

C. Kimo Alameda, PhD.
Mayor



John Pelletier
Vacant
Heather Korotie
Vacant
Charles Young, Chair
Nancy Pisicchio, Vice-Chair
Charla Thompson
David Huerta
Roselyn Molina

County of Hawai‘i KONA COMMUNITY DEVELOPMENT PLAN ACTION COMMITTEE

Aupuni Center • 101 Pauahi Street, Suite 3 • Hilo, Hawai‘i 96720
(808) 961-8288 • Fax (808) 961-8742

NOTICE OF PUBLIC MEETING

NOTICE IS HEREBY GIVEN of the following matters to be considered by the Kona Community Development Plan (CDP) Action Committee (AC) in accordance with the provisions of Sections 92-3.7 and 92-7, Hawai‘i Revised Statutes (HRS). This meeting will be held in-person at the location listed in this notice and by Interactive Conference Technology (ICT) through Zoom.

DATE: Tuesday, July 8, 2025

TIME: 12:00 PM – 2:00 PM

LOCATION: West Hawai‘i Civic Center, B2 Conference Room
74-5044 Ane Keohokalole Highway
Kailua-Kona, HI 96740

ZOOM: <https://www.zoomgov.com/meeting/register/FA7LtaV2SGqj7Metamp6mQ>

INTERACTIVE CONFERENCE TECHNOLOGY (ICT): A meeting held by ICT shall be automatically recessed for up to 30 minutes to restore communication when audiovisual communication cannot be maintained with all members participating in the meeting or with the in-person location identified in this notice. The meeting may reconvene when either audiovisual communication is restored, or audio-only communication is established after an unsuccessful attempt to restore audiovisual communication. If it is not possible to reconvene the meeting as provided in this subsection within 30 minutes after an interruption to communication, the meeting will be automatically terminated.

PUBLIC TESTIMONY: The public may provide oral testimony at the meeting by joining Zoom or attending in-person at the physical location listed above. Although not required, to register in advance for oral testimony please contact staff at cdp@hawaiiicounty.gov or (808) 961-8288. Pursuant to Section 92-3, HRS, interested persons who want to provide oral testimony may do so either at the time the committee takes public statements on the agenda, or at the time the specific agenda item is called. Please note that public testimony may be limited to three (3) minutes in length per agenda item. In addition, although not required, to ensure timely delivery of written testimony to committee members, it is requested that written testimony be submitted by 4:30 p.m. at least two business days prior to the meeting via email to cdp@hawaiiicounty.gov. When submitting written testimony, please specify for which agenda item written testimony is being submitted. All written testimony will be a part of the public record.

AGENDA

- I. **CALL TO ORDER & ROLL CALL**
- II. **APPROVAL OF THE MINUTES** – The Committee will consider approving the draft minutes from the May 13, 2025, and June 10, 2025, meetings.

III. **PUBLIC TESTIMONY ON AGENDA ITEMS** – Pursuant to Section 92-3, HRS, interested persons who want to provide oral testimony may do so now, or at the time the specific agenda item is called. Public testimony may be limited to three (3) minutes in length per agenda item.

IV. **BUSINESS**

1. **Keauhou Aquifer Adaptive Management Plan** – Presentation by representatives of the state Commission on Water Resource Management (CWRM) on their proposed Adaptive Management Plan for the Keauhou Aquifer.

V. **PUBLIC TESTIMONY ON MATTERS NOT ON AGENDA** – Public testimony may be limited to three (3) minutes per speaker. (Pursuant to SB 869)

VI. **THIRD-PARTY REPORTS; GOVERNMENT OFFICIALS** – The Action Committee may receive and discuss information from third-party reports by any government official not included in a publicly noticed agenda. The Action Committee may only make decisions on matters originally raised by third-party reports from any government official at a later meeting, where the agenda for the meeting gives notice of decision-making on the matter. (Pursuant to SB 405)

VII. **NEW BUSINESS** – The Committee will discuss potential agenda items for the next meeting.

VIII. **ANNOUNCEMENTS**

- The Environmental Notice – University of the Nations, Kona Inc. Master Plan Update – Final EIS Vol 1 and Vol 2 https://files.hawaii.gov/dbedt/erp/The_Environmental_Notice/2025-06-23-TEN.pdf
- The Planning Department is currently seeking applicants for the Kona CDP Action Committee and the Cultural Resources Commission and requests assistance in spreading the word to interested community members. The application can be found on the Mayor's office website at: <https://records.hawaiicounty.gov/weblink/ElectronicFile.aspx?openfile=true&dbid=1&docid=138200>

IX. **ADJOURNMENT**

NOTICE: This agenda and all related documents are available in the Planning Department's Kona Community Development Plan Action Committee folder via the County of Hawai'i Public Documents Repository: <https://records.hawaiicounty.gov/weblink/Browse.aspx?dbid=1&startid=9059&row=1&cr=1>. These documents may also be requested from the Planning Department by calling (808) 961-8288 or emailing cdp@hawaiicounty.gov. The recorded video of this meeting will be uploaded to the Planning Department's YouTube channel: <https://www.youtube.com/@cohplanningdepartment>

The purpose of the public hearings is to afford all interested persons a reasonable opportunity to be heard on the above items. A person desiring to submit oral or written testimony shall indicate their name and whether the testimony is on their behalf or as a representative of an organization or individual. Written testimony can be submitted via email or hard copy. Hard copies should include an original and nine copies and be submitted no later than 4:30pm two business days prior to the meeting.

Anyone who requires an auxiliary aid or service, other reasonable modification, or language interpretation to access this meeting please contact the Planning Department at (808) 961-8288 or cdp@hawaiicounty.gov as soon as possible, but no later than five business days prior to the meeting date, to arrange for accommodations. If a response is received after the five-business days deadline, we will try to obtain the auxiliary aid/service or accommodation, but we cannot guarantee that the request will be fulfilled. "Other reasonable modification" refers to communication methods or devices for people with disabilities who are mentally and/or physically challenged. Upon request, this notice is available in alternate formats such as large print, Braille, or electronic copy.

If you are a lobbyist, you must register with the Hawai‘i County Clerk within five days of becoming a lobbyist. (Article 15, Section 2-91.3(b), Hawai‘i County Code). A lobbyist means, “any individual engaged for pay or other consideration who spends more than five hours in any month or \$275 in any six-month period for the purpose of attempting to influence legislative or administrative action by communicating or urging others to communicate with public officials.” (Article 15, Section 2-91.3(a)(6), Hawai‘i County Code). Registration forms and expenditure report documents are available at the Office of the County Clerk-Council, 25 Aupuni Street, Hilo, Hawai‘i 96720.

KONA CDP ACTION COMMITTEE
CHARLES YOUNG, Chair

Meeting Packet QR Code:



1 KONA COMMUNITY DEVELOPMENT PLAN
2 ACTION COMMITTEE
3 COUNTY OF HAWAII

4 DRAFT MINUTES
5 May 13, 2025

6 **CALL TO ORDER**

7 Chair Charles Young called the Kona Community Development Plan (CDP) Action Committee
8 (AC) to order at 12:02 p.m. This meeting was held in person at the West Hawai'i Civic Center, B2
9 Conference Room and online via the Zoom platform.

10 The full YouTube video of this meeting can be found here:
11 <https://www.youtube.com/watch?v=OpLUTaqOkTg&t=200s>

12 **ROLL CALL**

13 Members Present (in person): Nancy Pisicchio (Vice-Chair), John Pelletier, and Charla Thompson

14 Members Present (via Zoom): David Huerta and Heather Korotie

15 Members Absent: Roselyn Molina and Charles Young (Chair)

16 County Staff Present (in person): Kawelo Kalili and Jessica Lahip

17 County Staff Present (via Zoom): Maryam Palma and Janice Hata

18 One (1) member of the public attended the meeting in person; no participants joined via Zoom.

19 **APPROVAL OF MINUTES**

20 Committee member Pelletier moved to approve the minutes of the April 8, 2025, meeting as
21 drafted. Committee member Thompson seconded the motion. The motion passed unanimously.
22 *[SEE YOUTUBE TIMESTAMP 2:19]*

23 **PUBLIC TESTIMONY**

24 There was no public testimony at this time.

25 **BUSINESS:**

26 **1. Mayor's Community Meeting Update** – Update from Action Committee member John
27 Pelletier, followed by a discussion on potential Committee actions. *[SEE YOUTUBE*
28 *TIMESTAMP: 3:40]*

29 This item was called to order at 12:05 p.m.

30 Committee member Pelletier reported that the recent community Q&A session with the Mayor
31 in Kona was productive, with strong public turnout and representation from all County
32 departments. Staff were available to answer questions on a range of infrastructure topics,
33 including park repairs. During the second half of the meeting, which featured one-on-one
34 discussions, committee member Pelletier engaged with staff about the Keauhou Regional Park,

the R1 water issue, and funding for wastewater treatment. Transportation concerns – such as bus stop locations – were also addressed. Committee member Pelletier emphasized the value of Action Committee members attending these events in person to build relationships and help advance key community projects.

Vice-Chair Pisicchio added that these discussions align with the priorities outlined in the Action Committee’s recent letter to the Finance Committee, highlighting the group’s focus on environmental protection and infrastructure improvements.

This item concluded at 12:15 p.m.

2. **Tree City, USA Update** – Update from Action Committee member Charla Thompson, followed by a discussion on potential Committee actions. [SEE YOUTUBE TIMESTAMP 12:36]

This item was called to order at 12:15 p.m.

Committee member Thompson shared her ongoing efforts to revive Kona’s Tree City USA designation – a program that recognizes communities committed to urban forestry. Introduced to the initiative by Vice-Chair Pisicchio, Thompson connected with forestry subject matter experts and members of the Outdoor Circle, including Director Winston Welch, who expressed strong support for revitalizing the Kona branch. The Tree City USA program offers benefits such as community beautification, increased civic engagement, and access to grant opportunities. To qualify, the County must meet four criteria: designate an arborist, adopt a tree care ordinance, allocate a minimum of \$2 per capita for forestry, and hold an annual Arbor Day observance. Although the County previously held the designation, it lapsed due to staffing changes.

Vice-Chair Pisicchio moved to approve the draft Tree City letter for signature by the Chair and submission to the Mayor by staff. Committee member Pelletier seconded the motion. The motion passed unanimously. [SEE YOUTUBE TIMESTAMP 28:50]

This item concluded at 12:31 p.m.

3. **Update on SB1602, SD1** – Vice-Chair Pisicchio will provide an update on the bill’s status in the current legislative session. [SEE YOUTUBE TIMESTAMP 29:33]

This item was called to order at 12:31 p.m.

Vice-Chair Pisicchio provided an update on Senate Bill 1602, SD1, which allocates funding to monitor the Keauhou Aquifer through two wells – one for surface water and one for deep water. The bill, along with a \$4 million budget appropriation, had passed the Legislature and was awaiting the Governor’s signature. Committee members expressed strong support for the initiative and appreciation for the unified backing from state legislators. They emphasized the importance of this investment in advancing Kona’s water resource management and long-term planning efforts.

This item concluded at 12:34 p.m.

4. **Update on SB869, SD1** – Vice-Chair Pisicchio will provide an update on the bill’s status in the current legislative session. [SEE YOUTUBE TIMESTAMP 31:34]

74 This item was called to order at 12:34 p.m.

75 Vice-Chair Pisicchio provided an update on Senate Bill 869, SD1, which proposes amendments
76 to Chapter 92 of the Sunshine Law to allow CDP Action Committees to operate under
77 neighborhood board rules. The bill had passed the Legislature and was awaiting the Governor's
78 signature. Committee members expressed optimism about the proposed changes, noting that
79 they would offer greater flexibility and enhance the effectiveness of the Action Committees.

80 This item concluded at 12:35 p.m.

81 **PROPOSED AGENDA ITEMS FOR NEXT MEETING:**

82 *[SEE YOUTUBE TIMESTAMP 32:21]*

83 1. Keauhou Aquifer Adaptive Management Plan Presentation

84 **ADJOURNMENT**

85 The meeting was adjourned at 12:40 p.m. *[SEE YOUTUBE TIMESTAMP 36:29]*

86 These minutes and all related documents are available in the Planning Department's Kona
87 Community Development Plan Action Committee folder via the County of Hawai'i [Public](#)
88 [Documents Repository](#). These documents may also be requested from the Planning Department by
89 calling (808) 961-8288 or emailing cdp@hawaiicounty.gov.

1 KONA COMMUNITY DEVELOPMENT PLAN
2 ACTION COMMITTEE
3 COUNTY OF HAWAI'I

4 DRAFT MINUTES
5 June 10, 2025

6 **CALL TO ORDER**

7 Chair Charles Young called the Kona Community Development Plan (CDP) Action Committee
8 (AC) to order at 12:03 p.m. This meeting was held in person at the West Hawai'i Civic Center, B2
9 Conference Room and online via the Zoom platform.

10 The full YouTube video of this meeting can be found here:
11 <https://www.youtube.com/watch?v=80ECudSgiAM>

12 **ROLL CALL**

13 Members Present (in person): Charles Young (Chair) and Nancy Pisicchio (Vice-Chair)

14 Members Present (via Zoom): John Pelletier

15 Members Absent: Roselyn Molina, David Hureta, Heather Korotie, and Charla Thompson

16 County Staff Present (in person): Kawelo Kalili and Maryam Palma

17 There were approximately 2 members of the public in attendance (2 in person and 0 via Zoom).

18 The committee did not meet quorum; therefore, no decisions were made.

19 **APPROVAL OF MINUTES**

20 The minutes were not approved due to lack of quorum.

21 **PUBLIC TESTIMONY**

22 There was no public testimony.

23 **BUSINESS:**

- 24 **1. Outreach on Sunshine Law Updates** – Discussion and potential decision making on
25 updating government officials on allowable interactions with the committee since the
26 adoption of SB 869, relating to Community Outreach Boards. [*SEE YOUTUBE*
27 *TIMESTAMP 3:36*]

28 The Action Committee (AC) discussed the need for greater clarity and education regarding
29 recent Sunshine Law updates. Members expressed interest in organizing a presentation from
30 the State Office of Information Practices (OIP), ideally through a joint session for all ACs or
31 for chairs and vice chairs. The goal would be to help members feel more confident and
32 informed about the legal requirements.

There was also a suggestion to draft a general invitation for government officials to attend future meetings and provide updates relevant to the community. The idea was to make the meetings more informative and welcoming without putting pressure on attendees.

The conversation touched on how recent legislative changes might help reduce long-standing frustrations related to quorum issues. The updates may allow more flexibility in scheduling and participation, including the ability for multiple members to attend community events or meetings without the need for formal agenda notices. Members recognized this as a positive development for accessibility and community engagement.

2. Kona International Airport (KOA) Master Plan Update – Update from Action Committee member John Pelletier, followed by a discussion on potential Committee actions. [*SEE YOUTUBE TIMESTAMP 10:21*]

The AC received an update from Committee Member Pelletier regarding the Kona International Airport's master plan update process. Member Pelletier had attended an initial stakeholder meeting and reported that the planning team emphasized aligning the airport's development with the Kona Community Development Plan (CDP). The update process is expected to take place over the course of the year and involves consultants and a range of stakeholders. The AC expressed appreciation that the CDP is being recognized in other planning efforts. There was support for having a committee representative continue participating in future meetings and providing updates to help maintain alignment and community involvement.

3. Keauhou Aquifer Water Management Plan Update – Update from Action Committee Chair Charlie Young, followed by a discussion on potential Committee actions. [*SEE YOUTUBE TIMESTAMP 15:02*]

The AC discussed the upcoming outreach efforts tied to the state's adaptive management plan focused on the Keauhou aquifer. Members considered the possibility of inviting representatives from the planning team to present at a future meeting, noting that the committee could serve as a neutral and public forum for community engagement. It was suggested that such a presentation could be scheduled between regular meetings, given the recent changes that allow more flexible scheduling.

There was also interest in potentially inviting Councilmember Inaba to speak on a related water management resolution, although some felt that both topics may be too substantial for a single agenda and would be better addressed in separate meetings.

The group discussed recent water-related webinars hosted by the Department of Health and emphasized the growing community interest in understanding water issues, including groundwater flow, contaminants, and aquifer cleanup. Members shared resources and agreed that ongoing engagement and coordination between different agencies and initiatives are essential.

70 The conversation touched on the recently signed State Bill 1602, which provides funding for
71 monitoring wells. Committee members emphasized the importance of incorporating data from
72 these wells into the adaptive management process. There was support for inviting state-level
73 officials involved in the legislation and aquifer planning to participate in future discussions,
74 pending confirmation and scheduling.

75 Josephine Keliipio provided testimony regarding concerns about unannounced power shutoffs
76 and their impact on water access, especially in neighborhoods reliant on electric pumps. She
77 emphasized the need for residents to prepare for extended outages and questioned what
78 resources or plans are in place to support affected communities. [SEE YOUTUBE TIMESTAMP
79 30:34]

80 **PROPOSED AGENDA ITEMS FOR NEXT MEETING:** [SEE YOUTUBE TIMESTAMP
81 42:44]

- 82 1. Keauhou Aquifer Adaptive Management Plan Presentation
- 83 2. Bill 63 Proposal

84 **ADJOURNMENT**

85 The meeting was adjourned at 12:58 p.m. [SEE YOUTUBE TIMESTAMP 55:43]

86 These minutes and all related documents are available in the Planning Department's Kona
87 Community Development Plan Action Committee folder via the County of Hawai'i [Public](#)
88 [Documents Repository](#). These documents may also be requested from the Planning Department by
89 calling (808) 961-8288 or emailing cdp@hawaiiicounty.gov.

Project Description

3.12.25

**BUILDING AN ADAPTIVE MANAGEMENT PLAN
FOR THE KEAUHOU AQUIFER SYSTEM AREA**

The Commission on Water Resource Management (CWRM) is reconsidering its approach to adaptive groundwater management in the Keauhou Aquifer System Area. Because current and planned groundwater withdrawals from the Keauhou aquifer area have possible wider implications across the entire aquifer area, CWRM intends to expand the study zone originally requested by the National Historic Park to include the entire ahupua'a in the Keauhou Aquifer System Area. We will be assisted in this effort by Peter S. Adler, PhD and Isabella Roberson, Project Assistant.¹

Objectives

Between March and September of 2025, the Commission on Water Resource Management (CWRM) will be developing a robust model for an Adaptive Management Plan (AMP) for the Keauhou Aquifer System Area on the Island of Hawai'i. The goal is to move the topic of Keauhou GDEs from dialogue to applied, actionable science. Further, it is hoped that this plan will serve as a useful framework for AMPs in other areas of CWRM's jurisdiction.

Specifically for Keauhou, the plan will be used to:

- (1) inform what conditions may need to be attached to withdrawal permits;
- (2) establish monitoring indicators and potential mitigative strategies, and
- (3) set in place a framework and timeline for AMP updates that will respond to gaps in information.

Starting Points

¹ Peter S. Adler, PhD - Partner, GUILD Consultants (<https://guild.consulting>). Adler organized the 2017 symposium and has worked on other state water issues. Isabella Roberson, MA, is a graduate of the UH Department of Urban and Regional Planning and worked with Institute for Sustainability and Resilience.

This project will build on the 2017 symposium on Groundwater Dependent Ecosystems²; the proposal for an AMP submitted by the Kaloko-Honokōhau National Historical Park³; the peer reviewed research conducted by Gibson, Bremmer, Burnett, Lui, and Smith⁴; and other research conducted by relevant experts.

Other research to be gathered will include updates and the current status of (1) Water Quantity and Quality; (2) Native and Invasive Species; and (3) Contaminants and Pollutants. Additional updated information will include (4) Current Native Hawaiian practices; and (5) current climate change and sea level rise projections. Each of these updates will be undertaken by a Working Group of 3-to-5 experts organized by Dr. Adler.

What Will be Produced and How

Groundwater Dependent Ecosystems (“GDEs”) are unique communities of endemic plants, animals, and human users that rely on a flow of fresh water. In Hawai‘i, GDEs are most prominently found along the Kona coast. Ground water moves down gradient from different sources and through complex basaltic rock channels and is then found in anchialine pools, fish ponds, and near shore estuaries. GDE features are important cultural sites for biodiversity and Native Hawaiian food and water gathering.

While Keauhou’s coast has been studied, the normal precursor to a complete AMP is a specific map of all GDE features to be managed. While that will remain a task to be done, a robust AMP will still capture what is known now, state current assumptions, and identify areas of further investigation. However imperfect, a Keauhou AMP may turn out, it is expected to be robust enough to help inform permitting and pumpage decisions, create monitoring indicators, and be fully adaptive to changes as new information emerges and the plan is updated.

The project will take place in 4 phases:

Phase I - Alignment with CWRM and Project Planning and Coordination. Anticipated completion by April 30, 2025

² https://files.hawaii.gov/dlnr/cwrp/activity/keauhou/20181108-GDE_Symposium_Final.pdf

³ “Pilot Adaptive Management Plan For (1) Protecting Groundwater Dependent Ecosystems In Kaloko-Honokōhau National Historical Park and (2) Providing Water Security and Sustainability in the Keauhou Aquifer System Area, Hawai‘i County, Hawai‘i” December, 2022

⁴ “Biocultural Values of Groundwater Dependent Ecosystems in Kona, Hawai‘i” by Veronica L. Gibson, Leah L. Bremer, Kimberly M. Burnet, Nicole Keaka Lui, and Celia M. Smith. Resilience Alliance, 2022.

Phase II - Working Group Meetings. Anticipated completion by June 15, 2025

Phase III - Briefings for CWRM and the Public. Anticipated completion by August 31, 2025

Phase IV - Adaptive Plan Development. Anticipated completion by September 30, 2025

The effort will also have the following features:

- Ongoing reference to Keauhou Aquifer's sustainable yield
- Regular interaction with and participation of CWRM staff
- The advice of a small advisory committee
- Starting and ending consultation by a mainland AMP expert
- A summary of current "known knowns" and "known unknowns"
- The development of monitoring indicators
- Further questions for practical research that will make the plan adaptive

Barring unexpected delays, the project should be completed by September 2025.

Contacts:

Peter S. Adler, PhD – Project Director

padleraccord@gmail.com

(808) 683-2849

Isabella M. Roberson, MA – Project Assistant

irobe@hawaii.edu

(916) 212-2754

Preliminary Draft Outline

5.31.25

**ADAPTIVE MANAGEMENT PLAN
FOR THE KEAUKOU AQUIFER'S GDEs**

A 1st Generation Plan for Keauhou's
Groundwater Dependent Ecosystems

Executive Summary

I. Introduction

- What is an AMP, why is it needed
- AMP good practices
- Keauhou focus: Coastal GDEs and 1st and future generation AMPs
- How this plan was developed
 - Alignment, Phases, and Meetings with CWRM Staff
 - Advisory Panel
 - Working Groups
 - Stakeholder Consultations
 - Outside Reviewer
 - Updates and public briefings to CWRM

II. The Setting

- The KASA described and Keauhou Aquifer “By the Numbers”
- Key GDE features and indigenous aquaculture sites
 - Anchialine pools
 - Fish Ponds
 - Estuarine sites and near shore fisheries
 - Other
- Foundational documents (initial list)

III. The Problem

- Starting assumptions
 - Fresh water as the foundation for both economic and environmental sustainability in West Hawai'i
 - All parts of a watershed “mauka to makai”, are interconnected

- Decisions regarding Keauhou GDEs will affect other decisions about fresh water withdrawals which have implications for regional development
- Short and Long Term Threats
 - Over development
 - Contamination and pollution
 - Flooding, runoff and erosion
 - Sea level rise, saltwater intrusion, and altered precipitation pattern, drought,

IV. AMP Goals

- (1) Perpetuate a flow of fresh groundwater to GDEs sufficient that native biota and public trust obligations to Native Hawaiians can be sustained using the Hawai'i Supreme Court's Ka Pa 'akai o ka 'Āina decision and method of analysis;
- (2) Help directly decide or indirectly inform management decisions regarding requests for future ground water withdrawals, including special conditions that will be attached to CWRM's pump installation permits and inform county water use and development planning for the Keauhou region;
- (3) Establish monitoring indicators, and potential triggers for permitting and management actions related to ecological and cultural thresholds;
- (4) Set in place a plan that will be continually updated by CWRM into second and third-generation plans as technical knowledge from both Western and Hawaiian perspectives emerges.

V. Methodology (to be more fully determined and updated in successive drafts)

(Establish key quantitative indicators, choose initial sentinel sites, gather existing data and knowledge, establish monitoring procedures and monitoring tools, hypothetical triggers/thresholds)

VI. Caveats and Uncertainties

- No fully complete inventory of GDE features
- The precise sources and flow patterns of fresh water coming to the GDEs
- GDE biota inventories
- Insufficient or contradictory current monitoring knowledge
- Black Swan events

VII. Expert Group Recommendations

- Native Hawaiian and 'Ohana Traditional and Customary Practices / Kilo
 - Participating Experts
 - Recommended Baseline Indicators
 - Assumptions behind the indicators
 - Specific research for a 2nd generation AMP
- Hydrology
 - Participating Experts
 - Recommended Baseline Indicators
 - Assumptions behind the indicators
 - Specific research for a 2nd generation AMP
- Indicator Species
 - Participating Experts
 - Recommended Baseline Indicators
 - Assumptions behind the indicators
 - Specific research for a 2nd generation AMP
- Contamination and Pollution
 - Participating Experts
 - Recommended Baseline Indicators
 - Assumptions behind the indicators
 - Specific research for a 2nd generation AMP

VIII. Recommendations for Implementation

- Short Term
- Long Term

IX. Next Steps and Appreciations

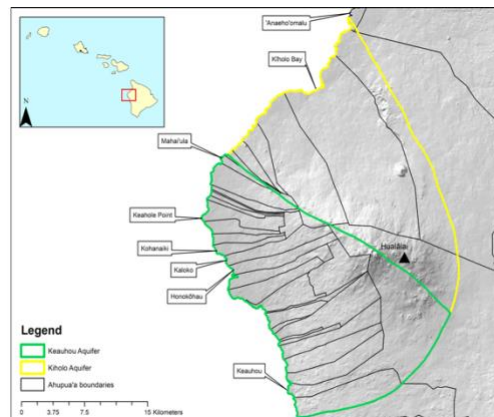
Appendices

1. Participants and Persons Consulted and Meeting Notes
2. Literature consulted

Project Description

(Draft as of: 7.2.25 ¹)

KEAUHOU AQUIFER SYSTEM GROUNDWATER ADAPTIVE MANAGEMENT PLAN



The Commission on Water Resource Management (“CWRM”) is reconsidering its approach to groundwater management in the Keauhou Aquifer System Area (“KASA”). Housing and economic growth require groundwater and the Keauhou region is part of the expanding Kona population center. However, CWRM has an affirmative duty to balance maximum beneficial use of water with the protection of the public trust, including maintenance of waters in their natural state, traditional and customary rights of Native Hawaiians, provision of adequate reserves of water for the Department of Hawaiian Home Lands (DHHL), and domestic use. In doing so, CWRM must also exercise the precautionary principle.

Current and planned groundwater withdrawals have wide implications across the entire KASA, especially including impacts to coastal Groundwater Dependent Ecosystems (“GDEs”) and Native Hawaiian traditional and customary practices. CWRM intends to expand the study zone originally proposed by the Kaloko-Honokōhau National Historic Park to include the entire KASA and create a first-generation Adaptive Management Plan (“AMP”) that will be periodically updated and amended as new information emerges.

GDEs are unique communities of endemic plants and animals that rely on flows of fresh water. In West Hawai'i, GDEs are prominently found along the Kona coast and differ significantly from surface water ecosystems. Though not perfectly understood, it is

¹ This draft will be successively updated as the AMP substance and process evolves.

hypothesized that groundwater in the KASA moves down beneath the surface from three aquifer bodies: basal, high-level dike confined, and deep confined. At the coast, these waters feed springs, anchialine pools, fishponds, offshore seeps, near shore estuaries, and reef life. GDE features are important sites for biodiversity and Native Hawaiian cultural practices which include, among others, subsistence and ceremonial use.

Keauhou's coast has benefitted from substantial scientific study, providing a strong foundation for adaptive management. While a comprehensive inventory of all GDE features is an important future milestone, existing knowledge will support the development of a robust first-generation AMP. With current funding and timeline constraints, this AMP can serve as a strategic initial "blueprint" and launch point for meaningful action—articulating current assumptions about the conceptual model of the aquifers, establishing relevant indicators and a monitoring framework, identifying sentinel sites, and prioritizing key areas for continued research.

The initial Keauhou AMP is expected to be robust enough to help inform ground water permitting and pumping decisions, create a baseline monitoring plan, and be fully adaptive to changes as new information emerges and the plan is updated. We are being assisted in this effort by Peter S. Adler, PhD and Stephanie Sang of GUILD Consulting. Adler helped organize the initial GDE symposium in 2017.

I. Objectives

Between now and November 30, 2025, CWRM will develop a robust first-generation plan for an updatable AMP for groundwater in the KASA. The overarching purpose of this AMP is to move the topic of impacts of KASA groundwater withdrawals on GDEs and Native Hawaiian traditional and customary practices from dialogue to applied, actionable science. Further, it is hoped that this plan will serve as a useful framework for AMPs in other areas of CWRM's jurisdiction. Specifically for Keauhou, the plan will be used to:

- (1) Perpetuate a flow of fresh groundwater to GDEs sufficient that native biota and traditional and customary practices of Native Hawaiians can be sustained while allowing for other protected public trust uses and reasonable and beneficial uses of water;
- (2) Help directly decide or indirectly inform management decisions regarding requests for future ground water withdrawals, including special conditions that may be imposed on well operators;

- (3) Establish initial monitoring indicators, a monitoring plan, potential triggers for management actions related to ecological and cultural thresholds, and plans for future monitoring;
- (4) Set in place a plan that allows for learning and will be continually updated by CWRM into second and third-generation plans as additional knowledge emerges.

II. Starting Points and Expert Groups

This first-generation AMP will build most immediately on (1) the 2017 symposium on Groundwater Dependent Ecosystems ²; (2) the draft proposal for an AMP submitted by the Kaloko-Honokōhau National Historical Park ³; (3) the peer reviewed bio-cultural research conducted by Gibson, Bremmer, Burnett, Lui, and Smith⁴; and (4) other materials filed before CWRM and research conducted since 2017 to be identified by experts and others.

Four work groups of three or four well regarded experts are being established with a CWRM point person helping to staff each. Adler and Sang will facilitate and write up and incorporate each group's findings and recommendations. The specific role of Working Group experts is to:

- (a) identify a short and prioritized list of specific AMP baseline monitoring indicators;
- (b) articulate the assumptions behind each recommended indicator;
- (c) develop a monitoring plan;
- (d) identify any specific additional pertinent research conducted since the 2017 symposium; and
- (e) suggest a short list of critical future research efforts that will improve second and third-generations of the AMP.

The four expert groups are:

² https://files.hawaii.gov/dlnr/cwr/activity/keauhou/20181108-GDE_Symposium_Final.pdf

³ "Pilot Adaptive Management Plan For (1) Protecting Groundwater Dependent Ecosystems In Kaloko-Honokōhau National Historical Park and (2) Providing Water Security and Sustainability in the Keauhou Aquifer System Area, Hawai'i County, Hawai'i" December, 2022

⁴ "Biocultural Values of Groundwater Dependent Ecosystems in Kona, Hawai'i" by Veronica L. Gibson, Leah L. Bremer, Kimberly M. Burnett, Nicole Keaka Lui, and Celia M. Smith. *Ecology and Society*, 2022.

- **Native Hawaiian and 'Ohana Traditional and Customary Practices / Kilo**
 - Expert To be named
 - Expert To be named
 - Expert To be named
 - CWRM - Ciara Kahahane

- **Hydrology**
 - Donald Thomas, PhD, Geochemist, Director of the Center for the Study of Active Volcanoes University of Hawaii at Manoa
 - Heidi L. Kane, Hydrologist, Pacific Islands Water Science Center, United States Geological Survey
 - Brytne Okuhata, PhD, Hydrologist, Pacific Islands Water Science Center, United States Geological Survey
 - CWRM - Ryan Imata

- **Indicator Species**
 - Celia Smith - The Wilder Chair and Professor of Botany, School of Life Sciences, University of Hawai'i at Mānoa
 - Diamond Tachera - *Project Scientist I*, Mesoscale & Microscale Meteorology Laboratory, *Co-Principal Investigator*, NSF CoPe Rising Voices, Changing Coasts, NSF National Center for Atmospheric Research (NCAR)
 - Ryan Okano - Aquatic Biologist, DLNR, Division of Aquatic Resources
 - Troy Sakihara - Aquatic Biologist, DLNR, Division of Aquatic Resources
 - CWRM – Katie C Roth

- **Contamination and Pollution**
 - Jennifer Doi, Environmental Health Specialist, Hawaii Department of Health (DOH), Clean Water Branch
 - Christopher Shuler, Hydrologist, University of Hawaii, Water Resources Research Center
 - Robert Whittier, Geologist, DOH, Safe Drinking Water Branch
 - Expert to be named from County of Hawaii, Department of Environmental Management
 - CWRM - Neal Fujii

Other data such as projected sea level rise and drought and rainfall estimations will also be incorporated into the AMP.

III. Advisory Committee and External Reviewer

The AMP project has an Advisory Committee to offer general counsel on both the process and the content of the AMP's development and help ensure a strong first-generation plan. Advisors will convene at least three times, either face-to-face or electronically before, during, and near the end of the project, to help ensure the AMP's clarity and robustness.

The following have agreed to serve on the committee:

- Leah Bremer - Institute for Sustainability and Resilience, UHERO, and Water Resources Research Center, University of Hawai'i at Mānoa
- Kā'eo Duarte - Kamehameha Schools; Vice President, 'Āina Pauahi
- Scot K. Izuka – United States Geological Survey (ret)
- Charles Young - Hawai'i Island 'Aha Moku

The project will also have an outside reviewer, Dr. Scott McCreary of Concur, Inc. (<https://www.concurinc.com>). McCreary has substantial experience with adaptive management plans and joint fact-finding on natural resource matters.

IV. Plan Phases and Key Activities

The project will take place in 4 flexible phases and be accomplished by the end of November 2025:

Phase IA - Project Planning and Preparation. Anticipated completion by June 15, 2025
Some key activities include: Development of a preliminary AMP outline for discussion with CWRM staff, advisors, and the outside reviewer. Begin preparation of a reasonable set of literature references to be attached to the draft AMP.

Phase IB – Community Engagement, Scoping, and Commission Approval. Anticipated completion by July 18, 2025.
Some key activities include: Establishment of four working groups composed of experts. Conduct outreach meetings to present the plan. Development of a schedule for public briefings with Commissioners.

Phase II - Expert Group Meetings. Anticipated completion by August 31, 2025.
Some key activities include: Hybrid or in-person meetings of the four expert Working Groups. Development of preliminary maps of the KASA to show features influencing GDEs. Meetings on Island of Hawai'i with Native Hawaiian and traditional and customary users, Hawai'i Department of Water Supply, Kaloko-Honokōhau National Historical Park, and others.

Phase III – Prepare First Draft AMP; Briefings for CWRM and the Public. Anticipated completion by September 30, 2025.

Some key activities include: Continuing consultations with project advisors, creation of a first draft AMP, and public briefings with CWRM Commissioners.

Phase IV - Prepare Revised AMP. Anticipated completion by November 30, 2025

Some key activities include: Incorporating feedback from CWRM Commissioners and the public into a further pre-publication AMP draft.

Barring unexpected delays, a first-generation AMP will be completed by November 30, 2025.

Contacts:

Ciara Kahahane, Deputy Director
State of Hawai'i Commission on Water Resource Management
Dlnr.cwrn@hawaii.gov
(808) 587-0214

Peter S. Adler, PhD – Project Consultant
GUILD Consulting
padleraccord@gmail.com
(808) 683-2849

Stephanie Sang, MA – Administrative Assistant
GUILD Consulting
Tian.sang33@gmail.com
(808) 990-2205

Preliminary Outline

7.2.25

**KEAUHOU AQUIFER SYSTEM AREA GROUNDWATER ADAPTIVE
MANAGEMENT PLAN**

A First Generation Plan for Keauhou's
Groundwater Resources

Executive Summary

I. Introduction and Background Information

- What is an Adaptive Management Plan (AMP) and why it is needed
- What brought this effort about?
- AMP good practices
- Keauhou Aquifer System Area focus: coastal Groundwater Dependent Ecosystems (GDEs); first and future generation AMPs
- CWRM's authorities and obligations regarding protected public trust uses of water and maximizing reasonable and beneficial use of water
- How this plan was developed
 - Alignment and Meetings with CWRM Staff
 - Advisory Panel
 - Expert Groups
 - Stakeholder Consultations
 - Outside Reviewer
 - Updates and public briefings to CWRM

II. The Setting

- The Keauhou Aquifer System Area (KASA) described
- Key GDE features and indigenous aquaculture sites
 - Anchialine pools
 - Fishponds
 - Estuarine sites and near shore fisheries
 - Basal springs
 - Other
- Wells in KASA provide drinking water to the community and support other commercial and industrial activities. There are current and anticipated new well applications in KASA.
- Native Hawaiian traditional and customary practices dependent on groundwater exist in KASA.

- Other current or future protected public trust uses exist in KASA, including use by the Department of Hawaiian Home Lands.
- Foundational documents (an initial few; more to be added)

III. The Problem

- Starting assumptions
 - Fresh water is the foundation for both economic and environmental sustainability in West Hawai'i
 - Decisions regarding Keauhou GDEs will affect other decisions about freshwater withdrawals (new wells), which have implications for regional development
- Short and Long Term Threats
 - ⊖ Excessive withdrawals of groundwater
 - Contamination and pollution
 - Flooding, runoff and erosion
 - Sea level rise, wildfires, saltwater intrusion, altered precipitation patterns, droughts

IV. AMP Goals

- (1) Perpetuate a flow of fresh groundwater to GDEs sufficient that native biota and public trust obligations to Native Hawaiians can be sustained while allowing for protected public trust uses and reasonable and beneficial uses of water;
- (2) Help directly decide or indirectly inform management decisions regarding requests for future ground water withdrawals, including special conditions that may be imposed on well operators
- (3) Establish initial monitoring indicators, potential triggers for management actions related to biological and environmental thresholds; and an initial plan for an ongoing monitoring program.
- (4) Set in place a plan that will allow for learning about this system, to be continually updated by CWRM into successive plans as knowledge emerges.

V. Methodology

- Gather existing knowledge, information, and observations through updated literature and insights and information from stakeholders and rights-holders.
- Establish a working conceptual model for the KASA.
- Identify possible GDE sentinel sites for baseline monitoring.
- Through the Expert Groups, create a short and prioritized list of indicators to be tracked (Initial Priority Baseline Indicators).

- Establish initial monitoring procedures and plan a future monitoring program.
- Set proposed thresholds and triggers.

VI. Caveats and Uncertainties

- No complete inventory of all GDE features
- The precise sources and flow patterns of fresh water coming to the GDEs are unknown
- Incomplete GDE biota inventories
- Insufficient or contradictory current monitoring knowledge

VII. Expert Group Recommendations

- Native Hawaiian and 'Ohana Traditional and Customary Practices / Kilo
 - Participating Experts
 - Recommended Initial Priority Baseline Indicators
 - Assumptions behind the indicators
 - Specific research for a second generation AMP
- Hydrology
 - Participating Experts
 - Determine hydrologic boundaries and possible interactions between them.
 - Determine areas of discharge into onshore and nearshore environments.
 - Recommend monitoring to study impacts of well pumpage on the various aquifer bodies.
 - Specific research for a second generation AMP
- Indicator Species
 - Participating Experts
 - Recommended Initial Priority Baseline Indicators
 - Assumptions behind the indicators
 - Specific research for a second generation AMP
- Contamination and Pollution
 - Participating Experts
 - Identify sources of contaminants or pollution to the groundwater and coastal waters.

- Develop a hypothesis of the mechanisms of contamination and pollutant transport between the aquifers and the ocean.
- Recommended Initial Priority Baseline Indicators and a monitoring program
- Assumptions behind the indicators
- Specific research for a second generation AMP

VIII. Final Recommendations

- First generation sentinel sites
- First generation indicators and development of a baseline monitoring plan
- Initial management actions
- Setting the stage for the longer term

IX. Appreciations

Appendices

1. Participants and Persons Consulted and Meeting Notes
2. Literature Consulted