

MINUTES OF ENHANCEMENT SUBCOMMITTEE MEETING of the NATURAL AREA RESERVES SYSTEM COMMISSION (NARSC) October 7, 2008, Honolulu.

DRAFT Subject to approval

COMMISSIONERS PRESENT:

Dr. James Jacobi
Dr. R. Flint Hughes
Ms. Rebecca Alakai
Mr. Trae Menard (via phone)
Mr. Scott Derrickson, for Director, Office of Planning

STAFF:

Mr. Randy Kennedy, DOFAW
Ms. Betsy Gagné, DOFAW
Ms. Emma Yuen, DOFAW
Dr. Scott Fretz, DOFAW
Dr. David Leonard, DOFAW
Mr. Michael Constantinides, DOFAW
Mr. Alvin Kyono, DOFAW
Mr. Roger Imoto, DOFAW
Ms. Lisa Hadway, DOFAW
Mr. Bill Evanson, DOFAW
Mr. Bryon Stevens, DOFAW
Mr. Matt Ramsey, DOFAW
Mr. Brent Liesemeyer, DOFAW
Dr. Dan Polhemus Division of Aquatic Resources (DAR)
Mr. Glenn Higashi, DAR

OTHERS:

Dr. Jonathan Price, University of Hawai`i Hilo
Ms. Page Else, Hawai`i Conservation Alliance (HCA)
Ms. Stephanie Lu, The Nature Conservancy
Ms. Deanna Spooner, HCA

ITEM 1. Call to order and introductions. Staff Yuen, as Enhancement Coordinator, called the meeting together at 9:15 a.m., followed by introduction of members and others present. Staff Yuen then gave an overview of the agenda and goals of the meeting.

ITEM 2. Discussion on areas that fill biological gaps in the Natural Area Reserves System, process for holding internal review, and working across programmatic entities.

2a. Summary of methodology of NARS Enhancement Report identifying existing gaps in the NARS.

Staff Yuen gave a Power Point presentation on the Process for NARS Nomination and Modification. This included the 10-step process approved by the Board of Land and Natural Resources earlier this year which contains a clarification for when DOFAW is asked to comment on individual nominations. Staff Yuen showed how the Hanawi West Extension was at step #1, while the Poamoho and Kanaio Mauka NAR nominations were at step #8. The Hono O Na Pali Extension NAR nomination was at step #9. All other proposals or ideas for Reserves were not yet part of the process because no formal nomination had been prepared. They were in a pre-process stage. The presentation continued with a justification for the Enhancement Report, to systematically identify areas for their biological resources in order to prioritize existing NAR proposals as well as identify other areas for conservation management. The role of the NARS Commission Enhancement Subcommittee was explained as having the responsibility of defining the criteria for evaluating nominations, compiling information to identify areas to have nominations prepared for full NARS Commission review as well as identify other ways to preserve natural resources. Additionally, the Subcommittee on Enhancement has the responsibility to meet with land owners and land managers whose areas are identified as biologically important to discuss opportunities for conservation management and designation.

The presentation continued with an overview of the data for the Enhancement Report. Data was discussed in earlier Subcommittee on Enhancement meetings and identified for evaluating these areas. In order to find specific areas that were the most “relatively unmodified” examples of ecosystems that had gaps in the NARS, a multi-stage radial survey method was used to ask experts about their recommendations for biologically important areas as well as for data and who else to speak to.

At approximately 9:45am Member Menard was contacted via telephone and put on speaker to join the meeting.

The data contained three sections: Flora, Fauna, and Landscape. Dr. Price summarized the “Total Plant Richness” layer, projecting the GIS layer on the wall. Dr. Price said that this layer was created by taking the predicted plant species ranges of all native plants and overlapping them to create a richness layer. Member Jacobi clarified that this did not include ferns. Northwest Kaua`i was used as an example of very high plant richness, due largely to the age of the island. Dr. Price explained that the Puna side of the Big Island was relatively poor in plant species richness because of the age of the island. Dr. Price gave a habitat model of *Alectryon* on Kauai, with moisture zones influencing projected habitat.

Dr. Price explained the Habitat Quality, which was part of the “Landscape” section, and said that it can paint a rosier picture about the quality of the habitat. This layer was based on Hawai`i GAP Analysis (HI-GAP), and is depicted by green areas being predominately native, yellow areas being alien-dominated areas, and red areas being completely converted areas such as urban and agricultural areas. Dr. Price mentioned that Kalalau had some species – a very small group – that did not have their ranges modeled because they were only known from one area, Koa`ie also had some of the rarest of the rare.

Staff Kyono requested that the map layers be sent to him.

Dr. Price gave an example of the Mauna Loa Mosaic where the western part was mostly lava fields with low potential diversity while the lowlands had more diversity, especially the kipukas. Staff Yuen explained that the Flora and Fauna categories were designed to pick up the highest examples of richness within the entire identified areas. Member Hughes asked whether

diversity had habitat quality taken into account. Dr. Price answered that he was running a model right now which will enable him to have specific list of all the plant species that can be predicted within a given boundary and whether their range falls within a native or alien dominated portion of the area to determine their likelihood of actually being found in that area. Mauna Loa mosaic had low diversity but high habitat quality, and was native dominated, compared to Kalalau, which has high species diversity but is hammered by weeds.

Member Menard asked whether the habitat quality layer was a good proxy for determining whether a given species would actually be found in a particular area. Dr. Price said there was a strong correlation of lots of plants in a high habitat quality areas, except for *Abutilon menziesii*. This new model would trace the likelihood of the plant species being found in that area. Also very helpful to have on-the-ground expert reconnaissance.

Dr. Price described the “Endangered Plant Richness” category which is a subset of the “Total Plant Richness” category which only includes endangered species. For instance, Kalalau cliffs contain many endangered species, and Oahu mesic lowlands also contain very high endangered plant richness, compared to Kaala, which is less disturbed.

Staff Yuen introduced the “Fauna” section, which mapped species ranges for forest birds, using HI-GAP species ranges. Dr. Price said that there was more precision with this because the birds’ ranges could individually be counted. Staff Fretz asked whether predictive model could be used for montane seabirds. Dr. Price answered that work is underway on Kauai to do that.

Staff Yuen introduced the “Aquatic Fauna” category which used information from the *Atlas of Hawaiian Watersheds and their Aquatic Resources*. This Atlas contained ratings for various factors of over 400 watersheds, and one of those was a 1-10 rating for native species, based on the amount of native aquatic fish and macroinvertebrate species surveyed in the stream. Staff Polhemus explained that the Atlas was meant to contain GIS shapefiles for streams except ones that were extremely infrequent, such as in Ka`u. Not all streams were surveyed, for instance some streams in Hamakua. The Atlas compiles stream data and distinguishes certified survey information from DAR staff and other types of information sources. It also gives an objective rating to total species and invasives, looking at fishes and macroinvertebrates. However, many are only found in the upper reaches of streams, for instance streams that dry out at the end. Staff Polhemus mentioned that in many cases a stream was the only place in a given landscape which was still biologically intact, even in areas where the landcover was totally converted, for instance, in Moloaa. Staff Polhemus said that the analysis that Dr. Price did with species richness was good, although ecologically chauvinistic, and that perhaps the Subcommittee should be aware of unique marine resources. There is one marine NAR, Ahihi-Kinau, and there are Marine Life Conservation Districts, but there isn’t representation of deep reef ecosystems with black corals. These have been mapped, especially in Maui. Another area to look at is Lua O Palahemo, which is a geological feature with endemic decapods. There is more terrestrial conservation information, and a general trend is to focus on the terrestrial, and then the aquatic, and then marine with conservation and the gathering of information. Coming next is models for predictive ranges of aquatic species, such as an Atlas of Hawaiian Aquatic Species.

Staff Yuen introduced the anchialine pools species rating, which presented under-development data that was gathered by Stephanie Lu at The Nature Conservancy as part of their Ecoregional Plan. Anchialine pools were given a species rating based on the species’ rarity. Ms. Lu mentioned that it was a draft rating system and that comments and input were welcome.

Staff Yuen summarized the “Landscape” section as different from the “Flora” and “Fauna” Sections because it looks at the overall condition of the biologically important area identified instead of picking up on the hotspots of species richness. The habitat section was based on 9 habitats distinguished by bioclimatic and substrate factors. For instance, Waihaka had 5 habitat types. Priority habitats were habitats identified by the Hawai’i Conservation Alliance as having the least conservation protection and highest amount of degradation. Priority habitats were Lowland Wet, Lowland Mesic, and Lowland Dry. Habitat contiguity used the same data as the habitat quality section to see whether the surrounding habitat was also high quality or it was more of an island surrounded by alien-dominated habitat.

Management contiguity was the next category which used HI-GAP’s measurement of land stewardship to determine Management Intent Status. The management intent status was meant as another viability measure because theoretically areas that were nearby areas managed for conservation would be more viable in the future. Both neighbors could partner and share management advice.

The next category was Ecosystems, which was based on the 10 ecosystems distinguished by The Nature Conservancy’s Ecoregional Plan, and the 15 geographic units, as well as the viability of that ecosystem in the regional unit. This showed the percent of ecosystems in the NAR and a slide that showed whether the NARS captured the most viable ecosystems. Also, looked at where there is good viability and unrepresented ecosystems but no NAR representation.

At 10:35am the Subcommittee took a 10 minute break, and reconvened at 10:45am.

ITEM 2b. Discussion of items listed in the “Next Steps” section of the report regarding a definition of “Representativeness” as well as “Relatively Unmodified,” and how to address the limitations and omissions in the reports’ data.

Staff Yuen gave a PowerPoint presentation on some of the omissions and limitations of the data, identifying marine, geological, terrestrial invertebrate, seabird and waterbird, and dryland and coastal resources. Staff Yuen said she could not find any comprehensive sources of data for some of these resources, but suggested using other surrogates such as waterbird information from the U.S. Fish and Wildlife Service’s Draft Recovery Plan for waterbirds which had information on core wetland habitats. Staff Yuen noted that point data, rather than ranges perhaps should be used to assess whether certain areas were important habitats because waterbirds need very specific type of habitats. Additionally, data only available for certain sites could be added when more information is pursued for certain areas that are higher priorities based on input from this meeting. An example was given for the 2008 seabird surveys on Kauai.

Member Jacobi discussed the size of ecosystems and areas needed for the preservation of these ecosystems, since some ecosystems are inherently smaller than others, so perhaps a percentage should be used, rather than size by itself. Dr. Price added that size needs are different for different types of ecosystems, such as a dryland ecosystem might not need to be very big, and large expanses might be more difficult from a management perspective. An ecosystem with forest birds might be a different story.

Staff Yuen mentioned that the Enhancement Report gave a 10% of representativeness threshold, and asked whether that number was something that they wanted to change. Staff Stevens asked whether that number was 10% of the remaining ecosystem or 10% of the original

extent. Staff Yuen answered that it was the remaining ecosystem. Staff Stevens pointed out that for dry forest, there is only 5% left, so perhaps there would need to be more than 10% of that remaining forest left. As far as ecosystems where the vast majority of the area is still present, 10% might be enough. Member Jacobi said that the 10% was a grab number that was arbitrary, and should be used as a check off to be done, and that there are other things that should be considered. Also, the NARS is not looking for the best, most intact areas. Its not just the most pristine areas that we want, but also areas that are not represented and degraded may need reconstruction and restoration. These areas might not be very pristine, and may not be found otherwise. Dr. Price offered the idea of having some kind of alternative minimum tax, where 10% where it is possible, but a higher minimum threshold of actual acreage. Staff Evanson said a relative proportion would be good.

Staff Yuen mentioned that in the Report, the bolded areas have the high viability ecosystems. One way to change the report is to take into account the minimum thresholds for acreages? Staff Yuen asked what that minimum acreage threshold would be, and whether there is bird or plant habitat. Member Jacobi said that it depends on what the target is, for instance whether it was a bog, it would need a much smaller area. It begs the question of how small an area one should recommend, or how large is too large and not necessary. Staff Stevens said that there was a paper by Jim Juvik done that showed what percent of each elevation zone was in conservation district. It would be interesting to see what percentage is protected now, and what is left. Dr. Price said there could be two discrete numbers: the percentage left which is protected, and the percentage that was originally there that is protected. Lowland wet and lowland dry were extremely extensive, even more extensive than montane, but there is little of that left now.

Staff Yuen said that the report did more of a simple analysis that stated whether it was less or more than 10% to determine the really underrepresented areas. Hopefully in the future we can take into consideration different factors. It would be a good exercise to note ecosystems that have very small extents now. Staff Yuen asked how can we use the information we have now to determine what are the biologically important areas, or should we change the charts? How can we work with what we have to accomplish what we have come here to do, which was to identify within this list, identify areas to pursue more information and have meetings with land managers.

Staff Ramsey asked about the coastal ecosystems, or geological information and whether they were out of the question because they were not on the list. Staff Yuen said that it is not possible to put that together now, and that was the original reason why they were left off in the report because they have not been measured in a statewide or comprehensive way. One way to make up for those limitations would be to go back to individual areas and make sure that geological, nonvascular plant, terrestrial invertebrate, information would be gathered. Member Jacobi said it could be looked at in another way, that this suggestion list is one from people on the ground. Where there is one way to measure certain information, such as the plant richness list from Dr. Price, when that information is applicable, that will be used. When that is not applicable or give the complete story, areas won't be taken off the list, but instead new information would needed to assess areas. We have one scalar to evaluate plant communities, and if they are wetland resources for instance we would need to come up with another way to evaluate, but they won't be taken off the list.

Staff Yuen said that in the next section of the agenda is to acknowledge the omissions in the data, such as coastal areas, which are "pink" all down the line, and instead of throwing them

out, we should acknowledge that perhaps these areas should be prioritized despite lack of information.

ITEM 2c. Discussion of results from report: Which areas should have more information gathered about their resources and be pursued for conservation management based on the preliminary evaluation of biological resource value.

Staff Yuen mentioned that the first step would be to determine how many areas we would like to start out with. She posed the question of how many areas should make the first cut and pursued for more information and meetings with land managers. Member Jacobi said that an area not initially picked would not be left out forever, or even for a long time, and this would be a test of the process. Staff Yuen addressed the Branch and NARS managers about how many areas would work. Staff Evanson said that at least to chose one, to test it out, especially because you see how slowly this process has gone. Staff Kennedy mentioned that the slowness of the process was a function of the lack of capacity, and now that there is capacity, there is not an infinite amount of capacity, but much more. Staff Evanson asked Staff Yuen how many she could handle. Staff Yuen said that it was important to note that the analysis only looks at two of the criteria for NARS, and we would want more than one, in order to diversify the portfolio. She said she would be willing to put together information together and schedule meetings for whatever areas are.

Staff Kennedy said the purpose of getting this information could also be used for grant proposals and also could be used for conservation of forest reserves. Member Derrickson concurred that this is not necessarily to take land from forest reserves. Staff Imoto said it was. Laughter. Member Derrickson discussed the resource value, and how conservation may be achieved, and that NARS may not be the best option for conservation management.

Staff Yuen said the next step is to have meetings with branch managers and talk about biological importance as well as size. Staff Kyono said that it was essential to get the buy-in from the branch. The first step is meeting with the district people. Member Jacobi said that here, we are coming up with a way to identify areas, maybe to be nominated for NAR, and many not. This links directly to DOFAW's management guidelines, and this information is very pertinent to that process. This could overlap. This is a starting point and could be used for various uses. Today we are identifying biologically important, rather than a NAR process. We developed this from that perspective, it is only more powerful if it is used across the board for many uses.

Staff Yuen mentioned the statutory power of the NARS Commission to advise the department and governor about the preservation of natural resources in general. Member Jacobi said that this is one assessment for the suggested one, a quick short-circuited process. Perhaps not more than 20 in this list, somewhere between 10 and 15, but ones we say could be important for NAR or NAPP or forestry, or are important. If we can walk out with tentative check marks, that would be great. We need the branch managers help in communicating to the districts that this is not a list of NARS, but of identification of biologically important areas.

Staff Kyono asked how critical habitat would be taken into account. Member Jacobi said he would rather have that discussion with Fish and Wildlife in the room.

Staff Imoto asked about the money to manage these areas, in a time of budget cuts, and how NARS does not have the money to manage all their areas now. Member Jacobi said that that is true, but that is true for forest reserves too.

Staff Yuen said that there is not time to talk about the management for each of the particular areas in this meeting. As far as all of management in general, the first step is identification or designation of the biological importance of an area. You can't write a grant without knowing the importance of an area. If management capability equaled designation, there would be no NARS in the first place, because for a couple decades there were not crews or funding for management of NARS. This is taking a long-term approach and starting with identification.

Member Jacobi said that these might help the management guidelines be identified for the most important areas for conservation. Maybe ultimately this whole list will be "upgraded" for conservation, and others will be added. He mentioned the 90 day process where DOFAW is consulted about the nominations for NARS is the very minimum, and the discussion will actually start much earlier about the management of these areas.

Dr. Price said that this can be looked at as a focus list. Some of these areas are strong one way, and others have strong points in different ways biologically. The end list should be very diverse. It would be also interesting to look at the challenges and issues, such as political, or management feasibility challenges. If there are two areas that are biologically similar, it is important to note the usage of that area, for instance hunting.

Member Menard said that from a management perspective, it is important to ask how much of an investment it is going to take to manage an area, and how expensive it will be and eat into our budget to manage other areas. Look at it in a larger scale with all the areas that need to be managed and see whether you can both manage that area as well as the other areas that need it. Of course, the first filter is looking at the biological importance.

Staff Stevens said that the point of these meetings is to find the unrepresented ecosystems. We should find the glaring holes in the ecosystems, instead of trying to save the entire world. We should prioritize those holes. I think we glossed over agenda item 2c – the representativeness. We don't want to be bogged down in political considerations, etc.

Staff Yuen mentioned Appendix 3 of the report, and said that there are many ways to display ecosystem gaps, but the way chosen in the report is to see areas that have less than 10% of their extent represented in NARS or Management Intent Status 1 or 2 areas. The other appendix has a list of natural communities not found in NARS, Refuges, National Parks, etc. However, this list is problematic because there is not spatial representation of the natural communities for all the areas, and the data is a little old. It was chosen to use a broader type of ecosystem classification. A spatial representation is in the HI –GAP Appendix, which natural communities with less than 10% of their extent in Management Intent Status 1 or 2.

This broader chart shows little representation in the Koolaus for instance, or Kahoolawe. Maybe we could talk about how this could be used. It is something we hinted out earlier with our discussion of the extent of the acreages and the size. Staff Hadway asked whether that the chart takes into account the other designations that could potentially make up for those gaps. Staff Yuen said that Appendix 5 lists ecosystems with more than 10% of their extent in a Management Intent Status 1 or 2 areas, List C has that data. Member Derrickson said it would be helpful to marry the missing ecosystems and whether the listed biologically important areas would fulfill that gap. Staff Yuen mentioned that the charts with the ecosystem section has that table, with pink areas as having more than 10% of their ecosystem extent in a NAR, the yellow areas being ones with less than 10% extent in a NAR but more than 10% in a Management Intent Status 1 or

2, and the green areas having less than 10% in less than any Management Intent Status 1 or 2. Staff Stevens noted that Maui is taken care of, except for Lanai.

At 11:30pm Member Menard excused himself from the meeting, and ended the phone call.

Member Jacobi said that there are two ways to look at the areas – the total richness, and another way to look at it look at the ecosystems and look for the holes. He would caution against looking at only the quality, since some ecosystems just don't have a good quality examples. Staff Kyono also mentioned that manageability is another big concern. Dr. Price said that manageability is implied in some of these areas, for instance the size and habitat quality. Staff Stevens said that manageability would be the discussion with the branches. Member Jacobi agreed that that was the 2nd tier of the discussion.

Staff Liesemeyer said that there was that discussion in Poamoho, about what kind of on the ground changes would happen if it was a NAR rather than a Forest Reserve, which is whether there would be any changes in the management if a NAR was designated. Member Jacobi said this is part of a larger DOFAW management guidelines process which may elevate conservation management of any kind of areas. Member Hughes asked Staff Liesemeyer what the answer was given to the Poamoho situation. Staff Liesemeyer said that it is a function of funding and capacity. In the past, NARS could do more, now there is a position for the Protection Forester in DOFAW.

Staff Yuen said that we are jumping ahead of ourselves talking with management and instead should focus on the representativeness questions. Please be prepared after lunch to talk about specific areas we would like to select for future management discussion. Dr. Price suggested that during lunch people could write down which 10 areas that should be selected.

Lunch was called at 12:15pm.

Meeting reconvened at 1:00pm.

Staff Yuen introduced the agenda item 2c and began a discussion of the island of Oahu. Staff Liesemeyer said that the Kaluanui proposal was good because it contained many unrepresented ecosystems, and that Poamoho and Manana were similar, but mentioned the snail population on Poamoho. Because Poamoho was nearer to Kaluanui, he preferred Poamoho. Member Jacobi asked whether there was a benefit to the boundary of Manana being lower, Staff Liesemeyer responded that the Poamoho boundary was based partially on where hunters go, and that there were some snails found lower than that boundary.

Staff Kennedy said that another option for Oahu was if the Turtle Bay property was purchased by the state, some really nice coastal areas could be possibly be looked into.

Staff Yuen asked if there were any more comments about Oahu, and then turned the discussion to Kauai. Kauai has many ecosystems unrepresented in the NARS, or any other type of Management Intent Status 1 or 2 areas.

These were Kuia North, Kalalau Back, Hanakoa Cliffs, Upper Koaie Canyon, Hono O Na Pali Extension, Namolokama Mountain, Blue Hole. General locations were described and projected. Habitat quality, total diversity, endangered diversity layers were projected.

Staff Kyono mentioned that Namolokama and Kalalau Back was biologically rich. Member Jacobi asked whether the Alakai Wilderness Preserve was not identified as biologically rich. Staff Kyono answered that it already was protected, and that it historically has been managed as a NAR although it was not a NAR.

Staff Yuen pointed out that the Kuia North represented ecosystems not in any Management Intent Status 1 or 2 areas. Staff Kyono mentioned that thinking ahead about that area, there would be problems, and Member Hughes asked what those problems might be. Staff Kyono mentioned that there is a lot of human use.

Member Jacobi discussed the Upper Koaie canyon, and how there is not any NAR representation of wet forest. Dr. Price said he was thinking the opposite, how there is not any really dry areas, and the Upper Koaie canyon also encompasses those ecosystems as well.

Staff Kennedy mentioned that this is the first crack at finding biologically important areas, and how Staff Yuen has established a network to get more information on these places.

Member Jacobi asked Staff Kyono whether there were other areas when there were other areas, especially looking at the DOFAW management guidelines, that are especially important for biodiversity. Staff Kyono said that the Wilderness Preserve was an especially important area, the entire boundary and not a subset of the area. He described the location of the fence in the Alakai, being proposed by the Kauai Watershed Alliance.

Staff Yuen asked about highest priorities for filling ecological gaps of protection. Staff Yuen shifted the discussion away from Kauai because Member Menard was not able to be contacted.

Staff Liesemeyer asked whether the HI GAP analysis included only state-owned areas, or all areas. Member Jacobi answered that it was all areas in Hawai'i.

Staff Yuen brought up the topic of the Big Island, since all representatives from the Big Island were in the room. Staff Imoto mentioned Tract 22 as being biologically important. Staff Yuen asked why, and Staff Imoto answered that the surrounding management contiguity was high.

Staff Yuen started discussing the areas identified as biologically important – Kohala Coast, Mauna Kea North Slope. Staff Hadway said that there was a 11,000 acre area that is in a long-term lease as a Science Reserve. Staff Yuen said that the area was nominated as geologically important, which was not covered in the Enhancement Report. Mauna Kea Ice Age Extension, and Pohakuloa Extension was also identified as biologically important too.

Staff Imoto asked why such a large amount of area was needed to be identified, since only a representative is needed. Staff Yuen mentioned that it is important to discuss the size of areas, and how this particular boundary encompasses all the alpine and most of the subalpine area. Staff Hadway said that the Pohakuloa Gulch was a good suggestion. Staff Imoto said it should probably extend to the new road, not the old saddle road. Staff Yuen asked what the justification of the area was. Staff Imoto said the critical habitat and endangered species, silverswords, and cultural areas.

Staff Yuen also showed the Mauna Loa Mosaic, Kulani, Tract 22, Malama Ki, Kaniahiku, Nanawale, Waihaka areas. Staff Imoto said that Waihaka ecosystems were represented in the National Park. Staff Yuen said yes, that had to be taken into account, although the Montane Wet ecosystems in Kau were not represented. Kau was also an idea –the entire forest reserve. Staff Imoto said that portions of it could be considered as important biologically. Kamilo and Lua Palahemo were discussed. Member Jacobi clarified that nothing on the Kona side was mentioned.

Member Hughes said that there were three sections of the Nanawale Forest Reserve. Member Jacobi said it was a placeholder for lowland wet. Staff Hadway said that Tract 22 was

lowland wet, since it was under 3,000 feet. Member Jacobi said it was pretty different forest in Tract 22. Staff Imoto said it would be good to get Tract 22 in some kind of designation - right now it is just hanging there.

Staff Yuen asked which ecosystems are not represented to see what areas could fill those gaps. Staff Kyono said it would be helpful to know, if any particular area was designated, then how much percentage of the area would be protected. Member Jacobi suggested having an account sheet, which would show how the percentages of these ecosystems would be protected.

Staff Hadway asked about the distinction of the Kona and Kau districts, and how the definition of these layers is very important since Manuka NAR is on the boundary of these areas. At 1:45pm Member Menard was contacted and joined the meeting.

Member Jacobi said that this process will help the management guidelines by getting more information. Staff Imoto said that the Waiea area near the South Kona refuge should also be recognized, and it was unencumbered state land. Also, dry cliffs above pebble beach is also important, and unencumbered state land, and was looked at as a possible forest reserve. Dr. Price said that south of the area was the biggest pili grassland he'd ever seen. Staff Imoto said that there was even a house on that area that could be used for management. Staff Yuen pointed out that there was not even a dry cliff category in Kona identified in The Nature Conservancy's ecoregional plan, and Dr. Price said that was a limitation in that they identified larger ecosystems. Staff Yuen said she could try to gather similar ecological data for these new areas, and thanked Staff Imoto for the suggestions. Member Jacobi agreed.

Staff Yuen mentioned that there was little representation in Pohakuloa-Puuwaawaa, and Kau Kapapala has unrepresented ecosystems of Montane Wet ecosystems, and Montane Dry and Mesic in Windward Mauna Loa. Staff Hadway said that the key biological areas are not the subalpine and alpine areas, and the proposal should be culled back several tens of thousands of acres. Member Jacobi said that the mesic and dry areas are key areas for birds, especially with the kipuka intermix. Dr. Price said that it is one of the more likely places for a Mauna Loa volcanic flow. Staff Yuen clarified that the Montane Dry and Mesic areas of Windward Mauna Loa were unrepresented. Staff Imoto mentioned the Kamehameha Schools property also has a lot of management going on, with the Watershed Partnership.

Member Jacobi said that it is important to look at the whole Kau area, and the entire area is a biologically important area. Staff Imoto also brought up the idea that the Hamakua area south of the Hakalau Forest and Wildlife Refuge had bogs and was biologically important, and contiguous with other management entities.

Member Jacobi said that the coast areas are interesting. Dr. Price brought up the lowland mesic areas directly north of Puu O Umi NAR, and is probably better than similar ecosystems in Muliwai. Staff Hadway mentioned the unit above the NAR that is designated as a management unit of the Kohala Watershed Partnership. Higher quality areas occur as you move northwest of the NAR. Member Jacobi said that a strip from the coast to the lowland mesic areas may be especially important.

Staff Evanson brought up Waimanu as unrepresented, and Member Jacobi said that wetland and waterbirds are not represented in these biologically important areas. Staff Hadway said it was great pig habitat.

Ms. Lu mentioned Kamilo as biologically important. Staff Yuen said the list for Big Island: Tract 22, Pohakuloa Gulch, Montane Wet and Lowland Wet areas in Kau, Waiea, Dry

Cliff above Pebble Beach, Montane Mesic and Montane Dry areas in Mauna Loa Mosaic, Waimanu for wetland resources, Koa Timber areas by Hakalau Refuge based on bog vegetation, and Kamilo, and Malama Ki.

The discussion went back to biologically important areas on Kauai. Member Jacobi said that this process is broader, more than just where new NARs will be, but for the management guidelines, or especially important areas in Forest Reserves. Member Menard said that Kuia North was a good representation of Lowland Mesic, encompassing Awaawapuhi and Honopu drainages. Upper Honopu drainage up to Kalalau area is one of the most defensible areas of mesic forest, in really good shape. From a management standpoint, the terrain lends itself to fencing. Dr. Price said that area is a hotbed of rare plant points. Member Menard said that Ken Wood gave him polygons of Kalalau of 40-60 acres of best remaining patches right there.

Staff Kyono asked whether Namolokama's boundaries would include the lowland reaches. He mentioned that half of the plateau is Kamehameha Schools land, the Western portion. Staff Yuen asked how lowland wet areas can be represented, since it is not protected in any MIS 1 or 2 areas. Dr. Price said that the lowland wet depicted in the habitat quality layer is a bit rosier than actual on-the-ground areas. Staff Kyono said that the Lowland wet areas below Namolokama is very degraded. Staff Yuen asked whether there is another Lowland Wet area, and Staff Kyono said that Blue Hole, below Waialeale is important. Member Jacobi said that cloud forest is important. Member Menard said that Blue Hole is in great shape. Staff Kyono said that the other lowland area to be discussed is Koaie, and is in critical habitat. Member Jacobi said that Critical Habitat is not necessarily something that leads to active management. Member Jacobi said that there had been a discussion of Kure Atoll, since that is part of Oahu. Member Menard said that Kure has a *Verbesina* population. Staff Kyono said perhaps we should be looking at Lehua.

Staff Yuen started the discussion of Molokai: Upper Kawela, Wailau Back, Olokui Coast, Kamakou, Ilio Point. Member Jacobi noted the important wet coastal resources around Olokui coast, which his rare. Dr. Price said that there are many rare plants along the south slope of Molokai. Staff Stevens said that perhaps a strip encompassing the lowland wet areas would be helpful. Ms. Lu suggested that Ilio point was especially important for coastal vegetation. Dr. Price noted geological interest in Ilio. Staff Evanson said that Ilio point deserves a higher level of protection.

Staff Yuen mentioned Lanaihale, and how it had many ecosystems not represented in any Management Intent Status 1 or 2 areas. Staff Hadway mentioned the NAPs, and how TNC might be withdrawing from them. Ms. Lu explained the NAPP situation is being reanalyzed as part of TNC's strategy. Member Jacobi said that the NAPP there needs to be analyzed for active management. Member Derrickson said that Lanaihale will have a lot of discussion, especially because of the wind power and discussing tradeoffs. Staff Kennedy said that it deserves to be on the list, and the Fish and Wildlife Service has a conservation easement for that area. DOFAW has a big involvement in that area. Staff Hadway mentioned the possibility of listing snails. Member Jacobi said Lanaihale would need to be on the list.

Staff Yuen brought up Maui: Kauaula, Puehuhunui, Keawalua to Waihee, Kahikinui, Hanawi West, and Waihoi Crater Bog, and Kanaio Coast, Kanaio Mauka, and Kanaio Makai. West Maui had a lot of representation in the NARS.

Puehuhunui and Kauaula was based on rare plants, but since these ecosystems are pretty

well-represented, it would be interesting to see where these go, said Staff Stevens. Ms. Lu said that input from The Nature Conservancy was that it was biologically important.

Staff Stevens said that there should be an overall evaluation of the north slope of Haleakala, and what is the best part and not to add one piece here or there. The Bogs piece should be part of a NAR as another natural community, and a lot of the lower elevation areas are a lot lower quality, and ask what purpose of the NAR is supposed to serve. Poouli may have been the reason why that cookie cutter portion of Hanawi was taken out. There is a management plan for the East Maui Watershed Partnership. Staff Evanson said that taking the entire area down to the road might be good because of the stream, Dan Polhemus had shown in stream surveys that it is an amazing stream. The geological features are also important.

Staff Stevens said that there is dry forest in the Kahikinui area, and that areas to the West of the state land is the best Koa forest, in DHHL land.

Dr. Price said that the Kanaio area had connectivity with lowland areas and coastal is important, and there are pockets of native, open, shrubby lava vegetation and wiliwili areas. Staff Evanson said that there are Kanaio Homesteads. Staff Stevens said the area is important biologically as well as archeologically, although not a good idea as a NAR. Member Jacobi said we should look at the area, and figure out where the most important areas are within that large TMK.

ITEM 2d. Discussion on the process for involving land managers and owners in areas that have been identified as important biological areas by the NARS Enhancement Report.

Meeting attendees took a 10 minute break at 3:00pm and reconvened the meeting at 3:10pm.

Member Jacobi stressed the need to discuss the management of these areas with the districts, and how it is important to have the branches to be able to comment on these areas. However, one part of this is definitely to make an area a NAR too. Staff Kyono said that the first meeting should be within DLNR division such as DOFAW and State Parks, and then discuss with other partners and watershed partnerships, agencies, etc.

Staff Yuen asked whether the agenda for those meetings would be the conservation management issue and biological issues. Staff Kyono reminded that management issues and long-term vision for the area should be discussed. DOFAW discussion should be first, then Watershed Partnership and others, and then public. Staff Evanson said that DLNR should be first, but important to make it as inclusive as possible, and have the Watershed Partnerships and agencies meeting before the public.

Staff Yuen asked what the pro and cons of this succession of meetings. Staff Kyono said it would cut a lot of work to start with the branch. Staff Constantinedes clarified that a DOFAW meeting would have to happen first, and then asked about the public informational meeting. Staff Yuen said that if there is concurrence to pursue a NAR designation, it would start the NAR process. If there was another mechanism that would preserve the area, it would go on its own process, which would be discussed in the subsequent meetings.

Member Jacobi said it is important to realize that right now economic times are tight, but there is long term value to designate areas and identify areas even though there is not enough resources to manage areas right now. It is important to think ahead, and stop other types of land uses that might preclude that area from remaining native.

Staff Evanson said that it is important that seabird and other types of information is compiled to do this analysis. Member Jacobi said that it is not feasible to go over 200 areas and get all their biological information compiled before starting action on areas – whether the nomination is a NAR or some other type of conservation designation. Staff Evanson said that information is needed to make a decision.

Staff Yuen said that she could send around a shapefile of biologically important areas to DOFAW, and Commissioners of the Subcommittee will meet with DOFAW and DLNR staff and then meetings to include other partners and agencies, and then possibly a public information session, especially if the conservation mechanism is a NAR.

ITEM 2e. Discussion on the proposed White Paper on NARS management.

Member Jacobi said this was going to be a product of brainstorming amongst ourselves. This process today is similar to Management Guidelines and TNC's Ecoregional Planning, and the Effective Conservation with HCA. DOFAW's has three main mandates, and one is for conservation. NARS is one way to specifically manage an area for conservation. That question leads to how to manage the area as a NAR, and basically it means to manage for the positive values like ecosystem structure and species diversity. These are measurable in some ways, primarily plant communities, in species diversity and modeling of plants and birds. How do you manage threats? Getting invasive species and the degrading factors out. From the standpoint of the NARS, no ungulates is a goal, and major invasive species is either controlled or eliminated. Controlled to a threshold level and that is a little flaky because that level is unknown. Also, selected portions are have small predatory mammals in control. That is the way he is looking at developing the white paper, and what is the measurable pieces. Other pieces out there are snails or damselflies, although that information is not comprehensive. Should link management actions to measurable items, and management for conservation as the primary goal. Also invited is help and input. Member Menard said that he could help, and he sees it the same way. The white paper should stipulate that on each area identified, there are specific management action aimed at these particular threats. There should be some kind of standard that says there should be a plan to address these threats, and tracking that. Member Jacobi said that this would be helpful for forest reserves and planning management for areas for conservation areas. Staff Constantinides said that this was the way to go, and management units in NARS should also have these goals. Member Jacobi said it was would be around 2-3 pages and he would circulate this around.

ITEM 3. Next steps; setting other meetings, timelines.

Staff Yuen said that the next steps have been discussed, and she will be gathering biological information, and schedule meetings with DOFAW, hopefully within a couple months. Member Derrickson asked if a list would be sent out to the districts. Staff Yuen said yes. Staff Kyono said that in December they started shutting down. Staff Evanson said it would be better to discuss after the new year. Member Menard wanted to know a month ahead of time when a meeting could be scheduled since he is very busy.

Staff Constantinides asked if the Enhancement Report was going to be refined further. He understood that it was many indices to score areas, and wanted these indices weighted and added the current status and management levels to areas. Branch offices could supply that information.

Staff Yuen said that there had been discussion on formalizing and weighting the indices and that the decision making process was to go ecosystem by ecosystem to figure out unrepresented ecosystems, and then adding in specific information. This Report was meant as a rough way to prioritize. Member Jacobi said it is something to consider. Since we know we do not have all the answers and data, and trying to do this makes you think about these issues. This is a tool to make a better decision, but doesn't give the answers. We don't have a full suite of measures, although it is something we should strive for. This involves the Effective Conservation project to measure these issues spatially.

Staff Constantinides requested that those management columns be added, even if they were only qualitative. Current status of land like ownership and designation is important, conservation management is good, even if there is a 1-5 or 1-3 scoring, that would be good.

Staff Cannarella said that Paul had asked him to do that kind of thing. Staff Hadway said that there is some kind of legal land framework. Staff Cannarella mentioned the State Assessment. Staff Constantinides said that actual management protection on the ground and active management was important to gather information on. Also, subzones should be considered. Staff Cannarella said that the subzones were pretty astonishing, looking across the landscape.

Staff Yuen said that scoring management would be hard. Member Jacobi said there was two things – scoring and weighting.

Staff Yuen thanked everyone for the long day of looking at maps. Member Jacobi told Member Menard that he had been secretly been recorded on videophone.

ITEM 4. Adjournment.

Meeting was adjourned at 3:50pm.

Respectfully Submitted,

A handwritten signature in black ink, consisting of several loops and a long horizontal stroke at the bottom.

Emma Yuen, NARS Enhancement Coordinator