Approved by Commission on Water Resource Management at the meeting held on MAY 22 2013

MINUTES
FOR THE MEETING OF THE
COMMISSION ON WATER RESOURCE MANAGEMENT

DATE: March 20, 2013
TIME: 9:00 am
PLACE: DLNR Board Room
Kalanimoku Bldg.
1151 Punchbowl St., Room 132
Honolulu, Hawaii 96813

Chairperson William Aila, Jr. called the meeting of the Commission on Water Resource Management to order at 9:07 am.

The following were in attendance:

MEMBERS: Mr. William Aila, Jr., Mr. Ted Yamamura, Mr. William Balfour, Mr. Jonathan Starr, Ms. Loretta Fuddy, Mr. Neal Fujiwara

ABSENT: Mr. Sumner Erdman

STAFF: William Tam, Lenore Ohye, Jeremy Kimura, Patrick Casey, Denise Tu, Dean Uyeno, Malie Beach-Smith, Paul Eyre

COUNSEL: Cindy Young, Esq.

OTHERS: Zena Grecni (Pacific RISA), Victoria Keener (East-West Center, Pacific RISA), Richard Wallsgrove, Chui Ling Cheng (USGS)

A. APPROVAL OF MINUTES

January 23, 2013

MOTION: (Fujiwara / Fuddy)
To approve the minutes.
UNANIMOUSLY APPROVED.

Commissioner Fujiwara requested that the presentations be taken out of order to accommodate the loss of quorum.

MOTION: (Fujiwara / Yamamura)
To take the agenda items out of order.
UNANIMOUSLY APPROVED.

B. ANNOUNCEMENTS

Deputy Director William Tam introduced CWRM's new geologist, Malie Beach-Smith.

D. PLANNING

1. Request Authority to Implement Water Conservation Programs Identified in the Hawaii Water Conservation Plan

SUBMITTAL PRESENTATION by: Neal Fujii

Neal Fujii (Commission on Water Resource Management) introduced Item D-1. The request is to implement programs for water conservation and efficiency and spend up to $50,000. The Commission approved the development of the program in February 2010. It is a partnership between the Army Corps of Engineers and the Water Commission (CWRM). The contractor is CH2M Hill. Objectives include 1) developing a coordinating statewide water conservation planning strategy, 2) developing a program to complete the strategy, and 3) working collaboratively with the stakeholders. Mainland experts were brought in to consult on water conservation. A Water Conservation Advisory Group was formed that consisted of all volunteers. Six meetings were scheduled beginning in May 2011. The last meeting was held on January 10, 2013. Surface water data was found to be lacking. Education and training were identified as important components.

During the meetings, the input of the group helped form the overall strategy. There are needs for programs in the different sectors (i.e. agriculture, municipal). Best management practices were identified for each sector and prioritized along with "conservation program elements." Rebates and incentives will be limited based on the availability of funding. Due to the lack of surface water data, a demo metering project was identified. Golf courses tend to be efficient with their water use because the cost of water is so high.

The best opportunity for water use was found in the agriculture and municipal sectors. Early actions need to be achievable. Implementation may be hindered by a lack of funding and staff. A 10-year Water Conservation Program Implementation Plan was created and identifies "program elements" for each sector. CWRM will be responsible for managing classes for water audits. CWRM is partnering with the Honolulu Board of Water Supply (HBWS) to offer a water auditing class at the American Water Works Association (AWWA) Conference in May 2013. Management is fruitless without proper monitoring. Training will help with water conservation and could lead to better system efficiency. CWRM is looking for venues to host the trainings.

The week of March 18-22, 2013 is "Detect-A-Leak-Week."

RECOMMENDATION:

Staff recommends that the Commission:

1. Authorize staff to implement water conservation programs described in the Hawaii Water Conservation Plan and expend up to $50,000 from the Commission's general fund or special fund (or combination of both), to implement:

a. Procedures For Conducting and Requiring Water Loss Audits
b. An Irrigation Metering Demonstration Project

2. Authorize the Chairperson to enter into agreements to expend funding in such amounts necessary, up to $50,000, to implement the programs in Recommendation 1, and to amend or modify the agreements 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 an EA.

The terms of any agreements 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 if there was any discussion about design, expectations and the suitable use of water.

Mr. Fujii said water rates and rate structures can be used to discourage water use. Ordinances can also be used to prohibit water conservation projects in dry areas.

Commissioner Starr commented on the enormous amount of water used on certain residential developments. The cost per unit is high and the residents need to be educated about the consequences of unregulated water use.

Mr. Fujii suggested that hotels be required to conduct a water audit.

Deputy Tam said the pay-pack for hotels to retrofit their water systems is substantial.

Commissioner Starr said the hotel industry is aware of the issue. Single-family residences need to be educated.

Commissioner Balfour commented on the difficulty of measuring surface water flows. He expressed his concerns about using the word "could." He suggested it be replaced with the word "should."

Commissioner Starr asked if the Commission is authorized to determine exemption from an Environmental Assessment (EA).

Deputy Attorney General, Cindy Young cited the submittal stating that the proposed work constitutes basic data collection and resource evaluation activities. These activities are exempt from an EA.

Commissioner Starr reiterated his question.

Deputy AG replied "yes."

Commissioner Starr asked about the criteria for determining an exemption.

Deputy AG said everything is case-by-case.

Mr. Fujii said basic data collection would be exempt.

MOTION: (Starr / Yamamura)
To approve the submittal.
UNANIMOUSLY APPROVED.

E. STREAM PROTECTION AND MANAGEMENT

1. Request to Authorize the Chairperson to Enter into a Joint Funding Agreement with U.S. Geological Survey to Estimate Low-Flow Characteristics for Streams in Hawaii

SUBMITTAL PRESENTATION by: Denise Tu

Denise Tu (Commission on Water Resource Management) introduced Item E-1 as a joint funding agreement with the USGS to study low flow stream characteristics in Hawaii. Low flow conditions and water availability throughout the state is important for managing and protecting surface water resources. The study will set quantifiable and reasonable instream flow standards, which will help manage instream and off-stream uses. Currently, natural flow conditions are unknown for many of Hawaii's perennial streams. Long-term gauging stations and studies have been used to better understand water availability throughout the watersheds. However, due to cost and time the CWRM cannot comprehensively study water conditions using these methods. The study is both computationally efficient and cost effective and will use regional techniques to calculate water availability in the state. A web-based GIS program called "Stream Stats" will present the data in a way that allows the user to delineate drainage boundaries, output drainage characteristics, and solve progression curves to estimate stream flow statistics. The program has already been used to calculate peak discharges for Hawaii. Stream stats are a necessary tool for agencies in Hawaii to manage surface water resources.

Chui Ling Cheng (USGS) said the study estimated water availability using local conditions for natural stream flow. The overall goal is to use existing data to devise a tool to estimate natural stream flow under low flow conditions at sites that are currently un-gauged (i.e.: locations without data). The project is divided into two phases. During the first phase the study will use existing data to provide estimates of low flow for streams. The second phase will use existing and new data to estimate natural stream flow under natural conditions at areas that are not gauged. Variability of flow at different points along the stream will also be measured. GIS programs can calculate basic stream characteristics. Watersheds with similar characteristics will be grouped together into regions. Regression equations for each region can be used to compare characteristics to stream flow and estimate the local characteristics for areas with low stream flow. Only two states (Idaho and Massachusetts) currently have the ability to estimate low flow stream characteristics. Hawaii would be the third.

RECOMMENDATION:

Staff recommends that the Commission:

1. Authorize the Chairperson to enter into a Joint Funding Agreement between the Commission and the U.S. Geological Survey to conduct a study on estimating low-flow characteristics for streams in Hawaii, and to approve funding not to exceed $87,500 to complete the study. Commission funding will be from general or special funds or a combination of both, subject to the availability of funding. This Joint Funding Agreement is for one-half of Phase 1 in the amount of $175,000, shared equally by the Commission ($87,500) and the U.S. Geological Survey ($87,500).

2. Authorize the Chairperson to make such further amendments or modifications of the contract agreement (consistent with the terms set forth above) 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 work is exempt from the requirement to prepare an EA.

The terms of this agreement will 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 Chapter 103D, HRS, and Chapter 3-122, Hawaii Administrative Rules.

(DISCUSSION)

Commissioner Balfour commented on the large sum of money needed for the study.

Ms. Cheng said it will be a very exciting study. Different agencies will be able to use the data for various purposes.

Commissioner Yamamura asked about the historical sampling data.

Ms. Cheng said the historic data dates back to the year 1910. Post-1940 data will be used for this study. Old records and miscellaneous measurement sites will also be added to the database.

Commissioner Starr said he supports the project. More stream flow gauges are needed in Hawaii.

MOTION: (Yamamura / Fujiwara)
To approve the submittal with amendments.
UNANIMOUSLY APPROVED.

Chair Aila and Commissioner Fuddy excused themselves from the meeting. Commissioner Fujiwara was appointed as the acting Chairperson.

C. PRESENTATIONS

1. "The 2013 Pacific Islands Regional Climate Assessment (PIRCA)," presented by Dr. Victoria Keener, Project Manager, Pacific Regional Integrated Sciences and Assessments Program (Pacific RISA), East-West Center, with an introduction by Richard Wallsgrove, Esq., Project Specialist, Pacific RISA

PRESENTATION by: Dr. Victoria Keener and Richard Wallsgrove

Richard Wallsgrove (University of Hawaii, Center for Island Climate Adaptation and Policy, ICAP) said the 2013 Pacific Islands Regional Climate Assessment (PIRCA) Report has the most up to date science and information on climate change for Hawaii. PIRCA is part of a larger federal research endeavor that publishes assessments every four years. This is the first time ever that an assessment for the Pacific Region has been done. Over 100 scientists from the region came together to create this report.

Dr. Victoria Keener (lead author, 2013 PIRCA Report) reiterated that the 2013 PIRCA report is part of a larger National Climate Assessment that came out in 2009. The assessment report will provide a detailed account of climate knowledge in the U.S. that can be used by the federal government to prioritize spending and investments. It will be presented to the White House and Congress. The latest draft National Climate Assessment is out for review until April 12, 2013. The PIRCA report is part of the larger federal report. Groups of scientists participated in three different workshops to debate the science and decide on key data to include in the PIRCA report. Climate impacts on different sectors (agriculture, ocean resources, etc.) and adaptive capacity were discussed. The PIRCA report was officially released in December 2012. Stories of adaptation are included in the report that will help convey the current state of climate change in Hawaii to a national audience.

Indicators of a changing climate in the Pacific Islands Region are outlined in a visual diagram. Such indicators include, sea level rise, changing rainfall patterns, changes to habitats and species distribution, coastal flooding and erosion, threats to agriculture and indigenous cultures, and decline in stream flow. It is difficult to include the impacts in modeling risk and vulnerability. However, hazard mitigation plans in Hawaii do address climate change and adaptation. It is difficult to detect long-term trends in climate variability for the Pacific Island Region. To accurately assess these trends, more data and basic monitoring is needed.

Fresh water is limited and threatened in Hawaii. Average temperature has significantly risen in Hawaii in the past 100 years. Precipitation and drought patterns are also changing throughout the state. There is an increasing number of consecutive "dry days." Projected drought risk, especially on the leeward sides of the islands, is expected to increase. Stream flow in Hawaii is decreasing. There are fewer average storms in the Pacific since the 1990s. However, while extreme rainfall will be less frequent, storms are expected to become more severe.

Sea level is rising globally. Climate model projections for the region show sea level rise highest in the Western Pacific. As the trade winds push the water across the Pacific Ocean, Hawaii will witness an increase in coastal inundation and flooding. Airports and agriculture will be threatened. Popular tourist destinations like Waikiki will also be inundated. Climate change will likely force human migration. There is no single legal entity that governs climate refugees. Climate migrants could total close to one billion people by 2050. Admiral Samuel Locklear, commander of Pacific forces, said that climate change is the biggest security threat to the Pacific Region.

Native plant and animal populations will be increasingly stressed as the climate continues to change. Invasive species problems could become exacerbated by rising temperatures. Changing ocean temperatures will change habitats causing coral bleaching. By 2050, 91% – 100% of reefs are estimated to bleach on an annual basis. Regional cultures are also threatened by climate change. Drought and salt water intrusion will impact traditional fishing practices and sea level rise may lead to forced migration. Many Pacific islands do not have stream gauges to monitor stream flow.

Partnerships are crucial to address climate change. Science alone cannot solve climate change. Science and management must align.

(DISCUSSION)

Commissioner Starr asked Dr. Keener to explain why sea level rise in different regions does not equalize.

Dr. Keener responded that conditions will vary depending on location. Sea level rise is higher in some places and lower in others. Projections are varied and ice sheet melt is usually not included in the projections. Estimates are usually conservative.

Commissioner Starr asked if CWRM could participate in the next PIRCA report.

Deputy Director William Tam said "yes."

Commissioner Starr said he would like to know about other conferences and meetings in Hawaii and on the mainland.

Commissioner Fujiwara reflected on changes in the weather. He asked if conditions (i.e.: rainfall, temperature, etc.) can return to what they were in the past.

Dr. Keener said "eventually." There are geologic cycles. In terms of human time scale, conditions will continue to change for the next 100 years. It is difficult to say with certainty whether or not rainfall will continue to decrease. Thermal expansion also contributes to sea level rise.

Acting Chairperson, Neal Fujiwara. adjourned the meeting at 10:30 am.

Respectfully submitted,

KATIE ERSBAK
Private Secretary to the Deputy

APPROVED AS SUBMITTED:

WILLIAM M. TAM
Deputy Director