

Forest Stewardship Advisory Committee Meeting Minutes

Division of Forestry and Wildlife

KEY Project

47-200 Waihe'e Rd.

Kāne'ohe, HI 96744

January 19, 2018

Present: Michael Constantinides (Chair), Rich von Wellsheim, Greg Hendrickson, Gregory Koob, Patrick Conant, Nick Koch, Kip Dunbar, Hank Oppenheimer

Staff: Malia Nanbara, Marissa Chee, Jessica Idle

Guests: Katie Friday (Forest Service), Jenna Masters (Masters Unlimited LLC), Koa Hewahewa (Hōkū Nui Maui LLC), Kepa Hewahewa (Hōkū Nui Maui LLC), Ka'awa Hewahewa (Hōkū Nui Maui LLC), Craig Elevich (Hōkū Nui Maui LLC), Dana Lyons, Adam Laeha, Olu Campbell (OHA), Kristen Souza.

1. Site Visit

Kahulu Lio Farm and Kaalaea Koa Farm projects, Kāne'ohe, O'ahu.

2. Call to Order

Meeting was called to order at 12:17pm by Chair Constantinides.

3. Welcome Members and Guests

4. Review and Approval of September 8, 2017 Meeting Minutes

The Forest Stewardship Advisory Committee (FSAC) reviewed the meeting minutes from the September 8, 2017 meeting and made the following correction:

- Page 1: Andrea Dean (East Maui Watershed Partnership)" should be changed to "Andrea Buckman (Leeward Haleakalā Watershed Restoration Partnership)".

Motion to approve the September 8, 2017 FSAC meeting minutes. Moved by Member Koch; seconded by Member Dunbar.

Approve: Wellsheim, Hendrickson, Koob, Conant, Koch, Constantinides, Dunbar, Oppenheimer; Oppose: None; Abstain: None.

Motion Passed.

5. Forest Stewardship Program (FSP) Project Proposals

5.1 Dana Lyons Project, Puna District, Hawai'i County

- Staff Nanbara introduced the 19-acre project located in the Kopua lots in the Puna District of Hawai'i Island. The project site has a sparse 'ōhi'a canopy and uluhe understory. The landowners are motivated to install a perimeter fence to address the problematic presence of pigs. They also seek to promote educational and cultural values of the land through planting lā'au lapa'au for the community.
- Member Koch abstained from voting because his consulting company, Forest Solutions, bid on the project.

- Member Conant noted that he visited the site with Staff Nanbara and Chee. There are various incipient weeds, likely planted as ornamentals, that should be removed. It is not known if rapid 'ōhi'a death (ROD) is on the property, however 'ōhi'a samples should be sent to the United States Department of Agriculture to be assessed for ROD. He stated that manual weed removal should be sufficient for weed management and recommended getting a weed wrench. He also suggested that the trails on the property be leveled off so that a riding mower can be used to manually clear and maintain the paths.
- Member Dunbar asked for clarification on the desired outcomes of the project, and what the overall vision is. Guest Lyon clarified that the goal of the project is to preserve the forest and protect it from feral pigs. They also want to incorporate cultural and educational values through lā'au lapa'au plantings along the trail and possibly bringing groups to the site.
- Member Conant cautioned the landowner to not rely too heavily on volunteer help.
- Member Oppenheimer asked about the possibility of natural regeneration once the fence is built. Member Conant said that it was possible, but would be improved by other management practices.
- Guest Lyon explained that the property is listed on AirBnB to help cover costs and because they are not living there full time. They also are considering making it an educational experience by allowing interested guests to do a self-guided hike along the trail that would include informational signage. They would also provide the opportunity for people to gather from the lā'au plantings.
- Members Dunbar and Oppenheimer stressed that the project may require fulltime management, and that hiring a property manager may be beneficial.
- Chair Constantinides suggested increasing the number of seedlings to be planted given the sparse overstory. He also recommended diversifying the proposed overstory species in anticipation of mitigating for ROD.
- Staff Nanbara explained that the applicant is interested in writing the plan themselves with consultation from natural resource professionals. Chair Constantinides recommended hiring a consultant with a natural resources background to write the management plan to help ensure the plan is comprehensive enough the first time it is submitted.
- Staff Nanbara provided the committee with quotes for the development of the management plan ranging from \$3,499.98 to \$10,000.

Motion to approve the project proposal for the development of a Forest Stewardship management plan with 50% cost-share support for the total cost of the management plan not to exceed \$3,200. Moved by Member Wellsheim; seconded by Member Hendrickson.

Continued Discussion:

- Member Dunbar stated that there needs to be a plant list for the lā'au lapa'au species.
- Member Oppenheimer commented that the uluhe groundcover should not be disturbed.

Approve: Wellsheim, Koob, Conant, Constantinides, Hendrickson, Oppenheimer, Dunbar; Oppose: none; Abstain: Koch.

Motion passed.

5.2 QiCity, LLC Project, North Hilo District, Hawai‘i County

- Staff Nanbara introduced the 83-acre project located in Hakalau on Hawai‘i Island. The property has multiple forest types including a stand of eucalyptus. There are also streams that run through the property making it CREP eligible.
- Member Koch recused himself from voting since his company bid on the project. He noted that the property is very wet and that there is a nature reserve above the property.
- Member Conant suggested that the landowner avoid planting weedy spices and herbs such as allspice and Indonesian cinnamon. Member Oppenheimer added that the list of herbs and spices needs to have scientific names included as some may be invasive. *Desmodium* should be avoided as well.
- Member Hendrickson suggested that the proposed fence line be changed to include the home area to reduce costs.
- Member Conant questioned if there is a hot spring on the property.
- Chair Constantinides asked Staff Nanbara about the CREP plans for the property. Staff Nanbara said that the CREP Planner, Alex Gerken, determined that the entire property is CREP eligible, and suggested that the owner start small.
- Member Oppenheimer asked if there is ROD on the property. Staff Nanbara said she did not see it, but it could be in the area. The landowner would need to disclose the ROD threat in the management plan. The CREP plan would also including planting of a diverse overstory to mitigate the threat.
- Member Conant asked which threatened and endangered species are on the property. Member Koob pointed out that the species listed under wildlife habitat improvement include two invasive species. Habitat improvement activities should prioritize native species.
- Chair Constantinides said the map needs more detail as to where the different activities will be done.
- Members Conant and Oppenheimer expressed concerns about the silvopasture techniques. The committee wanted to know on how the koa will to be protected, and recommended waiting until the koa are at least seven years old before bringing cattle in.
- Member Oppenheimer expressed concern with using *Paspalum hieronymii*. Member Hendrickson noted that the Soil and Water Conservation District (SWCD) recommends *P. hieronymii* as a ground cover.
- Member Koob suggested that the plant list contain more native species if the purpose of the project is native species restoration.
- Staff Nanbara provided the committee with quotes for the development of the management plan ranging from \$5,000 to \$18,000.

Motion to approve the project proposal for the development of a Forest Stewardship management plan with 50% cost-share support for the total cost of

the management plan not to exceed \$3,000. Moved by Member Wellsheim; seconded by Member Conant.

Approve: Wellsheim, Oppenheimer, Hendrickson; Oppose: Constantinides, Conant, Koob, Dunbar; Abstain: Koch.

Motion failed.

5.3 Maui Land and Pineapple Company Inc. Project, Lahaina District, Maui County

- Staff Chee introduced the 21.7-acre project located in Lahaina, Maui. The landowner is currently receiving FSP funding for a 22.7-acre project on the property. The management plan for their current project was revised in 2016 to decrease the acreage from 29.6 to 22.9. This new proposal seeks funding to finish planting the remaining 6.7 acres of the pineapple fields, and to restore 15-acres of highly erodible hillside adjacent to the planting sites.
- Member Oppenheimer felt that the presence of rats and mice in the project area is highly likely.
- Chair Constantinides and Hendrickson expressed concerns over the budget and felt that cost per acre was high.
- Member Oppenheimer felt that if the goal is dry mesic forest restoration, that milo (*Thespesia populnea*) and kamani (*Callophyllum inophyllum*) would not be appropriate. Species such as *Rauvolfia*, *Erythrina*, *Polyscias sandwicensis*, would be better.
- Chair Constantinides felt that the committee can support doing weed control two to three times over the 10-year period. The amount as indicated however, is beyond the amount they can support.
- Member Hendrickson asked if the committee could give the landowner a limit within the committee's opportunity cost, so that the landowner can modify their management plan to reflect what the committee is willing to fund through FSP.
- Chair Constantinides suggested that the committee discuss this as a possibility in the future.
- Member Koch felt that the quote for management plan development seemed somewhat high, given the previously approved plan can be used as a template and will have overlapping information.
- Member Dunbar asked if the committee could view the previous management plan.
- Staff Chee provided the committee with quotes for the development of the management plan ranging from \$10,103 and \$13,750.

Motion to approve the project proposal for the development of a Forest Stewardship management plan with 50% cost-share support for the total cost of the management plan not to exceed \$2,000. Moved by Member Wellsheim; seconded by Member Koob.

Continued Discussion:

- Chair Constantinides said that detailed information on the management actions in the 15-acres of erodible gulch should be included in the plan, given that a large portion of the budget will likely go toward that area.

Approve: Constantinides, Conant, Hendrickson, Oppenheimer, Koch, Wellsheim, Koob; Oppose: Dunbar; Abstain: none.

Motion passed.

6. Forest Stewardship Program (FSP) Management Plans

6.1 Kahula Lio Farms Project, Ko'olaupoko District, Honolulu County

- Staff Nanbara introduced the project as 5.6-acres of invaded forest land in Kaneohe, O'ahu that was visited earlier in the day.
- Member Oppenheimer suggested that the management activities be as simple as possible because of the level of invasion and the erodible slopes.
- Member Conant requested that the land manager spell out what herbicides are going to be used on what, since there are so many types of invasive plants on site and only specific herbicides work on certain species. He expressed concern over the use of an excavator and said that where it will be used should be detailed in the plan.
- Member Wellsheim asked if the management timeline outlined in the plan differs from the work that has been ongoing. Guest Laeha clarified that work has only been done in field 1 so far, but with funding and a long-term plan, they will be able to bring on more people and increase management activities. The committee was concerned about the amount of work proposed for a small team.
- Member Koch felt that the formatting of the plan can be improved so that it more clearly describes what management practices are happening where. He also noted that parts of the plan are somewhat vague. It was recommended that pictures and/or maps of each field be added to each field description to aid with clarification.
- Member Koch noted that the budget is high, but recognized that the project is difficult.
- Member Conant warned that weed control will be a continuous battle, and suggested that the vision of the project should be increased to a 20 year period.
- Member Koch asked for clarification about mulching. Guest Laeha stated that wood mulching and weed matting will be used. Member Hendrickson noted that in the mulching narrative, the thickness should be 2", not 2'.
- Member Dunbar suggested that Guest Laeha become pesticide and herbicide certified so that more powerful, restricted products can be used. He also suggested that the *Dillenia* be drilled and left to die, rather than cutting and removing it.
- Member Oppenheimer asked Guest Laeha how many herbicide trials he has done. Guest Laeha stated that he has used Garlon, RoundUp, and Milestone herbicides, and cut-stump, drill, and frill methods. He noted that injecting seems to be most effective.
- Member Hendrickson was concerned about the high cost per acre of the project because of the consistent threat of invasive species, and asked if there is a way to implement management practices more efficiently. He suggested possibly lowering

the planting density and working in small areas to improve erosion control and stability.

- Member Dunbar suggested that the work be done from the top down, and that there should be focus areas that are completed before moving on to a new area.
- Chair Constantinides recommended planting what is known to grow well in high densities in the beginning, rather than going in with diverse plantings to start. He also noted that woody-residue treatment needs to be included in the management plans for both projects.
- Chair Constantinides stated that staff and the land manager should do an inventory of each field to see what work has already been done so that this can be reflected in the budget.
- Guest Campbell suggested that the land owner and manager seek a regenerative source of funding for the project when the contract is completed because of the ongoing threat of weeds.
- Member Dunbar commented that species that grow quickly can be planted to help block out weeds.
- Guest Friday noted that the plan should include a clear description of the landowner's vision.
- Guest Laeha asked if ecotourism and outreach would be good to include. Member Koob felt that education and outreach would convolute the plan.
- Member Koob noted that the proposed plant list is more in line with "reforestation" rather than "restoration" due to the fact that some of the species were not known to naturally occur in this area.

Motion to approve the management plan, contingent on a second review by the committee with their comments addressed. Moved by Member Dunbar; seconded by Member Koob.

Continued Discussion:

- Member Rich suggested that the committee not approve the management plan, but encourage the landowner to address the committee's comments and resubmit at the next meeting.
- Member Conant added that it would be stronger if the cost can be lowered.

Approve: none; Oppose: Dunbar, Wellsheim, Constantinides, Koob, Oppenheimer, Conant, Hendrickson, Koch; Abstain: none.

Motion failed.

Motion to defer the management plan and send it back to the applicant with comments for possible future resubmission. Moved by Member Dunbar; seconded by Member Koob.

Approve: Dunbar, Wellsheim, Constantinides, Koob, Oppenheimer, Conant, Hendrickson, Koch; Oppose: none; Abstain: none.

Motion approved.

6.2 Ka‘alahea Koa Farms Project, Ko‘olaupoko District, Honolulu County

- Staff Nanbara introduced the 12.5-acre project located in Kaneohe, O‘ahu, which is adjacent to the previously presented project, Kahula Lio Farm. The property has heavily invaded forest land and there is a grove of Hawai‘i Agricultural Research Center (HARC) koa in field 1. This property is CREP eligible due to the stream running along the property line.
- Member Wellsheim asked for clarification on which portions of the property will be FSP and CREP.
- Member Conant asked if there would be issues with koa and koai‘a hybridizing. Member Oppenheimer said that koa and koai‘a are growing together in Makawao and he has not observed any hybrids. Member Koob noted that koai‘a is not native to O‘ahu, and would therefore be considered a plant for reforestation, not restoration. Staff Nanbara also suggested that the land manager check with Natural Resource Conservation Service (NRCS) and CREP about using outside koa sources.
- Member Oppenheimer commented that the management plan should include HARC’s purpose for the planted koa trees. Staff Nanbara said the intended use was for seed stock availability, but that it may end up being more of a trial and they may not use the seeds. Member Hendrickson added that HARC would need to be notified of the hybridization risk.
- Member Koch requested bigger maps of each field.
- Member Koch encouraged herbicide application to the most vigorous plants while being aware of runoff.
- Member Oppenheimer suggested that herbicide trials be done so that time and resources can be spent more efficiently.
- The committee discussed the option of either doing one project at a time, or splitting the acreage of each into separate contracts over 20 years. This would allow management to be more focused and intense.

Motion to defer the management plan and send it back to the applicant with comments for possible future resubmission. Motion by Member Koch; seconded by Member Wellsheim.

Continued Discussion:

- Member Conant recommended dividing the project for budgeting purposes and so that smaller areas can be focused on.
- Guest Campbell suggested that the budget be broken down further.

Approve: Constantinides, Conant, Wellsheim, Oppenheimer, Dunbar, Hendrickson, Koob; Oppose: none; Abstain: Koch.

Motion approved.

6.3 Masters Unlimited LLC Project, Puna District, Hawai‘i County

- Staff Nanbara introduced the 5-acre project in the Puna District on Hawai‘i Island. A portion of property was previously bulldozed, and mostly has grasses and low shrubs.

The non-bulldozed portion consists of a mixed strawberry guava and 'ōhi'a forest. The landowner plans to collect native seeds and plant them on the property to create a seed source of native plants. Member Conant also visited the site with staff.

- Member Conant described the property as being very wet in some places. He felt the landowner is knowledgeable about controlling invasive weeds and that they will have to experiment with picking the right plants for the site.
- Guest Masters added that she collects seeds from Waiākea Forest Reserve, and that she wants the seed source to be diverse, with 20-100 of each plant if possible.
- Member Koob felt that the proposed species may not be appropriate for the area because of the high rainfall. Guest Masters said that a lot of the seeds will not be used in dry areas. She explained that based on fire maps, there is a history of fire on the Hilo side. This project is going to be experimental in determining how viable the drier seeds are. Wet seeds produced in the project area will also have to be tested for viability in drier areas.
- Member Koob commented that the experimental nature of the project should be reflected in the plan.
- Member Conant recommended modifying the narrative on page 3 to say, "bees will presumably increase pollination". He also was skeptical that mango would fruit if grown there.
- Member Oppenheimer recommended that the management plan contain the amount of plants that seeds will be collected from. Guest Masters said that the amount of plants she will collect seeds from will depend on the species and the area.
- Member Koch asked why the cost per acre for herbaceous weed control and brush management were the same. Guest Masters explained that the cost is based on the time it would take for her to do the work as a specialized volunteer.
- Chair Constantinides recommended creating multiple management units or fields for the bulldozed and non-bulldozed areas because the weed control and site preparation activities differ between the two. The budget should indicate which field a practice is being implemented in, the number of units, and the cost per unit.
- Chair Constantinides suggested using a brush hog to remove weeds. Guest Masters had reservations about using that type of equipment due to ROD, and said she prefers to work around the existing native plants.
- Member Koch asked for clarification on the average cost of \$6 per seedling, given most of the proposed species sell for less than \$6. Guest Masters explained that some of the species she wants to grow will have to be collected from the wild and grown on site. The cost in the budget accounts for nursery costs it would take to start a small native in situ nursery.
- Member Koch suggested looking into if other nurseries, such as Waimea or Hilo, will grow the seeds, rather than building an in-situ nursery. Guest Masters was concerned that if her seeds are grown elsewhere, that will affect adaptability. She was also concerned with ROD and moving potentially contaminated media.

- Member Wellsheim recommended front loading activities into the earlier years to leave time and funding available later on to cover new things as they come up, and so that plants are established earlier in the project.
- Member Dunbar raised questions about infrastructure on the property. Member Koch added that a water source will need to be secured if an in-situ nursery is going to be built. Guest Masters clarified that there will be a couple of 200 gallon tanks on the property, or one 500-gallon tank.
- Chair Constantinides recommended that for monitoring tree performance, the proposed plot sizes should be larger, such as 15x15m or 20x20m, to better capture data on species that are more spaced out.
- Member Dunbar asked if there needed to be a fire hydrant on the property, and was concerned about the lack of infrastructure. Chair Constantinides noted that this was outside the scope of the management plan.
- Member Oppenheimer asked where the collected data will be going. Staff Nanbara said the data would be sent to her as part of reporting. The data could potentially be shared with other landowners.

Motion to approve the management plan, contingent upon comments from the committee being addressed. Moved by Member Conant; seconded by Member Wellsheim.

Continued Discussion:

- Member Koch felt the management plan could go through another round of edits and be resubmitted to the committee. Member Conant disagreed saying staff could help tighten up the plan.

Approve: Constantinides, Conant, Wellsheim, Oppenheimer, Hendrickson, Koob; Oppose: Dunbar, Koch; Abstain: none.

Motion approved.

6.4 Hōkū Nui Maui LLC Project, Makawao District, Maui County

- Staff Nanbara introduced the 13.49-acre project located in Makawao, Maui. At the previous meeting, the committee felt that some of the proposed areas were too narrow to become forest habitat, so the project area has since been downsized. The project includes reforestation of pasture land and a multi-story agroforestry area. The native forest and agroforestry areas will support the cultural education programs and community engagement occurring on other portions of the property.
- Guest Koa Hewahewa shared that they received a grant from the Office of Hawaiian Affairs last year for agroforestry. The crops are growing well together with the slow growing trees. The project maintains a strong connection with the community by working with different hula halau.
- Member Conant asked if 6' fencing is tall enough to keep deer out. Member Dunbar noted that it is possible some may intrude, but that they could be managed.
- Member Koch asked about the 40-lot development parcel. Guest Koa Hewahewa explained that the initial plan was to cluster the homes so that they would occupy

20% of the land rather than being spread out. The county did not approve of that so there will now be houses in each tax map key.

- Member Oppenheimer asked if sun hemp is invasive. Chair Constantinides noted that he has not seen it spread. Staff Nanbara added that NRCS suggests it as a cover crop. Guest Friday said sun hemp has a weed risk assessment score of 1.
- Chair Constantinides encouraged seeking assistance from NRCS for the grazing operations.
- Chair Constantinides said that a zoomed in map of the forestry fields would be helpful. He also asked if the deep tillage acreage should be 2.4 instead of 2.04 in the budget table for year 1. Guest Elevich explained that some of that area is not tillable.
- Chair Constantinides noted that the site preparation costs are on the expensive side compared to other methods. The committee should decide if they are comfortable with supporting that.
- Member Hendrickson asked about the proposed high planting density. Guest Elevich explained that the plan is to quickly close the canopy and establish the agroforestry understory. Member Hendrickson felt it was creative, but asked if the same outcomes can be achieved at a lower cost per stem. Guest Elevich responded that the upfront cost would be high, but this method would hopefully reduce the cost of maintenance and weed control in the future.
- Member Wellsheim noted that it would be beneficial to have funding from other organizations. Staff Nanbara said that this site was not CREP eligible, but other fields on the property are. They have had joint meetings with NRCS about receiving assistance for certain practices, but cannot confirm funding as it is based on their ranking process. Chair Constantinides suggested working with NRCS and DOWFAW to determine which agency would get them the highest cost share for eligible practices.
- Member Oppenheimer recommended changing *Clermontia arborence* to *Clermontia kakeana* in table 3.
- Guest Campbell said it would be worth asking if development of the house lots are going to bring in any funding support for the FSP project through things such as maintenance fees or association dues.
- Guest Friday asked if they have tried direct seeding of large seeding species that are inexpensive but also self-thinning. She felt that cheaper species should be used if they are going to do such a dense planting with the goals of them self-thinning. Guest Elevich said they will go back and see if there is anything that can be replaced.

Motion to approve the management plan, contingent upon comments from the committee being addressed. Moved by Member Koob; seconded by Member Dunbar.

Continued Discussion:

- Member Conant said that the initial focus should be on the plants that will give them the quickest canopy cover in both the upper canopy and lower canopy.
- Member Koch noted that the cost per acre is \$2,900.

Approve: Constantinides, Conant, Wellsheim, Oppenheimer, Hendrickson, Dunbar, Koch, Koob; Oppose: none; Abstain: none.

Motion approved.

7. FSAC New Members and New Chair Elect

- Member Conant announced that he will be withdrawing his application.
- There were two applications for one open seat this term. Bart Potter and Zachary Mermel have applied.

Voting to approve Bart Potter for the open seat on the committee: Oppenheimer, Constantinides, Conant, Koch, Koob, Dunbar; Abstain: Hendrickson.

Voting to approve Zachary Mermel for the open seat on the committee: Wellsheim. Abstain: Hendrickson.

Bart Potter was selected for the open seat.

Motion to nominate Member Hendrickson as the new Chair for the FSAC. Moved by Member Conant, seconded by Member Dunbar.

- Member Hendrickson accepted the nomination.

Approve: Oppenheimer, Wellsheim, Constantinides, Conant, Koch, Koob, Dunbar; Oppose: none; Abstain: Hendrickson.

Motion approved.

Motion to nominate Member Koch as the new Chair-Elect for the FSAC. Moved by Member Hendrickson, seconded by Member Dunbar.

- Member Koch accepted the nomination.

Approve: Oppenheimer, Wellsheim, Constantinides, Conant, Koch, Koob, Dunbar, Hendrickson; Oppose: none; Abstain: Koch.

Motion approved.

8. Announcements and Travel

- The next meeting is scheduled for April 20th. Committee requested that the meeting be held on Maui to visit the Hōkū Nui Maui LLC Project or Maui Land and Pineapple Company Inc. Project.

9. Adjournment

- Meeting adjourned at 4:07pm.