

From: [Janice Glennie](#)
To: [DLNR.CW.DLNRCWRM](#)
Subject: Waimea aquifer "gerrymandering"
Date: Thursday, October 03, 2019 11:52:42 AM

Aloha commission members,

This testimony is from the Kona Kai Ea Chapter of the Surfrider Foundation - a community, grassroots group with approximately 200 dues-paying members. Our mission to protect and enjoy the world's oceans and waterways.

Unfortunately, none of our members was available to testify at the October 3rd meeting despite the critical importance of this issue which, since all waters are eventually connected, affects all of us.

It is critical that this body stand strongly in support of State oversight of water use and allotment **by saying "No" to this proposal**. As was true with the proposed Keauhou Aquifer designation, development forces are fighting for more indiscriminate water use by getting "creative" in finding ways to avoid public input and potential State designation (protection) of our most critical Public Trust resource.

Changing an aquifer's boundaries doesn't change the amount of water that can, or cannot, be safely pumped out of it. Nor can sensitive island ecosystems be protected when wells are created and pumped without public knowledge and numbers. Ducking behind this kind of scheme keeps the public out of the loop — a public which has the right to know when their Public Trust resources are being used, or abused.

This is a bad faith proposal that pits stakeholders against each other instead of bringing them together — in broad daylight — to protect natural resources that we all depend upon to thrive and survive.

Mahalo for considering our testimony and for saying "No" to this attempt to undermine public oversight and input in the development and water use process.

Sincerely,

Janice Palma-Glennie
For the Kona Kai Ea Chapter
Surfrider Foundation

From: [Julia Alos](#)
To: [DLNR.CW.DLNR.CWRM](#)
Subject: CWRM Proposed Amendment and Update to the Water Resource Protection Plan of the Hawai'i Water Plan to combine Waimea (80301) and Anaeho"omalu (80701) ASA's into Waimea-"Anaeho"omalu System/Sector Area (80302)
Date: Thursday, October 03, 2019 1:06:41 PM
Attachments: [image001.png](#)
[CWRM JA Testimony on Aquifer Boundaries 10.03.19.docx](#)

Aloha DLNR/CWRM –

Please find my testimony, in support, of the proposed amendment/update to combine as one – I will attend this evenings meeting and orally testify, but wanted to get this off to you. Please advise if I am required to hand carry additional copies. My apologies for just getting this off to you.

Mahalo and awaiting your reply!

A hui hou....

Julia Alos
BDHawaii.com
Brown Development LLC



October 3, 2019

Julia Alos
P.O. Box 383595
Waikoloa, Hawaii 96738

Commission on Water Resource Management /CWRM

Proposed Amendment and Update to the Water Resource Protection Plan of the Hawai'i Water Plan to combine the Waimea (80301) and 'Anaeho'omalu (80701) Aquifer System Areas (ASA) Into the Waimea-'Anaeho'omalu System/Sector Area (80302)

Aloha Ahiahi to the State Commission on Water Resource Management, acumen and all other attendees:

My name is Julia Alos, I live in the South Kohala District of Waikoloa Village, and am representing myself as a lay person. I currently serve as member on SKCDPAC, WVA Firewise Management Team, and chair of Waikoloa Community Leadership Council. I've been a resident of Hawaii island since 1992, this is home.

This Public Notice July 2nd got my attention. I performed diligence on the matter and I'm here today to testify on this proposed amendment and update.

My online research and review of the "Staff Draft from DLNR and CWRM" reflects numerous scientists' analyses of older and newer data, results of geophysical and hydrology summary results by career professionals and their quest to best understand this issue.

I was most excited to learn about our Hawaii groundwater processes and its incredibly complex network of our aquifer system areas (ASA)'s and their formations, I encourage everyone to at least educate yourselves a bit on the subject so there's an understanding of why we are here this evening.

Here are some points I'd like to share:

1. The existing aquifer boundaries on the Big Island were identified by Mink and Lau in 1993. The boundaries were based on what was known of Hawaii Island's geology prior to that date.
2. The overall intent of the boundaries was to identify discrete aquifer systems that could reliably be assumed to be separate from their neighboring aquifer systems and could be managed in a sustainable way.
3. A great deal of new geologic and hydrologic information has been gathered during the nearly 30 years since these boundaries were established.
4. In some instances, the new geologic and hydrologic data show that the Mink and Lau boundaries have been placed appropriately; in the case of the 'Anaeho'omalu/Waimea aquifer boundary, the recent data show that there is no geologic/physical boundary between these two systems and

that water moves freely across this "administrative" boundary. Hence, this boundary serves no real purpose.

5. CWRM, as it should, is proposing to update this aquifer boundary to reflect the most current scientific data available for this region and should, in the future, continue to incorporate the best scientific data available in their management of Hawaii's aquifer systems.

In closing, I am hereby supporting this Proposed Amendment/Update to combine, in what's currently classified as two separate boundaries. I can only hope that the public views this change as one based on scientifically sound reasoning. Anyone who may feel threatened by this change and obliged to challenge this change should weigh their decision on where the evidential reality will take them, and I deduce they'll arrive at Waimea and Anaeho'omalu being one, not two boundaries, and be classified soon as the Waimea-Anaeho'omalu System/Sector Area (80302).

Mahalo for your time.

Respectfully,

Julia Alos

From: [Tlaloc Tokuda](#)
To: [DLNR.CW.DLNRCWRM](#)
Subject: State oversight of water use and allotment
Date: Thursday, October 03, 2019 2:26:00 PM

I belong to 350HI.com and HAPA.ORG this is my testimony:
It is critical that this body stand strongly in support of State oversight of water use and allotment by saying “No” to this proposal. As was true with the proposed Keauhou Aquifer designation, development forces are fighting for more indiscriminate water use by getting “creative” in finding ways to avoid public input and potential State designation (protection) of our most critical Public Trust resource.

Changing an aquifer’s boundaries doesn’t change the amount of water that can, or cannot, be safely pumped out of it. Nor can sensitive island ecosystems be protected when wells are created and pumped without public knowledge and numbers. Ducking behind this kind of scheme keeps the public out of the loop — a public which has the right to know when their Public Trust resources are being used, or abused.

This is a bad faith proposal that pits stakeholders against each other instead of bringing them together — in broad daylight — to protect natural resources that we all depend upon to thrive and survive.

Mahalo for considering our testimony and for saying “No” to this attempt to undermine public oversight and input in the development and water use process.

From: [REDACTED]
To: DLNR.CW.DLNRCWRM
Date: Thursday, October 03, 2019 2:38:28 PM

The Hawai`i State Commission on Water Resource Management (CWRM), under the Department of Land and Natural Resources (DLNR), creates maps of what they call "aquifer system areas." The purpose of these lines is to spread out ground water pumping. If existing or planned future pumping from one area reaches 90% of the so-called "Sustainable Yield" (SY), the CWRM is supposed to "designate" an area (HRS 174C-44). When an area is "Designated," private commercial users are forced to seek Water Use Permits at a public hearing, and to justify how their uses do not harm Public Trust uses of water.

Aloha esteemed public officials!!!!

We all agree that you must leave the aquifer alone. This includes the Hu Honua power plant taking 21 million gallons in and out of the aquifer.

Mahalo!!!!

Mark Koppel

Umauma

On October 3, 2019, CWRM is holding a single public hearing on a proposal to combine the Waimea and 'Anaeho`omalu Aquifer System Areas into one Waimea –'Anaeho`omalu Aquifer System Area. (This also combines part of the Mauna Loa and Mauna Kea Aquifers).

The Public Hearing Notice for this October 3 hearing as published on June 2:
<http://files.hawaii.gov/dlnr/cwrn/notice/2019/nt20190702.pdf>

The current Sustainable Yield for the Waimea Aquifer is 16 million gallons per day (mgd). Pumping in the Waimea Aquifer is at least 14 mgd –very close to 90% of the SY. If this proposal goes through, it would mean that the SY will go from 16 mgd to 46 mgd for this “new” aquifer; water for **development could nearly triple before they require Water Use Permits.**

Some people believe the Sustainable Yield is too low here, because they believe there is more recharge, including surface water flowing into the ground. Currently the state manages surface and ground water separately everywhere in Hawai`i.

I agree with the following comments.

Mark Koppel

Umauma

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Some people believe the Sustainable Yield is too low here, because they believe there is more recharge, including surface water flowing into the ground. Currently the state manages surface and ground water separately everywhere in Hawai`i.

From: [Sherri Thal](#)
To: [DLNR.CW.DLNRCWRM](#)
Subject: No change to aquifers now, please
Date: Thursday, October 03, 2019 3:02:30 PM

Aloha DLNR members,

We are living in turbulent times now, and resources are both sacred and necessary to protect.

Until the current situation on the Mauna is resolved, I urge you to make **NO changes or decisions on Mauna Kea/Mauna Loa aquifers.**

Thank you,

Sherri Thal, Kea'au, HI

From: [Louise Simrell](#)
To: [DLNR.CW.DLNRCWRM](#)
Subject: Aquifers
Date: Thursday, October 03, 2019 3:31:04 PM

No decision should be made about the Mauna Kea and Mauna Loa aquifers until a decision about Mauna Kea is reached.

Thank you,
Louise Simrell
Honoka'a resident
Sent from my iPhone

From: [sharon willeford / Live Peace Hawaii](#)
To: [DLNR.CW.DLNRCWRM](#)
Subject: PROTECT OUR Water !!!
Date: Thursday, October 03, 2019 3:31:00 PM

**NO changes or decisions made on Mauna Kea/Mauna
Loa aquifers until the situation on the mauna is resolved.**

From: [Jim Albertini](#)
To: [DLNR.CW.DLNRCWRM](#)
Subject: Mauna Kea/Mauna Loa aquifers
Date: Thursday, October 03, 2019 4:51:18 PM

NO changes or decisions made on Mauna Kea/Mauna Loa aquifers until the situation on the mauna over TMT is resolved.

From what I read the issue of combining aquifers is to allow for further over development. This should not be allowed.

The current Sustainable Yield for the Waimea Aquifer is 16 million gallons per day (mgd). Pumping in the Waimea Aquifer is at least 14 mgd -very close to 90% of the SY. If this proposal goes through, it would mean that the SY will go from 16 mgd to 46 mgd for this "new" aquifer; water for development could nearly triple before they require Water Use Permits

There are limits to growth. Water is one of those limits. It seems we need to learn these basic lessons over and over and over. Stop TMT and protect the land and the water

--

Jim Albertini



October 3, 2019
Brian Klingbail

Commission on Water Resource Management /CWRM

Proposed Amendment and Update to the Water Resource Protection Plan of the Hawai'i Water Plan to combine the Waimea (80301) and 'Anaeho'omalu (80701) Aquifer System Areas (ASA) Into the Waimea-'Anaeho'omalu System/Sector Area (80302)

Aloha and good evening! My name is Brian Klingbail. Thank you for allowing me the time to express my opinion here tonight. I am here to express my support for the proposed Amendment which would combine the 'Anaeho'omalu & Waimea aquifer to create the Waimea-anahaeho'omalu system area.

If Tom Nance Water Resource Engineering findings are correct, the two aquifers are in fact one geological system... and should ultimately be referenced as such. In my opinion, it would be irresponsible to continue to consider these as separate when the evidence suggests that there is no geological boundary between the two.

This division appears to be especially important when considering the limiting effect, the low recharge rate of the Waimea aquifer has on the amount of perceived "sustainable yield" the system would support.

Water is a necessary ingredient in the evolution of Hawaii county. We need to make sure the facts about the amount of water that is available for consumption is accurately depicted and clearly communicated. The current model does not do that.

Mahalo for your time.

Best,
Brian



Sierra Club Hawaii Island Group
P.O.Box 1137 Hilo HI 96720

October 3, 2019

Commission on Water Resource Management
1157 Punchbowl St #227
Honolulu H 96813

Aloha, Commissioners,

The question before you tonight appears to be related to a quest for political expediency which would benefit a developer, to the detriment of the sustainable yield of the Waimea aquifer, and to the natural resources it is your responsibility to protect.

According to your website, the Commission's mission is to protect and manage the waters of the State of Hawai'i for present and future generations. The state Supreme Court recently held that under the state constitution, "all public natural resources are held in trust by the state for the common benefit of Hawai'i's people and the generations to come. Additionally, the constitution specifies that the public lands ceded to the United States following the overthrow of the Hawaiian Monarchy and returned to Hawai'i upon its admission to the Union hold a special status under our law. These lands are held by the State in trust for the benefit of Native Hawaiians and the general public.

Accordingly, our constitution places upon the State duties with respect to these trusts much like those of a common law trustee, including an obligation to protect and preserve the resources however they are utilized."

Hawai'i Supreme Court described the public trust doctrine as "the right of the people to have the waters protected for their use [which] demands adequate provision for traditional and customary Hawaiian rights, wildlife, maintenance of ecological balance and scenic beauty, and the preservation and enhancement of the waters . . ."

"For the benefit of present and future generations, the State and its political subdivisions shall conserve and protect Hawaii's natural beauty and all natural

resources, including land, water, air, minerals and energy sources, and shall promote the development and utilization of these resources in a manner consistent with their conservation and in furtherance of the self-sufficiency of the State. All public natural resources are held in trust by the State for the benefit of the people.”

Our questions tonight are these:

Has the County of Hawaii updated its Water Use and Development plan for the Waimea and Keauhou aquifers? If not, when do you expect it to be delivered?

What data is this proposal based on? How much data do you have, and what are the sources?

How many data points do you have on which to base this proposal?

Was the data in the study based on 1984 rainfall data? Is there anyone who thinks that our rainfall and climate has changed since 1984?

Does the commission include recharge from surface waters in any other state designated aquifers?

Do you have 100% reporting from users of private wells and streams in this aquifer? Do you currently take action to enforce the requirements of monthly reporting?

Does sustainable yield calculate and incorporate the public trust protections of riparian habitat, nearshore coastal resources, anchialine pools, the native Hawaiian traditional and customary practices, and the domestic needs of residents and the reservations for DHHL lands?

What mechanisms are in place to ensure the delivery of water to DHHL landholders and residents?

Why, when the sustainable yield (SY) has been recently revised downward in your recently adopted Water Resource Management Plan, would you propose to merge another aquifer with the Waimea aquifer, and would that not put the sustainable yield at greater risk?

We see no advantage to this proposal to merge two aquifers to anyone but developers desiring an end run around obtaining water permits. We know that CWRM has a responsibility to the public trust, not to developers.

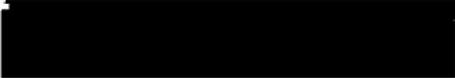
Pumping in the Waimea aquifer is near or over 90% of SY, and based on your mandate we hereby request that CWRM designate the Waimea Aquifer as a ground water management area (GWMA). We request that a merger of Waimea and Anaeho'omalulu Aquifers be denied.

Sincerely,



Deborah Ward

Sierra Club, Hawaii Island Group



University of
Hawai'i
M Ā N O A

Hawai'i Institute of Geophysics and Planetology
School of Ocean and Earth Sciences and Technology
1680 East-West Rd., Honolulu, HI 96822
Telephone [REDACTED] FAX (808) [REDACTED]

Testimony Before the
Hawaii Commission on Water Resources Management
For the Public Hearing:

HAWAII WATER PLAN UPDATE - WATER RESOURCES PROTECTION PLAN BOUNDARY MODIFICATION FOR
WAIMEA AND 'ANAHO'OMALU AQUIFER SYSTEM AREAS, WEST MAUNAKEA AND
NORTHEAST MAUNALO AQUIFER SECTOR AREAS,
ISLAND OF HAWAII October 3, 2019

My name is Donald Thomas and I am a resident of Hawaii Island. I am a member of the research faculty of the University of Hawaii and have conducted groundwater research in Hawaii since the mid-1970's.

I have reviewed the dossier prepared by the Water Commission staff as well as other documents (e.g. Mink and Lau, 1990, 1993; Mink and Sumida, 1984) relevant to the establishment of aquifer boundaries and herewith submit testimony in support of the proposed boundary change.

In the establishment of aquifer boundaries, the aquifer systems were described as follows: "Aquifer Systems are more specifically defined by hydrogeological continuity, in particular hydraulic connections among units" (Mink and Lau, 1993; pg. 1). However, these authors acknowledge that the locations were at best provisional: "therefore, boundaries for the subdivisions must be drawn, even though the boundaries are not exact because conditions of actual groundwater occurrence and behavior are generally only poorly understood. For example, where hydrogeological conditions have not been unraveled, boundaries are drawn along topographic divides to encompass entire drainage areas, even though these divides most often are weak expressions of subsurface hydrogeology." Hence, the current boundaries are based on the geologic data and hydrological interpretations available at that time, but Mink and Lau clearly anticipated improved understanding of subsurface hydrogeology and modifications to those boundaries as dictated by increased understanding of groundwater flow and storage.

Nearly thirty years have passed since these boundaries were established and a great deal of new information has been gathered regarding subsurface geology and hydrology within Hawaii Island. The 'Anaeho'omalua/Waimea system boundary, that runs through the Humu'ula Saddle, is drawn along the surface contact between the younger Mauna Loa lavas and the older Maunakea surface. Geophysical surveys, as well as the results of drilling in the Humu'ula Saddle region, have shown that this boundary has no hydrologic significance: the older Maunakea surface extends beneath the younger Mauna Loa lavas. Rainfall recharge to the upper slopes of Maunakea (in the Waimea system) flows down gradient, toward the south, beneath the Mauna Loa lavas into the 'Anaeho'omalua system. Likewise, recharge infiltrating into the younger Mauna Loa lavas will migrate down to, and into, the buried Maunakea surface. Hence, the Waimea aquifer is hydrologically contiguous across the boundary as drawn. Given the continuity between these two systems, the groundwater resource present can best be managed by eliminating this boundary combining the 'Anaeho'omalua and Waimea systems into a single system area.

Mink, J.F., and L.S. Lau, 1990, Aquifer identification and classification for Oahu: Groundwater protection strategy for Hawaii, Water Resources Research Center Report 179. 28 pp.

Mink, J.F., and L.S. Lau, 1993, Aquifer identification and classification for the island of Hawaii: Groundwater protection strategy for Hawaii, Water Resources Research Center Report 191. 108 pp.

Mink, J.F., and S.T. Sumida, 1984, Aquifer Classification, State of Hawaii, Water Resources Research Center Report 75. 34 pp.

From: [Lisa Andrews](#)
To: [DLNR.CW.DLNRCWRM](#)
Subject: Aquifer
Date: Friday, October 04, 2019 6:32:07 AM

I demand that no decisions be made regarding the aquifers on Maunakea or Moanalua until Maunakea issues have been resolved.

Sincerely,
Lisa Hallett
Jessica Andrews
Todd Andrews
ZIP Code 96755

[REDACTED]

[REDACTED]

[REDACTED]

From: Greg Brown [mailto:[REDACTED]]
Sent: Monday, October 7, 2019 7:32 AM
To: Hardy, Roy <[REDACTED]>
Subject: Waimea Aquifer

Hi Roy,

I was off island for the public hearing regarding the aquifers so I was not able to attend. I did talk to others who did attend.

Can you tell me what happens from here with the consideration of CWRM combining the aquifers? I have a 1000 unit work force housing project I have spent a lot of money working on in the area. I could not proceed if the water situation is not resolved.

Regards.

Greg Brown
Work Force Housing Developers



October 29, 2019

Charles A. Anderson, R
[REDACTED]
[REDACTED]
[REDACTED]

RE: Commission on Water Resource Management /CWRM

Proposed Amendment and Update to the Water Resource Protection Plan of the Hawai'i Water Plan to combine the Waimea (80301) and 'Anaeho'omalu (80701) Aquifer System Areas (ASA) Into the Waimea-'Anaeho'omalu System/Sector Area (80302)

Dear Commission on Water Resource Management/CWRM:

Please accept this letter in support of amending and updating the Water Resource Protection Plan of Hawaii Water Plan to combine ASA's Waimea (80301) and 'Anaeho'omalu (80701) into the Waimea-'Anaeho'omalu System/Sector Area (80302).

Boundaries for both Waimea and 'Anaeho'omalu Aquifer System Areas (ASA) were identified by Mink and Lau and designated approximately 26 years ago based on what was known of Hawaii Island's geology prior to that date. Since then the geologic and hydrologic information, research and data have determined that there is no geologic/physical boundary between these two systems and water freely moves across this "administrative" boundary.

CWRM has proposed combining these ASA boundaries as one, Waimea-'Anaeho'omalu System/Sector Area (80302), to best manage Hawaii's aquifer systems and I hereby support this proposed amendment and update be enacted. We trust CWRM, it's state and community engineers on this decision.

This would also contribute towards abating the concerns of water in the area and also promote development of work force and other housing in the district that is so badly needed.

Sincerely,

Charles A. Anderson, R

From: [Nancy Burns](#)
To: [DLNR.CW.DLNR.CWRM](#)
Subject: Testimony Supporting Combining Waimea and Anaehoomalu Aquifer Systems
Date: Thursday, October 31, 2019 4:27:49 PM
Attachments: [CWRM Letter Of Support for Update to WRPP10-31-19.pdf](#)

Please see attached testimony.

Nancy

Nancy E. Burns, P.E., LLC

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Please use the following link to upload large files to me:

[REDACTED]

Date: October 31, 2019

Name: Nancy Burns



Via email to: dlnr.cwrmm@hawaii.gov

RE: Commission on Water Resource Management /CWRM

Proposed Amendment and Update to the Water Resource Protection Plan of the Hawai'i Water Plan to combine the Waimea (80301) and 'Anaeho'omalu (80701) Aquifer System Areas (ASA) Into the Waimea-'Anaeho'omalu System/Sector Area (80302)

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Boundaries for both Waimea and 'Anaeho'omalu Aquifer System Areas (ASA) were identified by Mink and Lau and designated approximately 26 years ago based on what was known of Hawaii Island's geology prior to that date. Since then the geologic and hydrologic information, research and data have determined that there is no geologic/physical boundary between these two systems and water freely moves across this "administrative" boundary.

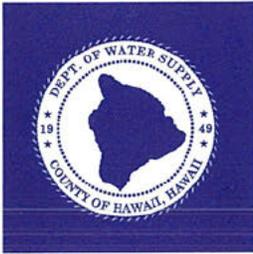
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This would also contribute towards abating the concerns of water in the area and also promote development of work force and other housing in the district that is so badly needed.

Sincerely,

A handwritten signature in cursive script that reads "Nancy E. Burns".

Nancy E. Burns



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

October 31, 2019

RECEIVED
COMMISSION ON WATER
RESOURCE MANAGEMENT
2019 NOV -1 PM 1:00

Commission on Water Resource Management
Attention: Roy Hardy, P.E.
Kalanimoku Building
1151 Punchbowl Street, Room 227
Honolulu, HI 96813

Dear Mr. Hardy:

**Subject: Water Resource Protection Plan Update
DWS Supports the Proposed Aquifer Boundary Amendment that recognizes that the Waimea and Anaehoomalu Aquifers behave more as a single Aquifer than as two (2) separate Aquifers divided by Ground Surface features**

The Department of Water Supply (DWS) would like to state its support for the proposed boundary amendment being considered by the Commission on Water Resources Management. The amendment would remove the artificial line drawn on early maps indicating that the Waimea and Anaehoomalu areas represent two (2) separate aquifer sectors. The line was drawn based on surface features rather than an understanding of subsurface geology or an awareness of the subsurface behavior of water in the area.

The proposed amendment to remove the line is based on studies and observations over time showing that the two regions clearly share water and it is appropriate to consider the entirety as a single aquifer. The recent update to sustainable yields for aquifers throughout the state was based on studies using newer knowledge gained over time. It is only logical that new knowledge and understanding should also be applied to provide the most accurate picture of the aquifer area and thereby allow for the best use of available natural resources for the benefit of Hawai'i's people while protecting those resources now and for the future.

Should you have any questions, please contact Mr. Lawrence Beck, at (808) [REDACTED]

Sincerely yours,

Keith K. Okamoto, P.E.
Manager-Chief Engineer

LB:dfg

copy – Aha Moku
Fukunaga and Associates
Planning Department

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

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



United States Department of the Interior



NATIONAL PARK SERVICE
Water Resources Division
1201 Oak Ridge Drive, Suite 250
Fort Collins, CO 80525

November 1, 2019

Roy Hardy, Manager
Ground Water Hydrologic Program
Commission on Water Resource Management
P.O. Box 621
Honolulu, HI 96809

Subject: Draft Staff Submittal on the Proposed Amendment and Update to the Water Resource Protection Plan of the Hawai'i Water Plan to Combine the Waimea (80301) and 'Anaeho'omalu (80701) Aquifer System Areas into the Waimea-'Anaeho'omalu System/Sector Area (80302)

Dear Mr. Hardy,

Thank you for your email dated October 2, 2019 requesting comments from Water Professionals on the above referenced draft staff submittal for the meeting of the Commission on Water Resource Management tentatively scheduled for December 17, 2019. I have worked with Commission staff on groundwater sustainability issues since 2007 and I attended the December 17, 2013 Water Professionals meeting that is referenced in the draft staff submittal.

Commission staff are recommending that the Commission amend the 2019 Water Resources Protection Plan to combine the Waimea and 'Anaeho'omalu Aquifer System Areas (ASAs) into a single ASA with a combined sustainable yield (SY) of 46 million gallons per day. The draft staff submittal addresses both the technical merit and management objectives of the proposed amendment.

In regard to technical merit, the draft submittal concludes that enlarging the boundaries of the Waimea ASA to account for groundwater and surface water flows from the 'Anaeho'omalu ASA is logical and supported by the available data (Page 11). In regard to the management objective, the draft submittal concludes that the proposed amendment is "the simplest and most expeditious approach to addressing the concerns of the proposed decrease in SY in the Waimea ASA" (Page 10).

I think the recommendation to the Commission could be strengthened by including or summarizing more of the hydrologic monitoring data that are cited to support the proposed boundary modification. Additionally, assuming that the concern to be addressed by the proposed amendment is designation of the Waimea ASA as a groundwater management area, it may be helpful to explain how forestalling designation fulfills the Commission's overall management objectives.

More details are provided in the following comments.

Comments

1. Chloride and discharge data – It would be helpful if chloride concentrations and groundwater discharge measurements were included in the draft staff submittal to support the finding that the existing pumping in the Waimea ASA is sustainable. The draft submittal notes that Commission staff and private consultants monitor chlorides, and that these data suggest the Waimea ASA is not near the sustainable yield (Page 6). Exhibit 3 (memorandum dated November 27, 2015) states that groundwater salinity is not increasing in the Waimea ASA based upon monitoring of nearshore and inland wells and extensive and repeated sampling of groundwater discharge along the shoreline. However, no chloride or groundwater discharge data are provided in the submittal. So, it is not possible to verify these conclusions.
2. Water level data – It would also be helpful if water level data from high level wells were discussed in the draft staff submittal to support the finding that water levels in the Waimea ASA are stable. The draft submittal includes a link to the Commission’s water-level monitoring network in the Waimea ASA (Page 6). Figure 5 includes data from the basal wells in this monitoring network. However, data from two high level wells in the network are not included. The Commission’s website notes that water level declines of 5.79 ft and 10.47 ft have been observed in the two high level wells since 2005 and 2006, respectively. These trends are not discussed in the draft submittal.
3. Isotopic data – It is not clear if isotopic data from groundwater samples collected within the ‘Anaeho‘omalua ASA are available. The draft submittal states that “Figure 8 illustrates the similarity of isotopic content in ground water samples collected within the Waimea/‘Anaeho‘omalua ASAs” (Page 9). However, Figure 9 indicates that there is no isotopic data from within the ‘Anaeho‘omalua ASA. Figure 9 also references “Whittier (2019)” as the source of the isotopic data, but this citation is not included in the reference list.
4. Rainfall data – The “2019 Recharge Range” and “2019 Sustainable Yield” are not based upon rainfall data collected in 2019. It has been my experience that this is a source of confusion for the public and decision makers. The draft submittal states that “the Waimea ASA came under consideration for a sustainable yield (SY) reduction from 24 million gallons per day (mgd) to 16 mgd, based upon the new recharge estimate made by the U.S. Geological Survey (USGS) in Scientific Investigations Report 2011-5078 (Engott 2011)” (Page 1). Engott (2011) estimated that the recharge range for the Waimea ASA is 10.18-36.45 million gallons per day based upon rainfall for the period 1916-1983. However, Figure 1 of the draft staff submittal states that the 2019 Recharge Range for the Waimea ASA is much higher: 36.62-54.0 million gallons per day. Therefore, the time period that the 2019 Recharge and SY Ranges reflect, as well as the reason for the discrepancy between the ranges provided in Engott (2011) and Figure 1, are not clear.
5. Groundwater sustainability – According to U.S. Geological Survey Scientific Investigations Report 2015-5164, the “availability of fresh groundwater for human use is constrained by the degree to which the impacts of withdrawal—such as lowering of the water table, saltwater intrusion, and reduction in the natural discharge to springs, streams, wetlands, and submarine seeps—are deemed acceptable” (Izuka et al. 2018, Page 1). The common misconception that the total development of groundwater resources from an aquifer system is “sustainable” at rates up to the average rate of recharge ignores the important factors that control when and how much natural discharge can be captured by wells (e.g., Barlow and Leake 2012, Page 39). In other words, the sustainable yield of the

Waimea ASA ultimately depends only on how much of the natural discharge can be captured by pumping wells without causing unacceptable impacts to existing wells and groundwater dependent ecosystems over the long-term. So, to inform decisions regarding the sustainability of groundwater resources, it would be helpful if the draft staff submittal also considered how the current distribution of pumping in the Waimea ASA affects natural discharge to springs, streams, wetlands, and submarine seeps, and how the proposed boundary adjustment may affect these uses of water.

References Cited

Izuka, S.K., Engott, J.A., Rotzoll, Kolja, Bassiouni, Maoya, Johnson, A.G., Miller, L.D., and Mair, Alan, 2018, Volcanic aquifers of Hawai'i—Hydrogeology, water budgets, and conceptual models (ver. 2.0, March 2018): U.S. Geological Survey Scientific Investigations Report 2015-5164, 158 p., <https://doi.org/10.3133/sir20155164>.

Barlow, P.M., and Leake, S.A., 2012, Streamflow depletion by wells—Understanding and managing the effects of groundwater pumping on streamflow: U.S. Geological Survey Circular 1376, 84 p., <http://pubs.usgs.gov/circ/1376/>

Thank you again for the opportunity to provide feedback on the draft staff submittal. I hope these comments are helpful to Commission staff. Please contact me at [REDACTED] if there is anything you would like to discuss further.

Sincerely,



Paula A. Cutillo, PhD
Hydrologist, Water Rights Branch

cc: M. Lane-Kamahele, DOI Region 12

From: [Julia Alos](#)
To: [DLNR.CW.DLNR.CWRM](#)
Cc: [REDACTED]
Subject: CWRM Comment in support of Boundary Modification for ASA"s: Waimea (80301) and "Anaeho"omalu (80701)
Date: Sunday, November 03, 2019 10:03:24 PM
Attachments: [CWRM Letter of Support November 3, 2019.docx](#)

Aloha Commission of Water Resource Management:

Please find attached my letter in support of merging Aquifers; Waimea and 'Anaeho'omalu; as one and lifting the boundary as the new data findings point to it actually being one body.

Mahalo for your time to read and submit my favor of this for the record.

Respectfully,

Greg Brown

November 3, 2019

Greg Brown


Commission on Water Resource Management /CWRM

Proposed Amendment and Update to the Water Resource Protection Plan of the Hawai'i Water Plan to combine the Waimea (80301) and 'Anaeho'omalu (80701) Aquifer System Areas (ASA) Into the Waimea-'Anaeho'omalu System/Sector Area (80302)

Good Afternoon Commission on Water Resource Management:

I wish to comment in support of the above reference subject. I have carefully reviewed the "Commission staff's Draft submittal" and it is clear that recent geologic and hydrologic data seemingly refute what had been identified as two Aquifer System Areas, nearly 30 years ago by Mink and Lau. At that time the intent of these neighboring boundaries was prudent and they were managed in a sustainable way. A boundary modification is just and warranted with newer data in this draft submittal.

"Theories", with what was previously known with well substantiated explanations, should constantly be challenged to be certain we have the best data. The testing is either confirmed or revised to reflect what more recent observations, experiments and outcomes show and in the case with these two formerly thought ASA's with distinct boundaries are actually the same source and one ASA together. I applaud the findings and am thankful for these experts, scientists and professionals always pushing the boundaries in their untiring quest to have the best data to adjust and change in accordance with the outcomes they find and share with us to better manage our resources.

If there is, as purported, no geologic/physical boundary between these two systems and its waters move freely as one across what was formerly this "administrative" boundary, it doesn't serve the purpose of being two ASA's and thereby be managed as one.

I commented February 26, 2019 at the Water Resource Protection Plan Public Hearing as a strong advocate and proponent of workforce housing for our residents. The Waimea-Waikoloa corridor is growing at a faster pace than anywhere on this island and in the state. This corridor will greatly benefit from the merging the two ASA's based on the data. Workforce housing is symbiotic with the anticipated commercial and industrial expansion projected in the South Kohala District and WATER IS PROGRESS.

Mahalo for your time to read of my support for your proposed change.

Respectfully yours,

Greg Brown

From: [Tim Richards](#)
To: [DLNR.CW.DLNR.CWRM](#)
Subject: CWRM November 3, 2019 Comments in Support
Date: Sunday, November 03, 2019 10:10:33 PM

November 3, 2019

M. Kaleo Manuel
Deputy Director
Commission on Water Resource Management
P. O. Box 621
Honolulu, Hawaii 96809
via email to: dlnr.cwrn@hawaii.gov

SUBJECT: COMMENTS ON HAWAI'I WATER PLAN UPDATE - WATER RESOURCES PROTECTION PLAN BOUNDARY MODIFICATION FOR WAIMEA AND 'ANAEOHO'OMALU AQUIFER SYSTEM AREAS, WEST MAUNAKEA AND NORTHEAST MAUNALOA AQUIFER SECTOR AREAS ISLAND OF HAWAII

Aloha, Mr. Manuel:

I appreciate this opportunity to provide my comments supporting the above subject matter.

As you know I represent the Hawai'i County Council District 9 which encompasses North and South Kohala. I am Chair of Committee on Agriculture, Water, Energy and Environmental Management, and Vice Chair of Committee on Finance. I was born and raised in North Kohala and grew up working on my family's Kahua Ranch.

After review of the staff's Draft Submittal found on the Commission's website, I am convinced by the scientific collection and analysis of the new data that it is consistent with supporting the ASA boundaries modification in designating the Waimea and 'Anaeho'omalua Aquifers as one. The previous designation appears to have been inaccurate as updated data indicates the waters in this region are seamless and flow as one body. The summaries submitted and recommendations formulated by well respected geologists, hydrologists and professionals trusted with protecting and overseeing our resources, have concurred this to be fact, I am behind it.

The Waimea and 'Anaeho'omalua ASA's provide water for South Kohala District and hopeful public consensus will afford it the opportunity to be amended to become one, as it should.

Please feel free to call (Waimea: (808) [REDACTED])
[REDACTED]

Aloha,



HERBERT M. "TIM" RICHARDS, III

Hawai'i County is an Equal Opportunity Provider and Employer

From: [REDACTED]
To: [DLNR.CW.DLNR.CWRM](#)
Subject: CWRM Comments - Boundary Modification for Waimea & Anaehoomalu ASA
Date: Monday, November 04, 2019 2:01:46 PM
Attachments: [CWRM FCO comments 11-3-19.pdf](#)
Importance: High

Aloha,
Attached are our comments for:

Boundary Modification for Waimea and 'Anaeho'omalu Aquifer System Areas, West Maunakea and Northeast Maunaloa Aquifer Sector Areas, Island of Hawai'i

A hui hou,

E. Kalani Flores, representing the Flores-Case 'Ohana

[REDACTED]

[REDACTED]

November 3, 2019

TO: Commission on Water Resource Management
P.O. Box 621, Honolulu, Hawai'i 96809
dlr.cwrp@hawaii.gov

FR: E. Kalani Flores, representing the Flores-Case 'Ohana


RE: Boundary Modification for Waimea and 'Anaeho'omalu Aquifer System Areas, West Maunakea and Northeast Maunaloa Aquifer Sector Areas, Island of Hawai'i

We're OPPOSED to the proposed amendment to the Water Resource Protection Plan of the Hawai'i Water Plan to combine the Waimea (80301) and 'Anaeho'omalu (80701) Aquifer System Areas (ASA) into the Waimea-'Anaeho'omalu System/Sector Area (80302) as well as the combining of the existing W. Mauna Kea and N. W. Mauna Loa Aquifer Sector Areas into the W. Mauna Kea-N. W. Mauna Loa Aquifer Sector Area (803) for the following reasons:

- It's recognized that the waters of Hawaii are held for the benefit of its citizens and it is declared that we are the beneficiaries of this public trust and have a right to have the waters protected for their use as stipulated as a declaration of policy in HRS §174C-2; and
- The purpose of properly establishing ground water sustainable yields (SY) and hydrologic units called Aquifer System Areas (ASA) by the Commission through the Water Resource Protection Plan (WRPP) of the Hawai'i Water Plan as established by the State Water Code, Hawai'i Revised Statutes (HRS) 174C is to properly manage and protect Hawai'i's irreplaceable water resource; and
- There is a need for a program of comprehensive water resources planning to address the problems of supply and conservation of water. However, the proposed amendment fails to conserve, augment, and protect the water resource, including plans for stormwater management, reuse, reclamation, and remediation. Instead, by combining the Waimea (80301) and 'Anaeho'omalu (80701) ASA, it eliminates the immediate requirement to consider the conservation of water in this area that is undergoing expansive resort and residential development; and
- The Draft Staff Submittal consisting of only 14 pages along with exhibits prepared for the October 3, 2019 public hearing was incomplete, missing relevant data and maps, and lacks substantial scientific evidence to substantiate the proposed amendment to combine the afore-mentioned ASA; and
- The Draft Staff Submittal is lacking an independent and comprehensive analysis of the accuracy of the data presented by Engott (2011) that has determined the SY estimates for the Waimea (80301) and 'Anaeho'omalu (80701) ASA. For those who are familiar with the water and weather patterns along with the geography and cultural landscape of this leeward area, it's very evident that the calculations for the SY, in particular in the 'Anaeho'omalu ASA, is unrealistically high and the recharge estimates are also high for

this part of the island. **Thus, prior to modifying the boundaries, these SY calculations should be revisited and substantiated;** and

- The Draft Staff Submittal is lacking data of actual water usage, previously approved well permit (not presently active) usage, any water reserves, and estimated future usage for the Waimea (80301) and 'Anaeho'omalua (80701) ASA. **Thus, prior to modifying the boundaries, this data should be compiled;** and
- The proposed amendment is being pursued despite the Draft Staff Submittal stating, "...the buried physical aquifer boundaries associated with changes in the characteristics of the geologic formations governing groundwater flow and changes in the hydraulic conductivity of the rocks that affect or impede the transport of water are **not clear in the area.**" (emphasis added, p. 5). **Thus, prior to modifying the boundaries, these aspects should be clarified and substantiated;** and
- The Draft Staff Submittal states "**data is limited and not definitive**" and "[m]ore isotopic sample analyses would be helpful to confirm" the ground waters flowing from Mauna Kea and Moana Loa mix in the ASA being proposed to be combined (emphasis added, p.9). **Thus, prior to modifying the boundaries, the data should be definitive and a more comprehensive isotopic analyses should be completed;** and
- The Figure 9 in the Draft Staff Submittal confirms that ground water isotopic sample analyses was not done in the 'Anaeho'omalua ASA (p.10); and
- The proposed amendment to combine the SY for the Waimea and 'Anaeho'omalua ASA for a total of 46 mgd is being done to avoid the requirement to immediately address the potential problems of supply and conservation of water for the Waimea ASA. Instead, it's being done primarily as "**the simplest and most expeditious approach**" to avoid a comprehensive analysis and water conservation approach (emphasis added, p.10); and
- The proposed amendment to combine the SY for the Waimea and 'Anaeho'omalua ASA would be inconsistent with the water resource protection and water quality plans as mandated by the State Water Code, HRS 174C.

Therefore, it's recommended that the Commission on Water Resource Management NOT combine the Waimea and 'Anaeho'omalua Aquifer System Areas until:

- substantial scientific data and analyses is completed and reassessed with the U.S. Geological Survey; and
- a complete and thorough Draft Staff Submittal is updated and resubmitted for a public hearing and review; and
- until a sustainable and comprehensive water resources plan is developed for the Waimea and 'Anaeho'omalua ASA.

It's also contended that this proposed action is NOT exempt from the application of HRS Chapter 343 pursuant to HRS §343-5(b) and Hawaii Administrative Rule §11-200-5(d).