

MINUTES  
FOR THE MEETING OF THE  
COMMISSION ON WATER RESOURCE MANAGEMENT

*Approved by Commission on  
Water Resource Management  
at the meeting held on  
June 18, 2014*

DATE: May 21, 2014  
TIME: 10:00 am  
PLACE: DLNR Board Room  
Kalanimoku Bldg.  
1151 Punchbowl St., Room 132  
Honolulu, Hawaii 96813

Acting Chairperson William Balfour called the meeting of the Commission on Water Resource Management to order at 10:02 am.

The following were in attendance:

**MEMBERS:** Mr. William Balfour, Mr. Milton Pavao, Mr. Kamana Beamer, Mr. Jonathan Starr, Mr. Ted Yamamura, Ms. Linda Rosen, Mr. William J. Aila Jr. (arrived late)

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

**COUNSEL:** Julie China, Esq.

**OTHERS:** Dan Purcell, Jennifer Oana, Garret Hew, Rick Volner Jr., David Schulmeister, R. Berg, Steve Anthony, Pam Bunn, Melia Lane-Kamahele, Jonathan Scheuer, Ashley Obrey, Summer Sylva, Stuart Yamada, Barry Usagawa, Myra Kaichi, Ernie Lau, Erwin Kawata, Wayne Tanaka, Larry Miike, Shannon Wood

**A. APPROVAL OF MINUTES**

April 17, 2014

**MOTION: (Pavao / Balfour)**  
**To approve the minutes.**  
**UNANIMOUSLY APPROVED.**

**B. ANNOUNCEMENTS / COMMISSION DISCUSSION**

Deputy Director, William Tam announced that Hawaii had been selected to host the 2016 International Union for Conservation of Nature ("IUCN"). This is the first time the IUCN will be held in the United States.

Commissioners will start receiving daily "DLNR in the News" emails from DLNR's Education and Outreach Coordinator, Dan Dennison.

Commissioner Starr said he found the emails useful and insightful.

The travel policy for commissioners has been revised. Commissioners can apply for travel to conferences in Hawaii and on the mainland.

Commissioner Pavao requested that the commissioners review the policy before commenting. He asked if the travel policy applied to staff and commissioners.

Deputy Tam replied "yes."

The Attorney General's office prepared a short synopsis about permitted interactions between commission members. A copy of the document was handed out to the commissioners.

Commissioner Beamer thanked the staff for following-up on his request.

Deputy Tam noted the request by one of the members to change the start time of the commission meetings to 9:15am.

Commissioner Starr confessed that the 10:00am start time is too late. He made a motion to move the meetings to 9:15am.

Commissioner Pavao said he has to wake up at 4:00am to make his flight to Honolulu. Sometimes he encounters delays and must arrive late to meetings. He commented that a 10:00am start time would give staff enough time to prepare for the meeting.

Commissioner Beamer agreed with the motion and suggested that commissioners fly in the night before.

Commissioner Yamamura asked if 9:30am could be a compromise.

Commissioner Starr said it is difficult to find a parking stall downstairs after 9:00am, but he was willing to negotiate a 9:30am start time.

Commissioner Rosen noted the different preferences and challenges of coordinating neighbor island travel to meetings. She said she was sympathetic to Commissioner Pavao's concerns, but supported the motion to move the meeting to 9:30am.

Commissioner Pavao voiced his concern about flight schedules out of Hilo.

Dan Purcell said he does not support the 10:00am start time and prefers that meetings begin at 9:00am.

Commissioner Yamamura asked if parking stalls could be reserved for commissioners.

Deputy Tam said CWRM does not have the authority to reserve parking stalls.

**MOTION: (Starr / Beamer)**

**To move meeting start time to 9:30am**

**(Starr, Beamer, Balfour, Rosen = aye; Pavao, Yamamura = opposed)**

**Motion is approved.**

**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 outlined the upcoming calendar of events.

**1a. Status of Proceedings: Na Wai Eha (Appurtenant Rights)**

The issue of appurtenant rights in the Na Wai Eha contested case will likely be scheduled sometime in July 2014.

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

The Hearings Officer for the East Maui Instream Flow Standards contested case is currently conducting hearings and will brief the commissioners at the end of the meeting.

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

A meeting regarding the National Park Service ("NPS") petition to designate Kona as a Ground Water Management Area is tentatively scheduled for September 2014. CWRM is awaiting the completion of studies by the U.S. Geological Survey ("USGS") and should have the study results by the fall.

Commissioner Starr asked if Steve Anthony from USGS was available to answer questions.

Steve Anthony commented on the pending studies and said there have been delays associated the federal government shutdown. USGS is currently analyzing the data and preliminary findings. The results cannot be officially released until the study has gone through peer review.

Commissioner Beamer asked if the study had been submitted for peer review.

Mr. Anthony replied "no." USGS is currently drafting the final report.

Commissioner Pavao asked if USGS was examining the Keauhou aquifer as a whole.

Mr. Anthony replied that the study is analyzing data from the high level aquifer and coastal basal aquifer. There are different water levels within the high level aquifer. A number of samples have been collected from wells with different water levels.

Commissioner Starr asked if there was anything the commissioners could do to ensure a timely completion date.

Mr. Anthony said a letter of support from CWRM to expedite the process could assist the USGS during the publication phase.

Commissioner Pavao asked if the study is looking at the entire aquifer or just the wells surrounding the Kaloko-Honokohau National Park.

Mr. Anthony said the study area is focused within the park. The study seeks to understand what fraction of water from the high level aquifer is supporting resources within the national park.

Commissioner Pavao asked if USGS was consulting with other people who have done similar studies in the area.

Mr. Anthony replied "yes."

Commissioner Pavao cited a study that encountered fresh water below sea level.

Mr. Anthony said data from that well has been shared with the USGS.

Jonathan Scheuer, a consult for the NPS, and Melia Lane-Kamahele commented on the petition to designate. Ms. Lane-Kamahele encouraged the staff to set a date for the Kona meeting and said publication of the USGS study should not preclude the Commission from making a decision about designation.

Commissioner Pavao asked what sufficient information exists to warrant designation.

Mr. Scheuer replied that other studies have shown a connection between the high and low level aquifer. Other modeling indicates that continued withdrawals will have an effect on coastal salinity and biological resources within the park. Based on the evidence presented, the Commission must decide if a threat exists. The isotope studies are important when allocating water use permits, but do not directly influence the decision to designate. The NPS supports the USGS studies.

Commissioner Beamer asked if the NPS could comment on recent newspaper articles.

Mr. Scheuer referenced a report by the Union of Concerned Scientists that cited 18 sites, including Kaloko-Honokohau Historical National Park that could be potentially impacted by rising sea levels and climate change. The NPS believes that designation will add an additional layer of oversight as it relates to water use permits and the public trust.

Commissioner Pavao asked what the NPS thought of the relationship between the high level and basal level aquifer.

Mr. Scheuer cited other isotope studies by researchers at the University of Hawaii ("UH") that reference a 40% contribution from the high level into the basal aquifer. The pending USGS study seeks to confirm that relationship. He reiterated the NPS's desire to confirm a meeting in Kona for the fall of 2014.

Commissioner Rosen asked if the issue would be revisited today or at a future meeting.

Deputy Tam replied at a future meeting.

Commissioner Rosen asked when a site visit would be scheduled.

Deputy Tam said September or October 2014.

Commissioner Beamer reiterated his desire to confirm a meeting date.

Commissioner Yamamura asked if the meeting would be in Kona.

Commissioner Pavao agreed that the site visit and meeting should be in Kona.

Deputy Tam said the Commission would look into scheduling it for September or October.

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

The contract for the West Kauai surface water investigation has been approved and the name of the contractor will be released soon.

Commissioner Starr thanked staff for the updates.

#### **2. Red Hill contamination investigation: request for status report**

Roy Hardy (Branch Chief, Ground Water Regulation) gave an overview of the Red Hill contamination spill and the concerns raised by the Honolulu Board of Water Supply ("BWS").

Steve Chang from the Department of Health ("DOH") said the Navy fuel storage tanks at Red Hill were built in 1943. 20 tanks were constructed (100 feet in diameter, 250 feet high) underground with the capacity to hold 12.5 million gallons each. The tanks represent the largest fuel storage facility in the United States. Information about the tanks (operation, maintenance, leakage, etc.) was classified until 1995. 18 of the 20 tanks are currently used to store jet fuel. The historical record indicates that there have been releases of fuel over time. On January 13, 2014 the Navy identified staining on one of the tunnels that serviced tank number 5 and elevated vapors levels. After investigating, they found 10,000-20,000 gallons of fuel unaccounted for. The tank level had dropped 6 inches and released approximately 27,000 gallons of fuel. The remaining fuel was removed and there was an initial assessment of the impact to the outlying areas. A final report should be released in September 2014. Since the initial release in January 2014, DOH has held numerous discussions with the Navy and Environmental Protection Agency ("EPA"). In 1998 the Navy drilled several wells to better gauge the impact of leakage on the groundwater supply. More monitoring wells are needed on either side of the facility. Beyond the corrective action plans, the DOH is encouraging the Navy to develop a prevention plan and leak detective system.

Commissioner Pavao asked about the potential impact on domestic wells.

Mr. Chang said the Navy regularly monitors the drinking water, but residual contamination is always a possibility.

Commissioner Beamer asked about leak detection.

Mr. Chang said the Navy relies on inventory control and measuring drops in fuel levels. The technology is very crude.

Commissioner Beamer asked if all 20 tanks are full of fuel.

Mr. Chang said 18 tanks are currently in service. Typically 1 to 2 tanks are taken out of service each year for maintenance and repairs.

Commissioner Starr thanked DOH for the information.

Commissioner Balfour commented on the lack of disclosure about leaks.

Mr. Chang agreed and said leak information was classified until 1995. More monitoring wells could help determine the gradient and flow of future leaks.

Commissioner Beamer asked if the protocol for monitoring has changed since the leak was detected.

Mr. Chang said the EPA is in the process of changing their rules regarding underground fuel tanks. Currently Navy tanks are exempt from some of the EPA standards, but the exemption will be removed.

### **3. AWWA / HWEA Conference**

Commissioner Starr commented on the AWWA / HWEA Conference held in Honolulu on May 6-8, 2014. The joint conference provided an opportunity to learn more about wastewater treatment. He encouraged other commissioners to attend.

## **D. BRIEFINGS**

### **1. "Implementing the State Water Conservation Plan" briefing by Neal Fujii**

Presentation by: Neal Fujii (Planning Branch)

In February 2013, CWRM completed the Statewide Water Conservation Plan. The plan incorporated several priority action areas including a water loss audit and water use reporting by surface water users. Promoting water efficiency is also a component of the plan. In April 2014 training workshops were held on each of the islands to discuss water audits with the major public water system managers. The workshops were well attended, but more training is needed. CWRM will also coordinate workshops on surface water use reporting for plantation irrigation systems. The focus will be on the nexus between water and energy and increased efficiency.

Commissioner Pavao commented on unaccounted water and suggested that CWRM pursue an unaccounted water program to minimize cost to the public.

Mr. Fujii said "non-revenue water" (aka: leaks) is the new term used to describe unaccounted water.

Commissioner Pavao reflected on the large amount of non-revenue water.

Mr. Fujii agreed and said non-revenue water also increases energy costs.

Commissioner Starr noted that leakage is not a reasonable and beneficial use of the resource. He asked if there was a way to penalize the system managers for failure to upgrade their systems.

Mr. Fujii said leaks and meter accuracy are just some of the important issues currently being discussed.

**2. Water and Economics: "Integrated Water Management with Special Emphasis on Watershed Conservation and Wastewater Recycling" – Professors James Roumasset, Kimberly Burnett, and Chris Wada**

Deputy Tam introduced the faculty from UH.

Professor James Roumasset discussed the importance of water management through watershed conservation. Net recharge equals the amount of recharge that goes in, minus the amount of recharge that goes out. The discharge depends on the amount of water in the aquifer. Recharge is greatest when there is the least amount of discharge or leakage. As water gets depleted from the aquifer, it costs more to pump it to the surface. "Pono" is defined as benefit to the public. How much water should be extracted to maximize the net benefit to a given population? If the resource is managed well, de-salinization may not be needed for another 100 years. Watershed management will lower the marginal cost to consumers and increase the benefits.

Professor Kimberly Burnett explained that water conservation can be achieved by either incentivizing consumers to use less water by increasing the price, or by increasing the water supply so the price goes down. Watershed conservation can be accomplished by planting native trees, removing invasive species, and building fences. The question becomes how the State will get the most benefit per dollar spent. Ground water resources in the Koolau watershed on Oahu (100,000 acres) have an estimated value of \$4.5 – \$8.5 billion. How much should the State spend to protect it? Different threats require different strategies to combat. Economists have to ask the question, what is the annual benefit of spending money on pig and strawberry guava removal? Economists estimate that it will cost the State \$9 million annually to remove pigs and strawberry guava from half of the Koolau watershed (~50,000 acres). This action is projected to increase groundwater recharge by 20%. The upfront cost will be a large, but it will gradually decline with each successive year, eventually breaking even within 11 years. After 11 years the benefits will outweigh the costs.

Professor Chris Wada defined wastewater and explained the process of wastewater recycling. By shifting demand toward recycled water, the State can reduce the cost of groundwater. A lower price will not necessarily lead to greater consumption. In general, benefits tend to be higher when the primary source of water is scarce. In areas where there is a high use of surface water which is variable, there is additional value in providing a consistent source of recycled water. Orange County, CA has one of the largest wastewater facilities in the world because there is much uncertainty surrounding groundwater recharge. After treatment, the water can be pumped to help with recharge. Estimated treatment cost is less than \$3 per thousand gallons, but

there is significant cost associated with pumping the water back out of the ground. Singapore operates 50 million gallons per day ("mgd") facility. The water is sent directly to users. Their estimated production cost does not include distribution and may not include capital cost. Planning is important when considering wastewater recycling. Treatment will vary depending on the type of end user (agriculture vs. domestic use).

Commissioner Starr said the presentation was interesting and noted the trend toward smaller more localized facilities. He asked if the plan for Central Oahu could take a more integrated approach.

Professor Roumasset replied that the least costly options should be considered first. Recharge will probably be less expensive than desalinization.

Commissioner Beamer asked what mechanisms California used to recharge the aquifer with recycled water.

Professor Wada said California uses an artificial recharge basin.

Commissioner Beamer asked how seepage could affect ocean biota and be calculated into the overall cost.

Professor Roumasset said limu is sometimes used as an indicator of ecosystem health. Ideally everything should be considered in the overall cost.

Chair Aila commented that some varieties of limu may be more salt tolerant.

Commissioner Starr asked about potable versus non-potable water planning.

Professor Wada said general concepts of net present value can be applied as long as the benefits and costs can be calculated.

Commissioner Beamer asked if the public could comment.

Dan Purcell said the concepts presented were complex and should be simplified for the public to understand. He agreed with the comments made by Commissioner Starr.

Jonathan Scheuer asked what type of regulatory scheme is needed to increase the economic benefits and decrease the cost.

Professor Roumasset said pricing reforms have been made. Decision makers will need to decide where Honolulu gets its water. In areas where there are a lot of private well owners, some states like Colorado set quotas for water. Most private wells on the mainland are not metered.



**E. FEE SCHEDULES FOR WATER RELATED APPLICATIONS**

Deputy Tam explained that application fees are a flat rate of \$25. It takes a significant amount of time to process each permit. Some permits are fairly routine while others are more complex. A new permit fee would help capture the administrative costs associated with processing the permits. Staff is in the process of preparing a fee schedule for applications. The Commission will be briefed before a final fee schedule is set.

Commissioner Rosen asked if changing the permit fee amount required a rule change.

Deputy Tam replied that CWRM has the power to raise fees with the Commission's approval. It would take 9 months to 2 years to change a rule.

Commissioner Rosen asked if the fees would be appropriated back to the division.

Deputy Tam said he was not sure if application fees would go into the general fund.

Commissioner Starr said he supports the raising of permit fees. He asked how the Commission could ensure that the fees are kept in the CWRM fund.

Deputy Tam said the Department is investigating a uniform approach.

Commissioner Pavao suggested that application fees for municipal water systems be examined carefully so the cost does not get passed to the consumer.

Deputy Tam said there are very few applications from municipal water agencies.

Commissioner Balfour voiced his distaste for special funds.

**G. COMMISSION PROCEEDINGS****1. Status and Proceedings on East Maui Instream Flow Standards**

Deputy Tam provided a brief historical overview of the East Maui contested case. In 2001 a number of parties filed petitions to amend the interim instream flow standards ("IIFS") for 27 streams in East Maui. Interim instream flow standards are temporary. CWRM staff met with the parties and agreed to work on 8 of the streams in the first phase. In April 2008, following a draft assessment report, CWRM held a fact gathering meeting in an effort to inform the public. Staff sought agency review and comments. Subsequently, in September 2008 CWRM approved amendments for interim instream flows for a number of streams but not all. In December 2009, CWRM was asked to amend the IIFS for 16 of the hydrologic units including 19 of the streams. Testimony was presented and the Commission voted to defer action on some of the streams and continue work on the others. In May 2010, the Commission made some decisions regarding the 16 hydrologic units. In June 2010, Maui Department of Water Supply filed to become a party in the contested case. The Commission denied the request for a contested case. It was appealed and the Intermediate Court of Appeals ("ICA") ruled that a contested case should be granted. The hearings officer, Larry Miike is in the process of setting a hearings schedule for

the contested case. There have been a number of pre-hearing conferences between the hearings officer and the parties.

Commissioner Yamamura asked if there would be decision-making.

Deputy Tam replied there would be no decision making today. It is a briefing to discuss the process of the contested case.

Commissioner Starr asked if the conversation should be conducted in executive session.

Deputy Tam explained that any internal discussion regarding a contested case is not subject to sunshine law.

Dan Purcell asked if the State requires the Commission to report ex-parte communication.

Deputy AG China replied "no." There is no requirement to record ex-parte communication. The parties will not be involved in the discussion today.

**MOTION: (Starr / Yamamura)  
To adjourn the meeting and go into Executive Session pursuant to Hawaii Revised Statutes 92-5(a)(4) or to discuss contested case matters.  
UNANIMOUSLY APPROVED.**

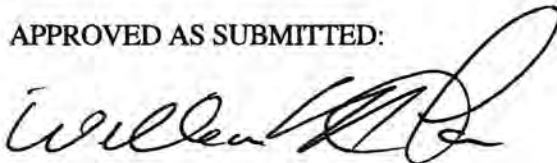
Chairperson William J. Aila, Jr. adjourned the meeting at 1:09 pm.

Respectfully submitted,



**KATIE ERSBAK**  
Private Secretary to the Deputy

APPROVED AS SUBMITTED:



**WILLIAM M. TAM**  
Deputy Director