

COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII

'Iao Ground Water Management Area)	Case No. CCH-MA06-01
High-Level Source Water Use)	
Permit Applications and)	ORDER
Petition to Amend Interim Instream)	
Flow Standards of Waihe'e, Waiehu)	
'Iao, & Waikapu Streams)	
<u>Contested Case Hearing</u>)	

COMMISSION ON WATER RESOURCE MANAGEMENT
ORDER ADOPTING:

- 1) HEARINGS OFFICER'S RECOMMENDATION ON THE MEDIATED AGREEMENT BETWEEN THE PARTIES;
AND
- 2) STIPULATION RE MEDIATOR'S REPORT OF JOINT PROPOSED FINDINGS OF FACT, CONCLUSIONS OF LAW, DECISION AND ORDER

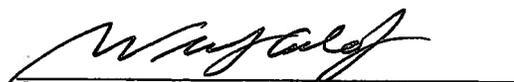
The Commission on Water Resource Management has reviewed the 1) HEARINGS OFFICER'S RECOMMENDATION ON THE MEDIATED AGREEMENT BETWEEN THE PARTIES; and 2) the STIPULATION RE MEDIATOR'S REPORT OF JOINT PROPOSED FINDINGS OF FACT, CONCLUSIONS OF LAW, DECISION AND ORDER.

Based upon the Hearing Officer's recommendation, the Stipulation of the Parties, the Decision of the Hawaii Supreme Court on remand in this matter, the record and evidence in the Na Wai Eha proceedings, and after deliberation, the Commission on Water Resources Management hereby APPROVES AND ORDERS THE RECOMMENDATION AND STIPULATION ATTACHED HERE.

Dated: April 17, 2014

COMMISSION ON WATER RESOURCE MANAGEMENT ORDER ADOPTING: 1)
HEARINGS OFFICER'S RECOMMENDATION ON THE MEDIATED AGREEMENT
BETWEEN THE PARTIES; AND STIPULATION RE MEDIATOR'S REPORT OF JOINT
PROPOSED FINDINGS OF FACT, CONCLUSIONS OF LAW, DECISION AND ORDER

Dated: April 17, 2014



WILLIAM J. AILA, JR.



WILLIAM D. BALFOUR, JR.



KAMANAMAIKALANI BEAMER



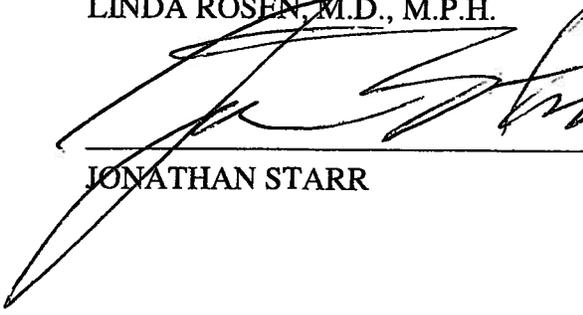
MILTON D. PAVAO



LINDA ROSEN, M.D., M.P.H.



JONATHAN STARR


TED YAMAMURA

COMMISSION ON WATER RESOURCE MANAGEMENT

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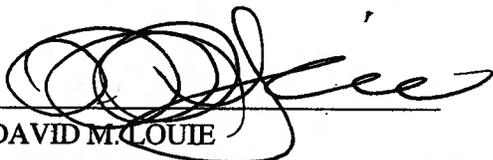
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COMMISSION ON WATER RESOURCE MANAGEMENT
ORDER ADOPTING:

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FINDINGS OF FACT, CONCLUSIONS OF LAW, DECISION AND ORDER

APPROVED:



DAVID M. LOUIE

Attorney General, State of Hawaii

COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII

ʻĀao Ground Water Management Area) Case No. CCH-MA06-01
High-Level Source Water Use)
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Flow Standards of Waihe`e, Waiehu,)
ʻĀao, & Waikapū Streams)
Contested Case Hearing)

Hearings Officer's Recommendation on the Mediated Agreement Between the Parties

Recommendation:

Your hearings officer recommends that the Commission on Water Resource Management ("Commission") approve the mediated agreement (the "proposed D&O") between Hui O Na Wai Eha/Maui Tomorrow Foundation, Inc., the Office of Hawaiian Affairs, Hawaiian Commercial and Sugar Company, Wailuku Water Company LLC, and County of Maui, Department of Water Supply ("the Parties") and adopt the proposed D&O as its own Findings of Fact, Conclusions of Law, and Decision and Order for CCH-MA06-01, on remand from the Hawai'i Supreme Court.

Summary:

On June 10, 2010, the Commission issued its Findings of Fact, Conclusions of Law, and Decision and Order. The Commission restored 10 mgd for the IIFS for Waihe`e River, 1.6 mgd for the IIFS for North Waiehu Stream, 0.9 mgd for the IIFS for South Waiehu Stream, and no additions for ʻĀao and Waikapū Streams. The Commission also held that the amount of water that HC&S would be required to pump from its Well No. 7 was 9.5 mgd.

Your hearings officer, Lawrence Muike, was also the hearings officer for the original contested case hearing and had recommended that 14 mgd be added to Waihe`e River, 2.2 mgd to North Waiehu Stream, 1.3 mgd to South Waiehu Stream, 13 mgd to ʻĀao Stream, and 4 mgd to Waikapū Stream. He also had recommended that HC&S be required to pump 14 mgd from its Well No. 7.

At the time of the first decision, your hearings officer was also a member of the Commission, therefore had a vote, and filed a dissent. He agreed with the reduction to Waihe`e River from his proposed 14 mgd to the majority's 10 mgd; to North and South Waiehu's

reduction from 2.2 mgd and 1.3 mgd, to 1.6 mgd and 0.9 mgd, respectively; and no restoration to Waikapū Stream. However, he disagreed with the majority's decision to restore no water to 'Īao Stream and the reduction of HC&S's Well No. 7 as an alternative source from his proposed 14 mgd to the majority's 9.5 mgd, and would have instead increased it as an alternative source to 18.54 mgd. He also concluded that the Commission could not presume that water restrictions on 5,000 acres of HC&S's 35,000-acre sugar operations would render its entire operations impractical.

The proposed D&O would retain the amounts restored to Waihe'e River and North and South Waiehu Streams in the Commission's 2010 D&O, and also restore 10 mgd to 'Īao Stream and 2.9 mgd to Waikapū Stream.¹

Rationale:

The issues remanded to the Commission in the Hawai'i Supreme Court's decision on August 15, 2012, are summarized on both page 1 of the stipulation and pages 1-2 of the proposed D&O.

1. Current and proposed stream flow restorations.

Restoring 10 mgd to Waihe'e River has resulted in an increase of natural habit units from less than 1% to 11.1%; and restoring 2.5 mgd to North and South Waiehu Stream resulted in an increase of natural habit units from 6.1% to 55.5%.

'Īao Stream has 49% of the total natural habitat units of the four streams. While Waikapū Stream has less than 1% of the total natural habitat units, it is the major contributor of inflow into Kealia Pond National Wildlife Refuge.

Individual and community groups testified that they rely or seek to rely on each of the Nā Wai 'Ehā streams for their exercise of traditional and customary Native Hawaiian practices.

Restoration of the streams in and of itself would support other beneficial instream uses and values.

2. Hawaiian Commercial and Sugar Company.

¹ The IIFS for North Waiehu Stream has been changed from 1.6 mgd to 1.0 mgd, but this is a reflection of a change of the monitoring site and not a reduction in the IIFS. The 10 mgd for 'Īao Stream is also subject to reduction under certain low-flow circumstances, but only to accommodate the public water needs of the Maui Department of Water Supply and some kuleana users, both of which are court-identified public trust purposes along with restoration of the streams. While private commercial uses must overcome a presumption in favor of public trust purposes, there are no priorities among public trust purposes themselves.

The 300 acres of Fields 921 and 922 are not similar to Field 920, which was excluded from the calculation of HC&S's total acreage, and should therefore be included in the calculation of total acreage.

Well No. 7 as a source of irrigation water for HC&S should be increased from the 9.5 mgd of the 2010 D&O to 18.5 mgd.

A potential 2.95 mgd of wastewater reuse is not an immediately available option.

Reasonable system losses estimated at 2.0 mgd in the 2010 D&O should be increased to 2.15-4.20 mgd.

On the impact on HC&S of further increases in the IIFS, future viability of its operations is uncertain. The factor most essential to its economic viability after sugar prices is sugar production, and the most significant driver of sugar production is the availability of water for irrigation.

3. Wailuku Water Company LLC.

Reasonable system losses estimated at 2 mgd in the 2010 D&O should be increased to 2.73 mgd.

WWC's business model is sensitive to the volume of water from `Īao and Waikapū Streams, particularly the former, and it is unable to increase revenue by adding new users or changing the rates it charges existing customers while its application for a certificate of public convenience and necessity is pending before the Public Utilities Commission.

4. Maui Department of Water Supply.

The estimate of 3.2 mgd of reasonable uses from `Īao Stream in the 2010 D&O is affirmed and is preserved even in low flow conditions (see footnote 1, *supra*).

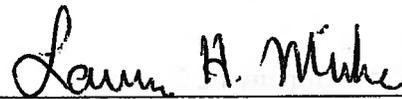
Conclusion:

The proposed Findings of Fact and Conclusions of Law have reasonably addressed the issues remanded by the Hawai`i Supreme Court to the Commission, and the proposed Decision and Order is a logical result of these findings and conclusions.

Finally, the parties have stipulated that any factual finding pertaining to water use requirements, alternative water sources, or system losses is made without prejudice to the rights

of the Parties and the Commission to revisit those issues in connection with any proceeding involving a Water Use Permit Application ("WUPA") for water diverted from any of the Nā Wai 'Ehā streams, inasmuch as the burden of proof with respect to such issues in a WUPA proceeding will be upon the applicant rather than upon the Commission.

DATED: Honolulu, Hawai'i April 6, 2014



LAWRENCE H. MIIKE, Hearings Officer
Commission on Water Resource Management

COMMISSION ON WATER RESOURCE MANAGEMENT
OF THE STATE OF HAWAII

In the Matter of:

‘IAO GROUND WATER MANAGEMENT
AREA HIGH-LEVEL SOURCE WATER
USE PERMIT APPLICATIONS AND
PETITION TO AMEND INTERIM
INSTREAM FLOW STANDARDS OF
WAIHE‘E, WAIEHU, ‘IAO , & WAIKAPŪ
STREAMS CONTESTED CASE HEARING

Case No. CCH-MA-06-01

STIPULATION RE MEDIATOR’S
REPORT OF JOINT PROPOSED
FINDINGS OF FACT, CONCLUSIONS OF
LAW, DECISION AND ORDER; EXHIBIT
“1”

Hearing Officer: Dr. Lawrence Miike

**STIPULATION RE MEDIATOR’S REPORT OF
JOINT PROPOSED FINDINGS OF FACT,
CONCLUSIONS OF LAW, DECISION AND ORDER**

The undersigned parties, through their respective counsel, stipulate to the following:

1. On August 15, 2012, following an appeal by Petitioners Hui O Nā Wai ‘Ehā and Maui Tomorrow Foundation, Inc. (“**Hui/MTF**”) and the Office of Hawaiian Affairs (“**OHA**”), the Hawai‘i Supreme Court (the “**Court**”) issued a decision vacating the Commission on Water Resource Management’s (the “**Commission**”) Findings of Fact, Conclusions of Law, and Decision and Order issued herein on June 10, 2010 (the “**2010 D&O**”) and remanding the matter to the Commission for further proceedings consistent with the decision (the “**Remand Order**”). The Court, among other things, held that the 2010 D&O did not adequately justify the Commission’s decision not to restore streamflow to ‘Iao and Waikapū Streams. *See, In re ‘Iao Ground Water Management Area High-Level Source Water Use Permit Applications (“Nā Wai ‘Ehā ”)*, 128 Hawai‘i 228 at 249-54, 287 P.3d 129 at 150-55 (2012). The Court also instructed the Commission to consider the following matters on remand:

- i. The effect that IIFS will have on Native Hawaiian traditional and customary practices, and the feasibility of protecting the practices. *See id.* at 249, 287 P.3d at 150.

- ii. Instream uses of the Nā Wai `Ehā streams other than support of amphidromous species. *See id.* at 251, 287 P.3d at 252.
- iii. Whether HC&S's acreage for purposes of its irrigation requirements for fields irrigated with Nā Wai `Ehā water should include Fields 921 and 922. *See id.* at 256, 287 P.3d at 157.
- iv. Reasonable estimation of the system losses of WWC and HC&S. *See id.* at 258, 287 P.3d at 159.
- v. Whether and to what extent Well No. 7 is a reasonable alternative water source for HC&S. *See id.* at 262, 287 P.3d at 163.
- vi. Whether and to what extent recycled wastewater from the Waiuku/Kahului wastewater treatment plant is a reasonable alternative water source for HC&S. *See id.* at 262, 287 P.3d at 163.

2. The remand contested case hearings were scheduled to begin on March 10, 2014. Shortly before the remand contested case hearings, the Commission chairperson William J. Aila, Jr. requested that the parties consider engaging in mediation to explore whether the remand issues could be resolved so that the Commission could enter a final Decision and Order in this matter without further appeals by the parties. The parties agreed to engage in mediation and Robbie Alm (the "Mediator") was agreed to by the parties and accordingly retained by the Commission to serve as mediator.

3. The parties thereafter participated diligently and in good faith in confidential mediation sessions facilitated by the Mediator from March 10, 2014 through March 14, 2014. These mediation sessions produced an agreement among the parties through the report of the Mediator of the results of the mediation to propose Interim Instream Flow Standards ("IIFS") for each of the Waihe'e, North & South Waiehu, `Īao, and Waikapū Streams (collectively, the "Nā Wai `Ehā Streams") to the Commission for its review and approval.

4. To facilitate the Mediator's Report and the Commission's review, approval and implementation of the parties' proposed IIFS for the Nā Wai `Ehā Streams and consistent with the Commission's public trust duties, as clarified and defined in the Remand Order, the parties jointly prepared proposed Findings of Fact, Conclusions of Law, and Decision and Order in the form attached hereto as Exhibit "1".

5. If the Commission adopts the jointly proposed Findings of Fact, Conclusions of Law and Decision and Order without modification, each of the parties, by its signature hereupon, waives any objection to the admission of written testimonies submitted for the remand contested case proceeding and waives any objection to the admission of exhibits submitted for the remand contested case proceeding.

6. Each of the parties, by its signature hereupon, confirms that it is authorized to and has approved the jointly proposed Findings of Fact, Conclusions of Law, and Decision and Order in the form attached hereto as Exhibit "1", that it will support without modification the jointly proposed Findings of Fact, Conclusions of Law and Decision and Order before the Commission, that it will ask the Commission to adopt the jointly proposed Findings, Conclusions of Law, and Decision and Order without modification, and that it will waive any right to appeal if the Commission adopts the jointly proposed Findings of Fact, Conclusions of Law, Decision and Order without modification.

7. Each of the parties, by its signature hereupon, confirms that in the event the Commission fails to adopt the jointly proposed Findings of Fact, Conclusions of Law, and Decision and Order without modification, then the jointly proposed Findings of Fact, Conclusions of Law, and Decision and Order shall not be deemed to be a binding agreement by any of the parties thereto, shall remain confidential, and neither this Stipulation nor the proposed Findings of Fact, Conclusions of Law, and Decision and Order shall be offered as evidence or used in this or any subsequent administrative or judicial proceeding.

8. Each of the parties, by its signature hereupon, confirms that it will stipulate to the modification of procedures that apply to mediation before the Commission that are necessary to carry out the terms of this Stipulation.

9. Each of the parties, by its signature hereupon, confirms that it will execute such other documents as may be necessary to carry out the terms of this Stipulation.

10. This Stipulation may be signed electronically and in counterparts, each of which shall be deemed to be an original and all of which shall be combined into a single document

DATED: Honolulu, Hawaii, April 4, 2014.



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DATED: Kahului, Hawaii, April ____, 2014.

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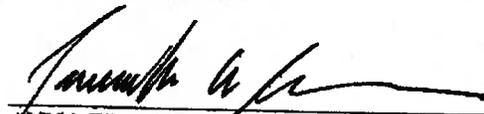
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DATED: Kahului, Hawaii, April ____, 2014.

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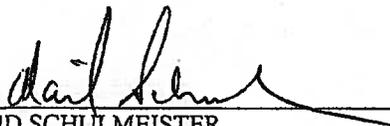
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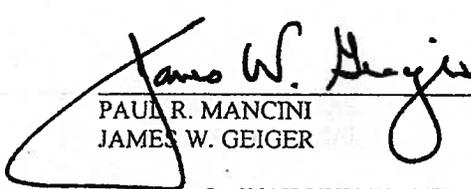
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DATED: Kahului, Hawaii, April 4, 2014.

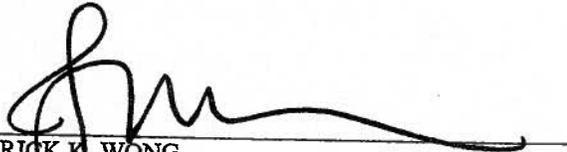


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DATED: Wailuku, Hawaii, April 4, 2014.



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STIPULATION RE MEDIATOR'S REPORT OF JOINT PROPOSED FINDINGS OF FACT, CONCLUSIONS OF
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FINDINGS OF FACT, CONCLUSIONS OF
LAW, DECISION AND ORDER;
EXHIBITS "A" - "B"

**FINDINGS OF FACT,
CONCLUSIONS OF LAW, DECISION AND ORDER**

I. BACKGROUND

1. These Findings of Fact, Conclusions of Law, Decision and Order are the final adjudication by the Commission on Water Resource Management (the "**Commission**") of the June 25, 2004 "Petition to Amend the Interim Instream Flow Standards for Waihe'e, North & South Waiehu, ʻĪao, and Waikapū Streams and Their Tributaries" (the "**Petition**") filed by Petitioners Hui O Nā Wai ʻEhā and Maui Tomorrow Foundation, Inc. ("**Hui/MTF**").
2. Hui/MTF, the Office of Hawaiian Affairs ("**OHA**"), Hawaiian Commercial and Sugar Company ("**HC&S**"), Wailuku Water Company, LLC ("**WWC**"), and the County of Maui Department of Water Supply ("**MDWS**") participated in this matter. Hui/MTF, OHA, HC&S, WWC and MDWS collectively are called the "**Parties**."
3. The Commission, following a consolidated contested case hearing (the "**Proceeding**") for the Petition and for certain water use permit applications ("**WUPAs**") for

water from diked, high-level well and tunnel sources in the 'Āo Aquifer System Ground Water Management Area, adopted Findings of Fact, Conclusions of Law, and Decision and Order on June 10, 2010 (the "2010 D&O").

4. On August 15, 2012, following an appeal by Hui/MTF and OHA, the Hawai'i Supreme Court (the "Court") issued a decision vacating the 2010 D&O and remanded the matter to the Commission for further proceedings consistent with the decision (the "Remand Order"). The Court, among other things, held that the 2010 D&O did not adequately justify the Commission's decision not to restore streamflow to the 'Āo and Waikapū Streams. *See In re 'Āo Ground Water Management Area High-Level Source Water Use Permit Applications*, 128 Hawai'i 228, 249-54, 287 P.3d 129, 150-55 (2012) ("*Nā Wai 'Ehā*"). The Court also instructed the Commission to consider the following matters on remand:

- a. The effect that IIFS will have on Native Hawaiian traditional and customary practices, and the feasibility of protecting the practices. *See id.* at 249, 287 P.3d at 150.
- b. Instream uses of the Nā Wai 'Ehā streams in addition to support of amphidromous species. *See id.* at 251, 287 P.3d at 252.
- c. Whether HC&S's acreage for purposes of its irrigation requirements for fields irrigated with Nā Wai 'Ehā water should include Fields 921 and 922. *See id.* at 256, 287 P.3d at 157.
- d. Reasonable estimation of the system losses of WWC and HC&S. *See id.* at 258, 287 P.3d at 159.
- e. Whether and to what extent Well No. 7 is a reasonable alternative water source for HC&S. *See id.* at 262, 287 P.3d at 163.
- f. Whether and to what extent recycled wastewater from the Wailuku/Kahului wastewater treatment plant is a reasonable alternative water source for HC&S. *See id.* at 262, 287 P.3d at 163.

5. Following the Remand Order, the Commission appointed Dr. Lawrence Miike (the “**Hearings Officer**”), who served as the Hearings Officer for the Proceeding, to serve as the Hearings Officer for the remand (the “**Remand Proceeding**”).

6. The Commission also contracted with Bishop Museum to prepare an assessment report pertaining to the quantification of the impacts of water diversions in the Nā Wai `Ehā Streams on native stream animal habitat. James E. Parham, Ph.D., a research hydrologist and aquatic biologist with the Hawai`i Biological Survey at Bishop Museum, prepared an assessment report dated December 31, 2013, entitled, “Technical Report: Quantification of the impacts of water diversions in the Nā Wai `Ehā streams, Maui on native stream animal habitat using the Hawaiian Habitat Evaluation Procedure” (the “**Parham Study**”).

7. The Hearings Officer in Minute Order 27 set a schedule for the filing of briefs, written testimony and exhibits in the Remand Proceeding.

8. The Parties filed opening, responsive, and rebuttal submissions consisting of briefs, written testimony, and exhibits. Some of the Parties also submitted supplemental opening and responsive submissions to address a January 22, 2014 report prepared by Austin Tsutsumi & Associates (“**ATA**”), submitted by HC&S, studying the feasibility of using recycled wastewater produced at the Wailuki-Kahului Wastewater Reclamation Facility as an alternative source of irrigation water for HC&S.

9. On February 19, 2014, the Hearings Officer made the Parham Study a part of the record, supported by the written testimony of its author. See Declaration of James E. Parham dated February 14, 2014 (“**Parham Decl.**”) at ¶¶ 1, 5 and Exh. F-2 thereto.

10. The Hearings Officer, by Minute Order No. 27, set the Remand Proceeding hearings to begin on March 10, 2014.

11. Robert Alm was appointed by the Commission to act as a mediator in the Remand Proceeding.

12. On April 4, 2014, Robert Alm submitted a Report (the “**Mediator’s Report**”) of the results of the Mediation which included a Stipulation Re Mediator’s Report of Joint Proposed Findings of Fact, Conclusions of Law, Decision and Order (the “**Stipulation**”), to which was attached proposed Findings of Fact, Conclusions of Law, Decision and Order jointly prepared by and approved by the Parties.

13. The Commission has reviewed and approved the Mediator’s Report, the Stipulation, and the proposed Findings of Fact, Conclusions of Law, and Decision and Order jointly submitted by the Parties, as more particularly hereinafter set forth.

II. **FINDINGS OF FACT**

A. **Flow characteristics of the Nā Wai `Ehā Streams**

14. The Commission previously made findings regarding the flow characteristics of the Nā Wai `Ehā Streams in the 2010 D&O. See 2010 D&O, Findings of Fact (“**FOF**”) 80-137. The findings of the characteristics of the Nā Wai `Ehā Streams, which are incorporated herein by reference, were based on evidence in the record of the Proceeding as of October 15, 2009, the date the Commission entertained oral argument from the Parties in the Proceeding.

15. The 2010 D&O findings are supplemented and, where appropriate, superseded in the following respects based on evidence in the record of the Remand Proceeding as of March 10, 2014, the date on which the Remand Proceeding hearing was to begin.

16. In 2010, the U.S. Geological Survey (“**USGS**”) published Scientific Investigations Report 2010-5011 entitled *Effects of Surface-Water Diversion on Streamflow, Recharge, Physical Habitat, and Temperature, Nā Wai `Ehā, Maui, Hawai`i* (the “**2010 USGS**

Study”). The 2010 USGS Study, whose principal author was Delwyn S. Oki who testified in the Proceeding, presented the results of its study to characterize the effects of existing surface-water diversions on streamflow, groundwater recharge, physical habitat for native stream fauna, and water temperature in the Nā Wai `Ehā Streams. The 2010 USGS Study is a part of the record of this Proceeding as Exh. A-R1.

17. Among other information, the 2010 USGS Study reports streamflow data for the Nā Wai `Ehā Streams collected from USGS stream-gaging stations for the climate years 1984 to 2007, supplementing the data in the record at the time the Commission issued the 2010 D&O.

18. Data collected from USGS stream gaging station 16604500 on `Īao Stream at an elevation of 860 feet indicate that during climate years 1984-2007, the median discharge of `Īao Stream was 25 mgd and the Q_{95} discharge was 11 mgd. See 2010 USGS Study at p. 35.

19. Under undiverted low-flow conditions, the estimated seepage loss from `Īao Stream downstream of the common intake for the `Īao-Waikapū and `Īao-Maniania Ditches is approximately 5.6 mgd. About 63% of the seepage loss takes place upstream of an altitude of 360 ft, and the remaining 37% takes place downstream of an altitude of 220 ft. *Id.* at p. 93.

20. Waikapū Stream flows south and discharges into the Kealia Pond National Wildlife Refuge. Waikapū Stream would be classified currently as a naturally interrupted perennial stream with perennial flow in its upper reaches and naturally dry lower reaches. Connectivity to Kealia Pond only occurs during and following periods of rainfall, and connectivity to the ocean also requires Kealia Pond to discharge to the ocean. *Id.* at p. 33. During climate years 1984-2007, it is estimated that Waikapū Stream would have flowed continuously to the coast less than half of the time, although this estimate contains much uncertainty. *Id.* at p. 77.

B. Instream Values of the Nā Wai `Ehā Streams

1. Fish and Wildlife Habitat

21. The Commission previously made findings regarding fish and wildlife habitat of the Nā Wai `Ehā Streams in the 2010 D&O. *See* 2010 D&O, FOF 63-79, 556 - 598. The findings regarding the fish and wildlife habitat of the Nā Wai `Ehā Streams, which are incorporated herein by reference, were based on evidence in the record of the Proceeding as of October 15, 2009, the date the Commission entertained oral argument from the Parties in the Proceeding.

22. In the 2010 D&O, the Commission concluded that: (i) Waihe`e River has the highest restorative potential; (ii) Waiehu Stream showed evidence of recruitment of amphidromous species, and that further recruitment could result if improvements were made to assist amphidromous species traverse the 12-foot drop in the elevation of the South Waiehu stream just below the diversion and the vertical concrete apron located just below the highway culverts in lower Waiehu Stream; (iii) recruitment can occur through the channelized portion of `Āo Stream and the 20-foot vertical drop in the channelized area can be bypassed, but the reproductive (spawning) potential of the channelized, lower stretches is minimal; and (iv) Waikapū Stream may not have flowed continuously mauka to makai prior to the diversions of the stream because of extensive infiltration of streamflow into the lower reaches of the streambed, and even when there is streamflow during extensive periods of flooding, stream water does not travel via a continuous channel through Keālia Pond and into the ocean, but fans out into a big delta. *See* 2010 D&O, Conclusions of Law (“COL”) 214-217.

23. The 2010 D&O Findings are supplemented and, where appropriate, superseded in the following respects based on evidence in the record of the Remand Proceeding as of March 10, 2014, the date on which the Remand Proceeding hearing was to begin.

24. The 2010 USGS Study indicated that native species have been “present” and/or “abundant” in each of the Nā Wai `Ehā Streams and provided data regarding the relationship between instream flow and available physical habitat. See 2010 USGS Study at pp. 17-18, v-vi.

25. The Parham Study addressed three broad areas associated with impacts on native stream animals’ habitat resulting from water diversion projects in the Nā Wai `Ehā Streams including the loss of habitat as a result of water diversion, barriers to animal movement and migration resulting from the diversion structures, and entrainment of animals in the diversion ditches. Parham Decl. at ¶ 7.

26. The Parham Study used the Hawaiian Stream Habitat Evaluation Procedure (“HSHEP”) model to estimate the overall habitat units within an area of concern.

27. The Parham Study modeled six scenarios for eight native species in each of the Nā Wai `Ehā Streams.

28. The native species modeled in the Parham Study were: `o`opu nākea (*Awaous guamensis*), `o`opu alamo`o (*Lentipes concolor*), `o`opu naniha (*Stenogobius hawaiiensis*), `o`opu nōpili (*Sicyopterus stimpsoni*), `o`opu akupa (*Eleotris sandwicensis*), `ōpae kala`ole (*Atyoida bisulcata*), `ōpae `oeha`a (*Macrobrachium grandimanus*), and hīhīwai (*Neritina granosa*). Parham Study at p. 10.

29. The six scenarios modeled in the Parham Study were:

- a. Natural: In this scenario, there were no diversions or channel alterations within the Nā Wai `Ehā Streams,
- b. Undiverted: Similar to the Natural Scenario conditions except the impact of the channelized section of `Īao Stream was included in this scenario,

- c. Fully Diverted: This scenario represented stream diversions operating at maximum diversion capacity,
- d. 2010 IFS: This scenario reflected the proposed 2010 IFS standards,
- e. Flow to Ocean: This scenario modeled continuous flow from the upstream reaches to the ocean, and
- f. Flow to Ocean with 'Āo Stream Channelization Improvements: This scenario added habitat improvement associated with a possible 'Āo Stream Channelization improvement project.

Id. at p. 5.

30. The Parham Study concluded that 'Āo Stream and Waihe'e River together make up 87.8% of the total naturally occurring habitat units for native amphidromous species within all Nā Wai 'Ehā Streams combined. 'Āo Stream has 49 % of the total habitat units within Nā Wai 'Ehā and Waihe'e has 37.8%. Waikapū Stream contains less than 1% of naturally occurring habitat units. *Id.* at p. 71.

31. The Parham Study concluded that restoration of baseflows to Nā Wai 'Ehā Streams will increase substantially available stream animal habitat. See Parham Study at p. 99.

32. Under the 2010 IFS Scenario, the improved flow conditions in Waihe'e and Waiehu Streams reflected large increases in combined species habitat. Waiehu Stream gained over 3,500 combined species habitat units and went from 6.1% of natural habitat units under the fully altered condition to 55.5% of natural habitat units under the 2010 IFS Scenario. Waihe'e Stream gained over 2,400 combined species habitat units and went from less than 1% of natural habitat units under the fully altered condition to 11.1% of natural habitat units under the 2010 IFS Scenario. *Id.* at p. 72.

33. While the Parham Study concludes that restoration of baseflows to the Nā Wai 'Ehā Streams will substantially increase available stream animal habitat, both habitat and

passage are necessary to enhance the productivity of the stream habitat. A site can only be occupied by a species if that species can reach the habitat. *See id.* at p. 99.

34. As the Commission previously acknowledged in the 2010 D&O, and as the Parham Study recognizes, the channelized segment at the lower end of `Īao Stream provides little or no habitat. Therefore, joint restoration efforts including return of water and habitat improvements are needed to optimize restorative benefits to this segment of the stream, which has high potential for restoration. *See id.* at p. 101; 2010 D&O, COL 216.

35. Even without habitat improvements to the channelized segment of `Īao Stream, however, the Parham Study concluded that the restoration of flow to `Īao Stream would yield passage benefits for upstream habitats for some of the native species studied. For all species combined, the largest increases were observed in `Īao Stream under the two “Flow to Ocean” scenarios. *See Parham Study* at pp. 72, 98, 101.

36. The U.S. Fish and Wildlife Service (“USFWS”) manages the Keālia Pond National Wildlife Refuge, which is habitat for a variety of native flora and fauna, including two endangered Hawaiian waterbirds—the ae`o (Hawaiian stilt) and `alae ke`oke`o (Hawaiian coot). *See Exh. C-R12* (excerpts from Keālia Pond National Wildlife Refuge Comprehensive Conservation Plan) at p. 1-1. Waikapū Stream is the major contributor of inflow to Keālia Pond during the wet season. *See id.* at pp. 3-12; Exh. A-165 at 6.

2. Native Hawaiian Traditional and Customary Practices in Nā Wai `Ehā

37. The Commission previously made findings regarding Native Hawaiian traditional and customary practices in the 2010 D&O. *See 2010 D&O, FOF 34-62.* The findings regarding Native Hawaiian traditional and customary practices in Nā Wai `Ehā, which are incorporated

herein by reference, were based on evidence in the record of the Proceeding as of October 15, 2009, the date the Commission entertained oral argument from the Parties in the Proceeding.

38. The 2010 D&O findings are supplemented and, where appropriate, superseded in the following respects based on evidence in the record of the Remand Proceeding as of March 10, 2014, the date on which the Remand Proceeding hearing was to begin.

39. In the Proceeding, individuals and community groups testified that they rely or seek to rely on each of the Nā Wai `Ehā Streams for their exercise of traditional and customary Native Hawaiian practices, including: kalo cultivation; gathering of native plants for medicine, hula, and martial arts; fishing and gathering in stream, estuary and nearshore areas; religious practices, and cultural education. *See, e.g., Nā Wai `Ehā, supra* at 245-248, 287 P.3d at 146-149; Akana WT 9/14/07 at ¶¶ 1-17; Holt-Padilla WT 9/14/07 at ¶¶ 1-25; Bailey WT 9/11/07 at ¶¶ 2-9; J. Duey WT 9/14/07 at ¶¶ 11-18; Ornellas WT 9/14/07 at ¶¶ 7-13; Horcajo WT 9/13/07 at ¶¶ 9-16; Pellegrino WT 9/14/07 at ¶¶ 15-37; Soong WT 11/16/07 at ¶ 5; Alboro WT 9/14/07 at ¶¶ 3-8; Smith WT 9/14/07 at ¶¶ 6-9; Faustino WT 9/14/07 at ¶¶ 7-10; Higashino WT 9/14/07 at ¶¶ 7; Kekona WT 9/14/07 at ¶¶ 4-6; Sevilla WT 9/14/07 at ¶¶ 1-16; Ivy WT 9/14/07 at ¶¶ 13, 16-17; Ivy WT 3/2/08 at ¶¶ 12-17; Fisher WT 9/14/07 at ¶¶ 4, 7-23.¹

40. In the Remand Proceeding, Hui/MT and OHA submitted additional testimony in support of instream flows in each of the Nā Wai `Ehā Streams to support Native Hawaiian traditional and customary practices such as kalo cultivation, cultural education, fishing and gathering. *See Sevilla Amended WT 2/18/14* at ¶ 8-11; *Piko A`o WT 1/7/14* at ¶¶ 15-20; *Lozano*

¹ Citations to written testimony submitted by witnesses in the Proceeding and the Remand Proceeding are denoted by the last name of the witness followed by the abbreviation "WT" and the date of submission.

1/7/14 at ¶¶ 8; Ellis WT 2/18/14 at ¶¶ 4, 10; Chavez WT 2/18/14 at ¶ 6; Almeida WT 1/7/14 ¶¶ 6, 9-11; Harders WT 1/7/14 WT at ¶¶ 14, 17.

3. **Other Instream Values**

41. Restoring flow to the Nā Wai `Ehā Streams would support other beneficial instream uses and values, including but not limited to:

a. aesthetic values and outdoor recreational activities, *see, e.g.*, 2010 D&O, FOF 234; Exh. A-78 (Hawai`i Stream Assessment) at 248, 252, 272; Higashino WT 9/14/07 at ¶¶ 5-6; Pellegrino WT 9/14/07 at ¶ 28; J. Duey WT 9/14/07 at ¶¶ 19-20; Ornellas WT 9/14/07 at ¶ 14; Horcajo WT 9/14/07 at ¶¶ 6-7; Alueta WT 9/14/07 at ¶ 9; Piko A`o WT at ¶ 20; Harders WT at ¶ 17;

b. support of non-amphidromous native species, *see, e.g.*, Benbow WT 9/14/07 at ¶ 13; Benbow WT 11/16/07 at ¶ 7; Bailey WT 9/14/07 at ¶¶ 4-5; Kekona WT 9/14/07 at ¶ 5; Sevilla WT 9/14/07 at ¶ 9; Exh. A-54 (cultural study of Paukūkalō) at 20-27; Faustino WT 9/14/07 at ¶ 8; Fisher WT 9/14/07 at ¶¶ 12, 22; Exh. A-78 at 182, 186;

c. research and education, *see, e.g.*, Benbow WT 9/14/07 at ¶¶ 18-21; Pellegrino WT 9/14/07 at ¶¶ 24-28; Alboro WT 9/14/07 at ¶¶ 4-6; Sevilla WT 9/14/07 at ¶¶ 10-13; Sevilla 2/18/14 Amended WT at ¶ 7; Bailey WT 9/14/07 at ¶ 2; Fisher WT 9/14/07 at ¶ 18; Piko A`o WT at ¶ 1-4;

d. groundwater aquifer recharge, *see, e.g.*, 2010 D&O, FOF 90; 2010 USGS Report at iv-v; Exh. A-R2 (USGS Ground-Water Availability Report) at iv, 63-66.

e. conveyance of irrigation and domestic water supplies to downstream points of diversion, *see, e.g.*, 2010 D&O, FOF 214-236; *Nā Wai `Ehā*, 128 Hawai`i at 248, 287 P.3d at 149; J. Duey WT 9/14/07 at ¶¶ 11-14; Ornellas WT 9/14/07 at ¶¶ 7-8; Horcajo WT

9/14/07 at ¶¶ 12-16; Lozano WT 1/7/14 at ¶¶ 8-10; Sevilla 2/18/14 Amended WT at ¶¶ 7-8; Ivy WT 3/2/08 at ¶ 7; Harders WT 1/7/14 at ¶¶ 10-16; Pellegrino WT 9/14/07 at ¶¶ 15-18; Soong WT 11/16/07 at ¶ 5; Gushi WT 10/26/07 at ¶ 3; Higashino WT 9/14/07 at ¶¶ 1-3; Kahalehau WT 10/26/07 at ¶¶ 1-3; Faustino WT 9/14/07 at ¶¶ 3-6, 9; Freitas WT 10/26/07 at ¶¶ 4-7; Fisher WT 9/14/07 at ¶¶ 6, 19, 22;

f. maintenance of ecosystems such as estuaries and nearshore waters, wetlands, and stream vegetation, *see, e.g.*, 2010 D&O, FOF 38, 237, 303, 342; Bailey WT 9/14/07 at ¶ 4; Ivy WT 3/2/08 at ¶¶ 8-10, 15, 17; Kekona WT 9/14/07 at ¶ 3-5; Sevilla WT 9/14/07 at ¶¶ 7-9, 14; Sevilla 2/18/14 Amended WT at ¶ 10; Fisher WT 9/14/07 at ¶ 13-22; Faustino WT 9/14/07 at ¶ 8; Almeida WT 1/7/14, at ¶¶ 6-7; Exh. A-R2 at 69; Exh. A-54 at 20-27.

C. Noninstream Uses

1. HC&S

42. The Commission previously made findings on HC&S's noninstream uses in the 2010 D&O. *See* 2010 D&O, FOF 259 – 289, 310 – 317, and 417 - 506. The findings regarding HC&S's noninstream uses, which are incorporated herein by reference, were based on evidence in the record of the Proceeding as of October 15, 2009, the date the Commission entertained oral argument from the Parties in the Proceeding.

43. The 2010 D&O findings are supplemented and, where appropriate, superseded based on evidence in the record of the Remand Proceeding as of March 10, 2014, the date on which the Remand Proceeding hearing was to begin, in the following respects.

44. The Commission previously determined that the acreage under sugar cane cultivation by HC&S consists of 3,650 acres in its Waihe'e-Hopoi Fields and 1,120 acres in its 'Īao-Waikapū Fields. See 2010 D&O, FOF 429, 443, COL 227.

45. The Commission also previously determined that HC&S's reasonable daily water use requirements are 21.75 mgd for the Waihe'e-Hopoi Fields and 6.06 mgd for the 'Īao-Waikapū fields. See 2010 D&O, COL 231.

46. In calculating the acreage of the Waihe'e-Hopoi Fields, the Commission included HC&S's Fields 921 and 922, comprising of a total of 300 acres. See 2010 D&O, FOF 429.

47. In the Remand Order, the Court instructed the Commission to consider the issue of whether Fields 921 and 922 should be included in HC&S's acreage for purpose of calculating its irrigation requirements in light of evidence that the soil conditions of those fields are similar to Field 920, which the Commission excluded from the calculation of HC&S's acreage and water duty because of its greater water consumption and the porosity of the sandy soil in that field. See *Nā Wai 'Ehā*, *supra* at 257, 287 P.3d at 157.

48. In the Remand Proceeding, HC&S presented evidence showing that Fields 921 and 922 contained a different soil composition than Field 920, that Fields 921 and 922 are used for the cultivation of seed cane, that Fields 921 and 922 do not consume more irrigation water, on average, than other seed cane fields cultivated by HC&S, and that Fields 921 and 922 are in the process of being investigated and potentially reclassified by Natural Resources Conservation Service of the U.S. Department of Agriculture consistent with their actual soil composition. See *Nakahata WT 1/7/14 at ¶¶ 8-13*.

49. Well No. 7 is a source of irrigation water for HC&S. See 2010 D&O, FOF 494. The extent to which Well No. 7 is a practicable alternative water source for HC&S is an issue that the Commission was instructed to address in the Remand Proceeding.

50. Since the issuance of the 2010 D&O, HC&S spent \$1,658,369 to upgrade Well No. 7 by installing a second booster pump (Pump 7D) and a 4,000 foot pipeline extending from the Well No. 7 wellhouse to the Waihe'e Ditch. On remand, HC&S presented evidence that these upgrades enable HC&S to pump a maximum of 18.5 mgd on a sustained daily basis. See Hew WT 1/7/14 at ¶¶ 10, 13.

51. The Commission previously concluded that HC&S could reasonably claim 2 mgd in system losses. See 2010 D&O, COL 232. The Remand Order instructed the Commission to determine the reasonableness of HC&S's system losses. See *Nā Wai 'Ehā, supra* at 257, 287 P.3d at 157.

52. In the Remand Proceeding, HC&S presented evidence that system loss rates for water conveyance systems generally could range between 5 % and 30 % and that a loss rate of approximately 20 % would translate to 4-5 mgd of losses for HC&S. See Volner WT 1/7/14 at ¶ 50; Exhs. E-R13, E-R14. HC&S also presented evidence that HC&S's expected system losses, excluding Waiale Reservoir, could range from 2.15 to 4.20 mgd, applying expected seepage rates obtained from the National Engineering Handbook published by the Soil Conservation Service of the United States Department of Agriculture, and an average daily evaporation rate of 0.40 acre inches. See Hew WT 2/18/14 at ¶ 7, Exhs. E-R33, E-R34 and E-R35.

53. The Commission previously found that the County of Maui has no existing infrastructure to deliver recycled wastewater to HC&S's fields and accordingly made no

reduction to its findings regarding HC&S's irrigation requirements to account for possible wastewater re-use by HC&S. See 2010 D&O, COL 108; COL 230.

54. The Remand Order instructed the Commission to provide a more detailed analysis on this issue.

55. Various previous or ongoing studies address potential re-use of wastewater from the Wailuku-Kahului Wastewater Reclamation Facility ("WWRF"). See, e.g., Central Maui Recycled Water Verification Study by the County of Maui, Exh. C-R20; 2013 Update of the Hawaii Water Reuse Survey and Report by a consultant for the Commission, Exh. C-R21. HC&S retained ATA to prepare a feasibility report pertaining to the use of reclaimed water produced at the WWRF as an alternative to using Nā Wai `Ehā surface water for sugarcane irrigation (the "ATA Report"). See Exh. E-R31.

56. According to the ATA Report, approximately 2.95 mgd of treated effluent could potentially be reliably made available to HC&S 365 days a year from the WWRF upon construction of improvements at an estimated capital cost of approximately \$16.9 million and a definitive agreement being reached between HC&S and the County of Maui stating the terms and conditions under which the County would provide, and HC&S would accept, reclaimed wastewater, including allocation of the improvement costs, the quality and quantity of water to be delivered, and the water rate charged by the County. See *id.* at 27. Upon completion of the improvements, projected to be sometime in 2020 at the earliest, there could then be an annual operating and maintenance cost to HC&S of approximately \$521,000, which includes \$161,512.50 in fees that the County of Maui could charge for treated effluent at the rate of \$0.15/1,000 gallons as stated in the County of Maui's letter to ATA dated January 15, 2014. See *id.*, Appendix A thereto (1/15/14 Ltr from Eric Nakagawa to Ivan K. Nakatsuka at 3).

57. Based on the ATA Report, HC&S provided evidence that recycled wastewater is not an immediately available alternative to diversion of Nā Wai `Ehā surface water for sugarcane irrigation, and that until the County of Maui and HC&S can reach agreement on the terms and conditions under which recycled wastewater would be purchased and supplied, an assessment of whether recycled wastewater is a reasonably practicable alternative to Nā Wai `Ehā surface water cannot be made. See Volner WT 2/11/14 at ¶¶ 6-7; ATA Report Appendix A (1/15/14 letter from Eric Nakagawa to Ivan K. Nakatsuka).

58. With regard to the impact on its operations of further increases to the IIFS for the Nā Wai `Ehā Streams, HC&S presented evidence that, among other things, its future viability is still uncertain, that the factor most essential to its economic viability after sugar prices is sugar production, and that the most significant driver of sugar production is the availability of water for irrigation. See Volner WT 1/7/14 at ¶¶ 24-25; Benjamin WT 2/18/14 at ¶¶ 6-7.

2. WWC

59. The Commission previously made findings about WWC's system losses in the 2010 D&O. See 2010 D&O, FOF 426. The finding regarding WWC's system losses, which is incorporated herein by reference, was based on evidence in the record of the Proceeding as of October 15, 2009, the date the Commission entertained oral argument from the Parties in the Proceeding.

60. The 2010 D&O findings are supplemented and, where appropriate, superseded in the following respects based on evidence in the record of the Remand Proceeding as of March 10, 2014, the date on which the Remand Proceeding hearing was to begin.

61. The Commission previously concluded that WWC could reasonably claim 2 mgd in system losses. See 2010 D&O, COL 225. The Remand Order instructed the Commission to determine the reasonableness of system losses. See *Nā Wai `Ehā, supra* at 258, 287 P.3d at 157.

62. In the Remand Proceeding, WWC submitted evidence that it has repaired portions of its system, removed reservoirs from service, and terminated use of the North Waiehu ditch system. These measures enabled WWC to reduce system losses to approximately 2.73 mgd. WWC acted to reduce system losses to about 4.97 %.

63. WWC also submitted testimony to the effect that:

a) the National Engineering Handbook issued by the Soil and Conservation Service of the United States Department of Agriculture which provides information and standards for nonpotable water distribution systems indicated that a carefully managed, manually operated irrigation water distribution system should have system losses of 10 % or less. See Chumbley WT 1/7/14 at p. 4.

b) The American Water Works Association which provides information and standards for potable water distribution systems indicated that system losses for a potable water distribution system should be 10 % or less. *Id.*; and

c) WWC's system losses are within the standards provided by the Soil and Conservation Service and the American Water Works Association. *Id.*

64. WWC estimated that it could reduce system losses by about 800,000 gallons per day by lining the unlined portions of the ditches used to deliver water at a cost of about \$5,026,000. *Id.* at pp. 7-9.

65. Based on the supplemental findings, WWC's reasonable system losses are 2.73 mgd.

66. In the 2010 D&O, the Commission determined that WWC has water delivery agreements with 34 entities in addition to its agreement with MDWS and HC&S. See 2010 D&O, FOF 240; Exh. D-96.

67. On remand, WWC submitted evidence that WWC's business model is sensitive to the volume of water available for diversion from `Īao and Waikapū Streams, particularly the former, and that it is unable to increase revenue by adding new users or changing the rates it charges existing customers while its application for a certificate of public convenience and necessity is pending before the Public Utilities Commission. See Kuba WT 1/6/14 at 3-4, 10, 14-16; Exhs. D-R8, D-R9, D-R10; and Chumbley WT 1/7/14 at pp. 11-13.

3. **MDWS**

68. MDWS receives water from `Īao Stream via the `Īao-Waikapū Ditch, which is treated at its `Īao Water Treatment Facility for municipal use, including domestic uses, for its water system serving Central and South Maui. See 2010 D&O, FOF 238; Taylor WT 1/3/14 at ¶¶ 6, 8 10-11.

69. Under WWC's agreement with MDWS, WWC must make available up to 3.2 mgd of water from `Īao Stream to MDWS for the `Īao Water Treatment Facility, subject to regulatory actions by the Commission. See 2010 D&O, FOF 239; Taylor WT 1/3/14 at ¶¶ 12-13; Exhs. B-14, B-23, B-R1 and B-R 14.

70. The Commission previously concluded that the 3.2 mgd of water for MDWS's `Īao Water Treatment Facility was a reasonable current and future use of water from `Īao Stream. 2010 D&O COL 62, 232.

71. This conclusion was not disturbed by the Remand Order and has not been challenged by any of the Parties in the Remand Proceeding.

72. Any factual finding herein pertaining to the water use requirements, alternative water sources, or system losses of a Party to the Proceeding or of a person who may apply for a water use permit or may apply for a water use permit in the future is made without prejudice to

the rights of the Parties and of the Commission to revisit those issues in connection with any proceeding involving a WUPA for water diverted from any of the Nā Wai `Ehā Streams inasmuch as the burden of proof with respect to such issues in a WUPA proceeding will be upon the applicant rather than upon the Commission.

73. If any of the foregoing findings of fact shall be deemed a conclusion of law, the Commission intends that every such finding be construed as a conclusion of law.

III. CONCLUSIONS OF LAW

A. General Principles

1. In the context of IIFS petitions, the State Water Code, HRS Chapter 174C, does not place a burden of proof on any particular party; instead, the State Water Code and case law interpreting the State Water Code affirmed the Commission's duty to establish IIFS that "protect instream values to the extent practicable" and "protect the public interest." *Nā Wai `Ehā, supra* at 253, 287 P.3d at 154.

2. "Instream use" is defined as:

[B]eneficial uses of stream water for significant purposes which are located in the stream and which are achieved by leaving the water in the stream. Instream uses include, but are not limited to:

- a. Maintenance of aquatic life and wildlife habitats;
- b. Outdoor recreational activities;
- c. Maintenance of ecosystems such as estuaries, wetlands, and stream vegetation;
- d. Aesthetic values such as waterfalls and scenic waterways;
- e. Navigation;
- f. Instream hydropower generation;
- g. Maintenance of water quality;
- h. The conveyance of irrigation and domestic water supplies to downstream points of diversion; and
- i. The protection of traditional and customary Hawaiian rights.

HRS § 174C-3. The public trust doctrine recognizes that resource protection constitutes a “use.” *In re Waiahole Ditch Combined Contested Case Hr’g*, 94 Hawai`i 97, 140, 9 P.3d 409, 452 (2000) (“*Water Use Permit Applications*”).

3. “Noninstream use” is defined in the Code as “use of stream water that is diverted or removed from its stream channel and includes the use of stream water outside of the channel for domestic, agricultural, and industrial purposes.” HRS § 174C-3.

4. “In considering a petition to adopt an interim instream flow standard, the commission shall weigh the importance of present or potential instream values with the importance of the present or potential uses of water for non-instream purposes, including the economic impact of restricting such uses.” HRS § 174C-71(2)(D).

B. Analysis of Instream Uses and Native Hawaiian Practices

5. The Commission concludes that restoration of baseflows to Nā Wai `Ehā Streams will substantially increase support and protection of instream uses and Native Hawaiian practices. See FOF 21-41. `Īao Stream and Waihe`e River have the greatest restorative potential in terms of increasing habitat for native fauna because the two streams together comprise 87.8% of the total naturally occurring habitat units for native amphidromous species within all Nā Wai `Ehā Streams combined. Of all the streams, `Īao Stream has the highest restorative potential. See FOF 30.

6. The return of flow to Waihe`e River pursuant to the 2010 D&O has already yielded significant gains in terms of increased species habitat. The Parham Study observed that Waihe`e River gained over 2,400 combined species habitat units and went from less than 1% of natural habitat units under the fully altered condition to 11.1% of natural habitat units under the 2010 IFS Scenario that was modeled by the study. See FOF 32.

7. Waiehu Stream has similarly experienced substantial benefits to habitat for native fauna as a result of the amended IIFS established in the 2010 D&O. The Parham Study observed that Waiehu Stream gained over 3,500 combined species habitat units and went from 6.1% of natural habitat units under the fully altered condition to 55.5% of natural habitat units under the 2010 IFS Scenario. *See id.*

8. The restoration of stream flow to `Iao Stream and an upper reach of Waikapū Stream, along with existing restoration of flow to Waihe`e River and Waiehu Stream, would increase habitat for native fauna as well as provide passage benefits for upstream habitats for native amphidromous species. *See* FOF 30-35.

9. The restoration of stream flow to `Iao Stream and an upper reach of Waikapū Stream, along with existing restoration of flow to Waihe`e River and Waiehu Stream, would provide positive effects and enhanced protection of Native Hawaiian traditional and customary practices in each of these streams, including but not limited to gathering, fishing, spiritual practices and values, and downstream kalo cultivation. *See* FOF 39-40. This conclusion is without prejudice, however, to the rights of any party and of the Commission to revisit this issue in the context of any proceeding involving a WUPA for water from Nā Wai `Ehā Streams, in which proceeding the applicant will have the burden of justifying its water use, to the extent required by law, *see, e.g.*, HRS § 174C-63.

10. The restoration of stream flow to `Iao Stream and an upper reach of Waikapū Stream, along with existing restoration of flow to Waihe`e River and Waiehu Stream, would support other beneficial instream uses and values including but not limited to: aesthetic values and outdoor recreational activities; support of native non-amphidromous species; research and education; groundwater aquifer recharge; conveyance of irrigation and domestic water supplies

to downstream points of diversion; and maintenance of ecosystems such as estuaries, wetlands, and stream vegetation. See FOF 41.

11. Based on the foregoing, the Commission concludes that maintaining the existing restoration of Waihe'e River and Waiehu Stream and restoring stream flow to 'Īao Stream and an upper reach of Waikapū Stream, would benefit and protect instream uses within each of the Nā Wai 'Ehā Streams.

C. Analysis of Noninstream Uses

1. HC&S

12. The Commission previously determined that the acreage under sugar cane cultivation by HC&S consists of 3,650 acres in its Waihe'e-Hopoi Fields and 1,120 acres in its 'Īao-Waikapū Fields. See 2010 D&O, FOF 429, 443, COL 227.

13. Based on the actual soil conditions of HC&S Fields 921 and 922, the Commission affirms its previous decision to include those fields in calculating HC&S's cultivated acreage and the reasonable water duty for purposes of the restoration of stream flows under an amended IIFS. See FOF 48. This conclusion is without prejudice, however, to the rights of any party and of the Commission to revisit this issue in the context of any proceeding involving a WUPA by HC&S, in which proceeding HC&S will have the burden of justifying its water use in general, as well as for these fields, in particular.

14. The Commission previously determined that Well No. 7 is a practicable alternative source of irrigation water at an annual average rate of 9.5 mgd. The Commission now concludes that Well No. 7 is a practicable alternative source of irrigation water of up to 18.5 mgd on a sustained daily basis for purposes of the restoration of stream flows under an amended IIFS. See FOF 50. This is without prejudice, however, to the rights of any party and of the Commission to revisit this issue in the context of any proceeding involving a WUPA by HC&S,

in which proceeding HC&S will have the burden of justifying its water use in general, including the amount of water that should be deemed available from Well No. 7 as a reasonably practicable alternative to Nā Wai `Ehā stream water.

15. The Commission concludes, at this time, that it is not practicable for HC&S to use reclaimed wastewater from the Wailuku-Kahului Wastewater Reclamation Facility as an alternative to using Nā Wai `Ehā surface water for sugarcane irrigation for purposes of the restoration of stream flows under an amended IIFS. See FOF 53-57. This is without prejudice, however, to the rights of any party and of the Commission to revisit this issue in the context of any proceeding involving a WUPA by HC&S, in which proceeding HC&S will have the burden of justifying its water use in general, including the amount of water that should be deemed available in the future, if any, from reclaimed wastewater from Wailuku-Kahului Wastewater Reclamation Facility.

16. The Commission concludes that HC&S's reasonable system losses are estimated to be 2 mgd for purposes of the restoration of stream flows under an amended IIFS. See FOF 51. This is without prejudice, however, to the rights of any party and of the Commission to revisit this issue in the context of any proceeding involving a WUPA by HC&S, in which proceeding HC&S will have the burden of justifying its water use in general, including its rate of system losses.

2. WWC

17. The Commission now concludes that it is not practicable for WWC to further mitigate its system losses below the 2.73 mgd to which it has reduced system losses for purposes of the restoration of stream flows under an amended IIFS. See FOF 59-65. This is without prejudice, however, to the rights of any party and of the Commission to revisit this issue in the

context of any proceeding involving a WUPA by WWC, in which proceeding WWC will have the burden of justifying its water use in general, including its rate of system losses.

3. **MDWS**

18. The Commission reaffirms its prior conclusion that the 3.2 mgd of water for MDWS's 'Īao Water Treatment Facility is a reasonable current and future use of water diverted from 'Īao Stream for purposes of the restoration of stream flows under an amended IIFS. This is without prejudice, however, to the rights of any party and of the Commission to revisit this issue in the context of any proceeding involving a WUPA by MDWS, in which proceeding MDWS will have the burden of justifying its water use.

D. Balancing of Instream Uses and Native Hawaiian Practices and Noninstream Uses

19. Based on the foregoing Findings of Fact and Conclusions of Law and the evidence in the record of this Proceeding, as supplemented following the Remand Order, the Commission concludes that the amended IIFS set forth below in the Decision and Order, both individually and in the aggregate, represents a reasonable and equitable resolution of the Petition and balance between protecting instream uses and Native Hawaiian practices and accommodating reasonable beneficial noninstream uses, consistent with the Code and the public trust. As explained above, the amended IIFS substantially increases instream flows and protection of instream uses and Native Hawaiian practices in the Nā Wai 'Ehā Streams compared to the pre-Petition "status quo" IIFS. The amended IIFS also takes into account the impacts to present and potential noninstream uses and practicable alternatives and mitigation.

20. The Commission further recognizes the public policy in favor of settlement of litigation, including the Petition, which has been pending since 2004. The Commission concludes that the amended IIFS will enable the earlier interim protection of instream uses and Native Hawaiian practices without further delays in litigation, including appeals, and that this

benefits the interests of the Parties and the public and furthers the purposes of the Code and the public trust.

21. The public interest, as well as the Parties' interests, support the voluntary resolution of the Petition on terms agreed to by all the Parties, rather than continued litigation including potential appeals, particularly given this Proceeding involves the amendment of interim standards.

E. Miscellaneous

22. Any legal conclusion herein pertaining to a particular party's water use requirements, alternative water sources, and system losses is made without prejudice to the rights of any party and the Commission's to revisit those issues in any proceeding involving a WUPA for the use of water diverted from any Nā Wai 'Ehā stream.

23. If any of the foregoing conclusions of law shall be deemed a finding of fact, the Commission intends that every such finding be construed as a finding of fact.

IV. DECISION AND ORDER

The Commission issues this Decision and Order in accordance with the foregoing Findings of Fact and Conclusions of Law based on 1) the evidence in the Proceeding and 2) the evidence in the record of the Remand Proceeding, as supplemented following the Remand Order. Each IIFS set forth below, both individually and in the aggregate, represents a reasonable and equitable resolution of the Petition and balance between the need to protect instream uses and the accommodation of reasonable beneficial noninstream uses, consistent with the Code and the public trust.

A. Amended IIFS

The Amended IIFS is exclusively to establish the interim instream flow standards for the Nā Wai 'Ehā Streams as follows:

1. Waihe`e River

The IIFS for Waihe`e River at both the Waihe`e Ditch and the Spreckels Ditch intakes shall remain at 10 mgd per the 2010 D&O.

2. North Waiehu Stream

The 2010 D&O established an IIFS of 1.6 mgd for North Waiehu Stream just below the point where the stream was then being diverted by WWC into the now abandoned North Waiehu Ditch. The IIFS for North Waiehu Stream shall be relocated to a lower elevation to reflect the fact that the Upper North Waiehu Diversion has been abandoned. The new IIFS location shall be just below the existing North Waiehu diversion structure located just above the Waihe`e Ditch. The new IIFS amount will be 1.0 mgd, which is intended to reflect the approximately 0.6 mgd of seepage loss in the streambed between these two points. In connection with the relocation and the amendment of the IIFS, WWC will:

- a. provide water to the kuleana property that previously was provided water from the North Waiehu Ditch;
- b. in consultation with Commission staff, modify the existing North Waiehu diversion structure located just above the Waihe`e Ditch to facilitate the upstream and downstream passage of native stream species; and,
- c. continue to service the Waiehu kuleana users from the Waihe`e Ditch.

3. South Waiehu Stream

The 2010 D&O established an IIFS of 0.9 immediately below the Spreckels Ditch Diversion on South Waiehu Stream. The IIFS for South Waiehu Stream below the Spreckels Ditch diversion shall be set in accordance with the Fourth Stipulation and Order of the Parties filed with the Commission on January 3, 2012 (attached hereto as Exh. "A"), to wit: the sluice gate on HC&S's South Waiehu diversion structure has been set to allow sufficient water to enter the diversion ditch during low stream flows to result in approximately 250,000 gpd to flow from

the diversion ditch to the kuleana intake, with the remainder of the low flows being returned to the stream.

4. ʻĪao Stream

The IIFS just below the diversion operated by WWC on ʻĪao Stream above the ʻĪao-Waikapu and the ʻĪao-Maniania Ditches shall be 10 mgd; provided, however, that when the average daily flow measured at USGS stream-gauge station 16604500 on ʻĪao Stream is between 15 mgd and 10 mgd and has continued in that range for three consecutive days, the greater of one-third (1/3) of the stream flow or 3.9 mgd may be diverted for noninstream use until the flow returns to 15 mgd or above.

When the average flow for any day falls below 10 mgd, commencing the next day and continuing until the average daily flow returns to at least 10 mgd, 3.4 mgd may be diverted for noninstream use.

The intent is to provide adequate water to accommodate MDWS's 3.2 mgd for its water treatment plant and the estimated 0.2 mgd used by kuleana users served exclusively by the ʻĪao-Waikapū Ditch. This is nonetheless without prejudice to the rights of the Parties and the Commission to revisit allocations of diverted water in any proceeding involving a WUPA for water diverted from ʻĪao Stream.

In lieu of setting an IIFS at the Spreckels Ditch diversion, a new IIFS of 5 mgd shall be established at or near the stream mouth. No water may be diverted at the Spreckels Ditch intake operated by HC&S except when the stream flow is adequate to allow the IIFS of 5 mgd at the mouth of ʻĪao Stream to be satisfied.

5. Waikapū Stream

The IIFS for Waikapū Stream shall be 2.9 mgd, measured below the South Waikapū Ditch diversion (Reservoir 1 diversion) return, as shown on Exh. "B" attached hereto.

At the Waihe'e Ditch diversion, the current status quo will continue, which is that water remaining in Waikapū Stream at that point is diverted into Waihe'e Ditch except during periods of high flow, when most of the flow of Waikapū Stream passes or tops the diversion and flows toward Kealia Pond, and excess ditch flow is discharged into Waikapū Stream. The intent is that the frequency and amount of intermittent flows that pass this diversion during rainy periods will not be diminished by any change in the manner in which this diversion is currently operated.

B. Implementation

The Commission retains jurisdiction to oversee the implementation, monitoring and compliance with the terms of this Decision and Order and to resolve disputes concerning such implementation, monitoring and compliance.

C. Effective Date

This Decision and Order shall become effective upon issuance by the Commission.

The foregoing FINDINGS OF FACT, CONCLUSIONS OF LAW, AND DECISION AND ORDER ARE HEREBY ADOPTED.

IT IS SO ORDERED.

DATED: HONOLULU, HAWAII, _____.

COMMISSION ON WATER RESOURCE MANAGEMENT
STATE OF HAWAII

By:

WILLIAM J. AILA, JR., Chairperson

LINDA M. ROSEN, M.D., M.P.H., Commissioner

WILLIAM D. BALFOUR, JR., Commissioner

KAMANA BEAMER, Ph.D., Commissioner

JONATHAN STARR, Commissioner

TED YAMAMURA, Commissioner

2012 JAN - 3

BEFORE THE COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII

Electronically Filed
Supreme Court
SCAP-30603

'Iao Ground Water Management Area High-)	Case No. CCH-MA-06-01	04-JAN-2012
Level Source Water Use Permit Applications)		02:09 PM
and Petition to Amend Interim Instream Flow)	FOURTH STIPULATION AND ORDER	
Standards of Waihe'e, Waiehu, 'Iao, &)	(ORIGINAL STIPULATION FILED	
Waikapū Streams Contested Case Hearing)	AUGUST 30, 2010)	
)		
)		

FOURTH STIPULATION AND ORDER

The Parties to the above-entitled contested case, by and through their respective attorneys, hereby stipulate as follows:

WHEREAS, the Commission on Water Resource Management ("Commission") issued its Findings of Fact, Conclusions of Law, and Decision and Order on June 10, 2010 ("6/10/10 D&O"); and

WHEREAS, the 6/10/10 D&O amended the Interim Instream Flow Standards ("IIFS") for Waihe'e River, North Waiehu Stream, and South Waiehu Stream; and

WHEREAS, the 6/10/10 D&O required implementation of the amended IIFS to occur in no more than two months from the date of the 6/10/10 D&O unless the existing diversions require re-engineering; and

WHEREAS, the release of water to Waihe'e River, North Waiehu Stream, and South Waiehu Stream to implement the IIFS commenced on August 9 and 10, 2010; and

WHEREAS, some Parties raised concerns that full implementation of the amended IIFS for South Waiehu Stream would result in certain offstream users who use water from the ditch system on their kuleana lands to cultivate kalo or for other agricultural or domestic purposes ("kuleana users") being harmed due to the loss of or a serious reduction in their water supply; and

WHEREAS, these certain kuleana users did not appear in these proceedings, but have contacted the Parties and the Commission with their concerns about the impacts of implementing the IIFS for South Waiehu Stream on their kuleana water uses; and

WHEREAS, Petitioners HUI O NA WAI 'EHA, MAUI TOMORROW FOUNDATION, INC. and OFFICE OF HAWAIIAN AFFAIRS ("Petitioners") requested the other Parties and the Commission to enter into a series of Stipulations and Orders suspending full implementation of the 6/10/10 D&O with respect to South Waiehu Stream to facilitate the gathering of more data to assess and address the impact on certain kuleana users; and

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EXHIBIT A

WHEREAS, the Petitioners requested the other Parties and the Commission to enter into the Third Stipulation and Order filed on January 3, 2011, which suspended the full implementation of the 6/10/10 D&O with respect to South Waiehu Stream for a period of one year and provided that, during that period (a) the entire flow of South Waiehu Stream would be diverted into the diversion ditch, which would allow Commission staff to gather stream flow data and assure the kuleana users of sufficient water, (b) Hawaiian Commercial and Sugar Company (HC&S) would proceed with the repair of the concrete apron of the South Waiehu Stream diversion structure, and (c) the Parties would continue to explore improvements to the stream and kuleana diversion structures; and

WHEREAS, South Waiehu Stream flow has been measured continuously for eight months, HC&S has completed the concrete apron repair and the Commission staff and Parties conducted a site visit in which they met with the South Waiehu kuleana users and inspected the kuleana 'auwai from its intake in HC&S's ditch to its return flow into South Waiehu Stream; and

WHEREAS, the Commission is currently in the process of determining the appurtenant rights of kuleana users in Nā Wai 'Ehā, including South Waiehu Stream, after which it will quantify those rights; and

WHEREAS, the Parties and the Commission staff have met several times and consulted with the South Waiehu kuleana users to discuss improvements to the kuleana intake to make delivery more efficient; and

WHEREAS, the Parties and the Commission staff have discussed a provisional ditch modification to maximize the amount of water diverted from South Waiehu Stream that can be delivered to the kuleana users during low ditch flows, and the kuleana users on the parcel designated as TMK No. 3-3-2-9 have been informed of and approve the ditch modification notwithstanding that they may need to clear the grate of debris more than is currently required; and

WHEREAS, it may be premature to attempt the development of a longer term engineering solution until the appurtenant rights and any associated surface water use permits of the South Waiehu kuleana users are determined and quantified;

NOW, THEREFORE, the Parties stipulate and the Commission orders as follows:

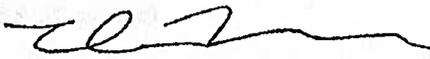
1. Full implementation of the 6/10/10 D&O with respect to South Waiehu Stream shall be suspended until January 3, 2013 (the suspension period);
2. During the suspension period the Parties will undertake measures designed to achieve the delivery of 250,000 gallons per day, during low flow periods, to the kuleana users through the South Waiehu diversion ditch, with stream flow in excess of that amount needed to deliver 250,000 gallons per day during low flow periods to remain in South Waiehu Stream.
3. To implement that goal, as soon as practicable HC&S will modify the diversion ditch as discussed on December 5, 2011, to channel the diverted water in the ditch toward the grate of the kuleana users' intake to minimize the flow that bypasses the grate during periods of low ditch flows (the "ditch modification"). HC&S shall provide the kuleana users, either directly

or through the Parties or Commission staff, with as much advance notice as practicable before the kuleana water is cut off to implement the ditch modification.

4. As soon as practicable after the ditch modification is completed, HC&S, in coordination with the Commission staff, will reset the sluice gate on the South Waiehu diversion structure to a point (the "baseline setting") that will allow sufficient water to enter the diversion ditch to result in approximately 250,000 gallons per day being delivered to the kuleana intake during periods of low stream flows, and the remainder being returned to the stream.

5. The baseline setting shall be maintained during the suspension period subject to temporary adjustments as may be necessary to facilitate system maintenance and the periodic taking of stream and ditch flow measurements and to otherwise insure that the goal set forth in paragraph 2 hereof is met.

DATED: ~~December 30, 2012~~^{f.m.}
December 30, 2011.


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FOURTH STIPULATION AND ORDER; *Yao Ground Water Management Area High-Level Source Water Use Permit Applications and Petition to Amend Interim Instream Flow Standards of Waihe'e, Waiehu, Yao, & Waikapu Streams Contested Case Hearing*; Case No. CCH-MA-06-01

or through the Parties or Commission staff, with as much advance notice as practicable before the kuleana water is cut off to implement the ditch modification.

4. As soon as practicable after the ditch modification is completed, HC&S, in coordination with the Commission staff, will reset the sluice gate on the South Waiehu diversion structure to a point (the "baseline setting") that will allow sufficient water to enter the diversion ditch to result in approximately 250,000 gallons per day being delivered to the kuleana intake during periods of low stream flows, and the remainder being returned to the stream.

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DATED: ~~December 30, 2012~~
December 30, 2011.

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Jane E Lovell
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FOURTH STIPULATION AND ORDER; 'Iao Ground Water Management Area High-Level Source Water Use Permit Applications and Petition to Amend Interim Instream Flow Standards of Waihe'e, Waiehu, 'Iao, & Waikapu Streams Contested Case Hearing; Case No. CCH-MA-06-01

or through the Parties or Commission staff, with as much advance notice as practicable before the kuleana water is cut off to implement the ditch modification.

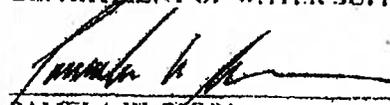
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5. The baseline setting shall be maintained during the suspension period subject to temporary adjustments as may be necessary to facilitate system maintenance and the periodic taking of stream and ditch flow measurements and to otherwise insure that the goal set forth in paragraph 2 hereof is met.

DATED: ~~December 30, 2012~~
December 30, 2011. *1008*

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FOURTH STIPULATION AND ORDER: *Iao Ground Water Management Area High-Level Source Water Use Permit Applications and Petition to Amend Interim Instream Flow Standards of Waiehu, Iao, & Waikapu Streams Contested Case Hearing, Case No. CCH-MA-06-01*

or through the Parties or Commission staff, with as much advance notice as practicable before the kuleana water is cut off to implement the ditch modification.

4. As soon as practicable after the ditch modification is completed, HC&S, in coordination with the Commission staff, will reset the sluice gate on the South Waiehu diversion structure to a point (the "baseline setting") that will allow sufficient water to enter the diversion ditch to result in approximately 250,000 gallons per day being delivered to the kuleana intake during periods of low stream flows, and the remainder being returned to the stream.

5. The baseline setting shall be maintained during the suspension period subject to temporary adjustments as may be necessary to facilitate system maintenance and the periodic taking of stream and ditch flow measurements and to otherwise insure that the goal set forth in paragraph 2 hereof is met.

DATED: ~~December 30, 2012.~~ *John*
December 30, 2011.

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FOURTH STIPULATION AND ORDER; *'Iao* Ground Water Management Area High-Level Source Water Use
Permit Applications and Petition to Amend Interim Instream Flow Standards of Waihe'e, Waiehu, 'Iao, & Waikepi
Streams Contested Case Hearing; Case No. CCH-MA-06-01

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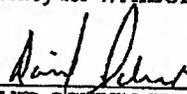
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December 30, 2011. 

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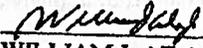
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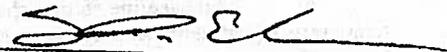

DAVID SCHULMEISTER/ELIJAH YIP
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FOURTH STIPULATION AND ORDER; *Yao Ground Water Management Area High-Level Source Water Use Permit Applications and Petition to Amend Interim Instream Flow Standards of Waiehu, Yao, & Waikapu Streams Contested Case Hearing*; Case No. CCH-MA-06-01

GOOD CAUSE APPEARING, IT IS SO ORDERED.


WILLIAM J. AILA, JR., Chairperson

WILLIAM D. BALFOUR, JR., Commissioner


SUMNER ERDMAN, Commissioner

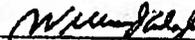
NEAL S. FUJIWARA, Commissioner

LORETTA J. FUDDY, Commissioner

LAWRENCE H. MIKE, M.D., J.D., Commissioner

FOURTH STIPULATION AND ORDER; 'Iao Ground Water Management Area High-Level Source Water Use Permit Applications and Petition to Amend Interim Instream Flow Standards of Waihe'e, Waiehu, 'Iao, & Waikapu Streams Contested Case Hearing; Case No. CCH-MA-06-01

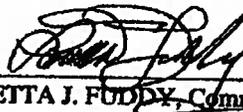
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WILLIAM D. BALFOUR, JR., Commissioner

SUMNER ERDMAN, Commissioner

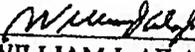
NEAL S. FUJIWARA, Commissioner


LORETTA J. FUDDY, Commissioner

LAWRENCE H. MIIKE, M.D., J.D., Commissioner

FOURTH STIPULATION AND ORDER; *'Iao Ground Water Management Area High-Level Source Water Use Permit Applications and Petition to Amend Interim Instream Flow Standards of Wahe'e, Waiehu, 'Iao, & Waikapu Streams Contested Case Hearing; Case No. CCH-MA-06-01*

GOOD CAUSE APPEARING, IT IS SO ORDERED.

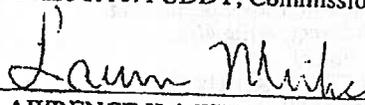

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LORETTA J. FUDDY, Commissioner


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FOURTH STIPULATION AND ORDER; 'Iao Ground Water Management Area High-Level Source Water Use Permit Applications and Petition to Amend Interim Instream Flow Standards of Waihe'e, Waiehu, 'Iao, & Waikapu Streams Contested Case Hearing; Case No. CCH-MA-06-01

COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII

'Iao Ground Water Management Area)
High-Level Source Water-Use)
Permit Applications and)
Petition to Amend Interim Instream)
Flow Standards of Waihe'e River)
and Waiehu, 'Iao, & Waikapū)
Streams Contested Case Hearing)

Case No. CCH-MA06-01

CERTIFICATE OF SERVICE

The undersigned hereby certifies that on this date a copy of the foregoing was served by U.S. mail, postage pre-paid or via State Messenger to the following parties addressed as follows:

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ATTORNEY FOR OHA

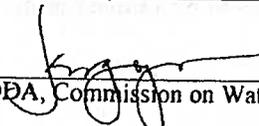
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(Via State Messenger)

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KATHY YODA, Commission on Water Resource Management

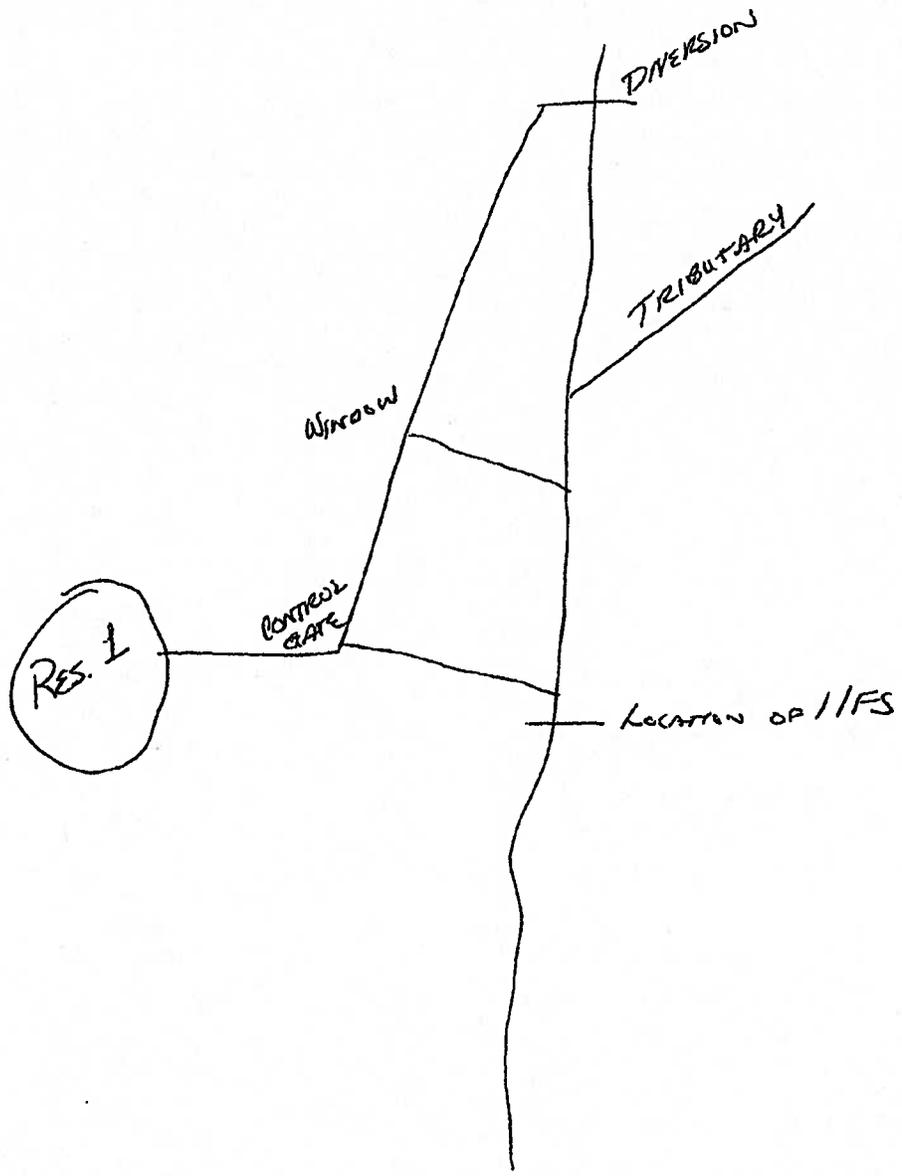


EXHIBIT B

