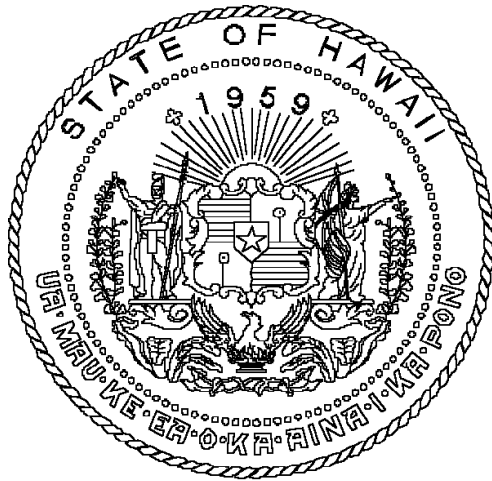


Report to the Twenty-Sixth Legislature
2012 Regular Session

**IDENTIFICATION OF RIVERS AND STREAMS
WORTHY OF PROTECTION**



Commission on Water Resource Management

Department of Land and Natural Resources

State of Hawaii

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

Honolulu, Hawaii

November 2011



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IDENTIFICATION OF RIVERS AND STREAMS WORTHY OF PROTECTION

I. INTRODUCTION

Section 174C-31(c) (4), Hawaii Revised Statutes (HRS), State Water Code provides that the Commission on Water Resource Management (Commission),

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

This Report updates the Legislature on the Commission's 2011 activities to implement Section 174C-31(c) (4), HRS.

II. BACKGROUND

In 1990, the Commission (in partnership with the National Park Service) prepared the Hawaii Stream Assessment (HSA). This 2 year project had 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.

The secondary objectives were to: 1) Centralize stream-related data and reference sources in a database and bibliography; 2) Identify and prioritize areas where more information is needed; 3) Provide data to assist in making management decisions within a statewide context rather than on an ad hoc basis; 4) Develop general stream protection guidelines; and 5) Identify specific streams appropriate for protection and enhancement.

On August 22, 2000, the Hawaii Supreme Court (Supreme Court) released its decision in the Waiahole Ditch Contested Case Hearing. In its decision, the Supreme Court emphasized that "instream flow standards serve as the primary mechanism by which the Commission is to discharge its duty to protect and promote the entire range of public trust purposes dependent upon instream flows." 94 Haw. 97, 9 P.3 409 (2000). Accordingly, the Commission directed its efforts to develop a methodology to establish instream flow standards, to ultimately identify rivers and streams worthy of protection and implement Section 174C-31(c)(4), HRS.

In July 2002, pursuant to the Waiahole decision, the Commission established the Stream Protection and Management (SPAM) Branch. The SPAM Branch includes the "Instream

Use and Protection Section” and the “Surface Water Regulation Section.” In July 2005, the SPAM Branch prepared a Program Implementation Plan to “[m]anage and Protect Hawaii’s Surface Water Resources through a Comprehensive Instream Use Protection Program and the Establishment of Instream Flow Standards.”

This Annual Report updates the activities, projects, and studies currently being carried out by the Commission’s SPAM Branch to develop and implement a statewide stream protection program. For work prior to 2011, please see previous year’s annual reports.

III. STREAM PROTECTION AND MANAGEMENT UPDATES

A. SPAM Branch:

For much of 2011, the SPAM Program has continued to function with three vacancies consisting of the Hydrologic Program Manager, or Branch Chief, one hydrologist, and one geologist. In August 2011, the Commission received authorization to begin recruitment for the Branch Chief and hydrologist positions. The hiring process commenced on September 16, 2011.

B. Implementation of Priority Interim Instream Flow Standards (Interim IFS) for East Maui:

On May 25, 2010, the Commission established measurable interim IFS for the remaining nineteen East Maui streams. In summary, the Commission approved the following: 1) A conditional interim IFS of 0.93 cubic feet per second (cfs), equivalent to 0.6 million gallons per day (mgd) for Makapipi Stream; 2) An annual interim IFS of 0.1 cfs (0.06 mgd) for Hanawi Stream immediately below the diversion to provide for connectivity for stream biota; 3) Seasonal interim IFS for Waikamoi (including Alo), West Wailuaiki, East Wailuaiki, and Waiohue Streams; and 4) Establishing measurable interim IFS of status quo conditions for the remaining streams (See Table 1 below). Following the Commission’s decision and prior to the close of the Commission meeting, Native Hawaiian Legal Corporation (NHLC) requested, on behalf of its clients, to protect their right for a contested case hearing. No other parties made a request for a contested case hearing.

Table 1. SUMMARY: Interim IFS - 19 east Maui streams

(Approved by the Commission at its May 25, 2010 meeting.)

(Note: [cfs = cubic feet per second; mgd = million gallons per day])

Stream Name	Interim IFS Amounts				Approximate Restoration Amounts				Altitude <i>feet</i>
	Wet Season		Dry Season		Wet Season		Dry Season		
	<i>cfs</i>	<i>mgd</i>	<i>cfs</i>	<i>mgd</i>	<i>cfs</i>	<i>mgd</i>	<i>cfs</i>	<i>mgd</i>	
1 Waikamoi	2.80	1.81	0	0	2.60	1.68	0	0	550
2 Alo	--	--	--	--	--	--	--	--	--
3 Wahinepee	0.50	0.32	<i>(Annual)</i>		--	--	--	--	575
4 Puohokamoa	0.40	0.26	<i>(Annual)</i>		--	--	--	--	565
5 Haipuaena	0.10	0.06	<i>(Annual)</i>		--	--	--	--	510
6 Punalau/Kolea	0.20	0.13	<i>(Annual)</i>		--	--	--	--	40
7 Honomanu	0	0	<i>(Annual)</i>		--	--	--	--	20
8 Nuaailua	3.10	2.00	<i>(Annual)</i>		--	--	--	--	110
9 Ohia (Waianu)	4.60	2.97	<i>(Annual)</i>		--	--	--	--	195
10 West Wailuaiki	3.80	2.46	0.40	0.26	3.80	2.46	0.40	0.26	1,235
11 East Wailuaiki	3.70	2.39	0.20	0.13	3.70	2.39	0.20	0.13	1,235
12 Kopiliula	0.50	0.32	<i>(Annual)</i>		--	--	--	--	1,270
13 Puakaa	0.60	0.39	<i>(Annual)</i>		--	--	--	--	1,235
14 Waiohue	3.20	2.07	0.10	0.06	3.2	2.07	0.10	0.06	1,195
15 Paakea	1.50	0.97	<i>(Annual)</i>		--	--	--	--	1,265
16 Waiaaka	0	0	<i>(Annual)</i>		--	--	--	--	1,235
17 Kapaula	0.20	0.13	<i>(Annual)</i>		--	--	--	--	1,194
18 Hanawi	0.10	0.06	<i>(Annual)</i>		0.10	0.06	<i>(Annual)</i>		1,315
19 Makapipi	0.93	0.60	<i>(Annual)</i>		0.93	0.60	<i>(Annual)</i>		935

On June 3, 2010, the Maui Department of Water Supply (Maui DWS) filed an application to be a party in a contested case hearing before the Commission. The interest asserted by Maui DWS was as the County's purveyor of water to the public, including homes, farms, schools, churches, and businesses in Upcountry Maui.

On June 4, 2010, NHLC, on behalf of Na Moku Aupuni O Koolau Hui (Na Moku), filed a petition for a contested case hearing before the Commission. The interest asserted by Na Moku was the right to sufficient streamflow to support the exercise of their traditional and customary native Hawaiian rights to grow kalo and gather in, among, and around East Maui streams and estuaries and the exercise of other rights for religious, cultural, and subsistence purposes. The petition focused specifically on 13 of the original 19 streams from the Commission's decision:

Waikamoi, Puohokamoa, Haipuaena, Punalau/Kolea, Honomanu, West Wailuaiki, East Wailuaiki, Kopiliula, Puakaa, Waiohue, Paakea, Kapaula, and Hanawi Streams.

On October 18, 2010, the Commission denied the petitions for a contested case hearing filed by the Maui DWS and NHLC, on behalf of Na Moku, on the grounds that: 1) Neither the statutes nor the rules require the Commission to hold a hearing prior to deciding on whether to amend an interim IFS, due process considerations do not require a hearing prior to decision making by the Commission, and neither petitioner has a property interest in the determination of the public's interest in streamflows; and 2) The amendment of the interim IFS for the subject streams was couched in terms of flows required at a particular point in the stream and the Commission's decision did not give any party any rights or privileges in streamflows.

On November 17, 2010, NHLC submitted a Notice of Appeal to the Intermediate Court of Appeals (ICA) challenging the Commission's decision to deny its Petition for Contested Case Hearing. NHLC's opening brief was subsequently filed on May 18, 2011.

On August 31, 2011, the ICA dismissed the Appeal by Na Moku citing lack of jurisdiction. A subsequent Motion for Reconsideration was filed by NHLC on September 12, 2011, which was denied by the ICA on September 15, 2011.

Despite the aforementioned legal issues, the Commission staff is continuing to work with East Maui Irrigation Co. (EMI) and the communities to implement, monitor, and assess the interim IFS established by the Commission.

In September 2010, Commission staff accompanied the United States Geological Survey (USGS) in conducting a controlled flow release of water past EMI's Makapipi Stream diversion. The objectives of the study, initiated at the request of the Commission, were to: 1) Identify gaining and losing reaches downstream of the EMI diversion; and 2) Determine if the released flow would reach the stream mouth. The results of the study are available from the Commission upon request.

In February 2011, the Commission entered into a joint funding agreement with the USGS to conduct an East Maui Irrigation Diversion System Seepage Reconnaissance Study to assess the amount of losses or gains from the four main ditches in the EMI water transmission system. The results of the 1.5-year study are expected to be published in August 2012. See the section below for more details.

By February 2011, Commission staff also completed the installation of eight water-level pressure transducers and three barometric pressure transducers in East Maui. Staff will continue to maintain and monitor these eight gaging stations on a quarterly basis.

In April 2011, Commission staff accompanied staff from Hawaiian Commercial and Sugar Co. (HC&S), EMI, and the Division of Aquatic Resources (DAR) in the field to discuss potential diversion modifications and address biological connectivity issues for native amphidromous macro fauna (e.g. 'o'opu, 'ōpae, hīhīwai). HC&S and EMI have since been implementing the discussed measures and are nearing completion on the modifications.

The Commission is continuing to conduct site visits to East Maui to monitor streamflow, conduct additional field investigations related to water use and physical stream conditions, and meet with area residents. For more detailed information on the implementation of East Maui interim IFS, see the Commission website at: 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, to view field reports, or to download any one of the Instream Flow Standard Assessment Reports, see Commission website: http://hawaii.gov/dlnr/cwrm/currentissues_Petition27EastMaui.htm.

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

In June 2010, the Commission issued its final Decision and Order setting interim IFS for four West Maui streams – Waihee, Waiehu, Iao and Waikapu (collectively “Na Wai Eha”). The amended interim IFS for Na Wai Eha streams are summarized in Table 2 below.

Table 2. SUMMARY: Interim IFS for four Na Wai Eha streams

(Approved by the Commission in its June 10, 2010 Decision and Order.)

(Note: [cfs = cubic feet per second; mgd = million gallons per day])

Stream Name	Altitude <i>feet</i>	UPPER		MIDDLE			LOWER		
		Interim IFS <i>cfs</i>	Interim IFS <i>mgd</i>	Altitude <i>feet</i>	Interim IFS <i>cfs</i>	Interim IFS <i>mgd</i>	Altitude <i>feet</i>	Interim IFS <i>cfs</i>	Interim IFS <i>mgd</i>
Waihee	> 605	44.9	29.0 ¹	< 605	15.5	10.0	~ 0*	9.28	6.0
North Waiehu	> 880	3.56 – 4.18	2.3 – 2.7 ²	< 880	2.48	1.6			
South Waiehu	> 870	2.94 – 4.33	1.9 – 2.8 ³	< 870	1.39	0.9	~ 0*	0.93	0.6
Iao	> 780	27.9	18.0 ⁴	--	--	--	--	--	--
Waikapu	> 880	6.03 – 8.05	3.9 – 5.2 ⁵	--	--	--	--	--	--

* The Decision and Order identifies the interim IFS at the mouth of the river/stream. There is only one interim IFS for the lower site of North and South Waiehu Streams, since this is located below the confluence of the two streams.

¹Q₇₀ flow for Waihee River; other Q values identified for this site are Q₉₀ of 24 mgd and Q₅₀ of 34 mgd.

²Q₇₀ flow for North Waiehu Stream; other Q values identified for this site are Q₉₀ of 1.4 mgd to 2.7 mgd and Q₅₀ of 3.1 mgd to 3.6 mgd.

³Q₇₀ flow for South Waiehu Stream; other Q values identified for this site are Q₉₀ of 1.3 mgd to 2.0 mgd and Q₅₀ of 2.4 mgd to 4.2 mgd.

⁴Q₇₀ flow for Iao Stream; other Q values identified for this site are Q₉₀ of 13 mgd and Q₅₀ of 25 mgd.

⁵Q₇₀ flow for Waikapu Stream; other Q values identified for this site are Q₉₀ of 3.3 mgd to 4.6 mgd and Q₅₀ of 4.8 mgd to 6.3 mgd.

As described in the 2010 report, on August 9 and 10, 2010, Wailuku Water Company (WWC) and HC&S, in coordination with Commission staff, released water past their respective diversions on Waihee River, North and South Waiehu Streams. Prior 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 streamflow restoration. In response to the complaints, the parties prepared a stipulation and order (“S&O”) which the Commission approved. The S&O suspends 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.

Pursuant to the S&O for South Waiehu Stream, HC&S closed the sluice gate on its diversion to again divert streamflow into a side ditch leading to the main Spreckels Ditch. The downstream kuleana users take water from this side ditch. On October 30, 2010, the S&O expired. HC&S reopened the sluice gate and restored streamflow in South Waiehu. As a result, the kuleana users were again without water.

On November 4, 2010, the Commission approved a second S&O suspending implementation of the interim IFS on South Waiehu for an additional 60 days. The parties eventually agreed to a third S&O (approved by the Commission on January 3, 2011) suspending full implementation of the interim IFS for one year. This stay will enable Commission staff to collect data on streamflow diverted by the Spreckels side ditch. The Third S&O ordered HC&S to proceed with repair of the concrete apron on the South Waiehu diversion structure, subject to obtaining any required permit approvals and suitable access from adjacent property owners.

By February 2011, Commission staff completed the installation of two water-level pressure transducers and one barometric pressure transducer on Waihee River and Waiehu Stream. Staff installed a staff plate and water-level pressure transducer in the Spreckels side ditch on South Waiehu. These gaging stations continue to be maintained and are monitored quarterly.

For 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, and Waikapu Streams Contested Case Hearing (CCH-MA-01), see Commission website: http://hawaii.gov/dlnr/cwrm/currentissues_CCHMA0601.htm.

D. Surface Water Use Permit Applications for Na Wai Eha:

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 a total of 125 applications for existing surface water uses. Ten applications were rejected as incomplete. The total amount of water requested in the 115 permit applications was 61.69 million gallons per day. The number of objections filed to the surface water use permit applications is 301. A majority were filed by competing large users (i.e., HC&S, WWC, and Maui DWS).

On September 27, 2011, the Commission adopted a process for determining appurtenant rights. This is the first step towards further evaluating and making decisions on surface water use

permits. The three-step process proceeds as follows: 1) Notice to potential claimants of the Commission's intent to process and recognize claims for appurtenant rights as part of the surface water use permitting process; 2) Determination of appurtenant rights based on the evidence provided by each claimant; and 3) Quantification of appurtenant rights as part of the surface water use permitting process.

For more information on the designation of the Na Wai Eha surface water hydrologic units and Surface Water Management Area, or to view the existing surface water use permit applications, see website at: http://hawaii.gov/dlnr/cwrm/currentissues_SWMANaWaiEha.htm.

E. East Maui Irrigation Diversion System Seepage Reconnaissance Study:

On February 25, 2011, the Commission entered into a joint funding agreement (JFA) with the USGS to conduct a reconnaissance level study of four main ditches comprising the EMI Diversion System. The EMI System, consists of about 75 miles of open ditches and tunnels. The system diverts and transports water from Northeast Maui streams to Central Maui for sugarcane cultivation, general agriculture, and domestic use through the public water system. This study is expected to aid the Commission staff in evaluating the interim IFS flows established in East Maui.

During this 1.5-year study, the USGS will assess, at a reconnaissance level, the amount of seepage into or from the EMI System by documenting seepage rates for various types of construction along sections of the ditch. HC&S funded approximately 1/3 of the study cost (total study cost is \$130,000). The results of this study (including a map characterizing construction types for the ditch system) are expected in August 2012. The study will be published in a USGS Open-File Report and made available through the Internet.

F. Low-Flow Characteristics for Streams in the Lahaina District of West Maui, Hawaii:

On June 21, 2011, the Commission entered into a JFA with the USGS to conduct a low-flow study of the main streams within ten watersheds in the Lahaina District. The streams to be studied include Honolua, Honokahua, Kahana, Honokowai, Wahikuli, Kahoma, Kauaula, Launiupoko, Olowalu, and Ukumehame. The initial need for the study arose from two petitions to establish amended interim IFS for Honokohau and Honolua Streams in Northwest Maui (submitted in August 2006 by Maui Pineapple Company, Inc.) The study area was expanded due to development pressures and changes in land use in West Maui.

Separately, the Commission is finalizing a cost share agreement with the United States Army Corps of Engineers (USACE) to undertake a watershed assessment management plan (WAMP) in West Maui. The Commission is one of several non-federal participating sponsors. The USGS study is expected to supplement the WAMP considerably as both project areas partially overlap. The streamflow characteristics will support multiple facets of the USACE effort.

The USGS study (July 1, 2011 to June 30, 2014) will proceed in five steps:

- 1) Conduct background research on existing surface water diversions, rainfall, ground water, and surface water;
- 2) Conduct stream reconnaissance surveys to understand the hydrologic conditions;
- 3) Establish low-flow partial records stations to quantify streamflow under various conditions;
- 4) Conduct seepage analyses to characterize gains and losses in streamflow; and
- 5) Prepare maps (to be published as part of the report).

The report is expected to be done by June 2014. It will be published in a USGS Scientific Investigation Report and made available through the Internet.

G. USGS Cooperative Agreement:

In 1909, the USGS and then Territory (now State) of Hawaii officially began a cooperative agreement to gage Hawaii streams (and measure Hawaii's groundwater). Since 1909, over 140 (37%) of Hawaii's 376 perennial streams have been gaged. However, there has been a steady decline in the number of monitored streams and thus the amount of data available to water resource managers.

The nature of the Cooperative Agreement and the Parties' relationship remains the same as in prior years. However, the total number of stations has been and continues to be reduced. For Federal Fiscal Year (FFY) 2012, USGS monitoring costs will increase by roughly 10% while the Commission contribution will rise to approximately 57% of the cooperative monitoring program (See Table 3). These changes will result in the loss of at least one stream gaging station and two ground water well stations (See Table 4).

Table 3. SUMMARY: annual changes in funding requirements for this cooperative Agreement.

COST	FFY 2010	FFY 2011	FFY 2011
Total Joint Funding Requirement	\$718,400	\$809,980	\$857,760
Expected CWRM cost-share	\$405,500	\$404,990	\$487,760
Percentage CWRM cost-share	56%	50%	57%
DOFAW Watershed Management Grant	\$0	\$0	\$0
Waiahole Ditch Monitoring Fund	\$50,500	\$35,495	\$32,850
Ground water well continuous monitoring	\$6,000	\$6,000	\$6,800
Rain gage continuous recording	\$9,600	\$9,790	\$10,800
Continuous recording stream gage	\$20,000	\$20,400	\$22,500

Table 4. SUMMARY: changes in the number of gages from Fed FY 2008 to Fed FY 2012.

GAGING STATION TYPE	FFY 2008	FFY 2009	FFY 2010	FFY 2011	FFY 2012
No. of continuous stream gages	32	27	25	28	27
No. of wells (ground water levels and water quality)	34	26	17	20	18
No. of rain gages	21	18	14	14	14

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

H. Waiahole Ditch Contested Case Hearing:

On August 22, 2000, the Supreme Court issued its first ruling in the Waiahole Ditch Contested Case Hearing (Commission's decision was dated December 24, 1997). On July 13, 2006, the Commission issued its third Findings of Fact, Conclusions of Law, and Decision and Order (D&O III) (on remand). On August 11, 2006, three of the parties filed Notices of Appeal.

On October 13, 2010, the Intermediate Court of Appeals issued its opinion, finding that: 1) The Water Commission did not err in issuing a water use permit to Campbell Estate; 2) The Water Commission erred by granting Pu'u Makakilo, Inc. (PMI) a water use permit without considering the merits of the Windward Parties' motion (based on new evidence that PMI did not need the water for which it had applied for a reasonable-beneficial use); and 3) The Water Commission did not err in the setting the interim IFSs for the windward streams and in declining to include unpermitted water in the interim IFSs.

On January 21, 2011, PMI withdrew its application for a water use permit, effectively mooted the last remaining issue. With PMI's withdrawal, the Waiahole Ditch Contested Case Hearing came to an end.

For more information on the Waiahole Ditch Combined Contested Case Hearing (CCH-OA95-01), see Commission website: http://hawaii.gov/dlnr/cwrn/currentissues_CCHOA9501.htm.

IV. CONCLUSION

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

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