MINUTES
FOR THE MEETING OF THE
COMMISSION ON WATER RESOURCE MANAGEMENT

DATE:	March 16, 2021
TIME:	9:00 am
PLACE:	Online via Zoom Meeting ID: 978 0662 1096

Chairperson Suzanne D. Case called the meeting of the Commission on Water Resource Management to order at 9:05 a.m. and stated it's being held remotely and being live streamed via YouTube for public viewing due to the ongoing Covid-19 pandemic; noted the meeting was set to take live oral testimony; any written testimony would be acknowledged when the submittal items come up. Chairperson Case read the standard contested case statement.

MEMBERS:	Chairperson Suzanne Case, Dr. Kamana Beamer, Mr. Michael Buck, Mr. Neil Hannahs, Mr. Wayne Katayama, Mr. Keith Kawaoka, Mr. Paul Meyer
COUNSEL:	Ms. Julie China
STAFF:	Deputy M. Kaleo Manuel, Mr. Dean Uyeno, Mr. Roy Hardy, Dr. Ayron Strauch, Mr. Neal Fujii, Ms. Rae Ann Hyatt
OTHERS:	Mr. Patrick Fitzgerald (Hualalai Resort), Mr. Jay Uyeda (Hualalai Resort), Mr. Charles Dawrs (Kaupulehu Water Co.), Mr. Doug Codiga (Schlack & Ito), Mr. Jason Jeremiah (Kamehameha Schools <KSBE>), Mr. Imi Lindsey (KSBE), Ms. Leanne Nikaido, (KSBE), Mr. Jeff Mau (KSBE), Mr. Craig Nakanishi (Cades Schutte), Mr. Tom Nance (Water Resources Eng.), Ms. Shaylyn Kimura (Oasis Water Systems), Ms. Louisa Wooton (Moloaa Irrigation Coop), Ms. Jan Reichelderfer (WSP), Mr. Gerald Andrade (WSP), Mr. Randall Urasaki (WSP), Ms. Misako Mimura (Dept. of Transportation <DOT>), Mr. Eric Kachun Wat (DOT), Ms. Wei Chen (Fukunaga & Assoc.), Mr. Jon Nishimura (Fukunaga & Assoc.), Mr. Cliff Kanda (C&C Hon. Environmental Srvcs.), Ms. Susan Burr (AECOS), Ms. Meredith Ching (Alexander & Baldwin), Mr. Daniel Sargent (McBryde Resources), Ms. Leinaala Ley (EarthJustice), Mr. Brian Neilson (DLNR Aquatic Resources <DAR>), Ms. Kim Peyton (DAR), Mr. Skippy Hau (DAR-Maui), Mr. Ryan Okano (DAR), Ms. Bridget Hammerquist, Mr. Ned Leone, Ms. Terrie Hayes

All copies of written testimonies submitted will be included at the end of the minutes and is filed in the Commission office and are available for review by interested parties.

031621 00:07:02

A. APPROVAL OF MINUTES

February 16, 2021

PUBLIC TESTIMONY – None

MOTION: (BUCK/KATAYAMA)
To approve the minutes as submitted
UNANIMOUSLY APPROVED

031621 00:8:16

B. ACTION ITEMS

1. Addendum to the December 15, 2020 Commission Meeting, Item B-3: Approval of an After-the-Fact Variance with Special Conditions to Water Resources International, Inc., Ka‘ūpūlehu Water Company, and Trustees of the Estate of Bernice Pauahi Bishop dba Kamehameha Schools Ka‘ūpūlehu Potable Well 12 (Well No. 8-4755-004) TMK (3) 72003:003, Ka‘ūpūlehu, Hawai‘i

PRESENTATION GIVEN BY: Mr. Roy Hardy, CWRM Ground Water Branch

This is a re-submittal, an addendum to December 15, 2020 for an approval of an after-the-fact variance with special conditions to the contractor, the operator and the landowner. At the December meeting, there was a motion to defer this item to gather more information and continue dialogue with all parties on the scope of work including a chloride study and development of a monitoring well.

QUESTIONS

Commissioner Meyer – asked on the depth of the shafts relative to the aquifer?

Mr. Hardy – replied it varies but there are more than the 1/4 depth at 50-feet, the midpoint is at 200-feet below sea level; halfway would be 100-feet below sea level and a quarter (1/4) would be 50-feet.

Commissioner Meyer – would each of those wells be monitored for salinity? I think it would be helpful to have these monitored going forward

Mr. Hardy – all the wells report their monthly chlorides that is required by the rules and these wells will do the same as other studies have stated in the scope of work.

Commissioner Buck – thanked Roy for the presentation and all the parties for their cooperation and quick turnaround; asked on the timetable and rules-what’s the role of the Commission-what will happen if some of those are not met?

Mr. Hardy – we would bring it back to the Commission if we felt the agreement and scope of work were not being followed, especially in this area (Ka‘ūpūlehu).

Commissioner Beamer – clarified on the after-the-fact variance and asked if the driller was aware of the Commission's standards and ask to clarify the process?

Mr. Hardy – touched on the well and the need to get to the quarter depth and explained the geological features in the area in relation to the well and the water conditions; also touched base on past instances and the variance request in relation to admin rules.

Commissioner Beamer – noted the past warnings (violation) and current violation.

Mr. Hardy – noted on the previous administrative approval.

PUBLIC TESTIMONY

Mr. Patrick Fitzgerald, Hualalai Resort – We want to thank staff, we did work since the last December meeting with Roy, Queenie, Kaleo and the team and appreciate their efforts in making this collaborative effort in reaching this conclusion. We support staff's recommendation and highlight we are identifying the one monitoring well that Roy noted, which is the specific well noted in Exhibit-8 and the specific conditions that are part of that, which is the salinity level once we reach the max depth of 500-feet. We respectfully request that these conditions be put in the minutes and be happy to answer any questions you might have and thank you for your time.

Chair Case – thanked everyone for working through to a resolution of this and note it would benefit everyone broadly as this is very encouraging and appreciated it. Chairperson Case asked for a motion as submitted noting the conditions would be reflected in the minutes.

Commissioner Beamer – noted that in the recommendations they'll fund the study to help develop the study on the rising chloride levels at Ka‘ūpūlehu Irrigation Wells 1 & 2 and want to walk through that process. I think more information and data is important to us as a Commission and if you're funding a study that is directly tied to your water resources, how does our staff work with them to make sure this is objective with concern with rising chlorides? On Hawai‘i Island area, our aquifers could be better and want to make sure our staff has access and clarity; would this be a contracted study by the resort?

Mr. Fitzgerald – we've worked with staff and engaged Tom Nance to do that study. Staff seen the scope of work and it's detailed in Exhibit-8; and offered to staff that anytime they want to come out and review the study or analysis or see the monitoring, we're happy to do that.

Commissioner Beamer – asked Roy if he'll be working with Tom on the study.

Mr. Hardy – replied yes, as well as other staff.

Commissioner Hannahs – (to Mr. Jay Uyeda) referred back to the last meeting regarding community engagement as they would have a high level of interest in the data from the study and asked on the plan on maintaining consultation and sharing information with the community and stakeholders?

Mr. Hardy – acknowledged question is for him and replied they've been in contact with ‘Aha Moku which is interested in continuing dialogue and noted a similar item will be bought to the

Commission in the future regarding a symposium for the Keauhou Aquifer System Area where practitioners and scientist came together and dialogued about the designation action.

Commissioner Hannahs – Mahalo to Roy and noted he did have a question for Jay on the active matters of the resort development and the engagement with those in the Ahupua'a?

Mr. Jay Uyeda, Hualalai Resort – noted on a recent Zoom group meeting with Leina'ala Lightner, a lineal descendant, Ku'ulei and Aunty Hannah Springer, in conjunction with Kamehameha Schools and we'll continue to follow-up with the lineal descendants and the community groups that are active here like KMLEC and KDMC communities.

Commissioner Beamer – I also appreciate the communication with the community as the study is fairly broad to me and I think hiring a contractor is excellent; are you planning on peer reviewing the results of the study?

Mr. Fitzgerald – that was not part of the agreement made with CWRM staff but can consider it.

Commissioner Beamer – it might be an additional add so that there's additional eyes on validation of methods and techniques.

Chair Case – conferred with Mr. Fitzgerald on the amendment, if agreeable to it?

Mr. Fitzgerald – agreed to have the study peer reviewed.

Chairperson Case asked Commissioner Beamer for a motion. Commissioner Beamer then motioned to approve B-1 and read the staff's recommendations and conditions and included the added amendment to Item-I adding: "fund and develop a peer review study of the rising chloride levels of Ka'ūpūlehu Wells 1 & 2"

MOTION: (BEAMER/HANNAHS)
To approve B-1 with amendment
UNANIMOUSLY APPROVED

031621 00:29:20

B. ACTION ITEMS

2. Approval of After-the-Fact Variances with Special Conditions to Moloa'a Irrigation Cooperative, Gerard Bosma, and Oasis Water Systems, Inc. MIC 1 (Well No. 2-1019-012) TMK (4) 4-9-012:022, Anahola, Kaua'i

PRESENTATION GIVEN BY: Mr. Roy Hardy, CWRM Ground Water Branch

Mr. Hardy clarified and explained that if the original conditions were not met, all after-the-fact variance matters needs to come forth to the Commission for approval as staff do not have the authority to administratively approve. This item differs from B-1 in that this after-the-fact variance request is more than a depth issue and includes the casing width construction of the well.

Mr. Hardy explained the summary of request and touched on the water availability and noted on the domestic well reporting by the major users and almost all domestic users. The background information was noted. The well completion report review indicated three potential problems with the as-built well. The geology of Kaua‘i was briefly compared to Hawai‘i in regards to well issues and it was noted the well-owner wants to come off the current system and be able to supply their own water. The analysis and issues were explained in regards to the depth of well and casing thickness variances.

This well serves as a public water system rather than just an agricultural use. In this case, this well should have been classified as a public water system as defined by DOH SDWB. Due to the misinterpretation by staff, the well permit did not specifically include a special condition for well casing thickness. This does not trigger a Chapter 343 review and traditional and customary practices will not be affected and this is in alignment with the 2019 Water Resource Protection Plan. The staff recommendations were stated.

QUESTIONS

Commissioner Hannahs – asked in regards to the casing thickness issue

Mr. Hardy – explained the technicalities of the casing in relation to the well use change and also in regards to the County water system standards for public water systems. Verified this is a smaller scale water system as compared with larger county and other ones.

Commissioner Hannahs – concern regarding the principle of the matter and asked why don’t we require the standards for the Ag wells as there’s a possibility many will be converted to other uses in the future that require the thicker casing, so why not have that from the get-go unless it’s a matter of costs?

Mr. Hardy – costs is one of the bigger issues; as far as making everyone comply with the county system standards is hard.

Commissioner Hannahs – understood that and want to support agriculture and minimize the costs of infrastructure and want to support Ag uses but don’t want people to slide in at a lower standard and flip things later with after-the-fact variances or exceptions because of the high-costs of conversion and need to think about long-term benefits to the resource as well as public health and safety. I’m not going to hold back any approval in this situation but asking to look at this for the future.

Mr. Hardy – if we do that, people might build cheaper wells and slip in later. I think its incumbent upon staff to highlight that and would be another after-the-fact variance that would have to come to the Commission, which puts the Commission in an awkward position to approve something that’s substandard, especially if it’s a major change; like this one is no longer going to be an irrigation well but a major municipal well for lots of uses.

Commissioner Hannahs – why don’t we make the 0.375” the standard and if people come in for exceptions with rationalized basis we can approve the exceptions; but our standards in the rules, gives us optimal flexibility in the future – it’s a rule review question and there may be many implications I’m not aware of but leaving it with you and staff to consider.

Mr. Hardy – we'll take that into consideration.

Commissioner Meyer – Commissioner Hannahs raises good questions and this well is older; is it the case that in the operation of this well is an agricultural well that use of the water changed to require potable as oppose to non-potable water-and that will affect the need for potable standards-was that an issue here? Secondly, if they're using this well for delivering potable water as my understanding DOH inspects and requires monthly sanitary reports should there be an issue with the quality of the water, is that correct?

Mr. Hardy – yes, so for your second question because it's a public water system, they become subject to those regulations on the monthly contamination reports to ensure its safe for consumption. The first question, is it necessary for washing the produce? I don't know that but, it should be potable if they're going to be drinking the water without any treatment. If they're going to also wash, just not grow, they could and that will increase their usage.

Commissioner Meyer – mentioned the rule change in California in regards to the Ag industry there in regards to a past contamination issue that occurred there.

Commissioner Katayama – asked if the change from an Ag water system to a regulated water system if it's based on the number of users serviced and what is that number? Is the daily water usage about 0.5 mgd?

Mr. Hardy – yes, and any system that has more than 25 users or 15 connections, is considered a public water system. Not sure on the connections, but users are 50+ and the 0.5 mgd is roughly the average use.

Commissioner Katayama – asked on the safety and water testing due to it being a public water system.

Mr. Hardy – confirmed the safety protocols.

Commissioner Kawaoka – referred to the correspondence between Dept. of Health (DOH)-Safe Drinking Branch and CWRM-asked on status as DOH would've commented on the design (construction) as it being an after-the-fact issue, has it been resolved?

Mr. Hardy – from the comments, before they can start using this well, it does need to be certified by Department of Health (DOH), especially for the domestic portion and would need the engineering report, approvals and certifications by DOH before start of use.

Commissioner Kawaoka – noted on a consideration for a possible transfer to allow domestic water use or possible transferring it to Kaua'i County – is that still a possibility?

Mr. Hardy – it's always a possibility, but I haven't heard that. What I've heard is it would be used to get them off of the Lindner Well, which was servicing all their needs, domestic and irrigation.

Commissioner Beamer – building off the Commissioners questions, I'm concerned about if this is a precedent-how do we intend on managing this as a Commission if we allow wells to be

developed for agriculture, they get modified without our notice, come in for an after-the-fact, then suddenly their municipal wells? I'm thinking of cases that we approved a number of them at Mokule'ia on O'ahu; we had robust conversations saying "usage of the well changes, the permits are no longer valid" – with this instance, the usage is changing and modifying the well and we're suggesting we're going to approve the after-the-fact and reclassify this well as municipal. I'm not against it, I understand we're using and need the water here but, I'm thinking what precedent this sets for the Commission or how do we intend on managing this? For years we've had this conversation and the idea is that if the use of the water changes, the permits are no longer valid.

Mr. Hardy – for background precedents, there is Mokule'ia, although we haven't had something like this MIC where there's irrigation and servicing lots with domestic use to make it now a public water system. Mokule'ia is also a Water Management Area, this area is not. If it does rise to that level of concern, we should be designating the area to get at the end of the pipe issues. As far as areas of non-management, with respect to Commissioner Hannah's concern, it's due diligence upon us if we find out they're changing their use or something that affects the well standards, we have the grounds to come back to the Commission and deal with it at that point or review our rules and standards to disallow that out-right.

Commissioner Beamer – thank you I understand we have it in the conditions at Mokule'ia and in this particular instance we are granting the variance because…(if you can walk me through that Roy)

Mr. Hardy – because in the well standards for a public water system there's minimum thickness based on the County standards. This well has grouting which gives it extra strength. I hope this doesn't become common or precedent and we haven't seen this in the past where it (the well) changed. Once the casing goes in the ground, you can't change it. I think more due diligence when we're (CWRM) accepting the applications, primarily the Ag ones, looking at it closely.

Commissioner Beamer – it's a valid point about designation in areas that are or aren't designated, but thinking of the areas that aren't and the rise in the gentlemen type farms/estates across Hawai'i, I do have concerns this could be a future precedence and need to get ahead of it-whether its designating more areas or hands-on management that's for our Commission to decide. They're major gaps in non-designated areas I'd like to have that for future decision making and prioritizing.

Commissioner Buck – if you could put in the recommendation that we're approving this for Agricultural use-to make it clear for the after-the-fact variance and in the future if the use changes, we've documented our ruling. I agree with Mr. Beamer, a lot of these agriculture lands will be under pressure from real estate development over the years.

Mr. Hardy – typically, we categorize the well by its major use; by this case the precedent is different because it's a public water system too, so given the nature of public trust/domestic water use on the system-we would say it's a private, domestic use. It does through a wrench into our accounting because the majority of the use will be for Ag so it might skew what we understand for the area.

Commissioner Buck – I think it's important we're very specific when we do these after-the-facts, on what we're "approving" to what use.

Mr. Hardy – certainly we can do that as we understand the majority is for Ag with some domestic. In terms of disallowing them the change, they may change their use in non-management areas.

Chair Case – they can change their use, but it's the standards is the concern to the different use.

Mr. Hardy – yes, and that's the "hook" we can add – if your Ag well is built to Ag standards and you're going to municipal from domestic public trust uses, it's something we'll flag and take to the Commission.

Commissioner Katayama – is there a threshold in the mix of use that will cross over to review the condition of the well construction? Right now, it's at 0.5 mgd pumpage and needs a lot of flexibility in urbanization of the area – reduce the Ag irrigation water and shift it over to domestic uses, how do you manage that?

Mr. Hardy – there's no rule and the majority of the use is Ag so I'd say 50/50 as half is a public trust use

Deputy Manuel, CWRM – getting to this categorization, we have our ways we categorize our wells and note that any mix use type of well is a municipal well, that's the definition – it's multiple uses that can include public trust uses. To simplify this conversation, the use of this well and because it's a public water system, it would be more appropriate to label it a municipal well, with Ag and domestic uses and based on that, is how the design should be recommended. I caution the Commission to use domestic very freely because the Courts are specific about what domestic is defined as historically.

Commissioner Buck – (to Roy) how would you describe this well are we doing this as an agricultural and a private municipal use rather than domestic? Would you have a problem if we put that in the first sentence of the recommendation?

Mr. Hardy – municipal now because of the multiple uses and it's a public water system which is the definition of it being municipal; and no because it's a public water system

Commissioner Beamer – asked Roy to explain the logic of it being a public water system

Mr. Hardy – it's a Department of Health definition in how we manage the water systems and any system that has 15 connections for more than 25 individuals using water for domestic purposes on that system, it becomes a public water system. The difference between private and public is the counties are public. Example of a private system is the Ka'ūpūlehu Water Company system, it's private.

Deputy Manuel – to add, they (Ka'ūpūlehu Water Company) are regulated by DOH-Safe Drinking Water Branch and are managed at a greater threshold than systems not considered a public water system, per DOH standards and Safe Drinking Water Act. That's where we rely on DOH to help us co-manage all these public water systems.

PUBLIC TESTIMONY

Ms. Louisa Wooton, Moloa'a Irrigation Coop – Thank you, there's things that came up that I wanted to clarify one was our average daily pumpage; we're no way near 0.5mgd it's more on the average of 150,000 gpd and right now using 1/3 of that. We are a public water system and have been since 2015 and do the monthly testing and all the requirements by Department of Health. The Coop itself did not fill out the permit for this well and not sure where the confusion came in when the permit was sent. We use the water for domestic purposes, primarily for agriculture. We meet the standard of 25 or more users or 15 or more houses and that's how it became a public water system in 2015.

QUESTIONS

Chair Case – asked for clarification on the domestic uses, primarily for agriculture and not sure if those overlap. They may be Ag use there tied to homes or small farms and gardens. It's an important distinction for us

Ms. Wooton – clarified that potable water is what we're serving to our members. Prior to 2015, it was all classified as Ag water, but because of the number of users that were living on their farm and number of households being served and domestic use of the water, we moved into the tier of a public water system and the health department declared us a PWS in 2015. Since then, we've met their requirements, have (2) distribution system operators and we test our water daily.

Wayne mentioned meeting the requirement of FSMA, we have to have potable water for our farms. We don't have the money nor the need now to do a dual system, so we want to have just the potable water and that was the purpose of this well was to give the farmers some control of the cost of the water.

Deputy Manuel – based on that conversation and case law and other situations, this would be a municipal well. It serves multiple purposes including individual homes and irrigation use. It aligns with municipal well use versus an agricultural well.

Commissioner Katayama – asked Louisa for an update of where Moloa'a stands in the recent general plan update and proposed uses of that area?

Ms. Wooton – I'm not familiar with the general plan update as I should be. That particular area is about 750 acres has always been agriculture and historically been, so I assume in the General Plan it continues to have that designation as Ag use.

Commissioner Katayama – asked on potential urbanization in the area in terms of the current pump capacity.

Ms. Wooton – the daily uses of 0.5 mgd is not correct, we have digital metering to show the exact amount and recently upgraded our production meter which is read daily an can be read online; the State well or Lynard Well, use about 150,000 gallons from that is pumped into our tank every 3 days. During the summer it can be daily but it's not near the 500,00 gpd. With the 0.35 mgd pump, we have adequate ability to grow more farms and that's primarily the usage of the water is agriculture.

Commissioner Hannahs – (to Roy) when they're using the water for Ag, do we track people's agriculture productivity?

Deputy Manuel – that's not part of the recording for the Commission.

Commissioner Hannahs – what's the implications of this municipal well with the recommendations being made?

Deputy Manuel – deferred to Roy regarding the standards as the development of them was in 2004; and I've worked with Louisa for quite sometime and they are one of the most organized small water systems throughout the State and want to give kudos. They've modernized their system and we gave them a grant to access funding so this system and movement is something we want to help and support and be sure we go through it the correct way.

As we categorize wells, as this has brought up designation and non-designation, when the Commission decides to designate in the future, how these wells are categorized and the type of uses that's identified are important for us to get at the front end of the conversation; because within the year, any existing uses need to submit their water use permit applications to us. Existing uses are elevated and are almost assumed as protected once designation occurs.

Even now outside of designation, we understand what the water is used for is important and should be clear what the intent of this well is for and categorize the type of end uses in the process that comes before the Commission.

Commissioner Hannahs – (to Roy) asked if the discussion about municipal, domestic and agriculture has changed the recommendations?

Mr. Hardy – no it doesn't; only in the case of when it goes to designation it becomes more of an importance because of the existing use category. However, prior to designation there's nothing from preventing a change. We try and track what we can and categorize for the accounting purposes; but limiting their use or attaching a reasonable beneficial number to what they're using it for and in non-designated areas is not something the Commission has authority to do; aside is if its waste going on. If it's in a designated area, they will need to go through the entire water use permit process. With this, it's a public water system and should be categorized as a municipal source.

Chairperson Case asked for a motion. Commissioner Meyer added with the overview and authority of Department of Health and the inspection process and certification of water quality samples that DOH insists upon

MOTION: (KATAYAMA/MEYER)
To approve B-2 as submitted.
UNANIMOUSLY APPROVED

031621 01:38:20

B. ACTION ITEMS (CONT'D)

3. Approval of Stream Channel Alteration Permit Application (SCAP.5513.3) by the Department of Transportation, Highways Division, for the Installation of H-3 Hālawa Viaduct Pier 26 Riprap Revetment Project, North Hālawa Stream, Hālawa, Oʻahu, Tax Map Key: (1) 9-9-010:010 and 9-9-073: 023

PRESENTATION GIVEN BY: Mr. Dean Uyeno, CWRM Stream Protection & Management Branch

Mr. Uyeno summarized the request and gave the background information and noted this project was previously approved and permitted under OA-411 (SCAP.1705.3) on August 15, 2007. There were three timely-requested permit extensions granted, with a fourth permit extension requested on September 5, 2019, over two years past the expiration of the third permit extension. Due to the expiration of the previous permit, a new SCAP permit application was filed. The stream description and project area were stated. There will be no work within the stream channel, thereby protecting stream fauna habitat.

Comments were provided by DLNR Aquatic Resources, DLNR Engineering, State Historic Preservation, Department of Hawaiian Home Lands, and US Army Corps of Engineering. No cultural, historical and natural resources will be impacted and no traditional and customary Native Hawaiian rights will be impacted or impaired by the project. SHPD concurs that no historic properties will be affected. The project triggers an EA because it uses State funds and the project is consistent with the 2019 Water Resource Protection Plan (WRPP). The staff review was stated and also noted that (1) diversion is located 0.3 miles from the project site which is used by Hawaiian Cement Company for dust control. The staff recommendations were then stated.

QUESTIONS

Commissioner Buck – ask to consider the comments from DLNR Aquatic Resources for this item and B-4 and to consider it as a standard for a SCAP permit.

Mr. Uyeno – thanked Mr. Buck and noted that DOT consultants were available for questions.

Commissioner Kawaoka – asked on the Chap. 343 Supplemental EA – and what the basis is?

Mr. Uyeno – replied not to his knowledge but they're going off of the 1987 Governor's last approval; referred to DOT.

Commissioner Katayama – referred to the recent heavy rains on the impact to the stream flows and its affect to the timetable to the work and scope?

Mr. Uyeno – responded is not aware of anything (major) at Halawa resulting from the recent storms and referred to DOT.

Commissioner Hannahs – asked if there's native vegetation that could be planted and more proper?

Mr. Uyeno – replied its hard to say as the area is beneath the H-3 so not a lot grows there. As for specific plants, would be a question for DOT consideration.

Chairperson Case called upon DOT for comments.

DISCUSSION

Mr. Eric Wat, Dept. of Transportation – I'm the project manager of this project. In terms of what grows underneath, we haven't checked recently. The last time we were there with our consultants there doesn't seem to be much growing there.

Chair Case – are you operating off the original 1987 approved EIS?

Mr. Wat – I believe so, I'll check with our consultant who's also on this call.

Ms. Jan Reichelderfer, WSP – we're not planning to do another EA, 343 as they don't expire.

Chair Case asked for a motion to approve B-3.

MOTION: (MEYER/KATAYAMA)
To approve B-3 as submitted.
UNANIMOUSLY APPROVED

Chairperson Case appreciated it coming back to the Commission for reauthorization of this 2007 project.

031621 01:57:58

B. ACTION ITEMS (CONT'D)

4. Approval of Stream Channel Alteration Permit Application (SCAP.5553.3) by the City and County of Honolulu, Department of Environmental Services for the Maunawili Estates Wastewater Main Repair and Improvements Project, Maunawili Stream, Kailua, O'ahu, TMK: (1) 4-2-008:001; 4-2-067:001 and 002

PRESENTATION GIVEN BY: Mr. Dean Uyeno, CWRM Stream Protection & Management Branch

Mr. Uyeno provided the summary of request and stated the background information. The stream and project description was summarized and comments were received from DLNR State Historic Preservation and Aquatic Resources which noted the proposed project is not expected to have adverse impacts on the aquatic environment, but may have short-term impacts during the construction dewatering. Also noted that Maunawili Stream is a tributary of the Kawainui Stream which provides habitat for native aquatic biota such as the striped mullet, milkfish and the Hawaiian flagtail. It is also habitat for native gobies, ʻoʻopu ʻakupa, ʻoʻopu

nōpili and the native shrimp inhabits the lower to upper reaches of this stream. The Office of Hawaiian Affairs provided comments and recommend the applicant reach out to Hui Maunawili-Kawainui as part of the process to identify cultural practices and resources in the area.

On January 20, 2021, the Army Corps issued a Nationwide Permit No. 3 for the project. The proposed action triggers an EA because it uses County funds. The project is consistent with the 2019 Water Resource Protection Plan (WRPP). Mr. Uyeno summarized the staff review and noted this project will not affect any nearby diversions. The staff's recommendations were then stated.

QUESTIONS

Commissioner Hannahs – supports the notion of consulting with the Hui Maunawili-Kawainui group, but what if they say there's an impact, would it halt the project?

Mr. Uyeno – noted that it can be added on the actions of the conditions for it to come-back to the Commission should T&C are found to be impacted.

Commissioner Hannahs – noted that in the future to encourage that consultation ahead of time so it doesn't need to be placed as a condition.

Commissioner Beamer – appreciated the thorough review and comments and building off Commissioner Hannahs' comments and noted there's a Hui doing work near Ulupō; Hikaʻalani, and Kaleo Wong is one of the coordinators and thought they might be a good entity to loop in also.

Chairperson Case asked the City and County of Honolulu for comments from in which none were specified. Commissioner Meyer made a motion to approve as submitted and noted this project is something the Commission should feel good about getting fixed before erosion gets worse and would have negative impacts to the stream.

Chairperson Case asked Commissioner Meyer if he wants to add that as a condition in which Commissioner Meyer noted he feels confident everyone should know their role in the project especially with the recent weather occurrences.

MOTION: (MEYER/HANNAHS)
To approve B-4 as submitted.
UNANIMOUSLY APPROVED

031621 02:11:52

B. ACTION ITEMS (CONT'D)

5. Amended Interim Instream Flow Standards for the Surface Water Hydrologic Unit of Lāwaʻi (2050), Lāwaʻi Stream at Lāwaʻi Ditch, Kauaʻi

Deputy Manuel inquired on Commissioner Katayama's participation on the subject matter.

Commissioner Katayama disclosed he previously had financial interest in Alexander & Baldwin (A&B) but has since sold his shares and currently has no financial ties to A&B.

PRESENTATION GIVEN BY: Dr. Ayron Strauch, CWRM Stream Protection & Management Branch

Dr. Strauch presented a PowerPoint slideshow and briefed the Commission and explained the summary of the submittal, noted the timeline of the study and assessments, provided maps and pictures of the subject area, explained the diverse stream flows and neighboring stream areas, summarized the instream values, touched on previous Commission decisions and the use of baseflow values for the period of 1961-2019 at index stations; briefed on the off-stream uses which is utilized for diversified agriculture and use by AES Solar Farm and the National Tropical Botanical Garden; noted the concerns of the Commission from its February 2021 meeting and the public testimonies received and responses given; shared the amendments made to the submittal in response to public testimony; and summarized the staff request and recommended proposed action for Interim Instream Flow Standards (IIFS) for implementation.

QUESTIONS

Commissioner Buck – what is the reservoir capacity also at the 50% level?

Dr. Strauch – deferred to McBryde to answer reservoir questions.

Commissioner Buck – asked if there were stream flushing involved and how many times a year if any, in relation to ecological benefits and increase of reservoir storage?

Dr. Strauch – noted the stream's alteration for a number of years and heavy build-up within the stream channel of legacy sediments so it will take a while to see a larger scale benefit. This provides some level of consistent flushing for the near term and can revisit the issue if there's no benefit occurring; there's a lot of unknowns in this, particularly how much flushing is necessary.

Commissioner Buck – we'll put that in the adaptive management category; pertaining to a precautionary principle, would it be better to set the IIFS at Q70 rather than Q65? Wouldn't a Q70 provide a higher amount of water in the stream?

Dr. Strauch – depends how you define precaution? I would err on the side we're underestimating baseflow, so I would set it at a higher level; keep in mind this isn't a water management area so we're not allocating water from the stream, we're protecting flows below a certain amount by keeping them in the stream.

Commissioner Buck – our overall goal is to maintain a certain level of water in the stream.

Dr. Strauch – yes, and this is more a Commission wide discussion on whether you'd like the IIFS to be more reliable, that is, met with natural flows more regularly (and therefore lower); or want to protect a greater range of flows by keeping the IIFS higher in the stream.

Commissioner Buck – do you have a specific idea of diversion 812 specifications that you want McBryde to put in-the monitoring and data?

Dr. Strauch – they already monitor ditch flows, the modifications necessary to meet the IIFS at the intake, I would suggest setting the invert of the intake so an estimated 2.41cfs flow over the dam.

Commissioner Buck – commented on state-wide occurrences that major diverters put in diversions that meet CWRM's specifications

Dr. Strauch – the dam itself doesn't need to be modified, it's the intake structures and we have worked through what that would look like.

Commissioner Beamer – commended Ayron for the thorough presentation and also appreciated staff for the hard-work on bridging the groundwater issues and looking at Pōʻeleʻele Well and for the record, that name is from the Kumulipo, and did a great job showing water sources available for meeting off-stream demands and agree with your baseflow and keeping more water in the stream. The idea of flushing streams is important particularly in areas where flows has been degraded over scores perhaps 100+ years; so its important to have the streams able to self-flush; and the great thing is there's other sources available so it looks like we're able to meet the reasonable and beneficial uses for agriculture while preserving the public trust duties for the stream, so thank you as I've seen the presentation grow overtime and your work is fantastic.

Lastly, thank you for bringing the community concerns to the forefront and highlighting them in the presentation.

Commissioner Hannahs – I want to also commend the report Ayron and is anxious to hear the community reply to your response to their concerns. In regards to the reservoir, I understand you'd defer to A&B to comment on capacity and if necessary on improvement, however if they were improved and upgraded, what would be the effect on the overall water usage?

Dr. Strauch – it would extend the length of time the system could provide Ag water without taking additional water from the stream or well; then we might need to revisit the IIFS or insist on improvements to increase capacity while still complying with dam safety regulations. The problem concerns the ability to operate a dam safely when they're regulated. This was obvious last week with the rainfalls however I'm not going to comment on their ability to improve their reservoirs, but should be considered moving forward with amending the IIFS.

Commissioner Hannahs – so your testimony is if they did, then the IIFS might be amended to keep more water in the stream?

Dr. Strauch – possibly, the issue will be well water. Well water is not utilized for agriculture because of costs to pump; increasing the capacity of the reservoirs will decrease the reliance on the well.

PUBLIC TESTIMONY

Ms. Bridget Hammerquist – Chair Case, some of our comments may be related to the well testimony by McBryde and A&B. There's some disagreement visually observing the reservoirs. They appear to be 80% or greater in their capacity. For myself and on behalf of Friends of Maha'ulepu, we've submitted a written comment, I know it's on file and stand by that comment and do appreciate very much the hydrologist report; Dr. Strauch report this morning. As I understand it, he's modifying the staff recommendation, not only he's recommending a minimum baseflow of 2.4cfs remaining in the stream below diversion 812, but also recommending when they re-work the ditch intake above the diversion they bring it up and take no more than no 2.0mgd so the high flows that will overtop will have the effect of flushing and that's something we're all appreciating more.

Dr. Strauch and the report of Matt Rosener commented that a certain amount of high flows in streams keep them healthy because it tends to deter invasive plant species. That was plants that blocked the stream channel which contributes to unwanted flooding; and that's what we're having on Kaua'i. Our streams are badly compromised with many diversions over the years. There's one thing that doesn't seemed to be addressed in the presentation, but diversion 812 had a permit filed when the State asked all diverters to file permits. It was at that time used by McBryde Sugar used it to irrigate 1,000 acres by drip irrigation. That sugar ended in 1996 and no one has ever comeback and filed a permit for a different use; and clearly this water is a different use.

Another thing is the off-stream use of the water now, is in great part, storage-it is banking as there's four reservoirs the water goes into. Some is used for agriculture and irrigation and some was used to establish the 20-acre water lake in Kukui'ula Development, now seeded with fish and private fishing pond. So, no change in the permit for the water taken and to my knowledge the State is not being paid for the water taken and the beneficiaries are not getting their percentage of fees that should be generated. I'm not sure how this works under HRS 171-58.

We just want to understand correctly the modification today which is to not only keep at least 2.4cfs below the diversion but also allow median/high flows to contribute to greater flows below the diversion, the ruling would be limiting the amount the diverter can take out to approximate 2.0mgd; thank you.

PUBLIC TESTIMONY CONT'D

Mr. Ned Leone – Aloha Commissioners. I'd like to give a big Mahalo for this monumental step forward in setting the instream flow standard for Lāwa'i Stream. It appears to me we have (4) sources of information to establish the IIFS.

1) the USGS report that took 5-years to complete and $700,000 tax-payer dollars to come up with a low-flow of 2.4cfs at the diversion;

2) the State Hydrologist Ayron, a very qualified professional did a comprehensive study based on its high in-depth study of stream gaging and several years of documenting Lāwa'i Stream Watershed; his recommendation is 2.4cfs or the low-flow baseline to remain in the stream. My opinion based on 45-years of living and visually experiencing Lāwa'i Stream which flows through our farm, 2.4cfs may be enough for some survival but not to thrive.

3) McBryde Resources, A&B and Kukui‘ula Development – all different pockets but the same pair of pants; reported their off-stream out of Watershed current use diverted water being about 0.5mgd. This includes irrigating their luxury home development, private golf course and a 20-acre lake for boating/fishing. They did not disclose how many mgd they’re capable of “banking”. I wonder if the other reservoirs will become future water features for their development. Also, how did the diversion permit be transferred from McBryde Sugar that no longer exists to McBryde Resources without reapplying for a new diversion permit? No water for the development should come from Lāwa‘i Stream. With proper permitting, the approximate 200-acres of Ag lots and the 97-acres of coffee that gets watered from Lāwa‘i Stream, should be the only water supply from there.

4) The compilation of 27 written and oral testimony from a wide spectrum of credible Kaua‘i residents including a medical doctor, previous Kaua‘i county council member, former Mayor, residents and long-time stream users with riparian rights from multiple generations, (3) kuleana land owners along the stream, cultural practitioners, a hydrologists, and an aquatic biologists from UH Manoa who did a biological habitat assessment for NTBG in 2007 in lower Lāwa‘i Stream to further support the need to restore more flow and protect the stream.

With the four sources mentioned, I feel CWRM has the information necessary for Commissioners to make this environmentally important decision in setting the IIFS for Lāwa‘i Stream. Another important concern is when raising the diversion intake above the existing dam, it needs to be concrete to effectively prevent seepage and undermining the diversion height. The Commission needs to take control away from the diverters – after so many decades of misuse and abuse of the water in the stream which is held in a public trust, do we want Lāwa‘i Stream to survive or thrive? Ke Kahuwai Pono – guide the Commission making a righteous decision; Mahalo.

PUBLIC TESTIMONY CONT’D

Ms. Terrie Hayes also on behalf of (Kaua‘i) Kona Moku, Billy Kahoali‘i – Aloha Commissioners and Ms. Case. I appreciate you taking our testimony, its been a rough weekend here on Kaua‘i which brings up many things about stream flow. Some I’d like to address; there seems to be a lot of concern for the diversion standards and not as much for the stream standards as there are many uses that are not established any longer, specifically the lo‘i. In preparation, I was reviewing a photo from 1905 of Lāwa‘i Kai and the stream near Queen Emma’s estate and was evident how much lo‘i was established in that area. Currently there’s little or none and having the water to establish lo‘i is its own concern.

Llewellyn “Billy” Ka‘ohelauli‘i the Kona Moku who is my partner, is very concerned about the fish. His family is from the 4th Century of Ni‘ihau and traced it back that far, both sides of Billy’s family has been here (Kaua‘i) for a lifetime and fisheries is an important part of the culture and traditional practices that cannot occur without healthy stream flow; 2.4cfs is good, 4.2cfs would be better; that’s what we would be advocating for, medium stream flow. There’s also an indicator of ‘o‘opu and ‘opae which are limited.

The storm maintenance is a problem and genuine concern for us and who is it that supposed to maintain these ditches? In the recent flood in Koloa town, a dear friend experienced water coming both from Lāwa‘i and Waikomo Streams *(explained the damage and Engineer reply)* expressed that the ditches needed to be cleared; is McBryde responsible for clearing the

ditches? Before anyone talks about "moving" water, it needs to be able to be moved properly. If Lāwa'i Stream has adequate water year-round, it would establish itself so when we have these events, it would move downstream and to the ocean where it belongs. It would consequently flush and would not have invasive species growing there because of the lack of water, which becomes debris in the stream that becomes a major problem.

We need something done about the consequences for the long period of inaction. We would like to see medium flow standards, reducing the upstream diversions, and the illegal diversions be rectified and hope this would establish our fisheries; Mahalo for taking my testimony.

PUBLIC TESTIMONY CONT'D

Ms. Leina'ala Ley, Earthjustice – Good Morning Commissioners, thank you for the opportunity to present testimony and wanted to appear today on behalf of the public interest and the stream to express our appreciation for the staff's work on this proposal and moving in the right direction with setting the stream value at Q65 to protect stream life and taking a precautionary approach since there's little known about the stream and long-time well diversions that can affect the baseflow.

As far as the diversion amount allowing for the 1.1mgd when it is at medium flow, documented need is only 0.5mgd is a concern we would request more clarity in the future as the Commission adapts adaptive management; how is this water being stored and being used to meet that 0.5mgd during the time there is no diversion from the stream – so it's clear, why are we allowing surplus diversion as it remains a strong concern from the community to make sure there is not water "banking" going on.

I noted that Ayron's staff submittal notes the R1 facility will expand to 1.7mgd capacity and in that point in time it would be appropriate to revisit the IIFS and see if the end uses that are Ag and golf courses are amendable to R1 recycled wastewater can be put on that system and more water returning to the stream. We appreciate this step in the right direction, we want to encourage the Commission to take a long-term active management approach because of the high restoration potential and to make sure the off-stream diversions continue to be met by stream water as oppose to more appropriate water source such as recycled wastewater; thank you.

QUESTIONS

Commissioner Buck – regards to water banking, one of our hope is during areas when you have higher flow and the stream is protected, we could store water so that during low-flow times, agriculture could have water without impacting the stream. I understand the concept seems negative, but we look at it as a potential way to maintain stream health during low-flow areas, does that make sense?

Ms. Ley – we understand the idea of allowing for the reservoirs to fill-up to allow for there to be water during low-flow conditions where there would be no water taken from the stream under the proposed Q65, that would be 35% of the time; the needs by the off-stream users need to be met by other sources including the reservoirs; my point was that it wasn't transparent as far as the 0.5mgd need and what is being allowed for off-stream diversions.

If there could be greater transparency and of the storage capacity which folks asked about and whether this water being diverted is going to the verified end-uses during low-flow conditions and how the Commission oversee that?

Commissioner Hannahs – regards to your public advocacy, can you comment on the prior testifiers comment that there are a number of illegal diversions – have it been reported to EarthJustice and are aware of them?

Ms. Ley – I'm not familiar with what those diversions would be and haven't spoken to the community members directly about that.

PUBLIC TESTIMONY CONT'D

Mr. Daniel Sargent, McBryde Resources – One thing I think its hard for the community to understand that because of these 10,000 years flood requirements we're required to meet now for all the dams, we're keeping the dams low. I heard testimony they thought they were high but the Hunewai which has usually 48ft of water, we need to keep it at 24ft in which we dropped half the amount of storage capacity and that's across all the reservoirs we have. The reasoning is to meet the 10,000 year requirement would require multi-million dollar spillways in every dam we own. We're currently doing studies on every dam to figure out what can be done to put that in; until we do that, there's no way we can store enough water to survive any type of drought condition, so we'll be pumping throughout the summer.

The other thing is important to think about is during these microbursts events like we just had, we don't take any water because we can't handle the water downstream as it will fill-up our dams and violate the dam safety standard. During these big storms, we shut the water off which is unfortunate but is also providing more water down the stream and we had complaints from the community of flooding downstream.

QUESTIONS

Commissioner Buck – understanding your dams are at 50% capacity, for your dams on this stream what is total capacity at 50% of your reservoirs?

Mr. Sargent – the only two reservoirs that are useful to us that have capacity will be the high reservoirs. The lower four reservoirs would need to be decommissioned and remain dry and be pumped up hill to get water out of it and have been abandoned in place. We have three reservoirs we could use; Hanini is a small reservoir which is unregulated and doesn't hold much water; Hunewai is the most important as it's at the top of the chain and provides the head pressure for the entire system and Aipo is too low to provide water to users above the system, specifically NTBG and Ag pod users

Commissioner Buck – I'm trying to get a scale – at 50%, how many million gallons?

Mr. Sargent – today we have 30 million gallons in Hunewai; 35 million in Aipo (which is not useful); and Aipoea is at 83 million.

Commissioner Beamer – it's a delicate balance we're conducting stream restoration and alignment with our public trust duties as a Commission and also recognize reasonable and beneficial use we need to provide for off-stream uses; but thank the use of R1 which shows reasonable and beneficial use. If you're saying you have reservoirs with 35 million gallons of water that is unusable for you, that suggest we shouldn't have water in those particular reservoirs. Our decision is trying to achieve balance where you can regulate some level of security for Ag use while making sure we take care the public trust deeds of the stream. Are you saying you have reservoirs with millions of gallons of water that's unusable?

Mr. Sargent – yes because it's below the system where the users are, water would have to be pumped up as you can't use gravity, so you'd have to add additional siphons and pumps.

Commissioner Beamer – so they've been collecting water with no reasonable and beneficial use?

Mr. Sargent – they're collecting water as a way to prevent downstream flooding as at one point, they interrupted the stream. On big storm events, they're a natural buffer from keeping the area below from flooding.

Commissioner Beamer – or it might be preventing the stream from flushing as well because decreased water in the stream. I think it's something for us to think through. Our decision here isn't suggesting you take water at these max pulse peak events, but that periods of increased flow that aren't these "rain bombs", would allow better usage for agriculture. This is a delicate balance across Hawai'i in trying to better establish our public trust duties and balancing its reasonable and beneficial uses. It's more of an adaptive management where diverters have to update their practices, but I think it's a future state that would allow the need for modernizing these systems that's fairly old.

Mr. Sargent – I agree that to be able to keep agriculture practices moving, it's a sizable amount of money to bring these reservoirs to a useful state as the average reservoir would be $5-7million to get it to the 10-year standard to store enough water for drought periods. Do you do all or some? That's the catch as everyone you eliminate takes away the future opportunity for Ag or it eliminates the Ag users now.

Commissioner Beamer – that's why your testimony of the 30-millions of gallons not being able to use is concerning because if it's not support Ag, it should be in the stream and that's the duty of our Commission is to balance the public trust principles.

Ms. Meredith Ching, Alexander & Baldwin – Sorry, Chair Case, I wanted to clarify I think what Dan said was that was the capacity of the reservoirs, not that there was that much watered sitting in them now.

Dr. Strauch – I want to clarify that the location of these reservoirs are not in Lāwa'i Stream and are in intermittent streams, mostly in the dry gulches to the East of Lāwa'i Valley. They capture runoff when there's rainfall events and prevent downstream flooding and not disrupting a stream channels ecosystem.

Commissioner Hannahs – what can the Commission do to help incentivize the improvements that would be reasonable for A&B to make to promote good agriculture industry recovery and restoration and optimize our stream health?

Mr. Sargent – based on the streamflow standard that Ayron proposed would work for us; the hard part will be getting through the dam safety for the 10,000-year flood. Unfortunately, to meet that standard is difficult with the existing reservoirs. You're taking out quite a bit of the reservoir and the spillway becomes larger than the dam causing less water (in the reservoir). The intent for Ag is to have a storage facility to put water for the drought period but need a faster way to get that and approved with permitting rather quickly to move forward. Mostly these reservoirs we've put in for permitting has taken 4-7 years for approval.

Commissioner Hannahs – is that process within DLNR?

Mr. Sargent – partly dam safety and all the stakeholders to get through to remove a dam. What's interesting is a lot of these dams were used by the County of Kaua'i as retainage ponds for communities that sprung up around them, the dams were never designed for that. There was pushback from dam safety about removing the dams and putting in big spillways because of the chances of flooding the downstream users; we're completely caught in a catch-22

Commissioner Hannahs – is there an authority that's convening the stakeholders to work through these issues?

Mr. Sargent – I don't think so; one of the issues is DLNR Dam Safety refuses to talk to the County (Kaua'i), neither of them talk FEMA and are all separate entities under separate rules but unfortunately don't agree on the solution.

Commissioner Hannahs – are you testifying in favor of staff's recommendation?

Mr. Sargent – yes, I think we can make it work.

PUBLIC TESTIMONY CONT'D

Ms. Meredith Ching, Alexander & Baldwin – I'm just here as a resource for questions.

COMMENTS/DISCUSSION

Commissioner Beamer – (to Ayron) thinking about implementation of this, I want to commend your efforts and recommendation but sounds like there's things we need to be mindful of like managing the situations with the reservoirs and getting a sense of what ones are operable and where water should remain in the stream is what's come out of the testimony here and about the water use for Ag and meeting the demand, so wondering on the next steps and how do you plan on monitoring and managing this moving forward?

Dr. Strauch – to start with meeting the IIFS, we'll start by monitoring the stream. Then to comply with the implementation and modifications of the intake, we're requesting that McBryde Resources come to us with their engineering plans of how they're going to modify the intake. Based on community testimony, we do want to see that lower portion concreted

to prevent any leakage and modify the control gate so only a narrow window of flows greater than the IIFS but below a flushing flow into the stream. Part of the amendments to the staff submittal are addressing the end use. While this is not a declared Water Management Area, we are concerned the uses are reasonable and beneficial, therefore, to continue to follow-up with the Ag demand overtime and various crops and water usage.

Commissioner Katayama – on your analysis of the flows and capacity, have you looked at or comprehended the County's storm drainage or storm run-off plans on how they affect the reservoirs or the streams? The overall utilization of the area of Lāwa'i Stream where basically there's only (1) reservoir that's available to supply water for the existing users. The other streams are in terms, buffers for downstream flooding so as we go through the water allocations and how we best manage these reservoirs, is that comprehended on a more integrated look at water management?

Dr. Strauch – do you mean how the dams off of Lāwa'i Stream, East of Lāwa'i how they are impacted by existing County storm water drainage systems – we haven't looked directly at the contribution to reservoir storage, is that what you're asking? We're not allocating water but want to ensure what is diverted is used for reasonable and beneficial uses. Some reservoirs are too low in elevation to be utilized by gravity for the Ag Park for example and do collect storm water – are you asking if we can analyze the availability of storm water in these situations?

Commissioner Katayama – are we fully discounting their usage unless there's major renovations and modifications allowed to lift the water for future Ag or recreational development. Currently, are these reservoirs useful?

Dr. Strauch – the Hanini and Hunewai Reservoirs provide some level of storage as described and provide gravity fed water to the users. The other reservoirs are capturing storm events, but is that water usable, at any cost or as a gravity fed source is the bottom line.

Commissioner Katayama – we should put those in a different category both principle reservoirs that is supplied by Lāwa'i Stream.

Deputy Manuel – Commissioners, you're bringing up great conversations about these legacy systems and how their managed, what are the opportunities and/or limitations of that agriculture water use. I want to highlight that is the function of the Agriculture Water Use and Development Plan (AWUDP) that the Department of Ag is tasked with developing. Strategically we understand the duties of Ag uses and how the systems are integrated and areas they serve, what are strategies for modifications and CIP development. That draft has been presented to us and we are working with DOA to update them.

I want to encourage private water systems to participate in the update and use that plan as a way to organize this high-level policy discussion on agriculture water use throughout the State. Fortunately, we're able to work with the landowner here and tie it with the IIFS. Overall, we do have that mechanism within the Hawai'i Water Plan that gives us a chance to address that.

The conversation on reservoirs and storage during low-flow periods, we've been having that conversation with staff on Ag water redundancy to have sources to protect Ag needs during

dry periods and whether it is wells, water reuse or surface water that can support that. Hearing the testimony from community and understanding the need in getting transparent numbers and information from the end users, itis important to justify what that quantity is. I think it's a way to frame parts of where the Commission has skin in the game.

Commissioner Hannahs – would you agree with Mr. Sargent's characterization that the agencies aren't talking to each other and the process is inefficient?

Deputy Manuel – I don't have first-hand experience with dam safety, that's managed by DLNR Engineering, and without coordinating with them and the County, I don't know what conversations do or don't happen. I know in general that often times with government coordinating cross-division and cross-department, it takes a leader or lead organization to weave everyone together and facilitate that dialogue. That may be us in the WUDP to bring these agencies together to see how to modernize these old systems for flood control, agriculture, source redundancy, or stream protection. I think we could collectively benefit from the overall vision of what we'd like to see happen.

Commissioner Hannahs – I think we have skin in the game and we bring to the table with your leadership, Ayron's and your teams relevant skills and quality of relationships and network across the board that bring value to those discussions. I encourage you and the whole team to take a measure in leadership in dealing with and resolving these long-standing problems.

Chair Case – I can say from the overall department standpoint, it's a very active discussion, certainly with the dam safety program and its cross relationships. It is a challenging, important and active situation, certainly highlighted by the events (rainfall) in the last week.

Chair Case asked for a motion to approve staff's recommendation.
Deputy Manuel reminded the motion would be "as amended" as Ayron presented recommended amendments (baseflow amounts).

MOTION: (BEAMER/HANNAHS)
To approve B-5 as amended.
UNANIMOUSLY APPROVED

Chair Case thanked the staff, users and community members for the tremendous work that went into this and noted it's wonderful to have an updated, meaningful interim instream flow standard that is carefully tailored to address the different concerns and appreciated it.

Commissioner Beamer also thanked all the parties and look forward to the results of the implementation.

RECESS: 12:35 PM

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C. INFORMATIONAL BRIEFING

1. East Maui Stream and Estuary

Chair Case welcomed the Division of Aquatics staff

Mr. Brian Neilson, DLNR Div. of Aquatic Resources introduced staff. This project and research findings were in collaboration with CWRM which started over a year ago.

PRESENTATION GIVEN BY: Dr. Kimberly Peyton, DLNR Div. of Aquatic Resources
Mr. Skippy Hau, DLNR Div. of Aquatic Resources-Maui

Dr. Peyton and Mr. Hau gave a slide show presentation and presented the project and research findings. It reported on monitoring of East Maui Streams and estuaries at 100% baseflow conditions. Our streams need to flow from mauka to makai for a healthy aquatic ecosystem. Estuaries form where salt and freshwaters mix and is key to productivity in these systems and are important as it provides juvenile fish habitats. Streams contribute to coastal food webs such as the ʻoʻopu, ʻōpae and hīhīwai. Forested areas are important and contribute to the healthy ecosystem in general. Six sites were studied and monitored along with Kealia Pond that was also chosen as a study site in South Central Maui.

Stream and estuary methods are used to study the aquatic biota. Environmental DNA (eDNA) is a new highly effective method of monitoring by sampling the genetic material (shed particles) floating in the water that is used to develop a species list that's present in the water habitat from fish, limu, invertebrates, and plants. It's important to Hawai'i as we're a global "hot-spot" and want to account for our management actions and its impact to biodiversity. eDNA is a tool we're able to use to assess and adapt or management strategies going forward. eDNA also detected various animal stressors in watersheds.

The next steps are to continue to collaborate with CWRM to monitor and document how flow impacts aquatic resources, share lessons with other divisions to improve management, include streams and estuaries before/after flow restoration, follow-up monitoring and actions, and expand monitoring statewide.

COMMENTS/QUESTIONS

Chairperson Case commented on the importance of monitoring relating to the East Maui decision to be able to check on the operating theories of stream restoration and needed ability to monitor in the stream and the impacts of different stream flows; thanked the Legislature for the funding for the monitoring program and noted on the eDNA methodology as a huge opportunity for future monitoring. Appreciated Division of Aquatic Resources for the work on this project and for being able to track its impacts of stream restoration.

Commissioner Buck – it warms my heart to see the capability and speed that we're able to do that; your input on East Maui was very important in what we've designed and the streams

were based on comments from Aquatic Resources. I'm glad to see the Honomanū estuary healthy as we've allowed diversions in the upper part. How long it may take or next steps as we had two biological streams with no diversions at all; I'm curious to know how long it would take to tease out existing habitats on streams with slight diversions or ones with none at all?

Dr. Strauch – I want to point out that in 2016, EMI stopped moving water from Nāhiku and Honomanū and licensed area streams East and West Wailuaiki have been fully restored for the last 4+ years. This study is amazing in laying the groundwork for understanding future consequences of water withdrawals from particular streams but have yet to get to the point of comparing one stream to another, simply because of diversions or not.

Commissioner Beamer – thanked everyone involved in this study, including the Commission and the community, and referred to the East Maui decision and measuring impacts stemming from it. Asked Dr. Peyton and Mr. Hau of DAR regarding student (University of Hawai'i, UH) involvement in assisting with studying the various streams; and inquired (to Ayron) on baseflow in relation to eco-habitat and (to Dr. Peyton) on biodiversity of species comparable to coral reefs and if total flows increase biodiversity?

Dr. Peyton – agreed with comment and suggested a possible limit but not sure if there's enough data on that and expressed would be thrilled to take the UH students out and work with them.

Commissioner Beamer – recognized as policy makers the various discussions on the ceiling of thresholds for restoration and if there's a ceiling for habitat and hoped that the Commission takes note of that and might not understand there is a ceiling and restoration is a way to go, that more water means better opportunity for our species. Expressed his gratitude for the work and recognition of the community efforts.

Chair Case – added in designing the future opportunities, in the decision the Commission looked at full restoration, the H90, full restoration of taro streams which includes a diversion and some return at the lower end and then beyond that, various diversion for off-stream use. That's what we're trying to get to is understanding where are the big benefits and challenges. Does full restoration, except for taro farming, how does that compare to full restoration or other kinds of diversion? That's a helpful metric to get to at some point.

Commissioner Hannahs – appreciated the report and concurred with Commissioner Beamer on engaging with students but suggested also to engage with communities of interest in monitoring the health and recovery of their stream systems. Commented on DAR to present this at the Conservation Conference and also to Charter Schools and educators involved with S.T.E.M. (Science, Technology, Engineering, and Math) education to get students into their element and spark environmental scientific interests. Asked if DAR has thought about how that outreach might work and if there's key stakeholder collaborators in the education community and community practitioners?

Mr. Hau – I'm working with residents on the East side, interns with Kāmehameha Schools, Hui Mālama. The only caution is the weather dealing with storms or drought conditions; and currently we've been out of the streams for about 3-weeks due to recent weather. I always

caution on safety but in the streams, we have a lot of fun once the kids see the species in and out of the streams and start identifying them, it's a great learning experience.

Commissioner Hannahs – asked if an abstract was submitted for the Conservation Conference?

Mr. Hau – replied no.

Commissioner Hannahs – noted on post follow-up; and asked on Na Wai 'Ehā.

Chair Case & Deputy Manuel – intervened and noted the Commission not able to discuss Na Wai 'Ehā matters.

Commissioner Buck – noted on seeing the biodiversity on kalo streams versus the un-diverted streams with no use as it would be helpful for future knowledge and was happy to see Skippy present.

Commissioner Meyer – appreciated Skippy and Dr. Peyton on their effective presentation and in their findings on the different varieties and encouraged follow-up and continuing research and expanding it with regards to the interactions of results over time based on the restorations and flow.

Commissioner Katayama – also appreciated DAR for the presentation and asked on eDNA with regards to the stressors on the watershed if the photos shown if that what was found in the study area?

Dr. Peyton – replied the stressors on the watershed were not directly looked at as this was the first pass with the eDNA. Explained the location of the three study areas where freshwater was restored and compared them to reference sites. The stressors would be looked at in a different lens using a different analysis which have not been able to do currently but could give a simple analysis in the future if needed.

Commissioner Katayama – noted that deer and people would be part of the stressors and asked if freshwater intrusion that's high in sedimentation are in these areas?

Dr. Peyton – explained and summarized the study process in certain stream areas with regards to analysis of sedimentation also in relation to stressors.

Commissioner Kawaoka – also thanked Dr. Peyton and Skippy for the presentation and to Brian Nielson for his support to DAR staff and on the collaboration with CWRM. Asked on the eDNA, the collection of data and coming up with the results, if it's a mass analysis or need to go through several processes?

Dr. Peyton – its not known as it was done during Covid perhaps in the future it could be done quicker. A sample could be from 3-6 months for an answer.

Commissioner Kawaoka – do you feel comparing it with traditional methods like netting and other methods, how does it compare or is it going to replace those methods?

Dr. Peyton – with the other methods used, we can measure the fish to have an understanding of the size ranges which is important for us and understand the amount of abundance. eDNA right now gives us presence or absence but don't know "how many". There are ways that people are looking at that a sequence high enough, reflects more of the species in there; but for fish it's not known if it's 10 big fish or 1,000 little fish; but would start to rate these in the future as we get better at this. So, not replacing the other methods, but complimenting them.

Deputy Manuel – I wanted to say thank you to Brian and his team in this collaboration on this stream project. There's a clear nexus between the work we're doing and data sets collected. It's been fun to brainstorm with Skippy and Kim on strategies on how to squeeze a penny with our limited resources as unfortunately stream monitoring was cut throughout our budget. We're hoping to get some of that restored and when it is, to start to expand the monitoring and be strategic on doing baseline eDNA before we set the IIFS and monitor after its set. We're coordinating more closely, and it's been great to have regular meetings with DAR.

Chair Case – for Aquatic Resources, I know you have your own priorities and I hope you can see from this meeting how important the work you do is to decisions of the Water Commission and definitely want to work closely with you all on stream standards.

Commissioner Beamer – reiterated the importance of the scientific data in relation to traditional and customary rights and that years of traditional ancestral knowledge has told us these things before and as policy makers to push ourselves to recognize and validate those as also critical pieces of data.

Chair Case – acknowledge we've had testimony in variety of meetings since the East Maui decision, about anecdotal evidence of recovery of stream life which was rewarding to hear.

Commissioner Hannahs – noted on the terrestrial threats, like the rabbit as example, if it was conveyed to the watershed partnerships to help deal with those issues?

Mr. Hau – I've talked with Fern Duvall (Maui Division of Forestry and Wildlife) and shared the results of the studies and will be talking to the other parties like the partnership folks.

D. ANNOUNCEMENTS

Deputy Manuel – Announced a separate conversation occurrence with Commissioners after CWRM meeting regarding pending contested cases.

D. NEXT COMMISSION MEETINGS (TENTATIVE)

April 20, 2021 (Tuesday)

May 18, 2021 (Tuesday)

This meeting was adjourned at 1:35 p.m.

Respectfully submitted,

Rae Ann Hyatt

RAE ANN HYATT
Secretary

OLA I KA WAI:

M. KALEO MANUEL
Deputy Director

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Written Testimonies Received:

March 2, 2021

Aloha Commissioners

Name and short history: Ned Leone, 71.5 successful trips around the sun and 45 of them have been living, raising a family and diversified farming along Lawai Stream. We have five acres with about 1000 feet of stream front. I have seen the stream just about every day for nearly 45 years. I first experienced Lawai Kai in 1968, where we would bodysurf and spearfish. Over the years I became friends with Mr. Allerton and in 1974 he gave us exclusive use of his garden estate 'NTBG' in Lawai valley for our wedding.

In 2018 CWRM installed a stream monitoring device in the stream on our property that enabled me to observe the stream flows as well as the cfs of the stream gauge in real time. I remember how the registered 1925 dam allowed the stream flow to rise and fall with upper valley rains. The stream and Biome was healthy. I remember when they raised that dam (without a permit) removing 100% of the surface water, only allowing the water under the surface to rise and feed the remaining seven miles to the ocean. It nearly died and dried up the stream. I also remember when the cowboys dug around the raised dam allowing the water to flow so their cattle had water, (It was not natural erosion as stated in the reports). Also, I remember in 2013 when CWRM gave a permit to "repair" the dam that closed the opening and installed a small pipe to feed all of Lawai Valley and approximately 7 miles from the dam to the ocean. It has been devastating!

Today I would like to thank the Commission for having the USGS and the State Water Commission Hydrologist do a scientific study on the water shed of Lawai Stream mauka to makai. It has taken nearly 43 years to start the process to set the IIFS for our streams and rivers across the State. It is time to do away with the status quo! I feel it is very important to take this opportunity to assure that our island & the future generations will have a sustainable and healthy environment. On 12/14/20, before the USGS report was published, I sent Ayron my opinion from my observations what I thought a low flow standard would insure a healthy biome for Lawai Stream. I came up with 2.5cfs to survive and 3.2cfs to thrive. Not far from the conclusion of this scientific study. The USGS report established a 4.26 low flow above the diversion. If the IIFS were set at 3.2cfs that would leave .685mgd and that is more than the current use stated in the report of .50mgd. Now is the time to let Lawai Stream THRIVE.

I am not against McBryde Resources diverting water for their ag lots and their one small token coffee field in the ahupua'a of Lawai. Even though the permit was issued to McBryde Sugar Ltd. to drip irrigate 1003 acres of sugarcane McBryde Sugar Ltd. no longer exists and neither does sugarcane. What I do not understand is how it is possible for the commission to allow McBryde Resources to divert water for A & B's Kukui'ula luxury home development which includes a 20 acre members only "boating and fishing lake and a private golf course" at the expense of Lawai Valley having a healthy biome and watershed from its birth place in the mountain to the ocean. They have the capacity to store more than 130 million gallons of Lawai Stream water in their existing reservoirs that could be filled when the stream base flow has a medium or high flows. Also, they do have other options to obtain water and plenty monetary resources.

If McBryde were to better manage the privilege of using the water held in public trust from Lawai Stream they could remove less and have more. The water they remove from the diversion on the surface has a great percentage of loss due to seepage, evaporation and water wasting. We have a throw away ditch on our property and until the 2019 fact finding meeting held on Kauai, it would run almost every time there would be some rain in the upper valley. Since that meeting the throw away ditch has not been used. From their syphon pipe located along Kaumuali'i Highway there is a leak that runs 24/7/365 in a ditch along the highway. Sometimes when the state mows it hits the ditch and water flows across the highway. Also, the open surface ditch that runs from Hanini Reservoir to Hanawai Reservoir the pastureland is so saturated that it is possible to sink half-way to your knee in mud. Natural streams have rock bases. I am sure there many more water wasting areas that are not accessible.

I have read Michael Kido's 2007 A biological and habitat assessment of Lower Lawai Stream and his comments to the Commission on the 2019 IFS Assessment Report Hydrologic Unit 2050 Lawai. I agree 100% with this very knowledgeable and qualified person and his comments. I think it is important that the Commissioners making this decision on the amount that the IIFS is set at should read both reports. They are short and very informative reports. Now is the time to let our streams heal and thrive.

I would also like to express the importance of when raising the diversion intake above the existing dam that it be made of concrete to assure that there will no seepage around or undercut below the new diversion intake height. Wooden boards or a steal plate is not acceptable. Since concrete was used to "repair" the opening around the dam, concrete should be used to raise the diversion intake above the existing dam height. I was at the dam last week and measured the height in front of the dam and it was 24 to 30 inches. With the wooden weirs in the control gate nearly closed, water continued to flow around the weir and was undercutting the bottom of the gate. At the intake it

measured 41 inches above the dam. There was two long re-bars that look like they could be used to probe or undermine underneath the control gate. By using concrete it would insure an accurate control of the water being diverted.

After so many decades of misuse and abuse of Lawai Stream I hope the Commission will make its decision and set the IIFS higher than the 2.4 cfs recommend and do what is best for our environment for now and the future. Not on what is best for corporate profit and gains.

Mahalo,
Ned Leone, a concerned citiZen
Yolanda Leone
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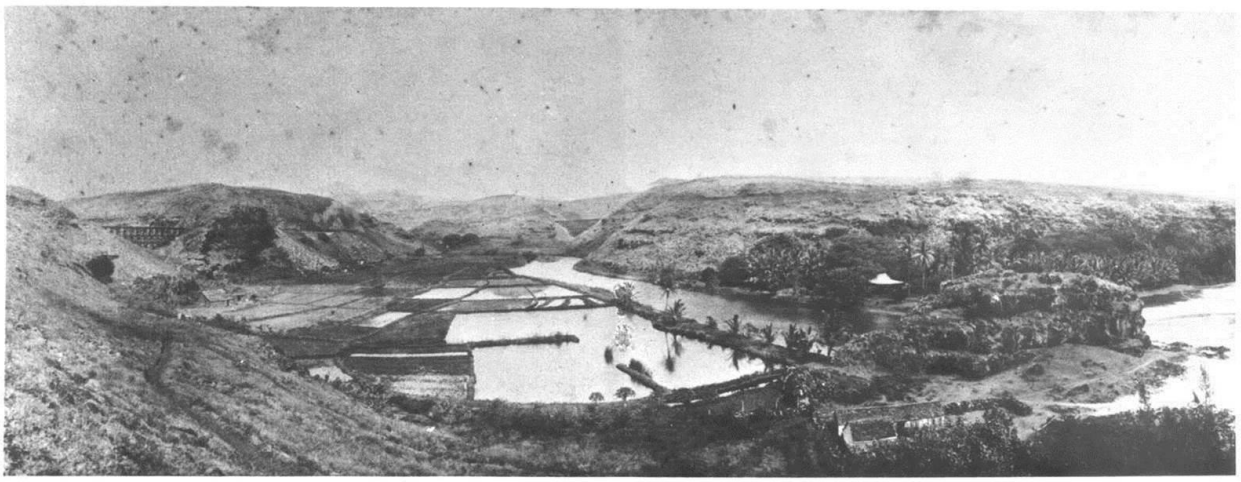
3/9/21
Aloha Commissioners.

I wanted to share this photo of Lawai kai. It speaks for itself. Lawai stream has all the properties of a river. It runs from its birth-place in the mountains giving life to the whole Ahupua'a of Lawai. Its estuary is large and abundant with sustainable life. After so many decades of abuse and misuse, I am asking CWRM to use this opportunity to restore the natural flow. This will allow all the endemic biota, floral & fauna in Lawai Valley to recover and thrive for the future generation to come.

Aloha Aina,
Ned Leone a concerned citizen
Photo courtesy of Kauai Historical Society



A panoramic view of Lawai about 1905. The small house to the right is the Queen Emma cottage after it was lowered over the cliffs. *(Photo courtesy John G. Allerton)*

March 8, 2021

Aloha Commissioners

The Poulton family has lived on the Lawai Stream for 20 yrs and we have noticed a lot of changes in that couple decades of time. This stream is a crucial fresh water source that runs the entire distance from mauka to makai in the Lawai Ahupua'a. It brings fresh water from the watershed of the island all the way to Lawai Kai.

Prior to the fall of 2013, (approximately October 2019) the water flowing in the stream was both clear consistently flowing. The water level would fluctuate only when heavy rains increased the volume of water coming down from the mountain, as in when it was drier the stream still had a healthy flow and it was not empty or stagnant. By Thanksgiving of 2013, we noticed the stream as being unusually low and it seemed very unusual as rains would not improve the flow. It was obvious the natural flow was being altered! In time the stream would almost be empty of any flowing water, more like stagnant pools with barely any flow between on the most extreme days. My boys noticed the prawns and other small fish they used to see in the stream being fewer and fewer, and then hard to even spot at all. We asked our neighbors above and below us and they mentioned a so-called dam was "supposedly repaired" up stream. This site was far from a repair but rather a clear diversion of the water. So much so that the debris and rocks before and around the site continued to build up creating a mini dam. This is far from a "repair" as the natural flow was absolutely disturbed, prevented and altered. The word repair was a lie. The water levels in the Lawai stream continued to be way below normal and the shallow warmer water became a place perfect for algae to grow.

The stream went from flowing clear water to way too shallow with black-green algae covering the floor of the stream. Could not even see the rocks as it grew everywhere. My wife is a marine biologist and commented that the water must be shallower and warmer for this to happen… the flow must be different. Obviously the flow of stream was altered above us and the public trust of flowing water, or wai wai, was not being respected and had become compromised. We go down to Lawai Kai, Lawai bay (also known as Allertons) where this stream meets the Pacific. The water above the beach 1/2 mile was becoming more and more stagnant. Anybody could smell it, see the color was off and that the proper natural flow was not coming down from above. My kids were not allowed to play in this water that would otherwise be a paradise in the ahupua'a of Lawai valley. What was pristine and clean was stagnant and unhealthy.

Who can preserve this natural source of water and its integrity? Way too much water was diverted. Way too many people noticed and way too little was done to reverse the problem at the source!

Finally, in 2019 neighbors and local people came together to bring attention to this obvious diversion problem. That was when facts were presented and speculation and blame were no longer clandestine and secretive. Although many people knew what was happening prior to the meeting it was a subject the public became more educated and aware of. After many emotional and confrontational testimonies, the message was clear…Water is not ownable and who is accountable for it being diverted?

Who is protecting the water flow as it should be? The reservoirs leading down to kukui'ula development were storage "banks" of water while the actual Lawai stream was suffering? Who

allows this to even be considered? Some water maybe…but so much it disrupts the natural way? How can they get away with this?

For a few months we noticed the water level in the stream to be closer to normal. It is very easy to notice clear flowing water after it is trickling, even during rain episodes! When your kids realize and can notice this simple difference it really goes to show how obvious it is. Finally, it seemed as if the issue was out in the open and the public refusal to accept diversion was being respectfully honored.

Unfortunately, by Feb of 2020 we noticed, AGAIN, that water levels were lower and the flow was not the normal. Again, the natural flow standard was below what it was. Had the promise to address the problem and "doing the right thing" disallowing diversion become allowable again? Who will safeguard the precious resource of water flowing naturally from the mountain down through the valley to the ocean for the next generations to come? This is an important obligation and duty that must be respected and protected!

We are asking you to think of the future generations that will be affected by the lack of fresh flowing water in this beautiful stream and the damage it is doing to both the pristine ecosystem and to the water quality. Please do the right thing!

Please ensure the righteousness of the water flowing through the valley! Please stop the diversion of Lawai stream and allow it to thrive as it should and once did!! This stream can heal and return to healthy if the right decisions are made now, the alternative is sad and straight up wrong to allow and to sit back watch!! Please do the right thing while you still can! Please act now!!

Mahalo nui,
Howard, Karyn, Kaimana and Logan Poulton

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March 9, 2021

Aloha State Commission,

I previously sent in a testimony in opposition to divert stream water from Lawai stream in 2019. It is sad to hear that the process is still continuing and our voices have fallen upon deaf ears. I don't understand why owners on the stream are not notified? I find that rather odd and sneaky. Our children will need to hear stories, just as we did, how the commission on water resource management snuck behind our backs trying to take the water that runs through our properties to give it to developers. They too, will have to continually monitor and fight for their right to have and use this water. It is my understanding that you, as a commission were ordered by the State of Hawaii to restore water, protect the resource and ensure resources for future generations.

Here I am again stating my opposition for A & B properties via McBryde Resources to divert more water from Lawai stream. How is it possible that you steal from the poor to feed the rich? Prior to 2019 the stream at times would be just a trickle, especially during the summer months. Since 2019, we have noticed that the water level at the stream has increased. Within the past year, we have notice that `o`opu have returned back to the stream which from my understanding was no longer present for years. We have frequent visits from a beautiful fish hawk trying to snatch up his next meal. Lawai Valley is special. The stream is part of its beauty. We grow food to feed our family in this valley.

This "food" not only feeds our family physically but spiritually. If you allow McBryde to divert more water, the stream will suffer. We will suffer, the fish will die again, the fish hawk won't come because you have removed this food source. Our crops will not receive the sufficient amount of water that is needed for them to grow and thrive. The prawns will disappear, the water will not flow as naturally intended.

It is your kuleana as this Commission. How is this protecting our natural resources? How is this ensuring resources for future generations? How is this restoring our water to public trust and protecting it from private entities? It is not! Why must we be affected by this developer who wishes to provide luxury homesites, a private golf course and private lake? How is it that we are still providing sugar cane irrigation to a non-existent sugar cane industry? Why should they get the first picks of our water resource at the sake of the natural resources and owners who reside on it? Since it appears that you have already decided on giving them more water, please consider how the amount of water you decide will dictate the life or death of this natural resource. It is the Commissions job to allow reasonable diversions and ensure it will not cause damage to another riparian owner. We as domestic riparian right owners have priority over McBryde Resources. Any more water taken by McBryde Resources for the benefit of A & B Properties will not be beneficial to the stream, native wildlife or to the surrounding owners. I urge you to remember what your kuleana is.

Thank you for your time.
Kalani & Jolleen Abreu

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North Shore Hydrological Services Matt Rosener, MS, PE

March 11, 2021

Commission on Water Resource Management State of Hawai'i, Department of Land and Natural Resources
1151 Punchbowl Street, Room 227 Honolulu, Hawai'i 96813

Dear Chair and Commissioners,

I am providing this testimony on agenda item B5 for the 3/16/21 CWRM meeting titled, "Amended Interim Instream Flow Standards for the Surface Water Hydrologic Unit of Lāwa'i (2050), Lāwa'i Stream at Lāwa'i Ditch, Kaua'i. In formulating this testimony, I have reviewed the following sources of information on this agenda item: 1.) the updated Instream Flow Standard Assessment Report dated January 2021, 2.) the CWRM staff submittal dated 2/16/21, and 3.) the YouTube video segment on Lāwa'i Stream from the 2/16/21 CWRM meeting.

My testimony is based on the information contained and presented within these items, but it is also based on my own experiences working in and around Lāwa'i Stream and many other streams on Kaua'i. In 2010, I was contracted by the NTBG to perform an assessment of hydrological processes and stream hydraulics in the lower portion of Lāwa'i Stream, specifically for the reach that runs through the McBryde and Allerton Gardens. Through this effort, I became aware of the chronically-dewatered nature of this lower stream reach and the resulting overgrowth of vegetation in the active stream

channel. At that time, the encroaching vegetation was predominantly invasive species, like California Grass and Papyrus, and I know from other experiences along this stream that Hau Bush is thriving within the stream channel, as it is in many other Kaua'i streams.

Even still, I noted the relative health of the stream, as indicated by the presence of 'o'opu, 'opae, and other native estuarine species in the areas I surveyed for the project. I also noted the chronic turbidity and sedimentation in the stream described by Dr. Strauch in his 2/16/21 presentation to the Commission. It led me to wonder if reducing upstream diversion would help flush sediments through this system and improve 'o'opu habitat. I suspect the answer is yes and would expect this to be realized with the implementation of a new interim IFS. I commend the CWRM staff for their proposal to set the IFS to a level that likely equals or exceeds the baseflow of Lāwa'i Stream, rather than some percentage it. But I respectfully suggest the idea that we aim to set the bar higher, as these flow standards should not only be based on available habitat and allowable fish passage, but also on streamflow needs for the important function of channel maintenance.

Here on Kaua'i, and likely around the state, we are experiencing immense plant overgrowth in many of our stream corridors due to a combination of factors that include aggressive invasive species, confusion about kuleana for stream maintenance activities, general lack of understanding about stream channel function, and last but not least: surface water diversion. We are now suffering the consequences of a long period of inaction, in the form of restricted drainage and the erosion that often results when scary levels of runoff meet clogged stream channel networks. Our streams need more active management, to improve their ecological conditions, but also to maintain basic drainage function. Addressing the rampant spread of invasive plants or sorting out maintenance responsibilities are very tall tasks, and as difficult as it is, it seems that streamflow restoration is the low-hanging fruit in this case.

I recognize that finding the appropriate balance between instream and offstream uses of the islands' surface water resources is a very challenging job, and I want to make clear that I have immense respect for all of the Commissioners and the Commission staff for accepting the kuleana that comes with these positions. With the Lāwa'i Stream decision, there is an opportunity here, especially with existing reservoir storage (> 50 MG) greater than 100 times the daily offstream use (< 0.5 MG), along with a reliable, alternate water source (Po'ele'ele Pump) in this system. I recognize that the setting the Q65 as the standard would be pretty good, relatively, but I hope we can do better. The results of Mike Kido's study suggest high potential for native stream life to respond well to increased streamflow. Mike expressed that to me in person as well. Dr. Strauch noted in his presentation at the last meeting that more 'o'opu have been observed in mauka stream reaches over the past two years since the Lāwa'i Ditch diversion has been better regulated which is also very encouraging. The predicted effects of reduced turbidity and sedimentation can only be expected to increase with a higher IIFS value. And the stream channel would be better maintained through the natural function of streamflow rather than costly human intervention.

I would like to suggest an IIFS value at or around the estimated median flow for Lāwa'i Stream. This would allow the diverter to keep their ditch wet around 50% of the time, thereby reducing maintenance of open ditch segments, and it would also allow for better natural channel maintenance in Lāwa'i stream below the Lāwa'i Ditch intake. With some improvements to the off-stream reservoirs, capturing Lāwa'i Stream water from the medium-to-high range of the flow regime should keep storage at sufficient levels

to get through the dry spells, based off the 0.5 MGD demand and 50+ MG storage capacity, and the Po'ele'ele Pump station could suffice as a reliable backup system. This seems like a better balance to me, not just based off the numbers, but based off my experiences working in Lāwa'i Stream and other streams like it on Kaua'i that need more active management and maintenance work. Why not let the streams do the work for us, when we can?

The recent widespread flooding across the island chain has reminded us of the dire need for better stream and watershed management here in Hawai'i. While some may claim that flooding and resulting erosion are natural processes, I would counter by saying that the boundary conditions have changed. Invasive vegetation is shrinking conveyance capacity in many stream channels. Climate change is boosting the frequency of extreme hydrologic events, both in "rain bomb" storms and extended drought periods when weed growth proliferates in streambeds. Rising sea levels exacerbate the issues by limiting drainage at stream basin outlets. These factors are compounded to increase flood frequency and intensity, and the situation is not projected to resolve without interventions.

Here on the north shore of Kaua'i, we have a new opportunity to address the broken systems of stream management where private landowners look to the county who point to the state, and the kuleana then slips through the pukas. Local north shore community groups now have large grants available from the 2018 flood emergency funds to address stream and watershed issues through active management, including coordinated maintenance. Most community organizations doing watershed work do not have these resources available to them. Until more effective models for community water resource management are developed in Hawai'i, maintaining as much natural flow as possible in our waterways is a critically-important strategy for mitigating the adverse effects of unnatural agents in our rapidly changing watersheds. Humbly submitted for your consideration, Matt Rosener Hydrologist/Water Resource Engineer Hanalei, Kaua'i