



Kaua'i Water Use and Development Plan Update

CWRM Briefing

September 17, 2024

County of Kaua'i, Department of Water
and

Fukunaga & Associates, Inc.

Agenda

- Overview of the Kauaʻi Water Use and Development Plan Update (KWUDP)
- Outreach and public meetings
- Common comments received
- Next steps



Links

- Hawai'i Water Plan

<https://dlnr.hawaii.gov/cwrm/planning/hiwaterplan/>

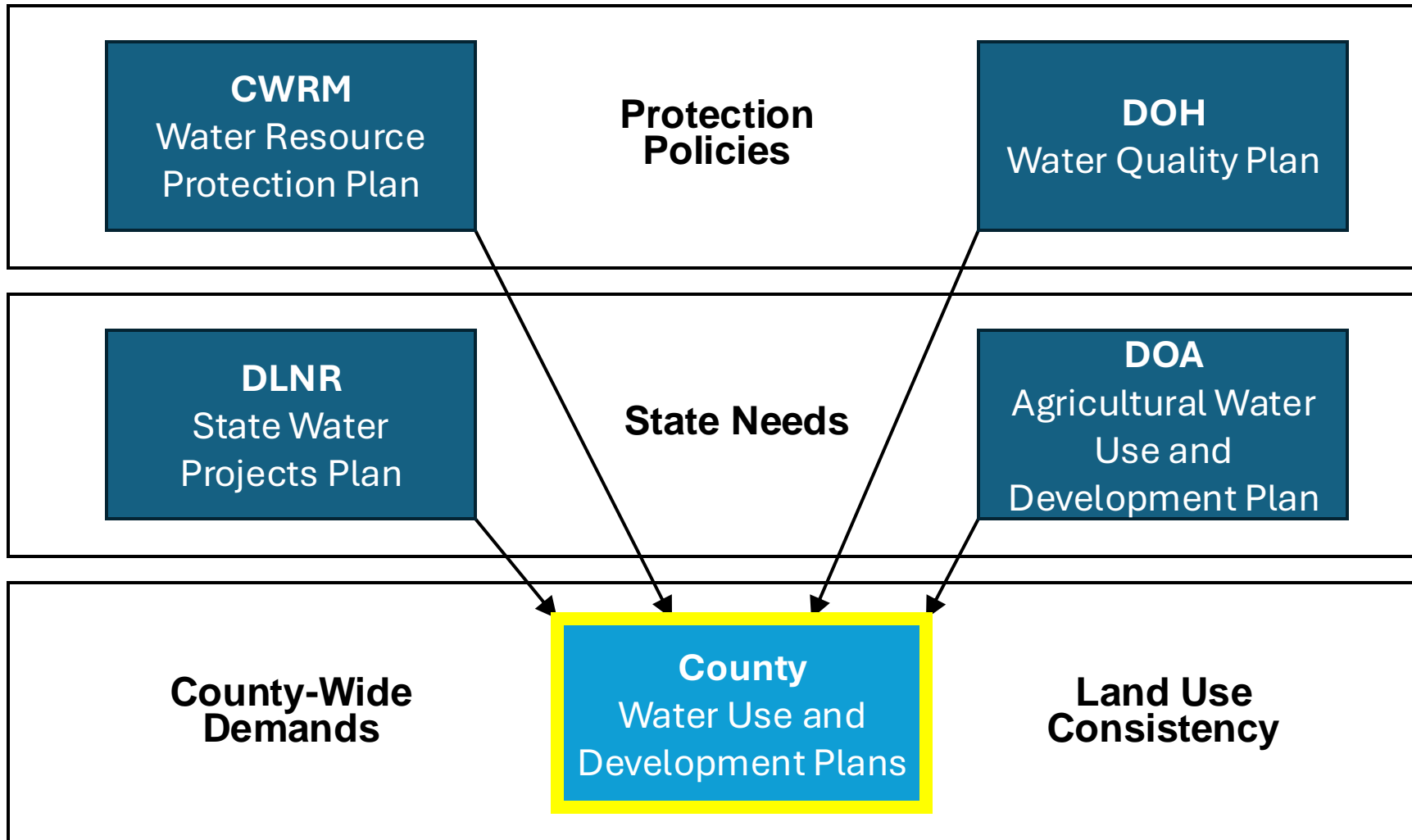
- Hawai'i Water Plan Framework

<https://dlnr.hawaii.gov/cwrm/planning/hiwaterplan/framework/>

- 2024 Kaua'i Water Use and Development Plan Update (KWUDP)

[http://www.kauaiwater.org/Final%20KWUDP%20\(June%202024\).pdf](http://www.kauaiwater.org/Final%20KWUDP%20(June%202024).pdf)

Hawai'i Water Plan

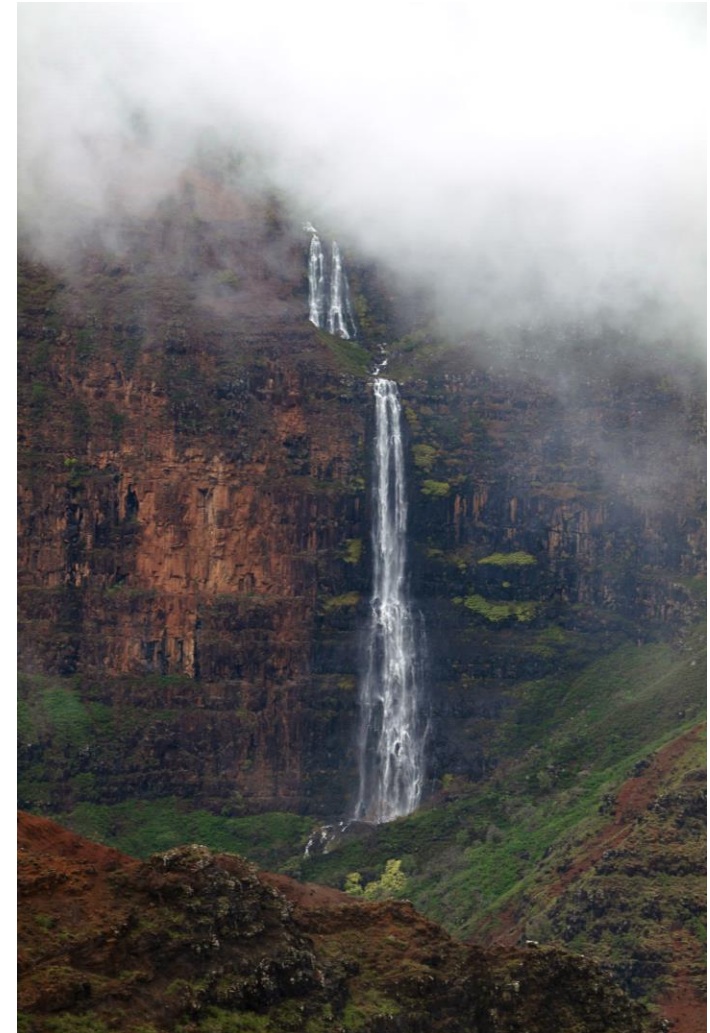


County WUDP Objective and Key Goals

- Primary objective
 - Determine current and future water needs of the county based on land use plans and policies and compare with water resource availability (i.e. sustainable yield) to determine if land use policies are sustainable.
- Key goals
 - Provide guidance for meeting future water needs of the island while preserving the integrity of our water resources
 - Integrate sustainable water resources into the formulation and development of land use policies by the county
- Coordination with other KDOW plans
 - WUDP does not evaluate infrastructure to support planned projects. This is being done in the Water Systems Investment Plan (WSIP). The WSIP evaluates infrastructure upgrades needed to meet current standards and support planned development. WSIP will produce a capital improvement program (CIP) projects list.

History of the KWUDP

- 1990 – Original KWUDP adopted by Kaua‘i County ordinance
- 2015 – June: CWRM approved Scope of Work
 - Oct/Nov: First round of public meetings and first stakeholder advisory group meeting to present scope of work and preliminary findings
- 2016 – Additional analysis, coordinated with Planning Department and CWRM, and prepared prototype chapter
- 2018 – Second stakeholder advisory group meeting to discuss prototype chapter
 - County of Kaua‘i, Planning Department updated General Plan
- 2019 – July: CWRM adopted WRPP, which updated SYs
 - Preparation of first draft of KWUDP Update began



History of the KWUDP (Continued)

- 2020 – First draft completed
 - Due to Covid-19, KDOW postponed holding public meetings
 - Nov: Comments received from CWRM staff
- 2021 – Coordinated with CWRM staff and revised KWUDP Update
- 2022 – Additional revisions and reviews of KWUDP Update
- 2023 – May: Third stakeholder advisory group meeting
 - Aug: Second round of public meetings
 - Dec: CWRM briefing
- 2024 – Mar: Additional outreach to DHHL
 - May: CWRM held public hearing on draft KWUDP Update
 - July: Kaua‘i Board of Water Supply approved KWUDP Update
 - Oct: KWUDP Update to be submitted to CWRM for adoption

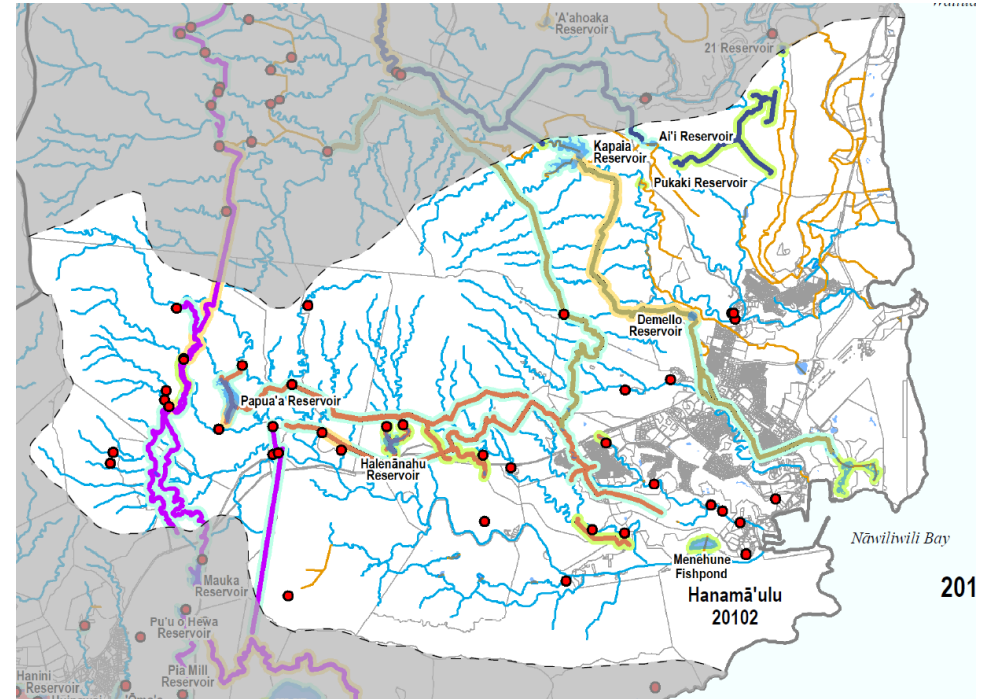
KWUDP Key Tasks

- Inventory Existing Water Resources
- Inventory Existing Water Uses
- Assess Land Use Plans and Policies; Project Future Water Use
- Public Participation
- Recommendations



Existing Water Resources

- Types of water resources:
 - Ground Water
 - Sustainable Yield, Production Wells
 - Surface Water
 - Streams, Irrigation Systems, Diversions, Interim Instream Flow Standards
 - Rainwater Catchment
 - Recycled Water



Existing Water Uses

- Each ASYA has a table and figure similar to these:

Table 20102-6: Existing Water Use by Category - Hanamā'ulu ASYA

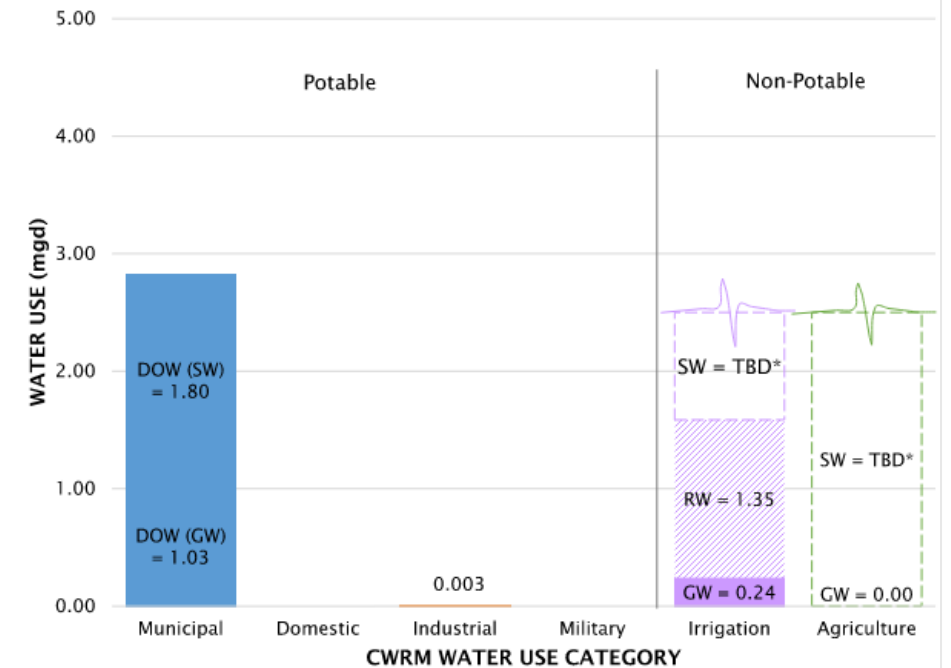
CWRM Category	Groundwater (mgd)	Other Sources (mgd)	Total (mgd)
Domestic	0.00		0.00
Industrial	0.003		0.00
Irrigation	0.24	1.35 ¹	1.59
Agriculture	0.00	TBD ²	0.00
Military			0.00
Municipal			
DOW System	1.03	1.80 ³	2.83
Private Public WS	0.00		0.00
TOTAL	1.27	2.18	4.42

¹ Recycled Water

² Surface Water - TBD from AWUDP

³ Surface Water - Estimated

Figure 20102-7: Existing Water Use by Category - Hanamā'ulu ASYA

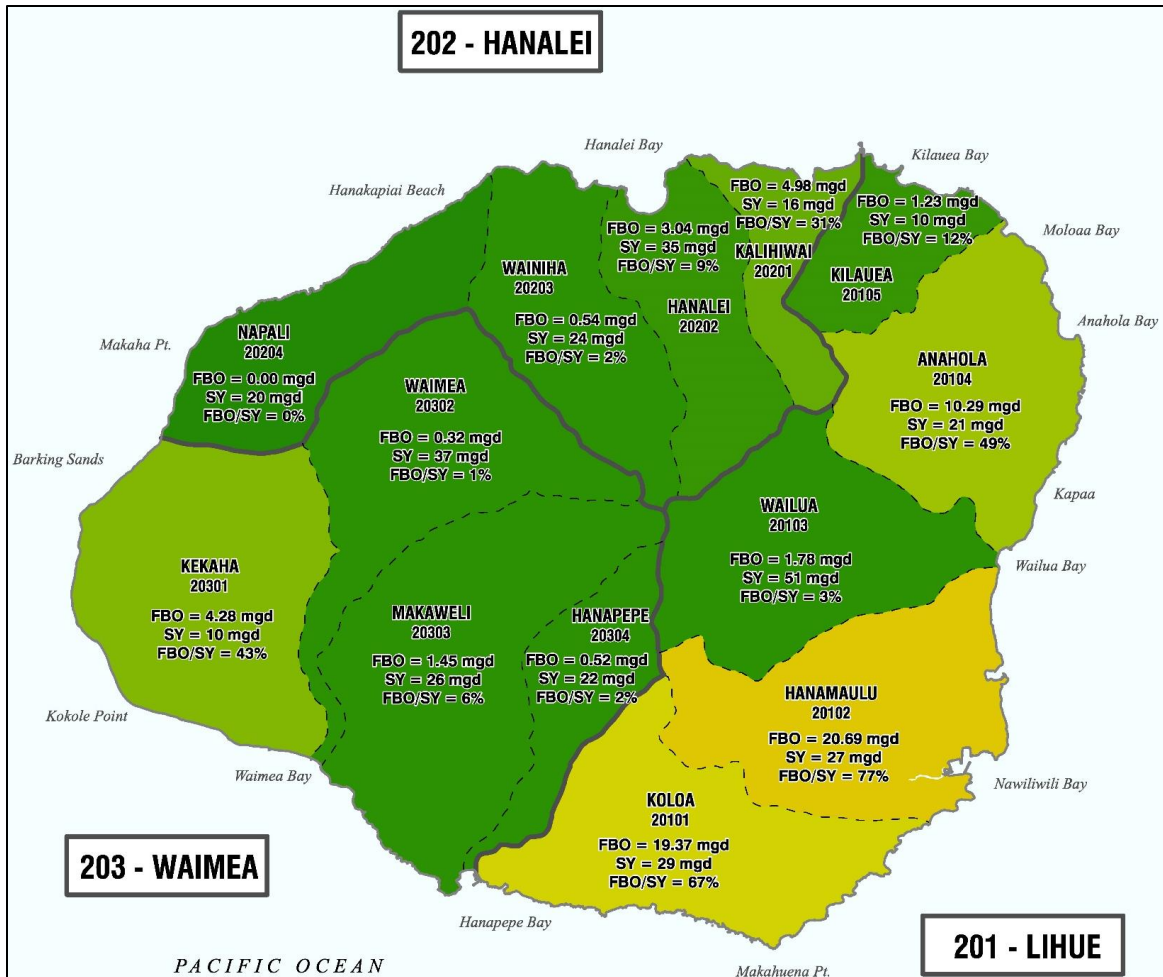


*Values to be determined by other components of the Hawai'i Water Plan

Evaluation of Land Use Plans and Policies

- Evaluate land use plans and policies (i.e. General Plan and zoning) and determine whether they are sustainable (i.e. $FBO < SY$)
 - **All ASYAs were determined to be sustainable**
- Continue Coordination with Planning Department – need to consider potential impacts on available water resources when considering modifications to land use policies that cannot easily be undone
 - 2000 General Plan (GP) was analyzed prior to adoption of 2018 GP Update
 - 2018 GP Update incorporated Līhu‘e and South Kaua‘i Community Plans and were also analyzed
 - For other areas, compared 2018 GP Update and 2000 GP
- DHHL future water demands from SWPP

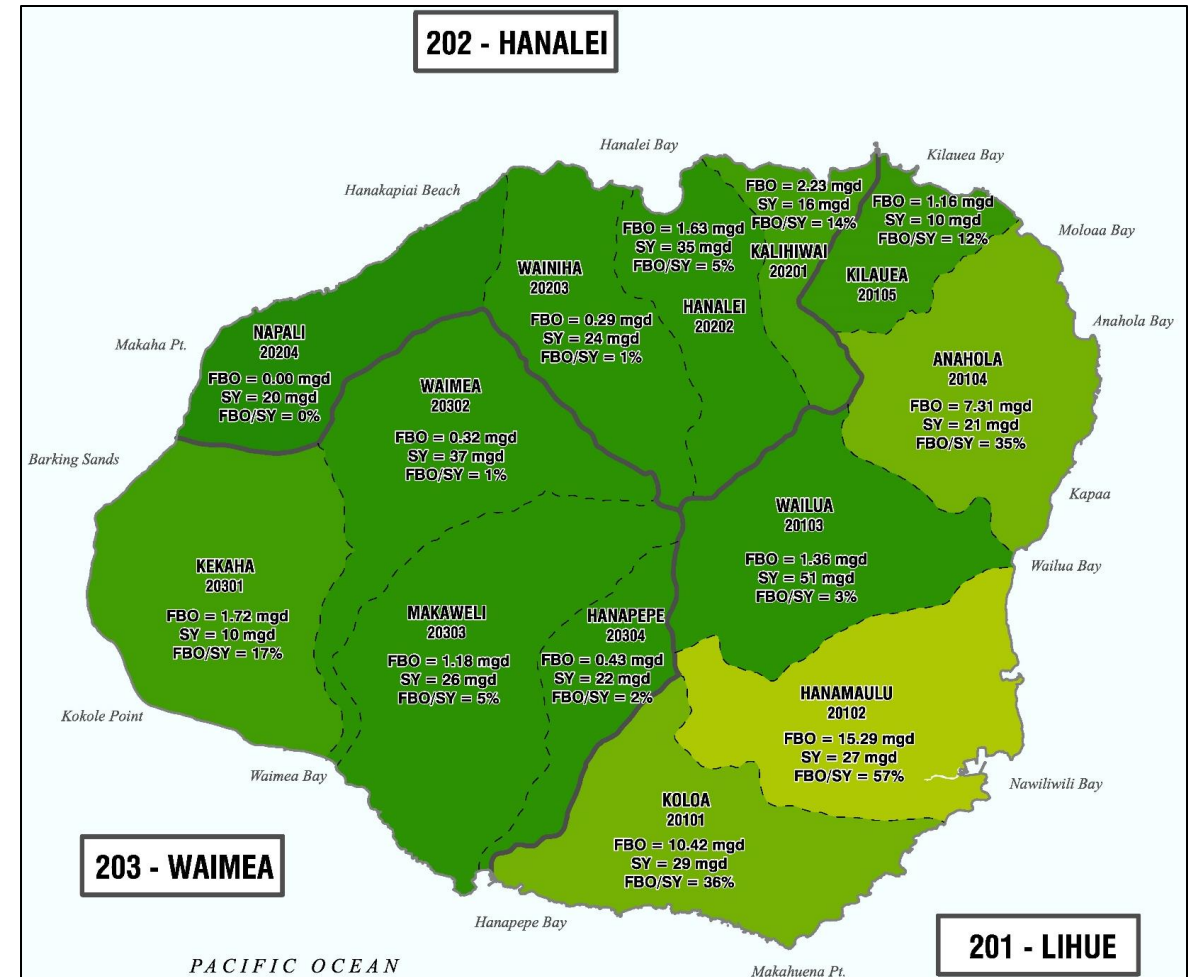
General Plan Full Build-Out vs. SY



NOTE: The General Plan full build-out demand projections are conservative and are unlikely to be realized as it assumes that all land area is developed to the maximum density allowed. This includes the development of areas that are undevelopable (e.g. due to topography and roads/highways), and the redevelopment of underdeveloped parcels.

FIGURE ES-2

Zoning Full Build-Out vs. SY

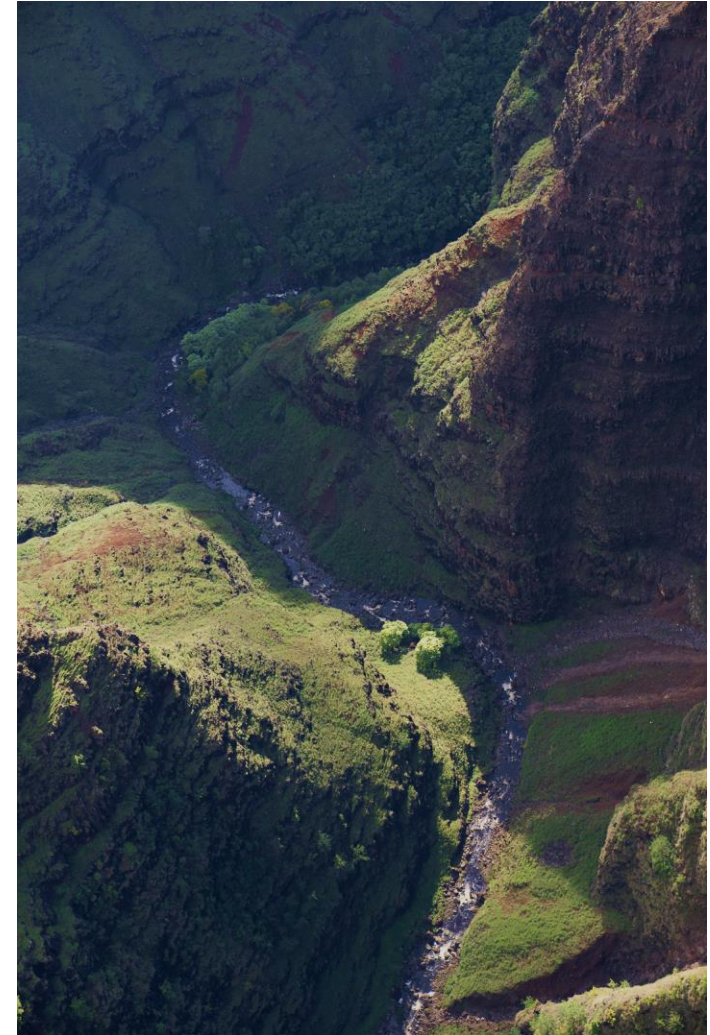


NOTE: The Zoning full build-out demand projections are conservative and are unlikely to be realized as it assumes that all land area is developed to the maximum density allowed. This includes the development of areas that are undevelopable (e.g. due to topography and roads/highways), and the redevelopment of underdeveloped parcels.

FIGURE ES-3

Projected Agricultural Water Use

- FBO vs. SY analysis focused on domestic, commercial, and industrial demands and compared to groundwater source availability. Agricultural water use evaluated separately
- Agricultural water demand should come from AWUDP
- In the meantime, WUDP used available information to provide general comparison of surface water to agricultural lands

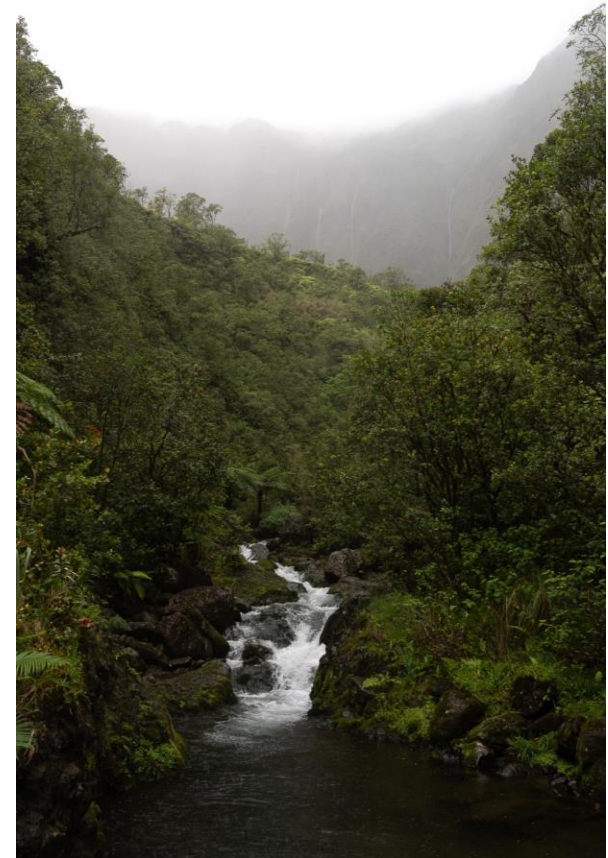


Overview of KWUDP Update

- High-level evaluation – doesn't evaluate specific development projects or ability to develop groundwater sources
 - Water Systems Investment Plan (WSIP) evaluating infrastructure needs
 - WSIP (update to Water Plan 2020) will identify CIP projects
- Promote using water resources based on water quality needed
 - More agency coordination and infrastructure needed to use more surface water and recycled water for non-potable uses
- KWUDP is a living document and KDOW is committed to reviewing future plans that feed into KWUDP when adopted by CWRM to determine when to budget and get Board approval for an update

Outreach and Public Meetings

- Outreach prior to December 2023 CWRM Briefing:
 - Two rounds of public meetings in Waimea, Kalāheo, Līhu‘e, Kapa‘a, Kīlauea (2015, 2023)
 - Three stakeholder advisory group (SAG) meetings
- Outreach and meetings following December 2023 CWRM Briefing:
 - Two DHHL meetings, Anahola and Kekaha, with DHHL beneficiaries in 2024
 - Two meetings prior to DHHL meetings with key community members identified by DHHL in 2024
 - CWRM Public Hearing on May 21, 2024
 - Kaua‘i BWS approval at meeting on July 18, 2024



Common Comments Received

- Why did it take so long to update the plan?
 - WUDP Update is a big effort. It incorporates a lot of information from other plans that needs to be compiled, evaluated, and presented in a meaningful way
- The plan is based on old and missing data
 - Project started in 2015, used 2014 water demand data for municipal, domestic, industrial, military and irrigation water uses and projected future demand from 2015 to 2035
 - For agricultural water, 2004 AWUDP (most recent version adopted by CWRM) has limited information on water demand so County's Important Agricultural Lands (IAL) Study was used to compare available surface water with amount of acres identified as IALs per ASYA

Common Comments Received

- The plan does not consider the water needs of traditional and customary (T&C) practices and lacks a Ka Pa‘akai analysis (KPA)
 - An analysis of impacts to T&C practices is part of CWRM’s permit review process, including well construction/pump installation permit applications
 - A Ka Pa‘akai analysis will be performed as part of WSIP since it identifies CIP projects where scope and identity of valued cultural, historical, and natural resources can be determined
 - Ka Pa‘akai analyses will be performed for individual CIP projects identified in WSIP in permitting/design stage.

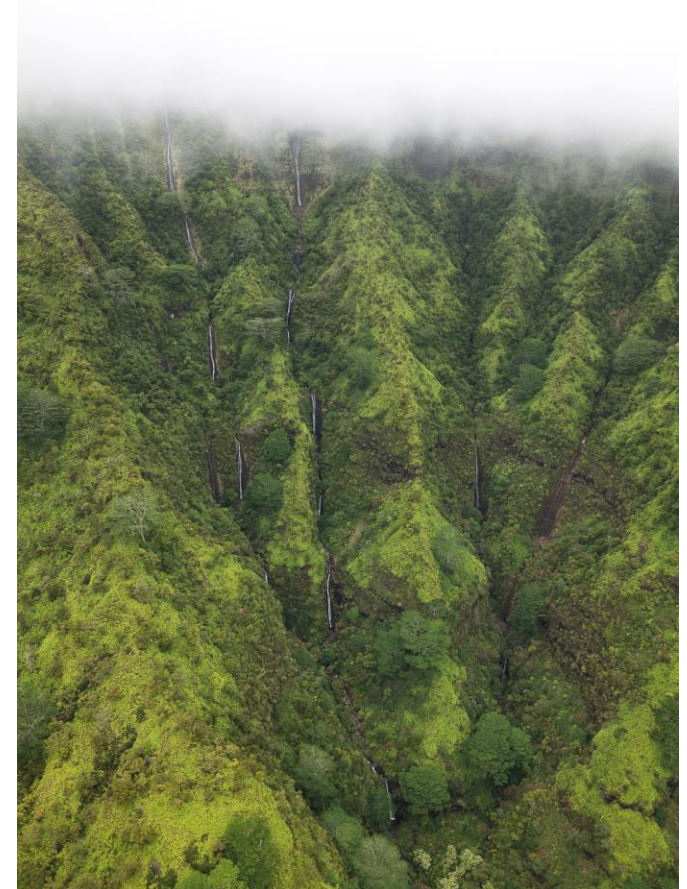


Common Comments Received

- Reservoirs and other water infrastructure needs to be improved and maintained
 - DOW acknowledges that discussions between reservoir owners and other agencies, organizations, and private parties are important
 - WSIP will provide KDOW with updated long-range plan and CIP projects
- Climate change impacts are not considered
 - CWRM will incorporate climate change models into future updates of SY for each aquifer
- Interim instream flow standards (IIFS) need to be updated
 - Since 2017, nine (9) IIFS have been established
 - CWRM is working diligently to amend more IIFS in priority areas

Common Comments Received

- No information about DHHL water reservations
 - Added more information on water reservations for DHHL to Section 2.2.2.5.2
- Water use reporting and enforcement needs to be improved
 - CWRM is in the process of filling two (2) enforcement positions
- Are aquifer Sustainable Yields (SY) reliable?
 - CWRM updated SYs in 2019
 - CWRM is in the process of updating SYs statewide based on new recharge data from USGS



Revisions to KWUDP Update

- Added Section 1.2.4.1 to discuss climate change
- Added summary of DHHL Water Reservations
- Clarified that untreated surface water is a lower quality water source
- Added reservoirs onto surface water figures
- Updated public involvement and public meeting summaries

Summary of Changes	
The following is a summary of changes that were made since the Public Review Draft (November 2023):	
Section	Change
Section 1.2.4.1 Climate Change	Section added to include discussion on climate change
Table 1-20 CWRM Gaging Records	Table updated to add gages 162, 199, 207, 241, 248, 250, 261, 283, 284
2.1.2 Public Involvement	Section updated to include meetings with DHHL beneficiaries
2.2.2 Full Build-Out Water Demand Projections	Section updated to provide additional information on the full build-out analysis
2.2.2.5.2 State Department of Hawaiian Home Lands	New paragraph and table added to discuss Water Reservations
ES-4, 2.2.2.10 Planning Objectives, 20X0X-5.3 Recommended Alternatives	Section updated to clarify that <u>untreated</u> surface water is considered a lower quality water source
ES-2.3.1, 2.3.1.1 Full Build-Out, Figures ES-2, ES-3, 2-5, 2-6	Figures added that compare the General Plan and Zoning full build-out to the sustainable yield
Table 20301-14, 20301-2.2 Surface Water	“2017 mediation agreement” revised to “Waimea Watershed Agreement”
20101-2.2 Surface Water	Discussion on Waitā reservoir revised
Figure 20X0X-4 Streams and Diversions	Reservoirs added to the figures
Appendix C Public Meeting Summaries	Added meeting summaries from the DHHL Beneficiary Meetings

Summary and Next Steps

- **KWUDP Update determined that current land use plans and policies (i.e. GP and zoning) are sustainable (i.e. FBO < SY) for all ASYAs**
- KWUDP Update is a large effort and project team appreciates public participation and feedback
- Final KWUDP (June 2024) was approved by the Kaua'i BWS and is available at <http://kauaiwater.org/kwudp.asp>
- Request adoption at October CWRM meeting

