

Approved by Commission on  
Water Resource Management  
at the meeting held on  
10.01.14

MINUTES  
FOR THE MEETING OF THE  
COMMISSION ON WATER RESOURCE MANAGEMENT

DATE: August 20, 2014  
TIME: 9:30 am  
PLACE: DLNR Board Room  
Kalanimoku Bldg.  
1151 Punchbowl St., Room 132  
Honolulu, Hawaii 96813

Chairperson William Aila called the meeting of the Commission on Water Resource Management to order at 9:37 am.

The following were in attendance:

**MEMBERS:** Mr. William J. Aila Jr., Mr. Jonathan Starr, Mr. Michael Buck,  
Mr. Kamana Beamer, Ms. Linda Rosen

**ABSENT:** Mr. Milton Pavao

**STAFF:** William Tam, Roy Hardy, Dean Uyeno, Paul Eyre, Jonas Burgon,  
Rebecca Alakai, Neal Fujii, Malie Beach-Smith, Lenore Ohye, Patrick  
Casey, Jeremy Kimura, Robert Chenet

**COUNSEL:** Colin Lau, Esq.

**OTHERS:** Dan Purcell, Summer Sylva, Ashley Obrey, Caleb Rowe, Kristin  
Tavnstrom, Jonathan Scheuer, Mark Fox, David Schulmeister, Shannon  
Wood, AA Medeiros, Larry Miike

**A. APPROVAL OF MINUTES**

June 18, 2014

**MOTION: (Starr / Rosen)**  
**To approve the minutes.**  
**UNANIMOUSLY APPROVED.**

July 16, 2014

**MOTION: (Starr / Buck)**  
**To approve the minutes.**  
**UNANIMOUSLY APPROVED.**

**B. ANNOUNCEMENTS**

**1. Hawaii Water Works Association (HWWA), October 15-17, 2014 (Kauai)**

Lenore Ohye (Branch Chief, Planning) announced the HWWA meeting on Kauai on October 15-17, 2014. The program and agenda are still being developed and will be sent to the commissioners once finalized.

Paul Eyre gave a short tribute to hydrologist Steve Bowles who passed away on August 17, 2014.

## C. UPDATES

### 1. **Status of Proceedings: Na Wai Eha (Appurtenant Rights); East Maui Instream Flow Standards (after remand); Petition to Designate Kona as a Ground Water Management Area, West Kauai surface water investigation**

Deputy Tam gave an update on the following proceedings.

#### **1a. Na Wai Eha (Appurtenant Rights)**

The due process appurtenant rights hearing on Maui is tentatively scheduled for the middle of November 2014. Final dates will be noticed shortly. The first stage of the process will address whether or not a property has an appurtenant right. The hearings officer, Dr. Lawrence Miike has spent the last few years preparing evidence, charts, maps and his recommendations. This will be the first time under the Water Code that appurtenant rights have been determined by the Water Commission.

Commissioner Starr requested a workshop on the process so the commissioners are prepared for the appurtenant rights hearing.

Commissioner Rosen asked if there would be two consecutive meetings in November to discuss appurtenant rights.

Deputy Tam replied yes.

#### **1b. East Maui Instream Flow Standards (after remand)**

The matter of East Maui will be taken up later on the agenda.

#### **1c. Petition to Designate Kona as a Ground Water Management Area**

Site visits will take place September 17 and October 9, 2014 in Kona. A meeting to determine whether or not to proceed with the designation process will be held on December 10, 2014.

The next regular Commission Meeting will be held on October 1, 2014 on Oahu.

#### **1d. West Kauai surface water investigation**

Dean Uyeno (Branch Chief, Stream Protection and Management) said CWRM has a contract with Element Environmental to serve as the investigator for the Waimea, Kauai surface water investigation. There are some right-of-entry issues with the landowners that need to be worked out. A site visit with the parties will be scheduled prior to a site visit with the commissioners. The contract is for a year and a half. The

investigation will begin soon. CWRM is discussing priority areas with the U.S. Geological Survey (“USGS”) and will develop a proposal to look at streams in the southeast portion of Kauai from Wailua to Hanapepe.

Commissioner Starr asked if he could participate in the site inspections.

Deputy Tam explained that the right-of-entry issues have prevented staff from confirming a date.

Commissioner Buck asked if he could be informed about future site visits.

Mr. Uyeno commented that notice needs to be given when commissioners participate in a site visit. Staff must consider these issues before asking the commissioners to attend.

## **2. Tentative calendar for upcoming meeting dates**

Deputy Tam gave an update on the Nominating Committee. Committee members will be meeting soon to review applications and send a list of names to the Governor.

Commissioner Starr asked if applications were still being accepted.

Deputy Tam replied that the deadline is August 29, 2014.

## **3. Joint State Water Conference (Maui) – recap from Commissioner Starr**

Commissioner Starr said the conference was a great opportunity to learn about water planning at the county level. CWRM staff and the Department of Health (“DOH”) gave excellent presentations. He encouraged the other commissioners to attend next year.

Commissioner Buck spoke about his presentation at the Joint State Water Conference on Oahu. He said many agencies do not talk to each other and there was a lack of energy from the participants. Integrating the DOH Water Quality Plan with CWRM’s Water Resources Protection Plan is essential to plan for the future. He reflected on the need for a sustainable water program.

## **D. PRESENTATIONS AND BRIEFINGS**

### **1. “New Evapotranspiration, Solar, and Climate of Hawaii Websites” by Dr. Thomas Giambelluca, Professor of Geography, University of Hawaii**

Dr. Giambelluca thanked CWRM for supporting his work. Rainfall is essential to the hydrologic cycle. Other elements such as evapotranspiration (“ET”) are also vital to the hydrologic cycle. ET is essential to understanding water exchanges in the environment and estimating ground water recharge. ET data can help with regional climate modeling, agriculture, and terrestrial ecology for plants. There are very few measurements of ET. Variables were mapped on a daily basis to create 320 maps. Soil evaporation, wet canopy evaporation and transpiration were factored into the equation for total evapotranspiration.

Commissioner Beamer asked about mapping a native forest versus an invasive forest.

Dr. Giambelluca said the model accounts for different types of vegetation.

Commissioner Buck asked about fog drip.

Dr. Giambelluca said the fog influences radiation and adds water into the overall system. Solar radiation also influences evapotranspiration. Satellite imagery was used to map cloud frequency. The effects of terrain shading were also incorporated. Net radiation is the net amount of radiation from the sun and clouds, minus reflected radiation. Other variables were mapped and combined to determine the mean evapotranspiration for the entire state. The Rainfall Atlas website has been updated to include this new information. All the variables can be downloaded for free and are available as GIS files or images.

Commissioner Buck asked about the most interesting finding.

Dr. Giambelluca said the patterns were a lot more varied than originally expected. For example, on the Big Island, areas dominated by strawberry guava versus ohia have significantly different rates of evapotranspiration.

Commissioner Beamer asked what that meant.

Dr. Giambelluca replied that more water is percolating back into the ground water in the native ohia forest.

Commissioner Starr asked about the ET for eucalyptus and albizia.

Dr. Giambelluca said the characteristics of the plant (e.g.: height and leaf area) determine ET. One dominate species was used to represent land cover in a certain area.

Commissioner Beamer asked about the red areas along the coastline of the Big Island.

Dr. Giambelluca replied that the land cover type is introduced strawberry guava – an invasive species.

Commissioner Buck commented that some of the state's most important forests are non-native. Trees are better than no trees. He asked about the ET in the watershed above Honolulu near the Pali Highway.

Dr. Giambelluca said ET goes down as you move into the higher elevations because there is less solar radiation due to cloud cover.

Deputy Tam asked if it was possible to estimate recharge and the net benefit of having native forests.

Dr. Giambelluca said recharge can be calculated under different conditions. He said the model could be used to calculate ET for a native forest versus a forest made up of non-native species. Maps of streamflow generation and fog drip are coming soon.

Commissioner Starr asked about conflicting reports and USGS presentations that indicate more rain over the next century.

Dr. Giambelluca said evidence suggests that streamflow is in decline. It is not clear if this is a result of a decline in rainfall or changes in land cover. Field work indicates that strawberry guava uses more water than native species. It is unclear if this is part of a long-term trend or natural variability. Global models need to be refined and downscaled for Hawaii. Statistical downscaling results show decreases in rainfall in the dry areas and little change in rainfall in the wet areas. Other results from dynamical downscaling show increases in rainfall in the wet areas. Scientists are working to resolve this issue.

Commissioner Starr noted that it creates mixed messages which can be confusing.

Dr. Giambelluca said comparing and testing results will help scientists reach better conclusions. However, there will always be some amount of uncertainty when predicting the future at a small scale.

**2. “Auwahi: insights into restoration, hydrology, and community involvement” by Dr. Art Medeiros, U.S. Geological Survey**

Dr. Art Medeiros showed a vegetation map of Hawaii and the Auwahi study site on Maui. The southern slopes of Haleakala have been decimated over the years by fire, ungulates and invasive plant species. Agriculture has also contributed to the transformation of the landscape including feral cattle. Auwahi was at one time considered a “museum forest” in which species had stopped reproducing. In an effort to restore the native forest, herbicide was applied to kill the invasives and a fence was erected to keep ungulates out. Today, after 15 years of restoration, 2/3 of the tree species are starting to produce naturally. 39 species of native plants are currently found at Auwahi. Native shrubs have increased by 80 percent. Native plants are being dispersed by non-native birds. More natural seedlings of hala pepe are found in the one acre Auwahi enclosure than in the entirety of Maui County. Recharge and irrigation studies were conducted inside and outside the enclosure to investigate the recharge potential of the native forest. Results yielded different infiltration rates. Water travels deeper and more efficiently inside the enclosure. The soil in the Auwahi forest versus the surrounding grassland is much cooler. Native plants are important to local people. People always want to come and volunteer at Auwahi and are profoundly impacted by the chance to plant something rare. After volunteering at Auwahi it is easier to educate people about the importance of watersheds. The people are willing participants in saving Hawaii’s forests.

Commissioner Starr asked how this knowledge can be applied to larger areas.

Dr. Medeiros said the original name for the group was “Maui Restoration Group.” He discovered that each project takes a significant amount of time and energy and it was impossible to restore all of Maui in one lifetime. Restoration groups from around the state could be formed to share expertise and regionalize the restoration effort. Initially he thought the public did not care, but the public is willing to become part of the solution. Every community has the same social capital to create their own Auwahi.

Commissioner Beamer commented that the work at Auwahi is scientific evidence that native forests recharge aquifers in ways that are different from invasive forests. The Water Commission should consider restoration as an effective strategy in water recharge. He thanked Dr. Medeiros for his work and said Auwahi is an example of new ways to implement management strategies.

Commissioner Starr asked about the percentage of out-planting at Auwahi versus natural regeneration.

Dr. Medeiros replied that the Auwahi forest is more tree diverse than other areas around the state. Weed control and outplanting are a necessary first step. The forest does not magically come back on its own. Auwahi is not a botanical garden and will not be successful until it is able to reproduce on its own. Approximately 70 percent of the species are starting to reproduce on their own.

Commissioner Buck asked about the size of the next enclosure.

Dr. Medeiros said he would like a core area with smaller surrounding plots.

## **E. GROUND WATER REGULATION**

### **1. Request to Enter into a Joint Funding Agreement with U.S. Geological Survey for Statewide Hydrologic Data Collection and Water Resource Monitoring for Federal Fiscal Year (FFY) 2015**

Patrick Casey (Geologist, Survey Branch) said cooperation with the USGS dates back to 1909. Over the years, stream gages have been discontinued for a variety of reasons. In 1972 the agreement was expanded to include ground water data. Currently, CWRM has 14 ground water stations, 16 rain gages, and is increasing the number of stream gages from 25 to 26. CWRM is slowly rebuilding its survey staff. The cooperative agreement with USGS will help pull together data results.

#### RECOMMENDATION:

Staff recommends that the Commission:

- 1) Authorize the Chairperson to enter into a Joint Funding Agreement with the U.S. Geological Survey for FFY 2015 to undertake the specified monitoring activities; and
- 2) Delegate authority to the Chairperson to modify the list of monitoring stations to delete stations from the Agreement if other cooperators can be found.

The terms of this Agreement are subject to the approval of the Attorney General's Office. Contract execution will be done in accordance with Haw. Rev. Stat. Chapter 103D and Hawaii Administrative Rules, Chapter 3-122.

#### (DISCUSSION)

Commissioner Buck asked if the data was available online.

Mr. Casey replied that ground water data is updated regularly after field visits.

Ms. Ohye noted that the USGS has real time data available on their website.

Commissioner Starr asked if there were any areas in need of monitoring.

Dean Uyeno said stream gages used to be paid for by the sugar plantations. Gaging stations are expensive and labor intensive, which increases the overall cost. CWRM is open to more gages, but needs more funding.

Ronald Rickman from the USGS commented that the number of gaging stations is low. USGS is actively working with the Honolulu Board of Water Supply ("BWS") to fund more stations.

Mr. Uyeno said every year CWRM develops a prioritized list of needs in cooperation with the USGS.

Dr. Lawrence Miike reiterated that more stations are needed to increase real time data.

Commissioner Starr asked if CWRM could ask the Legislature for more money.

Chair Aila suggested that CWRM share its prioritized list with the commissioners.

Commissioner Buck requested to see the top 25 gaging station priorities that did not get funded.

Mr. Rickman said real time data can be supplemented with low flow data from index stations. Low flow stations are cheaper to operate.

Commissioner Starr noted that the Maui Department of Water Supply is starting to use innovative communication tools in remote areas to gather data.

**MOTION: (Beamer / Rosen)  
To approve staff's recommendation.  
UNANIMOUSLY APPROVED.**

**2. Authorize the Commission on Water Resource Management to Conduct a Site Visit to View Anchialine Ponds at the Kohanaiki Shores Development and Limited Meeting with Representatives of Kohanaiki Shores, LLC in the Keauhou Aquifer System Area, North Kona, Hawaii**

Roy Hardy (Branch Chief, Ground Water Regulation Branch) said Kohanaiki Shores has expressed safety concerns about the September 17, 2014 site visit. They have requested that the site visit be limited to the commissioners and CWRM staff. If the Commission determines that Kohanaiki Shores' concerns are warranted, they can approve the request for a limited meeting. The public areas including the anchialine ponds will be accessible to the public. The monitoring wells will be part of the limited meeting portion of the site visit. The request for a limited meeting must also have concurrence from the Director of the Office of Information Practices ("OIP").

RECOMMENDATION:

Staff recommends that the Commission pursuant to and consistent with Haw. Rev. Stat. §92-3.1:

1. Find that a “limited meeting” at Kohanaiki is necessary for practical and safety reasons.
2. Authorize a limited meeting at Kohanaiki provided it is conducted in accordance with the legal requirements set forth in the statutes.

(DISCUSSION)

Commissioner Starr asked if the commissioners would be visiting remote areas.

Mr. Hardy replied that there is construction at Kohanaiki but nothing is remote.

Commissioner Starr asked if it was possible to visit the anchialine ponds north of the Kohanaiki development.

Mr. Hardy said he would look into it.

Commissioner Rosen asked how the site visits were determined and what other sites would be limited to the public.

Deputy Tam explained that the site visits would take place over the course of two days. Many sites are geographically remote. Travel time needs to be taken into consideration.

Commissioner Rosen asked about the impact to the public.

Mr. Hardy said the limited portion of the site visit would be video-taped. Kohanaiki is the only site visit that will be limited.

Commissioner Rosen asked for further justification and encouraged staff to include the public as much as possible.

Mr. Hardy said the video-taped portion will eventually be made available to the public on the CWRM website.

Chair Aila said Kohanaiki was selected as a site visit because of its proximity to the Kaloko-Honokohau National Historical Park.

Commissioner Beamer asked if members of the public would be notified.

Mr. Hardy said the limited portion would be noticed on the agenda.

Commissioner Beamer also encouraged staff to include the public as much as possible when safety concerns are not an issue.

Dan Purcell questioned the need for a limited meeting. He said Kohanaiki is a private country club which may be why the property owners want to restrict access.

Commissioner Beamer asked if construction could be put on hold during the site visit so the public could attend.

Commissioner Rosen acknowledged the concerns of the property owner, but stressed the need for transparency.

Commissioner Starr agreed.

**MOTION: (Starr / Buck)  
To approve staff's recommendation.  
UNANIMOUSLY APPROVED.**

## **F. STREAM PROTECTION AND MANAGEMENT**

- 1. Clarify the Scope of the Proceedings for the Contested Case Hearing on Remand from the Intermediate Court of Appeals No. CAAP-10-0000161 to include and consolidate all 27 Petitions to Amend the Interim Instream Flow Standards originally filed on May 24, 2001 for the Honopou, Huelo (Puolua), Hanehoi, Waikamoi, Alo, Wahinepee, Puohokamoa, Haipuaena, Punalau/Kolea, Honomanu, Nuaailua, Piinaau, Palauhulu, Ohia (Waianu), Waiokamilo, Kualani (Hamau), Wailuanui, Waikani, West Wailuaiki, East Wailuaiki, Kopiliula, Puakaa, Waiohue, Paakea, Waiaaka, Kapaula, Hanawi, and Makapipi Streams, Maui, Hawaii**

### RECOMMENDATION:

Staff recommends that the Commission:

1. Authorize, Order, Delegate, and Direct the Hearings Officer to conduct a Contested Case Hearing on Petitions to Amend Interim Instream Flow Standards for all twenty seven (27) Petitions and stream filed by NHLC; and
2. Authorize the Chairperson to amend the Hearings Officers contract (if necessary) to include all twenty seven (27) Petitions to the Amend the IIFS for East Maui Streams.

### (DISCUSSION)

Deputy Tam clarified that the scope of the contested case hearing is for all 27 streams. The submittal is to clear up any sunshine issues and remove any questions about the scope of the contested case hearing.

Commissioner Starr asked the Deputy Attorney General (AG) if the recommendation from staff is procedurally correct.

Deputy AG Lau said the hearings officer Dr. Lawrence Miike made a recommendation that all 27 streams need to be addressed in the contested case. The commissioners have been asked to vote on the recommendation in an open sunshine meeting.

David Schulmeister, representing Hawaiian Commercial & Sugar Company ("HC&S") said HC&S opposes the expansion of the contested case hearing to include all 27 streams.

HC&S understands that CWRM has been asked to revisit previously determined Interim Instream Flow Standards ("IIFS"). The petitioners have not petitioned for an amendment and did not ask for a contested case on the remaining streams. There is no basis for reexamination and the recommendation to include all 27 streams poses an additional burden on HC&S to reliably plan for the future. It took nearly 7 years for the Commission to set the IIFS for the first 8 streams. 14 of the 27 streams were never made the subject of a contested case request or an appeal. HC&S must plan its business decisions based on certainty and forecasts for the future. Increased uncertainty inhibits HC&S from planning their business future. HC&S changed diversions and altered its business plans based on the Commission's 2008 and 2010 decisions. It is unnecessary to expand the petition to include all 27 streams.

Chair Aila asked if HC&S would have greater certainty if all 27 were included.

Mr. Schulmeister said the IIFS of 14 streams are known, while 13 are unknown. There is no reason to reexamine the issue.

Summer Sylva and Ashley Obrey from Native Hawaiian Legal Corporation ("NHLC") testified in support of the recommendation to include all 27 streams. Ms. Sylva objected to the statement by Mr. Schulmeister that NHLC's clients are satisfied and have not raised an issue regarding the handling of stream monitoring. Promises have been made by the Commission and the current law provides for ongoing monitoring and the assurance that the Commission will carry out their public trust obligations.

Dan Purcell encouraged the Commission staff to post notice of the contested case hearings and ex-parte communications.

Deputy Tam said that contested case hearings are noticed on the website.

**MOTION: (Starr / Beamer)**  
**To approve staff's recommendation.**  
**UNANIMOUSLY APPROVED.**

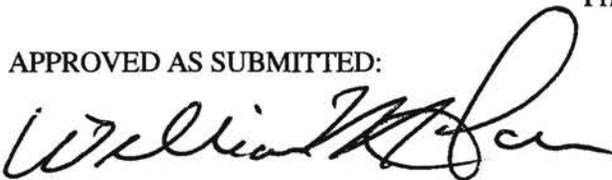
Chairperson William J. Aila, Jr. adjourned the meeting at 12:35 pm.

Respectfully submitted,



KATIE ERSBAK  
Private Secretary to the Deputy

APPROVED AS SUBMITTED:



WILLIAM M. TAM  
Deputy Director