

MINUTES
FOR THE MEETING OF
THE COMMISSION ON WATER RESOURCE MANAGEMENT

DATE: January 18, 2022
TIME: 9:00 am
PLACE: Online via Zoom
Meeting ID: 836 2282 4586

Chairperson Suzanne D. Case called the meeting of the Commission on Water Resource Management to order at 9:02 a.m. and stated it is being held remotely and being live streamed via YouTube for public viewing due to the ongoing Covid-19 pandemic. It was noted the meeting was set to take live oral testimony and written testimony received would be acknowledged upon the submittal item. Also noted was the chat feature which is only used to ask technical issue questions of the meeting host.,

MEMBERS: Chairperson Suzanne Case, Mr. Michael Buck, Mr. Neil Hannahs, Dr. Aurora Kagawa-Viviani, Mr. Wayne Katayama, Ms. Joanna Seto, Mr. Paul Meyer

COUNSEL: Ms. Julie China

STAFF: Deputy M. Kaleo Manuel, Mr. Neal Fujii, Mr. Ryan Imata, Mr. Dean Uyeno, Dr. Ayron Strauch, Mr. Jeremy Kimura, Ms. Rae Ann Hyatt

OTHERS: Mr. D. Alan Mair (USGS Pacific Islands Water Science Ctr.) (PIWSC), Mr. John Hoffman (USGS PIWSC), Mr. Stephen Zahniser, (USGS PIWSC), Ms. Heidi Kane, (USGS PIWSC), Mr. Avery Chumbley (Wailuku Water Company) (WWC)

All copies of written testimonies submitted will be included at the end of the minutes and is filed in the Commission office and are available for review by interested parties.

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A. NON-ACTION ITEM / INFORMATIONAL BRIEFINGS

1. U.S. Geological Survey – Estimated Groundwater Recharge for Mid-Century and End-of-Century Climate Projections, Islands of Kaua‘i, O‘ahu, Moloka‘i, Lāna‘i, Maui, and Hawai‘i

Mr. Jeremy Kimura of CWRM Planning Branch introduced the item and welcomed Mr. John Hoffman, Director of USGS who then introduced the USGS team.

PRESENTATION GIVEN BY: Ms. Heidi Kane, USGS PIWSC

Ms. Kane thanked the Commission for being able to present today and shared screen of the

presentation noting the overall objective of this study is to quantify potential changes in groundwater recharge for mid-century, end of century and projected climate conditions for all the main Hawaiian Islands. An additional drought scenario was added for Lānaʻi to assess the effects of episodic drought conditions on groundwater recharge. This study is also supported by DLNR-CWRM with additional funding also provided by Pūlama Lānaʻi to CWRM for this study.

The projected island-wide rainfall for mid and end-of-century anomalies were shown and explained that suggested a drier future for all six (Hawaiian) islands, with only one projection of wetter conditions. For this study's water budget model simulations, a total of three future climate projections per island were analyzed to capture the greatest range of projecting future rainfall conditions on each island. Monthly rainfall and seasonal runoff ratios were the only two modeled inputs that were changed for each scenario, and all other model inputs were kept the same as the reference climate condition.

QUESTION/COMMENTS

Commissioner Kagawa-Viviani asked for a better explanation of the terminology generally explaining the different scenarios and the different downscaling options in the first couple of slides.

Ms. Kane explained the statistical downscaling, which includes a mid-century track and then a later century track. Also, there's the dynamical downscaling for the Hawaiʻi regional climate model which only includes end of century track based on the methods used. The two different downscaling methods are different so it's best when you do a study like this to include both to get a wide range of what could happen in the Hawaiian Islands for future climate conditions.

Commissioner Kagawa-Viviani noted that downscaling is how we go from the global climate models to the local scales at which managers make decisions.

Ms. Kane further explained that downscaling scales global models down to a more regional area base versus a larger area. Statistical downscaling uses current climate information to make the projections in the future, and the Hawaiʻi regional climate model (dynamical) uses more atmospheric WRF (weather regional forecasting) type models to make those projections.

Commissioner Kagawa-Viviani requested confirmation that these tend to be the "wetter" models.

Ms. Kane replied that amongst the current dynamical projections that are available, those shown are the wetter ones, but most projections suggest a drier future.

Commissioner Kagawa-Viviani noted except for that one Maui Isle projection.

Ms. Kane agreed; but notes it's still drier than the 1978-2007 mean and commented it's a comprehensive study that covers a lot of information and a very brief and preliminary informational slides presenting today.

(Ms. Kane continued the presentation)

The greatest drying occurs in parts of central Lānaʻi with decreases of more than 50% in mean annual rainfall are projected for the dry climate scenario. A map was shown of the mean annual groundwater recharging in inches for the 1978 to 2007 for Lānaʻi. The map of the change in groundwater recharge was explained. The mean monthly rainfall for the wet scenario is projected to increase by 41 to 45% during the month of November, January and March on Lānaʻi; however monthly rainfall and recharge are projected to decrease during the remaining months of the year.

QUESTIONS/COMMENTS

Commissioner Buck commented it seems like its projecting increase recharge in the non-forested areas, and a decreased recharge in the watershed areas.

Ms. Kane agreed that it was trend seeing on Lānaʻi and it comes down to what's in the projected climate rainfall data where there is high months of rainfall followed by low months of rainfall that we think is causing the wetting on the island for the wet climate scenario. There's decreases in the forested region in recharge for this island.

Chair Case noted maybe that's where we're getting the most recharge from now in periods of declining rainfall amount.

Commissioner Hannahs noted as to what contributes to recharge as rainfall certainly is one function, but ground cover is another; and asked are you looking at the effectiveness of capture-based ground cover?

Ms. Kane replied there is a land cover component in this model and projections

Commissioner Hannahs asked what the assumption is here on this island as there's rapid degradation of ground cover because of the axis deer issues relating to the inability of the earth to capture and recharge

Ms. Kane answered it's one of the things that we weren't expecting so Alan and I researched into why we're seeing the wetting that led to these episodic rainfall events that are in the Hawaiʻi regional climate model data showing October, December and February as really dry months and November, January and March as wet months. However, the wet is not increasing recharge by a huge amount but only between 0.1 and five inches.

Commissioner Kagawa-Viviani asked if cloud interceptions could be explaining this as its difficult to measure as rainfall is under catching precipitation.

Ms. Kane replied for the Hawaiʻi Isle study it uses trade-wind inversion and their study is three kilometers with downscaling very large, and with Lānaʻi it is hard to get the desired results as it's a smaller Island

Mr. Mair clarified the HRCM-1 is a regional climate model, modeling the physical processes. This study didn't have information on changes to cloud interception or cloud base elevation and we assumed there's no change and for this study the cloud base elevation on Lānaʻi was

assumed to be 2,000 feet, which keeps it isolated to that central part, the Lāna‘i Hale area. What’s presented here are changes in mean annual groundwater recharge and seeing increases of selected months of recharge and decreases in the other months. Another factor is the estimate of runoff using a water budget model that estimates the different components including rainfall, which is the driver. For Lāna‘i, there’s no stream gauge data to estimate runoff so statistical and regression relationships are used to estimate run off based on the other islands and pose a limitation on Lāna‘i Island.

The ET component is also used and based on land cover that we can modulate based on different types of forest or grassland species or agriculture and vary the ET rate using adjustment factors.

Chair Case asked what is ‘ET’.

Mr. Mair answered ‘Evapo-Transpiration’.

Commissioner Kagawa-Viviani noted then it could be any number of factors explaining the reduced recharge.

Mr. Mair replied the reduction in Lāna‘i hale is in line with the rainfall projection and the disparity is in the low land area and could be due to a variety of factors as mentioned.

Chair Case asked on the mention of reduction is that percentage or an amount because if the Hale is getting most of the rainfall, then a 10% drop in Island wide rainfall would be a larger amount of water being lost from the Hale.

(Ms. Kane continued the presentation starting on the slide of the Change in Aquifer System Recharge)

The study summarized the projected changes in aquifer system recharge for each climate condition using the boundaries delineated by the Commission. The changes are shown as a difference in percent and in millions of gallons per day and decreases in aquifer system recharge are as high as 70% for Lāna‘i for the mid-century and dry climate scenarios. For the drought scenario the aquifer system recharge decreases across Lāna‘i by 44 to 70%.

Aquifer system recharge across Kaua‘i is projected to decline by 9-82%, dependent on the aquifer system which corresponds to decreases in island-wide recharge of 21-29% for mid-century and dry climate scenarios.

QUESTIONS/COMMENTS

Commissioner Buck asked on seeing/hearing of the consistent decrease in recharge and now in the aquifer what is the competence level of these numbers, especially in the smaller aquifers.

Ms. Kane added the change was computed for each aquifer based on the island wide mean then narrowed it down to each aquifer system and there haven’t been a huge change. The numbers are a reflection of what’s actually happening and coming out of the water budget model used.

Mr. Mair added this is the aggregated effect from the water budget model estimates of recharge. For the island of Kaua'i, there's roughly 330,000 polygons and the water budget is computed for each set of polygons (*the computation of the polygon was explained noting that information was provided to on the overall Island wide effect in terms of an anomaly for these different climate projections*). It's an aggregation of the actual water budget model results and didn't estimate it at an aquifer system level but at a much finer resolution.

Ms. Kane continued the slide presentation

Aquifer system recharge across O'ahu is projected to decrease by up to 84% for the mid-century and dry climate scenarios and for the wet climate scenario aquifer systems recharge is projected to decrease by 8% across six of the aquifer systems, but increased by as much as 14% across the remaining aquifer system areas.

(*Mr. Mair added*) addressing Commissioner Buck's question about uncertainty that (USGS) looked at the setup projections for each island and had a set of six or seven projections to choose from and selected those based on the island wide change in mean annual rainfall. For the dry and the wet climate, we bracketed those based on an island wide effect in rainfall. In the aquifer system level, you'll see the differentiation of how these projections play out across the landscape. In the dry scenario, some areas are getting much drier in terms of percent and other areas are not seeing the same affect or not drawing as much. We didn't attempt to quantify the uncertainty in an explicit way but showing you a range of values based on three future climate scenarios, that was dictated based on the range in mean annual rainfall.

Ms. Kane continued the slide presentation

There're large projected changes in the Pearl Harbor and Moanalua aquifer system recharge with recharge across the five aquifer system areas projected to decrease by 13 to 79% for the mid-century and dry climate scenarios and decrease in area wide recharge of 16 to 21% or 29-37 millions of gallons per day. For the wet climate scenario, recharge is projected to increase up to 14%, which sums up to a projected increase of 2% or 2.7 million gallons per day in area wide recharge.

Aquifer system recharge across Moloka'i is projected to decrease by up to 64% for both the mid-century and dry climate scenarios and for the wet climate scenario, it's projected to decrease as much as 13% across 10 aquifer system areas but, increased by as much as 14% across the remaining aquifer systems. Collectively, these changes result in 4% decrease in island-wide recharge for the wet climate scenario.

For aquifer system recharge on Maui, its projected to decrease by up to 68% in all but three or systems for both the mid-century and dry climate scenarios; with 3% projected increase in Honopou, Waikamoi and Kawaipapa aquifers and correspond to projected decreases of 10-14% in island wide recharge for the mid-century and dry climate scenarios. For the wet climate scenario, recharge is projected to decrease by 22% across seven aquifers and increase by 21% across the remaining aquifer systems. Collectively, these changes result in an 11% increase in island wide recharge for the wet climate scenario. In the Lahaina aquifer system, recharge is projected to decrease by up to 67%.

For Hawai'i Island, 22 of the 24 aquifer systems show similar changes for system recharge among all three scenarios with these changes corresponding to projected decreases in Island wide recharge ranging from 12-20% for the three scenarios.

Selected model inputs on recharge estimates were derived from the Hawai'i regional climate model set of projections to characterize projected changes in evapotranspiration daily rainfall frequency. Monthly rainfall and seasonal runoff to rainfall ratios were treated as one input in the model and have the greatest effect on recharge for Kaua'i, Moloka'i Maui and Hawai'i Island. Mean monthly reference evapotranspiration adjusted for projected warming has the greatest effect on recharge for O'ahu and Lāna'i, and negative effect on recharge across all six islands. However, projected decreases in recharge due to projected warming are offset by enhanced recharge due to projected increases in the mean atmospheric carbon dioxide concentrations for each wet climate scenario.

Increases in atmospheric carbon dioxide concentrations may act to suppress evapotranspiration by decreasing plant leaf till model conductance. The last two inputs characterize the effect of changes in forest canopy evaporation and daily rainfall frequency which have lesser effects but it's not negligible on recharge estimates.

In summary, there are projected decreases in Island wide recharge for the mid-century and dry climate scenarios on all six islands with mixture of decreases and increases in aquifer system recharge projected for the wet climate scenarios for all six islands.

QUESTIONS/COMMENTS

Commissioner Buck referenced on the CO2.

Mr. Mair explained that it's the relative impact with each having a different set of inputs on recharge (*Mr. Mair further explained the differences in models relative to transpiration with using a data set that accounts only for increases in temperature*). This input has a negative effect on mean annual recharge relative to our reference climate across all six islands. In the third group, a monthly data set of ET adjusted for warming and rejected increases in atmospheric carbon dioxide which effected Island wide mean annual recharge. Highlighted and shown is its lessening the drawing or in some cases, more than compensates and show an increase in recharge (*further explained the use of the water budget model*). Also noted, this is only accounting for that input and not adjusting for other changes like rainfall, or daily rainfall frequency changes, or other parameter that's used to characterize canopy evaporation.

A limitation is not having the same information for all the different downscaling scenarios and couldn't do the same analysis for example the statistical downscaling set of climate projections. An additional set of analysis was added to show the potential effects of these different inputs. Clarified that the results shown (prior to the 2nd to last slide) only accounted for changes and rainfall and seasonal run off.

Commissioner Hannahs added his takeaway is there's value in looking at independent variables to understand the consequences of that data set but also to ultimately look at things in a holistic way, noting that we obviously don't want to adopt a strategy to put more co2 in the atmosphere so we can boost recharge because we know, that has many other adverse

consequences.

Mr. Mair noted it's just highlighting the sensitivity of these inputs and not recommending in the action be taken.

Commissioner Kagawa-Viviani commented on the graph's direction in showing the dramatic decrease and increase per islands and asked for further explanation of the graph/chart relating to the parameters for the HRCM scenarios.

Mr. Mair explained that a set of adjustment factors or a change factor approach to estimate the inputs for rainfall (*shared examples*) and noted specific models we're adjusting the 30-year time period, the 1978 to 2007, month, year, rainfall maps by an adjustment factor then used a set of adjusted run off to rainfall ratios in estimating runoff in the water budget model noting the ratios vary with the different climate scenarios (*further explained the runoff/rainfall ratio scenarios*).

Commissioner Kagawa-Viviani asked if the first column was a summary of what was presented or there are differences.

Mr. Mair clarified that is a summary of what's presented earlier.

Commissioner Kagawa-Viviani noted that the other variables referencing ET and CO2 have an effect but are smaller compared to using the main variables in the model.

Ms. Kane continued the presentation on the limitation slide, explaining further the limitations of the study; and further explained the next steps/process and thanked Commissioners for their time and great questions posed and thanked its cooperators in the study like CWRM, Pūlama Lāna 'i in collaboration with USGS-PICASC.

QUESTIONS/COMMENTS

Commissioner Hannahs referenced on the limitations regarding taro cultivation rates and asked on having a next step in knowing it.

Ms. Kane explained that it was beyond the scope of this study but will continue to look into collecting that data

Commissioner Hannahs noted the importance of having that data and note to (Deputy Manuel or DOA) as the Commissions stance in honoring the public trust responsibilities and rights of kalo producers and that it should be known what the cultivation rates are.

Ms. Kane replied the Department of Agriculture has some data on that but it's not as in depth and recharge rates from reservoirs would be helpful to have in the future water budget studies.

Commissioner Katayama referred to slide 18 and referenced all the types of different models used in the study like the dry and wet model, monthly rainfall, and the rain run off to rainfall ratio models.

Ms. Kane answered those were the two parameters that were changed in the model and the two inputs that were changed.

Commissioner Katayama noted that the other four variables that are expressed (on the parameter for HRCM scenario slide), were not part of the presentation prior to this.

Ms. Kane replied the Hawaii regional climate model had this data available for the public, but the statistical downscaling didn't so weren't able to utilize it for the entire study but used as analysis to see what these inputs would do if changed.

Commissioner Katayama asked in continuance of the study, will the number of variables would be expanded or what you're using now are a significant contributor.

Ms. Kane answered the rainfall and the runoff ratios from the rainfall are the most significant contributors to the results and the model can accept additional inputs, but we don't have the data available for all the climate projections; and if the data was available, that would be something to consider in the scope of the study.

Commissioner Katayama asked if the 1978 to 2007 results, were the variables the same.

Ms. Kane replied yes.

(the rainfall, runoff ratio models were further explained relative to the each island and how they were computed)

Commissioner Katayama asked what we should look at as it seems dire in terms of population impact and development planning.

Ms. Kane noted it was a great question and a study was done by Tom Jumbaluka in 2019 in trying to narrow it down and until there's future downscaling modeling for Hawaii it's a question that can't be answered easily but need more data to conclude that.

Mr. Mair asked if Commissioner Katayama was referring to the downscaling and the other parameter graph model.

Commissioner Katayama replied yes and asked what's driving the difference of those and is that something like protecting the water resources that we can focus on or should pay attention to.

Mr. Mair answered that's part of the rationale why presented this range of projections and except for Hawaii Island, is where you see a lot more agreement between all three sets of projections. There's greater certainty with changes in temperature *(further explained the different projections based on climate models but uncertainty with the rainfall noting there are differences in approaches relying on the same set of data)* so it's difficult to say exactly what is driving these differences.

Mr. Hoffman clarified Commissioner Katayama's question about the 1978 to 2007 models that caused or was the main driving force causing the reduction in projected recharge and what caused that to be mitigated.

Commissioner Katayama agreed.

Chairperson Case noted to summarize it to understand this from a practical standpoint.

Commissioner Katayama asked what would we see in the models being rerun with new data.

Mr. Mair answered what's driving the changes seen is what we're inputting to the model, the changes in and rainfall and run off; in essence, its rainfall driving this change.

Commissioner Katayama asked what would change the rain fall to run off ratio and impact that relationship.

Mr. Mair replied we have limited data on how land cover change may impact run off and clearly know that it can.

Ms. Kane added if you have a higher frequency of large rainfall events, that will have an impact.

Commissioner Kagawa-Viviani asked if USGS plans to assess the changes not just by aquifer sector but areas upgradient of wells and diversions as those are the source of water reliant on and have higher impact on water resources.

Ms. Kane note it was beyond the scope of this study it's a doable option.

Mr. Mair answered part of this product will be a GIS data set, and once it's released and available you can zoom in on specific areas.

Commissioner Kagawa-Viviani referenced if fireproofing was included in the study or will it be for future.

Mr. Mair replied we are looking at how these projections effect soil moisture and totally T and climatic water deficit and how that correlates with documented wildfire and also looking at cloud water interception.

Commissioner Kagawa-Viviani noted on how that changes the infiltration and how climate effects landscapes

Mr. Mair answered we are looking at cloud wide interception is looking at how changes in the modeling affect using our existing setup parameter inputs affects recharge; but agreed that we could look at an additional field data collection but is beyond the scope and this strictly a water budget modeling study.

Commissioner Kagawa-Viviani referenced the study on HRCM given the features of the regional climate model projections, can you use it to look at changes in dry season demand for water as we're not looking at how future demand is changing and to help us think about

how we are seeing projected decreases on recharge and increases in dry season demand. Those kinds of data need to be added in these types of study and makes for conflicts in decision making. Also asked, can the HRCM be run backwards to see how well it does to help explain the historical data, not just reinforce the modeling

Ms. Kane added that the Hawaii regional climate model runs at the end of century and don't do a mid-century so running it backwards is difficult as it only projects out at the end of the century.

Mr. Mair added that running it backwards was done for a reference climate condition and there was comparison done to the observed data and both the HRCM-1 and 2 models were run for a 1990-2009 reference climate condition made comparisons with observed data

Commissioner Kagawa-Viviani noted that the understanding was statistical downscaling better matches historical data in HRCM and notes there's ongoing to be in the academic community of which one is better. We're seeing increasing drought flooded conditions and more episodic scenarios and asked if the monthly rainfall captures that in having more intensity between dry conditions and how much rainfall in that monthly period captures future conditions.

Ms. Kane answered looking at the Hawai'i regional climate model predictions it was too episodic and varied and not something you'd see across a 20 year period as it was only a few months of high intensity and few months of low and it comes down to how it was being modeled. On a large-scale picture, it captures it, but not in the monthly data; it doesn't mirror the current conditions.

Mr. Jeremy Kimura of the CWRM Planning Branch thanked the USGS for their presentation and their great work as it presents relevant data and noted that CWRM initiated this work to help in water resource planning and hope to bring back items for action like relooking at the sustainable yields as well as preparing the Hawai'i Water Plan components and Water Use Development Plans. The data presented will help the Counties look at mid-century climate changes for their regions and can adjust their plans accordingly.

Commissioner Meyer also thanked the USGS for their informative study/presentation regarding future rainfall expectations.

Chairperson Case also expressed her gratitude and hoped the information shared would be readily available for the Commission and general public; and noted how peculiar the inputs on water are a huge uncertainty that would require it to have such an in-depth analysis like this and that humanity have been looking at the outputs like population and Ag use variables for water planning.

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A. NON-ACTION ITEM / INFORMATIONAL BRIEFINGS

2. Designation of the Lahaina Aquifer Sector; Maui as a Surface Water and Ground Water Management Area

Deputy Kaleo Manuel introduced the item noting that the purpose of this is to share information with the Commission on the Chair's recommendation to initiate the proceedings to designate the entire Lahaina Aquifer Sector on Maui, as both surface and groundwater management area, based on threats of water resources as identified throughout this presentation. Also share some of the responses received based on consultation with the Maui County, including the county Council Chair, as well as the Maui Department of Water Supply.

PRESENTATION GIVEN BY: Deputy Kaleo Manuel, Commission on Water Resource Management

Dr. Ayron Strauch, Stream Protection and Management Branch

Deputy Manuel gave a PowerPoint presentation noting the overview of the submittal and summary of justification that includes harm to groundwater quality including saltwater intrusion in well sources, historic/ongoing disputes over current and planned uses, climate uncertainties, and enhanced management and protection through Integration of surface and ground water uses. The map of the hydrological units on the island of Maui were shown, highlighting the Lahaina aquifer system area which consists of (6) hydrological units, including (11) surface water hydrological units that make up this region. The combined sustainable yield the Commission has adopted in this area is 34 mgd.

Dr. Strauch explained the geology on the Lahaina Aquifer Sector, West Maui. There's perennial flow within the region of high elevation dike zone while streams are mostly losing flow to groundwater recharge as they flow out of the dike zone towards the coast. A lot of the surface water sources are used to offset groundwater needs for the County of Maui, where they balance their drinking water sources between groundwater pumpage and surface water diverted.

The current trend seen for West Maui is it is getting drier as recently shown from 1983 to 2012 with significant decline in rainfall at an annual scale and substantially more in the dry season. In the modeling done by USGS, specifically the Launiupoko and Honokōwai aquifers are decreasing in the range between 10-25% over the next 50-70 years (*a graph of the rainfall trend/deficit were shown*). Instream flow standards in most streams of West Maui have been implemented and because of the reduced amount of water available for non-instream uses, there's been an increase in applications for new wells.

Ongoing surface water disputes were noted in Kaua'ula, Kanahā, Honokōhau. The availability of streamflow monitoring has increased in the region of the Lahaina Aquifer Sector with added stream gauges in Kahoma and Kaua'ula and 'Ukumehame.

Deputy Manuel summarized that surface water and groundwater are integrated and used to offset each other. The shift between was to show how occur in terms of larger withdraws from groundwater and new wells coming in this region that in order to also balance of the instream flows.

QUESTIONS/COMMENTS

Commissioner Buck asked Ayron to comment on the aquifer boundaries and their relationships between them.

Dr. Strauch noted he can't comment on the boundaries as it's not his specific field but commented on the high-low elevation flows with relation to the basal aquifer and recharge noting the interrelationship between surface water and groundwater that is direct and apparent. There aren't geologic structures that are limiting horizontal movement when you get out of the dike zone.

Deputy Manuel continued the presentation referencing the Ground Water Hydrologic Units of the Lahaina Aquifer Sector (West Maui)

The graph table (current as of November 2021) of water withdrawals within the LAS were shown and explained noting water use reporting, permitted well capacity, and authorized planned uses; sustainable yield numbers don't account for the climate change (*as noted in today's previous submittal A-1*). The sustainable yield for the authorized planned (future) use accounts for about 85% of that region's use. Generally, we have a good understanding of what wells are being used and not used in this region. The GW Survey team has been instrumental in assisting with compliance of water use reporting. Hypothetically if all wells (in the region) are pumped at max capacity 24/7, it could exceed sustainable yield.

A graph table of the Mahinahina DMW were shown and noted that in the Lahaina Aquifer Sector region (LAS) there is only (1) deep monitor well, the Mahinahina DMW which is monitored by CWRM Survey Branch which noted changes in the thickening of the lens and that the (TTZ) or the top of the transition zone on has declined by about 1.27 feet.

QUESTIONS/COMMENTS

Commissioner Hannahs asked what contributed to the shrinkage of the freshwater lens.

Mr. Imata replied it doesn't necessarily represent a shrinkage but in the notes (of the graph table), noting the CTV couldn't be deployed between most of that period and the data represented there is suspect. Prior to 2006, there were calibration issues that's represented not necessarily mean there was freshwater lens thinning.

Deputy Manuel added that with only (1) deep monitor well in the area this is our sole water level data set that we collect and gather in this region and some of the indications of thickening of that freshwater lens could be due to increased rainfall and could also be a result of surface water recharge with the reestablishment of IIFS, but a lot of unknowns based on what we're seeing.

Commissioner Kagawa-Viviani asked what does it mean regarding the thickening of the transition zone.

Mr. Imata replied (referencing the Mahinahina DMW graph table) all of the lines that are representing certain thresholds of salinity, but all the water levels are pretty stable and rose about 1/2 foot. The graph from March of 2013, showed decline and would represent a thickening; but the midpoint of the transition zone rose about 20 feet but hard to determine that's what attributed to; or possibly up coning with respect to pumpage of other wells. We try to understand trends, but it would be more alarming if the top of the transition zone was rising and if the freshwater level was decreasing.

Commissioner Kagawa-Viviani asked what effect you would expect to see sea level rise having on this data.

Mr. Imata answered a shifting of everything upward; so maybe part of that half a foot rise over the last 21 years is attributed to sea level rise.

Deputy Manuel noted that Dr. Strauch helped to aggregate the chloride data in other wells that would match up with the pumpage data and noted there's increased chloride content in wells throughout this region.

Dr. Strauch continued the presentation which will highlight wells in the Honokōwai and Launiupoko Aquifer Systems.

A 2012-2021 graph of pumpage relative to chloride levels were shown and explained of the three Hawaii Water Service wells and four Maui DWS wells noting that chlorides do rise as pumpage increases.

Deputy Manuel continued the presentation

Deputy Manuel summarized how we're looking at sustainable yield with the current usage as it matches up to current withdraws, the planned use. A table of future well use in reference to sustainable yield were highlighted noting the push closer to the sustainable yield number.

QUESTIONS/COMMENTS

Commissioner Buck commented the relationship or increased recharge with little surface water relative to increased pumpage of groundwater in areas that are setting IIFS in.

Deputy Manuel replied in this region where surface water and groundwater are so integrated and connected hydrologically, it is something we're seeing now as a result of the establishment of IIFS. The challenge is if we establish IIFS, if that need is still shifted to groundwater withdrawals from wells, it does have other impacts to instream or Groundwater Dependent Ecosystems and coastal discharge. That is one of the impetuses for recommending a coordinated integrated approach to management and designation. If it's just shifting the burden to our groundwater resources, it's a net zero and we're not actually helping and managing resources holistically.

As an effect of the establishment of IIFS, we've seen increase in wells as an example indicated here (the graph shown). Some users (listed here) were relying on surface water for irrigation demands and needs. Designation in this context provides us the opportunity to evaluate end uses in context of what water is available in this region area.

Commissioner Buck commented that the county does not have control of establishment of wells on private land.

Deputy Manuel answered that designation gives the commission authority to help regulate well locations on spacing and pumping to not have an effect on the public trust resources and other resources in the area.

Commissioner Hannahs noted that in the table there are 23 wells in the zone of Honokōwai and Launiupoko not reporting.

Deputy Manuel replied based on data, a lot of those wells are unused and haven't been reporting with the understanding of those that we don't know about and the need to get responses from them.

Commissioner Hannahs asked how many of the 23 are of concern.

Deputy Manuel answered roughly 5 that we're working on getting data from.

Deputy Manuel continued the presentation

Deputy Manuel summarized the Commission's legal authority of Designation of a Water Management Area (WMA) as per HRS § 174C-41, noting the (5) criteria and staff's findings to designate a Surface Water Management Area and the (8) criteria and staff's findings in designating a Ground Water designation. Also highlighted were the designation process per HRS § 174C-41 to -46 and HAR § 13-171-3 to-9. Consultation with the County of Maui has occurred with responses received from Maui County Council and Maui Department of Water Supply which were highlighted with the timeline of the next steps moving forward.

QUESTIONS/COMMENTS

Commissioner Hannahs asked on the recent report of a tar like substance near the Old Mill site and if there was a threat to the groundwater resource and are we or DOH involved in that investigation.

Deputy Manuel referred to Ms. (Joanna) Seto and Mr. Imata and noted that CWRM hasn't been formally involved in the issue to investigate and hasn't done a formal inspection of the area as of yet; however, LIC has a few shaft-like wells in the area and working with them to address some issues about potential groundwater contamination based on how those wells are designed and may be future Commission action regarding it.

Commissioner Seto asked which well?

Commissioner Hannahs reiterated at the Old Pioneer Mill site and a tar like substance reported.

Commissioner Seto replied she was not aware of it but will ask her division if there are any information regarding it (and asked whom she shall reply to).

Deputy Manuel added that it can be added to our overall review this aquifer regional analysis.

Commissioner Buck referenced a comment made by Maui County Water on their Water Use Development Plan and if need to further look at that before making a final determination.

Deputy Manuel replied we can wait until it comes out; but both the designation process and the WUDP are not mutually exclusive and can have synergy and work together well and appreciate the comments from the County of Maui and Department of Water Supply, and while the Water Use and Development Plan is developed by the Maui County DWS, to look at the regional impacts of the actual regulation of non DWS wells or resources is the Commission's kuleana and as such, we are recommending a multi-pronged approach.

The designation supports the strategies within the WUDP and aligns with designation and it's not something that I believe affects the implementation of the WUDP, but also helps to protect a municipal water system that's a public utility in their interest to meet the needs of the general public in this region.

Commissioner Kagawa-Viviani asked if the groundwater wells were consumptive use.

Deputy Manuel answered that in general, if you look at how the Commission historically dealt with tunnels on the island of O'ahu, tunnels are counted against sustainable yield as groundwater tunnels. What's identified in the Maui DWS letter, in the specific contested case with 'Īao the Commission decided to count the 'Īao tunnel and incorporate that as instream flow. There's two situations where the tunnel discharge was considered as surface water and on O'ahu as groundwater. For example, if the tunnels were not there, it would more likely become springs that would discharge into surface water that would recharge the basal lens. In conversation with Groundwater staff (Roy) articulated those tunnels are groundwater sources and should be counted against sustainable yield.

Dr. Strauch added, in some cases, if you're trying to articulate whether it should count against sustainable yield, the development tunnel is discharging groundwater into the stream, and then the water is removed from the stream in that gaining reach, such as in Honokōwai, Kau'aula, or Honokōhau, before it gets to recharge any basal aquifer, then to use the water off stream would be the same exact situation if there was a well pumping groundwater in that location. Prior to the development tunnel being and the diversion being built, some dike water would support stream flow which would then have recharged the basal aquifer as it passed out of the high elevation dike zone, while other dike water would have leaked into the basal aquifer.

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PUBLIC TESTIMONY

Mr. Jeff Pearson (Director, Maui Dept. of Water Supply) – Thank you for allowing me to testify and it's good to see some familiar faces. I'll share a summary of our written testimony

and Kaleo did a good job in sharing it on the screen. I also have Eva Blumenstein who's more knowledgeable and have more hands-on work on both the Water Use Development Plan and issues in Lahaina and will give a greater detail testimony than I.

In general, we see the need in Honokōwai and seeing the presentation now that Launiupoko may be in jeopardy. Therefore, maybe those two aquifer systems should be looked at more closely by the Commission and consider designation for those. I'm actually not going to say I support that at this time, but we need additional information; but take West Maui and go from appetite to thirst and suggest designation both surface water and groundwater, I think is a little overzealous. I don't think there's a need for that at this time.

Ayron alluded to the issues at Kanahā and those are difficult issues that we're working with if Launiupoko is designated. Also, Kaleo mentioned if we move from general surface water to the concern of groundwater and he presented that well. A lot of difficult issues here and there's not a lot of water in West Maui, we're right near the edge with what we provide for our customers in West Maui, but I still think we should move slow.

If you remember when I was in Kaleo's position as Deputy Director, the issues on the Big Island were huge and didn't follow that timeframe that Kaleo showed. I came in after five years of that process and I think we resolved that in the next two; so, these are very complex issues. At a minimum, please commissioners, the ones that are there in the past, you know and the new ones, take this slow and look at it from all sides. There's going to be a lot of people that are going to testify in favor of designation, but that's why your job is a difficult job; so, do your best at weighing all sides to determine what's going on here.

Surface water is the other issue; there's ditches and Department of Water Supply relies on the surface water for two areas. Lahaina treatment plant takes water from the Kanahā stream, and the Māhinahina Treatment plant takes water all the way from Honokōhau and that was the IIFS that was recently established. Yes, there's 2 million gallons that was reserved for DHHL, but when Water Commission did the calculations of the different stream flows, and looking at all the low flow and high flow scenarios in Honokōhau Stream, including the 2 million gallons a day that DHHL reserved, there should be adequate surface water to provide at least for Department of Water Supply and its needs, I think his calculation was 2.5 mgd; that would be the max that Māhinahina Treatment Plant could use.

I don't see a real need. If the commission continues to be flexible, referring to our Kanahā issues, and if they do their best to enforce the IIFS which I know was difficult work when I was there as enforcement is huge and hard to do as I don't think the Commission is really set up as enforcement (no offense), but that was the case when I was there also. If that can be enhanced somewhat, I don't really see any reason for surface water designation. In summary, surface water designation I think is premature and as designation of the whole West Maui. Even with the presentation that came today I see where there's good reason to look at designation for the Honokōwai and Launiupoko aquifers, thank you.

QUESTIONS/COMMENTS

Commissioner Buck asked if County of Maui have control over the locations of wells on private lands.

Mr. Pearson answered definitely not. We have to of course go on or talk with that private landowner, beg, or negotiate, or purchase, whatever needs to be done for us to locate a well on private lands. Right now, for Launiupoko to offset the water that's required to go into the Kanahā Stream, we're looking at three areas in the Launiupoko aquifer that are under state ownership.

Commissioner Buck asked if there's a timetable for the release Water Use and Development Plan and how would this petition impact it.

Mr. Pearson answered it will be a living document, but we do not plan on including anything with this into the plan as we're way too far along to make additional changes. It's been in the county committees for over two years. We've had two or three committee chairs, dealing with this and just this last committee meeting it moved out of committee, first reading at county council. If that that goes well, then in two weeks to the second reading, and if there's minimal changes to plan where I feel comfortable submitting it, then it will come to the water commission at that time, within a month or two should be for the Water Commissions Review.

Commissioner Hannahs asked on his previous question of the potential risk and find of tar like substance at the Old Mill site.

Mr. Pearson replied no, I don't; and while you brought it up, I texted Eva and she wasn't aware of it either, so I don't have any information on that.

Commissioner Hannahs commented that hearing him say "go slow" means to be "cautious", but on flip side the rainfall projections suggest less in the future; and asked what's the risk of designating a larger area.

Mr. Pearson answered the predictions of reduced rainfall as you saw in the USGS report doesn't mean we need designate based on this and am not going to discount it; but I don't think we need to jump to conclusions and designate the entire aquifer without additional information. It's a model and things are variable. We're working close with the USGS and done things with CWRM on work being done in that area, worked close with Planning with the West Maui Community Association. When those long-term plans were worked on the West Maui, CWRM was there to participate and there was no discussion of designation then. I think community and the stakeholders can work together and resolve some of these water issues without designation.

Chairperson Case commented from (your) the County's viewpoint what's the downside of designating and what's the potential upside.

Mr. Pearson replied with 'Īao for example, there wasn't much of a downside, there was triggers. The existing wells and available pumping at 'Īao were established; but in the West Maui side we're not done developing wells. I know some well permits are being held up with whatever takes place with this designation and potentially Department of Water Supply permits too. There's potential for limited or no growth on the West Side while this process is going on and even during the designation process.

A well permit that comes forth is evaluated administratively by looking at the facts then

determine if it will affect the aquifer. If you bring this to the State, the Commission, there's other issues that may come up that might not deal with the facts of the permitting of that well. Also, different interest groups, and the public are allowed to testify. It's not going to affect specific aquifer issues, rising of the transitions, but it may affect the decision that the commissioners not to approve that well which means less water for us to provide to our customers, negatively affect planned growth.

The upside in the case where you're near the sustainable yield, is you're going to manage the pumping in those areas to not damage the sustainable yield and to not damage the aquifer and protect the aquifer in needed areas. In the other aquifers as 'Ukumehame its 2-3% of the SY, what's the upside in designating that? And other aquifers are not anywhere near the SY.

Commissioner Kagawa-Viviani commented on the WUDP buffers against the need for designation and clarified if DHHL part of that process as the testimony suggests conflict.

Mr. Pearson replied yes, DHHL was part of the Water Use and Development Plan and called upon Ms. Eva Blumenstein of Maui DWS.

Ms. Blumenstein answered there were a lot of opposing views and interests from the public and other agencies in developing the Water Use and Development Plan. By definition, the plan is a compromise of conflicting uses, trying to diversify the type of supplies to serve planned growth and in West Maui. There were strategies and to provide for the DHHL regional plans at the time planned growth for the West Maui communities and balancing public trust needs.

Understanding there's going to be some offset non-potable demands for Ag and irrigation as to IIFS was established at the time we were still developing the WUDP. Not all parties were satisfied with the end result. It's almost impossible to think this is still ongoing for O'ahu, almost 12 years later.

What we accomplished is working closely with the Planning Department in their update of the West Maui Community Plan to come up with realistic supply scenarios to be used for planned growth. Through its land use decisions where the Water Commission may not have the authority in an undesignated area to deny a well construction pump installation permit, the land use decision can do that. Yes, we did consider all the DHHL regional plans at the time of demand, but they were not aligned with the testimony you have today from DHHL. We had more emphasis on expanding R1 water for the DHHL projects in the Honokōwai aquifer area

Commissioner Kagawa-Viviani clarified that (Mr. Pearson and Ms. Blumenstein) are testifying on behalf of the Department of Water Supply and not representative of other Boards or County Council.

Mr. Pearson replied as far as the Board of the Department of Water Supply, they make recommendations and it's not like semi-autonomous boards or other counties; I'm sure they're in favor of designation. There was discussion the mayor hasn't made a response, but of course the Mayor is aware of our response and we're representing The mayor's response to this action.

PUBLIC TESTIMONY (CONT'D)

Ms. Eva Blumenstein (Planning Program Manager, Maui DWS) – You did receive written testimonies from us, and I just skimmed through the briefing report that wasn't available last week. I still had a couple of concerns and questions and one that I think is key is the tunnel discharge. When we inventoried current water use and define water resources for the WUDP for West Maui, we relied on us USGS study and inquired with CWRM staff on withdrawals from tunnels in dyke impounded recharge zone. It appeared the high-level water wasn't well understood in terms of the leakage across dyke boundaries to the basal aquifer.

The Water Resource Protection Plan indicate there's interaction between the dyke confined and basal aquifer but it's difficult to quantify it. Our conclusion is what happens when we establish whether the Launiupoko or Honokōwai tunnel withdrawals should be accounted for against the basal aquifer. According to USGS latest groundwater study for Lahaina, those dykes impounded tunnels constructed will increase streamflow. We've consulted with CWRM Hydrologist Mr. Ice and Mr. Hardy; they stated they were trying to learn how USGS did account for that tunnel contribution and withdrawals. So now if the position of CWRM is to count those tunnels against basal groundwater; wouldn't you have to revisit the recharge using the higher USGS recharge numbers, which would result in a higher sustainable yield or why would it not be consistent with how this was defined in designation of 'Īao Groundwater Management Area, with those high-level tunnels were not accounted against basal groundwater, but were addressed in the Nā Wai 'Ehā contested case.

We still have some pending high level water use permits that have not been addressed yet because of the Nā Wai 'Ehā contested case. That's really just key factors that shouldn't be overlooked but I'm still not really clear how this is different for Lahaina.

In response to your questions of what trigger would be in place for the designation of the entire aquifer system sector area. I understand the uncertainty of rainfall recharge and to follow the precautionary principle. We looked at both WUDP in terms of citing new wells for West Maui and certainly account for known or projected climate change on groundwater recharge which is alarming for Launiupoko, 'Ukumehame and Oluwalu; while other aquifer systems like Honolulu and Honokōhau is a 50/50 whether groundwater recharge will increase or decrease. For the mid-century projections, on that basis, you will have to designate in every aquifer system statewide. It's crucial information to account for and in citing new wells, diversifying in terms of both developing smaller wells rather than fewer larger ones but not really clear on that as a trigger to designate the entire aquifer sector area.

Finally, one more point and that's the idea that designation provides for better integration of land use and water planning, is not true in my experience. Going back to the 'Īao designation it was triggered by an assumed withdrawal exceeding 90% of sustainable yield. After designation, CWRM subsequently issued water use permits exceeding 95% of sustainable yield, and over these almost 20 years now, as we sought guidance along proper spacing, pump optimization, or adapting to changing conditions that has not really been forthcoming because of the designation.

The department has funded many cooperatives studies with USGS to guide that resource management to cite new wells, to determine USGS recharge changes incorporating that into different groundwater models for Central Maui and for Lahaina; that specifically is to address

threats to water quantity and quality, and climate change impacts. A study we have undergoing with USGS, is effects of scenario-based recharge change on groundwater availability that will incorporate the mid-century climate change predictions as well and, configure different pump scenarios to optimize pumpage within each of nine selected aquifer systems on Maui.

That's what needs to be happening continuously and the kinds of tools that underpin the water use development strategies to allocate water to land use. We're using those as guides for future sustainable pumpage and address declining rainfall and climate uncertainty. I would like to see more proactive guidance from CWRM to interpret and use these available groundwater models in monitoring data and need another monitoring well in the Launiupoko aquifer and others as well to ensure adequate pump distributions to achieve integrated management, then designation.

The only downside I see is for the department in providing for planned growth is that I understand well construction pump installation permit would require a water use permit. Because we're at the point now of distributing pumpage through Launiupoko aquifer, that permit would probably be held up or delayed with consequences to the community; while assistance to implement water use strategies could be through those land use approvals, instead to require on the appropriate source, requiring a developer to invest in conservation, recycled water, expansion, or whatever the strategy would be for their project.

QUESTIONS/COMMENTS

Commissioner Buck commented that on the Big Island, despite a lot of the public asking to designate, we did not; but instead we set up triggers and timetables in lieu of designation and urge you and staff to think about that but obviously there are some real issues that are calling for a potential designation and there's things from your perspective, as far as timetables and triggers and actions that you might consider that the commission would consider in lieu of formal designation.

Commissioner Hannahs noted there's a lot of testimony today advocating for designation from your constituents. How does your plan and you intend to address their concerns?

Ms. Blumenstein replied in terms of the process of the WUDP, it's no smooth ride with overall consensus for every strategy in the WUDP. Most of the draft strategies will require further outreach and work with community and other agencies. It's really a living document and hope that we can have more collaboration from CWRM as this may be an example how to ensure that smart growth so there's not competition between private purveyors, municipal and others. If we can formalize contingency agreements between all the purveyors of to address drought or operational challenges is one way, we can accomplish that.

The community will see too is your plan really supporting the West Maui Community Plan that did pass full council will start to be adopted as that Community Plan implements strategies from the one year sometime; for example, a new development comes in, you're going to have to install landscaping to reduce water use, use drought resistant plants, put in the gray water system to move forward. It's not obvious at the outset, and it sounds good for CWRM to take over management of the resources but, I see that these kinds of pieces can happen with additional proactive guidance from CWRM and not necessarily move into

designation, unless there's some true triggers being met, which I believe is for Honokōwai aquifer, but not for each aquifer sector throughout the region.

Commissioner Kagawa-Viviani (to Deputy Manuel) asked as with the great effort of Maui DWS on the Water Use Development Plan, it's the Commission role to uphold appurtenant and traditional and customary uses and ensure flow. In your view, is the commission currently do its due diligence for upholding those public trust purposes?

Deputy Manuel replied it's a shared responsibility to protect the public trust, even the counties as subdivisions of the state have that obligation as in their planning process to try balance the needs of all the public trust uses of water. The commission in partnership with the counties have a kuleana to make sure that happens. Designation is a tool and as Eva and Jeff mentioned, there are other tools that the county has to try to protect and manage resources, but the primary tool that the Commission has in this situation, is designation; spacing of wells, ensuring reasonable and beneficial use, and supporting the county's land use policies; as an example, you can't develop here unless you do recycled water. That's an alternative analysis that the commission would require in designation; it's supplementary not conflicting in proactively balancing use and resource; it's our kuleana to make, have and hold.

Dr. Strauch added as it pertains to surface water, the West Maui surface water is managed by private entities, and we have public trust needs or uses dependent on these private entities. The ability to regulate the off-stream usage of water is limited when all we do is set IIFS, it protects instream uses and values, but there's an assumption that the public trust needs will be met by the private entities, but there's no authority behind that. We're struggling post IIFS implementation or to get the IIFS implemented to make sure that public trust needs are met and I'm sure there'll be lots of testimony regarding that.

PUBLIC TESTIMONY (CONT'D)

Ms. Christi Keliikoa (for Maui Councilmember Tamara Paltin) – I wanted to share a letter that she wrote to the Board of Water Supply commission here, on Maui. It's dated December 16 2021. It reads: Aloha Chair Frampton and Commissioners, I appreciate the November 29, 2021, letter from M. Kaleo Manuel, Deputy Director for the State of Hawaii, Department of Land and Natural Resources Commission on Water Resource Management, that acknowledges database on a decrease in rainfall, low stream flows and prolonged drought, which is affected by climate change, groundwater quantity and quality by saltwater intrusion, as well as disputes over current and planned uses.

As such, I urge you to join me in supporting his recommendation to initiate the designation process of the entire Lahaina Aquifer Sector as both surface water and groundwater management areas. According to www.un.org, climate change is defined as long-term shifts in temperatures and weather patterns. It continues on by saying many people think climate change mainly means warmer temperatures. But temperature rise is only the beginning of the story, because the earth is a system where everything is connected, changes in one area can influence changes in all areas.

The consequences of climate change now include, among others, intense droughts, water scarcity, severe fires, rising sea levels, flooding, melting polar ice, catastrophic storms, and

declining biodiversity. As an example, I recently participated in discussions of water scarcity for a local cacao farmer. He pays a sensible fee for monthly water usage, which covers his farm activities as well as those of a neighboring educational organization. At present, the associated water fees are manageable, however should more groundwater need to be pumped in the future, these costs would multiply eight-fold, should the need for pump water rise in both parties will likely cease to operate. Not only would that have a direct impact on the cacao farmer, it would also affect his employees as well as their families. The same is true for the affiliated educational entity. For many years Na Wai 'Eha similarly filed a contested court case in order to balance water demands for appurtenant rights, such as kalo farming in Central Maui.

On July 1, 2021, after a couple of decades the group triumphed, and was granted water allocations from stream flows. The Maui News reported the sweeping decision announced Monday, impacts more than 150 different applications to use water, including small farmers like Pellegrino, to larger groups such as the County of Maui and Mahi Pono. In all, 1,000 determinations resulted in 116 recognized appurtenant rights and 176 permits, according to the commission.

In conclusion, we surely need to take immediate action as water is such an invaluable resource that needs to be addressed. Now, it is in the best interest of future generations for us to support and develop a commitment to West Maui water to manage West Maui. Maui waters, especially since we can expect climate change to worsen. Further, it is dubious that another well would be permitted, and groundwater use may be limited in the future. In the meantime, our best hope is to believe in I Ka Wa Ma Mua, Ka Wa Ma Hope, meaning the future is found in the past, what we sow today will be removed tomorrow.

That is our written testimony to the Board of Water Supply for Maui.

PUBLIC TESTIMONY (CONT'D)

Lucienne de Naie, Sierra Club-Maui – Thank you for this opportunity to testify. I'm testifying on behalf of the Sierra Club; Maui group and I am the Chairperson of that group. The Sierra Club supports the proactive move that's being discussed today by the staff of the Water Commission and the Commission members, to designate the entire aquifer sector both groundwater and surface water for the West Maui Lahaina area.

First of all, West Maui has four private water companies besides the county. These companies serve a significant part of the population, while the county of Maui system serves more than half of the hookups, the others combined serve the remainder. It's very hard to make water decisions unless there's a konohiki or a commission at the table with the power to actually help guide water planning.

Secondly, the Water Use Development Plan has some gaps in the West Maui sector and in other sectors and has taken so long because some of it was not adequate; as hard as the staff worked it was using outdated info, and many citizens criticized it for giving lip service to public trust uses, without reflecting that in the actual planned uses that were in the charts and diagrams of the plans. The Sierra Club is testified for years on various large land use entitlements that had large water demands in the West Maui sector. These demands were

assumed to be met in the future based on inadequate data of what was available, especially in Honokōwai and Launiupoko aquifers. This was also true in 'Oluwalu aquifer where 1,500 units were planned, the water demand would have far outstripped the resources there.

We really want to laude this commission for moving on and looking at this entire sector as interconnected. Just designating one or two aquifers because their problem spot, does not really solve the problem as there's no real geographical barrier between these aquifers that studies have shown, and are thin aquifer. There's a lot of recharges but it doesn't hold in place like the 'Iao aquifer does.

You really need an overall management strategy. We know this is a challenge for the staff at the commission, we know the implementation is hard and this has already shown up, but I just have to say personally, I did a study back in 2002 to 2004, on Maui's Water Resources funded by a Packard Foundation Grant, and Launiupoko, according to the folks I interviewed from Pioneer Mill, always had water shortages, and they had to bring in mill wash in order to have enough for the crops. Their wells will get salty if they pump them too much even too salty for the sugar cane. The same thing at Honokōwai, I interviewed the Kā'anapali System Manager at that time, and said exactly the same thing that was explained today. They'd have to pump one well for a short period of time when it got too salty and switch to another well. he said in the old days, they used Honokōhau stream water to add in and treated it in a small plant which they later abandoned and added in with the well water to lower the chloride levels.

It's really beyond time to have this whole system looked at and managed together. I just want to mention about the tar spill; it was reported to the Sierra Club about 10 days ago, Hawaii News Now called, I referred them to various folks in the West Maui community who I thought would be more knowledgeable about the historic uses in/around Pioneer Mill and could perhaps shed some light on it. It has been public concern for some time, but I guess people don't feel they can go to the Water Department to report such things; so, they call our hotline instead.

Thank you for your service efforts here, and the Sierra Club strongly supports the West Maui community in getting the kind of water management they need by having the area designated as a surface and ground water management area.

(Commissioner Seto exited the meeting)

PUBLIC TESTIMONY (CONT'D)

Mr. Hōkūao Pellegrino, Hui o Nā Wai 'Ehā – Aloha mai kākou, Chair Case, Deputy Director Manuel, and Water Commissioners. I am the President of Hui o Nā Wai 'Ehā and I'll be providing testimony on behalf of our Hui in regards to the surface and ground water management designation discussion for Lahaina aquifer.

Hui o Nā Wai 'Ehā strongly supports a decision to designate the Lahaina aquifer section as both a surface water and ground management area. As you know, Nā Wai 'Ehā is the first and only area on Maui and in Hawai'i, to be designated as a water management area as well as having the 'Iao aquifer designated as a groundwater management area.

Working through the process over the last 15 years, has not been an easy one. However, it was the right thing to do, and was well supported to ensure the protection of our freshwater resources that were under severe stress from over pumping of groundwater beyond sustainable yield, lack of oversight of wells being developed, and mile-long dry stream beds due to plantation diversions. We strongly feel the Hui has laid a solid foundation to help and support our hoa, Native Hawaiian kuleana kalo farmers and others in the neighboring Moku of Lahaina and Kā'anapali, to navigate through this complex yet critically important process. It's time to hold the Wailuku Water Companies of West Maui accountable, and users who are mismanaging water resources not protecting our public trust resources.

Similar to what we observed, there's clear evidence of non-compliance to IIFS, access to kuleana water, lack of well pumpage reporting, over-pumping, and prioritizing off-stream use over traditional and customary rights of instream users. While far from a perfect process, designation allows the community to work together with CWRM on solutions as to how best are freshwater resources are stewarded, groundwater sustainable yields been adhere to, in addition to ensuring the appurtenant rights, and traditional and customary practices, of Native Hawaiians who cultivate lo'i kalo on kuleana lands, are being protected. The moku and people of Lahaina and Kā'anapali are resilient and the Hui is here to support them through this entire process and as a community resource. We look forward to ways we can collaborate, ensure long-term stewardship of our streams, groundwater aquifers, native aquatic species, estuaries, and traditional customary rights.

As you saw in the last presentation, climate change, over pumping of aquifers, draining our streams and more frequent droughts are upon us, knocking down our door. We're in dire straits on Maui and need our leaders, Water Commissioners to do the right thing by designating both surface and groundwater now. Any delays can have a long-lasting effect. There's enough data that shows us that we must act on this critical need. I also wanted to add after hearing and reading the County of Maui's DWS comments, that the Maui County Water Use Development Plan. While a very important plan and a process that we have been involved in, should not be used as a substitute for the designation, and shouldn't be a basis to delay a decision to designate.

I think there are a couple of things that might be getting mixed up; for example, in regards to the 'Īao groundwater designation. There's multiple 'Īao tunnels, some that are traditional Water Development tunnels that were treated and permitted as groundwater and counted against surface water, and the county's 'Īao tunnel, because of the way that the diversion system works. I believe someone like Ayron, or USGS should be able to do this in greater detail, but essentially when it comes to the same stream hydrologic it was why it counted towards same the IIFS.

Again, Mahalo for your time and look forward to opportunity when this becomes a decision for the water commissioners to make, and something that we support, as Hui o Nā Wai 'Ehā, Mahalo.

PUBLIC TESTIMONY (CONT'D)

Dr. Jonathan Likeke Scheuer (behalf of Dept. of Hawaiian Home Lands) – Aloha mai kākou

Commissioners. I'm here today on behalf of the Department of Hawaiian Homelands and Hawaiian Homes Commission Chair William J. Aila. We submitted, written testimony, which I'll echo and expand upon. I believe it bears repeating in this context that the rights or your ability, to protect and enhance public trust uses of water, particularly the uses of water by reservations of DHHL, are very significantly enhanced in water management areas, as opposed to non-water management areas. There's at least a couple of ways this is true.

DHHL actually holds both surface and groundwater reservations in this area but in non-designated water management areas, those reservations are passed by a Commission's simple vote. In designated water management areas, they're passed by administrative rulemaking under a different part of the Code. In designated WMAs, they're actually passed by administrative rulemaking under a different part of the code and because of that happening, there's an enhanced layer of protection and assurance that DHHL can rely upon.

I also note that the code is explicit that water use permits that are issued in designated water management areas, are conditioned whether or not it says on the permit that they are subject to the rights of DHHL, while construction pump installation permits do not have those conditions placed upon them. Those are at least two ways in which it's almost unarguable that DHHL, and its beneficiaries' rights are enhanced in water management areas.

I just having read some of the written testimony and we reviewed and listen to the discussion, want to note few things as you make your way through this complex and difficult decision. 7 One, it's not just DHHL whose rights are enhanced, but existing users who have reasonable and beneficial uses, their rights are enhanced when designation occurs because you have this obligation to issue permits towards existing and future users. There was a suggestion that growth might be stymied with the designation process. I've observed the opposite to be true, a long and drawn-out designation process is a deterrent to private investment. People don't want to know, do I put in a well do I pursue an entitlement or need to know a bit about how folks pursue land use entitlements. If there's uncertainty about whether there's water available, it actually slows down the planning and investment process rather than speeding it up. I would definitely not encourage you to extend this process.

To the degree there's been arguments and will be arguments that this process is premature, I'd like to raise a few other points. Most important for this Commission to keep in mind that sustainable yield as calculated, is the maximum possible amount of groundwater that can be sustainably withdrawn for future withdrawal. If wells are optimally placed, if recharge is evenly distributed, wells are the same depth, and pump at the same rate, and that recharge does not change over time; so it's clear on your record today; the current sustainable yield numbers for West Maui explicitly, and on page, 68 of appendix F of the 2019 Water Resources Protection Plan that you passed; climate change is not considered how sustainable yield numbers are calculated.

These 90% of x numbers is x, in this case, a stable yield number that assumes the past is going to look exactly like the future and fundamentally misreads the code. The code does not say, you may not designate unless pumping is at 90% or more. The code says you should think about whether or not pumping is approaching 90% of sustainable yield, but the overall criteria is, you shall designate if resources may be threatened. There's also a very interesting comment that was made both orally, but in the written testimony from Director Pearson, that says ...well perhaps CWRM would be better off to use information on well modeling to

encourage people to spread their pumping out... I don't think it's a bad role for CWRM to continue to invest in groundwater studies and models to get people to control pumping, but this is unambiguously clear your ability as a Commission to manage groundwater is essentially can only control three things: where wells exist, how deep they are, and how much they pump. This water commission is completely prohibited from managing those three things in anywhere except water management areas. In only water management areas can you say no, only going to allow it here, only to this steps, only at this amount.

(Mr. Scheuer continued public testimony)

Finally, this is post-based on the history of our constitution and our statutes as well as personal experience and we included some of this in our testimony. When the Constitutional Convention debated about the language and committee, over how to describe Hawaii's public trust water resources, they were explicit when they presented this to the entire body as they were describing water as a public trust, they said ...accordingly our committee concluded that the constitution should specify the state holds the water resources and trust with the responsibilities of a trustee to actively protect, control, regulate development of water resources in the state... This concept implies not only the power to protect the resources, but the responsibility to do so long before crisis develops.

I find the testimony, suggesting only the two aquifers that might be at 90% and only then study it, goes against that. One last thing I'll note on, is where this commission and different members debated over whether or not to designate the 'Iao aquifer and Waihe'e aquifer together at the same time. The decision was made on we're not going to designate Waihe'e, it's not quite at 90%. Soon afterwards, a private developer came in and said we're putting in wells in the Waihe'e aquifer right next to the boundary. This was the Bessel brothers of the 'Iao aquifer, and staff said, we actually don't really want to recommend this permit, but they have correlative rights so we're not going to recommend denying it; and the Commission issued those things. The reason why you want to take a comprehensive approach is to avoid people going right outside the boundary line and to move your problems and you're playing whack a mole for the next few decades.

I thank you for your attention, happy to answer any questions; I really appreciate your attention and diligence to this matter, Mahalo Nui.

PUBLIC TESTIMONY (CONT'D)

Ms. Jade Chihara – Aloha Chair and members of the Commission. I'm in support of agenda item A2, designating Lahaina Aquifer Sector for the surface and groundwater management area. I'm testifying as a resident of Lahaina firstly concerned for the rights of kuleana kalo farmers in the valleys of 'Ukumehame, Oluvalu, Launiupoko, Kaua'ula, Kanahā, Kahōma, Honokōwai, Honolulu, and Honokōhau, as well as the work of regenerative agriculture in the ahupua'a of Kuia just north of Kaua'ula stream. As a resident and steward in this area, I'm extremely concerned that the mismanagement of current off-stream users has turned into an abuse of privilege, and it is urgent to establish an organized system of checks and balances over ground and surface water use in this area.

The conflicts and implications at the community level between workers of the companies in

charge of managing the plantation water system in Launiupoko and subsistence farmers whose food sources are being affected will continue to intensify, and I believe designation is a clear and fair solution that sits in your decision at the state level. I'm concerned that private well users are not appropriately reporting their usage and not compliant to current standards to monitor their groundwater use in taking advantage of their privilege to pump groundwater.

This is extremely upsetting because the irrigation water companies could care less about the public trust, or why it was established, populations of 'o'opu, supporting kuleana kalo farmers or even their roles in recharge levels to the aquifer and instead use water resources to for golf courses and swimming pools, and recklessly enforced curtailment policies that affect the public; and with the presentation earlier by Miss Kane, I think that's extremely concerning because the Lahaina is a fire prone area and with drought conditions extended, I think our safety is also at stake.

If we can have a higher level of scrutiny for water use in the area to allow the aquifer to recharge and improve its health and have a little bit more sustainable water use. I really asked for the Commission's approval of the designation. Thank you for the opportunity to speak and for the time and commitment you folks make to protect and manage our water resources, Mahalo.

PUBLIC TESTIMONY (CONT'D)

Ms. Sanna Ka'uhane – My husband Kalei will be joining me shortly. We're testifying today as an 'ohana and strong support of this designation. Our family lives in Honokōhau valley, so we're very much connected to this aquifer system. We do farm kalo here. My husband and I were just talking last night and out of all the things that we hope and wish for our keiki is the ability to continue farming kalo when they grow up; and for their children to keep farming and their kids kids keep on farming.

It's up to all of us, especially you guys to ensure the vitality of our aquifers system for the future generations of public trust users to come. We urge the commission to take this proactive step to protect the resources before it all goes brackish and hard to go back.

Mr. Kalei Ka'uhane – Aloha. We support the designation strongly. In your guys decision if we can slow down growth on the west side, that way our kids and families of Lahaina, of Kā'anapali actually get one chance. Because it is blowing up. We should be growing kalo, and should be growing more food than houses and development. Mahalo for you guys listening and hopefully you make the right decisions.

PUBLIC TESTIMONY (CONT'D)

Mr. Ke'eaumoku Kapu – Aloha kākou Chair Case and the Commission on Water Resource Management, staff geologists Ayron Strauch, Kaleo Manuel, Aloha kākou. Hau'oli Mahahiki Hou. I live on kuleana lands in Kaua'ula Valley, here's my wife beside me. Our property awarded to our kupuna during the great Mahele of 1843. I grow kalo to help sustain my livelihood and heritage embedded in our 'ohana and to the next generation and so on.

I am an heir to the original lands that are still governed by a pre-existing kanawai law of our constitutional monarchy, and from a case that sets standards to water uses in Kaua'ula by a Supreme Court ruling in 1897, Kumulili'i vs. Horner. I encourage this commission to look into this. Over 70 plus kuleana families in Kaua'ula also include the Palakiko, Ka'ahanui, Mahelona, Nakaikoana, Opunui, Kua'apa'a, Ka'ai'ai, Nama'u, Kupihea, Kuali, Espinda, which is my wife, White, Pali, Kapule, Kalua, Kaleo, and my 'ohana, the same original heirs that are named in Kumulili'i vs. Horner case. Again, land once governed by a constitutional monarchy which these very water laws are woven into the fabric of today's existing State of Hawaii codes.

West Maui Kaua'ula, in particular, should have been designated as a water management area long ago, which would have had a different effect today where many families up to the 1950s was forced off of their kuleana by water mismanagement from sugar cane companies and sold the development companies; even more worse in the situation and water and such as West Maui Land Company and their other affiliates, such as Kaua'ula Land Company, Makila Land Company, Launiupoko, Makila Ranch, Mahanaluanui, Kahoma Land Company, Kipahui LLC, Pu'unua Subdivision, 'Oluwalu Elua now Waine'e Land Company, Land and Homes LLC LLC, and Hope builders LLC. To date, the same conglomerates made up of one whole.

With that said, we the kuleana also believes that this water should not be designated a water management area to help with the IFS, also be set up as a dual management system for kuleana to manage our own not being hindered by future development or developers, which has been the ongoing problem by a water company that does not have the capability or expertise to manage a pristine resource, such as water for the benefit of all, and not just for their rate payers. Hawaiian Water Code requires designation of a water management area when those resources may be threatened by existing or proposed withdrawals of water. As a kuleana user for kalo cultivation, I believe the regulation is necessary to preserve my diminishing groundwater supply for future needs.

We've had major conflicts over water use in our community and we support designation because it's necessary for pono management of our water resources. For example, our 'ohana use of water for kalo is a protected public trust, which is supposed to be the highest level of protection under the law. Despite this, we often do have enough water in the stream to irrigate our lo'i. Designation would help the commission balance requests for water and ensure public trust uses of water are protected.

Without adequate water, we are unable to continue these native Hawaiian practices that define who we are as a people. However, projections estimate even more population growth stated by the water department and development in our small town. It is important to secure our water future now for generations to come. We again believe the water management area designation is the best tool to address these and other issues our community faces.

I Mahalo this Commission this opportunity to share that me, my wife, my children and (14) grandchildren are really dependent for our livelihood on how we are going to exist, or whether or not co-exist from what is happening today. We strongly support the designation of this area, this whole entire aquifer. Mahalo to the Commission and to you, Chair Case for this time, thank you.

PUBLIC TESTIMONY (CONT'D)

Ms. U'ilani Tanigawa Lum, West Maui Preservation Assn. (WMPA) – Aloha mai kākou. Mahalo Nui for this opportunity to testify and for the staff and Chair's initiation of this important process. I'm here today to testify in support of the designation of West Maui, as the President of the West Maui Preservation Association or WMPA for short. I'm here today also as a kama'āina, as a kupa of Maui. Though I was born and raised on Maui, I grew up on the opposite end of the island in Upcountry Maui and perhaps like many others, I grew up thinking of West Maui is simply just a far drive at a hot area with plenty hotels. But this poorly informed view of Maui komohana, West Maui, changed when I learned about the rich history of the place of our cultural and natural resources, and unfortunately, I didn't learn that by purely seeing it in my lifetime. I only learned about it through mele, our cultural practices of hula specifically.

As an example, e ho'i ka nani i Moku'ula and I'm thinking about Uncle Ke'eaumoku specifically, is a mele extolling the beauty of Moku'ula, and as the first line highlights returning that beauty to Moku'ula. Without getting too nerdy or in a rabbit hole, this mele is but one in a series of many published in Hawaiian language newspaper in 1862, that all began with this line, and centered around Maui komohana specifically. Once revered as the Venice of the Pacific hosting incredible springs, fishponds and royalty, I was only able to visit a baseball field that now covered the area, those resources were gone.

Getting to the issue today and as the series of mele illustrate, I think about this issue of designation. I reminded about this idea of returning the beauty back to Maui komohana recalling or extolling the past through our traditional practices to carve out a better future for Hawai'i pae'āina, especially in light of global warming and the effects of the climate crisis. We know our kupuna managed water comprehensively across ground and surface water without regard to "lines" for a reason. With that in mind, you have WMPA written testimony which goes into greater detail, but I like to briefly highlight here that there are serious disputes with respect to water resources throughout the Maui komohana areas. These disputes include the historical and ongoing struggles between kanaka maoli communities and developers across West Maui. In fact, as our testimony outlines kama'āina face disputes with large land owner developer businesses or remnants of those in almost every area in Maui komohana .

For nearly two decades WMPA has supported community advocacy around West Maui's natural and cultural environment and our organization is consistently busy with serious disputes over water. Finally, while I'm appreciative of the efforts of the important Water Use Development Plan, I'd like to echo that is no substitute for designation and should not be a basis for delay. I want to be respectful of your time, so and say that during my brief time as President of WMPA, it has really been enlightening on the dire need for comprehensive, bold leadership and planning, coupled with action implementation to prioritize wai. Designating both groundwater and surface water across Maui komohana would assist in requiring water users to disclose the purposes and amounts of their uses, which would be subject to this Commission's determination as to how to protect public trust uses.

In short, I think the commission should use every tool in its disposal and I respectfully urge

you to kāko‘o or support the kama‘āina of this area, those who you heard from today, the public trust uses and ask you to please move forward with the designation of Maui komohana. Mahalo Nui for all your time, for your work on behalf of our ‘āina.

PUBLIC TESTIMONY (CONT'D)

Ms. Kanoelani Steward – Aloha kākou. I was born and raised in Lahaina and support the Chair’s recommendation to designate the Lahaina Aquifer Sector as a surface water and groundwater management area. Designation will add another protective layer of support and regulation for the many water issues that our community continually faces. We have showed up to support the establishment of Interim instream flow standards in West Maui. We also show up and communicate with CWRM when we notice diminished streamflow, waste of water or issues with diversion intakes, and we will continue to show up to voice our support for more protection and regulation of our water for public trustees.

Table-2 as in the staff submittal on page 7 on reported pumping of groundwater, clearly shows that something needs to be changed. How can we continue to anticipate a growing population and more development if the Honokōwai and Launiupoko water systems, which is all of Kā‘anapali and Lahaina Town are already going over the sustainable yield, using way too much water. Designation can help regulate this issue and reinforce compliance for well owners or operators to report their monthly water use.

Additionally, published in peer reviewed research on climate change, show that dry areas will become even more dryer during the summer months decreasing water availability and ultimately affecting our water sources. Designation will help to address this issue of water availability to ensure protection of our water resources.

I applaud the County for the work that has been done for the Maui County Water Use Development Plan and have also been involved in those meetings as well. I also agree with the staff submittal and others that have shared that designation can only compliment what the WUDP seeks to accomplish. We see designation as another tool that can be effectively used to regulate and manage ground and surface water as a whole unit. To see our kahawai restored for instream values for fish and wildlife habitat, for the protection of traditional and customary Hawaiian rights, and to regulate non instream uses.

Our practices are intimately tied to our resources. and we see this as an opportunity for the commission to continue to fulfill its duty to ensure reasonable beneficial use of water resources in the public interest. Again, I support the Chair’s recommendation to designate though Lahaina Aquifer sector as a surface water and groundwater management area, Mahalo.

PUBLIC TESTIMONY (CONT'D)

Mr. Holden Kalama‘ehu Takahashi – Aloha kākou. I’m a resident of Honokōhau and Kā‘anapali. I’m testifying in support of item A-2 the designation of the Lahaina surface and ground water management area. I just had a chance to quickly review the staff submittal so

wanted to Mahalo everyone for their time to testify this morning, Mahalo for the staff for your hana nui in making sure that we are taking these measures to protect our precious resources, specifically our wai.

Some points I'd like to follow up on is I find it very alarming to see some of the numbers such as the harm to the groundwater quantity and quality. The fact that we are at 90% of the sustainable yield in certain areas and going into the threshold of 115 to 170%, is very alarming. I'd like to agree with Likeke's comment about expanding these protections to a broader area. I think the only thing we can do is like as others have stated that the connectivity of these resources is also inextricably connected to our well-being as kanaka and those of us that are subsistence practitioners or traditional. Another point I wanted to bring up was serious historic and ongoing disputes over the current plan and resources is one of the issues that I saw was that the non-public trust uses are affecting availability and use of water to meet the public trust needs.

I find it interesting that kalo farmers at Honokōhau are having a hard time to get enough water to cultivate kalo whereas we're starting to see more of these developments for housing and other very extractive and unnecessary endeavors across West Maui. Coming up. This is a means for us to help them adjust some of that.

The third was the climate uncertainty and with the decline of the rainfall, natural stream flow and recharge, and now more than ever I think we need to take the measures to ensure the safety and longevity of this precious resource before it's too late. In my opinion if anyone that might want to deny some of the data or some of the negative impacts that may have been presented with the data here, either solely misinform are willing to bet the greater community stability, longevity or survivability on the arbitrary interests of foreign extractive desires and influence.

After looking this on page four looking at some of the current conditions that outline some of the issues of the mismanagement of water as we've heard from other testifies this morning, there's a lot at stake here for the future generations. Mahalo for the time this morning and will come back in March with better testimony, Mahalo.

PUBLIC TESTIMONY (CONT'D)

Ms. Karyn Kanekoa – (*testified in Hawaiian*) Good afternoon, Commissioners and Chair. I am testifying today on behalf of the Hui Nā Mamo Aloha 'Aina o Honokōhau, representing the 'ohana and kalo farmers of Honokōhau Valley. We are in strong support of the designation of the entire Lahaina Aquifer Sector, as both a surface and ground water management area. We do believe that this designation is a crucial important first step toward securing and protecting the stability and viability of our precious freshwater resources.

In Honokōhau, we've definitely been experiencing a steady and significant decrease in rainfall in recent years. Through designation, and the permitting requirements that accompany it, we believe that will be crucial to address these and other water ability or availability issues brought on by global warming and climate change. We do have major disputes over water use in our community, and we support the designation because it is necessary for practice management of our water resources.

As you and we know, the use of water for kalo is a protected public trust use which is supposed to the highest protection under law. Being a part of 'ohana who farms kalo at Honokōhau, there's many times where we struggle to keep our lo'i irrigated. Designation would help the commission to balance requests for water and ensure public trust uses such as farming kalo are protected. Without adequate or without wai, we're unable to continue these waiwai practices of kupunas and that's something we're just not willing to give up. We want to make sure that our keiki and our mo'opuna and generations to come can farm kalo forever at Honokōhau, to feed their families and our larger community.

Projections estimate more population growth and development in our already very crowded little town of Lahaina. Where do they expect to get water for these future developments Honokōhau paha? As Ayrton clarified the salinity and chloride levels in the west side wells are increasing and that's very alarming and concerning.

It is important and crucial to secure our waters future now, for generations to come. We cannot count on the Maui Department of Water Supply to manage our water on its own. We need the Commission to designate now.

Mahalo to Kaleo and Ryan and Ayrton for their presentations today and for clarifying that it's crucial that designation happen, and let's do it now before it's too late. 'O ia ihola. Mahalo Nui for listening to my testimony this morning, i lā maika'i iā 'oukou pakahi.

PUBLIC TESTIMONY (CONT'D)

Mr. Kekai Keahi – I don't want to repeat but, something that Eva said that got me a bit worried when she said using the precautionary principle in terms of designating the entire Westside could be overzealous. All you need to do is look as far as Launiupoko and Lahaina, that's the evidence of what is occurring that will occur in these areas. What Jeff is saying, of going beyond these imaginary boundaries that you set up for these aquifers and taking water from one aquifer to the next, is a disaster waiting to happen.

For Commissioner Aurora, when you're talking about the Water Development Plan for West Maui, a lot of us who participated in a plan wasn't to necessarily come up with something that we all can agree upon, it was more damage control. We participated in that to lessen the damage the county was going to inflict on our community, then looking at the designation to further support lessening that damage. We don't really look at the Maui Development Plan for water or that buffer, so the designation is really important to help support what we did there.

Enforcement, we get issues. My family comes from Kanahā. We've been waiting for this water since the Commission set the condition and accepted the IFS; and the water has never returned. In fact, the County has never put one inch of effort into redesigning the intake so that we can farm our land; that is also a problem. The community is the first line of defense when we see violations going on. When it came to Kahōma, West Maui, and Peter Martin dewatering Kahōma, we were the ones that saw the problem, got that addressed, sent that problem to Ayrton folks, and let them know what's going on. Same with Kau'aula, and Kanahā, with the county, and with 'Oluwalu. We were the line of defense that is looking at

and protecting our resources.

When we look at the return of our water resources in the stream, it was community again that was the catalyst and the ones that push the effort. It's the people that's protected the community. When we approached the Board of Water for the County of Maui, we voiced our concerns and they supported us, Tamara, along with the Maui County Council, also passed a resolution supporting that designation. Now I know the Mayor doesn't want it and the Department of Water Supply doesn't, but you know it's common sense. We've talked about triggers in going through the designation. You know you don't wait for a murderer to pull the trigger to decide what how you're going to react to the situation. You take the gun out of his hand before he can get hold of a gun. We don't wait for the last minute. What happened with Lahaina and Honokōwai, I was surprised to find out that we actually went over the sustainable yield, that is concerning to me.

With our wells being overdrawn, the fire levels going up in Kanahā and Waipuka Wells, that lead the County to further break state law by dewatering an entire stream so that they can dilute this water so they can make it available for distribution to the community.

This designation is something that we desperately need, and you guys got to consider these things and try not let the county, who supposed to be representing us, actually going against us, to influence you to think that everything is A okay; because it was we the ones that initiated, protecting our resources and bringing it to you folks. Thank you.

PUBLIC TESTIMONY (CONT'D)

Mr. Kaipo Kekona (Po'o, Aha Moku o Maui) – Aloha mai kākou. I am here today to offer testimony in support of the designation of both ground and surface water for the entire kumuhana of Maui from 'Ukumehame to Honokōhau, for various reasons.

First and foremost, I am the Kā'anapali Moku Representative and a farmer in Lahaina moku within the 'ahupua'a of Kūia. Many people have mentioned that we have very contentious water issues in Lahaina amongst our community, larger landowner's/developers, private water companies, as well as the County's Water Department. We've recently discovered that they've been passing off water use of the county's water to private developments that have managed to find loopholes in the counties system to find ways they don't have to comply to environmental impacts and all those necessary instruments in place, to see the betterment of our resources, environment, and our community.

The county also allowed them to tap onto water lines where their developments don't exceed certain numbers and now these landowners are developing small development projects where they don't require community input; and the county is feeding into these projects, and we don't have any way to put our input into any type of hearings. That's just more of a small example that is currently happening.

This past weekend I was fortunate enough to visit a few of our streams that have been designated for the IIFS, and none of those streams that we visited, three different streams, none of them are currently meeting the IIFS. We have the photos and documentation to show that, but I believe Ayron are already aware of those issues. Another concern I have is finding

earlier today the meeting by the USGS people, they show that chloride levels and places we are exceeding our sustainable yields are excessive that aren't being met. One of our Commissioners, Wayne mentioned how it was alarming to see that report go through. That point for me I asked, why is there even a question if we should be designated?

People will reference the 'Īao and the Nā Wai 'Ehā situation and how they were designated. Jeff Pearson mentioned about what the situation is occurred to have that designation put in place; but if you look at their situation, their water availability is 10 times as much as what we have our side of the mountain here in Lahaina and Kā'anapali. Even more so it justifies that we should be in a designated area for management because we have much less of a resource of water, that we need to have very tightly managed to be able to still sustain and maintain all of our water sources for future generations.

Another thing is if we did designate or not, and these put two watersheds aquifers that is currently being overdrawn, how would we then find the source to sustain those communities because that's the largest community or population here in Lahaina. That's why we're using so much and why we're drawing so much, to produce for them, the hotels and golf courses. If suddenly, those aquifers went salty and we couldn't be yielding from them, where would we then be yielding from? We probably be yielding from Honokōhau and Honolulu and would try and go as far as out to 'Ukumehame and figuring out how we're going to lay lines out from there to sustain the community that we currently have.

I sat on the CPAC back in 2006 to 2009-10, and the planning that we have still pending for us in Lahaina is huge. We were looking at somewhere close to 40,000 homes still to be developed according to the general plan that our community planners passed, and we've been constantly trying to make effort in those areas to lessen the impact to our community. We continue to meet on other different platforms and levels of approaches to try and lessen that impact as well; but nonetheless, those aquifers that we spoke of, still have a sustainable yield. There's planning development pending for them as well, as mentioned DHHL.

We understand that they have the right to those waters but what we're not looking is Kapalua Mauka or not looking at Pūlelehua, and not looking at Kā'anapali 2020. All of those developments that's going to be yielding off those same aquifers that is jeopardized right now. I don't think we can prolong the designation and understand that sometimes people get excited and tend to jump gun, but in this situation, based on all the data acquired today and shown that was presented, lets us know that definite action needs to be made. I don't think small scale action is what we got to look for. We need to find ways to get a better grip hold of this situation and make sure that we can tighten up everything so the sustainable yields can be addressed and that we can prolong the existence of our community in the area.

The planned growth isn't considering and factoring what we looked at just now, today. Nobody can predict what the global warming effects going to be for ourselves in the next few years, let alone 20 years or 60 years or any more further than that. I think for us to take a large scope action and grab ahold of that is probably the best solution that we have now, as we go down the line; if we realized that we may have missed calculated, we can always adjust. Much like anything that you do, you rather have too much so that you can take out where you cannot. If you cut a piece lumber too short, you cannot get a board stretcher for you got to make that work; so much better for have extra then not enough; thank you guys.

011822 04:17:06

Chairperson Case announced the conclusion of public testimony and asked Commissioners if there were further questions and announced recess.

RECESS: 1:17 PM

RECONVENE: 1:42 PM

011822 04:42:13**A. NON-ACTION ITEM / INFORMATIONAL BRIEFINGS****3. Wailuku Kuleana Town ‘Auwai, Nā Wai ‘Ehā Surface Water Management Area, Maui**

PRESENTATION GIVEN BY: Mr. Dean Uyeno, Stream Protection & Management Branch

Mr. Uyeno noted that this briefing is to familiarize the Commissioners with the issues that CWRM has been dealing with as part of this implementation.

Mr. Uyeno stated the summary of request and its legal authority under the State Water Code HRS §174C-10. The background information was briefed on, showing the map of the Wailuku Town Kuleana ‘Auwai and the Wailuku Town Kuleana Ditch distribution pipe system.

Commissioner Hannahs asked on the integrity of the underground piping system, if there are any known leaks. Mr. Uyeno stated it is concrete lined, but the condition is not known. Complaints were reported in 2015 from downstream users of it possibly being plugged or clogged. Further investigation noted the roots from a monkeypod tree near the Wailuku Public Library were reaching into the channel and was then cleared by DAGS.

Mr. Uyeno noted that any water left overflowing through the Ciotti property, flows into the Spreckels Ditch and if any other water flowing from Ibara property, also flows to Spreckels Ditch. Also noted that during a recent site visit, the water appeared to be backing up at Spreckels Ditch and had very little movement of water there. That status is not known if it was rainfall debris that backed up at that site. However, Mahi Pono has piped the water at, what was formerly known as, Wai‘ale Reservoir, which eliminated the reservoir itself; but that ditch is still there and may capture any storm runoff from overland flow.

Deputy Manuel referred to the “ho‘i” relative to the D&O of this ‘auwai system, currently would flow into the Spreckels Ditch. In conversation with Mahi Pono and Wailuku Water Company (WWC), Mahi Pono receives all of its water from Waihe‘e Ditch through the Hopoi Chute which drops into the Spreckels Ditch causing some backup at the location of the Ciotti and Velez property. Discussions with Mahi Pono was made regarding this issue. To note, the ho‘i goes back to Spreckels and not to a natural tributary, river or stream and is generally how this system works. There are four (4) end users, including Imua Family

Services who receives their water from the distribution point.

The timeline of complaints was briefed on noting that Mr. Street is part of Ms. Jordanella Ciotti's property. Photos of the flow meter and of the intake pipe at Waihe'e Ditch were also shown noting vandalism claims made by Wailuku Water Company which has been an ongoing issue that is being addressed.

Based on the premise that D&O were issued, rather than doing a three day per week distribution, Wailuku Water Company were doing a 24-hour distribution of 88,000 gallons per day and all these meter readings that Mr. Chumbley is providing is attempting to get to that point and has been dialing in the flow meter to get it to the point where it's fairly accurate in providing those 88,000 gallons per day. Photos of the 10/29/2021 site visit were shown and noted of the water flow patterns.

On November 4, 2021, Commission staff spoke with Tyson Miyake, Mayor Victorino's office, regarding the issue of storm water flowing into the Wailuku Town Kuleana 'Auwai at the corner of Kaohu Street and Kalua Road. The Mayor's Office and County Council are working with Department of Environmental Management to investigate and address the issue.

On November 28, 2021, Jordanella Ciotti emailed CWRM stating that she designated Robert Street as legal representative to speak on her behalf.

Mr. Uyeno added that a future site visit is pending to have Ayron measure what was flowing into the ditch. At one point, he was able to get one measurement at the point where the ditch meets Kalua Road. He was able to measure 53,000 gallons per day. That was about 20% accuracy because the flows are so low in the ditch; the flow tracker that we use for the measurement device isn't the most accurate at these very low flows.

On December 6, 2021, CWRM received an email from Mr. Chumbley of WWC, noting that the Waihe'e Ditch siphon was damaged due to a rain storm event. As a result, WWC shut down its intake of water to the Waihe'e Ditch from Waihe'e River in order to assess the damage as stream flows subside. Following that assessment, WWC will need to determine what repairs will be necessary to temporarily repair the siphon to resume water service.

On January 5, 2022, Mr. Chumbley notified Commission staff that WWC was able to successfully complete Phase 1 of the Siphon repairs.

January 6, WWC stated to have normal diversions restored by the end of the day.

The analysis was noted and explained further. Deputy Manuel summarized the analysis highlighting application(s) that were filed in the case earlier, noting for example the Ciotti's in which water amounts used probably changed over the course of those 10-plus years. In the initial application, there wasn't a measurement taken to determine the quantity of what those eight hours of use were, from 7am to 3pm, in order to create any kind of baseline of existing use. The Decision and Order is based off of the application and the data that's there.

One of the recommendations was to shift back to three days a week as a way to award these users so that there's enough water flowing through the system to get to the end users. In a

quick calculation, you'd have to amend the water use permits to increase it by 100,000 gallons a week. There needs to be some kind of analysis and note that there's policy considerations. The D&O recognize appurtenant rights for those three end users of almost 347,000 gallons per day; but in the issuance we issued only 80,000 gallons per day. There's a potential that if the commission wanted to, within the appurtenant rights that they have, award the larger quantities.

The ho'i would currently mean that any water that's not consumed by those three properties would flow into Spreckles Ditch then Mahi Pono could catch it and use it; and whether or not that would require an amendment or modification for that consideration is another issue.

Another idea is because the context of the D&O on ground management of kuleana 'auwai was to have kuleana users work together to manage those systems; and in rural settings were 'auwai are traditionally designed with gravity flow, usually unlined, have flow-through ho'i, etc., it works. In this case, you have a system that's in an urban built environment that's a relic of its time that's lasted, you know the building of streets and other infrastructure still exists, but it has a lot of layers built on top of it; so easily managing that system for end users is almost impossible

It's one situation of the implementation of the D&O of the Commission that we're trying to work through, and that the D&O may not have clearly anticipated specific to this 'auwai. Another idea is that end users could get onto the County's water system which they already have access to and an additional Ag meter to meet those non-portable needs, and we shift the permits over to the Maui Department Water Supply (Maui DWS). We had an initial conversation with the Maui DWS, and it's cited here they'd have to evaluate whether the infrastructure is big enough to support that increased demand and would ultimately be customers of Maui DWS. The free water they're currently receiving from WWC and the 'auwai, would make them be paying customers to Maui DWS. There's other implications, but it's another way to deal with this 'auwai that has system losses which the losses are unknown in an urban environment.

It's very complex to work through and there's been recommendations from Wailuku Water Company and of Mr. (Robert) Street, in how they want to see this managed. This is one of the many implementations hiccups we need to work through as it relates to Nā Wai 'Ehā and the complexities of surface water management in this region.

QUESTIONS/DISCUSSION

Commissioner Buck thanked the staff and wanted to confirm the D&O that the water purveyor is responsible for providing X amount of quantity water at the top of the 'auwai, which is WWC, and other than that, it's the people along the 'auwai that need to work together to figure this out. We need to stick to our D&O and tell everyone to figure out how to make this work as long as the amount of water that WWC is responsible for is available at the top. *(wanted a summarized reiteration of the D&O in that perspective)*

Deputy Manuel replied yes, that's generally it and noted the question is, where does the top of the 'auwai start? There's contention by both sides of where the start and end of the 'auwai is. One suggest at Waihe'e Ditch as it drops off the ditch into the 'auwai (per conversation with Mr. Street). Wailuku Water Company, Mr. Chumbley contends that the beginning of

the 'auwai starts at the Imua Family Services property and that's where they've always regulated the drop into the 'auwai. (*Deputy Manuel further explained the differences and noted the need to clarify or potentially amend the D&O in this specific situation*).

Commissioner Buck agreed that it is the Commission's responsibility to determine that and asked if staff had a recommendation.

Deputy Manuel answered it's difficult in this context as both Mr. Chumbley and Mr. Street will testify to various formal and informal records of existence. Portions of it do have its own easement on maps near Kalua Road. Others are drawings with old TMKs but, there's no actual formal easement or access rights to anybody; it's old and managed to survive all this time. In the CCH, Earthjustice mentioned in their exceptions the right for access; that kuleana tenants have a right to that access. In this case, it's not explicit on how that's managed.

Commissioner Hannahs echoed Commissioner Buck in thanking staff for their work and wanted to clarify the amount of water the Ciotti property was receiving.

Mr. Uyeno replied that the back of the envelope measurement did appear they were getting the amount; but at the end of the line, it's warm which is not ideal for growing kalo and based on Ayron's measurement of 53,000 gallons per day, that is where it daylighted and based on that it would not have met the 88,000 gallons per day.

Commissioner Hannahs asked if other measurements were made and what is the current assessment; is it sustained or a water quality issue in terms of temperature or there's a lot of days not getting the quantity and asked if Velez and Ibara share the same complaints and asked if they're satisfied in getting what they wanted.

Mr. Uyeno answered based on Mr. Street's communication, they're not getting the amount often and have not heard complaints made (or received communication) by the other users.

Deputy Manuel added that (he) met and did a site visit with Velez at their property and during that time, there was "0" water flowing on property. Velez is the largest awardee that the Commission has granted water to. A lot has to do with how it splits and how the system is being managed, noting that Velez and Mr. Street's intake are on the same split.

This is similar to the South Waikapū conversation that the purveyor is providing the water, based on the meter, but the loss in the system is so great or may be less than that adding the loss equal "0". The goal was trying to work with the purveyor to get the meter at a certain reading so that way they're providing the quantity the D&O said in order to evaluate what is the true system loss and get some way to measure it at the end. The challenge is no one has a meter at the end of an 'auwai and with the flow being so low, you can't do a bucket measurement.

In these smaller quantities, it's really challenging to determine whether or not they are getting water when there's a trickle or when there's zero water obviously, they're not getting the water they're supposed to.

Commissioner Hannahs sees the challenge as it's a long system and asked on the length from

Imua Services to the Velez property.

Mr. Uyeno noted approximately 1-mile in length.

Commissioner Hannahs notes a lot can go wrong; and asked if Spreckels Ditch were a more reliable source to meet their (Velez) need (referring to the distance of the two).

Deputy Manuel answered that Spreckels has not been used; Mahi Pono manages Spreckels and no longer take water out of Wailuku River, that would then pass the Ciotti property and Spreckels Ditch, no water is flowing in Spreckels Ditch, the water shown is the backup water from Hopoi Chute, but another alternative we could think about but would have to work with Mahi Pono to install a pump as it's not gravity fed through the properties.

Commissioner Hannahs notes it's a relative cost, and relative to finding a way to fix that long transmission line from Imua Services to the Ciotti property.

Thanked Deputy Manuel for withstanding the personal attacks as it can't be easy and believes that any kind of attack will not resolve the issues and urge the public, the parties involved to continue to exercise whatever diplomacy and cooperation to help resolve this.

Deputy Manuel appreciated the comments and noted that he is clear with community and staff that "he" is not the decision-maker but rather the implementor of the Commission's decisions; and the authority has not been delegated to him (the Deputy) and note the frustration of various individuals; and are here today to get resolutions from the policy-making board (the Commission) and wanted to outline some of the situations and gather feedback.

Commissioner Kagawa-Viviani asked if calculation of system losses factored into that the D&O.

Deputy Manuel replied in this case no; in a majority of the applications, except for Wailuku Water Company, there was no evaluation of system loss in their application numbers. With Velez as an example, their quantities are based on end uses and they didn't account for losses from other users affecting them; and was not included in the record for the Commission to make a decision.

Commissioner Kagawa-Viviani questioned if it was responsibility of the permit applicant or done under the guidance of the water Commission staff as we don't want this to occur for future areas.

Deputy Manuel answered it's a collective conversation in a water use permit application process. Example like on O'ahu when you apply for a permit a lot of times users use planning numbers to determine their end values and what we asked them for is system efficiency like using sprinklers to provide that or using a drip line. In this case because this system stretches miles, it takes water from (4) streams, there's so many moving pieces that the overall system loss for Wailuku Water Company on this system was calculated at a quantity 5% system loss, but it's unclear whether or not that 5% included this small 'auwai.

In general, these are things that we're learning from and in future application processes can

ask those specific questions to the applicant before (we) recommending approval.

Mr. Uyeno added there was a study done that was provided by Wailuku Water Company as part of the contest case and that only looked at the ditches on their system, the main ditches. Once it went into the distribution lines to the various 'auwai throughout Nā Wai 'Ehā, any system losses were not accounted for and all other traditional systems.

Commissioner Katayama asked on how we handle the pickup on the storm drains as you've identified two pick up points for sheet run off from the surrounding area and what kind of volumes that generates and who's going to manage that.

Mr. Uyeno replied it will fall to the County of Maui, Department of Environmental Management, how they address it; they often treat the Spreckels Ditch as storm water capture. I don't know what the storm drain status is for the rest of Wailuku Town where it goes but know there's a bunch of retention basins throughout the area and not familiar with the rest of the storm drain system relating to the area. If they were to seal those two, I don't know if there were additional points that storm water could be picked up and carried to those retention basins or would it just sheet flow down to Spreckels Ditch.

Commissioner Katayama asked if the thought is to isolate the system from the current sheet flow.

Mr. Uyeno replied yes, that's the only solution to get it out of the 'auwai would be to seal those two.

Deputy Manuel added that on Kalua Road there is a separate stormwater system that flows that way so it might not take much to reconnect those drains into the storm water system and would require working with the County and the Clean Water Branch to ensure that it goes with their NPDES permit. There were complaints about, during storm flows, the quality of water and runoff includes metals and other pollutants that are flowing into an 'auwai that flow through these properties which affects their crops and need to deal with that in addition.

Commissioner Katayama noted that if we're going to use irrigation water, you don't want street water blending in because you don't know what you're getting like oils, metals, pesticides, or fertilizers. I think if this system remains viable you need to try to isolate it; and asked is somebody looking at the alternative of the cost of maintaining this system as it exists versus putting them on a Department of Water.

Deputy Manuel answered that cost benefit analysis has not been looked at and going with the Commissioners overall policy decisions, maintenance of the systems is those end users' responsibility. If this is something that Commission's getting into, I would have to work with County to do some engineering analysis on that but is not something we're looking at.

Mr. Uyeno added that there's no easements in place for this system once it leaves 'Imua Family Services property; it's a whole other issue.

Deputy Manuel noted it does flow under and through private properties that aren't part of this contested case; it runs under their property. The historic nature of this and the fact that it's survived so long, and that it's not formally in an easement, for us, we really need

recommending this coordinated approach to bring all the parties together to think through how best to record this to determine who's responsible for the management of it and the cost associated with that. Do we keep this system or find another way to get water to the users?

Commissioner Katayama commented that quid pro quo is by not allowing the county to use the current storm drain system. There's an incentive for that and that would be converting these last two users to a county water system with Ag rates and could be sort of a win-win for everybody.

Commissioner Kagawa-Viviani asked who normally would maintain or who has the ability to access.

Deputy Manuel replied as to what Dean was saying is we don't know because there's no easements (*reiterated the example of the 2015 complaint issue regarding no easements*) but yet we still have needs of these end users that we issued water use permits for, that we're trying to meet on in the interim while we work out some of these longer-term management issues.

Commissioner Buck commented it is our responsibility to determine the top of the 'auwai and how our decision on this one might affect future 'auwai in the system; I think is the immediate goal for the commission after hearing all this testimony is critical.

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PUBLIC TESTIMONY

Mr. Avery Chumbley (Wailuku Water Company) – Thank you Chair Case and Commissioners. Good afternoon, I know you've had a long day, so I'll try to be as briefly as possible. I do want to provide you with a lot of additional information, and some factual context to the issue before you today.

First off, I'd say there's no easy solution to a 120-year-old system in an urban environment. There's going to be policy issues, practical issues of hydrology and hydraulics, and simply, it's a function dysfunction. It's not working and going to be a difficult to find a solution to it. I've provided you with four pages of written testimony with five different attachments. I'm not going to read that, but I'd like to highlight some of the more critical points of those. I'd like to talk specifically about attachment number one and give you some context.

I want to take you back to the early 1900s, because to understand this problem, you got to go back in time; the aerial that I provided to you shows a current modern day urbanized area. If you look (*to the right-hand side of that picture to the white tank*), just on the north side of 'Iao Stream, and to the left of that. There used to be 'Iao Stream, a diversion called Kama Ditch which brought water from the 'Iao Stream (now Wailuku River) to service, this general area. It also serviced Wailuku and in Happy Valley. In the old sugar days, this grouping of kuleana users at the bottom of Kalua Road, got their water from 'Iao Stream, not from Waihe'e ditch.

(Mr. Chumbley continued public testimony)

Around the late 1960s to early 1970s, Kama Ditch was abandoned. At that time, everything that you see in the residential urbanized area, was still sugarcane. Near point one on that map is where that service was then connected, and (I can't find records) but I believe there used to be a pipe that would come at that point, after Kama Ditch which was abandoned and the 'Iao-Waikapu Ditch was no longer being used; the water was connected off of Waihe'e Ditch then brought down to point two, which was the Wailuku Sugar Plantation manager's house. The manager always got water for his house at that time and that connection somehow brought water down to the users at the very bottom.

At that time, around the 60s or 70s, the Happy Valley users, we're no longer getting water. I did find a document that shows on January 13, 1956, that those users at Kalua Road we're getting water two times per day on Mondays and Fridays, still from 'Iao-Waikapu Ditch, so the history matches up there. In the early 80s when sugar use changed; during that time there was still the pipe in place that brought water from Waihe'e Ditch, down to point number two (the plantation manager's house).

The residential area then was developed and the change that happened was in 2014. The developer at that time, agreed with Wailuku Agribusiness to realign the connection from Waihe'e Ditch down to point number two. I've provided a copy of one of the old engineer drawings to Kaleo during one of their site visit inspections from point one to point two the Wailuku Agribusiness put underground in the roadways of that subdivision a 1,830 foot lineal six-inch pipe; so it is a closed system from Waihe'e Ditch to point two.

When you talk about where the point of the 'auwai begin, it's very clear, the point should begin at point two. That is the distribution point as recognized in the D&O and with a closed pipe system from point one to point two, it wouldn't make any sense to have an 'auwai start at point one. The control valve that you saw in the staff's picture is in an 18-inch corrugated culvert, 6-1/2 feet in the ground. That control valve is left 100% open, 100% of the time, it's never closed. The only time that it's ever been closed is when we have to do any maintenance or flushing of the system. Within that residential area of what looks like grass fields appear, there's two flush out valves there so we have the ability to flush out the line at that point if there's ever any debris or some kind of clog.

From point two down to point 4, we believe that distance is about 3,000 linear feet. To answer one of the commissioners' questions about how long it is, it's roughly 4,800 feet long, but we have piped 1,800 feet of that, in a six-inch close pipe system. When you look at the delivery to the users, four surface water use permits Ka'anapali Kai gets roughly 5.2% of the water. They take their water out of that six-inch closed pipe at a distribution point above point two area, above where the other three receive their water through the distribution point. Higa, Velez gets 70,000 gallons a day, roughly 80%; Ciotti gets 9,200 gallons, 10.5%; and Ibara the last user on the system gets 4.6%.

There was a comment earlier about who maintains the system was when this clogged. Back in 2015, there was a serious clog below the library area and Ibara who's a private contractor, did the excavation of the county sidewalk and cleaned out that pipe from the roots of the tree. It wasn't DAGS who did the work at that time. If you look at attachment number two, it shows the configuration of what is the distribution point where it comes out of the six-inch

pipe on the now 'Imua Family Services Property formally Wailuku Sugar Plantation managers property and Ka'anapali Kai property. This was the old configuration that was used to deliver water from the conversion time around the 70s or the 80s when that system was taken off the Kama Ditch and converted to the Waihe'e Ditch.

The valve shown is what we would open, three days a week, Mondays, Wednesdays, and Fridays, about seven o'clock in the morning till about 2:30 in the afternoon and ran for about 450 minutes, three times a week. We never had a measurement device, so we don't know what the volume was dropping at that point. The volume is affected by the head pressure by the flow in Waihe'e Ditch. If the ditch flow is high and there's a lot of pressure, the volume / distribution flow will be greater. If there's low flows in the ditches then the distribution will be less, but it was an unknown number, we never regulated it. In mid-September, based on the D&O, we undertook the effort to convert that distribution point to a control point with measurements. This was the conversion that was made to the original configuration, and you can see where the pipe was cut.

There was the first U shaped horizontal put in, with a four-inch meter then another extension of the pipe with a vertical U shaped going back into the distribution point. The purpose of the two Us is to force water to stay in the pipe entirely. A meter will not work if the pipe is partially flowing, the pipe needs to be full of water. This is a four-inch pipe. The supply point on the other side of the rock wall is a six-inch pipe.

A conversation I had with Dean; when we tried to look at how do we ensure that the meter readings are accurate. He suggested that I put an air relief valve in. If you look at the vertical U at the very top, between those two 90 degrees, we did put an air relief valve in there and I think that helped with some accuracy. It wasn't long after we did this reconfiguration to comply with the 88, the drop; the drop at this point should be at 83,405 gallons because Ka'anapali Kai or 'Imua Family Services is taking their 4,600 gallons above that point. We put this in to comply with the D&O and to be able to measure what we're dropping.

It wasn't long after that the first occurrence of the self-help happened on October 7, 2021 (page three on my testimony) You can see the first occurrence happened on the 7th. There was no property damage done at that time because we had not put the chain and the lock on the valve, we were working to calibrate the system. As a result of that self-help and the opening of the valve, the deliveries could have been over 300 to 400 plus thousands of gallons a day which basically could be classified as waste; so, we put the lock and the chain on and the next occurrence happened on the 14th, the lock was cut.

I did not file police reports on the first two occasions because I wanted to try in good faith effort to give the actor Mr. Street, the chance to stop the illegal activities. This is criminal property damage and criminal property trespass. We have filed seven police reports. There were nine incidents of self-help vandalism from the 7th of October to the 19th, with the most recent just happening again on January 13th for the 10th time now. There are videos and witnesses of the individual doing the self-help property damage and trespass. The police department I believe has reached out to him and had a conversation with him. We are still in discussions with the prosecutor's office and may decide to press criminal charges later.

I do have some thoughts and recommendations on possibilities on how to solve some of this, but I think it's important to understand that clearly in the D&O on page 305 B35 and page 360 F207, the responsibility of the maintenance of the 'auwai clearly lies with the end users. Wailuku Water is delivering the required amounts to the distribution point; it's simply not getting to the bottom at the mouth that they believe they're entitled to on their permits, because of a dysfunctional system.

I'll stop at that point and be happy to answer any questions or can wait till later. Thank you.

PUBLIC TESTIMONY (CONT'D)

Mr. Robert Street – I'm going to read something communication that I sent on December 1, 2021, and it was to Chair Suzanne Case and you have these on files. Please be advised that Wailuku Town 'auwai has no water, 12/01/21. We have been totally cut off from well over two weeks. We are demanding the removal of Deputy Director from CWRM, for openly practicing cultural genocide, along with Wailuku Water Company against the kupa'aina, kama'aina, and kanaka ma'oli, since we have an absolute right to surface water. The Deputy Director is now openly breaking the law of the land, is deceitful, dishonest ulterior motives and hidden agenda will never resonate, let alone be accepted within Nā Wai 'Ehā, and I will explain that later.

Whatever credibility your Deputy Director had in the Nā Wai 'Ehā has totally evaporated. He has become ineffective in protecting our water rights. There also needs to be a discussion on compensation for the loss of our water rights, which your Deputy Director is directly responsible for, basically protecting our water rights. We demand his immediate removal and the restoration of our water rights. The question must be asked, if you have knowledge of the law which your Deputy Director has and in your capacity as Deputy Director, you fail to stop and protect in this case, our water rights. Can your Deputy Director be enjoying any future legal action in his professional as well as his personal capacity?

The next day, I followed it up again. Chair Suzanne Case, once again Wailuku Town 'auwai has no water flow at all. Once again, your Deputy Director of CWRM refuses to recognize that we have an absolute right to surface water off the Waihe'e ditch. Your Deputy Director has failed once again and he continuously has failed, and he is failing on a daily basis. That makes your Deputy Director of CWRM a total and complete failure. If your Deputy Director worked in a private sector, he would have been terminated a long time ago for gross negligence, as well as gross incompetence causing harm. Attached are two photos that were taken today at the same spot that your Deputy Director and his team measured on 10/19/21 and determined that our flow rate was 44,000 gallons.

This is a prime example of someone with ulterior motives and hidden agenda, and it is just one of the several examples, I can reference. Furthermore, it is not the responsibility of the end users to go back into the findings of facts, conclusions of law, and decision and order and correct your errors. That's the responsibility of CWRM and the reason why I say that is because on October 29 when they did the site visit, that was a just a shameful example of how you come in, not to come into a community like they did. The disrespect, the lack of knowledge was over the top; and instead of asking for help and learning about what he was getting into. He had a hidden agenda.

(Mr. Street continued public testimony)

I invited them to come on to our property and to show them what we had and where our system went. That's why when they pop the map out, they can trace the Ciotti property all the way to Spreckles ditch. After we had enough, we went outside and they wanted to do a measurement of the waterflow that was coming in. They tried to use the bucket method, but it wasn't enough water coming through. Then did an acid test not this writing on the back envelope stuff, because I would rip that envelope up now.

They came up with a finding of 44,000-gallon water flow. I didn't say a word, because I knew they were off, because there was barely water flowing in the 'auwai. The last question I asked him was when you leave Maui and you get on that plane and you go back to O'ahu, What happens when Wailuku Water Company turns off the water? Mr. Manuel's response to me was I'll just call my Wailuku Water Company and tell them to drop more water into the 'auwai. After hearing his testimony today, he is backed off of that. The following Monday I talked to Dean Uyeno about the calculations, the 44,000, after a little prodding he admitted that they made a mistake that there was no 44,000-gallon water flow. If I didn't call them and bring it to their attention and query them, they would have let that lie go on. That is the kind of stuff we've been facing here in the Wailuku Town 'auwai system.

Fast forward here on in 2015, when the Wailuku Town 'auwai was clogged. I had to go get an attorney and did a site visit with Avery Chumbley and his minions and we went to the back of the Wailuku library where the foot plug was, and he said that's not his responsibility. He's not going to do it. In one breath he's saying they're in charge of the transport system in the next breath, they're not in charge of the transport system. Basically, they abandoned the system and my neighbor Ibara and others went and cleared it off because they have the equipment to do it; then a private contractor came and fixed the sidewalk. During that discussion we were at the midpoint, where it's at those two properties on Ko'ele along with the manager's house, which is off of Main Street, we went there.

One of the questions that was implied is we have an implied easement; we are not trespassing. They have never understood that. The question now became the water is not coming through Kama Ditch, they have reallocated the spot where the water comes down going through the subdivision. I never gave up my implied easement; that question was never answered, did it get transferred? Is it still in existence, we don't know; that has never been addressed? As far as accusing me of trespassing, that is absolute nonsense. I have continuously had problems with the Commission on Water resource Management not respecting our water rights.

We have nobody that speaks for the kalo farmer in CWRM, none at all. When we lost our water in the beginning of December, December 4th, we never got notified by Wailuku Water Company, you guys notified us, and that has been the problem with Wailuku Water Company. They do whatever the hell they want to do, and they play catch me if you can. They don't pick up the phone and let you know hey, something's wrong in the system, you're not going to get water. Basically, screw you, you'll get it when we want you to get it.

(Mr. Street continued public testimony)

We have a legal right to that water. What happened now, the pipe has been fixed, the water is flowing, and guess how much water we have now? Absolutely zero. So, I hope you understand why I'm thoroughly disgusted with this whole process, because what happened and the bottom line is, you stole my water. You drained my 'auwai and dried up my lo'i and killed my kalo; that is the bottom line.

Kaleo Manuel doesn't understand he's dealing with a viciously vindictive company, selfish and self-centered and I cannot drag them through the kuka'i lepo enough for what they have done. As far as I'm concerned, we have taken over that 'auwai system because Wailuku Water Company abandoned it. We are the ones that fixed it up. All Wailuku Water Company has to do is keep that valve open that comes off Waihe ditch and just get out of the system and the rest of the line should belong to CWRM and the Wailuku Town 'auwai users, period.

I have sent you photographs of the valve registering zero because that's what we're getting, zero water. Nobody has answered the questions that we've put on the table, and still to this day they haven't answered, where is our water? Why are you doing this? We didn't sign up for this type of nonsense. I can understand why people refuse to participate with CWRM, because this is what they get, talk about dishonest, unethical, dirty, and corrupt. We're on the receiving end of this. Yesterday I sent photographs that I had taken from the Waihe'e Ditch where the Wailuku Town 'auwai system starts, and about 400 meters going towards Waihe'e, is the Hopoi Chute. The valves are there and run through the town and we empty into Spreckles ditch and Hopoi Chute is about less than 100 feet from us. Those photographs showed a dumping of water, and the water is going in reverse.

Did it ever occur to anybody in the Commission on Water Resource Management that kalo farmers is number one on the list getting water? We're not even on the list. We're getting nothing, zero. You have caused me harm, interfering with my life, liberty and the pursuit of happiness. I think I have every right to be disgusted with what is gone on and how we have been treated, to ask for these resignations and that the system be returned to us.

All Wailuku Water Company has to do is just maintain that valve up at the Waihe'e ditch, keep it in the open position. The rest of it belongs to the kuleana landowners. You can't pick and choose what he wants. My question is, when are we going to get our water and when are we going to get compensation for what has been perpetrated on us? As far as I'm concerned, Avery Chumbley should be criminally prosecuted for theft of a public resource, which is another thing I don't understand how the water, which is supposed to be under the preview of the State Commission of Water Resource Management, and you have a private entity making money off of that water and denying people who have a legitimate right to that water are terminated. That water is going to someplace else and it's not coming through the Wailuku Town 'auwai system.

Just for your information, there is another spot on Kalua Road that has to be looked at and I will call Public Works and ask for their help. Then I'll relay what the response has been. Bottom line is, I want my water returned, and I want it returned now. I think you get the gist of my comments and my testimony here today and you have both of these on file, and I want them to be included. I'm done, I want my water.

PUBLIC TESTIMONY (CONT'D)

Mr. Hōkuao Pellegrino, Hui o Nā Wai 'Ehā – Mahalo Commissioners and Chair Case (shared screen of a photo as it's pertinent to the discussion) I do appreciate everybody's testimonies including Wailuku Water Company that provided important information about the current infrastructure and about the history about the transition from the Kama 'auwai that came off Wailuku River which then branched off to what is known traditionally as the Kalua 'auwai.

I wanted to dive a little deeper because the history doesn't just begin 120 years ago when Wailuku Sugar Plantation came to be. This photograph actually was taken about 100 years ago and it's an aerial shot, July 27, 1920. What you see here in the center is the kuleana lands of Kalua of that 'ili which included roughly 50 land commission awards to ho'aina and lo'i kalo farmers. You can see a portion of the 'auwai that's feeding these ecosystems (*explained the geography location of the sites*) all of those little squares right there are lo'i kalo.

We know that active lo'i kalo cultivation in the 'ili of Kalua, off the Kalua 'auwai, from Wailuku River was still very much active even during the plantation era. There's a lot of discussion earlier about where the ho'i is. If you look at historical maps going back to Mahele surveys of the 1850s, the Kalua 'auwai never did return to its source, Wailuku River. It went into what was known as the Wai'ale Lake, or Wai'ale pond which we know today is Wai'ale Reservoir, which is no longer a reservoir.

I wanted to share that because that was the historical ho'i. Today, it may drop into Spreckels Ditch but that's because Spreckels Ditch dissected the Kalua 'auwai prior to it returning into what we know as Wai'ale Pond. I wanted to give a bit of Hawaiian historical background about this because this is not just 120 years of history, a system that has survived the development, the plantation, and urban core, but really is a testament to rights that have been protected and cultivation of our ancestral cup that has continued on, despite all of these changes; and the four remaining users that exists today, Higa, Valez, Ciotti, Street, Ibara and so on, whether they are descendants of these original kuleana, they still retain, that land, still retains those appurtenances to the water.

So here we are today, in a complex situation about lack of water, too much water, breaking and entering and all this jazz, and to me, this, to make a complex situation, to me, break it down and make it somewhat little bit easier. This is a South Waikapu kuleana 'auwai issue all over again where prior to the Decision and Order, and Mr. Chumbley did allude to this, there was no measuring device on the system, water was provided certain number of times, certain number of days, but there was no measuring of that water. So, when these permittees, kuleana advocated for water, and through the water use permitting system process, many, many years ago, a decade ago, their existing uses and their new uses have changed over time.

What likely was happening is similar to that of the South Waikapu kuleana 'auwai was that more water was being dropped, then what the final D&O provided. What the D&O provided was exactly what they requested but when Wailuku Water Company began to measure and put gages in place, they acknowledge that they were providing much more water, upwards of four times as much water, than what was actually allocated in the water use permit. In my opinion, there's a loss issue, compliance by Wailuku Water Company to ensure that they're dropping the right amount, but then again, that hasn't been independently verified and a

different discussion.

(Mr. Pellegrino continued public testimony)

Then we have end users, instream users, that are not getting the right amount of water. Deputy Director Manuel provided some brief solutions and one of them we actually provided that information about the fact that there may be a scenario where we can mitigate with the County because there are those storm drains that is an environmental issue where you could have all kinds of things going into that 'auwai system which these kuleana are using that water to cultivate food to feed their families, that's not right. So my idea, and Kaleo did a great job following up with Director Jeff Pearson, but what is the possibility to mitigate the storm water drain by saying okay, if we can close these or see about an allocation off the county line that is already provided to all of these users and provide an allocation at no charge?

I get it that they're under DWS that there's got to be a charge, but this is a unique situation where maybe if the county was willing to think outside the box, maybe that scenario could come to light. On the flip side, there is a history in this 'auwai. There's a story here and a very important story about the fact that this ancient relic, pre-Western contact relic, has survived multitude of changes, and it is our collective kuleana which includes Wailuku Water Company, the Commission on Water Resource Management, the County of Maui, the kuleana users, and Hui o Nā Wai 'Ehā who helps to advocate for these farmers and Native Hawaiians to come up with a solution.

Is it putting more water into the kuleana 'auwai as it was prior so that there is an amount that's getting to them that suffices? That might be considered based on Wailuku Water Company as waste because you're having all this saturation or loss but bottom line is that happens in all kinds of systems; look at Wai'ale Reservoir that had upwards of 10 million gallons of loss a day prior to Mahi Pono modifying that and now have a bypass system. All of Wailuku Water Companies Reservoirs are online. I understand that they put in a loss for part of their want to use permit but shouldn't that similar situation be applied for some of the kuleana, especially in a unique situation like this. We have to look outside the box as a collective to come up with a solution, and a solution that does not take 15 months, that's where South Waikapu kuleana are 15 months, they still have not had water. This situation is not as long but let's not make this a 2.0 of Waikapu.

This should be addressed and swiftly by the commissioners. Let's come up with a solution and let's get it done. I understand Mr. Street's frustration. The Hui may not agree with some of the strategies that he has to portray or communicate his frustration, but his frustration is justified. Same with the other kuleana users who are caught and are pawns in these numbers games. So, let's please work together and let's try to discuss some things today to come up with a solution. I think between the Hui and kuleana users, we got a lot of smart people on this Zoom call which includes Wailuku Water Company, in this respect. So, let's figure something out and let's resolve this as soon as possible. Mahalo.

PUBLIC TESTIMONY (CONT'D)

Ms. Lucienne de Naie – I am testifying on this matter on behalf of Maui Tomorrow

Foundation, which is a one of the original applicants to return the stream flows and give back our traditional water systems to the Nā Wai 'Ehā area. Our staff and volunteers have received complaints from the community just like the Hui has about there just not being water in the 'auwai. People feel like they went through this long process of many years starting 2005, it was when we first went to the water commission, and everybody thought that when we reach the end, the water would be there and they could count on it. So yes, these are really antiquated systems.

We're trying to find a 21st Century solution for a system that was set up a century ago, and it isn't simple but we totally support what the Hui has been suggesting to the commission, something that comes from the community that involves the County as a partner, involves Wailuku Water and kuleana users as partners; and certainly that the Commission moves forward and doesn't let this just become something that winds around years and years.

There are other 'auwai that are possibly going to face this same situation. We've had some kind of scares in the past in Waiehu area because there, there's a direct line from the ditch pipes come from the ditch, rather than the traditional 'auwai. None of it is really easy, but certainly people are entitled to enough water and if that means raising the allocation in order that the loss is mitigated, then the commission should really seriously consider that because they do have a duty to fulfill those public trust purposes.

Also, really can feel for the frustration of folks in the community. We hear people say, hey we waited long enough, no one's doing anything, so we know it's not your fault but, we do urge you as the trustees and the guardians of our water, to come to an expeditious solution. And if there can be a phase one fix and phase two fix, that would be good but, certainly paying attention to folks like the Hui members who live in the community who represent the interests of many of the people, not all the people, but many of the people in the community really makes sense because they're your true allies in this for making sure that the public trust and the public purposes are upheld. Mahalo for your consideration and for a long day of listening to a lot of important things.

(end of public testimony)

QUESTIONS/COMMENTS

Commissioner Buck (to Deputy Manuel) apologized for that frustration as he does not deserve people talking about him that way and are sure there's people in the community that will stick up for him; and asked on the actual amount of water in the 'auwai, hearing the conflicting testimonies.

Deputy Manuel replied the difficulty is we're reacting to complaints. There's an assumption; we work with Avery on the delivery, he sets the meter and the valve at a rate to meet the D&O, the 88,000, and there's times that go and times when it's dry. *(further explained the handling of the complaints received regarding the subject matter/issue)*. There's communicating with both the end user as well as Wailuku Water Company in this situation and it's happened multiple times and noted we never got a chance working with Avery to work through the calibration of the system whether the quantity is sufficient or not, that's been the challenge.

Commissioner Buck noted it would be helpful for the Commission, Wailuku Water Company, and the community to be able to coordinate a release of the water, having someone at the gauge and the time frame it takes.

Mr. Chumbley added we'd be happy to coordinate with the staff to make sure that happens. In anticipation of today's discussion, I did two things. Thursday the 13th at 2:30pm, we took a metering, Friday the 14th at 9:30am, we read the meter that covered 19-hours during that period, 116,500 gallons were delivered. That's 6,132 gallons per hour which is roughly twice the required delivery amount. Earlier you heard Mr. Street say that today there was no water. Well, Friday the 14th using that meter reading, and then Tuesday today at 7:30am taking another meter reading we delivered 686,100 gallons. That's 7,298 gallons per hour; again, double the required decision and order delivery amount. So, we're delivering water. It's just not getting to the bottom, thank you.

Commissioner Kagawa-Viviani notes Mr. Street's frustration and asked do the kuleana 'auwai users communicate with each other to know how different people along the lines are experiencing this and also if there's a single body of contact and maybe there's a way to communicate there's no blockages.

Mr. Pellegrino answered they do on and off, and on behalf of the Hui, we do talk with the users. I talked with the largest user Miss Velez. In regard to the lack of water that they are having. I wanted to stick this in my testimony, because they're not calling the Water Commission, sending letters, emails, complaints, does not mean at all those things are not happening. This is a very complex process as you can see, just getting online is challenging for many of our community members which is why the Hui I think plays an important role to try to advocate for them. So, I can tell you in the times that I've gone down there, there's always been for the most part water, but a trickle. Staff's site visits saw just a trickle.

I don't go there every day so we rely on the kuleana users to be the boots on the ground, in that respect, and to share that information if they have so. But when I talked to the Velez's they have the same situation and they're the largest user and have minimal to very little water as well.

Commissioner Kagawa-Viviani asked if it's possible to line the 'auwai and what would the costs be

Mr. Pellegrino answered the challenge with this particular 'auwai versus say the North Waikapu kuleana 'auwai where 99% of the people on that system received a water use permit and the 'auwai system goes through and is maintained by a collective. In this particular situation, there are almost more lands, or properties, TMKs that this water goes through that do not have a water use permit. Therefore, these (four) individuals could control that portion of the 'auwai on their property but it would be challenging to ask neighbors, other landowners whether their private, county, state to be lining, piping that system. That's what makes this a challenge, it's not contiguous; while the water flows continuously, the landowners or permittees is not contiguous. In my opinion, the system where it drops on to Kalua Street, I think the system is well maintained. I've seen a lot worse so I wouldn't consider that as a derelict mismanaged 'auwai system. Some of the areas are lined with cement on properties that are both WUPA and non-permittees.

Commissioner Katayama asked is there any concern by the end users on commingling runoff water with irrigation water and is someone working to address that?

Deputy Manuel replied absolutely; and that was one of Mr. Street's, primary concerns that the storm runoff actually floods because the 'auwai becomes a conduit with such high flows, that it floods out his property and/or contains contaminants. When it's storming like most storm events, you want to get storm water off of your property as quickly as possible versus when you're just getting regular flow. So, yes, there is concern about commingling of stormwater with 'auwai water that comes from Waihe'e Ditch.

We reached out to the county and will try to reach out to the county and the right county department again and will try to formalize that in writing because that's one way we actually get a response. We haven't sat down with the right entity whether it is Public Works or Environmental Management and hammered out those details but, it is a concern that we want to try to help facilitate as it impacts water quality issues for these end users.

Commissioner Hannahs noted would like to provide some thoughts for your consideration: 1) the commission would like to affirm our recognition of kuleana rights and our intention to provide, allocate, the water necessary to support the exercise of those rights; 2) make some kind of commitment with others or by ourselves to get accurate information about how much water is getting to these properties, it rests on having a more accurate understanding of what's getting down to all the properties as well; 3) be as transparent as possible and engage the stakeholders in an analysis of options and move this from the emotional state to have certain things we can do before us.

You can continue to utilize the current infrastructure for delivery or do it differently by dropping more and recognize waste, or look at infrastructure repairs that are needed, identify where maybe the losses might be, institute repairs in improving the quality of system by taking the DWS drainage off of that is another option. Also, Spreckels or Hopoi could be utilized as an option for the non-potable surface water to be used for this agricultural purpose, it's not going to be free there'll be a cost to it in terms of what it takes to invest. But again, it's not an ideal world, it's the relative comparison of that cost to the cost of making the existing system work. The third option is DWS and can they help supply water either at a free rate or deeply subsidized rate so that these folks come out whole, who are kuleana users, from that DWS sources. There's many options and ways to resolve this ultimately, it's all working together on viable solutions for all sides. (*Commissioner Hannahs also thanked the community [public testifiers]*).

Chairperson Case added that we'll see this in the future and lots to work out here and anybody has any great ideas, feel free to talk to staff. It's a tough one. We do support kalo and certainly we support other the historic kalo in this area. That was a strong statement from the commission. We also clear about how to handle this kind of situation in the decision which was delivered to the point of 'auwai and that seems to be happening to be confirmed.

And the 'auwai users are responsible but this is a very unusual 'auwai situation and the solution in the past was basically to deliver way more water which we also were trying not to do but if the end result is that historical uses don't have a way right now under the current system, then we do want to explore other ways of delivering the water or fixing the leaks

without creating more problems, and obviously this is a capacity issue with our own staff.

We specifically didn't want to add this to a responsibility of the Commission, or the Commission staff and they don't have capacity, but nevertheless they have been trying to deal with this situation in obviously a tense environment. I do want to thank the staff. You have been acting in good faith and trying to address this and I know will continue to do and Mahalo you for that.

Commissioner Kagawa-Viviani asked if staff would develop recommendations, and this will be brought back to Commission for action in the future.

Deputy Manuel replied there's definitely a desire to find some immediate resolution to create balance in meeting and protecting kuleana rights and kalo farmers in this this area of the 'auwai as well as work with Wailuku Water Company as the operator and distributor of that system. We want to make a recommendation and bring something back to the commission, a temporary increase to account for the system loss, but with a strict monitoring and measuring component, so we can start to truly calculate quantities over an interim period. Whether that's six weeks or three months of increased flow for these users in order to figure out what's happening with the system would be a good short term, while we look at longer term system efficiencies, alternative sources to meet overall demands.

That's what I will work with staff to bring back for action next month and the commission will have to make that decision in a meeting because it's tied to water use permit and will work with AGs on how to make that happen in this context.

Commissioner Kagawa-Viviani commented on also involving the Hui and others in assisting in finding solutions as they know how the system works.

Deputy Manuel replied yes, we're open and have spoken to some users and WWC on solutions noting there's going to be needed shifts on both sides in finding longer-term solutions to get the needed resolutions.

Commissioner Kagawa-Viviani noted, in the long-term, we don't want to continue playing umpire and feel like some of this is an error of the Commission by omitting consideration of system losses, we've created a conflict.

Deputy Manuel answered that the record in the contested case was what was missing; there wasn't data on it so it's not necessarily an error on the Commission's decision. I will say the commission made that decision based on the record in that contested case hearing. We need to include system losses. In future situations, system losses need to be considered more explicitly in the water use permit allocation process.

Chair Case noted there was no evidence of system losses.

Commissioner Kagawa-Viviani added the goal is to help facilitate better management, then ultimately not have to be mediating each and every conflict.

Commissioner Meyer commented it could be resolved best as it's a conveyancing issue by a smaller pipeline inserted into the existing conveyance. Probably plastic Driscoll pipe, which

is used in this sort of application, a lot. It could be metered at both ends and it probably would end up being longer term; the safest and best alternative, and lowest cost to achieve the segregation from the contaminated sewer water, street water and be an integral to just these users and they could simply maintain it and it would be metered at both ends.

Secondly (to Commissioner Hannahs question) of oozing black goo at Pioneer Mill, Kimo Faulkner the manager of Ka'anapali Coffee said they had a broken waste line from their coffee processing facility and that material was the cherry juice from the processing of the coffee. They fixed the line, it's not a problem. That material is conveyed into storage tanks and then disposed of. I think there's a bit of good news, we don't have an oil leak on the west side of Maui. Thank you very much.

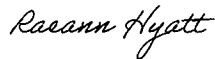
B. NEXT COMMISSION MEETINGS (TENTATIVE)

February 15, 2022 (Tuesday)

March 15, 2022 (Tuesday)

This meeting adjourned at 4:02 p.m.

Respectfully submitted,



RAE ANN HYATT
Secretary

OLA IKA WAI:



M. KALEO MANUEL
Deputy Director

**Please refer to the Commission's website at:
<https://dlnr.hawaii.gov/cwrm/newsevents/meetings/> to read/view.**

Wailuku Water Company
Department of Hawaiian Home Lands
Maui-Dept. of Water Supply
Madison Palau McDonald
Kazia Chihara
George Chihara
Fay McFarlane
Ryan Cabrera
Kai Nishiki on behalf of Nā Papai Wawae 'Ula'ula
West Maui Preservation Association
Michelle (Shelli) McDow, M.Ed.
Troy Wallace Ballard, JD, M.S.Ed
Kapali Keahi
Lucy Reardon
Leilani Carrero
Gretchen Losano
Sesame Shim
Michiko Smith



 Pacific Islands Water Science Center

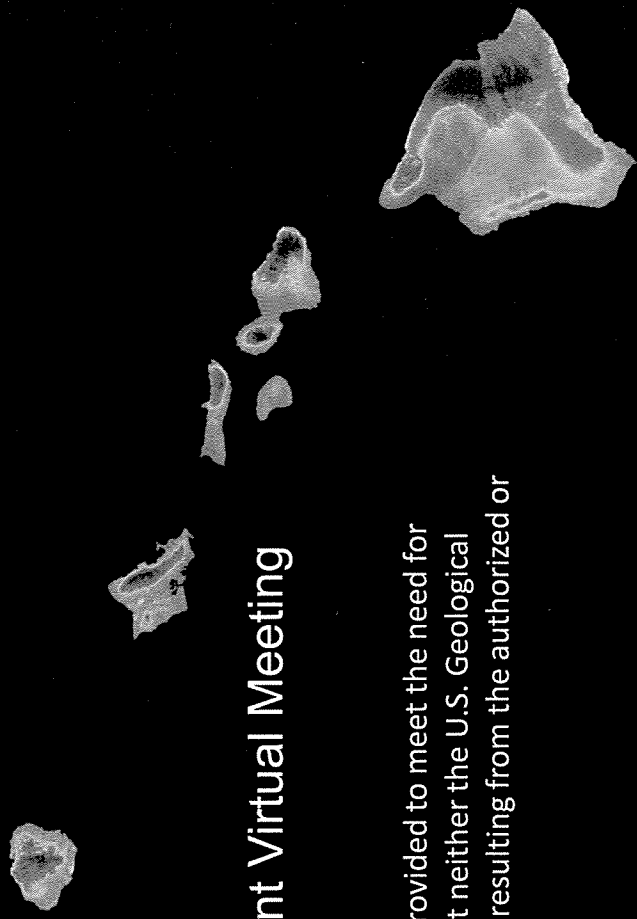
Estimated Groundwater Recharge for Mid-Century and End-of-Century, Kaua'i, O'ahu, Moloka'i, Lāna'i, Maui, and Hawai'i

Heidi Kāne and Alan Mair
Pacific Islands Water Science Center

State of Hawai'i
Commission on Water Resource Management Virtual Meeting
January 18, 2022

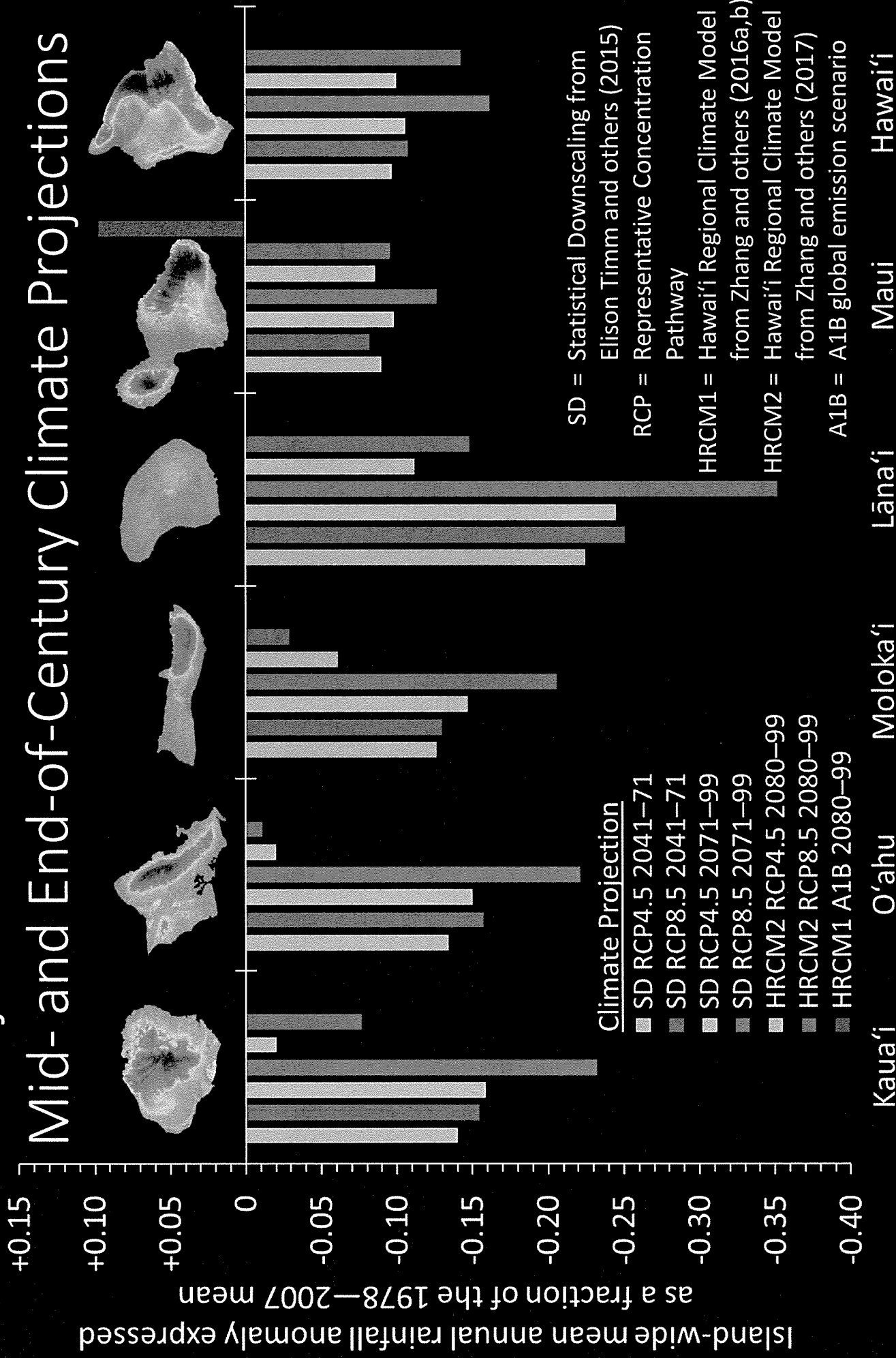
This information is preliminary and is subject to revision. It is being provided to meet the need for timely best science. The information is provided on the condition that neither the U.S. Geological Survey nor the U.S. Government shall be held liable for any damages resulting from the authorized or unauthorized use of the information.

U.S. Department of the Interior
U.S. Geological Survey



Projected Island-Wide Rainfall Anomalies

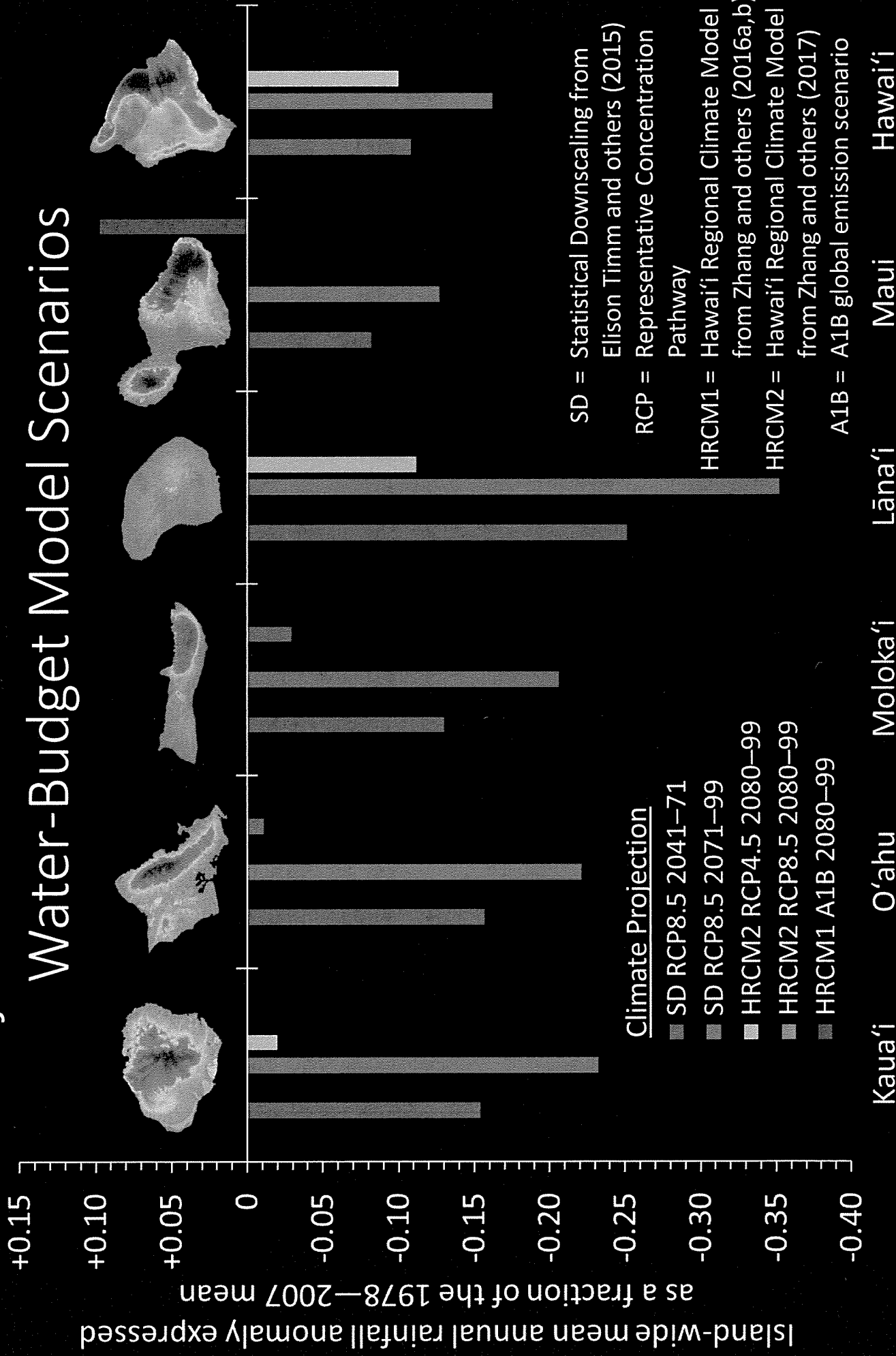
Mid- and End-of-Century Climate Projections



Preliminary Information-Subject to Revision. Not for Citation or Distribution.

Projected Island-Wide Rainfall Anomalies

Water-Budget Model Scenarios



Water-Budget Model Scenarios

Study-defined climate scenario ^a	Selected climate condition or projection	Kaua'i	O'ahu	Moloka'i	Lāna'i	Maui	Hawai'i
Reference climate	1978–2007	✓	✓	✓	✓	✓	✓
Mid-century climate	SD RCP8.5 2041–71	✓	✓	✓	✓	✓	✓
Dry climate ^b	SD RCP8.5 2071–99	✓	✓	✓	✓	✓	✓
Wet climate ^c	HRCM1 A1B 2080–99	-	-	-	-	✓	-
Wet climate ^c	HRCM2 RCP4.5 2080–99	✓	-	-	✓	-	✓
Wet climate ^c	HRCM2 RCP8.5 2080–99	-	✓	✓	-	-	-
Drought	1998–2002	-	-	-	✓	-	-

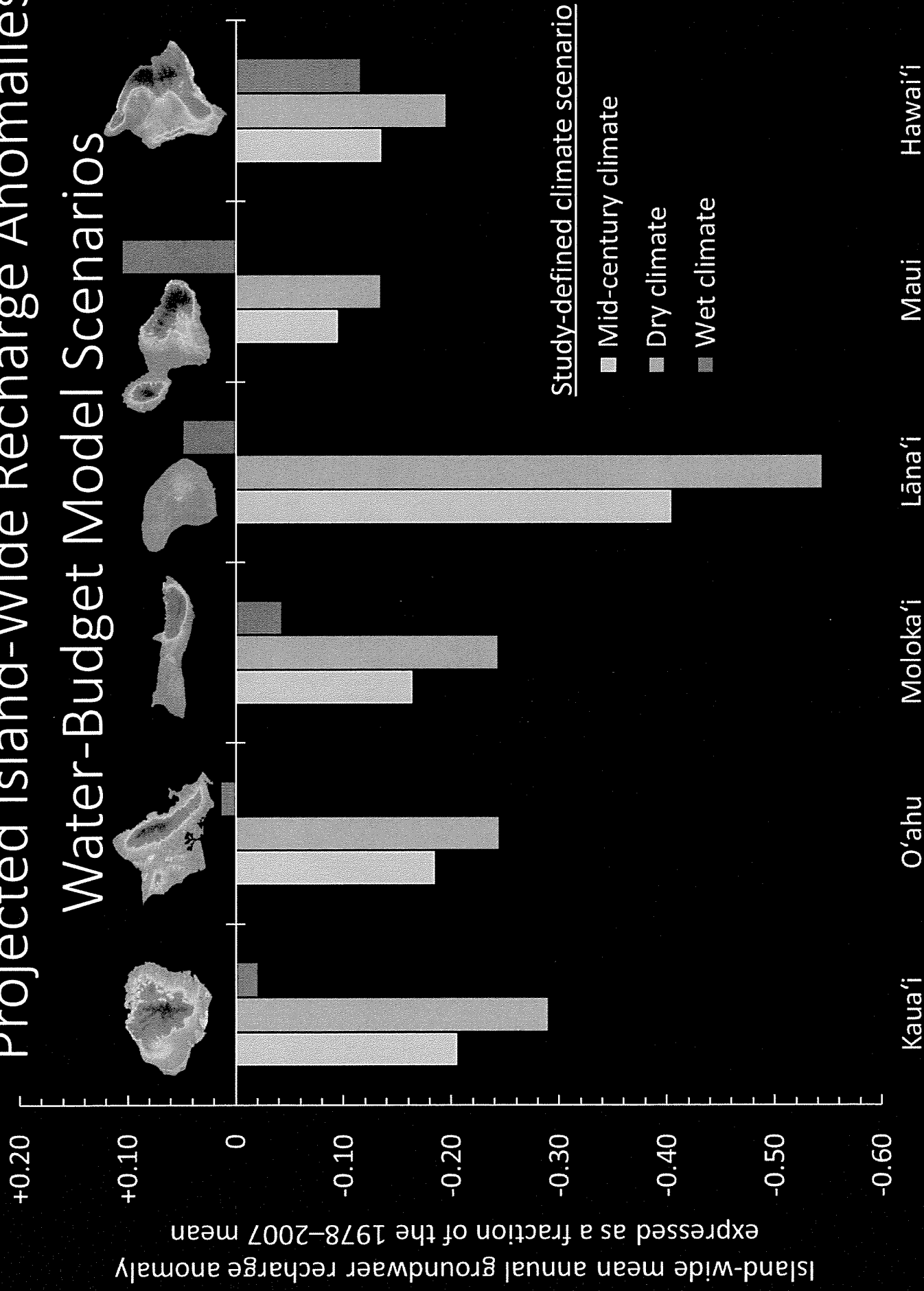
^a All scenarios use 2020 land-cover conditions

^b Driest scenario relative to available set of projections

^c Wettest scenario relative to available set of projections

Projected Island-Wide Recharge Anomalies

Water-Budget Model Scenarios



Lānaʻi

Mid-century climate
SD RCP8.5 2041–71

Wet climate
HRCM2 RCP4.5
2080–99

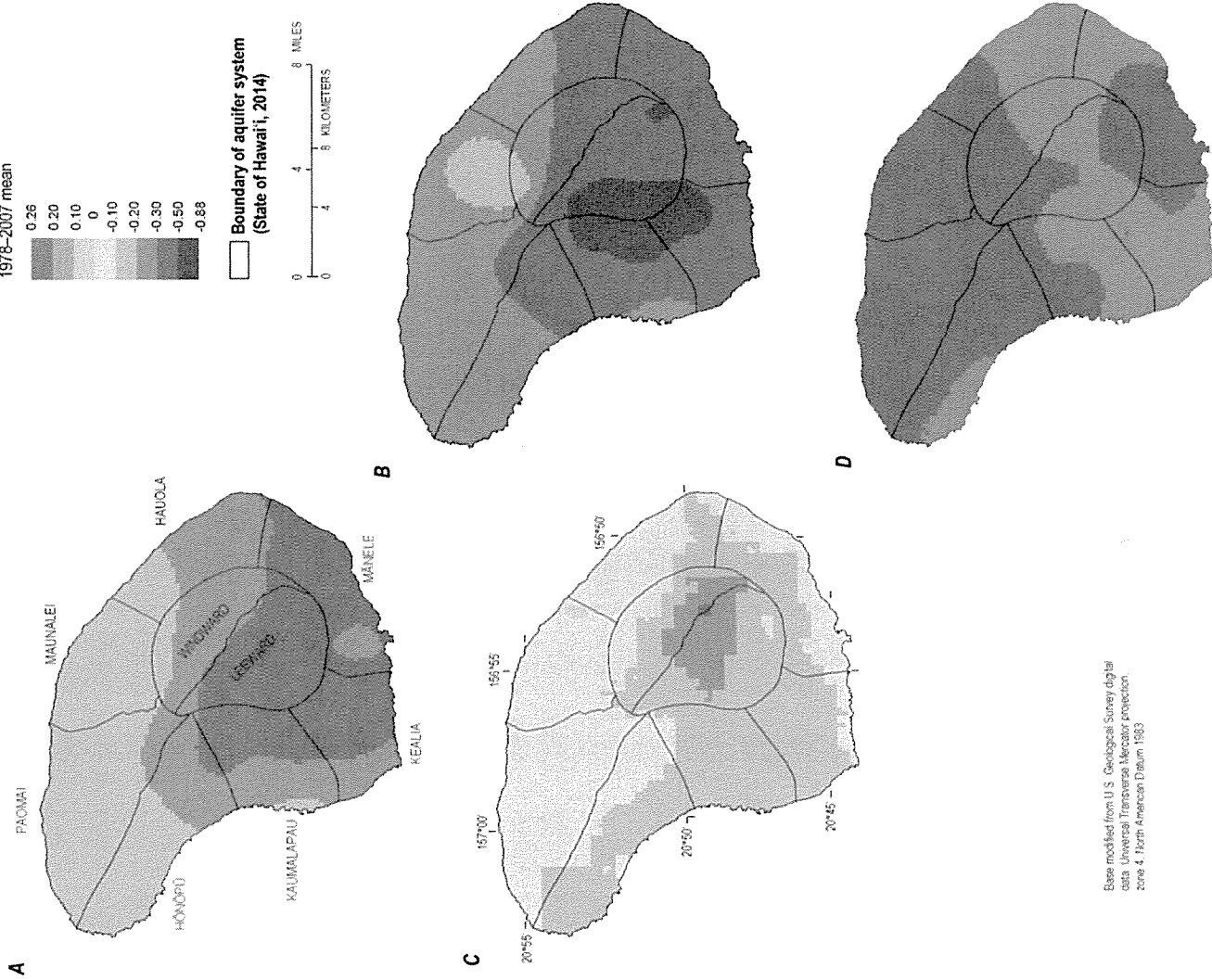
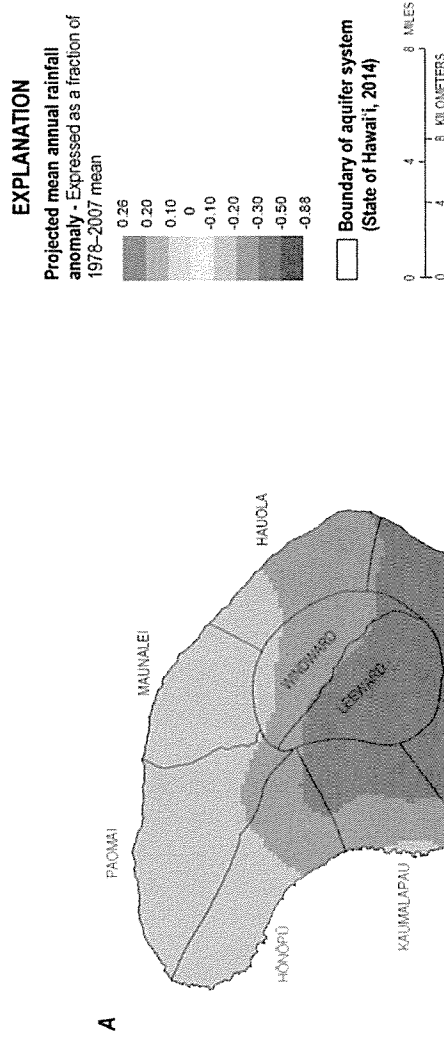
Mean Annual Rainfall Anomalies

Dry climate
SD RCP8.5 2071–99

Drought
1998–2002



Preliminary Information-Subject to Revision. Not for Citation or Distribution.

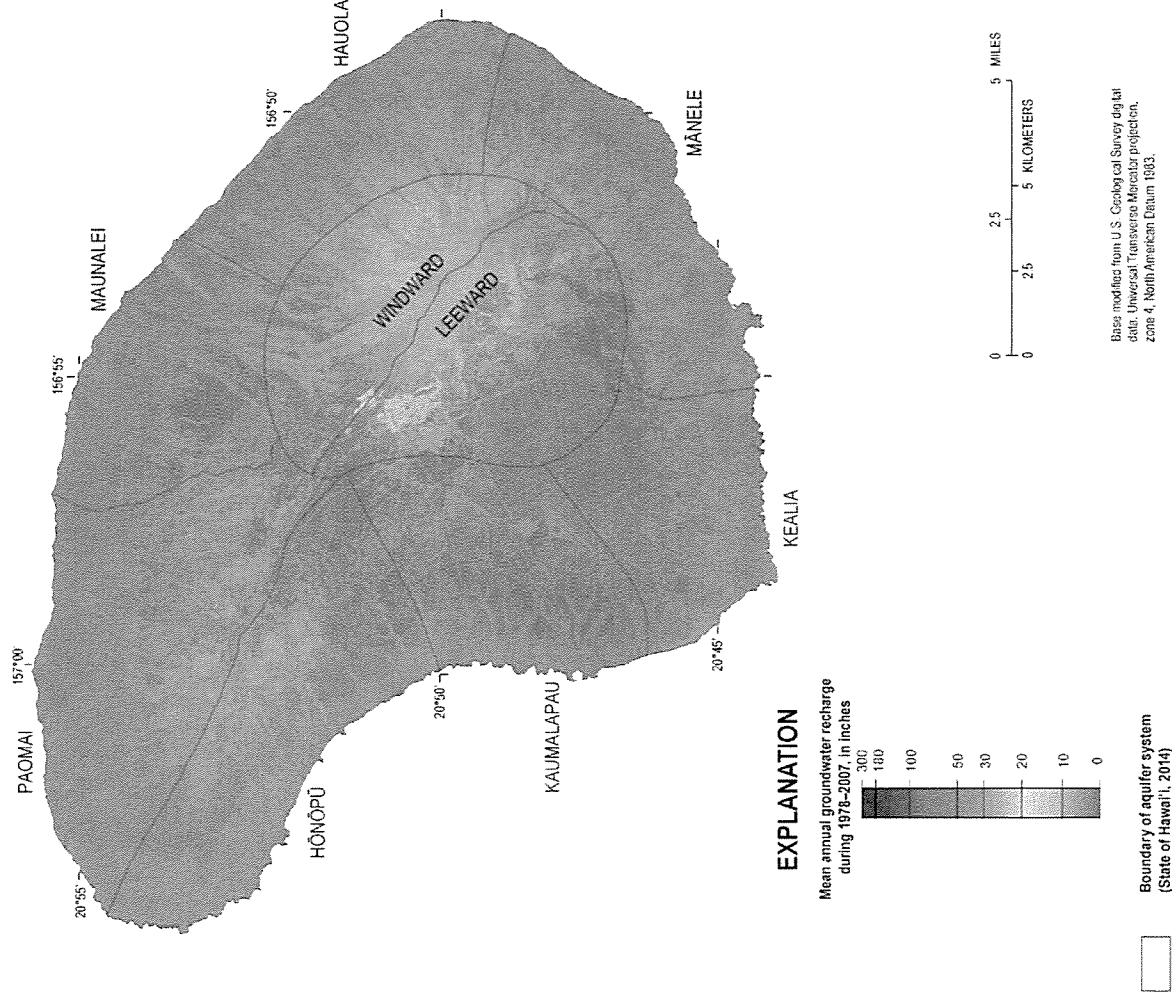


Base modified from U.S. Geological Survey digital data. Universal Transverse Mercator projection, zone 4, North American Datum 1983.

Lāna'i

Reference climate
1978–2007

Mean Annual Groundwater Recharge



Lānaʻi

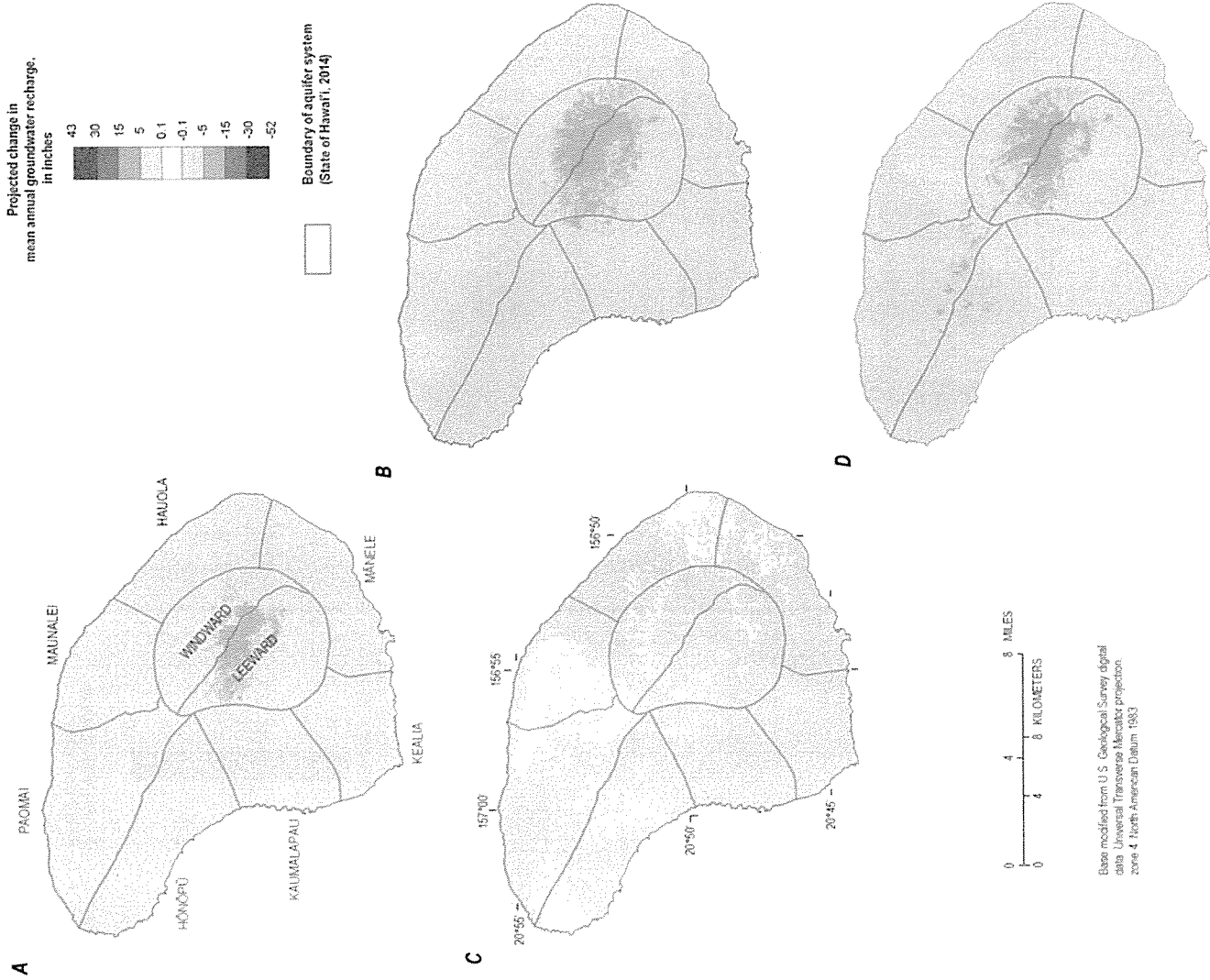
Mid-century climate
SD RCP8.5 2041–71

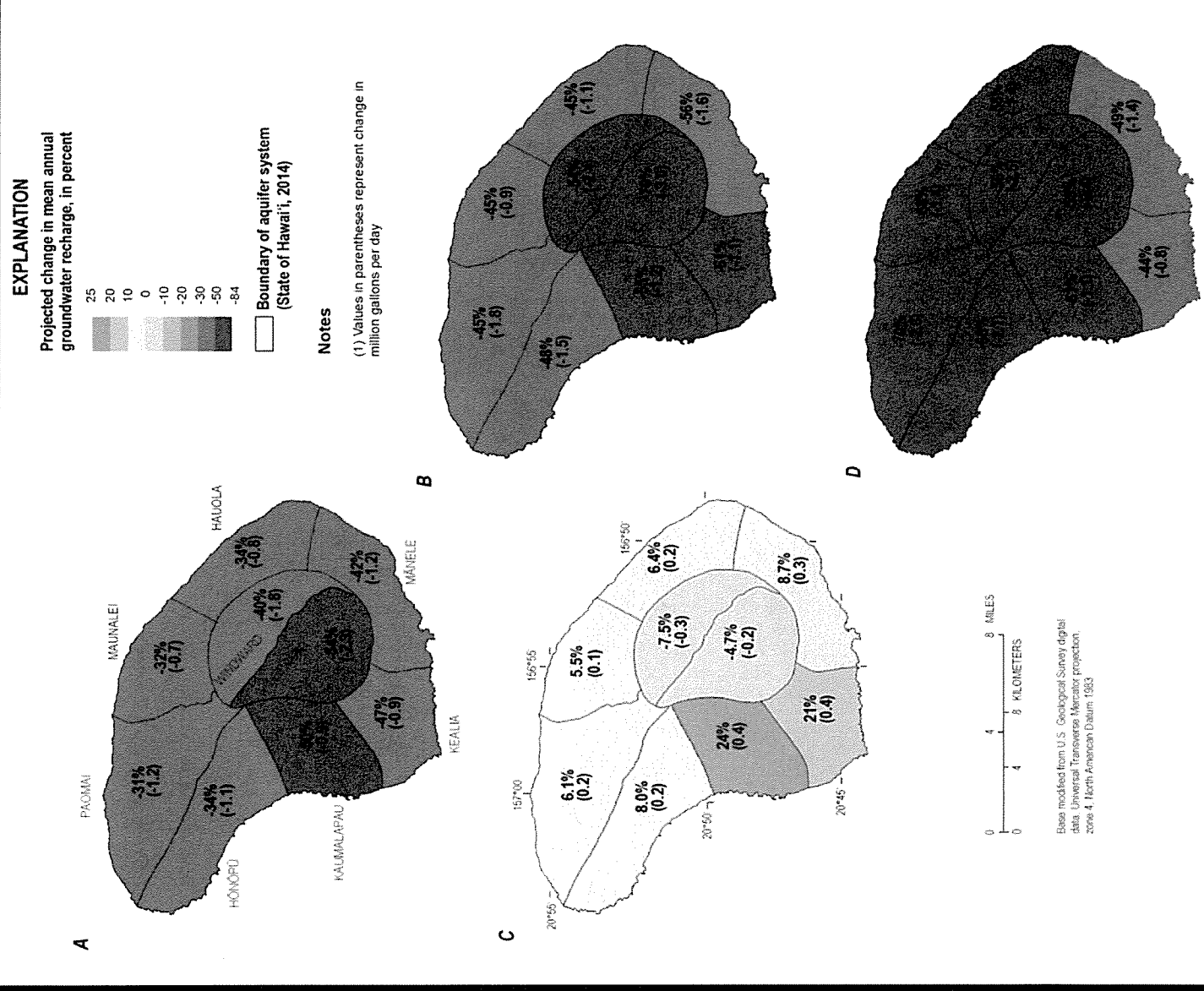
Wet climate
HRCM2 RCP4.5
2080–99

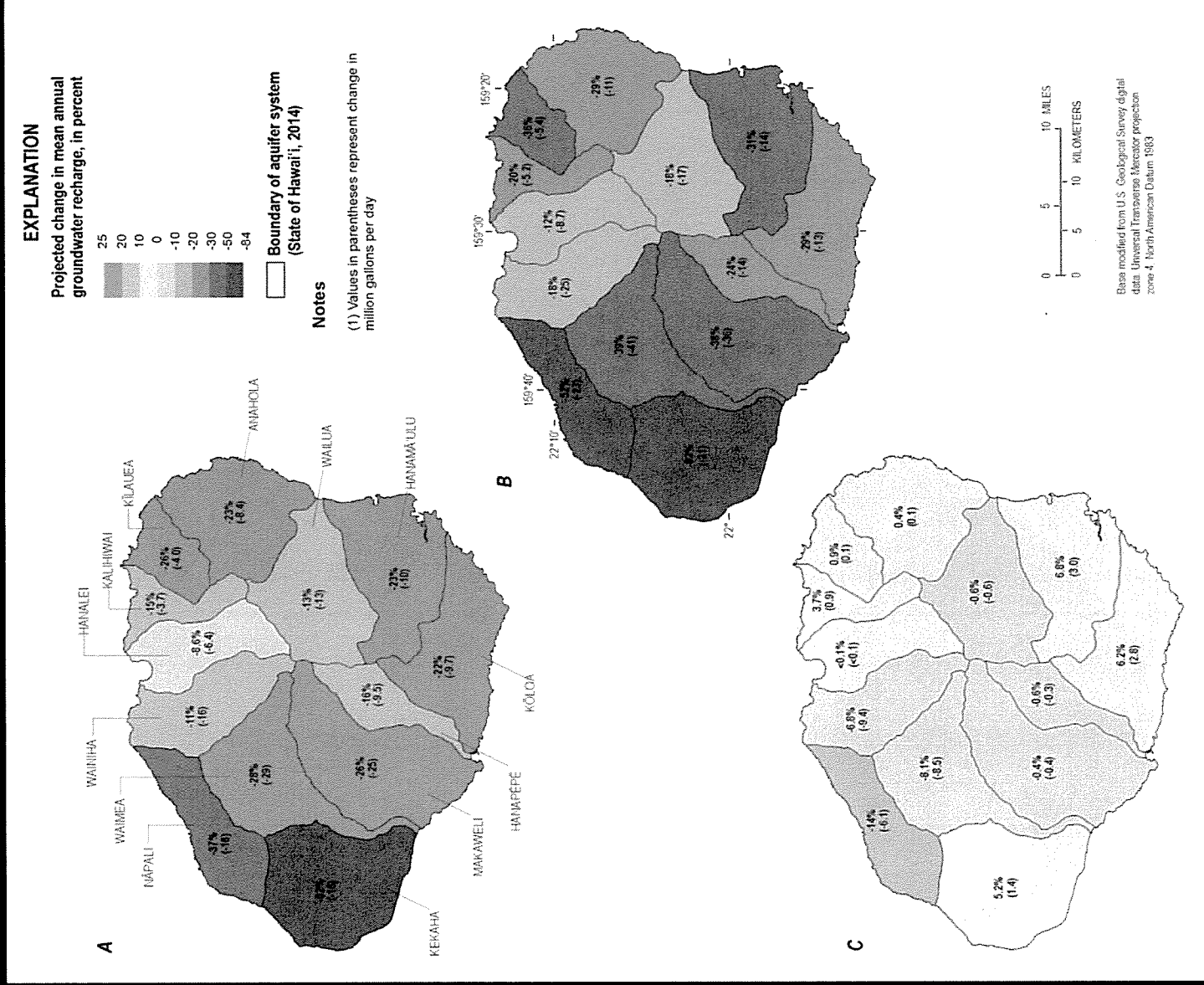
Change in Groundwater Recharge

Dry climate
SD RCP8.5 2071–99

Drought
1998–2002







Change in Aquifer- System Recharge

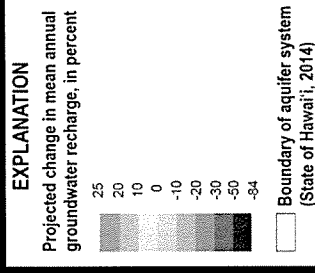
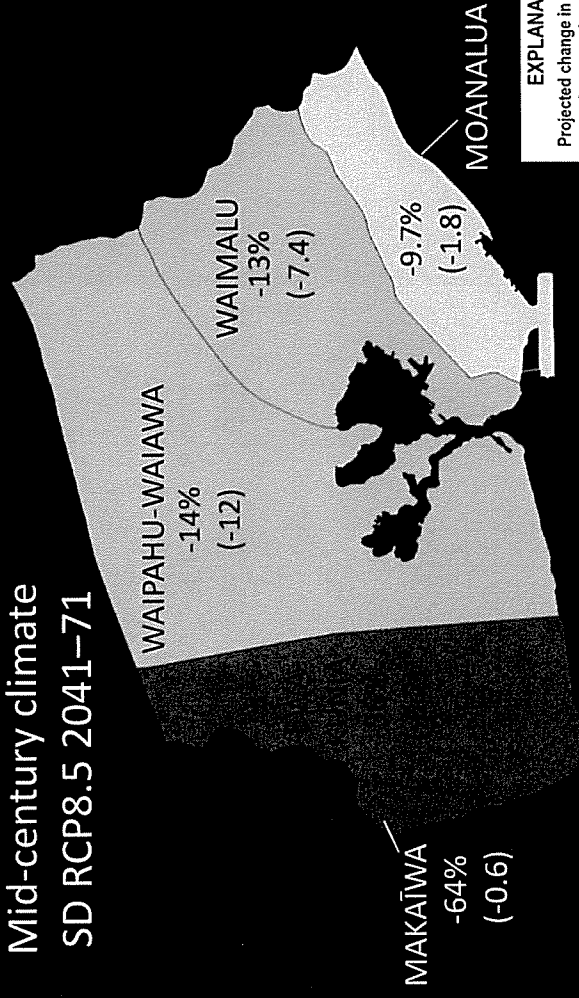
Dry climate
SD RCP8.5 2071–99



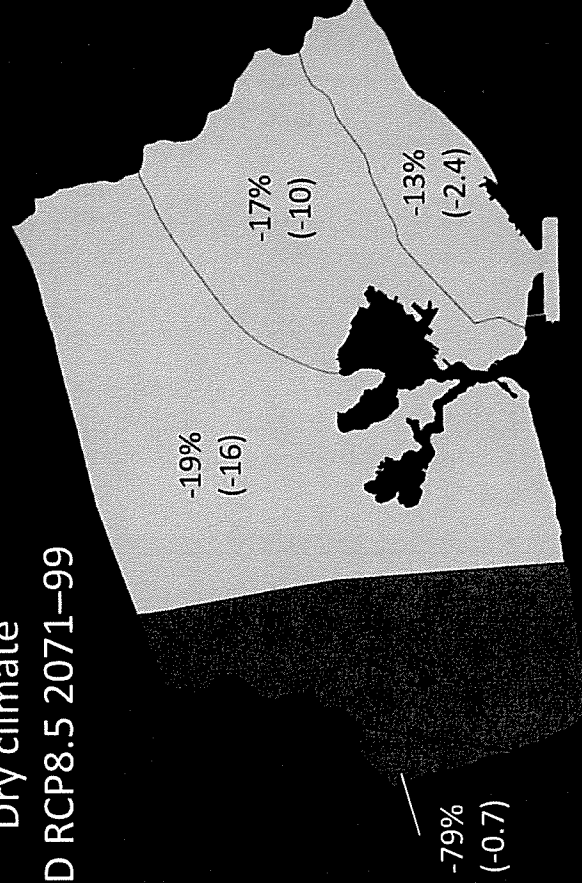
Preliminary Information-Subject to Revision. Not for Citation or Distribution.

Pearl Harbor Aquifer Sector and Moanalua Aquifer System, O'ahu

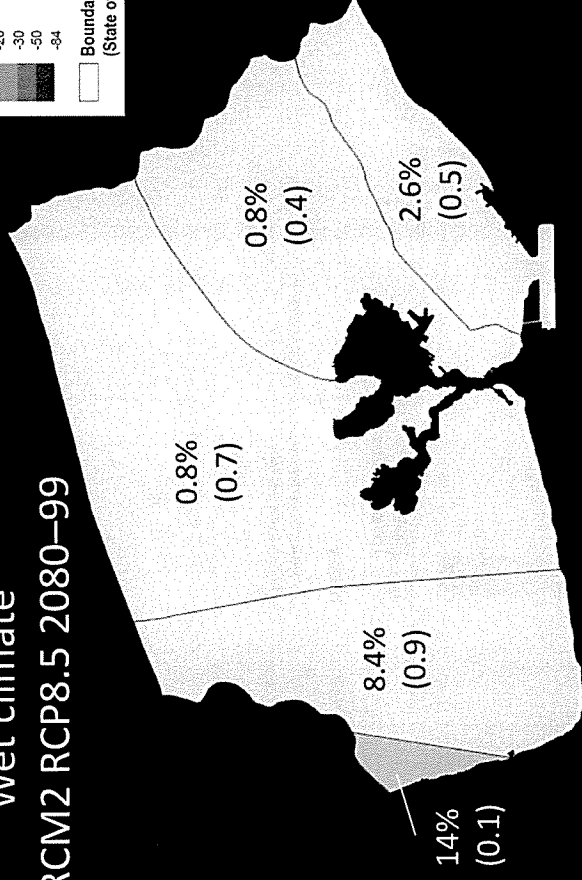
Mid-century climate
SD RCP8.5 2041-71



Dry climate
SD RCP8.5 2071-99



Wet climate
HRCM2 RCP8.5 2080-99



Values in parentheses represent change in million gallons per day

Preliminary Information-Subject to Revision. Not for Citation or Distribution.

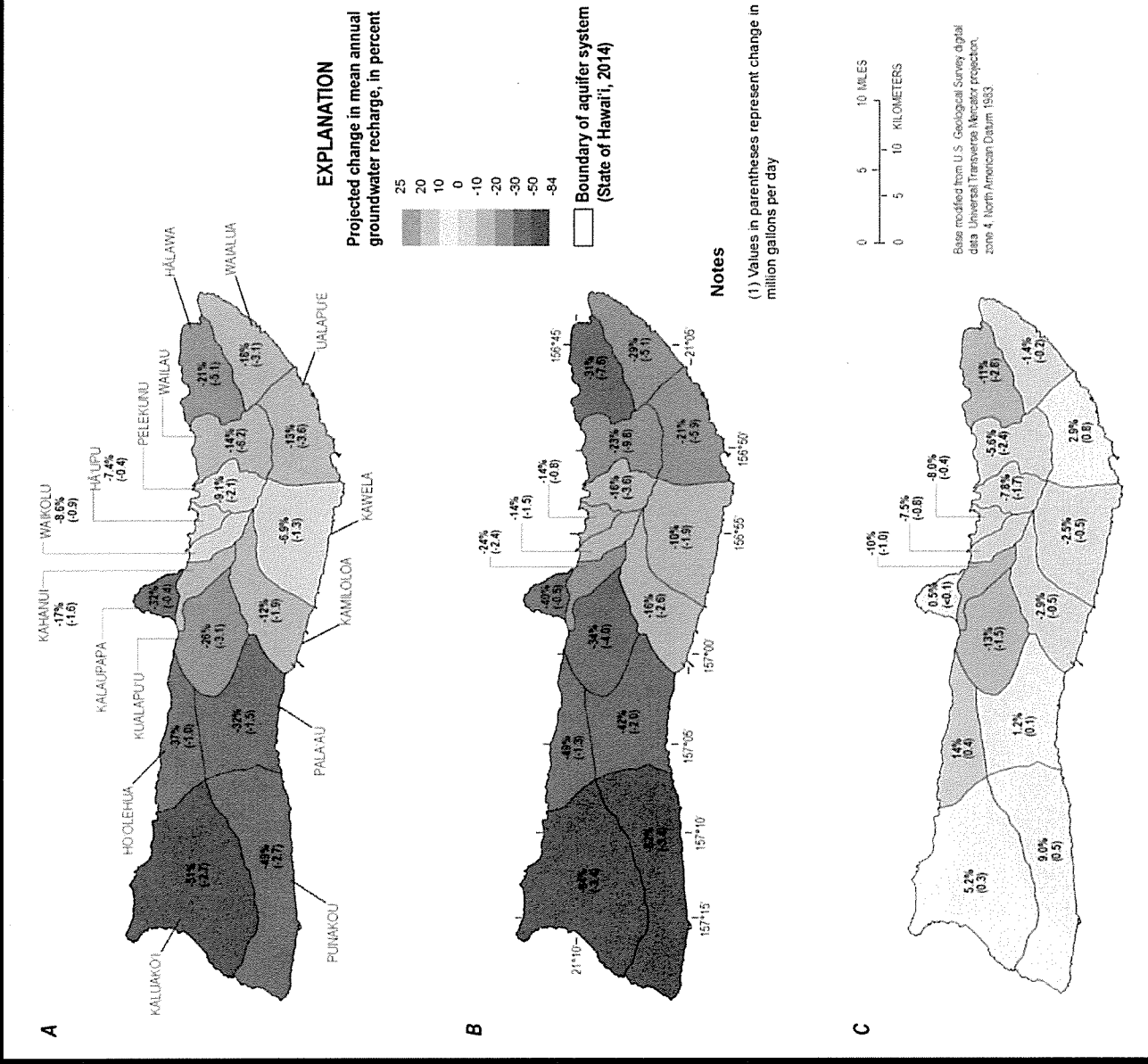
Moloka'i

Mid-century climate
SD RCP8.5 2041–71

Dry climate
SD RCP8.5 2071–99

Wet climate
HRCM2 RCP8.5
2080–99

Change in Aquifer- System Recharge



Change in Aquifer- System Recharge

Dry climate
SD RCP8.5 2071-99

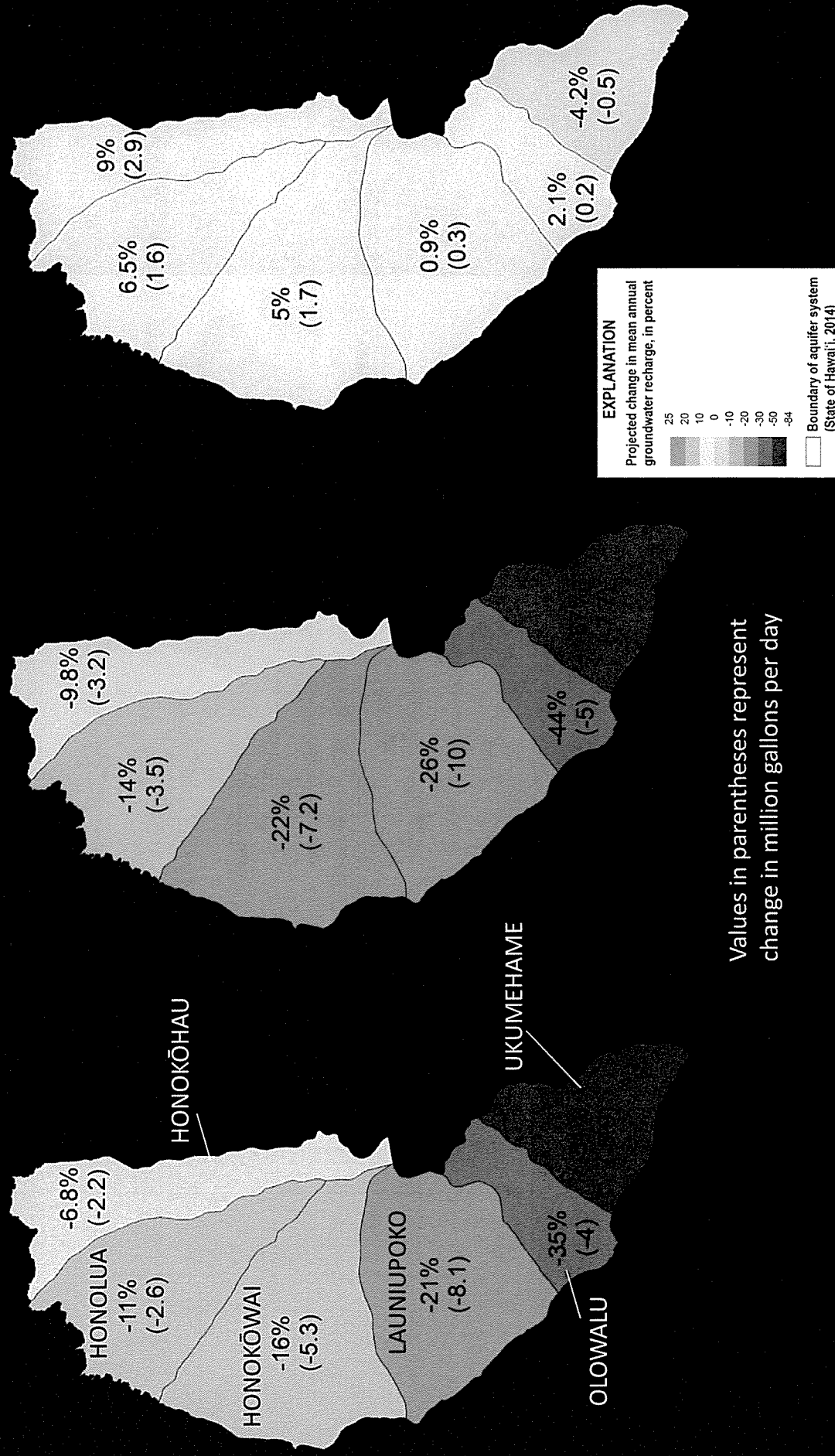


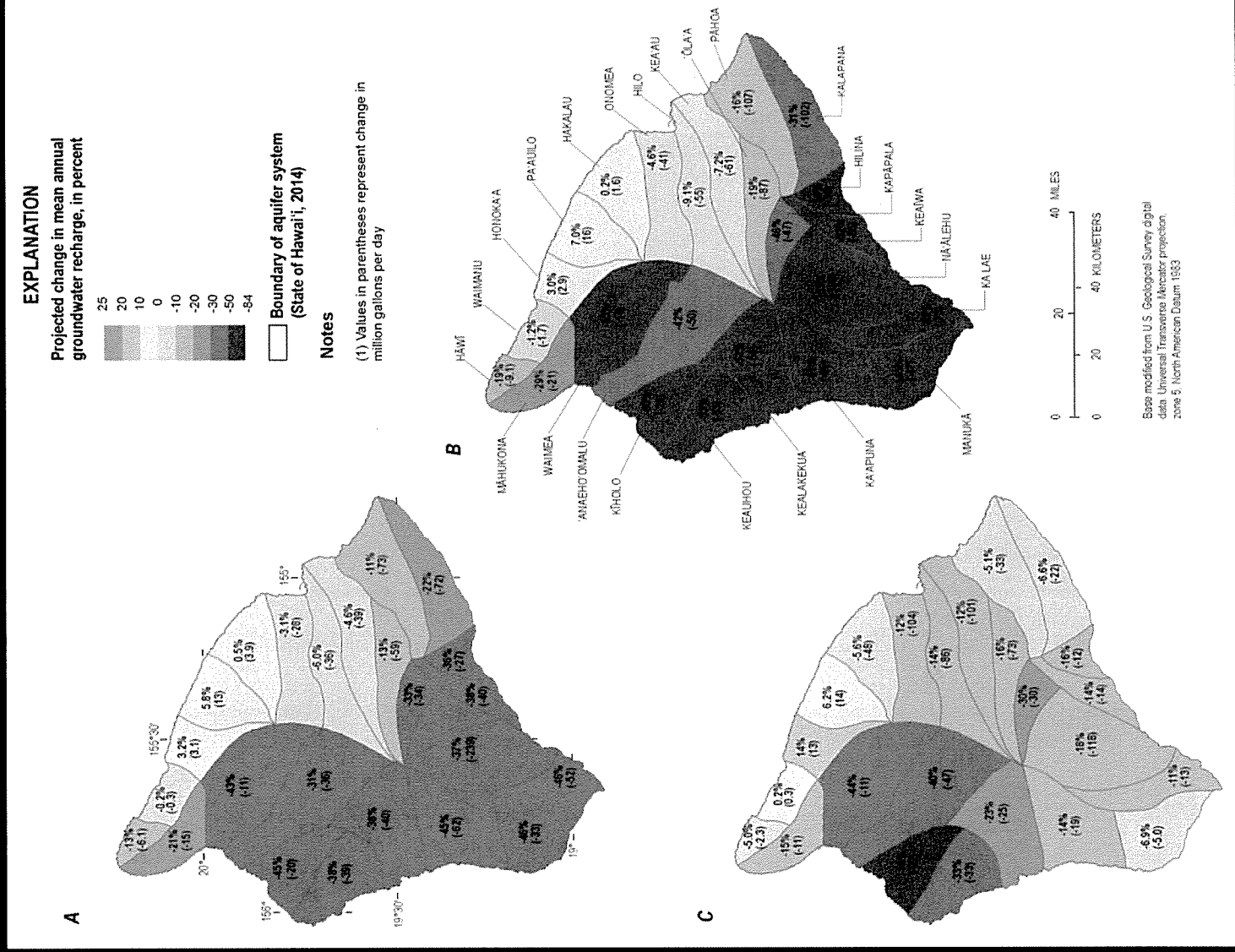
Lahaina Aquifer Sector, Maui

Mid-century climate
SD RCP8.5 2041–71

Dry climate
SD RCP8.5 2071–99

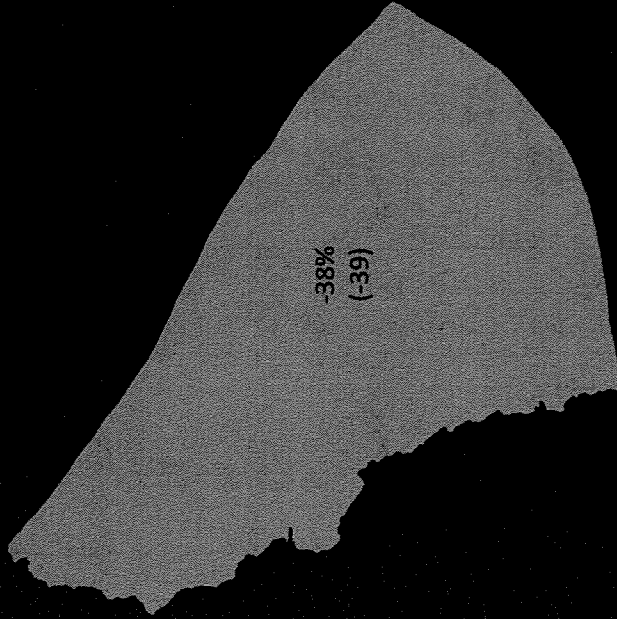
Wet climate
HRCM1 A1B 2080–99



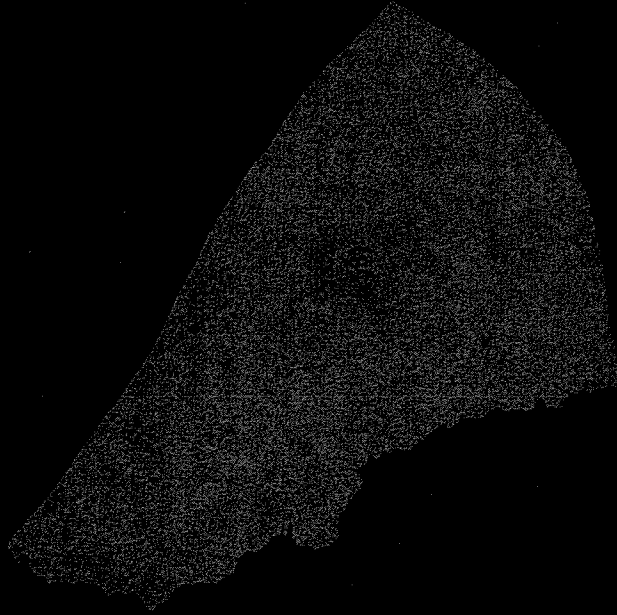


Keauhou Aquifer System, Hawai'i

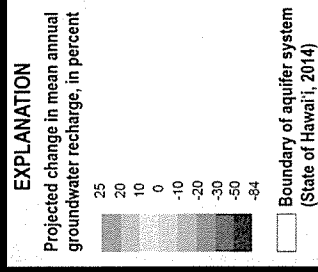
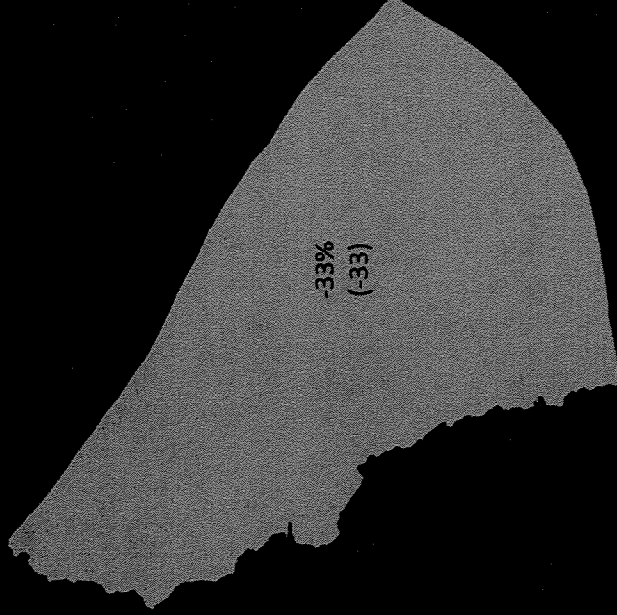
Mid-century climate
SD RCP8.5 2041–71



Dry climate
SD RCP8.5 2071–99

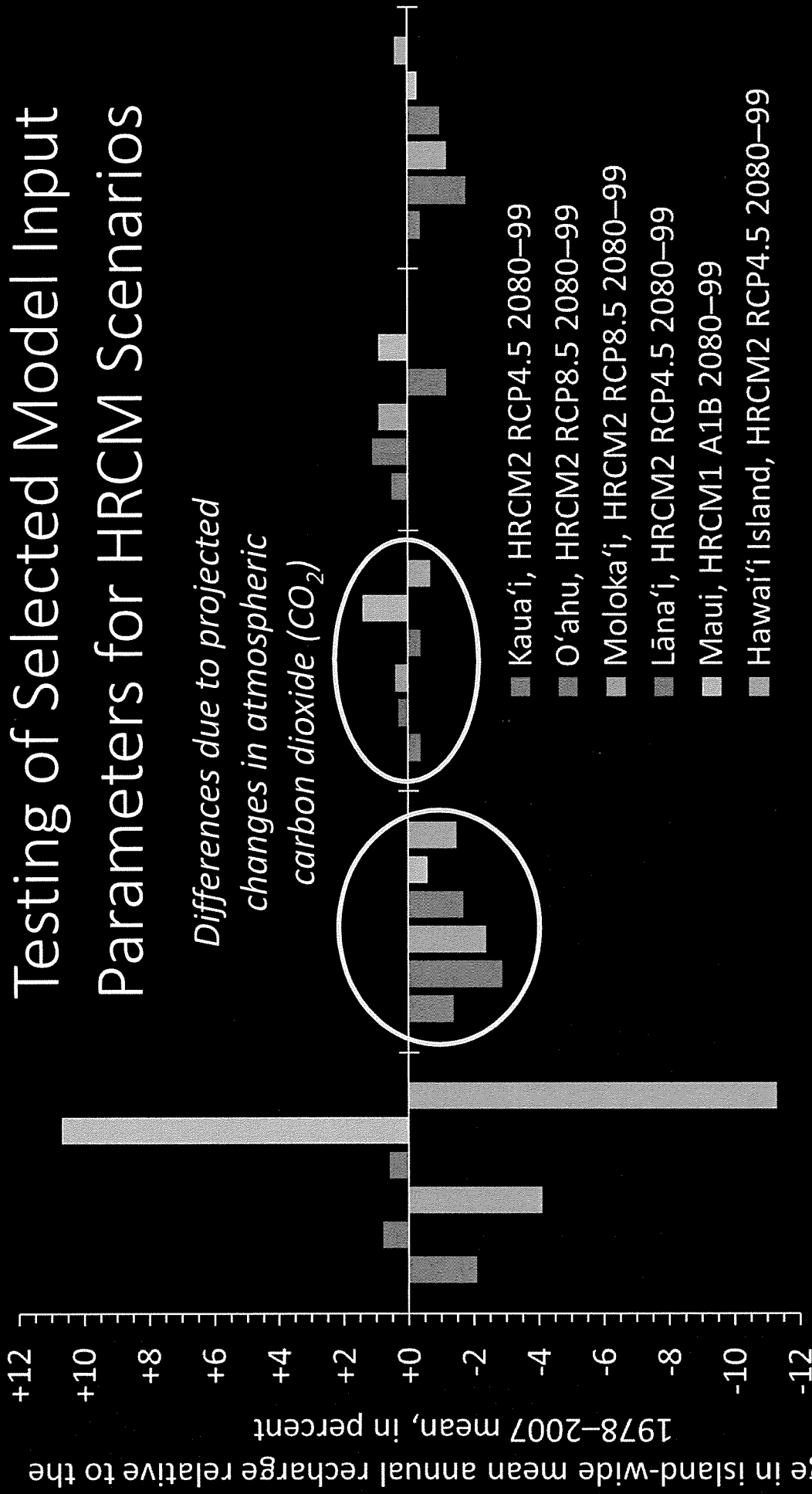


Wet climate
HRCM2 RCP4.5 2080–99



Values in parentheses represent change in million gallons per day

Testing of Selected Model Input Parameters for HRCM Scenarios



Monthly rainfall, seasonal runoff-to-rainfall ratios	Mean monthly reference ET, adjusted for projected warming	Mean monthly reference ET, adjusted for projected warming and increased atmospheric CO ₂ concentrations	Ratio of the mean evaporation rate to mean precipitation rate during saturated conditions, V	Daily rainfall fragments
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Summary

- Projected decreases in island-wide recharge for the mid-century and dry-climate scenarios on all 6 islands
- Mixture of decreases and increases in aquifer-system recharge projected for the wet-climate scenario on all 6 islands
- Projected decreases in island-wide recharge due to projected warming are largely offset by enhanced recharge due to projected increases in mean atmospheric CO₂ concentrations

Limitations

- Dissimilar simulation periods between the climate projections requires adjustment to a common reference period
- Greater uncertainty in recharge estimates in areas with low rain-gage and stream-gage densities
- Limited information on projected changes to cloud-water interception rates, cloud-zone altitudes, and evapotranspiration rates
- Differences in the evapotranspiration rates of native and non-native forests are not well known for all important species and settings
- Recharge rates from reservoirs are not well known and assigned constant values based on limited data
- Taro irrigation and cultivation rates on each island are not well known and assigned constant values based on limited data

Next Steps

- Publish results for recent conditions, and mid-century climate and end-of-century scenarios in a USGS report and data release
- Assess potential effects of drought on soil moisture and recharge for recent and future-climate conditions
- Assess capacity of cloud-water interception to mitigate the hydrologic effects of drought on recharge

References

- Elison Timm, O., Giambelluca, T.W., and Diaz, H.F., 2015, Statistical downscaling of rainfall changes in Hawai'i based on the CMIP5 global model projections, J. Geophys. Res. Atmos., 120, 92–112, <https://agupubs.onlinelibrary.wiley.com/doi/abs/10.1002/2014JD022059>.
- Zhang, C., and Wang, Y., 2017, Projected Future Changes of Tropical Cyclone Activity over the Western North and South Pacific in a 20-km-Mesh Regional Climate Model: Journal of Climate, v. 30, no. 15, p. 5923–5941, <https://doi.org/10.1175/JCLI-D-16-0597.1>.
- Zhang, C., Wang, Y., Hamilton, K., and Lauer, A., 2016a, Dynamical Downscaling of the Climate for the Hawaiian Islands, Part I: Present Day: Journal of Climate, v. 29, no. 8, p. 3027–3048, <http://dx.doi.org/10.1175/JCLI-D-15-0432.1>.
- Zhang, C., Wang, Y., Hamilton, K., and Lauer, A., 2016b, Dynamical Downscaling of the Climate for the Hawaiian Islands. Part II: Projection for the Late Twenty-First Century: Journal of Climate, v. 29, no. 23, p. 8333–8354, <https://doi.org/10.1175/JCLI-D-16-0038.1>.

Mahalo to Our Cooperators!



Cooperators

- State of Hawai'i Commission on Water Resource Management
- USGS Pacific Islands Climate Adaptation Science Center
- Pūlama Lāna'i

DAVID Y. IGE
GOVERNOR
STATE OF HAWAII

JOSH GREEN
LT GOVERNOR
STATE OF HAWAII



WILLIAM J. AILA, JR.
CHAIRMAN
HAWAIIAN HOMES COMMISSION

TYLER I. GOMES
DEPUTY TO THE CHAIRMAN

**STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS**

P O BOX 1879
HONOLULU, HAWAII 96835

**TESTIMONY OF WILLIAM J. AILA, JR., CHAIRMAN
HAWAIIAN HOMES COMMISSION
BEFORE THE COMMISSION ON WATER RESOURCES MANAGEMENT (CWRM)
JANUARY 18, 2022 AT 9:00 AM**

ITEM A.1. Lahaina Aquifer Sector Designation

Aloha Chair Case and Members:

The Department of Hawaiian Home Lands (DHHL) submits testimony **in support** of designation of the of the Lahaina Aquifer Sector; Maui as a Surface Water and Ground Water Management Area (or "WMA"). DHHL has extensive and important land holdings in this area at Leali'i and Honokowai.

The availability of water is one of the key barriers DHHL faces in the development and delivery of homesteads across Hawai'i. Designation of a WMA is a substantive way in which you help fulfill the obligation of the state of Hawai'i to successfully implement the Hawaiian Homes Commission Act (HHCA). This obligation is both a Constitutional mandate and a condition of statehood.

There are at least two distinct ways in which WMA designation helps to fulfill the purposes of the HHCA. Both relate to the fact that the Hawai'i Supreme Court has repeatedly and explicitly stated that reservations of water for, and uses of water by, the DHHL for homesteading purposes are one of the four "public trust" uses of water that are to be provided for and protected above all other purposes.¹ While CWRM has an obligation to protect and manage water in the interest of these public trust uses of water, it lacks many of the tools and powers to do so outside of WMAs.

One of these tools and powers relates to CWRM reservations of water for the future use of DHHL and its beneficiaries. CWRM has the power to and has issued reservations of water for DHHL from surface and ground water sources across Hawai'i, inside and outside WMAs. However, only in WMAs has CWRM done so by rule. This provides a layer of certainty and protection of the reservation which is lacking outside WMAs.

¹ This status is described in, among other cases in re Water Use Permit Applications, 94 Hawaii 97 (2000), and Kauai Springs, Inc. v. Planning Commission of County of Kauai, 133 Hawaii 141 (2014)). The former dealt with CWRM's decisions to allocate water in WMAs, and the latter in part with the consequences of your staff's decision to not assert a duty to protect public trust interests in water outside of WMAs. In both instances expansive and significant case law has been developed exactly when CWRM has declined to take a proactive and affirmative stance to protect public trust uses of water. The proposed designation here is another such instance.

A second distinct way in which designation meaningfully provides you the powers and tools you need is that only in WMAs are water use permits issued. Notably by Code provision all water use permits "issued by the commission shall be subject to the rights of the department of Hawaiian home lands as provided in section 221 of the Hawaiian Homes Commission Act, whether or not the condition is explicitly stated in the permit." (HRS 174C-49(e)). Currently obligations to DHHL are not enumerated in any other permits, including the well construction permits issued across the state.

Finally, we would encourage you, as you hear from other public and private stakeholders, not to be confused as to when designation is required. Some may suggest that designation is not warranted or perhaps "premature" because efforts to manage pumping and distribution of water better are ongoing. They may even suggest that planning documents like water use and development plans are substitutes for regulation. Such arguments represent fatal misreadings of the code and State constitution. When the 1978 Constitutional Convention committee reported on the reason why they used the language they did to unambiguously clarify that water is a public trust resource, they said the following to Convention President Paty (who later went on to be the first Chair of this Commission) (emphasis added):²

Accordingly, your Committee concluded that the Constitution should specify that the State holds the water resources in trust, with the responsibilities of a trustee to actively protect, control and regulate the development of water resources in the State. **This concept implies not only the power to protect the resources but the responsibility to do so long before any crisis develops.**

As is clear, even considering only climate change, a water resources crisis is foreseeable in this area. We would be happy to answer any questions. Thank you for your consideration of our testimony.

Me Ke aloha,



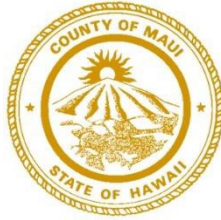
William J. Ailā, Jr., Chairman
Hawaiian Homes Commission

² Standing Committee Report 77, Pages 688-689, Proceedings of the Constitutional Convention of Hawai'i of 1978

MICHAEL P. VICTORINO
Mayor

JEFFREY T. PEARSON, P.E.
Director

HELENE KAU
Deputy Director



DEPARTMENT OF WATER SUPPLY
COUNTY OF MAUI
200 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAII 96793
www.mauicounty.gov/water

January 13, 2022

Ms. Suzanne D. Case, Chairperson and Members
State of Hawaii Department of Land and Natural Resources
Commission on Water Resource Management
1151 Punchbowl Street, Board Room 132
Honolulu, Hawaii 96809

SUBJECT: Testimony on January 18, 2022 Agenda Item A.2: Designation of the Lahaina Aquifer Sector, Maui as Surface Water and Ground Water Management Area

Dear Ms. Case and Members,

The Maui County Department of Water Supply (MDWS) offers the following comments on this Commission on Water Resource Management (CWRM) initiative. In the absence of any briefing materials ahead of the January 18, 2022 meeting, at this point MDWS does not understand the rationale and methodology CWRM employed to initiate designation of the entire Lahaina Aquifer Sector on Maui.

Threats to water resources by existing and proposed withdrawals:

Reported pumpage on a 12-month moving average basis, as provided by CWRM, in relation to sustainable yield (SY) is approximately as follows:

	Ukumehame	Olowalu	Launiupoko	Honokōwai	Honolua	Honokōhau
SY (mgd)	2	2	7	6	8	9
2021 12 Mo MAV Pumpage (mgd)	0.049	0.074	1.434	3.777	2.450	0.000
Pumpage/SY	2.45%	3.70%	20.49%	62.95%	30.63%	0.00%

It's unclear how tunnel discharge in Launiupoko and Honokōwai aquifers can be counted both against basal sustainable yield, as calculated in the 2019 Water Resources Protection Plan, and as dike source to basal recharge, and how calculations of high level tunnel discharge is consistent with how high-

"By Water All Things Find Life"

level tunnel sources were qualified in the Iao Groundwater Management Area designation and in the Na Wai Eha contested case.

Reported pumpage of Honokōwai aquifer, potentially unreported and varying pumpage, projected future groundwater needs to offset non-potable uses of Honokōwai Stream along with issued groundwater reservation for the Department of Hawaiian Homelands **may** exceed established sustainable yield of this aquifer system only. Factors that influence projections include assumptions about Interim Instream Flow Standards, yet to be established for Honokōwai Stream, water duty for agricultural irrigation needs, expansion of recycled water availability, conservation measures implemented by private water purveyors and implementation of the policies and strategies proposed in the Draft Maui Island Water Use and Development Plan (WUDP), as well as the West Maui Community Plan update.

CWRM has consulted with the MDWS and the Maui County Planning Department on interpreting demand projections and Authorized Planned Use (APU), as defined in the State Water Code. We find that current groundwater use and APU does not reach 90% of sustainable yield for any other aquifer system than Honokowai. Tentatively, MDWS supports investigations to consider designation of **Honokowai Aquifer System** only.

Serious disputes over current and planned water uses:

The Draft WUDP is the culmination of a 3 year long public process, followed by public hearings conducted by the Board of Water Supply, and deliberations over 2 ½ years in council committees. In 2021, council committee chair Sinenci conducted additional consultations with the `Aha Moku Councils to ensure culturally generational Kanaka Maoli perspectives were incorporated. The plan's strategies offer compromises to address community concerns and disputes, align with the General Plan and Community Plan for the Lahaina region to allocate water to planned land use. In their review of WUDP strategies, CWRM staff noted the benefit of strategies to meet future needs, including transfers from adjacent aquifers, to help guide CWRM in future decision-making on water management area designation.

The WUDP is the tool to allocate water to land use in consistency with the water resource protection policies set forth under the overall Hawaii Water Plan Framework. The Maui County Planning Department worked closely with MDWS in their update of the West Maui Community Plan and incorporated proposed WUDP strategies into the community plan. CWRM was consulted with regards to water policies and implementing actions. Both planning documents have included rigorous community scrutiny and CWRM had ample opportunity to provide guidance in the planning process and address any serious disputes over current and planned water uses. The current initiative to designate the entire aquifer sector seriously undermines the enormous effort to engage the community, private purveyors and sister county agencies and the progress in land use and water planning integration the county agencies have achieved to date.

Harm to groundwater quantity and quality by saltwater intrusion and climate uncertainty:

MDWS has funded multiple cooperative studies with the U.S Geological Survey (USGS) to guide resource management for Central Maui and Lahaina regions that specifically address threats to water quantity and quality and climate change impacts. These tools underpin the proposed WUDP strategies to allocate water to land use, guide sustainable groundwater pumpage, address declining rainfall and climate uncertainty. Specifically, distribute pumpage throughout Launiupoko aquifer where increased pumpage in MDWS wells result in high chloride levels. Current well exploration in Launiupoko aquifer is guided by the 2012 USGS study on groundwater availability in the Lahaina district. MDWS is actively preparing to shift to groundwater to reduce reliance on surface water long term and to provide for planned growth of the Lahaina community. Sustainable well development should consider optimal withdrawals of a groundwater unit and the interaction with surface water.

We believe that proactive guidance by CWRM to interpret and utilize available groundwater models and monitoring data to ensure adequate pump distributions are arguably better tools to enhanced and integrated management, than designation.

There are clearly aquifer systems included in this initiative with no basis for designation as set forth in the State Water Code. MDWS does **not** support designation of the entire aquifer sector. We believe a better approach is proactive collaboration between CWRM, public and private purveyors and community representatives to ensure implementation of WUDP strategies as well as resource management policies established in the WRPP. The WUDP has passed unanimously out of Council Committee and we expect the adopted WUDP to be before CWRM in the first quarter of 2022. At a minimum, commissioners should have the opportunity to review the WUDP in lieu of the designation process.

Designation of a Surface Water Management Area (SWMA) is premature and also inconsistent with the WUDP. We believe CWRM's ability to enforce IIFS is at the heart of the problem, a concern that is echoed by the community. At the same time, IIFS decisions must be flexible enough to adapt to the obstacles and time it takes water supply purveyors to transition to practicable alternatives. MDWS respectfully requests CWRM to **defer** SWMA proceedings until IIFS can be adopted for other priority streams, including all diverted streams in East Maui and until CWRM can secure adequate staffing to monitor and enforce decisions.

Sincerely,

A handwritten signature in black ink, appearing to read "Jeffrey T. Pearson".

Jeffrey T. Pearson, P.E.
Director of Water Supply

From: [REDACTED]
To: [DLNR.CW.DLNRCWRM](#)
Cc: [Hyatt, RaeAnn P](#)
Subject: [EXTERNAL] 1/18/2022 Agenda Item A2 Designation of the Lahaina Aquifer Sector, Maui as a Surface Water and Ground Water Management Area
Date: Friday, January 14, 2022 1:52:33 PM

Commission on Water Resource Management
State of Hawai'i Department of Land and Natural Resources
Kalanimoku Building
1151 Punchbowl Street, Room 227
Honolulu, Hawai'i 96813

January 14, 2022

Aloha Chair Case and Members of the Commission on Water Resource Management:

As a resident of Lahaina, mahalo for this opportunity to testify in support of the recommendation to designate the Lahaina Aquifer Sector as a surface water and ground water management area ("WMA").

Designation of our streams and aquifers is an important first step toward securing the stability and viability of our precious fresh water resources. Lahaina's limited ground and surface water supplies highlight the importance of ensuring a lasting source of wai for present and future generations. Moreover, shifts in global climate patterns demand heightened vigilance as we consider humans' long-term effects on our resources. The Lahaina region has experienced steadily decreasing rainfall and drought in recent years. Designation, and the permitting requirements that accompany it, are critical to address these and other issues now.

Hawai'i's Water Code requires designation of water management areas when those resources "may be threatened by existing or proposed withdrawals" of water. HAW. REV. STAT. § 174C-41(a). As a resident of Lahaina, I believe that "regulation is necessary to preserve [my] diminishing ground water supply for future needs[.]" HAW. REV. STAT. § 174C-44(3).

We have major conflicts over water use in our community, and we support designation because it is necessary for pono management of our water resources. For example, kuleana use of water for kalo is a protected public trust use, which is supposed to have the highest level of protection under the law. Despite this, mahi'ai often do not have enough water in the stream to irrigate lo'i. Designation would help the Commission balance requests for water and ensure public trust uses of water are protected. Without adequate water, Kanaka Maoli are unable to continue these Native Hawaiian practices and cultural traditions. Moreover, projections estimate even more population growth and development in our small town. It is important to secure our water future now for generations to come. We believe that WMA designation is the best tool to address these and other issues our community faces.

Mahalo for the opportunity to testify in support of designation, for considering my concerns, and for fulfilling your kuleana as a steward of our public trust by proactively protecting our resources.

Mahalo nui loa,
Fay McFarlane

Fay McFarlane
[REDACTED]
Lahaina, HI 96761
[REDACTED]

From: [Ryan Cabrera](#)
To: [DLNR.CW.DLNR.CWRM](#)
Subject: [EXTERNAL] Agenda item A2
Date: Friday, January 14, 2022 3:09:59 PM

I support the designation because water is a serious dispute in our community. Mahalo

From: [George Chihara](#)
To: [DLNR.CW.DLNR.CWRM](#)
Subject: [EXTERNAL] Agenda Item A2
Date: Friday, January 14, 2022 4:41:17 PM

Aloha,

I support the designation because water is a serious dispute in our community.

- George Chihara

From: [Kazia Chihara](#)
To: [DLNR.CW.DLNRWWM](#)
Subject: [EXTERNAL] Agenda Item A2
Date: Friday, January 14, 2022 4:48:25 PM

Aloha,

I support the designation because water is a serious dispute in our community.

-Kazia Chihara

From: [Curen Ohama](#)
To: [DLNR.CW.DLNR.CWRM](#)
Subject: [EXTERNAL] Agenda item A2
Date: Friday, January 14, 2022 7:45:22 PM

I totally support the designation because water is a serious dispute in our community.

From: [Carson](#)
To: [DLNR.CW.DLNR.CWRM](#)
Subject: [EXTERNAL] Agenda item A2
Date: Friday, January 14, 2022 7:59:57 PM

I support the designation because water is a serious dispute in our community.

From: [Nicole De La Torre](#)
To: [DLNR.CW.DLNR.CWRM](#)
Subject: [EXTERNAL] In Support of Agenda Item 2
Date: Saturday, January 15, 2022 11:42:37 AM

To Whom It May Concern,

This is in reference of the meeting for the Commission on Water Resource Management which will take place on January 18th 2022.

I am for the support Agenda Item 2, the designation of the Lahaina Aquifer Section as a surface water and ground water management area, simply put because water is a serious dispute for the Maui Community. Water is essential and infinite; it should be protected for responsible use.

I hope this email serves as a placeholder and indication of a concerned citizen's opinion who is unable to attend the zoom meeting.

Thank you for your time and consideration.

From: [Lucy Reardon](#)
To: [DLNR.CW.DLNRCWRM](#)
Subject: [EXTERNAL] Commission on water recourse management
Date: Sunday, January 16, 2022 8:41:45 AM

Aloha,

My name is Lucy Reardon and I support the designation because water is a serious dispute in our community and water is an important natural recourse that should always be used smartly and managed as a public trust.

I am emailing on behalf of my Lahaina Community, a community I care deeply for.

Mahalo for your time.

Lucy Aloha Reardon

Leilani Carrero

[REDACTED]
Lahaina, Hawai'i 96761

E: [REDACTED]

Tel: [REDACTED]

January 16, 2022

VIA EMAIL TRANSMITTAL

Commission on Water Resource Management
State of Hawai'i Department of Land and Natural Resources
Kalanimoku Building
1151 Punchbowl Street, Room 227
Honolulu, Hawai'i 96813
Email: dlmr.cwrmm@hawaii.gov
Fax: (808) 587-0219

**RE: Agenda Item #A2, Designation of the Lahaina Aquifer Sector, Maui
as a Surface Water and Ground Water Management Area**

Aloha Chair Case and Members of the Commission on Water Resource Management:

My name is Leilani Carrero and I am a third year student at the William S. Richardson School of Law. I have had the great privilege of working with community members from Lahaina. In my experience, significant conflicts over water use exist and affect these residents daily lives in varying degrees.

The main justifications for designation, laid out on pages 1-2 of your Staff Submittal, explain why designation is critically important to the future of water use in Lahaina. Projections estimate even more population growth and development. It is critical to secure their water future now and for generations to come. Due to delayed action and ineffective management by the Maui Department of Water Supply, these residents need the Water Commission to act and designate immediately.

I had the honor of working with a Native Hawaiian family from Kahoma who has been intimately affected by the drought and decline in rainfall, which has negatively impacted their access to fresh water. Although this family has existing water rights, the amount of water they receive from the stream is not enough to sustain their crops long term in the face of environmental changes beyond their control. They pay out-of-pocket to pump what water is manageable using store bought pumps and a generator in carefully timed allotments. This waters their lo'i kalo – the highest protected public trust use of water under our law. When the water cannot be pumped due to low water levels, the family then carries the water in buckets to mālama their kalo. No water is wasted on their property where water is also used for domestic purposes such as bathing and to cultivate diversified agricultural crops such as ti leaf, banana trees, and Hawaiian ginger to name a few.

It should be noted that this resilient family does all of this, giving their time and resources to tending to these responsibilities, in addition to maintaining full-time employment. This shows a remarkable commitment to their Native Hawaiian cultural and bioethical responsibility to the water, the land, and its well being. This commitment should be reciprocated by the Water Commision through immediate designation.

It is clear that designation would significantly benefit affected community members such as these and increase this Commission's ability to effectively manage water resources.

Thank you for your time and for the opportunity to speak on behalf of those most affected by these decisions.

Mahalo nui loa,
Leilani Carrero

January 16, 2022

WRITTEN TESTIMONY (via e-mail)
Commission on Water Resources Management
State of Hawai'i
Kalanimoku Building
P.O. Box 621
Honolulu, Hawai'i 96809
dlmr.cwrmm@hawaii.gov
raeann.p.hyatt@hawaii.gov

Re: Testimony of Nā Papa'i Wawae 'Ula'ula on Commission Agenda Item A-2: Designation of the Lahaina Aquifer Sector; Maui as a Surface Water and Ground Water Management Area, of the January 18, 2022 meeting.

Dear Commissioners,

Please accept this testimony on behalf of the Nā Papa'i Wawae 'Ula'ula (Nā Papa'i), a community association based in Lahaina, Maui, in support of the designation of the Lahaina aquifer sector as ground- and surface water management areas described under agenda item A-2.

Nā Papa'i is an unincorporated association of West Maui residents and other beach users who are concerned about protecting and preserving the quality of life and environment for West Maui communities particularly as it relates to the public's use and access of our coastlines. Nā Papa'i holds in-person community meetings with West Maui communities and administers a social media page on facebook.com called, "Access Denied!" which group has over 4,700 members.

Nā Papa'i has been working to address adverse impacts of climate change on Hawai'i and Lahaina. In recent decades, West Maui has struggled against drought, wildfire, sea level rise, coastal erosion, and a host of other anthropogenic environmental changes. These changes impact our water resources and communities' resiliency against further impacts.

Recharge to the Lahaina aquifer sector has "decreased dramatically in the 21st century especially in the lower elevations." USGS, *Groundwater Availability in the Lahaina District, West Maui, Hawai'i* (2012); Maui draft Water Use Development Plan (WUDP), PDF 905 (Mar. 2019). Estimated recharge declined 43 percent between the periods 1926–79 and 2000–04 due to decreases in irrigation and its return flows and low rainfall. U.S. Geological Services researchers are predicting that climate change impacts will cause dry areas of Maui to become drier, with the greatest effects seen in the West Maui mountains (Mauna Kahālāwai).

Existing and proposed water withdrawals from our streams and aquifers are already causing harm as is evident in the increasing chloride concentrations in wells and the persistence of diversions that prevent mauka to makai flow. Global warming, drought, and reduced rainfall will only exacerbate these harms and require closer management of West Maui water resources to prevent waste and to prioritize public trust uses.

Mahalo for considering our testimony. Please contact me with any questions.

Kai Nishiki, on behalf of Nā Papai Wawae 'Ula'ula
(808) 283-0566



January 16, 2022

WRITTEN TESTIMONY (via e-mail)
Commission on Water Resources Management
dlr.cwrmm@hawaii.gov
racann.p.hyatt@hawaii.gov

Testimony of West Maui Preservation Association on Commission Agenda Item A-2:
Designation of the Lahaina Aquifer Sector; Maui as a Surface Water and Ground Water
Management Area, of the January 18, 2022 meeting.

Please accept this testimony on behalf of the West Maui Preservation Association (WMPA), a nonprofit organization based in Lahaina, Maui, in support of the designation of the Lahaina aquifer sector as ground- and surface water management areas described under agenda item A-2.

WMPA is organized for the purposes of preserving, protecting and restoring the natural and cultural environment of West Maui, including land conservation and educational activities related thereto. For nearly two decades, WMPA has advocated for community interests in West Maui's natural resources. Water management area designation is sorely needed in Lahaina to address the inertia preventing implementation of more equitable and sustainable solutions to protect water resources and public trust uses thereof.

1. Existing and proposed withdrawals threaten our streams and aquifers.

The Commission is required to conduct surveys, research, and investigation "into all aspects of water use and water quality[.]" HRS §174C-5. After doing so, it is further required to designate water management areas where it "finds that the water resources of the areas are being threatened by existing or proposed withdrawals of water." Especially in view of the existing and coming challenges caused by global warming, existing and proposed water withdrawals threaten our streams and aquifers.

Wells in Kauaula and Honokōwai are salting up. Kauaula stream, even despite this Commission's amended interim instream flow standards, struggles to establish mauka to makai flow. Despite this, developers continue to subdivide and sell residential lots in these areas and press for more permissive land use designations to allow more home construction - all of which is premised on plans to increase pumping in the aquifers. As they do so, the historic waters - springs and seeps - of Moku'ula are depleted.

In Kauaula, the Launiupoko Irrigation Company is proposing to increase pumpage from the Lahaina Skimming Wells A/B, which are makai of a Launiupoko Water Company Well No. 3 that demonstrated increasing chloride concentrations. Maui DWS also reported some of its wells have exceeded the EPA secondary maximum contaminant level of 250 mg/L at increased pumping rates. 2019 draft WUDP at PDF 942. Some of these Maui DWS wells are apparently in the Launiupoko aquifer. Item A-2 Submittal, exh. 4 at 3 (Pearson letter, proposing to “distribute pumpage throughout Launiupoko aquifer where increased pumpage in MDWS wells result in high chloride levels.”).

Further, Commission surveys disclose significant percentages of well owner are not reporting their water uses across Lahaina. These non-disclosures provide further support for WMA designation.

2. Serious disputes over water use have been occurring across West Maui.

In determining whether to designate, the Commission considers whether “[s]erious disputes” respecting the use of ground water and surface water resources are occurring. HRS §§174C-44(7), -45(3). The plain meaning of “serious disputes” includes the historical and ongoing struggles between Kānaka Maoli communities and developers across Lahaina.

One reason that “serious disputes” over water is a criterion for designation is that these necessitate intervention and determinations by the Commission in order to protect public trust uses and to ensure non-protected uses are reasonable and beneficial. The Commission’s process for initiating designation takes months to years to occur. Serious disputes arise on the much truncated timeline of diverter violations or land use permit proposals. Thus, the Commission should also consider serious disputes that have previously arisen or have a high potential to occur due to ongoing conditions.

Kauaula and Launiupoko

In the late 1800s, Pioneer Mill owner C.F. Horner and Kauaula Valley taro farmers disputed use of Kauaula stream water, resulting in the Hawai’i Supreme Court decision, *Horner v. Kumumili*, 10 Haw. 174 (1895). Kauaula valley, extending through Ku’ia, held numerous lo’i kalo - though less than in traditional times - governed by a traditional system of rotating waters. *Horner* upheld this “ingenious ‘eleven day’ system . . . elaborated from long experience by men whose aim was to secure equal rights to all and to avoid quarrels[.]” Pioneer Mill, however, began tapping high level water in the mountains through tunnels, digging wells, and monopolizing streams despite the *Kummuliili* holding. The plantation and the county collaborated in these systems.

By the late 20th century, many kuleana tenant families had been driven away by the lack of water and many could not return for lack of water. Those that stayed, and some that returned, petitioned the state Land Use Commission to address violation of their rights, including their water rights in 2002. They settled some of the water rights issues with Makila Land Co., Kauaula Land Co., and Launiupoko Associates under an agreement. However, today, disputes with Launiupoko Irrigation Company’s (LIC) use of surface *and ground water* continue today in proceedings before the Public Utilities Commission (PUC).

LIC proposes to pump near sea-level wells to their high-altitude agricultural subdivisions. Kānaka maoli organizations and kuleana tenants dispute this proposal for reasons including that it will entail high levels of greenhouse gas emissions and their consequent adverse impacts.

LIC has determined *not to comply* with this Commission’s amended instream flow standards (IIFs), which were set in March 2018. LIC has stated its position that it will not comply with this Commission’s IIFs to the Commission and the PUC. This is a serious dispute.

Honokōhau

Over 4,000 loʻi once covered approximately 56 acres of the floodplain of Honokōhau stream. Increasingly larger diversion structures installed by Maui Land and Pine and its predecessors throttled water flows needed to sustain the community of kalo farmers that thrived in the valley. New generations moved away. Honokōhau communities have been organizing for decades to fight these diversions, which take even more water from the stream than is used and dumped it into fallow fields in Honokōwai. In 2019, Nā Mamo Aloha ʻĀina o Honokōhau members teamed up with water protectors from Kahoma, called Ka Malu o Kahālāwai, to file a water wasting complaint. Today, MLP has yet to complete required diversion modifications to prevent excessive diversion of Honokōhau and therefore serious disputes with MLP are occurring.

Kahoma

In Kahoma, kuleana families celebrated the first planting of kalo with Kahoma stream waters in over 130 years in 2017. However, the continued stream flow is threatened by ongoing land tenancy disputes, potential expansions of Kahoma Ranch activities, and drought, amongst other factors.

Kanahā

Nearby in Kanahā, the Maui Department of Water Supply (DWS) accesses its diversion across Kānaka Maoli kuleana lands. Though this Commission has amended IIFSs for Kanahā stream, Kānaka Maoli kuleana owners understand DWS has not committed to comply with stream restoration requirements. Kānaka maoli traditional and customary practitioners have raised their concerns to the County Council and to Commission staff. *See* 2019 draft Maui WUDP at 919.

Olowalu

Community members have disputed Olowalu Water Co. and Olowalu Elua Associates' water uses including their "after the fact" Stream Diversion Works Permit for reconstruction of a Lower Intake Diversion on Olowalu stream that will divert about 648,000 gallons per day (gpd). *See* Item B-3, CWRM Regular Meeting on March 20, 2018. The Olowalu Companies have a questionable history of water resource stewardship over Olowalu stream. The upper diversion was breached decades ago. They diverted water without permits for about as long as they have existed. Only through many years of consistent advocacy have communities been able to forestall unwise development in Olowalu - including a proposed Olowalu Town (a 1,500 unit project sprawling across 613 acres) and more recently the Lihauʻula subdivision project for part of this region - and the water uses they would entail.

Ukumehame

Descendants of Ukumehame lands continue traditional loʻi kalo cultivation using Ukumehame stream waters. They exercise their rights in view of adjacent landowners - the Beverly Hills-based West Maui Investors, LLC's plans for reservoirs and dams to expand development of the area. Surface water permitting could help secure traditional and customary practices in Ukumehame against encroachment by incompatible water uses.

3. Water management is needed to gird West Maui against impacts of global warming

WMPA is concerned about the harmful impacts of greenhouse gas emissions on the earth's climate, and more specifically, the impacts of climate change on Hawaiʻi and Lahaina. In recent decades, West Maui has struggled against drought, wildfire, sea level rise, coastal erosion, and a host

of other anthropogenic environmental changes. These changes impact our water resources and communities' resiliency against further impacts.

Recharge to the Lahaina aquifer sector has "decreased dramatically in the 21st century especially in the lower elevations." USGS, *Groundwater Availability in the Lahaina District, West Maui, Hawai'i* (2012); Maui draft Water Use Development Plan (WUDP), PDF 905 (Mar. 2019). Estimated recharge declined 43 percent between the periods 1926–79 and 2000–04 due to decreases in irrigation and its return flows and low rainfall. U.S. Geological Services researchers are predicting that climate change impacts will cause dry areas of Maui to become drier, with the greatest effects seen in the West Maui mountains (Mauna Kahālāwai).

Already we have seen in the Commission's interim instream flow standard (IIFS) amendment process that present flows are much reduced as compared with historical ones. Although the Commission set amended IIFSs for Kauaula stream in 2018, the stream has yet to flow from mauka to makai. LIC and West Maui Land representatives, as well as Kānaka maoli families living alongside Kauaula stream attest that flow may be even lower than when the amended IIFSs were adopted due to drought conditions. Designation would assist in requiring water users to disclose the purposes and amounts of their uses, which should then be subject to the Commission's determination as to how to protect public trust uses affected by, for instance, agricultural subdivision diversions.

4. Maui DWS lacks authority to manage Lahaina water resources.

Maui DWS opposes the designation of the entire Lahaina aquifer sector on the basis that its draft water use development plan (WUDP) will forestall the need for management. Item A-2 Submittal, exh. 4. First, the DWS WUDP is a *plan* and not an enforceable permitting program with safeguards for due process protections for rights and interests in water uses. As Maui DWS acknowledges, there are at least four private water systems operating in Lahaina.¹ 2019 draft WUDP at PDF 932. Any of these could systems, and indeed any private landowner, could determine to drill their own wells and the Maui DWS lacks authority to control these determinations. The DWS draft plan does not drill down to the impacts of individual uses, nor could it enforce, for instance, better spatial location of *non-DWS* wells across Launiupoko aquifer system.

Designating only the Honokōwai aquifer as suggested by Maui DWS, is a shortsighted proposal. Meeting Lahaina's reasonable and beneficial water use needs will require a coordinated effort across aquifer system lines. Honokōwai already utilizes Honokōhau surface water. Launiupoko aquifer users may need to obtain water from other areas in Lahaina.

Mahalo for considering our testimony. Please contact us with any questions.

West Maui Preservation Association
Post Office Box 11150, Lahaina, Hawai'i 96761
info@savewestmaui.com

¹ The draft Maui WUDP refers to Launiupoko Irrigation Company's use of 0.24 mgd in an addendum but does not include LIC's updated use of 2.672 mgd. Item A-2 submittal at PDF25.

MJ Palau McDonald

Honolulu, Hawai'i 96817

email:

January 17, 2022

VIA EMAIL TRANSMITTAL

Commission on Water Resource Management
State of Hawai'i Department of Land and Natural Resources
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**Re: Agenda Item #A2, Designation of the Lahaina Aquifer Sector, Maui as a
Surface Water and Ground Water Management Area**

Aloha Chair Case and Members of the Commission on Water Resource Management,

Mahalo nui for the opportunity to testify in strong support of designation of the Lahaina Aquifer as a Surface Water and Ground Water Management Area. My name is MJ Palau McDonald, and I have had the great privilege of working with community members from Lahaina.

Designation is an important first step towards safeguarding our Public Trust resources that are threatened by the global climate crisis, growing communities, and corporate diverters. Designation would help ensure that constitutionally protected traditional and customary Native Hawaiian practices can continue in Lahaina for generations to come. Traditional and customary Native Hawaiian practices are a Public Trust use that is afforded the highest priority under the Water Code. Given the ongoing disputes over water use, however, many families are unable to continue their traditional and customary practices, like lo'i kalo cultivation, and some even struggle to get water for day-to-day domestic uses. Designation would enable the Commission to balance water requests and ensure that Public Trust resources are adequately safeguarded.

Please take this important first step towards protecting our freshwater streams and aquifers and pursue designation now.

Mahalo,

MJ Palau McDonald

From: [Gretchen Losano](#)
To: [DLNR.CW.DLNRCWRM](#)
Subject: [EXTERNAL] In support of agenda item A2
Date: Monday, January 17, 2022 12:44:22 AM

Aloha,

I am writing in support of the designation of the Lahaina Aquifer Sector as a surface water and ground water management area. Water is crucial to our agricultural needs in west Maui and is a highly contentious issue currently. I am hopeful that, moving forward, the designation will prioritize agriculture and permanent residents over hotels, vacation homes, and gentleman's estates.

Mahalo,
Gretchen Losano

Sent from my iPhone

Jade Chihara
[REDACTED]
Lahaina, HI 96761
[REDACTED]

Commission on Water Resource Management
State of Hawai'i Department of Land and Natural Resources
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**RE: Agenda Item #A2, Designation of the Lahaina Aquifer Sector, Maui
as a Surface Water and Ground Water Management Area**

Aloha Chair Case and Members of the Commission on Water Resource Management:

My name is Jade Chihara and I am in support of Agenda Item A2, designating the Lahaina Aquifer Sector as a Surface and Ground Water Management Area. I am testifying as a resident of Lahaina firstly concerned for the rights of kuleana kalo farmers in the valleys of Ukumehame, Olowalu, Launiupoko, Kaua'ula, Kanahā, Kahoma, Honokōwai, Honolua, and Honokohau as well as the work in regenerative agriculture in the ahupua'a of Ku'ia just north of Kaua'ula stream. As a resident and steward in this area I am extremely concerned that the mismanagement of other current offstream users has turned into abuse of privilege and it is urgent to establish an organized system of checks and balances over ground and surface water use in this area. The conflicts and implications at the community level between workers of the companies in charge of managing the plantation water system in Launiupoko and subsistence farmers whose food sources are being affected will continue to intensify and I believe designation is a clear and fair solution that sits in your decision at the state level. I am concerned that private well users are not appropriately reporting usage and not compliant to current standards to monitor their ground water use, again abusing and taking advantage of their privilege to pump groundwater. This is extremely upsetting because current irrigation and water companies could care less about the public trust or why it was established, or about the populations of oopu or supporting kuleana kalo farmers or even their roles in recharge levels to the aquifer, and instead have used water resources with avarice for golf courses and swimming pools and recklessly enforce curtailment policies. Just this past November 2021 the illinformed curtailment policy resulted in premature fruiting in numerous 'ulu trees grown in Ku'ia shown in the photos below.

Please move forward with the designation process for both surface and groundwater designation. It is an urgent and dire decision that needs to be made to prevent further overuse of the Lahaina aquifer. Mahalo for the opportunity to speak and for the time and commitment you make to protect and manage these water resources.

All the best,
Jade Chihara

Jade Chihara

Lahaina, HI 96761

November 08, 2021 Impacts on 'ulu trees in Ku'ia from curtailment policies and mismanagement of former plantation irrigation systems



From: [Sesame Shim](#)
To: [DLNR.CW.DLNRCWRM](#)
Subject: [EXTERNAL] Testimony
Date: Monday, January 17, 2022 8:15:53 AM

Aloha kākou,

I am writing in support of the Designation of the Lahaina Aquifer Sector; Maui as a Surface Water and Ground Water Management Area.

As a teacher in the Lahaina district, I have students who are dependent on the proper management of water. When entities are allowed to over consume water without regulation, our water resource will inevitably be depleted.

With the influx of tourists and their consumption of water, water regulation is absolutely needed. It will and should dictate how our tourist industry functions so that our local community is not impacted as we are and have been.

Mahalo,

Sesame Shim

Sent from my iPhone

From: [Carson](#)
To: [DLNR.CW.DLNR.CWRM](#)
Subject: [EXTERNAL] Agenda item A2
Date: Monday, January 17, 2022 8:41:33 AM

I support the designation because water is a serious dispute in our community.

Carson Chihara

VIA EMAIL TRANSMITTAL

Mich [REDACTED]
Wai‘anae, Ha

Commission on Water Resource Management
State of Hawai‘i Department of Land and Natural Resources
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**RE: Agenda Item #A2, Designation of the Lahaina Aquifer Sector, Maui
as a Surface Water and Ground Water Management Area**

Aloha Chair Case and Members of the Commission on Water Resource Management:

As a third-year law student at the William S. Richardson School of Law at the University of Hawai‘i at Mānoa, mahalo for this opportunity to testify in support of your staff’s recommendation to designate the Lahaina Aquifer Sector as a surface water and ground water management area.

Designating a Water Management Area (“WMA”) is the most equitable and diplomatic means to manage fresh water as a resource and to mitigate overuse, quash water disputes within the community, and provide comprehensive oversight of water distribution. Most importantly, WMA designation is a vital step in ensuring the stability and availability of our fresh water into the future.

I have had the pleasure of working with several Maui residents through my Fall Semester 2021 Law Clinic. The residents taught me how crucial water has always been to their ancestral lands, to perpetuate cultural rights and practices, and enable agricultural and familial sustainability. I was also made aware of the ongoing community disputes regarding past, present, and future water uses. The residents expressed how taxing and harmful it is to these families and communities to not have access to sufficient ground and surface water resources, which was historically enjoyed and managed by their ancestors as both a privilege and a right.

Designation is necessary to provide pono oversight and management. I am concerned that leaving this task to Maui Department of Water Supply will mean that the status quo continues, which has allowed ongoing conflicts over water use in Lahaina to fester. Your Commission is the more appropriate entity to proactively manage the Lahaina Aquifer because you have the experience, means, and a direct charge to be righteous stewards of our water resources under the public trust. I believe that your Commission is equipped and competent, and should not only designate this area as a WMA, but also ensure that this community isn’t left with further disputes as has been experienced in other designated areas.

Hawai‘i’s Water Code mandates designation of WMAs when current resources “may be threatened by existing or proposed withdrawals” of water. HAW. REV. STAT. § 174C-41(a). Given my work with community members in Lahaina, I believe that “regulation is necessary to preserve [their] diminishing ground water supply for future needs[.]” HAW. REV. STAT. § 174C-44(3). Now is the time to seriously focus on Maui’s natural and cultural resources. Delay could result in devastating circumstances for all. This includes the further diminishment of the natural fauna and flora and the cultural practices reliant upon them. In addition, given drought and other climate-induced impacts, it’s imperative that your Commission act now to protect all public trust resources. Most importantly, WMA designation is a vital step towards restorative justice for Indigenous Hawaiians and their descendants (and kuleana users in particular), who had their lands and resources acquired and commodified during the transition from the Sovereign Kingdom of Hawai‘i to the state. Steps must be taken to correct the injustices of the past and perpetuate pono. The restoration and management of fresh water is pivotal for users that have been harmed by the law-making and commercial enterprising of the past, and WMA designation is one helpful step on that journey.

Please designate the Lahaina Aquifer Sector as a Surface and Ground Water Management Area. Mahalo for this opportunity to support your effort to proactively protect our water resources.

Mahalo nui loa,

Shelli McDow, M.Ed.
J.D. Candidate 2024
William S. Richardson School of Law

From: [Kapali Keahi](#)
To: [Hyatt, RaeAnn P](#); [DLNR.CW.DLNR.CWRM](#)
Subject: [EXTERNAL] Groundwater Designation
Date: Monday, January 17, 2022 9:00:27 AM

Welina a ke aloha Commission Members,

My name is Kapali Keahi and I SUPPORT THE GROUND WATER DESIGNATION for the Lahaina or West Maui Aquifer. It is incumbent upon this commission to protect our water resources for future generations. However, the future of our resources are not necessarily on stable grounds.

The extraction of the water resources in all significant hydrologic areas across the island are relatively in full force, leaving much to be desired in terms of the efficacy of the IIFSs already set by the commission. The reduction of rainfall over the years and climate change should signal the appropriate measures to be taken at this time.

We are also up against the very stubborn visitor industrial complex, replete with a developers market. These are only corporate proxy for the plantation system- the continuation. MĀLAMA 'ĀINA and ALOHA 'ĀINA were never the forefront and after thought of this legacy.

But the land deserves MĀLAMA 'ĀINA. DON'T HESITATE- DESIGNATE.

Me ka mahalo,

Kapali Keahi

From: [Michiko Smith](#)
To: [DLNR.CW.DLNR.CWRM](#)
Subject: [EXTERNAL] West Maui aquifers
Date: Monday, January 17, 2022 9:00:27 AM

Aloha I'm Michiko Smith and I'm not in support of current amount of water taken from West Maui aquifers. I've worked in the field where I've seen every valley and ridge so I know what kind of water pipes, walls, and holes are in the mountain. The amount of diversion on West Maui saddens me knowing the water is getting pumped so much that none of it reaches the ocean or a small percentage. I know the need for the urban community to have water but realize that naturally this has disrupted our valleys way to protect our waters. The water flow has changed to be lower and lower and the pumping needs to be reevaluated to make sure a balance between the urban community, the mountains needs, the ocean needs, and the cultural needs. By taking the water you can't just consider one need you must consider all needs to be sustainable. And sustainable is not pumping over 100% out of aquifers.

Mahalo,

Michiko Smith

Troy Ballard

Honolulu, Hawai'i 96822

VIA EMAIL TRANSMITTAL

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RE: Agenda Item #A2 - Designation of the Lahaina Aquifer Sector, Maui as a Surface and Ground Water Management Area

Aloha Chair Case and Members of the Commission on Water Resource Management:

As a graduate of the William S. Richardson School of Law and an individual who has worked extensively with community members within West Maui on issues of water rights and access, I write this letter with my strongest endorsement and support of the recommendation to designate the Lahaina Aquifer Sector as a surface and ground water management area ("W.M.A.").

Designation of the Lahaina Aquifer Sector as a W.M.A. is among the most important steps to ensuring long-term sustainability and viability of freshwater on Maui. Given the limited amount of water found specifically within West Maui, it is critical that the Commission acts to ensure that there are sources of viable freshwater into perpetuity and for future generations. This is especially true given recent decreases in annual rainfall combined with more frequent droughts that have been spurred by climate change and the continued long-term effects of overuse of water by residents and businesses throughout West Maui. It is of the utmost importance that the Commission take affirmative action to begin the W.M.A. designation process, and related permitting requirements, to address long-term water viability in West Maui effectively and with purpose.

Hawai‘i’s water code specifically requires the designation of W.M.A.s when those resources “may be threatened by existing or proposed withdrawals of water.” Haw. Rev. Stat. § 174C-41(a). It cannot be said reasonably that freshwater within West Maui “may be threatened,” but instead it is clear that freshwater in West Maui is instead under an active threat and the suffering of irreparable harm is imminent. This is especially true for those water users who wish to exercise traditional & customary Native Hawaiian rights, who have been amongst the most disenfranchised in terms of water access and equity in West Maui and throughout Hawai‘i. Simply put, we have moved past the period of statutorily defined “threats” to water in the Lahaina Aquifer Sector, and we are entering the realm of irreparable harm and imminent crisis. Designation of this area as a W.M.A. will be the first step to enjoining further damage while ensuring equitable and *pono* water management in West Maui for the immediate and foreseeable future.

I believe that the Commission has an affirmative obligation to designate the Lahaina Aquifer Sector as a W.M.A., and to do otherwise would be an abdication of statutory, moral, and ethical responsibility. Water is among the most precious resources we have in Hawai‘i and is something that should be strongly and deeply protected, something that the Commission has the authority and ability to do. I leave the Commission with one resonate phrase that, I believe, accurately summarizes the importance of designating the Lahaina Aquifer Sector as a W.M.A., *ola i ka wai*, or water is life.

With gratitude,

Troy Wallace Ballard

Troy Wallace Ballard

WAINEE LAND & HOMES LLC

305 E Wakea Ave, Suite 100 Kahului HI 96732
808-877-4202

January 18, 2022

VIA EMAIL

kaleo.l.manuel@hawaii.gov

M. Kaleo Manuel
Deputy Director
Commission on Water Resource Management
1151 Punchbowl Street #227
Honolulu, Hawai'i 96813

Re: Concerns Regarding Designation of Lahaina Aquifer Sector, Maui as a Surface Water and Ground Water Management Area

Dear Deputy Director Manuel,

My name is Peter Martin and I write on behalf of Wainee Land & Homes LLC (“Wainee”). Wainee opposes the designation of the Lahaina Aquifer Sector as a Water Management Area because the proposed designation is not based on “scientifically proven fact” or in compliance with the State Water Code.

With regard to the facts, for example, Table 2 of the Staff Submittal summarizes the Commission’s findings regarding sustainable yield, 12-month average ground water withdrawals in the years 2020 and 2021, development tunnel discharge, entitled/authorized planned use, other permitted well capacity, total existing and authorized planned use and percentage of sustainable yield for each System located within the Lahaina Aquifer Sector:

System	SY (mgd)	2020 12- month averag e (mgd)	2021 12- month averag e (mgd)	develop ment tunnel discharg e (mgd)	entitled/ auth. planned use* (mgd)	other permitted well capacity (mgd)	total existing and auth. planned use (mgd)	% of SY
Ukumehame	2.0	0.042	0.030	0.00	1.080	0.000	1.11	56%
Olowalu	2.0	0.082	0.064	0.10	0.003	0.000	0.167	8%
Launiupoko	7.0	1.637	1.305	3.91	1.036	1.777	8.028	115%
Honokōwai	6.0	3.480	3.998	2.50	2.533	1.150	10.181	170%
Honolua	8.0	2.131	2.554	0.00	1.969	1.150	5.673	71%
Honokōhau	9.0	0.000	0.000	3.75	0.001	0.000	3.751	42%

*based on email and excel table from County of Maui DWS September 3, 2020

However, the data points and assumptions that the Commission used to arrive at these findings are not identified. For example, it is unclear how sustainable yield was determined, including whether a rate of recharge was included in the calculation and the basis for the rate of recharge. As another example, it is unclear whether all tunnels in Olowalu, Launiupoko, Honokowai and Honokohau are “developed sources of ground water,” Staff Report at 18, and thus should be

counted against sustainable yield. Other factors that may have or should influence the Commission's findings include assumptions regarding interim instream flow standards, water duty for agricultural irrigation needs, expansion of recycled water availability, conservation measures implemented by private water purveyors and implementation of the Maui Island Water Use and Development Plan ("WUDP"). Lacking the data points and assumptions used to calculate Table 2's critical figures, the figures are not based on scientifically proven fact, which is required by law to support designation. *In re Water Use Permit Applications*, 94 Hawai'i 97, 155, 9 P.3d 409, 467 (2000) ("[T]he Code contemplates the designation of the standards based . . . on scientifically proven facts[.]").

With regard to the law, the proposed designation is not supported by statute. The State Water Code sets forth specific criteria that must be met before an area is designated as a surface water or ground water management area. *See* HRS § 174C-44 (criteria for ground water designation); HRS § 174C-45 (criteria for surface water designation). The Commission's conclusory allegation that "[t]here are various criteria that are met for designation of both surface and groundwater aquifers" is belied by its own (unsupported) findings.

For example, the Commission's finding that "there has been an increase in water use or authorized planned use which has caused the maximum rate of withdrawal from the ground water to reach ninety percent of the sustainable yield in the **Honokowai Aquifer System**," Staff Report at 17, fails to support the designation of the **entire** Lahaina Aquifer Sector (Ukumehame, Olowalu, Launiupoko, Honolu and Honokohau Systems) as a water management area. Indeed, the designation of the entire Sector based on this finding is contrary to the State Water Code, which plainly identifies as a criterion: "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 proposed ground water management area**," or as applied here, the entire Lahaina Aquifer Sector. HRS § 174C-44(1) (emphasis added). As the County of Maui Department of Water Supply's ("MDWS") testified,

We find that current groundwater use and [Authorized Planned Use] **does not reach 90% of sustainable yield for any other aquifer system than Honokowai**. Tentatively, DWS supports investigations to consider designation of **Honokowai Aquifer System only**.

1/13/22 Testimony of MDWS at 2 (emphasis added).

The Commission's reliance on "the uncertainty of rainfall discharge due to the climate crisis," Staff Report at 18, is also not a criterion for designation of the entire Lahaina Aquifer Sector. *See* HRS § 174C-45 ("Whether regulation is necessary to preserve the diminishing surface water supply for future needs, as evidenced by excessively declining surface water levels, **not related to rainfall variations** . . ."); HRS § 174C-44 (uncertainty of rainfall discharge due to climate crisis not identified as a criterion for ground water designation). Nor does the Commission's reliance on a purported "climate crisis" and the "Precautionary Principle" overcome its duty to designate an area based "on scientifically proven facts." *In re Water Use Permit Applications*, 94 Hawai'i at 155, 9 P.3d at 467 (2000) ("[T]he Code contemplates the designation of the standards based . . . on scientifically proven facts[.]").

The designation of an area as a Water Management Area hands administrative control over all water use within the Area to the State and requires, among other things, that **each** water user within the Area (including public utilities that service hundreds or thousands of families who use water for domestic or household purposes) apply for and obtain a water use permit from the Commission. The consequences, as experienced by users located in presently designated Areas, mean years of waiting for the approval of a permit that may never be approved, lost opportunities to address the housing crisis that undisputedly exists now for Maui Island families and the infringement on constitutionally protected rights in property.

The Commission is bound by county plans. Lacking any statutory authority to wrest control from the County of Maui, the County of Maui is the proper regulating authority for waters located within the Lahaina Aquifer Sector.

For all the above reasons, we agree with the MDWS that the designation is premature and should not be considered until, at minimum, the WUDP is implemented, interim instream flow standards are adopted for priority streams and subsequently enforced by the Commission and scientific investigation completed to evaluate the changed circumstances. Until that time, regulating powers should remain with the County of Maui.

Wainee appreciates the opportunity to provide testimony.

Respectfully,

A handwritten signature in black ink, appearing to read 'Peter Martin', with a long horizontal flourish extending to the right.

Peter Martin
Wainee Land & Homes LLC