Marceau (Elemental Excelerator); Marianne Rossio (State DoH Clean Air Branch); Leah Laramée (State DLNR Division of Forestry and Wildlife); Anu Hittle (DLNR); Leslie Cole Brooks (AAL); Jeannette Gurung (Women Organizing for Change in Agriculture & NRM); Joshua Silva (UH CTAHR); Kalisi Mausio (UH CTAHR); Aarin Gross (Conservation International); Severine Busquet; Nancy Convard (Stantec); Melodie Aduja (Democratic Party); and Harvy King (WCC)

DISTRIBUTED MATERIAL

- Greenhouse Gas Sequestration Task Force Meeting Agenda for February 28, 2019
- Draft Minutes for November 29, 2018 Greenhouse Gas Sequestration Task Force Meeting
- Permitted Interaction Groups Discussion and Formation

I. Call to Order, Public Notice, Quorum

Interim Chair Sandy Ma called the meeting to order at 1:32 pm. The Task Force's February 28, 2019 meeting notice was published on February 7, 2019, according to public meeting notice requirements. The Task Force has 19 members total pursuant to Hawaii Revised Statutes § 225P-4 (Act 15, SLH 2018), and there are 13 members present for quorum to start the meeting.

II. Welcoming Remarks

Interim Chair Ma welcomed everyone to the second Greenhouse Gas Sequestration Task Force meeting. Interim Chair described the meeting as discussing the paths and information gaps to get to carbon neutral or net negative as required by the GHGSTF statutory mandate. Before starting the meeting, special appreciation was noted for former Chair of the Task Force Chair Leo Asuncion. Leo Asuncion was the former Director of the Office of Planning and was nominated to be a Commissioner on the Public Utilities Commission.

Mr. Asuncion stated that the Task Force has lofty goals and the Office of Planning supports the Task Force. For those individuals needing to be confirmed to the Task Force, that is being done as we speak. The Boards and Commission will be calling you to schedule your hearing. Mr. Asuncion wishes the Task Force the best and it is bitter sweet to leave the planning work.

III. Introduction of Task Force Members and Stakeholders

Interim Chair Ma had Task Force members introduce themselves and their affiliation:

- (1) Alan Gottlieb, Hawaii Cattlemen's Council;
- (2) Earl Yamamoto, Department of Agriculture;
- (3) Christian Giardina, USDA Forest Service representing DLNR;
- (4) Mike Madsen, Department of Health Clean Air Branch;
- (5) Ashley Lukens, Director of the Hawaii Center for Food Safety;
- (6) David Forman, Director of Wm. S. Richardson School of Law Environmental Law Program;
- (7) Ron Whitmore, County of Hawaii Department of Research and Development;
- (8) Melissa Miyashiro, Blue Planet Foundation;
- (9) Sandy Ma, Interim Chair and Coordinator;
- (10) Scott Glenn, OEQC;
- (11) Jonathan Deenik, University of Hawaii Manoa;
- (12) Ben Sullivan, Kauai County;
- (13) Philipp LaHaela Walter, DLNR;
- (14) Rocky Mould, City and County of Honolulu Office of Climate Change, Sustainability, and Resiliency;

- (15) Robert Miyasaki, State Department of Transportation Statewide Transportation Planning Office; and
- (16) Kealoha Fox, Office of Hawaiian Affairs representing Climate Change Mitigation and Adaptation Commission.

Interim Chair Ma recognized Rep. Chris Lee. Rep. Lee stated that the 2019 Legislature is very busy. There are bills moving to support the Task Force. One bill in particular is to fix the Senate confirmation process. Interim Chair Ma thanked Rep. Lee for his remarks.

IV. Review and Approval of the November 29, 2019 Greenhouse Gas Sequestration Task Force Meeting Minutes

Interim Chair Ma informed the Task Force members that draft minutes of the November 29, 2019 Task Force meeting were circulated December 20, 2018. Two requested corrections were received – correcting the spelling of Member Forman’s name and change “department” to “division” of forestry and wildlife – and were made. The revised draft minutes of the November 29, 2018 Task Force meeting were published on the website of the Office of Planning on December 21, 2018.

Task Force members were given time to review the revised draft minutes of the November 29, 2018 meeting. Member Glenn moved to accept the revised draft November 29, 2018 meeting minutes published on December 21, 2018. Member Lukens seconded the acceptance of the draft November 29, 2018 meeting minutes published on December 21, 2018. The draft minutes of the November 29, 2018 Greenhouse Gas Sequestration Task Force meeting are now accepted.

V. Public Comments

There were no public comments and/or testimony on any of the agenda items.

VI. New Business

A. Report on Pathways to Reach Carbon Neutrality in Hawaii

This is a report on proposed approaches to defining carbon neutral landscapes and examples of pathways that other jurisdictions and entities have taken to move towards carbon neutrality, for consideration by leadership in Hawaii by Member Giardina with the USDA FS representing DLNR on the Task Force. Member Giardina’s presentation is available [here](#).

Hawaii imports goods and service with associated carbon emissions not released within the boundaries of the state of Hawaii – for example imported cement for construction. These emissions are caused during production of the cement, triggered by our purchase of the cement, but the missions are not imported, and currently are not part of Hawaii’s

approach to building a greenhouse gas inventory. A question for the Task Force is whether in our baseline accounting, we should account for product based carbon emissions on products that we import? Should it be the receiver of the product that must account for the carbon emissions – a chain of custody model? If the work of the Task force is to include these off shore emissions on imported goods, Marian Chertow of Yale University has constructed mass and energy flow budget for each of the Hawaii Islands that includes a full accounting of goods coming into the state and also waste generated within the state. Member Giardina recommends that the Task Force: 1) clearly define what carbon neutrality includes or doesn't include so that we can efficiently plan how to attain the 2045 legislated goal of becoming carbon neutral as a state); and 2) develops an operating framework to structure our planning around long-term carbon reductions including organizing and synthesizing the enormous resources available for this task.

Member LaHaela Walter asked whether Member Giardina has any recommendations regarding carbon neutrality definitions / framework. Member Giardina responded that he is not in a position to make a recommendation, but that defining carbon neutrality is something the GHGSTF needs to resolve, with guidance coming from informed decision makers.

Attendee Harvy King (WCC) inquired about the conflict triangle and which sides to prioritize. Member Giardina stated that there is such a diversity of renewable opportunities and that each renewable will impinge on the three different parts of the conflict triangle (see presentation), with each renewable and each geographical setting combining to have distinct effect on the three conflict areas. There will be a different mix of social justice, environmental and economic growth concerns for each application.

Attendee Henry Curtis (Life of the Land) inquired about the Hawaii Greenhouse Gas Emissions Report for 2015 and the role the Consumer Advocate (CA) played in reviewing the report. Member Madsen responded that DOH asked the CA to send its comments with each technical support document that was put in the preparedness report / the final report. There should be comment letters and emails back and forth with the other agencies comments.

Member Sullivan stated that he appreciated discussion of the external emissions but he does not have an answer for the Task Force as to how to proceed. The [C40 Cities](#) report lays out the idea that a lot of cities where it has been looked at those emissions are typically or can be as much as twice as the internal direct emissions we are accustomed to measuring.

Member Giardina stated that regardless of the definition adopted, the value of considering the external emissions is to have a comprehensive understanding of Hawaii's carbon footprint.

There is a fairly reasonable first cut on scope 3 (external emissions – see presentation) data from Marian Chertow. The question is whether we should engage it, and if yes, how to engage it.

Attendee Ikaika Hussey asked what role aviation and aviation tourism plays in this conversation. For our 2020 goal of the 1990 levels, per Member Madsen and attendee Keith McFall, aviation and international bunker fuel emissions for planes and ships traveling from foreign countries are excluded for 1990 emissions goals but they are compiled for information purposes.

B. Report on State Carbon Offset Forestry Projects

This is a report by Member LaHaela Walter, Forester with DNLN Division of Forestry and Wildlife, on the ability of State forests to sequester carbon after the presentation by Member Giardina on the need to sequester greenhouse gases. Member LaHaela Walter's presentation is available [here](#).

DLNR manages over 1 million acres, which is 25% of the land in Hawaii. DLNR is examining how these natural areas can be a solution to climate change and how they can generate funds to support DLNR mandates. There are two pilot projects at DLNR DOFAW -- one at Puu Mali (5,500 acres). An RFP was released to run a forest offset project. The entity that was selected was Pono Pacific. It is in the process of detailing its planning and doing its due diligence for the project. DLNR is providing an area for a carbon offset project and having the private entity run with it within boundaries of the RFP limited to native species. Forest carbon offset projects not only have climate change mitigation impacts but ecosystem benefits such as water recharge, preventing runoff that smothers reefs, provides habits, etc.

The second forest carbon offset project is Kahikinui (4,700 acres) in Nakula on the southern slopes of Haleakala. There is reforestation ongoing. DLNR is about to select a voluntary offset standard for the project. DLNR is running it itself and getting the certification and selling the offsets on the voluntary market.

With modeling, DLNR anticipates that both areas will sequester approximately 100,000 tonnes of carbon, which is based on a USGS model.

Member Mould asked to whom will the offsets be marketed. Member LaHaela Walter stated that DLNR will be focusing on local buyers but that DLNR is far away from selling credits.

Member Deenik asked if both projects are on the ground. Member LaHaela Walter stated that both projects are on the ground with trees planted but early in the certification process. The trees have been planted for 8 years. Member Deenik wanted to know about data collection for soil measurements. Member LaHaela Walter stated

that soil samples are being sent to Susan Crow's labs as part of the USDA Forest Service Forest Inventory and Analysis program's current remeasurement of their statewide system of forest sample plots.

Attendee Jayme Barton asked about the 100,000 tonnes of carbon. Member LaHaela Walter stated that the number was reached at about 50 to 75 years and it is like an S curve with sequestration initially very fast and then slowing down.

Attendee Jeannette Gurung asked which standard is being used to generate measurements for the projects. Member LaHaela Walter stated that they have not selected the standard and measurements are based on a USGS model. The reason for the delay is to be diligent and strategic in selecting the most appropriate standard, which can benefit the most people – public and private – and provide also marketization of other ecosystem services.

Attendee Erin Dunable asked what species are being planted. Member LaHaela Walter answered Koa based, which is nitrogen-fixing species. In Puu Mali area, Mamane and Koa are required to be planted; this is because Mamane is the key species for Palila habitat.

Member Sullivan asked what is the role of local government to support the DLNR efforts. Member LaHaela Walter stated that people were unsure and skeptical towards the new forest carbon approach which led to areas that might not have been the best for local carbon reforestation projects. The support of local government is crucial. We need to select areas that have good productivity. Support in selecting is crucial.

C. Report from Nicholas Krueger on Sequestration Potential of Pasture

This is a report from Nick Krueger a PH.D. candidate at UH Manoa to discuss ecosystem benefits of pasturelands and sequestration benefits. Nick's presentation is [here](#).

There is a lack of data of soil carbon stocks in Hawaii. The majority of ranching lands are located on Andisols in Hawaii. Andisols are less than 1% of the world's soils and store 1.8 – 5% of the world's soil organic carbon. Andisols are approximately 39% of Hawaii's land area (818,479 acres) but not all Andisols are equal.

At Haleakala, a hot spot of soil carbon was found in mid elevation. The majority of carbon stocks in ecotypes is underground. What is above ground in terms of carbon stocks is 1/5th of what is below ground.

Member Lukens thanks Nick for his work and Dr. Ryals and bringing the work of ranching, farming, and agriculture into Task Force work. Member Lukens asked if there are management practices to increase soil carbon stocks. Nick responded that it is tough and we need a baseline first.

Attendee Greg Friel of Haleakala Ranch stated that knowledge for the management is there. Haleakala Ranch is privately owned and can plan it out for 75-100 years but if someone is leasing land, then this is different and the term to work with is limited. There is no longevity on the lease.

Attendee Henry Curtis stated Life of the Land brought in experts in a Public Utilities Commission docket to discuss soil carbon, nitrogen fixing and humus oxidation and inquired if Nick looked at these factors. The answer was no.

Attendee Jayme Barton stated that ranchers on the mainland are installing best management practices on the mainland.

Member Gottlieb stated that what Henry described is what intensive grazing is all about. Improved grassland as a great soil sequester has been around for a long time. Fertilizer is used on the land through the cattle. Intensive grazing is putting a lot of cattle on a small piece of land and moving them every day or every other day. The heavy hoof action breaks up the top of the soil and allows rain in.

Member Lukens stated that this Task Force should advocate for longer leases for the ag community and not necessarily for carbon markets.

Attendee Harvy King inquired about the midrange carbon hot spots and whether they were specifically at Haleakala Ranch. Nick answered that this area is measured at the Andisol peak. Elevation, precipitation and temperature affect carbon stocks.

Member Deenik wanted to know how many samples do we need to account for variability. The cost of each sample is \$100 - \$120 of labor and \$8 of lab. The samples need to get to 1-meter depth. We probably need 1 sample every 80 hectares.

Attendee Jordan Jokiel stated that soils are incredibly rich as a sink.

Attendee Leslie Cole-Brooks questioned if poor practices can unearth carbon, then good practices can sequester carbon. Nick answered that in the affirmative. There needs to be education and outreach to the agriculture and ranching community.

Attendee Jayme Barton referenced the BMP through NRCS.

Attendee Jeannette Gurung questioned the confusing nature of the presentations. Interim Chair Ma explained that the initial presentation was carbon neutral / net negative and what the Task Force should consider in reaching those goals. Then Member LaHaela Walter talked about carbon offset projects the State is already embarking on to sequester carbon. Nick's presentation is to show that offset projects are not the only way to sequester carbon. Best management practices also work.

Member Gottlieb commented that the Task Force can highlight that ranching is important to carbon sequestration and dispel myths that ranching is bad for the environment.

Nick answered attendee Henry Curtis's question as to which soil type sequesters the most carbon and that degraded soils have the most spring back and Andisols sequester the most.

Attendee Melodie Aduja questioned why eucalyptus was referenced in Nick's presentation. Nick stated that it was merely to show the soil's ability to retain carbon regardless of the production system.

Member Giardina commented that it is important to distinguish carbon storage from carbon sequestration, with the focus of the presentation being storage.

There was great appreciation expressed by the Task Force for Nick and Haleakala Ranch regarding the presentation.

D. Status Report on Act 16, SLH 2018

This is an update on the status of the carbon offset framework feasibility report, which is being led by Danielle Bass, State Sustainability Coordinator. The RFP was issued and contract was awarded to AECOM. The contract will have a symposium to present information on: (1) existing policies and programs in Hawaii as they relate to carbon and greenhouse gas emissions reductions; (2) market based reductions mechanisms, i.e., carbon offset markets and alternatives; and (3) explore feasibility of a State administered carbon offset program. The input gathered at the Symposium will form the framework for the carbon offset program report for the State. The Symposium is to be announced and will be located at the State Capitol. AECOM will present to the Task Force at two future meeting.

Member Sullivan asked about the total cost of the contract, which is \$119,220.

E. Status of Proposed Projects for the Greenhouse Gas Sequestration Task Force

Interim Chair Ma discussed the soils health plan pilot project for Hawaii to come up with best management practices to test carbon sequestration on natural and working lands. This was released on 2/27/2019 and the offers should be received by 3/8/2019. This is to create a plan for a soils health to come up with BMPs to test carbon sequestration in State's agriculture and natural environment. This solicitation is being done through HlePRO and the total dollar amount cannot exceed \$33,500.

Interim Chair Ma discussed a contract -- government to government -- with UH CTAHR for the development of data resources to generate baseline in short- and long-term benchmarks for greenhouse gas sequestration, soil health and yield in natural and working lands. This contract is for \$60,000.

F. Potential additional projects / timing considerations

Interim Chair Ma discussed hoping to fund a third project before June 30, 2019, which is a scoping inventory of greenhouse gas sequestration solutions in Hawaii. This will be approximately \$33,000.

The reason for these projects that the Task Force is funding is because money for this fiscal, which ends on June 30, 2019, needs to be encumbered or returned to the State coffers by June 30, 2019.

G. Report on Various Meetings / Initiatives

Member Madsen presented briefly on recently released the 2015 Greenhouse Gas Emissions Inventory Report prepared by ICF International. ICF is also preparing 2016 and 2017 inventory reports. 2016 report is expected at end of 2019. 2017 inventory report in the first half of 2020.

Member Miyashiro asked about the delay for the reports. Member Madsen stated that other agencies and DOH must review the technical support documents before the documents may be released and reviewed.

VII. Formation of Permitting Interaction Groups

A. Economics Permitted Interaction Group

Only Task Force Members may be a member of a Permitted Interaction Group and a Permitted Interaction Group may not exceed Task Force quorum. The scope of a Permitted Interaction Group has to be set by the Task Force and if it is changed then the Permitted Interaction Group ceases to exceed.

Member LaHaela Walter stated that the vision of the Economics Permitted Interaction Group is to have an economic assessment of sequestration pathways done in Hawaii and cost to achieve storage.

Member Whitmore stated that this is getting to where are there opportunities for land managers to maximize the co-benefits of land management practices.

Member Mould stated that recommendations from the Economic Permitted Interaction Group should feed into the Legal / Policy PIG.

Members Bobby Farias, Miyashiro, Mould and Whitmore are added to the Economics Permitted Interaction Group and Members Glenn and Gottlieb are removed.

Interim Chair Ma answered question about revenues and where the funds will be spent. This should be addressed by the Legal / Policy Permitted Interaction Group as we have to have authority and administrative rules to expend money which we do not yet.

Member Sullivan suggested language “to develop an exploratory economic assessment in the context of broader statewide carbon mitigation goals and objectives”.

Interim Chair Ma stated the Climate Commission is looking at Carbon Tax in response to a question from Member Whitmore. The Task Force is looking at what policies will help sequestration in our natural and working lands.

A motion to adopt the following Economics Permitted Interaction Group was moved by Member Sullivan and seconded by Member Whitmore:

- 1) To develop an exploratory economic assessment of potential greenhouse gas (GHG) sequestration pathways in agriculture, aquaculture, agroforestry, forestry, and urban forestry in Hawaii in the context of broader statewide carbon mitigation goals and objectives;
- 2) With the membership to be Christian Giardina, Earl Yamamoto, Melissa Miyashiro, Bobby Farias, Philipp LaHaela Walter, Rocky Mould, and Ron Whitmore;
- 3) To coordinate and consult with any other permitted interaction groups, as needed within the scope of its task and so long as there is not a quorum of the members of the Greenhouse Gas Sequestration Task Force; and
- 4) With a deadline and deliverable date from one year of formation on February 28, 2019 or as soon as possible thereafter.

A roll call vote was conducted with all members voting aye except with Earl Yamamoto voting aye with reservations.

B. Science Permitted Interaction Group

Member Deenik asked about the product to be generated by any Science Permitted Interaction Group. Is it generating data or generating protocols for the measurement of data? It could be both.

After various cross talk to amend the language of the Science Permitted Interaction Group, a motion to adopt the following Science Permitted Interaction Group was moved by Member Sullivan and seconded by Member Whitmore:

- 1) To guide and coordinate the development of baseline levels and changes in greenhouse gas sequestration, soil health status, best management practices, and co-benefits for participation in carbon markets;
- 2) With the membership to be Susan Crow, Jonathan Deenik, Christian Giardina, Philipp LaHaela Walter, Maui County Designee, and Alan Gottlieb;
- 3) To coordinate and consult with any other permitted interaction groups, as needed within the scope of its task and so long as there is not a quorum of the members of the Greenhouse Gas Sequestration Task Force; and
- 4) With a deadline and deliverable date one year of formation on February 28, 2019 or as soon as possible thereafter.

A roll call vote was conducted with all members voting aye.

All Permitted Interaction Groups have now been formed for the Task Force.

VIII. Announcements

A. North American Carbon World Conference April 24-26, 2019 in Los Angeles

The Task Force can send people to the conference please let Interim Chair Ma know if interested. Members LaHaela Walter and Deenik have expressed interest.

B. Next Meeting Date and Time – May 30, 2019 (Tentative)

Please hold the date but this date is not confirmed / set.

C. Other

After June 30, 2019 the Task Force will run out of administrative funds. We are looking at HB 1483 as the vehicle to appropriate funds for next fiscal year for the Task Force.

X. Adjournment

Interim Chair Ma adjourned the meeting at 4:00 pm. A special thanks is given to Lisa Webster for her assistance throughout this meeting and especially during the formation of the Permitted Interaction Groups.