

**WATER RESOURCES COMMITTEE**  
**Council of the County of Maui**

**M I N U T E S**

**Council Chamber**

**December 5, 2018**

**CONVENE:** 9:10 a.m.

**PRESENT:** VOTING MEMBERS:

Councilmember Alika Atay, Chair  
Councilmember Elle Cochran, Vice-Chair  
Councilmember Robert Carroll  
Councilmember Kelly T. King  
Councilmember Yuki Lei K. Sugimura (in at 9:32 a.m.)

**EXCUSED:** Councilmember Stacy Crivello  
Councilmember Mike White

**STAFF:** James Krueger, Legislative Analyst  
Stacey Vinoray, Committee Secretary

Ella Alcon, Council Aide, Molokai Council Office (via telephone conference bridge)  
Denise Fernandez, Council Aide, Lanai Council Office (via telephone conference bridge)

**ADMIN.:** Shayne R. Agawa, Deputy Director, Department of Water Supply  
Jennifer M. P. E. Oana, Deputy Corporation Counsel, Department of the Corporation Counsel  
Eva M. K. Blumenstein, Program Planning Manager, Department of Water Supply  
Robert C. De Robles, Planner VI, Department of Water Supply  
Gladys C. Baisa, Director, Department of Water Supply  
Richelle M. Thomson, Deputy Corporation Counsel, Department of Water Supply

**OTHERS:** Alison Cohan, Director, The Nature Conservancy, Maui Nui Program  
(2) other people in the gallery

**PRESS:** *Akaku Maui Community Television, Inc.*

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CHAIR ATAY: . . . (*gavel*) . . . Good morning, everyone. I want to welcome you to Wednesday's December 5<sup>th</sup> Water Resource Committee meeting. Time now is ten minutes after the hour of nine o'clock. I want to thank Staff for rounding up our members. I want to remind everyone right now we are at bare quorum, so if anyone needs a break or

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anything, you need to let me know so I can put us into recess. I want to call this meeting to order and ask for decorum and ask everyone to silence their cell phones. We want to be introducing the members of the Committee. Myself, Alike Atay, Chairman for this Water Resources Committee, as well as Vice-Chair, Elle Cochran.

VICE-CHAIR COCHRAN: Aloha. Good morning, Chair.

CHAIR ATAY: Good morning. Robert Carroll.

COUNCILMEMBER CARROLL: Aloha, Chair.

CHAIR ATAY: Excused this morning is Mike White, and I understand, on her way, Yuki Lei Sugimura, and present Member Kelly King. Also, Stacy Crivello shall be on her way. I want to recognize from the Administration, we have Eva Blumenstein, Planning Program Manager, Department of Water Supply.

MS. BLUMENSTEIN: Good morning, Chair.

CHAIR ATAY: Good morning. I also understand, Deputy Director Shayne Agawa, Water Supply, here.

MR. AGAWA: Good morning, Chair.

CHAIR ATAY: And thank you for being here. And I also understand that Director Baisa will be coming after she completes a meeting and will also be joining us. Representing Corporation Council, Jennifer Oana.

MS. OANA: Good morning, Chair.

CHAIR ATAY: Good morning. I also want to recognize Committee Staff, Stacey Vinoray and James Krueger. This morning, our Hana Office is closed, but I do want to recognize Lanai Office Staff, Denise Fernandez, as well as Molokai Office Staff, Ella Alcon. As well as recognizing my staff of Policy and Legislative Analyst, Trinette Furtado and Brian Bardellini. Before we go further, I also want to recognize, joining us today and doing a presentation is Alison Cohan with The Nature Conservancy. Okay. Members, we have one item on today's agenda, followed by a list of referrals to the Council Chair for the next term, and this one item today we have is WR-5, pertaining to Watershed Management and Protection. Before we go forward, I want to open this time now for begin taking public testimonies. Staffs?

**. . . BEGIN PUBLIC TESTIMONY . . .**

MR. KRUEGER: Mr. Chair, there is no one in the Chambers waiting to testify.

CHAIR ATAY: Thank you. I want to reach out to the island of Molokai. Do we have any public members wanting to testify?

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MS. ALCON: Good morning, Chair. This is Ella Alcon on Molokai and there is no one here waiting to testify.

CHAIR ATAY: Thank you. And turning to Lanai Office, do we have anyone wishing to testify?

MS. FERNANDEZ: Good morning, Chair. This is Denise Fernandez on Lanai and there is no one waiting to testify.

CHAIR ATAY: Thank you. Seeing that there are no, there is no one else wishing to testify, if there are no objections, I will be closing public testimony.

COUNCILMEMBERS VOICED NO OBJECTIONS.

**. . . END OF PUBLIC TESTIMONY . . .**

**WR-5 WATERSHED MANAGEMENT AND PROTECTION (CC 17-79)**

CHAIR ATAY: Okay, agenda item WR-5 Watershed Management Protection. Committee here, this Committee will be addressing...what we've done is in the past, recently, we've had grantees who've received fundings [sic] through the watershed management and protection, and what we're trying to do is allow grantees more ample time, rather than having 13 grantees coming in and all having three minutes or four minutes to educate members on their projects and their goals and objectives and fiscal needs, we were trying to give everyone more time so that they would have the ability to update the Members where they're at. So, with that, we'll continue this discussion on watershed management and protection, specifically watershed partnership grants, and I want to remind everyone that when we last met, we also had presentations by Dr. James Leary from UH CTAHR and others, and so, I would ask members that for future reference, you guys can go to the available minutes that's also for your view on Granicus, and have a better understanding, moving forward in the planning of budget to understand the different grants. For today's meeting we have with us Alison Cohan from The Nature Conservancy and she'll be giving us a presentation on TNC's watershed protection work here on Maui. Members, if there are no objections, the Chair will designate her as a resource person, pursuant to Rule 18(A) of the Rules of the Council so she can give her presentation.

COUNCILMEMBERS VOICED NO OBJECTIONS

CHAIR ATAY: Ms. Cohan, thank you for being here today. And also joining us, also want to say that, before we do that, also joining us from the Department of Water Supply is Eva Blumenstein, the Planning Program Manager for the Department, and I want to turn things over to you right now, to see if you have any comments before we allow Ms. Cohan to proceed.

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MS. BLUMENSTEIN: Thank you, Chair. Yeah, we appreciate the opportunity to have the grantees come and give a longer and in-depth overview. TNC have been a grantee for a number of years because one of their primary projects is the Waikamoi Preserve. That's immediately mauka of our flume and Waikamoi Watershed that's one of the primary recharge areas for surface water and groundwater both for Upcountry system and Central, so it's a really key recharge. One of the few intact native forests, and there's numerous threats ongoing and increasing, such as Himalayan ginger and other things, so it's a priority area for us. And the other grant we fund through water rates is Kapunakea on the west side, where TNC has a grant, it goes back from Pioneer Mill days. Also, a key recharge area, but that also benefits Kaanapali Land, so we're not the only primary water end user in that area. So yeah, we really appreciate this important, important projects that we would like to continue funding consistently. Thank you.

CHAIR ATAY: Okay. Thank you. Now, I'd like to turn things over to Ms. Cohan and please proceed with your presentation.

**. . . BEGIN PRESENTATION . . .**

MS. COHAN: Mahalo. Mahalo for having me, Chair Atay, Vice-Chair Cochran and Councilmembers. I really appreciate you guys coming today, and thank you, Eva, for, well for everything, but for that great introduction. Again, my name is Alison Cohan. I'm the director of the Maui Nui Forest Program for The Nature Conservancy. I do have two grants that I'll be talking to you about, but I'm going to focus the presentation on Waikamoi Preserve because it's a larger preserve. It's about 9,000 acres, and a lot of the work that we do in Waikamoi is very similar, relates to what we do in Kapunakea. I will touch on that but I want to just talk in the broader context of what we do and what we're about. Okay, so first, going over to East Maui, Waikamoi Preserve is technically 8,951 acres. You can see it there from Google Earth. It's, as Eva was saying, it's actually a very, very intact native ecosystem. I don't like to use the word "pristine" because pristine would mean we have zero weeds, but we do have weeds and we do have threats. Waikamoi, you can see, is right next to Haleakala National Park. It abuts that, and then below Waikamoi Preserve you have Makawao Forest Reserve and other State lands. One thing I want to point out, that little line there in the middle. So, Waikamoi Preserve was initially established in 1983. It was really one of the first conservation projects in all of Maui nui. The Nature Conservancy has been around for a long time and we helped really start the forest conservation movement on Maui with the foresight of these individuals with Haleakala Ranch. So it's a permanent conservation easement with Haleakala Ranch, 1983, and that was just 5,200 acres. But in 2013, we got an additional 3,700 acres plus granted in the conservation easement from East Maui Irrigation. So, just the abutting to that area, making it the largest private nature preserve in the entire State. So, just a little bit larger than Puu Kukui, would be the next one in line. So, you can see there with the water infrastructure, we are directly above the Waikamoi Flume that's on EMI proper lands, and then you're seeing all the streams there, so over ten major headwater streams do originate in Waikamoi Preserve. It is absolutely critical habitat and stream habitat for recharge areas, for our surface water, and for groundwater recharge. And, so, this is a map that you've seen before. I'm pretty sure some of my fellow presenters showed it to you; some great work done by

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USGS, showing groundwater recharge, and of course this dark blue being the greatest amount of recharge in the area. So, Waikamoi is kind of across this area of light to dark blue. In terms of the Water Use and Development plan, Waikamoi technically is in the Koolau and Hana Aquifer sectors, which together, those sectors account for about 60 percent of the mean annual recharge, or groundwater available for Maui. So, the recharge in this area is critical, and in times of drought that's where this recharge is coming from; these really, really wet aquifers. And there's a picture of the beautiful, new Waikamoi flume, thanks to you guys, and the contractors did an amazing job out there. Our lands, the Waikamoi lands, are just directly above that, so protecting just the critical streams that are right there feeding into the Piiholo system. The Wailoa Ditch, which together serving over 10,000 services for Upcountry residents and businesses. And this is a typical scene. So, Waikamoi gets over 200 inches of rain, sometimes up to 300 inches of rain, but you might also just have this drizzle and this fog, and our beautiful ohia/koa canopy is capturing that fog and it's contributing a great amount to overall precipitation and the groundwater recharge again.

CHAIR ATAY: Excuse me...well, excuse me, Alison? Looks like Member King has a question.

COUNCILMEMBER KING: I just want to ask a quick question that I might forget later on, but who uses that walkway there?

MS. COHAN: That is primarily EMI workers. Do DWS workers access that, as well?

MS. BLUMENSTEIN: In terms of the user, we are the user of the system, the source. Is your question about the maintenance?

COUNCILMEMBER KING: The, well, I was just wondering who built that walkway and who uses it.

MS. BLUMENSTEIN: Oh, yes. So, the flume was built by contractor, Global Solutions.

COUNCILMEMBER KING: I mean, did we fund it as the County or did EMI...

MS. BLUMENSTEIN: Yes, the County funded it.

COUNCILMEMBER KING: Oh, okay. Thanks.

MS. COHAN: Yeah, it's really quite an amazing piece of work. It was a...I should have included the old photos of the redwood flume was really scary. We would sometimes use it to access to come down from the preserve when we were doing work, or to access the preserve from up above, so coming out here is the flume. So, we hike out on the flume and hike up, and the redwood was falling apart and going over these very steep gulches and really scary. And so yeah, we hardly ever see anyone out there, generally just EMI workers, which of course, their workforce has been shrunken quite a bit. So, our water, our streams, all of our water, but in this area in Waikamoi, it's feeding into the Kahakapao Reservoirs, which are a hundred million gallons total. The Waikamoi Reservoirs, as well, 30 million gallons total. I think this was before the refurbishment,

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so thank you for undertaking that important project. So, the project objectives for Waikamoi. The main thing is to prevent ungulates from getting into the preserve. So, again, very large 9,000 acres completely ungulate free. Not a single pig, goat, deer, or cow is in the preserve, which is quite a feat and I like to point that out because when we got Waikamoi Preserve in 1983, about 50 to 60 percent of the lands were completely denuded by pigs primarily, and goats. So, just mud, just really awful, and it didn't look like it was going to come back. So, this picture actually I took in the EMI lands when we got a conservation easement over EMI lands, and there were pigs still in that area. So, and the Waikamoi area as a whole, we did get all those pigs out. So, our main goal is to continue that and of course, as you all know, that is a lot of fence work and maintaining fences, and trapping, and being aware, So early detection, rapid response. Besides ungulates, as we do try, and of course, less resources will go into that since we're not technically removing animals, hopefully, we focus on weeds. We have priority weeds that are impacting the hydrologic cycle, and I'll talk a little bit more about those. In addition to that, we want to prevent new weeds and disease, and non-native pests. You know, there are mongoose and rats, and mice, and cats, and disease, and avian malaria. There's a lot of things knocking at the door, or in the preserve, so we have to prioritize. We triage, as we all do in our daily life with our in-mail...e-mail inbox. Otherwise, we're still, we're trying to keep track of the resources and keep aware of what's going on with them, up-to-date research, innovations, so we allow researches into the preserve. We work with USGS and UH on hydrologic cycle research, spiders, bats. We have all kinds of stuff happening, but we're very particular. We have a very set research proposal process, and we make sure to get the data. But, The Nature Conservancy is a science-based organization, so we want to continue to learn about our biological resources because there's new species being discovered all the time. It's really amazing. Of course, we recognize that one of the biggest underlying priorities for these projects is public support and community engagement. So, we do do that as much as we can. You learn from some other partners, like the East Maui Watershed Partnership, and Maui Invasive Species Committee that do actually have an outreach staff, and so, we're so lucky here, I mean Maui no ka oi, because we are so collaborative. We do work together with those other partners and allow them to access the preserve, Waikamoi Preserve, as the actual site where they can bring school kids and community groups, as well. We do that as well. We lead a monthly hike, and accommodate other groups, as well. But I'll quit showing that boring slide, and moving on to, of course, the big threats, pigs. And I know you guys have heard about that a lot, and I think we'll have some new folks that will need to be educated, so I encourage you to do your best to talk about the importance of watersheds in your community, with your constituents. Pigs are at the doorstep though, there are right below the preserve, axis deer increasing throughout Maui. It's pretty scary how many deer I saw. I was on a helicopter flight on Monday, and on the backside, like leeward side, Kahikinui, I saw three herds, probably each in the hundreds, so it was just incredible. As well as some feral cows on East Maui. So, still, there's still all kinds of feral animals out there. It's quite amazing. So, we are science-based. We do rely on data and monitoring to inform our actions, it's really important to us, and we've been monitoring since we got the preserve in the '80s. This is our pig catches. So, FY '07 is where I got back to, and that is, we still have a lot of pigs, you can see. I actually started at that year at TNC, and we were catching pigs regularly. And at that point, those of you who have been around, right, remember oh,

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Pro Hunt, a group that came, we brought from New Zealand, it was a very big project, a big deal, controversial. And Pro Hunt came in and with their professional hunting outfit and we were able to take down the pig numbers significantly. That's when we started using the hunter dog systematic sweep approach which essentially just means we're hunting with dogs, but it's very systematic where each dog, each hunter has a GPS unit and can see each other, well the dogs can't see each other but the hunters can see each dog and can see each hunter and it's very systematic, sweeping an area, and you're allowed to really find out where that animal is and dispatch it in a humane way very quickly. So, that helped us get down to almost zero, TNC staff did get us down to zero all the way. And then The Nature Conservancy started our own dog hunting program, so we do have some pretty awesome hunting dogs that are pretty bored. They're now just very expensive pets. We try and get them out and about and help like at Kanaio, Kahikinui, the west side, but right now, with no pigs in this whole area, they're not, you know, getting as much action as they like. And at this time as well, the East Maui Watershed Partnership started stepping up their game and completed this fence along here and started doing a little bit more remote trapping, and then it was just a matter of time before we got down to zero, so the blue is for the original Waikamoi, which is 5,200 acres. After FY '14, this number is actually zero, and then this bump up here that's purple, that's just when we acquired this new area, 3,700 acres. So, that's all the pigs that we removed from that area. We thought we'd have a little bit more, and that is now zero, so we're zeroed across the board. One thing that we've been doing to monitor the changes over time so this is the new fence that we built at East Maui Irrigation, the easement inside the fence here. Big pig damage here. So, we take photo points and we monitor the regrowth over time. Very likely, these invasive weeds will continue, because that's what pigs do; they track weed seeds and cause destruction, and bring in avian malaria sometimes. But over time, we may see a beautiful native forest. We're wanting to see some native regeneration, some passive regeneration, and the native forest is very resilient. So, we have hope that that will happen. Of course, out planting is an option as well, where you have invasive weeds and you can remove them. So, right now, we're doing this, I think we're still doing this twice a year. It takes time to see these changes, so really we're not seeing anything too stark of changes yet with as far as the native regeneration. And this is just to show you kind of the overall picture of what we do. We have some trapping areas, we have some hunting areas, we have transects that are sporadic throughout areas of the preserve that had high activity. We check those once a year, 500 meters, every 50 meters, you're noting is there a sign of animals, is there no sign. We've had zero activity for a number of years, and photo points, as well. And you can see that's all right above the flume so really exciting because that pig damage was there, causing mud, causing sedimentation, getting into the streams, and getting into our drinking supply. So hopefully we have cleaner water and less filtration and treatment needed. So, part of this is the fence, the fence work is huge. Of course, those huge streams, those ten streams we have, they can rage, especially with recent events that we've had--Lane, Olivia, et cetera. So, we've had to devise new ways of dealing with these storms. Luckily, we didn't quite get it as bad as West Maui with the most recent ones, but this is kind of a new way of doing stream crossings, across some of the watershed partnerships we've been doing this. We're using this big heavy-duty rubber mats and cutting them to size so that they'll lift up when the stream comes and is raging and will lay back down, but they're so heavy that pigs are

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not getting in there, they're not getting under there. Before, we might have had this hog panels across the entire stream, but when it rages, you know, all the debris gets caught in it and it may just fall over and become a bridge for the pigs. Just another quick example, that's actually two photos. You're looking at a large koa that fell on the fence. This was in October, so after one of those storms. I get confused which is which, and then going in a rapid response to cut that koa off the fence. So, we're having to do checks, fence checks, on a regular basis. Usually quarterly for where there's a lot of activity in the area, or there's potential trees falling on the fence. Sometimes twice a year, and then after big storms, immediate response. We just have to change the whole field schedule and get out there. So, that's the ungulate picture. Of course, weeds, we all know how bad the weeds are. Himalayan ginger, you've heard before. We like to call it Himalayan rather than Kahili because that makes it sound pretty, and it's not a Hawaiian species; it's evil. If Pat Bily were here, he used to work with us, he calls it toilet brush ginger because it looks like a toilet brush when it's fruiting and flowering. I just call it Himalayan, but this sea of ginger is not in Waikamoi. It is below our fence in the Makawao Forest Reserve. The State is working on some areas. Sometimes when it's this bad, it might be like cut your losses and focus on another area. But we, at Waikamoi, The Nature Conservancy, do not want Waikamoi to look like this, so we're working hard to keep the Himalayan ginger at bay. So, there's actually the fence line. So, this side is Waikamoi Preserve; this side is a forest reserve, and you can see the massive ginger. And there, where we've been controlling it you have that nice multilayer canopy. You've got the ohia and the koa, you've got shrubs, you've got ferns, you've got mosses all the way down, which is gonna be much more effective at capturing rainfall. Himalayan ginger is a water hog, and thanks to the Department of Water Supply, we've been... Waikamoi actually almost about this site exactly that we're looking at was chosen as a site for hydrologic studies with the USGS and UH Manoa and Department of Water Supply, and they're working up that data now. So, they were collecting leaf-level measurements to essentially see infiltration, and how the, essentially groundwater recharge and how that compared in these ginger areas versus the native dominant areas, and we're eagerly awaiting those results. I think it's a couple months away from, according to Allen from USGS. So, that just shows you a map picture of what we're doing there, so that sea of ginger is below, right on that unit 1A words, and that's why you have that massive green dots because that's where we've treated ginger, pulled small amounts of ginger. It looks really scary and like, I don't know, I think I might first look at this and go oh maybe you should just write that whole area off, but you see from the photo we're holding the line, we're making a difference, and we're keeping this at bay. It's on retreatment intervals, which is what these little different colored blobs are. It's like those polygons that we work in, and we're keeping that from coming in here. So, it's really important in these areas that we take care of those gingers as soon as we see them, and we don't let them flower.

VICE-CHAIR COCHRAN: Chair, real quick, since we're on ginger right now.

CHAIR ATAY: Okay.



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VICE-CHAIR COCHRAN: It's been mentioned, because I see them, still till today, being for sale at the airports, at ABC Stores, in multiple stores, so are any of the watershed protection people, you know, doing something about that? Is there anything we can do about that?

MS. COHAN: Well, that's a great point, and I think that we can address that as a watershed community through, some of us are part of a group, The Maui Conservation Alliance, which we've come and talked to you before. And through the Maui Conservation Alliance, we have some folks that come together that have connections with Department of Agriculture. And what we can do is, you know, write a letter to the Department of Agriculture, invite them to a meeting and really bring this up as a conservation community, as a whole. That's a great point, and it is ridiculous that that is happening. I agree.

CHAIR ATAY: Thank you for bringing that up, Member Cochran, and just a point of thought, it might be a future item that could be placed on a request through a Legislative package to the State, and have the...it's a State issue that they need to control, but we could recommend that. So, you know, I think our Members who are here. Yeah.

COUNCILMEMBER KING: Chair?

CHAIR ATAY: Member King?

COUNCILMEMBER KING: Thank you. Thanks for bringing that up, Ms. Cochran, because I had that on my list to ask a question about that, but it might be faster if you could just, as a Nature Conservancy or watershed, just write a letter to the place at the points of sale and let them know that this is an invasive species. I mean that might be the fastest way, the airport distribution stores and ABC, and I don't know if we've seen it anywhere else; but those two, you know, it's gonna take months and months if you wade through the whole bureaucracy of getting the Department of Agriculture together, but I think just sending a letter, you know, stating that this is an invasive species, they may not now.

MS. COHAN: Yeah, that's a great first step, both of those. Multipronged approach is probably. So, thank you for that input. So, back to the ginger that we're controlling in Waikamoi Preserve. This map is just to show you that essentially our approach is to break the area that needs control into different size polygons kind of based on what we're able to do that year, and the density of the ginger. So, for example, this big gray swath, at 210 acres, that is what we're working on right now this year. It says FY '19, which is TNC's FY '19, but DWS FY '18 funds. And this area, because it's further to the east, we're able to take this larger chunk because the ginger is quite sporadic in that area, whereas, the 17-acre area down here, that may actually be the same number of person hours to treat. Oh, and then one thing I want to point out, so this little gray line is the end of our easement, of Waikamoi Preserve. And below there, you have Koolau Forest Preserve, and East Maui Watershed Partnership manages these lands. We are collaborating with East Maui Watershed Partnership so that we're not tackling the 66 acres in a bubble. We're doing this at the same time that East Maui Watershed Partnership crew is killing the ginger below. And we work together, we'll go out in the field together, we'll camp

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together, it's a really great collaboration. And you have to have that. As you now, lines on map don't mean anything to an invasive plant. One other invasive plant I want to discuss is the pines. Lots of the conifers and the pines. We just kind of lump them together, but they are a problem, as many as you know, of course contributing to fires, like the Polipoli fire. That fire in particular caused a lot of problems for the East Maui Watershed Partnership in...or East Maui, in addition to just that area because those pines, when they burn, they have these serotinous cones, which essentially means they're flying in the wind and they're growing new pine trees wherever they land. So, that's why we have pines popping up across Haleakala Crater, and that's really a concern. We don't want those spreading anymore. So, at the, at Waikamoi, The Nature Conservancy, we're trying to get some of the pines that are spreading, so what we're looking at here, if you look closely, you can see this is actually a pine plantation. See those nice, pretty lines of pines? So, we're not gonna go in there and take out those pines. They're 200 feet tall, it's a huge amount of biomass. We have to work on the pines that are coming out and getting into the nice native, dominant forest, as well as, keeping the invasion from spreading, so, outliers and the leading edge; that's what we're trying to accomplish here. So, this little line on the map, that was another one of those polygons that we tackled, and again, choosing the different polygons year by year, and we'll have to go back and retreat these areas. So three to four years for ginger, unsure for pines, but still, it's a newer weed that we're kind of on the forefront of treating, so we're not sure of the retreatment cycle. It might be about five years. One thing to point out is that adjacent to these plantations where we're trying to keep the plantation from spreading into the nice, native forest it can be incredibly rough terrain. You know this about the areas that we work in East and West Maui. Here you have Puu, Koolau Pali. You have some pines that are, that need to be treated, that are spreading down into essentially down into Koolau Gap and up into Haleakala Crater. And so rather than putting our staff on ropes, which we do sometimes with repelling, prefer not to do that so sometimes we use helicopters to treat the pines. In this area, a helicopter with a long line, very adept pilot from Windward Aviation, they're our pine warriors. They'll put a little cone-shaped apparatus right atop the terminus of the tree and it literally just drizzles out a little bit of herbicide and it goes right into the tree's system and straight into its phloem and xylem, essentially it's inner working, so it's not at all impacting any of the plants. In fact, we use such a low amount that it does take quite a while, sometimes up to a year to actually see these large trees dying. Now, I'd like to talk a little bit about the innovation that we use and that we're working on. The Nature Conservancy prides our self on our science and our innovation, and we cross-pollinate, if you will, we share our lessons learned with our partners. So we have a UAV, an unmanned aerial vehicle. We're getting another one; that's very exciting. And we're testing our ability to measure success with the UAV. So, rather than flying a helicopter at \$1,600 an hour, we can just put a little drone in the air and go take pictures or fly flight lines to see how are the pines doing. Are they dying? That's two of our staff members. Actually took a picture of the helicopter from the drone. That was kind of fun. That's atop Puu Koolau with all those pine trees. You can see some of those pine trees. We want to be treating some of these guys here, and then looking down Koolau Gap. So, here's an example of using drones to measure success over time. So, here is a drone image taken on the left, June 21, 2017. That's a *Pinus patula*, a Mexican weeping pine that you see all over the side of the road on the way up to Haleakala

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National Park. Those are very bad species. It's looking good, nice and healthy. Just last week, flew this, November 27, 2018, and you can see that same pine tree is brown and dead. So, we're able to do that throughout various areas and assess, you know, weed invasion, the mortality of species over time. In an open area, you could check a fence line, which is wonderful. Like this is a road right there, an access road. Of course, we don't work in that many open areas so, unfortunately, can't use that as much as we would like for that. Another fun and innovative project that we're working on right now, so one thing, I know it's kind of a messy map, but the big thing to notice here is this big, gray area with no cellular coverage across East Maui. That is very dangerous for our crew out there. Even in some areas we do have VHF radios, in some areas it's so rugged that we can't hit, they can't the repeater, so you can't actually talk to people that are on an adjacent trail because it's so rough and rugged terrain. So, one thing that we're doing in that same exact area that the helicopter was and those pines were, Puu Koolau, we're setting up a system that essentially is generating wireless service. So, it has a, we have a bay station at our office in Makawao, it has line of sight to this large tower, repeater, that's atop Puu Koolau, and that is generating wireless service out to five miles, they say. We haven't seen success with that kind of distance yet, and so we're still working out the kinks with this. That's our crew, my staff, Keoki, putting up the repeater pole atop the Puu, one of those invasive trees, and a hunting dog. And that's what it looks like at the office. So, you have this little radio bay station atop the roof, and then atop Puu Koolau, not only is it the IP wireless system, but we put a really high-powered camera up here. It turns 360 degrees and we can zoom in with great resolution out to about two miles, and we can do that from the office, so I can sit at my computer, in theory, I have yet because we still, we got a bum camera. So, we're fixing this today. And use a little Atari joystick kind of thing and move around the camera, and zoom in and zoom out, and take photos, so pretty fun. That's a real, that's a real desk jockey, kind of fun job. Another innovative project that I know you folks are interested in and that we talked about for a number of years and finally completed it, is the University of Hawaii Economic Research Organization findings for the return on investment for watershed conservation of our work in Waikamoi. So, I have this entire report that I can send to you. It's also on their website. It is an economic report, I mean sometimes I read it and I'm like what did I just learn? It's really tough, but we learn that, of course, our conservation activities have a high return on investment. Our conservation, specifically at Waikamoi, because we had data going back to the '80s of what we've spent, how much we've invested. So 1.1 billion gallons of freshwater yield are protected at Waikamoi over the next 100 years. This one is really real to me, so I like to talk about this one. The work that we do at Waikamoi is preventing 4,300 tons of sediment per year from entering the ocean. Can you imagine that? So, that's if, without our conservation, you would have strawberry guava and Himalayan ginger, and muddy streams, and dead coral reefs. And the freshwater benefits are about 36 million present value. To see that visually, here's an interesting map, and I'll show you a better one next. Over time, so you're looking at here is green, the dark green's native forest, the light green is native shrub land. So, this is now Waikamoi Preserve, mostly all native. The only, Waikamoi introduced grassland... that's not introduced. Okay, so they, UHERO, projected if we ceased conservation management right now, what would happen over time? At 2042, you have the edges here turning into all introduced alien forest; by 2067, the entire thing is almost introduced. It's moving uphill. Over time,

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the total acres of native versus non-native by 2067, here you have over 50..., over 5,000 acres non-native. Oh, I thought I had another graph, but yeah, it's pretty incredible what they found, and so, I can share that report with you. It's not a surprise that the work we do is valuable, it yields more fresh water, and we're keeping the forest native and resilient. To touch on Kapunakea Preserve on the west side, that's about 1,300 acres. Part of the West Maui Mountains Watershed Partnership but it is a perpetual conservation easement from Kaanapali Land Management Corporation. Originally, Pioneer Mill and that was in 1992. So, it is different. It's worth pointing out that Kapunakea Preserve is different from adjacent lands in that The Nature Conservancy has a very strong, legal responsibility to manage this area at a very high level. Whereas, the other lands, the way the watershed partnership model works is that the landowners participate in meetings and allow work to happen on their lands, but it's not this legal requirement to manage for biodiversity. So, you can be part of a watershed partnership and be a landowner and not go to a meeting, and not give money, and maybe just allow them to, you know, go on your land every now and again. Luckily, Maui, we have some pretty engaged watershed partnerships and landowners, so mostly you have a lot of great work going on across those lands. So, this is just looking down to the ocean from Kapunakea Preserve. It is, of course, a different habitat. It's a little bit more mesic, so you have more koa, we have more just, it's quite different, but you do have a lot of groundwater recharge and you have two major streams. Honokowai Stream is the major headwaters that are in Kapunakea Preserve and Wahikuli. So, just to touch on what we focus on there. It is ungulate free at Kapunakea Preserve. That's within the last five years, or so. We are getting quite a bit of ingress from animals, from adjacent Puu Kukui lands, there's coffee farms below, and there's forest reserves on the other side. We weren't quite sure, the streams are so rough and so rugged, and so huge, the Honokowai stream is a really tough area to keep from pigs getting up. And as you all know from recent storms, streams can be moved, stream beds and such, and so all of a sudden what you thought was an effective stream curtain is not effective, or ditch or diversion. All of those things get messed up. So, again, we're focusing on the fencing. We're actually replacing that fence. Thanks to the Department of Water Supply for contributing to that project. That should be done within about a year. Fence replacement and then weed control. So, some of the same weeds, Tibouchina is a priority weed on East Maui, Clidemia as well. But those are not in Waikamoi. They are on West Maui. And strawberry guava is a big one on West Maui. Now, one thing you may have heard about over time here, we've talked about biological control as a solution, and so there is a biological control for strawberry guava. You're looking at it here. Where you see the leaves get all ugly and warty, that is a result of this scale, called Tectococcus that is reducing the vigor of the strawberry guava. It's slow moving. It's very slow moving, slow spread. So, it's not this silver bullet. It's like you put an infected plant, strawberry guava plant, and hope that six months later it maybe has infected plants about five feet away would be pretty good success. So not ideal. We're hoping that a biocontrol for Himalayan ginger will be released soon and will be more effective, but at this point we'll take anything. Strawberry guava, of course, is a known water hog, scientific research shows it can suck up more than 50 percent more than a native forest. So, let's talk about funding. Well, we'll get there. But for Kapunakea Preserve, about \$75,000 a year. Now, for both of these preserves, and for The Nature Conservancy as a whole, it's really important for us to monitor our resources, to do rare plant research,

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rare plant studies, and out-planting, working with the Plant Extinction Prevention Project, and doing research, as well. As well as partner collaboration. Here we have some researchers setting up a net. They call it like a malaise trap for spiders, and we have some new known species of spiders that were actually featured in National Geographic a couple years ago. And then this is, we'll do this about once every six months or so with this many partners. This is in our TNC conference room, which is a converted garage, and there that's the Maui Pine Working Group. We have partners from across the board. Every watershed partnership, Maui Invasive Species Committee, National Park, pretty much everybody you can think of, Dr. James Leary. And we're talking about what we can do across Maui as a collaborative group to address the pines. Of course, things like rapid ohia death are very, very high priority for us. I serve as the Chair of the Maui Nui Rapid Ohia Death Working Group. We're keeping abreast of what's happening on that. Of course, no findings of Rapid Ohia Death on Maui yet. Kauai does, just did have some new findings, so it's been in a couple locations. And those are just the huli ohia strand, which means it's not as aggressive as the luku ohia, luku meaning dead or die, and huli is you just kind of fall over, and so the huli ohia might affect a branch and it might not kill the tree as quickly, but it will also kill the tree, so it's very sad that it was found on Kauai. Rapid Ohia Death, we're doing our best, we get together regularly as a working group and talk about what we would do should it be detected, and there's, we actually have a meeting next Monday. We have people coming in from the Big Island and from Kauai to talk about their experiences, and we have an incident command response plan that has been written and is being vetted. So, we're really, we're ready to respond, we hope we don't have to. I still have hope, actually. And then let's not forget community outreach. So The Nature Conservancy we'll conduct hikes, regular hikes like for the public that anyone can sign up once per month. We do do dedicated hikes, as well. If we have a community group, a school group, a halau, contact us. We'll try and make time to take that group out. what we care about is getting the local residents out into the forest, the kids out into the forest. We don't so much tailor to the visitor industry right now, just because we are really resource limited. So, here we're hosting a group of Kupu interns. Kupu is an amazing project. We get free labor, they get great resumes and experience. This is one of the largest. This is a [sic] exceptional tree, as designated by Maui County, in Waikamoi Preserve, over 600 years old, that ohia. It's incredible. I'll take you there if you'd like. And doing community outreach via volunteer service trips, as well. So, once a quarter we have a set volunteer service trip, but again, we'll work with groups as they approach us, and take, you know, Hawaiian Airlines or whoever would like to go out and get their hands dirty, let's go, you know, remove some pines or kill some ginger. That's really fun to do. So, these big feed bags are filled with dead ginger that was pulled. Getting down to the money. So, this is just a brief little three or four year look of what we've received versus what we've asked for, for Waikamoi. So, here we are, FY '18, 204,000, we asked for 230. Thank you for this bump for next year. Very, very much appreciated. Mahalo. And then down to Kapunakea, we're keeping strong at about 75,000 or so, but we have asked, increased our ask for Waikamoi Preserve because of our focus on science and innovation and because of rise in costs, like helicopter and really doing innovative weed control. And we have to be prepared for natural disasters, so to speak. We have to be ready as, you know, as an organization, as a County, as a State, for these torrential rain, you know, rainfall that we have. That

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erosion is, was all new just in the past couple of years. Iao just looks completely different. Fires, of course, are increasing and are super detrimental to the watershed, as well as the ocean as a result of erosion and sedimentation. Now, what does this look for The Nature Conservancy, leveraging funds, we can leverage DWS funds immensely. DWS funding counts for about 30 percent of our Waikamoi budget. And we're able to leverage that. We get State funding from the Natural Area Partnership Program. That's a great source of funding that we're able to leverage the DWS funding for. And a small amount of Federal and private funds, as well. Actually, that Federal number has declined a little bit from when I first made this graph. So, the benefits of our management. A lot of this we're able to glean through the presentation. Stream headwaters are protected, we have flora and fauna recovering, we're engaging the community, we're leveraging resources, we're working with partners. Importantly, we're really impacting groundwater recharge. We're keeping the forest resilient, and we're keeping the streams going and clean, and the aquifers recharged. Couldn't do it without the best team in the world. Maui no ka oi. And I'm happy to entertain any questions. I really appreciate your attention.

**. . . END PRESENTATION . . .**

CHAIR ATAY: Thank you. Members, before I open the floor, I do want to recognize the attendance of Member Yuki Lei Sugimura.

COUNCILMEMBER SUGIMURA: Good morning, Chair.

CHAIR ATAY: As well as, we did have some staff change outs. Deputy Director from Water changed out, but we do have Director of Water, Gladys Baisa, also joining us. And another staff change while the presentation was going on, we did have a change out on Corporation Counsel's representation, and do want to welcome Richelle Thomson joining us. Okay. So, with that, Members, I want to open the floor to any questions on Ms. Cohan's presentation. Anyone? Member King?

COUNCILMEMBER KING: Thank you, Chair. I think, I was gonna see if Ms. Cochran was gonna ask questions because she probably has similar ones, but I'll start. My first question, I got just a list I went through just so I didn't have to keep interrupting you. But my first question was, I thought that was a really good slide on Page 14 that talked about the present value of the freshwater benefits. Do you have that in relation to what the investment was, so we could show, you know, we're spending this much, you know, I don't know what the period of investment for that value is. So, you know, if you're talking about the last ten years, how much did we put in to it --

MS. COHAN: Right.

COUNCILMEMBER KING: --to gain this 36.2 million worth of value?

MS. COHAN: I do have some numbers here. Let me pull up the slide so what we can all look.

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COUNCILMEMBER KING: Because I think that's, that makes the case, Chair, for investing more or less, if you can show what you put in to get that result.

MS. COHAN: Oh, goodness. Sorry about that.

COUNCILMEMBER KING: I just wrote down 14 because it was on Page 14. I'm not sure what the slide number is.

MS. COHAN: Here we go. Right. Okay, so I have some of the results here. So, that...they use numbers from going back into the 1980s when we started investing in Waikamoi. So, watershed conservation activities projected an estimated 1.1 billion gallons of freshwater yield over the next 100 years. The estimated present value of Waikamoi's freshwater benefits is 36.2 million, and the payback period for investment in Waikamoi is 52 years. Hmm...I'm not sure. What's your question again? Let's see if I can get at it.

COUNCILMEMBER KING: Well, you know, maybe it's, you have to take some time to put the data together, but you know, if you're looking at a present-day value, what did we invest to get to that value?

MS. COHAN: Right. Okay, so the net present value of conservation of Waikamoi, when taking into account ecosystem services, is estimated at 19.1 million.

COUNCILMEMBER KING: That's what we've invested in it?

MS. COHAN: That's the net present value consider...

COUNCILMEMBER KING: Right. Yeah, that's not what I'm asking though.

MS. COHAN: Right.

COUNCILMEMBER KING: What I'm asking is what did we invest, you know, total, I mean--

MS. COHAN: Right.

COUNCILMEMBER KING: --and then specifically County.

MS. COHAN: Oh, here we go. Oh, specifically County.

COUNCILMEMBER KING: You don't have that?

MS. COHAN: I'm not sure I have that pulled out. I'll have to pull that out, but 20 million, we estimated has been spent, thus far, on watershed management in Waikamoi.

COUNCILMEMBER KING: Okay.

MS. COHAN: But I can, I could pull out the County number.

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COUNCILMEMBER KING: Okay.

CHAIR ATAY: Okay.

COUNCILMEMBER KING: Yeah, I think that just gives us a perspective. We put 20 million in and the value right now is 36.2.

CHAIR ATAY: Member King, I think looks like Department of Water Supply...

MS. BAISA: Yeah, let me just add, I have the numbers from TNC, specifically Waikamoi, since 1997 is \$3,042,000.

COUNCILMEMBER KING: Okay, but are they talking about a total, the total benefit, so that, you know, would be like the total that went into it.

MS. BAISA: Yeah, I believe these funds include State and private, too. So, this would just be the County's investment for that value.

COUNCILMEMBER KING: The County is three point...okay, okay.

MS. COHAN: Right, at about 20.

COUNCILMEMBER KING: Okay. That's good because then we're leveraging State and Federal funds. The next question I had was when you were talking about spiders, invasive spiders. Where are they coming from, do you know?

MS. COHAN: Oh, the spiders were native. The spider research was for native spiders.

COUNCILMEMBER KING: Oh, so we're trying to eliminate native spiders, or?

MS. COHAN: No, no. It's not spider, the trapping was just to identify the species and re-release them. So, the research was just in one particular area to try and find some of these elusive spiders. They identify them, or call them a new species, and then they release them, so...

COUNCILMEMBER KING: Oh.

MS. COHAN: Yeah, so they're not being injured.

COUNCILMEMBER KING: So it's not an eradication then. Okay, okay. So, when...so the other question I had relating to the funding is as you request increased funding from the County, are there also requests going out to State and Federal and private for increased funding?

MS. COHAN: Yes, there are increased requests going out kind of across the board. We're really trying to throw a wider net than we used to going for programs that we hadn't even



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really considered in the past. For example, Department of Health funding, we went for Department of Health funding on the west side because Kapunakea Preserve is right above these DAR, Department of Aquatic Resources' priority coral reef areas. And the impeded, you know the impeded stream flows were important to Department of Health, but they're looking more at, you know, what's happening in the ag lands, in the middle lands. They're not necessarily as focused as what's happening up mauka, so that didn't work, for example. But we are increasing our asks. Private fundraising has declined for us in the past couple of years, and we're not sure if that's a Statewide trend or a national trend, but we have a new development team on staff, so we have some higher hopes for that.

COUNCILMEMBER KING: Okay. Because my concern is, you know, I would like to put more County funding into it, I think it's really important, but I wouldn't want to see the State and Federal diminish because now they're going, oh, well the County can cover it, you know --

CHAIR ATAY: Yeah.

COUNCILMEMBER KING: --so if we're putting bigger numbers out there as far as the need and trying to keep the percentage the same, then that's helpful to the County so that we don't, it doesn't end up being, wherein now, you know, the State and Federal percentages go down, and then the County is expected to do more and more. It's really helpful to be able to leverage County funding to those other funds. So, to keep that message out there, that the total amount that we're spending is not enough, and so we need increases from all the parties. And then which brings me to my last question, which is on the hikes and the volunteer work that you're doing, are you working across with other environmental organizations, are you doing the same thing to try to, you know, maybe collaborate on education? Like Sierra Club does hikes like this, and then a lot of times they'll do invasive species things. And then MISC, and we have, HILT does them, too, on their property, so it would be really good to, you know, to try to get kind of collective education efforts and volunteer working group efforts.

MS. COHAN: Right, agreed. Yes, absolutely. We do work together as much as we can, where we intersect, specifically with Maui Invasive Species Committee and the East Maui Watershed Partnership. What's great is that without The Nature Conservancy in Waikamoi, they wouldn't have anywhere to take these groups and students to. So, we allow access and facilitate that to make sure the school kids are, you know, getting in there, and the community groups, as well. And sometimes we'll do actual joint projects, as well. We'll certainly work together in that Lisa from MISC, or Allison from East Maui might call us up and say, hey, we've got this group that's interested in pulling pines. Can you accommodate them?

COUNCILMEMBER KING: Oh, great.

MS. COHAN: Because that would be something that we would take the lead on, rather than them, so yeah, we do, do that.

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COUNCILMEMBER KING: Okay because, you know, one of my biggest concerns in listening to all these presentations, Chair, is to try to get some sort of sense of a strategic plan across the entire island of all the watersheds and what they collectively need, who's doing what, how you can leverage funding by having one helicopter program for all of the watersheds instead of each one of them doing, you know, you might be able to save money by conglomerating some of these efforts. So, that would be a great thing to see before the next budget session is kind of a strategic plan of the watershed systems across the island, how much more is needed, and what the, you know, intended results are gonna be for each of the watersheds from the increased funding, but working together.

MS. COHAN: Right, right. Well, one thing that's great is with the watershed partnership model, so essentially like The Nature Conservancy's priorities, along with...and resources, along with, like, say Haleakala Park, Haleakala National Park. Those are integrated into the East Maui Watershed Management Plan because we're partners at the table that vote and can say, hey, what about this fence? How often are you checking it? And that kind of thing, or what's your volunteer program like? So, they're almost in a sense what you're talking about except for it's not so much about the resources and sharing resources. We just kind of do that; we don't have a plan for it.

COUNCILMEMBER KING: Yeah.

MS. COHAN: But I would say that we're getting better and better at it with sharing helicopter time, for example, because of technology and Google's wonders. We have a Google calendar that we can see Windward Aviation's schedule, and everyone has access to that, so we can see Windward Aviation is flying, the Maui Nui Seabird guys into East Maui whatever day at 7:00 a.m.. And so we just may call up Jay Penniman and say, hey, we just have one person that has to be dropped off to get some gear and we'll just hop on their flight, and then we'll just figure out who pays the bill later.

COUNCILMEMBER KING: Okay. Yeah, and I mean it's helpful for funding because you know, like fencing. Everybody is doing fencing, and if there was a master plan, then you could order fencing at the same time for, you know, several different projects. I'm sure there would be some cost savings there, but you know, just like, you know, thinking of it kind of holistically.

MS. COHAN: Yeah.

COUNCILMEMBER KING: So, that's what my concern is. Thank you.

MS. COHAN: That's great feedback.

COUNCILMEMBER KING: Thank you, Chair.

CHAIR ATAY: Thank you, Member King, for...I think Department was taking note and possibly moving forward, the Department could take the lead in organizing that type of strategic

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planning with all of the different watershed partnerships grantees of jointly working together. Members, any other questions? Member Cochran?

VICE-CHAIR COCHRAN: Thank you, Chair, and thank you, Ms. Cohan, for being here, and I have had the opportunity to hike through both of your preserves with Pat Bily, which was just so awesome. So I saw that ohia and it was just beautiful, beautiful areas, and so thank you for all the hard work that you folks do. Those stream curtains, I've never seen those before, and so you have those set up in West Maui, on Honokowai?

MS. COHAN: Yes, we do have those set up in West Maui. The West Maui, sorry, they're now the Mauna Kahalawai Watershed Partnership has some of those set up across West Maui. I forget which streams exactly. I know Honokowai is too big, so that hasn't worked, but some of the smaller streams, Wai--, Olowalu, I think, has one of those now.

VICE-CHAIR COCHRAN: Okay, and so, Chair, a follow-up on the stream curtains. So those canvas things are super heavy, you said, where pigs can't barge through them, but so that, I'm thinking debris will pile up then.

MS. COHAN: Debris, right.

VICE-CHAIR COCHRAN: So, you have systematic going in there and, or what happens? I mean I know you said things flush through, but eventually you're gonna get things caught up no matter how, you know, flexible these are.

MS. COHAN: Right, right. Yes, that's very true. It's a pretty recent thing that we've implemented within the last six months to a year, is maybe the longest. And so, on our regular fence checks we're checking those stream curtains to kind of monitor how the debris build up, you know, is accumulating, and whether it's a problem or not. It may work itself out, in the sense that the rubber mat is so heavy that when it's not...let me just pull up the photo in case somebody wasn't here, real quick.

VICE-CHAIR COCHRAN: Yeah, I'm looking at...shoot what page? Page 7 in our printout but...

MS. COHAN: There we go. I'm scared to make that bigger. Right. So, these are some heavy duty rubber, and so, in theory if it's not raining much, you'll get some debris building up on that side and that would only be more of a deterrent where the pig couldn't get up and under, and then if a really heavy rain event came, that would, in theory, hopefully, lift these up and the debris would wash through. But we're still assessing, right.

VICE-CHAIR COCHRAN: Yeah.

MS. COHAN: And so, I think a couple of these were tested with the last storms on West Maui, and I haven't heard back yet from Chris Brosius what changes they might be making.

VICE-CHAIR COCHRAN: Okay because I live on a stream --

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MS. COHAN: Yeah.

VICE-CHAIR COCHRAN: --and so I see things without a barricade of sorts, still debris piles up.

MS. COHAN: Right.

VICE-CHAIR COCHRAN: So, I'm picturing it's gonna happen, but --

MS. COHAN: Right.

VICE-CHAIR COCHRAN: --okay, well good. Thank you, yeah, for monitoring. So, the pines is a scary thing, and originally that was brought in for what, and who brought that in?

MS. COHAN: Right. Well, Hosmer Grove is one of the original pine plantations, early 1900s. Ralph Hosmer was our first territorial forester, and he was from California. And so they thought they were doing a great thing because cattle had denuded the area, so they're like, oh we know these great conifers that they're great for our watershed, why wouldn't they be great here? They actually were trying to do a good thing, capture rainfall, but also establish a logging industry, and you know, it didn't work. Our soil can't hold those, and so the windfall, et cetera, et cetera, and so many other problems. But yeah, they continued into the '40s with the . . . (*inaudible*). . .plantation is the plantation that's the most problematic for us.

VICE-CHAIR COCHRAN: And so I think because one of my issues are the, I know people had really good intentions back in the day, and today from the deer to the pine to all the different blocks of pine trying to reforest the areas on all islands here, our issue today, you know, fallow ag lands that once upon a time were productive, Wahikuli Ridge to Reef Initiative. So, there are people who created these issues and left some opala behind, so my thing is but now, yay, nice people like yourselves, non-profits, the County pitching in, this and that, to clean up and to malama and to undo the damage that has been done by people before us. So, how do we, I mean --

MS. COHAN: How do we know...

VICE-CHAIR COCHRAN: --how do they get held accountable is my thing? How do, you know, I mean I know we can't cry over spilt milk and we gotta move forward from here on out, but some of these people are still in existence. Some of these people are still here, and I think, need to, you know, pitch in a lot more than they are, but again.

MS. COHAN: Yeah, that's a tough one. We try and influence without authority. We, being kind of the conservation community, individual partners through our relationships with the landowners and the watershed partnerships. That's really one of the best avenues that we have, but I'm open to ideas.

VICE-CHAIR COCHRAN: Okay. Yeah, I'll be in touch with you. I'll get your card.

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MS. COHAN: Okay.

VICE-CHAIR COCHRAN: The other question, Chair, if you don't mind, those, the remote wireless, not the camera, but the, for you to get more coverage on your cell phone reception.

MS. COHAN: Right.

VICE-CHAIR COCHRAN: Is that just specifically to your, you folks or does that help the broader community?

MS. COHAN: Oh, great, great question. Yes, it does. It would be available to whoever has the password, so we would give it to, essentially it would only probably be conservation workers, are really probably only be impacting that, that Koolau to East Maui, so we'd give it to the National Park and Maui Invasive Species Committee and East Maui Watershed Partnership, and that would be an amazing safety backup for us. That would be wonderful.

VICE-CHAIR COCHRAN: And do you know how much that type of system cost you?

MS. COHAN: Yeah, it's up there. We've had some glitches, so I think it's going to round, with the camera, it's gonna run around \$20,000.

VICE-CHAIR COCHRAN: Okay. No, with the cell phone repeater, towers, whatever, all those connectors that you need to create the cell phone conductivity.

MS. COHAN: Yeah, without the camera that might only be about 10 to 15,000 to do it right because you have to have the bay station and all that stuff.

VICE-CHAIR COCHRAN: Okay. Well, I only ask that, Chair, is because you know this area, heading in and out of Hana, and everything drops. So, God forbid, any emergency, 911 issue occurs from our everyday visitors are travelling, people live on this, so I'm just trying to, how can we get connectivity. So, not...of course for you folks, but just for everyday people who live in this vicinity who have zero cell phone.

MS. COHAN: Well, yeah there is potential this system could work. I think that the Hana Highway may be a little beyond its boundary, but what could happen is if we found another puu, for example, that had the line of sight to Puu Koolau, so Puu O Kekai, Puu...I'm not sure, maybe even Hanakauhi, we could, that could then project down another five miles. So, there is potential there that we could explore.

VICE-CHAIR COCHRAN: Okay. Yeah, very good, just looking at the broader community --

CHAIR ATAY: Yeah, thank you. Thank you --

VICE-CHAIR COCHRAN: --for emergency...

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CHAIR ATAY: --Member Cochran. Yeah --

VICE-CHAIR COCHRAN: Yeah.

CHAIR ATAY: --with that thought because I'm thinking it's not an issue in the Water Resources Committee, but I think it's a good thought of possibly pushing forward the thought of a task force addressing island-wide connectivity for disaster preparedness, for communication. So, . . . *(inaudible)*. . .

VICE-CHAIR COCHRAN: Yeah, because the pricing is very reasonable, and the area that I live in West Maui could definitely use something like that.

MS. COHAN: Yeah, it's true. We...I talked to Pomaikai about putting a system on West Maui, as well.

VICE-CHAIR COCHRAN: Right. He doesn't get reception.

MS. COHAN: Right.

VICE-CHAIR COCHRAN: I've been in the mountains, I couldn't get your message. So, that UHERO report, you said, is online to print?

MS. COHAN: It is online from the UHERO website.

VICE-CHAIR COCHRAN: Okay, very good. I'll pull it...okay, I'll pull it up from that, so thank you for that. And I think, Chair...oh that disease or whatever, is the scales that only attacks strawberry guava. Does it only, it knows, we're only gonna attack strawberry guava? They know this and they're not...

MS. COHAN: Yes, they did extensive research. Not even any other guava species. It won't impact any other species at all. Yeah.

VICE-CHAIR COCHRAN: I mean any species, period. Not the any ohia or any koa.

MS. COHAN: Right. No, nothing native or non-native.

VICE-CHAIR COCHRAN: Okay.

MS. COHAN: Right.

VICE-CHAIR COCHRAN: Because that can be a scary thing sometimes, and yeah, other than that, thank you for the presentation.

MS. COHAN: You're welcome.

CHAIR ATAY: Okay.

COUNCILMEMBER SUGIMURA: So, I have one question.

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CHAIR ATAY: Member Sugimura?

COUNCILMEMBER SUGIMURA: Thank you very much for your presentation, and I was just wondering if you include, when you do your community outreach or when you meet with stakeholders, do you also include the Aha Moku groups?

MS. COHAN: You know, our community outreach is a little bit limited right now, so right now we have the hikes that we have just like on the website kind of thing, or people get to know about over time and our volunteer service trips is like an e-mail, and that's on the website as well. And otherwise, right now, we're kind of limited to a few public events. So, we'll go out to the taro fest, we'll go to Hoolaulea at Kamehameha Schools, and maybe the Ag Fest. So we're not doing targeted outreach at this time where we even engage the Aha Moku, but were we, say to embark on a new project, if we were to consider fencing or pig removal in another area, that would definitely be something that would be done right away, and I know that the watershed partnerships are trying to engage the Aha Moku, as well, much more, and are successful on Molokai. I don't think on Maui we've been doing that as much as we should.

COUNCILMEMBER SUGIMURA: Thank you. That would be a interesting connection as you do your, with different stakeholders.

MS. COHAN: Right.

COUNCILMEMBER SUGIMURA: Because of the information that, you know, they have, knowledge that they have over time. So, I just would like to see that somehow implemented, maybe State, no, Countywide.

MS. COHAN: Right. Yeah, good feedback.

COUNCILMEMBER SUGIMURA: Thank you.

CHAIR ATAY: Okay, Members, any final questions for Ms. Cohan?

VICE-CHAIR COCHRAN: Yeah.

CHAIR ATAY: Yes? Cochran?

VICE-CHAIR COCHRAN: It's a...thank you, Chair. Those, I'm going to call them poison caps. I don't know what they're, the little caps you were saying you put on top of the pines.

MS. COHAN: Oh, right. Yes.

VICE-CHAIR COCHRAN: That just came to mind, because they drip little herbicide onto the...so that, so I mean, it holds? Winds don't blow them off?

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MS. COHAN: Well, it's actually just, so we're not leaving anything on the tree, so it's just the nozzle that's connected to the long line from the belly of the helicopter. And it's just emitting a few droplets of herbicide. It takes a second, maybe two seconds, and then it's up and it's gone.

VICE-CHAIR COCHRAN: Oh, okay. I thought it was like a --

MS. COHAN: Right.

VICE-CHAIR COCHRAN: --bag of herbicide slowly dripping in a-- through a cap.

MS. COHAN: Right. Well, that makes sense because there's the paintballs that are shot from it, and we've done that before, as well.

VICE-CHAIR COCHRAN: I'm thinking, what are these caps doing on top of pine trees on the ridges. Okay, all right. Thanks.

MS. COHAN: Good questions.

CHAIR ATAY: Okay, Members, any final questions for Ms. Cohan or for the Department of Water Supply? None? Ms. Cohan, do you have any final statement?

MS. COHAN: No, just mahalo nui for allowing me to come today, and I hope to come back soon when there's new people to educate, but thank you so much for your time and attention.

CHAIR ATAY: Okay. I also want to turn to Department of Water Supply. Any closing statements?

MS. BLUMENSTEIN: Thank you. I'd just like to echo what Alison said, a lot of new members coming in, so yeah, just as Chair mentioned there. All these presentations are available to view, and there has been some really good in-depth information on the specific projects, so I would encourage that. Thank you.

CHAIR ATAY: Yeah, thank you. And I do want to encourage the public, as well as the incoming Members, all the previous presentations are all on record on Granicus. I think we allowed many of the grantees ample enough opportunity to educate decision makers on their specific grants and projects and their fiscal needs. Members, right now the Chair would like to have this communication referred to the Council Chair for the term beginning January 2, 2019 so that the many presentations that we have received thus far will be available for the next Council.

VICE-CHAIR COCHRAN: Chair, you want that on a motion? So moved.

CHAIR ATAY: Yes.

VICE-CHAIR COCHRAN: You want that in a motion?





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CHAIR ATAY: Okay. You want to take a quick break? Call for recess. Recess. . . . *(gavel)* . . .

**RECESS: 10:23 a.m.**

**RECONVENE: 10:34 a.m.**

**COMMUNICATIONS FOR REFERRAL TO THE COUNCIL CHAIR**  
**FOR THE 2019-2021 COUNCIL TERM**

- ITEM WR-9: STATUS OF GRANTS UNDER DEPARTMENT OF WATER SUPPLY AND BENCHMARKS FOR GRANTEE PERFORMANCE (MISC)**
- ITEM WR-11: REIMBURSEMENT FOR SUBDIVISION WATER MAIN EXTENSION (CC 17-242)**
- ITEM WR-15: ADDRESSING THE UPCOUNTRY WATER METER LIST (CC 17-297, CC 17-439, MISC)**
- ITEM WR-18: WELLHEAD PROTECTION OVERLAY DISTRICT (CC 15-50)**
- ITEM WR-26: DEPARTMENT OF WATER SUPPLY WATERLINE UPGRADES (CC 18-31)**
- ITEM WR-27: ACCESS THROUGH THE HANS MICHEL PROPERTY FOR MAINTENANCE AND OPERATION OF KANAHA VALLEY STREAM (CC 06-160)**
- ITEM WR-28: EMI WATER DELIVERY AGREEMENT (CC 18-356)**
- ITEM WR-29: AMENDING SECTION 14.07.090, MAUI COUNTY CODE, RELATING TO DURATION OF WATER METER RESERVATION (CC 18-415)**
- ITEM WR-30: AMENDING SECTION 14.13.050, MAUI COUNTY CODE, RELATING TO DEADLINE FOR RESPONSE TO UPCOUNTRY WATER METER OFFER (CC 18-416)**

CHAIR ATAY: . . . *(gavel)* . . . Thank you, Members, for this returning after the midmorning break. You're attending here at the Water Resources Committee meeting on Wednesday, December 5<sup>th</sup>. We do have one last item to take care of. Members, your Chair has posted 11 other communications for you to consider referring to the Council Chair for the term beginning January 2, 2019. And pursuant to Rule 23 of the Rules of the Council, these 11 communications pertain to nine items on the Committee's master agenda, and if these communications are not referred in the Council's discretion, they will be deemed filed at the end of the term. They are Status of Grants under Department of Water Supply and Benchmarks for Grantee Performances, that's WR-9, and we are also referring Miscellaneous Communications to and from the County Clerk. It's also Reimbursement for Subdivision Water Main Extensions [*sic*], WR-11, referencing County Communication 17-242, to the Director of Water Supply, transmitting a bill entitled "A Bill for an Ordinance Amending Section 14.05.050, Maui County Code,

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Relating to Reimbursement for Subdivision Water Main Extension. Another item, Addressing the Upcountry Water Meter List, WR-15, referencing communication, County Communication 17-297, as well as County Communication 17-439, and other Miscellaneous Communications with the County Clerk. Wellhead Protection Overlay District, WR-18, referenced by County Communication 15-50. Department of Water Supply Waterline Upgrades, that's WR-26, referencing County Communication 18-321. And access through the Hans Michel Property for Maintenance and Operation of Kanaha Valley Stream, WR-27, that's a reference of County Communication 06-160. The EMI Water Delivery Agreement, that's WR-28, referencing County Communication 18-356. Amending Section 14.07.090, that's the Maui County Code, relating to duration of water meter reservation, WR-29, referencing County Communication 18-41. As well as Amending Section 14.13.050, the Maui County Code, Relating to Deadline for Response to Upcountry Water Meter Offering, WR-30, referencing County Communication 18-416. Members, the Chair will entertain a motion to recommend the 11 communications listed on the agenda as I've read to you be referred to the Council Chair for the term beginning January 2, 2019 pursuant to Rule 23 of the Rules of the Council.

COUNCILMEMBER KING: Chair, can we make a...

VICE-CHAIR COCHRAN: Mr. Chair?

COUNCILMEMBER KING: Can we ask questions first before we make a motion?

VICE-CHAIR COCHRAN: Well, make a motion and then discussion?

CHAIR ATAY: We're gonna make a motion then discuss.

VICE-CHAIR COCHRAN: Yes, so move, Chair.

COUNCILMEMBER KING: Oh okay.

COUNCILMEMBER SUGIMURA: Second.

CHAIR ATAY: Got a motion by Member Cochran, second by Member Sugimura. And discussion and questions? Member King?

COUNCILMEMBER KING: Okay. I just had a question about, there's one that's from 2006, and I don't know what the significance is of this, so I just wondered if there are any other Councilmembers, either Ms. Cochran or Mr. Carroll, who understand what this issue is. I think it's West Maui, so.

CHAIR ATAY: Or maybe Department of Water could.

VICE-CHAIR COCHRAN: Yeah, they can share.

CHAIR ATAY: Which one was that now?

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VICE-CHAIR COCHRAN: Hans Michel.

COUNCILMEMBER KING: It's the Hans Michel property.

VICE-CHAIR COCHRAN: Ms. Baisa know.

CHAIR ATAY: WR-27, access through the Hans Michel Property for Maintenance and Operations.

COUNCILMEMBER KING: Yeah, I just don't, I don't understand what it is. It's very old, so if you could explain the significance of that.

MS. BAISA: Chair?

CHAIR ATAY: Director?

MS. BAISA: I'd be very happy to comment on that. The Hans Michel property, of course, is very valuable and important to us, getting water from the mountain down to the people that need it, and we go through their, I believe it's their property, and maybe I'm misspeaking, but I believe it's property that he is the owner of, and he works with us on helping to maintain the intake there. And he's been doing this for many, many, many years, and we continue to have discussions and I believe that Corp. Council would probably not want me to say much more.

CHAIR ATAY: Yes?

COUNCILMEMBER KING: Okay. But it's...

MS. BAISA: But it's something that should be continued, and it's gonna continue. We're also going to need access to that water.

COUNCILMEMBER KING: Okay, but it's not, but it's an open discussion issue? It's not going to ever have an end to whatever decision making?

MS. BAISA: I'm hopeful. You know I've been at the Department two years, and before I went to the Department, I was on the Council and Mr. Michel was visiting me then, but as you know, these complicated matters take a long time. This the reality I've had to come to grips with that, you know, it takes a long time to sit down, negotiate, figure out what you can do, and then of course once we're involved with the lawyers, we have to be very careful. I have to be careful. And so it's going to be around for a long time.

COUNCILMEMBER KING: Okay. Alright, thank you for that description

CHAIR ATAY: Thank you, for that inquiry, Member King. Your Chair did have it as an agenda item during the past term, and we had that issue come out and what came out was that it's a somewhat very complicated legal issue with multiple parties involved, including the County of Maui, and so, you know, it's come to the point where it's still gotta go



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informative. I hope it can be conglomerated for the next Council, and also, thank you for your service on the Council.

CHAIR ATAY: Thank you. Okay, being no further business, this meeting of the Water Resources Committee is now adjourned. . . . *(gavel)* . . .

**ADJOURN: 10:44 a.m.**

APPROVED BY:

  
ALIKA ATAY, Chair  
Water Resources Committee

wr:min:181205:ga

Transcribed by: Gail Asuncion

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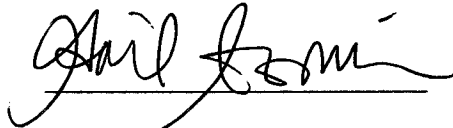
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CERTIFICATE

I, Gail Asuncion, hereby certify that the foregoing represents to the best of my ability, a true and correct transcript of the proceedings. I further certify that I am not in any way concerned with the cause.

DATED the 26<sup>th</sup> day of December, 2018, in Lahaina, Hawaii

A handwritten signature in black ink, appearing to read "Gail Asuncion", written over a horizontal line.

Gail Asuncion