

Report to the Twenty-Sixth Legislature  
2011 Regular Session

**HAWAII'S STREAM PROTECTION PROGRAM AND  
IDENTIFICATION OF "WILD AND SCENIC RIVERS"**



Prepared by the  
**HAWAII COMMISSION ON WATER RESOURCE MANAGEMENT**

Department of Land and Natural Resources  
State of Hawaii

Pursuant to

Hawaii Revised Statutes  
Section 174C-31(c) (4),

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# HAWAII'S STREAM PROTECTION PROGRAM AND IDENTIFICATION OF "WILD AND SCENIC RIVERS"

## INTRODUCTION

Hawai'i Revised Statutes (HRS), Section 174C-31 of the State Water Code, provides that the Hawai'i Commission (Commission) on Water Resources Management shall:

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

This Report to the Legislature provides an update on the Commission's current activities (which is attached to the Department of Land and Natural Resources' (DLNR) to implement HRS sec.174C-31.

## BACKGROUND

In the early 1990s, the Commission and the National Park Service jointly prepared an initial Hawaii Stream Assessment (HSA), a two-year project with two primary objectives: 1) Inventory Hawaii's perennial streams and their physical characteristics and 2) Assess the aquatic, riparian, cultural, and recreational values of Hawaii's perennial streams. This required: 1) centralizing stream-related data and reference sources in a database and bibliography; 2) identifying and prioritizing areas where more information is needed; 3) providing data to assist in making management decisions within a statewide context rather than on an ad hoc basis; 4) developing general stream protection guidelines; and 5) identifying specific streams appropriate for protection and enhancement.

On August 22, 2000, the Hawaii Supreme Court issued its decision in the Waiahole Contested Case. The Court emphasized that "instream flow standards serve as the primary mechanism by which the Commission is to discharge its duty to protect and promote the entire range of public trust purposes dependent upon instream flows." Accordingly, to implement HRS Sec.174C-31, the Commission directed its efforts to (a) develop a methodology for establishing instream flow standards, and (b) identify high quality "wild and scenic rivers" and streams worthy of special protection.

The Commission established the Stream Protection and Management (SPAM) Branch in July, 2002. The SPAM Branch is comprised of the Instream Use and Protection Section and the Surface Water Regulation Section. A Program Implementation Plan was prepared by the SPAM Branch in July 2005. Its mission is to:

## **Manage and Protect Hawaii's Surface Water Resources through a Comprehensive Instream Use Protection Program and the Establishment of Instream Flow Standards.**

This Report updates the activities, projects, and studies currently being carried out by the Commission's SPAM Branch to develop and implement a statewide stream protection program. Please refer to past legislative reports for previous update information.

### **STREAM PROTECTION AND MANAGEMENT UPDATES**

#### **Stream Protection and Management (SPAM) Branch:**

In 2006, the Legislature expanded the SPAM Program by adding a second hydrologist position and one geologist position. This expansion enabled the SPAM Program to make considerable progress.

The geologist position was filled in late 2009 (following the State Reduction-in-Force); however, the position was vacated in April 2010. The Commission has been unable to fill the vacancy as a result of hiring restrictions.

The Hydrologic Program Manager, the SPAM Branch Chief retired at the end of 2009. In September 2010, the Commission received approval to fill the position, but has chosen to fill two entry Hydrologist positions instead.

#### **Implementation of Priority Interim Instream Flow Standards (Interim IFS) for East Maui.**

On September 25, 2008 the Commission approved staff recommendations (with minor amendments) to establish measurable interim IFS for eight streams in the hydrologic units of Honopou, Hanehoi, Piinaau, Waiokamilo, and Wailuanui. Subsequently, the Commission continues to monitor and evaluate stream flow following East Maui Irrigation Company (EMI) actions to determine if the interim IFS needs to be adjusted.

The Commission began to address the remaining nineteen petitions in the hydrologic units of Waikamoi, Puohokamoa, Haipuaena, Punalau, Honomanu, Nuaailua, Ohia (Waianu), West Wailuaiki, East Wailuaiki, Kopiliula, Waiohue, Paakea, Waiaaka, Kapaula, Hanawi, and Makapipi. In October 2009, the Commission held a public fact finding meeting to receive testimony and additional information for the Instream Flow Standard Assessment Report (IFSAR) for each of the sixteen hydrologic units. The Commission conducted a site visit to the three largest surface water users of East Maui streams.

In December 2009, the Commission held a two-day meeting on Maui to consider recommendations on nineteen East Maui interim IFS petitions. The Commission did not reach a decision at that meeting, but directed parties to provide additional information regarding their water requirements. In the following four months, the Chairperson and Commission staff held

multiple meetings with DLNR's Division of Aquatic Resources, United States Geological Survey (USGS), EMI, Native Hawaiian Legal Corporation, Maui County Department of Water Supply (Maui DWS), and Maui Land & Pineapple Company to discuss additional data needs.

On May 25, 2010, the Commission established measurable interim IFS for the remaining nineteen East Maui streams. Shortly thereafter, the Commission entered into a joint funding agreement with USGS to install and develop rating curves for six staff gages on Waikamoi, West Wailuaiki, East Wailuaiki, Waiohue, and Makapipi Streams. In July 2010, USGS completed installation of all six gages. USGS is conducting stream flow measurements to develop the rating curve for each of the gages. The gages provide convenient and efficient monitoring for the Commission and the community.

In August 2010, the Commission staff met with USGS and EMI to discuss the scope of a system efficiency study for the entire EMI Irrigation System. USGS is currently preparing a scope of work and cost estimates. USGS discussed installing continuous gaging stations to monitor the interim IFS and water use reporting at specific locations along the EMI Irrigation System.

The Commission entered into an agreement with USGS to conduct a controlled-flow release study on Makapipi Stream to determine: 1) the gaining and losing reaches of the stream downstream from the EMI major diversion; and 2) if the released flow would reach the stream mouth. During the week of September 13-17, 2010, the Commission and USGS worked with the Nahiku Community Association and EMI to conduct the study. A known volume of water was released from the EMI diversion. Stream flow measurements were taken at various points downstream, starting below the diversion and working down stream to the ocean. USGS is analyzing the results.

The Commission continues site visits to East Maui to measure stream flow, document EMI actions to release water, and conduct field investigations related to water use and physical stream conditions. For more detailed information on the implementation of interim IFS for the five priority hydrologic units in East Maui, go to the Commission website: [http://hawaii.gov/dlnr/cwrm/currentissues\\_EastMauiIFS.htm](http://hawaii.gov/dlnr/cwrm/currentissues_EastMauiIFS.htm).

For more information on the Petitions to Amend the Interim IFS for 27 Streams in East Maui, view field reports, or download any one of the IFSARs, go to the Commission website: [http://hawaii.gov/dlnr/cwrm/currentissues\\_Petition27EastMaui.htm](http://hawaii.gov/dlnr/cwrm/currentissues_Petition27EastMaui.htm).

**Iao Ground Water Management Area High-Level Source Water Use Permit Applications and Petition to Amend Interim Instream Flow Standards of Waihee, Waiehu, Iao, & Waikapu Streams Contested Case Hearing:**

In June 2010, the Commission issued its final Decision & Order in the contested case to set interim IFS for four West Maui streams – Waihee, Waiehu, Iao and Waikapu – known together as “Na Wai Eha.” On August 9 and 10, 2010, the Wailuku Water Company (WWC) and Hawaiian Commercial & Sugar Company (HC&S), in coordination with Commission staff, released water below their respective diversions on Waihee River and North and South Waiehu

Streams. A news release was issued one week prior to inform the public about the release and potential safety concerns.

In the days leading up to and following the releases, the Commission, WWC, and HC&S received complaints from kuleana users indicating that water supply had been reduced or cut-off. Kuleana users on the South Waiehu Auwai system were directly impacted by the stream flow restoration. In response to the complaints, the parties prepared a stipulation (which the Commission approved) to suspend the implementation of interim IFS on South Waiehu Stream for 60 days. The parties did not reach an agreement on any course of action for Waihee River and North Waiehu Stream.

Following the June 2010 Decision & Order, the Commission (through an existing joint funding agreement with the USGS) installed staff gages and developed rating curves in east Maui, and reallocated four staff gages to the Waihee River, North and South Waiehu Streams. On September 8, 2010, the Commission staff accompanied USGS to survey these streams to select four potential sites to install gages in the Waihee and Waiehu Streams.

The Commission is coordinating with WWC and HC&S as they continue to adjust the diversion structures and incrementally increase stream flow releases to fully comply with the Decision & Order. Upon completion, the Commission staff will conduct a site visit with USGS to document the diversion modification and verify the interim IFS stream flow at selected sites below the diversions.

For more information on the Iao Ground Water Management Area High-Level Source Water Use Permit Applications and Petition to Amend Interim Instream Flow Standards of Waihee, Waiehu, Iao, & Waikapu Streams Contested Case Hearing (CCH-MA-01), go to the Commission website: [http://hawaii.gov/dlnr/cwrn/currentissues\\_CCHMA0601.htm](http://hawaii.gov/dlnr/cwrn/currentissues_CCHMA0601.htm).

### **Verification of Surface Water Use Permit Applications for Existing Uses**

On March 13, 2008, the Commission designated the Na Wai Eha Surface Water Hydrologic Units of Waihee, Waiehu, Iao, and Waikapu as Surface Water Management Areas. The Commission received 125 applications for existing surface water uses; ten were rejected as incomplete. The 115 permit applications collectively requested 61.69 million gallons per day. 301 objections were filed on the surface water use permit applications - a majority from competing large users (i.e., HC&S, WWC, and Maui DWS).

In July and August 2010, the Commission staff conducted four field investigations to verify existing water uses as part of the review for all surface water use permit applications for existing uses. During the investigation, staff met with the applicants and documented surface water source and use. Further analyses will be conducted to determine reasonable use, alternative sources, and appurtenant rights claimed.

The Commission is currently working with the Department of the Attorney General to conduct a public hearing on the surface water use permits on existing uses, to hear testimony on practicable alternatives, water duties, Hawaiian rights, and public trust uses related to these applications.

For more information on the Surface Water Management Area designation of the Na Wai Eha surface water hydrologic units, or to view the existing surface water use permit applications, go to the Commission website: [http://hawaii.gov/dlnr/cwrm/currentissues\\_SWMANaWaiEha.htm](http://hawaii.gov/dlnr/cwrm/currentissues_SWMANaWaiEha.htm).

### **Central Maui (Na Wai Eha) Stream Study:**

In June 2006, the Commission, Maui DWS, Maui Office of Economic Development, and Office of Hawaiian Affairs entered into a cooperative agreement with USGS to conduct a multi-phase study to assess hydrological and biological conditions of Waihee River and Waiehu, Iao, and Waikapu Streams. The final report was published in May 2010. For more information on the Central Maui (Na Wai Eha) Stream Study, or to download the report, go to the USGS website at: <http://pubs.usgs.gov/sir/2010/5011/>.

### **Statewide Stream Diversion Study:**

The 2006 Legislature, Act 160, appropriated funds to the Commission to conduct statewide field investigations to verify and inventory surface water uses and stream diversions, and to update existing surface water information. The Commission contracted R.M. Towill Corporation (Consultant); the Stream Diversion Study commenced in March 2007.

The Consultant inspected 1,022 diversions on Maui and Kauai. The data (field notes, photographs, stream flow measurements, etc.) and final summary findings report were delivered to the Commission in December 2009. The Commission is incorporating the field investigation reports and findings as part of its integrated database system to manage diversion information statewide.

### **Statewide Inventory of Stream Channel Alterations:**

Recognizing the importance and continuing need for stream information, the Commission appropriated \$200,000 from its Fiscal Year 2007 budget to conduct a Statewide Stream Channel Condition Inventory (Inventory). The Commission contracted PBR Hawaii & Associates, Inc. (Consultant); the Inventory work began in June 2008.

The Consultant completed the report and geodatabase product which was delivered to the Commission in January 2010. The Commission is working to incorporate this geodatabase as part of its integrated database system to track stream channel alterations statewide. The database has also been provided to the Division of Aquatic Resources to assist in their development of a Hawaii Fish Passage Barriers Inventory in coordination with the Hawaii Fish Habitat Partnership. A copy of the final report will be made available online with the geodatabase available from the Commission on request.

### **Assessment of Methods for Measuring Diverted Stream flow:**

Following designation of Na Wai Eha, Maui as a surface water management area, the Commission required water use permits for stream diversions and withdrawal of stream water. Permit conditions for new and existing uses may include measurement of flow. The

Commission contracted Element Environmental, LLC. (Consultant) to prepare an Assessment of Methods for Measuring Diverted Stream flow (Assessment). The work commenced in August 2008.

In December, 2009, the final report was delivered. The report serves as a reference handbook to assist water users in selecting an appropriate method to measure the volume of water that diverted and used. A copy of the handbook will be made available online.

### **Punaluu Watershed Alliance**

The Punaluu Watershed Alliance (Alliance), comprised of the Punaluu Community Association, Kamehameha Schools, Honolulu Board of Water Supply (BWS), USGS, and the Commission, was formed to provide better information for setting IFS, build community participation, and provide opportunities for student education. On October 19, 2005, the parties entered a formal memorandum of understanding to establish the Alliance.

Commission staff continues to meet regularly with the Alliance to discuss community needs and concerns, in addition to coordinating efforts to address IFS. Information on the Punaluu Watershed Alliance will be on the Commission website shortly.

### **Lalakea Alternative Mitigation Project:**

The Lalakea Alternative Mitigation Project (LAMP) is the product of an alternative settlement agreement with Kamehameha Schools. In February 2002, the Commission ordered Kamehameha Schools to develop an alternative mitigation project in lieu of a \$453,000 fine. The resulting LAMP is a cooperative effort between Kamehameha Schools and Bishop Museum, subject to Commission oversight.

In June 2006, the last educational and research field trip took place. In November 2008, Kamehameha Schools submitted the final report. Information on LAMP will be available on the Commission website shortly.

### **National Hydrography Dataset (NHD):**

NHD is a comprehensive set of digital spatial data that contains information about surface water features such as lakes, ponds, streams, rivers, and springs. The dataset interconnects and uniquely identifies the stream segments or reaches that make up the Nation's surface water drainage system, like addresses on streets. Water-related information (e.g., length, discharge, etc) can be attributed to each stream segment or surface water feature. Since NHD provides a nationally consistent framework for attribution and analysis, water-related information provided by one organization (national, state, local) can be shared with other organizations, and easily integrated into many different types of applications that benefit all. NHD will enable scientists to link data about water quality, water flow, aquatic species, and other important information.

A more complete database of Hawai'i's surface water information will improve understanding of the resource, provide better data for decision making, and expand the exchange of information

between government agencies. In August, 2009, a Memorandum of Understanding (MOU) was executed among the Department of Health (DOH), DLNR, the Office of Planning, and USGS to update the base surface water map using local knowledge of the resource from the State.

DOH played a key role in securing funding and a position to support Phase I of the NHD maintenance. As of September 2010, updates for seven of the eight Main Hawaiian Islands were completed. Information and the newest NHD are available from USGS at: <http://nhd.usgs.gov/data.html>. Additional information on the NHD and Hawaii stewardship effort is expected to be available on the Commission website soon.

**USGS Cooperative Agreement:**

The Cooperative Agreement between USGS and Hawaii began in 1909 when USGS entered into an agreement with the Territory of Hawaii. Over 140 (37%) of the 376 perennial streams in Hawaii have been gaged since the inception of the cooperative program. However, there has been a steady decline in the number of monitored streams. This has severely diminished the amount of data available to water resource managers.

This year's Agreement remains basically the same as the previous year with one notable difference. The Commission will reinstate six monitoring stations as a result of increased matching funds from USGS for Federal Fiscal Year (FFY) 2011. The site selections were chosen to expand data collection coverage and increase the Commission's ability to monitor water resource changes.

The table below summarizes the Cooperative Agreement's annual changes in funding.

<b>COST</b>	<b>FFY 2009</b>	<b>FFY 2010</b>	<b>FFY 2011</b>
Total Joint Funding Requirement	\$837,334	\$718,400	\$809,980
Expected CWRM cost-share	\$504,000	\$405,500	\$404,990
Percentage CWRM cost-share	60%	56%	50%
DOFAW Watershed Management Grant	\$48,896	\$0	\$0
Waiahole Ditch Monitoring Fund	\$48,896	\$50,500	\$35,495
Ground water well continuous monitoring	\$5,730	\$6,000	\$6,000
Rain gage continuous recording	\$9,168	\$9,600	\$9,790
Continuous recording stream gage	\$19,100	\$20,000	\$20,400

The table below indicates the number of gages FFY 2007 to FFY 2011.

<b>GAGING STATION TYPE</b>	<b>FFY 2007</b>	<b>FFY 2008</b>	<b>FFY 2009</b>	<b>FFY 2010</b>	<b>FFY 2011</b>
No. of continuous stream gages	32	32	27	25	<b>28</b>
No. of wells (ground water levels and water quality)	31	34	26	17	<b>20</b>
No. of rain gages	22	21	18	14	<b>14</b>

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

#### **Waiahole Ditch Contested Case Hearing:**

On August 22, 2000, the Hawai'i Supreme Court issued its first ruling in the Waiahole Ditch Contested Case Decision and Order issued by the Commission on December 24, 1997. On remand, the Commission issued its third Findings of Fact, Conclusions of Law, and Decision and Order (D&O III) on July 13, 2006. On August 11, 2006, three parties filed cross notices of appeal. The Intermediate Court of Appeal recently issued its ruling and remanded one final question to the Commission for determination.

For more information on the Waiahole Ditch Combined Contested Case Hearing (CCH-OA95-01), see Commission website at: [http://hawaii.gov/dlnr/cwrm/currentissues\\_CCHOA9501.htm](http://hawaii.gov/dlnr/cwrm/currentissues_CCHOA9501.htm).

#### **CONCLUSION**

The ongoing efforts identified in this report are consistent with the Supreme Court's directives and will provide needed information to support implementation of a comprehensive stream protection and management program statewide. Refined assessments of available water resources, as they are developed from ongoing and new data collection, will be incorporated in the Hawaii Water Plan.

All of the efforts described above are critical to developing IFS and will improve the Commission's management of surface water resources, enhance the surface water data collection and monitoring program, and facilitate the discussion and agency / public input into stream-related issues.