Appendix D: Ka Pa‘akai Analysis

FEASIBILITY STUDY FOR EAST MAUI WATER SOURCE DEVELOPMENT

PHASE 3
KA PA‘AKAI ANALYSIS

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ACRONYMS AND ABBREVIATIONS

§	Section
CWRM	State of Hawai‘i Commission on Water Resource Management
DLNR	State of Hawai‘i Department of Land and Natural Resources
DWS	County of Maui Department of Water Supply
ft	foot
HRS	Hawai‘i Revised Statutes
IIFS	Interim Inflow Stream Standards
LUC	State of Hawai‘i Land Use Commission
RMP	Resource Management Program
TMT	Thirty-Meter Telescope
U.S.	United States

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EXECUTIVE SUMMARY

A Ka Pa‘akai analysis was conducted in August 2024 for Phase 3 of the Feasibility Study for East Maui Water Source Development, hereafter referred to as Feasibility Study. The purpose of the Feasibility Study was to explore new potential water sources to meet drinking water needs identified in the Maui Island Plan. Three virtual meetings were convened to discuss Ka Pa‘akai, and two meetings were convened in person. Ten people participated in the virtual meetings, and twelve people attended in-person meetings. Two people participated in one virtual meeting and one in-person meeting. Two people submitted their comments in emails. In all, 22 people participated in the Ka Pa‘akai analysis for this project.

The establishment of the Ka Pa‘akai analysis framework was initially intended to address a specific geographic area, and more recently, was expanded to include such analysis in government actions, including rulemaking. Phase 3 encompasses seven out of the twelve Maui moku, which covers more than half the island. Hence, the Ka Pa‘akai analysis for this Feasibility Study encompasses both the larger context of a large geographic reference, values and legal framework and incorporates information shared about specific locales.

The following sections summarize input provided by those who participated in the Ka Pa‘akai analysis, and does not indicate or suggest views and positions of the Maui Department of Water Supply and the project team.

MANA‘O ON VALUES, LEGAL FRAMEWORK AND JUSTICE

The Significance of Wai

Participants identified wai, or water, as a fundamental value held by Kānaka Maoli and Kānaka ‘Ōiwi, or Native Hawaiians.[1] For participants, wai is life and cannot be owned or sold and they believed that this Feasibility Study is deeply related to the value of wai.

[1] *Kānaka ‘Ōiwi signifies “native people” or literally “people of the ancestral bone”. Kānaka Maoli signifies “real people” or as part of the Lāhui, or “Nation”. Source: U. S. Department of the Interior. Self-Identification is an Exercise of Self-Determination. Available at https://www.doi.gov/hawaiian/self-identification-exercise-self-determination.. In this report, Kānaka Maoli is commonly used, unless the Ka Pa‘akai participant refers to himself or herself as Kānaka ‘Ōiwi and provided comments specifically attributed to him or her.*

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They noted that aquifers are phenomena of nature. With a Hawaiian cultural lens, the Kānaka ʻŌiwi understand these natural phenomena of aquifer are the embodiment of the Akua, a god or spirit, named Kanaloa. "Kanaloa i ka wai honua" means "Kanaloa in the depths of the deep Earth." When drilling into an aquifer, this action pierces the shell of Kanaloa I Ka Wai Honua. When the water is depleted, the spring will stop flowing. Any development or extraction of groundwater in that area needs to seriously consider adverse impacts to flows so that cultural significance and gathering rights are not affected.

Participants also did not believe that aquifers have "boundaries," or that there is accurate information on the exact locations of water sources. They noted that the ocean is the outlet for all aquifers and land water sources. They believe that all water is connected, and questioned how depleting water from one aquifer affects other aquifers.

Legal Framework

- *Disregard for Kānaka Maoli Rights Provided for in Pre-Annexation Law*

  Participants felt that Native Hawaiian rights under the Nation of Hawai'i laws and constitution are not being honored or acknowledged. They noted that the 1839 Constitution ensured protection for Kānaka Maoli, and that Laws must conform to the laws of the kingdom, and nothing shall be taken from any individual except by express provision of the laws. It was further cited that, in the 1898 Joint Resolution to Provide for Annexing the Hawaiian Islands to the United States (U.S.), it is said that "the existing laws of the United States relative to public lands shall not apply to such lands in the Hawaiian Islands"[2]

  In the 1900 Hawaiian Organic Act that annexed the Territory of Hawai'i to the U.S. stated that "the laws of Hawai'i not inconsistent with the Constitution or laws of the United States or the provisions of this Act shall continue in force, subject to repeal or amendment by the legislature of Hawai'i or the Congress of the United States." [3] Participants did not cite any amendments or repeals and believed that the laws of Hawai'i prior to annexation are still in effect.

[2] *Joint Resolution to Provide for Annexing the Hawaiian Island to the United States. (1898). Enrolled Acts and Resolutions of Congress. General Records of the United States Government, 1778-1992. Record Group 11. National Archives.*

[3] *Organic Act (1900) Pub.L. 56-339, 31 Stat. 141*

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- *Subjugation of Kānaka Maoli Identity*

  Participants said that, in the Hawai'i Statehood Admission Act of 1959, it is stated that "Nothing contained in this Act shall operate to confer United States nationality, nor to terminate nationality heretofore lawfully acquired, or restore nationality heretofore lost under any law of the United States or under any treaty to which the United States is or was a party." [4] For participants this confirms the identity of Kānaka Maoli is that of the Lāhui, or nation, and not part of the United States of America. However, subsequent laws, rules and practices identify "Hawaiian" as a citizen of the United States.

- *Water Rights*

  The Penal Code of 1850 establishes that "The people shall also have a right to drinking water, and running water, and the right of way. The springs of water, and running water, and roads shall be free to all, should they need them, on all lands granted in fee simple . . ." [5] The Hawai'i State Water Code codifies Native Hawaiian Water Rights and states "Traditional and customary rights of ahupua'a tenants who are descendants of Native Hawaiians who inhabited the Hawaiian Islands prior to 1778 shall not be abridged or denied by this chapter. Such traditional and customary rights shall include, but not be limited to, the cultivation or propagation of taro on one's own kuleana and the gathering of hihiwai, 'opae, o'opu, limu, thatch, ti leaf, aho cord, and medicinal plants for subsistence, cultural, and religious purposes." [6] Further, these rights are not diminished by a failure to receive a water permit. Participants believe that these provisions continue to endure and are not being followed by government and that Kānaka Maoli are still required to go through the water permit process.

  - *Fairness of Water Distribution and Long-Standing Injustice*

  Participants objected to the practice of transmitting water from their ahupua'a to another region, particularly resort areas, where precious water is being used to irrigate golf courses and fancy landscaping. They further noted that while water is being transported to support tourism, local residents are having difficulty obtaining water meters.

[4] *Admission Act. (1959) Pub. L. 86–3, Mar. 18, 1959, 73 Stat. 4*

[5] *Penal Code of the Hawaiian Islands. (1850). Pgs. 202-204.*

[6] *HRS § 174C-101).*

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They noted that a deeper sense of injustice was explained in the context of the Apology Resolution of 1993 that outlined the illegal annexation of the Territory of Hawai'i. The Apology Resolution further acknowledged that the health and well-being of the Native Hawaiian people are intrinsically tied to their deep feelings and attachment to the land and that the long-range economic and social changes in Hawai'i have been devastating to the population and to the health and well-being of the Hawaiian people. Congress apologized to Native Hawaiians on behalf of the U.S. for the overthrow of the Kingdom of Hawai'i and expressed its commitment to acknowledge the ramifications of the overthrow of the Kingdom of Hawai'i to provide a proper foundation for reconciliation between the U.S. and the Native Hawaiian people. [7]

Participants felt that this formal apology was a start, but that the U.S. has not gone far enough in reconciliation and restitution. They stated there still needs to be restitution for "unjust enrichment," the term that characterizes how taking lands of the Hawaiian Kingdom unjustly enriched the U.S. when the Kingdom was overthrown, and that the State of Hawai'i benefited from the same when Hawai'i was admitted into the Union. Participants felt that unjust enrichment is applicable to water, although they noted that there is still a long way to go in developing a remedy that would be within the context of water and reconciliation with Kānaka Maoli.

MANA'O ON SPECIFIC LOCALES

Participants shared mana'o, or thoughts, regarding specific areas and resources that are valuable for their cultural practices and beliefs, as well as the ecosystem that sustains their cultural resources.

- The 'Ōhi'a springs in Waianu: Several springs are located in a small awāwa, or valley. Up on the ridgeline, on the Hāna side of the awāwa is a church complex called Pā Kanaloa, or the enclosure of Kanaloa. Now covered by foliage and vegetation growth, the church complex was a cultural gathering place and the 'Ōhi'a Spring was a part of the Pā Kanaloa church complex. There is a story, or mo'olelo, of a priestess referred to as a mo'o who lived below the area and cared for the area where watercress patches are now. There was concern that drilling into the aquifer would deplete the water quantity, and the flow of the spring would stop.

[7] *U.S. Public Law 103-150. (1993). Apology Resolution. 103d Congress Joint Resolution.*

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- In Nāhiku in the 1940s, there used to be a waterfall with a pond with ʻiliʻili stones at its base. The waterfall pushed the pebbles outward, thus forming a pond of freshwater right next to the ocean, where one could gather oʻopu and ʻōpae. Today, there is no more ʻōpae. When plantations came to Makapipi, the two loʻi kalo in Nāhiku dried up after the plantations installed a gate at top of the mountain and blocked off water.

- There was concern about the possible construction of a well at the 500 ft elevation on Honopou stream. Kalo farmers downstream of this possible well depend on the stream water. Participants warned that tapping more aquifers will harm the ability of downstream kalo farmers to access water.

- Participants noted that there has been decreased abundance of fish in the Kanemoeala area, where they dived since childhood. There are two species of āweoaweo (endemic and native), or Hawaiian bigeye tuna. The endemic fish has become less abundant, possibly due to diminished freshwater seeps that provide habitat for planktonic fish that are part of its diet. Putting in wells for drinking water would decrease the freshwater supply in this area, thereby threatening the food supply.

- There are two native bee species in Kanemoeala that stretches to Pauwela Lighthouse and Manawaiʻiao Stream. The Hawaiian yellow-faced bees are pollinators for coastal vegetation. Both are ground-burrowing, and this indicates a relationship between the bees and spring water. There was concern that taking water from the aquifers would lead to less seepage and less habitat for native vegetation.

- One person from East Kuiaha reported that downstream water flow is decreasing even in times of heavy rains. He believes that underground tunnels are interrupting water flow and filed a complaint with the State of Hawaiʻi Commission on Water Resource Management (CWRM) about the underground tunnel system. CWRM noted that there are four diversions in this area, and found that there was no need for Interim Instream Flow Standards (IIFS) for this stream because there is not enough water flow. The participant disagrees with these findings.

FEASIBLE ACTION TO PROTECT HAWAIIAN RIGHTS

Given the "big picture" nature of the Ka Paʻakai analysis, it is too early to identify or specify feasible actions to protect Hawaiian rights. As of this writing, specific geographical locations and specific actions are still being studied. Further, there are ongoing discussions on how to provide restitution for unjust enrichment. It is possible that by the time a project and locations are selected, the legal climate for water and Native Hawaiian rights will have evolved. In any event, continued application of the Ka Paʻakai analysis is highly recommended.

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1 INTRODUCTION AND PURPOSE

1.1 Feasibility Study for East Maui Water Source

The Maui County Department of Water Supply (DWS) is conducting a Feasibility Study to explore new water sources and related water infrastructure to meet drinking water needs identified in the Maui Island Plan. Studies are being conducted in four phases as shown in Figure 1.

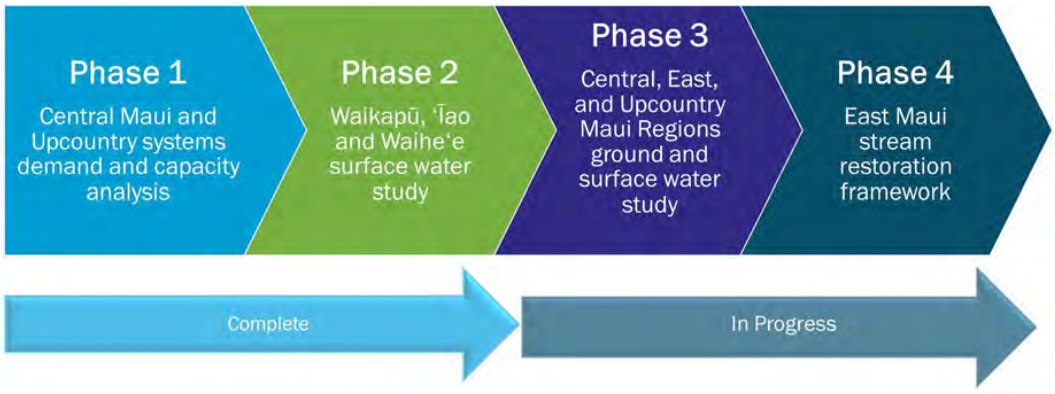

Figure 1: 4-Phase Feasibility Study for East Maui Water Sources

Phase 1 was an analysis of water system demand and capacity in the Central Maui and Upcountry system. This phase has been completed.

Phase 2 was a study of the availability of surface water and a cost/benefit study for possible surface water sources from Waikapū Stream, Wailuku River and Waiheʻe River. The amount available to divert from a stream is legally limited by established Interim Instream Flow Standards (IIFS): "a quantity or flow of water or depth of water which is required to be present at a specific location in a stream system at certain specified times of the year to protect fishery, wildlife, recreational, aesthetic, scenic, and other beneficial instream uses." Phase 2, which included a Ka Pa‘akai Analysis, has been completed.

Phase 3 was a rigorous cost/benefit study of surface and groundwater resources available in the Central Maui region, the Upcountry region and the East Maui region. This study includes an evaluation of economic and factors that would help in understanding whether water sources in the regions would be feasible and how the water would be transmitted to meet potable water needs. This report presents the Phase 3 Ka Pa‘akai Analysis.

Phase 4 involves a Haʻikū Stream Restoration Program that identifies steps, timeline and potential implementing partners to restore flow to streams in the Haʻikū area. A separate report summarizing stakeholder meetings on Phase 4 has been completed.

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1.2 Ka Paʻakai Framework and Description

Kaʻūpūlehu Development petitioned the Hawaiʻi State Land Use Commission (LUC) to revise the State Land Use plan for 1,010 acres in West Hawaiʻi to develop a luxury development consisting of 530 single family homes, 500 low-rise multi-family units, a 36-hole golf course, an 11-acre commercial center, a 3-acre recreation club, a golf clubhouse, and other amenities for the development's residents. The LUC granted the petition for land use boundary classification from the State Land Use Conservation District to a State Land Use Urban District in June 1996. In September 1997, the Third Circuit Court affirmed the LUC findings of fact, conclusions of law, decision and order granting the land use boundary classification.

Ka Paʻakai o Kaʻaina, an association of Ka Lāhui Hawaiʻi (a Hawaiian nation), the Kona Hawaiian Civic Club and Protect Kohanaiki ʻŌhana, appealed the Third Circuit Court's decision granting the LUC's petition for land use boundary re-classification. In 2020, the case went before the Hawaiʻi Supreme Court. The plaintiffs argued that, among other factors, the LUC failed to discharge its obligation to ensure that legitimate customary and traditional practices of Native Hawaiians be protected to the extent feasible.[8]

In the Supreme Court's Discussion, it was found that Ka Paʻakai sufficiently demonstrated that the LUC's 1996 decision would adversely affect its Native Hawaiian members' traditional gathering, religious, and cultural practices within the petition area. Ka Pa'akai members averred that they, their ancestors, friends, and families have crossed the 1800-1801 lava flow to gather salt (paʻakai) for subsistence and religious purposes on and around the petition area over a long period of time. Ka Paʻakai further argued that its members' interests as Native Hawaiians, and as tenants of the ahupuaʻa Kaʻūpūlehu, would be impaired by the proposed development regarding the use of ancient trails and the shoreline area to practice traditional and customary gathering rights.

The Court found that cultural activities in the petition area included:

- (73) The shoreline portion of the Property is used for fishing and gathering of limu, ʻopihi, and other resources, and for camping. The area closest to Kalaeman[o] was traditionally used for salt gathering. Hannah Springer, a kamaʻaina of the mauka portion of Kaʻūpūlehu, and her ʻohana have traditionally gathered salt (paʻakai) in this area on an occasional basis.
- (74). The areas for fishing, limu, ʻopihi, and salt gathering, and general recreation are to be preserved and managed as part of Petitioner's Resource Management Plan (RMP), thus perpetuating these activities on and makai of the Property

[8] *Ka Pa'akai O Ka'Aina v. Land Use Comm'n, State of Hawai'i, 94 Haw. 31, 7 P.3d 1068 (Hawaii 2000)*

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The Hawai‘i Supreme Court vacated the LUC‘s petition for land use boundary reclassification, and remanded the case to the LUC for the limited purpose of entering specific findings regarding:

1. The identity and scope of "valued cultural, historical, or natural resources" in the petition area, including the extent to which traditional and customary Native Hawaiian rights are exercised in the petition area;

2. The extent to which those resources — including traditional and customary Native Hawaiian rights — will be affected or impaired by the proposed action; and

3. The feasible action, if any, to be taken by the LUC to reasonably protect Native Hawaiian rights if they are found to exist.

In overruling the LUC, the Court held that the constitution “places an affirmative duty on the State and its agencies” to protect traditional and customary rights. This means that the state is obligated to act to further the constitutional mandate. Since the Ka Pa‘akai decision, practitioners, ‘ohana and communities have asserted their constitutional right to be heard before agencies making decisions on matters impacting nearshore environments, rights to water, culturally sensitive/significant areas, iwi kūpuna and gathering rights. The Hawai‘i Supreme Court has also applied Ka Pa‘akai in cases addressing construction on Mauna Kea, interim instream flow standards in central Maui and a groundwater use permit on Moloka‘i.[9] With the Hawai‘i Supreme Court’s 2023 ruling that Ka Pa‘akai applies to agencies whenever they act, including rulemaking, the analysis continues to be a meaningful tool in community advocates’ toolboxes whenever new land or water proposals seek government approvals. [10]

1.3 Ka Pa‘akai Framework Applied to this Project

The Hawai‘i Supreme Court case Ka Pa‘akai O Ka ‘Aina v Land Use Commission (2002) established a three-part analytical framework for addressing the preservation and protection of customary and traditional native practices specific to Hawaiian communities. The establishment of the Ka Pa‘akai analysis framework was intended to address a specific geographic area, and more recently was expanded to include such analysis in government actions, including rulemaking.

[9] *Flores-Case 'Ohana v. Univ. of Hawai'i, 153 Haw. 76, 79, 526 P.3d 601, 604 (Hawaii 2023)*

[10] *Ashley K. Obrey, “What is a Ka Pa‘akai analysis?” (Honolulu: Native Hawaiian Legal Corporation, June 10, 2024)*

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As noted in Section 1.2, the 2000 Hawai'i Supreme Court decision involved 1,010 acres in West Hawai'i. As described in Section 2, the scope of this Feasibility Study encompasses seven out of the twelve Maui moku, which covers more than half the island of Maui. Hence, the Ka Pa'akai analysis for this project encompasses 1) the larger context of a large geographic reference, values and legal framework, and 2) specific resources discussed within the moku under consideration Section 4 discusses the larger context of values and legal framework, and Section 5 incorporates comments on specific locales.

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2 PHASE 3 SCOPE AND DESCRIPTION

This Feasibility Study for East Maui Water Source Development, hereafter referred to as Feasibility Study, includes an evaluation of economic and non-economic factors that would help in understanding if these water sources would be feasible. Phase 3 of the Feasibility Study is a rigorous cost / benefit study of surface and groundwater resources available in the Central Maui region, the Upcountry regions and the East Maui region.

The area being studied extends from Kaʻanapali to Keʻanae, and encompasses the following seven moku:

Hāmākualoa	Kaʻanapali
Hāmākuapoko	Lāhaina
Koʻolau	Pūʻali Komohana.
Kula	

Both groundwater and surface water sources are being evaluated. Figure 2 shows the overall study area, delineates the moku, and highlights aquifers under evaluation. Figure 3 shows the study area and highlights streams being evaluated within the 7 moku.

The study narrowed the number of options for further evaluation from 69 to 20 options. The current options being evaluated are characterized as follows:

- Possible new aquifer groundwater wells
- Reallocate Wailoa Ditch surface water currently used for agricultural irrigation to increase the potable water supply
- Increase the capacity of Lower Kula System raw water transmission infrastructure between the stream diversions and Piʻiholo Reservoirs
- Capture high flows from Wailoa Ditch during flows Q50[11] and above
- Capture high flows from Waiheʻe River during flows Q50 and above

Figures 4 , 5, and 6 show the options currently under evaluation, and their locations and elevations within the moku.

[11] *Q50 is average water flow, whereby 50% of the time flows have been measured at or above that level and 50% of the time flows have been at or below that level.*

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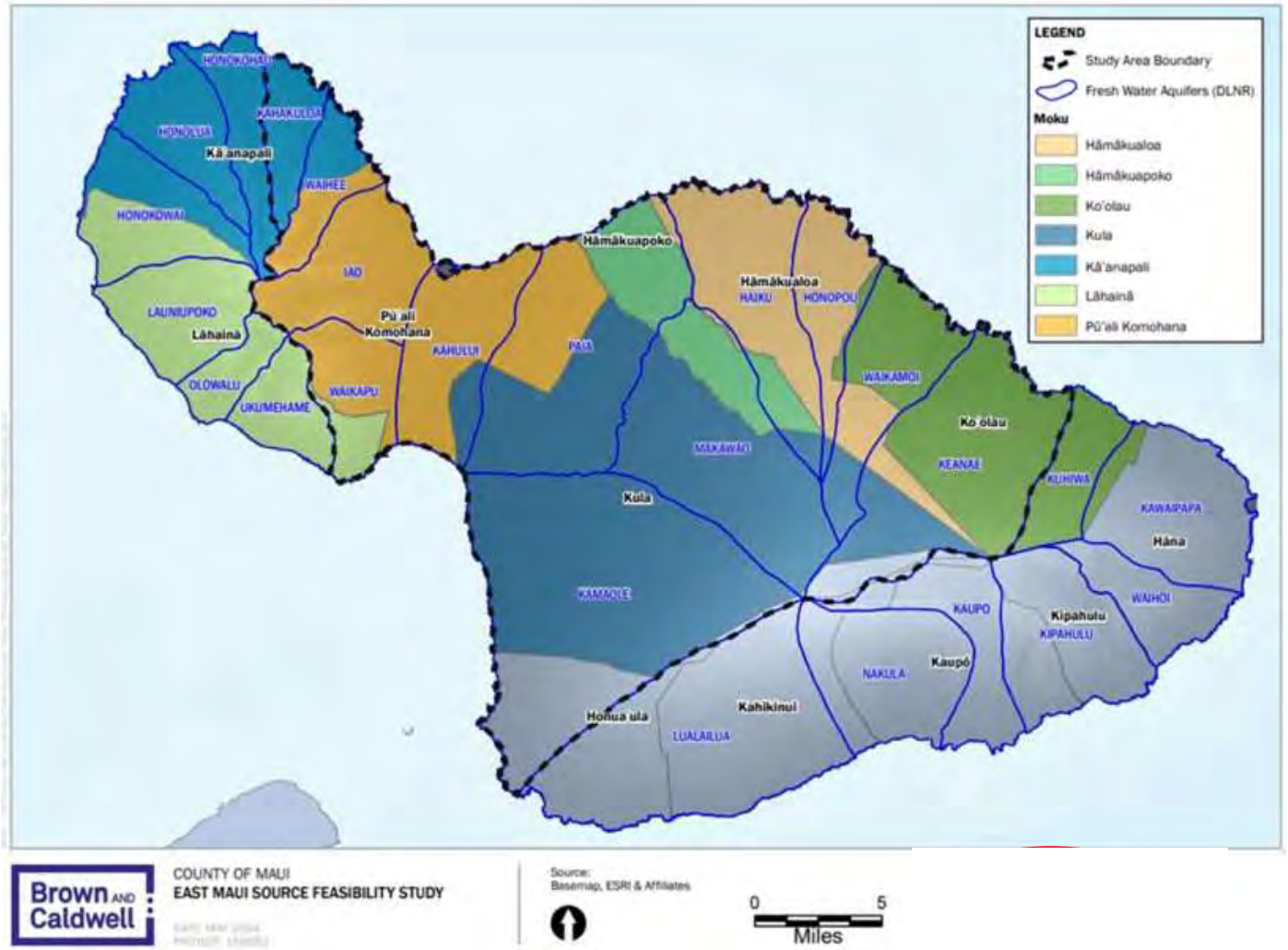

Figure 2: Study Area with Groundwater Aquifers

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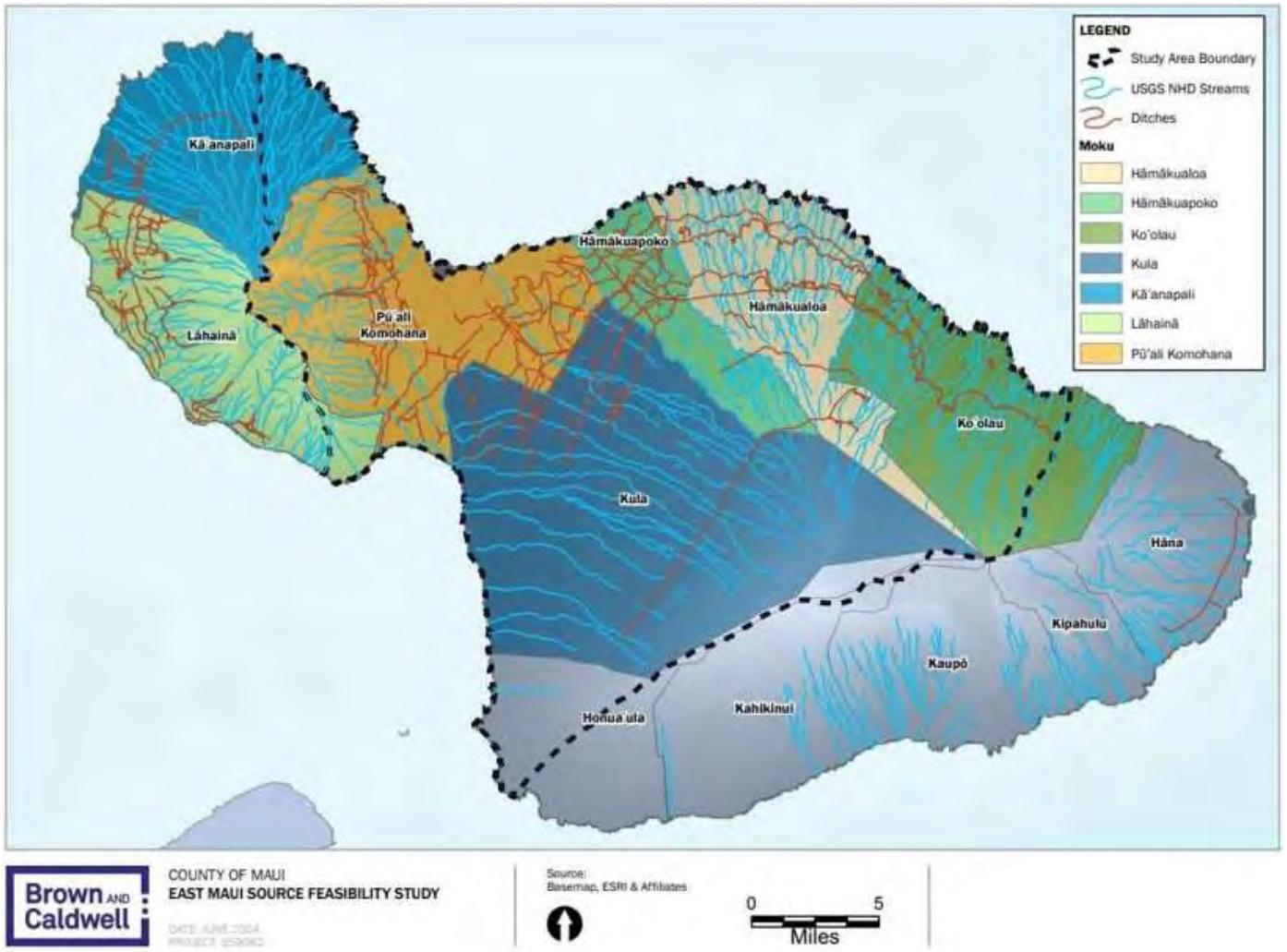

Figure 3: Study Area with Streams and Ditches

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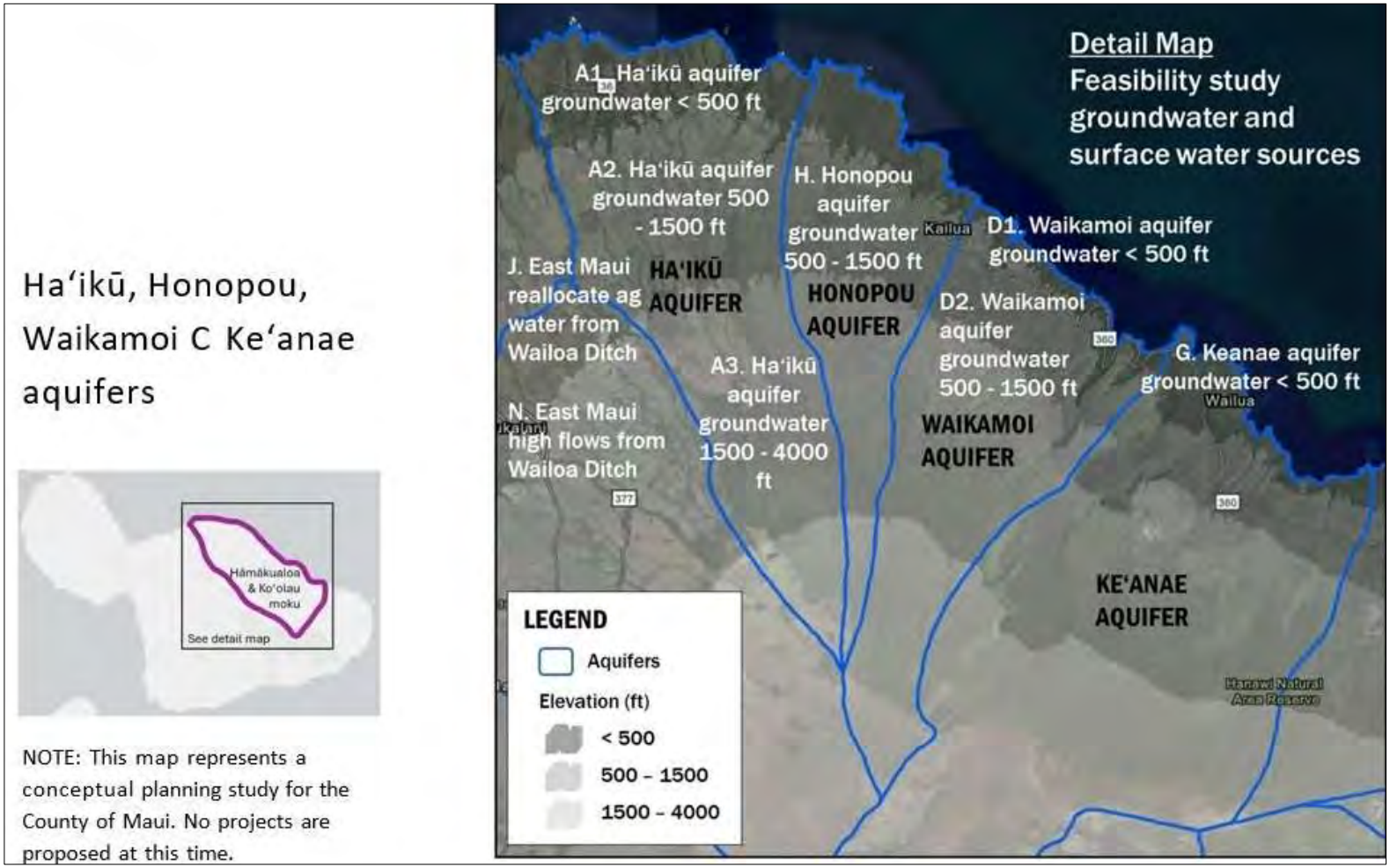

Figure 4: Hāmākualoa and Koʻolau Moku

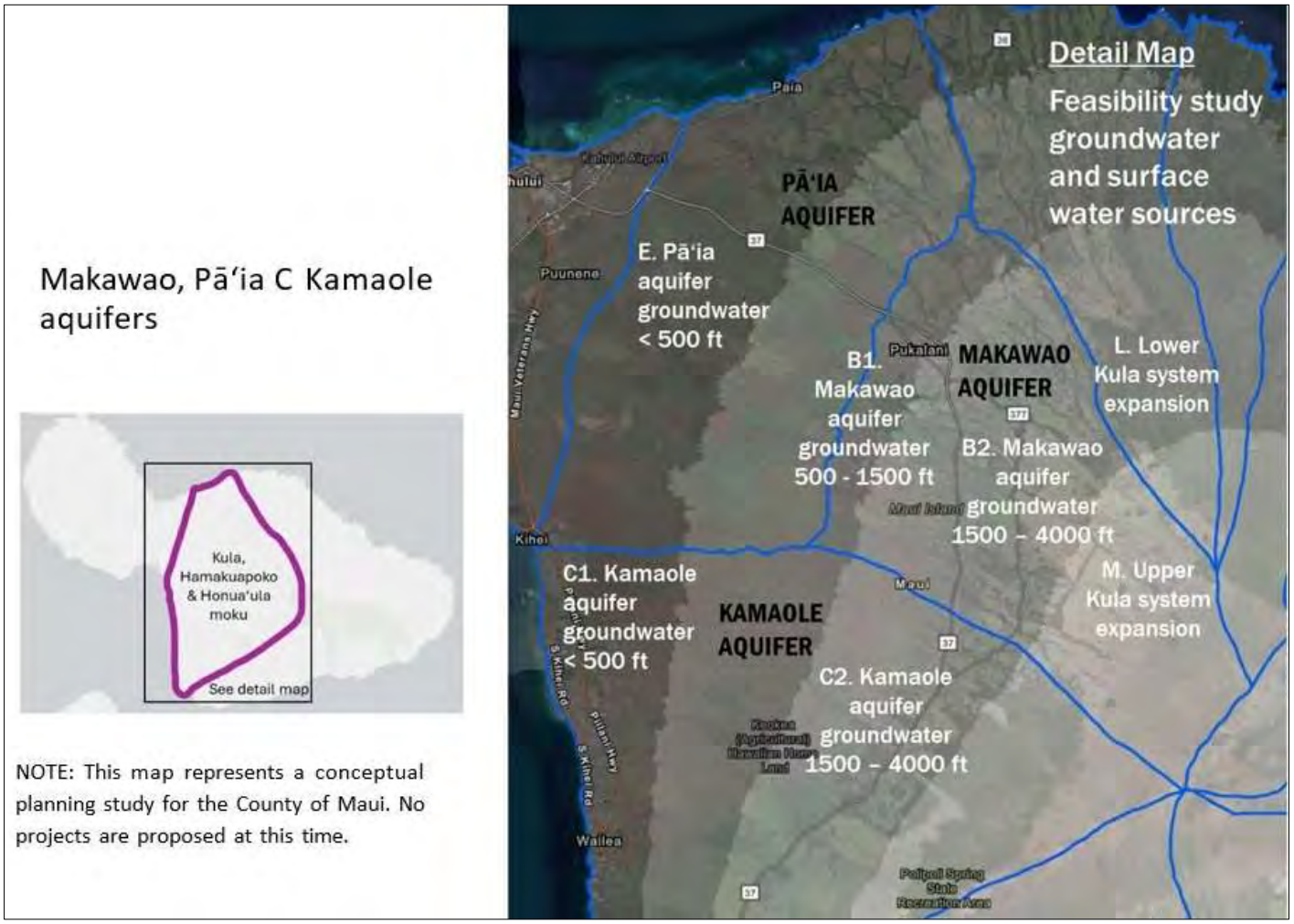

Figure 5: Kula, Hāmākuapoko and Honua'ula Moku

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Figure 6: Pūʻali Komohana Moku

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3 MEETINGS AND PARTICIPANTS

3.1 Participants

Initial prospective participants included those who participated in the Ka Paʻakai analysis for Phase 2 of the 4-phase Feasibility Study. The prospective participants list was expanded based on research on Aha Moku and Native Hawaiian Organizations and networking. Further, participants were encouraged to invite whomever they chose.

Three virtual meetings were convened to discuss Ka Paʻakai, and two additional meetings were convened in person. Ten people participated in the virtual meetings, and twelve people attended in-person meetings. Two people participated in one virtual meeting and one in-person meeting. Two people submitted their comments in emails. In all, 22 people participated in the Ka Paʻakai analysis for this project. [12]

Table 1: Participants in Virtual Meetings

Name	Affiliation	Virtual Meeting Date
Keʻeaumoku Kapu	Chair of the Aha Moku O Maui	August 9, 2024
Kyle Nakanelua	Kanaka ʻŌiwi Member of Aha Wai o Maui Hikina (East Maui Water Authority Board) Descendant of original district Hāmākualoa moku & Koʻolau moku	
Uʻilani Kapu	Lahaina representative of the Aha Moku O Maui	
Donna Sterling	Chair of the Maui Board of Water Supply	

[12] *Two people who initially attended the August 13, 2024, meeting left after the meeting started. They were highly offended by the language developed by the Hawai'i Supreme Court in Ka Paʻakai O Ka ʻĀina v. Land Use Commission (2000), criteria 3, "the feasible action, if any, to be taken by the agency to reasonably protect such practices* ***if*** *they are found to exist." They felt that "if" was an insult that questioned the value of all cultural resources. While they are not counted or listed as participants, their comment expressed prior to leaving the meeting is included in this report.*

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Name	Affiliation	Virtual Meeting Date
Johanna Kamaunu	Cultural descendent Member, Hui Pono ʻIke Kānāwai	August 10, 2024
Kaniloa Kamaunu	7th generation in Waiheʻe kuleana Lives in Naupoko (includes two areas: Waiheʻe and Waiehu). This old term that means the area does not belong to any moku, a claim made by Elspeth Sterling when she mapped the island in "Sites of Oʻahu" Member of Hui Pono ʻIke Kānāwai Participant in Nā Wai ʻEhā water case	
Lurlyn Scott	Taro farmer in Honopou Member of Aha Wai o Maui Hikina	August 24, 2024
Kaʻaina Kekiwi	Lives in Makawao 4th generation rancher Horticulturalist for University of Hawaiʻi Works with State DLNR and Research Corporation of the University of Hawaiʻi	
Kanealiʻi Williams	Live on aunt's kuleana in East Kuiaha Has ʻohana in Pauwela Kalo farmer	
Jordan Tebura	Born, raised and lives in Rice Camp Kalo farmer Horticulturalist for University of Hawaiʻi in Plant Extinction Prevention Program	

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Table 2 lists the 12 people who attended in-person meetings.

Table 2: In-Person Participant Meetings

Name	Affiliation	In-Person Meeting Date and Location
Jocelyn Costa	Lives in Ha'ikū-Pauwela area in Hāmākualoa 'Aha Moku O Maui representative for Hāmākualoa	August 12, 2024 Conference Room at Maui Beach Hotel
Lala Johnson	'Aha Moku O Maui representative for Wailuku Moku	
Johanna Kamaunu	'Ahu Moku O Maui representative for Wailuku Moku Member of Hui Pono Ike Kānāwai (group that studies the kingdom of Hawai'i Law and how it interacts with American judicial law)	
Kaniloa Kamaunu	Kanaka Maoli 'Aha Moku O Maui representative for Wailuku Moku	
Terry Miller	'Aha Moku O Maui representative for Hāmākualoa	
James Sagawinit	Lifetime Maui resident and fisherman Father of Jocelyn Costa	
Wilmont Kamaunu Kahaiali'i	Indigenous Innovation Officer, County of Maui Office of Economic Development. Member of Hui Pono Ike Kānāwai	
Clare Apana	President of Mālama Kakanulua 'Aha Moku O Maui , Wailuku representative	August 13, 202 Private residence
Paul Hanada	Kula resident Avid fisherman	
Cheryl Hotta	Grew up in Lāhaina. Currently lives in Central Maui.	
Valerie King Alconcel	Works in visitor industry Daughter of Cheryl Hotta	
Kau'i Hill	Lives in Waiohuli	

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Email comments were received from Robert Lu‘uwai and Lisa Ann Pauahi Ho‘okani, neither of whom were able to participate in virtual or in-person meetings.

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4 MANA'O ON VALUES, LEGAL FRAMEWORK AND JUSTICE

This section summarizes participant comments on the "big picture" perspective of conducting a Ka Pa'akai analysis for the 7-moku project area. These perspectives and comments presented in this section summarize input provided by those who participated in the Ka Pa'akai analysis, and does not indicate or suggest views and positions of the Maui Department of Water Supply and the project team.

4.1 The Significance of Wai

Participants repeatedly noted that wai, or water, is a fundamental value held by Kānaka Maoli and Kānaka 'Ōiwi. [13] The Hawaiian word for 'law' is kānāwai, which indicates that traditional Hawaiian law initially developed around the management and use of water.[14] The literal translation of kānāwai is "relating to water." For participants, wai is life and cannot be owned or sold.

Further, wai was explained to be an equivalent to wealth. "Waiwai" means wealth and value. "Mālama the source" or "mālama 'āina," where 'āina is created by gods and connected to individuals, is a spiritual concept. Participants stressed we must have kuleana to protect the wai from being abused. Wai needs to function mauka to makai and the people need to make sure that water functionality is maintained. By protecting the wai, all become rich.

For participants, this Feasibility Study is deeply related to the value of wai. They noted that aquifers are phenomena of nature. With a Hawaiian cultural lens, the Kānaka 'Ōiwi understand these natural phenomena of aquifer are the embodiment of the Akua, a god or spirit, named Kanaloa. Kanaloa i ka wai honua means "Kanaloa in the depths of the deep Earth."

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[13] Kānaka 'Ōiwi signifies "native people" or literally "people of the ancestral bone". Kānaka Maoli signifies "real people" or as part of the Lāhui, or "Nation". Source: U. S. Department of the Interior. Self-Identification is an Exercise of Self-Determination. Available at https://www.doi.gov/hawaiian/self-identification-exercise-self-determination. . In this report, Kānaka Maoli is commonly used, unless the Ka Pa'akai participant refers to himself or herself as Kānaka 'Ōiwi and provided comments specifically attributed to him or her.

[14] Source: Images of Old Hawaii / Kānāwai available online at https://imagesofoldhawaii.com/kanawai/#:~:text=The%20Hawaiian%20word%20for%20%E2%80%98law%E2%80%99%20is%20ka%CC%84na%CC%84wai%20%E2%80%93,developed%20around%20the%20management%20and%20use%20of%20water

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There is a metaphorical reference to Kanaloa as being Kanaloa i ka heʻe nui, which translates "Kanaloa the deep ocean squid." Within realm of fresh and ocean water, and their connection to each other, the aquifer is the "great head" of the deep ocean squid. And his ʻaweʻawe, or tentacles, extend outward and reach up to become formations of springs. As "tentacles" burst through Earth from darkness into light, it becomes known as a spring and transforms into the Akua named Kāne.

When drilling into an aquifer, this action pierces the shell of Kanaloa I Ka Wai Honua. When the water is depleted, the springs will stop flowing. Any development or extraction of groundwater in that area needs to seriously consider adverse impacts to flows so that cultural significance and gathering rights are not affected.

Participants also did not believe that aquifers have "boundaries," or that there is accurate information on sources exact locations. They noted that the ocean is the outlet for all aquifers and land water sources. They pointed out that red ʻōpae that are found in tidal and anchialine pools have migrated around the island. They noted that in Waiʻanapanapa near Hana, there is a pool in a cave whose waters turn red every so often. This is due to the circumnavigating of the red ʻōpae around the island. This is an example that water is all connected, and participants questioned how depleting water from one aquifer affects other aquifers.

4.2 Legal Framework

Participants identified several written references that support the legal framework that challenge the practice of government in developing, distributing and controlling water. Collectively, these legal references illustrate 1) the disregard for Kānaka Maoli rights that were provided for in pre-annexation legislation, 2) the subjugation of the Kānaka Maoli in terms of identity and 3) the taking of water rights from the Kānaka Maoli. Specific sections of these suggested references were reviewed for this Feasibility Study. These references include:

- 1839 Constitution (Ke Kumukānāwai o ka Makahiki) (1839). Articles 1-5
- Admission Act. (1959) Pub. L. 86–3, Mar. 18, 1959, 73 Stat. 4
- Aloha ʻĀina: Native Hawaiian Land Restitution, 133 Harvard Law Review 2148 (2020)
- Civil Code of the Hawaiian Islands. (1859). §1477
- HRS §1-1. Common law of the State
- HRS §172-11. Land Patents on land commission awards
- HRS §172-12. Land patents issued after boundary and commutation settled
- HRS §174C-101. Native Hawaiian water rights
- HRS §7-1. Building materials, water, etc.
- Joint Resolution to Provide for Annexing the Hawaiian Island to the United States. (1898). Enrolled Acts and Resolutions of Congress. General Records of the United States Government, 1778-1992. Record Group 11. National Archives

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- Laws of Her Majesty Liliuokalani Queen of the Hawaiian Islands, Passed by the Legislative Assembly at its Session 1892. (1892)
- Memorandum of January 26, 2021, Tribal Consultation and Strengthening Nation-to-Nation Relationships. Federal Register Vol. 86, No. 18, Friday, January 29, 2021, Presidential Documents, 7491-7492
- Organic Act (1900) Pub.L. 56-339, 31 Stat. 141
- Penal Code of the Hawaiian Islands. (1850). Pgs. 202-204
- U.S. Public Law 103-150. (1993). Apology Resolution. 103d Congress Joint Resolution

It is noted that two people were highly offended by the language developed by the Hawai'i Supreme Court in Ka Pa'akai O Ka 'Āina v. Land Use Commission (2000), criteria 3, "the feasible action, if any, to be taken by the agency to reasonably protect such practices if they are found to exist." They felt that ***"if"*** was an insult because it questioned the value of all cultural resources.

4.2.1 Disregard for Kānaka Maoli Rights Provided for in Pre-Annexation Law

Participants felt that the rights of the Nation of Hawai'i laws and constitution are not being honored or acknowledged.

The 1839 Constitution said that 1) it is not proper to enact laws that protect rules only without providing protection for their subjects, and 2) protection is secured to all the people, their lands, their buildings and all their property. Laws must conform to the laws of the kingdom, and nothing shall be taken from any individual except by express provision of the laws.[15] In short, this protects people's possessions, although does not mention rights to water.

In the 1898 Joint Resolution to Provide for Annexing the Hawaiian Islands to the United States, it is said that "the existing laws of the United States relative to public lands shall not apply to such lands in the Hawaiian Islands". However, the government may still enact special laws for the management for civil and militia land so long as these laws are "solely for the benefit of the inhabitants of the Hawaiian Islands for educational and other public purposes." [16]

The Hawaiian Organic Act enacted April 30, 1900, was an act enacted by the United States Congress to establish the Territory of Hawai'i and to provide a constitution and government for the territory. It states all persons who were citizens of the Republic of Hawai'i on August 12, 1898, are declared to be citizens of the United States and citizens of the Territory of Hawai'i, as well United States residents

[15] *1839 Constitution (Ke Kumukānāwai o ka Makahiki) (1839). Articles 1-5.*

[16] *Joint Resolution to Provide for Annexing the Hawaiian Island to the United States. (1898). Enrolled Acts and Resolutions of Congress. General Records of the United States Government, 1778-1992. Record Group 11. National Archives.*

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in the Hawaiian Islands who have resided in Hawai'i for 1 year thereafter. It further states that "the laws of Hawai'i not inconsistent with the Constitution or laws of the United States or the provisions of this Act shall continue in force, subject to repeal or amendment by the legislature of Hawaii or the Congress of the United States." [17]

Participants did not cite any amendments or repeals and believed that the laws of Hawai'i prior to annexation are still in effect.

4.2.2 Subjugation of Kanaka Maoli Identity

The Hawaiian Organic Act was replaced by the Hawai'i Statehood Admission Act of 1959. In Subsection 19, it is stated that "Nothing contained in this Act shall operate to confer United States nationality, nor to terminate nationality heretofore lawfully acquired, or restore nationality heretofore lost under any law of the United States or under any treaty to which the United States is or was a party." [18]

According to participants, this confirms the identity of Kānaka is that of the Lāhui, or nation, and not part of the United States of America. However, subsequent laws, rules and practices identify "Hawaiian" as a citizen of the United States. Participants self-identified as Kānaka Maoli or Kānaka 'Ōiwi. One participant absolutely did not want to be called Hawaiian in this report and emphasized his identity as Kanaka Maoli.

4.2.3 Water Rights

The Penal Code of 1850 establishes that landowners shall not deprive the inhabitants of their right to take various goods provided by the land, although selling such items is prohibited. The Penal Code states, "The people shall also have a right to drinking water, and running water, and the right of way. The springs of water, and running water, and roads shall be free to all, should they need them, on all lands granted in fee-simple, provided that this shall not be applicable to wells and water courses which individuals have made for their own use." [19]

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[17] *Organic Act (1900) Pub.L. 56-339, 31 Stat. 141*

[18] *Admission Act. (1959) Pub. L. 86–3, Mar. 18, 1959, 73 Stat. 4*

[19] *Penal Code of the Hawaiian Islands. (1850). Pgs. 202-204.*

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HRS § 174C-101 codifies Native Hawaiian Water Rights in the Hawaiʻi State Water Code. It states that

- (c) Traditional and customary rights of ahupuaʻa tenants who are descendants of Native Hawaiians who inhabited the Hawaiian Islands prior to 1778 shall not be abridged or denied by this chapter. Such traditional and customary rights shall include, but not be limited to, the cultivation or propagation of taro on one's own kuleana and the gathering of hihiwai, ʻopae, oʻopu, limu, thatch, ti leaf, aho cord, and medicinal plants for subsistence, cultural, and religious purposes.

- (d) The appurtenant water rights of kuleana and taro lands, along with those traditional and customary rights assured in this section, shall not be diminished or extinguished by a failure to apply for or to receive a permit under this chapter. [20]

Participants believe that these provisions continue to endure and are not being followed by government. They said that Kānaka Maoli are still required to go through the water permit process if water is needed to sustain their subsistence, cultural and religious practices. One participant refuses to go through the water permit process and continues to participate in legal water proceedings in the Maui DWS and CWRM.

4.3 Fairness of Water Distribution and Long-Standing Injustice

Participants did not want to see water from their ahupuaʻa transmitted to another region. They especially objected to water being transmitted to resort areas, and South Maui resorts were frequently mentioned. It was reported that these resort areas waste a lot of water and owners are willing to pay fines because they reap significant profits from features that depend on East Maui irrigation water for their golf courses and fancy landscaping. It was also felt that priority is given to residential developers as well. Participants believed that there is no need to develop any more water sources if such water transmission stops and everyone does a better job in conserving water.

Participants noted that, while water is being transported to support tourism, local residents are having difficulty in obtaining water meters. One person has been trying to subdivide his lot into four for his children and needs separate meters for each lot. He has been on a water permit waiting list for 35 years. He noted that in the meantime, people are building more homes in Kula by converting their lots into condominiums, thereby being able to use the same single meter. This means more people using water, resulting in water shortages and restrictions, yet he cannot get his own water meter permit.

[20] *HRS §174C-101. Native Hawaiian water rights.*

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A deeper sense of injustice was explained in the context of the Apology Resolution of 1993, as codified in Public Law 103 – 150 of the 103rd Congress. The following highlights the acknowledgement of U.S. injustice to the Hawaiian nation:

- From 1826-1893, US recognized the independence of the Kingdom of Hawai'i.
- The United States Minister conspired with others to overthrow the indigenous and lawful government of Hawai'i.
- The United States Minister and naval representatives stationed themselves near Iolani Palace to intimidate Queen Lili'uokalani and her government.
- The United States Minister gave power to the Provisional Government without the consent of the Native Hawaiian people or Government of Hawai'i.
- Under the threat of bloodshed, Queen Lili'uokalani yielded authority to the U.S. government instead of the Provisional Government.
- President Grover Clevland concluded that "substantial wrong has thus been done which a due regard for our national character as well as the rights of the injured people requires, we should endeavor to repair" and called for the restoration of the Hawaiian monarchy. However, the revival was protested by the Provisional Government thus annexation continued.
- The Republic of Hawai'i conceded 1.8 million acres of royal, government and public land without consent of Hawaiians or their government.

The Apology Resolution further acknowledged that the health and well-being of the Native Hawaiian people are intrinsically tied to their deep feelings and attachment to the land and that the long-range economic and social changes in Hawai'i over the 19th and early 20th centuries have been devastating to the population and to the health and well-being of the Hawaiian people. Congress apologized to Native Hawaiians on behalf of the U.S. for the overthrow of the Kingdom of Hawai'i on January 17, 1893, and expressed its commitment to acknowledge the ramifications of the overthrow of the Kingdom of Hawai'i to provide a proper foundation for reconciliation between the U.S. and the Native Hawaiian people. [21]

[21] *U.S. Public Law 103-150. (1993). Apology Resolution. 103d Congress Joint Resolution.*

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Participants felt that this formal apology was a start, but that the U.S. has not gone far enough in reconciliation and restitution. They referred us to Chapter 4 of the Aloha ʻĀina: Native Hawaiian Land Restitution prepared by Harvard Law Review.[22] This chapter starts with the proposal for a new Thirty Meter Telescope (TMT) and its surrounding controversy and a description of terms of Hawai'i Supreme Court debate provided by Justice McKenna. TMT is cited as an example and the article argues that the lands of the Hawaiian Kingdom unjustly enriched the United States when the Kingdom was overthrown, and that the State of Hawai'i benefited from the same when Hawai'i was admitted into the Union.

The report notes that Native Hawaiians, like all indigenous peoples in the United States, should view unjust enrichment as a viable legal claim. An unjust enrichment claim gives rise to two possible remedies. First, monetary compensation is a straightforward gain-based restitution remedy. Second, an alternative remedy is restitution of the thing unjustly gained, i.e., land, and courts should not withhold restitution in cases of historical injustices. Once the law of unjust enrichment is unmoored from individual claims between two living parties, other types of historical claims become cognizable.

Participants felt that unjust enrichment is applicable to water, although they noted that there is still a long way to go in developing a remedy that would be within the context of water and reconciliation with Kānaka ʻŌiwi.

[22] *Aloha ʻĀina: Native Hawaiian Land Restitution. (April 2020). Harvard Law Review, 133(6).*

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5 MANAʻO ON SPECIFIC LOCALES

This section summarizes participants' manaʻo that are specific to geographic regions and sites.

- Considered a national and kingdom treasure is a spring, and more importantly the area called ʻŌhiʻa in Waianu. Several springs are located in a small awāwa, or valley, approximately 100 yards across. Up on the ridgeline, on the Hana side of the awāwa is a church complex called Pā Kanaloa, or the enclosure of Kanaloa. Foliage and vegetation growth has taken over now. However, in the time of Kyle Nakanelua's grandmother, who lived from 1911 to 2015, the trees and foliage did not exist in her time. The ʻŌhiʻa Spring was a part of the Pā Kanaloa church complex. There is also a moʻolelo of a priestess referred to as a moʻo who lived below the area and cared for the area where watercress patches are now. This story was conveyed to Kyle's grandmother from her grandmother who saw that priestess who was the guardian of that realm. This area is located on Hana Highway, just past the Halfway to Hana store after the S-turn.

  In terms of how actions being evaluated in the Feasibility Study would affect this area, it was noted that, if drilling into the aquifer depletes the water quantity, the flow of the spring will stop. Any depletion in this area needs to be highly considered.

- James Sagawinit talked about a caretaker who lived in the mountains of Makapipi, where there were Japanese and Filipino residents. The caretaker would look after people who took care of water sources. The caretaker cleared steams with a grass knife and did not use any chemicals. He also used redwood to build flumes and ditches so that grass would not interfere with water source flow to lower elevations. James lived in Nāhiku in the 1940s. While in Nāhiku, there used to be a waterfall with a pond with ʻiliʻili stones, or pebbles, at its base. The waterfall pushed the pebbles outward, thus forming a pond of freshwater right next to the ocean. He gathered oʻopu and ʻōpae. Today, there is no more ʻōpae. When plantations came to Makapipi, they installed a gate at top of the mountain and blocked-off water. Two loʻi kalo in Nāhiku have since dried up.

- It was recommended that the Feasibility Study include an analysis of the effects on aquifer drinking water from the oil spill on Haleakalā that occurred a few months ago. Participants wanted to make sure making sure that the cleanup has been completed or is in process.

- There was concern about the possible construction of a well at the 500 ft elevation on Honopou stream. Taro farmers downstream of this possible well depend on the stream water. The effect of this possible well would be critical. There were times when there was no water coming over the Haʻikū Ditch and that part of the stream was dry. There was concern that tapping more aquifers will harm the ability of downstream kalo farmers to access water.

- Participants expressed concerns about a decreased abundance of fish in the Kanemoeala area, where they dived since childhood. There are two species of āweoaweo, or Hawaiian bigeye tuna, including the endemic *Priacanthus meeki* and the native *Priacanthus cruentatus*. One participant observed that the endemic fish, which is distinguished by its fins and daytime grouping, has become less abundant. Although this fish is not threatened, he believes that the freshwater seeps in the area are possibly providing habitat for planktonic fish that are part of its diet. Putting in wells for drinking water would decrease the freshwater supply in this area, thereby threatening the food supply.

- Participants cited two native bee species in Kanemoeala that stretches to Paʻuela Lighthouse and Manawaiʻiao Stream. The Hawaiian yellow-faced bees are pollinators for coastal vegetation. Both are ground-burrowing and this indicates a relationship between the bees and spring water. There was concern that, by taking water from the aquifers, it would lead to less seepage and less habitat for native vegetation.

- Participants noted that there are a lot of historical sites from Waiheʻe to the North Shore. Infrastructure development has overrun these resources. For cultural practices related to natural resources, i.e. fishing, loʻi kalo, and medicinal herbs, the threat of drilling to reach aquifers was very problematic. As one person said, "Fish in the freezer do not repopulate." In other words, if the water were used up, we cannot reproduce it. Rather, there should be as much stream restoration as possible.

- A participant from East Kuiaha reported that downstream water flow is decreasing even in times of heavy rains. He believes that underground tunnels are interrupting water flow, although he noted that the manmade tunnel system cannot be seen and is not on maps. He filed a complaint with the CWRM about the underground tunnel system. CWRM responded initially that there were no diversions at the river, but later noted that there are four diversions. CWRM also responded that the stream is perennial and that there was no need for an IIFS with this stream because there is not enough water flow. The participant disagrees with these findings.

- A participant has family with land at Pilale Bay. Their mother told them there used to be a flowing pond at the end of Kakipi Stream, but when he were growing up, there was only a stagnant pond. Today, there is no water in that pond.

6 FEASIBLE ACTION TO PROTECT HAWAIIAN RESOURCES

As discussed in Section 1.3, the establishment of the Ka Pa‘akai analysis framework was intended to address a specific geographic area, and later expanded to include government actions, including rulemaking. As discussed in Section 1.2, the Hawai‘i Supreme Court has also applied Ka Pa‘akai in cases addressing construction on Mauna Kea, interim instream flow standards in central Maui and a groundwater use permit on Moloka‘i. With the Hawai‘i Supreme Court’s 2023 ruling that Ka Pa‘akai applies to agencies whenever they act, including rulemaking, the analysis continues to be a meaningful tool in community advocates’ toolboxes whenever new land or water proposals seek government approvals. Implementation of the recommendations of this Feasibility Study would be a government action, and the Hawai‘i Supreme Court’s 2023 holding that Ka Pa‘akai applies to agencies whenever they act, including rulemaking, takes effect.

As discussed earlier, the Ka Pa‘akai analysis for this project encompasses both the larger context of values and legal framework and region- and site-specific resources. Given the “big picture” nature of the Ka Pa‘akai analysis, it is too early to identify or specify feasible actions to protect Hawaiian resources. There are no specific geographical locations and no specific actions. Further, there are ongoing discussions on how to provide restitution for unjust enrichment. It is possible that by the time a project and locations are selected, the legal climate for water and Native Hawaiian rights will have evolved. In any event, continued application of the Ka Pa‘akai analysis is highly recommended.

REFERENCES

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ATTACHMENT A: OUTREACH COMMUNICATIONS TO SOLICIT PARTICIPATION

COUNTY OF MAUI
DEPARTMENT OF WATER SUPPLY
WATER RESOURCES & PLANNING

Brown AND Caldwell

FEASIBILITY STUDY FOR EAST MAUI WATER SOURCE DEVELOPMENT

PHASE 3 KA PA'AKAI ANALYSIS

JULY 2024

FRAMEWORK

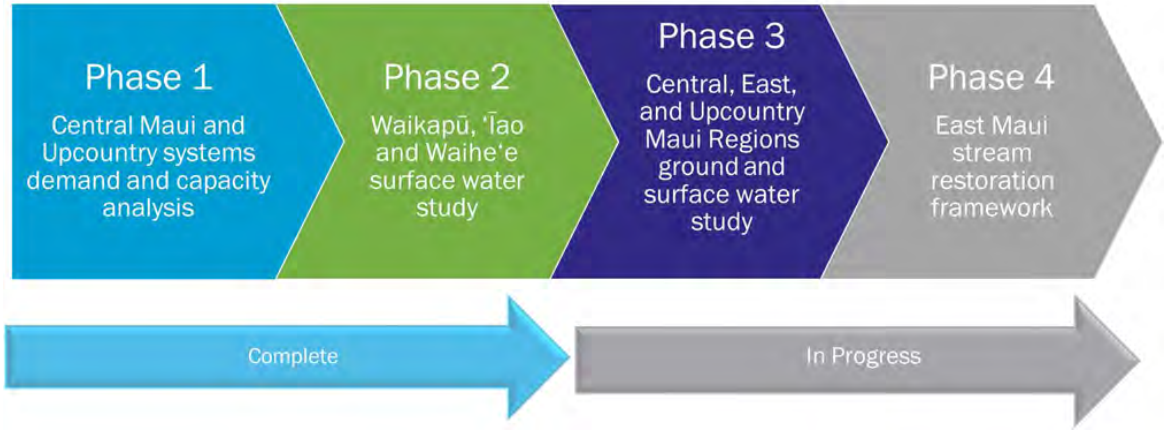
The Hawai'i Constitution requires the State to protect all rights customarily and traditionally exercised for subsistence, cultural and religious purposes and possessed by ahupua'a tenants who are descendants of Native Hawaiians who inhabited the Hawaiian Islands prior to 1778. The Hawai'i Supreme Court case *Ka Pa'akai O Ka 'Aina v Land Use Commission* (2002) established an analytical framework for addressing the preservation and protection of customary and traditional native practices specific to Hawaiian communities. This framework has three parts.

1. Identify whether any valued cultural, historical, or natural resources are present; and identify the extent to which any traditional and customary native Hawaiian rights are exercised;
2. Identify the extent to which those resources and rights will be affected or impaired by the actions under consideration; and
3. Specify the feasible action, if any, to be taken by the regulatory body to reasonably protect native Hawaiian rights if they are found to exist.

THE 4-PHASE FEASIBILITY STUDY FOR EAST MAUI WATER SOURCES

The Maui County Department of Water Supply (DWS) is conducting a Feasibility Study to explore new water sources and related water infrastructure to meet drinking water needs identified in the Water Use and Development Plan. Studies are being conducted in four phases as shown in Figure 1.

Figure 1: Feasibility Study for East Maui Water Sources



Phase 1 was an analysis of water systems demand and capacity in the Central Maui and Upcountry system. This phase has been completed.

Phase 2 was a study of the availability of surface water and a cost/benefit study for possible surface water sources from Waikapū Stream, Wailuku River and Waiheʻe River. The amount available to divert from a stream is legally limited by established Interim Instream Flow Standards (IIFS): "a quantity or flow of water or depth of water which is required to be present at a specific location in a stream system at certain specified times of the year to protect fishery, wildlife, recreational, aesthetic, scenic, and other beneficial instream uses." A Ka Paʻakai Analysis was completed for Phase 2.

Phase 3 is the current phase and involves a rigorous cost / benefit study of surface and groundwater resources available in the Central Maui region, the Upcountry region and the East Maui region. This study includes an evaluation of economic and environmental factors that would help understanding if these water sources would be feasible and how the water would be transmitted to meet potable water needs.

Phase 4 is a Stream Restoration Framework that will identify steps, timeline and potential implementing partners to restore flow to streams in the Haʻikū area.

The Phase 3 area being studied extends from Kahakuloa to Keʻanae, and encompasses the moku of Hāmākualoa, Hāmākuapoko, Koʻolau, Kula, Kaʻanapali, Lāhaina and Pūʻali Komohana. Figure 2 shows the overall study area with groundwater aquifers and moku. Figure 3 shows the study area with surface water streams, ditches and moku. Figures 4 through 6 depict the moku and potential water source options within the moku.

The following table identifies 21 options that are being further studied, the possible actions that are being considered, their respective moku, comments and their locations in Figures 4 through 6.

We stress that no actions are being taken at this time. These options are for the evaluation of the Phase 3 cost /benefit study only.

EAST MAUI FEASIBILITY STUDY

PHASE 3 ALTERNATIVES FOR BENEFIT COST ANALYSIS

ID	Figure	Groundwater Elevation Range / Stream Locations	Moku	Comments
Haʻikū aquifer				
A1	4	Groundwater in Haʻikū aquifer at elevation <500 feet	Hāmākualoa	• Relatively large amount of groundwater potentially available in the aquifer. • Potential contamination sources (historic pineapple cultivation, onsite sewage disposal systems) in some areas. • Potential to impact groundwater dependent ecosystems (coastal wetlands and estuaries). • Area may have slightly less groundwater recharge in a future climate scenario. • Infrastructure requirements may include construction of an access road from the nearest public road to the well site, well drilling, storage tank, transmission infrastructure, and treatment as required.
A2	4	Groundwater in Haʻikū aquifer at elevation 500-1500 feet		
A3	4	Groundwater in Haʻikū aquifer at elevation 1500-4000 feet		
Makawao aquifer				
B1	5	Groundwater in Makawao aquifer at elevation 500-1500 feet	Hāmākuapoko Kula	• Medium amount of groundwater potentially available in the aquifer. • Few potential contamination sources (historic pineapple cultivation, onsite sewage disposal systems). • Minimal impact to groundwater dependent ecosystems. • Area may have less groundwater recharge in a future climate scenario. • Infrastructure requirements may include construction of an access road from the nearest public road to the well site, well drilling, storage tank, transmission infrastructure, and treatment as required.
B2	5	Groundwater in Makawao aquifer at elevation 1500-4000 feet		

Kamaʻole aquifer				
C1	5	Groundwater in Kamaʻole aquifer at elevation <500 feet	Kula Honuaʻula	• Medium amount of groundwater potentially available in the aquifer. • Potential contamination sources in some areas (historic pineapple cultivation, onsite sewage disposal systems) and risk of saltwater intrusion at low elevations. • Potential impacts to groundwater dependent ecosystems. • Area may have less groundwater recharge in a future climate scenario. • Infrastructure requirements may include construction of an access road from the nearest public road to the well site, well drilling, storage tank, transmission infrastructure, and treatment as required.
C2	5	Groundwater in Kamaʻole aquifer at elevation 1500-4000 feet		
Waikamoi aquifer				
D1	4	Groundwater in Waikamoi aquifer at elevation <500 feet	Hāmākualoa Koʻolau	• Relatively high amount of groundwater potentially available in the aquifer. • Few potential contamination sources. • Potential impacts to groundwater dependent ecosystems. • Area may have more groundwater recharge in a future climate scenario. • Infrastructure requirements may include construction of an access road from the nearest public road to the well site, well drilling, storage tank, transmission infrastructure, and treatment as required
D2	4	Groundwater in Waikamoi aquifer at elevation 500-1500 feet	Hāmākualoa Koʻolau	
Pāʻia aquifer				
E	5	Groundwater in Pāʻia aquifer at elevation <500 feet	Kula Hāmākuapoko	• Medium amount of groundwater potentially available in the aquifer. • Multiple potential contamination sources (historic pineapple cultivation, onsite sewage disposal systems). • Potential impacts to groundwater dependent ecosystems. • Area may have less groundwater recharge in a future climate scenario. • Infrastructure requirements may include construction of an access road from the nearest public road to the well site, well drilling, storage tank, transmission infrastructure, and treatment as required.

Waikapū aquifer				
F	6	Groundwater in Waikapū aquifer at elevation <500 feet	Pūʻali Komohana Lāhainā	• Relatively small amount of groundwater potentially available in the aquifer. • Potential contamination sources in some areas (historic pineapple cultivation, onsite sewage disposal systems) and risk of saltwater intrusion. • Minimal impact to groundwater dependent ecosystems. • Area may have less groundwater recharge in a future climate scenario. • Infrastructure requirements may include construction of an access road from the nearest public road to the well site, well drilling, storage tank, transmission infrastructure, and treatment as required.
Keʻanae aquifer				
G	4	Groundwater in the Keʻanae aquifer at elevation <500 feet	Koʻolau	• Relatively large amount of groundwater potentially available in the aquifer. • Few potential contamination sources. • Potential impacts to groundwater dependent ecosystems. • Area may have more groundwater recharge in a future climate scenario. • Infrastructure requirements may include construction of an access road from the nearest public road to the well site, well drilling, storage tank, transmission infrastructure, and treatment as required.
Honopou aquifer				
H	4	Groundwater in the Honopou aquifer at elevation 500-1500 feet	Hāmākualoa	• Medium amount of groundwater potentially available in the aquifer. • Few potential contamination sources. • Potential impacts to groundwater dependent ecosystems. • Area may have more groundwater recharge in a future climate scenario. • Infrastructure requirements may include construction of an access road from the nearest public road to the well site, well drilling, storage tank, transmission infrastructure, and treatment as required.

Waiheʻe aquifer				
I	6	Groundwater in the Waiheʻe aquifer at elevation 500-1500 feet	Pūʻali Komohana Kāʻanapali	• Relatively low amount of groundwater potentially available in the aquifer. • Few potential contamination sources. • Potential impacts to groundwater dependent ecosystems. • Area may have less groundwater recharge from rain in the future. • Close to roads and existing water system. • Infrastructure requirements may include construction of an access road from the nearest public road to the well site, well drilling, storage tank, transmission infrastructure, and treatment as required.
East Maui Reallocate Stream Water from Wailoa Ditch				

J	4	Reallocate permitted uses of Wailoa Ditch water to Maui County through BLNR license and/or agreement between EMI and Maui County	Koʻolau
			Hāmākualoa
				• Relatively large amount of surface water potentially available.
				• Moderate reliability of surface water throughout the year.
				• Infrastructure requirements may include:
				  ○ No new stream diversions. Utilize existing stream diversions and ditch to convey raw water.
				  ○ Construct new reservoirs near Kamole Water Treatment Facility.
				  ○ Construct a new water treatment facility or expand Kamole Water Treatment Facility.

Waiheʻe River Reallocate Agricultural Water				

K	6	Reallocate permitted “off-stream reasonable and beneficial uses” of Waiheʻe River to Maui County	Hāmākuapoko
			Kula
				• Medium amount of surface water potentially available.
				• Moderate reliability of surface water throughout the year.
				• Infrastructure requirements may include:
				  ○ Utilize existing reservoirs and raw water transmission systems.
				  ○ Construct a new water treatment facility.

Lower Kula Stream Water System Expansion				
L	5	Increase the capacity of Lower Kula System raw water transmission infrastructure between existing stream diversions and Piʻiholo Reservoir	Hāmākuapoko Kula	• Medium amount of surface water potentially available. • Moderate availability of surface water throughout the year. • Infrastructure requirements may include: ○ No new stream diversions. Replace existing pipes with larger ones. ○ Construct an additional reservoir with raw water transmission pipes and connection to the Piʻiholo Water Treatment Facility.
Upper Kula Stream Water System Expansion				
M	5	Increase the capacity of Upper Kula System raw water transmission infrastructure between the stream diversions and Olinda Reservoirs (Waikamoi or Kahakapao)	Hāmākuapoko Kula	• Relatively small amount of surface water available. • Moderate availability of surface water throughout the year. • Infrastructure requirements may include: ○ No new stream diversions. Replace existing raw water transmission pipes with larger ones to capture available raw water. ○ No new reservoirs anticipated for this strategy.
East Maui High Flows from Wailoa Ditch				
N	4	Capture high flows from Wailoa Ditch during high flows Q_{50} and above	Koʻolau Hāmākualoa	• Relatively large amount of surface water available. • Limited availability of high flows throughout the year. • Infrastructure requirements may include: ○ No new stream diversions. Utilize existing stream diversions and ditch to convey raw water. ○ Construct new reservoirs near Kamole Water Treatment Facility. ○ Construct a new water treatment facility or expand Kamole Water Treatment Facility.

Waiheʻe River High Flows				
O	6	Capture high flows from Waiheʻe River during high flows Q_{50} and above	Pūʻali Komohana	• Medium amount of surface water available. • Limited availability of high flows throughout the year. • Infrastructure requirements may include: ○ Construct a new diversion to capture high flows only on Waiheʻe River near the Spreckels Ditch diversion. ○ Construct a new reservoir and a new water treatment facility
Wailuku River High Flows				
P	6	Capture high flows from Wailuku River during high flows Q_{50} and above	Pūʻali Komohana	• Medium amount of surface water available. • Limited availability of high flows throughout the year. • Infrastructure requirements may include: ○ Construct a new diversion to capture high flows only on Wailuku River near the Spreckels Ditch diversion. ○ Improve existing Waiʻale Reservoir, construct a new reservoir, and construct a new water treatment facility.

Figure 2: Study Area with Groundwater Aquifers

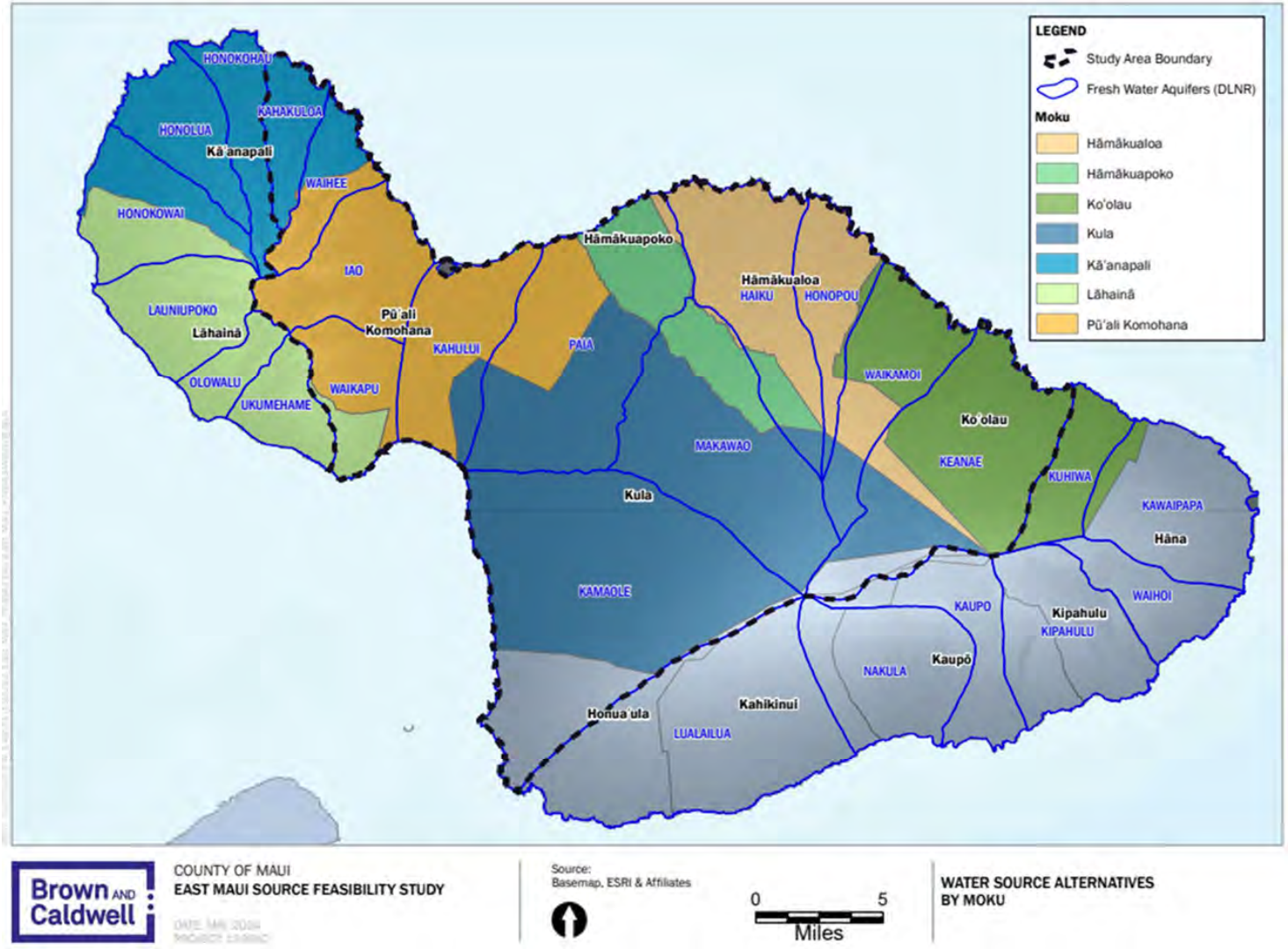


Figure 3: Study Area with Streams and Ditches

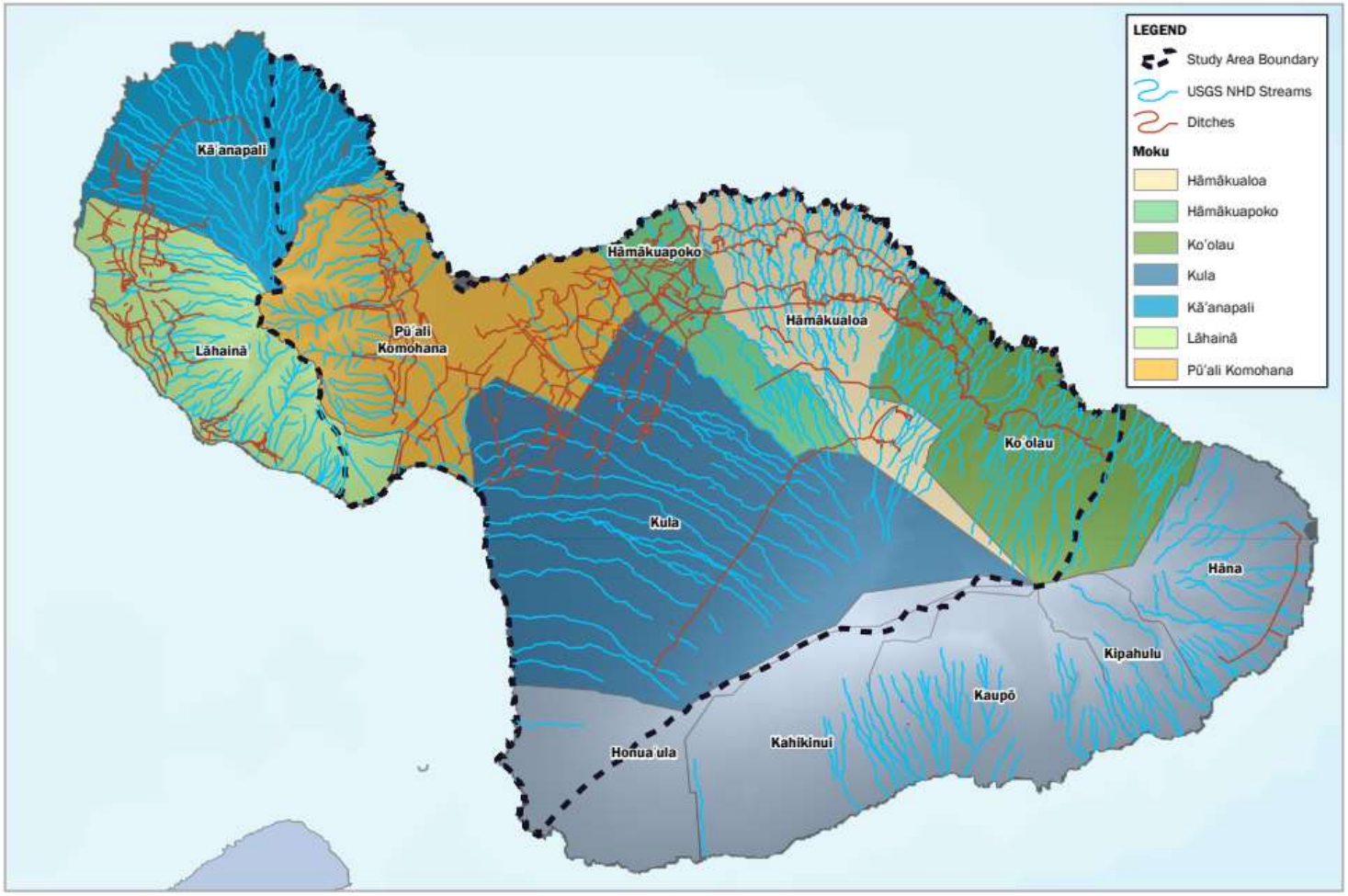
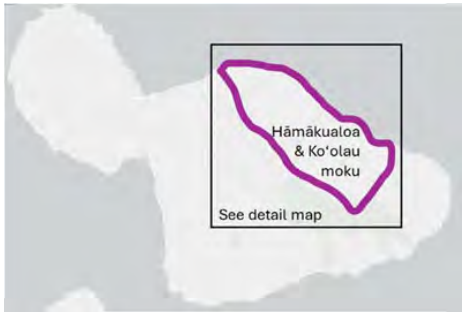


Figure 4: Hāmākualoa & Koʻolau moku

Haʻikū, Honopou, Waikamoi & Keʻanae aquifers



NOTE: This map represents a conceptual planning study for the County of Maui. No projects are proposed at this time.

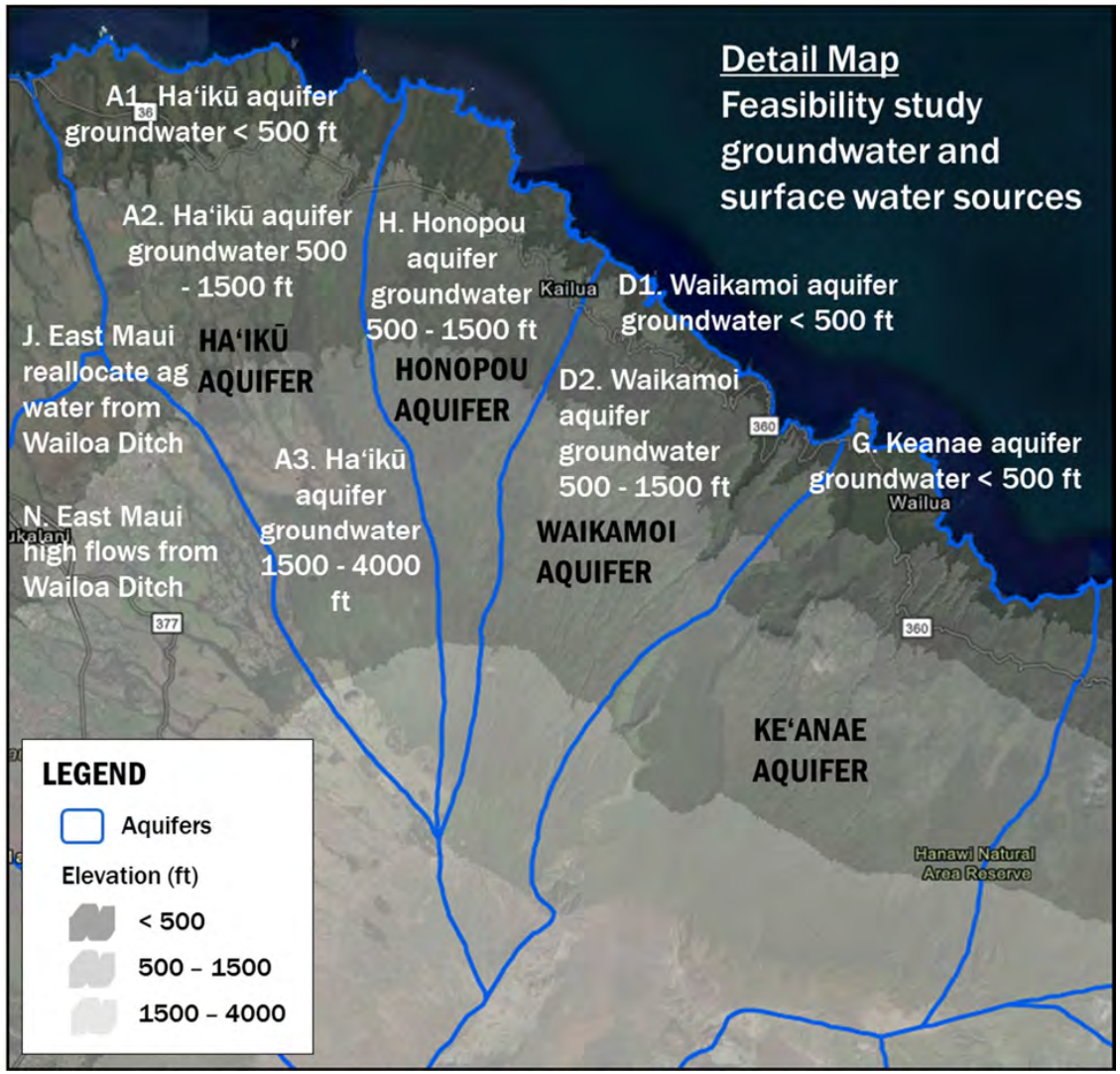


Figure 5: Kula, Hāmākuapoko & Honua‘ula moku

Makawao, Pā‘ia & Kamaole aquifers

NOTE: This map represents a conceptual planning study for the County of Maui. No projects are proposed at this time.

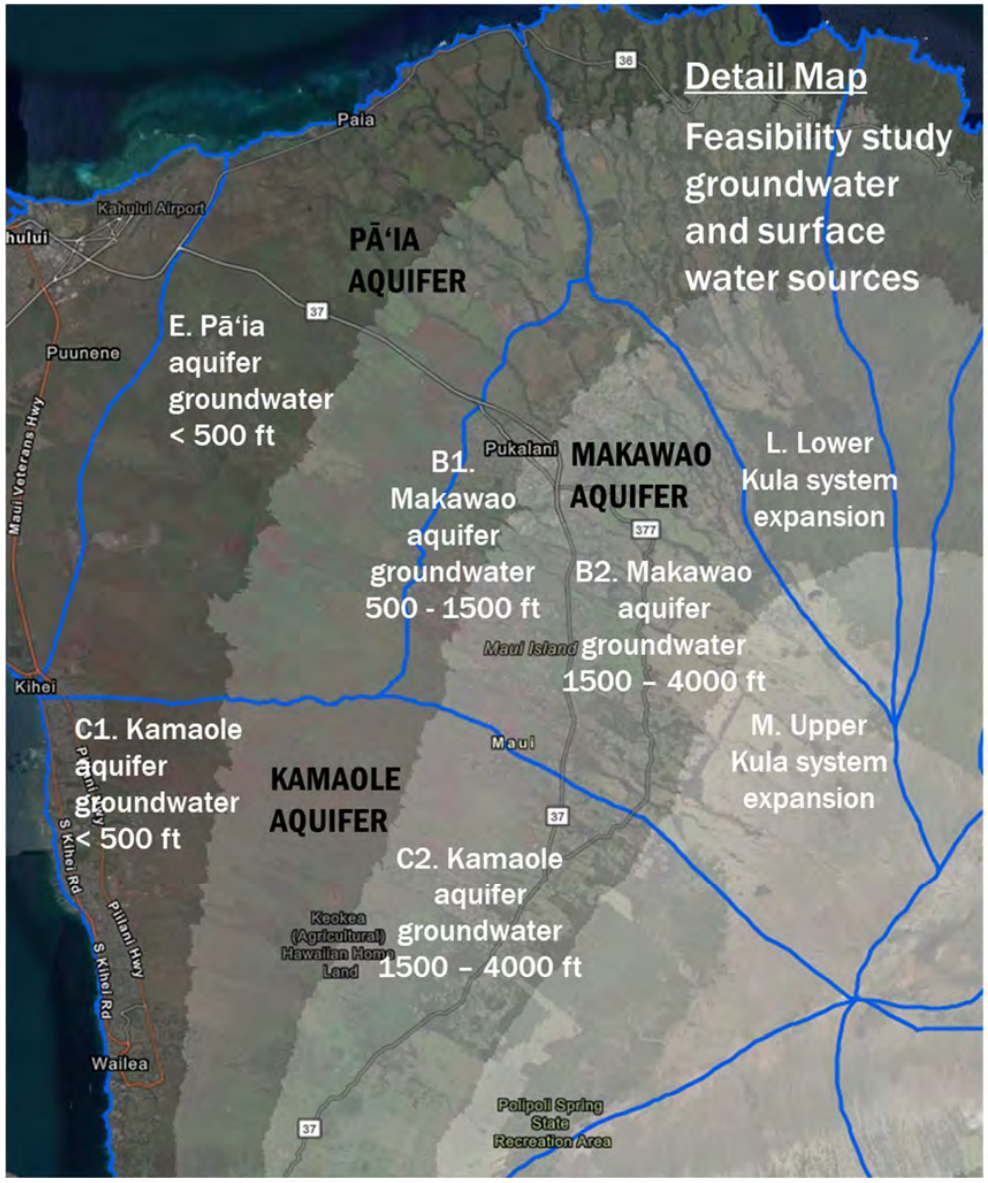
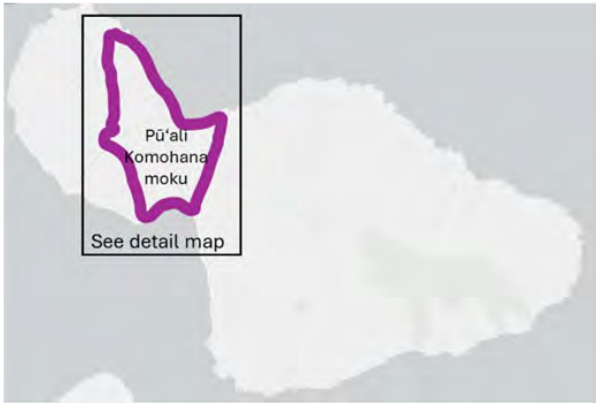
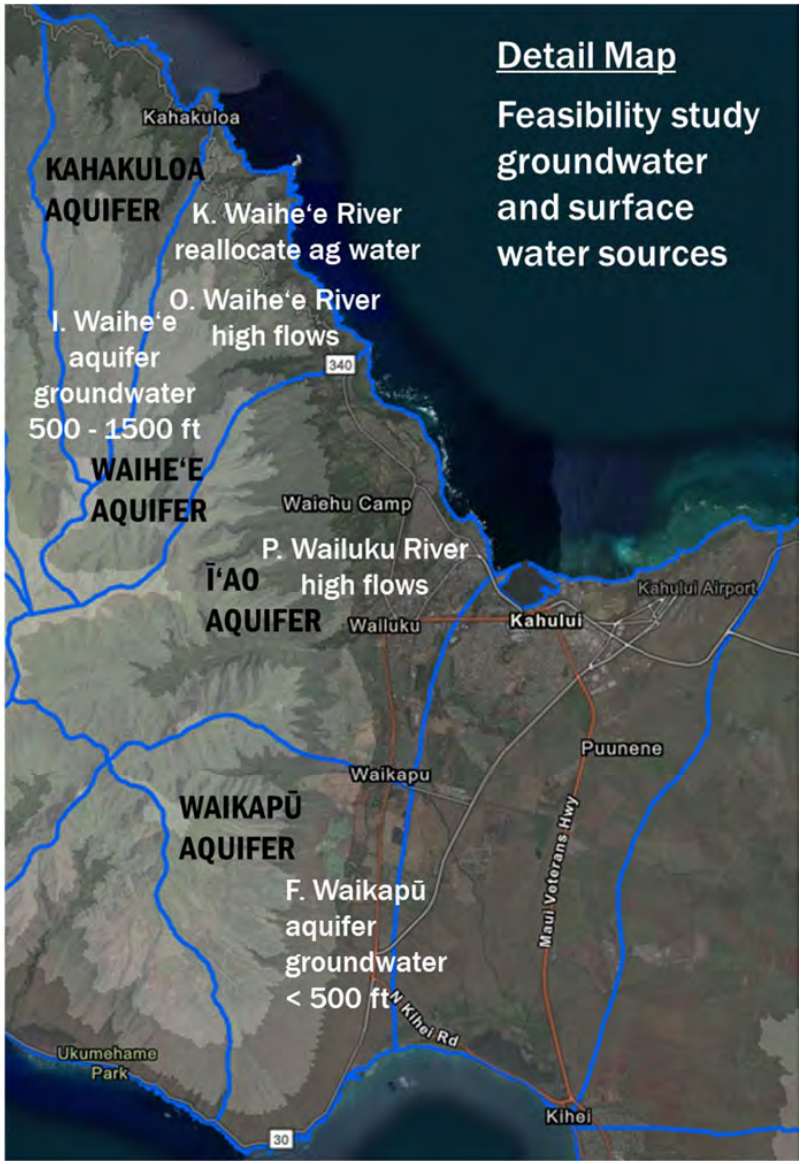


Figure 6: Pūʻali Komohana moku

Kahului, Waikapū, Īʻao & Waiheʻe aquifers



NOTE: This map represents a conceptual planning study for the County of Maui. No projects are proposed at this time.



KA PA‘AKAI FOR THIS STUDY

This Feasibility Study for East Maui Source Development is undertaken to comply with the Consent Decree in The Coalition to Protect East Maui Water Resources, et al. v. The Board of Water Supply, et al (2003). Terms and Conditions 4.2 states that “Before any new project is planned by the County of Maui to develop groundwater in the agreed-upon portion of the East Maui Region, the County will undertake a Cost/Benefit Study of the surface and groundwater resources available in the Central Maui region, Upcountry Region and East Maui Region.”

We are seeking your mana‘o on the three-part framework regarding Phase 3: Cost/Benefit study of surface and groundwater resources available in the Central Maui Region, the Upcountry region and the East Maui region, of East Maui Water Source Feasibility Study.

Specifically, your input regarding the following would be greatly appreciated.

1. Identify whether any valued cultural, historical, or natural resources are present; and identify the extent to which any traditional and customary native Hawaiian rights are exercised;

2. Identify the extent to which those resources and rights will be affected or impaired by the actions under consideration, and

3. Specify options for feasible actions, if any, that could be taken by the regulatory body to reasonably protect native Hawaiian rights if they are found to exist.

If you have questions, please email Berna Senelly at Oceanit at mauiwaterstudy@oceanit.com. She may also be reached by phone at 808.954.4221.

Mahalo for your attention and input!

Acronyms and Abbreviations

<	Less than
Ag	agricultural or agriculture
et. al.	and others
IIFS	Interim Instream Flow Standards
Q_{50}	amount of water flowing in a stream 50 percent of the time
v.	versus