



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P.O. BOX 621
HONOLULU, HAWAII 96809

STAFF SUBMITTAL

COMMISSION ON WATER RESOURCE MANAGEMENT

November 17, 2020
Honolulu, Hawai'i

Update on the Mediation Agreement for the Waimea Watershed Area,
dated and signed April 18, 2017 (re: Pō'ai Wai Ola/West Kaua'i Watershed Alliance's
Combined Petition to Amend the Interim Instream Flow Standards for
Waimea River and its Headwaters and Tributaries,
and the Complaint and Petition for Declaratory Order Against Waste, for
Waimea, Island of Kaua'i, State of Hawai'i)

Commission on Water Resource Management, Stream Protection and Management Branch

- Dean Uyeno, Program Manager
- Ayron Strauch, Hydrologist

Department of Hawaiian Home Lands

- Andrew Choy, Program Manager
- Natasha Baldauf, Counsel

Earthjustice (on behalf of Pō'ai Wai Ola and West Kaua'i Watershed Alliance)

- Isaac Moriwake, Counsel
- Kylie Wager Cruz, Counsel

Kaua'i Island Utility Cooperative

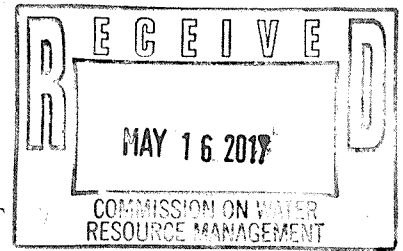
- Dawn Huff, Consultant
- Kelsey Yamaguchi, Counsel

Kekaha Agriculture Association

- Joshua Uyehara, Board President
- Mike Faye, Manager

Agribusiness Development Corporation

- Myra Kaichi, Senior Executive Assistant



COMMISSION ON WATER RESOURCE MANAGEMENT
STATE OF HAWAI'I

In the Matter of:

Pō'ai Wai Ola/West Kaua'i Watershed Alliance's Combined Petition to Amend the Interim Instream Flow Standards for Waimea River and its Headwaters and Tributaries, and Complaint and Petition for Declaratory Order Against Waste, Waimea, Kaua'i, Hawai'i

ORDER APPROVING MEDIATION AGREEMENT FOR THE WAIMEA WATERSHED AREA

ORDER APPROVING MEDIATION AGREEMENT FOR
THE WAIMEA WATERSHED AREA

On April 18, 2017, at the Commission on Water Resource Management (Commission) meeting, Mediator Robert Alm reported that the parties participating in mediation on the Pō'ai Wai Ola/West Kaua'i Watershed Alliance's Combined Petition to Amend the Interim Instream Flow Standards for Waimea River and its Headwaters and Tributaries, and the Complaint and Petition for Declaratory Order Against Waste, for Waimea, Island of Kaua'i, State of Hawai'i, filed before the Commission on July 24, 2013, reached an Agreement (Mediation Agreement for the Waimea Watershed Area). The parties consisted of petitioners Pō'ai Wai Ola/West Kaua'i Watershed Alliance; and principals: the State of Hawai'i, Agribusiness Development Corporation; the State of Hawai'i, Department of Hawaiian Home Lands; the Kaua'i Island Utility Cooperative; and the Kekaha Agriculture Association.

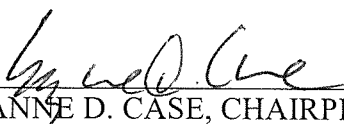
The Commission, with Commissioners Kamanamaikalani Beamer, Michael Buck, Keith Kawaoka for State of Hawai'i Department of Health Director Virginia Pressler, Neil Hannahs, William Balfour, Jr., and Chairperson Suzanne Case in attendance,

reviewed and accepted the Agreement, signed by the parties to resolve all claims and disputes involving the above-stated Petition to Amend Interim Instream Flow Standards, and Complaint and Petition for Declaratory Order Against Waste, voted unanimously for approval, and under Hawaii Revised Statutes section 174C-10 now hereby **APPROVES** the Agreement, which is incorporated by reference, and further **ORDERS** that the agreed-upon understandings, terms, and conditions in the Agreement, be adopted effective as of the approving vote taken on April 18, 2017, subject to the following agreed upon correction to the Waimea Watershed Agreement: on page 10 of the Waimea Watershed Agreement, the following paragraph should be numbered as "10.":

If Phase Two goes into operation, the Commission will reexamine the amounts diverted to reduce them to take into account the energy and agricultural uses served by the KIUC project.

No further action will be taken by the Commission on this matter.

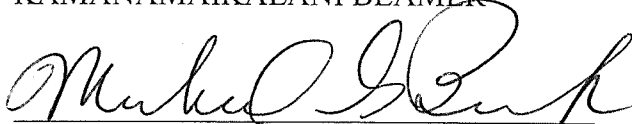
Dated: _____ May 16, 2017.



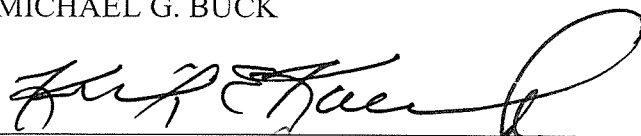
SUZANNE D. CASE, CHAIRPERSON



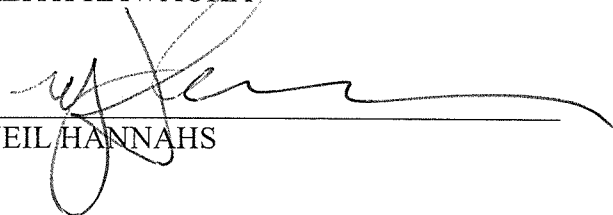
KAMANAMAIKALANI BEAMER



MICHAEL G. BUCK



KEITH KAWAOKA



NEIL HANNAHS

W.D. Balfour, Jr.
WILLIAM D. BALFOUR, JR.

MILTON D. PAVAO

*ORDER APPROVING MEDIATION AGREEMENT FOR THE WAIMEA WATERSHED
AREA*

MEDIATION AGREEMENT
FOR THE WAIMEA WATERSHED AREA

This Mediation Agreement is entered into this 18th day of April, 2017, by and between the parties hereto to present reasonable interim instream flow standards to the Commission on Water Resource Management ("Commission") for its consideration in an effort to resolve disputes arising out of the diversion of water from the Waimea River and its tributaries, and to avoid protracted and time and resource consuming litigation.

WITNESSETH:

WHEREAS, on July 24, 2013, Pō'ai Wai Ola/West Kaua'i Watershed Alliance filed a Combined Petition to Amend the Interim Instream Flow Standards for Waimea River and Its Headwaters and Tributaries, and Complaint and Petition for Declaratory Order Against Waste, which concerns the Waimea Watershed in Waimea, Island of Kaua'i, Hawai'i;

WHEREAS, on May 27, 2014, the Commission engaged Element Environmental, LLC to develop an inventory of the stream system, water uses, and water users of the Waimea River and its headwaters and tributaries, and to conduct an appropriate investigation of the water systems and the water resources in the area;

WHEREAS, during 2015, the Commission sought and received information on water uses from the agricultural interests and the Department of Hawaiian Home Lands ("DHHL");

WHEREAS, in October, 2015, the Commissioners, Commission staff, and interested parties familiarized themselves with the stream system and non-stream uses-by visiting the area over two days;

WHEREAS, on November 17, 2015, DHHL filed with the Commission a Petition for Reservation of Surface Water of 33.145 MGD;

WHEREAS, also during 2015, in light of the fact that similar petitions have historically taken decades to resolve, the Commission staff approached various parties having an interest in this area and its waters to consider participating in a mediation of the issues involved;

WHEREAS, in December, 2015, the Commission approved engaging a mediator to assist in reaching an agreement between the parties that would be acceptable to the Commission to resolve the issues in the Waimea watershed;

WHEREAS, at its February 16, 2016 duly-noticed meeting, the Commission approved the terms of reference for the mediation, and subsequently, the services of the Collaborative Leaders Network were engaged to conduct the mediation, led by its President, Robert Alm; and

WHEREAS, during November, 2016, a set of controlled releases of water was undertaken by the Commission staff and the parties to assist in the resolution of the issues in this matter.

NOW, THEREFORE, the parties have reached the following points of agreement for consideration and approval by the Commission to guide the Commission staff and these parties in their respective and cooperative handling of the area's water resources in the coming years, and to amend the current interim instream flow standards of the Waimea River, its headwaters and its tributaries:

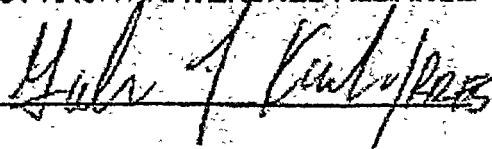
1. The Waimea Watershed Agreement which is attached hereto as Exhibit A.
2. In light of this agreement, it is also agreed that:
 - A. Pō'ai Wai Ola/West Kaua'i Watershed Alliance's Combined Petition to Amend the Interim Stream Flow Standards for Waimea River and Its Headwaters and Tributaries, and Complaint and Petition for Declaratory Order Against Waste (filed July 24, 2013) will be considered to be resolved.
 - B. DHHL will, within thirty days (30) of the approval of this agreement, submit a modified petition to provide for a water reservation of 6.903 MGD from the Kokee Streams, and request that the Commission consider and act on the modified petition within sixty (60) days of its filing. DHHL maintains the right to file, at later dates, additional water reservations for the Waimea Watershed.
3. The terms of this Agreement are submitted to the Commission for consideration and approval. By executing this Agreement, each party represents to the Commission its acknowledgement that, based upon the information obtained to date on stream flows, ditch flows, beneficial in-stream uses and non-stream uses, each party has weighed the importance of the present and potential uses of water, including the economic impact of restricting such uses.
4. The parties recognize and respect the intent of the Water Code, Chapter 174C, H.R.S., and the Commission, including to obtain maximum beneficial use of the waters of the State for purposes such as domestic uses, aquaculture uses, irrigation and other agricultural uses, power development, and commercial and industrial uses, as long as there is adequate provision for the protection of traditional and customary Hawaiian rights, the protection and procreation of fish and wildlife, the maintenance of proper ecological balance and scenic beauty, and the preservation and enhancement of waters of the State for municipal uses, public recreation, public water supply, agriculture, and navigation.
5. Mediation communications and confidential information protected by the Commission's mediation rules, H.A.R. § 13-167-90, and the Uniform Mediation Act, H.R.S. ch. 658H, shall remain confidential regardless of the Commission's decision on this Agreement.
6. This Agreement shall be effective; and interim instream flows shall be established, if at all, upon approval of its terms by the Commission.

Wherefore, the parties affix their signatures to this agreement to evidence their acknowledgement, contribution, and agreement to each of the terms set forth above.

PŌ'AI WAI OLAI
WEST KAUAI WATERSHED ALLIANCE

STATE OF HAWAII, AGRIBUSINESS
DEVELOPMENT CORPORATION

By: _____
Its



By: _____
Its

STATE OF HAWAII, DEPT. OF
HAWAIIAN HOME LANDS

KEKAHA AGRICULTURE
ASSOCIATION

By: _____
Its

By: _____
Its

KAUAI ISLAND UTILITY
COOPERATIVE


By: _____
Its

Wherefore, the parties affix their signatures to this agreement to evidence their acknowledgement, contribution, and agreement to each of the terms set forth above.

PŌ'AI WAI OLA/WEST KAUA'I
WATERSHED ALLIANCE

STATE OF HAWAI'I, AGRIBUSINESS
DEVELOPMENT CORPORATION

By: _____
Its

By:  _____
Its

STATE OF HAWAI'I, DEPT OF
HAWAIIAN HOME LANDS

KEKAHA AGRICULTURE ASSOCIATION

By: _____
Its

By: _____
Its

KAUA'I ISLAND UTILITY
COOPERATIVE

By: _____
Its

Wherefore, the parties affix their signatures to this agreement to evidence their acknowledgement, contribution, and agreement to each of the terms set forth above.

PŌ'AI WAI OLA/WEST KAUA'I
WATERSHED ALLIANCE

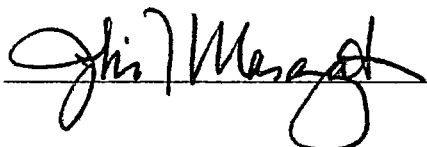
STATE OF HAWAI'I, AGRIBUSINESS
DEVELOPMENT CORPORATION

By: _____
Its

By: _____
Its

STATE OF HAWAI'I, DEPT OF
HAWAIIAN HOME LANDS

KEKAHA AGRICULTURE ASSOCIATION

By:  _____
Its

By: _____
Its

KAUA'I ISLAND UTILITY
COOPERATIVE

By: _____
Its

Wherefore, the parties affix their signatures to this agreement to evidence their acknowledgement, contribution, and agreement to each of the terms set forth above.

PŌ'AI WAI OLA/WEST KAUA'I
WATERSHED ALLIANCE

STATE OF HAWAI'I, AGRIBUSINESS
DEVELOPMENT CORPORATION

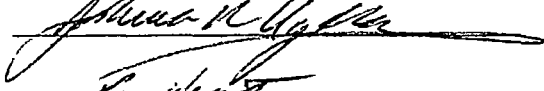
By: _____
Its

By: _____
Its

STATE OF HAWAI'I, DEPT OF
HAWAIIAN HOME LANDS

KEKAHA AGRICULTURE ASSOCIATION

By: _____
Its

By: 
Its
President

KAUA'I ISLAND UTILITY
COOPERATIVE

By: _____
Its

Wherefore, the parties affix their signatures to this agreement to evidence their acknowledgement, contribution, and agreement to each of the terms set forth above.

PŌ'AI WAI OLA/WEST KAUA'I
WATERSHED ALLIANCE

STATE OF HAWAI'I, AGRIBUSINESS
DEVELOPMENT CORPORATION

By: _____
Its

By: _____
Its

STATE OF HAWAI'I, DEPT OF
HAWAIIAN HOME LANDS

KEKAHA AGRICULTURE ASSOCIATION

By: _____
Its

By: _____
Its

KAUA'I ISLAND UTILITY
COOPERATIVE

By: David J. Burnett
Its CEO

WAIMEA WATERSHED AGREEMENT

- A. Statement of Guiding Principles
- B. Modification of Diversions
- C. Permits and Approval
- D. IIFS Numbers
- E. Monitoring Stations
- F. Operating Protocols
- G. Infrastructure Agreements

A. STATEMENT OF GUIDING PRINCIPLES

The following guiding principles underlie this agreement and all phases of its execution:

1. All streams will be allowed to run from the mountain to the sea and no diversion will ever be a total diversion again.
2. Any diversion of water from a stream must be justified with no more water taken than is needed for other beneficial uses, and even then, the health of the stream must be preserved at all times. All waters not needed at any given time belong in the stream and the IIFS numbers are the minimum amounts to be provided.
3. Agriculture and renewable energy are beneficial uses of water diverted from these streams.
4. DHHL will, within thirty days (30) of the approval of this agreement, submit a modified petition to provide for a water reservation of 6.903 MGD from the Kokee Streams, and request that the Commission consider and act on the modified petition within sixty (60) days of its filing. DHHL maintains the right to file, at later dates, additional water reservations for the Waimea Watershed. The parties acknowledge DHHL's rights to water as set forth in the Hawaiian Homes Commission Act, the Hawaii Constitution, and Haw. Rev. Stat. chapter 174C, the State Water Code.
5. The ditch systems owned by the State of Hawaii's Agribusiness Development Corporation (ADC), and currently operated by the Kekaha Agriculture Association (KAA), will continue to be maintained to allow for both present and future uses.
6. Kaua'i Island Utility Cooperative (KIUC) will be allowed to complete due diligence on a set of energy projects supported by the Kokee Ditch System, and, if the energy projects are built, will receive from the Kokee ditch system a rolling average of 11 mgd to support both (1) the Puu Opae project and (2) DHHL's water needs under any water reservation the Commission may grant to DHHL (see A.4, supra) that are to be served by the project infrastructure, with the understanding that the KIUC project is intended to serve both energy and agricultural uses which will enable the Commission to review the water needs of both systems with the goal of reducing the diversion of water into the Kekaha Ditch system. This means that KIUC will be able to take an average of 11 mgd within each year and over the course of the life of the project, assuming the IIFSs are met first. The term "rolling average" as used in this agreement means an average to account for intra and inter annual fluctuation.
7. If KIUC does build the energy projects, it will assume substantial responsibility for much of the Kokee ditch system and related facilities as specified in this agreement.

B. MODIFICATIONS OF THE DIVERSIONS

Throughout this Agreement, all references to days are to calendar days.

All plans for the modification of any diversion shall be subject to review and approval by the Commission or its staff prior to any modification taking place. When plans are submitted to the Commission, a copy will be provided to each other party to this agreement.

KIUC will modify all diversions in the Kokee Ditch necessary to ensure the stream flow provided for in this agreement, as follows: KIUC will file with the Commission and any other pertinent regulatory agency its modification plans within one hundred thirty-five (135) days of the approval of this agreement by the Commission. Work on the modifications will begin within forty-five (45) days of approval of the modification plans or any other approval required by the modification proposal, whichever comes last.

If KIUC does not receive (1) the understandings from ADC set forth in Section C by April 30, 2017, and/or (2) the understandings from DHHL set forth in Section C within ninety (90) days of the Commission's approval of this agreement, KIUC shall have the option to withdraw from its responsibilities and obligations under this agreement. If KIUC opts to withdraw, it will notify the Commission and all the parties to this agreement. If KIUC does not exercise its option to withdraw within one-hundred (100) days after the approval of this agreement by the Commission, KIUC shall proceed with the modification plans in accordance with the paragraph immediately above.

ADC (either itself or through its licensee KAA) will modify all other diversions relating to the Kekaha Ditch system and specifically those associated with the Koaie and Waiahulu streams and the Waimea diversion necessary to ensure the stream flow provided for in this agreement, as follows: ADC (either itself or through its licensee KAA) will file with the Commission and any other pertinent regulatory agency its modification plans within forty-five (45) days of the approval of this agreement by the Commission. Work on the modifications will begin within forty-five (45) days of approval of the modification plans or any other approval required by the modification proposal, whichever comes last.

All modifications will be done in a manner that provides for water flowing over it, provides for a wetted path upstream and downstream such that adult forms can migrate upstream and larval forms can migrate downstream, and minimizes entrainment of native species to the maximum extent practicable.

If any modification requires an Environmental Assessment, an Environmental Impact Statement or other permitting or approvals, the filing of those must occur within ninety (90) days of notification by the Commission or other pertinent regulatory agency of the need for such actions.

If KIUC exercises its option to withdraw within one-hundred (100) days after the approval of this agreement by the Commission, ADC (either itself or through its licensee KAA) will be responsible for the modifications to the Kokee Ditch diversions necessary to comply with this agreement, as follows: ADC (either itself or through its licensee KAA) will file with the Commission and any other pertinent regulatory agency its modification plans for the Kokee Ditch

diversions within forty-five (45) days of KIUC's notice of withdrawal. Work on the modifications will begin within forty-five (45) days of approval of the modification plans or any other approval required by the modification proposal, whichever comes last.

C. PERMITS AND APPROVALS

In order to develop its renewable energy project(s), KIUC will need to obtain a number of permits and approvals from various governmental agencies, and compliance with the requirements of HRS Chapter 343 will be necessary prior to agency action on those permits and approvals. Nothing in this agreement obliges any government agency to grant any of those permits or approvals. Each permitting and approving agency needs to exercise its discretion without regard to this agreement. None of the signatory governmental agencies to this agreement issue the permits and approvals that KIUC will need for this project other than those provided for in this agreement.

In order to allow KIUC to move forward with its project(s), KIUC needs to know that it will have the ability to perform its due diligence (engineering, biological, and archaeological) on the project; that infrastructure for the project(s) will be available in the event that KIUC ultimately receives the permits and approvals necessary for its project(s); and the financial terms for access to and use of that infrastructure in the event that KIUC ultimately receives the permits and approvals necessary for its project(s).

If KIUC does not have in place (1) the understandings from ADC set forth below by April 30, 2017, and/or (2) the understandings from DHHL set forth below within ninety (90) days of the Commission's approval of this agreement, KIUC reserves the right to withdraw from its responsibilities and obligations under this agreement. If KIUC chooses to do so, it will notify the Commission, and all the parties to this agreement, that it is doing so and will then be relieved of all obligations under this agreement, subject to KIUC's duty to proceed with the diversion modification plans in accordance with Section B if KIUC does not exercise its option to withdraw within one-hundred (100) days after the approval of this agreement by the Commission.

It is understood that, in order to facilitate this agreement, Pō'ai Wai Ola/West Kaua'i Watershed Alliance will forbear from contesting or challenging ADC's or DHHL's decisions with respect to the understandings described in this section.

THE UNDERSTANDINGS ARE AS FOLLOWS:

From ADC to KIUC:

1. A license, with an option for a lease, for the following infrastructure:
 - a. The diversions on the Kokee Ditch at Waiakoali, Kawaikoi, Kauaikinana and Kokee and all the ephemeral diversions on the Kokee ditch system.
 - b. The Kokee Ditch from the diversions to the Puu Moe Divide.

- c. The Mana Reservoir.
- d. The land needed for construction of the Mana powerhouse located adjacent to the Mana Reservoir.

The license or lease shall provide for the water for KIUC under this agreement and approved by the Commission subject to approval of a water lease application by KIUC to be filed with the Board of Land and Natural Resources pursuant to Haw. Rev. Stat. § 171-58.

The financial terms of the license/leases shall be binding on KIUC and ADC if the required permits and approval are issued and the project is developed.

2. Easements as follows:

- a. The Kokee Ditch access roads for the purposes of ditch access and maintenance.
- b. The Mana Reservoir access road for the purpose of access to the Mana Reservoir, powerhouse and substation.
- c. A short-term easement for the construction of a pressurized pipeline segment on the Mana Plain with a long-term easement for maintenance of the pipeline.
- d. A short-term easement for the construction of the Puu Opae project powerhouse and substation adjacent to the Mana reservoir.
- e. A long-term easement for the Puu Opae project electrical transmission lines and pressurized pipeline.

From DHHL to KIUC:

1. A right of entry (“ROE”) to be issued to conduct all engineering, biological and archaeological studies necessary to support regulatory requirements for the project.
2. Within ninety days (90) of the approval of this agreement by the Commission, the DHHL will notify KIUC as to whether it will issue a 65-year lease for the land and infrastructure (Puu Opae Reservoir) to KIUC subject to HRS § 171-95.3, the Hawaiian Homes Commission Act, as amended, and Hawaiian Homes Commission policies, if KIUC complies with HRS Chapter 343 and receives the necessary approvals and permits for the construction of the Puu Opae project. Once approved, and subject to the above, the financial terms and conditions will be binding on KIUC and DHHL.
3. If the lease to KIUC described above is issued by the DHHL, it will

- a. include the provision of a rolling average of 11 mgd of water subject to approval of a water lease application by KIUC to be filed with the Board of Land and Natural Resources pursuant to Haw. Rev. Stat. § 171-58 and subject to meeting the water needs of DHHL as set forth in any water reservation the Commission may grant.
- b. grant a short-term easement for the pressurized pipeline and a buried transmission line construction and the rehabilitation of the Puu Opae Reservoir.
- c. grant a long-term easement for the maintenance of the pipeline, the buried transmission line and the access roads.
- d. will include the Puu Opae Reservoir and land adjacent to the reservoir (less than three acres) for the project powerhouse.

D. IIFS NUMBERS

Based on the submissions by the parties and the analysis by the Commission staff, the following IIFS numbers are agreed to in two phases.

Phase One will go into effect upon the approval of this agreement by the Commission. As part of Phase One, the parties agree to immediately take steps to restore flows to the maximum extent possible (e.g., by removing a board or lifting a gate) while working on the structural modifications pursuant to the deadlines set forth in Section B.

Phase Two goes into effect if and when the KIUC energy project goes into service.

PHASE ONE:

Kokee Irrigation System

- 1. The existing natural flow in the Kokee Stream is permitted to flow past the Kokee Ditch.
- 2. For the Kauaikinana, Kawaikoi, and Waiakoali streams, the IIFS below each diversion is the following:

<u>Stream</u>	<u>IIFS</u>
Kokee	natural flow
Kauaikinana	0.7 mgd
Kawaikoi	4.9 mgd
Waiakoali	1.4 mgd

Kekaha Irrigation System

- 1. The IIFS for the Koaie Stream below the Koaie Diversion will be 2 mgd.

2. The IIFS for the Waimea Stream below the Waiahulu Diversion will be 8 mgd.
3. The IIFS for the Waimea Stream at USGS 16031000 will be 25 mgd with a minimum flow at all times through the Kekaha Ditch of 6 mgd measured at the Hukipo Flume.

PHASE TWO:

Kokee Irrigation System

1. The existing natural flow in the Kokee Stream is permitted to flow past the Kokee Ditch except for flows greater than 1.2 mgd, in which the IIFS is 1.2 mgd.
2. For the Kauaikinana, Kawaikoi, and Waiakoali streams, for flows less than or equal to the established values listed in the table below, the IIFS below each diversion is two-thirds (66.6%) of the flow in the stream; for flows greater than the established values listed below, the IIFS below each diversion is the value given.

Stream	Established value	IIFS	IIFS if stream flow is below or equal to established value	IIFS if streamflow is above the established value
Kokee	0.2	Natural flow up to 1.2	n/a	n/a
Kauaikinana	1.2		2/3 of stream flow	0.6
Kawaikoi	6.4		2/3 of stream flow	4.0
Waiakoali	1.3		2/3 of stream flow	0.8

All water flows above these numbers may be used by KIUC in support of its project.

Kekaha Irrigation System

1. The IIFS for Koaie Stream below the Koaie Diversion will be 2 mgd.
2. The IIFS for Waimea Stream below the Waiahulu Diversion will be 8 mgd.
3. The IIFS for the Waimea Stream at USGS 16031000 will be 25 mgd with a minimum flow at all times through the Kekaha Ditch of 6 mgd measured at the Hukipo Flume subject to Commission review of its ongoing need based on the water coming to the plain through the KIUC project as provided in paragraph 10 of the Operating Protocols section, infra.

If Phase Two goes into operation, the Commission will examine the amounts being diverted at Koaie and at Waiahulu with goal of increasing the total IIFS numbers for these two streams.

E. MONITORING STATIONS

Monitoring stations will be put in place to measure the amount of water coming into the ditches and the amount of water going into the streams below the diversions on a continuous real-time basis.

KIUC, assuming that it receives the understandings called for in the Permits and Approvals section of this agreement, will install and maintain monitoring equipment at the existing flow gauging location immediately above the Puu Lua Reservoir and for the following streams:

Waiakoali

Kawaikoi

Kauaikinana

Kokee

ADC (either itself or through its licensee KAA), if the Commission approves this agreement, will install and maintain monitoring equipment for the following streams:

Waiahulu

Koaie

Waimea at the Mauka hydroelectric plant

The information gathered by these stations shall be made available to all parties at the same time.

The Commission and the U.S. Geological Survey may install and maintain its own monitoring equipment along the streams and/or ditches in the watershed.

If the KIUC project does not receive the understandings called for in the Permits and Approvals section, the monitoring equipment will be installed and maintained by ADC (either itself or through its licensee KAA). If the KIUC project ultimately does not proceed, ADC (either itself or through its licensee KAA) will assume responsibility for the monitoring equipment.

F. OPERATING PROTOCOLS

The goal of the Waimea water systems is to preserve the life of the streams and their aquatic resources while allowing for agricultural and renewable energy uses to co-exist with the streams.

In the operation of these systems the intent is to have instantaneous daily decisions made on where the water in any given stream would go between the streams and the ditches:

1. Flow in the stream has the highest priority and water should flow at the highest possible level with diversions only as needed for other uses with the IIFS numbers being the minimum amounts to be provided.
2. Stated otherwise, when water is not presently needed for other uses such as expanded agricultural uses or future energy projects, the water must remain in the streams.
3. Current agricultural uses by ADC (and its licensees) will continue to be provided with the water needed for their operations. Each month, ADC (either itself or through its licensee KAA) will report monthly water usage volumes for agricultural and non-agricultural uses, monthly total cultivated acres, and a list of crop types. Each year, ADC (by itself or through its licensee KAA) will report annual cultivated acres by crop type.
4. Water for the kalo farmers on the Menehune Ditch will continue to be provided by one or both ditch systems.
5. Water for agricultural uses by ADC (and its licensees) and water for uses by the DHHL (and its lessees and licensees) in accordance with DHHL's rights to water as set forth in the Hawaiian Homes Commission Act, the Hawaii Constitution, and Haw. Rev. Stat. chapter 174C, the State Water Code will be provided so long as the amounts involved are reasonable in their consumption levels and in relation to the water provided to the streams. In that regard, the need to plant less water intensive crops and the importance of using efficient water delivery methods will be taken into account as well as the availability of R-1 water and well water.
6. If one or more hydro projects are developed by KIUC on the Kokee Ditch System, KIUC will receive from the Kokee ditch a rolling average of 11 mgd to support both (1) the Puu Opae project and (2) DHHL's water needs under any water reservation the Commission may grant to DHHL (see A.4, supra) that are to be served by the project infrastructure. This means that KIUC will be able to take an average of 11 mgd within each year and over the course of the life of the project, assuming the IIFSs are met first. In its project, KIUC will leave enough water in the ditch past the Puu Moe Divide to meet the needs of users of ditch water below that point.

7. Controlled releases and biological studies will be part of any protocol to help determine the best ongoing uses of water.
8. To the extent not otherwise provided by the above uses, the Commission may consider a request to allow a minimum flow of water to maintain the ditch systems to the extent necessary to ensure their ongoing structural integrity.
9. The Waiawa power plant will be allowed to operate in its current manner for no more than three years from the approval of this agreement after which it must be either decommissioned or repowered to operate using such waters as are reasonably related to agricultural (as opposed to energy) uses. Specifically, after three years, no more than 10 mgd can be diverted in the Kekaha Ditch at Hukipo Flume unless reasonable agricultural uses require more water and the Commission finds that such additional waters can be provided consistent with the IIFS numbers it has set.

If Phase Two goes into operation, the Commission will reexamine the amounts diverted to reduce them to take into account the energy and agricultural uses served by the KIUC project.

The execution of these protocols will be the responsibility of ADC (either itself or through its licensee KAA), and of KIUC. KIUC, if it receives the understandings provided for in the Permits and Approvals section above, may contract with other entities to carry out its responsibilities under this agreement.

If there is any dispute in the operation of the protocols, it shall be brought to the Commission for resolution.

G. INFRASTRUCTURE AGREEMENTS

PHASE ONE: CURRENT OPERATIONS

Unless and until the energy projects proposed by KIUC receive all required approvals and Phase Two is implemented, the current system will be maintained by the ADC, and its licensee KAA, and the State agencies involved in the case of the impacted dams and reservoirs, subject to the provisions of this agreement, including those pertaining to the modification of diversions and the installation of monitoring equipment.

PHASE TWO: THE ENERGY PROJECTS

If KIUC receives the understandings required in the Permits and Approvals section; finds that the project is feasible to undertake and finance; and gets the approval of the Public Utilities Commission for the energy projects, KIUC may build and/or rehabilitate one or more energy projects in the Waimea Watershed area.

If KIUC proceeds, it will assume significant responsibility for the infrastructure on the systems involved. This section sets forth the infrastructure for which KIUC (and any firms it employs) will be responsible:

1. The Ditches

KIUC will operate, upgrade, alter or repair as appropriate, and maintain:

- a. The Kokee Ditch including the ditch, flumes and tunnels, beginning at the Waiakoali Intake to the Puu Moe Divide, including the Kauhao sluice gate and the weir gate at the Divide; and any pressurized piping KIUC installs involving the ditch and the reservoirs named below including between the Divide and the Puu Opae Reservoir. (KIUC will not be responsible for the ditch from the Divide to the Kitano Reservoir.)

2. Diversions

KIUC will operate, repair and maintain the following diversions:

- a. Waiakoali
- b. Kawaikoi
- c. Kauaikinana
- d. Kokee
- e. All active ephemeral stream diversions. Kumuela 1-5, Nawaiamaka and Halemanu on the Kokee Ditch.

ADC (either itself or through its licensee KAA) will operate, repair and maintain the following diversions:

- f. Waiahulu
- g. Koaie
- h. Waimea

3. Roadways

KIUC will repair and maintain the roadways which pertain to the operations of the Kokee Ditch.

- a. The jeep roadway extending from the Kokee Highway to the Puu Lua Reservoir;

- b. The jeep road extending from the Kokee Highway to the Puu Opae Reservoir;
- c. The jeep road extending from the DHHL/DLNR gate on the Mana Plain to the Puu Opae Reservoir;
- d. Ditch maintenance roads along the Kokee Ditch;
- e. All other jeep roads and ditch trails necessary to access, maintain and operate the ditch systems that are under KIUC's control.

The assumption of responsibility for the roadways by KIUC does not change existing access rights or in any way alter their status as public or private roads.

In carrying out the operation, upgrade, repair and maintenance to the ditches, diversions and roadways as described above in this section, KIUC and ADC (and any other firm employed by the same) shall not interfere with the quiet enjoyment of the DHHL lessees and licensees.

4. Control Equipment

KIUC will operate the Puu Opae Energy Project(s), the streamflow gauging equipment on the Kokee Ditch and pertinent streams, the Puu Lua Reservoir, the Puu Opae Reservoir and the Mana Reservoir.

5. Hydroelectric Plants

KIUC will operate, repair and maintain the hydro plants developed as part of the Puu Opae energy project:

6. Dams and Reservoirs

KIUC will rehabilitate the following reservoirs pursuant to the State of Hawaii dam safety standards and undertake the operation and maintenance of each through the life of the Puu Opae project.

- a. Puu Lua Reservoir
- b. Puu Opae Reservoir
- c. Mana Reservoir

7. Pressurized Piping

KIUC will construct and maintain the following segments of pressurized pipeline:

- a. Between the Puu Moe Divide and the Puu Opae Reservoir;
- b. Between the Puu Opae and Mana Reservoirs.

8. Pumping Stations

ADC will continue to operate and maintain the Kawaiele and Nohili Pumping Stations.

9. Monitoring Stations

KIUC will operate and maintain the equipment discussed in the Monitoring Stations section above.

10. Agreements to Operate

The cost of all of KIUC's undertakings pursuant to this agreement will be negotiated directly between KIUC and the agencies involved.

11. Infrastructure Covered

Any infrastructure not covered by this agreement will be presumed to be handled by whoever is handling it today. This agreement covers only the specific infrastructure discussed in it.

Commission on Water Resource Management

Update on Implementation of Waimea Watershed Agreement

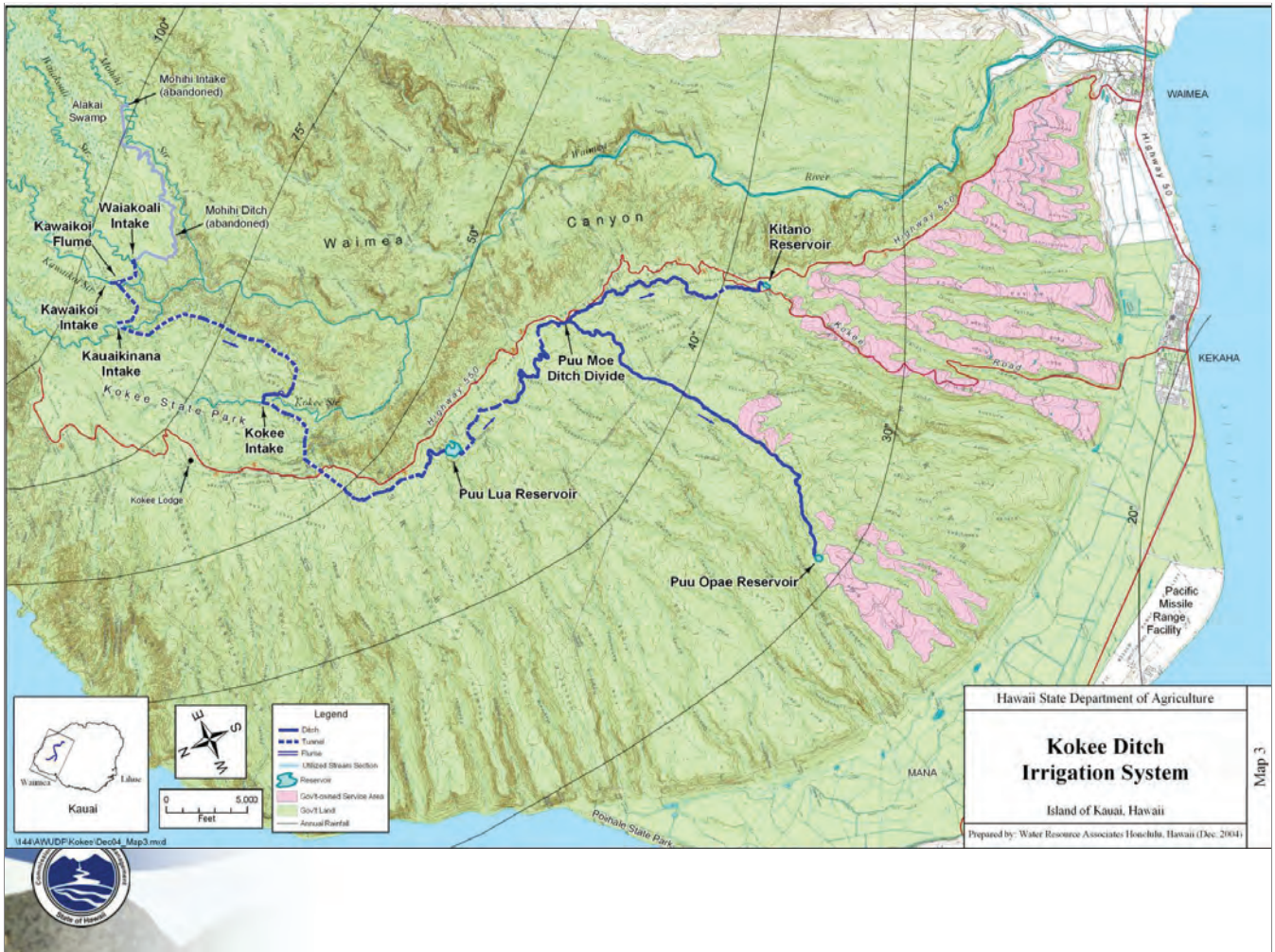
Ayron M. Strauch, Hydrologist
Stream Protection and Management Branch

Item C-1



Outline

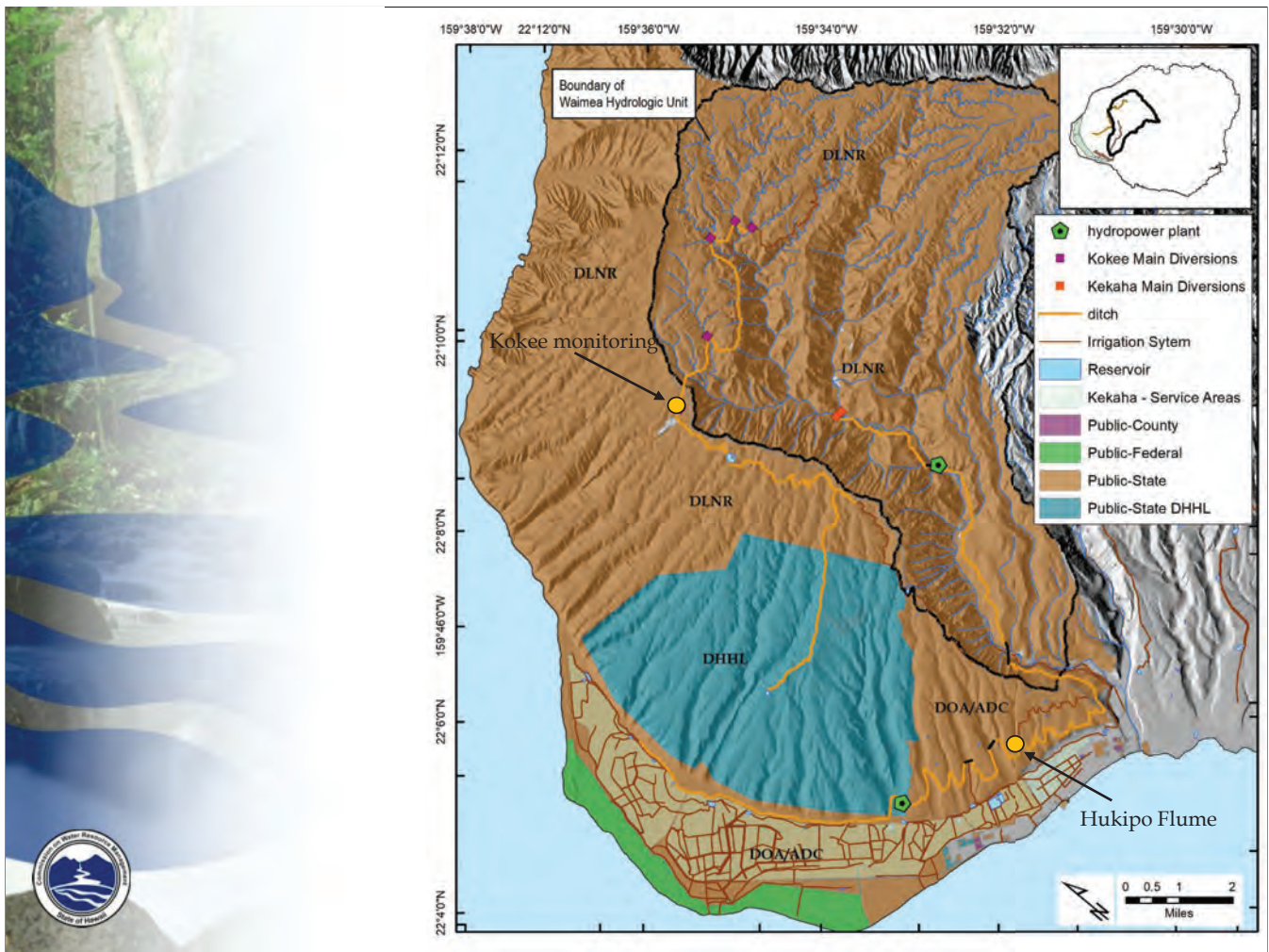
- Overview of Kōke'e and Kekaha Irrigation Systems
- Timeline
- Pō'ai Wai Ola/West Kaua'i Watershed Alliance Complaint and Petition to Amend Instream Flow Standards
- Specific details of the mediated agreement
- Implementation problems with the agreement



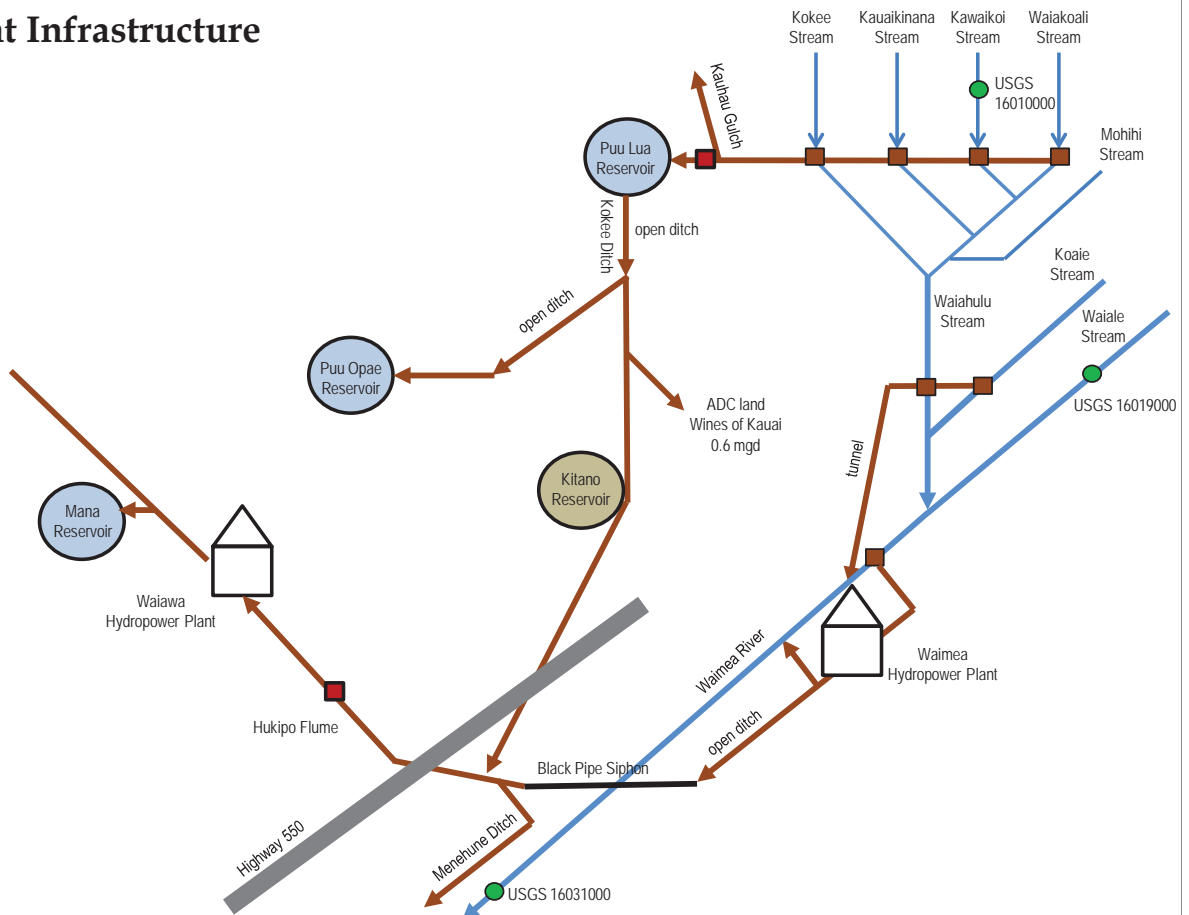
Map 3



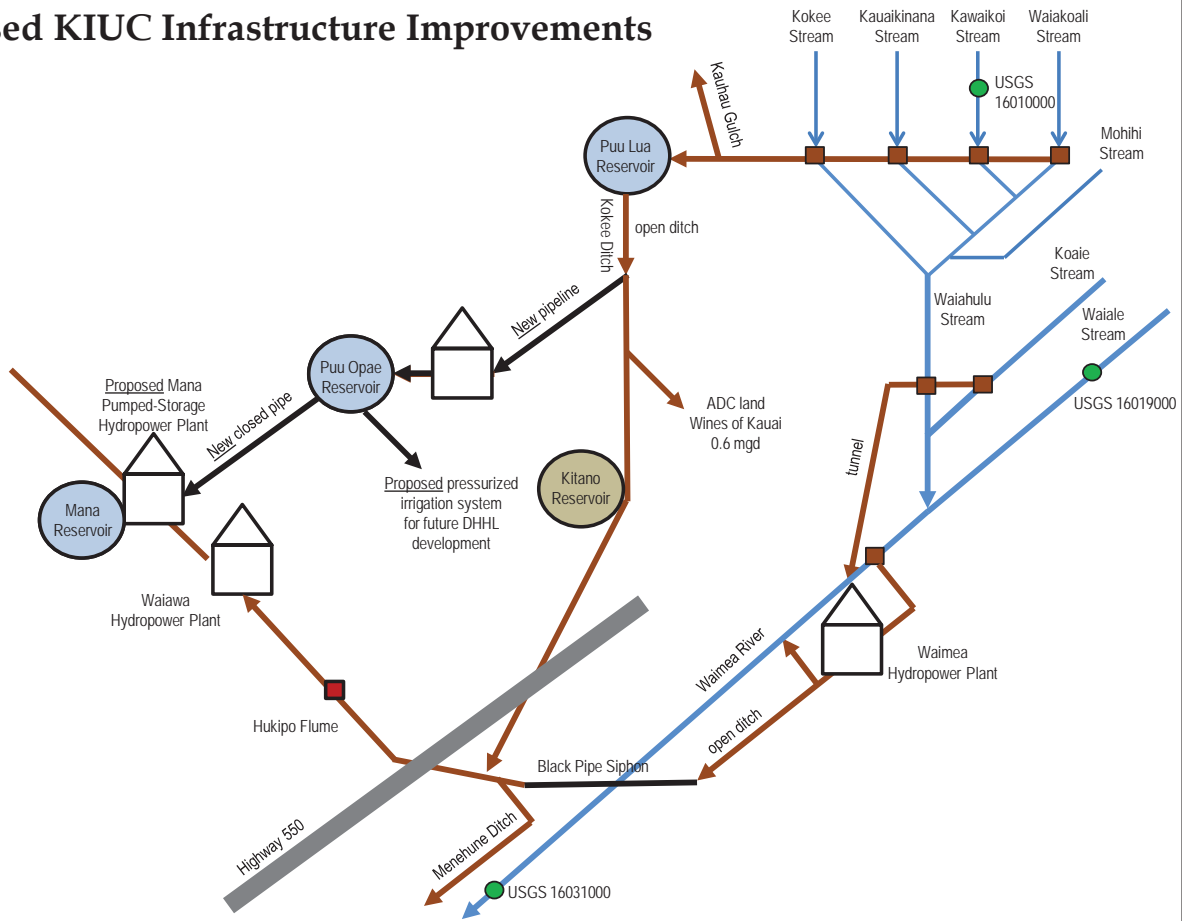
Map 2



Current Infrastructure



Proposed KIUC Infrastructure Improvements



Waiakoali Stream Intake



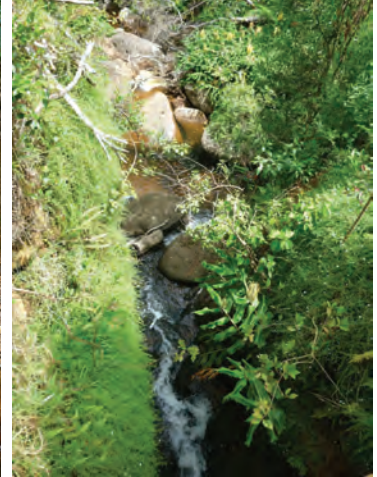
Kawaikoi Stream Intake



Kauaikinana Stream Intake



Kokee Stream Intake



Koaie Stream Intake



Waiahulu Stream Intake



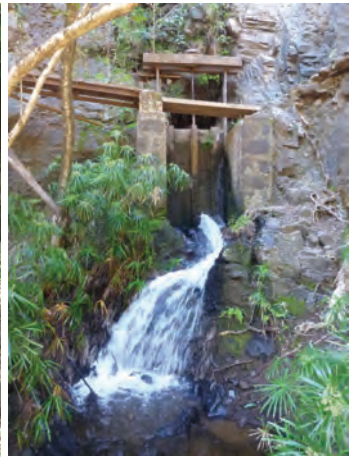
Waimea Diversion (at Mauka hydropower plant)




Pō'ai Wai Ola/West Kaua'i Watershed Alliance Complaint Kokee Ditch



Pō'ai Wai Ola/West Kaua'i Watershed Alliance Complaint Kekaha Ditch




Timeline



July 2013	Pō'ai Wai Ola/West Kaua'i Watershed Alliance files complaint and petition to amend instream flow standards
Dec 2013	Commission hires special investigator
July 2014	Investigation, fact-gathering begins
Dec 2015	Commission authorizes chair to hire a mediator
Feb 2016	Commission approves terms of mediation
Apr 2016	Mediator hired
Sep 2016	Commission updated on progress of mediation
Oct 2016	Element Environmental presentation to Commission
Nov 2016	Trial flow release
Jan 2017	Commission updated on progress of mediation
April 2017	Specific details of the mediated agreement approved by Commission

Timeline



Fall 2017	KAA loses irrigation system manager
2018-Present	Quarterly meetings with parties to assess progress on implementation; discuss issues
Jul 2019	Hydrologists helicopter in to measure flows
Aug 2019	Road to mauka hydro repaired, parties conduct a site visit (helicopter to Waiahulu)
Feb 2020	CWRM begins install of IIFS monitoring station below Waiahulu Intake (helicopter to Waiahulu)
May 2020	Road to Waiahulu complete; KAA begins to report flow releases past Koaie and Waiahulu intakes based on site visits
Jun 2020	CWRM completes installation of IIFS monitoring station
Nov 2020	CWRM measures stream and ditch flows throughout Kekeha Irrigation System

Management Goals

- Provide mauka to makai flow; ensure sufficient instream habitat is protected
- Support agriculture and renewable energy as beneficial uses of water
- Support DHHL's non-potable water needs for future agricultural development
- Ensure that the ditch systems are maintained for present and future uses

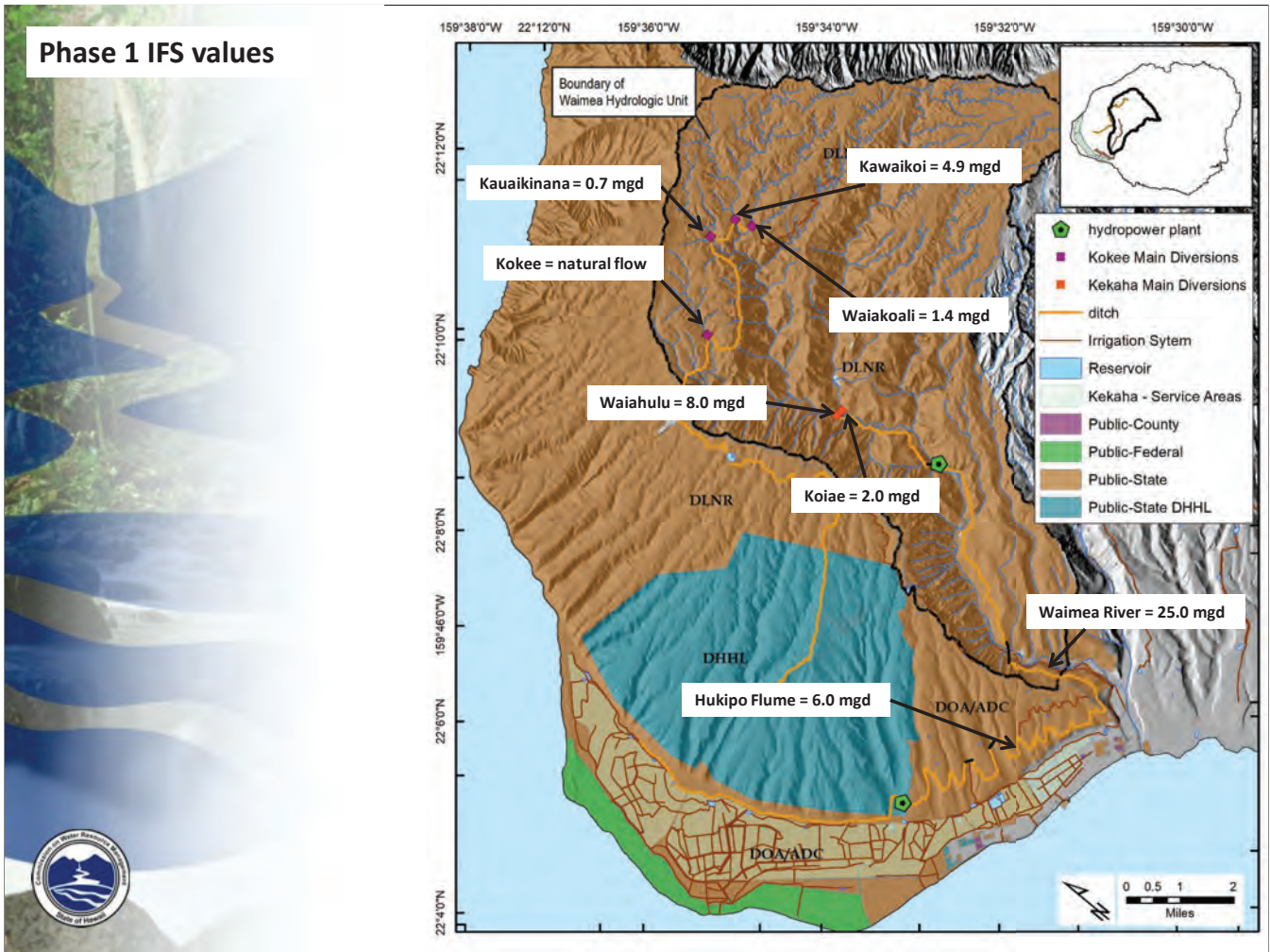


2017 Waimea Watershed Agreement

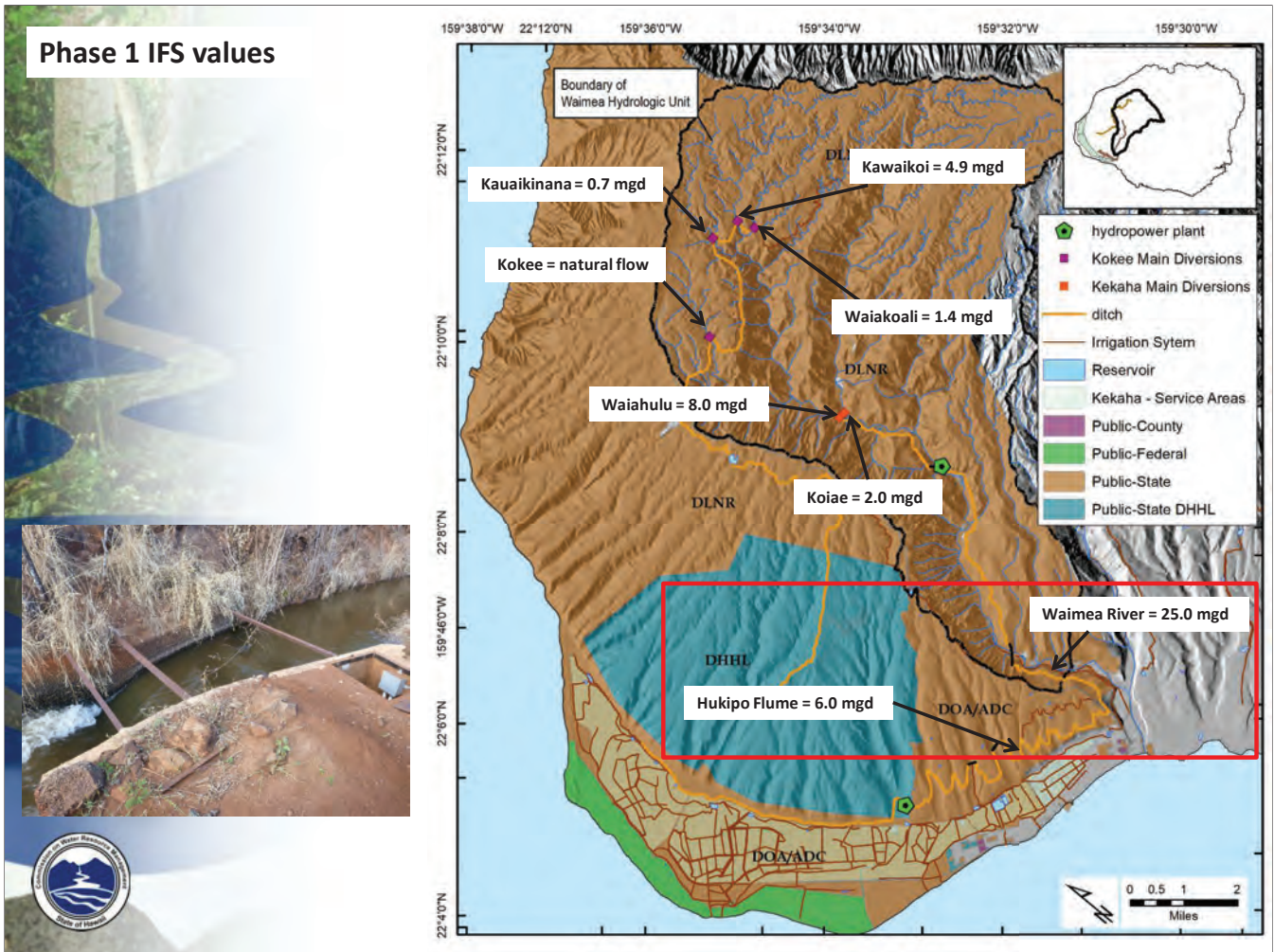
1. Infrastructure responsibilities
 - KIUC
 1. Waiakoali, Kawaikoi, Kauaikinana, Kokee and ephemeral diversions
 2. Kokee Ditch to Puu Moe Divide
 3. Mana Reservoir
 - ADC/KAA
 1. Koaie, Waiahulu, Waimea diversions
 2. Kekeha Ditch to Polihale
 3. Mauka and Waiawa hydropower and associated infrastructure
 4. Ditch and groundwater pumps
2. IIFS
3. Operating Protocols: Stream gets the water first
4. Install and maintain continuous real-time ditch monitoring stations
 - Amount of water removed by each ditch and returned to each stream
5. Install and maintain continuous real-time stream monitoring stations
 - KIUC
 - Waiakoali, Kawaikoi, Kauaikinana, Kokee streams
 - ADC/KAA
 - Waiahulu, Koaie, Waimea at the Mauka hydropower plant streams



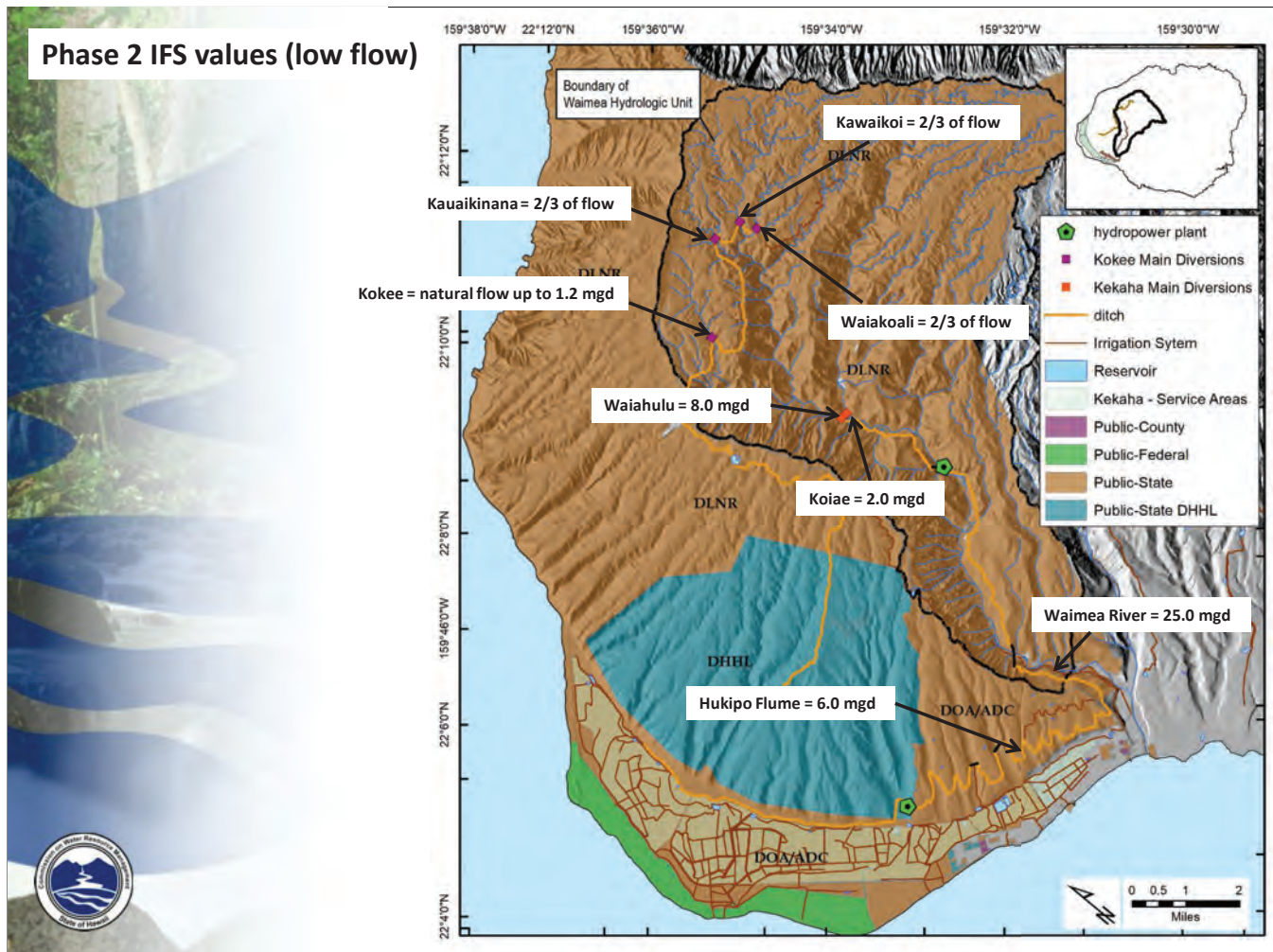
Phase 1 IFS values



Phase 1 IFS values



Phase 2 IFS values (low flow)



Current Uses of Irrigation System

- Support commercial agriculture within service area on Mana Plain (Kekaha) and uplands (Kokee)
 - Corn, soy, sunflower, mango, banana, papaya, eggplant, plums, citrus, tobacco, pumpkin, cover crop, livestock
- Support non-commercial agriculture and agricultural activities within Waimea, Waimea Town, Kekaha
 - Landscaping, pasture, livestock, taro, domestic agriculture, compost, grape vines, koa trees
- Support DHHL's current non-potable needs
- Support hydropower generation to power irrigation system (groundwater source pumps, pressurization pumps, ditch pumps) and agricultural activities; provide Kauai with alternative energy

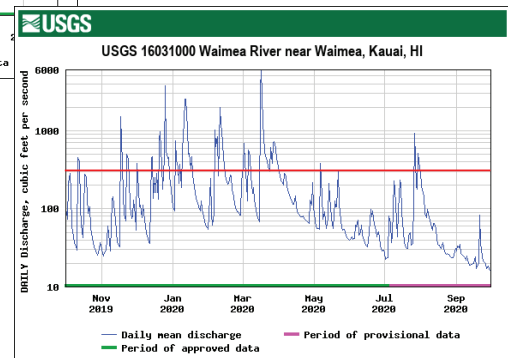
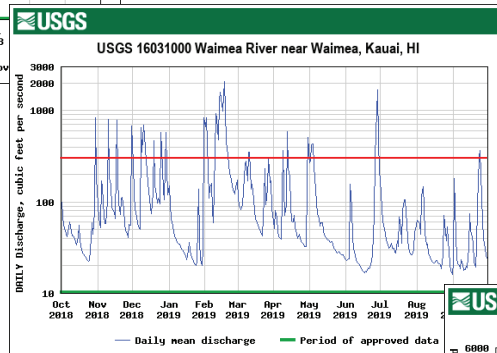
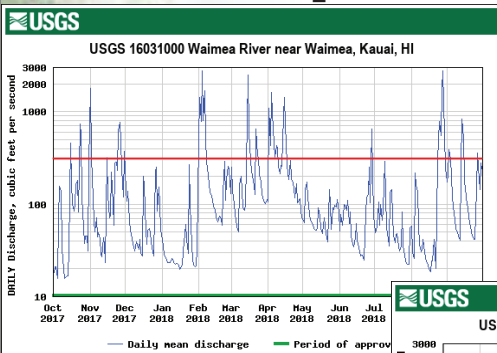
Issues with implementation

1. KIUC- Kokee intake and ditch modifications tied up in permitting
→ Lost valuable years of potential data collection
2. KAA lost its system manager in 2017
→ Lost institutional knowledge; difficult to replace
3. KAA/ADC- Kekaha intake and ditch modifications tied up in permitting
→ More simplistic “operational” modifications not made until 2020; was not consistent with the spirit of the operating protocols until recently
4. Frequent washouts of road crossings resulted in fewer site visits, intake adjustments, operational fixes to meet Agreement goals in 2018 & 2019
5. The necessity, use, and associated infrastructure affiliated with the Waimea Diversion (at Mauka hydropower plant) has continued to be a sticking point
 - Not used unless Koaie and Waiakulu intakes are shut down
 - Used to supplement low flows
 - Necessary to keep Kekaha Ditch flows from backing up
 - Dam needed to build up sediment to protect penstock



Issues with implementation

- 2018-2019 frequent wash-outs of river crossings limited access



2015

2020

Waiahulu



Waiahulu



Koaie



Koaie



Waimea River at 1.5 mgd



Waimea River at 7.7 mgd



Improvements in 2020

Staff plate and low flow release underneath pani boards

2015



2020



2015



2020



Improvements in 2020

Orange Tree Gate (Kekeha Ditch below Mauka Powerhouse)

2015



2020



Improvements in 2020

End of Kokee Ditch flow to Kekaha Ditch

2014



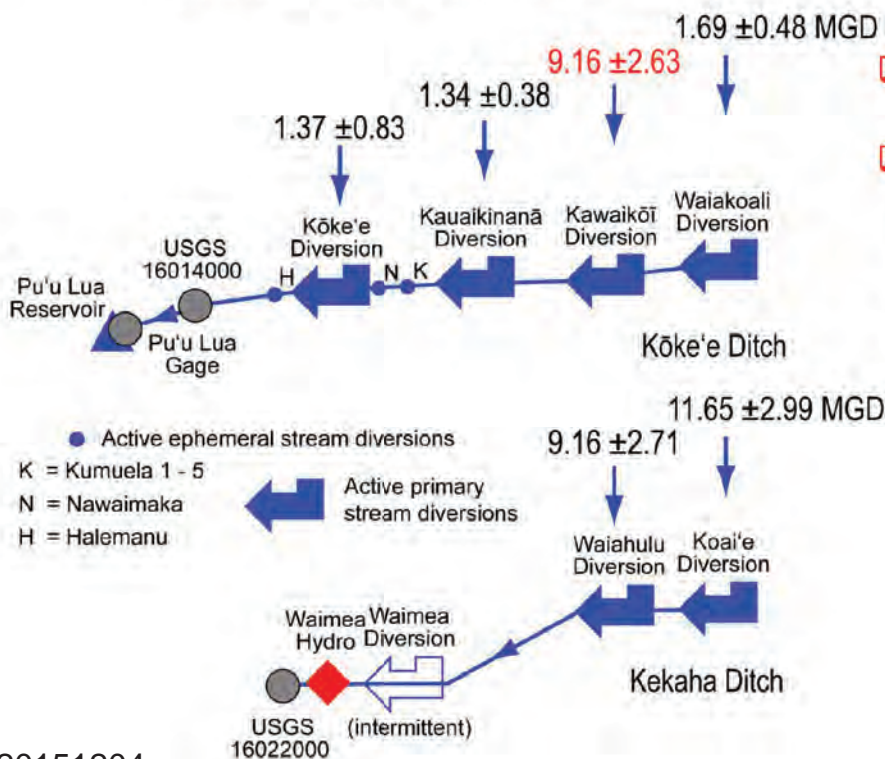
2020



Waimea Diversion (at Mauka hydropower plant)

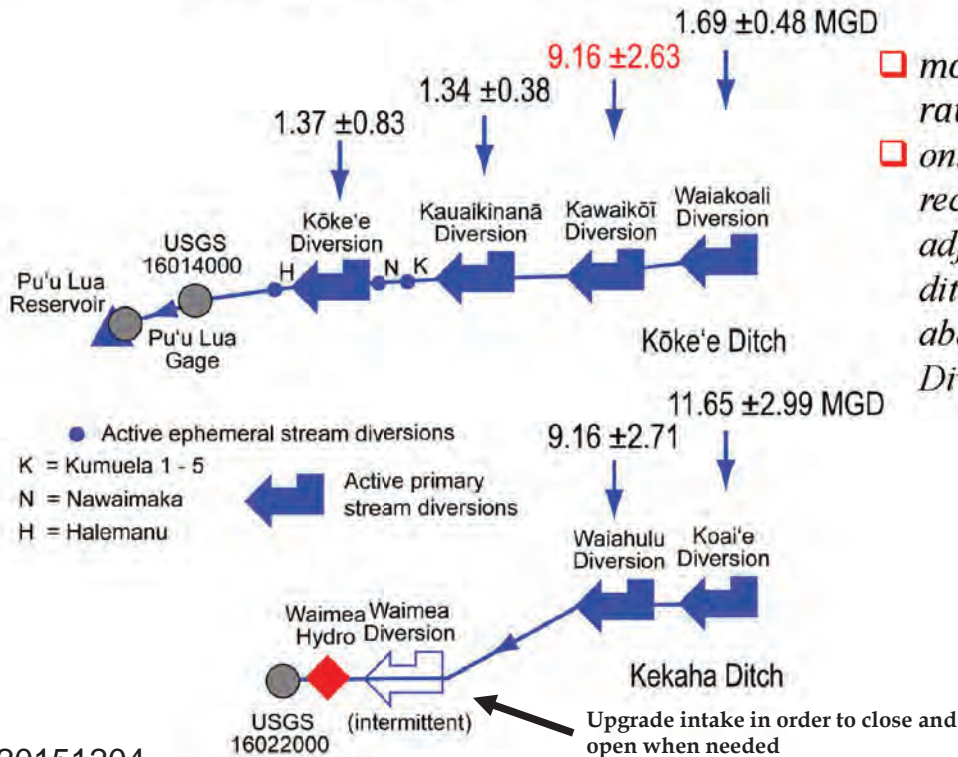


Amounts of water available (MJJASO)



- ❑ monthly discrepancy ratios
- ❑ only last 2 decades of record (1978-97) used to adjust for reduction in ditch flow due to abandonment of Mohihi Diversion

Amounts of water available (MJJASO)



- ❑ monthly discrepancy ratios
- ❑ only last 2 decades of record (1978-97) used to adjust for reduction in ditch flow due to abandonment of Mohihi Diversion

20151204



Outstanding Hydrological Questions

- Do actual flow duration curves for each headwater stream (Kokee, Kauikinanana, Waiakoali) resemble modeled values?
 - Initial IIFS values based on modeled estimates
- Surface-water groundwater interactions in the Poamoho/Waiahulu/Waimea reaches
 - Initial measurements suggests gaining reaches between Waiahulu and Mauka hydropower plant
- Does the actual flow duration curve for Koaie Stream resemble modeled values?
 - Initial IIFS values based on modeled estimates
- What is the system loss for each ditch?
 - from point of diversion to point of use, how efficient is the system?



Outstanding Hydrological Questions

- Do actual flow duration curves for each headwater stream (Kokee, Kauikinanana, Waiakoali) resemble modeled values?
 - Initial IIFS values based on modeled estimates
- Surface-water groundwater interactions in the Poamoho/Waiahulu/Waimea reaches
 - Initial measurements suggests gaining reaches between Waiahulu and Mauka hydropower plant
- Does the actual flow duration curve for Koaie Stream resemble modeled values?
 - Initial IIFS values based on modeled estimates
- What is the system loss for each ditch?
 - from point of diversion to point of use, how efficient is the system?



→ Need monitoring stations in streams to answer questions

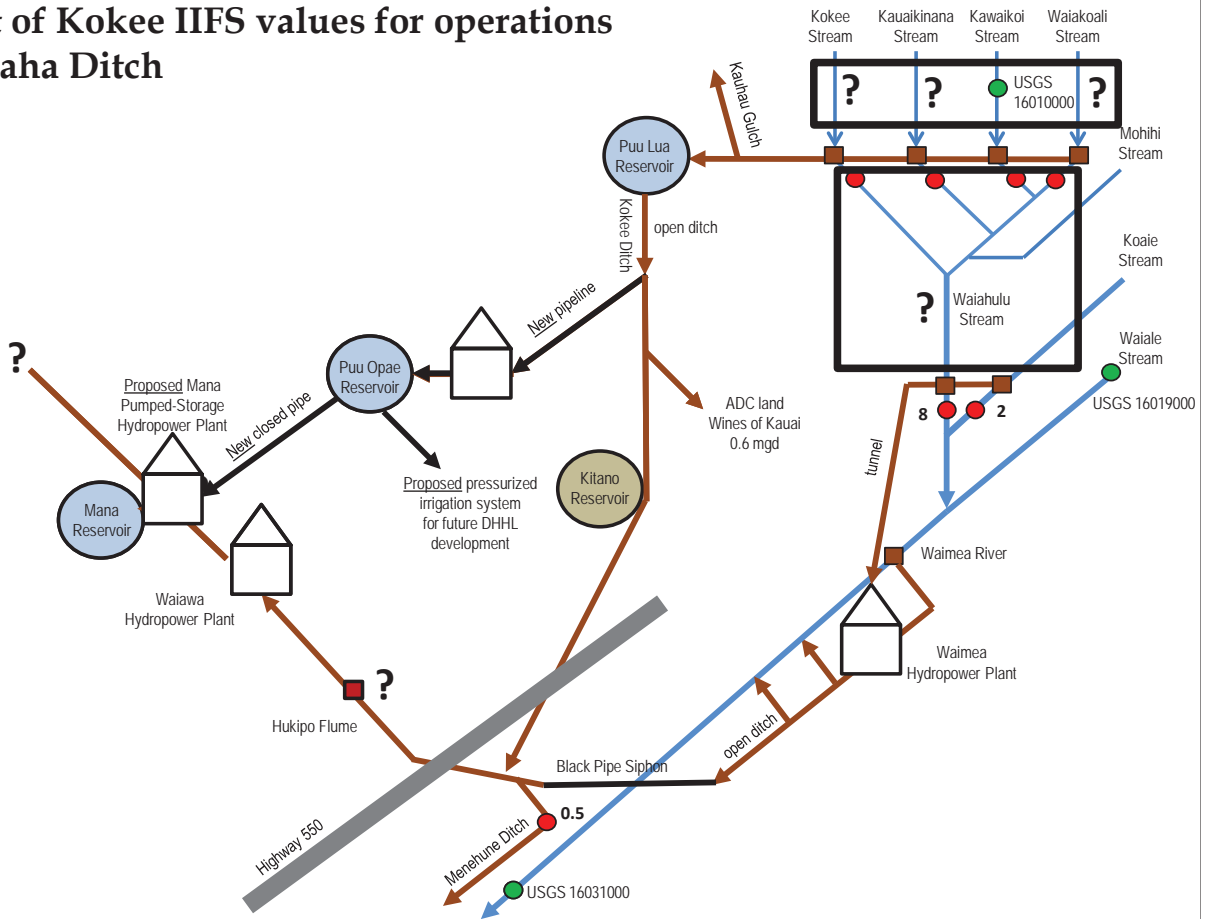
Outstanding Hydrological Questions

If Phase Two goes into operation, the Commission will reexamine the amounts diverted to reduce them to take into account the energy and agricultural uses served by the KIUC project.

-Commission order May 16, 2017

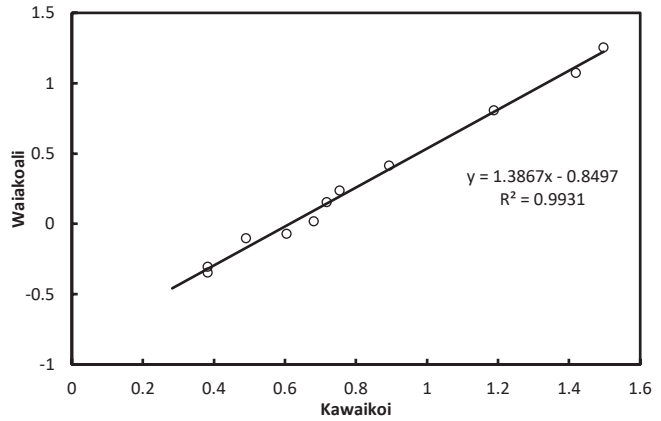


Impact of Kokee IIFS values for operations of Kekaha Ditch



Waiakoali Partial-Record Gaging Station

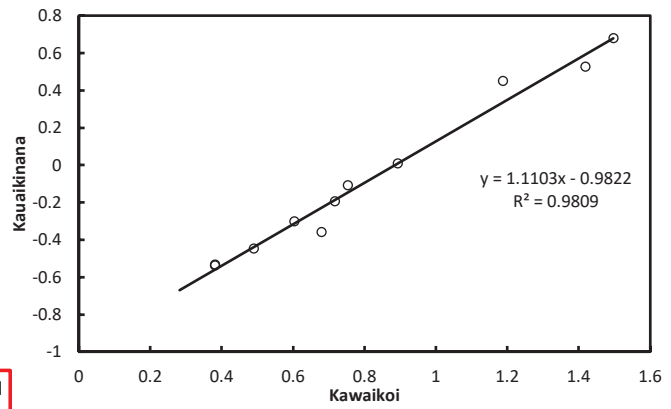
Date	Measured (cfs)	Kawaikoi (cfs)
5/4/2017	1.73	5.67
7/7/2017	0.85	4.02
9/6/2017	0.50	2.41
9/7/2017	0.45	2.41
9/18/2017	0.79	3.09
4/17/2018	17.95	31.4
5/4/2018	11.84	26.20
5/5/2018	6.43	15.40
6/15/2018	2.60	7.81
7/30/2018	1.43	5.21
8/16/2018	1.04	4.79



Percentile	Kawaikoi (cfs)	Waiakoali (cfs)	Waiakoali (mgd)	Kbay modeled (mgd)
50	11.00	3.94	2.55	1.31
55	9.53	3.22	2.08	
60	8.40	2.71	1.75	
65	7.50	2.31	1.49	
70	6.70	1.98	1.28	0.76
75	5.99	1.69	1.09	
80	5.21	1.39	0.90	
85	4.60	1.17	0.76	
90	3.90	0.93	0.60	0.42
95	3.10	0.68	0.44	

Kauaikinana Partial-Record Gaging Station

Date	Measured Kawaikoi (cfs)	Kauaikinana (cfs)
5/4/2017	0.78	5.67
7/7/2017	0.50	4.02
9/6/2017	0.29	2.41
9/7/2017	0.29	2.41
9/18/2017	0.36	3.09
4/17/2018	4.79	31.4
5/4/2018	3.38	26.20
5/5/2018	2.82	15.40
6/15/2018	1.02	7.81
7/30/2018	0.64	5.21
8/16/2018	0.44	4.79



Percentile	Kawaikoi (cfs)	Kauaikinana (cfs)	Kauaikinana (mgd)	Kbay modeled (mgd)
50	11.00	3.94	2.55	1.19
55	9.53	3.22	2.08	
60	8.40	2.71	1.75	
65	7.50	2.31	1.49	
70	6.70	1.98	1.28	0.62
75	5.99	1.69	1.09	
80	5.21	1.39	0.90	
85	4.60	1.17	0.76	
90	3.90	0.93	0.60	0.29
95	3.10	0.68	0.44	

(main branch of Kauaikinana)

41

Koaie USGS Partial-Record Gaging Station

Date	Measured (cfs)	Measured (mgd)	Percentile	Kbay modeled (mgd)
12/11/2019	18.4	11.9	50	11.2
6/24/2020	25.5	16.5	55	
8/27/2020	20.4	13.2	60	
			65	
			70	9.6
			75	
			80	
			85	
			90	7.9
			95	

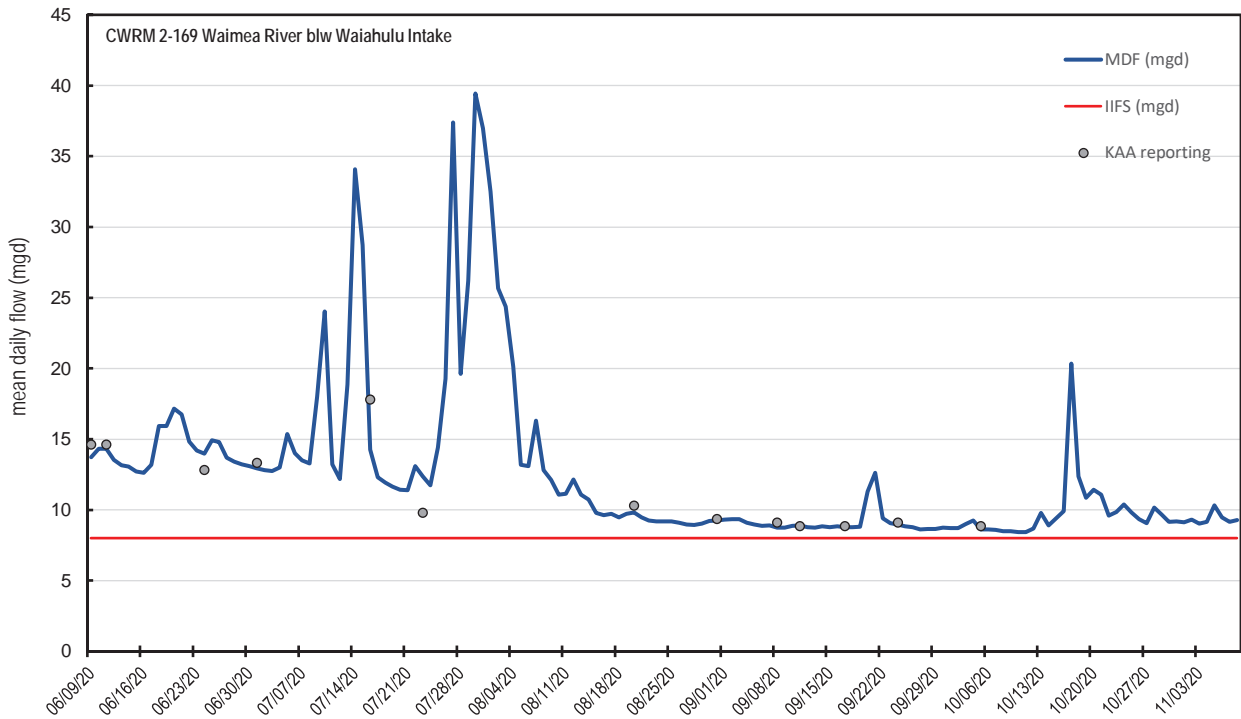


42

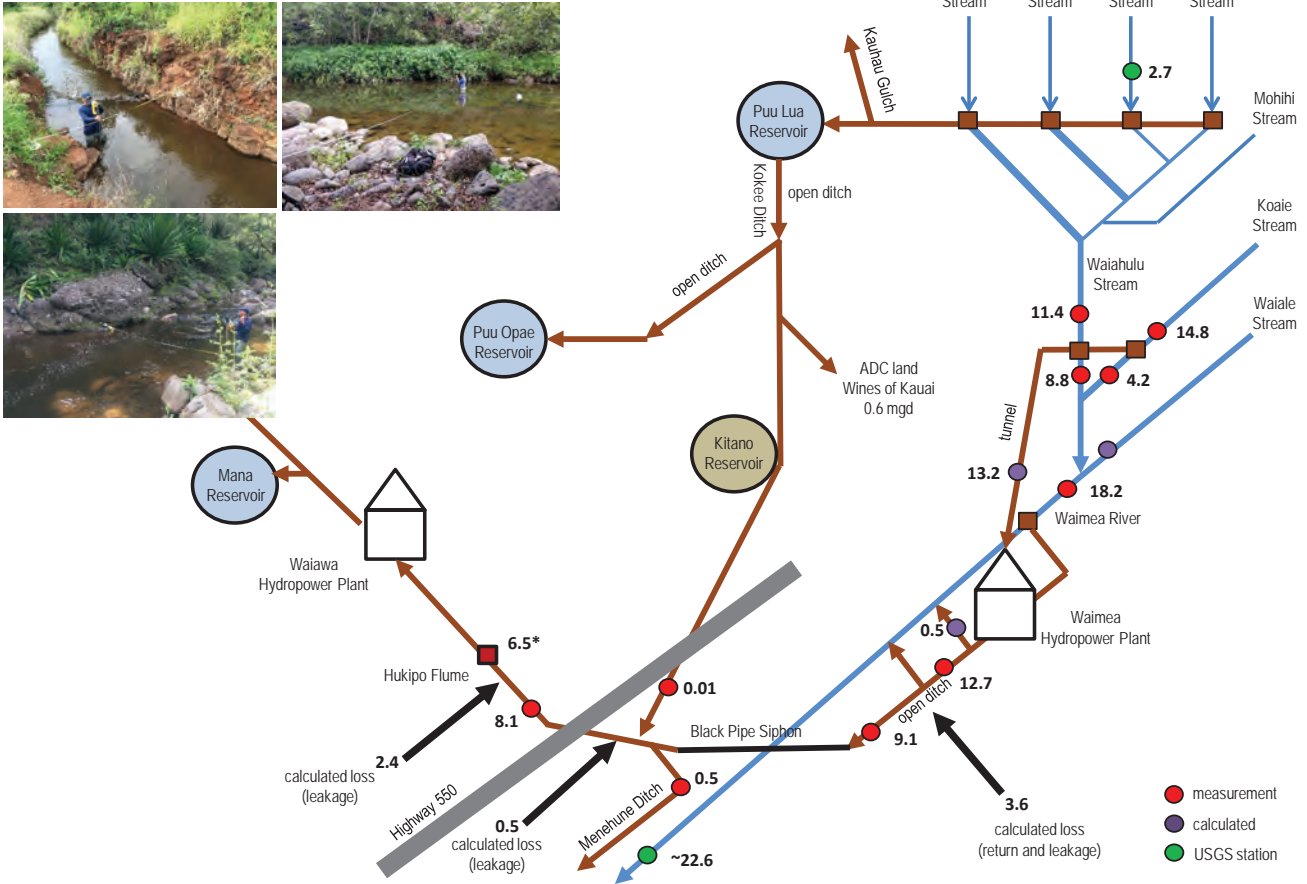
CWRM station (2-169) Waimea River blw Waiahulu Intake Installed in June 2020



Monitoring below Waiahulu Intake (IIFS = 8 mgd)



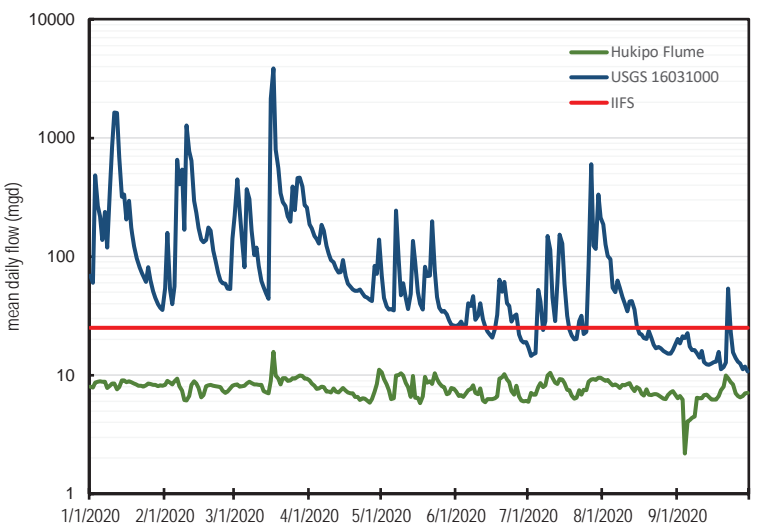
Kekaha Ditch November 9, 2020 measurements (mgd)



Total Leakage from Black Pipe Siphon = 2.9 mgd
(does not include large leaks within Waimea Canyon)

Current Uses of Irrigation System

Commercial Farm System	Jan-Jul 2020
Kekaha Ditch metered use	1.28 mgd
Kokee Ditch estimated use	0.5 mgd
Kekeha Groundwater use	0.18 mgd
Other Users	
Menehune Ditch	0.5 mgd
Shredco compost	<0.001 mgd
Waiaka Hog Farmers Coop	0.001 mgd
Kauai County Waimea WWTF	0.006 mgd
Kekaha Ditch Water Use	1.79 mgd

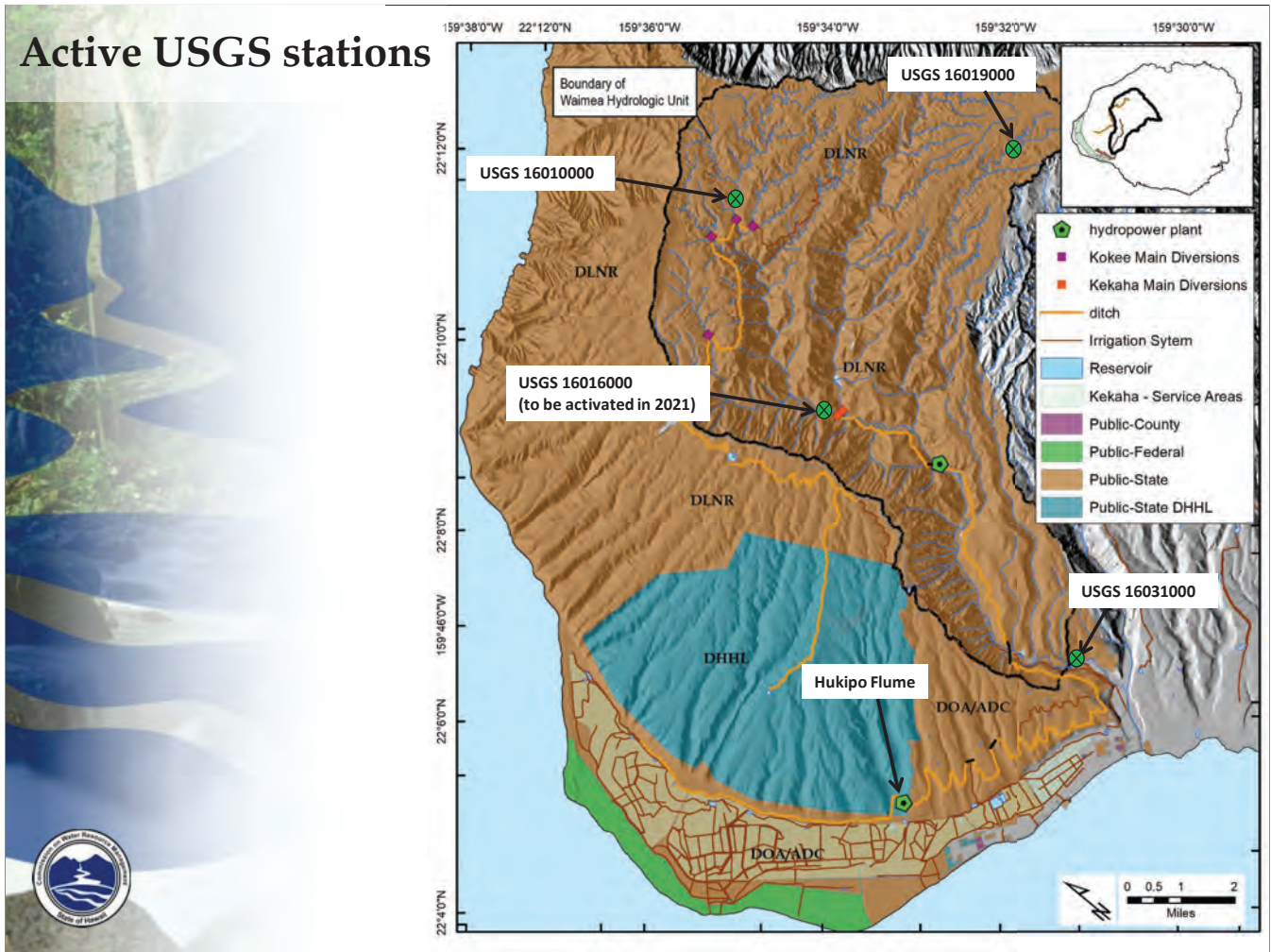


Jan-Jul 2020 Mean flow of Kekaha Ditch = 8.06 mgd

Nov 2020 leakage = 2.9 mgd after Black Pipe Siphon
IIFS at USGS 16031000 = 22.6 mgd (below by 2.4 mgd)
6.5 mgd at Hukipo to meet < 2.0 mgd use



Active USGS stations



Department of Hawaiian Home Lands



HAWAIIAN HOME LANDS
HAWAIIAN HOMES COMMISSION · DEPARTMENT OF HAWAIIAN HOME LANDS

Item C-1

DHHL Update on the Mediation Agreement for the Waimea Watershed Area

November 17, 2020

DEPARTMENT OF HAWAIIAN HOME LANDS – PLANNING OFFICE

WMA Agreement

DHHL is expected to benefit from KIUC's hydroelectric project, a portion of which is located at DHHL's Pu'u `Ōpae Reservoir by gaining a reliable means to transmit water to DHHL's lands and shifting to KIUC the costs of rehabilitating, maintaining and improving key infrastructure on DHHL's parcel.

DEPARTMENT OF HAWAIIAN HOME LANDS – PLANNING OFFICE



DHHL WMA Milestones

Date	Milestone
April 18, 2017	CWRM approval of the WMA
June 20, 2017	CWRM approval of DHHL's Modified Petition for Reservation of 6.903 MGD of Surface Water in the Kōke`e Streams, Waimea
August 22, 2017	After an RFP process and beneficiary consultation, Hawaiian Homes Commission approved issuance of a General Lease to KIUC subject to HRS chapter 343 requirements and provided that such environmental review does not reveal significant adverse impacts that cannot be reasonably mitigated.

DEPARTMENT OF HAWAIIAN HOME LANDS – PLANNING OFFICE



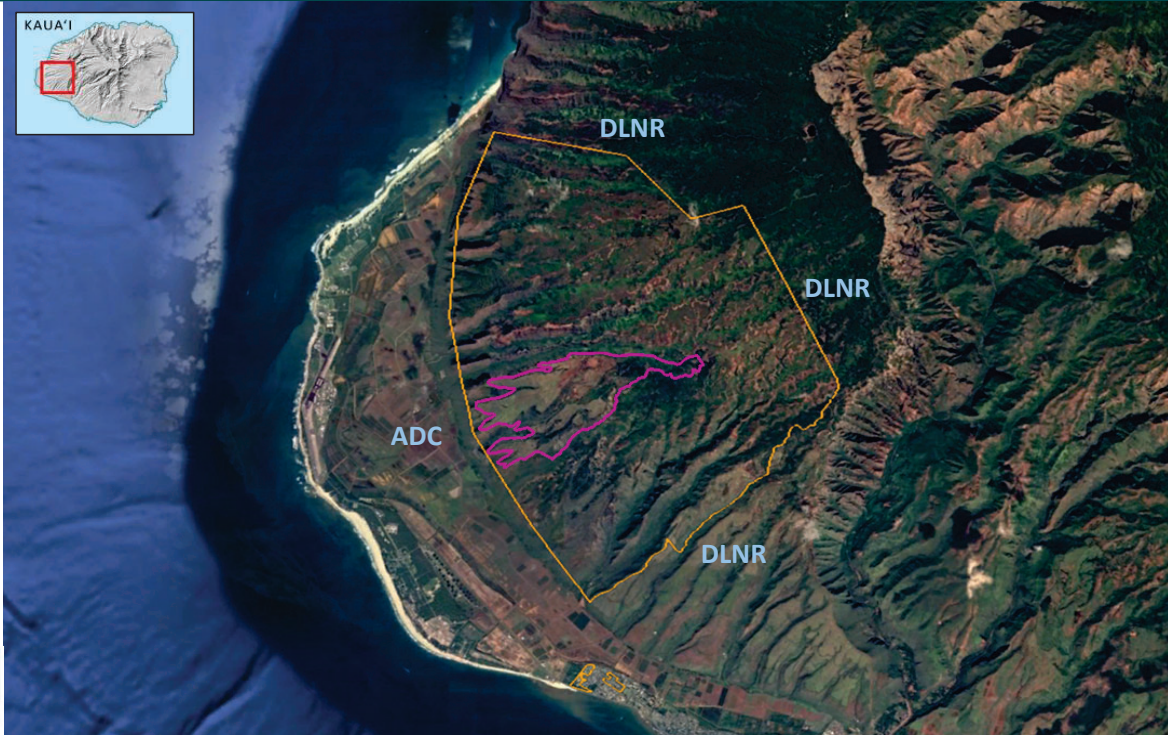
DHHL Pu`u `Ōpae Homestead Settlement Plan

- FEA and FONSI were published in OEQC Bulletin August 2020.
- Timeframe for Phase I construction dependent upon infrastructure improvements by KIUC.
- Existing Pastoral Homestead Lessees, new Phase I Kuleana Homestead lots, and area licensed to the Kekaha Hawaiian Homestead Assoc. (KHHA) estimated to use 5.325 MGD of the 6.903 MGD surface water reservation.
- Remainder of surface water reservation to be used for subsequent phases of homestead development.

DEPARTMENT OF HAWAIIAN HOME LANDS – PLANNING OFFICE



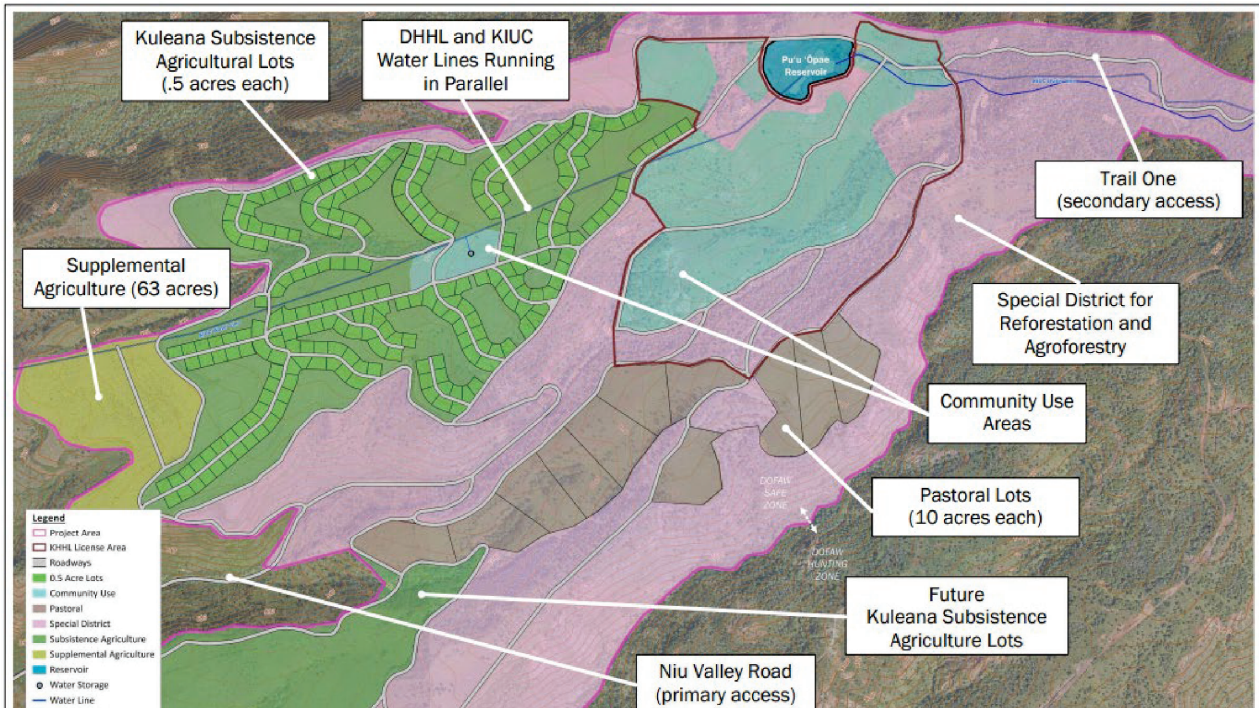
DHHL Pu`u `Ōpae Homestead Settlement Plan



DEPARTMENT OF HAWAIIAN HOME LANDS – PLANNING OFFICE



DHHL Pu`u `Ōpae Homestead Settlement Plan



DEPARTMENT OF HAWAIIAN HOME LANDS – PLANNING OFFICE



Reminder

Fulfillment of the WMA is critical to the implementation of the DHHL plan to return native Hawaiian beneficiaries to its lands in this region.

DEPARTMENT OF HAWAIIAN HOME LANDS – PLANNING OFFICE



Mahalo



DEPARTMENT OF HAWAIIAN HOME LANDS

www.dhhl.hawaii.gov

DEPARTMENT OF HAWAIIAN HOME LANDS – PLANNING OFFICE

Earthjustice

(on behalf of Pō'ai Wai Ola and West Kaua'i Watershed Alliance)



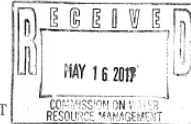
EARTHJUSTICE

Because the earth needs a good lawyer



Challenges In Implementing The Waimea Watershed Agreement

Presentation to the Commission on
Water Resources Management
November 17, 2020



COMMISSION ON WATER RESOURCE MANAGEMENT
STATE OF HAWAII

In the Matter of:

Pō'ai Wai Ola/West Kaua'i Watershed Alliance's Combined Petition to Amend the Interim Instream Flow Standards for Waimea River and its Headwaters and Tributaries, and Complaint and Petition for Declaratory Order Against Waste, Waimea, Kaua'i, Hawai'i

ORDER APPROVING MEDIATION AGREEMENT FOR THE WAIMEA WATERSHED AREA

ORDER APPROVING MEDIATION AGREEMENT FOR THE WAIMEA WATERSHED AREA

On April 18, 2017, at the Commission on Water Resource Management (Commission) meeting, Mediator Robert Alm reported that the parties participating in mediation on the Pō'ai Wai Ola/West Kaua'i Watershed Alliance's Combined Petition to Amend the Interim Instream Flow Standards for Waimea River and its Headwaters and

and under Hawaii Revised Statutes section 174C-10 now hereby **APPROVES**

the Agreement, which is incorporated by reference, and further **ORDERS** that the agreed-upon understandings, terms, and conditions in the Agreement, be adopted effective as of the approving vote taken on April 18, 2017

Deadlines and (Non)Compliance



- Immediate restoration to “maximum extent possible.”
- Deadline for ADC/KAA to file diversion modification plans for Kekaha Ditch.
- IIFS = 6 mgd maximum at Hukipo Flume if Lower Waimea River < 25 mgd.
- Real-time monitoring on all streams.

“Phase One” IIFS – Kekaha Ditch



Phase One will go into effect upon the approval of this agreement by the Commission. As part of Phase One, the parties agree to immediately take steps to restore flows to the maximum extent possible (e.g., by removing a board or lifting a gate) while working on the structural modifications pursuant to the deadlines set forth in Section B.

- Waiahulu IIFS = 8 mgd
- Koai‘e IIFS = 2 mgd
- May 8, 2020 – ADC/KAA finally adjusted boards to restore flows to maximum extent possible (**nearly 3 years’ delay**).



Modification of Kekaha Ditch Diversions



ADC (either itself or through its licensee KAA) will modify all other diversions relating to the Kekaha Ditch system and specifically those associated with the Koaie and Waiahulu streams and the Waimea diversion necessary to ensure the stream flow provided for in this agreement, as follows: ADC (either itself or through its licensee KAA) will file with the Commission and any other pertinent regulatory agency its modification plans within forty-five (45) days of the approval of this agreement by the Commission.

- Modification plans due by June 30, 2017.
- ADC/KAA submitted modification plans on October 24, 2018 (**nearly 16 months' delay**).
- Failure to make diligent efforts to secure approvals.
- Basic actions like installing gages and weirs in ditch remain **in limbo**.

IIFS – Lower Waimea River



The IIFS for the Waimea Stream at USGS 16031000 will be 25 mgd with a minimum flow at all times through the Kekaha Ditch of 6 mgd measured at the Hukipo Flume.

- 202 days of violations from 11/1/17 to 9/30/20.
- Average 7.8 mgd flow at Hukipo Flume when Waimea River < 25 mgd.
- **Ongoing violations**: 24 of 30 days in Sep. 2020.
- **Waste**: estimated 12 mgd diverted to deliver 6 mgd

Year	Month	Day	Hukipo AvMGD	Stream USGS Gage 16031000 CFS	MGD (conversion factor = .64631688969744)	Violation Yes/No
2020	September	1	6.39	28.7	18.549	1
2020	September	2	6.70	33.0	21.328	1
2020	September	3	6.23	31.8	20.553	1
2020	September	4	2.18	35.1	22.686	0
2020	September	5	4.08	26.9	17.386	0
2020	September	6	4.18	25.3	16.352	0
2020	September	7	4.36	25.1	16.223	0
2020	September	8	4.47	23.8	15.382	0
2020	September	9	6.43	21.8	14.090	1
2020	September	10	6.40	24.7	15.954	1
2020	September	11	6.38	19.9	12.862	1
2020	September	12	6.78	19.1	12.345	1
2020	September	13	6.88	19.0	12.280	1
2020	September	14	6.56	19.5	12.603	1
2020	September	15	6.26	20.0	12.926	1
2020	September	16	6.25	20.1	12.991	1
2020	September	17	6.25	24.3	15.706	1
2020	September	18	6.67	17.3	11.181	1
2020	September	19	7.46	18.2	11.763	1
2020	September	20	7.99	19.7	12.732	1
2020	September	21	9.91	83.5	53.967	0
2020	September	22	9.48	35.7	23.074	1
2020	September	23	8.73	24.1	15.576	1
2020	September	24	8.33	21.6	13.960	1
2020	September	25	7.06	20.2	13.056	1
2020	September	26	6.71	19.4	12.539	1
2020	September	27	6.53	17.3	11.181	1
2020	September	28	6.69	18.3	11.828	1
2020	September	29	7.04	16.7	10.793	1
2020	September	30	7.08	16.3	10.535	1

Real-Time Monitoring



Flow in the stream has the highest priority and water should flow at the highest possible level with diversions only as needed for other uses with the IIFS numbers being the minimum amounts to be provided.

Monitoring stations will be put in place to measure the amount of water coming into the ditches and the amount of water going into the streams below the diversions on a continuous real-time basis.

- After 3½ years, **still no continuous real-time monitoring** of diversions and streamflows.
- No way to ensure IIFSs are actually being met.

Concerns for Future Implementation



Specifically, after three years, no more than 10 mgd can be diverted in the Kekaha Ditch at Hukipo Flume unless reasonable agricultural uses require more water and the Commission finds that such additional waters can be provided consistent with the IIFS numbers it has set.

If Phase Two goes into operation, the Commission will reexamine the amounts diverted to reduce them to take into account the energy and agricultural uses served by the KIUC project.

- Minimal water needs for ag on Mānā Plain (1.277 mgd surface water use in 2020).
- Need to ensure any KIUC Kōke'e project is coordinated with Kekaha Ditch to avoid **double diversions**.

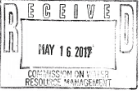


ADC pipe stockpiled on Mānā Plain

Takeaways, 3½ Years Later



- Noncompliance with agreed and ordered terms unacceptable.
- Excuses, not prompt solutions.
- Motivation, urgency lacking; compliance based on convenience.
- Legal priorities and burdens flipped upside-down.
- Phase 1 supposed to be interim/immediate, “easier.”
- Divert 12?→deliver 6→use 1.3
- Need accountability: regular updates, CWRM action.
- Need to reexamine for Phase 2.



COMMISSION ON WATER RESOURCE MANAGEMENT
STATE OF HAWAII

In the Matter of: Pō'ai Wai Ola/West Kaua'i Watershed Alliance's Combined Petition to Amend the Interim Instream Flow Standards for Waimea River and its Headwaters and Tributaries, and Complaint and Petition for Declaratory Order Against Waste, Waimea, Kaua'i, Hawai'i	ORDER APPROVING MEDIATION AGREEMENT FOR THE WAIMEA WATERSHED AREA
---	---

ORDER APPROVING MEDIATION AGREEMENT FOR THE WAIMEA WATERSHED AREA

On April 18, 2017, at the Commission on Water Resource Management (Commission) meeting, Mediator Robert Alm reported that the parties participating in mediation on the Pō'ai Wai Ola/West Kaua'i Watershed Alliance's Combined Petition to Amend the Interim Instream Flow Standards for Waimea River and its Headwaters and Tributaries, and the Complaint and Petition for Declaratory Order Against Waste, for Waimea, Island of Kaua'i, State of Hawai'i, filed before the Commission on July 24, 2013, reached an Agreement (Mediation Agreement for the Waimea Watershed Area). The parties consisted of petitioners Pō'ai Wai Ola/West Kaua'i Watershed Alliance; and principals: the State of Hawai'i, Agribusiness Development Corporation; the State of Hawai'i, Department of Hawaiian Home Lands; the Kaua'i Island Utility Cooperative; and the Kekaha Agriculture Association.

The Commission, with Commissioners Kamanamaikalani Beamer, Michael Buck, Keith Kawaoka for State of Hawai'i Department of Health Director Virginia Pressler, Neil Hannahs, William Balfour, Jr., and Chairperson Suzanne Case in attendance,

Kaua'i Island Utility Cooperative

KIUC KOKEE MODIFICATIONS AND FLOW MONITORING PLANS

WAIMEA WATERSHED MEDIATION AGREEMENT
KIUC STATUS UPDATE TO COMMISSION

November 16, 2020

KOKEE PLANS

Sept 2017 - Proposed plans for diversion modifications to the working group

Oct 2017 – Proposed plans for flow gaging

April 2018 – Submitted revised and final plans for diversion modifications and flow gaging with input from working group

Community Engagement – Active community engagement on the Agreement and on KIUC's Kokee plans



PERMITS APPLICATIONS SUBMITTED

- April 2019 - Site Plan Application – Office of Conservation & Coastal Lands
 - May 2019 - HRS 6E – State Historic Preservation Division
- May 2019 – Nation Wide Permit 46 – Army Corps
- June 2019 – Stream Channel Alteration Permit
- January 2020 – Stream Channel Alteration Permit and Stream Diversion Works Permit
- Clean Water Act 401 – Department of Health - pending

3

PERMIT STATUS

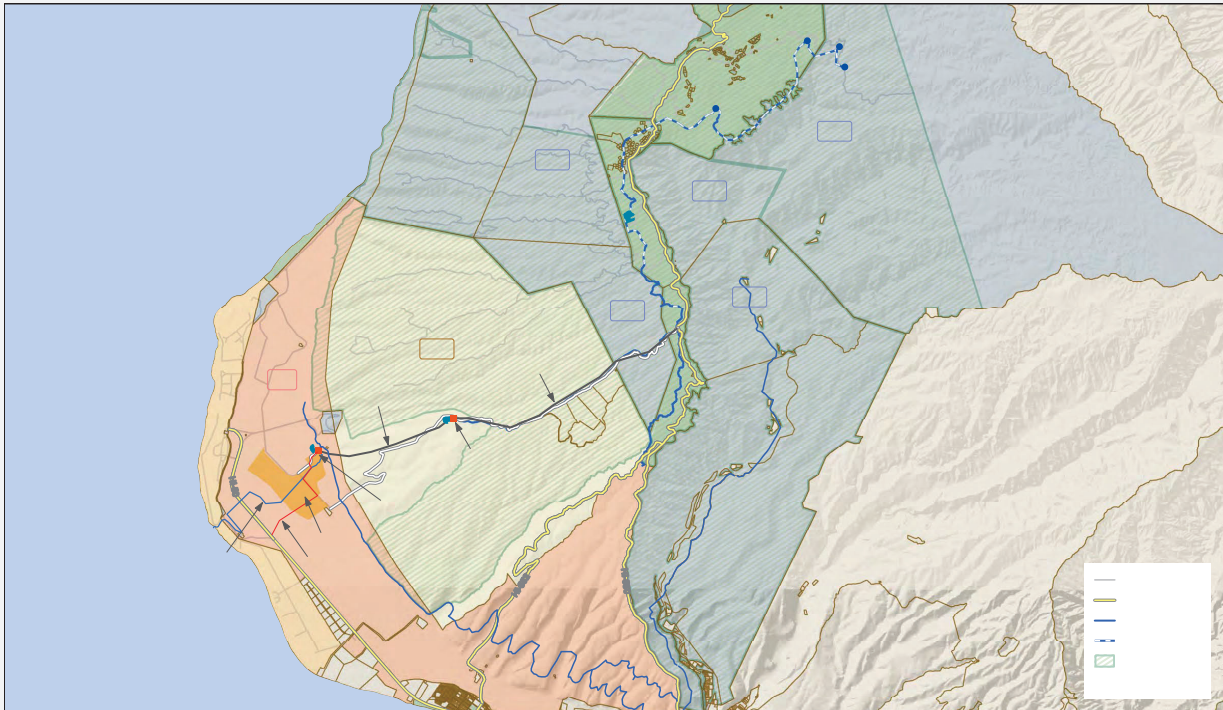
- Pending
 - Site Plan Application – Office of Conservation & Coastal Lands
 - HRS 6E – State Historic Preservation Division
 - Clean Water Act 401 – Department of Health - pending
- Received
 - April 2020 – Nation Wide Permit 46 – Army Corps
 - September 2020 – Stream Channel Alteration Permit and Stream Diversion Works Permit

4

PUU OPAE/WEST KAUAI ENERGY PROJECT

- Water for irrigation
 - DHHL
 - ADC
 - Mana plains
 - Storage in Puu Lua, Puu Opae, and Mana Reservoirs specifically for irrigation
- Environmental Assessment
 - Studies completed
 - Draft EA in process
 - Anticipating submission by end of this year
- 2022 estimated start of construction – contingent on receiving permits by end of 2021

5



6

NEXT STEPS

Pending receipt of remaining permits:

- Procurement for construction – 3 months

- Construction and gaging installation
weather dependent

- Flow data will be available to CWRM and
all parties



Kekaha Agriculture Association

**WAIMEA WATERSHED AGREEMENT
IMPLEMENTATION STATUS REPORT
Prepared by the Kekaha Agriculture Association
for the November 17, 2020 Meeting of the
Commission on Water Resource Management**

The following is a status report prepared by the Kekaha Agriculture Association (“KAA”) concerning implementation of the Waimea Watershed Agreement (“WWA”). KAA and the WWA parties¹ entered into the WWA on April 18, 2017 and have been actively implementing the provisions of the WWA since that time under the guidance and support of the Deputy Director and Staff of the Commission on Water Resource Management (“Commission” or “CWRM”). The purpose of this report is to further inform Commissioners and Staff about the status of implementation of the WWA with a focus on two issues that have recently been under discussion, the Waimea diversion and KAA’s efforts to address losses from the Kekaha ditch system.

I. KAA STATUS REPORT ON WAIMEA DIVERSION AND SYSTEM LOSSES

Under the guidance of Commission Staff, KAA and the WWA parties have devoted extensive efforts to coordinating and collaborating on implementation of the WWA over the last approximately three and a half years. In recent meetings, communications, and site visits, Staff and the WWA parties have focused on the Waimea diversion and system losses. As explained below, the current status is that KAA is taking action to address these issues.

A. Waimea Diversion.

1. Summary of current status.

The current status with regard to the Waimea diversion is that KAA is taking action to address this issue, including the following:

- KAA has agreed to modify the Waimea diversion intake by installing an automated gate across the intake which can be controlled remotely and which closes the intake more completely.
- KAA has agreed to install a fish ladder to be located on the smaller of the channels in the Waimea diversion dam.
- KAA has agreed to install a monitoring device on the Mauka hydro penstock.

With the guidance of Staff, the WWA parties have identified the foregoing actions to be taken by KAA to ensure the Waimea diversion conforms to applicable requirements under the

¹ The parties to the WWA, in addition to KAA, are the Hawaii Department of Hawaiian Home Lands (“DHHL”), the Agribusiness Development Corporation (“ADC”), the Kauai Island Utility Cooperative (“KIUC”), and Pō‘ai Wai Ola/West Kaua‘i Watershed Alliance (“PWO”) (collectively, “WWA parties”).

WWA. KAA is already taking these actions, or has committed to take them as soon as possible. Staff and the WWA parties will continue to review and evaluate KAA's actions going forward.

2. Intake modification.

The current status with regard to the Waimea diversion intake is that KAA has agreed to modify the intake by installing an automated gate across the intake which can be controlled remotely and which closes the intake more completely.

The Waimea diversion intake modification is necessary to ensure compliance with the applicable standard under the WWA. Under section D of the WWA, "IIFS Numbers," there are three enumerated standards set forth for "Phase One" concerning the "Kekaha Irrigation System." Item no. 3 states: "The IIFS for Waimea Stream at USGS 16031000 will be 25 mgd with a minimum flow at all times through the Kekaha Ditch of 6 mgd measured at the Hukipo Flume" ("6 MGD minimum"). The diversion intake modification will help ensure the 6 MGD minimum established by the standard will remain available because KAA will be able to operate the remote-controlled gate during low flow periods, and when the Mauka hydropower plant ("Mauka hydro") is shut down, to supplement flows in the Kekaha system.

3. Fish ladder.

The current status with regard to the protection of aquatic species is that KAA has agreed to install a fish ladder on the Waimea diversion dam.

The fish ladder responds to the request to take additional measures to protect aquatic species, particularly 'o'opu. The Waimea diversion includes a dam structure with four channels. Each channel has removable boards. KAA has experimented with removal of some or all of the boards. Due to the lower elevation of the Waimea diversion, during periods of low flow in the Waimea river removal of the boards reduces flows in the Kekaha system (measured at the Hukipo flume) below the 6 MGD minimum, and renders the system inoperable. In response to prior guidance from the Department of Aquatic Resources ("DAR"), KAA previously beveled the top edges of the boards to facilitate passage of aquatic species. DAR also expressed concern that a fish ladder may facilitate passage of harmful or undesirable species. In recent discussions with Staff and the WWA parties, however, it was decided that a fish ladder should be installed in one of the smaller of the four channels. The top invert of the fish ladder would be set slightly below the height of the top of the boards to ensure that the ladder remains wetted at all times. The design will seek to minimize the likelihood that invasive species will utilize the ladder to gain access to the upper reaches of the Waimea river. Its installation will not interrupt the natural flow of the Waimea River over the dam. Accordingly, KAA is proceeding with efforts to install a fish ladder in this manner.

4. Penstock monitoring.

The current status with regard to the monitoring of water flows in connection with the Waimea diversion is that KAA has agreed to install a measuring device on the Mauka hydro penstock. KAA anticipates completing installation of the measuring device by the end of January 2021, weather permitting and subject to availability from the supplier.

B. System Losses.

The current status with regard to losses of water from the Kekaha system is that KAA continuing to take action to address this issue. To document these efforts, KAA has prepared the “Kekaha Ditch System Improvements Work Plan,” attached as Attachment A, which provides an overview of completed and planned improvements with a focus on efforts to address system losses, including the timeline and other factors concerning the repairs.

II. CONCLUSION

KAA appreciates the opportunity to present this status update concerning the WWA with a focus on the Waimea diversion and efforts to address system losses. KAA looks forward to further collaboration and cooperation with the WWA parties, under the guidance of Commission Staff, to continue to successfully implement this landmark agreement.

ATTACHMENT A

KEKAHA DITCH SYSTEM IMPROVEMENTS WORK PLAN

November 10, 2020

This Work Plan discusses planned and completed improvements to the Kekaha ditch system, with a focus on the repair of leaks and efforts to address system losses.

For purposes of this Work Plan, five sections of the ditch have been identified (i.e., Sections A through E) and the discussion of these improvements is organized accordingly. The corresponding key dates for these actions are also provided.

The Work Plan also includes a “Schedule of Actions and Estimated Costs (*Leaks and Improvements Only), below.

A. Section A: Waiahulu to Mauka Hydro

- | | | |
|--|-------------|---------------|
| 1. Interim operational protocols | May 2020 | |
| Agreed upon by WWA parties’ hydrologists | | |
| • Converted gates at Waiahulu and Koai’e from overflow to underflow | | |
| • Opening at bottom of gate is set to insure IIFs are met or exceeded | | |
| • Interim flow measurements provided by KAA to WWA parties | | |
| 2. Repair Waiahulu Screw Gate | Summer 2021 | |
| Minor leak. Water returned to river 100’ below diversion | | |
| • Replace rotted bottom board | | |
| • Must coordinate with weather and shutting Mauka Hydro down | | |
| 3. Install Safety Improvements on Trail to Waiahulu Screw Gate | | |
| • Installed safety line along cliff trail | | March 2020 |
| • Install galvanized steel catwalk | | Summer 2021 |
| 4. New Waiahulu Gate and sensors | March 2021 | |
| • Custom gate with satellite communications and remote control purchased and on hand | | November 2020 |
| • Install gate in existing channel | | December 2020 |
| • Install additional sensors | | March 2021 |
| 5. New Koai’e Gate and sensors | 2022 | |
| 6. Carrier Repair | | |
| • Replace neoprene bushing on carrier at penstock | | December 2020 |
| 7. Penstock Rockfall Damage | | |
| • Boulders fell from cliff damaging 40” steel penstock | | May 2020 |

- Loss of power production for 1 week
 - Water damage from flooding
 - Occasional leaks from age, cracking, rock fall
 - Patch pipe with electric welding
- Ongoing

B. Section B: Mauka Hydro to Black Pipe Siphon

1. Waimea Intake Gate Summer 2021
 Install remotely controlled gate at Kekaha Ditch intake off Waimea River
 Subject to weather, funding and permits
 - Closed to prevent backflow from hydro tailrace
 - Operates to supplement Kekaha Ditch during hydro shut down and certain low flow conditions

2. Orange Tree Gate June 2020
 Primary location to control amount of water in the Kekaha Ditch
 Was identified as leak in Element Environmental report (2014)
 - At request of the parties, replaced old inoperable wooden screw gate with a remotely controlled stainless steel two blade custom built gate.
 - Operates as underflow or overflow gate. Currently configured as overflow.
 - Installed sensors in ditch downstream to measure water in ditch. Based on readings Orange Tree Gate is adjusted to meet both high and low IIFS measured at Hukipo. Currently developing software to read data from several locations to automatically adjust gate. Beta testing now.

3. Mountain Apple Tree Gate/Old Automatic Gate Sept 2021
 Plantation tried to automate this gate, currently in a dilapidated condition, and ditch wall nearby leaks. Currently used to return storm level flow to river.
 - Design replacement remotely controlled gate and section of ditch wall Spring 2021
 - Gate Delivery July 2021
 - Construct wall improvements and install gate September 2021

4. Pali Flume section of Ditch - two sections of concern
 Leaks in possibly the same location noted in Element Environmental report
 - Identify location and cause of specific leak(s)
 - Determine best fix
 - Clean section of ditch and repair leaks Summer 2021

5. Wooden Flume Gate
 Noted as leak in Element Environmental report, but actually an operable wooden gate.
 Used occasionally to return storm flows to river.
 - Replace wooden gate with new gate September 2021

6. Leaks in ditch at Long Hill, and highly eroded section of ditch just before siphon
Install 36" HDPE pipe in ditch for 3,200'. Material purchased and on hand.in Kekaha.
 - Design Headwalls December 2020
 - Install pipe, subject to funding Summer 2021
7. Minor leak repair Ongoing
8. Sediment Buildup and Grass
 - Remove sediment and grass in ditch using excavator November 2020
 - Where conditions exist and time permits May-June 2021

C. Section C: Siphon to Hukipo Gauge

This section of the ditch is in good condition and little maintenance is needed

1. Cassel Gate – old wooden gate – Operable.
Used to discharge storm blows back into the river
 - Replace boards with new boards Summer 2021
2. Menehune Ditch Takeoff
 - Meter installed October 2019
 - Operated by others
 - Ditch along Menehune Road – portions silted in, water leaks across road
3. Waimea Reservoirs Takeoff
Fills Kīkīaola's two reservoirs. Minor usage currently.
 - Replace old wooding gate with new wooden gate 2021
4. Field 621 Basin and Takeoff
Provides Irrigation Water to Kīkīaola (now County) agriculture fields (#800 fields),
and Kīkīaola pastures and grounds
 - Old plantation meter located but functions erratically Summer 2019
 - Replace meter with one at filter station below basin March 2021
5. Hukipo Gauge
 - Sensor and recording device installed (not real time) Summer 2017
 - Installed real time metering March 2020
 - Testing and calibrating Delayed due to COVID-19

D. Section D: Hukipo to Waiawa Hydro Plant

1. Leak past Hukipo Ridge repaired early 2018
Noted in Element Environmental report

2. Waiaka Ridge Supply to 635 basin
Based on the WWA, irrigation water from the Kōke'e Ditch was removed from the Kekaha Mauka Fields. Kitano Reservoir decommissioned in 2019. To provide some water to 1,000 acres of tillable land KAA intends to install an irrigation force main from the Kekaha Ditch to an existing irrigation supply basin and mainlines at Field 635, elevation 1400 ft.
Material has been purchased and in on hand in Kekaha
 - Complete System Design July 2021
 - Contract Procurement December 2021
 - Install 2022

3. Waiaka Valley Leak at Tunnel – Line Ditch June 2021
 - Opened up overgrown access road Sept 2020
 - Line ditch with fabric

4. Leaks along Kōke'e Road and in Pump 1 Valley
 - Leak above Kōke'e Road repaired 2018
 - Leak at siphon repaired October 2019
 - No current leaks

5. Ditch Siltation
With low ditch flows, there is not enough water to push sediment along, and excavation required.
 - Excavated and cleaned ditch from Waimea Canyon Dr to Waiawa Summer 2019

6. Waiawa Hydro Replacement Sept 2021
Based on the WWA, a new 280 kW Francis turbine generator is on order for the Waiawa hydro
 - Design of turbine-generator June – November 2020
 - Manufacture turbine-generator December -June 2021
 - Design and Permitting of new hydro building December – June 2021
 - Construct building and install generator Fall 2021

E. Section E: Waiawa to Polihale

This section of the ditch will be replaced by pressurized pipes over the next five years in two phases. See below.

1. Current Ditch and Reservoir Operation
 - Reservoirs – Waiawa, 116, 117, 127, 130
are kept full by the “overflow” method. That is, to keep the reservoir full, ditch men regulate the amount of water allowed from the ditch into the reservoir, until the reservoir is full, then cut back on the flow. But to maintain the full level, a small amount of water is allowed to overflow the reservoir spillway. Amounts vary by reservoir. KAA is studying ways to use the overflow water for useful purposes.

- Field 107 lo'i kalo incubator. Winter 2021
Corteva is providing approximately 20 acres to a taro farmer who will use the overflow water from Waiawa Reservoir for lo'i taro.
 - Pu'u Ō'pae Pump Storage c2023
If this is successful, KAA plans to use the same technique to reuse overflow/excess water from the KIUC Pu'u Ō'pae project
 - Reservoir 123
"run of the ditch" method. When the reservoir is full it is the same level as the ditch and the overflow water continues flowing in the ditch, with no need of excess water.
 - Electric pumps are used to pressurize the water to about 40 psi for distribution to the fields
 - Leaks
 - Acquire ditch liner February 2021
 - Install liner at leak locations Ongoing March to December 2021
- 2. Pressurized System – Phase 1: Reservoir 117 to Reservoir 130 Sept 2021
 - Material purchased and on hand. Seeking funding for installation.
 - Plans and specifications completed March 2020
 - Preliminary Installation Cost estimate December 2020
 - Installation March to September 2021
- 3. Pressurized System – Phase 2: Waiawa to 117 2023
 - Final Design Work Late 2021
 - Installation, subject to KIUC project, funding 2022

**SCHEDULE OF ACTION ITEMS
AND ESTIMATED COSTS (*COST FOR REPAIRS AND IMPROVEMENTS ONLY)**

2015		*Est. cost: \$1,500,000
November	Black Pipe Siphon Slip line completed	
2017		*Est. cost: \$300,000
April	WWA – Agreement Signed	
April	ADC – Funds released for Kekaha Ditch repairs and material	
June	Permits – ADC procures professional services of Akinaka & Associates for ditch modifications design	
June	Permits – ADC prepared Conceptual Monitoring Plan	
November	Hukipo - F3 Monitoring Installed and Reporting started	
2018		*Est. cost: \$5,150,000
Jan – March	Kekaha Ditch -Hukipo Leak Repaired	
Jan – March	Kekaha Ditch - Above Kōke’e Road Leaks repaired	
March	Kekaha Ditch - Ditch at 123-127 lined to stop leaks	
February	Permits – ADC final Conceptual Plan submitted	
May	WWA – Installed meters on surface irrigation pumps	
July	Permits – Topographical Survey of Proposed Work Sites	
September	Kekaha Ditch – Repair Leak on 10” line to Kīkīaola	
September	Kekaha Ditch – Road to Waiahulu washed out. Not able to repair until May 2020	
October	Permits – Preliminary Engineered Construction Plans Completed	
November	Pressurized System - Material Acquired	
2019		*Est. cost: \$100,000
March	Permits - OCCL & CWRM Applications	
June	Mauka Irrigation - Wildfire destroys Field 635 Basin irrigation system pipes	
July	Permits - OCCL & CWRM Responses	
July	WWA – Parties’ Hydrologists Inspection Waiahulu & Koai’e	
August	WWA – CWRM Staff & Parties site visit to Waiahulu, Camp 1, Hukipo, Mānā	
August	Kekaha Ditch - Major leak at Pump 1 Valley Repaired	
November	Kekaha Ditch - Removed Sediment from– Waiawa to Waimea Canyon Drive	
December	Kōke’e Ditch – Install two weir gauges	
December	Mauka Irrigation – 635 Basin irrigation system restored	
December	Permits - SHPD 6E/Section 106 Permit Application	
December	Kekaha Ditch - Major Flooding – Ditches damaged and filled with sediment	
2020		*Est. cost: \$1,810,000
January – March	Kekaha Ditch - Clean & Repair damages from December Storm	
January – March	Pressurized System Phase 1 - Complete engineering	
February	Permits – ADC Exemption Declaration Published	

March	Hukipo - Install monitoring device
March	Kekaha Ditch - Major Flooding – Kekaha to Polihale
April – May	Kekaha Ditch - Clean & Repair damages from March Storm
May	WWA – Parties’ Hydrologists meet to consider Waiahulu/Koai’e operating plans
May	Waiahulu & Koai’e – Adjust intakes to under flow and start interim reports
May	Mauka Hydro – Repair major damage to penstock
June	Permits - Section 106/6E Public Notice published
June	Mauka Hydro - Install Orange Tree Gate
June	Waiawa - Acquire new Francis Turbine Generator
August	Mauka Irrigation - Acquire material for Mauka Irrigation Supply
October	Mauka Irrigation - Field 633 licensed 60 acres– first new mauka farm
	Mauka Hydro – install software to automatically control flow in Kekaha Ditch

2020 Projected

December	Waiahulu - Install Remote Control Gate
December	Mauka Hydro – Replace Carrier Bushing

2021 Projected

***Est. cost: \$2,330,000**

March	Waiahulu - Complete installation of additional sensors
April	Taro Lo’i Incubator initiated
May	Kekaha Ditch – Install fabric lining Waiaka Valley leak
Summer	Waiahulu - Repair Screw Gate and safety improvements
Summer	Mauka Hydro – Install Waimea River intake gate
Summer	Kekaha Ditch – Patch several leaks at Pali Flume area
Summer	Kekaha Ditch – Install HDPE at Black Pipe Siphon
July – December	Pressurized System – Install Phase 1 Mana to Polihale
September	Mauka Hydro – Replace Mountain Apple Tree Gate
Fall	Waiawa – Install new Francis Turbine

2022 Projected

***Est. cost: \$500,000**

Summer	Mauka Irrigation – Install pump and force main to 635 Basin
--------	---

2023 Projected

***Est. cost: \$2,500,000**

	Pressurized System – Install Phase 2
--	--------------------------------------

WAIMEA WATERSHED AGREEMENT IMPLEMENTATION STATUS REPORT

Prepared by the

Kekaha Agriculture Association

and

Agribusiness Development Corporation

for the

**Commission on Water Resource
Management**

November 17, 2020

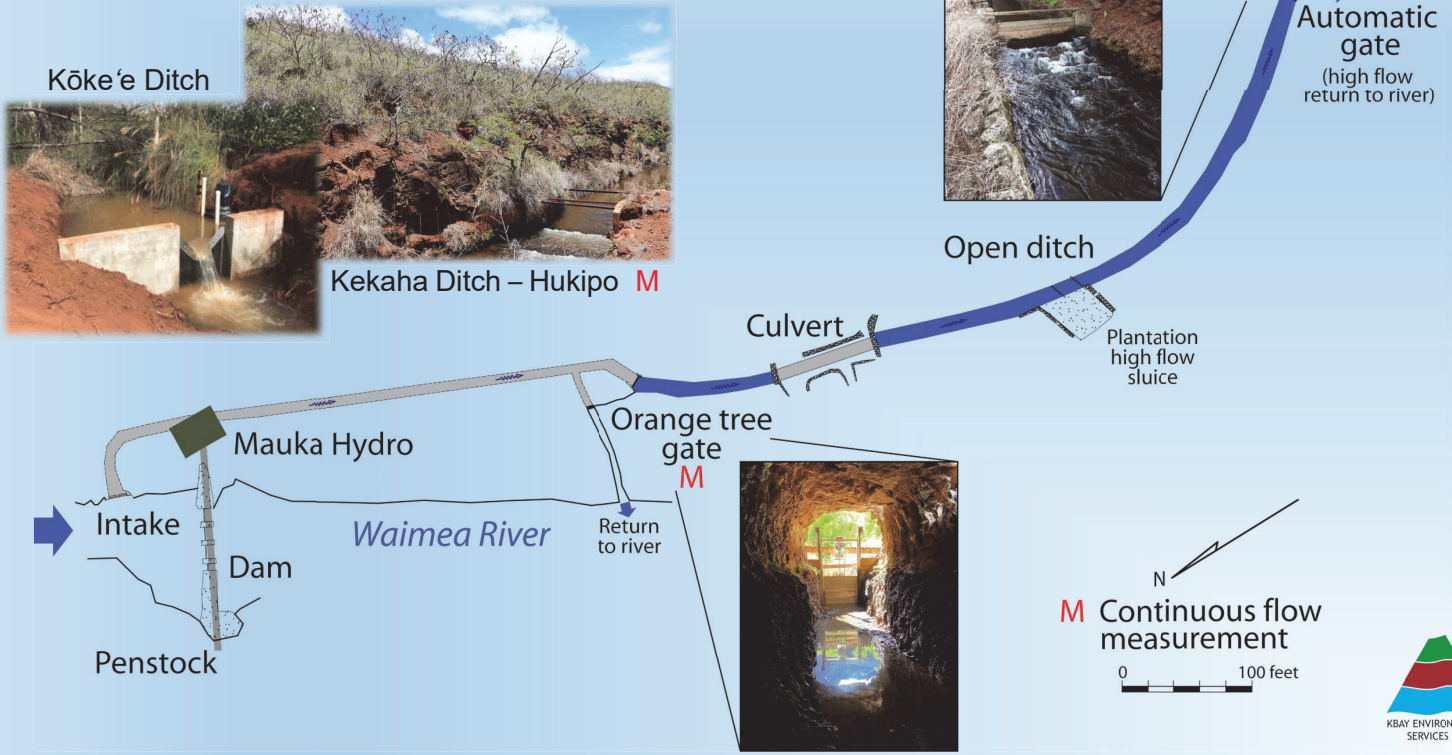
Actions by KAA to address Waimea diversion

- Install new automated gate
 - Improved control and closure of intake
 - Supports meeting applicable ditch flow during low flows

- Install new fish ladder
 - Protect aquatic species
 - Maintain dam structure

- Install new monitoring device
 - Located on Mauka hydro penstock
 - Improve ability to monitor and manage ditch flows

Measuring Ditch Flows



Actions by KAA to address system loss

- Identify key repairs and improvements
 - Use data, resources, and knowledge of system
 - Analyze and prioritize high impact actions

- Planning and permitting
 - Work proactively with agencies and stakeholders
 - Prioritize long lead time approvals to support forward movement

- Procure and fund improvements
 - Significant financial outlay required
 - Major repairs and improvements necessary to maintain system

Ditch System Operations

2017 \$0.30 M

- Apr: WWA implemented
- Nov: Hukipo monitoring
- Dec: F3 reporting

2018 \$5.15 M

- Spring: Section 'C' repairs
- Jun: Irrigation metering
- Nov: Purchased pressurized pipe

2019 \$0.10 M

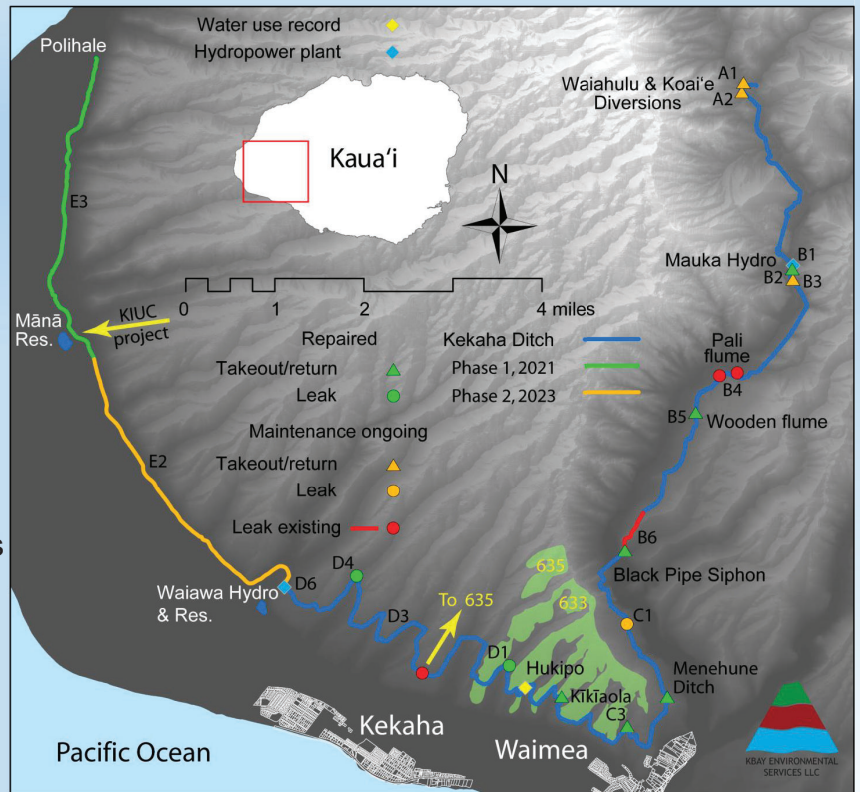
- Oct: Pump 1 valley leak repaired
- Dec: Kōke'e weirs installed

2020 \$1.81 M

- May: Modified Waiahulu & Koai'e sluices
- Jun: Installed Orange Tree gate; Waiawa Hydro turbine upgrade
- Aug: Field 633 farm licensed
- Dec: Install Waiahulu gate

2021 \$2.33 M

- *Pressurized system Phase 1*

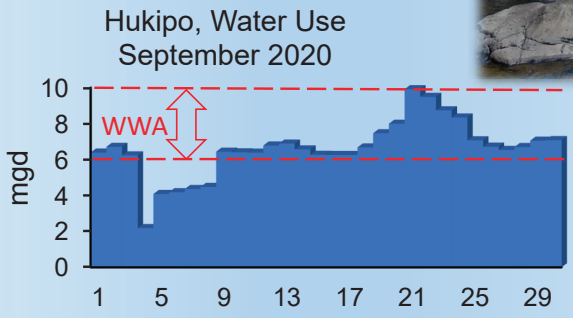
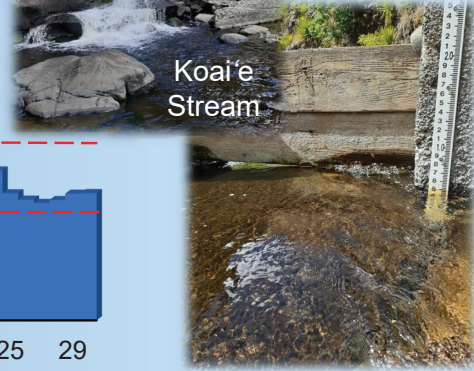
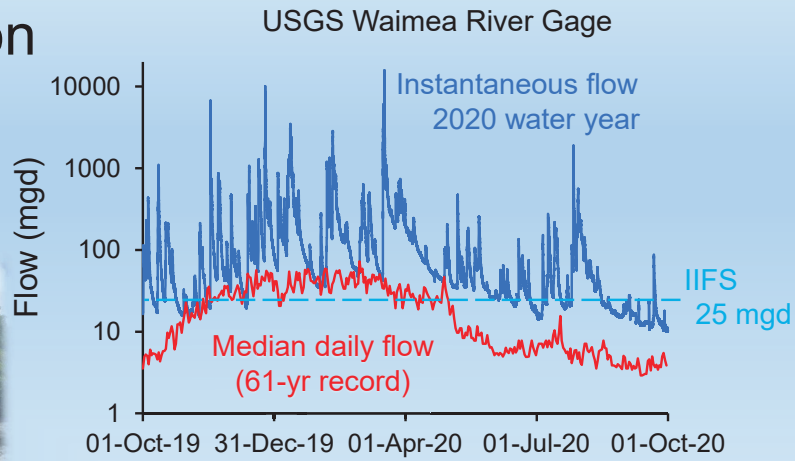
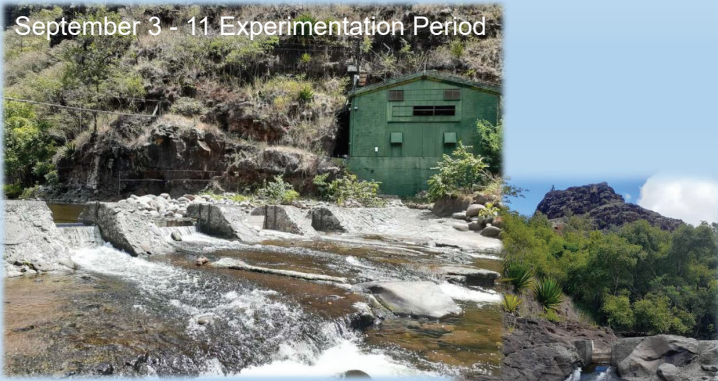


KAA remains fully committed to successful implementation of the WWA

- IIFS compliance remains paramount
- Ongoing cooperation and collaboration with CWRM and WWA parties
- Transition to 21st century water system is underway

Working with the Commission

September 3 - 11 Experimentation Period



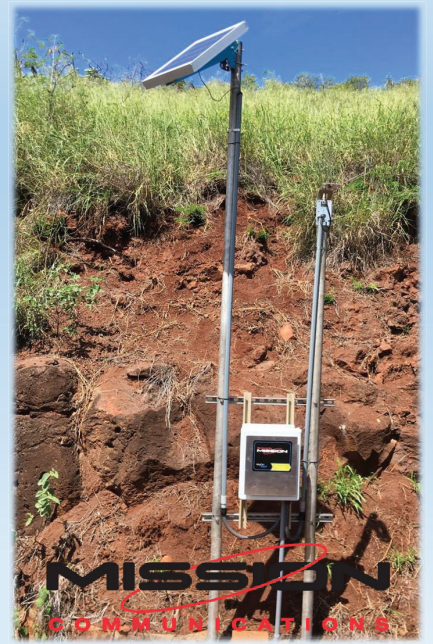
Twenty-first Century Technology



Repower Waiawa hydro



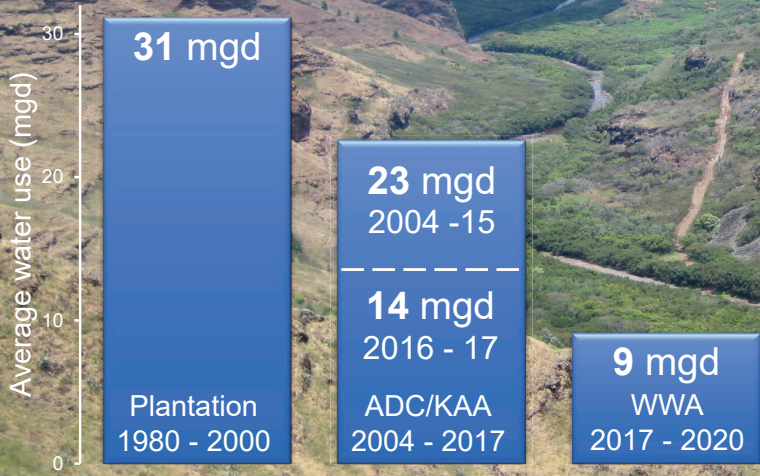
Remote control slide gates



Cellular-to-web data acquisition



Kekaha Ditch, Water use 1980 - 2020



Mahalo

