Ha'iku Community Association

Committee on Community Water Planning

February 25, 2021

Executive Summary

We are informed that water planning is taking place that is using out-of-date data and/or data without sufficient factual basis to warrant its inclusion in the final Maui County WUDP without cautionary notes or a disclaimer. We believe reliance on such data is contrary to public trust management responsibilities and contrary to the law. This report urges suggested amendments to the Draft WUDP dated March 2019 with its included Addendum dated July 24, 2020.We recommend specific research efforts that we believe need to occur in order to allay our community concerns.

We focus on three topical areas: Legal Responsibility to Assess Ko'olau Water Data Quality, Upcountry Water Meters, and Management of East-Maui water. All referenced page numbers are the PDF page.

Note: We recommend that the Addendum of July 24, 2020 be merged into the body of the WUDP in order to address contradictions.

Legal Responsibility to Assess Ko'olau Water Data Quality

Water in Hawai'i is a *Public Trust* resource. Those who have the authority to manage and plan for it are its Trustees. Trustees have a fiduciary duty, that is the highest duty, to exercise the greatest care for the resource entrusted to them.

[T]he public trust creates an "affirmative duty" of the State and its political subdivisions "to take the public trust into account in the planning and allocation of water resources, and to

protect public trust uses whenever feasible."*Kauai Springs, Inc. v. Planning Comm'n of Cty. of Kauai*, 133 Haw. 141, 172, 324 P.3d 951, 982 (2014)

A Trustee cannot allocate the distribution of trust resources or assets without a comprehensive inventory of the assets. This is the law of Hawai'i and obedience to it is not an option.

In the context of water management and planning this means that a trustee has a legal duty to have significant, substantial, professionally accepted, and reliable data to support decisions.

The Hawai'i Supreme Court has squarely placed the burden of providing sufficient reliable data on those seeking exportation or diversion of water. In this case, the County DWS is responsible for providing that data, yet the Draft WDUP does not acknowledge that the Ha'iku aquifer has no stream flow monitoring gauges; no rainfall measurement stations; one monitor well that is not consistently tracked; no current data on groundwater discharge or coastal fisheries and no firm data on aquifer capacity and safe yield. It instead assumes in all its major projections that 8 MGD of groundwater will be transported from Ha'iku aquifer and some future 'studies" will be done. Since any entity seeking to use public trust resources is "obligated to demonstrate affirmatively that the proposed [use] [will] not affect [a protected use]," the WUDP needs to be amended to reflect the uncertainty of the data available and not conclude that the Ha'iku aquifer will be the future water source for Central and South Maui.

Upcountry Water Meter Priority List

The WUDP has vague, outdated (2014) information on the actual numbers of meter reservations still outstanding and the number of meter requests that are fulfilled and being served by the present system. It also is not clear about the breakdown in service areas (Ha'iku, Makawao, Kula) and types of service needed (new single family, new subdivision or second dwelling on existing lot.) All of this specific information is needed to have a clear policy to solve the shortage of water meters in Ha'iku and other upcountry areas. The county has records of how many new meters have been issued since 2014. WUDP tables and text need to be amended with the updated information and a new table added to reflect the breakdown of the future demand.

Management of East-Maui Water

For the last 50 years the county of Maui has contracted with a private company, A&B/EMI, to "deliver" water from public lands to the upcountry system. A number of long-term Maui DWS goals depend upon future water delivery agreements with A&B, but over a 20-year horizon, the WUDP should discuss a more self-sufficient approach to management of publicly owned East Maui surface waters. A Temporary Investigative Group ("TIG") was set up by Maui Board of Water Supply in 2019 to review options and a TIG report was released in October 2019. A table should be created and amended to the WUDP, to offer analyses of county's options based upon the TIG report.

Ha'iku Community Association Comments on the Draft Maui WUDP

Obligation to Gather Reliable Water Data of Ko'olau Aquifer Sector

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Courts have gone to unusual pains to emphasize the abstract and hypothetical character of the reasonable and prudent person. He is not to be identified with any ordinary individual who might occasionally do unreasonable things; he is a prudent and careful person who is always up to standard. Nor is it proper to identify him with any member of the very jury which is to apply the standard; he is rather a personification of a community ideal of reasonable behavior, determined by the jury's social judgment.
Knodle v. Waikiki Gateway Hotel, Inc., 69 Haw. 376, 742 P.2d 377 (1987)

In the context of water management and planning this means that a trustee has a legal duty to have significant, substantial, professionally accepted, and reliable data to support decisions.

Apparently, the Hawai'i Supreme Court has squarely placed the burden of providing sufficient reliable data on those seeking exportation or diversion of water.

Under the foregoing principles and purposes of the public trust, it is manifest that a government body is precluded from allowing an applicant's proposed use to impact the public trust in the absence of an affirmative showing that the use does not conflict with those principles and purposes. Therefore, the applicant is "obligated to demonstrate affirmatively that the proposed

[use] [will] not affect [a protected use],” *Wai‘ola O Moloka‘i,* 103 Hawai‘i at 442, 83 P.3d at 705 (emphases omitted). In other words, “the absence of evidence that the proposed use would affect [a protected use] [is] insufficient[.]” *Id.* (emphasis added). Kauai Springs has asserted “the public trust doctrine imposes a duty to assess, but does not empower an agency to deny an application simply because it claims it lacks information within its power to obtain, thus shifting the burden to the applicant.” However, contrary to Kauai Springs′ assertion, a lack of information from the applicant is exactly the reason an agency is empowered to deny a proposed use of a public trust resource.
Kauai Springs, Inc. v. Planning Comm'n of Cty. of Kauai, 133 Haw. 141, 174, 324 P.3d 951, 984 (2014)

This Hawai’i Supreme Court decision squarely places the burden on the applicant to supply sufficient reliable information to each Public Trust resource trustee to enable the trustee to exercise the fiduciary duty to protect the resource.

The Ha’iku community does not believe sufficient up-to-date and reliable data has been developed to assure its residents that the pumping of ground water in Ha’iku will not negatively impact local domestic and farm use of springs, streams, and wells. The community respectfully submits that while the WUDP promises to‘‘ do studies on Haiku aquifer sometime in the future, it is also proposing that water from Haiku be available to the central Maui water system by 2030. There is no clear description of what range of information these future studies will cover. There is no alternative source of water proposed in the WUDP to supply the projected future need. The proposed timing of the Haiku water being available in the WUDP suggests that up-to-date, reliable, quality information on the Haiku aquifer had already been being gathered to create a full picture of the aquifer characteristics over a period of time. Haiku residents remind that each aquifer area is unique and long term data gathering is the only reliable means to acquire the aquifer information that must be developed and incorporated to assure responsible water resource planning.

SPECIFIC WUDP DRAFT SECTIONS TO AMEND

WUDP Section	Suggested changes
Section ES 5.3 Ko'olau Aquifer Sector Summary (page 8)	This section refers to the Ha'iku Aquifer sustainable yield of 24 MGD. This is a greater potential yield than the 'Iao aquifer, yet the geological conditions of the Iao aquifer are far more favorable to effective storage and retention of groundwater, than those in the Ha'iku aquifer. These factors include: • 'Iao aquifer has a limestone capstone layer near the coast that helps create robust water levels. • Ha'iku has no such formation and the Ha'iku aquifer waters flow freely to the sea nourishing rich fisheries. • 'Iao Aquifer is richly forested above the well fields, with little or no developed lands, contributing to effective capture of rain and aquifer recharge. • The mid-range of Ha'iku aquifer above the proposed well field is more open pasture and rural neighborhoods, limiting the effectiveness of rainfall recharge. • ' Iao aquifer is directly downslope of a high rainfall area (Max 300 in to min 55 in year) . Ha'iku aquifer area is down slope of a moderate rainfall area (max 115 in- min 30 in year) • 'Iao aquifer wells have no farming or residential development upslope. The water produced has now chemical contamination. The proposed Ha'iku wellfield would be downslope of past and present agricultural and grazing fields, as well as residential developments using individual wastewater

WUDP Section	Suggested changes
	systems. Many Ha'iku domestic wells have been found to have high levels of toxic chemicals. Future County wells in Ha'iku aquifer will face a similar risk of possible contamination. • The text should be amended to reflect that it is currently unknown whether the Ha'iku aquifer can deliver that SY. See Section 16 for further comments on this.
Section 5.3 Water Resources (page 151)	This section refers to a USGS report: Spatially Distributed Groundwater Recharge Estimated Using a Water Budget Model for The Island of Maui, Hawai`i, 1978–2007. The report identifies ground-surface water interactions as a factor in sustainable yield calculation, but this is not discussed in the WUDP. The WUDP should be amended to explicitly state that ground-surface water interactions, including the effect of restoration of Ha'iku aquifer stream flows, need to be examined for Ko'olau aquifer sector.
Section 5.4 Groundwater Availability (pages 166-7)	The section discusses Developable Yield (DY) but it does not provide hard numbers. We strongly believe that two things need to be added to this section: (1) An upper limit on DY relative to the aquifer's SY, expressed as a percentage of SY. The WUDP only says "we set the extraction at less than 100% of established SY" but this is too vague and does not reflect the uncertainties. A low percentage of conversion of SY to DY reflects low confidence in the SY and thus allows for errors or changes due to climate change. (2) The WUDP bases its climate

WUDP Section	Suggested changes
	change water availability data on the 2008 sustainable yield for all the Ko'olau sector aquifers. WUDP should use the 2019 WRPP SY figures for Ko'olau aquifers. Then, the WUDP should also clearly explain that firm data is not currently available to support a reliable SY that accounts for recharge rate, uncertainty in rainfall, and impact of ground water extraction on streams, existing wells and springs, traditional and cultural uses and maintenance of healthy coastal freshwater discharges.
Section 11.1 Conventional Water Source Availability and Uncertainties (page 271,2)	The Ko'olau aquifer sector is listed as having a SY of 175 MGD in tables 11.1 and 11.2. This number is not consistent with the most recent (2019) WRPP, which is 152 MGD. We suggest that this number be qualified with a footnote stating that the number is likely inaccurate and requires further research to accurately state. Our comments for section 16 provide details on the research required.
Section 12 Strategies (page 285)	A very important point is made here: "Maui will have an environmentally sustainable…. water system." The WUDP does not state how environmental protections will be determined. We suggest amending this section to state that any EA or EIS issued for surface or groundwater extraction needs to be based on reliable long-term data.

WUDP Section	Suggested changes
Section 14.8.3 Conventional Water Source Strategies (Wailuku) (page 469,70) Section 15.8.3 Conventional Water Source Strategies (Central Aquifer) (page 469,70)	Both of these sections propose the Ha'iku aquifer as a potential alternative source and acknowledges that it requires further study. We suggest linking this to the recommendations for further study made in Section 16.2.2 about the Ko'olau sector. It is important that the WUDP "qualify" any proposed dependence on Ha'iku aquifer waters with a realistic statement of the long-term studies and monitoring that need to be done to determine its safe capacity and ensure that the needs of local residents are met before water is transferred to other sectors, as The Ha'iku-Pa'ia Community Plan specifies.
Section 16.2.2 Water Resources (Ko'olau Aquifer Sector Area) (page 645-7)	The CWRM has decreased its estimate of the Ko'olau sector by 25% since 2003, but it appears that old numbers are still being used for Ha'iku and other aquifers within the Ko'olau sector. This section should substitute the 2019 SY values for the Ko'olau sector aquifers in all charts and tables. This section should include the same discussion of Developable Yield that is in Section 5.4 of the WUDP, and include our recommendations for amendments to section 5.4 (see the above comments). The discussion of the Ha'iku and other affected aquifers within the Ko'olau sector should explicitly call out the need for: • geology and geohydrology analysis, • recharge model specific to the conditions of the aquifer (not a RAM model), • ground-surface water interactions, • ground water quality analyses & mapping, • water needs of local residents based upon the most current data,

WUDP Section	Suggested changes
	• water needs to satisfy native Hawai'ian traditional and customary use, • requirements of the Ha'iku-Pa'ia Community Plan, • requirements of the East Maui Consent decree, • error/uncertainty analysis that accounts for climate change, • accounting for water needs by the ecosystem including outflow to the ocean.
Section 15.9	The WUDP needs more specific information and specific solutions for upcountry water priority list. The WUDP's Upcountry meter priority list discussion is based upon data from June 2014. The WUDP appears to assume that the number of meters requested, and the water demand they create, is unchanged after 6 years of giving out meters. Publicly available information seems to show that between 120 and over 200 applicants have received meters, found other water sources, or turned down meters since 2014. In other words, the meter list is no longer 1,822 as it was in 2014, but has gotten shorter, and the amount of water needed to meet it has also decreased by .5 MGD or more. The WUDP should be amended to include this information. It should also have a simple chart that breaks down how many meter requests remain in each community: Ha'iku, Makawao; Pukalani; Kula.

WUDP Section	Suggested changes
Section 15.7.2 "Planned Growth Areas Upcountry" (Page 540)	The WUDP should include the latest available data on how many Upcountry meter requests are for single residence projects and their water demand, how many for small family subdivisions and how many requests fall in the category where "private source development will likely be required for some of the large projects, such as Hali`imaile, Pukalani Expansion and Pukalani Makai," The Draft WUDP mentions that "private source development will likely be required for some of the large projects, such as Hali`imaile, Pukalani Expansion and Pukalani Makai.." but then declares that it does not analyze individual project status on the meter list, but gives no reason that this would not make sense to do. Not doing so inflates demands on the public water system (with no clear source being given) and decreases projections of water demands from additional wells being drilled by private entities. The private source development will need to be factored into non-MDWS water system data, and the projects mentioned are being included in MIP population forecasts that were used for the WUDP.
Table ES-5 "Selected Scenario Projected Water Demand and Supply Options Central ASEA and MDWS Upcountry System"	Table ES-5 lists a constant figure of 7.3 MGD for the Upcountry list from 2014- to 2035. If a portion of the demand is very likely to be met by private wells, that should be accounted for under the "private potable" category. The WUDP should have the most accurate information possible so the actual expected demands on aquifers and streams is included.

WUDP Section	Suggested changes
(Page 58)	
Table ES-6 "Ko'olau Aquifer Sector" (Page 61)	This table excludes the upcountry system. But the Ha'iku area is both on the Upcountry Meter list (over 400 applicants) and covered in the Ko'olau aquifer sector- the Ha'iku water demand appears to be not clearly defined in the WUDP. This data should be included in Table ES-6. Fig. 15-34, (p.525 of pdf) showing Upcountry meter applications could include a numbers breakdown by Town. Table 15-34 (p.555 pdf) "Groundwater Source Development to Meet Population-Growth Based Municipal Demand - Central ASEA and the MDWS Upcountry System 2035 (MGD)" This table lists 7.3 MGD as the 2035 "demand" for upcountry system, but if the number of meters on the list is reduced and some meter requests are too large to be met by the MDWS system, that number should be adjusted. DWS knows how many meters it has already issued. That water amount is accounted for in current system use data and shouldn't be part of future demand.
Table 15-38 "Selected Scenario Projected Water Demand and Supply Options Central	This table shows the same 7.3 MGD demand for the Upcountry meter List from 2014-to 2035. The same table shows an increase of 100,000 gpd of private potable use in that same period. Upcountry water demand is projected to increase by 920,000 gpd by 2035. It

WUDP Section	Suggested changes
ASEA and MDWS Upcountry System" (Page 580)	is not clear if this is "on top" of the demands of the Upcountry meter list, or if the meters awarded each year are then included in the general MDWS system figures, and possibly "counted" a second time in this chart. Same recommended changes as for Table 15-34.
12.3 .c. "Develop groundwater to maximize reliability of potable supply and as contingency in areas currently dependent on surface water." (Page 287)	This section of the WUDP does not acknowledge where the "Upcountry Meter list" fits into planned growth, even though It is the major "future demand" factor shown for the upcountry system. Section 12.3.c. discusses the reliance on surface water and the need to provide more ground water, without identifying the Upcountry system and offering a useful analyses of what the actual demands and solutions would be. WUDP needs to include a breakdown of type of meters requested: SF/ small subdivisions/ larger subdivisions as well as a breakdown of numbers of meters from the Upcountry Priority List have been given out since 2014, by year and by Upcountry region.
Section 15.6.7 "Population growth-based sub-scenarios" (Page 532)	This section, under item 6. states: "The List does not represent population growth but considered committed water over the planning period. Historically about 50 percent of applications on the List have resulted in new water meter services. " It should have language added that some on the meter list are likely to turn to private wells and water systems if their projects are large enough to bear the cost and estimate the percentage of the list that will

WUDP Section	Suggested changes
	affect and the potential reduction in demands on the public system. This is mentioned on p. 521 of the pdf.
Table 15-28 "Comparison of Upcountry District with and Without Meter List"	This table projects that between 2014 and 2035 the increase in water demand in the upcountry area outside of those signed up on the Upcountry water meter list would be a total increased usage of 700,000. This would represent about 1,750 new meters (if one assumed average use of 400 gpd per household) over a 21 year period or about 88 meters a year. Does this take into account agricultural use of water by individual small farms? Does it account for demand by those who want meters, but were not able to get on the Meter list before it was closed? This Table should explain how much up the Upcountry system demand is from Ha'iku (Ko'olau sector) and how much from Central Sector (Makawao, Pukalani and Kula.)
Section 15.8.2 "Upcountry Priority List" (Page 554)	This section repeats the vague discussion points of other section and concludes: Strategy #2: "Assess alternative options to restructure and process the existing Upcountry Meter Priority List to improve processing rate and adequate source development. Lead agency is MDWS." This means that the only plan the Water Use plan offers for resolving source issues for the Upcountry Meter list is to work on a plan at some later date. It has been seven years since the list was closed. What is the current status? The WUDP needs to give more specific data, as mentioned above.

WUDP Section	Suggested changes
Section 6.2 "Agricultural Challenges" (Pages.137-139)	These sections describe the East Maui water system among various challenges faced by agricultural producers. The section notes that "These [ditch] systems will require strategic reinvestment, subsidies, and incentives in order to support existing and new farm growth." This sections should be updated to acknowledge the BWS TIG report about possible scenarios for public/private support and control of the system.
Section 15.1.1 "Central Maui Aquifer Sector" (Page 453)	The WUDP already includes many references to the importance of the EMI system and possible public role in management: "The cost of managing the East Maui Irrigation System is necessary information to evaluate future management responsibilities."
Section 15.1 "Impact of HC&S transition" (Page.453)	This section states "Long term plans to manage the EMI system, including use and maintenance of reservoirs are a concern, as is EMI system efficiency." A bullet point reference to the BWS TIG report could be added to this section.
Section 15.5.1 "Water Use by Type" (Page 492)	This section describes the Upcountry water system. This section should also include a mention studying a transition to alternative management of the East Maui ditch system.
Section 5.5.2 "Water Use by Resource" (Page 498)	This section notes that "MDWS purchases water from the Wailoa Ditch for municipal use Upcountry and non-potable water from Wailoa Ditch services the Kula Agricultural Park. The MDWS diverts surface water from Ko`olau ASEA at intakes above the EMI system for the Lower Kula and the Upper Kula systems." It should also include a phrase noting that alternative management of the EMI system is under discussion in the Maui County Council.

WUDP Section	Suggested changes
Section 15.8.2 Strategy #1 (Page 551)	This strategy states: "Explore funding and conduct a cost benefit analysis of improvements to the EMI non-potable conveyance system to mitigate losses and preserve existing reservoirs at risk of decommissioning. County of Maui and A&B Properties/EMI Company in partnership would lead initiatives. Priority components and associated costs TBD." It should be updated to also refer to the BWS TIG report.
Section 15.8.2 Strategy #7 (Pages 566-67)	This WUDP section refers to the need for MDWS **to** execute a "long term source agreement for use and maintenance of the Wailoa Ditch that ensures adequate non-potable supply for the Kula Agricultural Park expansion and potable supply for projected MDWS Upcountry System needs over the planning period." It could also mention the possibility of transition to a more community based system building on the mention under Strategy #1. A number of other long-term DWS goals depend upon A&B, but over a 20 year horizon, the WUDP should discuss a more self sufficient approach to management of publicly owned East Maui surface waters.
Section 15.9 Table 15-39 "Summary of Recommended Strategies Central ASEA" (Page 582)	The Table repeats the language from section 15.8.2 Strategy #1 and it should be updated to acknowledge the BWS TIG report and its recommendations of possible scenarios for public management of EMI system along with public investment in repairs.

WUDP Section	Suggested changes
Appendix. 10 "Generalized Assessment of Impacts of Preliminary Measures and Strategies on Traditional and Customary Practices of Native Hawai'ians" (Pages 1011 to 1032)	Strategy 47 which states: "Maintain/manage plantation ditch systems for continued potable and non-potable water conveyance (Invest in existing systems, resolve ownership, management issues)" should be updated to refer to the TIG report, and its recommendations and how public management of the system could include an authentic voice for native Hawai'ian communities and protections for traditional native Hawai'ian rights.