Report to the Thirty-Third Legislature
2026 Regular Session

IDENTIFICATION OF RIVERS AND STREAMS WORTHY OF PROTECTION

Prepared by the

Commission on Water Resource Management
Department of Land and Natural Resources
State of Hawai‘i

Section 174C-31(c) (4), Hawai‘i Revised Statutes

Honolulu, Hawai‘i

December 2025

REPORT TO THE THIRTY-THIRD LEGISLATURE
2026 Regular Session

IDENTIFICATION OF RIVERS AND STREAMS WORTHY OF PROTECTION

I. INTRODUCTION

The State Water Code (Code), Hawai‘i Revised Statutes (HRS), §174C-31(c) (4), directs the State Commission on Water Resource Management (Commission) to,

> [i]dentify rivers or streams, or portions of a river or stream, which appropriately may be placed within a wild and scenic river system, to be preserved and protected as part of the public trust. For the purpose of this paragraph, the term ‘wild and scenic rivers’ means rivers or streams, or a portion of a river or stream, of high natural quality or that possess significant scenic value, including but not limited to, rivers or streams which are within the natural area reserves system. The Commission shall report its findings to the legislature twenty days prior to the convening of each regular legislative session.

This Report updates the Legislature on the Commission’s 2025 activities to implement this mandate.

II. BACKGROUND

In 1990, the Commission (in partnership with the National Park Service) prepared the Hawai‘i Stream Assessment. This 2-year project had two primary objectives: 1) Inventory Hawai‘i’s perennial streams and their physical characteristics; and 2) Assess the aquatic, riparian, cultural, and recreational values of Hawai‘i’s perennial streams. The secondary objectives were to: 1) Centralize stream-related data and reference sources in a database and bibliography; 2) Identify and prioritize areas where more information is needed; 3) Provide data to assist in making management decisions within a statewide context rather than on an ad hoc basis; 4) Develop general stream protection guidelines; and 5) Identify specific streams appropriate for protection and enhancement.

On August 22, 2000, the Hawai‘i Supreme Court issued its decision in *In Re Waiāhole Ditch Combined Contested Case Hearing,* 94 Haw. 97, 9 P.3d 409 (2000). In its decision, the Supreme Court emphasized that “instream flow standards serve as the primary mechanism by which the Commission is to discharge its duty to protect and promote the entire range of public trust purposes dependent upon instream flows.” 94 Haw. 97, 9 P.3d 409, 86 (2000). Accordingly, the Commission has directed its efforts to develop a methodology for establishing instream flow standards (IFS), the identification of rivers and streams worthy of protection, and the implementation of HRS §174C-31(c) (4).

In July 2002, pursuant to the *Waiāhole* decision, the Commission established the Stream Protection and Management (SPAM) Branch (composed of the Instream Use Protection and the Surface Water Regulation sections). In July 2005, the SPAM Branch prepared a Program Implementation

Plan to "[m]anage and Protect Hawai‘i's Surface Water Resources through a Comprehensive Instream Use Protection Program and the Establishment of Instream Flow Standards."

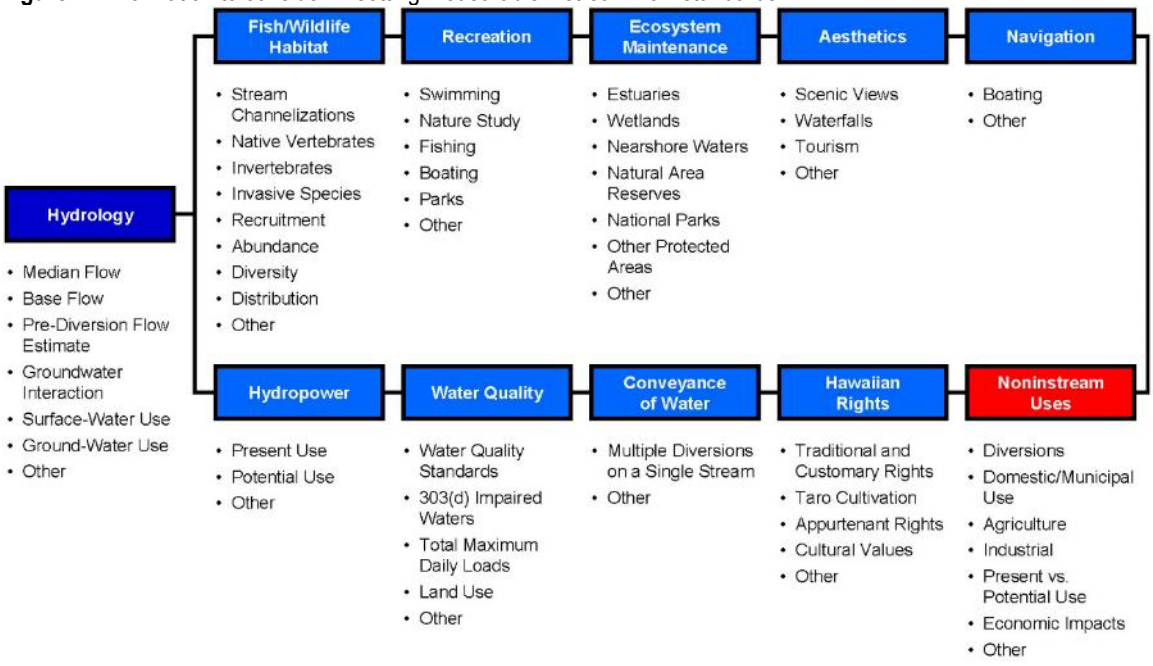
A. Instream Flow Standards

Under the Code, the Commission has the responsibility of establishing IFS on a stream-by-stream basis whenever necessary to protect the public interest in the waters of the State. Early in its history, the Commission recognized the complexity of establishing IFS for the State's estimated 376 perennial streams and instead set interim IFS at "status quo" levels. These interim IFS were defined as the amount of water flowing in each stream (with consideration for the natural variability in stream flow and conditions) at the time the administrative rules governing them were adopted in 1988 and 1989.

The Hawai‘i Supreme Court, upon reviewing *Waiāhole,* held that such "status quo" interim IFS were not adequate to protect streams and required the Commission to take immediate steps to assess stream flow characteristics and develop quantitative interim IFS for affected Windward O‘ahu streams, as well as other streams statewide. The Hawai‘i Supreme Court also emphasized that "instream flow standards serve as the primary mechanism by which the Commission is to discharge its duty to protect and promote the entire range of public trust purposes dependent upon instream flows." 94 Haw. 97, 9 P.3d 409, 86 (2000).

To the casual observer, IFS may appear relatively simple to establish upon a basic review of the Code provisions. However, the complex nature of IFS becomes apparent upon further review of the individual components that comprise surface water hydrology, instream uses, noninstream uses, and their interrelationships. The Commission has the distinct responsibility of weighing competing uses for a limited resource in a legal realm that is continuing to evolve. The following illustration (Figure 1) was developed to illustrate the wide range of information, in relation to hydrology, instream uses, and noninstream uses that should be addressed in conducting a comprehensive IFS assessment. Additionally, the relationship between flow regimes and the ecology of freshwater species is not well understood for aquatic communities on Pacific Islands.

Figure 1. Information to consider in setting measurable instream flow standards.



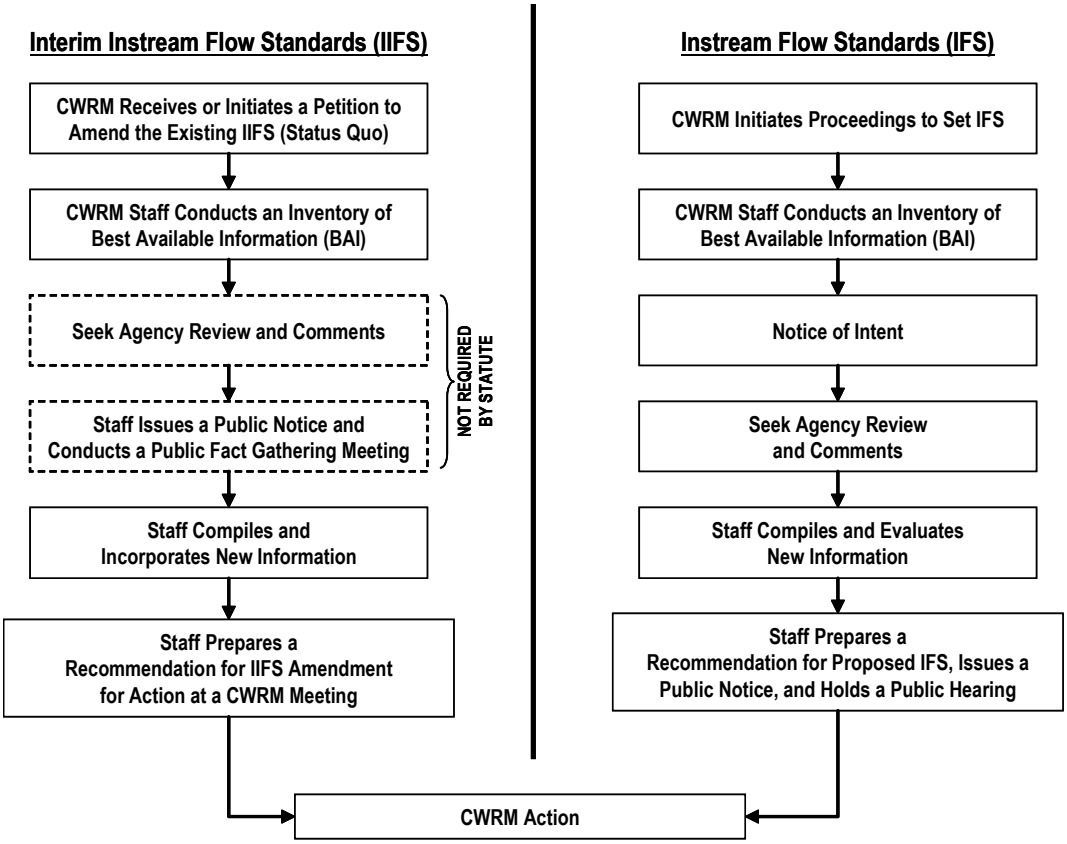
B. Interim Instream Flow Standard Process

The Code provides for a process to amend an interim IFS in order to protect the public interest pending the establishment of a permanent IFS. The Code, HRS §174C-71(2), describes this process, including the role of the Commission to "weigh the importance of the present or potential instream values with the importance of the present or potential uses of water for noninstream purposes, including the economic impact of restricting such uses."

Recognizing the complexity of establishing measurable IFS, while cognizant of the Hawaii Supreme Court's mandate to designate interim IFS based on best available information, the Commission at its December 13, 2006 meeting authorized staff to initiate the amendment process reflected in the left column of Figure 2: the Commission staff conducts a preliminary inventory of best available information upon receipt of a petition to amend an existing interim IFS and then shall then seek agency review and comments on the compiled information (compiled in an Instream Flow Standard Assessment Report). Staff also issue a public notice for a public fact gathering meeting. Shortly thereafter, the Commission staff will conduct a public fact gathering meeting in, or near, the hydrologic unit of interest. The information gathered through this process informs a recommendation submitted to the Commission for approval.

This Annual Report updates the activities, projects, and studies currently being carried out by the Commission's SPAM Branch to develop and implement a statewide stream protection program. For work prior to 2024, please see previous year's annual reports.

Figure 2. Simplified representation of the interim instream flow standard and permanent instream flow standard processes. Keys steps of the adopted interim IFS process are depicted in the left column by the boxes drawn with dotted lines.



III. STREAM PROTECTION AND MANAGEMENT UPDATES

A. Stream Protection and Management (SPAM) Branch:

During fiscal year (FY) 2025, the Commission's SPAM Branch continued its efforts to conduct field investigations and site visits statewide in support of monitoring established measurable interim instream flow standards, implementing interim IFS following previous Commission decisions, and developing new data regarding natural and regulated flow regimes under current climate conditions. Staff also surveyed aquatic biota and habitat with the Division of Aquatic Resources (DAR) to improve our understanding of the consequences of existing management decisions. Staff continue to verify stream diversions and work with operators to encourage compliance with water use reporting requirements. In addition, the Commission has begun reviewing and assessing surface water use permits filed in association with the designation of the Lahaina Aquifer Sector, Maui.

On Kauaʻi, the SPAM Branch continues to work through the implementation of the mediation agreement on the Complaint and Petition for Declaratory Order Against Waste Filed by Poʻai Wai Ola and West Kaua'i Watershed Alliance (through Earthjustice) regarding interim IFS for Waimea River and its tributaries. Staff have installed additional interim IFS monitoring stations and conducted biota surveys in Kōkeʻe. The U.S. Geological Survey (USGS), in cooperation with the

Commission, completed a study on low-flow characteristics in the southeast region of the island from Wailua to Hanapēpē in 2020, which lays the groundwork for the development of interim IFS. Staff have begun to conduct site visits at registered stream diversions and assess instream values for the Waikomo hydrologic unit in anticipation of interim IFS development. In August 2018, the Commission staff proposed the establishment of measurable interim IFS for two streams in Wailua (Waiʻaleʻale and Waikoko); however, prior to decision-making, several requests were made for a contested case hearing. In December 2022, the petitioners agreed to withdraw their petitions for a contested case hearing, allowing Commission staff time to reevaluate the interim IFSs for Waiʻaleʻale and Waikoko Streams from a regional perspective, including other streams in southeast Kauaʻi and supported by new data and renewed community involvement. The requests were withdrawn in 2024 as efforts to develop interim IFS across southeast Kauai were expanded. In FY 2024, staff installed one additional regulated flow station on Waiahi Stream in anticipation of interim IFS establishment. Staff continue to monitor ditches and streams through the region while working with USGS to monitor six streams.

On Oʻahu, the Commission is continuing to work with the Honolulu Board of Water Supply, USGS, and numerous community organizations to better understand the hydrology associated with Heʻeia Stream in windward Oʻahu.

On the island of Hawaiʻi, the Commission is continuing to monitor established interim IFS and managing stream gaging equipment in Hāmākua and Waikoloa. Commission staff continue to monitor the Upper and Lower Hāmākua Ditches for the Department of Agriculture (DOA). In August 2023, staff published and drafted an Instream Flow Standard Assessment Report (IFSAR) for the Waikoloa hydrologic unit, and then held a public fact gathering meeting in April 2024 to take additional comments. Staff continue to work with stakeholders to improve stream management and prepare recommendations for a proposed interim IFS for Waikoloa.

In North Kohala, Hawaiʻi Island, Commission staff has conducted macrofauna surveys in ʻĀʻamakaō, Niuliʻi, and Waikama streams. The primary objective was to establish baseline characteristics of aquatic ecosystems under natural flow conditions. Biological data was collected by Commission staff from September to November 2024 at four different elevations along the three streams. By documenting present-day biological communities and environmental conditions, this fieldwork provides a benchmark for detecting and understanding future ecological changes and ensures that we can more effectively manage and protect these systems. Commission staff are also working in Waipiʻo Valley on the island of Hawaiʻi to establish an interim instream flow standard. In 2024, a non-continuous station was established along Wailoa River above the stream crossing.

Phase 1 of the USGS Study to estimate low-flow characteristics for streams on Kauaʻi, Oʻahu, Molokaʻi, Maui, and Hawaiʻi, came to a close in 2015 with the final report released in mid-2016. With funding from the 2016 Legislature, the Commission entered into a contract with USGS for Phase 2 of the study, which was focused on field data collection and the development of a web-based application called StreamStats. Fieldwork for Phase 2 has finished, allowing for the analysis of field-collected data, development of regression equations to estimate flow durations, and integration to further development of StreamStats for low-flow statistics. In April 2023, USGS was granted a no-cost extension to allow additional time to develop methods to estimate selected

natural low-flow duration discharges at ungaged sites on the islands of Kauaʻi, Oʻahu, Molokaʻi, Maui and Hawaiʻi and document the results of the study in a USGS Scientific Investigations Report.

The SPAM Branch is continuing to work closely with the Department of Land and Natural Resource's Personnel Office to address issues with its four Aquatic Biologist positions (Two Biologist V and two Biologist III positions) that were approved by the 2022 Legislature. The Commission intends to convert the Aquatic Biologist positions to exempt Hydrologist positions.

The SPAM Branch has developed an internet platform to make stream gaging data more publicly available and user-friendly. The program is map-based and interactive to provide access to both real-time stream gaging information and continuously recorded data collected by SPAM staff in the field. The Branch is also working to expand its presentation on the Commission website, including organization of IFS work by island and regions, identification of priority areas and areas that IFS will not be established (e.g., ephemeral streams and gulches), links to USGS gages and reports, and chronology of resources and events that resulted in IFS decisions. This information has been updated but is still in working development. Information is currently available on the Commission's website at: *https://dlnr.hawaii.gov/cwrm/surfacewater/ifs/*.

The SPAM Branch has also been working on expanding the Commission's streamflow monitoring network. Below is a list of stations that were installed in FY2025:

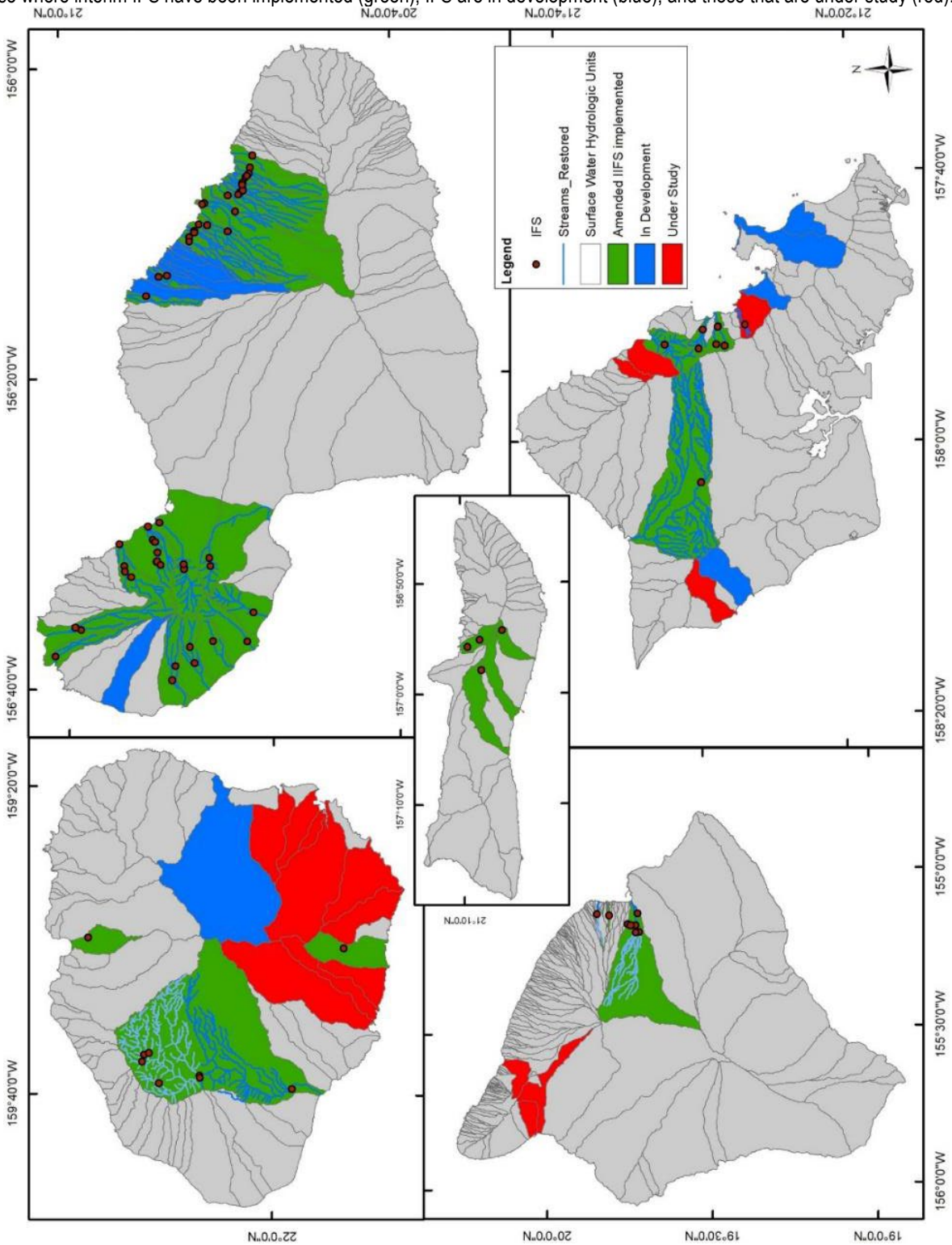
- 6-366 Halehaku Gulch abv Wailoa Ditch: Gage is located in the Kakipi surface water hydrologic unit on the island of Maui at the former USGS station 16598000 weir. This station measures natural flow above Wailoa Ditch intake at approximately 1,200 ft in elevation. Installed in March 2025.
- 6-367 Opana Stream abv Kauhikoa Ditch: Gage is located in the Kakipi surface water hydrologic unit on the island of Maui. It is a continuous gaging station on Opana Stream near USGS 16601000 above the Kauhikoa Ditch intake. This gage measures natural flow at approximately 1,100 ft in elevation and there is no intake to Wailoa ditch. Installed in April 2025.
- 6-368 Nailiilihaele blw Lowrie Ditch: Gage is located in the Nailiilihaele surface water hydrologic unit on the island of Maui. It is an interim instream flow standard monitoring station on Nailiilihaele Stream below the Lowrie Ditch intake, above Hāna Highway at approximately 720 ft in elevation. Installed in July 2025.
- 6-141 Honokohau Ditch at Honolua: This is a non-continuous ditch monitoring station at approximately 820 ft in elevation in the Honokōwai surface water hydrologic unit on the island of Kauaʻi. This site was established in July 2025.

B. Statewide Prioritization of Instream Flow Standard Development

In 2005, the Commission completed a statewide watershed assessment resulting in the establishment of surface water hydrologic units. These hydrologic units serve as a management tool for assessing both land-based and aquatic resources, data management, and developing, managing, and enforcing instream flow standards. The report identified 558 hydrologic units

statewide, with 489 comprising the five major islands of Kaua‘i (74), O‘ahu (87), Moloka‘i (50), Maui (112), and Hawai‘i (166).

Figure 3. Prioritized surface water hydrologic units for the development of measurable interim instream flow standards, including those where interim IFS have been implemented (green), IFS are in development (blue), and those that are under study (red).



Of 489 surface water hydrologic units across the five major islands, the Commission has focused its IFS efforts on those units affected by legacy plantation irrigation systems that typically diverted most, if not all, water from the streams. Over the years, these efforts have been influenced by interactions with community groups, including filed petitions to amend the interim IFS and complaints of waste, and government agencies including the Land Division's water lease process and discussions with county water supply departments. Of the 489 surface water hydrologic units, many watersheds do not contain perennial streams, particularly those on the leeward sides of each respective island (e.g., West Moloka'i, Kaupō side of Maui, Kona side of Hawai'i island), while others with perennial streams are not impacted by plantation systems and have minimal stream diversions (e.g., Honolulu region of O'ahu, Nāpali coast of Kaua'i). The SPAM Branch staff is working on further assessing and prioritizing these "low-priority" areas.

C. Complaint for Dispute Resolution, Petition to Amend the Interim Instream Flow Standard, and Declaratory Order on Against Waste for Waimea River, Kaua'i

On July 24, 2013, Po'ai Wai Ola and West Kaua'i Watershed Alliance, by their attorneys Earthjustice, filed: 1) a Complaint for Dispute Resolution; 2) a Petition to Amend Interim Instream Flow Standard; and 3) a Complaint for Declaratory Order Against Waste in the Waimea River and its tributaries, Waimea, Hawai'i (Complaint and Petition).

Preliminary field investigations were conducted with Commission staff in July, with the Consultant beginning baseline data gathering in November. Diversions that are part of the Kōke'e Ditch Irrigation System are depicted in Figure 4.

Figure 4. Kōke'e Ditch diversions, Kōke'e, Kaua'i.

A) Diversion dam at Waiakoali Stream.

B) Diversion at Kawaikōī Stream.

C) Diversion dam at Kauaikinanā Stream.

D) Diversion dam at Kōke'e Stream.

On April 28, 2015, the Commission conducted a limited meeting to view portions of the Kōkeʻe and Kekaha Ditch Irrigation Systems. Sites included the Waimea Canyon Lookout, Puu Lua Reservoir, Puu Moe Ditch Divide, Black Pipe Siphon viewpoint, end of Kōkeʻe Ditch, and the Kekaha Ditch crossing at Highway 550. Public testimony was also taken at the conclusion of the limited meeting.

On April 29, 2015, the Commission heard briefings by the Kekaha Agriculture Association (KAA) on the operational aspects of the Kekaha and Kōkeʻe Ditch Systems, and by the Kauaʻi Island Utility Cooperative (KIUC) on the proposed pump storage project.

In September 2015, the Commission staff began meeting with representatives from Earthjustice, KAA, Agribusiness Development Corporation (ADC), Department of Hawaiian Home Lands, and KIUC to discuss the potential for resolving certain issues through mediation.

On October 20 and 21, 2015, the Commission again conducted a limited meeting to view more remote portions of the Kōkeʻe and Kekaha Ditch Irrigation Systems. Sites included the Mauka Hydropower Plant on Waimea River, Black Pipe Siphon, Menehune Ditch, mouth of the Waimea River, Hukipo Flume on Kekaha Ditch, Waiawa Hydropower Plant, Kawaiele Pumping Station, Reservoir N at the end of the Kekaha Ditch system, Waiakoali, Kawaikōī, Kauaikinanā, and Kōkeʻe Stream diversions, and the Kauhao Sluice Gate. A public meeting was also held on the evening of October 20 to receive public testimony and listen to community concerns and issues.

On November 27, 2015, DHHL filed a petition to reserve an estimated 33.145 million gallons per day of surface water from the Waimea surface water hydrologic unit. The projected water demands include water for commercial and subsistence agriculture, including kalo cultivation, pastoral, residential, and community use.

On December 16, 2015, the Commission approved delegation of authority to the Chairperson to hire a Mediator to address the Complaint and Petition. Soon after, the Commission staff initiated discussions with mediator Robbie Alm, Collaborative Leaders Network.

On April 18, 2017, the Commission approved the Mediation Agreement for the Waimea Watershed Area. The Agreement, starting with a Statement of Guiding Principles, addressed: 1) Modification of Diversions; 2) Permits and Approvals; 3) Interim Instream Flow Standard Numbers; 4) Monitoring Stations; 5) Operating Protocols; and 6) Infrastructure Agreements. The Commission staff has been and will continue to work with the parties to implement and/or monitor the implementation of specific actions outlined in the Agreement.

At its regularly scheduled meeting on September 15, 2020, the Commission approved the Kauaʻi Island Utility Cooperative's Stream Diversion Works Permit (SDWP.5321.2) and Stream Channel Alteration Permit (SCAP.5150.2) for Kōkeʻe Ditch diversion modifications and installation of monitoring stations at Waiakōali (Diversion 620), Kawaikōī (Diversion 616), Kauaikinana (Diversion 607), and Kōkeʻe (Diversion 622) Streams.

On June 23, 2021, the SPAM Branch hosted a community presentation by the Commission and USGS staff. The presentation provided information on the re-activated Waimea River Stream

gage above the Waiahulu Intake to Kekaha Ditch (16016000), how streamflow is measured, how the USGS quality-assures data, and how the data can be retrieved by the public online.

On September 20, 2022, the parties again provided the Commission with an update on the Mediation Agreement.

In December 2023, KIUC and AES Hawai‘i withdrew from the proposed West Kauai Energy Project. Responsibility for the proposed modifications to the Kokee Ditch were then transferred to the ADC/KAA as set forth in a Stipulation and Agreement Between the Parties to the April 18, 2017 Waimea Watershed Agreement, which was approved by the Commission at its October 31, 2024 meeting.

The Commission staff continues to meet with the Waimea Mediation Agreement stakeholders to discuss implementation of the Agreement and various issues that may arise. In 2025, the stakeholders focused on empowering communications amongst stakeholders, drafting operating protocols for low- and high-flow conditions, and identifying capital improvement projects to improve system efficiencies and operation.

Information on the Waimea River Complaint and Petition is available on the Commission website at: *http://dlnr.hawaii.gov/cwrm/surfacewater/ifs/2060-waimea/*.

The SPAM Branch continues to conduct fieldwork to monitor streamflow and ditch flows throughout the system. In April and May 2024, staff conducted a biological survey of Kōke‘e streams above the waterfalls in Waimea Canyon. A report of this work can be found here: *https://files.hawaii.gov/dlnr/cwrm/publishedreports/PR202401.pdf*.

In May 2025, SPAM Branch conducted biological surveys of Mohihi and Po‘omau streams at 1400 ft, 1600 ft, and 1800 ft in elevation. In October 2025, staff conducted biological surveys along Koaie, Waimea, and Waialae streams at 20 ft, 400 ft, 600 ft, 800 ft, 1400 ft, 1600 ft, and 1800 ft. Results from these surveys are still being analyzed.

D. Study on Low-Flow Characteristics for Streams in Southeast Kauaʻi, Hawaiʻi

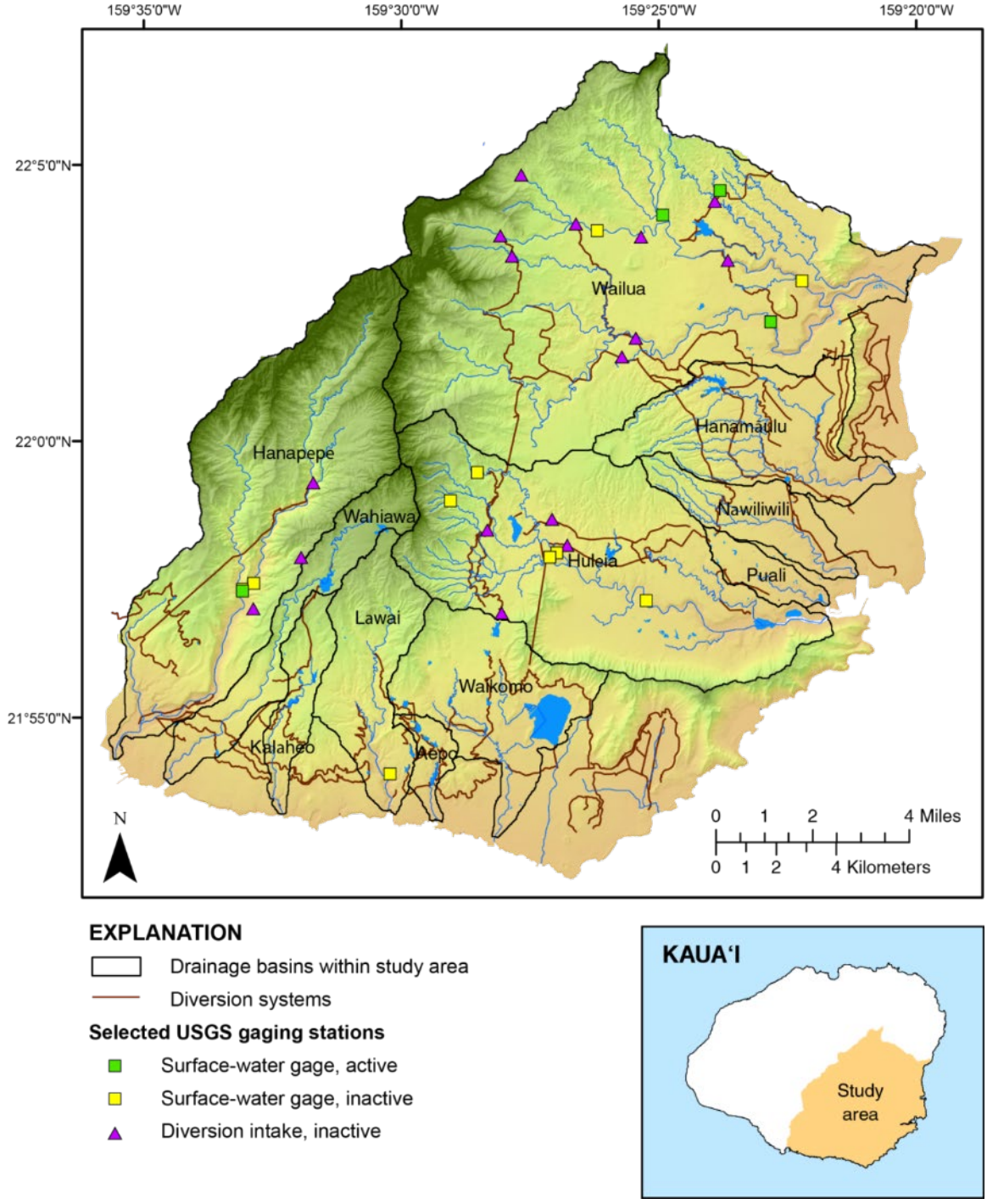
The history of large-scale sugarcane cultivation in Southeast Kauaʻi by Līhuʻe Plantation, Grove Farm, Kōloa Plantation, McBryde Sugar Company, and Olokele Sugar Company has left extensive and complex irrigation systems that continue to serve municipal, hydropower, and agricultural uses. Over the past several years, the Commission has received several complaints and inquiries regarding streams in the region including Wailua, Waikomo, Lāwaʻi, and Hanapēpē. Additionally, the USGS has worked with the Kauaʻi Department of Water consistently over the past two decades to assess groundwater hydrology for the Southern Līhuʻe Basin. This combination of issues and work in Southeast Kauaʻi have made it ripe for the assessment of instream flow standards by the Commission.

On June 1, 2015, the Commission entered into a Joint Funding Agreement (JFA) with the U.S. Geological Survey (USGS) to conduct a study of low-flow characteristics for streams in eleven watersheds in Southeast Kauaʻi: Wailua, Hanamāʻulu, Puali, Hulēʻia, Waikomo, Aepo, Lāwaʻi, Kalāheo, Wahiawa, and Hanapēpē. This is a 4-year cooperative study divided into two periods at a total cost of $707,000.

- Initially, Period 1 was to run from June 1, 2015 to June 30, 2017 at a cost of $446,000 (Commission's share is $312,200), while Period 2 would run from July 1, 2017 to April 30, 2019 (Commission's share is $78,300).
- May 5, 2017: Commission received USGS request to increase the Phase 1 period of performance by four months from June 30 to October 30, 2017, as a no-cost extension.
- June 20, 2017: Commission authorized the Chairperson to enter into a JFA for Phase 2 of the Study. Objectives for Phase 2 include continued data collection, analysis, and report preparation, with a performance period from July 1, 2017 to September 30, 2019. The total cost increased slightly to $313,460, with additional contributions from USGS. The overall cost of the Study (Phases 1 and 2) increased from $707,000 to $759,460, with no additional funds from the Commission.
- June 2019: USGS requested amending Phase 2 JFA to increase the period of performance by nine months, extending the end date from September 30, 2019 to June 30, 2020. USGS cited a 35-day partial Federal Government shutdown and delays caused by damages to gaging stations and access roads from the April 2018 floods in Kauaʻi.
- May 13, 2020: USGS requested a no-cost extension of the period of performance by six months to December 31, 2020. The request was made due to anticipated delays in the USGS peer review process resulting from federal telework requirements and other measures associated with the COVID-19 pandemic.

The USGS study consisted of five objectives: 1) Conducting background research on existing surface water diversions, rainfall, groundwater, and surface-water data; 2) Conducting stream reconnaissance surveys to understand the general hydrologic conditions of streams; 3) Establishing low-flow partial records stations upstream from existing diversion intakes to quantify streamflow under natural, undiverted low-flow conditions; 4) Conducting seepage analyses to characterize gains and losses in streamflow; and 5) Preparing maps to be published as part of the report.

Figure 5. Study area of the USGS Southeast Kaua'i Study.



The final report was published and released on December 3, 2020, and is available online as USGS Scientific Investigations Report 2020-5128: *https://pubs.er.usgs.gov/publication/sir20205128*

The SPAM Branch has begun developing instream flow standards for the streams covered under this study. On October 28, 2019, Commission staff held a public fact gathering meeting in Līhuʻe, Kauaʻi regarding the development of an instream flow standard for Lāwaʻi Stream. On March 16, 2021, Commission approved a measurable interim IFS for Lāwaʻi Stream. Information on the Lāwaʻi Stream IFS is presented online at:
https://dlnr.hawaii.gov/cwrm/surfacewater/ifs/kauai/2050-lawai/

In 2024, Commission staff, in coordination with DLNR Engineering Division, conducted site visits to reservoirs and ditches in the Kōloa/Waikomo stream hydrologic unit to discuss abandonment of instream dams. Staff continue to gather data in support of an instream flow standard for Waikomo stream. Information on the Study is available from the Commission website at:
http://dlnr.hawaii.gov/cwrm/surfacewater/sw-activities/usgs-southeastkauai/.

E. Interim IFS for Heʻeia Stream, Windward Oʻahu

Following at least two years of data collection and meeting with community members and government agencies, the Commission staff completed the Draft Instream Flow Standard Assessment Report for Heʻeia in September 2020. The Report was made available on the Commission website and a presentation was made to the Commission at its regularly scheduled Commission meeting on September 15, 2020.

On October 21, 2020, Commission staff held a virtual Public Fact Gathering Meeting on Wednesday, October 21, 2020 to receive testimony and any additional information to be compiled as part of the Instream Flow Standard Assessment Report. A presentation to the Kāneʻohe Neighborhood Board was also made on November 19, 2020.

On January 19, 2021, the Commission was briefed on the Commission staff work towards developing measurable instream flow standards for Heʻeia Stream. With feedback from community organizations and the Honolulu Board of Water Supply (HBWS), the Commission staff deferred the proposed recommendations and began holding meetings to discuss options that would attain similar streamflow restoration while limiting impacts to the HBWS' current water supplies in the central Koʻolaupoko region.

On May 18, 2021, the Commission delegated authority to the Chairperson to enter into a Joint Funding Agreement (JFA) with the USGS to conduct an analysis of the impact of groundwater withdrawals from development tunnels and other wells on streamflow in Kahaluʻu and Waiheʻe streams, Koʻolaupoko, Oʻahu. In order to better understand the effects of groundwater withdrawal from various well sources on streamflow, Commission staff worked with the HBWS and the USGS to fund concurrent groundwater modeling and streamflow analysis studies. The HBWS is funding a study of the Heʻeia hydrologic unit, with surface water and groundwater historic data analysis, fieldwork, and modeling. The Commission, USGS, and HBWS are interested in understanding the relationship between development tunnel withdrawal and streamflow in Haʻikū, Ioleka'a,

Kahaluʻu, or Waiheʻe streams, the magnitude of this relationship, and the effect of various management scenarios (pumping regimes) on streamflow.

On June 15, 2021, Commission staff requested that the Commission consider the recommendations for improving high-elevation aquifer storage in the Koʻolaupoko Aquifer System and protecting instream uses in Heʻeia Stream affected by groundwater withdrawals from Haʻikū Tunnel by bulkheading Haʻikū Tunnel (Well No. 2450-001) at the 10-foot thick dike 1,200 feet from the portal entrance. As an interim solution, until the bulkheading is installed, HBWS will reduce their withdrawal from 1.0 million gallons per day to 0.3 million gallons per day, with the resulting difference supporting streamflow.

As part of the Commission's approved actions, HBWS will complete a feasibility study and preliminary engineering design for the proposed bulkhead, while continuing to communicate and coordinate with Commission staff and community partners including Kamehameha Schools, Department of Hawaiian Home Lands (DHHL), Papahana Kuaola, Hawaiʻi Community Development Authority, Heʻeia National Estuarine Research Reserve, and Kākoʻo ʻŌiwi. Upon completion of the study, HBWS will have three years to complete the final design and construction of the bulkhead, which will then allow the Commission to evaluate the implications for baseflow in Heʻeia Stream and determine the feasibility of establishing a numeric instream flow standard. If HBWS determines that bulkheading is not a feasible solution, Commission staff will then recommend an amendment to the interim IFS or amend the HBWS' water use permit as needed. Additional implementation and monitoring measures are included in the Commission staff submittal.

On September 21, 2021, a briefing on the status of the Commission's Order to Bulkhead Heʻeia Tunnel was presented, with supporting information provided by HBWS and testimony from community organizations.

On April 19, 2022, the Commission received an informational briefing from the USGS on the preliminary results of the Heʻeia Watershed and Waiheʻe-Kahaluʻu Watershed Studies.

In August 2023, the Commission staff received a draft of the Ha'ikū Tunnel Bulkhead Preliminary Engineering Study prepared for HBWS. Commission staff reviewed the draft study and forwarded comments to HBWS in January 2024.

The USGS is continuing its study of the groundwater and surface-water interactions in the Heʻeia watershed. A Phase 1 report documenting the historical data analysis has been released and is accessible via the Commission's website at the link below. The Phase 2 report, which will include analysis of the current data and seepage runs, is currently being peer-reviewed by USGS.

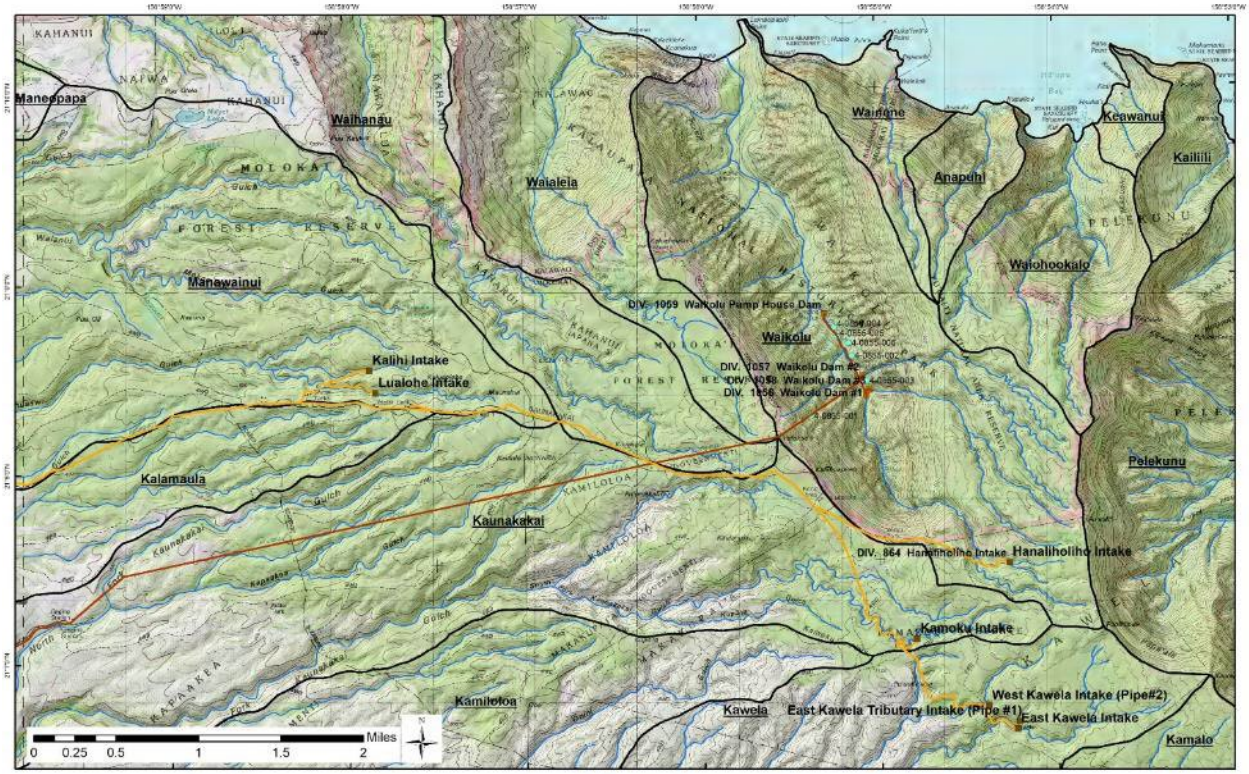
Commission staff previously coordinated quarterly meetings with government agencies and community stakeholders, including HBWS, USGS, Papahana Kuaola, Heʻeia National Estuarine Research Reserve, Kākoʻo ʻŌiwi, and Paepae o Heʻeia. The last stakeholder meeting was held in January 2025. The Commission held a limited site visit on November 10, 2025, with representatives from the Honolulu Board of Water Supply, Papahana Kuaola, Kākoʻo ʻŌiwi, Heʻeia National Estuarine Research Reserve, and Paepae o Heʻeia.

For more information on interim IFS efforts for He‘eia Stream, see the Commission’s website at: *https://dlnr.hawaii.gov/cwrm/surfacewater/ifs/oahu/3028-heeia/*.

F. Interim IFS for Moloka‘i Streams, Hydrologic Units of Waikolu (4003), Kawela (4037), Kaunakakai (4039), and Manawainui (4041)

On July 1, 2019, the Commission received a Petition to Amend an Instream Flow Standard (Petition) filed by Earthjustice, on behalf of Moloka‘i No Ka Heke, an unincorporated community association of Moloka‘i residents, in conjunction with a Complaint / Dispute Resolution Filing Form. The Petition sought to establish measurable interim IFS for Kawela, Kaunakakai, Manawainui, and Waikolu Streams.

Figure 6. Molokai Properties’ Molokai Water System diverts water from the surface water hydrologic units of Kawela, Kaunakakai, Waikolu, and Manawainui.



On February 15, 2022, following several years of data collection and investigation, the Commission received a briefing on the status of the combined Petition to Amend the Interim Instream Flow Standards and allegation of waste (CDR.5310.4), filed by Moloka‘i No Ka Heke, for streams in the surface water hydrologic units of Waikolu (4003), Kawela (4037), Kaunakakai (4039), and Manawainui (4041), and the reservation of non-potable water for DHHL.

On March 15, 2022, the Commission deferred two staff submittals to: 1) Address portions of CDR.5310.4 by amending interim IFS for the surface water hydrologic units of Kawela (4037), Kaunakakai (4039), and Manawainui (4041), Moloka‘i; and 2) Approve a surface water

reservation of 6.0914 mgd for the Department of Hawaiian Home Lands and amend the interim IFS for Waikolu Stream (4003).

On April 19, 2022, following discussions with representatives for Molokaʻi No Ka Heke, DHHL, and Molokai Properties, the action items from March were brought back to the Commission. The Commission approved, with amendments, interim IFS for East Kawela Stream and South Fork Kuhuaawi Stream at the Lualohe Intake; abandonment of Diversion 866 on the East Kawela tributary and Diversion 862 on West Kawela Stream, and evaluation of unused stream diversions including Diversions 865 (Kamoku Stream), 863 (Lualohe Intake), and 868 (Kalihi Intake). In a subsequent action, the Commission approved the surface water reservation to DHHL in the amount of 6.0914 mgd from the Waikolu hydrologic unit, via the Molokaʻi Irrigation System, and 0.15 mgd from the Mountain Water System; interim IFS on Waikolu Stream at the 900 ft. and 250 ft. elevations; and modifications to Diversion 1059 (Dam #4) to provide for a wetted pathway to maintain habitat connectivity for native aquatic species.

On October 18, 2022, the Commission was presented a staff submittal on the follow-up actions related to the April 19, 2022 Commission decision to amend the interim instream flow standards and complaint against waste by Molokai Properties for the Kawela (4037), Kaunakakai (4039), and Manawainui (4041) hydrologic units filed by Molokaʻi No Ka Heke (CDR.5310.4) by requiring the temporary modification of Diversion 867 on East Kawela, and monitoring streamflow at Lualohe (Diversion 863) and Kamoku (Diversion 865) Intakes, Molokaʻi. The Commission approved the staff submittal, with amendments, which sought to have Molokai Properties abandon Diversion 867 on East Kawela Stream and provide for temporary immediate full restoration of streamflow. Following approval, Molokai Properties requested a contested case hearing, along with Molokaʻi No Ka Heke. Table 1 presents a summary of implementation actions approved by the Commission.

Table 1. Summary of implementation actions for surface water hydrologic units of Kawela (4037), Kaunakakai (4039), and Manawainui (4041), Molokaʻi.

Stream Name	Instream Flow Standard	Implementation Actions
East Kawela	Full restoration	Temporary immediate full restoration.
East Kawela Tributary	Full restoration	Stream diversion works permit for abandonment approved on April 18, 2023.
West Kawela	Full restoration	Stream diversion works permit for abandonment approved on April 18, 2023.
Kamoku	No interim IFS	Investigate the feasibility of reactivating Diversion 865.
Lualohe	Q80 (100% baseflow)	Investigate the feasibility of reactivating Diversion 863.
Kalihi	No interim IFS	Investigate the feasibility of reactivating Diversion 868.
Waikolu	0.95 cfs (0.61 mgd)	Established at 900 ft. elevation; Steel plate across intake grate at Dam #1 exists for habitat connectivity.
Waikolu	5.3 cfs (3.5 mgd)	Established at 250 ft. elevation; Steel plate to be installed across intake grate at Dam #4 for habitat connectivity.

On April 18, 2023, the Commission approved the Stream Diversion Works Permit for Molokai Properties, Ltd. to abandon diversion works structures, including removal of pipes and concrete, from an unnamed tributary to East Kawela Stream (diversion no. 866) and West Kawela Stream (diversion no. 862).

For more information on interim IFS efforts for these Molokaʻi streams, see the individual hydrologic unit webpages on the Commission's website at:

- Waikolu: *https://dlnr.hawaii.gov/cwrm/surfacewater/ifs/molokai/4003-waikolu/*
- Kawela: *https://dlnr.hawaii.gov/cwrm/surfacewater/ifs/molokai/ifs-4037-kawela/*
- Kaunakakai: *https://dlnr.hawaii.gov/cwrm/surfacewater/ifs/molokai/4039-kaunakakai/*
- Manawainui: *https://dlnr.hawaii.gov/cwrm/surfacewater/ifs/molokai/4041-manawainui/*

The Commission staff is continuing to monitor the implementation of instream flow standards on Molokaʻi with continuous monitoring stations and assessments of aquatic fauna.

G. Nā Wai ʻEhā: Contested Case Hearing on Surface Water Use Permit Applications, Integration of Appurtenant Rights and Amendments to the Interim Instream Flow Standards, Nā Wai ʻEhā Surface Water Management Areas of Waiheʻe, Waiehu, Wailuku River (previously known as ʻĪao Stream) and Waikapū Streams, Maui (CCH-MA15-01)

2006-2016: Initial Petitions and Public Responses

- In December 2006, Earthjustice, on behalf of Hui o Nā Wai ʻEhā and Maui Tomorrow Foundation, Inc., filed a petition with the Commission on Water Resource Management. They requested that the watersheds of Waiheʻe, Waiehu, ʻĪao, and Waikapū Streams (collectively known as Nā Wai ʻEhā) be recognized either as part of the existing ʻĪao Ground Water Management Area or designated as a new surface water management area.
- Following supportive responses from local government officials and the unanimous support of the Maui County Council in early 2007, the Commission proceeded with public hearings and further evaluations.
- In March 2008, the Commission designated the four streams as a surface water management area, effective from April 2008. 125 surface water user permit applications were received.

2010-2015: Ongoing Hearings and Case Developments

- Between 2010 and 2015, multiple public hearings were held to address objections and gather further input. The Commission also decided to proceed with a contested case hearing to thoroughly analyze and determine the surface water use permits for the area.

2016-2021: Contested Case Hearing and Final Decisions

- The contested case hearing formally opened in July 2016 and included multiple sessions and submissions of findings, proposals, and public testimonies throughout the following years.

- By June 2021, the Commission finalized its decisions, approving the Findings of Fact, Conclusions of Law, and Decision and Order (Decision and Order)

In its Decision and Order, the Commission used a decision matrix that enabled analysis of different allocation rates, acreage limits, and other parameters for each category of use. After testing a range of options, they ultimately agreed upon the following scenarios for all permits:

- 150,000 gallons per acre per day (gad) for kalo;
- A maximum of 2,500 gallons per acre per day for diversified agriculture; and
- 600 gallons per day for domestic use (limited to approximately 1 acre).

These rates were applied to all Surface Water Use Permit Applications (SWUPA) to calculate total offstream demand. This enabled the Commission to ascertain whether the interim IFS set to protect stream health allowed for the withdrawal of sufficient water to meet the aggregate demand of public trust uses and other reasonable and beneficial uses. Once satisfied that it had achieved a judicious balance, the Commission determined whether the existing water delivery system could actually deliver the allocated water to the permittees, as some users are only able to receive their allocation from a single source, while others have access to water from multiple streams through the ditch system (Figure 4).

The Decision and Order established interim IFS and SWUPA allocations that optimize the Commission's public trust responsibilities. The Commission was able to address all permits requested but took a conservative approach in this initial allocation as it did not want to foreclose on their ability to meet the requirements of potential public trust use applicants who did not participate in this initial permit process. Aggregate water uses authorized in this Decision and Order allocated:

- More than one-half of the available stream flow (i.e., the interim IFS and unallocated water) for instream habitat and related benefits.
- Approximately 13 percent of the water for kalo production.
- About a third of the water for beneficial offstream uses, such as municipal water supply and diversified agriculture.

While retaining over half of the flow to remain in the stream for instream habitat and related benefits, the Commission permitted over 23 million gallons a day for other uses.

On September 23, 2021, the Commission issued three Minute Orders to address the motions filed: 1) Order Granting in Part and Denying in Part the Office of Hawaiian Affairs, Hui o Nā Wai ʻEhā and Maui Tomorrow Foundation, Inc.'s July 6, 2021 Motion for Partial Reconsideration of Findings of Fact, Conclusions of Law, and Decision and Order Filed June 28, 2021 ; 2) Order Denying MMK Maui, LP's Motion for Clarification or, in the Alternative, for Partial Reconsideration of the Findings of Fact, Conclusions of Law, Decision and Order Filed June 28, 2021; and 3) Order Denying Mahi Pono, LLC's Motion for Partial Reconsideration of Findings of Fact, Conclusions of Law, Decision & Order Filed on June 28, 2021, as Amended by Errata to Findings of Fact, Conclusions of Law, and Decision & Order Filed June 30, 2021. The Decision

and Order was appealed to the State of Hawaii Supreme Court on December 5th, 2023. The Supreme Court of Hawaii heard oral arguments and the defense of the Decision and Order.

On June 20, 2024, the Supreme Court issued its Opinion in No. SCOT-21-0000581.

Commission staff is assessing its next steps in accordance with the Supreme Court's Opinion, including the issuance of surface water use permits and review of the establishing interim instream flow standards. Figure 7 highlights the complexity of the water use permit applications across the Nā Wai ʻEhā region. Information on the Nā Wai ʻEhā Contested Case Hearing on Surface Water Use Permits, Appurtenant Rights and Interim Instream Flow Standards, including the recent Supreme Court Opinion is available on the Commission website at: *http://dlnr.hawaii.gov/cwrm/newsevents/cch/cch-ma15-01/*.

In August 2025, the Commission issued the report, Hydrological and Biological Assessment of Nā Wai ʻEhā's Streams Following Streamflow Restoration, Maui (PR-2025-01). In cooperation with the Hawaiʻi Division of Aquatic Resources, Commission staff have conducted multiple biological surveys at varying elevations in Nā Wai ʻEhā since 2021. These datasets were not part of the evidentiary portion of the contested case hearing, which was closed in 2015. This report provides a summary and analysis of the available hydrological and ecological data collected to date in Nā Wai ʻEhā. The data is then discussed in the context of two nearby stream systems in West Maui, as well as, two streams on Kauaʻi with similar hydrological and topographic conditions. The report is available on the Commission website at: *https://files.hawaii.gov/dlnr/cwrm/publishedreports/PR202501.pdf*

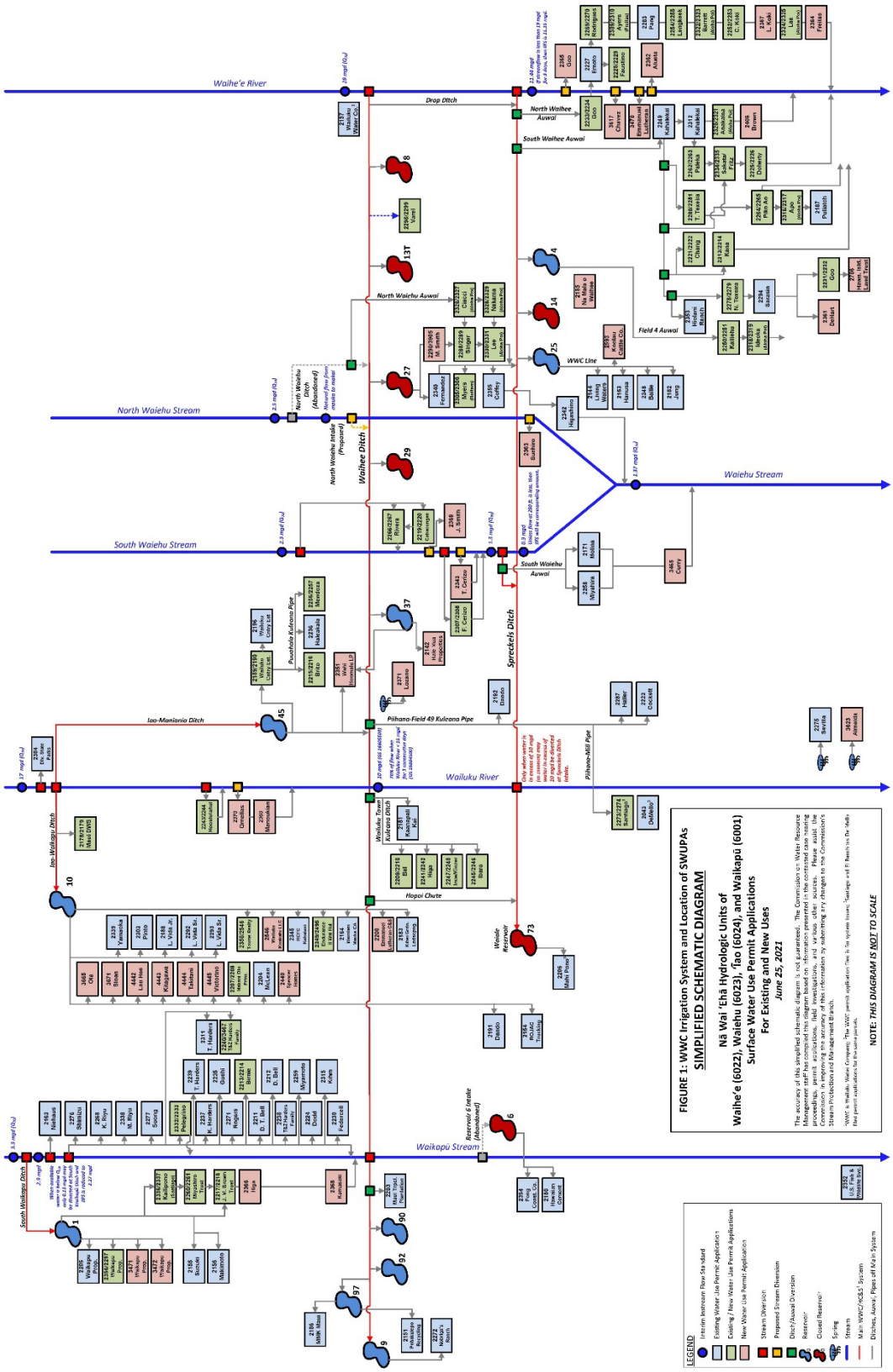
For information on the ʻĪao Ground Water Management Area High-Level Source Water Use Permit Applications and Petition to Amend Interim Instream Flow Standards of Waiheʻe River, Waiehu Stream, Wailuku River, and Waikapū Streams Contested Case Hearing (CCH-MA06-01), visit the Commission website at: *http://dlnr.hawaii.gov/cwrm/newsevents/cch/cch-ma06-01/*.

For information on the Nā Wai ʻEhā: Contested Case Hearing on Provisional Recognition of Appurtenant Rights, Nā Wai ʻEhā Surface Water Management Area, Waiheʻe, Waiehu, ʻĪao, Waikapū Streams, Maui, Hawaiʻi (CCH-MA13-02), visit the Commission website at: *http://dlnr.hawaii.gov/cwrm/newsevents/cch/cch-ma13-02/*.

For more information on the designation of the Nā Wai ʻEhā surface water hydrologic units and Surface Water Management Area, visit the Commission website at: *http://dlnr.hawaii.gov/cwrm/surfacewater/swma/nawaieha/*.

The Commission staff is continuing to monitor and assess the interim IFS established by the Commission. This includes regular quarterly trips to conduct streamflow measurements and download data from continuous dataloggers. Monitoring data is available on the Commission website at: *https://data-cwrm.aquaticinformatics.net/Data*

Figure 7. Simplified Schematic Diagram of the Wailuku Water Company (WWC) Irrigation System and the location of surface water use permit applicants across the hydrologic units of Waihe'e (6022), Waiehu (6023), 'Īao (6024), and Waikapū (6001).



H. West Maui Interim IFS

On June 21, 2011, the Commission entered into a Joint Funding Agreement (JFA) with the U.S. Geological Survey (USGS) to conduct a low-flow study of the main streams in ten watersheds in the Lahaina District (Maui): Honolua, Honokahua, Kahana, Honokōwai, Wahikuli, Kahoma, Kauaʻula, Launiupoko, Olowalu, and Ukumehame. The study initially arose from two petitions to establish amended interim IFS for Honokōhau and Honolua Streams in Northwest Maui (August 2006 by Maui Pineapple Company, Inc.). Later, the study area was expanded due to development pressures and changes in land use in West Maui.

Separately, the Department of Land and Natural Resources entered into a $3 million cost share agreement with the United States Army Corps of Engineers (USACE) to develop a watershed plan in support of the West Maui "Ridge to Reef" Initiative. The Commission is one of several non-federal participating sponsors. The USGS study will supplement the watershed plan as the project areas partially overlap. The streamflow characteristics will support multiple facets of the USACE effort.

The USGS completed and published this study in June 2014 as USGS Scientific Investigations Report 2014-5087, *Low-Flow Characteristics of Streams in the Lahaina District, West Maui, Hawai'i*. To download a copy of the report, see the USGS website at: *http://pubs.usgs.gov/sir/2014/5087/*.

Ukumehame, Olowalu, Launiupoko, and Kauaʻula Streams
Based on the USGS stream study, the Commission proceeded with the development of interim IFS in West Maui. The Commission staff prepared Draft Instream Flow Standard Assessment Reports for the surface water hydrologic units of Ukumehame (6004), Olowalu (6005), Launiupoko (6006), and Kauaʻula (6007). The draft reports were available online for public review and comment from March 2017 to January 2018. A Public Fact Gathering Meeting in West Maui was held in early December 2017. Following public input, the reports were finalized in March 2018.

Interim IFS recommendations were submitted to the Commission for consideration at its March 2018 Commission meeting. The Commission voted to adopt the recommendations by staff to establish interim IFS on Ukumehame, Olowalu, Launiupoko, and Kauaʻula streams. Staff are continuing to monitor streamflow releases and coordinate with the diversion operators to meet the standards.

As part of an adaptive management plan to implement the interim IFS on Kauaʻula Stream, staff recommended that interim water releases continue until continuous USGS monitoring could be installed. The Commission funded a USGS natural flow stream monitoring station in 2018 which was installed in 2020.

Following repeated outreach attempts, notices of alleged violation were sent to to all diversion operators not in compliance with interim IFS. On April 19, 2022, the Commission approved a temporary relief of interim IFS on Kauaʻula Stream at Diversion 957 to ensure the continued use of 300,000 gallons per day of water to meet the immediate needs of public trust uses of Kuleana tenants, including water for traditional and customary practices (150,000 gallons per day) and

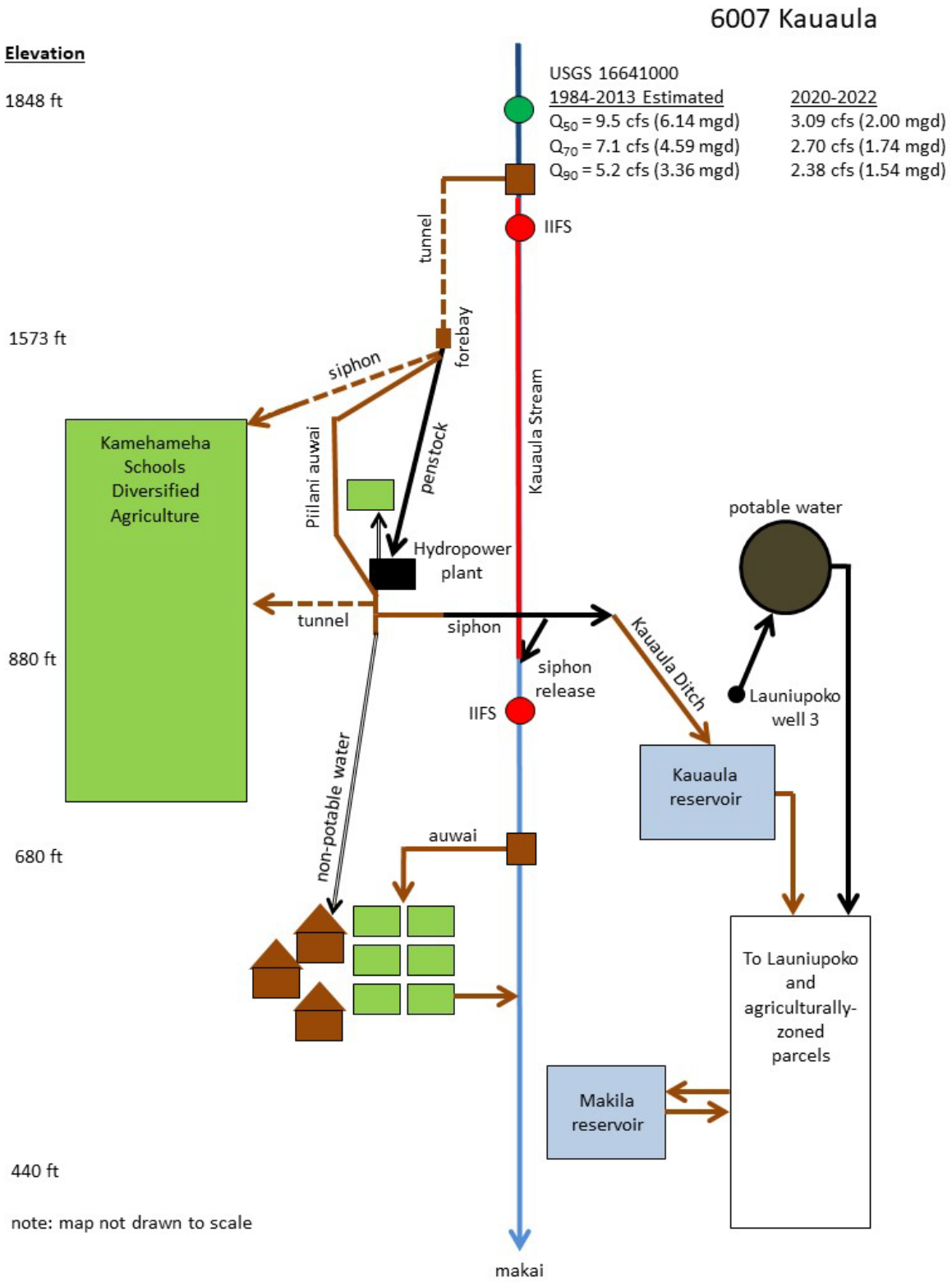
domestic uses (50,000 gallons per day), and the reasonable irrigation use for agricultural and cultural education purposes of Kamehameha Schools' tenants with no alternative water sources (100,000 gallons per day), for a period of 60 days. Staff needed to reassess the balance of water for public trust uses during drought conditions, which were severe from 2020 to 2023.

The Commission approved the following actions: 1) Approved a temporary relief for a period of 90 days from the interim IFS for Kaua'ula Stream to provide for the continued diversion of 300,000 gallons per day (0.300 mgd; 0.46 cfs) during low-flow conditions (e.g., when flow measured at USGS 16641000 drops below 5.60 cfs (3.62 mgd)) such that the interim IFS becomes the mean daily flow minus 300,000 gallons; at all other times the interim IFS should be met; 2) Ordered Launiupoko Irrigation Company, Inc. to continue to meet the public trust water needs of Kuleana tenants at all times, including their traditional and customary and domestic uses; and 3) Ordered Launiupoko Irrigation Company, Inc. to continue to meet the water needs of tenants of Kamehameha Schools for reasonable irrigation use for agricultural and cultural education purposes who currently have no other alternative source of water.

On July 19, 2022, the Commission approved an extension of the temporary relief period for an additional 90 days, and delegated authority to the Chairperson to extend additional periods of temporary relief from the interim IFS for Kaua'ula Stream to provide for the continued diversion of 300,000 gallons per day (0.300 mgd; 0.46 cfs) during low-flow conditions, as needed.

On November 17, 2022, the Commission, through delegated authority to the Chair, issued an Extension of Temporary Relief from the Interim Instream Flow Standard for Kaua'ula Stream for an additional period of 225 days, to expire on June 30, 2023. Staff have recommended extending the temporary relief until water use permits have been finalized in Kaua'ula.

Figure 8: Simplified schematic diagram for the hydrologic unit of Kaua'ula (6007).



On June 15, 2023, given that low rainfall and low streamflow conditions were anticipated to continue persisting through the summer months in leeward Maui, and that Kamehameha Schools is continuing to consider alternatives for water delivery to their lands, the Chair issued another Extension of Temporary Relief from the Interim Instream Flow Standard for Kaua'ula Stream for an additional period of 184 days, to expire on December 31, 2023. The Commission is continuing to collect streamflow data to reassess the Kaua'ula interim IFS and Kamehameha Schools is installing a waterline to delivery water more efficiently to its lands from the stream diversion intake on Kaua'ula Stream. The temporary relief period for the interim IFS has been extended twice more and is currently set to expire on December 31, 2024.

For more information on the interim IFS for Ukumehame Stream see the Commission's website at: *https://dlnr.hawaii.gov/cwrm/surfacewater/ifs/maui/6004-ukumehame/*.

For more information on the interim IFS for Olowalu Stream see the Commission's website at: *https://dlnr.hawaii.gov/cwrm/surfacewater/ifs/maui/6005-olowalu/*.

For more information on the interim IFS for Launiupoko Stream see the Commission's website at: *https://dlnr.hawaii.gov/cwrm/surfacewater/ifs/maui/6006-launiupoko/*.

For more information on the interim IFS for Kaua'ula Stream see the Commission's website at: *https://dlnr.hawaii.gov/cwrm/surfacewater/ifs/maui/6007-kauaula/*.

Kahoma and Kanahā Streams
In September 2018, a draft instream flow standard assessment report was prepared for the Kahoma (6008) surface water hydrologic unit, including the streams of Kahoma and Kanahā. A public fact-gathering meeting was held in October 2018. Following public input, interim IFS were prepared and submitted for the Commission's review and approval in November 2018. The Commission voted to adopt the recommendations by staff, with amendments, to establish interim IFS on Kahoma and Kanahā Streams.

For more information on the interim IFS for Kahoma and Kanahā Streams see the Commission's website at: *https://dlnr.hawaii.gov/cwrm/surfacewater/ifs/maui/6008-kahoma/*.

Honolua and Honokōhau Streams
In November 2019, Commission staff requested that the Commission address a waste complaint filed by Ka Malu O Kahalawai and West Maui Preservation Association against Maui Land and Pineapple Company (MLP) alleging water diverted from Honokōhau Stream overflows the Honokōhau Ditch. At the same time, staff sought to amend the interim IFS for Honolua and Honokōhau Streams. In its decision, the Commission approved certain actions to be taken by MLP to reduce waste and deferred amending the interim IFS for Honolua and Honokōhau Streams so that further discussion could take place between Commission staff, MLP, and the community. Specifically, the Commission ordered MLP to: 1) Replace the existing damaged intake with one that can be remotely operated; and 2) Provide real-time monitoring of diverted flows in the ditch and metering of each distribution point from the Honokōhau Ditch to the Commission.

On September 15, 2020, the Commission approved the abandonment of Diversion No. 768 on Kaluanui Stream, a tributary of Honokōhau, and Diversion No. 769 on Honolua Stream. Both diversions were owned by Maui Land and Pineapple Co., Inc. (MLP), but were not actively diverting water or being maintained.

On May 18, 2021, the Commission approved a reservation of surface water for the DHHL based on the updated medium-range demands for the Honokōwai Regional Plan, in the amount of 2.00 mgd from the Honokōhau Stream through the Honokōhau Ditch. The reservation of 2.00 mgd of non-potable water for DHHL provides more certainty for Maui Department of Environmental Management (Maui DEM) to invest in the infrastructure needed to blend and distribute R1-treated wastewater with reduced chloride levels that meet non-potable needs in the Lahaina Region.

At its May 2021 meeting, the Commission also approved: 1) setting an interim IFS of natural flow for Honolua Stream below the abandoned Honokōhau Ditch diversion; 2) establishing an interim IFS of natural flow for Kaluanui Stream, below the abandoned Honokōhau Ditch diversion; and 3) setting an interim IFS on Honokōhau Stream at McDonald's Dam (at the 340 foot elevation), at a flow of 8.6 mgd. The interim IFS represents the restoration of 64% of median base flow (BFQ50) as estimated at USGS 16620000 (7.4 mgd), plus the additional 2.3 mgd of groundwater gains between USGS 16620000 and Aotaki Weir and 1.4 mgd of groundwater gains between Aotaki Weir and McDonald's Dam minus 2.5 mgd for the Maui DWS. The interim IFS is expected to be in excess of the water needs to support the existing needs of loʻi as well as future acreage while protecting aquatic biota, recreation, and domestic uses at all elevations, and ensuring sufficient water to meet traditional and customary practices 100% of the time in Honokōhau Valley. MLP is required to meet the interim IFS 100% of the time. There should also be adequate ditch flow to meet Maui DWS needs of 2.1 mgd at the Māhinahina Water Treatment Facility 100% of the time. It is understood that during extreme drought (< Q90; < 11.0 mgd at Aotaki Weir), 100% of the off-stream needs of non-public trust uses may not be met. Additional implementation and monitoring measures are included in the Commission staff submittal.

For more information on the interim IFS for Honolua Stream see the Commission's website at: *https://dlnr.hawaii.gov/cwrm/surfacewater/ifs/maui/6013-honolua/*.

For more information on the interim IFS for Honokōhau Stream see the Commission's website at: *https://dlnr.hawaii.gov/cwrm/surfacewater/ifs/maui/6014-honokohau/*.

The Commission is continuing to monitor the implementation of instream flow standards in West Maui with continuous monitoring stations and assessments of aquatic fauna.

I. Interim IFS for East Maui Streams, Hydrologic Units of Hoʻolawa (6035), Waipiʻo (6036), Hoalua (6038), Hanawana (6039), Kailua (6040), Nailiilihaele (6041), Puehu (6042), Oopuola (6043), Kaʻaiea (6044), Punaluʻu (6045), and Kōlea (6046)

Recognizing that not all streams diverted by the East Maui Irrigation System were included in the Commission's Decision and Order under contested case hearing CCH-MA13-01, Commission staff began developing Instream Flow Standard Assessment Reports for each of the eleven

hydrologic units in the Huelo region of the East Maui license area, managed by DLNR's Land Division (Figure 12).

In 2019, Commission staff began to conduct an assessment of, at the time, the remaining "non-petitioned" streams, including the surface water hydrologic units of Kōlea, Punalu'u, Ka'aiea, 'O'opuola, Puehu, Nailiilihaele, Kailua, Hanawana, Hoalua, Waipi'o, and Ho'olawa. These hydrologic units were preliminarily labeled "non-petitioned" because they were the remaining hydrologic units in the East Maui License Area that were not a part of the Native Hawaiian Legal Corporation's 2001 Petitions to Amend the Interim Instream Flow Standard that were the subject of contested case hearing CCH-MA13-01. Intensive data collection efforts in these East Maui surface water hydrologic units began in early 2020. Biological habitat monitoring and biota surveys were conducted with the assistance of DAR. Data collection included partial-record streamflow monitoring, synoptic streamflow measurements (seepage runs), stream biota and habitat assessment, gaging station maintenance (continuous record stations), and diversion verifications conducted by Commission staff.

On September 28, 2021, the Commission received an electronically submitted Petition to Amend an Instream Flow Standard ("Petition", Exhibit 1), filed by Sierra Club, for Kōlea Stream, Punalu'u Stream, Ka'aiea Stream, 'O'opuola Stream (Makanali tributary), Puehu Stream, Nailiilihaele Stream, Kailua Stream, Hanawana Stream (Ohanui tributary), Hoalua Stream, Waipi'o Stream, Mokupapa Stream, and Ho'olawa Stream (Ho'olawa ili and Ho'olawa nui tributaries).

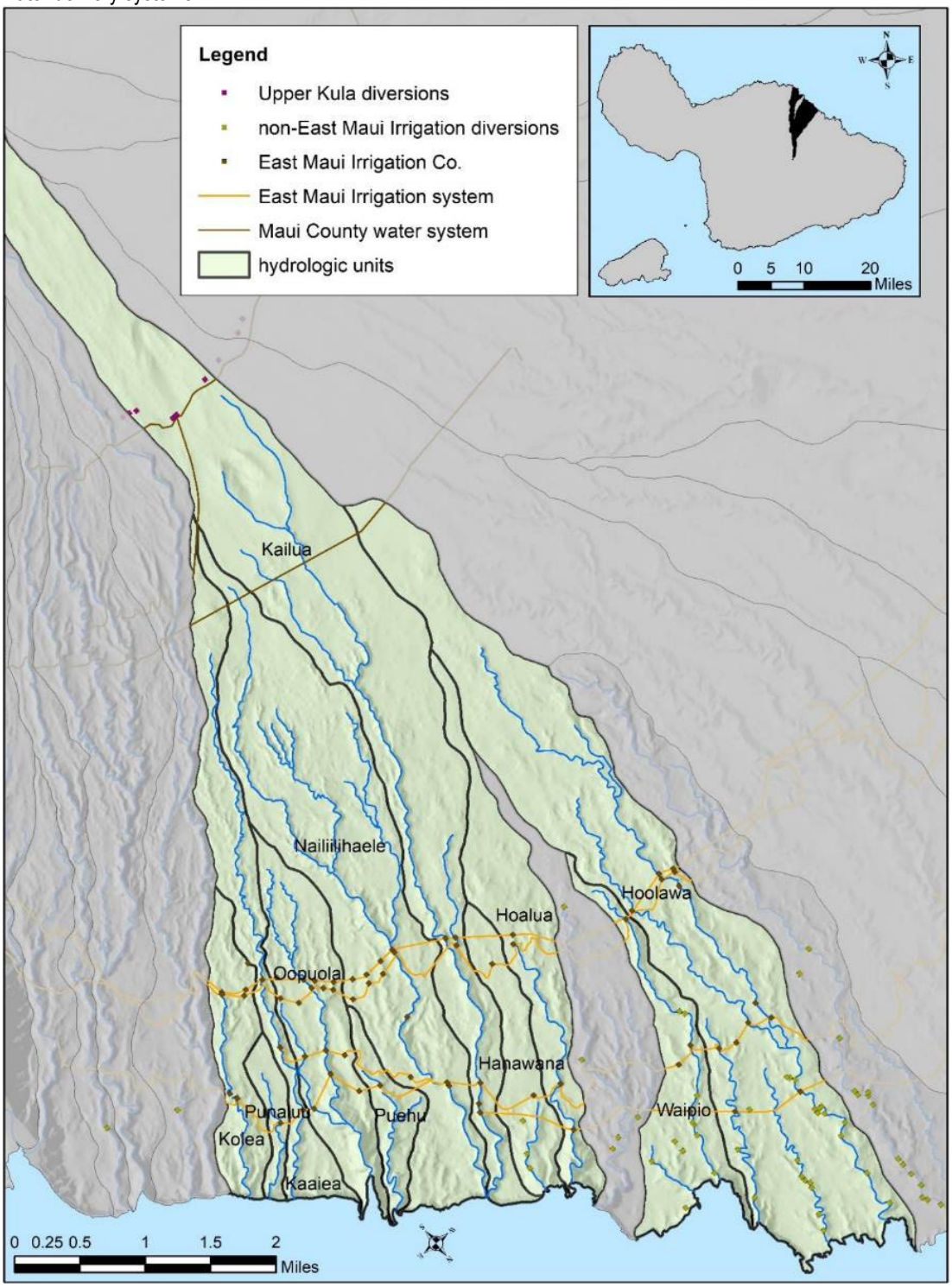
On April 25, 2022, the Commission received a letter from the Sierra Club of Hawai'i indicating their "intent to sue in sixty days over the Commission's failure to address the petition that the Sierra Club filed on September 29, 2022 [sic]."

Following discussions between the Deputy Director and Sierra Club of Hawai'i, the Commission received a letter from the Sierra Club on May 8, 2022, stating that they "understand that the Code allows a petitioner, with approval from the Commission, to request an extension of this 180 deadline to act, for up to 180 days," and that they "agree [with] your request for extension pursuant to the Code, beginning from the expiration of the 180 deadline after our September 29, 2021 petition, expiring on September 24, 2022."

On July 19, 2022, the Commission approved the Sierra Club of Hawai'i's request for a 180-day extension for action on its Petition to Amend the Interim Instream Flow Standards for 12 East Maui Streams, expiring on September 24, 2022. The Commission also received an informational briefing by Commission staff on the summary of current instream uses and stream diversions in the Huelo region of East Maui.

On August 16, 2022, the Commission received an information briefing on the analysis of non-instream water uses relying on water from East Maui streams.

Figure 9. Hydrologic units in East Maui associated with the 2021 petitioned streams and their registered diversions, and water delivery systems.



On September 20, 2022, in preparation for a future action submittal, the Commission was briefed on the proposed interim IFS for Huelo streams and the DHHL Reservation for water from the East Maui Irrigation system.

On November 15, 2022, the Commission approved a surface water reservation of 2.054 cubic feet per second (cfs) (1.3275 mgd) for the DHHL to meet a portion of their foreseeable future non-potable water needs of their Pūlehunui development to be serviced by the East Maui Irrigation System from streams in the Huelo region. The Commission also addressed the Petition to Amend Instream Flow Standards (PAIFS) 5784.6 by amending the interim IFS for multiple streams in eleven (11) surface water hydrologic units in the Huelo region (Table 2).

Table 2. Summary oof instream flow standards and implementation actions for the surface water hydrologic units of Hoʻolawa (6035), Waipiʻo (6036), Hoalua (6038), Hanawana (6039), Kailua (6040), Nailiilihaele (6041), Puehu (6042), Oopuola (6043), Kaʻaiea (6044), Punaluʻu (6045), and Kōlea (6046), Maui.

Stream Name	Instream Flow Standard	Implementation Actions
Kōlea (6046)	0.08 cfs (0.05 mgd)	Modify diversions 156 (W-3) and 209 (NH-2) intakes such that all flows up to 0.08 cfs remain in the stream without providing for connectivity.
Punaluʻu (6045)	No interim IFS	No action required.
Kaʻaiea (6044)	1.8 cfs (1.12 mgd)	Modify diversions 232 (S-11) and 194 (C-5) such that all flows up to 1.8 cfs remain in the stream to provide for habitat connectivity.
West ʻOʻopuola (6043)	0.36 cfs (0.23 mgd)	Abandon diversions 173 (W-7) on Makanali Stream, and 150 (W-9) and 262 (NH-6) on ʻOʻopuola Tributary Stream, and 260 (NH-8) on West ʻOʻopuola Stream. Modify diversion 142 (W-1) such that all flows up to 0.36 cfs remain in West ʻOʻopuola Stream.
ʻOʻopuola (6043)	1.8 cfs (1.2 mgd)	Modify diversions 308 (S-13) and 196 (C-7) on ʻOʻopuola Stream such that all flows up to 1.8 cfs remain in the stream to provide for habitat connectivity.
Puehu (6042)	No interim IFS	No action required.
Nailiilihaele (6041)	20% of all flows	Modify diversion 168 (W-14) on Nailiilihaele Stream such that 20% of all flows remain in the stream to provide for habitat connectivity and recreational uses.
Nailiilihaele (6041)	1.8 cfs (1.12 mgd)	Modify diversion 267 (NH-12) on Nailiilihaele Stream such that 20% of all flows remain in the stream to provide for habitat connectivity and recreational uses.
Nailiilihaele (6041)	3.6 cfs (2.32 mgd)	Modify diversion 255 (NH-13) on Nailiilihaele Stream such that 20% of all flows remain in the stream to provide for habitat connectivity and recreational uses.
Nailiilihaele (6041)	5.2 cfs (3.36 mgd)	Modify diversion 187 (L-1) on Nailiilihaele Stream such that 20% of all flows remain in the stream to

Stream Name	Instream Flow Standard	Implementation Actions
		provide for habitat connectivity and recreational uses.
Kailua (6040)	20% of all flows	Modify diversion 185 (W-15) on Kailua Stream such that 20% of all flows remain in the stream to provide for habitat connectivity and recreational uses. Abandon diversion 273 (NH-14) on Oanui Stream.
Hanawana (6039)	Continual flow past Lowrie Ditch	Modify the bypass pipe at diversion 177 (L-3) on Hānawana to prevent clogging and maintain a continual flow of water to meet downstream riparian uses.
Hoalua (6038)	No interim IFS	No action required.
Waipiʻo (6036)	Increased flow below Lowrie Ditch	Abandon diversion 238 (L-8) on Waipiʻo Stream to provide for downstream riparian uses.
Hoʻolawa (6035)	Increased flow below Wailoa/New Hāmākua Ditches and Lowrie/Haʻikū Ditches	Modify diversions 144 (W-19), 145 (W-20), and 244 (NH-20) to provide for continuous flow across intake grates. Abandon and seal diversions 234 (NH-19) and 254 (OH-1).Modify diversions 243 (L-12) to ensure 0.7 cfs continues downstream, 236 (L-13) to ensure 1.2 cfs continues downstream, and 215 (H-7) to ensure 3.0 cfs continues downstream.

The Commission is continuing to work with East Maui Irrigation Co. to perform diversion modifications and abandonments that will provide for more permanent implementation of interim IFS. Stream Diversion Works Permits (SDWP) were approved by the Commission at its May 2023 (SDWP.5990.6), March 2024 (SDWP.5991.6), and April 2024 (SDWP.6011.6) meetings. The permits for SDWP.5991.6 and SDWP.6011.6 were issued on October 30, 2025. Issuance of the permit for SDWP.5990.6 is pending and will be issued shortly.

For more information on the interim IFS work for these non-petitioned East Maui streams, see the Commission's website at: *https://dlnr.hawaii.gov/cwrm/surfacewater/ifs/eastmaui3/*.

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

On November 29, 2021, the Chairperson initiated designation proceedings and began consultation with the County Council, County Mayor, and County Board of Water Supply via formal letter.

The Commission received responses from the County Council dated December 7, 16, and 29, 2021 with clarifying questions requesting data, a request to present to the County Council, and to understand the designation process and timeline. The Commission responded with letter dated December 17, 2021.

On December 28, 2021, the Commission received a response from Maui County Department of Water Supply (MDWS).

On January 18, 2022, the Commission staff presented a non-action item on the Designation of the Lahaina Aquifer Sector, Maui, as a Surface Water and Ground Water Management Area, emphasizing the justification of the proposed designation including: 1) Harm to ground water quantity and quality by saltwater intrusion; 2) Serious historic and on-going disputes over current and planned uses are occurring; 3) Climate uncertainty including drought and declines in rainfall; and 4) Enhanced management and protection through integration of surface and ground water uses.

On January 20, 2022, Commission staff presented at the Maui Board of Water Supply monthly meeting. Subsequently, the Maui County Board of Water Supply unanimously voted to support designation of the entire Lahaina Aquifer Sector Area as a surface and ground water management area.

On February 15, 2022, the Commission accepted the Chairperson's recommendation to designate the Lahaina Aquifer Sector as a surface water and ground water management area under HRS, Section 174C-41, thus moving the designation process forward to notice and conduct a public hearing.

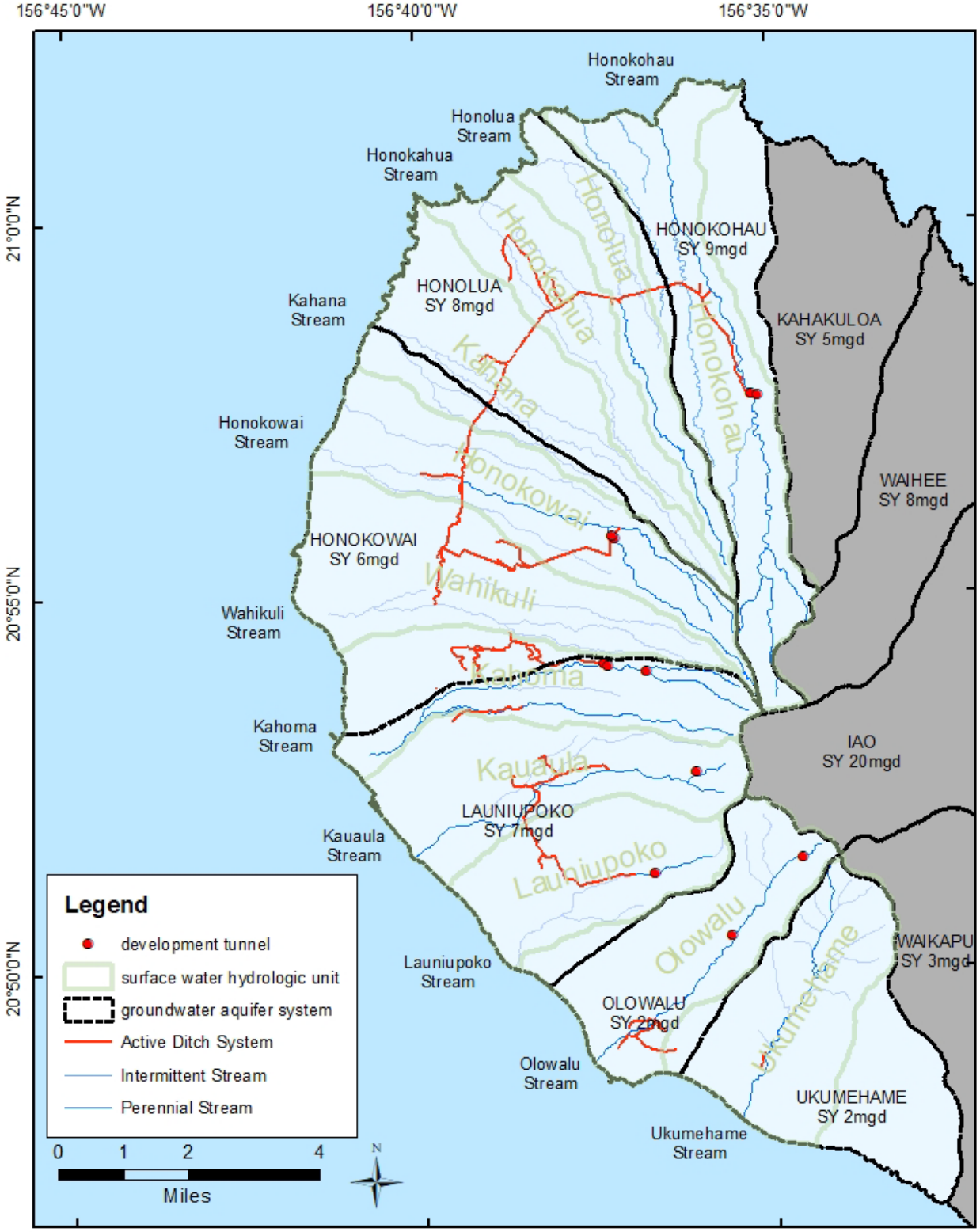
On April 21, 2022, the Commission issued a 129-page Draft Findings of Fact Report, summarizing the Commission staff's investigations and research, comments from consultation with the County of Maui, the public's written and oral comments received at Commission meetings, and other existing information on file with the Department of Land and Natural Resources.

On April 26, 2022, the Commission staff held a public hearing on the recommended designation of Lahaina Aquifer Sector, Maui, at Waiola Church in Lahaina, with over three hours of public testimony received.

On June 14, 2022, the Commission voted to accept the final Findings of Fact and the Chairperson's Recommendation to designate the Lahaina Aquifer Sector Area as both a Surface Water and Ground Water Management Area including the Honokōhau, Honolua, Honokahua, Kahana, Honokōwai, Wahikuli, Kahoma, Kaua'ula, Launiupoko, Olowalu, Ukumehame Surface Water Hydrologic Units and the Honokōhau, Honolua, Honokōwai, Launiupoko, Olowalu, and Ukumehame Groundwater Hydrologic Units, under the authority of §174C-41, HRS.

On July 29, 2022, the Commission issued a public notice announcing the designation of the Lahaina Aquifer Sector Area as a surface and ground water management area and setting the effective date of designation as August 6, 2022 (date of publication of the notice). Applications for water use permits to continue an existing use of surface or ground water were required to be filed within a period of one year from the effective date of designation, that is between August 6, 2022 (the date the Public Notice is published) and no later than August 5, 2023. Because August 5, 2023 fell on a Saturday, water use permit applications were due on August 7, 2023. The Commission sent two letters to existing users who declared their uses, registered stream diversions or wells, and to persons who had obtained stream diversion works or well construction and pump installation permits following the initial registration period to file water use permits applications to continue their existing uses. New use applications are also being accepted at any time.

Figure 10. Lahaina Aquifer Sector Area. Ground Water Aquifer Systems Areas and their sustainable yields (SY) for the Lahaina Aquifer Sector with overlaying surface water hydrologic units and their perennial and intermittent streams with development tunnels and active irrigation ditch systems.



As of October 1, 2025, the Commission received a total of 95 surface water use permit applications, 56 for existing use and 39 for new use. Of those applications, 47 are applying for domestic use purposes, 64 applicants have asserted an appurtenant right, 63 applicants have asserted traditional and customary practice rights, and one (1) applicant has applied to keep water in its natural state. The Commission staff are actively reviewing and assessing applications, conducting site visits to verify existing and potential new uses, and preparing letters to request additional information from water use permit applicants, with the intention of bringing recommendations to the Commission in 2026.

Table 3. Summary of all surface water use permits for existing and new uses received by the Commission as of October 1, 2025. The table is organized by regions which consider both ground and surface water resources as follows: 1) Ukumehame aquifer system and surface water hydrologic unit; 2) Olowalu aquifer system and surface water hydrologic unit; 3) Launiupoko aquifer system and Launiupoko, Kaua'ula, and Kahoma surface water hydrologic units; and 4) Honokōwai, Honolua, and Honokōhau aquifer systems and Honokōwai, Honolua, and Honokōhau surface water hydrologic units.

SWUPA[1]	Applicant	Source[2]	Domestic Use[3]	Appurt. Rights[4]	T&C Rights[5]	DHHL[6]	Natural State[7]
6061.6 (E)	West Maui Land Co. Inc./ Ukumehame Water Association Inc.	Ukumehame					
6110.6 (E)	Rose Marie Duey	Ukumehame	X	X	X		
6062.6 (N)	West Maui Land Co. Inc./ Ukumehame Water Association Inc.	Ukumehame					
6063.6 (E)	West Maui Land Co. Inc./Olowalu Water Co..	Olowalu					
6064.6 (N)	West Maui Land Co. Inc./Olowalu Water Co.	Olowalu					
6048.6 (E)	Hans and Emily Michel	Kanahā	X		X		
6059.6 (E)	Kahoma Land Company LLC	Kahoma					
6073.6 (E)	Cheriden K. Kamohalii	Kahoma	X	X			
6074.6 (E)	Bree Camara	Kahoma	X	X	X		
6075.6 (E)	Etan K. Krupnick	Kahoma	X	X	X		
6077.6 (E)	Matthew Akiona	Kahoma		X	X		
6078.6 (E)	Kainoa & Risa Casco	Kahoma	X	X	X		
6080.6 (E)	Andrew Chee	Kahoma	X	X	X		
6081.6 (E)	Joshua Guth	Kahoma		X	X		
6082.6 (E)	Harmony Casco & Justin De Leon	Kahoma		X			
6084.6 (E)	Patrick & Naomi Guth	Kahoma	X	X	X		
6085.6 (E)	Joshua Dean	Kahoma	X	X	X		
6086.6 (E)	Maui DWS	Kahoma					
6098.6 (E)	Andrew & Jordan Chee	Kahoma	X	X	X		
6113.6 (E)	Suzette Felicilda	Kahoma	X	X	X		
6114.6 (E)	Kalepa 'Ohana	Kahoma		X	X		
6131.6 (E)	Brian Daniel Bailey	Kahoma	X	X	X		

SWUPA[1]	Applicant	Source[2]	Domestic Use[3]	Appurt. Rights[4]	T&C Rights[5]	DHHL[6]	Natural State[7]
6065.6 (E)	West Maui Land Co. Inc./ Launiupoko Irrigation Co.	Kaua‘ula					
6067.6 (E)	West Maui Land Co. Inc./ Launiupoko Irrigation Co.	Launiupoko					
6068.6 (E)	Kamehameha Schools	Kaua‘ula		X	X		
6109.6 (E)	Samantha Dizon	Kaua‘ula	X	X	X		
6117.6 (E)	Ke‘eaumoku Kapu (Apaa)	Kaua‘ula	X	X	X		
6118.6 (E)	Ke‘eaumoku Kapu (Olala)	Kaua‘ula	X	X	X		
6124.6 (E)	Charlie & Lauren Palakiko	Kaua‘ula	X	X	X		
6060.6 (N)	Kahoma Land Company LLC	Kahoma					
6066.6 (N)	West Maui Land Co. Inc./ Launiupoko Irrigation Co.	Kaua‘ula					
6069.6 (N)	Kamehameha Schools	Kaua‘ula		X	X		
6130.6 (N)	Nā ‘Aikāne o Maui, Inc.	Kaua‘ula		X	X		X
6175.6 (N)	Michele Haia	Kaua‘ula			X		
6176.6 (N)	Keeaumoku Kapu	Kaua‘ula		X	X		
6179.6 (N)	Charlene Rowland	Kaua‘ula	X		X		
6180.6 (N)	Rhonda Vincent	Kaua‘ula			X		
6183.6 (N)	Samantha & David Dizon	Kaua‘ula			X		
6196.6 (N)	Suzette Felicilda	Kahoma			X		
6197.6 (N)	Ivan Bailey & Jacelyn Barrozo	Kahoma	X	X			
6210.6 (N)	Kapali Keahi & Kekai Keahi	Kahoma/ Kanahā	X	X	X		
6229.6 (N)	Kapali Keahi & Kekai Keahi	Kahoma/ Kanahā	X	X	X		
6071.6 (E)	Kaanapali Land Management Corp.	Honokōwai					
6079.6 (E)	Thomas Pace	Honolua	X	X	X		
6107.6 (E)	John Carty	Honolua	X	X	X		
6070.6 (E)	Kaanapali Land Management Corp.	Honokōhau					
6072.6 (E)	Hawaii Water Service	Honokōhau					
6076.6 (E)	Shirley C. Chung	Honokōhau	X				
6083.6 (E)	Patrick & Naomi Guth	Honokōhau	X	X	X		
6096.6 (E)	Maui DWS	Honokōhau					
6097.6 (E)	TY Management Corporation (Kapalua Golf Courses)	Honokōhau					
6103.6 (E)	Charmaine Ai Yamada	Honokōhau	X	X	X		
6104.6 (E)	Piimauna Aiwohi	Honokōhau	X	X	X		
6105.6 (E)	Joseph Bingham	Honokōhau	X				
6106.6 (E)	Job Keanunue Cabato	Honokōhau	X	X	X		
6108.6 (E)	Chun ‘Ohana	Honokōhau	X	X	X		

SWUPA[1]	Applicant	Source[2]	Domestic Use[3]	Appurt. Rights[4]	T&C Rights[5]	DHHL[6]	Natural State[7]
6111.6 (E)	Edmission & Kapahulehua	Honokōhau	X	X			
6112.6 (E)	Larrick Kapule Eubank	Honokōhau	X	X			
6115.6 (E)	Karyn & Maka Kanekoa	Honokōhau	X	X	X		
6116.6 (E)	Steven Kapaku	Honokōhau	X	X			
6119.6 (E)	Keith Kauhane	Honokōhau	X	X	X		
6120.6 (E)	Keith Keahi	Honokōhau	X	X	X		
6121.6 (E)	Kirk Lai	Honokōhau	X	X	X		
6122.6 (E)	James Kimo Lindsey	Honokōhau			X		
6123.6 (E)	Gretchen Losano	Honokōhau	X	X	X		
6125.6 (E)	Ehuehuokekai Pali	Honokōhau	X	X	X		
6126.6 (E)	Lorraine Schattenburg	Honokōhau	X	X			
6127.6 (E)	Leona Shim	Honokōhau	X	X	X		
6128.6 (E)	Kainoa Wilson	Honokōhau	X	X	X		
6129.6 (E)	Malia Wong	Honokōhau	X	X	X		
6132.6 (E)	Willie Wood	Honokōhau	X	X			
6049.6 (N)	Iwa Shaw	Honokohau	X				
6102.6 (N)	Karyn & Maka Kanekoa	Honokōhau		X	X		
6155.6 (N)	Job Cabato & Keith Kauhane	Honokōhau			X		
6156.6 (N)	Joseph Bingham	Honokōhau					
6157.6 (N)	Jessica Ross	Honokōhau	X		X		
6164.6 (N)	Michael Edmisson	Honokōhau		X			
6165.6 (N)	Larrick Eubank	Honokōhau		X			
6166.6 (N)	Keith Kauhane	Honokōhau		X	X		
6167.6 (N)	Ehuehuokekai Pali	Honokōhau		X	X		
6168.6 (N)	Haili & Kalena Shim	Honokōhau		X	X		
6169.6 (N)	Kainoa & Beverlee Wilson	Honokōhau		X	X		
6177.6 (N)	Keith Keahi	Honokōhau		X	X		
6178.6 (N)	Gretchen Losano & Kaliko Teruya	Honokōhau		X	X		
6181.6 (N)	Charmaine Ai Yamada & Makana Haia	Honokōhau		X	X		
6191.6 (N)	William & Nicole Wood	Honokōhau		X			
6205.6 (N)	Piimauna & Hiilei Aiwohi	Honokōhau			X		
6206.6 (N)	Piimauna Aiwohi & Hinaleimoana Wong-Kalu	Honokōhau		X	X		
6207.6 (N)	Piimauna Aiwohi & Hinaleimoana Wong-Kalu	Honokōhau		X	X		
6208.6 (N)	Piimauna Aiwohi & Hinaleimoana Wong-Kalu	Honokōhau		X	X		
6211.6 (N)	Malia Wong	Honokōhau		X	X		
6212.6 (N)	Malia Wong	Honokōhau		X	X		
6336.6 (N)	Maui Oceanview LP	Honokōhau	X				

SWUPA[1]	Applicant	Source[2]	Domestic Use[3]	Appurt. Rights[4]	T&C Rights[5]	DHHL[6]	Natural State[7]
6347.6 (N)	Maui Department of Water Supply	Honokōhau	X				
6190.6 (N)	John Carty	Honolua		X	X		

[1]Surface Water Use Permit Application ID, (E) denotes Existing Use applications, (N) denotes New Use applications; [2]Stream source; [3]Applicant is applying for domestic use; [4]Applicant asserts an appurtenant right to water; [5]Applicant asserts water for traditional and customary practices; [6]Applicant asserts water use for the Department of Hawaiian Home Lands; [7]Applicant asserts water for public trust use of keeping water in its natural state.

For more information on the designation of the Lahaina Aquifer Sector Area, Surface and Ground Water Management Area Designation, Island of Maui, see the Commission's website at: *https://dlnr.hawaii.gov/cwrm/groundwater/gwma/lahaina/*.

K. Estimation of Low-Flow Characteristics for Streams in Hawai‘i

On June 1, 2013, the Commission entered into a two-phased Joint Funding Agreement with the USGS to cooperatively study low-flow characteristics of streams in Hawai‘i. The objectives of the 7-year cooperative study are to: 1) estimate selected natural low-flow duration discharges for streams with existing streamflow data at gaged sites (Phase 1); and 2) develop methods to estimate selected natural low-flow duration discharges at ungaged sites (Phase 2). The study will apply regionalization techniques to estimate low-flow duration discharges for streams at sites where streamflow data are limited or unavailable on the islands of Kaua‘i, O‘ahu, Moloka‘i, Maui, and Hawai‘i. Low-flow conditions are characterized by low-flow duration discharges between the 50 and 95 percentiles. Flow duration discharges are the representative average flow characteristics for a specified period of time.

Phase 1 is a 2.5-year study (budgeted for $350,000), that includes data compilation and the computation of low-flow duration discharges for gaged sites. In Phase 1, the USGS will: 1) Compile existing data from continuous record stream gaging stations, low-flow partial-record and miscellaneous discharges measurement sites; 2) Incorporate calculated duration discharges into StreamStats; 3) Explore different methods in developing regional regressions models for estimating low-flow characteristics at ungaged sites; and 4) Identify additional data needs. Other cooperators in Phase 1 include the Office of Hawaiian Affairs and the Department of Hawaiian Home Lands.

The USGS completed Phase 1 and published this Study in early 2016 as USGS Scientific Investigations Report 2016-5103, *Low-flow Characteristics for Streams on the Islands of Kaua‘i, O‘ahu, Moloka‘i, Maui, and Hawai‘i, State of Hawai‘i*. To download a copy of the report, see the USGS website at: *https://pubs.er.usgs.gov/publication/sir20165103*.

The Commission received from the 2016 Legislature, as part of the Department's budget package, a legislative appropriation in the amount of $1,500,000 for Fiscal Year 2017.

On January 1, 2017, the Commission entered into a JFA with the USGS to begin Phase 2 of the Study. Phase 2 is a nearly 5-year study (at an overall cost of $2,327,500) that will include the development of regional regression equations for low-flow duration discharges at ungaged sites

and the implementation of the web-based StreamStats application. In Phase 2, the USGS will: 1) Compute selected natural low-flow duration discharges at continuous-record stream-gaging stations and low-flow partial record sites; 2) Identify and evaluate different methods for use in developing regional-regression models for estimating low-flow characteristics at ungaged sites; 3) Utilize information collected in Phase 1 of the Study to identify and establish low-flow partial record sites and conduct seepage runs in selected areas requiring additional data; 4) Compute natural low-flow duration discharges at low-flow partial record sites; 5) Identify and quantify basin characteristics to regionalize low-flow characteristics; 6) Develop multiple-regression equations for separate regions to estimate selected duration discharges for ungaged sites; and 7) Incorporate regional regression models for estimating low-flow characteristics at ungaged sites into StreamStats. Phase 2 also incorporates work completed through an additional JFA between the USGS and the Office of Hawaiian Affairs for $105,000.

Characterization of low-flow conditions is essential for the Commission to set instream flow standards and ultimately manage competing instream and non-instream uses. Calculating and understanding water availability is also important to protect and support public interest objectives, including but not limited to aquatic biota, freshwater ecosystems, traditional and customary Hawaiian rights, recreation, municipal and agriculture water use.

Incorporating calculated duration discharges from gaged sites and regional regression equations into the tool, StreamStats, will allow for a comprehensive estimate of surface water throughout the state of Hawai‘i. StreamStats is a web-based geographic information system (GIS) interactive tool that allows users to easily obtain streamflow statistics and basin characteristics for user-selected sites along streams. This tool is efficient and accurate in estimating streamflow statistics. A study by Rosa and Oki (2010) used StreamStats to estimate the magnitude of peak discharges at ungaged sites on unregulated streams. This same web-based application will be used to estimate low-flow duration discharges throughout Hawai‘i. Overall, Hawai‘i StreamStats for low-flow conditions is an important tool that is more cost-effective and computationally efficient than current site specific low-flow studies currently being undertaken for instream flow standards.

On June 17, 2021, USGS submitted a request for a no-cost extension of 18 months, noting that data collection for this study encountered significant delays due to the government shutdown, historic flooding preventing access to certain sites, and the continuing COVID-19 pandemic. The no cost extension is needed to allow additional time to develop methods to estimate selected natural low-flow duration discharges at ungaged sites on the islands of Kaua‘i, O‘ahu, Moloka‘i, Maui and Hawai‘i and document the results of the study in a USGS Scientific Investigations Report. Delays are also anticipated for USGS peer review and editorial review of the report as a result of federal telework requirements and other measures associated with the COVID-19 pandemic adding uncertainty to operations and project timelines.

In September 2022, the USGS completed the last seepage run discharge measurements for the 24th stream in this study and is continuing to draft USGS data release materials for these streams, which are currently under internal review. The USGS completed a modernization of methods for record extension and augmentation, then began application of these methods, computation of selected augmented records for various periods and seasons to support base-period selection for developing regional-regression models.

Publication of this report and the development of the StreamStats application is currently anticipated for early 2026. In April 2023, USGS was granted a no-cost extension to allow additional time to develop methods to estimate selected natural low-flow duration discharges at ungaged sites on the islands of Kaua‘i, O‘ahu, Moloka‘i, Maui and Hawai‘i and document the results of the study in a USGS Scientific Investigations Report. Additionally, changes in the base period of 1991-2020 forced an update of the entire Phase I report. This update will be incorporated into the basin characteristics and regression equations portion of the final, Phase II, report. Delays are also anticipated for USGS peer review and editorial review of the report.

A summary of the StreamStats application and background information on the Study can be found on the Commission website at:
http://dlnr.hawaii.gov/cwrm/surfacewater/sw-activities/usgs-streamstats/.

L. USGS Cooperative Agreement:

In 1909, the USGS and the Territory (now State) of Hawai‘i officially began a cooperative agreement (Agreement) to gage Hawai‘i streams (and measure Hawai‘i’s groundwater). Since 1909, over 140 (37%) of Hawai‘i’s 376 perennial streams have been gaged. However, following the decline in lease revenue from the reduction in sugarcane plantations, there has been a steady decline in the number of monitored streams and thus the amount of data available to water resource managers. For Federal Fiscal Year (FFY) 2026, the total cost of the Agreement will not exceed $1,598,513. The Commission’s share will not exceed $907,9591 (See Table 4). Table 5 depicts the changes in the number of gages over the last five federal fiscal years co-funded by the Commission.

Rainfall Monitoring

The Commission currently co-funds 17 rainfall gaging stations across the state with the USGS. The co-location of USGS-maintained rainfall and streamflow monitoring stations is beneficial for water resource management, hydrologic studies, as well as for practicable purposes since the installation and maintenance costs are lower. In FFY 2026, the Commission is adding two additional co-located rainfall stations to the network:

1) at USGS 16587000 on Honopou Stream in Huelo, Maui
2) at USGS 210825157004301 Kualapu‘u Deep Monitor Well, Moloka‘i

Groundwater Monitoring

The nature of the FFY 2026 Agreement and relationship of the parties remains the same as FFY 2025 for groundwater data collection. USGS will continue to monitor nine (9) ground water observation wells for the Commission, taking quarterly or bi-monthly depth conductivity, temperature, and depth (CTD) profiles. In a few locations, ground water levels are monitored in real-time.

Streamflow Monitoring

With respect to streamflow monitoring, the Agreement in FFY 2026 will cover the installation costs of the three (3) new stations added to the Agreement in FFY 2025 and the

reconnaissance/permitting/equipment costs for additional stream gaging stations to be added to future agreements. The installation costs vary widely depending on the location, land ownership, and accessibility. Therefore, the initial reconnaissance of these stations will provide more accurate installation cost estimates for future agreements. In the FY 2026 State Budget, the Commission received an increase of $400,000 in general funds to cover the costs of additional stream gaging related to the establishment or monitoring of interim IFS, especially in streams impacted by potential water leases and water management areas. Stations re-established in locations with previous long-term streamflow monitoring can also be used to help track shifts in water availability or hydrological processes associated with climate change. The new stations are:

1) USGS 16751500 ʻĀwini Puali Gulch in Hāwī: The reconnaissance and permitting of a permanent station was paid for in FFY 2025; this station will be maintained as a low-flow station and will be upgraded to a real-time monitoring station under this Agreement for FFY 2026. This is a natural flow index station on the North Kohala side of Hawaiʻi Island. Off-stream uses include farmers and domestic uses.
2) USGS 16757000 Waikoloa Stream nr Waimea: The reconnaissance and permitting of a permanent station was paid for in FFY 2025; this station will be maintained as a low-flow station and will be upgraded to a real-time monitoring station under this Agreement for FFY 2026. This is a natural flow index station on the South Kohala side of Hawaiʻi Island whose off-stream uses include Hawaiʻi County DWS, Parker Ranch, and the Department of Hawaiian Home Lands.
3) USGS 16405500 Waikolu Str at alt 900 ft nr Kalaupapa: The reconnaissance, permitting, and installation of this station will be done under this Agreement for FFY 2026. This is an interim IFS monitoring station important for management of surface and groundwater in Waikolu Stream affected by the Molokaʻi Irrigation System, whose uses include Department of Agriculture farming lessees and the Department of Hawaiian Home Lands.
4) Waiheʻe River below Spreckels Ditch: The reconnaissance and installation of a real-time low-flow station will be paid for under this Agreement for FFY 2026; this station monitors the interim IFS on Waiheʻe River and will replace the current station operated by the Commission. Off-stream uses include Nā Wai ʻEhā water use permit holders and commercial agriculture.
5) USGS 16565000 Kaʻaiea Gulch nr Huelo: The reconnaissance, permitting, and installation of this station will be done under this Agreement for FFY 2026. This station monitors natural flow diverted by the East Maui Irrigation System and was active from 1922 to 1962.
6) USGS 16018000 Koaie Stream near Waimea: The reconnaissance and permitting for a real-time continuous-record gaging station will be paid for under this Agreement for FFY 2026. This station monitors natural flow diverted by Agribusiness Development Corporation and Kekaha Agricultural Association at the Kekaha Ditch.
7) Wailoa Stream near Waipiʻo: The reconnaissance and permitting for a real-time continuous-record gaging station will be paid for under this Agreement for FFY 2026. This station monitors regulated flow diverted by the Department of Agriculture at the Upper Hāmākua (Waimea) Ditch and Lower Hāmākua Ditch.

Table 4. Summary of annual changes in funding requirements for the USGS Cooperative Agreement from Federal FY 2023 to 2026.

COST	FFY 2022	FFY 2023	FFY 2024	FFY 2025	FFY 2026
Total Joint Funding Requirement	$1,133,144	$1,261,031	$1,231,072	$1,277,633	$1,598,513
Expected CWRM cost-share	$909,076	$1,005,646	$999,964	$1,021,806	$907,959[1]
Percentage CWRM cost-share	80%	80%	82%	80%	57%

[1]*Reflects a one-time infusion of $250,000 cooperative matching dollars available from the USGS to off-set the Commission's costs as well as deferred Operation & Maintenance costs associated with stations funded in FFY2025.*

Long-term stream data is vital for the monitoring of streamflow trends, assessing resource availability and the impacts of climate change, flood analysis in the construction of roads and housing developments, assessment of water quality criteria, and other environmental concerns. Continued support for the USGS Cooperative Agreement is critically important, not only towards the Commission's responsibility of water resource protection and management, but for the health and safety of the general public. The Commission staff continues to confer with the USGS on a regular basis to review and evaluate a comprehensive statewide ground and surface water monitoring program.

Real-time and historical data for groundwater (wells) and surface water (streams) are available from the USGS Pacific Islands Water Science Center website at: *https://waterdata.usgs.gov/hi/nwis/rt*.

Table 5 Summary of annual changes in the number of gages from Federal FY 2022 to 2026.

GAGING STATION TYPE	FFY 2022	FFY 2023	FFY 2024	FFY 2025	FFY 2026
No. of continuous stream gages	42	47	46	44	49
No. of wells (ground water levels and water quality)	9	9	6	6	6
No. of rain gages	18	18	17	17	19

IV. CONCLUSION

The Commission's ongoing efforts (described in this Report) are consistent with the Supreme Court's directives and will provide information to support and carry out a comprehensive stream protection and management program statewide. As water resource data is developed, evaluated, and made available, it will be incorporated into the Hawai'i Water Plan and into the Commission's decision making on an ongoing basis.

The efforts described above are all critical to developing instream flow standards, which will improve the Commission's overall management of surface water resources. This work substantially increases the Commission's surface water data collection and monitoring program and facilitates scientific, agency, and public input on stream-related issues.