

**HOUSE COMMITTEE ON FINANCE
BUDGET REQUEST FOR SUPPLEMENTAL BUDGET 2008-2009**

January 2008

Program Structure Number: 04 02 04
Program I.D. and Title: LNR 404 - Water Resources

I. Introduction

A. Summary Of Program Objectives

Manage the conservation, protection, planning, and utilization of the State's water resources for social, economic, and environmental needs as mandated by the State Water Code (Water Code).

B. Description Of Program Objectives

1. Implement policies, procedures, and rules on water development, protection, and usage in conformance with the Water Code.
2. Protect water rights and existing uses while ensuring adequate provision for objectives declared to be in the public interest.
3. Monitor chloride quality related to ground-water availability and administratively control usage of ground and surface water to ensure reasonable-beneficial use, where necessary.
4. Protect potable resources, prevent contamination, and maintain utility of and optimize ground-water resources by establishing and enforcing standards for well construction, pump installation and well abandonment.
5. Maintain an instream use protection program to protect, enhance and reestablish, where practicable, beneficial instream water uses.
6. Develop, implement, and update comprehensive short and long-range plans to protect, conserve, and manage water resources.
7. Conduct investigations and implement appropriate actions for the administrative resolution of water-related complaints and disputes.
8. Engage in capital improvement projects to better monitor, understand, and protect statewide water resources.
9. Collect baseline ground-water data to assess changes in water levels and aquifer thickness over time, monitor changes in salinity profiles in major aquifers, and determine the response of aquifers to climatic and pumping stresses.

10. Catalog and maintain an inventory of hydrologic data, geologic data, and topographic surveys.

C. Explanation Of How the Program Intends To Meet Its Objectives Within The Upcoming Supplemental Year

1. Comprehensive Water Planning As land use changes proceed apace and population increases, demand for water and public concern for the resource continues to grow. To address these issues, the Commission on Water Resource Management (Commission) will continue its phased updating of the Hawaii Water Plan (HWP), a multi-component long-range planning document that guides the Commission in its decision-making.

The HWP currently consists of five major components plans identified as the: 1) Water Resource Protection Plan (WRPP); 2) Water Quality Plan (WQP); 3) State Water Projects Plan (SWPP); 4) Agricultural Water Use and Development Plan (AWUDP); and 5) County Water Use and Development Plans (WUDP). The Water Code mandates that these individual plans be prepared and integrated into a comprehensive “master plan” to provide for effective coordination and long-range planning between state and county agencies. To fulfill this mandate, the components of the HWP must be reviewed and updated on a regular basis.

The Commission is working towards completing its first update of the WRPP since its initial adoption in 1990. The updated WRPP will describe all of the Commission’s policies, programs, and activities to protect and sustain the State’s ground- and surface-water resources, watersheds, and natural stream environments.

The Commission will continue to coordinate with the Department of Health (DOH) to update the WQP. Together with the WRPP, the WQP provides the policies and framework for protection and enhancement of the State’s water resource. The WQP is focused on protection of water quality, particularly for drinking water sources. A scope of work has been completed and opportunities to fund a WQP update are being explored.

The Commission will facilitate and provide technical assistance and guidance in the SWPP update. Through the SWPP, the projected water demands for state projects, and existing strategies to meet the demands, will be identified and updated. The SWPP guides the Department in their capital improvement projects requests and provides state source and demand information to the Counties for incorporation into the County WUDPs. A funding source for the next update has been identified.

The Commission will adopt the third update of the AWUDP. The major objective of the AWUDP is to develop a long-range management plan that assesses state and private agricultural water use, supply and irrigation

water systems, projected water demands and prioritized rehabilitation of existing agricultural water systems.

The Commission also continues to coordinate and provide technical assistance and guidance in the updating of the County WUDPs. The Counties of Hawaii and Maui and the City of County (C&C) of Honolulu are presently undertaking updates to their respective WUDPs, which will provide 20-year demand forecasts and strategies to meet these demands. The Commission will continue to work with the County of Kauai who is planning to begin the updating of its WUDP.

The Commission will initiate development of a statewide comprehensive water conservation program to identify, coordinate, encourage, and if necessary, require formulation of water conservation plans and programs for municipal operators and operators of private water systems, such as farmers, state parks, private domestic users, industrial users, and commercial users, such as golf courses. This initiative will help to implement the 2005 Department's Prototype Water Conservation Plan (2005) and water conservation strategies and technologies for various water use sectors identified in the 2007 Water Conservation Manual for State of Hawaii Facilities.

The Commission will also continue to administer its drought program and update the County Drought Mitigation Plans. The 2007 Legislature appropriated, and the Governor approved the release of funds to implement drought mitigation projects. The Commission will administer the disbursement of funds and provide fiscal and technical oversight. To protect water resources during times of drought, the Commission will identify and prioritize water management areas for water shortage planning efforts.

The Commission will continue to provide guidance and facilitate the completion of the stormwater reclamation and reuse study for Hawaii. The objectives of this study, which the Commission, in collaboration with the United States (US) Bureau of Reclamation (BOR), is undertaking, are to develop an overall stormwater reclamation and reuse framework and to further study reclamation and reuse in the Ewa Plain and through groundwater recharge.

2. Stream Protection Under the Water Code, the primary means of protecting streams is through establishment of instream flow standards (IFS). Recognizing the complexity of establishing IFS for the State's 376 perennial streams, the Commission set interim IFS at "status quo" levels, defined as the amount of water flowing in each stream (with consideration for the natural variability in stream flow and conditions) at the time rules were adopted in 1988 and 1989. The Hawaii Supreme Court (Supreme Court), on reviewing the Waiahole Ditch Contested Case Decision and Order, held that such "status quo" interim IFS were not adequate to protect

streams and required the Commission to take immediate steps to assess stream flow characteristics and develop quantitative interim IFS for affected Windward Oahu streams, as well as other streams statewide.

To address the Supreme Court's mandate within realistic budgetary and resource constraints, the Commission is developing a methodology to establish IFS for all streams statewide using best available information.

The Commission has developed a Program Implementation Plan to identify the foundational elements that must be undertaken to proactively address IFS. The Plan is intended to be a "living" document that shall be evaluated regularly over the course of each year to identify tasks completed, those that must be initiated, and any new tasks, which need to be included. The Plan will also serve as a tracking mechanism for the overall progress of the Instream Use Protection Program, as a whole.

The Commission hired a Geologist I and Hydrologist II as appropriated by the 2006 Legislature. These two positions were placed within the Instream Use and Protection Section of the Stream Protection and Management Branch and will greatly improve the Commission's ability to implement the goals and objectives of the Program Implementation Plan to effectively move forward on IFS issues. Specifically, the Commission will be focusing on priority areas in East Maui, followed by streams in Central and West Maui, and Windward Oahu.

The Commission continues to coordinate instream use protection efforts with the Department's Division of Aquatic Resources (DAR). DAR has completed development of their aquatic stream survey database, which manages data collected from on going stream survey activities. The database is an integral part of the Commission's Instream Use Protection Program, providing information on location, abundance, and diversity of freshwater species. DAR, in coordination with the Commission, is continuing to work with Dr. James Parham, of the University of Nebraska to refine an Atlas of Hawaiian Watersheds & Their Aquatic Resources, along with developing additional atlases on aquatic species and aquatic community predictions. These atlases are based upon DAR's aquatic survey database and will provide valuable aquatic species information in support of the Commission's work.

In addition, Act 160, Session Laws of Hawaii (SLH) 2006 (Supplemental Appropriations Act of 2006), appropriated to the Commission, the sum of \$650,000 for the purpose of conducting statewide field investigations to verify and inventory surface-water uses and stream diversions, and update existing surface water information. Being one of the key requisite steps towards the establishing of IFS statewide, the Commission finalized the contract negotiation phase and the project scope of work with the consultant in March 2007. As of October 2007, the consultant had completed field investigations for Waihee, Waiehu, Iao, and Waikapu

Streams (Na Wai Eha) and is nearing completion of diversions in the East Maui area. The project is scheduled for completion in 2009, subject to weather conditions and site accessibility.

Recognizing the importance and continuing need for stream information, DLNR included as part of its Fiscal Biennium 2007-2009 budget request, funding to undertake regional stream studies in support of establishing IFS. The 2007 Legislature subsequently approved \$400,000 to the Commission, \$150,000 of which has been transferred to DAR for various stream studies including, but not limited to, standardized point-quadrat aquatic surveys and rapid bioassessment surveys in under-sampled watersheds. Of the remaining \$250,000, the Commission has allocated \$200,000 towards conducting a Statewide Stream Channel Condition Inventory (Inventory). The remaining \$50,000 will be used to fund specific cultural water use surveys related to current priority areas, in addition to an on-going United States Geological Survey (USGS) hydrological/biological study of Na Wai Eha streams on Maui.

3. Ground Water Protection The Commission has determined that availability and utility of ground water resources are threatened in some areas of the State, and has designated such areas as water management areas. Designation of a ground water management area (GWMA) provides for administrative control over the withdrawal of ground water to ensure reasonable and beneficial use of water in the public interest. The Commission administers regulation of ground water management areas through the issuance of water use permits to ensure that cumulative pumpage does not harm the resource, and end uses are reasonable and beneficial. Much of the Commission's resources has been and continues to be directed toward the review and processing of water use permit applications (including contested case hearings related to such applications) for the designated Iao Aquifer System GWMA on Maui.

The Commission will continue issuance of well construction and pump installation permits to ensure compliance with well construction, pump installation, and well abandonment standards. The Commission will continue to seek compliance with monthly water use reporting requirements, and process petitions to designate ground water management areas, water reservations requests, petitions for declaratory rulings, complaints, and enforcement of violations.

4. Data Collection and Analysis Meaningful hydrologic data will continue to be collected. The data are imperative for decision-making regarding availability and use of the resource. Water uses will continue to be inventoried and their effects will be monitored to protect and prevent any degradation of ground and surface water sources. The Commission collects, analyzes, and interprets hydrological data to obtain an understanding of water resources within a particular area. Data from deep monitor wells are used in construction of analytical and numerical

computer models and were used to re-assess sustainable yields in 16 aquifer system areas for the WRRP using a newly developed analytical model. A new water use database continues to be improved. The database will provide information on groundwater use for planning, regulatory, and scientific purposes.

Deep monitor wells provide vertical “windows” into groundwater aquifers. Many Hawaiian aquifers are in contact with ocean water. As pumpage in an aquifer increases, ocean water is drawn into the aquifer. Instruments lowered (conductivity/temperature/depth logging (CTD)) into deep monitor wells measure changes in the salinity (conductivity) over depth and time. Water level data from wells are also important in determining the health of aquifers. Similarly, rain gauge and fog drip data are essential in understanding how much water is available.

The Commission has six deep monitor wells in the Pearl Harbor Aquifer Sector, two deep monitor wells in Kailua-Kona (Keauhou Aquifer System), and three deep monitor wells on Maui (Iao and Honokawai Aquifer Systems). One of the wells in Kailua-Kona will be modified to provide better information. Drilling of another well in Waihee has commenced and is due to be completed in 2009.

II. Program Performance Results

A. Discuss Program Performance Results Achieved In Fiscal Year (FY) 2007

1. Comprehensive Water Planning: In FY 2007, the Commission worked diligently on various aspects of the HWP:
 - a. Completed a draft update of the WRPP and conducted statewide public hearings. Public comments received were reviewed and incorporated into the draft WRPP as necessary.
 - b. Prepared a white paper for higher-level discussions with DOH on the importance and need for an updated WQP.
 - c. Facilitated inter-divisional discussions to identify a funding source for the SWPP update. The Commission provided technical review and comments on the proposed consultant scope of work.
 - d. Provided technical guidance and assistance to the DOA on their third update of the AWUDP. The Commission provided technical review and comments on the draft AWUDP.
 - e. Provided technical guidance and assistance to the C&C of Honolulu on their regional WUDP update through regular monthly coordination meetings between the Board of Water Supply (BWS), the Planning and Permitting Department, and their consultants.

- f. Provided technical guidance and assistance to the County of Maui on their regional WUDP update through periodic coordination meetings between the County's Department of Water Supply (DWS), their consultants, and community and stakeholder groups. The Commission reconvened the Molokai Water Working Group to provide recommendations towards the development of the Molokai WUDP.
- g. Attended public hearings on the draft WUDP for the Island of Hawaii and provided review comments and suggestions.

The Commission oversaw the completion of the Water Conservation Manual for State of Hawaii Facilities in FY 2007, and joined the Environmental Protection Agency's WaterSense Program as a partner in an effort to begin water conservation planning and activities.

Also in FY 2007, the Commission updated the County Drought Mitigation Plans, coordinated funding opportunities from the US Federal Emergency Management Agency (FEMA) and BOR for emergency response and drought mitigation. The Commission developed a technical approach for the disbursement of Act 238, SLH 2007, drought mitigation funds and prepared memorandums of agreement to sponsoring agencies.

- 2. Stream Protection During FY 2007, the Commission processed nine stream channel alteration permits. However, the total number of permits processed does not reflect actual time and/or resources incurred to review and address inquiries related to the permits that may include conducting requests for determination (whether a proposed project does, in fact, fall within a stream channel), field investigations, and identification and coordination of additional permitting requirements by other agencies.

The Commission received 14 complaints related to surface-water issues in FY 2007. Staff resolved 10 of the 14 complaints, or determined that the complaints were unrelated to matters under the Commission's jurisdiction. The four unresolved complaints are currently under review and may be subject to further actions before the Commission.

- 3. Ground Water Protection In FY 2007, the Commission issued six water use permits including transfers for 71 well sources. 31 water use permit applications for the Iao GWMA were submitted for existing and future uses. The Commission continues to process water use permits for this area and other designated GWMA's on Oahu and Molokai. Commission action on the applications for the Iao GWMA sources have been delayed subject to an ongoing contested case hearing, but basal and caprock applications have been resolved and issued. The remaining applications from high-level tunnels are tied to a petition to amend interim IFS to restore four West Maui streams. The IFS petition and water use permit

applications are being processed together at the same time in a contested case hearing.

Staff has been reviewing and revising the water use permit applications to recognize Supreme Court decisions and past Commission actions to clarify necessary information and processing updates. Staff anticipates resolving this by early 2008 so that anticipated designation of surface waters in the Iao area can proceed as well. Part of the new requirements relate to the creation of an irrigation demand model through the combined efforts of the Commission, CTAHR, and the Natural Resources Conservation Service (NRCS) to estimate reasonable non-potable demands for specific crops and geographic locations.

In FY 2007, the Commission issued 120 well construction/pump installation permits, roughly comparable to the 122 permits issued in FY 2006. Of these 120 permits, six were for sealing abandoned production wells, which represents a 200% increase in permitted sealing activities

4. Data Collection and Analysis In FY 2007, the Commission collected 29 CTD profiles from 10 of the State's deep monitor wells. In FY 2008, the Commission will collect approximately 35 CTD profiles from the state wells. The Commission collected continuous or periodic water level measurements in 19 wells statewide. Rainfall and fog drop data was collected from two dryland rain gages in West Hawaii.

The Pearl Harbor Deep Monitor Wells show variable conditions. Data from the Halawa Deep Monitor Well indicate that the thickness of the aquifer in the eastern part of the Waimalu Aquifer System area has decreased significantly. Data from Waipio Mauka Deep Monitor Well also show aquifer thinning. Other deep monitor wells in the Pearl Harbor area show stable conditions. On Maui, data from the Waiehu Deep Monitor Well continues to show rapidly thinning of the basal aquifer in the Iao Aquifer System area. The rate of thinning appears to be accelerating. The new Iao Deep Monitor Well will help in the assessment of this situation. Data from the Mahinahina Deep Monitor Well show stable conditions, though there are structural concerns about the well and the data collected therein. In West Hawaii, preliminary analysis of deep monitor well data at Kahaluu indicates the aquifer appear static or slightly thickening. Also, water levels in the Kona high-level aquifer continue to decline. The Kona high-level water is extensively being tapped for municipal use.

In FY 2007, construction began on a new deep monitor well in Waihee, Maui, which should be completed by early 2009. In addition, the dryland rain gage located in the Pohakuloa Training Area (West Hawaii) was dismantled and removed due to access issues related to on-going

operations at the military installation and the presence of a nearby USGS rain gage.

B. Explanation Of How These Performance Results Relate To Program's Objectives And Department's Mission

The Commission is responsible for protecting and enhancing the State's water resources through wise and responsible management that will promote maximum beneficial use of water resources for social, economic, and environmental needs. The performance results point toward the active role the Commission plays in carrying out its management duties.

C. Explain How The Effectiveness Of The Program Is Measured (i.e.: Outcomes, Measures Of Effectiveness, Benchmarks, etc.) And Discuss The Performance Results Achieved During The Past Two Years

1. Permit Processing Performance results are measured in part by timeliness of permit processing and/or resolution of complaints/disputes. Most water use permits have a processing time limit of 90-days, while some permits (requiring a public hearing) may take up to 180 days. There are no rules or procedures governing time limits for resolution of complaints/disputes, but they are expected to be addressed within 120 days. Goals of 90% for processing permits within time limits and 80% for resolution of complaints/disputes have been established.

Of the 122 permits processed in FY 2006, all but three were processed within the 90-day time limit, again within the 90% goal. Of those three, two were pump installations in ground water management areas where related water use permits were required prior to approval, thereby causing a delay by seven days. Of the 120 permits issued in FY 2007, all but two were processed within 90 days.

2. Ground Water Protection Through Designation Designation of water management areas threatened by excessive withdrawals has proven effective in reducing water usage. In June 2003, pumpage in Iao exceeded 18 million gallons per day (mgd), which triggered designation of Iao as a ground water management area. Permitting of new water demands will be processed after existing uses are established and permitted by the Commission. Part of the designation proceedings has resulted in a preliminary numerical ground water model funded by the county that should help optimize existing well infrastructure pumpage. Similarly, designation and designation proceedings in other areas such as Oahu, Molokai, and Lanai have inspired the development of numerical ground water models to assess the optimization of existing well infrastructure and estimate potential impacts on the ground water resource in response to such development. In addition, Lanai has certain hydrologic milestones in place to automatically reopen ground water designation proceedings

should they be met, which are based in part on the numerical model developed for that island.

3. Data Collection and Analysis Data collection and analysis by the Commission was instrumental in the decision to designate the Iao Aquifer System area as a GWMA.
4. Securing Funding and Building Partnerships Program effectiveness can also be measured by efficacy of efforts to secure federal funding and assistance in support of Commission mandates. The Commission was successful in securing \$250,000 in federal funding for emergency drought response activities from FEMA and \$217,000 for drought mitigation activities from BOR. In support of drought mitigation and County Drought Mitigation Plans, the 2007 Legislature appropriated and the Governor approved the release of \$4,000,000 for implementation of the updated plans. The Commission was successful in applying for and obtaining \$118,000 from the Watershed Partnership Program for the collection of additional hydrologic data.

D. Discuss Actions Taken To Improve Performance Results

As mentioned earlier, the Commission is developing a methodology to establish IFS for streams statewide incorporating best available information and public input. The surface-water hydrologic units adopted by the Commission will facilitate the collection and analysis of stream resource data by hydrologic units. The Commission has begun the development of a comprehensive database to store and manage information that will be used in both the IFS methodology and regulatory permitting. The Commission use of GIS is also being developed based on new and existing databases, to manage and evaluate diversions, stream channel alterations, and various other stream-related activities.

For water management areas and corresponding water use permit applications, staff continues to refine the application process in a manner similar to the well construction and pump installation permit application process to more clearly define required information based on recent Supreme Court decisions regarding public trust priorities, reasonable & beneficial use estimations, and alternative source analysis. It is anticipated that such an update will improve required application information resulting in more timely Commission decisions. Part of this update will rely upon the Commission's utilization of an irrigation model being developed in conjunction with CTAHR and NRCS. The model will be used to more accurately estimate irrigation demands for water use permit applications.

E. Identify All Modifications To The Program's Performance Measures And Discuss The Rationale For These Modifications

No modifications were made to the Program's performance measures.

III. Problems and Issues

A. **Discuss Any Problems And Issues Encountered By The Program**

1. Addressing the Hawaii Supreme Court's Ruling on the Appeal of the Waiahole Ditch Contested Case Hearing The Supreme Court ruling on the appeal of the Waiahole Ditch Contested Case Hearing requires the Commission to undertake appropriate steps to assess stream flow characteristics and develop IFS for certain Windward Oahu streams and other streams statewide, as well as require implementation and comprehensive water resources planning in regulation and management of water resources.

The Supreme Court acknowledged the Commission's finding that calculating the exact relationship between instream flows and ecological benefit remains difficult due to lack of sufficient scientific knowledge. The Supreme Court reaffirmed the setting of IFS as an integral part of the regulatory scheme established by the Water Code and that establishment of standards on a stream-by-stream basis is necessary to protect public interest in water.

As noted, the Commission has implemented a SWIM System for the management of surface-water information. The SWIM System however, is based in part, upon diversions registered with the Commission in 1990. Location and water use of many of these diversions were never verified through field investigations, and many have since been abandoned or altered due to recent changes in large-scale agricultural operations. Additional information (e.g., stream diversions, stream channel alterations, agricultural systems) must be inventoried to provide required data in support of the IFS process.

2. Water Resource Limitations Parts of the State are approaching limits on water. On Oahu, there is an estimated sustainable yield of 446 mgd of ground water. Based on current reported water use from basal aquifers, about 188 mgd is currently being used, which leaves 258 mgd available to meet future demands, forecasted to increase by about 50 mgd in 2030. However, not all of the sustainable yield surplus is considered economically extractable, some of the surplus may not be of potable quality (e.g., brackish water), and a significant portion of unallocated ground water (approximately 50 mgd) may have an impact upon Windward Stream flows, thus potentially reducing availability. The Commission must remain vigilant in monitoring and continual reassessment of sustainable yields, while continuing to explore and advocate alternative sources to augment natural supply, such as treating surface water, reusing treated wastewater, and desalting brackish or ocean water should be pursued. The current draft of the updated WRPP has identified several possible reductions to sustainable yields in certain areas that may affect water availability if accepted by the Commission.

Vigilance in monitoring and reassessing ground water limits through sustainable yield estimation requires statewide updates to:

- a. Recharge estimates: This includes updates to rainfall, evaporation, fog-drip, runoff, and soils parameter estimation needed to reassess recharge, preferably through GIS technology;
- b. Elevation benchmark updates: Natural shifts in base benchmark elevations and mean sea levels along with questionable well benchmark construction reporting require this review. For example, a combined year-long effort to verify and reestablish benchmark elevations (hence groundwater-levels) required expertise from the Commission, Maui County DWS, USGS, and the National Geodetic Survey during the Waihee Aquifer System water management area designation process. Absolute ground water levels referenced to mean sea level are extremely important in assessing availability of ground water resources;
- c. Deep monitor well and water level monitoring network: (see III A 4.);
- d. Methodology(s) used to estimate sustainable yields: Various methods are employed to model ground water flow behavior. The Commission has a modeling protocol that should be used to assess modeling efforts and hopefully standardize all ground water modeling efforts.

Methods to assess limitations of surface water availability are more complex than ground water limitations and hydrology because of additional considerations such as cultural, historical rights, and biological considerations. Surface water availability will be addressed through the setting of IFS.

3. Sustaining Water Resources Through More Effective Water Resource Planning Water is Hawaii's most important natural resource. Its protection and preservation is directly linked to health, welfare, and quality of life. Limited water resources and growing demand requires careful consideration and more effective coordination between land use planning and water availability. The current draft of the updated WRPP proposes new sustainable yields for some aquifers based on the latest and best available information. Also included in the draft WRPP is a methodology for setting IFS.

As the Counties update their WUDPs for the first time since 1990, the Commission is encouraging respective county Planning Departments to utilize the findings and recommendations from the WUDPs to inform future land use policies. The Commission continues to promote the WUDPs as the means for the integration of land and water use planning.

As we approach the limits to our water resources, effective and proactive plans and strategies should be in place to optimize and conserve existing uses, to best allocate existing resources, and to implement measures to best meet future needs and competing interests, while protecting and sustaining our water resources.

The Commission continues its efforts to identify obstacles and implement solutions to facilitate more efficient utilization of water. Efforts include, working with state/county agencies to improve data collection, information sharing, and coordination of inter-agency planning activities. Implementation of a comprehensive and integrated planning process will ensure that water availability issues, carrying capacity issues, and competing values are addressed to assist in land use planning decisions. A challenge is convincing various agencies that are responsible for updating the HWP components to prioritize and fund WUDP update efforts. The Commission will continue to seek federal funding and develop partnerships to carry out additional planning studies and programs.

4. Need for Water Resource Data A major component of the Commission's work is sound data collection and analyses. As water resources become harder and more expensive to come by, it is even more critical that hydrological data be available for decision-making about the availability and prudent use of our resources. Estimates of water availability are often based on limited data. Lack of long-term baseline hydrologic data is a problem. More data should be collected from streamgages, rain and fog drip gages, water level well stations, springs and deep monitor wells.

Many drinking water sources are in basal aquifers that are in contact with seawater. Deep monitor wells are drilled to obtain a vertical perspective on the dynamics of basal aquifers, and used to manage aquifers susceptible to seawater intrusion. Currently, there are only five Neighbor Island deep monitor wells, with one more under construction or in planning. This contrasts sharply with Oahu where there are 32 deep monitor wells (26 owned by BWS and six owned by the Commission). As water development accelerates, more deep monitor wells will be necessary in the Neighbor Islands basal aquifers.

In addition, the Commission administers a cooperative agreement with USGS to gather stream and spring flow, water level, and climatic data. This Agreement has been cut back the last couple of years due to budget constraints and increases in operating cost expenses. To reduce the adverse impact, the Commission, as part of its 2007-2009 biennium budget request is requesting supplemental funding for its statewide ground and surface water monitoring program (See V.A.3). In addition, the Commission will continue to look to other programs and agencies to assist in funding. The Commission however, recognizes that this is not a stable

source of funding, and will not result in an effective long-term data collection program.

5. Continuance of Former Sugar Cane Irrigation Systems for Diversified Agriculture Of growing concern are issues tied to stream restoration versus continued use of water flowing in former sugar cane irrigation systems. Sugar plantation closures have left irrigation ditch systems idle or with water usage down from what was required to grow sugar cane. Many ditch systems are also in disrepair and deteriorating due to a lack of maintenance and disputes over who is responsible for such maintenance.

The Supreme Court's Waiahole Decision will impact future use of surface water. Offstream users will have a higher burden to prove their continued use of stream water meets criteria under the Water Code and Public Trust doctrine. The Commission is currently addressing three petitions to amend the interim IFS on Maui. These petitions include: 1) 27 Northeast Maui streams; 2) Waihee, Waiehu, Iao, and Waikapu (Na Wai Eha) Streams; and 3) Honokohau and Honolua Streams.

In May 2001, The Native Hawaiian Legal Corporation filed petitions to amend the interim IFS for 27 Northeast Maui streams. In response to the filing of the petitions, the Commission, in March 2002, entered into a cooperative agreement with USGS for a three-year long study to investigate the water resources of Northeast Maui. The Study was jointly funded by USGS, the Commission, the Department's Land Division, Maui County DWS, and Alexander and Baldwin, Inc (A&B). The Study resulted in two USGS scientific investigation reports. The two USGS reports are the most current additions to the Commission's inventory and compilation of best available information regarding the 27 streams. Staff will distribute the information to interested parties and agencies and solicit comments on the interim IFS petitions. The Commission will also hold a public fact gathering meeting in the area as part of the process to gather additional information to determine interim IFS for these streams.

On June 25, 2004, Hui o Na Wai Eha and Maui Tomorrow Foundation, Inc., through Earthjustice, filed a petition to amend the interim IFS for Waihee, North & South Waiehu, Iao, and Waikapu streams and their tributaries. On October 19, 2004, the Group filed a complaint against Wailuku Agribusiness Co., Inc. and Hawaiian Commercial & Sugar Company and a petition for declaratory order to immediately cease wasting water diverted from these same four streams and their tributaries. The Commission in February 15, 2006, initiated a contested case hearing and authorized its Chairperson to appoint a contested case hearings officer for the combined contested case hearings. On March 17, 2006, the Commission authorized the hearings officer to appoint a mediator to begin the mediation process for the waste complaint. On October 11, 2006, the mediator reported that no agreement was reached. A prehearing

conference for the contested case hearing on the waste issue was conducted in November 2006, and the case continues. A prehearing conference to hear motions and to set up the hearing schedule and witness lists was conducted on Maui in November 2007. The formal hearing commenced in December 2007.

On August 25, 2006, Maui Pineapple Company, Ltd. submitted a petition to establish IFS or, in the alternative, to amend the interim IFS, for Honokohau and Honolua Streams, West Maui. The Commission will compile best available information regarding the streams and distribute the information to interested parties, and agencies for review and comments. The Commission will then hold a public fact gathering meeting in the area as part of the process to determine interim IFS for the streams.

6. Need for Statewide Drought Mitigation and Water Conservation Drought is a reoccurring natural hazard that can last for several years. Although rainfall levels have returned to normal or above normal in some areas, to properly prepare for future drought events, statewide drought mitigation planning must be continued and enhanced, before a drought occurs.

Regular convening and updating of the county drought mitigation strategies and plans are a priority of the Commission. Minimizing severe impacts of extended drought conditions can only be achieved through proactive planning, preparedness, monitoring and assessment of impacts, effective communication and coordination of emergency response actions.

In addition to drought mitigation planning, the Commission is prioritizing the development of a comprehensive statewide water conservation program. Demand-side management efforts should be encouraged and integrated as part of an overall water management strategy to achieve maximum water savings and efficiency thus avoiding the need to develop additional resources. Water conservation is intrinsically linked to resource management and protection and should be facilitated wherever possible. Programs and requirements to conserve (and augment) existing water supply should be supported at both the state and county level.

7. Sealing Abandoned Wells to Protect Groundwater Proper sealing of abandoned wells is a growing problem. These wells provide conduits for pollutants to enter the ground-water system. The Commission has authority to seal wells and put a lien on the well owner's property for the cost of sealing the well, but lacks funds to do the work in the first place.
8. Enforcement 30 after-the-fact activities concerning well construction permits, pump installation permits, and substandard construction are still pending. Many of these activities are related to: 1) Lack of elevation survey being completed; and/or 2) Installation of a permanent pump prior to the issuance of a pump installation permit. The Commission has

completed restructuring the well and pump permit processes with well contractors, well owners, and interested land owners to establish clearer responsibilities to avoid after-the-fact activities. Monthly water use recording and reporting has been a legal responsibility of well or stream diversion owners, and the Commission is currently finishing its in-house ground water reporting database system and will be further facilitating reporting through online internet based submission of reports.

9. Climate Change Effects on Water Resources Worldwide temperature observations indicate that global warming is occurring. Scientists believe that global warming could lead to an increase in the variability of precipitation leading to an increase in drought and flood events; as well as a rise in sea-levels. Increased drought events can interrupt water supplies and rising sea-levels can impact the quality of ground water in coastal areas. Impacts of global warming on water supplies need to be considered in water resource planning. It may be necessary to be more conservative when assessing future ground and surface water supplies, and further study and research on global warming and its impacts should be pursued. The Commission is supporting the research and studying of the impacts on climate change through letters of support and exploring available funding opportunities and partnerships.

B. Program Change Recommendations To Remedy Problems

1. Future Request for Staff and Funds The Commission continues to seek positions and funding to carry out Water Code mandates.
2. Updating the Hawaii Water Plan (HWP) An updated HWP and implementation of an integrated planning process will facilitate current complex decision-making processes administered by the State/Counties, lead to greater inter-agency coordination, better enable agencies to set priorities, identify improvements, and streamline permitting processes, and most importantly, protect water resources. Plan recommendations emanating from its initial preparation clearly identified need for further studies, assessments, and actions to be taken. This inherent need to continue to improve upon existing plans forms the basis of a “living” document, which over several plan iterations will result in a comprehensive statewide water resource plan. The priority implementation recommendations in the updated WRPP provide targeted strategies and tasks to accomplish Commission goals and objectives. Future budget requests will be based on these recommendations.
3. Increased Water Resource and Aquatic Biota Data The Commission, in coordination and partnership with federal, state, and county agencies, and private sector and community organizations, is striving to collect information and conduct studies in support of developing IFS. Examples of Commission partnerships include: Windward Oahu Stream Studies (USGS, DAR, Bishop Museum, University of Hawaii at Manoa (UH)); the Punaluu Watershed Alliance (USGS, BWS, Kamehameha Schools,

Punaluu Community Association); the East Maui Stream Study (USGS, Maui County DWS, Land Division, A&B), and the Lalakea Alternative Mitigation Project (Bishop Museum, DAR, USGS, UH, Smithsonian Institute, Louisiana State University, and the University of Nebraska). Several specific recommendations regarding data collection have been further outlined in the current draft of the WRPP.

4. Use of Regulatory Authority to Require Data A chloride data collection protocol, well construction standards, aquifer test protocol, and numerical ground-water model documentation requirements were implemented. These have been and will continue to be added as permit conditions to improve current collection and analysis of hydrologic data.
5. Use of Working Groups, Mediators, and Hearing Officers Working groups, such as the Molokai Water Working Group and the Lanai Water Advisory Committee, will be utilized to provide technical expertise and viewpoints. Mediation will continue to be used to resolve conflicting views and to avoid contested case hearings and facilitation will be used to focus and guide group discussions and meetings. Hearings officers will be used to expedite contested case hearings.
6. Upgrades to Computer System Upgrades and maintenance of the existing local area network Novell system & GIS Environmental Systems Research Institute hardware and software are continuing; including additional software purchases E:Mail, Lotus (Notes 2), security software (Border Manager Firewall, Symantec Anti-Virus, Intruder Detection, centralized operating system patches updates for Microsoft Windows 2K), Aquifer Pump Test Analysis (Aquifer Test Water Log; hardware purchases such as work stations, notebooks, and a projector; programming under Microsoft Office Suite including Excel, Word, Access database; and webpage development for online water use reporting including Right Now to automate public inquiries via email to improve staff efficiency. These ongoing improvements have increased ability to share, analyze, and disseminate water resource data.

C. Identify Any Program Issues Or Problems That Have Affected Or Will Affect The Implementation Of The Program, And The Corrective Measures Or Remedies Established Or Planned

See Sections III A and B above.

IV. Expenditures For FY 2007-2008

	Appropriation Act 213/2007 <u>FY 2007-08</u>	Collective <u>Bargaining</u>	Transfer In/ <u>Transfer Out</u>	Governor's <u>Restrictions</u>	Estimated Total <u>Expenditure</u>
(Pos. Count)	(24.00)				(24.00)
Personal Services	1,600,916	56,038	0	0	1,656,954
Current Expenses	1,206,048	0	-150,000	0	1,056,048
Equipment	11,200	0	0	0	11,200
Motor Vehicles	0	0	0	0	0
Total	(24.00) 2,818,164	56,038	-150,000	0	(24.00) 2,724,202
Less:					
(Pos. Count)	(3.00)				(3.00)
Special Funds	405,730	8,666	0	0	414,396
(Pos. Count)	(0.00)				(0.00)
Federal Funds	0	0	0	0	0
(Pos. Count)	(21.00)				(21.00)
General Funds	2,412,434	47,372	-150,000	0	2,309,806

A. Explanation Of All Transfers Within The Program I.D. And Its Impact On The Program

The Commission will meet with BOR and State Civil Defense to discuss potential funding opportunities involving BOR and FEMA. Grant funding from the Watershed Partnership Program, and other available sources will be explored.

B. Explanation Of All Transfers Between Program I.D. And The Impact To The Program

The 2007 Legislature appropriated \$400,000 to the Commission to undertake regional stream studies in support of establishing IFS. \$150,000 of the \$400,000 has been transferred to DAR for various complementary stream studies including, but not limited to, standardized point-quadrat aquatic surveys and rapid bioassessment surveys in under-sampled watersheds.

C. Restrictions And Their Impact On The Program

None.

V. Supplemental Budget Requests for FY 2008-2009

	<u>Appropriation Act 213/2007 FY 2008-2009</u>	<u>Budget Adjustment FY 2008-2009</u>	<u>Supplemental Requests FY 2008-2009</u>
(Pos. Count)	(24.00)	(0.00)	(24.00)
Personal Services	1,601,152	0	1,601,152
Current Expenses	1,206,048	0	1,206,048
Equipment	11,200	0	11,200
Motor Vehicles	0	0	0
Total Requirements	2,818,400	(0.00)	2,818,400
Less:			
(Pos. Count)	(3.00)	(0.00)	(3.00)
Special Funds	405,730	0	405,730
(Pos. Count)	(0.00)	(0.00)	(0.00)
Federal Funds	0	0	0
(Pos. Count)	(21.00)	(0.00)	(21.00)
General Funds	2,412,670	0	2,412,670

A. Workload Or Program Request

None.

B. For All Position Count Reductions, Please Specify Whether The Positions Were New, Filled Or Vacant

None.

VI. Identify Restrictions Carried Over From FY 2006-2007 As Well As Additional Reductions Due To The Department Of Budget and Finance's (B&F) Budget Ceiling For FY 2007-2008

None.

VII. Capital Improvement Projects (CIP) Requests for FY 2008-2009

None.

VIII. Proposed Lapses of Capital Improvement Program Projects

None.