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COMMISSION ON WATER RESOURCE MANAGEMENT

September 18, 2013  
Honolulu, Hawaii

Request Authorization to Procure Consultant Services to  
Conduct a Habitat Evaluation Procedure (HEP) Analysis of  
Waihe'e, Waiehu, 'Iao, and Waikapu Streams in Nā Wai 'Ehā, Maui

SUMMARY OF REQUEST

That the Commission on Water Resource Management ("Commission") authorize the Commission staff to procure consultant services to conduct a Habitat Evaluation Procedure analysis of Waihe'e, Waiehu, 'Iao, and Waikapu Streams in Nā Wai 'Ehā, Maui.

BACKGROUND

On June 25, 2004, Hui o Nā Wai 'Ehā and Maui Tomorrow Foundation, Inc. ("Hui / MTF"), through Earthjustice, filed a "Petition to Amend the Interim Instream Flow Standards for Waihe'e, North & South Waiehu, 'Iao, and Waikapū Streams and Their Tributaries."

On October 19, 2004, Hui / MTF also filed a Waste Complaint and a Petition for Declaratory Order against Wailuku Water Company ("WWC"), then known as Wailuku Agribusiness Co., Inc. and Hawaiian Commercial & Sugar Company ("HC&S").

On February 15, 2006, the Commission initiated a contested case hearing ("CCH") CCH-MA06-01, for the 'Iao Aquifer System high-level water use permit applications ("WUPA") in a separate proceeding, and specified that the petition to amend the interim instream flow standards ("IIFS") of the four streams be included in the contested case. The Commission further directed that mediation for the waste complaint be initiated prior to the contested case hearing.

On May 14, 2007, Hui /MTF withdrew its waste complaint. On May 31, 2007, CCH-MA06-02 was dismissed without prejudice.

Beginning December 3, 2007, the contested case evidentiary hearing was held on Maui over the course of 23 days. The hearing concluded on March 4, 2008. Due to the large volume of transcripts that had to be prepared and then made available to and reviewed by the parties, the deadline for the parties' proposed Findings of Fact ("FOF"), Conclusions of Law ("COL"), and Decision and Order ("D&O") was continued until September 26, 2008.

On March 13, 2008, the Commission designated the four streams of Nā Wai 'Ehā as a "surface water management area." The effective date of designation was April 30, 2008 (upon publication of the Public Notice). Applications for existing-use permits had to be filed within one year of the effective date of designation (no later than April 30, 2009).

On April 9, 2009, Hearings Officer Lawrence Miike submitted his Proposed FOF, COL, and D&O to the Commission.

On June 10, 2010, the Commission issued its FOF, COL, and D&O. The Commission amended the IIFS for two of the four streams, retaining the existing IIFS for the two remaining streams (as measured above diversions), and resolved several WUPAs.

On July 14, 2010, OHA and Hui /MTF filed their Notices on Appeal. On July 30, 2010, MDWS filed its Notice of Cross-Appeal. On February 23, 2011, MDWS, OHA, and Hui /MTF filed their Opening Briefs in the Intermediate Court of Appeals ("ICA"). On April 18, 2011, Hui /MTF filed an application to transfer the case to the Hawai'i Supreme Court ("Court"). OHA joined this motion. On June 23, 2011, the Supreme Court accepted the application to transfer the case from the ICA.

On June 6, 2012, the Hawaii Supreme Court held oral arguments.

On August 12, 2012, the Supreme Court issued its opinion a) vacating the Commission's June 10, 2010 FOF, COL, and D&O, and b) remanding for further proceedings consistent with the opinion. *In Re 'Iao Ground Water Management Area High Level Source Water Use Applications, et al.*, 287 P.3d 129 (Haw. Aug. 15, 2012) (Haw. Sup. Ct. No. 30603).

On May 22, 2013, the Commission approved the delegation of authority to the Chairperson to appoint a qualified Hearings Officer to proceed with the Contested Case remand from the Hawaii Supreme Court back to the Commission in CCH-MA06-01.

On June 5, 2013, Chairperson Aila approved the selection of Dr. Lawrence Miike to serve as the Hearings Officer for the instream flow petitions on remand from the Hawaii Supreme Court (CCH-MA06-01).

## ANALYSIS

The Habitat Evaluation Procedure (“HEP”) analysis proposed here will be applied to the four Nā Wai ‘Ehā streams of Waihe‘e, Waiehu, ‘Īao, and Waikapu. The HEP analysis will provide information to help quantify the amount and distribution of native stream animal habitat and the impacts of native stream animals’ habitat due to current surface water diversions.

Three broad areas will be addressed by the Habitat Evaluation Procedure analysis:

1. Loss of habitat as a result of water diversions
2. Barriers to animal movement and migration resulting from diversion structures
3. Entrainment of animals in diversion ditches

The HEP analysis will utilize the stream survey data of Hawaii’s amphidromous stream animals collected by the Hawaii Division of Aquatic Resources (DAR) and others. HEP will take into account local stream conditions as described in the USGS Scientific Investigations Report 2010-5011, *Effects of Surface-Water Diversion on Streamflow, Recharge, Physical Habitat, and Temperature, Nā Wai ‘Ehā, Maui, Hawai‘i* (Oki, et al., 2010).

The HEP analysis will also include the overall concepts developed by the U.S. Fish and Wildlife Service (“USFWS”) to evaluate the quantity and quality of habitat available for a species of concern. In general, a HEP model has several important characteristics:

1. It is a habitat based assessment method.
2. It assumes that habitat quality and quantity are related to the number of animals using a habitat over the long term.
3. It uses measurable attributes of habitat quality and quantity to create relationships between habitat suitability and animal occurrence and density.
4. It converts suitability relationships into standardized Habitat Suitability Indexes (HSI) that encompass the range of observed habitat conditions.
5. The HSI values range from 0 (unsuitable habitat) to 1 (most suitable habitat).
6. It multiplies the habitat quality (value from the HSI) with the habitat quantity (area) to determine overall Habitat Units (HU) within the area of concern.

As a result of the model design, the HEP impact analyses should allow the user to:

1. Provide defined suitability-based estimates of HU within a study area.
2. Provide impact assessments of the changes of HU within the study area under different management scenarios.
3. Provide objective comparable unit measures for multi-site comparisons.
4. Quantify changes in HU to be annualized and comparable with other cost/benefit analyses.
5. Create plots of the distribution of HU in map-based formats (GIS analyses) to address issues of habitat fragmentation or connectivity.

The USFWS HEP user manual describes the HEP model. "HEP is a convenient means of documenting and displaying, in standard units, the predicted effects of proposed actions." USFWS designed HEP to be a legally defensible, standardized format for impact assessment in natural resource settings.

A similar model, the "Hawaiian Stream Habitat Evaluation Procedure" ("HS-HEP") was used by DAR for East Maui streams (Parham, et al., 2009). It received substantial attention during the Commission's May 25, 2010 meeting to amend 19 interim instream flow standards in East Maui. Dr. Miike served on the Commission at that time. As Hearings Officer for the Nā Wai 'Ehā contested case hearing on remand, Dr. Miike expressed interest in calling DAR to provide testimony on its application of the HS-HEP model for East Maui and its applicability to the Nā Wai 'Eha streams. After further discussion with Dr. Miike and DAR, the Commission staff determined that it would be in the Commission's best interest to support and fund a HEP analysis for the Nā Wai 'Eha streams. The Commission staff anticipates completion of HEP analysis in mid- to late November 2013, subject to normal procurement process.

The HEP analysis will include:

1. Ranking of management actions with respect to the amount of habitat created in relation to the amount of water required to achieve certain amounts of habitat.
2. A report documenting the HEP analysis and results
3. Simplified report cards of ranked management actions to allow for comparison among various actions and sites.

#### FUNDING

Staff estimates that up to \$20,000 in funding will be needed to implement the HEP analysis described above for the Waihe'e, Waiehu, 'Īao, and Waiakpu Streams, Nā Wai 'Eha, Maui. Funds will be provided through the Commission's general fund, special fund, or a combination of both, subject to the availability of each kind of funds.

#### ENVIRONMENTAL REVIEW, HAWAII REVISED STATUTES CHAPTER 343.

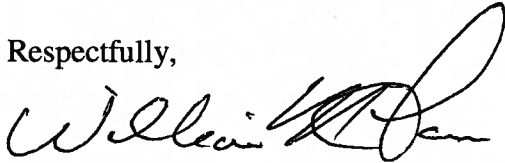
Environmental Assessment ("EA") Triggers. Under HRS §343-5(a), an EA is required for the use of state funds unless exempted. The proposed actions are exempt from an EA based on Haw. Admin. Rule §11-200-8(a), basic data collection, research, experimental management and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource.

RECOMMENDATION

The Staff recommends that the Commission:

1. Authorize the Commission staff to procure consultant services, not to exceed \$20,000, to conduct a Habitat Evaluation Procedure (HEP) analysis of Waihe'e, Waiehu, 'Īao, and Waikapu Streams in Nā Wai 'Ehā, Maui and submit the report as soon as practical.

Respectfully,



WILLIAM M. TAM  
Deputy Director

APPROVED FOR SUBMITTAL:



WILLIAM J. AILA, JR.  
Chairperson

CWRM September 18, 2013, Request Authorization to Procure Consultant Services to Conduct a Habitat Evaluation Procedure (HEP) Analysis of Waihe'e, Waiehu, 'Īao, and Waikapu Streams in Nā Wai 'Ehā, Maui