

MINUTES  
FOR THE MEETING OF THE  
COMMISSION ON WATER RESOURCE MANAGEMENT

*Approved by Commission on  
Water Resource Management  
at the meeting held on  
6-24-15*

DATE: May 20, 2015  
TIME: 9:00 am  
PLACE: West Hawaii Civic Center  
Council Building A, Council Chambers  
74-5044 Ane Keohokalole Highway  
Kailua-Kona, Hawaii 96740

Chairperson Suzanne Case called the meeting of the Commission on Water Resource Management to order at 9:02 am.

The following were in attendance:

**MEMBERS:** Ms. Suzanne Case, Mr. Jonathan Starr, Mr. Michael Buck, Ms. Denise Antolini, Mr. Milton Pavao, Mr. Kamana Beamer, PhD

**ABSENT:** Ms. Virginia Pressler, M.D.

**STAFF:** Roy Hardy, Lenore Ohye, Jonas Burgon, Ryan Imata, Katie Ersbak

**COUNSEL:** Colin Lau, Esq.

**OTHERS:** Barry Usagawa (HBWS), Robert Whittier (HDOH), Dan Chang (HDOH), Jacqui Hoover (HLPC), Jonathan Scheuer (NPS), Tammy Duchesne (NPS), Jeff Zimpfer (NPS), Peter Fahmy (NPS), Paula Cutillo (NPS), Pat Tummons (Environment Hawaii), Keith Okamoto (HDWS), Nancy Burns, Brooke Wilson (Pacific Resource Partnership), Keoki Schattauer, Gerry Cysewski (Cyanotech Corp), Rick Vidgen (Clark Realty), Denise Mills (Hawaiian Electric), Pete Mouginis-Mark (UH Manoa), Jane Clement (County Council), Wendy Baez (County Council), Greg Chun (UH Manoa), Jim Greenwell (Lanikai/Palani Ranch), Eva Blumenstein (MDWS), Mark Traualino, Janice Palma Glennie (Surfrider), Peter Young (Hookuleana), Ann B., Bob Nishimoto, Sue Aronson (Kona Coast Realty), Kaleo Manuel (DHHL), Fred G. Cameo Jr., Alan Murakami (NHLC), Shane Nelsen (OHA), Sharon Willeford, Carl Carlson, Chantal Chung (UH Sea Grant), Kawika Uyehara (HDWS), Mana Purdy (Queen Liliuokalani Trust), Bo Kahui, Riley Smith (Lanikai), B. J. Leithead Todd (DEM)

**A. APPROVAL OF MINUTES**

April 28, 2015 Kauai Site Visit

April 28, 2015 Kauai Briefing

April 29, 2015 CWRM Meeting

Commissioners Starr and Antolini thanked staff for providing detailed meeting minutes.

Commissioner Antolini noted the question mark next to Doug Codiga's name on page 14 of the April 29, 2015 minutes. She suggested the question mark be removed.

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

**B. ANNOUNCEMENTS & UPDATES**

**B1. Recap of May 8, 2015 American Water Works Association (AWWA) Regulatory Maui Workshop & Commission Staff's Presentation of Hawaii Well Construction and Pump Installation Standards**

Roy Hardy (Acting Deputy Director) said the workshop was well attended. The Well Construction and Pump Installation Standards were first adopted in 2008. Staff is updating the standards and making the process more efficient.

Commissioner Starr said the meeting was technical, but interesting. Don Thomas gave a great presentation about geology and Hawaii's aquifers. He requested that Mr. Hardy and Dr. Thomas give their presentations again to the other commissioners.

**B2a. Navy Red Hill Tank Spill Updates - Legislative Actions Related to Red Hill – HB0645, HB0987, HCR066, HCR0126, HR0078, SCR0057, SR109-SD1, SCR0174**

Mr. Hardy gave an update on the Legislative actions related to Red Hill. There were two bills and six resolutions. The Commission supported all of them, but deferred implementation to the Department of Health (DOH). House Bill (HB) 0645 and HB0987 were deferred but can be resurrected next session. House Concurrent Resolution (HCR) 066 was adopted and seeks continued collaboration between the State and the Navy. HCR0126 asked for an extension of the Red Hill Task Force, but did not pass. House Resolution (HR) 0078 also sought to extend the work of the Task Force and passed. Senate Concurrent Resolution (SCR) 0057 added that the Task Force investigates 26 other storage tanks around the State. SR109-SD1 was adopted and seeks to implement the report generated by the Task Force. SCR0174 died. In short, two bills were deferred, two resolutions were killed, and the others were adopted. The Task Force will continue under the guidance of DOH and the Commission staff will stay involved.

**B2b. Navy Red Hill Tank Spill Updates – Announcement – May 7 to May 22, 2015 BWS Conducting Shutdown of Halawa Shaft (3-2354-001) TMK: (1) 9-9-010:008 while U.S. Geological Survey (USGS), Honolulu Board of Water Supply (BWS), and Commission Staff monitor the effects on water levels**

Pump tests were done at Halawa Shaft by the Honolulu Board of Water Supply (HBWS) to determine the response in water levels at various wells in the area. The tests will conclude on May 22, 2015.

Commissioner Pavao asked if the tests will look at flow patterns as well as water levels.

Mr. Hardy replied the tests will look at flow patterns to assess certain anomalies.

Commissioner Pavao asked about the gradient from the Halawa Shaft.

Mr. Hardy said flow is normally mauka to makai, but there are anomalies.

Commissioner Starr said he was disappointed by the response to the threat to Honolulu's drinking water supply. He asked if Barry Usagawa could speak about the fuel leak.

Barry Usagawa (HBWS) said there are trace amounts of fuel in the ground water and at the Red Hill Shaft. The U.S. Geological Survey (USGS) is helping with aquifer tests. The Navy, DOH, and the Environmental Protection Agency (EPA) have been negotiating an Agreement of Consent (AOC), which should be final by June 2015, followed by a community meeting. HBWS is asking for double-wall containment.

Commissioner Beamer asked why the Navy and federal government is exempt from certain fuel construction and safety standards. He asked if this issue was brought up during the negotiations.

Mr. Usagawa said it was one of the findings of the Task Force. It is not clear if it will appear in the AOC. The federal government is exempt by law and the tanks do not require double-lining. HBWS believes the tanks should be double-walled construction.

Commissioner Starr said he attended a number of the Task Force meetings. He offered to continue to represent the Commission at these meetings.

Commissioner Buck agreed that the Commission needs to stay involved. These issues could be discussed as part of the DOH Water Quality Plan and the Water Resources Protection Plan (WRPP) (Item C3b).

Chair Case recognized William D. Balfour, Jr. and thanked him for attending the meeting. Mr. Balfour's term on the Commission begins July 1, 2015.

**B3. Withdrawal of University of Hawaii/U.S. Army Garrison Hawaii (University of Hawaii, Hilo – Don Thomas) Request for a Well Construction Variance on PTA2 Well (No. 8-4738-001) TMK: (3) 6-7-001:041, Island of Hawaii**

Mr. Hardy gave an update on Don Thomas' request for a variance. Dr. Thomas has decided not to pursue the variance and instead complete his test bore to get the geologic information before sealing the hole with concrete. The test bore is not subject to a permit by the Commission.

Commissioner Pavao said it is a shame Dr. Thomas decided to pull the permit. It would have been a fantastic monitoring well.

Commissioner Buck asked what the Commission could do better to avoid this issue in the future.

Mr. Hardy replied better communications and better planning.

Commissioner Starr disagreed with Commissioner Pavao. The project lacked the proper Chapter 343 documentation. The project would not have been challenged if it provided this information.

Commissioner Beamer said he appreciated the work of Dr. Thomas, but agreed the process needs to be followed by all applicants.

Chair Case regretted that the well will not be used for monitoring. She apologized for the lost opportunity.

#### **B4. Commission Monthly Water Resource Bulletin – May 2015 Issue**

Mr. Hardy explained the purpose of the monthly bulletin to provide updates on the status of pending issues. It includes updates on investigations, petitions, contested case hearings, well construction/pump installation permit applications, ground and surface water use permit applications, and more.

Commissioner Antolini said the public may have questions about pending issues that date back to the 1990s (e.g. Waiahole). She asked if the bulletin could include more details.

Mr. Hardy responded that every item on the bulletin has its own set of circumstances or details and normally older items on the bulletin are waiting feedback from applicants to move forward. It is easier for staff to respond to those interested in more specific information on an item than provide long descriptions as each item can get into long descriptions and discussions about specifics. Staff gets requests for more info on bulletin items from time to time and staff is happy to respond to phone calls and inquiries from the public.

Commissioner Antolini suggested that more information be included in the bulletin rather than have staff respond by phone so everyone has the information.

Commissioner Starr requested a broad discussion item on the next agenda that relates to pending issues before the Commission.

Chair Beamer suggested a yearly update of the bulletin.

### **C. PRESENTATIONS & BRIEFINGS**

#### **C1a. Presentations on Impacts of Ground Water Designations under Chapter 174C Hawaii Revised Statutes on Municipalities. Honolulu Board of Water Supply – Windward Oahu – 1992 (Koolauloa, Kahana, Koolaupoko, and Waimanalo Aquifer System Areas)**

Barry Usagawa (Program Administrator, Water Resources Division, HBWS) said he has worked for HBWS for 30 years and was around for the designation of Windward Oahu as a ground water management area in May 1992. He spoke about the impacts of designation. In 1992, the sustainable yield was 99 million gallons per day (mgd). Water use at that time was less than one-third of the sustainable yield. There were no water degradation issues, no sea water intrusion, no declining water levels and chlorides were stable. The basis for designation of Windward Oahu as outlined in HRS 174C-44 “Ground water criteria for designation” was criteria #7 (“Serious

disputes respecting the use of ground water resources”) and #8 (“Whether water development projects that have received any federal, state, or county approval may result in one of the above conditions”). There was uncertainty about the interaction between ground water and surface water and the potential impacts on water rights. The cumulative impact of the regional water development projects in Windward Oahu was assessed through an Environmental Impact Statement (EIS). The EIS identified 46 wells and 43 mgd of potential water development, which would have triggered the other criteria for designation in terms of chlorides, water levels and sea water intrusion. At the time, there was little information about water demands and no water conservation measures.

Windward Oahu aquifers are made up of dikes that extend all the way to the coast. Unlike other areas, there is no basal aquifer near the coast. He explained the geology of Oahu and the formation of the dikes. High level dike water also feeds the streams. There is a hydrologic connection between the ground water and surface water in Windward Oahu. He outlined the impacts of designation on Windward Oahu. There were no impacts to the issuance of water meters, water credits, water reservations, or development.

Commissioner Beamer clarified that there were no impacts to building permits after designation.

Mr. Usagawa said “right.” There were no building moratoriums. Water use permits were issued for existing uses on the windward side. The biggest impact was the unrealized return on Capital Improvement Project (CIP) investment. As part of the designation, the Commission said that ground water in excess of existing uses for Kahana, Koolaupoko, and Waimanalo - in areas where dikes extend to the coast - should not be considered as available for planning purposes. The argument was that surplus sustainable yield was not directly available because any withdrawal may have an effect on stream flows. The development of exploratory wells into the basal aquifers in Koolauloa was allowed, as long as HBWS could prove that stream flows were not affected. From the 1960s to early 1970s, HBWS installed 35 miles of transmission lines from Kamehame Ridge in Hawaii Kai, through Waimanalo and Kailua, across Heeia wetland, past Kahana, all the way to Punaluu. These lines were expensive. Had HBWS known that surplus sustainable yield in Kahana, Koolaupoko and Waimanalo would be taken off the table with designation the pipes would have been smaller. Between the 1970s and 1992 very few wells were drilled by HBWS. At the time, water demand was rising, but stalled in the 1990s. Since the 1990s water demand has plateaued and water conservation measures have been put in place. Between 1990 and 2014 there was a 10% reduction in potable water use. In retrospect, designation was good because it limited the construction of new wells in Windward Oahu – wells, which would not be in use today due to the decrease in water demand on the windward side. Water use on the windward side is currently 15 mgd. Water conservation has also helped restore stream flow and associated water rights. It also keeps the dike aquifers full, which is good for drought mitigation. Furthermore, conservation frees up capacity in the system so HBWS can accommodate new growth in other areas. Future water demands for 2030 have dropped considerably with the help of water conservation.

The benefits of designation include the protection of existing water sources and associated instream uses such as traditional and customary rights. In non-designated areas of Oahu such as Makaha, the water is under common law. Landowners have

correlative rights to drill wells that could interfere with HBWS sources. HBWS has asked for Makaha to be designated. Having a permit process helps ensure reasonable and beneficial use. Designation also provides an alternate legal process for lawsuits if there is potential harm. In Waihee, the Reppuns filed a lawsuit against HBWS which elevated riparian rights. Without designation, the only recourse is to sue. Lastly, designation provides a higher level of resource management and allows for greater collaboration among agencies.

Commissioner Antolini asked about water scalping.

Mr. Usagawa explained water scalping takes water from a sewer line to create recycled water. HBWS is considering scalping for the Ala Wai Golf Course as a cheaper alternative to a centralized plant with miles of transmission lines. The Hawaii Community Foundation's (HCF) "Freshwater Blueprint" identifies water scalping and as a conservation strategy.

Commissioner Starr asked how designation affected water disputes and conflicts within the community.

Mr. Usagawa said the Waiahole contested case instructed HBWS plans and policies to consider public trust uses. HBWS recognizes the importance of water rights in addition to drinking water.

Commissioner Beamer reflected on Oahu's experience with designation and questioned why designation needs to be adversarial.

Mr. Usagawa said Oahu was fortunate to have limited opposition to designation.

Commissioner Beamer asked if HBWS talks story with the other counties.

Mr. Usagawa said the annual Hawaii Water Works Association (HWWA) Conference is an opportunity for the county water departments to network. He acknowledged that he did not follow the designation proceedings for Iao or Na Wai Eha on Maui. HBWS is willing to answer questions from other counties.

Commissioner Beamer asked how HBWS developed the capacity to consider the public trust in its decisions. As a Commission, the public trust is first and foremost.

Mr. Usagawa said the Waiahole contested case taught him a lot. Innovative problem solving is about meeting demand and balancing other uses. This philosophy is part of the HBWS strategic plan and was wrought out of the Waiahole experience. The HBWS watershed plans are modeled after the ahupuaa framework. He acknowledged that Oahu is blessed with a lot of ground water.

Commissioner Pavao noted the Oahu case is different from the Big Island. He asked how long it took HBWS to drill a well in the designated area.

Mr. Usagawa said about a decade later.

Commissioner Pavao said it will take a while after designation for staff to permit existing uses. During that time, new development will be stalled. He asked if designation would cripple the economy in Kona.

Mr. Usagawa said Oahu was lucky. He acknowledged that it does take time.

Commissioner Pavao reiterated that the circumstances, geology and method of operation on Big Island are different than Oahu.

Commissioner Starr reflected on his designation experience on Maui. He praised the HBWS model and long-term planning approach.

Mr. Usagawa said the traditional tactic was not working, so HBWS took a different approach.

Commissioner Antolini asked what fostered the increase in water conservation on Oahu.

Mr. Usagawa replied the switch to low-flow flush toilets and various rebate programs that incentivized the use of water conservation fixtures. Education is a critical component that has helped change behaviors. An increase in water rates also helped incentivize water conservation.

[Break]

**C1b. Presentations on Impacts of Ground Water Designations under Chapter 174C Hawaii Revised Statutes on Municipalities. Maui Department of Water Supply– Island of Molokai – 1992 (all 16 aquifer system areas Kaluakoi, Punakou, Hoolehua, Pala’au, Kualapuu, Kamiloloa, Kawela, Ualapue, Waialua, Kalaupapa, Kahanui, Waikolu, Haupu, Pelekunu, Wailau, & Halawa) & Wailuku Maui – 2003 - 'Iao Aquifer System Area**

Eva Blumenstein (Maui Department of Water Supply) gave an overview of the five MDWS systems, which includes 750 miles of pipe. The primary source of ground water for Central Maui is Iao Aquifer. On Molokai, the system is completely dependent on ground water. In the case of Iao, the criteria for designation included #1 (“Whether an increase in water use of authorized planned use may cause the maximum rate of withdrawal from the ground water source to reach ninety percent of the sustainable yield”) and #4 (“Whether the rates, times, spatial patterns, or depths of existing withdrawals of ground water are endangering the stability or optimum development of the ground water body due to upconing or encroachment of salt water”). In the case of Molokai, the justification for designation centered on criteria #1 and # 7 (“Authorized planned use”, and “Serious disputes respecting the use of ground water resources”).

In response to designation on Maui, MDWS suspended issuing meter reservations (except for the Department of Hawaiian Home Lands) and stopped issuing construction meters in Central Maui. A few years later, Maui County requested a voluntary 10% reduction in water use in Central Maui. Current moving average withdrawals (MAV) are 23.6 mgd. There are still outstanding reservations for DHHL (0.004 mgd). MDWS only considers building permits that have been approved. Total predicted use is 25.6 mgd.

On Molokai, the planned authorized uses were based on the 1990 Water Use and Development Plan (WUDP) with the Kawela-Kaunakakai system projected demand at 1.6 mgd by 2010. The 1984 Community Plan and Hawaiian Homes Commission projected demand island-wide between 40-50 mgd, mostly for agriculture use.

Maximum available capacity was estimated at 27.7 mgd. Today, there are still unresolved disputes in the Kualapuu Aquifer.

Ms. Blumenstein talked about the issuance of water meters in Central Maui. A 2007 county ordinance required any new subdivision to prove there was a reliable and long-term source of water.

Commissioner Starr explained the intent of the ordinance was to limit growth. It was not supported by the MDWS.

Ms. Blumenstein said the 2007 ordinance impacted the issuance of water meters. On Molokai, there were no drastic impacts on the MDWS system due to designation. She listed the lessons learned from designation on Maui and Molokai. First, demand projections should be scrutinized. Developer “wish lists” often get included in plans and do not materialize. Historic data may be more accurate. Second, understand the time frame for build-out. Third, acquire ownership of well sites. Fourth, in Iao, water use permits (WUPs) are issued for individual wells. It would be easier to issue WUPs for a battery of wells to allow for flexible management. Fifth, utilize USGS studies to optimize withdrawals and figure out pumping scenarios for the redistribution of wells.

Commissioner Pavao asked about the moratorium on water meters in Central Maui.

Ms. Blumenstein said temporary construction meters were put on hold for about ten years. Reclaimed water was available.

Commissioner Pavao asked how long it took MDWS to drill a new well in the designated area.

Ms. Blumenstein said no new source wells were drilled. MDWS applied for WUPs for existing wells. All other new wells were intended for the redistribution of pumpage. Existing WUPs were issued within a year of designation.

Commissioner Starr clarified that water meters were switched over to non-potable water. Reservations were stalled, but it did not stop the issuance of meters.

Ms. Blumenstein replied “correct.” There was never a moratorium. She clarified that reservations were stalled in only Central Maui.

Commissioner Starr commended the work of the USGS and their water modeling.

Ms. Blumenstein said designation did not change the MDWS source development strategy.

Commissioner Beamer asked if the hold on water meters for new developments and subdivisions was a result of the county ordinance rather than a result of designation.

Ms. Blumenstein replied “right.”

Commissioner Beamer noted Iao Aquifer was close to 90% sustainable yield when it was designated. He asked if the 90% threshold generated more conflict and lessened collaboration.

Ms. Blumenstein said MDWS was already looking outside of Iao Aquifer for alternative sources before designation occurred. Designation helped push certain issues to the forefront.

Commissioner Beamer asked if MDWS collaborated with HBWS during designation.

Ms. Blumenstein could not recall.

Commissioner Pavao pointed out that in the case of Maui and Oahu certain criteria for designation were met. He clarified that water meters can be granted if the water comes from an existing source, but new sources could not be drilled until existing uses are permitted.

Mr. Hardy replied that wells can be drilled in designated management areas, but pumps cannot be installed until a WUP is issued. Existing uses come first and must apply within a year of designation. Some existing uses can be difficult to establish due to questions about ownership. Bottom line, it does take time to establish existing uses, especially in dike areas. The Commission still needs to establish existing use for Well 17 in Kualapuu on Molokai. The issues that arise will be case by case. In some cases, WUPs can be done quickly.

Commissioner Pavao said development plans would be put on hold if Keauhou were designated.

Mr. Hardy said that scenario would apply to new uses, until the existing uses have been established.

Commissioner Starr stated well drilling permits will continue to be issued. It is the WUPs that will be affected. He asked if the Commission could approve new uses before the establishment of existing uses if the new use could prove no adverse impacts.

Mr. Hardy said that is a possibility. Historically, the Commission has established existing uses first.

Commissioner Antolini asked about the MDWS presentation and the chart on water meters.

Ms. Blumenstein said there is no relation between the numbers of meters installed and the system wide daily consumption. The number of meters around 2007 is largely the result of the county ordinance. Consumption continues to fluctuate and is not an indicator of the growth of the system. The 2007 drought declaration for Central Maui may have also impacted these numbers.

Commissioner Antolini asked Ms. Blumenstein to explain the drop in building permits and the increase in water meters.

Ms. Blumenstein explained it is partly a lag and the economic downturn. The issuance of building permits was related to the 2007 ordinance. Building permits can be issued without a water meter and vice-versa.

Commissioner Beamer noted that Well 17 on Molokai continues to pump even though it is not an authorized use.

Mr. Hardy said in this case the number of existing uses and sustainable yield was close to 90%. Well 17 was the only existing use not established due to contested cases. Later, the Supreme Court said Well 17 must come in as a new use. In reality, Well 17 is an existing use that services domestic public trust uses. There are pending applications for water use that cannot be considered until Well 17 is figured out.

Commissioner Starr asked about the dip in water consumption on Maui.

Ms. Blumenstein said it was the result of many factors.

Chair Case opened the floor to testifiers.

Yvonne Izu (Attorney) testified on the impacts of designation from the lawyer's perspective. On Oahu, the Windward Oahu designation occurred in July 1992. The final Intermediate Court of Appeals (ICA) opinion regarding the Waiahole Contested Case was issued on October 13, 2010. The actual contested case lasted from 1995 to 1997. Ms. Izu recounted the number of appeals and remands from the Hawaii Supreme Court leading up to the final ICA opinion in 2010. During those 15 years, farmers on the leeward sides could not obtain water commitments. She spoke about the impacts of designation on Molokai. Wai'ola O Molokai, Inc. is a regulated public water utility. As a water utility, it bought water from DHHL, the County and Kukui Molokai. In 1996, Wai'ola O Molokai, Inc. / Molokai Ranch wanted to pursue some limited development plans and develop their own source of water. They applied for a new WUP. They were seeking water from an aquifer with a sustainable yield of 3 mgd. At the time, existing uses were 0.3 mgd. The Office of Hawaiian Affairs (OHA) and a number of interveners represented by the Native Hawaiian Legal Corporation (NHLC) and Earthjustice asked for a contested case. Proceedings began in May 1997 and lasted through December 1998. It was appealed to the Hawaii Supreme Court and an opinion was issued in 2004, which remanded the case back to the Commission. By that time, Wai'ola O Molokai, Inc. had given up on its development plans. She explained the history of Well 17. In 1992, Well 17 was owned by Molokai Ranch. Within a year of designation, Molokai Ranch filed for an existing WUP. Later, Kukui Molokai purchased Well 17. A contested case on the WUP for existing use and some new uses for Well 17 began in November 1998 and a final decision and order was issued by the Commission in December 2001. DHHL, OHA and the interveners appealed and the Hawaii Supreme Court remanded the case back to the Commission in 2007. To this day, the application is still pending. The Waiahole Contested Case would not have happened were it not for designation. Many important lessons were learned, particularly lessons about traditional and customary rights. However, these lessons do not need to be taught again through another designation proceeding. Ms. Izu argued that the designation process does not foster dialogue and collaboration and will likely result in contested cases.

Commissioner Starr thanked Ms. Izu for her perspective. He recalled the contentious atmosphere on Molokai. He asked if the atmosphere may have been caused by other issues at play.

Ms. Izu said she was not sure.

Commissioner Beamer said the Commission has no control over the time involved in the contested cases. The Commission's duty is to respect the public trust and consider the precautionary principle for future generations. He asked if designation could also be beneficial to other public trust uses as was the case on Oahu with stream flows.

Ms. Izu said there are downsides to designation and alternatives may exist. Designation tends to open the door to contested cases and appeals, which may take a long time. She encouraged the Commission to investigate alternatives and consider the hardships that may result.

Commissioner Antolini asked about designation criteria #7 ("Serious disputes respecting the use of ground water resources").

Ms. Izu said her personal opinion was that #7 was a political criterion.

## **C2. Keauhou Aquifer System Area**

Keith Okamoto (Deputy, County of Hawaii DWS) reiterated the County's opposition to the designation of the Keauhou Aquifer System Area or portion thereof as a ground water management area. Regarding the March 20, 2015 NPS petition for declaratory orders, the County requests that a public hearing be held. Written testimony was submitted. Per the Preliminary Order (PO), the County has met all the deadlines. Deputy Okamoto thanked HBWS and MDWS for sharing their perspectives on designation on Oahu and Maui. He noted the differences with geology, island size, and population on the Big Island. Hawaii County also requires subdivisions and developments to prove that water is available before processing water meter applications.

Mayor Billy Kenoi said the County has spent the last few months talking to the NPS, but the County position remains the same. At this time, the science, the facts, and the law do not warrant designation. He thanked Commission staff for facilitating the conversations with NPS and trying to find middle ground. We all share common goals and want to protect the resource. However, the facts have not changed. There are already regulatory frameworks in place to protect the resource. He reiterated the County is opposed to designation, including designation of a smaller area. He thanked the NPS staff for working with the County staff.

Commissioner Buck asked how the Commission could help facilitate the conversation and specify alternatives to designation.

Mayor Kenoi said the conversation needs to continue. There is no imminent threat to the aquifer or the resource. The County does not feel the science warrants immediate action. He stressed the importance of continuing to talk story. The first proposal put on the table by the NPS to not drill wells in certain areas is supported by the County. The County has also volunteered at the Park to remove invasive species. The County would like to see more information and better science. The County is willing to listen to the advice of the Commission staff.

Commissioner Starr said the Commission needs to look 30 years down the road. The real issue is what will happen long-term. HDWS is not designed to look outside the needs of municipal uses. The basal water feeding Kona is salting up. He asked for a

plan that addresses where wells will be drilled in the future, including the funding mechanisms. There may be more sources to the south. He hoped to move past the binary discussion of designate vs. do not designate. The bigger issue is the long-term planning process.

Mayor Kenoi assured the Commission that the County is having conversations about the future and long-term use. The County seeks to put together a strategic plan that contemplates growth and has a correlation between proposed development and the availability of water resources.

Commissioner Starr said that is good, but it needs to be put down on paper.

Mayor Kenoi agreed.

Commissioner Pavao added it would be good if the County explained how water agreements are made and who decides the location of wells. The Keauhou Aquifer is not salty. There is water in the high level aquifer.

Commissioner Starr clarified that he meant the basal aquifer is salty.

Commissioner Pavao replied HDWS does not drill wells in the basal aquifer.

Commissioner Beamer noted the NPS petition for declaratory orders for a smaller designated area. He asked if the County is willing to compromise on this point. There are other criteria the Commission can evoke to designate and there seem to be conflicting estimates about water use in the future.

Mayor Kenoi said Commission Beamer is referencing complete build-out.

Deputy Okamoto recounted the information submitted thus far by the County including the infrastructure plan and WUDP update. Of the 38 mgd sustainable yield, complete build-out puts the County at less than 28 mgd. 3.4 mgd DHHL reservations are also included.

Mayor Kenoi asked Deputy Okamoto about the maximum water use given the known building approvals and reservations.

Deputy Okamoto replied "28 mgd," which represents less than 80% of the sustainable yield.

Commissioner Starr said the water is coming from the basal aquifer. There is little information about the high level water sources and if they can accommodate the proposed growth.

Mayor Kenoi agreed and said the County opposes designation on the grounds that more information and science is needed. Proposed build-out is hypothetical.

Chair Case asked if the County and NPS have discussed what information is needed.

Deputy Okamoto said they have not talked about specific triggers. The County and NPS have existing wells they can use for monitoring. Part of the challenge is to determine the metrics needed to monitor, assess, the duration, and parameters. The

County would like to know what NPS needs to maintain the health of the ecosystems at the Park.

Mayor Kenoi added that continued conversations with the NPS and Commission staff will be helpful and instructive. The County welcomes specific requests from the parties involved.

Chair Case encouraged a higher level of specificity.

Commissioner Beamer suggested that the commissioners allow kupuna to testify before breaking for lunch.

Tammy Duchesne (Superintendent, Puuhonua O Honaunau and Kaloko-Honokohau National Historical Park) also deferred to kupuna. She said the NPS filed a petition to designate the Keauhou Aquifer on September 13, 2013. She briefly summarized the actions taken by NPS since December 2014. NPS has submitted extensive comments on the Preliminary Findings of Fact (FOF). They have met with the County to discuss alternative paths of action and submitted a petition for declaratory orders to find out if an area other than a hydrologic unit can be designated as a water management area. Draft settlement concepts have been provided to the County and Commission staff. The Preliminary Order (PO) also requested additional information regarding the quantity of water needed to support natural and cultural resources in the Park and how traditional and customary practices are managed. The NPS is working on these tasks. She reiterated the NPS request that Commission finalize the FOF and continue the designation process by holding a public hearing on this matter. If a decision on designation is delayed, the NPS would like the Commission to defer approval of pump installation permits in the Keauhou Aquifer.

Paula Cutillo (Hydro-geologist, NPS Water Resources Division) said she has been working on water issues at the Park for ten years. She provided more details about the NPS response to the Preliminary FOF, the status of alternative paths of action, and the status of additional information requests. She shared the NPS concerns regarding the Preliminary FOF. First, the Preliminary FOF asserts that by limiting pumping to the sustainable yield, more than 50% of the recharge would be left in the ground to discharge at the coast, which is sufficient to protect fish, wildlife, and cultural practice along the coast. The NPS disagrees with this claim. The most recent recharge estimates in the Keauhou Aquifer are much lower than the estimate used in the Preliminary FOF. Recharge is lower due to declining rainfall patterns statewide. The Preliminary FOF did not consider recharge under drought conditions. Recharge varies over time and is not evenly distributed. The Robust Analytical Model (RAM) assumes that recharge and ground water withdrawals are evenly distributed. Withdrawals around the Park are two times greater than in the rest of the Aquifer. Reported water use is at 77% of the sustainable yield compared with 38% aquifer-wide. Future use is expected to exceed the sustainable yield of the Park's four ahupuaa. She emphasized that additional measures need to be taken to protect non-consumptive public trust uses along the coast. NPS suggested a WUP to look at site specific information when permitting new wells. New wells should not be permitted without an Environmental Assessment (EA) and assurance that the use will not impact public trust resources.

Commissioner Buck asked if the Power Point could be provided to the Commission.

Ms. Cutillo replied “yes.”

Peter Fahmy (NPS Water Rights Attorney and Policy Analyst) talked about the Commission’s request to explore alternative paths of action. The area that contributes fresh water to the Park is much smaller than the entire aquifer. Historically, petitioners have sought to designate the entirety of an aquifer. However, NPS believes the Water Code allows the Commission to designate a smaller area. NPS seeks to clarify if an area other than a hydrologic unit can be designated as a water management area. This is an opportunity to advance the management of water resources in a way that changes the existing dynamics in non-designated areas and localizes the issue. NPS is exploring alternatives, but needs an answer from the Commission. In the past, triggers have been set. Among the provisions in the settlement concepts was an explicit statement that withdrawals by individual users would not trigger designation. NPS would like to maintain the existing conditions in the Park. Therefore, pumping in the basal aquifer should be limited to the 12-month moving average. Another trigger could be set for the inland portion of the aquifer. NPS has not determined the boundaries of the smaller area, but estimates it will be less than 50% of the current aquifer.

Jonathan Scheuer (Consultant to NPS) talked about the NPS’s management of traditional and customary practices at the Park. Dr. Scheuer said the request by the Commission for NPS to investigate these issues was surprising. Under the Ka Pa’akai case, state agencies must make specific findings regarding the scope of valued cultural and natural resources, the extent and manner in which those resources are used by practitioners, the way those resources could be harmed, and what steps the agency can take to protect those resources. According to Ka Pa’akai it is the agency and/or extractor’s responsibility to come up with this information. The Park was set-up to perpetuate traditional and customary practices. The wall of the Kaloko Fishpond was repaired to preserve such practices. Dr. Scheuer noted that impacts to traditional and customary practices may also be occurring outside the Park boundaries. Practitioners have testified that well development has impacted their ability to practice inside the Park. NPS would like to see the Final FOF to clear up questions about the scientific findings and move the conversations with the County forward.

Commissioner Beamer asked about the differences in projected water use and demands from the County and NPS.

Dr. Scheuer said he recently reviewed the County’s anticipated water demand and new authorized planned use calculations. The biggest question about future water demand centers on the Kona Community Development Plan (CDP). The County suggests the entire future demand for the implementation of Kona CDP is 1.87 mgd, which is less than the proposed water demand for a single development Kaloko Makai that has a fresh water demand of 2.5 mgd. The NPS would likely disagree with this estimate.

Ms. Cutillo added the NPS is also concerned about the location of new wells.

Commissioner Beamer asked how long the process has taken.

Dr. Scheuer replied NPS first approached the Commission about designation over seven years ago, which led to the formation of the Kona Water Round Table. Currently, the County rejects the proposed settlement.

Ms. Cutillo clarified the NPS has not determined the boundaries of the smaller area.

Dr. Scheuer said information from USGS studies will help the NPS identify the smaller area.

Mr. Fahmy pointed out the importance of deciding the legality of proposing a smaller area for designation. A declaratory order from the Commission will give NPS the go-ahead to start talking about the dimensions of the area. NPS believes the Commission has the authority to do so.

Commissioner Antolini asked if NPS had reviewed the Carlsmith Ball LLC memo about sub-area designation that was submitted today as testimony. She encouraged NPS to provide a written response to the memo.

Mr. Fahmy said they have not seen the memo.

Commissioner Buck said he was pushing for good faith negotiations as an alternative to designation. He said the petition to designate a smaller area misses the point. He encouraged them to consider the location of wells instead.

Commissioner Pavao commented that NPS has not provided any numbers about water needs to keep the Park healthy.

Ms. Cutillo clarified the 12-month moving average trigger would apply to the smaller area. NPS has quantified the amount of water needed to support cultural and natural resources in the Park as status quo. It is difficult to measure the coastal discharge. An estimate of quantity may be possible in the smaller area.

Chair Case said it is important to have those figures.

Ms. Cutillo said NPS can provide that information based on recharge estimates through the area.

Chair Case asked if there is any evidence or indicators that certain resources are threatened and the threshold for certain species.

Ms. Cutillo said the Park is home to endangered water birds and damsel flies. The habitat for the water birds is considered core habitat, which means they are at the threshold for what is considered healthy. The damsel fly requires salinity levels of 15 parts per thousand for breeding. Their resource is also at threshold conditions. Culturally important species such as mullet also need specific levels to reproduce.

Commissioner Starr wondered if the studies take into account climate change and declining rainfall.

Commissioner Pavao asked what would be considered a “smaller area.”

Dr. Scheuer stated the NPS is interested in setting up triggers for designation. Water in the south of the Keauhou Aquifer does not contribute to the Park's resources. Theoretically there is a smaller area that could be designated. It could be a portion of the basal and high level.

Ms. Cutillo said more modeling information is needed to identify the areas that contribute fresh water to the Park. It will likely include a portion of the high level aquifer.

Commissioner Pavao said it is not clear how the high level aquifer interacts with the basal.

Ms. Cutillo noted there is isotopic evidence that recharge from the high level is found in the basal.

[Lunch]

Chair Case opened the meeting to public testimony. She read aloud the names of people who signed up to testify or had submitted testimony electronically.

Gerry Cysewski (Chief Science Officer, Cyanotech Corp) talked about the work of Cyanotech and explained how the company contributes to Hawaii's economy. Cyanotech supports the sustainable use of water resources and has its own recycled water program. Cyanotech strongly opposes the designation of the Keauhou Aquifer. Science should be the underlying reason for water management designation. There is no scientific evidence that ground water withdrawals from the aquifer are impacting resources. The mathematical model used by NPS to justify designation is outdated and cannot predict the distribution of salinity in the aquifer or water quality changes at the Park. None of the criteria for designation are met. The existing pumping rate is only at 40% of the sustainable yield. Mauka wells are properly placed and draw from the high level aquifer. There are no findings of water quality degradation. There are no serious disputes, aside from the NPS. No data suggests evidence of impacts due to pumping.

Nancy Burns (Civil Engineer/Hydrologist) asked the Commission to deny the NPS request to designate a smaller area. According to the Commission website, ground water hydrologic units have been established to provide a consistent basis for managing ground water resources. The NPS request is contradictory to the Commission's duty to provide safe and reliable water for the people of Hawaii. Allowing segmentation of the hydrologic units will negatively impact the ability of the Commission to fulfill its mandates. Ms. Burns believes the NPS does not have a working knowledge of the geology or hydraulics of the Keauhou Aquifer, nor do they understand the intricacies of supplying and managing water. NPS has a simplistic view and has leapt to the conclusion that any additional pumping near the Park will cause damage to the ecosystems in the Park. Scientific analysis and data shows that there are no significant impacts to the Park. Such disregard for scientific data has negatively impacted the Kona community. Some pumping may actually be beneficial to the Park's resources. She reiterated her opposition to the NPS' petition to designate any area of the Keauhou Aquifer. She noted the monitoring plans already in place, which NPS has been a part of. The science and data already exist and should be considered before designating.

Commissioner Starr asked about the wells pumping near the Park.

Ms. Burns clarified the wells are pumping at 1.5 mgd, which is 50% of the estimated recharge rate of 3 mgd.

Commissioner Antolini noted the multiple pieces of testimony submitted by Ms. Burns. She asked if she was a resident and a consultant.

Ms. Burns replied “yes.” She acknowledged that she has been involved in many water development projects in the Keauhou Aquifer for years.

Rick Vidgen said he has been a resident of Kona for 35 years and is originally from Australia. He talked about his background in agriculture, sugar and macadamia nuts and his experience with ground water on Hawaii Island. He testified against the designation of the Keauhou Aquifer and the legal maneuvering by the NPS to circumvent the issue. Based on his experience and the outcome of various studies, none of the criteria for designation have been met. Furthermore, there is no evidence that shows the aquifer is under threat. Points raised by the NPS are speculative and based on an outdated mathematical model. The petition has already had a negative effect on the local housing market in Kona. No home builder will risk financing a project when there is the chance that water will not be available. He surmised that this is the reason for the rise in home prices, the lack of affordable housing, and potential negative economic impacts.

Janice Palma-Glennie (Surfrider Foundation) spoke about the mission of the Surfrider Foundation and agreed with NPS that proper management of the region’s aquifer is lacking. Surfrider supports designation of the Keauhou Aquifer. She expressed concern about the County’s acceptance of the status quo and lack of collaboration with NPS. It is the State, not the County, responsibility to manage the water resources. There is already harm to the aquifer and corrective actions are needed. Aquifer designation is a just and legal cause and the pro-development fears are unwarranted. Designation will not stop development. NPS has and continues to look for alternatives to designation. The County’s demand projections do not seem to reflect the water needs. Petitioning for designation is not premature. The Commission has a kuleana to manage the water resources. There is verifiable and observable harm to the aquifer and future impacts are likely. She requested the Commission consider designation.

Commissioner Starr asked if Surfrider has an opinion about designating a smaller area.

Ms. Palma-Glennie said Surfrider has not discussed this option.

Chair Case asked Ms. Palma-Glennie to provide examples of harm to the aquifer.

Ms. Palma-Glennie said as users of the shoreline, salinity levels could impact the coastal environments and certain species. Surfrider is also interested in preserving traditional and customary practices. She noted new algae growth on rocks and other areas where management seems to be lacking. Designation appears to be one way to ensure greater collaboration.

Commissioner Pavao asked if poor management at the harbor is equivalent to poor water management by the County.

Ms. Palma-Glennie acknowledged she is not a scientist. As a citizen she is interested in protecting Hawaii's natural attributes, including pristine clean water for drinking and recreation. Water is a huge and important issue. Designation does not seem to stop development and appears to be a useful management tool.

Commissioner Pavao asked if she had evidence that the County is mismanaging water.

Ms. Palma-Glennie said her testimony was a collaborative effort from the Surfrider group. She would be happy to provide more information.

Carl Carlson testified in opposition. He said he helped build the wall at Kaloko Fishpond and is familiar with water issues. Now is not the time for designation.

Bo Kahui listed his various community affiliations. He said he opposes the petition for designation and declaratory order. There is no legal precedent for the declaratory order and it should be denied. The Villages of Lai'i Opua are concerned that water meters will not be approved for the new community center. There is no data suggesting negative impacts due to pumping. He said he would be the first in line to support designation if there was evidence of mismanagement by the County. The precautionary principle must also consider the science. At this point the science does not indicate any impacts. The Commission needs to do what is right and pono for the Kona community.

Riley Smith (President, Lanihau Properties) thanked the Commission for coming to Kona. He said he understands the importance of stewardship and proper management to protect near shore waters and promote recharge within the Keauhou Aquifer. The petition and declaratory order are without merit. There is no imminent or pending harm to the aquifer. Let the science decide and make sure NPS provides the documentation. He said Ms. Cutillo stated there is no impact to the aquifer and the resources in the Park are relatively healthy. He said Ms. Duchesne has made similar comments. These public statements contradict the NPS petition and request for declaratory order. Mr. Smith quoted Mr. Fahmy as saying, "the NPS protests everything." Based on such comments, NPS will likely protest any and all decisions. The Water Code does not allow for limited designation. He asked the Commission to listen to the Kona community and deny the petition and request for declaratory order.

**C2ai. A status of Deadlines and Items Required in the December 29, 2014 Preliminary Order HA-WMA 2013-1 (PO) regarding the National Park Services' (NPS) Petition to Designate the Keauhou Aquifer System Area, Kailua-Kona, Hawaii (State Aquifer Code 80901) as a Ground Water Management Area: Update of County of Hawaii (County) Water Use and Development Plan (WUDP)**

Mr. Hardy said some of the testimony touched on this issue.

Commissioner Starr asked if the WUDP consultant Jon Nishimura in the audience.

Lenore Ohye (Planning Branch Chief, Commission on Water Resource Management) said Mr. Nishimura was not able to make it today. The Preliminary Order requested that the County revise their project description and scope of work to include the considerations and concerns of the Commission. The Commission felt that the WUDP update process would foster greater collaboration and could provide a long-range plan for meeting future water needs while respecting public trust resources and uses. On January 15, 2015, the County submitted their project description. Staff had some questions because the project description appeared to be focused primarily on demand, while the other side of the equation, strategies for source development to meet demands, was not addressed. The reason for the County's focus on demand was because in 2010 the County updated their WUDP for the entire island, which was adopted by the Commission in 2011. The 2010 WUDP calculated the amount of water needed to satisfy current land use policies and designations for each aquifer system area island-wide. Based on this analysis, the plan identified the Waimea and Keauhou Aquifers as areas in need of more detailed planning. The 2010 WUDP estimated future water use would be near or in exceedance of sustainable yield based on general plan and zoning designations at full buildout. Following adoption of the 2010 WUDP, these buildout demand estimates were used to support proposed water management area designation, specifically Criterion #1 that speaks to "authorized planned use (APU)". However, while these demand estimates were referred to as APU, the calculations of demand based on zoning entitlements are not APU. APU has a different legal definition. The County and Commission staff felt it was important to clarify that the 2010 plan was based on zoning and not APU. In February 2015, the County agreed to update their WUDP in two phases. On May 15, 2015 the County's new demand update was submitted (Phase I). On May 30, 2015 the County will provide its scope of work and project description to identify source development strategies (Phase II). Staff will come back to the Commission with a recommendation for action on both phases in summer 2015.

Commissioner Starr if Phase II would include information about scheduling of source development.

Ms. Ohye said it should.

Commissioner Beamer asked if there is an updated number for APU.

Ms. Ohye replied that the new calculations put it just under 28 mgd. Staff's preliminary review finds that the County employed the methodology approved by the Commission for refining demand estimates for both the WUDP and APU but has some questions about the application of the methodology. Staff will be working with the County to clarify its demand estimates prior to coming back to the Commission with any recommendations.

Commissioner Beamer asked about the percentage of sustainable yield.

Ms. Ohye said 28 mgd is equivalent to about 73% sustainable yield (38 mgd).

Mr. Hardy referenced attachment C2ai in the submittal packet.

Ms. Ohye said page 3-20 provides the County's calculation for APU. Page 3-21 gives the revised calculation based on zoning.

Commissioner Starr requested a presentation on how sustainable yield is determined in the Keauhou Aquifer.

Commissioner Beamer asked if staff was going to vet the APU numbers.

Ms. Ohye answered “yes.” Staff will talk to the County to understand their methodology.

Commissioner Buck asked about the source sites.

Ms. Ohye said the staff will encourage the County to identify areas of new source development to the extent possible. Near-term development based on the 5-year CIP is more definitive than out-years. The staff would like to see the County explore conservation and opportunities for utilization of non-potable sources, such as wastewater reuse.

Commissioner Buck said more specificity on the location of new wells would be helpful.

Commissioner Starr agreed the location of wells is important to compare with the results of the hydrologic studies.

Commissioner Beamer asked to what extent the Commission can provide guidance on the spacing of wells.

Ms. Ohye replied that if a calibrated and validated numerical model is available that can be used for predictive purposes, the model can aid in identifying well sites, pumping capacities and potential impacts. USGS will be publishing a numerical model for Kona that hopefully can be used by the County to help inform the location of wells.

Commissioner Antolini asked if the subject of traditional and customary rights would be addressed in Phase II.

Ms. Ohye said the way the Preliminary Order is structured, the report on traditional and customary rights will be submitted independent of the County’s Phase II WUDP. However, this information should also be incorporated in the Phase II report, as potential impacts to traditional and customary rights associated with proposed source strategies need to be examined.

Commissioner Antolini recommended it be incorporated with Phase II.

Commissioner Starr thanked staff and the parties for getting answers to the scientific questions.

B. J. Leithead Todd (Director, Department of Environmental Management) talked about the County’s plans for re-use water. On Hawaii Island, HDWS does not deal with waste water. DEM is working to upgrade the Kealakehe Waste Water Treatment Plant to produce R1 water. The first Phase of the project will provide irrigation near the Old Kona Airport and will start in September 2015. The design and construction specs will begin in 2016. Construction on the upgrades at the plant would likely start in the fall of 2017 and be complete by 2019. Any construction at

Kealakehe must work around endangered bird breeding and nesting seasons. The first phase will cost \$54 million. She went on to describe the second phase of the project, which proposes to supply Kohanaiki and alleviate some of their pumping needs.

Commissioner Starr asked about a prior vision for the project.

Ms. Todd said the project must consider the wetlands in addition to R1. The project should reduce the demand for potable water. The intent of the dual system is to provide for the constructed wetland when there are no users for the R1. The capacity of the plant is 5 mgd, but could go higher.

**C2a.ii. County, NPS, and Public Submission of Additional Information by January 30, 2015 deadline – PO C.7**

Mr. Hardy reiterated that previous testimony touched on this point.

**C2a.iii. County and NPS to Meet and Explore and Negotiate Alternative Paths of Action Other than Designation and Report to Commission No Later than May 4, 2015 deadline – PO C.5**

Mr. Hardy talked about the Joint Letter from County and NPS dated April 30, 2015. The letter should also include mention of the WUDP in addition to the WRPP.

Commissioner Antolini asked if continuous engagement is productive.

Mr. Hardy said there needs to be more dialogue about how to improve the Park as one alternative to designation.

Commissioner Antolini asked about the prospect of collaboration and the narrowing of the perceived gap in the science.

Mr. Hardy said there are opportunities for monitoring and things that can be done in the future. A monitoring plan with triggers based on the numerical model should also be explored.

Commissioner Buck asked if future meetings have been scheduled.

Mr. Hardy said not to his knowledge.

Commissioner Buck asked if a letter outlining a potential course of action would be beneficial.

Mr. Hardy agreed it would. A letter to provide guidance would be helpful.

Commissioner Buck asked if NPS would be willing to meet without a decision on the request for declaratory order.

Mr. Fahmy said NPS must engage with the public on water issues to find solutions that utilize state law mechanisms. NPS is always interested in finding new ways of doing things. Monitoring is very useful, but it is not a substitute for management. The NPS mandate is to protect its resources from impairment. Monitoring wells may

detect an impairment after it is too late, which leaves NPS susceptible to litigation for failure to meet its directive. NPS is primarily concerned with protecting the resource, but is willing to work with state and local agencies.

Chair Case asked what NPS would monitor for. The thresholds are not clear.

Mr. Fahmy said that is an excellent question. It is difficult to measure impacts to ground water. Ground water models can help NPS define what areas contribute fresh water to the Park and problematic zones. This model could help define a smaller area for designation and provide insights about the amount of water needed to sustain traditional and customary practices.

Chair Case said the model should be used first to articulate the level of threat.

Mr. Fahmy said NPS attempts to do it simultaneously. There are limitations on modeling and predictions.

Chair Case said there needs to be a stronger connection if NPS is going to argue that water quantity affects the resources at the Park.

Mr. Fahmy noted the precautionary principle. NPS has an obligation to protect the resources and believes the resources will be harmed by future withdrawals.

Commissioner Antolini noted the obligation of the State and County under Ka Pa'akai to protect traditional and customary rights. There are questions about the applicant's responsibility. She said both the County and NPS should work together to fulfill that obligation. The submissions due on May 30, 2015 are critical in order for the Commission to realize that particular public trust responsibility.

Commissioner Buck talked about his experience managing endangered species in Hawaii. Water flow is a huge issue that can impact public trust resources, but it is not the only issue. He agreed with Chair Case's comments about looking at other factors and monitoring the resource for impacts. Water may not be the only issue at play. There may be other management activities, not just water flow that can impact those public trust resources.

Mr. Fahmy agreed with Commissioner Buck's point and added it is imperative to monitor the other factors. Water quantity, water quality, predation, and other factors also contribute to the protection of these resources. NPS wants to work with the County, the Commission and the public to protect public trust resources.

Commissioner Beamer raised the point about continued dialogue. He asked if NPS needed clarification about the smaller management area.

Mr. Fahmy said "yes." NPS would like to see a response from the Commission. He addressed the allegation about NPS protesting everything. The last thing NPS wants to do is get involved in protests. NPS wants to find collaborative solutions that protect resources and allow for economic development in those communities around parks. Settlements have been worked out in other parts of the United States. What is good for the parks can also be good for the communities.

Commissioner Antolini mentioned 174C-10 “Dispute resolution” of the Water Code as an alternative to aquifer designation or sub-management area designation. She asked what legal packaging NPS envisioned for this process that would protect the rights of the parties. The Commission has the authority to resolve disputes.

Mr. Fahmy brought up Commissioner Buck’s earlier comments about good faith negotiations. NPS supports agreements, but they have to be enforceable. It is not clear if the County has the same management powers as the Commission. The land use and zoning powers of the County could be the basis for an agreement.

#### **C2aiv. Remaining Items due by May 30, 2015 deadline**

Mr. Hardy talked about the ongoing hydrologic studies including the USGS numerical ground water model, DOH’s isotope study, a chlorofluorocarbon study, and a March 2015 report on Hawaiian anchialine pools.

Commissioner Antolini asked if these are the same studies referenced earlier by NPS.

Ms. Cutillo said NPS is helping to fund the USGS numerical model, which will be published in the fall 2015. It can be used to identify the sub-area of concern for purposes of the negotiations.

Commissioner Antolini asked if the model could be used for sub-area identification sooner.

Ms. Cutillo said NPS has asked for the model before fall 2015. NPS would also like to use the DOH model to determine capture zones.

Mr. Hardy noted earlier testimony regarding the amount of water needed to sustain traditional and customary practices at the Park. The Commission has received the County’s scope, timeline and funding for the Keauhou Aquifer System Area Infrastructure Improvement Plan, but has not had time to review it. This Plan will help inform decisions about cost, the location of wells, and the time schedule. It will be integrated with the WUDP. The draft WUDP addresses the request by the Commission to refine the methodology for APU.

Chair Case said the Commission would wait until the end of the day to decide about a hearing on the NPS request for declaratory order.

Dr. Scheuer said the discussions with NPS, the County, and the Commission could be facilitated by guidance from the Commission. He outlined four points that would help make the conversations more productive. First he requested a revision to the Findings of Fact (FOF). All the parties have submitted comments, but a clear statement about the facts of the case is needed. Secondly, NPS would like a legal analysis of the petition. Thirdly, NPS needs a response to the declaratory order to designate a smaller area. Finally, NPS requests that the Commission defer approval of wells in the area of the Park while discussions are ongoing.

Commissioner Beamer asked if deferment of new approvals would apply to wells in the entire aquifer.

Dr. Scheuer said the numerical model will help inform the area of concern and NPS hopes to have that information soon.

Commissioner Starr noted the difference between approving new wells and approving the installation of a pump.

Mr. Hardy said there have been a few cases of wells with chloride problems on Oahu. There are correlative rights outside of a management area, but there are limitations. It is difficult to know the impacts until the well is pumped. Ideally there should be two monitor wells to triangulate the recharge boundaries and the area of impact. Pump tests can be complicated. In rare cases, the capacity is limited. If there is evidence that pumping is affecting stream flow, instream flow standards would need to be amended.

Commissioner Starr asked about the possibility of monitoring with triggers.

Commissioner Buck referenced 174C-84 "Permits for well construction and pump installation" and asked if the Commission could halt those permits in certain areas.

Mr. Hardy commented on the issue of correlative rights outside a management area. Development covenants to prohibit the drilling of wells was proposed in north Kiholo, but the Commission still had to issue permits for drilling because of correlative rights. The Commission cannot deny a permit in non-management areas due to correlative rights.

Commissioner Buck asked about the revision to the FOF.

Dr. Scheuer said comments were submitted by January 31, 2015.

Commissioner Antolini asked about the request for legal analysis of the petition.

Dr. Scheuer responded the December 10, 2014 staff submittal said "legal arguments will be addressed separately." Certain legal arguments raised by NPS include the Commission's legal obligation to designate if any of the criteria are met. Under the "Koolau Ag." case the Commission can designate even if no criteria is met. Certain decisions could be based on the case law.

William Brilhante (Counsel for the County) commented on the NPS request for continued dialogue. The County would like to continue discussions to reach middle ground and a possible settlement. The County does not object to the first three points raised by Dr. Scheuer. The fourth point gave an example of a private well. He pointed out that this would not fall under the County's jurisdiction. The approval of permits for private wells would come under the authority of the Commission. Previous discussions with NPS circle back to the issue of quantifying the impacts so the County can understand what they are monitoring for. He added a fifth request that the NPS quantify the effects on the natural resources as alleged in the petition.

Commissioner Starr asked if the County can regulate private wells on private property.

Mr. Brilhante clarified the specific example cited by Dr. Scheuer did not involve HDWS.

Deputy Okamoto said HDWS does not have a specific authority in place to control the placement of wells.

Mr. Brilhante asked Planning Director Duane Kanuha to address Commissioner Starr's question.

Commissioner Pavao clarified the HDWS has no authority unless the developer of a well intends to turn the well over to the County for public potable water supply.

Director Kanuha explained the Commission staff will send the County well applications to review and comment. Applications are reviewed to see if they are consistent with previous approvals and current planning efforts. He said he consulted with Commission staff about certain wells that were approved under a master permit. Certain wells were not part of the master permit. There were concerns about the effect of multiple wells on aquatic resources in the area.

Commissioner Starr asked the basis of the concerns.

Director Kanuha said the applications were under a Special Management Area (SMA) permit and Coastal Zone Management (CZM). The County is still trying to determine if these wells will have an impact on the aquatic resources. There are potential areas of control and regulation that may differ between the Planning Department and HDWS.

Commissioner Starr asked to see a county charter explaining the differences.

Director Kanuha said the Planning Department has exclusive control over zoning. Requests for new wells are reviewed with consideration for future planning. Commissioner Starr asked about county home rule and the regulation of water use.

Commissioner Antolini asked Mr. Brilhante to comment on the prospect of an enforceable agreement with NPS in light of the County's lack of authority to regulate the location of new wells.

Mr. Brilhante said it is helpful to have Commission staff weigh in. All three parties are vital to the negotiations.

Commissioner Buck asked about the enforceability of such an agreement between the three parties.

Mr. Brilhante said he would need to see a specific proposal before determining the jurisdictional scope. All three parties would need to figure out how to enforce the agreement. It should be possible to craft something that is enforceable.

Director Kanuha said his department is willing to work with the HDWS to facilitate an agreement that can be enforced.

Commissioner Beamer asked for examples.

Mr. Brilhante replied he does not have specific examples and said the devil is in the details. Correlative and private property rights will have to be considered and may be one reason the negotiations have not moved quickly.

Commissioner Starr asked the County to issue a memo regarding jurisdiction and their ability to regulate the location of wells on private property.

**C2b. Bob Whittier (State of Hawaii, Department of Health, Safe Drinking Water Branch) Presentation on Keauhou Isotope Chemistry with Numerical Modeling on Mauna Loa**

Bob Whittier explained the goals of the study to estimate the ground water flow paths in West Hawaii. The UH provided the original concept of using isotope tracers. The Commission also provided hydro-geologic knowledge. DOH made a validation of the model for capture zones for drinking wells and provided ground water modeling expertise. The project sought to test two conceptual models for ground water flow in West Hawaii, investigate the utility of using isotopic tracers to understand ground water flow paths, and to reevaluate drinking water capture zones. The DOH Safe Drinking Water Branch is primarily concerned with safe drinking water, delineating the zones of contribution to public drinking water wells, and conducting a risk assessment to determine the susceptibility of the drinking water wells to contamination. The zones of contribution were assessed using a USGS model. Data from ground water wells can help validate the model by determining ground water flow paths. In West Hawaii, the hydro-geology is complex. Aquifer boundaries are commonly delineated by geologic features. Ground water elevations vary significantly in West Hawaii and it is not clear what causes the jump from basal to high level water. One hypothesis is a buried rift zone or ground water dam. There is also evidence of faulting that could offset flow paths and create a barrier. Furthermore, some lava flows are dense and viscous, which can also create a ground water dam. DOH is concerned with the 30+ drinking water wells in West Hawaii and the flow paths. Modeling has delineated the capture zone, but may need to be reevaluated. There are no wells upslope of the drinking water wells. He went on to describe how oxygen isotopes are analyzed to understand ground water flow and the two conceptual models. DOH needs a metric to estimate time of travel and ground water velocity. Some issues are unresolved, including the nature of the structures that produce the high level water and the role of perched water. Secondary tracers are needed to validate the model and DOH needs to work with UH to refine the ground water flow paths.

Commissioner Buck asked if the model confirms the source of the water entering the Keauhou Aquifer.

Mr. Whittier said it confirms water is coming from outside the aquifer boundary.

Commissioner Beamer asked how much water is coming from Mauna Loa.

Mr. Whittier said that data should be available by the end of the year but could not estimate the amount of water. The model can be refined to look at certain areas. The high level wells have been considered in this study.

Commissioner Starr asked how many wells were studied.

Mr. Whittier said about 30 different wells were used to measure isotopic composition.

Commissioner Starr asked if the model can assess the age of the water.

Mr. Whittier said others have published papers to get at those questions. The high level water has a young water component, but water is a mixture and will not be of one discrete age.

Commissioner Antolini asked if the model answered any questions about the area around the Park.

Mr. Whittier said there are flow paths. As water flows it spreads out, which could account for some of the brackishness of the basal water. DOH is in the process of delineating water flows into the Park. It will not account for the structures that cause the high level water.

Commissioner Beamer asked if the water that flows out to the ocean can be captured.

Mr. Whittier explained water flow is based on gradients.

Commissioner Starr mentioned Don Thomas' presentation about the high level water. He asked about the extent and sustainability of the high level water.

Mr. Whittier said core samples can look for variations in the geology.

Commissioner Starr requested future presentations on this issue.

Commissioner Pavao asked for examples of different wells and their draw down levels to help determine the amount of water.

Commissioner Starr questioned the accuracy of draw down observations in the high level aquifer.

Commissioner Pavao said it will at least provide an estimate of water quantity.

**C3a. Hawaii Water Plan – Update on Water Resource Protection Plan (WRPP)  
Workshop Comments from March 24, 2015 Kona and March 30, 2015 Hilo  
Workshops**

Lenore Ohye provided a summary of the comments received during the statewide workshops. As part of the WRPP update, the Commission sought comments on water resource issues from the different island communities. These have been summarized in 18 comment categories. Each island had different concerns, and you can see summaries for each island in the handout. However, there were some common themes statewide. One of these is the concern and perception that public trust purposes were subservient to non-public trust uses and corporate interests. Related to this were questions about the priority of Hawaiian water rights. The public also shared concerns about the lack of community engagement, and we heard many requests for the Commission to hold meetings on the neighbor islands. There is also a perception that the Commission takes too long to make decisions and find resolutions, and that once a decision is made, there is a perceived lack of enforcement. Finally, there were many requests for more data and monitoring and to facilitate public access to data. Staff has committed to respond point by point to each comment and to post the comment and response matrix on our website. There are over 200 comments for Hilo and Kona alone, and we held seven workshops, so it is taking some time, but we are shooting for June 2015 to have the matrix posted.

Some concerns are not under the Commission's jurisdiction, such as concerns over water quality and water meters. Such comments will be forwarded to the appropriate agency. Other comments were not pertinent to long-range planning because they dealt more with current issues. In such cases, staff will follow-up with information on the complaint and dispute resolution processes. Comments pertinent to the WRPP will be incorporated into the WRPP update.

Commissioner Starr asked if certain concerns could be addressed through budget and staffing requests to legislators.

Ms. Ohye said staff appreciates the support. The plan will identify priority actions over the next five years, including funding estimates and staffing needs.

Commissioner Beamer asked if he could review the section on traditional and customary rights.

Ms. Ohye said the drafts could be provided to the commissioners and comments would be appreciated.

Commissioner Beamer asked if comments focused on new issues.

Ms. Ohye said the comments addressed current concerns such as climate change, and the associated water uncertainty, and the importance of traditional and customary water rights. These will be more fully discussed and incorporated in the updated WRPP.

Commissioner Starr said the workshops were well attended. The community would like future opportunities for engagement.

**C3b. Hawaii Water Plan – Integrating the State Department of Health's Water Quality Plan with the Commission's WRPP – Draft Water Security Action Plan by Commissioner Buck**

Commissioner Buck said there is an opportunity to integrate the WRPP and DOH Water Quality Plan (WQP). A timeline for priority actions by the Governor and Legislature over the next three years should be identified and "asks" need to be made. The current WQP includes job descriptions but does not contain any "asks" from the department. He asked if staff could help draft a methodology for setting priorities.

Commissioner Starr requested an update from DOH on the WQP. A workshop could help find connectivity between the two plans.

Commissioner Beamer noted community concerns about water quality. The Commission has a role to play and should communicate more with the DOH Director.

Commissioner Antolini agreed with Commissioner Beamer and supported the idea of a workshop.

Chair Case asked Commissioner Buck if action was needed.

Commissioner Buck said a workshop could help come up with priorities. The end product could be a three-page document. This is work the commissioners could do. Unless we make the “ask” and package it, things will not happen.

#### **D. ACTION ITEMS**

##### **1. Requesting Authority for the Chairperson to Enter Into a Contract to Conduct Water Audit and Water Loss Control Training for Selected Drinking Water Utilities Statewide**

Ms. Lenore Ohye presented the submittal. In 2013, the Commission completed its Statewide Water Conservation Plan. It was a collaborative effort that utilized an advisory group made up of a cross-section of many sectors of the community including county water supply, agriculture, golf courses, UH, and others. Priority implementation measures and best management actions were identified. The first priority measure was “agricultural water use metering.” There is very little data on how much water is diverted and how much water is used. Water conservation targets could not be identified because there was very little data about water diversion and use. For the large legacy plantation systems, the Commission contracted with USGS to conduct statewide training workshops on how and where to measure diverted water. The workshop included a couple hours of classroom training, followed by field demonstrations at an actual ditch system. Staff will be conducting training for smaller diverters using in-house resources. The second priority measure identified by the advisory group was “municipal water loss audits.” This looks at system losses that occur in the delivery system. For example, loss may be from leaks, faulty meters, or from people taking water off the system illegally. There is a cost associated with water loss. Staff has conducted statewide workshops on how to do a water loss audit. We invited all the private and public water systems. There was fairly decent turnout and some level of interest. Staff is also meeting regularly with DOH, the Public Utilities Commission (PUC), and the Consumer Advocate. Only 19 water systems are regulated by PUC. These systems may require a water loss audit to support any rate increase requests. A leaky system costs ratepayer more and is wasting our limited natural supplies. We are proposing to hire a water loss audit expert to meet with these 19 water system managers and walk them through the audit to identify data gaps and recommend measures to reduce water losses. We are hopeful that success stories will motivate other water system operators to conduct water loss audits.

#### **RECOMMENDATION**

Staff recommends the Commission:

1. Authorize the Chairperson to enter into a training services contract to aid in the training of selected public drinking water utility personnel in water audit and water loss control methods; and to expend up to \$100,000 for this purpose.
2. Authorize the Chairperson to amend or modify the contract as may be necessary to accomplish the goals described here, provided that any amendment or modification does not require additional Commission funding.
3. Find and determine that the proposed work is exempt from the requirement to prepare any EA.

The terms of the contract would be subject to the availability of funding and approval of the Chairperson and the Department's Deputy Attorney General. Contract execution will be done in accordance with HRS Chapter 103D and Hawaii Administrative Rules, Chapter 3-122.

(DISCUSSION)

Commissioner Starr asked how the Commission could push large diverters to report their water usage.

Ms. Ohye said staff is working to refine its online reporting system. This tool will make it easier for users to report. The Commission also recently voted to rescind the exemption to report for small users as well as gravity-fed diversion sources. So, those can now be enforced. The staff is looking to eventually utilize the department's Civil Resource Violation System to enforce water use reporting. We will propose a fee schedule that will allow administrative enforcement, similar to a parking ticket. Finally, DOA is also updating their Agriculture Water Use and Development Plan, which will need to be adopted by the Commission, and the cost of installing meters should be included in the plan.

Commissioner Starr requested a status update on the counties WUDPs.

Ms. Ohye said a briefing is forthcoming. A briefing on the WQP update will be scheduled for June or August.

Commissioner Beamer asked for an update on the status of stream gages at the diversions in Na Wai Eha and the status of the Kekaha Agriculture Association (KAA) letter.

Mr. Hardy noted more testimony was submitted throughout the day and will be made available to the commissioners.

**MOTION: (Pavao / Beamer)  
UNANIMOUSLY APPROVED.**

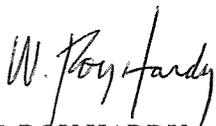
Chair Case adjourned the meeting at 6:00 pm.

Respectfully submitted,



KATIE ERSBAK  
Private Secretary to the Deputy

APPROVED AS SUBMITTED:



W. ROY HARDY  
Acting Deputy Director