Annual Report to the Twenty-Third Legislature
2006 Regular Session

On

IDENTIFICATION OF RIVERS AND STREAMS WORTHY OF PROTECTION

Prepared by the

Department of Land and Natural Resources
Commission on Water Resource Management
State of Hawaii

In response to

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

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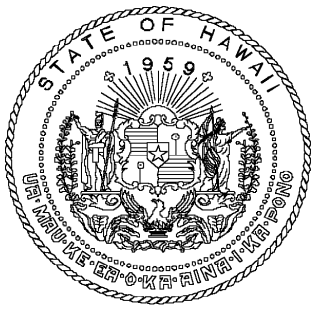

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IDENTIFICATION OF RIVERS AND STREAMS WORTHY OF PROTECTION

INTRODUCTION

Section 174C-31, Hawaii Revised Statutes (HRS), of the State Water Code, reads, in pertinent part:

> ***"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 Annual Report to the Legislature provides an update on the current activities of the Department of Land and Natural Resources' (DLNR) Commission on Water Resource Management (Commission) to implement the provisions of Section 174C-31, HRS.

BACKGROUND

Initial efforts undertaken by the Commission, in response to the Legislative directive to list streams of high natural quality, involved a joint project with the National Park Service to prepare the "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. Secondary objectives of the HSA included: 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.

Completion of the HSA report in 1990 led to the development of a preliminary database, and supporting references and files that continue to serve as the cornerstone of the Commission's long-term stream management program. Other activities undertaken since the initial preparation of the HSA report include: convening of a Stream Protection and Management (SPAM) task force, and completion of the Commission's Multi-Attribute Prioritization of Streams (MAPS) project summarized in the 1999 Annual Report to the Legislature. This 2006 Annual Report summarizes the planning efforts and on-going activities currently being carried out by the Commission's Stream Protection and Management Branch to develop and implement a statewide stream protection program.

STREAM PROTECTION AND MANAGEMENT BRANCH

In 1990, the HSA made the recommendation to "dedicate a Commission staff position specifically and exclusively to conservation." The SPAM Task Force, in 1994, recommended that "general fund monies are needed for additional permanent CWRM positions for streams for: (d) a streamkeeper with a conservation point of view." A surface-water hydrologist was hired in March 2002, to specifically address the issues of furthering the stream protection and management goals of the Commission.

On August 22, 2000, the Hawaii Supreme Court (Supreme Court) released its ruling on the appeal of the Waiahole Ditch Decision and Order. In their 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." It is under this interpretation of the State Water Code that the Commission has directed its efforts to develop a methodology for establishing instream flow standards, to ultimately identify rivers and streams worthy of protection and implement the provisions of Section 174C-31, HRS.

In line with the Supreme Court decision, 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. The duties of the Instream Use and Protection Section, which focus on the implementation of Section 174C-31, HRS, include, but are not limited to, the following:

- Administers the statewide Instream Use and Protection Program in cooperation with federal, state and county agencies.
- Prepares and enforces instream flow standards to protect instream water uses.
- Prepares interim instream flow standards, pending the establishment of permanent standards.
- Inventories stream systems, assesses their resource values, recommends stream protection policies, and develops a stream management plan for Commission adoption and use.
- Protects watersheds, streams, and wetlands from degradation.

On July 27, 2005, the Commission was presented with the first draft of the Stream Protection and Management Program Implementation Plan (See Attachment A). The Program Implementation Plan is a critical step in laying out the foundational elements to guide the Stream Protection and Management Program towards proactively addressing instream flow standards statewide and improving the overall management of Hawaii's surface-water resources. This sentiment is highlighted in the Plan within the SPAM Program's mission statement:

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

Under this mission, the Plan is comprised of specific goals, strategic issues, actions, and work tasks. These elements identify the informational requirements and necessary steps that the Commission must take to establish a statewide instream flow standard methodology, with the intention of providing consistency and transparency to the complexity of issues that the Commission is tasked with addressing.

The Commission recognizes that the Plan is not complete and additional steps must be taken to ensure the development of quantifiable instream flow standards in a timely manner. The Plan is intended to be a "living" document and will be evaluated regularly over the course of each year to identify tasks that have been completed, those that must be initiated, and any new tasks that need to be included. In essence, this document shall serve as a tracking mechanism for the overall progress of the SPAM Program, as a whole.

The goals of the Program Implementation Plan are to:

- Establish and adopt clear working policies that lead to proactive resource management measures.
- Delineate and prioritize program objectives to improve information management and allocation of resources.
- Implement program objectives in a coordinated and phased approach to accomplish goals in a timely manner.
- Develop quantifiable interim instream flow standards, by surface-water hydrologic unit, based on best available information.
- Improve consistency and coordination between various surface-water program efforts and surface-water users to achieve greater efficiency and a better understanding of the resource.

Within the Program Implementation Plan, the status and results of each specific work task is outlined. The Plan shall be continually updated to reflect the progress of each task, and will accompany all future Annual Reports to provide an update of the SPAM Branch's progress towards achieving instream flow standards statewide.

CURRENT ACTIVITIES

While the Commission is continuing to contend with a multitude of water-related issues throughout the State, part of the effort to establish instream flow standards statewide will be to develop a spreadsheet-based, interim instream flow standard methodology (Work Task 1.5.1). This methodology essentially serves as an accounting of hydrologic unit, or watershed, characteristics that have, or may have, an impact upon streamflow. Data requirements for developing this methodology, and instream flow standards in general, may vary widely as reflected in the definition of an instream flow standard under the State Water Code. However,

informational gaps remain, and the various studies and projects that the Commission is involved with, will help to satisfy specific data requirements.

Below is a brief summary of a few of the activities that the Commission's Stream Protection and Management Branch is currently addressing:

East Maui Stream Study: In May 2002, the Commission entered into a cooperative agreement with the United States Geological Survey (USGS) to conduct a study of certain streams located in East Maui. The study shall include the collection and analysis of data, including, but not limited to, hydrology, geology, rainfall, and stream macrofauna. The study is funded, in part, by the USGS, the Commission, DLNR's Land Division, County of Maui Department of Water Supply, and Alexander and Baldwin, Inc. The objectives of the 3-year study are to: 1) Assess the effects of existing surface-water diversions on flow characteristics for perennial streams in Northeast Maui; 2) Characterize the effects of diversions on instream temperature variations; and 3) Estimate the effects that streamflow restoration (full or partial) will have on habitat availability for native stream fauna (fish, shrimp, and snails) in Northeast Maui.

In mid-2005, the USGS released the first of two reports summarizing the study findings, entitled *Median and Low-Flow Characteristics for Streams under Natural and Diverted Conditions, Northeast Maui, Hawaii*, which provides an in-depth analysis of streamflow conditions. The second report, which is being finalized for completion in January 2006, will shift the focus from streamflow to the impact of streamflow upon native stream fauna. The USGS has also been conducting regular East Maui Stakeholder Group meetings to inform the agencies, community, and other stakeholders about the findings of the East Maui Stream Study.

Punaluu Watershed Alliance: In early 2002, the Honolulu Board of Water Supply (BWS) was interested in assisting the Commission with data collection efforts towards establishing instream flow standards for Punaluu, Oahu. The Punaluu Watershed Alliance (Alliance), comprised of the Punaluu Community Association, Kamehameha Schools, BWS, USGS, and the Commission, was formed to provide better information for setting instream flow standards, build community participation, and provide opportunities for student education. Another product of the Alliance will be a study cooperatively funded by USGS, BWS, and Kamehameha Schools. The objectives of the Study are to: 1) Assess the effects of ground-water withdrawals on streamflow; 2) Assess the effects of existing diversions on streamflow; 3) Characterize the effects of diversions on instream temperatures; and 4) Estimate the effects of streamflow restoration on aquatic habitats.

The fieldwork portion of the cooperative study, being conducted by the USGS was completed in September 2005. The analysis and results of the study are currently being drafted and will likely be released in 2006. An additional survey, by the BWS, to identify and assess all components of Punaluu's water systems is also nearing completion. A draft report, which will be released in late 2005, will provide a comprehensive view of stream diversion locations and end uses for the entire Punaluu watershed.

The Memorandum of Understanding for the Punaluu Watershed Alliance was formally entered into on October 19, 2005 at a signing ceremony in Punaluu. The event, which was well attended, will serve to further advance the mutual benefits and interests of all Alliance members.

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 fine of $453,000. The resulting LAMP is a cooperative project between Kamehameha Schools and Bishop Museum, with oversight by the Commission. The primary objective of LAMP is to conduct baseline studies on the streams diverted by the Lalakea Ditch System prior to restoring flows to the streams. Upon restoration of stream flows, studies are to continue for a period to determine how the streams are affected by the restoration of flows. The scientific portion of the LAMP involves scientists from Bishop Museum, DLNR's Division of Aquatic Resources (DAR), USGS Biological Resources Division, University of Hawaii, Smithsonian Institute, Louisiana State University, and the University of Nebraska-Lincoln. Study areas include: 1) Aquatic macroalgae monitoring; 2) Stream invertebrate assessment; 3) Native and alien fish monitoring and parasite assessment; 4) Geographic Information System (GIS) stream habitat mapping; and 5) Streamflow/water quality monitoring. A secondary objective of the LAMP is community participation and education involving the local community in the vicinity of the Lalakea Ditch System.

The LAMP has progressed with several field trips to collect additional stream monitoring data and continuing the educational component of the study with the Hawaiian charter school Kanu o ka Aina and Kamehameha Schools. Despite vandalism to the Lalakea diversion and the loss of instrumentation as a result of high flows, studies were able to continue with the data exhibiting an immediate response following repair of the diversion and restoration of flow to the main branch of Lalakea Stream. Additional funding was also received by the Bishop Museum from the National Oceanic and Atmospheric Administration (NOAA) to provide further educational opportunities for native Hawaiian children to participate in the LAMP.

The information and results garnered from the studies listed above will be incorporated into an overall instream flow standard methodology. The Commission is committed to continuing and expanding on collaborative efforts to improve understanding of Hawaii's stream systems and provide better information towards establishment of instream flow standards.

OTHER STREAM-RELATED ACTIONS

On August 22, 2000, the Hawaii Supreme Court (Supreme Court) released its ruling on the appeal of the Waiahole Ditch Decision and Order issued by the Commission on December 24, 1997. The Supreme Court remanded seven issues to the Commission for additional findings and conclusions, with further hearings if necessary. The first two of the seven issues addressed interim instream flow standards for Windward Oahu streams.

On December 28, 2001, the Commission issued its LEGAL FRAMEWORK, FINDINGS OF FACT, AND DECISION AND ORDER (Final D&O). The Final D&O amended the interim instream flow standards for four Windward Oahu streams, based on the best information presently available, as directed by the Supreme Court's August 22, 2000 ruling (Supreme Court's Ruling).

The Supreme Court's Ruling, in its Section III, entitled DISCUSSION, contains a number or statements, affirmations, and observations relevant to the Commission's day-to-day operations:

1. "In sum, given the vital importance of all waters to the public welfare, we decline to carve out a ground water exception to the water resources trust. Based on the plain language of our constitution and a reasoned modern view of the sovereign reservation, we confirm that the public trust doctrine applies to all water resources, unlimited by any surface-ground distinction." Section III.B.3.a.

2. "We thus hold that the maintenance of waters in their natural state constitutes a distinct 'use' under the water resources trust. This disposes of any portrayal of retention of waters in their natural state as 'waste'." Section III.B.3.b.i.

3. "Accordingly, we recognize domestic water use as a purpose of the state water resources trust." Section III.B.3.b.i.

4. "…we continue to uphold the exercise of Native Hawaiian and traditional and customary rights as a public trust purpose." Section III.B.3.b.i.

5. "We hold that, while the state water resources trust acknowledges that private use for 'economic development' may produce important public benefits and that such benefits must figure into any balancing of competing interests in water, it stops short of embracing private commercial use as a protected 'trust purpose'." Section III.B.3.b.i.

6. "In short, the object is not maximum consumptive use, but rather the most equitable, reasonable, and beneficial allocation of state water resources, with full recognition that resource protection also constitutes 'use'." Section III.B.3.b.ii.

7. "…we hold that the Commission inevitably must weigh competing public and private water uses on a case-by-case basis, according to any appropriate standards provided by law." Section III.B.3.b.ii.

8. "Rather, we observe that the constitutional requirements of 'protection' and 'conservation,' the historical and continuing understanding of the trust as a guarantee of public rights, and the common reality of the 'zero-sum' game between competing water uses demand that any balancing between public and private purposes begin with a presumption in favor of public use, access, and enjoyment." Section III.B.3.b.ii.

9. "…we affirm the Commission's conclusion that it effectively prescribes a 'higher level of scrutiny' for private commercial uses such as those proposed in this case." Section III.B.3.b.ii.

10. "In sum, the state may compromise public rights in the resource pursuant only to a decision made with a level of openness, diligence, and foresight commensurate with the high priority these rights command under the laws of our state." Section III.B.3.b.ii.

11. "Furthermore, we agree with the Commission that existing uses are not automatically 'grandfathered' under the constitution and the Code, especially in relation to public trust uses." Section III.D.1.

12. "We agree with the Commission and add that public instream uses are among the 'superior claims' to which, upon consideration of all relevant factors, existing uses may have to yield." Section III.D.1., footnote 52

13. "In requiring the Commission to establish instream flow standards at an early planning stage, the Code contemplates the designation of the standards based not only on scientifically proven facts, but also on future predictions, generalized assumptions, and policy judgments. Neither the constitution nor Code, therefore, constrains the Commission to wait for full scientific certainty in fulfilling its duty towards the public interest in minimum instream flows." Section III.D.3.

14. "Instream uses may be quantitatively or qualitatively rated, recognizing that instream uses may rely on factors other than streamflow to maintain their overall value." Section III.D.3., footnote 60.

15. "…the Commission shall, with utmost haste and purpose, work towards establishing permanent instream flow standards for windward streams. In the meantime, the Commission shall designate an interim standard based on best information presently available." Section III.D.3.

16. "In furtherance of its trust obligations, the Commission may make reasonable precautionary presumptions in the public interest. The Commission may still act when public benefits and risks are not capable of exact quantification. At all times, however, the Commission should not hide behind scientific uncertainty, but should confront it as systematically and judiciously as possible – considering every offstream use in view of the cumulative potential harm to instream uses and values and the need for meaningful studies of stream flow requirements. We do not expect this to be an easy task. Yet it is nothing novel to the administrative

function or the legal process in general. And it is no more and no less than what the people of this state created the Commission to do." Section III.E.

On June 21, 2004, the Supreme Court released its ruling, In the Matter of Water Use Permit Applications, Petitions for Interim Instream Flow Standard Amendments, and Petitions for Water Reservations for the Waiahole Ditch Combined Contested Case Hearing, NO. 24873, APPEAL FROM THE COMMISSION ON WATER RESOURCE MANAGEMENT (CASE NO. CCH-OA95-1). The Supreme Court vacated in part the Commission's December 28, 2001 Final D&O and remanded for further findings and conclusions regarding: (1) the designation of an Interim Instream Flow Standards for Windward streams; (2) the 2.2 mgd of unpermitted water; (3) the practicability of Campbell Estate and Puu Makakilo, Inc. using alternative ground water sources; (4) the actual needs of Fields Nos. 115, 116, and 145 (Jefts); (5) the actual needs of 229 acres in Field Nos. 146 and 166 (Garst Seeds); and (6) Agribusiness Development Corporation's permit for systems losses. In August 2004, the Commission delegated the conduct of the second remand to a hearing officer. The hearing before the hearing officer began and concluded on April 5, 2005. Closing Oral Arguments before the hearing officer were held on June 22, 2005. Proposed Findings of Fact, Conclusions of Law, and Decisions and Orders were submitted on June 29, 2005. The Hearing Officer's Proposed Findings of Fact, Conclusions of Law, and Decision and Order were issued to the Parties on September 6, 2005. The parties in the case had the opportunity to file written exceptions to the Hearing Officer's Proposed Findings of Fact, Conclusions of Law, and Decision and Order, by October 7, 2005. The Commission will hear oral arguments on the written exceptions at a later date to be determined. Following the hearing on the oral arguments, the Commission will prepare and issue its Final Findings of Fact, Conclusions of Law, and Decision and Order.

The Commission is proceeding with appropriate care and attention in addressing these and other issues resulting from the Supreme Court's two rulings. The Commission is continuing to work toward establishing permanent instream flow standards for these Windward Oahu streams as well as for other streams statewide.

These ongoing efforts are consistent with the Supreme Court's directives and will provide needed information in support of the Commission's implementation of a comprehensive stream protection and management program statewide. Refined assessments of available water resources, as they are developed based upon ongoing and new data collection, will be appropriately incorporated in future updates of the Water Resource Protection Plan of the Hawaii Water Plan.

As noted, all of the above efforts will lead to improving the Commission's overall management of surface water resources, enhancing the Commission's current surface water data collection and monitoring program, facilitating needed discussion regarding stream-related issues, and developing instream flow standards.

ATTACHMENT A

Stream Protection and Management Branch
Instream Use Protection Section

PROGRAM IMPLEMENTATION PLAN

Commission on Water Resource Management
Department of Land and Natural Resources
State of Hawaii

July 2005

REVISED: September 2005

Mission Statement

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

INTRODUCTION

The State Water Code, Section 174C-71(4), Hawaii Revised Statutes (HRS), requires that the Commission on Water Resource Management (Commission) shall:

> "Establish an instream flow program to protect, enhance, and reestablish, where practicable, beneficial instream uses of water. The commission shall conduct investigations and collect instream flow data including fishing, wildlife, aesthetic, recreational, water quality, and ecological information and basic streamflow characteristics necessary for determining instream flow requirements."

Traditionally, the Commission has reacted to surface-water issues on an ad hoc basis, and as a result, decisions have been case-by-case. In July 2002, the Commission established the Stream Protection and Management (SPAM) Branch, comprised of the Surface-Water Regulation and the Instream Use Protection Sections.

The establishment of the Instream Use Protection Section marks the Commission's commitment to assume a proactive role in surface water planning and resource assessment and protection. This Program Implementation Plan shall serve as a guide to effectively implement the specific objectives outlined by the State Water Code.

This Program Implementation Plan is a critical step to lay out the foundational elements that shall guide the Stream Protection and Management Program towards proactively addressing instream flow standards statewide and improving the overall management of Hawaii's surface-water resources. The goals, strategic issues, actions, and work tasks outlined in this Plan seek to provide consistency and transparency to the complexity of issues that the Commission is tasked with addressing.

This Plan is intended to be a "living" document that shall be evaluated regularly over the course of each year to identify tasks that have been completed, those that must be initiated, and any new tasks which need to be included. This document shall also serve as a tracking mechanism for the overall progress of the Stream Protection and Management Program, as a whole.

In addition, this Plan shall serve to support the requirements of the: 1) Annual Report to the Legislature on Identification of Rivers and Streams Worthy of Protection (Section 174C-31(c)(4), Hawaii Revised Statutes); and 2) House Concurrent Resolution 293, House Draft 1 of the 2005 Legislative Session, which requires the Commission to submit a report on the progress and findings in regards to fulfilling the Commission's constitutional and statutory mandate to protect public trust instream uses.

The development of this Program Implementation Plan is the outcome of numerous staff discussions and interactions with stakeholders. However, much more work is needed to build a solid foundation and advance the Commission's goals through thoughtful planning and communication with all interested parties. The success of the Commission's Stream Protection and Management Program will rely heavily on the commitment by staff and others to execute the elements within this Plan.

IMPLEMENTATION PLAN GOALS

The goals of the Program Implementation Plan are to:

- Establish and adopt clear working policies that lead to proactive resource management measures.
- Delineate and prioritize program objectives to improve information management and allocation of resources.
- Implement program objectives in a coordinated and phased approach to accomplish goals in a timely manner.
- Develop quantifiable interim instream flow standards, by surface-water hydrologic unit, based on best available information.
- Improve consistency and coordination between various surface-water program efforts and surface-water users to achieve greater efficiency and a better understanding of the resource.

STRATEGIC ISSUE #1: Develop the necessary informational resources and processes to support the establishment of a standardized instream flow standard methodology.

There have been numerous studies and reports prepared for various streams throughout the State, however the problem of accessibility and availability of this information persists. Additionally, much of the information that is available is not in a usable format by the Commission or other agencies. The functionality of databases and GIS (geographic information systems) provide a means of storing and managing information. These resources should provide a solid foundation as the Commission strives to assess the nearly 400 streams across Hawaii.

Action 1.1: Establish Commission on Water Resource Management Surface-Water Hydrologic Units

Current efforts to update the Water Resource Protection Plan (WRPP) of the Hawaii Water Plan have underscored the need for surface-water hydrologic units to delineate and codify Hawaii's surface-water resources. The hydrologic units are an important first-step towards improving the organization and management of surface-water information that the Commission collects and maintains, including diversions, stream channel alterations, and water use.

Key objectives of the Commission on Water Resource Management Surface-Water Hydrologic Units include the following:

1) Define and delineate unique units that can accommodate the relational requirements in a database environment, while providing a system that can be easily understood by the general public.
2) Develop an information management system that utilizes the coding system to relate surface-water permits and other resource information to a given unit.
3) Define hydrologic units to be considered in the analysis and development of instream flow standards.
4) Provide a reference system that promotes better information management of other resource inventories.
5) Promote the sharing and collection of surface-water resource data between government agencies, the public, private entities, and community organizations.
6 Improve the overall coordination of monitoring, data collection, and field investigation efforts.

Task Description	Estimated Budget	Estimated Completion
Work Task 1.1.1: Address Department of Health (DOH) concerns. In reviewing the proposed Commission on Water Resource Management Surface-Water Hydrologic Units, the DOH's Environmental Planning Office (EPO) expressed concerns about the adoption of such a system by the Commission. Hawaii Water Quality Standards (Chapter 11-54, Hawaii Administrative Rules) require DOH to establish a waterbody definition and classification system for federally-regulated purposes. Staff met with EPO staff prior to finalization of the Surface-Water Hydrologic Unit report.	N/A	Completed
Work Task 1.1.2: Finalize Technical Report on Surface-Water Hydrologic Units. On June 15, 2005, the Commission adopted the statewide surface-water hydrologic units as a technical resource to serve as the first step towards establishing instream flow standards, similar to the system developed for ground-water hydrologic units. The hydrologic units will help to facilitate the characterization of watersheds by stream type (e.g., perennial, intermittent, ephemeral).	N/A	Completed

Work Task 1.1.3: Continue coordination with DOH in developing a DOH watershed coding system. Commission and DOH staff both recognize the potential benefits of a single, unified coding system. However, certain differences in program purpose and objectives may limit the degree of inter-operability of each agency's preferred coding system. Notwithstanding these program differences, an interim working agreement has been reached, which will allow each agency to move forward in a collaborative manner. Under this collaborative process, the Commission will proceed with the adoption of the surface-water hydrologic units and its associated coding system. DOH will continue its agency delineation of drainage basin units by modifying the surface-water hydrologic units as needed to distinguish between: 1) Coastal watershed units that drain to marine receiving waters; and 2) Inland watershed units that drain to inland receiving waters. DOH will independently renumber additional drainage units in the geographic sequence established by the Commission in order to maintain, as they are delineated, a continuous one-step numeric coding sequence.	TBD	On-going
Work Task 1.1.4: Integrate the Surface-Water Hydrologic Units coding into the Database Development.	NCA	On-going

N/A = Not applicable.
NCA = No cost associated.
TBD = To be determined.

Action 1.2: Improve the processing of permit applications and management of permit information through the revision and enhancement of application forms.

The Stream Protection and Management Program currently regulates stream-related activities through two primary permit applications, the Stream Channel Alteration Permit form (which includes Stream Diversion Works) and the Petition to Amend the Interim Instream Flow Standard form. To facilitate improvements of data input and information management within a database environment, these forms should be revised in relation to improving the overall regulatory process. Internal procedures will be implemented to track permit processing, requests for determination, and transfers of diversion works ownership to improve the management of diversion, stream channel, and general stream information.

Task Description	Estimated Budget	Estimated Completion
Work Task 1.2.1: Revise Stream Diversion Works Permit Form. The Stream Diversion Works Permit will be revised as a separate form from the Stream Channel Alteration Permit, and shall clearly outline the necessary information required by Commission staff in its review process and data management purposes.	Staff-initiated	12-2005
Work Task 1.2.2: Create Stream Diversion Works Completion Form. As outlined in the State Water Code, the Commission should establish a clear mechanism for permittees to notify Commission staff after the completion of construction or alteration of any stream diversion work.	Staff-initiated	12-2005

Work Task 1.2.3: Revise Stream Channel Alteration Permit Form. The Stream Channel Alteration Permit form shall be revised as a separate form from the Stream Diversion Works form, and shall clearly outline the necessary information required by Commission staff in its review process and data management purposes.	Staff-initiated	12-2005
Work Task 1.2.4: Revise Stream Channel Alteration Permit Completion Form. In order to improve tracking of the completion of stream channel alteration projects, a Stream Channel Alteration Permit Completion form shall be created to allow permittees to submit notification to Commission staff that the project has been completed.	Staff-initiated	12-2005
Work Task 1.2.5: Create Permit Tracking Form. A permit tracking form, for internal use only, will be created to follow the processing of each surface-water permit starting with the receipt of each application, through the review process, to decision by the Commission	Staff-initiated	12-2005
Work Task 1.2.6: Create Request for Determination Form. A Request for Determination form shall be created to allow potential applications to request that a site visit or determination be conducted on whether or not a Stream Channel Alteration Permit or Stream Diversion Works Permit will be required for the project.	Staff-initiated	02-2006
Work Task 1.2.7: Create Ownership Transfer Form. An Ownership Transfer form shall be created for stream diversions to provide new diversion owners a means to submit the necessary information to the Commission	Staff-initiated	02-2006
Work Task 1.2.8: Create Permit Extension Form. A Permit Extension form shall be created for stream channel alteration permits and stream diversion works permits to allow applicants to extend the project completion dates as allowed under the Administrative Rules.	Staff-initiated	02-2006
Work Task 1.2.9: Finalize forms with Commission staff edits. Throughout the form revision process, internal staff reviews shall be conducted to gather input and edits, including permit-processing procedures.	Staff-initiated	On-going 03-2006
Work Task 1.2.10: Identify the procedures necessary to implement the use of the revised forms. Implementing the use of the revised forms shall require that applicant and project information be entered into the respective databases. Internal staff meetings shall be conducted to identify and document the procedures to clearly define the review and data entry processes.	Staff-initiated	04-2006
Work Task 1.2.11: Present form revisions to the Commission.	NCA	04-2006

Work Task 1.2.12: Print forms and post to CWRM website.	NCA	05-2006

NCA = No cost associated.

Action 1.3: Improve the management and utilization of surface water-related information through the development of information databases.

In order to more effectively manage and regulate instream flows, the Commission must improve its management of stream channel and stream diversion works information. The principal database development goal is to improve information management for the purpose of determining appropriate instream flow standards based on existing and potential stream conditions. Secondary benefits include providing consistency in the permit application process, improving processing times, and clearly defining informational requirements.

Task Description	Estimated Budget	Estimated Completion
Work Task 1.3.1: Hawaii Stream Assessment Database. The Hawaii Stream Assessment, while conducted in 1990, still remains a valuable resource as a baseline assessment of streams statewide, particularly for cultural and recreational resources, and serves as an indispensable model in the development of additional databases.		
Database structure	Staff-initiated	11-2005
The database structure is nearing completion as the various assessment data are incorporated. The multitude of data and slight variations between raw data and final product has increased the complexity of the database structure.		
Database entry	Staff-initiated	12-2005
Database entry is being conducted as the database structure is being designed and built.		
Work Task 1.3.2: Registration/Declaration Database. The Registration/Declaration Database shall contain all information provided through the Registration of Stream Diversion Works and Declaration of Water Use forms filed with the Commission in 1990. In addition, latitude/longitude coordinates will be included for creation of a GIS layer.		
Database structure	Staff-initiated	Completed
The database structure has been completed, but changes may be made as registration/declaration data is entered.		
Database entry	Staff-initiated	12-2006
Database entry has begun, specifically with respect to Work Task 1.6.1 for stream diversions in the Koolauloa region. Based on prior work, there are an estimated 1,260 registered or permitted stream diversions		

statewide. Additional diversions will likely be discovered as database entry continues		
Work Task 1.3.3: Surface-Water Information Database. A Surface-Water Information Database will be created to manage all stream-related studies and reports statewide. This includes the digital scanning of all documents, as possible, to enable the Commission to readily provide documents as requested.		
Database structure	Staff-initiated	
The database structure has been completed, but refinements will be made to certain functions and the integration of surface-water hydrologic unit codes, as stated in Work Task 1.1.4.		
Database entry		On-going
Information research		On-going
Work Task 1.3.4: Stream Diversion Works Database. The Stream Diversion Works Database shall manage the information for all permitted Stream Diversion Works. This database shall be integrated with the Registration/Declaration Database to generate a complete dataset of all known diversions statewide.		
Database structure	Staff-initiated	12-2005
Database entry	Staff-initiated	02-2006
Work Task 1.3.5: Stream Channel Alteration Database. This database will track all permitted Stream Channel Alteration permits and project information, to better manage and protect the integrity of stream channels from excessive alteration.		
Database structure	Staff-initiated	12-2005
Database entry	Staff-initiated	04-2006
Work Task 1.3.6: Request for Determination Database. A Request for Determination is conducted by Commission staff to determine if a project site will impact a stream channel and whether or not a Stream Channel Alteration Permit or Stream Diversion Works Permit will be required. This database shall track these requests, which are important towards the overall understanding of a given stream system.		
Database structure	Staff-initiated	02-2006
Database entry	Staff-initiated	04-2006

Action 1.4: Enhance the management of surface water-related information spatially through the development of GIS databases.

The implementation of GIS databases would allow for more comprehensive spatial analysis in the development of an instream flow standard methodology. Much of the information that the Commission maintains can be spatially located, however a substantial amount of database work must be undertaken to enable this data (e.g., stream diversions, channel alterations, etc.) to be displayed in a GIS.

Task Description	Estimated Budget	Estimated Completion
Work Task 1.4.1: Statewide Streams. A statewide stream GIS layer will be created utilizing the most current National Hydrography Dataset to incorporate stream name, stream type, etc. for use with the Commission's databases.	Staff-initiated	06-2006
Work Task 1.4.2: Stream Diversions. Once the Registration/Declaration and Stream Diversion Works Databases are completed, a GIS layer shall be generated to provide spatial locations for all registered and permitted stream diversions.	Staff-initiated	06-2006
Work Task 1.4.3: Stream Channel Alteration Permits. Upon completion of the Stream Channel Alteration Database, a GIS layer of indicating all locations of permitted stream channel alterations shall be generated.	Staff-initiated	06-2006
Work Task 1.4.4: Statewide Irrigation Systems. A statewide irrigation system GIS layer shall be created utilizing the most current National Hydrography Dataset and paper maps which have been provided to the Commission. This task shall be undertaken in coordination with the Department of Agriculture's Agricultural Resource Management Division.	Staff-initiated	08-2006

Action 1.5: Develop a standardized interim instream flow standard methodology.

As part of the goal of establishing quantifiable interim instream flow standards statewide, a standardized methodology should be developed to demonstrate what information might be required in such an analysis, how the information would be used, and how individual informational elements relate to one another. This methodology will be integrated into a working model using information from several test streams across the State.

Following this working model as an example, discussions with staff and various workgroups shall commence to assist in evaluating the model for appropriateness and providing input for revision. Should the working model be found satisfactory, the Commission, along with the assistance of stakeholder working groups, shall continue to expand the scope of the model. It is important to remember that this model is not intended to be the penultimate solution, but rather a starting point to achieving a quantifiable interim instream flow standard. The model, as a whole or on case-by-case situations, may be revised as new and/or improved information becomes available.

Task Description	Estimated Budget	Estimated Completion
Work Task 1.5.1: Spreadsheet-based interim instream flow standard methodology.		

Develop a cursory, spreadsheet-based interim instream flow standards (IIFS) model using basic data resources for demonstration purposes and further evaluation. This step would assess the IIFS for several example streams across the State.		
Construct spreadsheet	Staff-initiated	12-2005
Internal review of methodology	Staff-initiated	On-going
Commission briefing	Staff-initiated	TBD
Work Task 1.5.2: Expand assessment and review of spreadsheet-based IIFS methodology. Assuming that a spreadsheet-based IIFS methodology can serve as a provisional step towards establishing a quantifiable IIFS, the Commission shall expand review of the model to various stakeholders and working groups. In addition, the assessment would be expanded to include all streams for 5 of the 8 main Hawaiian Islands.		2006
Conduct stakeholder workshops	Staff-initiated	TBD
Expand assessment of streams statewide	Staff-initiated	TBD
Work Task 1.5.3: Implement GIS-based interim instream flow standard methodology. Pending the support of the spreadsheet-based IIFS methodology, the Commission would begin to implement a more comprehensive methodology utilizing GIS and spatial information. Additional information can be incorporated into the IIFS analysis upon completion of the various databases and GIS layers outlined prior.	Staff-initiated	TBD

TBD = To be determined

Action 1.6: Conduct field investigations to verify and update surface-water uses and information.

When the Commission conducted the Registration/Declaration process in 1990, many of the Registration of Stream Diversion Works and Declaration of Water Use applications were not field verified. Much of the information has also not been maintained and various owners have changed. Establishing a regular field investigation schedule will allow Commission staff to, gradually over time, verify and update the information that was originally submitted.

Task Description	Estimated Budget	Estimated Completion
Work Task 1.6.1: Conduct a preliminary survey of registered stream diversions for Oahu. A survey shall used to update and preliminarily verify information submitted as part of the 1990 Registration/Declaration Process and will be conducted in coordination with the Honolulu Board of Water Supply's Water Use and Development Plan Update.	$25,000	12-2005
Work Task 1.6.2: Conduct an analysis of registered diversions to develop a prioritized survey/field inspection	Staff-initiated	TBD

schedule. Based on the results of the preliminary survey of Oahu's registered diversions, Commission staff will review the Registration/Declaration Database to develop a prioritized schedule for conducting preliminary surveys on other islands.		
Work Task 1.6.3: Conduct field investigations on Oahu to develop a standardized field investigation method and form. Based on the results of the preliminary survey of Oahu's registered diversions, Commission staff will initiate field investigations to verify water uses and update diversion information. Commission staff shall also develop a standardized field investigation methodology for utilization in other areas statewide.	$100,000	TBD
Work Task 1.6.4: Expand field investigations to Maui, Kauai, Molokai, and Hawaii. Following completion of investigation of Oahu diversions, field investigations shall be conducted on neighbor islands.	$550,000	TBD
Work Task 1.6.5: Enhance support of the Department's Division of Aquatic Resources in conducting stream surveys and implementation of a stream survey database. The Division of Aquatic Resources serves an essential role in the overall stream program through conducting stream surveys, managing the database of information collected through these surveys, and providing technical assistance to Commission staff. Seeking ways to support and maintain their function in support of Stream Protection and Management program objectives is essential.	$125,000 annually	On-going

TBD = To be determined

STRATEGIC ISSUE #2: Improve understanding of program issues and enhance coordination of program activities to more effectively promote the objectives of the Stream Protection and Management Program.

One of the greatest challenges the Commission faces is the public perception and understanding of what instream flow standards are and how they are established and implemented. Despite the Commission's involvement in numerous activities and studies, there remains some lack of understanding of the instream flow standard process, as a whole. Throughout the development of an interim instream flow standard methodology, the Commission must seek to educate and inform various stakeholders and the public.

Action 2.1: Identify surface-water policies and establish a surface water policy framework.

The Commission has come to rely on a wide range of policies that guide its regulatory and planning processes. These policies range from opinions by the Department of the Attorney General and declaratory rulings, to permit review processes and policies adopted through the Hawaii Water Plan. Developing a surface-water policy framework not only would serve to identify and compile these policies into a single, living document, but would provide guidance in the development and implementation of an instream flow standard methodology.

Task Description	Estimated Budget	Estimated Completion

Work Task 2.1.1: Conduct internal meetings to identify various surface water-related policies. Through a series of internal staff meetings, the Commission shall identify the various policies which have regulatory and planning implications for the Stream Protection and Management Program.	NCA	On-going
Work Task 2.1.2: Draft a surface-water policy framework document. Once the surface-water policies are identified, a framework shall be drafted to capture all the policy elements in one principal document.	Staff-initiated	02-2006
Work Task 2.1.3: Initiate development of a stream permitting guidebook. Often times, the Commission faces Stream Channel Alteration Permit applicants not understanding the full complexity of issues when applying to do work within a stream channel, including County and Federal regulations, flooding concerns, ownership issues, and water quality standards. The development of a stream permitting guidebook would seek to educate the public in the full range of stream-related regulations. This task would be implemented through coordination with various regulatory agencies.	$20,000	TBD
Work Task 2.1.4: Initiate discussions to develop a process for determining appurtenant rights. Under the State Water Code, the Commission has the authority to determine appurtenant water rights, including quantification of the amount of water entitled to by a rights claimant. Clear procedures and methods must be developed to enable the Commission to appropriately assess rights claims. This should include preliminary discussions with the Department's Land Division, Bureau of Conveyances, and Historic Preservation Division.	Staff-initiated	TBD

NCA = No cost associated.
TBD = To be determined

Action 2.2: Identify and review all current surface water-related projects to maintain appropriate coordination and management.

The Commission has initiated various studies in cooperation with other agencies that are intended to provided data and/or information towards the development of instream flow standards. The coordination and management of these projects throughout their progress are critical to the integration of the study into the IFS process.

Task Description	Estimated Budget	Estimated Completion
Work Task 2.2.1: Implement of technology transfer of GIS-based stream biology model in coordination with Dr. James Parham and the Division of Aquatic Resources.	$35,000*	02-2006
Work Task 2.2.2: Continue coordination with Dr. James Parham and the Division of Aquatic Resources in the development of a	$95,000*	08-2006

GIS-based hydrology model.		
Work Task 2.2.3: Continue coordination with the U.S. Geological Survey in the completion of the East Maui Stream Study.	$635,000*	12-2005
Work Task 2.2.4: Continue coordination with Bishop Museum and Kamehameha Schools in the implementation of the Lalakea Alternative Mitigation Plan Project.	543,000*	03-2006
Work Task 2.2.5: Identify and prioritize future studies. Creating a listing of required studies that should be conducted, in support of the instream flow standard process, is instrumental in planning for and seeking appropriate funding. These studies should also be prioritized for implementation as resources and funding becomes available.	NCA	On-going
Work Task 2.2.6: Enhance support of watershed and stream protection partnerships, alliances, and programs. Numerous entities throughout the State are actively advancing watershed and stream protection initiatives. The Commission shall seek to enhance its support of these activities through assistance in funding efforts and providing of technical resources.	NCA	On-going

* Project has already been funded.
NCA = No cost associated.

Action 2.3: Improve public outreach and education efforts to convey information more effectively.

An important step in executing the Stream Protection and Management Program Implementation Plan shall be to keep stakeholders and the general public informed and educated of its progress. An effective public outreach program should be developed to assist in this. Despite funding concerns, some preliminary steps should be taken to reach the widest possible audience at minimal cost (e.g., Internet).

Task Description	Estimated Budget	Estimated Completion
Work Task 2.3.1: Complete development of the Stream Protection and Management (SPAM) Program website. One of the most efficient ways to convey information to a large audience is to make it available via the Internet. The SPAM Program website is currently under development and will provide regularly updated information about program activities and issues.	Staff-initiated	01-2006
Work Task 2.3.2: Develop an informational Stream Protection and Management Program brochure. A simple program brochure shall be developed to conveniently convey the highlights and issues pertaining to the SPAM Program.	Staff-initiated	01-2006
Work Task 2.3.3: Conduct inter-island community workshops to discuss and inform the public about the instream flow standard process. A series of inter-island community workshops should be conducted to inform the public about the issues facing the SPAM Program and the progress of the instream flow standard process. Workshops should be comprised of a formal presentation, followed by an informal	$15,000	TBD

discussion session.		

TBD = To be determined

The actions and tasks outlined in this Program Implementation Plan are not intended to be fully comprehensive or complete. There are various future actions may arise as specific actions are executed and shall be included following the next evaluation as intended in a "living" document approach.

It is important to keep in mind that the Stream Protection and Management Branch is presently comprised of three people and resources to implement specific actions remains limited. Ultimately, project implementation may require re-prioritization of program or Division activities and/or appropriation of continued funding in support of the Stream Protection and Management Program objectives. The Commission is committed to fulfilling the objectives of establishing an instream flow program as required by the State Water Code, and will continue to seek partnerships through interagency cooperative agreements, community initiatives, and available grant funding.

STRATEGIC ISSUES	ACTIONS	WORK TASKS
1. Develop the necessary informational resources and processes to support the establishment of a standardized instream flow standard methodology.	1.1 Establish CWRM Surface-Water Hydrologic Units	1.1.1 Address Department of Health Concerns. 1.1.2 Finalize Technical Report on Surface-Water Hydrologic Units. 1.1.3 Continue coordination with DOH in developing a DOH watershed coding system. 1.1.4 Integrate the Surface-Water Hydrologic Units coding into the Database Development.
	1.2 Improve the processing of permit applications and management of permit information through the revision and enhancement of application forms.	1.2.1 Revise Stream Diversion Works Permit Form 1.2.2 Create Stream Diversion Works Completion Form 1.2.3 Revise Stream Channel Alteration Permit Form. 1.2.4 Revise Stream Channel Alteration Permit Completion Form. 1.2.5 Create Permit Tracking Form. 1.2.6 Create Request for Determination Form. 1.2.7 Create Ownership Transfer Form. 1.2.8 Create Permit Extension Form. 1.2.9 Finalize forms with Commission staff edits. 1.2.10 Identify the procedures necessary to implement the use of the revised forms. 1.2.11 Present form revisions to the Commission. 1.2.12 Print forms and post to CWRM website.
	1.3 Improve the management and utilization of surface water-related information through the development of information databases.	1.3.1 Hawaii Stream Assessment Database. 1.3.2 Registration/Declaration Database. 1.3.3 Surface-Water Information Database. 1.3.4 Stream Diversion Works Database. 1.3.5 Stream Channel Alteration Database. 1.3.6 Request for Determination Database.
	1.4 Enhance the management of surface water-related information spatially through the development of GIS databases.	1.4.1 Statewide Streams. 1.4.2 Stream Diversions. 1.4.3 Stream Channel Alteration Permits. 1.4.4 Statewide Irrigation Systems.
	1.5 Develop a standardized interim instream flow standard methodology.	1.5.1 Spreadsheet-based interim instream flow standard methodology. 1.5.2 Expand assessment and review of spreadsheet-based IIFS methodology. 1.5.3 Implement GIS-based interim instream flow standard methodology.
	1.6 Conduct field investigations to verify and update surface-water uses and information.	1.6.1 Conduct a preliminary survey of registered stream diversions for Oahu. 1.6.2 Conduct an analysis of registered diversions to develop a prioritized survey/field inspection schedule. 1.6.3 Conduct field investigations on Oahu to develop a standardized field investigation method and form. 1.6.4 Expand field investigations to Maui, Kauai, Molokai, and Hawaii. 1.6.5 Enhance support of the Department's Division of Aquatic Resources in conducting stream surveys and implementation of a stream survey database.

STRATEGIC ISSUES	ACTIONS	WORK TASKS
2. Improve understanding of program issues and enhance coordination of program activities to more effectively promote the objectives of the Stream Protection and Management Program.	2.1 Identify surface-water policies and establish a surface-water policy framework.	2.1.1 Conduct internal meetings to identify various surface water-related policies. 2.1.2 Draft a surface-water policy framework document. 2.1.3 Initiate development of a stream permitting guidebook. 2.1.4 Initiate discussions to develop a process for determining appurtenant rights.
	2.2 Identify and review all current surface water-related projects to maintain appropriate coordination and management.	2.2.1 Implement technology transfer of GIS-based stream biology model in coordination with Dr. James Parham and the Division of Aquatic Resources. 2.2.2 Continue coordination with Dr. James Parham and the Division of Aquatic Resources in the development of a GIS-based hydrology model. 2.2.3 Continue coordination with the U.S. Geological Survey in the completion of the East Maui Stream Study. 2.2.4 Continue coordination with Bishop Museum and Kamehameha Schools in the implementation of the Lalakea Alternative Mitigation Plan Project. 2.2.5 Identify and prioritize future studies. 2.2.6 Enhance support of watershed and stream protection partnerships, alliances, and programs.
	2.3 Improve public outreach and education efforts to convey information more effectively.	2.3.1 Complete development of the Stream Protection and Management Program website. 2.3.2 Develop an informational Stream Protection and Management Program brochure. 2.3.3 Conduct inter-island community workshops to discuss and inform the public about the instream flow standard process.