

**MINUTES
FOR THE LIMITED MEETING OF
THE COMMISSION ON WATER RESOURCE MANAGEMENT**

DATE: June 27, 2024
TIME: 11:00 a.m.
PLACE: Various Sites along Lower Reach of Punalu‘u Stream

Online link to the video recording of the June 27, 2024 Commission on Water Resource Management meeting: <https://vimeo.com/970953062>

Chairperson Dawn Chang called the limited meeting of the Commission on Water Resource Management to order at 11:00 a.m. Deputy Attorney General Colin Lau explained that the meeting must be recorded and made available to the public and that no action can be voted upon.

The following were in attendance and/or excused:

MEMBERS: Chairperson Dawn Chang, Mr. Neil Hannahs, Mr. Wayne Katayama, Dr. Lawrence Miike

STAFF: Deputy Dean Uyeno, Dr. Ayron Strauch, Ms. Katie Roth, Ms. Rebecca Alakai, Ms. Malie Beach-Smith, Ms. Lyss Rousseve, Ms. Cody Chacon, Ms. Alexa Deike, Mr. Nick Ing, Mr. Jonas Burgon, Ms. ‘Iwalani Kaaa – CWRM; Mr. Glenn Higashi, Mr. Anthony Olegario – Division of Aquatic Resources (DAR)

EXCUSED: Mr. Paul Meyer, Dr. Aurora Kagawa-Viviani, Ms. Kathleen Ho

COUNSEL: Mr. Colin Lau

OTHERS: Mr. Jason Jeremiah, Mr. Chin Yung – Kamehameha Schools (KS)

A. SITE VISIT

1. The Commission on Water Resource Management (Commission) will conduct a limited meeting and site visit to the lower reach of Punalu‘u Stream in Punalu‘u, O‘ahu, Hawai‘i, where Kamehameha Schools is currently undertaking a stream restoration project

PRESENTATION BY: Jason Jeremiah, Kamehameha Schools Director of Natural and Cultural Resources

The purpose of the site visit is to help educate the Commissioners on Kamehameha Schools’ Punalu‘u Stream Restoration Project, speak with project representatives, and understand how this Project may serve as a model in holistic watershed resource management for other areas of the state.

20240627 00:00:12 – Introduction, Overview project presentation at Kamehameha Schools’ field office

DEPUTY AG LAU: Okay, so for this limited meeting under the statute what you need to do is we need to videotape the meeting, minutes need to be taken- the minutes can actually be run off of the video tape, I guess. The video needs to be shown at the next regular meeting and also one other aspect that's not in the statute, that's because this is a meeting, we do need to have quorum. Luckily, we have four actual commissioners here and that's quorum. If we lose quorum then the meeting has to stop. The last thing is there are no decisions to be made during the limited meeting- I don't think anything's actually before the Commission at this time, so that shouldn't be a problem. That's pretty much it, I don't think I have anything further. Any questions?

CHAIR CHANG: We can just go around and introduce everybody.

DEPUTY AG LAU: I'm Deputy Attorney General Colin Lau. (Regarding the meeting itinerary) As long as everybody's here, I think we can use it as just a rough guideline for when we're going to be at each location.

CHAIR CHANG: No one from the public is here?

DEPUTY AG LAU: No, this is a limited meeting so they're not actually invited.

DEPUTY UYENO: Sorry, want to do the introductions?

JASON JEREMIAH, KS: Do we want to move into the shade?

CHAIR CHANG: Aloha, I'm Dawn Chang, I'm the Chair of the Commission on Water Resource Management.

COMMISSIONER MIIKE: Larry Miike

COMMISSIONER KATAYAMA: Wayne Katayama, Commission member.

GLENN HIGASHI, DAR: Glenn Higashi, aquatic biologist, Division of Aquatic Resources.

ANTHONY OLEGARIO, DAR: Anthony Olegario, aquatic biologist, Division of Aquatic Resources.

LYSS ROUSSEVE: Lyss, hydrologist in the Planning branch of the Commission on Water Resource Management.

NICK ING: Nicholas Ing, Planning branch.

DEPUTY UYENO: Dean Uyeno, acting Deputy for the Commission.

JONAS BURGON: Jonas Burgon with the Groundwater branch.

JASON JEREMIAH: Aloha, Jason Jeremiah with Kamehameha Schools.

CHIN YUNG: Chin Yung, Kamehameha Schools.

COMMISSIONER HANNAHS: Neil Hannahs, Commission member.

'IWALANI KAAA: Aloha, 'Iwalani Kaaa, Commission secretary.

MALIE BEACH-SMITH: Malie Beach-Smith, geologist with the Water Commission.

KATIE ROTH: Katie Roth, head of Planning branch for the Water Commission.

REBECCA ALAKAI: Rebecca Alakai, Surface Water branch.

ALEXA DEIKE: Alexa Deike, legal fellow with the Water Commission.

CODY CHACON: Cody Chacon, hydrologist, Stream Protection and Management branch.

AYRON STRAUCH: Ayron Strauch, hydrologist, Stream Protection and Management branch.

CHAIR CHANG: Thank you very much. So, who's going to lead us? Jason?

JASON JEREMIAH: The schedule for the day is to start here, give maybe a high level overview of the project and then we'll move to, I think there's five stops going up the valley. We'll look at the estuary area and then we'll drive up onto the new agricultural

road and look at the project, go up to the top of the stream project and look at some of the stream restoration, and then we'll drive to the Kahana side of the valley and look at the constructed wetland and retention basin and have discussions at each of the stops about how the project was planned, constructed. We welcome any questions, discussion.

DEPUTY UYENO: Was there time for the diversion?

JASON JEREMIAH: I have it built into a handout that we can also talk about that. We can maybe talk about it here. Do we have certain vehicles that are going to go up?

DEPUTY UYENO: All the vehicles can. How many is comfortable up there?

JASON JEREMIAH: Can we consolidate a little bit? There is space, but I just figure we can...it's ok. I have like three or four in my truck and we can take a couple more cars.

DEPUTY UYENO: We can squeeze all that in.

JASON JEREMIAH: I have this handout which has a lot of information but gives a little bit of history of Punalu'u in general and at the very back there's a little bit about other parts we won't see today, mainly the mauka diversion and some of the work we did there a number of years ago. Just to go through it, welcome to the ahupua'a of Punalu'u. This is legacy lands of Kamehameha Schools and these are what we consider lands that come from our founder, Pauahi. These lands were given to her by Princess Ruth Ke'elikōlani and it was originally given to William Pitt Leleiōhoku and Kamehameha, our organization, has managed these lands since it was given to Pauahi in the 1880s. We've used Punalu'u for agriculture. Definitely, there were Chinese and Japanese rice farmers that came in the late part of the 1800s, early 1900s, but it got developed into plantation. In roughly around 1906/1908 and that's when they put in basically the plantation water system that diverted water out of Punalu'u Stream into a tunnel system that eventually connected to, took water towards Hau'ula, but also supplied water, as this valley was in cane and other agricultural uses amongst the kuleana tenants and so forth. Some of the water resource issues, specifically talking about the project that we were trying to solve for this Punalu'u Stream Restoration Project, the full title of the project was the Punalu'u Flood Mitigation and Stream Restoration Project.

There is a flood mitigation component of the project and also a stream restoration component of the project, but basically going back to the 1980s, there were many water conflicts with our Kamehameha Schools lessee at the time and the community that caused the Punalu'u Community Association petitioning the Commission to designate the surface water of Punalu'u. Through meetings over a number of years, it was decided to create a Punalu'u Watershed Alliance which the Commission was a part of with Kamehameha Schools, the Punalu'u Community Association, Board of Water Supply, USGS (U.S. Geological Survey), I believe, and didn't go down the designation process, but was able to work on some of the issues. One of the big projects that came out around 2010, roughly, was this Punalu'u Stream restoration project, flood mitigation project that was again trying to mitigate these long-standing issues with flooding of our lands that

was impacting the community, the neighboring fee owners and kuleana owners in the valley. It was also damaging the crops of the tenants in the valley, causing hardships there. Solving all of those issues, we started to design the project that would capture all the water within our land holdings.

Another issue was that the culverts in Kamehameha Highway were undersized and a lot of water was, the culvert in a way was just like this dam that didn't allow water to flow like maybe it traditionally did. Talks with the State DOT (Department of Transportation) in upsizing the culverts in a highway like this is a very monumental task, so we had a design team look at how do we capture water and we'll see some of those elements there. You can see in the handout some of the flooding events, this is mainly from 2008, many more flooding events. I think the last ones were like 2021 during COVID, we had like all of this was underwater, we had a staff member trapped in the office and their car unable to move. The flooding had continued and then now with implementation of this project, it's mitigated the flooding. Auntie Kapua Sproat Fonoimoana, whose property is right behind these hau bush over here, she always reminds the community that everyone lives in a flood plain and works in a flood plain and flooding will never be fully mitigated, there's always going to be flooding. It will never go away, it's something we live with. I remember her saying that in a lot of our meetings we've had. You can see as we go through the deck some of the proposed visualizations on project design and I'll probably go over that more when we get to see that. Maybe with that, we can get into the vehicles and go to our first stop.

20240627 00:10:41 – *Site #1, View estuary and discuss functions of new estuary for flood mitigation*

JASON JEREMIAH: This is just the beginning part of the project. We're going to go off towards the estuary, I think that's the coolest part of the project and we'll talk a little bit more. You can see the vastness of the valley, the project is basically everything you see, minus the big trees that we're going to cut down. It goes up to a point up there, that's as far as we're going today, but we're going to take a walk this way and then we'll be able to see the estuary right before the beginning of the bridge going over the stream and the mouth of the stream and the connection.

COMMISSIONER HANNAHS: What's the total acreage of the ahupua'a?

JASON JEREMIAH: The total acreage of the ahupua'a is 3,600 acres, roughly. It turns that way and goes up to the top of the Ko'olau and ridges. That side of Punalu'u Valley is in other smaller ahupua'as and other fee owners, but we have more...

This is the estuary part of the project. What you probably would have saw before was overgrown hau bush and you'd see probably like 25% of the water you see here today. Part of the project was really getting in there. There was like a large island in the middle, you can see the remnants of it. We took that down, moved all the dirt across our property. No dirt left the property, we used it to build elevated fields on the other side, we'll talk about that later, but we really wanted to create depth over here to allow when it does rain,

we have a lot of water in Punalu‘u flowing down. There's enough volume here and capacity to capture that and then we have seen that in the last, when we built the project and some of the high rain events there. It washes over all of this stuff, but that's the purpose of it and it damaged some plants but that's what happens. We'll replant those, but it really hasn't caused any flooding. Auntie Kapua Sprout, one of the main community members who lives - we walked past her property as we got here - as a young child she remembers Punalu‘u where she dove into the stream. Before, it was at the same level because of all the dirt that built up, so her memories as a child was diving into Punalu‘u and this is what she's been able to see when we're doing the project. She's always had comments about that and this is the way it used to be, so it's a real great moment for us to really recreate that and create what was maybe Punalu‘u before the channelization happened in the late 80s and the straightening of the stream that also happened. It creates great habitat and really creates that better functioning estuary. Just around this corner, Kamehameha Highway is right there, the Punalu‘u Stream bridge is right around there.

With the plantings, we focus a lot of the native plantings around this estuary area and going along the stream, we'll see that a little bit later. Trying to create habitat for a lot of the native birds to come back and we've seen a lot of them coming back. We worked with Hui Kū Maoli Ola, they were like the subcontractor to do all the plantings and Goodfellow Brothers was our contractor on the whole project. Those are a little bit of the companies that worked on this. Any questions?

COMMISSIONER HANNAHS: Just a comment, I mean the emotional appeal of restoring a nostalgic moment to a kupuna of the land, that's a nice thing certainly, but I think the tensions and pressures that we see here have been seen all over Hawai‘i on every island. It's not the first time we wanted to have it increase our agricultural production, it's not the first time we wanted to manage water and so forth, but when we've done it over the years in ways that really fought with the natural course of streams and of nature, we almost always lost that fight and we always will. You straighten a stream, so you harden more land, and you have more agricultural production that's secure from flooding, you create other problems and so forth. The effort here was - how do we find ways to number one, honor, and work with what the stream wants to do and that natural ecosystem and then advance and increase our opportunities for agricultural production, cultural uses, aesthetic enjoyment and so forth around the commitment to help nature do what it needs to do. Is that not a way to look at this and it's not for any one of those uses to have an advantage and Auntie Kapua to be able to jump in the stream. She says that when the stream is doing that, she has that opportunity when it's handled correctly. You don't have sediment flushing off onto the reef and you still have opportunities for irrigating and for fields and for agricultural production being secure from flooding, as well as homes to be secure from flooding. Kamehameha's efforts to fix that here is a model really or an example of what might be considered in a lot of other places where things were changed over time and we got uses and land conditions that were really fighting natural conditions.

COMMISSIONER MIIKE: I assume you're diverting upstream for the agricultural operation.

JASON JEREMIAH: Yeah.

COMMISSIONER MIIKE: What would this place look like with no diversion?

JASON JEREMIAH: We're diverting, on average let's say between 1.5 to 1.7 million gallons per day, roughly. The system is designed probably for like 8. The plantation took well more than that.

COMMISSIONER MIIKE: About how much of the stream flow is being diverted now?

MALIE BEACH-SMITH: What's your base percentage, is that what you're asking?

COMMISSIONER MIIKE: Whichever, yeah.

MALIE BEACH-SMITH: Are you taking half the stream flow, 90%?

JASON JEREMIAH: We're probably taking, I want to say roughly like 25% or less. Definitely not a lot and well below what was being taken and Neil, you used to say we used to take like 10 million gallons to deliver 2 million and then in 2007 around there, working with all the partners in the Watershed Alliance, we improved the system, we went from open ditch to a piped system and we're able to deliver the roughly 2 million or less. We take about that amount and we deliver that same amount. We did put in the infrastructure improvements, change the plantation system to really create a more efficient water delivery system for the agriculture that really respects the other values you want to see in the stream.

COMMISSIONER MIIKE: Looking out through here, how much of this was - what did you say, was rice a long time ago?

JASON JEREMIAH: Yeah, early 1900s was in rice. In the back of the valley there's old lo'i that were in rice and then in the beginning of the 1900s got converted to sugar. So what Neil was saying about trying to create as much land as possible. Our former tenant had straightened the stream, but what our project was really doing is trying to put more compatible land uses next to the stream and then moving some of those more row crops that get damaged during flood events in other parts of the valley and have more of an agricultural system that really makes sense more than just trying to maximize the land usage there.

CHAIR CHANG: Jason, you were saying earlier that the water there was a diversion of the Hau'ula side?

JASON JEREMIAH: That's how the original plantation was set up.

CHAIR CHANG: What's happened to that?

JASON JEREMIAH: It doesn't flow all the way there, it stops right before our boundary up mauka.

CHAIR CHANG: Do you have any users on that side that you had to coordinate with?

JASON JEREMIAH: No, not to my knowledge. This was done almost 20 years ago, 15 to 20 years ago, but there's no connection anymore.

COMMISSIONER HANNAHS: The need for the connection was because you had continuous plantation.

JASON JEREMIAH: Yeah, the plantation, once that shut down...

COMMISSIONER HANNAHS: Once that plantation goes down, you don't have that need anymore. But the diversion is hard to get to, Larry, but it's worth reading about or studying because we've dealt with this issue of inefficient transmission systems and what it costs us in terms of water in the stream because in order to get it there through leaky ditches and siphons and flumes and so forth, you have to take more out. When you pipe it and get that really efficient, you can put more water back in the stream, you can have more water for downstream users.

JASON JEREMIAH: We were talking with our caretaker, Darrell Tachibana, he's a contracted caretaker for Kamehameha Schools that takes care of our water systems, as well as other things in the valley, but he was talking about going from that transition from that plantation to a new improved system back in 2007. He was like, I don't have to go up there every day? The old system, you're going up there every day just to clean out the system and he's going up there, maybe some guys go up there once a week, maybe once a month to do a big cleaning. There's a lot of efficiencies on the labor side, as well and just the transformation of that water system to be more efficient has really decreased the need to go up mauka and transverse and do all of those other tasks. It's a long journey and we're still...

COMMISSIONER HANNAHS: Some of those tasks were life-threatening, too, digging, going through tunnels that were blocked and some of them cave in in this day and age.

CHAIR CHANG: Have you noticed a change in the ecosystem?

JASON JEREMIAH: Definitely, from the project, not even when it was completed, we had endangered birds nesting everywhere on the property. It stalled a little bit of the construction at times, so we had to work with the agencies there, but we're seeing the ae'o come back and other natives as well.

COMMISSIONER KATAYAMA: What about aquatic?

JASON JEREMIAH: Aquatic? We work with a community partner, Kanaloa Bishop, he has a nonprofit, Waihapakai. He's been doing kilo activities here, seeing a lot of native

stuff come back, maybe some mo' o here and there, but that's just him. He was doing it on his own and now formed more of a formal partnership with Kamehameha Schools, so he's been doing a lot of that activities for us.

CHAIR CHANG: That correlation between- otherwise we always have to have Ayron go out there- but if we have other partners, especially if we brought in DAR to help with correlating a healthy ecosystem and the efficiencies of the water flow, that may be very helpful when we have court cases.

DR. STRAUCH: We did four surveys last year in the stream at varying elevations from mauka to makai. There are native species in the stream, there are non-native species in the stream.

DEPUTY UYENO: There used to be aquaculture, right, on the side over here, so during the flooding times, they would get out. Jason, so you said the water doesn't go all the way past the Kamehameha Schools boundary anymore because it used to, right?

JASON JEREMIAH: It used to, I think in the plantation time and then when we did our improvements, it stopped before that last tunnel, before it exited our lands. The water is fully within our boundaries and then there's different piping that will come down to feed our agriculture.

DEPUTY UYENO: When you guys were planning this out, was there a goal to restore it to what it originally was - how it meandered - or was it working with the conditions now to get it back to more natural, that may not have been the same as?

JASON JEREMIAH: I think we did look at the historical meanderings of the stream, we did the analysis there. I think we just wanted to create a flood plain that the stream could move and we could have compatible uses around it. We didn't try to go back to restore it to one meandering stream we see on the historic map, but just open up the flood plain. There were these earthen berms along the stream that weren't engineered, I would say properly, they weren't engineered at all and they were put up and caused some flooding, as well. That was part of the project as well is just to open it up and see what the stream does and then allow space for it with our native plantings around it. If the stream shifts over time, over decades, we will allow that and we put more of the intensive agriculture in different parts of the valley.

COMMISSIONER HANNAHS: It's less about going back to replicating some idyllic image and more about replicating function and the values as best you can in the modern sense.

CHAIR CHANG: [inaudible]

COMMISSIONER HANNAHS: Not in this valley, but you do have some. There are kuleana that [inaudible].

JASON JEREMIAH: There are a few kuleanas and it did have an impact on our tenants. They had to move out and we're bringing them back in. We're also bringing new tenants in that I think are more compatible, more native plants. There's going to be a 20-acre lo'i farmer that comes in over here, a Kamehameha grad, that wants to just get into farming and production. We've been calling him our anchor tenant and I think we want to put lo'i up front and center as people drive into the valley to really bestow our values of what we want to see in Punalu'u.

COMMISSIONER HANNAHS: The questions we're already asking, we give insight into ahupua'a systems thinking is it's not only about you, it's about what you do in your plot affects others beyond your boundary. You could optimize and these guys could be really happy campers, but if for some reason what is done here is spoiling the offshore, nearshore environment and the fertility and the productivity of that, KS is going to hear about it. Likewise, if they cut off here water that people relied upon in other ahupua'a as the questions have suggested, there's consequences to pay.

GLENN HIGASHI: I surveyed this stream when the stream was straightened out and you guys provided a lot more functionality and habitat now with the sedges and everything else like that. In a way, it's a good thing because you have fish that come up and it's not only o'opu, but it's stuff like āholehole, mullet, and those kind of things. Those sedges provide good habitat for them to you know hide in. It looks good, it really looks good.

COMMISSIONER HANNAHS: You can count one over here, it's checking us out.

20240627 00:28:51 – Site #2, Drive along new Green Valley Road to view stream restoration components.

JASON JEREMIAH: We're stopping here just to look at the flood plain in front of us. We were down on the right side by the estuary, but the old road went straight from where we first took off of the road and you can see it dog legs this way and now comes up this way. We moved the road about 100 yards this way and then it's elevated. It starts near sea level near the highway and it'll go up about 20 ft and it acts as a berm to keep all the flood waters here. We have this canal dug here and then we just went over our drainage canal that leads to the estuary behind us, but it will help mitigate the flood waters that come off of the slope from here. We have upsized the culverts here and so the water can flow that way and it'll get held by the estuary. Water going from here can go through this ditch, the ditch extends so we can capture all that water. Everything here, we want to put those compatible uses. We have our farmer Ladd Ah Choy, he has his farm called Ho'oulu Punalu'u and he's a new farming tenant. He has four acres in the back and he's just a young farmer, Native Hawaiian, he's going to put in lo'i in this area. He's going to construct new lo'i and do some orchard crop, he's going to be our anchor tenant here. Dean probably remembers the fish ponds that were in this area, and so we got rid of those. There were berms on the straightened stream, you can see the big trees. Where this large tree here going up to those coconut trees there, that's where the old road was. That was the original location of the road right next to the stream. We wanted to move this,

have a nicer, newer road that doesn't flood and that was another big component of the agricultural part of the project.

Behind us, we built elevated agricultural fields, all this empty space here. Here, we're bringing in tenants as we speak. We're signing agreements to bring them in. I think there's some māmaki tea growers and other type of native crops that are going to come in, maybe some late-producing crops, as well. Before, they might have been next to the stream, now we're putting them on these elevated fields. A lot of the earth that was moved got moved up here to create this. We still have some other tenants that weren't affected by the project behind here, as well.

COMMISSIONER HANNAHS: Are they supplied water? Where does it come from?

JASON JEREMIAH: Yes, from up...we have a line that comes down and then we've worked on installing new lines for our new tenants, that was part of the project, as well.

COMMISSIONER HANNAHS: From the diversion you have gravity flow to a point and then you'll distribute it?

JASON JEREMIAH : It's all gravity flow, yeah.

COMMISSIONER HANNAHS: Commissioner Miike was asking where the principal channel of the stream is?

JASON JEREMIAH: It's on that side and we're going to go to it, but it's basically at the edge of the clear land that you see in front of us. We'll be able to see it better next, we'll walk down.

GLENN HIGASHI: Do you folks work with school kids, Kamehameha Schools? I'm just thinking they could probably help in monitoring your area, especially if you wanted to do stream surveys. I would look at the estuary area and ocean side because when you improve the estuary here and you have meandering, you have a lot more settling of the soil, erosion sediments and stuff like that, so you can probably get less out there. The reef should improve, also.

JASON JEREMIAH: We brought out some teachers and we're trying to get them excited about the potential for curriculum out here. When I went to Kamehameha in 9th grade, we went to Kahana Stream to do our pH and turbidity and all this stuff, so trying to look for opportunities where they can come out here for a biology class and do all of those things. We're trying to also do that and we do have some other 'āina based educational programs. We have Ka Papa Lo'i 'o Punalu'u just beyond the project and they do lo'i kalo and they take care of all the varieties over there. There's a lot of excitement of expanding different parts of the ahupua'a.

GLENN HIGASHI: That's the next generation.

JASON JEREMIAH: Yeah, definitely.

COMMISSIONER HANNAHS: The interest is there and teachers can pulse in, but if they don't know an area, that's why you need a community-based group who really is kama'āina to the area who can then take the demand that teachers from all schools around the state might have to come in. That's where your partner...

JASON JEREMIAH: Our partner, Waihapakai, is someone we're trying to build to take in a lot of these opportunities from students and build curriculum.

COMMISSIONER HANNAHS: The returns, Larry, is not just from your ag tenants and so forth, but educational uses then create a form of return to the land. This activity is happening and supporting education of the kids which is what Kamehameha's money is for.

ALEXA DEIKE: Jason, for the lo'i restoration, is going to be taking from the stream through 'auwai or po'owai or is that tenant going to rely on that water system that you have? When you're restoring lo'i here.

JASON JEREMIAH: We're figuring it out, we're looking at can our system [inaudible] or if that's not doable then looking at some alternatives of having to go and apply for another diversion. We have two diversions in the valley, we have the plantation one which we manage and then Danny Bishop, a lo'i farmer, he recently came in for a diversion a few years ago, just for his little lo'i patch over there. We're still figuring it out.

DEPUTY UYENO: Is the pipe system closed now or is it still...? I know back then, I think there were people off-property that were still receiving water, but that was an issue. Because they were at the end of the pipe, I know they had pressure issues upstream.

JASON JEREMIAH: I think it's closed. We don't supply water to anyone off of our property. It's all of our tenants.

CHAIR CHANG: Jason, do you have lineal and cultural descendants from this area?

JASON JEREMIAH: Yeah, and we've been working with them.

CHAIR CHANG: They were part of your process?

JASON JEREMIAH: Yeah, and we had, I would say, a long process with them just building trust back from the plantation days and unfortunately a lot of them have passed like the Mattoons and Uncle Sam Rowland and so forth. Aunty Kapua is the last of that generation, so she's the kupuna that provides a lot of mana'o. They have their spots that they always ask us to go and gather from and just part of the process. Part of the stream project, our consultation process because we talked about this project with them for like ten years and then once you got all the things lined up to get the project initiated and the

project happened really fast. It happened in 11 months or so, but we did go out to them every month. We presented at the Punalu‘u Community Association meetings - every other month they have their meetings and then in the months in between, we held our own meetings to just have a venue for the community to ask questions, share photos of progress on the project, and they started with they don't believe that we were going to do this. They didn't believe that it could be done or what we were going to do is actually going to be helpful and I think by the end of the project, they could see the benefits. It was a real good process to just constantly, we're just engaging with them and share with them because they're seeing it every day. Some of them are tenants so they come in the valley. We didn't have a lot of people come in because of the construction zone, so it was real difficult to manage access into the valley, but I think we did two hard hat tours. During the construction, we brought a small group out and showed them the work in progress with our project staff and it was a really good process and came out with a good result of them being informed to the project and really being supportive in the long run.

COMMISSIONER HANNAHS: It's really an important outcome, you're not just restoring ecosystems. When you can restore community trust and confidence in each other... a massive outcome.

CHAIR CHANG: It will sustain this far beyond any of us.

COMMISSIONER HANNAHS: Just think of all the places where we see a lack of that trust, Maui Komohana, Nā Wai ‘Ehā. Steadily working to rebuild it is really a worthy goal.

DEPUTY UYENO: Just for a little background, the Commission, as Jason mentioned earlier, we were very active here during the early 2000s, where I first met Commissioner Hannahs, with the Punalu‘u Watershed Alliance. I think we were meeting almost quarterly out here with Jim Anthony and the Mattoons, Sam Rowland. That's when DAR started doing surveys, USGS did a study on the stream low flows and the connection to ground water. The diversion was the outcome of that and building that trust. That was a major undertaking. What did that cost, a million? Close to a million? That diversion, I think there have been issues with sunlight just because of the steep valley walls and being able to maintain the battery back there, but the intent was to have this diversion that would close off at certain times of day to allow for fish passage upstream. Really state-of-the-art diversion.

MALIE BEACH-SMITH: Is it still working that way? The diversion, the way it was intended to? I heard that it didn't. I'm not sure is it really working, do they really shut it down every night?

JASON JEREMIAH: Yeah, I think there are some issues with the sunlight and we're currently getting a crew up there to fix it, but it has worked like that when we first put it in. Right now, it's trying to get someone up there to fix the circuit board and so forth.

COMMISSIONER HANNAHS: To date, it hasn't been such an issue because you haven't had a big demand for the off stream use, but now that you've done this and you start to tenant all of this, that's going to become an increasing issue.

DEPUTY UYENO: There's a bypass so there's always water flowing.

JASON JEREMIAH: Yeah, there's always water flowing. We can move to the next stop, I think it is going to be a really exciting stop that we can get into the stream if you want to. We're going to go up to the top of the project, we can walk down to the stream and see what's happening there.

20240627 00:41:48 – Site #3 & #4, View upper area of stream restoration project and native plantings; view restored riparian area and native plantings

JASON JEREMIAH: I think it's going to be a large maintenance right now just to get the establishment of the larger trees. Maintenance is huge over here and could be also opportunities for community to come in and help out. I've always thought of this place as a good place for like community engagement.

CHAIR CHANG: Did the stream used to flow through here? The rocks look like good rocks for imu.

CHIN YUNG: The banks were higher, the berm was by the hala tree and this area was a lot higher. You get a lot of erosion and on that side, it's a lot higher. All of that was tapered off.

JASON JEREMIAH: There was the pipe.

CHIN YUNG: Where that manifold is, that's where our irrigation system would cross the stream in a floating pipe and it came in about 10 ft. above the stream level, but as erosion would occur, the pipe stabilization would come up. So that's something that was part of our project. This side of our land is almost too high for our irrigation system, so that's something that we're trying to figure out. So it stops [inaudible] makai, coming mauka to [inaudible].

JASON JEREMIAH: This is the top of the stream project, it just ends right over there. This is the limit of our excavation and earth movement. Like Chin was explaining, it was much higher over here and if you went down this way, there would have been the berms that were put up and the stream was pretty straight. There was a lot of excavation in this area to just create this area for the stream to be able to move and it never flowed like this. Before the project, I would say you couldn't hear the stream that much and creating a little bit more space for the stream at this top end of the project to be able to breathe. Along the entire area of the stream on the banks, we've done the native planting going all the way down and then more closer to the estuary, it does turn, has a big turn in it. That helps with the sedimentation, but this whole area will be more compatible. We're not having that agriculture right up here. I think there's opportunities if you have the right

tenants that they could take care of these places, as well and do maintenance of the riparian areas along the stream.

I think we installed the palate of plants through the guidance of Hui Kū Maoli Ola who are real experts in this, but we're trying to see what happens and then we're going to have to make adjustments to how the landscaping came in. That's some of the things we're trying to figure out like how is the large trees around here - the idea was to create this forest around the stream that will help capture a lot of sedimentation and so forth. Once it grows, we'll figure out and make adjustment, it's a dynamic restoration along the stream. I think this area we're looking also as an area for more engagement with community and educational purposes. There's really great access to the stream. Behind here in the coconut trees is where the old plantation houses used to be, you can see how elevated it is. I guess the managers, the lunas hale were in there. I think they got demolished maybe like 14, 15 years ago. Right behind here is Ka Papa Lo'i 'o Punalu'u so they're really close proximity and they have a lot of educational usage and community usage potential in this area.

CHAIR CHANG: Jason, by chance did you guys get any baseline for nearshore waters before the project began so we can gauge the impacts? If you're catching as much sedimentation, it's not going into our reefs. We're challenged with that for a lot of our mauka, makai where we have fishermen who say, you guys blame us for no more fish, but it's really coming up from mauka. It'd be really helpful if we have better baseline data on the impacts.

JASON JEREMIAH: I can't recall, but we can definitely find out. It went through the environmental review process, we did an EA (Environmental Assessment) and a number of studies on it. I can't recall what studies that might have happened in the marine area. We've been talking to the guys at ASU (Arizona State University), their marine program on what kind of data they have. I know you guys have...

CHAIR CHANG: We've got DAR people here, too, but we are trying to find opportunities to charge whether it's a registration fee or something that can pay for these monitoring so that we can have a better...It helps us support our decisions if we can show the positive impacts of what happens upstream.

JASON JEREMIAH: I think we would definitely be willing to somehow partner and even with our partner in the valley that is doing a lot of the kilo activities, they'll definitely be interested in some of those kind of activities.

CHAIR CHANG: All of our DAR guys, let's think about that.

GLENN HIGASHI: There are only two of us.

CHAIR CHANG: I know, I know.

COMMISSIONER HANNAHS: When was the last time you took a survey.

GLENN HIGASHI: It was in the stream a while back.

CHAIR CHANG: I wouldn't mind if we could take some samplings of outside in the nearshore waters.

GLENN HIGASHI: I was thinking it would have been nice if Kim Peyton would have come. She's the person who does estuaries. The muliwai, that's the connection between the stream and the ocean, that's the most important part.

JASON JEREMIAH: Just to add on this monitoring component, we did do a lot of monitoring of the construction and I think there's five years of monitoring that happens post construction, as well. I just have to check on the specifics on what type of monitoring is required. I think we want to know the impacts of this project to even see how positively, hopefully, it will have on the nearshore environment and true ahupua'a stewardship in these areas. Good to find out.

DEPUTY UYENO: Glenn, you guys were taking basic water quality parameters, right, when you were doing surveys?

GLENN HIGASHI: Yeah... [inaudible]

CHAIR CHANG: We'll have to figure out a way to get you guys resources to do that.

GLENN HIGASHI: If we had a stream program...

CHAIR CHANG: I know. We'll have DAR and CWRM work closely together.

COMMISSIONER HANNAHS: Jason, we recently had a flood event that really hammered Waiāhole and Kahalu'u. How did it do over here? No news is good news, right? When it's a non-event, that's a good thing.

JASON JEREMIAH: We had that big rain event a few months ago. I was checking the stream gage and saw it spike and then our caretaker Darrell sent some pictures of it kind of flooding, but it all retreated really quickly. There was no damage to anything, maybe some plants here and there. Even when we were in construction, there was a big event. The plants were brand new in that estuary area and it totally took over the one bend in the stream and the community was like, look it doesn't work or look at what happened. That's part of the process, right? It's not going to prevent, it's not going to keep the water exactly in the stream, but we got to work with those events. The good thing is that there's no catastrophic flooding and everything is generally staying here and then it dries out within a matter of a day or so. There hasn't been any, during that event there was pretty much...

COMMISSIONER HANNAHS: In the old days, the phones used to go off.

DEPUTY UYENO: Just for reference too, the stream above the intake is flowing at 12.3. Is USGS still gaging the ditch?

JASON JEREMIAH: Yes.

DEPUTY UYENO: Right now, it's at 3.24 cfs.

AYRON STRAUCH: 2 mgd

MALIE BEACH-SMITH: 2 out of what?

DEPUTY UYENO: 12.3 (cfs).

COMMISSIONER HANNAHS: Is this another place, place to describe the diversion? Where's a good place to do that?

JASON JEREMIAH: I'll do that at the very end, but there is one more component, our Kahana component of the project. We have a 14-acre wetland that was created and basin, so we can go take a look at that.

20240627 00:53:44 – *Site #5, Kahana component of the Project, to view constructed wetland and basin*

JASON JEREMIAH: Keneke's is over there.

20240627 55:37 – *Closing, Kamehameha Schools' field office for final remarks*

JASON JEREMIAH: It's in the handout, we have the other parts we weren't able to go up to, the diversion. We talked a little bit at one of the stops, in 2007 there was a large project to redo the diversion and also the piping. We did that and in the handout you can see the old, typical plantation diversion taking all of the low flows and we really modernized that and there's always a flow going through it. There's those fish ladders to allow the aquatic species to have an opportunity to go there and then redoing the system. We're talking about having the ability to turn it off during the night when the farming is not happening and probably the aquatic life is more active. We have that and in the back you see...

CHAIR CHANG: Does it work?

JASON JEREMIAH: We got to fix it right now, but it's been working when we first installed it. Maintenance is always an issue up there, it's really wet, once you cut something it will grow back in a week, so there's a lot more maintenance. We've got to get that sorted out soon. So, that's the diversion up there and I think Commissioner Hannahs was saying earlier, part of the reason for piping the system was just because of the safety issues with the collapses of the tunnels. That's one thing that triggered it, there was a large collapse and going back in and repairing that and then to collapse again, it

caused a new way of thinking. Still using a lot of the existing routes of the plantation ditches, but then just putting in the pipes so it's more efficient, we're not having evaporation loss, and we can isolate different issues happening and so forth.

DEPUTY AG LAU: Questions?

COMMISSIONER HANNAHS: If we're wrapping up, just a couple of thoughts. Number one, I want to thank everybody for taking the time to pursue this crazy idea of mine. Sometimes when you take somebody to a favorite place you worry, I hope they like it. I have a lot of reason to like this place and I hope you did, too, but more importantly I think it serves as an example for us. So often we inherit problems and we think, oh man we've inherited this problem and it's so big and gnarly. You want to give up before you even start, but chip away at it, chip away at it, chip away at it whether you're in a landowner position or policy position or community work or community servant position. You can make a difference and the difference that we've seen here over our lifespan is just phenomenal and we see evidence of this across the pae 'āina. Second point is that it took a lot of money to do this and we didn't come out here, didn't have this in mind as a showoff of Kamehameha's economic muscle, but things that take money, if there's a really good vision attached to it, can be supported. Whether that money comes from government funds or philanthropy, if it's going to do something significant, you get chance. Sometimes we go work on our year-to-year budgets and we do things in small increments that really don't make a difference, it barely keeps up, if that. If you can wrap a big enough vision around it and think of the impact that you're having not only on environment but this whole community, there's a chance that you'll get the support for it. Whether we're looking at Punalu'u or we're looking at Kahana or Maui Komohana or Nā Wai 'Ehā, that's what we need. To me, that's a pathway forward, that's way better than just continuing to fight, continuing to witness decline and all that. That was the whole point, it's going happen and believe me the contentiousness of this community when we started was not exceeded anywhere else. It was as bad here as it got anywhere else and we could only move at the speed of trust and it took a long time to build trust. Give it to Jason's credit for carrying on and Chin and team here, it's really awesome what they're doing here. Then things start to accelerate and fall into place. Thanks for having us out here and you're doing such good work and thanks to everybody else for wanting to do this before I left the Commission.

CHAIR CHANG: I'll just say on behalf of the Department, I really appreciated Neil's suggestion and I think this is, DLNR, we're really looking at mauka - makai and this is a good example of what you can do. That's why CWRM is in my mind so instrumental to the Department as it can help us quantify. Water, that's the connection with everything. OCCL, we've done some enforcement actions makai. There's a land owner next to the beach park, we did an enforcement action and we gave him a choice - you can move your house and that can offset your fine. He did and the beach is coming back, so I think if you let nature take its course, as what you're doing here, we have seen the fruits of that. Jason, if there's some way to quantify what you're doing here, that really speaks volumes when you're looking for donors or you're looking for partnerships or you're looking for government funds. When we can tell the legislature this has been proven, these are the

benefits and I think we see that climate change is inevitable and it's only going to get worse. The opportunity to have other tools that have demonstrated success, and as you said not only success in the environment but more importantly in facilitating that trusting relationships with communities because communities are going to be the greatest champions. If the Punalu‘u community can vouch for the collaboration, the benefits of the collaboration, that can help other communities also begin to trust government. Thank you so much, I really appreciated you taking the time to take all of us through and showing us the good works.

JASON JEREMIAH: Thanks for coming out and just appreciate you showing that. We are looking at how to showcase and show the impact and maybe connect it beyond our land borders to the impacts that are makai and mauka and everywhere in between. The project was part of a larger vision of our ahupua‘a plan and resilient agriculture and community and education. We're looking to where can we do these types of activities in the face of climate change, is really important to us and really trying to see it as a model of good stewardship and hopefully we can show what can be done.

CHAIR CHANG: A lot of that is done due to your leadership. Thank you very much.

The meeting adjourned at 2:00pm.

June 27, 2024

Minutes

Respectfully submitted,

Iwalani Kaaa

‘IWALANI KAAA
Commission Secretary

APPROVED AS SUBMITTED:



DEAN UYENO
Acting Deputy Director