Report to the Twenty-Third Legislature
2006 Regular Session

URGING THE COMMISSION ON WATER RESOURCE MANAGEMENT TO FULFILL ITS CONSTITUTIONAL AND STATUTORY MANDATE TO PROTECT PUBLIC INSTREAM USES

Prepared by the

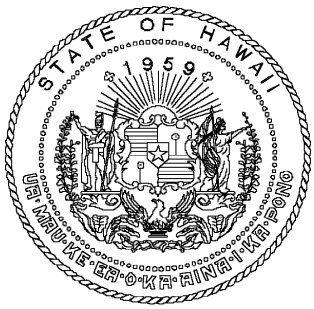
Department of Land and Natural Resources
Commission on Water Resource Management
State of Hawaii

In response to

House Concurrent Resolution 293, House Draft 1
Regular Session 2005

Honolulu, Hawaii

November 2005



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Report to the Twenty-Third Legislature
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On
HOUSE CONCURRENT RESOLUTION 293, HOUSE DRAFT 1

URGING THE COMMISSION ON WATER RESOURCE MANAGEMENT TO FULFILL ITS CONSTITUTIONAL AND STATUTORY MANDATE TO PROTECT PUBLIC INSTREAM USES

INTRODUCTION

The House of Representatives of the Twenty-Third Legislature of the State of Hawaii, at its Regular Session of 2005, the Senate concurring, declared by House Concurrent Resolution (Resolution) No. 293, House Draft 1, that stream restoration is "essential to support and restore Hawaii's natural, cultural, and recreational treasures for current and future generations."

The Resolution further urges the Commission on Water Resource Management (Commission) of the Department of Land and Natural Resources (DLNR) to fulfill its constitutional and statutory mandate to protect public trust instream uses by:

(1) Devoting staff and resources necessary to fulfill its mandate;
(2) Finalizing its strategic plan to protect the public interest in instream uses;
(3) Promptly resolving all pending petitions to restore stream flows such as those of the Na Wai Eha;
(4) Ordering the operators of any stream diversions, including those from the Na Wai Eha, to discontinue any diversions that have no reasonable and beneficial purpose, and;
(5) Meeting with the petitioners, operators and other interested parties in the Petition to Amend the Interim Instream Flow Standards for the Na Wai Eha.

Finally, the Resolution requested that the Commission submit a report of its progress and findings to the Legislature no later than 20 days prior to the convening of the Regular Session of 2006 and to transmit certified copies of the Resolution to the Chairperson of the Commission, Board of Trustees of the Office of Hawaiian Affairs, Mayor of the County of Maui, President of Wailuku Agribusiness Company, Inc., President of Hawaiian Commercial & Sugar Company, and Earthjustice. Copies of the Resolution have been transmitted to the above-mentioned parties.

This Report to the Legislature summarizes the Commission's progress and findings to date on its current activities to address and protect public instream uses. The individual resolutions are listed in bold type, followed by the Commission's response.

RESOLUTIONS AND RESPONSES

(1) Devoting staff and resources necessary to fulfill its mandate.

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 marked the Commission's commitment to assume a proactive role in surface water planning, resource assessment, and protection.

To effectively implement the objectives of the Instream Use Protection Section, the SPAM Branch developed a Program Implementation Plan (Attachment A) to clearly delineate the steps that must be taken towards developing a comprehensive methodology of establishing quantifiable instream flow standards (IFS) statewide. There exists a wide range of issues, such as identification of data gaps, management and integration of stream data, and clarification of policies, which must first be addressed in order to effectively move the IFS process forward.

The SPAM Branch, which is currently comprised of three individuals, is committed to implementing the Program Implementation Plan. The Instream Use Protection Section is made up of one individual with statewide responsibilities for program implementation. Despite limited staffing and resources, the SPAM Branch remains focused on meeting its stream program goals and objectives.

(2) Finalizing its strategic plan to protect the public interest in instream uses, which plan should include:

(a) Identifying and prioritizing streams that require IFS.

On June 15, 2005, the Commission adopted statewide surface-water hydrologic units as a technical resource to serve as the first step towards establishing IFS, similar to the system developed for ground-water hydrologic units. The hydrologic units will facilitate the characterization of watersheds by stream type (e.g., perennial, intermittent, ephemeral), followed by a prioritization analysis to determine streams having the highest potential for immediate development of interim IFS.

Recognizing the potential benefits of a single, statewide watershed coding system, the Commission is coordinating with the Department of Health's Environmental Planning Office to further enhance the surface-water hydrologic unit boundaries and coding system. However, certain differences in program purposes and objectives may limit the inter-operability of each agency's preferred coding system. Notwithstanding these programmatic differences, an interim agreement has been reached, which will allow each agency to move forward in a collaborative manner.

On July 27, 2005, the Commission was presented with the first draft of the SPAM Program Implementation Plan. The Program Implementation Plan is a critical step in laying out the foundational elements to guide the SPAM Program towards proactively addressing IFS 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 IFS

methodology, with the intention of providing consistency and transparency to the complexity of issues that the Commission is tasked with confronting.

The Commission views the Plan as a "living document" and that additional steps will need to be taken to ensure the development of IFS in a timely manner. The Plan 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 towards the setting of quantifiable IFS.

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 IFS, 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 undertaken by the SPAM Branch towards achieving IFS statewide.

(b) Determining the scope and cost of studies, and the resources and time required to establish scientifically-based IFS.

The SPAM Program Implementation Plan addresses the need to identify and prioritize future studies. An initial listing of required studies and actions (and associated funding requirements) that should be conducted in support of the IFS process is included as part of the plan. These studies have been prioritized for implementation as resources and funding becomes available.

Currently, there are several studies that the Commission is either directly or indirectly participating in. These studies include the following:

- East Maui Stream Study conducted by the United States Geological Survey (USGS), in cooperation with the Commission, DLNR's Land Division, County of Maui Department of Water Supply, and Alexander and Baldwin, Inc. Study objectives include: 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.

- Punaluu Stream Study conducted by the USGS, in cooperation with the City and County of Honolulu Board of Water Supply (BWS) and Kamehameha Schools. Study objectives include: 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.

- Lalakea Alternative Mitigation Project (LAMP) conducted by Bishop Museum under contract by Kamehameha Schools, and in cooperation with DLNR's Division of Aquatic Resources, USGS Biological Resources Division, University of Hawaii, Smithsonian Institute, Louisiana State University, and the University of Nebraska-Lincoln. Study objectives 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 Commission is committed to continuing and expanding on collaborative efforts to improve understanding of Hawaii's stream systems and providing better information towards the establishment of quantifiable IFS. Current staffing and funding limitations may inhibit full or direct participation as funding partners. However, the Commission continues to provide technical assistance and guidance in the scoping of specific studies that will benefit all stakeholders involved.

(c) Employing the services of volunteers such as University of Hawaii students as part of their curricular credits and professional consultants.

The Commission recognizes the value and benefit of establishing volunteer and/or collaborative programs, such that they may provide curricular credits to University of Hawaii students. Current staffing and funding resources have been concentrated on implementation of other program measures.

An alternative approach, which has proven successful, is supporting collaborative projects between scientists and community members concerned about their respective streams. These efforts allow for the collection of data to supplement the informational requirements for IFS, while providing sound educational opportunities to the community. One such study being conducted by Bishop Museum is LAMP, under contract by Kamehameha Schools. The project has employed local students from the Hawaiian charter school Kanu o Ka Aina and Kamehameha Schools to collect stream data under the direct supervision of Bishop

Museum scientists. The Kanu o Ka Aina students were able to present their findings, which was well received, at the Symposium on Hawaiian Streams and Estuaries sponsored by DLNR's Division of Aquatic Resources.

The Punaluu Watershed Alliance, of which the Commission is a member, has also expressed interest in collaborating with local area schools, such as Kahuku High School. A broad range of educational opportunities are available within the Punaluu watershed, such as having students conduct long-term data gathering and monitoring, performing field experiments, or participating in activities such as taro cultivation and farming. Such collaboration will augment current data collection and expose student volunteers to potential careers in environmental management.

(d) Securing federal funds and services (including making direct request to Hawaii's congressional delegation for grants or other assistance).

The Commission continues to pursue funding and technical assistance at all levels, through federal, state, county, and private partnerships. A number of project proposals have been developed in consultation with other cooperative agencies (e.g., USGS, State Department of Health, and County Water Supply Departments) for funding consideration at the federal level. An example project being a "Regional Streamflow Data Collection and Analyses" proposal calling for phased implementation of twelve (12) regional streamflow assessments (3 per county) to provide field data and statistical analyses of stream-related parameters.

These projects, along with other water-related projects identified by other agencies, have been previously brought to the attention of our congressional delegation for possible funding authorization and appropriation. The Commission will continue to periodically update the local offices of our congressional delegation to keep them apprised of our continuing efforts and program requirements.

(e) Establishing partnerships with federal and county governmental agencies, as well as private business and conservation organizations.

The Commission fully supports the establishment of partnerships with government agencies, along with private businesses and conservation organizations, where possible. One such partnership is the Punaluu Watershed Alliance (Alliance), which is comprised of the Punaluu Community Association (local organization), Kamehameha Schools (majority landowner), the Commission, USGS, and BWS.

Over the past three years, the Alliance has met regularly to identify and address a variety of land and water-related issues within the Punaluu watershed. Two studies have resulted from these discussions, including; 1) A cooperatively funded study by USGS, BWS, and Kamehameha Schools to assess the effects of ground-water withdrawal and existing diversions upon streamflow, characterize the effects of diversions on instream temperatures, and estimate the effects of streamflow restoration on aquatic habitats, and 2) A BWS-funded study to assess the Punaluu irrigation system and evaluate agricultural water use.

The studies currently being undertaken in Punaluu will help to provide information on key elements of streamflow and water use for the entire

watershed. The Commission will incorporate the findings of these Punaluu studies into the development of a statewide IFS methodology.

The collaborative effort in Punaluu provides a worthy template for developing comparable community-based alliances in watersheds throughout the State. Similarly, DLNR's Division of Forestry and Wildlife (DOFAW) has already helped to establish nine watershed partnerships for the protection of large, forested watershed areas through its Watershed Partnership Program. Large landowners comprise the majority of partnerships, which exist on six islands and encompass one million acres of land. These partnerships bring together federal, state and county agencies, private businesses, and conservation organizations in efforts to preserve vital watershed recharge areas, sustain the quality and quantity of ground-water resources, and protect native forest ecosystems and species.

The Commission is currently an associate partner with the Koolau Mountains Watershed Partnership. The Commission fully supports DOFAW's Watershed Partnership Program and will seek to increase involvement with other watershed partnerships throughout the State, in hopes of enhancing stream protection efforts and augmenting its work towards setting IFS.

(f) Considering the allocation of water for designated "important agricultural lands."

During the late 1990s, many plantation irrigation systems were abandoned, idled, and left to deteriorate. At the same time, many stakeholders began to advocate the development of an expanded diversified agriculture industry to replace large-scale monocrop cultivation. The potential for locally grown crops to replace corresponding imports, needs to be evaluated in terms of the most suitable locations of available agricultural lands, growing conditions, soils, transportation, etc. Accordingly, an evaluation of existing irrigation systems and lands associated therein are deemed important to forecasting the acreage and water demand that will be needed to meet such growth. In developing appropriate IFS statewide, the Commission has the responsibility of weighing the importance of present or potential instream values with the importance of the present or potential uses of water for noninstream purposes. The Commission recognizes that these noninstream purposes must consider the allocation of water for designated "important agricultural lands." Ultimately, information garnered from the Hawaii State Agricultural Water Use and Development Plan (AWUDP) will serve to augment the IFS methodology.

Related to Item (d) above, recent federal cost-share funding was provided through the United States Bureau of Reclamation in support of Phase 2 of the Hawaii Water Resources Study. $221,000 in State matching funds was provided by DLNR and the Department of Agriculture to further the development of this Study, which continues to serve as a foundation for the AWUDP. The Study being undertaken in collaboration with the University of Hawaii's College of Tropical Agriculture and Human Resources will:

1) Develop crop irrigation water duties and an irrigation system water demand methodology based on several elements including crop evapotranspiration, estimated effective rainfall, and irrigation efficiencies;

2) Develop agricultural industry water projections over a 20-year planning horizon for pessimistic, likely, and optimistic growth scenarios based on factors such as changes in agricultural technology or infrastructure, and future demands in local and export markets;

3) Develop irrigation system projections for selected irrigation systems based upon proximity, crop irrigation water duties, and irrigation system water demands; and

4) Develop GIS maps and spatial analyses for service areas surrounding 10 selected irrigation systems. Baseline agricultural land maps will be prepared, which will include GIS coverages for Agricultural Lands Important to the State of Hawaii (ALISH) prime lands, general crop types, soil types, and potential wastewater reclamation and reuse sources for agricultural irrigation.

The findings of the Hawaii Water Resources Study will be incorporated into Phase 3 of the Agricultural Water Use and Development Plan, which will provide strong guidance for future agricultural land and water use. The Study is projected to be completed in late 2006.

(3) Promptly resolving all pending petitions to restore stream flows such as those of the Na Wai Eha.

Pending petitions to restore stream flows include the petition to restore flows to the streams on Oahu related to the Waiahole Ditch System, the petition to restore water to 27 East Maui Streams, and the petition to restore water to Na Wai Eha, the four streams on Maui including Waihee, North and South Waiehu, Iao, and Waikapu Streams.

The Waiahole Ditch Contested Case Hearing (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) began in 1995. One of the key issues in the case concerns the interim IFS for the Windward Oahu streams affected by the Ditch System. The Commission's initial Decision and Order (D&O I) was issued on December 24, 1997. D&O I was appealed to the State Supreme Court. On August 22, 2000, the Supreme Court released its ruling on the appeal (S.C. Waiahole I). 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 IFS for Windward Oahu streams. On December 28, 2001, the Commission issued its second Decision and Order (D&O II). D&O II amended the interim IFS for four Windward Oahu streams, based on the best information presently available, as directed by the Supreme Court's Waiahole I ruling. D&O II was also appealed to the Supreme Court. On June 21, 2004, the Supreme Court released its ruling on the second appeal (S.C. Waiahole II). The Supreme Court vacated in part the Commission's December 28, 2001 D&O II and remanded to the Commission for further findings and conclusions regarding, among other issues, the interim IFS. 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 (D&O III). The Waiahole Contested Case Hearing is in its tenth year and has yet to be finally resolved. Setting IFS by contested case hearing has been a process that is too long, time consuming, and expensive. It is hoped by all parties that there can be an easier way to set IFS.

The Petition to Amend the Interim Instream Flow Standards for 27 East Maui Streams was filed in May 2001 by the Native Hawaiian Legal Corporation (NHLC). In a collaborative effort involving all interested parties, the Commission, in May 2002, entered into a cooperative agreement with the USGS to conduct a study of a specific set of the 27 streams located in East Maui. The Study involves 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 three-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.

The Na Wai Eha Petition was filed in June, 2004, by Hui o Na Wai Eha and Maui Tomorrow Foundation, Inc., through Earthjustice. The Petition is to Amend the Interim Instream Flow Standards for Waihee, North & South Waiehu, Iao, and Waikapu Streams and Their Tributaries. The Petition respectfully urges the Commission to "promptly establish scientifically-based interim IFSs for Waihee, North and South Waiehu, Iao, and Waikapu streams and their tributaries, and to order the immediate restoration of all stream flows not currently put to beneficial use, pending the outcome of this process." In October 2004, the Petitioners filed a citizen complaint against Wailuku Agribusiness Co., Inc (WACI) and Hawaiian Commercial & Sugar Company (HC&S) and a petition for a declaratory order to immediately cease wasting water diverted from Na Wai Eha and their tributaries. The Commission has been working with WACI, HC&S, the Petitioners, and other interested parties, including the County of Maui and Maui Department of Water

Supply (DWS), first to address the waste complaint and the petition for declaratory order, then to address the more complicated petition to amend the interim IFS for Na Wai Eha.

(4) Ordering the operators of any stream diversions, including those from the Na Wai Eha, to discontinue any diversions that have no reasonable and beneficial purpose;

One of the basic policies of the State Water Code and its administrative rules is to assure maximum beneficial use of the ground waters and surface waters of the State. Hawaii Administrative Rules (HAR) Section 13-168-2, defines reasonable-beneficial use as "the use of water in such a quantity as is necessary for economic and efficient utilization, for a purpose, and in a manner which is not wasteful and is both reasonable and consistent with the State and County land use plans and the public interest."

The Commission, in its December 24, 1997 Decision and Order for the Waiahole Ditch Contested Case Hearing, required that "any portion of water subject to a water use permit, or allowed for operational losses, that is not being used, shall be released into Windward streams at locations determined by the Commission."

The LAMP, the cooperative project between Kamehameha Schools (KS) and Bishop Museum, with oversight by the Commission, originally began as a citizen complaint in December 1995, that Lalakea Ditch water was being wasted and not being reasonably and beneficially used. In May 1998, Earthjustice Legal Defense Fund (ELDF) filed a complaint with the Commission concerning waste from the Lower Hamakua and Lalakea Ditch Systems. ELDF's basic argument was that because then-current irrigated acreage was much less than formerly under Hamakua Sugar Company, excess water being diverted was being wasted. In August 2000, the Commission required KS, the owner of the ditch system, to: 1) Provide detailed documentation proving the long-term nature of the project; 2) Provide detailed estimates of the water required for the project; 3) Install a metering device that is acceptable to Commission staff and data collected at a frequency acceptable to staff; and 4) Provide monthly water use reports on forms provided by the Commission staff. KS installed a metering devise and began reporting water use, but was unsuccessful in getting any interested parties to economically, efficiently, and on a long-term basis, take over the operations of the ditch system. Thereafter, KS decided to abandon the Lalakea Ditch System, which resulted in the LAMP study.

For the Na Wai Eha Waste Complaint, Commission staff has conducted three days of site visits with HC&S, WACI, and Earthjustice. Commission staff has also met on Maui with HC&S and WACI staff, and has had telephone and email communications with all three parties. The Commission staff presented a status report of the Waste Complaint to the Commission on August 17, 2005, and is preparing to take the matter to the Commission for action at its October 2005 meeting.

(5) In its efforts to accomplish the above, the Commission is urged to meet with the following

- **(1) Parties who petitioned the Commission to restore stream flows to the Na Wai Eha, including Earthjustice, Hui o Na Wai Eha, and Maui Tomorrow;**
- **(2) Current operators of stream diversions of the Na Wai Eha, including the Wailuku Agribusiness Company, Inc.; and**

(3) Other interested parties, including the County of Maui and the Office of Hawaiian Affairs.

As indicated above, Commission staff has already met with HC&S, WACI, and Earthjustice. Although the meetings were mainly related to the waste complaint, the outcome and resolution of the waste complaint will contribute much background information and insight toward determining the more complicated process of setting the interim IFS. More meetings have already been scheduled to discuss the staff report for the October Commission meeting. Meetings with Maui County, Maui DWS, the Office of Hawaiian Affairs, and other interested parties, will be necessary to provide comprehensive input toward setting the interim IFS for Na Wai Eha.

CONCLUSION

The Commission is committed to fulfilling its constitutional and statutory mandate to protect public instream uses through the setting of IFS. The Commission's SPAM Program has adopted a mission and identified the necessary goals, strategic issues, actions, and work tasks through its Program Implementation Plan. The SPAM Program will continue to develop the informational resources and elements required as part of establishing a statewide IFS methodology, to provide a consistent and transparent approach to the setting of quantifiable IFS.

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.