

Dec. 10, 1014

Water Commission Meeting

Attention:

William J. Alla, Chair

Dept. of Land and Natural Resources

1151 Punchbowl St.

Honolulu, Hi. 96813

We oppose the Keauhou aquifer for the following reason:

The law mandates designation at 90% capacity, Keauhou Aquifer System Area is only at 38% plus none of the other criteria for designation have been met. Follow the law please.

A Kai Realty LLC

Sharyn Holliday

75-5656 Kuakini Hwy #102

Kailua Kona, Hi 96740

December 10, 2014

William J. Aila, Chair
Department of Land and Natural Resources
1151 Punchbowl Street
Honolulu, HI 96813
Via email: William.j.aila@hawaii.gov

Regarding: Opposition to the Petition to Designate the Keauhou aquifer as a Water Management Area

Chair Aila and members of the Commission on Water Resource Management. I am Nancy Carr Smith, a resident of South Kohala District and I am owner and Principal Broker of Aloha Kohala Realty in Waimea. I am against the NPS petition to designate the Keauhou Aquifer as a Special Management Area.

As a resident and neighbor of this island I am appalled at the tenacity of the National Park Service to think that they have the right to have such a negative impact on the people of Hawaii Island. They have proven themselves to not be good neighbors and not be collaborators within the community. They have admitted to be driven by the NPS "National Protest Service" mentality. They have admitted that this is just how they do their business. They have no science that shows negative impact, just speculation as to how the future will be when they, when none of us, can predict the future and what type of advancements there may be in technology that can help us with water and other resources in the years to come. This is premature, period.

The eight criteria have not been met. A designation will stop our economy here, will stop progress of Palamanui, the new Judicial Building, the Kona airport expansion, a new Kona hospital, just to mention a few. Jobs will be lost. Local families will struggle. Many people think that there is no way that this Commission would ever agree to designate the KA when there is no proof that there is harm being done, no adverse effects, no change in cultural rights, we are nowhere near sustainable yield, but here we are, wondering why we have even gotten to this point where you could be considering such a thing based upon maybes and what ifs. Bottom line, the criteria have not been met. How could you in good conscience approve such a scenario?

Please open your ears and open your hearts, and listen to the people of these lands, not the people from the mainland who are here for a brief stint, who arrive on island to work under this model of theirs which is to control surrounding lands. Listen to the many elected officials who represent our land and our people and weigh strongly how opposed they are to designation. I know that you are men of integrity and that you would not approve this when the criteria have not been met and when you see the wide opposition in principal. We all care about the resources of our home, but some people yell and scream louder than others. Yelling and screaming doesn't make it right. Be sensible, vote your conscience and think about whether you would want this occurring in your neighborhood, when there is no justification for such. Mahalo for your time.

With sincere aloha,

Nancy Carr Smith

Cc: Bill Tam, Deputy Director, CWRM: william.tan@hawaii.gov
Roy Hardy, Manager, CWRM: roy.hardy@hawaii.gov
Katie Erbak, Assistant: katie.c.ersbak@hawaii.gov / please provide copies to all Commissioners



Keauhou Aquifer

DLNR.CWRM@Hawaii.gov,
bill.babbitt to: Roy.Hardy@hawaii.gov,
Katie.C.Ersbak@hawaii.gov,

12/10/2014 01:53 PM

William J. Aila, Chair
Department of Land and Natural Resources
1151 Punchbowl Street
Honolulu, HI 96813
Via email: William.j.aila@hawaii.gov

Re: Opposition to the Petition to Designate the Keauhou aquifer as a Water Management Area

I am opposed to the petition to designate the Keauhou aquifer for the following reasons:

- There is No Scientific Data to Support State Water Management Area Designation. The National Park's own hydrologist, Paula Cutillo, Ph.D. stated, "The water resources in the Park include the coral reefs, two fish ponds and a fish trap, over 185 anchialine pools and wetlands. ... These resources are relatively healthy; we have no evidence that existing pumping has adversely affected these resources." (August 27, 2014, Kona Water Roundtable). This was later confirmed by National Park Superintendent Tammy Duchesne, "We do not have any evidence that pumping wells have adversely affected water resources in the park." (November 15, 2014, email)
- The Law mandates designation at 90% Capacity; Keauhou Aquifer System Area is only at 38%. None of the other criteria for designation have been met.
- Unwarranted State Water Designation Interferes with County's Authority and Home Rule
- There are No Impacts on Hawaiian Cultural Practices. There would be a lot of negative impacts to native Hawaiian employment.
- The Kona Community Development Plan directs the majority of future growth north of Kailua into compact villages with increased density and mixture of homes, shops and places to work – designation will effectively stop the implementation of the community's vision for this region.
- If designated, many public projects will be stopped due to the unavailability of water UH/ Palamanui, Keahole Airport Expansion, NELHA Expansion, Kona Judiciary, Kamakana Villages affordable housing, DHHL housing at Laiopua Village 4, County's Kona Regional Park, Laiopua 2020 (preschool, health facilities, etc.). Note, if the aquifer is designated, the County DWS will not issue water meters in North Kona (DWS letter, 7/10/14).

Sincerely,
Bill Babbitt

Cc: Bill Tam, Deputy Director, CWRM: William.tam@hawaii.gov
Roy Hardy, Manager, CWRM: roy.hardy@hawaii.gov
Katie Ersbak, Assistant: Katie.c.ersbak@hawaii.gov, please provide copies to all Commissioners

Bill Babbitt, R(B)
Realtor and Broker
Century 21 All Islands
69-201 Waikoloa Beach Drive, Suite 505
Queens Market Place
Waikoloa, HI 96738

Reggie / ^{Andy} mom
Lee's flwr

George Robertson

CWRM MEETING
Keauhou
December 10, 2014

SIGN IN SHEET
PLEASE PRINT CLEARLY

DO YOU WISH TO TESTIFY?

#	PRINT NAME	ORGANIZATION	DO YOU WISH TO TESTIFY?		
			NO	YES	SUPPORT / OPPOSE
1	(PRINT) Karen Nardi	Nat'l Parks Conservation Assn		✓	SUPPORT
2	(PRINT) LeAnn Crabbe	Queen Liliuokalani Trust		✓	oppose
3	(PRINT) Ken Metcose	Pa'ahana		✓	oppose
4	(PRINT) Mana Purdy	representing self		✓	oppose
5	(PRINT) DWAYNE MUKAI	TULSI GABRIAN		✓	OPPOSE
6	(PRINT) William Armen	citizen		✓	support
7	(PRINT) Susan Lee Loy	Hawaii Island Realtors			oppose
8	(PRINT) Rick Jensen	HAWAII		✓	oppose
9	(PRINT) JIM GREENWELL	LAWIHAU PROPERTIES		✓	OPPOSE
10	(PRINT) NANCY CADD SMITH	ALOHA KONA REALTY		✓	OPPOSE
11	(PRINT) JACQUELYNNE ANA	LAWIHAU PROPERTIES		✓	OPPOSE
12	(PRINT) Amy Bishop	LAWIHAU PROPERTIES		✓	OPPOSE
13	(PRINT) KAREN OSTLIE	WEST HAWAII ASSOCIATION		✓	OPPOSE
14	(PRINT) Marge Bitterson	County of Hi		✓	OPPOSE
15	(PRINT) Ann Parsons	FOREST CITY/HARVEST		✓	OPPOSE
16	(PRINT) Tonya Power	WINDERMERE/COMMUNITY		✓	OPPOSE
17	(PRINT) KATHY ALON	DWS COIT	✓		OPPOSE
18	(PRINT) Paul Carlson	Citizen		✓	OPPOSE
19	(PRINT) Don Thomas	Univ. Hawaii		✓	oppose
20	(PRINT) Wendy Craven	Konihā / Palani		✓	OPPOSE
21	(PRINT) Mike Hayes	Hawaii Water Service Co.		✓	OPPOSE
22	(PRINT) Jon Nishimura	Fukunaga's Assoc		✓	oppose
23	(PRINT) MIKE MATSUKAWA	self		✓	OPPOSE
24	(PRINT) Anne Stockel	self	✓		oppose
25	(PRINT) Austin Eastley	The Eastley Corp	✓		oppose
26	(PRINT) Bo Kahui	LAWIHAU/VOUMA		✓	opposed
27	(PRINT) Mary Bisher	Hawaii Asst of Realtors		✓	oppose
28	(PRINT) Benjamin Kudo	Water Board/DWS		✓	oppose
29	(PRINT) Sue DeLoay	individually		✓	oppose
30	(PRINT) Vivian Landrum	Kona-Kohala Chamber of Commerce		✓	oppose

CWRM MEETING

Keauhou

December 10, 2014

SIGN IN SHEET PLEASE PRINT CLEARLY

DO YOU WISH TO TESTIFY?

#	PRINT NAME	ORGANIZATION	NO	YES	SUPPORT / OPPOSE
31.	(PRINT) James Masagatai	WILSON PINE DEPT		✓	OPPOSE
32.	(PRINT) JAMES BRANWELL	CARIBBEAN PROPERTIES		✓	OPPOSE
33.	(PRINT) Tracy Christ	Alii Keel Estate	✓		oppose
34.	(PRINT) Sherman Warner	-	✓	✓	oppose
35.	(PRINT) Kateo Mamaro	DHHZ	✓		oppose
36.	(PRINT) Jobie Masagatai	DHHZ		✓	
37.	(PRINT) Thomas Yeh	Law office Yeh & Moore		✓	oppose
38.	(PRINT) Nancy Burns	Nancy B Burns PE LLC		✓	oppose
39.	(PRINT) JERRY SEEL	JASMINUM FARMS LLC	✓	✓	opposed
40.	(PRINT) Linda Keeling	CITIZEN	✓		
41.	(PRINT) COURTNEY RIVERA	CITIZEN		✓	OPPOSE
42.	(PRINT) SHANNI MAKATAU	CITIZEN			OPPOSE
43.	(PRINT) ELIZABETH MALUHI LEE	LINEAL DEPENDANT / KUPUNA		✓	OPPOSE
44.	(PRINT) Kate Makaraka Kele	Citizen	✓	✓	oppose
45.	(PRINT) Shelley Mahi	Native Tenant Protection Council		✓	
46.	(PRINT) Abel Lui			✓	
47.	(PRINT) George Robertson	Office of Senator Schatz	✓		
48.	(PRINT) Wendy Sid	Self & Associates			oppose
49.	(PRINT) Matt Bealy	Plumber & Fitters LU675		✓	oppose
50.	(PRINT) Hannah Kihalani Springer	self		✓	support
51.	(PRINT) Margaret Ziegler	Conservation Council		✓	support
52.	(PRINT) Donorhy Bowers	CITIZEN Hawaii			SUPPORT
53.	(PRINT) Janeke Pama-Gleane	Surfrider - Kona Kau		✓	support
54.	(PRINT) Stephanie Donohy	Kohala Coast Resort Assn.	✓	✓	oppose
55.	(PRINT) Rogge Lee / Elizabeth	Jewel Present		✓	oppose
56.	(PRINT) Brian Bernhard	" "		✓	oppose
57.	(PRINT) SHANNON RUDOLPH	SELF		✓	SUPPORT
58.	(PRINT) Greg Chan	Self		✓	OPPOSE
59.	(PRINT) Keith Unger	self			oppose
60.	(PRINT) Peter Dahlberg	Aina Engineers		✓	oppose

(14)

CWRM MEETING

Keauhou

December 10, 2014

**SIGN IN SHEET
PLEASE PRINT CLEARLY**

**DO YOU WISH TO
TESTIFY?**

	PRINT NAME	ORGANIZATION	NO	YES	SUPPORT / OPPOSE
61.	(PRINT) Ralph Mori ta	DAGS-Planning Branch		✓	oppose
62.	(PRINT) Rozon Harris	Palaearaui		✓	oppose
63.	(PRINT) DOZ MAALU	PERSONAL	✓		OPPOSE
64.	(PRINT) MAX NEWBERG	HRCC		✓	OPPOSE
65.	(PRINT) Glenn M. Johnson	D.W.S. Customer	(WRITTEN)	✓	OPPOSE
66.	(PRINT) RILEY SMITH	LANITAN PROPERTY		✓	oppose
67.	(PRINT) FRED SPENCER	NAHAAPILI ADVISORY		✓	SKIPPED
68.	(PRINT) MIKAHALA ROY	NAHAAPILI ADVISORY		✓	Support
69.	(PRINT) Barry Francis	Clark Realty Corp.			oppose
70.	(PRINT) John N. Dyer	individ		✓	neither
71.	(PRINT)				
72.	(PRINT)				
73.	(PRINT)				
74.	(PRINT)				
75.	(PRINT)				
76.	(PRINT)				
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December 10, 2014

TO: William Aila, Jr, Chairperson and Bill Tam, Deputy Director, Commission on Water Resource Meneagement

Support: Designation of the Keauhou Aquifer System as a Groundwater Management Area

Aloha,

My name is Deborah Ward. and I am a member of the Moku Loa Group of Sierra Club, Hawaii Chapter.

President Obama has drawn attention, to the urgent need to address the droughts brought on by climate change. The west side of Hawaii Island has experienced the effects of prolonged drought in recent years, and the environmental and economic effects have been profound. The latest science shows that rainfall is declining, drought will be more severe in leeward areas, and sea level is rising – all factors that will affect both Public Trust uses of water and the availability of water for future development.

U.S. Sen. Brian Schatz said at a forum on water and climate change held in the state Capitol auditorium on August 19, 2013, “In Hawai`i, we consume the most water per capita in the United States”. More specifically, local residents use 18 percent more water than average Americans, he said. With projected population growth – 350,000 more people by 2040 – and increased demand (not to mention reduced precipitation as a result of climate change), the state must work now toward ensuring an adequate supply of water.

Support of the designation of the Keauhou Aquifer System as a groundwater management area, would be the first step, in order to address the careful management of culturally and environmentally significant water resources in an area set aside for pro-active protection. Where competing interests and high demand for resources exist, GMAs have been demonstrably effective at ensuring the reasonable-beneficial use of the water resources in a manner consistent with the public interest.

Public trust uses of water are supposed to have priority over private commercial uses of water. However the Water Commission can't do that absent designation for groundwater. The Hawai`i Supreme Court has ruled that public trust uses of water include the domestic needs of the general public, environmental protection, the traditional and customary uses of Native Hawaiians, and the rights to water of the Department of Hawaiian Home Lands.

I am concerned that the development and use of wells in the high level aquifer to support mauka projects may affect the availability of groundwater that supports the fishponds, wetlands, and anchialine ponds downslope. The anchialine ponds support endemic and native flora and fauna that depend on brackish groundwater. The pools, ponds, wetlands and offshore coral reef ecosystems are all dependent on freshwater stored in the basal lens

and perched aquifers. Withdrawals from the high-level aquifer could affect the basal lens, decreasing water levels and increasing salinity.

Some may say that the designation of this GMA is not an urgent issue. Others say it is a home rule issue. Councilwoman Ford pointed out recently that there is no current plan for water use in the Keauhou area; development is addressed as a first come first serve issue. This not proactive planning, and will not serve the needs of our community into the future.

My concern is that the discussion regarding sustainable yield reflects only that water necessary to provide for human and domestic consumption, but does not reflect the water necessary to sustain the coastal resources. Since the Water Commission must consider all the public trust resources, sustainable yield as defined currently represents only a fraction of the water required for a sustainable environment.

I encourage the Water Commission to support the GMA designation as soon as possible. This will protect the resources before more even serious detrimental effects of groundwater withdrawal damages the ecosystems that support the fish we eat, the reefs that enthrall residents and visitors alike, and the birds and wildlife that make Hawaii unique in all of the world.

Sincerely,

Deborah Ward, P.O.Box 918, Kurtistown HI 96760

dward@hawaii.edu, 808-769-2403

From: fredrico_cachola
To: dlnr.cwrn@hawaii.gov
Cc: Roy.Hardy@hawaii.gov; Paul.R.Eyre@hawaii.gov; Isaac.Harp; nainoaperry@yahoo.com; Ulu.Ching; tammy_duchesne@nps.gov; jeff_zimpfer@nps.gov; rae_godden@nps.gov; jon-jokiell@nps.gov; Aric.Arakaki; fredrico_cachola
Subject: National Park Service (NPS) Petition to Designate the Keauhou Aquifer System as a Water Management Area for Groundwater.
Date: 12/10/2014 06:38 AM

Aloha Chairman and members of the Commission on Water Resource Management.

Mahalo for this opportunity to testify **in support** of the NPS petition. I offer this testimony as Chairman of the Department of Interior's (DoI) Na Hoapili Advisory Commission, Chairman of the Makani Hou O Kaloko-Honokohau, Chairman of Na Kokua Kaloko-Honokohau. . .and as one of the last remaining 13 Native Hawaiian members of the DoI Honokohau Study Advisory Commission who proposed the establishment of the Kaloko-Honokohau National Historic Park as envisioned in their "Spirit Report" of 1974. It was an honor to serve on this commission with other notable Kona Hawaiians, like Iolani Luahine, George Naope, Homer Hayes, Mauna Roy, Arthur Chun, Pilipo Springer and others. On behalf of these groups and my fellow Native Hawaiian commissioners, I support the NPS petition for the following reasons.

1. The Park is doing exactly what our wise kupuna commissioners directed them to do in their "Spirit Report" of 1974. . . .

a. re-establish and utilize traditional Native Hawaiian Ahupua'a concepts of land and water management to protect the significant biocultural resources of Kaloko-Honokohau, including the quantity and quality of fresh water flowing mauka to makai for future generations. (page 25,29)

b. establish a monitoring system to measure and maintain water quality in offshore areas as well as inland water bodies such as springs, wells and fishponds.(page 28)

c. develop cooperative planning efforts with state, county and private landowners to protect good water quality for fishpond culture and biocultural resources near and offshore areas. (page 29)

c. manage the offshore coral reefs and waters to complement the early Hawaiian theme of the park and protect the shoreline and waters within the park boundary from pollution (page 49)

These visionary statements were made 40 years ago by passionate Native kamaaina who had intimate awareness and appreciation of our unique Kona environments. . .and who were dedicated to malama the lands and waters of Kaloko-Honokohau. The NPS petition would certainly be endorsed and supported by these notable Kona kamaaina.

2. There are 3 ancient fishponds, over 185 anchialine ponds and 596 acres of marine, intertidal and coral reef habitat. These natural and cultural resources, as well as traditional and customary practices are dependent on the continued flow of ample fresh water from mauka to makai.

3. The method used to calculate the sustainable yield ignores actual well locations, is primarily based on human consumption and does not explicitly consider the impact of reducing ground water discharge on traditional and customary Native Hawaiian rights and practices and other Public Trust resources along the Kona coast. I urge the Water Commission to develop and utilize more comprehensive calculation methods which will include Native Hawaiian rights and practices and the requirements for preserving/maintaining significant historical/cultural/natural/scenic environments that gives identity and inspiration to Native Hawaiians. . .and which drives our very important visitor industry.

4. There are many scientific studies presented by the Park, environmentalists, landowners, developers and others.. both in support and not in support of the petition. The Park has been studying these issues for over 20 years. The State and County departments, landowners, developers have conducted many studies.. But as far as I know the Water Commission has not conducted their scientific investigation. . .and therefore may not be able to issue their Finding of Facts on whether or not to designate the Keauhou aquifer for management. I urge the Water Commission to continue to study and analyze all data accumulated. . .to conduct a scientific investigation. . .then issue Findings of Fact on the NPS petition.

5. I support the Park's pro-active management policy. . .and so does the State Supreme Court in their directive to the Water Commission. . .to apply precautionary principles in water management so that when ". . .*there are present or potential threats of serious damage, lack of full scientific certainty should not be a basis for postponing effective measures to prevent environmental degradation.*" I believe that a State Water Management Area will help to prevent negative impacts before they occur and will guide development in a sustainable manner. Acting now allows and provides more opportunity for the Water Commission to balance our collective responsibility to protect the environment and Native Hawaiian traditional and customary practices with the need for new houses and businesses in north Kona.

6. Water Management will not stop development and economic growth. All but one of the aquifers on Oahu are designated for water management. . .and development, businesses and economic growth is booming on Oahu. If the Keauhou aquifer is designated for water management. . .then yes, landowners and developers, businesses must ask for a permit for water withdrawal. . .and yes the process is open for public comment, it may require a public hearing, it will take time and cost money. But shouldn't the public have the right to know who wants to take water from the Keauhou aquifer?. How much do they need?. . .why?. . .for what? When and where will their wells be drilled? Or shall they be allowed all the water they want with out public review, input or comment? Fresh water is not private property. . . it belongs to all of us. . .its use must be managed as a Public Trust, not as a private matter.

7. The Water Commission has broad discretionary powers to designate water management areas regardless of how many or how few of the eight criteria are applicable. . .such as the designation of the entire island of Molokai, in 1992; when the commission noted that ". . .*none of the eight criteria support designation of the entire island of Molokai as a ground water management area.*" However, the Water Code states that, "*When it can be reasonably determined. . .that the water resources in an area may be threatened by existing or proposed withdrawals or diversions of water*" the State Water Commission shall designate an area a Water Management Area.

I believe that the NPS Petition and all of their supporting data and documents have presented convincing evidence that allows for a reasonable determination that the Keauhou aquifer may be threatened.

Me ke aloha kakou,

Fred Cachola, Chair
Na Hoapili Advisory Commission
Makani Hou o Kaloko-Honokohau
Na Kokua Kaloko-Honokohau

Mr. William J. Aila, Chairperson and Commissioners
Commission on Water Resource Management
Department of Land and Natural Resources PO Box 621
Honolulu, HI 96809

December 10, 2014

RE: **OPPOSITION** to Petition to Designate the Keauhou Aquifer as a Water Management Area **AT THIS TIME** until more information is provided.

Aloha, as somebody new to this "heated" and important decision identifying "who can best serve as custodian" of our Hawaii water resource, I read information on the subject, specifically documentation from both parties and other organizations and individuals to include the State of Hawaii, Department of Land and Natural Resources (DLNR) website on water management. At this time, my conclusion is that additional studies and discussion are needed and no decision in the best interest of the citizens of Hawaii can be made at this time. This is based on the following:

There are so many reports from different sources with conflicting data. Data provided by National Park Service (NPS), favors NPS. Data provided by the Department of Water Supply (DWS), County of Hawaii and other parties favor their position. I recommend that a 3rd party unrelated to NPS and DWS should be contracted to provide current and unbiased scientific data that is presented in "laymen's" terms to non-scientific individuals to ensure I and the other citizens of Hawaii can make an informed decision.

NPS's petition is in "essence" requesting to be a custodian of the Hawaii water. Since a majority of the island of Oahu is a designated "Water Management Area (WMA)", we can grade DLNR and NPS's involvement on Oahu. Also, Maui is in transition? How is this going? Have the citizens of Oahu seen a benefit and was it critical to ensuring the effective management of the water resource on Oahu? A report card is needed to identify if there involvement has been beneficial. I recommend a 3rd party unrelated to NPS and DWS be contracted to provide a report card and grade their involvement on Oahu.

DWS is asking for NPS to not get involved with their mission to "manage, control and operate the waterworks of the County and all property thereof". DWS has effectively managed the water resource for the county of Hawaii in the past. Is this still applicable for the changing environment and our future? If not, what is their role and responsibility as an agency of the county of Hawaii. I recommend that a 3rd party unrelated to NPS and DOWS should be contracted to evaluate and identify if DWS and the Water Commission can effectively manage our water resource in the future based on their current mandates and practices. Does their role need to change?

In conclusion, I do not have sufficient data to identify "who can best serve as custodian" of our Hawaii water. The report and findings from a 3rd party would provide the "missing information" that is needed to determine what action and which government agency can be most effective in managing our valuable water resource for now and in the future.

When it comes to government, more is not necessarily better.

Lastly, as this will be the first designation in Hawaii, how will it impact the other parts of the island?

Mahalo.

Jacqueline Awa
On behalf of my Ohana at Keei Beach, Kealakekua.

William J. Aila, Chair
Department of Land and Natural Resources
1151 Punchbowl Street
Honolulu, HI 96813
Via email: William.j.aila@hawaii.gov

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- This should be a county decision and Home rule only.

Sincerely,

John K. Bansemer

Cc: Bill Tam, Deputy Director, CWRM: William.tam@hawaii.gov
Roy Hardy, Manager, CWRM: roy.hardy@hawaii.gov
Katie Ersbak, Assistant: Katie.c.ersbak@hawaii.gov, please provide copies to all Commissioners

From: [Karen Anderson](#)
To: dlnr@hawaii.gov
Cc: roy.hardy@hawaii.gov
Subject: Keauhou aquifer
Date: 12/10/2014 11:28 AM

> I am writing to add my support to the National Park's position on protecting the Keauhou aquifer. Too often in recent times, the county and the state are ignoring, or being dismissive of, the valid positions that the national parks are taking in terms of protecting our resources here. The National Park needs to have its many concerns taken into consideration before such a massive influx of homes are built that will impact this precious water resource.

Sincerely,

Karen Anderson

Sent from my iPhone

From: [Kristina Anderson](mailto:Kristina.Anderson@hawaii.gov)
To: dlnr@hawaii.gov
Cc: paul.r.eyre@hawaii.gov; roy.hardy@hawaii.gov
Subject: Support of NPS call for protection for Keauhou Aquifer
Date: 12/10/2014 11:26 AM

Gentlemen:

I hereby submit my testimony in favor of protection for the Keauhou Aquifer, as designated by the National Park Service. The time is now to protect our precious water resources. I believe it's obvious what is going on--developers and their big money are trying to ram through housing developments that rely on these water resources to be built and therefore need approval to tap into the water. "Of course there's enough water," they say, supported by a bevy of paid "experts." "Let's build!!" The rally cry is always the same...construction improves the economy, brings jobs, etc.

True, but temporarily. Then they leave town and we are stuck with the problems like increased traffic and stressed out infrastructure. And stress on the aquifer.

Water resources might seem manageable now. Kona isn't Southern California YET. But if the developers' plans currently under proposal all get built it will become the next Reseda. Picture tens of thousands of people drawing off this water in the coming decades. Lawns, landscaping, showers, swimming pools, toilets, dishwashers, washing machines times ten thousand. That is scary.

Historically, through the years, the Big Island has suffered on and off water shortages only resupplied by scant rainfall. That's why agriculture could be a hit and miss proposition and mostly failed on the Kona side. It was always about the water. To aid agricultural enterprises and address the chronic shortage of water, the Hamakua ditch was built. Unlike Hamakua, we don't have the water of the windward side to replenish our resources. Kona is the dry side, remember? We only have the aquifer for municipal water. If we don't protect it now, we will be saying to ourselves in the coming decades, "how come they allowed us to run out of water?"

In this matter, I am not a hypocrite. I live on rainfall catchment myself, always have (23 years on this island) conserve water constantly and don't create a drain on municipal water systems. Unlike the homes built for tens of thousands of new residents of Kona will most certainly will.

I'm also a huge supporter of the National Park Service and its mission to protect our natural resources for us and future generations of residents.

I support the NPS proposal and petition to protect the Keauhou Aquifer!

Sincerely,

Kristina Anderson
87-3211 Carissa Road North
Captain Cook, HI 96704
808-328-2462
Adcopy@earthlink.net

Sent from my iPad

Lanihau Properties, LLC

P.O. Box 9032

Kailua-Kona, HI 96745

Phone: (808) 936-7129 • Fax: (808) 329-8044

Email: rsmith@lanihau.net

December 10, 2014

William J. Aila, Chair
Department of Land and Natural Resources
1151 Punchbowl Street
Honolulu, HI 96813
Via email: William.j.aila@hawaii.gov

Re: Opposition to the Petition to Designate the Keauhou aquifer as a Water Management Area

Chair Aila and members of the Commission on Water Resource Management. I am Riley Smith, President of Lanihau Properties, a native Hawaiian and a graduate of the Kamehameha Schools. I am the beneficiary of an alii trust and know what *kuleana* is. I know what it means to *malama our aina*. As the CEO for the combined family enterprise that includes Palani Ranch, we have been stewards of our *mauka* watershed lands in North Kona since the 1850s and used to own the entire *ahupuaa* of *Honokohau*, which included the portion that was sold to the federal government for the *Kaloko Honokohau* National Park. Our management of our mauka 10,000 acres above the National Park help to control drainage, manage siltation that helps to protect the near shore waters, but also assist with groundwater recharge of the Keauhou aquifer. As you've been told, there were less invasive kiawe trees in the park in 1978, than there are today. We took better care of the park for over one hundred years, than the NPS has in the last thirty six!

You have not given the lineal descendants, including Aunty Elizabeth Maluihi Lee, a living treasure, equal access to speak to the Commissioners. You prevented her from speaking to the Commission at your site visit and subsequent meeting at West Hawaii Civic Center on October 9, 2014. Instead she was informed that she could fly to Honolulu and testify at your regularly scheduled meeting on November 19, 2014. Do you know that she's 86 years old? This is after you gave the National Park Service the opportunity to have their local sympathizers (Fred Cachola, Hannah Springer, Keala Ching, Rae Ann Godden) present to you in Kona.

You have not followed the Sunshine Law and behaved in an above board manner. You allow your Commissioners to communicate with one another about how they will vote on Commission matters, without the public being present. This is in your van during the site visits, while you are eating lunch, or time spent at the airport during travel. You allowed the NPS' hydrologist Paula Cutillo to attend the "limited site visit" at Kohanaiki on 9/17/14, when you excluded the Department of Water Supply and myself from attending. You do not allow the attorney general assigned to your agency the ability to ensure that your communications and decisions are made out in the open, like it should be. As Governor Ige said, his goal is for better dialogue, communication and transparency with the public. Please follow his vision.

The manner in which you conduct your business is not *pono*, it is not fair.

Please do the right thing, listen to the people of Kona, follow your CWRM staff recommendation included in their report of 12/4/14 and defer this decision, till you have all the facts and are able to treat our host culture with the respect we deserve.

Very truly yours,

A handwritten signature in black ink, appearing to read "Riley W. Smith". The signature is written in a cursive style with a large initial "R".

Riley W. Smith, P.E.
President/Chief Executive Officer

Cc: Bill Tam, Deputy Director, CWRM: William.tam@hawaii.gov
Roy Hardy, Manager, CWRM: roy.hardy@hawaii.gov
Katie Ersbak, Assistant: Katie.c.ersbak@hawaii.gov, please provide copies to
all Commissioners

From: [Arakaki, Aric](#)
To: [dlnr.cwrn](#)
Cc: [Roy.Hardy@hawaii.gov](#); [Paul.R.Eyre@hawaii.gov](#); [Isaac Harp](#); [nainoaperry@yahoo.com](#); [Ulu Ching](#); [Tammy Duchesne](#); [Jeff Zimpfer](#); [Rae Godden](#); [jon-jokiel@nps.gov](#); [Aric Arakaki](#); [fredrico cachola](#)
Subject: National Park Service (NPS) Petition to Designate the Keauhou Aquifer System as a Water Management Area
Date: 12/10/2014 10:13 AM
Attachments: [AlaKahakai comments to SCWRM 121014.pdf](#)

Aloha,

This is to register the support of the National Park Service's Ala Kahakai National Historic Trail for Kaloko Honokohau NHP's petition to the State Commission on Water Resource Management to declare that the Keauhou aquifer be designated as a State Water Management Area .

The purpose of the Ala Kahakai National Historic Trail, designated in 2000, is to administer the management for public use of a system of ancient and historic trails, located on the west coast of Hawaii Island. Consultations with communities within the trail corridor verified that this trail system has been in continuous use since its construction over 1,000 years ago. A major use of this trail system include access for cultural practices associated with the management and sustainable gathering of a plethora of marine and terrestrial resources. As such, the perpetuation of the culture and lifestyles of Native Hawaiians and others who share similar values, are dependent on healthy and thriving ecosystems of which man is a part thereof.

As a result of numerous consultations with the public, it is the policy of Ala Kahakai National Historic Trail, as indicated in its Comprehensive Management Plan, to administer with the public, private and community sectors, ahupua'a community-based management of the trail system and associated natural and cultural resources. Trail system management planning and implementation shall be led by those with ancestral and historic connections to these resources and inclusive of all who wish to participate.

The designation of the Keauhou aquifer as a State Water Management Area will benefit the entire coastal area contained within this aquifer. Therefore this proposed designation will benefit all communities - human, plant and animal, within this section of the Ala Kahakai trail corridor.

The foundation for the flourishing of the Hawaiian culture, epistemology and lifestyles is water, both potable (wai) and sea (kai) waters. The Kumulipo, the genesis and genealogical chant of Hawaiians and other Polynesians, begins in the ocean with its first life form, coral; and coral is therefore considered an ancestor. The deity of water, Kane, at one time was the major deity of the early Polynesians who first settled and thrived here. The point here is that water and water quality is a major Hawaiian cultural feature that warrants the utmost means of protection and management. And that water is a part of the public trust doctrine of Hawaii and the US that all elected and appointed officials and public servants are sworn to uphold.

We assert that it is incumbent on the part of all who are involved with this process to welcome the care and technical assistance that will be provided by the State Commission on Water Resource Management and its highly skilled and dedicated staff as an additional resource aimed at assuring a balanced use of water for land development and at the same time protect the marine and terrestrial ecosystems and the culture and lifestyles of Native Hawaiians.

attached is this testimony on official letterhead and signed

--

Aric Arakaki
Superintendent
Ala Kahakai National Historic Trail
National Park Service
73-4786 Kanalani Street

Kailua Kona, HI 96740
Mobile: 808.217.0307



United States Department of the Interior
NATIONAL PARK SERVICE
Ala Kahakai National Historic Trail
73-4786 Kanalani St., #14
Kailua-Kona, HI 96740
Tel. 808.217.0307
Fax. 808.329.2597



Date: December 10, 2014
TO: State Commission of Water Resource Management
FROM: Aric Arakaki, Superintendent *Aric Arakaki*
RE: National Park Service (NPS) Petition to Designate the Keauhou Aquifer System as a Water Management Area for Groundwater.

This is to specifically register the support of the National Park Service's Ala Kahakai National Historic Trail for Kaloko Honokohau NHP's petition to the State Commission on Water Resource Management to declare that the Keauhou aquifer be designated as a State Water Management Area .

The purpose of the Ala Kahakai National Historic Trail, designated in 2000, is to administer the management for public use of a system of ancient and historic trails, located on the west coast of Hawaii Island. Consultations with the communities within the trail corridor verified that this trail system has been in continuous use since its construction over 1,000 years ago. A major use of this trail system include access for cultural practices associated with the management and sustainable gathering of a plethora of marine and terrestrial resources. As such, the perpetuation of the culture and lifestyles of Native Hawaiians and others who share similar values, are dependent on healthy and thriving ecosystems of which man is a part thereof.

As a result of numerous consultations with the public, it is the policy of Ala Kahakai National Historic Trail, as indicated in its Comprehensive Management Plan, to administer with the public, private and community sectors, ahupua'a community-based management of the trail system and associated natural and cultural resources. Trail system management planning and implementation shall be led by those with ancestral and historic connections to these resources and inclusive of all who wish to participate. The designation of the Keauhou aquifer as a State Water Management Area will benefit the entire coastal area contained within this aquifer. Therefore this proposed designation will benefit all communities - human, plant and animal, within this section of the Ala Kahakai trail corridor.

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We assert that it is incumbent on the part of all who are involved with this process to welcome the care and technical assistance that will be provided by the State Commission on Water Resource Management and its highly skilled and dedicated staff as an additional resource aimed at assuring a balanced use of water for land development and at the same time protect the marine and terrestrial ecosystems and the culture and lifestyles of Native Hawaiians.

December 10, 2014

William J. Aila, Chair
Department of Land and Natural Resources
1151 Punchbowl Street
Honolulu, HI 96813
Via email: William.j.aila@hawaii.gov

Re: Opposition to the Petition to Designate the Keauhou aquifer as a Water Management Area

My name is Sherman Warner, and I am a resident of Waimea. I am president of the Waimea Community Association, which, on November 13, hosted a panel discussion on the National Park Service's Petition to Designate the Keauhou Aquifer as a Water Management Area. Tammy Duchesne, Kaloko-Honokohau National Historic Park Superintendent and supporting staff participated. This is my personal testimony; I am not representing WCA.

At the WCA forum, the National Park Service did not present a convincing rationale for its petition other than offering a conjectural argument, concluding that at some time in the future withdrawals from the aquifer might approach the level at which designation is mandated by law. Since the current usage of the aquifer is at less than half of the level that triggers that mandate, designation would be akin to giving a speeding ticket to a driver going 20 mph in a 45 mph zone because they might exceed the speed limit in the future. I heard no convincing evidence that existing pumping had harmed the anchialine ponds or wetlands or even that a causal relationship had been determined between current or higher levels of pumping and the condition of those natural resources.

Further compounding my sense that the NPS was "stonewalling" and failing to seriously consider community concerns was their rejection of mediation. Mayor Kenoi, Senator Schatz, and members of the Waimea community all have suggested mediation. As a mediator, former board member and recent Executive Director of the West Hawaii Mediation Center, I am an advocate of the mediation process. Mediation, as opposed to arbitration, does not impose a solution. There is no downside to participating in mediation. There is no immediate crisis that precludes taking the time to mediate. We are fortunate that our community includes distinguished mediators who have experience with complex issues around the environment and public policy, ranging from geothermal safety to the upcoming mediation regarding GMO legislation.

If designation occurs, many public projects will be stopped due to the unavailability of water: UH/Palamananui, Keahole Airport Expansion, NELHA Expansion, Kona Judiciary, Kamakana Villages affordable housing, DHHL housing at Laiopua Village 4, Hawaii County's Kona Regional Park, Laiopua 2020 (preschool, health facilities, etc.). If the aquifer is designated, the County DWS will not issue water meters in North Kona.

I urge all parties to participate in a mediated solution that assesses the scientific data, respects the environment and balances those issues with responsible planning for future development and for our community's economic and social viability.

Sincerely,

Sherman Warner
PO Box 1185
Kamuela, HI 96743

Cc: Bill Tam, Deputy Director, CWRM: William.tam@hawaii.gov
Roy Hardy, Manager, CWRM: roy.hardy@hawaii.gov
Katie Ersbak, Assistant: Katie.c.ersbak@hawaii.gov, please provide copies to all Commissioners

From: kraul
To: Roy.hardy@hawaii.gov; Paul.R.Eyre@hawaii.gov
Subject: Keauhou water designation-not now
Date: 12/10/2014 06:42 AM

Dear Chairman Aila,
Regarding the National Park's request to designate Keauhou as a water management area:

I have several friends at NPS Kaloko-Honokohau Park and understand their position. But I disagree with designating Keauhou aquifer for several reasons: it is not needed now because we are well below sustainable pumping; further studies could show that lots of water is available; "ground and subsurface" water that NPS seems to be talking about is only the fraction that escapes from the "lens", whereas (probably) a huge portion of subsurface water escapes far beneath the ocean at the confluence of older lava layers, and we probably have many "perched aquifers" formed by dikes and clay layers between ancient lava flows (UHH Professor Don Thompson's work); there is serious concern by several agencies that designating Keauhou will have serious impact on permits (and I assume that is what NPS wants or they wouldn't be asking for this).

I definitely do not support designation at this time. Thanks to NPS for bringing up the discussion, but please can we learn more about our water supply before making rules that will slow down finding new water. I am fascinated by Professor Thompson's work showing multiple impermeable deep layers and vertical dikes caused by cracking and filling with new lava. I wouldn't be surprised to hear that we have lots of water under our ground that does not contribute to Honokohau, and that would not impact them if tapped.

I hope you get a chance to put this designation off until we learn more about our water.
thanks,

Sydney A. Kraul, Jr.
73-998 Ahikawa St.
Kailua-Kona, HI 96740-9407 USA
Tel (808)326-1180 daytime
Tel (808)325-1761 night (home)
email kraul@hawaiiantel.net



December 10, 2014

William J. Aila, Chair
Department of Land and Natural Resources
1151 Punchbowl Street, Honolulu, HI 96813
Via email: William.j.aila@hawaii.gov

Re: Opposition to the Petition to Designate the Keauhou aquifer as a Water Management Area

I am opposed to the petition to designate the Keauhou aquifer. This appears to be overreaching by the National Park Service and a lot of “the sky is falling” noise when they haven’t even looked up. I’m also opposed for the following reasons:

- There is No Scientific Data to Support State Water Management Area Designation. The National Park’s own hydrologist, Paula Cutillo, Ph.D. stated, “The water resources in the Park include the coral reefs, two fish ponds and a fish trap, over 185 anchialine pools and wetlands. ... These resources are relatively healthy; we have no evidence that existing pumping has adversely affected these resources.” (August 27, 2014, Kona Water Roundtable). This was later confirmed by National Park Superintendent Tammy Duchesne, “We do not have any evidence that pumping wells have adversely affected water resources in the park.” (November 15, 2014, e-mail)
- The Law mandates designation at 90% Capacity; Keauhou Aquifer System Area is only at 38%. None of the other criteria for designation have been met.
- Unwarranted State Water Designation Interferes with County’s Authority and Home Rule
- There are No Impacts on Hawaiian Cultural Practices. There would be a lot of negative impacts to native Hawaiian employment.

The Kona Community Development Plan directs the majority of future growth north of Kailua into compact villages with increased density and mixture of homes, shops and places to work – designation will effectively stop the implementation of the community’s vision for this region.

If designated, many public projects will be stopped due to the unavailability of water UH/Palamananui, Keahole Airport Expansion, NELHA Expansion, Kona Judiciary, Kamakana Villages affordable housing, DHHL housing at Laiopua Village 4, County’s Kona Regional Park, Laiopua 2020 (preschool, health facilities, etc.). Note, if the aquifer is designated, the County DWS will not issue water meters in North Kona (DWS letter, 7/10/14).

There needs to be an allowance for growth in Hawaii County and the Kona Coast area specifically. Otherwise this area will stagnate and the number of residents and visitors fleeing the island will increase ten-fold.

Thank you for your time,

Sincerely,

Alexandra Mitchell

Alexandra Mitchell
The Kona Shopper

Cc: Bill Tam, Deputy Director, CWRM: William.tam@hawaii.gov
Cc: Roy Hardy, Manager, CWRM: roy.hardy@hawaii.gov
Cc: Katie Ersbak, Assistant: Katie.c.ersbak@hawaii.gov



Protect Hawaii's Waters, National Parks, and Communities

Linda Elliott to: dlnr.cwrn

12/11/2014 10:32 AM

Sent by: **National Parks Conservation Association**

<npca@npca.org>

Please respond to Linda Elliott

Dec 11, 2014

Chairman William J. Aila, Jr.
P.O. Box 621
Honolulu, HI 96809

Dear Chairman Aila, Jr.,

Thank you for considering the National Park Service's Water Management Area Petition. I support this petition to ensure that valuable water and Native Hawaiian resources found at Kaloko-Honokohau National Historical Park are protected for generations to come.

I believe that water is a valuable resource in Hawaii, and yet adequate protections don't currently exist for the Keauhou Aquifer that feeds and travels through Kaloko-Honokohau to the sea. As our communities continue to grow, we require the best experience, knowledge, and oversight so that the water from the Keauhou Aquifer will continue to support those who live and work in this area. We also expect our water to be abundant and clean to protect valuable Hawaiian resources. A water management area administered by the Commission on Water Resource Management is our best option to meet these expectations for the long-term.

The Hawaiian people asked the United States government to help us protect Kaloko-Honokohau National Historical Park so that we, and generations to come, can visit, enjoy the land, and keep Hawaiian cultural traditions and history alive. I ask the commission and the State of Hawaii to stand up and help protect this special place, too.

Thank you for considering my request. Mahalo Nui Loa!

Sincerely,

Ms. Linda Elliott
PO Box 506
Hawi, HI 96719-0506



Keauhou Aquifer
Janice Palma-Glennie to: dlnr.cwrmm

12/11/2014 01:00 PM

1 attachment



***KKE water designation testimony.doc

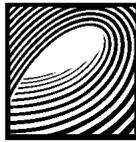
Aloha, Commissioners,

Mahalo for a worthwhile, informative albeit long day yesterday. It was an education! The only suggestion we would make is that this type of meeting be divided into two days – one with agency presentations and one for public testimony. We regret that many of our members who are very interested in this topic were unable to come, mostly due to work conflicts. And if they had known there'd be an opportunity to testify after work, it would've been more likely that you would have heard from them.

In any case, it was gratifying to see how the commissioners listened, asked relevant questions, and came up with a decision that acknowledges the work NPS has done to bring this critical issue to the fore while, at the same time, giving the County and State opportunity to work together with them to find solutions to fill gaps of water management that clearly exist.

Testimony for Surfrider Kona Kai Ea chapter is attached.

Best regards,
Janice Palma-glennie
For Surfrider Kona Kai Ea chapter



**Surfrider
Foundation®**

Kona Kai Ea Chapter

December 10, 2014

To: State Water Commission

Re: NPS petition to create the Keauhou Aquifer System Ground Water Management Area

From: Kona Kai Ea Chapter, Surfrider Foundation

Aloha Commission members,

I'm testifying on behalf of the Kona Kai Ea Chapter of the Surfrider Foundation. Our group's mission is to protect and enjoy our oceans, waves, and beaches. In accordance with that mission we agree with the National Park Service that there is a compelling need to preemptively and most carefully manage Kona's Public Trust resources now and into the future, especially water.

In addition to being dependent upon an abundant water supply and healthy coastline in ways that all humans are, our members rely upon the region's clean, safe water for recreational, cultural, spiritual, and subsistence reasons, many of which are practiced and enjoyed in our one-of-a-kind, irreplaceable, and critically sensitive Kaloko-Honokohau National Park. We believe that any opportunity to take better care of our aquifer in science-based ways that take a broad range of stakeholders into account, as this petition does, deserves the support of State and County agencies.

For those reasons and the following, we ask commissioners to support designation of the Keauhou Aquifer System Ground Water Management Area.

There are many myths and misconceptions related to designation going around, and our group would like to comment on five of them:

- #1 Designation will result in federal control of our watershed.
- #2 National Park Service hasn't looked for other alternatives besides designation.
- #3 Designation will stop development and especially projects related to Kona Community Development Plan.
- #4 Petitioning for designation is a premature action rather than a preemptive one.
- #5 The County's water use projections can be relied upon to reflect the region's future water needs.

To address myths one and two, the federal government isn't asking for control of our region's aquifer, nor would that be a result of State designation. NPS is clearly petitioning the State to do its job, since State waters are under State jurisdiction. The National Park Service is meanwhile fulfilling its own legal mandate to protect park resources which are held in trust for all Americans, and its petition comes after six years trying to find other options and agencies that would work with them toward that goal. Petitioning the State was a last resort since no other agency would come to their aid.

As far as the third and fourth misconceptions, designation will not stop development nor will it impede implementation of the Kona Community Development Plan. Most of Oahu and Maui are designated management areas with development on both islands continuing at a brisk pace.

As far as implementation of the Kona Community Development Plan (KCDP), the truth is that pro-

active planning for future water use is exactly what the CDP is all about. As an advocate for several grassroots organizations as well as a voice for the general public regarding environmental protection, I've been involved in the KCDP process from its inception, first as a founding Steering Committee member and then on the Action Committee. The CDP's eight Guiding Principles were born from a decade of work starting with thousands of stakeholder comments. Listed in order of importance, #1 of those guiding principles is "Protect Kona's natural and cultural resources". Again, nothing fits better with our region's smart growth mandate than for this commission to help insure that our region's aquifer and Kaloko-Honokohau National Park are protected through the a transparent, inclusive, and proactive process that designation would provide. Regarding concurrency, an ad hoc committee of the KCDP Action Committee recently approved workable solutions to align concurrency standards with permitting of new, CDP-compliant development projects.

In summary, nothing about designation would stop bonafide CDP-friendly projects from moving forward. Only proposals that threaten the Keauhou aquifer with the drilling of unsustainable, unsafe new wells could do that.

The fifth questionable statement is that Kona's future water needs could be reliably projected with currently available data. Figures on the number of County building permits and entitlements that already exist have been stated to be as high as in the tens of thousands. So, until the planning department provides those critical figures and addresses the point made by NPS regarding the variability of water use projection methods, it seems that science-based projections of future water use would be difficult, if not impossible, to make.

In Hawai'i, water surrounds us like a womb, nurturing us with physical and spiritual sustenance. We ask that commissioners proceed with a decision to protect our precious aquifer and not further and unnecessarily drag out the process, especially to a point where designation is forgotten, the public becomes weary of the issue, or – as could happen with the LUC rules at Palamanui twenty years later – development companies get their way and leave our communities to suffer with broken promises.

Democracy is dependent upon transparency and public participation. And the water that supports us is dependent upon representatives like you making decisions that uphold the State Constitution and protect the Public Trust. Our members ask the State and County, along with development advocates, to join in support of National Park Service's efforts to better and more democratically protect and allocate the water of our region for the long-term, sustainable benefit of future generations.

Mahalo for taking our group's testimony into consideration and to NPS for putting themselves in such a difficult position in order to protect the public's natural and cultural treasures which are held in their trust.

Sincerely,
Janice Palma-Glennie
For Surfrider Foundation Kona Kai Ea Chapter



Protect Hawaii's Waters, National Parks, and Communities

Diana Miller to: dlnc.cwrn

12/11/2014 06:31 AM

Sent by: **National Parks Conservation Association**

<npca@npca.org>

Please respond to Diana Miller

Dec 11, 2014

Chairman William J. Aila, Jr.
P.O. Box 621
Honolulu, HI 96809

Dear Chairman Aila, Jr.,

Thank you for considering the National Park Service's Water Management Area Petition. I support this petition to ensure that valuable water and Native Hawaiian resources found at Kaloko-Honokohau National Historical Park are protected for generations to come.

I believe that water is a valuable resource in Hawaii, and yet adequate protections don't currently exist for the Keauhou Aquifer that feeds and travels through Kaloko-Honokohau to the sea. As our communities continue to grow, we require the best experience, knowledge, and oversight so that the water from the Keauhou Aquifer will continue to support those who live and work in this area. We also expect our water to be abundant and clean to protect valuable Hawaiian resources. A water management area administered by the Commission on Water Resource Management is our best option to meet these expectations for the long-term.

The Hawaiian people asked the United States government to help us protect Kaloko-Honokohau National Historical Park so that we, and generations to come, can visit, enjoy the land, and keep Hawaiian cultural traditions and history alive. I ask the commission and the State of Hawaii to stand up and help protect this special place, too.

Thank you for considering my request.

Sincerely,

Ms. Diana Miller
16-1582 Koloa Maoli Rd
Kurtistown, HI 96760



Protect Hawaii's Waters, National Parks, and Communities

Charmaine Pulgados to: dlnr.cwrwm

12/12/2014 08:35 PM

Sent by: **National Parks Conservation Association**

<npca@npca.org>

Please respond to Charmaine Pulgados

Dec 13, 2014

Chairman William J. Aila, Jr.
P.O. Box 621
Honolulu, HI 96809

Dear Chairman Aila, Jr.,

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Thank you for considering my request.

Sincerely,

Miss Charmaine Pulgados
75-5660 Kopiko St # 152
Ste C7
Kailua Kona, HI 96740-3122

From: [Roy Hardy](#)
To: [Katie C Ersbak](#)
Cc: [Susan S Hoagbin](#)
Subject: Re: Fw: I wanted to apologize to you for my comments at Wednesday's CWRM meeting
Date: 01/28/2015 08:29 AM

Since it's referring to other testimony then I'd say yes. I'll PDF and put into testimony folder.

▼ [Katie C Ersbak---01/28/2015 07:28:37 AM---FYI, include as part of the record?](#)
[Katie Ersbak](#)

From: Katie C Ersbak/DLNR/StateHiUS
To: Roy Hardy/DLNR/StateHiUS@StateHiUS,
Cc: Susan S Hoagbin/DLNR/StateHiUS@StateHiUS
Date: 01/28/2015 07:28 AM
Subject: Fw: I wanted to apologize to you for my comments at Wednesday's CWRM meeting

FYI, include as part of the record?

Katie Ersbak

Assistant to Deputy Director, William M. Tam
Commission on Water Resource Management
Department of Land and Natural Resources
Kalanimoku Building
1151 Punchbowl Street, Room 227
Honolulu, HI 96813
Phone: (808) 587-0214
Fax: (808) 587-0219
<http://dlnr.hawaii.gov/cwrn/>

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----- Forwarded by Katie C Ersbak/DLNR/StateHiUS on 01/28/2015 07:44 AM -----

From: Riley Smith <rsmith@lanihau.net>
To: Denise Antolini <antolini@hawaii.edu>,
Cc: "William.Tam@hawaii.gov" <William.Tam@hawaii.gov>,
"Katie.C.Ersbak@hawaii.gov" <Katie.C.Ersbak@hawaii.gov>
Date: 01/28/2015 06:59 AM
Subject: RE: I wanted to apologize to you for my comments at Wednesday's CWRM meeting

Thank you Ms. Antolini.....Appreciate your reply and your commitment to ensure that all Commissioners have access

to all pertinent information, so that they can make an informed decision, in the best interests of the residents of West Hawaii, balanced with the care and concern we all have for preserving and protecting our natural resources.

Mahalo

Riley Smith, P.E.

From: Denise Antolini [mailto:antolini@hawaii.edu]

Sent: Tuesday, January 27, 2015 9:59 PM

To: Riley Smith

Cc: William.Tam@hawaii.gov; Katie.C.Ersbak@hawaii.gov

Subject: Re: I wanted to apologize to you for my comments at Wednesday's CWRM meeting

Aloha Mr. Smith,

Thank you for your email of December 13, 2014 following the Keauhou meeting.

I am cc'ing Deputy Bill Tam and Katie Ersbak so your letter becomes part of the record for this matter.

I appreciate your deep commitment to these important issues, and the time and effort you put into your testimony and email to ensure that the appropriate information is readily available to me and the other Commissioners.

Sincerely,

Denise Antolini

On Sat, Dec 13, 2014 at 12:16 PM, Riley Smith <rsmith@lanihau.net> wrote:

Aloha Ms. Antolini.....After I testified to the Commission on Wednesday evening, I received feedback that I was unduly harsh and abrasive to you. If that is how you perceived my comments, I apologize. That was not my intention. As you can tell, I am frustrated in working with the National Park Service. When I ask them very clear/specific questions, I am provided with vague and misleading responses. In the military, they call that kind of behavior "quibbling".

Answering a question, by evading the query and by providing misleading, meaningless info.

My intent in responding to your questions was to clarify whether Bill Tam had provided the Commissioners with all the necessary info to make an informed decision. My concern is that many of the stakeholders in North Kona, have provided this info to CWRM/Bill Tam/Katie Ersbak, but

it doesn't appear that the Commissioners are aware of this info. If this is not the case, then I'm okay. If you have not been provided with this info, then I am gravely concerned. The specific info I am referring to includes:

a. **Senator Schatz letter (9/29/14)**: He encourages NPS' Director Jon Jarvis and Mayor Kenoi to defer the petition/mediate the dispute. Tammy Duchesne told the Waimea Community Assn on 11/13/14 that they will not mediate.

b. **Hawaii County letter (7/10/14)**: This letter clearly states that if the aquifer is designated, they will not install any more meters in the 100,000 acre Keauhou aquifer. Commissioner Starr seems to think this is not correct. He didn't ask DWS to clarify this statement, he merely said that this statement cannot be true, because it wasn't the case on Maui with the lao designation.

c. **Water Board response to CWRM (11/28/14)**: Was this letter in your packets? It addresses the eight criteria, point by point. I wasn't clear if the Commissioners were provided with this info/had read it.

d. **Petitions for Contested Case Hearing**: Were the Commissioners provided with these petitions? I ask this, because in your comments, during the initial phase of the meeting, it did not appear that you had seen these documents (you had mentioned that you were concerned if the petitions did not provide a reference to the Koolau Agriculture decision). As an attorney, I know you are able to process/review much legal data. I think that the issues raised in these petitions are important for the Commissioners to be aware of, even if a contested case is

not an option for the stakeholders to pursue.

Again, I want the Commissioners to clearly understand our frustration and to have access to all the pertinent info. If you took my comments on Wednesday evening as being rude and improper, I apologize. Thank you for your attention to this very important matter to all of us that consider ourselves to be the stewards of the natural resources in West Hawaii.

Riley Smith, P.E.

Riley Smith, P.E.
President/Chief Executive Officer
Lanihau Properties, LLC
[\(808\) 936-7129](tel:(808)936-7129)

--

Denise Antolini
Associate Dean for Academic Affairs
William S. Richardson School of Law
2515 Dole Street, Room 217, Honolulu, HI 96822
Phone: (808) 956-6238
Also Contact: Admin Officer Ja Yun Lee (808) 956-7545



Protect Hawaii's Waters, National Parks, and Communities

D. Neimark to: dlnr.cwrn

12/13/2014 06:05 AM

Sent by: **National Parks Conservation Association**
<npca@npca.org>

Please respond to "D. Neimark"

Dec 13, 2014

Chairman William J. Aila, Jr.
P.O. Box 621
Honolulu, HI 96809

Dear Chairman Aila, Jr.,

Thank you for considering the National Park Service's Water Management Area Petition. I support this petition to ensure that valuable water and Native Hawaiian resources found at Kaloko-Honokohau National Historical Park are protected for generations to come.

I believe that water is a valuable resource in Hawaii, and yet adequate protections don't currently exist for the Keauhou Aquifer that feeds and travels through Kaloko-Honokohau to the sea. As our communities continue to grow, we require the best experience, knowledge, and oversight so that the water from the Keauhou Aquifer will continue to support those who live and work in this area. We also expect our water to be abundant and clean to protect valuable Hawaiian resources. A water management area administered by the Commission on Water Resource Management is our best option to meet these expectations for the long-term.

The Hawaiian people asked the United States government to help us protect Kaloko-Honokohau National Historical Park so that we, and generations to come, can visit, enjoy the land, and keep Hawaiian cultural traditions and history alive. I ask the commission and the State of Hawaii to stand up and help protect this special place, too.

Thank you for considering my request.

Sincerely,

Ms. D. Neimark
6018 N Oakley Ave
Chicago, IL 60659-5237



Protect Hawaii's Waters, National Parks, and Communities

Moriah Smith to: dlnc.cwrn

12/13/2014 08:52 PM

Sent by: **National Parks Conservation Association**

<npca@npca.org>

Please respond to Moriah Smith

Dec 14, 2014

Chairman William J. Aila, Jr.
P.O. Box 621
Honolulu, HI 96809

Dear Chairman Aila, Jr.,

Thank you for considering the National Park Service's Water Management Area Petition. I support this petition to ensure that valuable water and Native Hawaiian resources found at Kaloko-Honokohau National Historical Park are protected for generations to come.

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Thank you for considering my request.

Sincerely,

Mrs. Moriah Smith
58023 Makanale Road
Haleiwa, HI 96712
(808) 217-6112



Protect Hawaii's Waters, National Parks, and Communities

Dawn Mahi to: dlnr.cwrn

12/16/2014 03:27 AM

Sent by: **National Parks Conservation Association**

<npca@npca.org>

Please respond to Dawn Mahi

Dec 16, 2014

Chairman William J. Aila, Jr.
P.O. Box 621
Honolulu, HI 96809

Dear Chairman Aila, Jr.,

Thank you for considering the National Park Service's Water Management Area Petition. I support this petition to ensure that valuable water and Native Hawaiian resources found at Kaloko-Honokohau National Historical Park are protected for generations to come.

I believe that water is a valuable resource in Hawaii, and yet adequate protections don't currently exist for the Keauhou Aquifer that feeds and travels through Kaloko-Honokohau to the sea. As our communities continue to grow, we require the best experience, knowledge, and oversight so that the water from the Keauhou Aquifer will continue to support those who live and work in this area. We also expect our water to be abundant and clean to protect valuable Hawaiian resources. A water management area administered by the Commission on Water Resource Management is our best option to meet these expectations for the long-term.

The Hawaiian people asked the United States government to help us protect Kaloko-Honokohau National Historical Park so that we, and generations to come, can visit, enjoy the land, and keep Hawaiian cultural traditions and history alive. I ask the commission and the State of Hawaii to stand up and help protect this special place, too.

This area is so special and significant. Please help to protect it for our future generations!

Sincerely,

Ms. Dawn Mahi
1889 Mott-Smith Dr
Honolulu, HI 96822-2514
(808) 628-8826



Fwd: Fwd: Keauhou Aquifer Water Management Petition Withdrawal

Aaron Stene to: dlnr.cwrm

12/17/2014 05:34 PM

Please respond to aaron

----- Forwarded Message -----

Subject: Keauhou Aquifer Water Management Petition Withdrawal

Date: Wed, 17 Dec 2014 17:16:54 -1000

From: Aaron Stene <aaron@hawaii.rr.com>

Reply-To: aaron@hawaii.rr.com

To: Tammy_Duchesne@nps.gov, Chris_Lehnertz@nps.gov, Jon_Jarvis@nps.gov, Secretary_jewell@ios.doi.gov, melia_lane-kamahele@nps.gov

Dear Superintendent Duchesne,

I urge the National Park Service and the County of Hawaii enter into mediation regarding the NPS open Keauhou Aquifer water management area petition. If the Keauhou Aquifer (on the Big Island of Hawaii) is designated as a water management area, it will stop all development in the North Kona district.

The Department of Water Supply has stated they'll stop issuing water meters for the foreseeable future, if the NPS's petition is successful. The North Kona water system isn't interconnected with the rest of the island, so DWS doesn't have the luxury of transporting water from other districts. In addition, they have to audit how much existing users there are. New connections will have to go through a contested case hearing process.

This means new development and important public infrastructure projects, such as the new courthouse, college, airport expansion will be delayed or even scrapped. This designation will have a devastating effect on the economy of Kailua-Kona in short. Please drop this petition and enter into mediation with the County of Hawaii regarding this issue.

Sincerely,
Aaron Stene



Protect Hawaii's Waters, National Parks, and Communities

Alice Hendrix to: dlnr.cwrnm

12/18/2014 03:08 PM

Sent by: **National Parks Conservation Association**

<npca@npca.org>

Please respond to Alice Hendrix

Dec 18, 2014

Chairman William J. Aila, Jr.
P.O. Box 621
Honolulu, HI 96809

Dear Chairman Aila, Jr.,

Thank you for considering the National Park Service's Water Management Area Petition. I support this petition to ensure that valuable water and Native Hawaiian resources found at Kaloko-Honokohau National Historical Park are protected for generations to come.

I believe that water is a valuable resource in Hawaii, and yet adequate protections don't currently exist for the Keauhou Aquifer that feeds and travels through Kaloko-Honokohau to the sea. As our communities continue to grow, we require the best experience, knowledge, and oversight so that the water from the Keauhou Aquifer will continue to support those who live and work in this area. We also expect our water to be abundant and clean to protect valuable Hawaiian resources. A water management area administered by the Commission on Water Resource Management is our best option to meet these expectations for the long-term.

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Thank you for considering my request.

Sincerely,

Mrs. Alice Hendrix
PO Box 142
Orangevale, CA 95662-0142



Protect Hawaii's Waters, National Parks, and Communities

Eva Brill to: dlnr.cwrm

12/20/2014 03:32 PM

Sent by: **National Parks Conservation Association**
<nPCA@npca.org>

Please respond to Eva Brill

Dec 20, 2014

Chairman William J. Aila, Jr.
P.O. Box 621
Honolulu, HI 96809

Dear Chairman Aila, Jr.,

Thank you for considering the National Park Service's Water Management Area Petition. I support this petition to ensure that valuable water and Native Hawaiian resources found at Kaloko-Honokohau National Historical Park are protected for generations to come.

I believe that water is a valuable resource in Hawaii, and yet adequate protections don't currently exist for the Keauhou Aquifer that feeds and travels through Kaloko-Honokohau to the sea. As our communities continue to grow, we require the best experience, knowledge, and oversight so that the water from the Keauhou Aquifer will continue to support those who live and work in this area. We also expect our water to be abundant and clean to protect valuable Hawaiian resources. A water management area administered by the Commission on Water Resource Management is our best option to meet these expectations for the long-term.

The Hawaiian people asked the United States government to help us protect Kaloko-Honokohau National Historical Park so that we, and generations to come, can visit, enjoy the land, and keep Hawaiian cultural traditions and history alive. I ask the commission and the State of Hawaii to stand up and help protect this special place, too.

Thank you for considering my request.

Sincerely,

Miss Eva Brill
PO Box 942
Hilo, HI 96721-0942



DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAII

345 KEKŪANAŌ'A STREET, SUITE 20 • HILO, HAWAII 96720

TELEPHONE (808) 961-8050 • FAX (808) 961-8657

December 22, 2014

Commission on Water Resource Management
Attention: William Tam, Deputy Director
Department of Land and Natural Resources
P.O. Box 621
Honolulu, HI 96809

Kaloko-Honokōhau National Historical Park
Attention: Tammy Duchesne, Superintendent
73-4786 Kanalani Street #14
Kailua-Kona, HI 96740

KALOKO-HONOKŌHAU NATIONAL HISTORICAL PARK PETITION TO DESIGNATE KEAUHOU
AQUIFER SYSTEM AREA (NORTH KONA) HAWAII AS A GROUNDWATER MANAGEMENT AREA

Dear Mr. Tam and Ms. Duchesne,

This letter seeks to memorialize the Water Board/Department of Water Supply's ("DWS") understanding of the decision by the Commission on Water Resource Management ("CWRM") on December 10, 2014, and to set forth a proposal regarding the process for complying with the CWRM's directive to participate in good faith mediation.

It is our understanding that the CWRM extended the investigation and study period for the Petition to May 30, 2015:

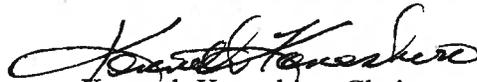
- a. To allow important and ongoing hydrological studies and analysis of the area to be completed;
- b. The DWS is to send the scope of work for the update of the Water Use and Development Plan ("WUDP") to the CWRM by January 15, 2015. The CWRM is to send comments on the scope back to DWS by February 1, 2015;
- c. A draft of the WUDP is to be sent to the Commission by May 15, 2015;
- d. The Kaloko-Honokōhau National Historical Park personnel ("NPS"), DWS and CWRM staff will engage in good faith mediation prior to May 30, 2015;
- e. The public will be allowed until January 30, 2015, to respond to legal and factual issues raised in the draft Preliminary Findings of Fact and Conclusions of Law as well as those legal and factual issues raised at the December 10, 2014, meeting;
- f. By January 30, 2015, NPS will address the existence of traditional and customary rights at the Kaloko-Honokōhau National Historical Park and how they are being affected (CWRM staff will address T & C rights under the existing permitting scheme); and
- g. By May 30, 2015, DWS is to create a plan with a timeline and funding methodology for infrastructure improvements to source, storage and well development to alleviate the chlorides within the basal sources in the aquifer.

... Water, Our Most Precious Resource ... Ka Wai A Kāne ...

In order to fulfill the CWRM's directive to engage in good faith mediation, the DWS proposes that CWRM, NPS and DWS work through Senator Schatz's office to identify a qualified mediator, with the mediation costs being equally split amongst the three parties. If you do not agree to that, we proposed utilizing the services of Dispute Prevention & Resolution, Inc., ("DPR"), 1003 Bishop Street, Pauahi Tower, Suite 1155, Honolulu, HI 96813, and split the mediation costs equally amongst the three parties. We believe DPR has a process to choose a mediator we all agree upon.

Please indicate below whether you concur with the recitation of CWRM's directives/timeline as set forth above and whether you agree to the use of either Senator Schatz's office or DPR.

Sincerely yours,


Kenneth Kaneshiro, Chairperson
Water Board

KAG:jms

copy - Honorable William P. Kenoi, Mayor

This portion to be completed by William Tam, Deputy Director:

I agree that the above is an accurate statement of CWRM's directives/timeline _____

I agree to use Senator Schatz's office _____ or DPR _____ [Check one]

This portion to be completed by Tammy Duchesne, Superintendent:

I agree that the above is an accurate statement of CWRM's directives/timeline _____

I agree to use Senator Schatz's office _____ or DPR _____ [Check one]



Protect Hawaii's Waters, National Parks, and Communities

Ghazale Jamsheed to: dlnr.cwrn

12/22/2014 12:11 PM

Sent by: **National Parks Conservation Association**

<npca@npca.org>

Please respond to Ghazale Jamsheed

Dec 22, 2014

Chairman William J. Aila, Jr.
P.O. Box 621
Honolulu, HI 96809

Dear Chairman Aila, Jr.,

Thank you for considering the National Park Service's Water Management Area Petition. I support this petition to ensure that valuable water and Native Hawaiian resources found at Kaloko-Honokohau National Historical Park are protected for generations to come.

I believe that water is a valuable resource in Hawaii, and yet adequate protections don't currently exist for the Keauhou Aquifer that feeds and travels through Kaloko-Honokohau to the sea. As our communities continue to grow, we require the best experience, knowledge, and oversight so that the water from the Keauhou Aquifer will continue to support those who live and work in this area. We also expect our water to be abundant and clean to protect valuable Hawaiian resources. A water management area administered by the Commission on Water Resource Management is our best option to meet these expectations for the long-term.

The Hawaiian people asked the United States government to help us protect Kaloko-Honokohau National Historical Park so that we, and generations to come, can visit, enjoy the land, and keep Hawaiian cultural traditions and history alive. I ask the commission and the State of Hawaii to stand up and help protect this special place, too.

Thank you for considering my request.

Sincerely,

Ms. Ghazale Jamsheed
145 Parsons St
Brighton, MA 02135-2150



Protect Hawaii's Waters, National Parks, and Communities

Dena Leavengood to: dlnr.cwrwm

01/01/2015 09:08 AM

Sent by: **National Parks Conservation Association**

<npca@npca.org>

Please respond to Dena Leavengood

Jan 1, 2015

Chairman William J. Aila, Jr.
P.O. Box 621
Honolulu, HI 96809

Dear Chairman Aila, Jr.,

Thank you for considering the National Park Service's Water Management Area Petition. I support this petition to ensure that valuable water and Native Hawaiian resources found at Kaloko-Honokohau National Historical Park are protected for generations to come.

I believe that water is a valuable resource in Hawaii, and yet adequate protections don't currently exist for the Keauhou Aquifer that feeds and travels through Kaloko-Honokohau to the sea. As our communities continue to grow, we require the best experience, knowledge, and oversight so that the water from the Keauhou Aquifer will continue to support those who live and work in this area. We also expect our water to be abundant and clean to protect valuable Hawaiian resources. A water management area administered by the Commission on Water Resource Management is our best option to meet these expectations for the long-term.

The Hawaiian people asked the United States government to help us protect Kaloko-Honokohau National Historical Park so that we, and generations to come, can visit, enjoy the land, and keep Hawaiian cultural traditions and history alive. I ask the commission and the State of Hawaii to stand up and help protect this special place, too.

Thank you for considering my request.

Sincerely,

Ms. Dena Leavengood
3007 W Chapin Ave
Tampa, FL 33611-1636



Protect Hawaii's Waters, National Parks, and Communities

Barb Drake to: dlnr.cwrm

01/05/2015 07:20 AM

Sent by: **National Parks Conservation Association**
<npca@npca.org>

Please respond to Barb Drake

Jan 5, 2015

Chairman William J. Aila, Jr.
P.O. Box 621
Honolulu, HI 96809

Dear Chairman Aila, Jr.,

Thank you for considering the National Park Service's Water Management Area Petition. I support this petition to ensure that valuable water and Native Hawaiian resources found at Kaloko-Honokohau National Historical Park are protected for generations to come.

I believe that water is a valuable resource in Hawaii, and yet adequate protections don't currently exist for the Keauhou Aquifer that feeds and travels through Kaloko-Honokohau to the sea. As our communities continue to grow, we require the best experience, knowledge, and oversight so that the water from the Keauhou Aquifer will continue to support those who live and work in this area. We also expect our water to be abundant and clean to protect valuable Hawaiian resources. A water management area administered by the Commission on Water Resource Management is our best option to meet these expectations for the long-term.

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Thank you for considering my request.

Sincerely,

Ms. Barb Drake
10748 Evanston Ave N
Seattle, WA 98133-8838



National Park Service
U.S. Department of the Interior

Kaloko-Honokōhau
National Historical Park

73-4786 Kanalani Street # 14
Kailua-Kona, Hawai'i 96740

808 329-6881 Phone
808 329-2597 Fax

Kaloko-Honokōhau

IN REPLY REFER TO:
L54 2015-01

January 8, 2015

G. Rick Robinson, Chairperson
County of Hawai'i, Board of Water Supply
345 Kekūanaō'a Street, Ste. 20
Hilo, HI 96720

William Tam, Deputy Director
Commission on Water Resource Management
P.O. Box 621
Honolulu, HI 96809

Subject: Petition to Designate Keauhou Aquifer System Area, Kona, Hawai'i as a Ground Water Management Area, Preliminary Order dated December 29, 2015

Dear Mr. Robinson and Mr. Tam:

This letter is in response to a letter, dated December 22, 2014, that I received from former Hawai'i County Board of Water Supply Chair Kaneshiro, as well as the above-referenced Preliminary Order, which was issued on December 31, 2014. I am including the Commission on Water Resource Management in this response because of the indispensable role that the Commission has in the management of the state's groundwater for the protection of public trust resources and traditional and customary Native Hawaiian practices. As anticipated in the Chair's letter, the Order requests that our agencies, with the participation of the Commission staff, explore and, if possible, negotiate alternatives to the designation of a Water Management Area.

We propose the following guidelines for the discussions requested in the Order:

- That there be an express acknowledgement at the outset of the discussions that the principal goals of the discussions are to protect water-dependent public trust resources in Kaloko-Honokōhau National Historical Park and throughout the Keauhou Aquifer System, to accommodate existing and future domestic uses of water, and to allow for the use of groundwater to meet current and future municipal needs in a manner compatible with the obligations of the state and county to protect public trust resources;
- That the initial objective of the discussions is to explore the possibility of creating a legally enforceable alternative management framework capable of effectively protecting the water-dependent public trust resources from the potential adverse effects of groundwater withdrawals by regulating the location and pumping of current and future groundwater pumping wells. For instance, this in part could be achieved through the

designation of a county-regulated special management area for the protection of public trust resources within the area of Keauhou Aquifer System;

- Agenda items for the initial discussions could include, but not necessarily be limited to the following:
 - Acknowledging the principal goals of the discussions;
 - Recognizing the essential elements of an alternative management framework;
 - Developing an understanding of how traditional and customary Native Hawaiian rights are assessed by the Commission under the existing permitting regime for non-designated areas;
 - Learning about what state and county authorities, other than Water Management Area designation, could be used to manage the location and rate of groundwater withdrawals;
 - Exploring means by which the approval of existing groundwater withdrawals could be expedited within the context of any future management framework; and,
 - The production of agreed-upon minutes, including details regarding any action items and informal agreements, of any discussions among the participants.

In reference to the suggestion that the services of an outside facilitator be employed, we do not believe that such assistance is necessary. Instead, we suggest that the discussions start with a few representatives from the Commission staff, the Department of Water Supply and the National Park Service. I look forward to working with you on scheduling of an initial meeting and completing an agenda for such a meeting. Please do not hesitate to contact me at 808-329-6881 x1201, or Paula Cutillo at 970-225-3537, if there is anything you would like to discuss further.

Sincerely,



FOR
Tammy Ann Duchesne
Superintendent



National Park Service
U.S. Department of the Interior

Kaloko-Honokōhau
National Historical Park

73-4786 Kanalani Street # 14
Kailua-Kona, Hawai'i 96740

808 329-6881 Phone
808 329-2597 Fax

Kaloko-Honokōhau

IN REPLY REFER TO:
L54 2015-01

January 8, 2015

G. Rick Robinson, Chairperson
County of Hawai'i, Board of Water Supply
345 Kekūanaō'a Street, Ste. 20
Hilo, HI 96720

William Tam, Deputy Director
Commission on Water Resource Management
P.O. Box 621
Honolulu, HI 96809

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Sincerely,



FOR

Tammy Ann Duchesne
Superintendent

Precautionary Principle and Decision-Making

The premise of the National Park's petition for groundwater management area designation is that withdrawal from wells in the high level aquifer will impact the anchialine ponds, fishponds and native Hawaiian practices.

Precautionary Principle

The National Park invokes the 'Precautionary Principle' whenever it references its petition ... So, what does Precautionary Principle really mean and when does it apply? Here's what World Commission on the Ethics of Scientific Knowledge and Technology (COMEST - set up by UNESCO) suggests:

"In its most basic form, the Precautionary Principle is a strategy to cope with scientific uncertainties in the assessment and management of risks. ... The Precautionary Principle is often seen as an integral principle of sustainable development, that is development that meets the needs of the present without compromising the abilities of future generations to meet their needs."

The National Park suggests, "The absolute certainty of danger to the water resources of an area is not a prerequisite for designation. For in keeping with the intent of the precautionary principle, the Water Code only requires that the subject area's water resources 'may be threatened' by existing or proposed withdrawals or diversions of water."

Under the Precautionary Principle, the Premise Must Be Plausible

However, what the National Park either fails to recognize, or chooses to ignore, is that the Precautionary Principle is not open-ended to every claim or suggestion that if something 'may' cause harm it must be immediately stopped or dealt with.

As further noted by COMEST, "the grounds for concern that can trigger the Precautionary Principle need to be plausible or tenable (that is, not easily refuted.) ... If a hypothesis requires one to reject widely accepted scientific theories and facts, then it is not plausible."

State Law Also Requires Reasonable, Science-Based Decision-Making

This principle of relying on realistic decision-making using best available science is also the core of the Water Code related to the water management area designation process.

Science is the foundation of the Water Commission's water management area designation decision-making. State Law (§174C-41) states that designation of water management areas shall occur "when it can be reasonably determined, after conducting scientific investigations and research, that the water resources in an area may be threatened by existing or proposed withdrawals".

National Park Says They Have No Evidence That Existing Pumping Has Had Adverse Impact

What's odd in this is that the Park's own scientist, **Paula Cutillo, Ph.D., Hydrologist for the National Park Service**, concluded there is no evidence of impact. She stated:

"The water resources in the Park include the coral reefs, two fish ponds and a fish trap, over 185 anchialine pools and wetlands. ... These resources are relatively healthy; we have no evidence that existing pumping has adversely affected these resources." (August 27, 2014, Kona Water Roundtable)

This was later confirmed by **Tammy Duchesne, the Park Superintendent** (who submitted the petition,) who stated:

"We do not have any evidence that pumping wells have adversely affected water resources in the park." (November 15, 2014, e-mail)

Other Scientists Also Say There is No Evidence of Harm from Existing Pumping

UH Research Faculty, Dr Donald Thomas, Ph.D., concluded the same:

“(N)either the National Park Service, or anyone else’s field data has shown a likely impact from use of high level water to supply the Kona residents. ... Contrary to what the National Park suggests, scientific evidence shows that withdrawals of water from the high level aquifer will most likely have a negligible impact on the makai aquifer at the National Park.”

Tom Nance, Hydrologist:

“Pumping high level groundwater from the Keauhou Aquifer in the area from Keāhole Point to above Kailua Town started in 1994 and has been continuous for the last 20 years. Over that period of time, comprehensive water level monitoring and salinity profiling has been conducted in downgradient basal wells.”

“If pumping the high level aquifer was impacting the basal lens, it would be evident as declining basal water levels and increasing salinity due to a shrinking of the lens. No such effects are evident in the data collected to date. This conclusion is consistent with the limited monitoring efforts by the National Park Service of its three shallow monitor wells.”

These findings are consistent with a cooperative study ‘**Summary of Scientific Research on the Northern Section of the Keauhou Aquifer System**’ by groundwater geologist Steve Bowles, hydrologist Tom Nance, Dr. Steve Dollar & Dr. Richard Brock that shows a similar ‘no negative impact’ result. They note:

“The findings of these studies come to a consistent conclusion: no evidence collected to date indicates that withdrawals of groundwater resources from the high-level and basal aquifers in the northern section of the Keauhou Aquifer System have negatively impacted basal groundwater, the ponds, and the nearshore marine waters.”

Claims Must Be Plausible or Tenable (not easily refuted) to Trigger Precautionary Principle

Again, as COMEST notes, “the grounds for concern that can trigger the Precautionary Principle need to be plausible or tenable (that is, not easily refuted.) ... If a hypothesis requires one to reject widely accepted scientific theories and facts, then it is not plausible.”

So, the National Park acknowledges the lack of science to substantiate their claim and other scientists have come to similar conclusions that there is no evidence of impact from pumping from high-level wells. It appears the National Park’s claims are not plausible - this is contrary to the grounds for triggering the Precautionary Principle.

Designation Should be the Action of Last Resort

Rather than presenting plausible scientific findings that support their claims, or even working cooperatively and sitting down with the parties affected by water management area designation, Kaloko-Honokōhau National Historical Park chooses the confrontational intervention/litigious approach (irrespective of what the science says.)

The National Park suggests that in the absence of designation, “the Commission is powerless to protect the public interest in the state’s water resources.” Of course, that is not true, either. The Water Commission has and uses many tools in protecting Hawai’i’s water resources - designation is typically the last tool it uses.

Water Commission rules include mediation as an alternative dispute resolution; the rules also call for pre-designation discussions to assess the water situation and devise mitigation measures.

Park personnel have refused to meet with the County, as well as participate in mediation to resolve the conflicts.

Preliminary Order Response
1/20/2015 email from:

herbkai to : roy hardy

Cc : paul r eyre, jeff zimpfer

Herbert A Kai Sr. Trust
2053 NE Norrland Court
Poulsbo, Washington 98370
360.779.4577
herbkai@comcast.net
January 20, 2015

Commission on Water Resource Management, DLNR-SOH
P.O. Box 621
Honolulu, Hawai'i

Subj: Subj: Ground Water Management Area Designation, Keauhou Aquifer System Area, North
Kona, Island of Hawai'i.
P Preliminary Order, December 29, 2014

Ref: a. My letter to CWRM of 8 December 2014
b. CWRM Preliminary Order WMA 2013-1 to several parties of 29 December 2014

Reference a. is my input for CWRM meeting on December 10, 2014. Reference b. mandates National Park Service and County of Hawai'i to satisfy stipulated recommendations and benchmarks per findings of facts at December 10, 2014 CWRM meeting.

As for NPS, I believe that having aina based education but expanded, such as the charter school programs sponsored by Kamehameha Schools Bishop Estate and corroboration with Kohala Center, would satisfy CWRM requirement/benchmark to provide "specific traditional and customary practices that could be exercised in the Kaloko-Honokohau National Historical Park". Though sponsored by and conducted on KSBE land, the programs emphasize traditional and customary practices that could be adopted at the Park. Further, the Hawaiian Cultural Influences (HCIE) study between Kamehameha Schools, the Hawai'i Department of Education (DOE) and Na Lei Na'auao, an alliance of Hawaiian-focused public charter schools, could provide further guidance. And, the Park would than be a model for other Hawai'i NPS sites, though NPS has similar teaching sites nationwide.

The criteria in the Petition for Water Management Area Action for Ground Water PWMAA Form (02/25/2004) (1) – (8) do not guarantee a balanced, healthy fishery/fishpond ecosystem. These criteria ensure quantity and quality fresh water for human consumption, first...everything else second. In “traditional and customary Hawaiian practice”, a healthy, balanced environment is the key to a flourishing ecosystem, including fishponds/fisheries. As a by, the hands-on criteria I learned at age 12 on running a fishpond (three, actually) used the traditional and customary Hawaiian practices. Besides, the extraction of fresh water from the Keahou Aquifer affects more than the Kaloko-Honokohau Park ecosystem. Ahapuaa from Keahou to Kaloko, under which the Keahou Aquifer lies, are affected by this fresh water withdrawal.

‘Twas about 1950 when my Dad and cousins began exposing me to aina-based, fishpond/fishery management. We looked at (I dived where permitted) the ponds in Punalu’u, Keaukaha, Puumaile, Puako, Honokohau; Wailoa River in Hilo; Lyman’s Pond in Kapoho; Ice Pond in Hilo; 4 Miles Beach, Sam Pa’s pond, and Richardson’s Pond in Keaukaha. I looked and noted what seemed to make these pond healthy and productive. There were sea turtles, fish, damsel flies, and positive flow of fresh water from underwater springs. Fortunately, Dr. Noelani Puniwai, a Mellon Fellow with Kohala Center, who in studying off-shore currents noted that abundant fresh water flow from Wailoa River has an effect on currents and Hilo Bay ecosystem.

In my on-the-job, aina based learning, I saw that there are indicators for healthy fishponds/fisheries. FRESH WATER FLOW from land-to-sea aerates, circulates, cleanses, tempers the fishpond/fishery; and invites life into the shoreline/estuary. I also learned to search for crabs, opae, o’opu, gobi, frogs that scavenge the bottom. I’d ask is there a stiff onshore morning breeze that changes to offshore breeze in the afternoon to circulate the pond water? Are there grasses/rushes for dragonflies to lay eggs, which mullet and other organisms eat? Is the bottom rocky or silty and tapers from shallow to deep or abrupt? Are there shoreline shrubs/trees to provide shade, rest area, and barriers to poachers’ nets and fishing lines? How strong is the flow of fresh water; and does the flow form thermal barrier/layers? How brackish and cold/warm is the water? I’d go into the pond and run my toes through the bottom; dive at random spots to feel and taste the water; open my eyes to check turbidity. We did not use ‘millions of gallons per day’ of water used; isotope, faults, basins, hydrology, etc. studies.

Today, the remaining fishponds/fisheries are show places at many hotels/resorts. Many are not working fishponds/fisheries. The emphasis there is on the water code for consumptive use, not non-consumptive use. Besides working with NPS and COH to satisfy the recommendations and benchmarks, I urge CWRM, COH and NPS corroborate a petition to the state legislature for a change in the Water Code and PWMAA Form (02/25/2004) (1) – (8). Criteria supporting water allocation for non-consumptive use must be included. Though SOH allows the CWRM to liberally interpret the Water Code to obtain maximum beneficial use, there should be provisions made for the protection of traditional and customary Hawaiian rights/practices.

Sincerely,

Herbert A. Kai, Trustee

William P. Kenoi
Mayor



Walter K.M. Lau
Managing Director

Randall M. Kurohara
Deputy Managing Director

County of Hawai'i Office of the Mayor

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January 29, 2015

National Park Service
Kaloko-Honokōhau National Historical Park
Attn: Tammy Ann Duchesne, Superintendent
73-4786 Kanalani Street #14
Kailua-Kona, Hawai'i 96740

RE: *Petition to Designate Keauhou Aquifer System Area, Kona, Hawai'i as a Ground Water Management Area, Preliminary Order dated December 29, 2015*

Aloha, Ms. Duchesne,

Thank you for your letter dated January 8, 2015 to G. Rick Robinson, Chairperson of the Water Board of the County of Hawai'i and William Tam, Deputy Director of the Commission on Water Resource Management ("CWRM").

We look forward to joining with the Kaloko-Honokōhau National Historical Park, as requested by the Commission on Water Resource Management, in a good-faith effort to explore all possible alternative paths of action other than ground water designation of the Keauhou Aquifer. To facilitate this effort, we respectfully urge the representatives of Kaloko-Honokōhau National Historical Park to reconsider, and join with us in mediation as proposed by former Water Board Chair Kaneshiro in his December 22, 2014 letter.

We would also like to remind representatives of the Kaloko-Honokōhau National Historical Park that we are all committed to protecting the resources of the Keauhou Aquifer. We note the commission's preliminary findings of fact, which concluded that "the record does not support a claim that a serious harm is likely to occur or that problems will arise due to water salinity rather than management practices under the control of NPS."

Kaloko-Honokōhau National Historical Park

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We are prepared to engage in a cooperative effort to find new ways to continue to protect the aquifer, and hope the Kaloko-Honokōhau National Historical Park staff will join with us in this process without demanding that the other participants submit to extensive preconditions.

We appreciate your concern for our natural and cultural resources, and look forward to joining with you and the commission staff in a productive mediation process.

Aloha,

A handwritten signature in black ink, consisting of several loops and a long horizontal stroke extending to the right.

William P. Kenoi
MAYOR

cc: William Tam, Deputy Director, Commission on Water Resource Management
G. Rick Robinson, Chairperson, Water Board of the County of Hawai'i
✓ Quirino Antonio, Jr., Manager-Chief-Engineer, Department of Water Supply, County of Hawai'i

January 30, 2015

Via E-Mail

Carty S. Chang, Acting Chairperson
Commission on Water Resource Management
P.O. Box 621
Honolulu, Hawai'i 96809

Additional Submittal of National Parks Conservation Association:
National Park Service Proposal to Designate the Keauhou Aquifer as a Water
Management Area to Protect the Kaloko-Honokōhau National Historical Park

Dear Chairperson Chang:

We are grateful for the Commission's consideration of the letters submitted on behalf of the National Parks Conservation Association ("NPCA") on October 30, 2014 and December 8, 2014. In these letters, NPCA declared its support for the National Park Service's ("NPS") petition ("Petition") to designate the Keauhou aquifer system ("Aquifer") as a water management area ("WMA") in order to protect the Kaloko-Honokōhau National Historical Park ("Park"). Thank you also for allowing Karen Nardi to present additional comments at the December 10, 2014 Commission meeting.

This letter responds to paragraph 7 of the Commission's December 29, 2014 preliminary order ("Preliminary Order"). Paragraph 7 asks members of the public to submit any additional information regarding the petition by January 30, 2015. We submit this letter, again on behalf of NPCA, to further clarify some of the legal and policy issues surrounding this designation.

An understanding of the law that governs the decision of the Commission on this Petition is of critical importance, especially to the negotiations the Commission has asked some of the stakeholders to undertake. We strongly recommend, as other commenters have, that the Commission ask its counsel or the Hawaii State Attorney General to provide its own legal analysis of the issues presented. It would be helpful to all involved if the Commission would present its own legal analysis by March 1, 2015.

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1.0 The Commission’s Duty Under the Water Code Is to Protect, Control, and Regulate the Use of Hawaii’s Water Resources for the Benefit of Its People.

The Hawaii Water Code was enacted in 1987 under a constitutional mandate. Article XI, section 7 of the Hawai‘i Constitution provides that the “State has an obligation to protect, control, and regulate the use of Hawaii’s water resources for the benefit of its people.” The Constitution also imposes upon the State an “affirmative *duty* to take the public trust into account in the planning and allocation of water resources, and to protect public trust uses whenever feasible.” *In Re Use Water Permit Application*, 94 Haw. 97, 141 (2000).

The Code established the Commission on Water Resource Management and bestowed upon it “*exclusive jurisdiction* and final authority in all matters relating to implementation and administration of the state water code.”¹ The framers directed the Commission to implement the Code “in a manner which conforms with intentions and plans of the counties in terms of land use planning.”² In doing so, the framers intended that the Commission act to ensure that there is sufficient water to provide for both development and public trust purposes. The central feature of the Code is a water use permit process to ensure all of the substantive water rights established under the common law and the Hawai‘i Constitution.

The Code establishes a two-phase process for regulating water use. The first phase is WMA designation, and requires the Commission to conduct scientific investigations, consider statutory criteria, consult the county mayor and water board, and conduct a public hearing upon published notice to determine whether to designate a watershed as a WMA “for the purpose of establishing administrative control over the withdrawals and diversions of ground and surface waters in the area to ensure reasonable-beneficial use of the water resources in the public interest.”³

The second stage of the regulatory scheme -- state administrative control through water use permitting -- is triggered only after the Commission has designated a water management area. “In other words, the Commission has no authority to regulate water

¹ Haw. Rev. Stat. § 174C-7(a) (emphasis added).

² *Id.* § 174C-2(e).

³ *Id.* §§ 174C-(41) through (45).

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use through permitting in an undesignated area.” *Ko’olau Agr. Co. v. Comm’n of Water Res. Mgmt.*, 83 Haw. 484, 491 (1996).⁴

1.1 Negotiation is Not a Substitute for the Commission’s Duty to Designate Groundwater Management Areas Where There is Evidence of a Threat.

In its Preliminary Order, the Commission requested the Board of Water Supply, County of Hawai’i (“the County”) and the National Park Service to meet and “explore and negotiate alternative paths of action, other than ground water designation of the Keauhou aquifer to address the issues in these proceedings.”⁵ The Commission requested that the County and NPS “report back to the Commission on the status of the discussions not later than May 4, 2015.”⁶

As an initial matter, we note that although negotiation of disputes is a positive goal, it cannot supplant the Commission’s duty to designate an aquifer for protection and to put it into the state administrative permit system where there is evidence of a threat to the resource.

We commend the County and the National Park Service for their efforts to enter into constructive dialogue, as requested by the Commission in its Preliminary Order. We note that the National Park Service has spent years directly engaging all interested agencies and parties, including the Commission and County, in various forms of constructive dialogue and negotiations, and exhausted available options before filing its Petition.

We do not know whether the National Park Service will be able to reach an interim agreement with the County that would persuade NPS to temporarily defer its Petition. But NPCA would not support such an outcome unless it could be persuasively

⁴ In an undesignated area, permits are required for well construction and pump installation. *See id.* § 174C-84(a) (“No well construction and no installation of pumps and pumping equipment shall commence without appropriate permit from the commission.”). However, these permits do not allow the Commission to regulate the use of water withdrawals and diversions after the wells are constructed. *See id.*

⁵ Preliminary Order at ¶ 5.

⁶ *Id.*

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demonstrated that an interim agreement would be fully protective of the water resources and the Park, would be legally enforceable, and would preserve the right of any party to seek a designation if the interim agreement were shown not to meet those standards.

The Water Code gives the Commission “exclusive jurisdiction and final authority in all matters relating to implementation and administration of the state water code.”⁷ The Code also assigns the Commission “jurisdiction to hear any dispute regarding water resource protection, water permits, or constitutionally protected water interests.” *In re Water Use Permit Applications*, 94 Haw. at 172.⁸ Thus, the legislature clearly intended that the Commission act as final arbiter on disputes regarding water resource protection, not the County which only has jurisdiction over wells it drills as a public purveyor of water.

Accordingly, particularly in light of the many years during which efforts at negotiation have been unsuccessful, unless NPS asks the Commission to defer action in light of progress being made, the Commission should act without delay and grant the Petition.

2.0 The Legal Standards for Designating a Groundwater Management Area.

2.1 A Designation Is Mandatory If Water Resources May Be Threatened.

The Commission shall designate a water management area “[w]hen it can be reasonably determined, after conducting scientific investigations and research, that the water resources in that area **may be threatened** by existing or proposed withdrawals or diversions of water.”⁹ The Commission must consider eight criteria when deciding whether to designate a groundwater management area. But, regardless of whether any of the eight criteria are met, the Commission should designate a WMA when it can be reasonably determined that there is threat of harm. *See Ko'olau Agr. Co.*, 83 Haw. at 490-91. In other words, consideration of the eight criteria is a *procedural* requirement intended to gather information, and not one that dictates a particular outcome.

⁷ Haw. Rev. Stat. § 174C-7(a).

⁸ *See also* Haw. Rev. Stat. § 174C-10.

⁹ Haw. Rev. Stat. § 174C-41(a) (emphasis added).

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2.2 The Commission Shall Consider Eight Groundwater Management Area Designation Criteria.

There are eight ground water criteria¹⁰ that the Commission “shall consider” in designating a groundwater management area:

- (1) Whether an increase in water use or authorized planned use may cause the maximum rate of withdrawal from the ground water source to reach ninety per cent of the sustainable yield of the proposed ground water management area;
- (2) There is an actual or threatened water quality degradation as determined by the department of health;
- (3) Whether regulation is necessary to preserve the diminishing ground water supply for future needs, as evidenced by excessively declining ground water levels;
- (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;
- (5) Whether the chloride contents of existing wells are increasing to levels which materially reduce the value of their existing uses;
- (6) Whether excessive preventable waste of ground water is occurring;
- (7) Serious disputes respecting the use of ground water resources are occurring; or
- (8) Whether water development projects that have received any federal, state, or county approval may result, in the opinion of the commission, in one of the above conditions.

As explained above, while the Commission must consider these eight criteria, “regardless of how many or how few of the criteria are applicable, the Commission *shall* designate an area as a WMA when it can be reasonably determined ... that the water resources in an

¹⁰ *Id.* § 174C-44.

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area may be threatened by existing or proposed withdrawals or diversions of water.”
Ko'olau Agr. Co., 83 Haw. at 490-91(emphasis added).

2.3 The Commission Must Designate When There Is Evidence of Threat of Harm, and Not Wait Until There is a Crisis.

The standard for WMA designation is low, and intentionally so -- the purpose is to err on the side of protecting the resource. The Commission must designate “when it can be reasonably determined, after conducting scientific investigations and research, that the water resources in an area *may be threatened* by existing or proposed withdrawals or diversions of water.”¹¹

It is not necessary that all, or even most, of the eight statutory criteria are met. *Ko'olau Agr. Co.*, 83 Haw. at 490-91. Moreover, the Code does not require that an aquifer be imperiled before it may be designated. Instead, it sets a low threshold for action, mandating designation *before* the aquifer is in crisis.

As the Hawaii Supreme Court has noted, “[t]he constitutional framers and the legislature designed the Commission as an instrument for judicious planning and regulation, rather than crisis management.” *In re Water Use Permit Applications*, 94 Haw. at 97. The drafting legislature opined that “the water code should serve as a tool and an incentive for planning the wise use of Hawaii’s water resources, rather than as a water crisis and shortage management mechanism.” *Id.* at n.107 (quoting the Standing Committee Report No. 348 in the 1987 House Journal, at 1262-63).

2.4 The Commission Should Designate the Aquifer Even in the Face of Scientific Uncertainty Under the Precautionary Principle.

The Commission cannot wait to designate until there is full scientific certainty and consensus that the Aquifer is already harmed or will become threatened. The Commission must designate “[w]hen it can be reasonably determined, after conducting scientific investigations and research,” that “there is factual data to warrant the proposed designation.”¹²

¹¹ Haw. Rev. Stat. § 174C-41(emphasis added).

¹² *Id.*

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Moreover, the Hawai‘i Constitution requires the Commission to act in accordance with the precautionary principle, which states, “where scientific evidence is preliminary and not yet conclusive regarding the management of...water resources which are part of the public trust...lack of full scientific certainty should not be a basis for postponing effective measures to prevent environmental degradation.” *In Re Use Water Permit Application*, 94 Haw. at 114. *See also id.* at 156 (“[T]he precautionary principle merely restates the Commission’s duties under the constitution and Code...[and] the lack of full scientific certainty does not...vitiate the Commission’s affirmative duty to protect such [public trust] purposes”).

In sum, the Commission should not delay until it has received a definite authorized planned use calculation or until all interested parties have agreed upon the proper method for calculating sustainable yield. In fact, any remaining uncertainties must be resolved in favor of designation under the precautionary principle.

2.5 The Commission Must Act to Protect Public Trust Resources When Considering Designation.

The Commission must also consider its constitutional duties to protect public trust resources when contemplating designation of a groundwater management area. As described above, the Constitution imposes upon the Commission an affirmative duty to preserve the rights of present and future generations in the waters of the state. *In re Water Use Permit Applications*, 94 Haw. at 141.

The public trust doctrine applies with equal force to groundwater as it does to surface water. *Id.* at 135.

The Hawai‘i Supreme Court has identified three valid trust purposes which the Commission is duty-bound to protect against competing interests in the State’s water resources:

- (1) Water resource protection, including the “maintenance of waters in their natural state”;
- (2) Domestic use protection, particularly drinking water; and
- (3) Exercise of native Hawaiian and traditional and customary rights.

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Id. at 136-138.

In an undesignated area, there is no existing protection for these public use purposes. The only regulatory framework in place requires the issuance of permits for well construction and pump installation,¹³ and these permits are issued without any analysis of the effects on the public trust uses. Thus, the Commission must seriously consider whether it is violating its constitutional public trust duties if it chooses to leave a threatened water resource undesignated. Indeed, the Hawai‘i Supreme Court has vacated Commission decisions where the Commission did not adequately protect public trust resources.¹⁴

3.0 Designation is Warranted Based on Evidence Presented During This Proceeding.

The legal standards for designation are clear. The Commission must designate when it can be reasonably determined, according to the available data, that the Aquifer may be threatened by existing or proposed water use. The Commission must consider eight criteria in determining whether designation is warranted. But, regardless of how many or how few of the criteria are met, the Commission must designate when there is evidence of a threat of harm to the Aquifer. The Commission need not require complete scientific certainty when making its decision. If there is scientific uncertainty, it must act to protect the resource under the precautionary principle. Finally, the Commission must affirmatively act to protect public trust purposes, including the protection of water in “its natural state” when making its designation decision concerning the Aquifer.

Here, uncontradicted facts show that designation is legally appropriate under the existing legal framework.

3.1 The Staff Findings of Fact Show that At Least Three of the Eight Criteria for Groundwater Designation Have Been or May Be Met.

The Commission’s Staff considered the eight statutory criteria as a component of its evaluation of the existing data, analyses, and studies of the Keauhou hydrology,

¹³ See Haw. Rev. Stat. § 174C-84.

¹⁴ E.g., *In Re Iao Ground Water Mgt. Area High-Level Source Water Use Permit Applications*, 128 Haw. 228 (2012); *In Re Waiola o Molokai, Inc.*, 103 Haw. 401 (2004).

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biology, and projected water demand. After considering the available data, the Staff published its findings on December 10, 2014. According to these Findings of Fact, at least three of the eight criteria for groundwater designation are currently met or may be met. Therefore, according to the Staff's own findings, there is evidence of a threat. These criteria are:

- 2) **Criterion #4:** Whether existing withdrawals are endangering the stability of the resource due to upconing or encroachment of saltwater;
- 3) **Criterion #5:** Whether the chloride content of existing wells are increasing to levels which reduce their values; and
- 4) **Criterion #6:** Whether excessive preventable waste is occurring.

3.1.1 Criterion #4: Saltwater Encroachment

Criterion #4 directs the Commission to consider designation when the “rates, times, spatial patterns, or depths of existing withdrawals of groundwater are endangering the stability or optimum development of the groundwater body due to upconing or encroachment of salt water.”¹⁵

Salinity in portions of the Aquifer has already increased to levels unacceptable for drinking water in some areas. For that reason, the County will be looking upcountry for wells to provide local water needs. This situation goes far beyond the possibility of a threat; actual pumping in the Aquifer at the Kahaluu Shaft has already caused saltwater intrusion so severe that formerly fresh drinking water no longer meets acceptable standards. Separate and apart from the complex issues of the impact of pumping in areas upland of the Park, there is already evidence that the rates of existing withdrawals in the Aquifer at the Kahaluu Shaft are endangering optimum use of the groundwater by rendering it undrinkable.

According to the Staff's Findings of Fact, over pumping at the Kahaluu Shaft, the County's primary source of water in the Aquifer, has lead to saltwater encroachment so severe that new sources of fresh water must be found. Findings of Fact at 59. In their Findings of Fact, the Commission Staff states:

¹⁵ Haw. Rev. Stat. § 174C-44(4).

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Pumping 4 million gallons per day (“mgd”) from the shaft has caused the chloride concentration to reach critical levels....To reduce reliance on the Kahaluu shaft to meet current and projected water demands in Kona over the next 20 years, HDWS plans to develop 8 mgd of potable water from existing and new wells in the high-level area from Kalaoa to Kainaliu.

Findings of Fact at 10.

According to the Findings of Fact in the vicinity of the Kahaluu Shaft, “[w]ater delivered by the [County] is reaching its upper limit of acceptability.” *Id.* NPS has presented additional data that sodium levels in the drinking water from the Kahaluu well field were as high as 185 milligrams per liter (mg/L) in 2011 (contrasted to the 60 mg/L recommended by the U.S. Environmental Protection Agency).¹⁶ Given the historical information about the fresh water formerly found in some of the coastal areas, this encroaching salinity is logically the results of pumping in the Aquifer, both in the coastal and uplands areas.¹⁷

For these reasons, the Findings of Fact made by the Staff provide adequate evidence that Criterion #4 is met and that the Aquifer would benefit by designation so that use of the water resource could be managed through the state administrative permit system.

3.1.2 Criterion #5: Increased Chloride Content

Criterion #5 directs the Commission to consider designation when “the chloride contents of existing wells are increasing to levels which materially reduce the value of their existing uses.”¹⁸

¹⁶ See NPS Petition at 31-33 (citing County of Hawaii, 2011).

¹⁷ See Letter from Herbert A. Kai to Chairperson William Ailā (Dec. 8, 2014), at 2 (“At Kahalu’u, Kane would hand carry water from one of the springs on beach side of Keawaiki Canoe Landing and pour that into the cistern grandpa built to supplement the rainwater Kane used. These flowing fresh water, fresh water springs, brackish water pools, and opae ula ARE GONE...or, at least not easy to find; they’ve been slowly diminishing since the Kahalu’u well was drilled in 1975.”).

¹⁸ Haw. Rev. Stat. § 174C-44(5).

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As noted above, conditions at the Kahaluu Shaft, which is located near the Park to the south, meet this condition. The evidence shows that the Shaft is pumped at 4 million gallons per day, which has caused chloride concentrations to reach “critical levels.” Findings of Fact at 10. The NPS additionally reports that one well located seven miles south of the Park showed elevated chloride levels at the Kahaluu well field as high as 410 mg/L in January 2013 (contrasted to the 250 mg/L recommended by the U.S. Environmental Protection Agency).¹⁹

Given this evidence of saltwater intrusion and increased chloride content, the Commission has sufficient evidence to designate the Aquifer as a WMA.

3.1.3 Criterion #6: Excessive Preventable Waste

Criterion #6 directs the Commission to consider designation when “excessive preventable waste of groundwater is occurring.”²⁰ According to the Findings of Fact, “[t]his condition may be occurring at the high-level wells where water levels have moderately, but steadily declined since the 1990’s.” Findings of Fact at 59. We understand that this “waste” at the high level wells relates to the details of their construction and operation.

Additionally, NPS has presented data that water consumption in North Kona is 1000 gallons per day per single-family residential unit, which is 2.5 times higher than other areas of the County.²¹ Water consumption that is 2.5 times above the normal level is likely the result of inadequate conservation and waste. While there is some dispute as to these statistics, waste could be prevented and controlled by a permitting process that requires well owners or operators to show that such a rate is a reasonable and beneficial use. Prevention of waste is another strong factor that militates in favor of designating the Aquifer as a WMA.

¹⁹ See NPS Petition at 33 (citing County of Hawaii, 2013).

²⁰ Haw. Rev. Stat. § 174C-44(6).

²¹ See NPS Petition at 37 (citing Fukunaga & Associates, Inc. 2010).

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3.2 The Evidence Demonstrates that The Aquifer Will Meet or Exceed 90% of Sustainable Yield Within the Four *Ahupua'a* of the Park.

The Commission is also directed to consider Criterion # 1, which is:

- (1) Whether an increase in water use or authorized planned use may cause the maximum rate of withdrawal from the ground water source to reach ninety per cent of the sustainable yield of the proposed ground water management area.²²

There has been considerable dispute over how to assess authorized planned use, and thus how to calculate the Aquifer's sustainable yield, or capacity.²³ According to the Staff Findings of Fact, projected water use across the entire Keauhou aquifer system over the next 20 years will reach 75% of the Aquifer's sustainable yield. Findings of Fact at 58. Admittedly, this is not sufficient to find that the 90% sustainable yield in Criterion #1 is met.

However, the Staff went on to say that "Kona is a designated growth area," and that other projects *not* included in the projection may add *even more* demand in the next 20 years. *Id.* (emphasis added). For purposes of making the key determination of whether there is a "threat", it is significant that the Aquifer is at even 75% capacity. And

²² Haw. Rev. Stat. § 174C-44(1).

²³ There is some lack of clarity about the precise meaning of "authorized planned use" ("APU"). The Water Code defines "authorized planned use" as "the use or projected use of water by a development that has received the proper state land use designation and county development plan / community plan approvals." Haw. Rev. Stat. § 174C-3. The Code does not define what a "development" is or is not, and does not include a time limit for when a development may occur to be considered "projected water use." It does not provide specific guidance on how the water demands for a particular land use classification might be calculated. Due to the lack of statutory clarity or guidance, the Commission has used a different methodology to calculate APU in each of its past designations. It is unclear whether any of these methods comport with the statutory definition. *See* Testimony of Dr. Jonathan Likeke Scheuer (Scheuer Testimony) at 3 (Dec. 10, 2014). Both the Staff and the National Park Service's expert, Dr. Scheuer, agree that APU cannot be calculated to result in a single number with a clear legal basis. *See id.* at 4; Findings of Fact at 58 ("authorized planned use" is a "moving target that must be monitored and periodically reevaluated").

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we note that most of the aquifers in the State of Hawai‘i that have been designated for protection as WMAs were far below 90% sustainable yield at the time of designation.²⁴

Most importantly, NPS has presented uncontradicted evidence that the projected water use within localized areas of the Aquifer -- specifically, within the four *ahupua‘a*²⁵ found within the Park’s boundaries -- will reach well over 90% of the sustainable yield. This is clear evidence of a threat and legally sufficient to establish that the Aquifer should be designated as a WMA.

The Staff’s conclusions regarding future water use and a projected 75% sustainable yield are an *average* that covers the entire Keauhou aquifer system. However, the evidence presented by NPS shows that projected water use in certain *localized areas* of the system will reach 90% of the sustainable yield in these areas.

Average reported pumping of the existing wells within the four *ahupua‘a* of the Park has already reached 77% of the sustainable yield.²⁶ If the Palani Well, (which is already permitted by the Commission and located directly upgradient of the Park), is pumped at the expected one million gallons per day, pumpage will increase to 98% of the sustainable yield across the Park’s four *ahupua‘a*.²⁷ Finally, if those wells increased pumping to their *maximum* authorized levels as permitted by the Commission, then pumpage will increase to 170% of the sustainable yield of these *ahupua‘a*.²⁸

²⁴ See PowerPoint presentation by Jonathan Likeke Scheuer, Ph.D, to National Park Service, Kona Water Round Table (August 27, 2014), at 21.

²⁵ An *ahupua‘a* is a unit of land running from the mountains to the sea, or watershed. *Ahupua‘a* also refers to the ancient Hawaiian concept of land management -- an approach to managing a watershed based on sustainability, sharing of resources, interdependence and protection of the natural environment. In creating the Park, Congress specifically directed NPS to consult with and enter into agreements with state agencies in order to implement the ancient Hawaiian concept of *ahupua‘a*. See 16 U.S.C. § 396d(d). For a more detailed discussion of the *ahupua‘a* concept and its role in Park management, please see our letter of October 30, 2014.

²⁶ See Letter from Tammy Ann Duschene, Superintendent, National Park Service, to Chairperson William Ailā (Nov. 19, 2014), at 1.

²⁷ *Id.* at 2.

²⁸ *Id.* at 2 (see figure).

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This evidence further demonstrates that authorized planned water use “may cause the maximum rate of withdrawal from the groundwater source to reach 90% of the sustainable yield,” in localized areas of the Aquifer near the Park. It is evidence that there is a threat to the Aquifer in the vicinity of the Park, which is a sound basis to designate the Aquifer and put it into a state administrative state permit system.

3.3 The Facts Show that There Is Evidence of Threat of Harm.

For all the reasons discussed above, adequate evidence has been presented to show that the Commission would be legally correct in designating the Aquifer as a water management area.

3.4 The Facts Show That the Public Trust Is at Risk If the Commission Does Not Designate.

The Commission has an affirmative duty to protect public trust uses of water. There are three valid trust purposes which the Commission is duty-bound to protect against competing interests in the State’s water resources:

- (1) Water resource protection, including the “maintenance of waters in their natural state”;
- (2) Domestic use protection, particularly drinking water; and
- (3) Exercise of native Hawaiian and traditional and customary rights.

The uncontradicted facts show that each of these public trust purposes is at risk if the Aquifer is left undesignated. Indeed, the Staff’s Findings of Fact show that at least one of the Keauhou aquifer’s well fields (the Kahuluu Shaft) is already experiencing saltwater encroachment, increased chloride levels, and unsustainable pumping rates. The Staff additionally found that eight of the high-level wells that span the length of the Keauhou aquifer system show a “moderate but steady water level decline.” Findings of Fact at 56. The Staff notes that excessive preventable waste may be occurring at these high-level wells. *Id.* at 53-56. And NPS presented evidence showing that if the Palani

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well is pumped at the expected one million gallons per day, as permitted, pumpage will increase to 98% of the sustainable yield across the Park's four *ahupua'a*.²⁹

If the Aquifer remains undesignated, there is no mechanism in place to regulate the withdrawal or diversion of water from this system, and the saltwater encroachment, elevated chloride levels, and depleted water levels will continue. This not only puts water for domestic use at risk, but also alters this important water resource from its natural state.

The public trust purpose of protecting water for native Hawaiian traditional and customary use is also implicated if the Aquifer is not designated. The Park was created as a national historical area to protect and perpetuate traditional and customary native Hawaiian practices and the natural resources on which these practices depend.³⁰ Because these practices are vulnerable to changes in water supply, this public trust purpose is imperiled if the Aquifer is not protected.

Moreover, at the December 10, 2014 hearing, a representative from the Department of Hawaiian Home Lands (DHHL) noted that without designation, DHHL has no assurance that any of the water reserved to it from the Aquifer will be protected for DHHL uses in the future.³¹ Indeed, a state administrative permit system established by the Commission is the only certain way to ensure that DHHL obtains a formal reservation so that its needs will be met in the face of inevitable private development.

4.0 Designation Will Best Protect the Park and Diverse Stakeholders.

At the December 10, 2014 hearing, there was extensive testimony by members of the public expressing concern about the difficulty of affording to live in Hawai'i, about the fear of imposition of federal authority over state "home rule", and about the supposed burdens of the state administrative permit system that is put in place once an aquifer has been designated. The administrative record also contains nearly 200 communications

²⁹ *Id.* at 2.

³⁰ For a more detailed discussion of Congress's cultural objectives in creating the Park, please see our letter of October 30, 2014.

³¹ See Video, Water Commission Holds Hearing in Kona, Big Island Video News, available at <http://www.bigislandvideonews.com/2014/12/11/video-water-commission-holds-hearing-kona/>, at 7:30.

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from members of NPCA residing in Hawai‘i who requested the Commission to protect public trust resources, including the natural, cultural and native Hawaiian resources found within the Park.

With regard to the difficult issue of whether native Hawaiians can continue to afford to live in their home state, given the high cost of housing, we agree with Commissioner Beamer’s observation during the December 10, 2014 Commission meeting that protection of an aquifer through designation is more likely to protect resources for future generations of Hawaiians.

Regarding “home rule”, we note that the permit system that is put in place following a designation is administered by the State of Hawai‘i through the Commission, not by any federal agency, including the National Park Service. And finally, regarding the purported burdens of designation, the experience on other islands has shown that, in general, after an initial adjustment period, things return to normal under the state administrative permit system.³²

Conclusion

In sum, NPCA reiterates its support for the NPS Petition to designate the Aquifer as a WMA. We look forward to reviewing the Staff’s analysis of the legal arguments, which the Staff noted would be “addressed separately” in its Staff Submittal of December 10, 2014. We respectfully request that the Commission submit its analysis of the legal

³² See our October 30, 2014 letter, in which we quoted Jeff Eng of the County of Maui Department of Water Supply discussing groundwater regulation: “In hindsight, Maui should have done conservation a lot earlier. I don’t know why we didn’t.” Source: PowerPoint presentation by Jonathan Likeke Scheuer, Ph.D., consultant to National Park Service, Kona Water Round Table (August 27, 2014) at 28.

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framework by March 1, 2015, so that we might consider and respond to any additional legal issues that may be presented.

Respectfully,



Karen J. Nardi
Kristen Johns
Arnold & Porter LLP

James H. Hershey
Fukunaga Matayoshi Hershey & Ching LLP

On behalf of National Parks Conservation
Association

Cc: Denise Antolini, Commission on Water Resource Management (via e-mail)
Kamana Beamer, Commission on Water Resource Management (via e-mail)
Michael G. Buck, Commission on Water Resource Management (via e-mail)
Milton D. Pavao, Commission on Water Resource Management (via e-mail)
Jonathan Starr, Commission on Water Resource Management (via e-mail)
Virginia Pressler, Commission on Water Resource Management (via e-mail)
William Tam, Deputy Director, Commission on Water Resource Management (via e-mail)
Katie Ersbak, Staff, Commission on Water Resource Management (via e-mail)
Roy Hardy, Staff, Commission on Water Resource Management (via e-mail)
Jonathan B. Jarvis, Director, National Park Service (via e-mail)
Tammy A. Duchesne, Superintendent, Kaloko-Honokōhau National Historical Park, National Park Service (via e-mail)
United States Senator Brian Schatz (via-email)
United States Senator Mazie Hirono (via e-mail)
United States Representative Tulsi Gabbard (via e-mail)
United States Representative Mark Takai (via e-mail)

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Kari Kiser, National Parks Conservation Association (via e-mail)
Adam J. Siegel, National Parks Conservation Association (via e-mail)
Robert D. Rosenbaum, Arnold & Porter LLP (via e-mail)
G. Rick Robinson, Chairperson, County of Hawai'i, Board of Water Supply (via e-mail)
Benjamin A. Kudo, Counsel to the Water Board of the County of Hawai'i,
Department of Water Supply (via e-mail)



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P.O. BOX 621
HONOLULU, HAWAII 96809

January 30, 2015

Mr. Quirino Antonio, Jr., P.E.
Manager-Chief Engineer
Department of Water Supply
County of Hawaii
345 Kekuanaoa Street, Ste. 20
Hilo, Hawaii 96720

Dear Mr. Antonio:

Hawaii County Water Use and Development Plan Update Project Description

Thank you for providing your project description for the update to the County of Hawaii's Water Use and Development Plan (WUDP) for the Keauhou and Waimea Aquifer System Areas. We have reviewed the project description in relation to the Commission on Water Resource Management's (CWRM) December 29, 2014 Preliminary Order that requested, among other things, the submittal of a project description that includes "the considerations discussed" in the initial fact-finding phase. In reviewing the project description, CWRM discussion points, and the requirements under the State Water Code and Framework for Updating the Hawaii Water Plan (Framework), we have the following questions and comments:

1. III.B. Planning Unit Rates for Water Demand. In addition to aiding in the verification of planning unit rates for non-potable water, existing information on non-potable water uses should be used to examine potential opportunities to convert existing non-potable uses (currently using potable water sources) to non-potable sources.
2. III.C.1. 4th bullet. Why are developer agreements that have zoning but no established time frame excluded from the calculation of authorized planned use? There is no time frame associated with authorized planned use.
3. III.C.1. 5th bullet. We are unsure what is meant by this item. What information on other private well demands do you anticipate CWRM would provide to aid in the determination of authorized planned use?
4. III.C.2.a. Kona Community Development Plan. The Buildout Scenario provided by the financing plan for the Kona CDP appears to estimate projected water demand for residential units and commercial/industrial areas within the Urban Area TODs. Is the financing plan limited to the Urban Area TODs? If so, what is the approach for estimating projected water demands for areas outside the Urban Area TODs (e.g., Rural areas and agricultural lands)?
5. III.C.2.c State Water Projects Plan (SWPP) Updates. With regard to Department of Hawaiian Homelands (DHHL) water needs, DHHL has submitted a petition for water reservation for 3.398

mgd from the Keauhou Aquifer System Area. We understand it is based on the preliminary findings of the ongoing SWPP update for DHHL. DHHL future water needs must be included in projections of future demand. The SWPP update for the West Hawaii region is just beginning and other state agencies will most likely not be able to provide any demand estimates within the timeframe of this WUDP update. Therefore, we recommend that demand projections be based on consultation with State agencies that own land or have indicated development plans.

6. III.D. Agricultural Water Use Projections. Agricultural water needs must be incorporated in the WUDP. While all counties have expressed difficulty in projecting agricultural demands, some method must be applied to provide reasonable estimates. For example, the City and County of Honolulu use ALISH land classifications and refine projections based on average rainfall amounts.
7. III.E. Cultural and Native Hawaiian Water Uses. The information gathered should also be used to inform proposed source development strategies to meet projected demands. If the preferred source development use strategy proposed in the WUDP may impact cultural uses and rights or other public trust purposes, appropriate mitigation measures or alternative strategies should be identified in the WUDP.
8. IV. Implementation Plan. Under the CWRM's Statewide Framework for Updating the Hawaii Water Plan, the WUDP should describe all resource options that were considered. Resource options include supply sources (wells), transmission and other infrastructure, storage, conservation, and reclaimed water or other alternative water sources. A near-term (initial 5 years) implementation plan should be developed that detail the specific actions and schedule to accomplish the preferred strategy. While we understand development timetables may be difficult to predict, the near-term plan could incorporate elements of the DWS's 5-year CIP plan as well as your response to the CWRM's 12/29/14 Preliminary Order requesting the County to "create a scope, timeline, and funding methodology for an infrastructure improvement plan to alleviate existing source, chloride, transmission, storage, and well interaction issues in the Keauhou Aquifer System Area". Longer-term plans may be more conceptual in nature.

We will schedule your project description for action by the CWRM at the February 18, 2015 meeting. A copy of the meeting agenda and staff submittal will be sent to you in advance.

If you have any questions, please contact Lenore Ohye at 808-587-0220 or toll-free at 974-4000, extension 70220.

Sincerely,



WILLIAM M. TAM
Deputy Director

c: Larry Beck, DWS
Jon Nishimura, FAINC



DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAI'I

345 KEKŪANAŌ'A STREET, SUITE 20 • HILO, HAWAI'I 96720
TELEPHONE (808) 961-8050 • FAX (808) 961-8657

January 30, 2015

Mr. Carty Chang, Acting Chairperson, and
Members of the Commission on Water Resource Management
State of Hawai'i
Department of Land and Natural Resources
P.O. Box 621
Honolulu, HI 96809

**COMMISSION ON WATER RESOURCE MANAGEMENT (CWRM) MEETING OF
JANUARY 28, 2015**

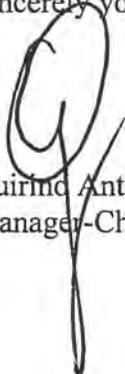
Dear Chairperson Chang and Members of the Commission:

We were made aware of statements made by National Park Superintendent (NPS) Ms. Tammy Duchesne regarding an action by our Water Board on the day prior (January 27, 2015). We understand that the statements were to the effect that the Water Board had agreed to all the conditions contained in NPS' letter dated January 8, 2015, addressed to our Water Board Chairperson, G. Rick Robinson, and CWRM Deputy, William Tam. These statements are simply NOT true.

We are sincerely concerned that NPS has grossly misrepresented our Water Board actions to CWRM. As such, we are requesting an unedited copy of the video or audio recording of your January 28, 2015 meeting. Record request is attached.

If there are any questions, please do not hesitate to contact us at (808) 961-8050.

Sincerely yours,



Quirino Antonio, Jr., P.E.
Manager-Chief Engineer

KO/jms

Enc.

copy- Honorable William P. Kenoi, Mayor, County of Hawai'i
Water Board of the County of Hawai'i
Mr. Duane Kanuha, Director, Planning Department

... Water, Our Most Precious Resource ... Ka Wai A Kane ...

The Department of Water Supply is an Equal Opportunity provider and employer.

REQUEST TO ACCESS A GOVERNMENT RECORD

DATE: January 30, 2015

TO: Commission on Water Resource Management, State of Hawaii, DLNR

FROM: Quirino Antonio, Jr., Manager-Chief Engineer, Department of Water Supply, County of Hawaii
Name or Alias
345 Kekuaaoa St., Hilo, HI 96720
Contact Information
Ph. (808) 961-8050; Fax (808) 961-8657; email: dws@hawaii.dws.org

Although you are not required to provide any personal information, you should provide enough information to allow the agency to contact you about this request. The processing of this request may be stopped if the agency is unable to contact you. Therefore, please provide any information that will allow the agency to contact you (name or alias, telephone or fax number, mailing address, e-mail address, etc.).

I WOULD LIKE THE FOLLOWING GOVERNMENT RECORD:

Describe the government record as specifically as possible so that it can be located. Try to provide a record name, subject matter, date, location, purpose, or names of persons to whom the record refers, or other information that could help the agency identify the record. A complete and accurate description of the government record you request will prevent delays in locating the record. Attach a second page if needed.

- **Unedited video and audio recording and minutes of Commission on Water Resource Management meeting of January 28, 2015.**

I WOULD LIKE: (please check one or more of the options below)

- To inspect the government record.
- A copy of the government record: (Please check one of the options below.) See the back of this page for information about fees that you may be required to pay for agency services to process your record request. Note: Copying and transmission charges may also apply to certain options.
 - Pick up at agency (date and time): _____
 - Mail
 - Fax (toll free and only if available)
 - Other, if available (please specify): email to dws@hawaii.dws.org
- If the agency maintains the records in a form other than paper, please advise in which format you would prefer to have the record.
 - Electronic Audio Other (please specify): _____
- Check this box if you are attaching a request for waiver of fees in the public interest (see waiver information on back).

SEE BACK FOR IMPORTANT INFORMATION



National Park Service
U.S. Department of the Interior

Kaloko-Honokōhau
National Historical Park

73-4786 Kanalani Street # 14
Kailua-Kona, Hawai'i 96740

808 329-6881 Phone
808 329-2597 Fax

Kaloko-Honokōhau

IN REPLY REFER TO:
L54 2015-02

January 30, 2015

Carty S. Chang, Acting Chairperson
Commission on Water Resource Management
P.O. Box 621
Honolulu, HI 96809

Subject: Additional Information Requested under Item C.3.7 of the Preliminary Order dated December 29, 2015, regarding the Petition to Designate Keauhou Aquifer System Area, Kona, Hawai'i as a Ground Water Management Area

Dear Mr. Chang:

The National Park Service (NPS) has reviewed the Preliminary Findings of Fact and the Staff Submittal to the Commission on Water Resource Management in regard to the above referenced petition. We have concluded that these documents were not prepared objectively, thoroughly, or accurately. Specifically:

- They mischaracterize or fail to recognize the important public trust resources located within Kaloko-Honokōhau National Historical Park.
- They do not adequately reflect the scientific information that is currently on the record in this matter or explain why the Commission disagrees with information currently on the record that conflicts with its preliminary findings.
- They do not use the most appropriate, best available scientific and scholarly data to support the recommendation to the Commission.
- They do not consistently differentiate among facts, personal opinions, and professional judgment in reporting the results of scientific research to the Commission.

Additionally, the analyses contained within the Preliminary Findings of Fact do not evaluate the data presented in the NPS petition in a manner consistent with the precautionary principle. Specifically, these analyses:

- Do not clearly communicate the scientific uncertainty that exists regarding the inland and coastal groundwater systems.

- Do not adequately assess whether, even in the absence scientific certainty, there is sufficient preliminary evidence to conclude that the public trust resources of Kaloko-Honokōhau “*may be threatened*” by the combined effects of existing and proposed groundwater withdrawals.

We maintain that the process for permitting wells in non-designated areas does not account for the spatial pattern of wells and does not explicitly consider the water needed for non-consumptive public trust uses. The freshwater-lens system underlying the National Park is vulnerable to saltwater intrusion due to groundwater withdrawals. Currently, groundwater withdrawals are two times higher in the area of the Park than in the aquifer system as a whole. Pumping wells are located adjacent to and inland of the Park. Pumping of these existing wells is planned to increase and more large-scale pumping has been proposed around the Park to meet growing water demand.

The NPS petition provides sufficient basis for determining that water resources in Kaloko-Honokōhau may be threatened by the combined effects of existing and proposed withdrawals of groundwater from both inland and coastal areas. These water resources provide habitat for culturally important and rare native species, which collectively constitute a public trust resource; the Commission has an affirmative duty under the State Water Code to protect these resources at every stage of the permitting process.

We therefore respectfully request that the Commission revise the Preliminary FOF based on the additional information it receives under Item C.3.7 and continue the Water Management Area designation process. Only through designation can the Commission regulate the location and pumpage of both private and municipal wells to preserve the flow of fresh groundwater and habitat for endangered Hawaiian waterbirds, the candidate-endangered orange-black Hawaiian damselfly, juvenile fish, and other valuable biocultural resources.

Please consider the additional information contained within the attached review of the Preliminary Findings of Fact and Staff Submittal.

Sincerely,



Tammy Ann Duchesne, Superintendent

Attachment: Review of Preliminary Findings of Fact and Staff Submittal

Review of Preliminary Findings of Fact and Staff Submittal

National Park Service
January 30, 2015

Comments

- 1. Staff Submittal (SS) Page 5. “The Petition also makes legal arguments that imply the Commission’s statutory discretion in this matter is limited and that past rulings by the Hawaii Supreme Court compel designation”**

The SS mischaracterizes that portion of the NPS petition that discusses the stewardship responsibilities of the Commission. Rather than implying that the Commission’s statutory discretion in this matter is limited, or arguing that past rulings compel designation, the NPS petition simply sets forth the legal and policy considerations, derived from the Hawai‘i constitution, the State Water Code, and case law, that should guide the Commission’s consideration of the petition. The petition notes that the Commission has the broad discretion to designate when no statutory technical criteria have been met.

- 2. SS Page 5. “NPS argues that five (5) of the eight (8) criteria for designation of a ground water management area apply in this case.”**

The NPS petition argues that six of the eight statutory technical criteria for designation apply in this case.

- 3. SS Page 7. “Legal Arguments. Legal arguments will be addressed separately.”**

To date, the Commission has not set forth its views regarding how these legal and policy considerations affect its review of petitions that seek to protect public trust resources from existing and proposed withdrawals of groundwater that may threaten such resources. Clear guidance from the Commission on these issues would facilitate the exploration of alternative paths of action.

- 4. Findings of Fact (FOF) Page 5. “On September 13, 2013, the United States National Park Service (“NPS”) (Tammy A. Duchesne, Superintendent, Kaloko-Honokohau National Park) submitted a petition ...”**

To clarify, the Petition for Water Management Area Action was submitted by the NPS Pacific West Regional Director, Christine M. Lehnertz.

The Preliminary FOF incorrectly identifies the name of the Park. The correct name is Kaloko-Honokōhau National Historical Park. This error appears throughout the document.

- 5. FOF Page 8. III. CHRONOLOGY, FROM FILING TO THE PRESENT DATE**

The Preliminary FOF does not consider the following additional information received by the Commission since the NPS petition was filed:

1. On September 9, 2014 and October 16, 2014, the Commission received continuous monitoring data from the NPS. The data included the following:
 - Continuous groundwater levels from KAHO1 (4061-001) for the period January 2012 to September 2013;
 - Continuous groundwater levels, specific conductance, and temperature from KAHO2 (4161-002) for the period January 2012 to October 2013;
 - Continuous groundwater levels, specific conductance, and temperature data from KAHO3 (4161-001) for the period January 2012 to November 2013;
 - Daily average and monthly instantaneous groundwater levels for KAHO1; daily average and monthly instantaneous groundwater levels, specific conductance, and temperature data from KAHO2 and KAHO3; and
 - Maximum monthly specific conductivity from MW401 (4161-011) for the period December 2008 to April 2014.
 2. Between August 5, 2014, and October 2, 2014, the Commission received additional monitoring data from Kohanaiki Shores, LLC. The data included monthly conductivity, depth, and temperature profiles from MW401 for the period January 2013 to April 2014.
 3. On November 19, 2014, the Commission received supplemental information from the NPS indicating that current pumping rates are two times higher within the four *ahupua'a* of Kaloko-Honokōhau National Historical Park than in the KASA as a whole.
- 6. FOF Page 9. “Much of the current and almost all of the future potable water needs in Keauhou will be developed from high-level water tapped by wells located at about 1,200 feet elevation.”**

This statement is inconsistent with information in the Preliminary FOF.

Much of the current potable water needs in the KASA are developed from the freshwater lens. As indicated in Figure 3, 1.3 times more water [7.4 million gallons per day (Mgal/d)] is currently pumped from coastal wells for potable water needs than from wells in the high-level area (5.5 Mgal/d).

- 7. FOF Pages 9-10. “High-level water has also been found at lower elevations in a deep confined artesian zone overlain by hundreds of feet of saltwater.”**

FOF Page 23. “In places the high-level water extends seaward, trapped between confining layers of lava that dip below sea level and which are overlain by many 100’s of feet saltwater and a thin layer of brackish basal water.”

These statements are unsupported by scientific data.

The Preliminary FOF does not cite evidence to support the finding that fresh water found below saltwater, or that fresh water trapped between deep confining layers in the KASA, originated in high-level areas. There is no information indicating that water chemistry data has been collected from the deep confined system. The recharge elevation of fresh water found below saltwater in coastal areas of the KASA remains uncertain.

One lower-elevation well in the KASA has tapped deep confined fresh water – the Kamakana Well (3959-001). The Kamakana Well was drilled in 2011 and has since been sealed off from the freshwater zone; it was therefore not possible for the U.S. Geological Survey (USGS) to confirm the recharge elevation of fresh water tapped by this well when they collected samples for the 2012 geochemical tracer study.

8. FOF Page 10. “This brackish water is roughly a mixture of two-thirds freshwater to one-third seawater.”

This statement is unsupported by scientific data and inconsistent with other information in the Preliminary FOF.

The Preliminary FOF cites a University of Hawai‘i study in characterizing the coastal freshwater-lens system as composed of “21% seawater” (Page 31).

9. FOF Page 11. “On October 16, 2013, the Commission voted to extend the time for investigation and study of four matters (including the U.S. Geological Survey (“USGS”) high level isotope study) from November 19, 2013 to December 31, 2014.”

The 2012 USGS study was not limited to high-level wells or isotopes. The study investigated the geochemistry of groundwater samples from both inland and coastal areas, as well as surface-water samples.

10. FOF Page 15, Figure 2. “Map of Keauhou showing topographic relief and generalized directions of generalized ground water flow. (Thomas, 2014)”

FOF Page 22. “Based on available water levels and inference of the subsurface structure, the ground water flow lines shown in Figure 2 portray the hydrologic community’s best current picture of the large-scale, generalized flow of ground water through Mauna Kea and Hualalai volcanoes.”

FOF Page 23. “Figure 2 shows that the adjacent Kealakekua Aquifer System Area contribute [*sic*] recharge to the Keauhou Aquifer.”

These statements are unsupported by scientific data.

The data upon which the groundwater flow directions depicted in Figure 2 are based are not provided or referenced in the Preliminary FOF. The caption references “*Thomas, 2014*” but this reference is not included in Exhibit F – Bibliography.

Figure 2 was presented to the Commission on October 9, 2014 in the presentation titled “*Analysis of Groundwater Models for the Keauhou Aquifer*” by Dr. Don Thomas (Slide 46; Exhibit D). This slide also does not cite any information to support the basis for the depicted groundwater flow directions (e.g., groundwater levels).

The hydrologic connection between the Kealakekua and Keauhou Aquifer Systems is also currently uncertain.

Because the data upon which the groundwater flow directions depicted in Figure 2 are based are not described or cited in the Preliminary FOF, and because the figure has not been peer-reviewed or published in the scientific literature, it is not appropriate to conclude that it represents the consensus of the hydrologic community.

11. FOF Page 16. Figure 3. “Map showing Keauhou Aquifer System Area with high-level pumping wells and reported pumpage in 2014.”

This figure is inaccurate.

Reported pumpage for individual wells does not add up to the total reported pumpage for the basal area in this figure. The figure does not show all pumping from the Kohanaiki wellfield adjacent to the Park. Our records indicate that the 12-MAV of pumping from this wellfield is 1.2 million gallons per day (Mgal/d) (as opposed to 0.69 Mgal/d).

12. FOF Page 17. “The latest and most comprehensive calculation of ground water recharge for the island of Hawaii was produced by the USGS in 2011 (Engott, 2011) which yielded a recharge rate of 152 mgd. Engott’s 2011 calculation of baseline recharge used 2008 land cover and updated rainfall information (1984-2008).”

FOF Page 21. “Using the best available technology, Engott in 2011, calculated that recharge in the Keauhou Aquifer System Area as 152 mgd.”

These statements are incorrect.

Engott (2011) estimated recharge to the KASA to be 152 Mgal/d based upon mean annual rainfall for the period 1916-1983.

The “*latest*” estimate of historical groundwater recharge for the KASA based upon mean annual rainfall for the period 1984-2008 is 106 Mgal/d. This estimate was presented by Commission staff to the Water Professionals Group on December 17, 2013 (see Attachment A).

Any discussion of groundwater recharge in the KASA should also include the Engott (2011) drought condition in which recharge was estimated to be as low as 65 Mgal/d during the five driest years from the period 1916-1983 (see NPS petition Pages 28-30). Another period of very low rainfall occurred in the Kona area during the period 1999-2003 (Engott 2011).

If recharge under drought conditions is as low as 65 Mgal/d, then the sustainable yield of the KASA using the current methodology may be as low as 28 Mgal/d in periods of drought.

The Commission should recognize the inherent variability of rainfall and groundwater recharge both spatially and over time when considering the future availability of water in the KASA.

13. FOF Page 17. “Ground water flow through the KASA is the recharge amount of 152 mgd plus several mgd from the slopes Mauna Loa (see Figure 2).”

This statement is unsupported by scientific data.

As noted above, the most recent estimate of recharge is 106 Mgal/d. In addition, Figure 2 does not contain any quantitative information; it is therefore not clear how the quantity of recharge from the slopes of Mauna Loa to the KASA was determined.

14. FOF Page 17. “These results reflect simulations of future rainfall based on climate change models. These models predict that drier areas will become drier and wetter areas will become wetter. Evidently, the rain belt on the flanks of Hualalai, (where most ground recharge occurs) falls into the “wetter” category (so the distribution may vary more).”

This statement does not rely upon the best available information and oversimplifies the facts in a manner that causes misunderstanding of the future effects of climate change on rainfall and drinking water supplies in Hawai‘i.

The Commission should consider both the past behavior of rainfall as well as projected future behavior, and adaptively manage water for native species and key cultural resources in response to a changing climate. “*Climate change adaptation is the process of increasing resilience and reducing vulnerability to risks related to climate change*” (Wallsgrrove & Penn 2012).

Hawai‘i has seen an overall decline in rainfall in the last 30 years (University of Hawai‘i at Mānoa Sea Grant College Program 2014). As noted in the NPS presentation to the Commission on September 17, 2014, researchers at the University of Hawai‘i have found that the Kona area on Hawai‘i Island has experienced the largest long-term declines in annual rainfall in the state (see Attachment B).

Regarding projected future changes in rainfall, the University of Hawai‘i Sea Grant College Program (2014) cautions that “*projecting the future responses to predicted global climate change scenarios are very difficult due to the extremely complex and variable nature of the rainfall over the islands.*”

Given these challenges, projections of future climate-induced changes in rainfall can still provide useful information for decision makers. The Preliminary FOF cites Timm et al. (2009). This study relied upon the results of the fourth Intergovernmental Panel on Climate Change assessment report.

Since 2009, Oliver E. Timm (University of Albany), in collaboration with Henry F. Diaz (University of Colorado), Thomas Giambelluca, Mami Takahashi, Lauren Kaiser and Abby

Frazier (University of Hawai‘i), have continued to investigate local rainfall data, North Pacific climate variability and global model simulations to find out how rainfall patterns will change in Hawai‘i by 2040. Their latest work focuses on the statistical downscaling results of global climate model simulations described in the fifth Intergovernmental Panel on Climate Change assessment report.

On July 15, 2014 and December 18, 2014, Dr. Timm discussed the results of the statistical downscaling process in presentations to the Hawaii Conservation Alliance and the Pacific Islands Climate Change Cooperative (PICCC) (see Attachment C).

Dr. Timm reported that “... *the dry leeward sides of the islands are expected to experience a continued drying trend. Wet windward sides, where trade winds provide most of the rainfall, are likely to see small changes to moderate increases in the rainfall during the wet season. In the dry summer season, however, Oahu, Maui Nui and most parts of Hawai‘i Island could experience a reduction in rainfall*” (PICCC webinar announcement dated December 15, 2014). This projection reflects changes in seasonal rainfall and recharge.

Based upon the best available scientific information regarding past and projected future changes in rainfall, the area of the KASA will continue to experience declining rainfall within the next 25 to 55 years.

We encourage the Commission to consult with PICCC, a non-regulatory conservation alliance whose purpose is to assist those who manage native species, island ecosystems and key cultural resources in adapting their management to climate change for the continuing benefit of the people of the Pacific Islands, for the best available information regarding the future effects of climate change on rainfall in the KASA.

- 15. FOF Page 20. “Recharge estimates may be high or low by several tens of percent. Estimates also depend on the economic, topographic, and geologic conditions which either promote or discourage ground water withdrawals, and by the efficiency of the installed infrastructure ...”**

It is not clear how groundwater withdrawals and infrastructure affect recharge.

- 16. FOF Page 21. “This value of recharge was calculated not to provide the most precise result, but by the most conservative scientific method that overestimates evapotranspiration, and underestimates ground water recharge.”**

This statement is unsupported by scientific data.

The Preliminary FOF does not cite information to support the conclusion that the method used to estimate evapotranspiration, and the underlying values of potential evapotranspiration, are underestimated.

- 17. FOF Page 21. “Leaving more than 50 percent of the recharge in the ground ... is, by definition, ‘precautionary.’”**

SS Page 5. “Thus, if actual pumpage reaches 38 mgd, 114 mgd will still discharge naturally from the aquifer into the coastal areas of the KASA.”

SS Page 6. The current average recharge for the drier past 30 years (152 mgd) is greater than the sustainable yield (38 mgd) and provides a buffer to climate change.”

These statements are unsupported by scientific data and are inconsistent with other information in the Preliminary FOF.

The Preliminary FOF does not cite any analyses of the requirements of potentially affected public trust resources. There is therefore no evidentiary basis to support the conclusion that leaving 50% of groundwater recharge to follow its natural course to the ocean is sufficient to protect these resources.

The statements are also inconsistent with the finding that not all inland (high-elevation) recharge flows through the coastal (basal) freshwater lens. The Preliminary FOF presumes that all recharge to the Keauhou Aquifer System Area (KASA) that is not captured by wells flows through the freshwater lens and is available to buffer coastal wells and ecosystems from the effects of groundwater withdrawals, sea level rise and drought.

This presumption, however, contradicts the statement in the Preliminary FOF that “*current knowledge indicates that most of the high-level water does not flow to the brackish basal lens*” (Page 27) and the statement in the SS that “*only a fraction of the high-level water flows to the brackish basal lens*” (Page 6).

If only a small fraction of fresh water in high-level areas flows through the freshwater lens and the quantity of water that public trust resources of concern need to remain healthy is uncertain, then the assertion that leaving whatever is left over after maximizing consumptive use will protect non-consumptive public trust uses of water along the coast is unsupported.

For the state-determined sustainable yield to credibly be considered “*precautionary*” and a buffer to climate change, the Commission should consider the amount of recharge received under observed drought conditions (e.g., Engott 2011).

18. FOF Page 21. “Leaving more than 50 percent of the recharge in the ground to follow its natural course acknowledges the inefficiencies of the infrastructure as well as the need to maintain a sustainable balance with the natural environment.”

This statement is unsupported by data.

The statement implies that the natural environment was explicitly considered when the Commission set the sustainable yield for the KASA. The Preliminary FOF does not cite where or when in its planning process these considerations were made. It is our understanding that the sustainable yield was set to maximize consumptive use while protecting existing infrastructure from saltwater intrusion (Mink 1981; George A.L. Yuen and Associates, Inc., 1990).

This conclusion also assumes that recharge and pumping wells are equally distributed throughout the KASA, therefore leaving the same percentage of recharge “*in the ground*” for the natural environment throughout the aquifer system. In reality, recharge and pumping wells in the KASA are not equally distributed.

Recharge is greater in the southern portion of the KASA (Engott 2011). Information provided to the Commission by the NPS in a letter dated November 19, 2014, shows that current pumping is 2 times greater in the Park’s 4 ahupua’a (279 gallons per day/acre) than in the KASA as a whole (138 gallons per day/acre).

The Commission cannot ensure that any predetermined percentage of groundwater recharge follows its natural course to the ocean within any particular coastal portion of the KASA without actively regulating the location and distribution of pumping wells.

19. FOF Page 21. “Based on Engott’s more precise calculations, 114 mgd of ground water (75 percent of the recharge) follows its natural course to the ocean.”

This statement is inaccurate.

Based upon Engott (2011), 75% of observed recharge for the period 1916-1983 equates to a range of 49-114 Mgal/d, whereas, 75% of observed recharge for the period 1984-2008 is 80 Mgal/d.

20. FOF Page 21. “First, projected future water demands in the area are about 28.5 mgd so 38 mgd will not be a constraint on planning or development for many years into the future.”

This statement does not consider all available information.

The Preliminary FOF underestimates future water demand in the KASA. The value of 28.5 Mgal/d does not include pumpage from several wells that have been permitted by the Commission but not yet constructed (see table below), and does not include the water demands for development described in the Kona Community Development Plan.

In addition, on December 4, 2014, the Department of Water Supply submitted a Draft Environmental Assessment to convert the Keopu-HHFDC well (3957-005) from an exploratory well to a 1.5 Mgal/d municipal well. The pumping rate of this well was estimated to be 1.0 Mgal/d in the Preliminary FOF.

Permitted wells not included in the calculation of future water demand:

Well No.	Well Name	Proposed Use	
		Type	Mgal/d
8-4459-003	Hilu Hilu Irr 1	IRR	0.6
8-4459-004	Hilu Hilu Irr 2	IRR	0.6
8-4459-005	Hilu Hilu Irr 3	IRR	0.6
8-4258-006	Ooma 1	MUN	1.0
8-4057-005	Keahuolu 2	MUN	1.0
8-4157-002	Honokohau 2	MUN	1.0

8-4258-005	Lee	MUN	1.0
Total			5.8

Given this information, projected future water demand in the KASA may be as high as 35 Mgal/d, or 92% of the sustainable yield (38 Mgal/d). Both this estimate and the Preliminary FOF’s projected future water demand exceed the sustainable yield under observed drought conditions (28 Mgal/d).

21. FOF Pages 23-24. “Above Mamalahoa Highway, along a ground elevation contour of approximately 1,200 to 1,500 feet, is a high-level ground water body where water stands from 40 to 400 feet above sea level and extends downward to depths below sea level of approximately 40 times that height.”

This statement is unsupported by scientific data.

The depth to which fresh water extends in high-level areas is uncertain.

22. FOF Page 24. “The movement of ground water as described above is illustrated in Figure 6, from Thomas 2014, and in Figure 7, modified from Lum 2007.”

This finding is not based upon peer-reviewed information.

The references “*Thomas 2014*” and “*Lum 2007*” are not included in Exhibit F – Bibliography.

Recent conceptualizations of groundwater movement within the KASA that have been peer-reviewed and published are available from USGS Open File Report 2014-1173 (Tillman et al. 2014a) (see Attachment D). These conceptualizations utilize data from the USGS geochemistry study that was cited by Commission as one of reasons to extend the investigation period.

These three figures recognize the uncertainty associated with the coastal confined-groundwater system and the fate of high-level recharge; they were presented to the Commission by the USGS on September 19, 2014.

23. FOF Page 24, Figure 6. “Interpretive hydrogeologic section in the Keauhou Aquifer System Area, from Thomas 2010.”

This figure is unsupported by scientific data and is inconsistent with other information in the Preliminary FOF.

The reference “*Thomas 2010*” is not included in Exhibit F – Bibliography.

This figure indicates several hundred feet of fresh water in the coastal groundwater system, which is not supported by the salinity profile for the Kamakana well (Figure 9). This figure also indicates a nearly vertical freshwater/saltwater interface. The Preliminary FOF does not explain the basis for these undocumented features.

24. FOF Page 26. “Geologic features resist the flow of ground water in these areas, resulting in higher heads (4 to 10 feet above sea level) and fresher ground water.”

This statement is unsupported by scientific data.

It is not clear what “*geologic features*” are referred to here. There are other factors that could contribute to higher heads in coastal areas to the north and south of the Park (e.g., higher recharge, lower permeability).

25. FOF Page 26. “The NPS petition to designate the KASA is based on the concern that pumping water from the high-level water body will deprive the brackish basal water body of freshwater.”

The NPS petition is based upon the concern that pumping water from both inland and coastal systems will lower water levels and increase salinity in Kaloko-Honokōhau National Historical Park.

Since 2007, five desalination facilities and a high-capacity well for aquaculture have been proposed in the coastal freshwater-lens system within three miles of the Park (NPS petition Page 34). The 2010 Hawai‘i County Water Use and Development Plan recommended desalinating brackish groundwater upgradient from the Park as an alternative to meet growing water demand. Large-scale desalination now appears imminent – the 2013 Kaloko Makai Draft Environmental Impact Statement includes a proposal to withdraw up to 11 Mgal/d of brackish (30 ppt) groundwater directly upgradient of the Park and to dispose of the hypersaline (50 ppt) concentrate on-site (Wilson Okamoto Corporation & Ho‘okuleana LLC 2013).

The Preliminary FOF do not consider the consequences of pumping from the freshwater lens on non-consumptive public trust resources.

26. FOF Page 26. “... the orange-backed damsel fly ...”

The Preliminary FOF and SS incorrectly refer to one of the anchialine pool species in the Park, the candidate-endangered orange-black Hawaiian damselfly (*Megalagrion xanthomelas*). This error appears throughout the documents.

27. FOF Page 26. “From 2007 to 2012, the water at Kaloko-Honokohau National Park has freshened. There has been a decrease, not an increase, in salinity in the brackish basal lens at Kaloko-Honokohau National Park from 5 to 10 percent (Figure 8). It is difficult to explain the freshening because of the uncertainties and many variables that affect the hydrology of the KASA.”

FOF Page 55. “(11) The brackish water at Kaloko-Honokohau National Park observation wells freshened from 2007 to 2013- during the time of nearby urban development and increased groundwater withdrawal.”

These statements are not based upon all available information.

During the September 19, 2014, site visit and meeting, representatives of both the NPS and the Shores at Kohanaiki discussed the most likely cause of declining salinity in wells on the boundary of and within the Park – irrigation water from the Kohanaiki golf course and nursery, located north of the Park. The golf course desalinates about 1.2 Mgal/d of brackish groundwater from 8 wells that tap the freshwater lens adjacent to the Park to produce irrigation water for the golf course and nursery.

The migration of irrigation water from the golf course into the Park is supported by nutrient and salinity data and has been documented by the USGS (Hunt 2014). Nitrate concentrations have increased on the northern boundary and in two of the Park’s monitoring wells since golf course irrigation began, and chloride concentrations in MW400 (4162-004) have rebounded since the nursery was moved away from the Park boundary following the site visit (see Attachment E).

The Commission also has data that indicates that salinity is increasing at depth on the northern boundary of the Park. Maximum specific conductance is increasing in MW401, located on the boundary of the Park. MW401 is deeper than the wells in the Park (115 ft below sea level) and was constructed at the direction of the Commission specifically to monitor saltwater intrusion. The data from MW401 is provided to the Commission from Kohanaiki Shores, LLC as a requirement of the special permit conditions placed on the well by the Commission. The salinity data indicate that specific conductance is increasing at a faster rate in MW401 than it is decreasing in KAHO2 and KAHO3 (see Attachment E).

28. FOF Page 26 “Whatever the reason, hydrologic studies performed in the past year, as well as an evaluation of the literature and the judgment of technical experts on hydrology, species biology, and habitat indicate that pumping high-level water will, at most, have a negligible effect on the brackish basal water body at Kaloko-Honokohau National Park and its biota.”

This finding is unsupported by scientific data.

The “*hydrologic studies*,” “*literature*,” and “*judgment of technical experts on hydrology, species biology, and habitat*,” upon which the finding relies are not described or cited in the Preliminary FOF.

This information is essential because the NPS petition references numerous studies that conflict with this conclusion. The Preliminary FOF fails to describe or cite this conflicting information.

29. FOF Page 27, Figure 8. “Graph of specific conductance of the brackish lens at NPS monitor wells; 2007-2012 from NPS data file.”

This figure is not based upon all available information.

Figure 8 displays only a portion of the salinity data available from wells KAHO2 and KAHO3 in the Park. Some data within the period labeled “*no data*” was collected by the

USGS and is available online. The NPS downloaded and emailed these data to Commission staff on January 29, 2013.

The NPS has also provided continuous specific conductance data collected by NPS from KAHO2 and KAHO3 since 2012 to the Commission in September 2014.

All of the continuous water level and specific conductance data collected by the NPS and the USGS from KAHO1, KAHO2 and KAHO3 wells are consolidated online and available at: <https://irma.nps.gov/aqwebportal/>. These data are also provided in Attachment F.

30. FOF Page 27. “Current knowledge indicates that most of the high-level water does not flow to the brackish basal lens. Where most of the water goes is still under investigation, but a reasonable hypothesis is that most of the high-level water flows to depth, into the saltwater that underlies the brackish basal lens. As a consequence, pumping from the high-level water body is likely to reduce the flow of freshwater into deep saltwater more than it will reduce the flow of freshwater into the brackish water lens.”

There is evidence that the inland higher-elevation and coastal freshwater-lens systems are hydrologically connected in the area of the Park. The extent to which the groundwater systems are connected, however, is uncertain. This uncertainty exists due to a lack of knowledge as well as what appears to be variability in subsurface geology throughout the KASA.

One of the “*key studies*” that the Commission cited as needed to make a final determination on designation is the USGS geochemical tracer study. The results of this study were published in two reports by Tillman et al. (2014a and 2014b). The USGS found that “*currently, the extent of the hydrologic connection between the inland impounded and freshwater-lens systems is uncertain*” (Tillman et al. 2014a).

The hydrologic connectivity between the coastal freshwater lens and underlying confined system is also uncertain. Another reasonable hypothesis is that high-level recharge discharges into deep saltwater and then rises due to buoyancy and contributes to the freshwater lens. Another possibility is that all fresh water not withdrawn by wells ultimately discharges into nearshore waters regardless of flow path. The Preliminary FOF does not consider these possibilities.

31. FOF Page 27. “The most direct evidence for this hypothesis of ground water movement is that no potable water exists in the brackish basal lens.”

This statement does not consider all available information.

We agree that the Kekaha region of Kona, in which the Park is located, was known for its scarcity of water (e.g., Peterson & Orr 2005). Many places in Hawai‘i, however, lack potable water simply due to low recharge. The Preliminary FOF does not consider this possibility.

32. FOF Page 31. “CWRM estimated that pumping 6 mgd from five high-level wells inland of the Park (based on County 2030 projections) would reduce groundwater flow

through the Park by 0.7 mgd (an 8% reduction of the 9 mgd natural discharge when there was no pumping).”

FOF Page 31. “In the next 15 years, pumping wells inland from the Park may increase to 6 mgd (Fig. 10) thereby decreasing the basal water flow and the coastal discharge by 1.7 mgd (0.28 x 6 mgd) along the 4.5 mile shoreline between Honokohau Harbor and Keahole Point. This equates to a 0.7 mgd decrease in coastal discharge along the 1.5 miles of shoreline at Kaloko-Honokōhau National Park.”

This finding is inaccurate and unsupported by scientific information.

In this analysis, a mixing model is used to consider the potential reduction in coastal discharge in the area of the Park due to projected 2030 water demand (28.5 Mgal/d) with only a small percentage of high-level recharge (28%) flowing to the coastal freshwater lens.

It is not clear why this impact analysis is limited to 2030 projections of water demand. The public trust doctrine requires the Commission to protect water-related public trust resources in perpetuity. For this reason, impact analyses should also include the potential effects of pumping under county zoning and county general plan full build-out scenarios (39-245 Mgal/d).

It is not clear how it was determined that predevelopment coastal discharge in the Park was 9 Mgal/d because no citation is given for this value. This value is not consistent with the values for Zones 7-9 on Table 1, which indicates that coastal discharge in these zones under predevelopment conditions was 27 Mgal/d or an average of 8.0 Mgal/d per mile of coastline.

Figure 10 is referenced to support the finding that pumping from wells inland of the Park may increase to 6 Mgal/d, but this figure does not show any pumping wells.

It is not clear how it was determined that the length of shoreline in the Park is 1.5 mi. This value is not consistent with the values for Zones 7-9 on Table 1, which indicates that the length of shoreline in these zones is 3.4 mi. According to the National Oceanic and Atmospheric Administration Composite Shoreline map (2007), there is 5.5 miles of shoreline within Kaloko-Honokōhau National Park (including man-made features such as the Kaloko Fishpond seawall) (Curdts 2011). A simple straight-line measurement from the northernmost to southernmost boundaries of the Park is about 2.1 mi.

It is not clear how a decrease of 0.7 Mgal/d was calculated [$1.7 \times (1.5/4.5) = 0.6$ Mgal/d].

This analysis also does not include pumping from the freshwater lens in the area of the Park. The 12-MAV of reported pumpage from the Kohanaiki wellfield adjacent to the Park is 1.2 Mgal/d.

33. FOF Page 31. “The 0.7 mgd reduction in ground water flow is based on KASA (Fig. 11), the 2010 isotope studies by USGS (Oki et al, 2014), and SOEST (Fackrell and Glenn, 2014). See Exh. D.”

This finding is inaccurate and unsupported by scientific data.

The references “*Oki et al. 2014*” and “*Frackrell and Glenn, 2014*” are not included in Exhibit F – Bibliography.

A reference to Exhibit D is also made, but this exhibit contains all of the videos and presentations from the two site visits, so it is not clear what information is being cited to support the values above.

In addition, the isotope studies do not provide results for predevelopment conditions. The analysis in the Preliminary FOF considers the potential effects of withdrawing 6 Mgal/d from 5 high-level wells. However, some of this high-level pumpage is already occurring. Because the results of the isotope studies reflect the existing pumpage, the mixing analysis must account for this in order to accurately characterize the impacts of future pumpage from high-level areas.

34. FOF Page 31. “Basal recharge is 8 mgd. High-level recharge is 47 mgd (CWRM, Exh. D).”

These statements are unsupported by scientific data.

It is not clear how it was determined that recharge to the freshwater lens in the area of the Park is 8 Mgal/d because no information is cited to support this value. This value is not consistent with the values for Zones 7-9 on Table 1, which indicates that total coastal discharge in these zones under 2014 conditions is 25 Mgal/d or an average of 7.4 Mgal/d per mile of coastline.

It is not clear how it was determined that high-level recharge inland of the Park is 47 Mgal/d. We were unable to locate this value in Exhibit D, which contains all of the information presented to the Commission during the two site visits.

Furthermore, the Preliminary FOF overestimates high-level recharge inland of the Park. For comparison, 47 Mgal/d is 44% of all of the groundwater recharge to the KASA (106 Mgal/d). This has important implications because the subsequent mixing analysis is very sensitive to this value.

For example, if this value were reduced to 27 Mgal/d (total coastal discharge for Zones 7-9 with no pumping), then the same analysis would indicate that 48% of high-level recharge flows to the freshwater lens (as opposed to 28%), and pumping an additional 6 Mgal/d from high-level area will decrease coastal discharge by 2.9 Mgal/d (as opposed to 1.7 Mgal/d).

In summary, the Preliminary FOF 1) underestimates future pumpage, 2) underestimates the length of shoreline in the Park, 3) overestimates recharge inland of the Park, and 4) does not consider the potential effects of pumping wells in the freshwater lens. Based upon this, the Preliminary FOF underestimates the potential reduction in coastal discharge to the Park due to projected future pumpage.

35. FOF Page 31. By simple algebra, if recharge from local rainfall over the basal area is 8 mgd and this is 30% of all the water in the brackish aquifer, then the total quantity of water in the brackish aquifer is 26.7 mgd (8 mgd divided by 0.30).

This finding is incorrect.

The recharge estimate of 8 Mgal/d is a flow rate, and not a volume. It is therefore not appropriate to use this value to estimate the volume of water stored in the coastal aquifer. To calculate the volume of water stored in an aquifer, the physical dimensions of the system and the porosity of the rock must be known.

36. FOF Page 32. Figure 11. “Approximate areas in the high-level and brackish basal aquifers that contribute ground water flow to the shoreline between Honokohau Harbor and Keahole Point.”

This figure is not supported by scientific data.

Figure 11 contains no quantitative information and no citations that would help the reader understand how the areas delineated in the figure were calculated. For example, neither the figure caption nor the text provides a scale or the acreage within the areas delineated in the figure and the method by which the areas were calculated.

This is important because the figure is cited to support estimates of groundwater flow through the Park and potential impacts due to pumping.

37. FOF Page 33. “In a worst case scenario, results of the State Department of Health (“DOH”) Source Water Assessment Program’s (“SWAP”) ground water flow model show that flow through the basal aquifer in the vicinity of Kaloko-Honokohau National Park could decline by 17 percent as a result of pumping the full sustainable yield from the aquifer. The rates and location of these projected pumping wells are shown in Figure 10.”

This finding is unsupported by scientific information.

In this analysis, the DOH SWAP model is used to consider the potential reduction in coastal discharge in the area of the Park due to pumping at the sustainable yield (38 Mgal/d) with 100% of high-level recharge flowing to the coastal freshwater lens.

The SWAP model analysis is not included in the Preliminary FOF or Exhibit D. The input parameters and assumptions that were made in the SWAP analysis are therefore not known.

Figure 10 is referenced for the location of the pumping wells included in the SWAP analysis but this figure does not show any pumping wells.

It is not clear how the 17% decline in coastal discharge was calculated. Table 1 indicates that coastal discharge declines by 19% (5.3 Mgal/d) for Zones 7-9 with pumping at the full sustainable yield.

Pumping the full sustainable yield will adversely affect groundwater discharge in the Park; however, the Preliminary FOF does not provide enough supporting information to determine whether a decline of 17% is a valid estimate of the effect of this level of development.

38. FOF Page 33. “This is a worst case scenario because the model allowed all the high-level water to flow into the basal aquifer.”

The scenario described in the Preliminary FOF does not represent the “*worst-case scenario*.” If there is little to no connection between the inland and coastal freshwater-lens systems, as speculated in the Preliminary FOF, then this could be viewed as the worst case scenario because recharge to the freshwater lens would be limited solely to local recharge. This would make the coastal groundwater system much more vulnerable to saltwater intrusion than previously believed. Pumping the full sustainable yield from the coastal system would therefore represent the maximum impact to public trust resources along the coast.

39. FOF Page 33. “If the results are adjusted based on the isotope study, the reduction in flow from natural, non-pumping conditions, will be only 28 percent of the 17 percent, or 5 percent. That would be about 0.9 mgd. This compares favorably with the estimate made from the isotope study and estimates of future pumping. The model results are in Exhibit D.”

This finding is unsupported by scientific information.

In this analysis, the results of the SWAP model are adjusted to consider the potential reduction in coastal discharge in the area of the Park with pumping at the sustainable yield and 28% of high-level recharge flowing to the coastal freshwater lens.

As noted above, we believe that the finding that 28% of high-level recharge flows into the freshwater lens is not adequately documented in the Preliminary FOF and relies upon an overestimate of recharge to the high-level area inland of the Park. We therefore cannot agree that pumping the full sustainable yield would reduce discharge in the Park by 0.9 Mgal/d.

As noted above, we were not able to locate the SWAP model analysis in Exhibit D and so it is not possible to verify that the results compare well to “*the isotope study*.”

40. FOF Page 33. “USGS has constructed a numerical model which also assumes that all high level water flows to the basal. This analysis could be used to confirm this information, but to date has not been done.”

While unclear, it appears that the USGS model referenced here is the one described in WRI 99-4070 by Oki et al. (1999). The 1999 USGS model indicated that groundwater discharge in the Park could be reduced to 47% of the predevelopment rate if all wells permitted prior to 1998 were pumped at their full capacity (NPS petition Page 11). The Preliminary FOF does not consider the results of this analysis.

41. FOF Page 35. Table 1. “Modeled coastal discharge in North Kona, including the effects of pumpage at Sustainable Yield.”

This table is not referenced in the text of the Preliminary FOF. The sources of the values in this table are not cited in the table caption or in the document text.

This table also indicates that pumping the full sustainable yield from the Keauhou, Kaapuna, Kealakekua, Anaehoomalu, and Kiholo Aquifer Systems will reduce coastal discharge by 83 Mgal/d. It is not clear why this rate is so much less than the combined sustainable yield of the aquifer systems (185 Mgal/d).

42. FOF Page 37. “With a small change in ground water flow, the effect on brackish water salinity from this estimated reduction of freshwater in the brackish basal lens would also be small.

FOF Page 55. “This relatively small reduction in flow is expected to have little-to-no effect on the brackish basal lens as a water resource or as a habitat for the various life forms for which the Park has shown concern-- opaeula, orange-backed damsel flies, fish, birds, or, with respect to the ocean- coral.”

FOF Page 56. “(12) Current data indicate that withdrawal of high-level water will not cause a measurable increase in the salinity of the brackish water. The concern that pumping high-level water will increase the salinity of the brackish lens and threaten native and endangered species appears to be unfounded.”

These findings are unsupported by scientific data.

The relationship between declining recharge and salinity in the freshwater lens is uncertain. The Preliminary FOF does not cite a quantitative analysis documenting how a specified reduction in freshwater recharge will affect salinity in coastal areas. The impact analyses in the Preliminary FOF cannot accurately predict the resulting salinity in the Park because they do not account for the physical process of solute transport.

The finding that a 10-15% reduction of flow will have “*little-to-no effect*” or will not cause a “*measurable*” increase in salinity and brackish water ecosystems in the Park is unfounded and purely speculative.

Pumping in the Kahaluu Shaft and Wells in the KASA illustrates that salinity can increase in wells and tunnels that skim the top of the freshwater lens as a result of saltwater intrusion. The Preliminary FOF documents saltwater intrusion at the Kahaluu Shaft (3557-05) and finds that “*Pumping 4 mgd from the shaft is not sustainable*” (Page 55) because it has caused chloride concentrations to exceed 300 mg/L.

The Preliminary FOF also find that future pumpage from the coastal system may be as high as 12.92 Mgal/d (Page 34). Future pumpage in the coastal system therefore represents a clear and documented threat to public trust resources that depend upon freshwater discharge.

43. FOF Page 37. “If the lens becomes more salty, the salty portion will be in the deeper part of the “transition zone.” The fresh water rises higher in the water column.”

This finding is not supported by scientific information.

Based upon fundamental hydrologic principles, a decrease in freshwater discharge due to groundwater withdrawals will cause saltwater to move inland and to rise in elevation, while the water table declines in elevation (e.g., Cooper et al. 1964). This fact is based upon the same fundamental principles as the RAM model (simple hydrostatics, Darcy's Law, and the Ghyben-Herzberg relation).

Because the Park is on the coastline, the pools and ponds within the Park are particularly vulnerable to saltwater intrusion. According to basic hydrologic principles, a reduction in freshwater discharge will lower water levels in the pools and ponds and increase the salinity of water in these features. These changes will be superimposed upon the natural variations in water levels and salinity. The magnitude and timing of these changes are uncertain.

- 44. FOF Page 38. "The Division of Aquatic Resources ("DAR") at the Department of Land and Natural Resources, conducted a biological overview which indicates that if the only freshwater recharge came from local rainfall (about 10 inches per year), there would be enough freshwater to sustain the biota (this assesment is is [sic] reproduced in its entirety in Exhibit D)."**

FOF Page 39. "As long as there is some source of freshwater, whether it be from rainfall, surface runoff, or ground water flow, the biological and ecological integrity of aquatic resources within this area will not be compromised. (see Exhibit D)"

These statements are unsupported by scientific data.

Fresh groundwater discharge is needed to sustain the biological and ecological integrity of aquatic resources in the Park. The quantity of water needed to preserve non-consumptive public trust resources in the Park, however, is uncertain.

Contrary to the Preliminary FOF, the DAR overview does not indicate that "*local rainfall (about 10 inches per year)*" is sufficient to sustain aquatic biota. The DAR overview states that an unquantified amount of fresh water is needed, but no published or peer-reviewed information is cited to support this statement. The above conclusions in the Preliminary FOF and DAR overview are therefore unfounded and speculative.

While the Preliminary FOF recognizes that maintaining recharge to the freshwater lens from local rainfall is needed to sustain aquatic species, it does not consider that wells pumping from the freshwater lens capture some of this water. The Preliminary FOF note that future pumpage from the coastal system may be as high as 12.92 Mgal/d (Page 34). It is therefore not clear why the Preliminary FOF and DAR overview fail to consider the potential effects of pumping coastal groundwater on water-dependent public trust resources.

- 45. FOF Page 38. "The salinity in the anchialine pools at Kaloko-Honokohau averages approximately 15 ppt."**

This statement is incorrect.

It is important to recognize the variability in salinity among the anchialine pools. The salinity of the anchialine pools in the Park does not average 15 ppt. To clarify, a 2008-2009 NPS survey indicated that the average salinity of 174 anchialine pools in the Park was 15 ppt (or 43% seawater). The survey indicated that the average salinity of individual pools ranged from 4.0 to 26.9 ppt.

46. FOF Page 38. “Considered a coastal wetland species, this damselfly occupies a wide range of habitats from perennial streams to springs and seeps as well as reservoirs and ponds including, but not limited to, lower salinity anchialine pools (< 15 ppt.)”

This statement is not based upon the best available scientific information.

The candidate species for listing under the Endangered Species Act of 1973, the orange-black Hawaiian damselfly, was once the most abundant damselfly in Hawai‘i. This species has now been reduced to 16 populations across the state. The loss of an occupied and protected site due to saltwater intrusion could potentially jeopardize the recovery of the species. Habitat destruction is the primary reason this species is considered a candidate for listing and habitat protection in the Park is needed to prevent its extinction.

Whether suitable habitat for this or other aquatic species exists elsewhere in Hawai‘i is not relevant to NPS’ mandate to preserve habitat within the Park. The NPS must preserve habitat for rare native species in Kaloko-Honokōhau National Historical Park in accordance with the Park’s unique enabling legislation, the 1916 Organic Act, and the Endangered Species Act. Any finding on the significance of potential changes to the habitat for these and other protected species within the Park must be determined within the context of these laws.

The NPS petition cites one peer-reviewed laboratory experiment that specifically investigated the optimal salinity range and threshold for this species (Page 15). In this study, titled “*The effect of salinity and temperature on survival of the orange-black Hawaiian damselfly, Megalagrion xanthomelas*”, University of Hawai‘i and USGS researchers found that “*naiads [larva] also displayed a threshold response to salinity above 15 ppt with no naiads surviving at 20 ppt despite successful hatch observed at this salinity*” (Tango 2010).

One of the anchialine pools in the Park where the candidate-endangered orange-black Hawaiian damselfly has been observed (HA_Kaloko_007) was sampled 15 times between 2004 and 2009. Salinity averaged 13.77 ppt with a minimum of 11.84 ppt and a maximum of 15.33 ppt. While it is important to be cautious about extrapolating thresholds derived from laboratory experiments to field conditions, it is also important to recognize that this pool is near the published threshold for the damselfly larva and that increased pumping, if not optimally located, may increase salinity beyond this threshold.

47. FOF Page 38. “Both fishponds are spring-fed producing brackish water with a salinity of 12 ppt.”

This statement is incorrect.

We believe it is important to recognize the variability in the salinity of the fishponds. Salinity varies spatially, with depth, and over time in the fishponds. Sparks (1963) measured salinity as low as 4 ppt in Kaloko Fishpond and as low as 9 ppt in ‘Aimakapā Fishpond. Dollar & Nance (2012) measured salinities in the range of 20.2-28.0 ppt in Kaloko Fishpond, and measured salinities in the range of 12.1-12.7 ppt in ‘Aimakapā Fishpond. These and other measurements of fishpond salinity are provided in the NPS petition (Figure 16).

48. FOF Page 39. “As long as the source of water used to produce limu manaua contains the proper nutrients it needs (regardless of salinity), this limu will continue to be productive wherever it is found in the marine environment.”

This finding is not supported by scientific data.

We agree that macroalgae or *limu* must have an adequate supply of nutrients and that groundwater discharge provides a significant source of nutrients, as well as reduced salinity, to these organisms in the coastal environment (e.g., Johnson et al. 2008). The relative importance of nutrients and salinity to *limu* growth is uncertain.

Researchers at the University of Hawai‘i found that “*salinity is one of the most critical chemical factors affecting the growth rate, development, and distribution of seaweeds*” (Amato 2009). They found that in general, maximal growth rates for some tropical macroalgae occur at salinities less than seawater, and that specifically, a salinity of 27 ppt (or 77% seawater) provided optimal conditions for the growth of *limu manaua* (*Gracilaria coronopifolia*), an economically, ecologically, and culturally important species native to the Kona Coast (Amato 2009; Duarte et al. 2010).

Similar observations were made at a major harvest site on Moloka‘i, where severe drought conditions slowed the growth of one of the most prized species, *limu kohu* (*Asparagopsis taxiformis*) (Poepoe et al. 2001). The Commission has also found that because “*limu frequently grows best in a mixture of seawater and freshwater,*” increased salinities may be detrimental to its growth on Moloka‘i (Contested Case Hearing CCH-MO97-1, Finding of Fact 144).

49. FOF Page 39. “This summary listed invasive species, accumulation of organic matter in the ponds as the primary threat to native species. See Exhibit D.”

FOF Page 56. “(14) Invasive species and organic detritus in the anchialine ponds are the major factors that threaten the native species.”

Invasive non-native plants, fish and crustaceans are specific threats to the health and integrity of habitat for native species in the Park. The NPS has implemented an anchialine pool monitoring protocol to assess the status and trends overtime in anchialine pool water quality, biota and habitat characteristics. This database is available online (<https://irma.nps.gov/App/Reference/Profile/2192753>) and can be queried to, for example, determine the number of pools where non-native species have been observed or the number of pools with organic substrate.

Water level, salinity, and water temperature are also critical parameters in providing the physical habitat that is essential to support native species that inhabit the pools and ponds in the Park.

50. FOF Page 40. “However, an additional cause for decline [sic] is the act of drilling in this area of complex geology which punctures layers of rock and/or structural features that separate waters of different water levels (different heads) and that are following different flow paths.”

FOF Page 41. “Pumping in the KASA high-level water body is not considered to be a significant cause for the water decline because pumping rates are a small fraction of the ground water flow rates and the observed water level declines are also occurring [sic] in areas where there is no pumping.”

These statements do not consider all available information.

The Preliminary FOF does not adequately consider the possibility that pumping in high-level wells can contribute to the observed water-level declines. It appears that water-level declines are greater in areas where pumping is occurring. The idea that water-level declines are limited to the vicinity of pumping wells is also flawed. Multiple pumping wells in one aquifer can have regionally significant effects.

Additionally, the idea that water-level declines (drawdown) due to pumping should be small because the pumping rates are a small fraction of groundwater recharge or “*flow rate*” is a misconception with important implications for water-resource management and sustainability.

Drawdown due to pumping is a result of a depletion of groundwater storage. When water is withdrawn from a well, it is initially balanced by the loss of water stored in the aquifer. The amount that water levels decline due to pumping is a function of the physical properties of the rock or sediment in which the groundwater is stored, the pumping rate, and the distance from the well to aquifer boundaries, but not groundwater recharge.

This fundamental hydrologic principal was explained by Theis (1940), and has been revisited in terms of water-resource management by Bredehoeft et al. (1982) and again by Alley et al. (1999).

The development of groundwater has consequences. The water withdrawn by a pumping well must be balanced by either “(1) *more water entering the groundwater system (increased recharge)*, (2) *less water leaving the system (decreased discharge)*, (3) *removal of water that was stored in the system, or some combination of these three*” (Alley et al. 1999).

It is essential for water managers to fully consider these consequences. In inland areas, groundwater withdrawn by wells will be balanced by reduced water levels and reduced recharge to the coastal areas; in the freshwater lens, water withdrawn by wells will be balanced by thinning of the lens and reduced groundwater discharge to the ocean. The proportion of water coming from each of these sources will also change over time.

51. FOF Page 55. “(7) The 12-MAV for wells within the ahupua‘a in which Kaloko-Honokohau National Park is located is 2.4 mgd. This could increase to approximately 3.7 mgd by 2030.

This finding is incorrect.

The reported 12-MAV for wells located within the Park’s 4 ahupua‘a is 3.7 Mgal/d.

This value is based upon the Commission’s records for the Kohanaiki wells (1.292 Mgal/d), the Hualalai Deepwell (0.836 Mgal/d), and the Honokohau Deepwell (1.567 Mgal/d), and was presented to the Commission by the NPS in a letter dated November 19, 2014.

When pumping of the permitted Palani Ranch Deepwell (4158-003) reaches its proposed pumping rate, pumping within the Park’s 4 ahupua‘a will increase to 4.7 Mgal/d.

If the Kaloko Makai development is approved as proposed, pumping within the Park’s 4 ahupua‘a will increase to 9.7-15.6 Mgal/d (Wilson Okamoto Corporation & Ho‘okuleana LLC 2013).

52. FOF Page 56. “(13) The native biology of the Park is euryhaline, i.e. adapted to a wide range of salinity. The only organism of concern in the petition that is sensitive to salinity increases is the orange-backed damsel fly. However, the brackish ponds of the Park are not the native habitat for the orange-backed damsel fly. The species is not unique to the Park. The damsel fly is not strongly related to traditional and customary practices. In fact, the orange-backed damsel fly prefers fresher water and is found in fresh to slightly brackish water bodies in many other parts of the state.”

This finding is inaccurate and conflicts with other information in the Preliminary FOF.

The candidate-endangered orange-black Hawaiian damselfly is a native species and it uses anchialine pool habitat in the Park. Whether this species exists elsewhere in Hawai‘i is not relevant to the NPS’ mandate to preserve habitat within the Park.

We disagree that the orange-black Hawaiian damselfly is “*the only organism of concern in the petition that is sensitive to salinity increases.*” The fact that an aquatic species is euryhaline or can be found in a wide range of salinities, does not indicate that it is not sensitive to salinity or that optimal conditions do not exist. The many aquatic species described in the NPS petition require different water quality and temperature conditions at different stages in their lifecycle to successfully mature and reproduce, and some are more productive under optimal conditions.

According to researchers from the University of Hawai‘i, the DAR, the USGS, and the U.S. Fish & Wildlife Service, reducing groundwater discharge to the coast may adversely affect habitat for the candidate-endangered orange-black damselfly (Tango 2010), *limu* productivity in nearshore waters (Amato 2009), wetland habitat for the endangered Hawaiian stilt and the endangered Hawaiian coot (U.S. Fish & Wildlife 2011), and fish habitat and juvenile fish recruitment (Nishimoto 2007; Shimoda et al. 2014).

The Preliminary FOF and the DAR overview do not consider habitat requirements for breeding endemic, endangered waterbirds or the long-term decline in the quantity and quality of wetland habitat in Hawai‘i and the paucity of this habitat type in West Hawai‘i.

Wetlands along the Kona Coast provide important feeding and breeding sites for the endangered Hawaiian stilt (*Himantopus mexicanus knudseni*) and the endangered Hawaiian coot (*Fulica alai*) (NPS petition Pages 15-16). These wetlands are maintained by subterranean sources of fresh groundwater. Hawaiian coots need fresh water to successfully rear young. Hawaiian stilts have a wider salinity tolerance but are more productive in fresh water (i.e., more breedings and higher success rates). ‘Aimakapā Fishpond is listed as a Core Wetland by the U.S. Fish & Wildlife Service in their Recovery Plan for Hawaiian Waterbirds (2011), which means that this wetland is essential for the larger populations of Hawaiian waterbirds prescribed for recovery.

Saltwater intrusion and reduced freshwater discharge can adversely affect the food availability and integrity of unique coastal wetland habitat for Hawaiian waterbirds, and ultimately the long-term recovery of these species (U.S. Fish & Wildlife Service 2011).

This DAR overview recognizes that brackish water environments, such as that found in Kaloko Fishpond and the Park’s tidepools, “*are important for the juvenile stages of marine fishes such as aholehole, mullet and awa providing specific food sources for these species as juveniles as well as protection from predators*” (Page 38). The Commission has previously acknowledged that ‘ama ‘ama or striped mullet (*Mugil cephalus*) as well as “*aholehole and milkfish (awa) depend on a euryhaline or brackish water environment for the nursery stage of their life cycle*” (Contested Case Hearing CCH-MO97-1, Finding of Fact 147). All of these fish species have been observed in tidepools and nearshore waters in the Park (e.g., Beets et al. 2010).

Saltwater intrusion and reduced freshwater discharge in Kaloko Fishpond and the Park’s tidepools could result in a loss of nursery habitat for these culturally significant fish. Because the NPS is working to restore Kaloko Fishpond for traditional aquaculture, maintaining optimal growing conditions for young fish is essential to support these harvesting practices. Optimal conditions for the culture of mullet and milkfish in Hawaiian fishponds has been cited as 5-20 ppt (or 14-57% seawater) (Maden & Paulsen 1977). The state is also working to protect essential nursery habitat for striped mullet fingerlings and juveniles, and found that traditional Hawaiian fishponds may need further protection (Nishimoto et al. 2007).

The DAR has also recently determined that “*salinity and habitat conditions associated with fresh water discharge (i.e., unaltered stream flow), have positive relationships with relative abundance and biomass of juvenile fishes, particularly important game fishes. These findings support the predication that sustained freshwater discharge into estuaries and natural estuarine conditions are primary mechanisms influencing suitable fish habitat and enhanced juvenile fish recruitment*” (Shimoda et al. 2014) (see Attachment G).

Specific evidence that the striped mullet is sensitive to salinity is provided by Nash & Shehadeh (1980). They note that for the striped mullet, “*the effect of salinity on larval survival and development is possibly more significant than that for incubation of the eggs.*”

Citing the work of Sylvester and Nash (1975), they describe the tolerance levels of larvae of striped mullet to varying salinities: “*they showed that the larvae could only withstand prolonged exposures to salinity between 25-34 ppt at 20 degrees Celsius during the first week of development, with an optimum at 26-28 ppt for 96-hr exposure.*”

The Preliminary FOF therefore does not fully consider the effects of groundwater withdrawals on culturally important and rare native species in the in the Park. The Commission should also seek the input of cultural practitioners regarding the importance of fresh water to native species in its decision-making. The Office of Hawaiian Affairs and *Kua‘āina Ulu ‘Auamo* (KUA), which brings together practitioners from around Hawai‘i to build relationships and share knowledge about community-based resource management, are valuable resources for this information.

53. FOF Page 56. “(15) Traditional and customary practices occur at the Park. However, NPS has closed off the Aimakapa fish pond to public access, including access by native Hawaiians wishing to practice their traditional and customary Hawaiian rights.”

‘Aimakapā Fishpond is managed in accordance with the Endangered Species Act and “*The Spirit of Ka-loko-Hono-kō-hau, a proposal for the establishment of a Ka-loko Honō-ko-hau National Cultural Park, Island of Hawai‘i, State of Hawai‘i*” (Honokōhau Study Advisory Commission 1974). ‘Aimakapā Fishpond provides habitat for two endangered waterbirds and is listed as a Core Wetland by the U.S. Fish & Wildlife Service in their Recovery Plan for Hawaiian Waterbirds (2011). The Honokohau Study Advisory Commission (1974) recommended that the fishpond be restored in a manner that does not have an adverse effect on the wildlife that inhabits the pond.

The NPS will provide more information regarding traditional and customary practices that occur in the Park in response to Items C.3.b and C.3.c of the Preliminary Order.

54. FOF Page 58. “XVI CRITERIA FOR DESIGNATION”

Without the benefit of explanation and despite the statute’s explicit applicability to groundwater, this section of the Preliminary FOF does not address the State Water Code’s most fundamental standard for designation:

When it can be reasonably determined, after conducting scientific investigations and research, that the water resources in an area may be threatened by existing or proposed withdrawals or diversions of water, the commission shall designate the area for the purpose of establishing administrative control over the withdrawals and diversions of ground and surface waters in the area to ensure reasonable beneficial use of the water resources in the public interest. [§174C-41(a)]

The NPS petition provides a basis for determining that water resources, especially those that have been recognized as public trust resources, in and around Kaloko-Honokōhau are threatened by proposed withdrawals of groundwater from both the inland and coastal groundwater systems.

55. FOF Page 58. “(1) Whether an increase in water use or authorized planned use may cause the maximum rate of withdrawal from the ground-water source to reach ninety percent of the sustainable yield of the proposed water management area.”

The Preliminary FOF does not consider the arbitrary nature of this criterion. To begin with, Water Management Areas have been designated when withdrawals were below 90% of the sustainable yield; existing withdrawals are less than 90% of the sustainable yield in 30 out of the 35 designated aquifer systems in Hawai‘i.

Additionally, the method for calculating sustainable yield involves choosing an acceptable water-level decline. In the case of the KASA, the Commission chose to limit water-level declines to 25% of the predevelopment levels. This number was chosen to protect water quality in coastal pumping wells, and not explicitly to protect non-consumptive public trust resources.

As noted in the Preliminary FOF (Page 58) and in the testimony of Dr. Jonathan L. Scheuer on December 10, 2014, the calculation of “*authorized planned use*” also involves many discretionary choices. The Commission staff have determined it is a “*term of art*” contingent upon the discretion of the decision maker. Dr. Scheuer’s testimony indicated that authorized planned use could range anywhere from 52-103% of the sustainable yield for the KASA, depending upon how it is calculated.

Finally, the “*90% of sustainable yield*” threshold does not have any scientific basis. While future water demand should be considered by the Commission, this criterion is not a scientifically robust measure of sustainability.

56. FOF Page 59. “(4) Whether 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.”

The Preliminary FOF does not consider how the “*spatial pattern*” of wells in the KASA may affect non-consumptive public trust resources.

The NPS petition notes that the RAM methodology for calculating sustainable yield does not account for the spatial pattern of wells – it assumes that wells are uniformly distributed and optimally located. However, pumping rates are now two times higher within the four *ahupua‘a* of the Park than in the KASA as a whole. The petition addresses how the spatial pattern of existing withdrawals has evolved in the KASA as a consequence of the encroachment of saltwater in basal wells supplying the North Kona Water System, and why this evolution threatens to place a disproportionate stress on groundwater in Kaloko-Honokōhau (Pages 31-35).

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Attachments A-G



Ke Kahawai Pono
"The trustee who oversees the rightful sharing of water."

Water Professional Group Big Island Sustainable Yields for the Water Resource Protection Plan Update

State Commission on Water Resource Management



December 17, 2013
DLNR Board Room, Kalanimoku Building

2014 WRPP Big Island SY

Aquifer Sector	Aquifer System	RAM SY - 1990 (mgd)	D/I = 1990 pg B-3	1990 Recharge	Revised Recharge	Revised Recharge SY	USGS 2011 Revised Recharge Baseline	USGS 2011 Revised Recharge Baseline SY	2008 SY Range	Proposed 2014 SY Range
Hawaii										
Kohala	Hawi	27	0.44	62	29.9/65.4	13-29	21.09	9	13 - 29	9 - 29
Kohala	Waimanu	110	0.75	147	~	~	153.09	115	110	110 - 115
Kohala	Mahukona	17	0.44	38	~	~	23.22	10	17	10 - 17
E. Mauna Kea	Honokaa	31	0.44	71	~	~	63.33	28	31	28 - 31
E. Mauna Kea	Paauiio	60	0.44	136	~	~	120.86	53	60	53 - 60
E. Mauna Kea	Hakalau	150	0.44	341	~	~	364.81	161	150	150 - 161
E. Mauna Kea	Onomea	147	0.44	335	~	~	417.08	184	147	147 - 184
W. Mauna Kea	Waimea	24	0.44	54	~	~	35.62	16	24	16 - 24
NE. Mauna Loa	Hilo	347	0.44	793	~	~	815.16	359	349	349 - 359
NE. Mauna Loa	Keaau	393	0.44	898	~	~	914.71	402	395	395 - 402
SE. Mauna Loa	Olaa	124	0.44	284	~	~	454.01	200	125	125 - 200
SE. Mauna Loa	Kapapala	19	0.44	44	~	~	116.81	51	19	19 - 51
SE. Mauna Loa	Naalehu	117	0.44	268	~	~	476.19	210	118	118 - 210
SE. Mauna Loa	Ka Lae	31	0.44	71	~	~	106.61	47	31	31 - 47
SW. Mauna Loa	Manuka	42	0.44	96	56	25	160.11	70	25 - 42	25 - 70
SW. Mauna Loa	Kaapuna	50	0.44	115	133	58	122.00	54	51 - 58	51 - 54
SW. Mauna Loa	Kealakekua	38	0.44	86	87	38	125.00	55	38	38 - 55
NW. Mauna Loa	Anaehoomalu	30	0.44	69	~	~	181.69	80	30	30 - 80
Kilauea	Pahoa	435	0.44	994	~	~	910.93	401	437	401 - 437
Kilauea	Kalapana	157	0.44	359	~	~	487.76	215	158	158 - 215
Kilauea	Hilina	9	0.44	20	~	~	72.95	32	9	9 - 32
Kilauea	Keaiwa	17	0.44	39	~	~	93.61	41	17	17 - 41
Hualalai	Keauhou	38	0.44	87	86	38	106.00	47	38	38 - 47
Hualalai	Kiholo	18	0.44	42	~	~	84.00	37	18	18 - 37



PACIFIC ISLANDS
CLIMATE CHANGE COOPERATIVE

WEBINAR PRESENTATION

Mapping Trends in Hawaii's Rainfall Since 1920

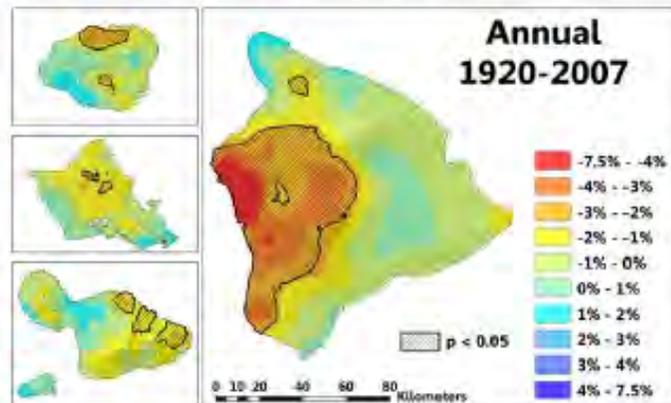
Thursday, August 21, 2014

(see page 2 for WebEx and call-in information)

Speaker: Ms. Abby Frazier

Webinar Overview

Spatial patterns of rainfall in Hawai'i are among the most diverse in the world; ranges on a single island rival those of continents. As the climate warms, it is essential to understand how rainfall has changed so that we can better understand possible future climate changes. Utilizing Hawai'i's extensive network of historical rain gauges, we performed data screening, homogeneity testing, and gap filling to produce a serially complete rainfall dataset for as many stations as possible. This was used to develop rainfall maps for each month from 1920 to 2007. Maps of rainfall values and anomalies (departures from the most recent 30-year mean) were derived for all major Hawaiian Islands at a 250 m resolution. Using this time series of maps, linear trends for the entire period (1920-2007) and the most recent 30-year period available (1978-2007) were calculated at every pixel across the state for each month and each 3- and 6-month season. These trends and their p-values were then mapped to produce spatially continuous trend maps of Hawai'i. The results show drying trends on all islands, with Hawai'i island experiencing the largest significant long-term declines annually. These results are in agreement with previous studies of trends at individual stations and for indices representing the entire state. However, this study is the first to show the spatial details of how rainfall has changed in the islands over the last century, critically important information for resource managers in Hawai'i.



About Our Presenter

Abby is currently a PhD student in Geography at UH Manoa, studying climatology with Prof. Tom Giambelluca. She completed her Master's degree in 2012 on a project related to the Rainfall Atlas of Hawai'i – an interactive site launched in 2011. She worked as a GIS Analyst before coming to graduate school. Her research interests include climatology, GIS, spatial analysis, geostatistics, and climate variability.

R312

Climatic Changes and Their Effects on Rainfall in Hawai'i

Presentation by Oliver Elison Timm¹

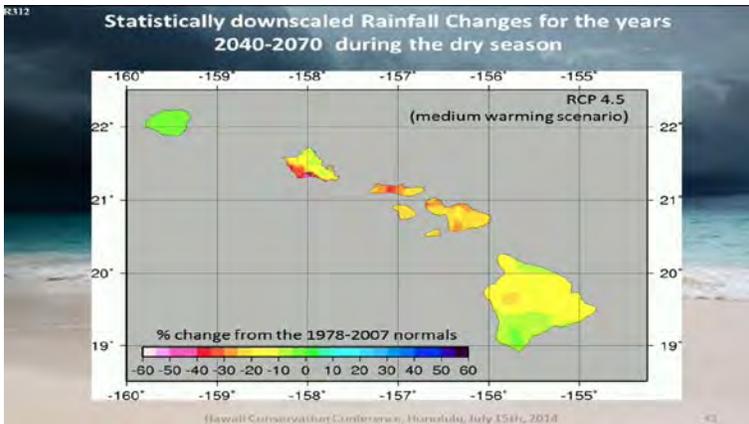
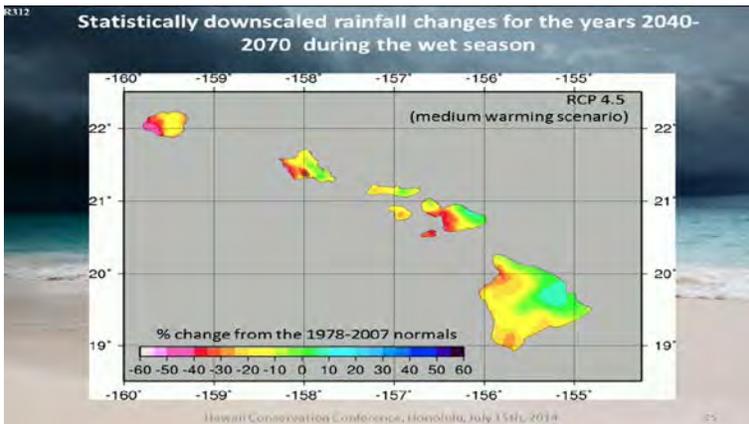
In collaboration with:

Thomas W. Giambelluca² & Henry F. Diaz³
Mami Takahashi², Lauren Kaiser²

With contributions of Abby Frazier²

Affiliations:
¹ Department of Atmospheric and Environmental Sciences, University at Albany, Albany, NY
² Department of Geography, University of Hawai'i at Mānoa, Honolulu, HI
³ Earth System Research Laboratory, NOAA ESRL Boulder, CO

Hawaii Conservation Conference, Honolulu, July 15th, 2014



R312

Climatic Changes and Their Effects on Rainfall in Hawai'i

⇨ How does a global mean temperature change affect rainfall?

For the wet season:

We project an increase in rainfall along windward sites of the major islands.

On the dry leeward sites, rainfall is expected to decrease.

Hawaii Conservation Conference, Honolulu, July 15th, 2014

80

ATTACHMENT D: Conceptual models of the aquifer system

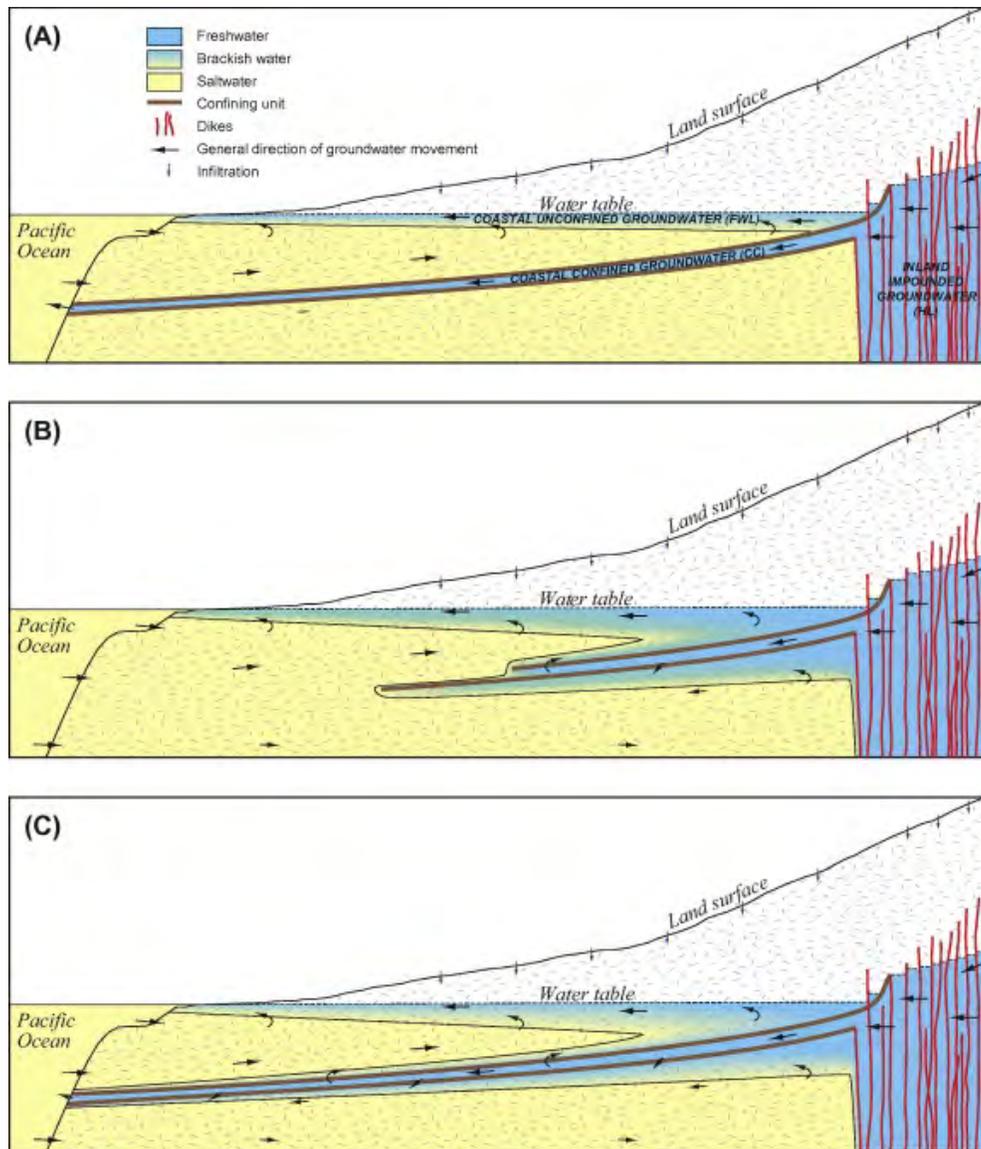
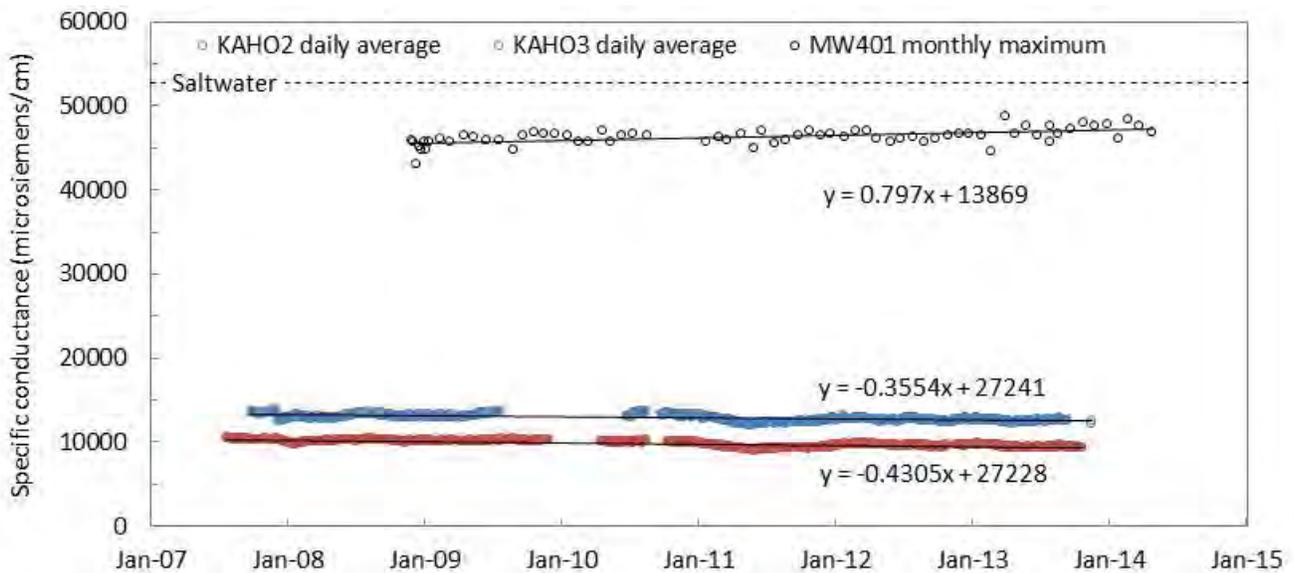
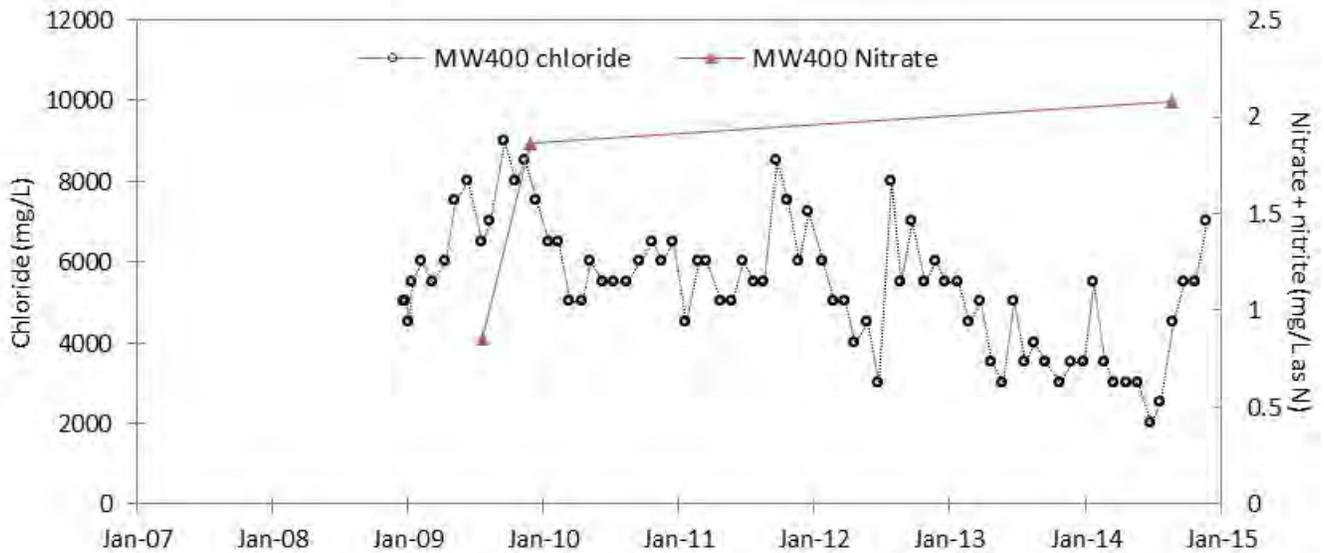


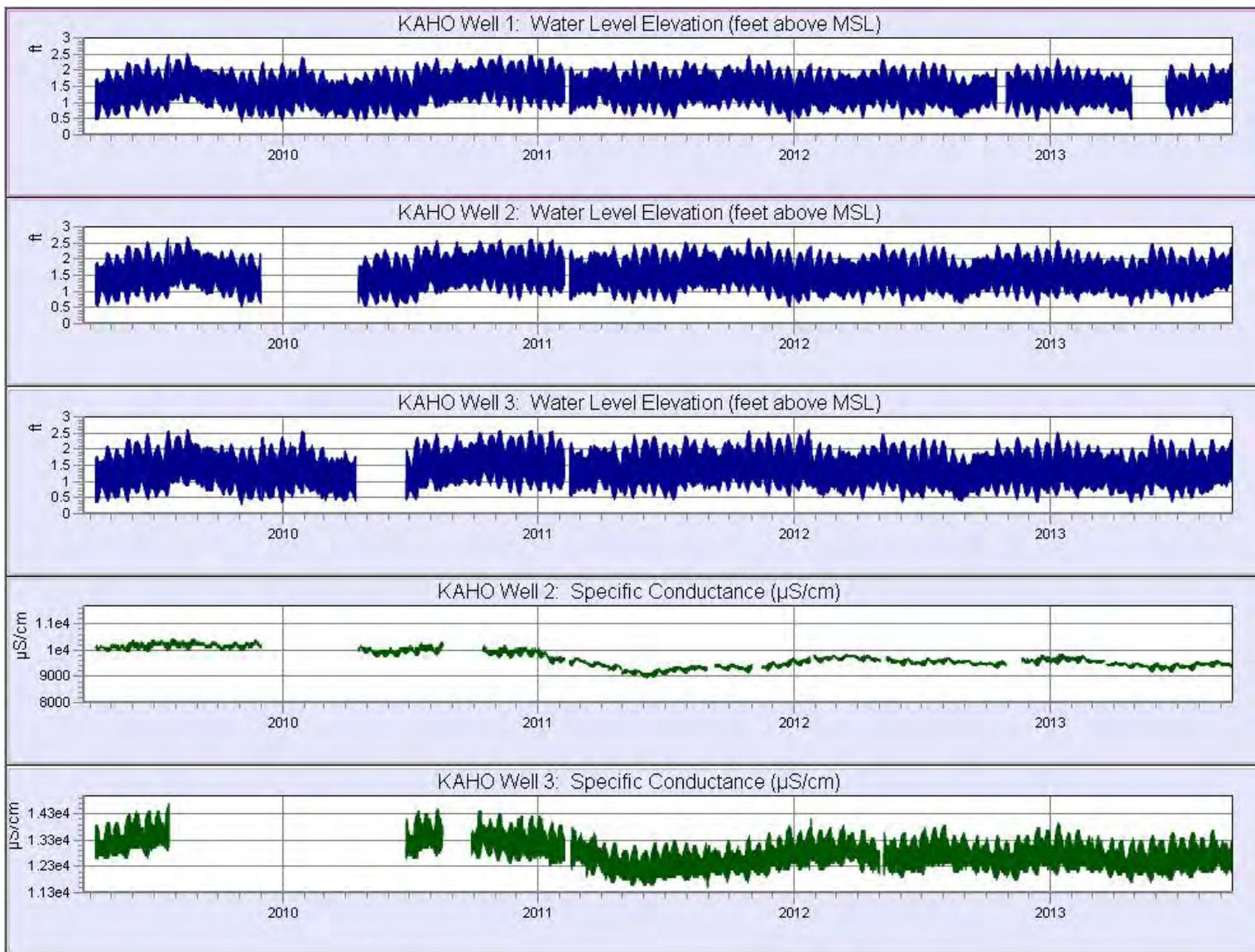
Figure 2 from Tillman et al. (2014a). Three conceptual models of interconnection among groundwater bodies in the study area. A) the freshwater lens system is completely separated from the other groundwater bodies by impermeable rock, B) all discharge from the inland impounded system ultimately contributes to the recharge of the freshwater lens system, and C) some discharge from the inland impounded system contributes to the recharge of the freshwater lens system and the remainder goes directly to the ocean at depth beneath the freshwater lens system.

ATTACHMENT E: Salinity and nutrient data from observation wells within and on the northern boundary of the Park.

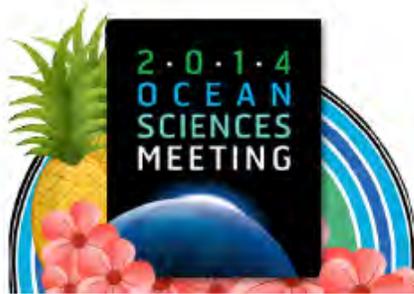


Top: chloride and nitrogen concentrations versus time for well MW400 (chloride data courtesy of the Commission; nutrient data available at: <http://waterdata.usgs.gov/nwis>). Bottom: specific conductance versus time with linear fits and the slope of the trendlines for wells KAHO2, KAHO3 (<https://irma.nps.gov/aqwebportal/>), and MW401 (courtesy of the Commission).

ATTACHMENT F: Continuous data from the three observation wells within Kaloko-Honokōhau National Historical Park



Continuous water-level and specific conductance data collected by the NPS and the USGS from the three observation wells in the Park (<https://irma.nps.gov/aqwebportal/>).



23-28 February 2014 / Hawaii Convention Center
Honolulu, Hawaii USA

Ē Komo Mai

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Abstract

INVESTIGATIONS OF HAWAIIAN ESTUARIES AS FISH HABITAT: SPECIES ASSEMBLAGES, ABUNDANCE, BIOMASS, AND SEASONALITY FROM THREE ESTUARY TYPES

Hawaiian estuaries are thought to play key roles in coastal fisheries productivity; however this important ecosystem is understudied. The objective of this study is to characterize species assemblages, distributions and seasonal recruitment, and the potential influences on these measures by estuary type and physical conditions. Quarterly sampling took place in three types of estuaries: embayments, stream mouths, and coastal groundwater across the archipelago. Fish were randomly sampled from shore using cast-nets, identified and measured. Water quality parameters (temperature, salinity, conductivity, pH, DO, turbidity) and habitat characteristics were also recorded at each sampling station. Results reveal that salinity and habitat conditions associated with fresh water discharge (i.e., unaltered stream flow), have positive relationships with relative abundance and biomass of juvenile fishes, particularly important game fishes. These findings support the predication that sustained freshwater discharge into estuaries and natural estuarine conditions are primary mechanisms influencing suitable fish habitat and enhanced juvenile fish recruitment. With climate change predicted to decrease Hawaii's precipitation and freshwater flow, and further affecting conservation of freshwater resources, our observations are being applied to predications for future coastal productivity.

ePoster:

<h4>Authors</h4> <p>Shimoda, T. E., Division of Aquatic Resources, USA, troy.e.shimoda@hawaii.gov</p> <p>Sakihara, T. S., Division of Aquatic Resources, USA, troy.s.sakihara@hawaii.gov</p> <p>Nishiura, L. K., Division of Aquatic Resources, USA, lanceo.k.nishiura@hawaii.gov</p> <p>Shindo, T. T., Division of Aquatic Resources, USA, timothy.t.shindo@hawaii.gov</p> <p>Peyton, K. A., Division of Aquatic Resources, USA, kimberly.a.peyton@hawaii.gov</p>	<h4>Details</h4> <p>Poster presentation</p> <p>Session #: 100 Date: 2/26/2014 Time: 16:00 - 18:00 Location: Poster/Exhibit Hall</p> <p>Presentation is given by student: No</p> <p>PosterID: 3011</p>
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January 30, 2015

Acting Chairman Carty Chang
Commission on Water Resource Management
P.O. Box 621
Honolulu, Hawaii 96809

Re: **Petition to Designate Keauhou Water System Area as
Water Management Area**

Dear Chairman Chang and Members of the Commission:

At the December 10, 2014 meeting, the Commission requested interested parties and members of the public to submit written position statements by January 31, 2015 on the factual and legal issues that have been generated as a result of the above-referenced proceedings.

On behalf of RCFC Kaloko Heights, LLC ("Kaloko Heights"), we submit this supplemental letter in opposition to the NPS petition to designate the Keauhou Water System as a Water Management Area, and respectfully request the Commission to deny the petition for the many procedural and substantive reasons that exist.

Kaloko Heights has a substantial property interest in the outcome of these proceedings, based upon its entitlements, more fully described in its Petition for Contested Case Hearing filed with the Commission on December 5, 2014. These entitlements include land use urban district designation, zoning approval for residential and commercial uses, tentative subdivision approval and paid water facilities charges totaling \$8,217,000 for 1,494 units. In addition, a 1,000,000 gallon water tank facility and water transmission facilities have also been constructed in conjunction with and reliance upon water development infrastructure improvements that were required conditions of approval prior to the current NPS petition filing. The value of these improvements represent substantial sums that have been invested in reliance upon these entitlements.

These investments, as well as the housing and supportive community development that is needed in the vicinity are at substantial risk, based on a record that is devoid of scientific evidence supporting the requested designation.

Based on the record, it is our position that designation would constitute clear reversible error, based on the following summary of issues, as will be more fully addressed below.

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Procedural Issues

The procedural steps that the Commission has taken to date are not authorized by rule, and have been further compounded with the attempt to implement vague and ambiguous rules and definitions which do not comport with the resources that comprise the Keauhou aquifer:

1. As a body, the Commission has conducted meetings and engaged in ex parte communications with NPS officials in violation of Hawaii's sunshine law. It has used its authority to act in an adjudicative and investigatory capacity to justify this process, citing Chapter 91, HRS, while at the same time denying interested parties such as the Department of Water Supply ("DWS") and Kaloko Heights the opportunity to participate and intervene as parties in a contested case hearing process, which would be required if the Commission is acting in an adjudicatory function as it claims.
2. Under Chapter 91, if the requested designation is approved, it will affect the rights, duties and privileges of DWS and Kaloko Heights, and as such, requires that as requested, the Commission conduct a contested case proceeding before taking steps to designate.
3. Acting in an ad hoc fashion, the Commission has not promulgated proper rules which:
 - A. Properly define or implement such terms as "authorized planned use" ("APU") or what constitutes a "threatened area" or a "water resource". As an example, the preliminary findings prepared by the Commission's staff attempt to denigrate DWS efforts to calculate APU without providing a bright line on what APU means. Commission members have themselves expressed "confusion" of what APU is. It is not simply what the general plan or community development plan allow, as some have implied, because the current definition is vague, such confusion abounds.
 - B. Authorizes it to conduct investigations (as opposed to its rule which only specifies that its Chairperson is to investigate the issues).
 - C. Authorizes it to impose conditions requiring DWS to engage in a process of placating the Commission with policies and procedures that should be dealt with in another context, being the separate process for water use development plans contained under Chapter 174C, Part III of the State Water Code, or dispute resolution per HRS Section 174C-10.

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In essence, as of this date, the Commission has committed violations of substantive and procedural due process, failed to promulgate rules which authorize its actions and improperly engaged in ad hoc rule making as it proceeds forward in the absence of required rules.

Substantive Reasons For Denying Petition for WMA

By all accounts, including that of Commission staff, scientists and NPS representatives, designation of the entire Keauhou aquifer as a WMA is not justified under any of the listed criteria. Even though the Commission has no basis to designate, and the evidence does not support designation, the Commission has extended yet again its investigation period on the basis that more studies are needed or are ongoing. The request for further study simply confirms that there is insufficient scientific evidence supporting designation.

NPS has had ample opportunity to make its case. Stakeholders should not continue to be held hostage to this process. The only factor which NPS has created in a self-fulfilling prophecy of its own making is whether there is a dispute respecting the use of ground water resources. Furthermore, this “dispute” should be pursued pursuant to HRS §174C-10, as has been addressed in DWS’ recent memorandum.

As will be discussed in more detail below, the facts and the applicable statute and rules do not call for designation of the Keauhou aquifer as a WMA when:

- A. There is no aquifer wide risk to ground or surface water resources, let alone risks to the NPS resources at Honokohau and Kaloko. NPS seeks a geographic wide designation, that includes high level water and basal water, which are comprised of distinct and severable water sources, without scientific basis.
- B. NPS has already acknowledged that it is not concerned about existing wells, but rather the effect of new high level wells. Yet, science already confirms that the water from high level wells does not impact basal water or the zone of mixing of brackish water where NPS resources exist. The commission’s own preliminary findings of fact acknowledge this conclusion.
- C. Current drilling and well protection standards which have been adopted and can be further refined by the Commission, provide the opportunity to safeguard against the potential for waste in high level wells per Chapter 174C, Part VII.

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- D. The amount of ground water recharge far exceeds previous estimates by which sustainable yield has been based on. Yet, the projected uses do not approach the sustainable yields.
- E. DWS has already begun to shift from basal water to high level wells. While the Kahaluu shaft has higher than desired chloride levels, these levels are still consistent with existing potable water requirements. In addition, while there is no evidence of impacts to or degradation of near shore resources resulting from basal water withdrawal, the shift to the high level will reduce the potential risk to these resources. In any event, designating the entire Keauhou aquifer, which is comprised of severable high level water, basal water, and water sources which are not inter connected is not warranted under the Commission's rules.

In short, the petition seeks to have the Commission designate an area wide WMA when very limited and controllable circumstances at the Kahaluu shaft exist which have no effect on NPS resources exist, and for which DWS has already taken steps to mitigate. The requested WMA for the entire Keauhou aquifer is wholly unjustified and would have broad reaching effects and unnecessary consequences to public and private interests. Designation would constitute clear error, be in violation of the law, and be arbitrary and capricious.

Discussion

Procedural Issues

1. Ad Hoc Rulemaking Violates Public Meeting Law and Chapter 91

Hawaii law clearly requires that prior to conducting hearings or rendering decisions on issues affecting public rights, duties or privileges, an agency must first adopt and abide by rules promulgated in accordance with Hawaii's Administrative Procedures Act, Chapter 91. A "rule" is an agency statement of general or particular applicability that "implements, interprets, or prescribes law or policy, or describes the organization, procedure or practice requirements of an agency affecting private rights of or procedures available to the public". HRS Section 91-1(4). As such, an agency must promulgate rules adopting such policy or procedure *prior* to implementing them in a decision-making context. *Prince Hotel Waikiki v. City and County of Honolulu*, 89 Haw. 381 (1999).

In the absence of such rules, (1) the public "cannot fairly anticipate or address the procedure as there is no specific provision in the statute or regulation which describes the determination process", and (2) interested parties are "without any firm knowledge of the

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factors that the agency would deem relevant and influential in its ultimate decision”. *Id.*, at page 393. As such, in the absence of unambiguous rules concerning procedure and interpretation of the law, the decision of an agency that engages in ad hoc rule making will be reversed for failure to follow rulemaking procedure. *Id.*, at page 393-394.

Based on the absence of clear and concise rules relating to the WMA designation process, the Commission has made up procedures as it goes along. When accused of having public meetings and taking evidence, having *ex parte* communications, or failing to provide proper notice or an opportunity for public testimony, the Commission has used the argument that the Commission was exercising its investigatory function and acting in an adjudicatory capacity, pursuant to Chapter 91. See November 10, 2014 letter response to OIP Complaint. In the letter, it is asserted that the meeting was conducted in pursuance of the Commission’s investigatory powers. Yet, the fact is that while the Chairperson is specifically authorized to so investigate, the Commission’s rules do not provide any basis for the entire commission engaging in such investigation functions or discussing issues on an *ex parte* basis when conducting its “adjudicatory function”. See HAR 13-171-6 (a), providing that the chairperson may conduct any scientific investigation deemed necessary in order “for the commission” to make a decision whether to designate a WMA. In accord, see HRS Section 174C-43 (the chairperson may conduct an investigation for the Commission).

The response also illustrates the lack of guidance or authority for how the Commission has proceeded, when it is stated that the investigation is neither a public meeting nor a contested case but constitutes part of “an overall adjudicatory function which is unique to the Water Code and vital to later processes”. The commission cannot have it both ways. If acting in an adjudicatory function, then it is acting in a contested case context. And if it is relying on a certain procedural framework, then it needs to properly promulgate rules of procedure. In this case, only the Chair is authorized to conduct investigations, presumably through staff, and if acting in an adjudicatory capacity vital to later processes, the statute and rules do not speak to the relationship between this action and the unspecified “later processes”.

2. **“Authorized Planned Use” and “Water Resource” Not Properly Defined or Applied in the Context of a Ground Water Source**

As a predicate issue, much of the Commission’s discussion has related to how to calculate the authorized planned use in relation to the maximum rate of withdrawal from the ground water source. As of December 10, 2014, Commission members continued to state there was confusion as to what APU means. In addition, in comparing the criteria for designation, the APU is to be considered in relation to the maximum rate of withdrawal from “the ground source”. The NPS petition seeks to protect the park resources at Kaloko

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Honokohau, yet seeks WMA designation for the entire geographic region characterized as the Keauhou aquifer, an area including ground water and surface water sources that is not connected to waters at the park. Compounding the analysis is the broad spectrum of methods of how APU has been analyzed.

While Commission staff have complained that DWS has used a variety of methods to calculate APU, ranging from demands from existing zoning, to transit oriented developments, to private well demands, to projects with water commitments, the Commission has not provided a regulatory definition that provides a discernible measure of APU. In fact, the Commission's Preliminary Order requests the County to refine the APU by working with the Commission and staff "to clarify the methodology used under different scenarios". As discussed above, adopting a specific methodology first requires the promulgation of rules which define the methodology to be used with a specific water source, what a development is, and how to measure the APU in the context of a specific resource.

The definition of APU, as currently contained in the statute and HAR is that authorized planned use means:

"The use or projected use of water by a development that has received the proper state land use designation and county development plan/ community development plan approval." HAR 13-171-2, HRS Section 174C-3.

By its terms, the APU definition references the use or projected use of a specific development. Instead, discussion by the Commission has related to full buildout under current general plan or zoning scenarios when it is clear that such densities will not occur and specific developments are not addressed. As a result, arbitrary and capricious decision-making based on inexact definitions that do not recognize required scientific application is the potential outcome.

Compounding the problem is determining what specific ground water source the APU developments should be measured against. Thus, the statute and rule discuss how the concept of APU is to be applied when considering the WMA criteria:

"Whether an increase in water use or authorized planned use may cause the maximum rate of withdrawal from the ground water source to reach ninety percent of the sustainable yield of the

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proposed water management area.” HAR 13-171-7(1).

The term ground water source means as a definitive ground water body, a watershed, a particular well, etc. HAR 13-167-2. Thus, when referencing an APU, it needs to be compared with a specific ground water source. In this instance, instead of analyzing the issue of what water usage or APU is utilizing water from a specific ground water source to analyze the sustainable yield issue, the total hypothetical APU is compared against the entire system of aquifers located within the KASA, and its several ground water sources, an exercise that is unscientific and inconsistent with the intent of the law.

3. *Contested Case Petitions Improperly Denied*

If the Commission’s position is that it is acting in a unique adjudicatory capacity, then it must afford opportunities to interested persons other than NPS the same opportunity to participate in the proceedings, i.e., to have a seat at the table, weigh in, and communicate with the Commission as occurred during the site inspections. But this opportunity has not been provided, and the matter has continued to proceed down a continuing path of error that has been so tainted that one cannot “unring” the bell.

The law is also clear that when an adjudicatory process is used, and an agency makes a determination which affects the rights, duties and privileges of a party, contested case proceedings are required. The Commission’s own rules provide for this process. HAR 13-167-2 provides that a contested case means a proceeding in which the legal rights, duties and privileges of specific parties are required by law to be determined *after agency hearing*. In accord, see HRS Section 91-1(5). Under Chapter 91, the term agency hearing means such hearing held by an agency immediately prior to review of a contested case. See HRS Section 91-1(1). Under HAR 13-171-9, a decision to designate a WMA is final, unless appealed to the appropriate court.

By its own rules, the Commission is to hold a contested case hearing and admit as parties all government agencies whose jurisdiction includes the land or water in question (e.g., DWS) and all persons within a hydrologic unit who have a property interest in the land, or “*who can otherwise demonstrate that they will be directly and immediately affected by the proposed change* that their interest in the proceeding is clearly distinguishable from the general public” (e.g., Kaloko Heights). HAR 13-167-51 and 54.

While the Deputy Attorney General opined during the December 10, 2014 hearing in a simplistic fashion that the Koolau case disposed of the issue, what she failed to

Acting Chairman Carty Chang
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mention was that the court's discussion on the issue, being that a contested case proceeding is not required for WMA designation was pure *dicta* (meaning that the issues before the court in *Koolau* did not involve a contested case issue).

In *Koolau Agricultural Company v. Commission on Water Resource Management*, 83 Hawaii 484 (1986), the Hawaii Supreme Court ruled that once having missed the 30 day appeal period under Chapter 91, a user of water within an aquifer designated as a WMA by the Commission could not bring an action in circuit court for declaratory and injunctive relief or a direct appeal to the Supreme Court. The direct appeal to the Supreme Court was dismissed as being untimely, since it was not filed within 30 days of the publication of the Commission's decision. The action for declaratory and injunctive relief was dismissed by the circuit court on the basis that it lacked jurisdiction:

[T]his Court finds that as a matter of law . . . the Hawaii Water Code, read in conjunction with [HRS Section 632-1], *provides for judicial "appeal" of the [Commission's] decisions regarding designation, but does not allow a collateral original action to be brought by way of declaratory judgment.* If such direct action were allowed, with the usual discovery requests and evidentiary hearings, it would effectively lead to the trial de novo, which the Legislature so plainly intended to prohibit for designation decisions by the Commission. Rather, the Legislature provided in [HRS Section] 174C-46 that judicial review is by appeal, which is on the record. 83 Hawaii at 488.

No contested case had been requested in *Koolau*, the appellant had missed the 30 day appeal deadline, but had attempted to utilize the declaratory judgment process to get the WMA issues before the court. In any event, the court in *Koolau* recognized that:

We have recognized, however, that "[d]ue process is flexible and calls for such procedural protections as the particular situation demands." *Sandy Beach Defense Fund v. City Council* (citation omitted).

In a subsequent case involving the Water Commission's amendment of Interim Instream Flow Standards ("IIFS") for certain water courses on Maui, the Supreme Court

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found that there was a constitutional due process right to a contested case hearing, notwithstanding the lack of any statutory or administrative rule mandating a hearing to establish an IIFS. The Court held as follows:

This [i.e. the lack of any statutory or rule requirement] does not foreclose review of the Commission's actions, as there remains a third route whereby a hearing may be "required by law": there may be a constitutional due process requirement. *In determining whether a party has a due process right to an administrative hearing, the court must first resolve whether the party's asserted interest is "'property' within the meaning of the due process clauses of the federal and state constitutions."* (citations omitted) "To have a property interest in a benefit, a person clearly must have more than an abstract need or desire for it. *He must have more than a unilateral expectation of it. He must, instead, have a legitimate claim of entitlement to it.* (citation omitted)

In re 'Iao Ground Water Management Area, 125 Hawaii 228, 240 (2012).

As noted in the *Iao* case, "[t]o have a property interest in a benefit, a person clearly must have more than an abstract need or desire for it. He must, instead, have a legitimate claim of entitlement to it." If the interest is "property," it also must be shown "what specific procedures are required to protect it." *Sandy Beach Defense Fund v. City Council*, 70 Hawaii 361, 376 (1989). The determination of what specific procedures are required to satisfy due process requires an analysis of several factors: (1) the private interest which will be affected, (2) the risk of an erroneous deprivation of such interest through the procedures actually used, and the probable value of additional or alternative procedural safeguards, and (3) the governmental interest, including the burden that additional safeguards would entail. *Id.*, at page 378. At a minimum, notice and an opportunity are the hallmarks of procedural due process.

In this case, the designation of a WMA which affects the subject property will negatively impair Kaloko Heights entitlement to water service for the project. It will be required to apply for a WUPA, a discretionary permit subject to denial and subject to judicial challenge by intervenors opposed to the development, i.e., designation of a WMA has the effect of adding a layer of permits which do not currently exist. The effect on Kaloko Heights of a

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January 30, 2015

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WMA designation will interfere with its property interest in its present entitlement to water service from the County system, having already invested approximately \$9 million in water facilities charges, a water tank and transmission system and obtaining subdivision approval. WMA designation will surely affect its property interests, and add yet another layer of permit requirements which did not exist when the entitlements were obtained, and delay or impede development. Kaloko Heights is entitled to participate in a CCH in the WMA designation proceedings.

4. **Procedures for Draft Preliminary Findings of Fact and Preliminary Order Not Authorized**

On the evening of December 9, 2014, one day before the December 10, 2014 Commission hearing, a set of “Preliminary Findings of Fact” was published on line. It does not appear to have been prepared or submitted by the Chairperson, as required by HAR 13-171-9. At the end of the meeting of December 10, 2014, no vote was taken adopting the Preliminary Findings, yet the Commission’s Preliminary Order, filed herein on December 29, 2014, references the Preliminary Findings as the basis for its decision to continue the investigatory period and in the interim, to exact what can only be considered concessions from DWS and the County, which does not relate to the issue of whether the petition should be denied. Nevertheless, the implied adoption of these findings supports a denial of the subject petition, as discussed below.

Substantive Issues

The Evidence, As Acknowledged By the Preliminary Findings of Fact, Require That The Petition be Denied In Its Entirety

Despite the flawed process that has been engaged in, the Preliminary Findings of Fact (“FOF”) requires that the NPS petition be denied. In order to be designated as a water management area, the WMA is a “geographic area which has been designated pursuant to section 174C-41 as requiring management of the ground or surface water resource or both”. HRS Section 174C-41(a) provides that:

“When it can be reasonably determined, after conducting scientific investigations and research, that the *water resources in an area* may be threatened by existing or proposed withdrawals or diversions of water, *the commission shall designate the area for the purpose of establishing*

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administrative control over the withdrawals and diversions of ground and surface waters in the area to ensure reasonable beneficial use of the water resources in the public interest.”

HAR Title 13, Chapter 171 provides that the purpose of the rules are to provide for the designation and regulation of hydrologic areas where water resources are being threatened. Under the rule, the Commission has the duty to designate WMAs to establish administrative controls “over the withdrawals and diversions of ground and surface waters in *threatened areas*”. What water resources specifically exist in a given area must first be determined before an analysis of APU or sustainable yield as to the specific bodies can ever occur.

In all of the applicable statutes and rules, the issue is whether there is a threat to a specific water resource in a *given area*. In this case NPS seeks designation of the entire Keauhou aquifer, using a broad brush. The FOF provide that the KASA “includes perched, high-level and basal ground water bodies”, that include a distinct basal aquifer and high level bodies of water. FOF, page 9. In addition, the undisputed scientific evidence, as set forth in the FOF, leads to the following conclusions:

A. The Keauhou Aquifer System Area (“KASA”) provides a line to manage resources, but is *not a physical boundary* that directs the flow of ground water. Instead, *adjacent systems* contribute recharge to the Keauhou aquifer. FOF, page 25. The analysis provided thus far attempts to lump all sources together without distinguishing these distinct sources, and implicates adjacent systems as well.

B. There has been a decrease, not an increase, in salinity in the brackish basal lens at Kaloko-Honokohau National Park, and high level pumping will have, at most, a negligible effect on the brackish basal water at the park. NPS resources are not threatened. FOF, page 26.

C. Most of the high level water flows at depth into saltwater underlying the brackish basal water lens, and pumping of high level water is not likely to affect flow of water into the basal brackish lens, the salinity of which has been stable the past 20 years (as such, there are severable and distinct water sources in the KASA). FOF, pages 27, 37. The scientific evidence that has been developed, and the preponderance of the scientific interpretations of that evidence establishes that prior use of the high level water has had no detectable impact on the basal aquifers and that continued use of additional high level resources can be made in a way that poses no risk to the basal resources of the NPS.

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D. Pumping in the KASA high level water body is but a small fraction of ground water flow rates and observed water declines are occurring in areas where there is no pumping, likely due to reduced rainfall rates. FOF, pages 40-41.

E. Water level declines for high level wells exist due to reduced rainfall and aquifer leakage caused by older well drilling techniques and well drilling standards, and if new wells are drilled in a manner to prevent leaks, the valuable storage of water in the aquifer can be preserved.

F. Only the Kahaluu shaft, which taps into basal water, has increased levels of salinity, and DWS is taking steps to shift pumping to new high level sources as they come on line. FOF, page 57.

G. There is yet no assessment or determination that excessive preventable high level waste is occurring. FOF, page 57.

H. There is no actual or threatened water quality degradation, as determined by the Department of Health. FOF, page 58.

I. Groundwater levels are not declining at an excessive rate. FOF, pages 58-59.

It is clear that water resources in the entire Keauhou aquifer system is not being threatened. The isolated instance involving the Kahaluu shaft does not threaten the entire geographic area or the several bodies of water which comprises KASA. Designation itself for the water being drawn from the Kahaluu shaft is also not warranted, as DWS is already taking steps to shift water draws to high level wells or reduce draws from this source.

As for the perceived theory that the older well drilling techniques and standards may contribute to waste, this is an issue that may deserve the adoption of stricter drilling standards, or enforcement of existing well permits. But designation of a WMA for this purpose is not warranted or consistent with the intent of the law. In this regard, NPS has already acknowledged that it is not concerned about existing wells, but only *new* high level wells. The Commission has the authority to issue well permits and to develop well construction and well installation standards, in accordance with HRS Sections 174C-81, et seq.

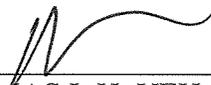
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Conclusion

Based on the evidence and the record, and the information presented, the Commission must deny the NPS petition. To do otherwise would constitute reversible error for a number of reasons, both procedural and substantive, and put at risk badly needed public and non-profit projects, including courthouse facilities, housing projects, as well as private economic drivers.

Very truly yours,

LAW OFFICES OF YEH & MOORE

By 

THOMAS L.H. YEH

cc: RCFC Kaloko Heights, LLC
TLHY\db