



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
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STAFF SUBMITTAL

for the meeting of the  
COMMISSION ON WATER RESOURCE MANAGEMENT

May 24, 2006  
Honolulu, Oahu

Cooperative Agreement with U.S. Geological Survey and the  
Commission on Water Resource Management for  
Streamflow and Stream-Macrofauna Characteristics, Central Maui, Hawaii

The State Water Code mandates that the Commission on Water Resource Management (Commission) establish a statewide instream use protection program (State Water Code, Hawaii Revised Statutes, chapter 174C, section 71). The principle mechanism that the Commission has for protection of instream uses is to establish instream flow standards. "Each instream flow standard shall describe the flows necessary to protect the public interest in the particular stream. Flows shall be expressed in terms of variable flows of water necessary to protect adequately fishery, wildlife, recreational, aesthetic, scenic, or other beneficial instream uses in the stream in light of existing and potential water developments including the economic impact of restriction of such use" (State Water Code, section 174C-71(1)(C)). The Commission has recognized certain instream uses as beneficial, including: (1) maintenance of fish and wildlife habitat, (2) outdoor recreational activities, (3) maintenance of ecosystems such as estuaries, wetlands, and stream vegetation, (4) aesthetic values such as waterfalls and scenic waterways, (5) maintenance of water quality, (6) the conveyance of irrigation and domestic water supplies to downstream points of diversion, and (7) the protection of traditional and customary Hawaiian rights.

On October 19, 1988, the Commission set interim instream flow standards for all streams in West Maui. The interim instream flow standard was defined as "that amount of water flowing in each stream on the effective date of this standard, and as that flow may naturally vary throughout the year and from year to year without further amounts of water being diverted offstream through new or expanded diversions, and under the stream conditions existing on the effective date of the standard..." (Hawaii Administrative Rules, chapter 169, section 13-169-48). The interim instream flow standards allowed diversions existing as of October 1988 to continue operating unless the Commission amended the standard or established new standards, based on supplemental or additional information.

In recent years, interim instream flow standards have been challenged as demand for water has increased and the ecological, cultural, and aesthetic significance of streams has been increasingly recognized. In June 2004, Earthjustice filed a petition with the Commission, on behalf of Hui o Na Wai Eha and Maui Tomorrow Foundation, Inc., to amend the interim instream flow standards for Waihee River and Waiehu, Iao, and Waikapu Streams in central Maui, and filed a complaint that water diverted from these streams was being wasted. It is becoming increasingly apparent that competition exists for the limited surface-water resources in Hawaii. In the past, conflicts such as the Waiahole contested case on Oahu have led to costly litigation over rights to water.

The County of Maui Department of Water Supply currently uses water diverted directly from the four streams of Na Wai Eha and may divert additional water from these streams in the future. The County also withdraws ground water from the aquifers potentially recharged by these streams. (Iao Stream flows through an area designated by the Commission as a ground-water management area.) Thus, an understanding of the effects of the diversions on streamflow characteristics, aquatic habitat, and ground-water recharge are essential to the Commission (and the County) for proper planning and management of the resource. Furthermore, the use of stream water for agriculture, protection of traditional and customary Hawaiian rights, maintenance of ecologic balance, aesthetics related to flowing streams, and recreational use of the streams (fishing, swimming, sight-seeing) are factors that will play a role in planning and management decisions by the Commission and the County. The results generated by this cooperative study will assist the Commission in determining equitable, reasonable, and beneficial instream and off-stream uses of the surface-water resources in central Maui. This study will help the Commission to fulfill its obligation to determine technically defensible instream flow standards for the streams of Na Wai Eha by providing scientific information addressing the hydrologic and aquatic-habitat aspects of the standards.

This proposal addresses only the initial phase (prior to controlled releases and prior to the end of federal fiscal year 2006) of the cooperative study by the U.S. Geological Survey (USGS) on Waikapu, Iao, and Waiehu Streams and Waihee River that will be designed to provide information needed to establish instream flow standards for these streams. A critical component of the overall study is the need to partially restore flow, through controlled release of diverted water, to the streams on a semi-permanent basis to create streams that flow along their entire length. These controlled releases will be designed to allow measurements of streamflow, infiltration, potential aquatic habitat in sections of the stream that commonly are dry under diverted conditions, and possibly other factors of interest to be determined during discussions with stakeholders. Cooperation between the users of the diverted water and the USGS is necessary to insure that these controlled releases provide the needed data to help the study be successful. Because streamflow restoration may not take place during the early part of the overall study, the scope of this proposal addresses work elements that can be completed during federal fiscal year 2006 prior to any controlled releases. Proposed work elements are limited to those elements that are not dependent on the controlled releases but that are necessary for the overall study, and include (1) compiling and analyzing existing information relevant to the study, (2) conducting baseline reconnaissance surveys of the streams, (3) establishing low-flow partial-record stations in reaches with flowing water, (4) establishing temperature-monitoring sites in reaches with flowing water, (5) monitoring the frequency of dry days in selected reaches of the diverted streams, (6) surveying the presence or absence of native and non-native aquatic species

in selected stream reaches, and (7) collecting macrohabitat, microhabitat, and channel-geometry information in an undiverted, control stream. The scope of the overall study will be determined upon further discussions with stakeholders.

The initial phase of the study during federal fiscal year 2006 will not include a report product. However, because the study elements for the initial phase are part of a longer-term study, results from the initial phase will be included in a final report in the Scientific Investigations Report series. Data collected during the initial phase of the study will be made available via the internet as soon as it is reviewed and approved for release according to USGS Pacific Islands Water Science Center quality assurance plans.

A total of about \$230,000 is needed for the initial phase of the study. Funds for this cooperative study will be provided by several partners including the U.S. Geological Survey (\$115,000), County of Maui (\$75,000), Commission on Water Resource Management (\$25,000), and State Office of Hawaiian Affairs (\$15,000). The Commission's cost-share will be paid from the Department's LNR 404, Water Resources Program budget funding.

RECOMMENDATION:

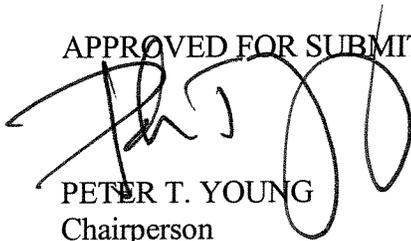
Staff recommends that the Commission authorize the Chairperson to enter into a cooperative agreement between the Commission and the U.S. Geological Survey to undertake the specified monitoring activities and analyses. The terms of this agreement will be subject to the approval of the Chairperson and the Department's Deputy Attorney General. Contract execution will be done in accordance with Chapter 103D, HRS, and Chapter 3-122, Hawaii Administrative Rules.

Respectfully submitted,



DEAN A. NAKANO  
Acting Deputy Director

APPROVED FOR SUBMITTAL:



PETER T. YOUNG  
Chairperson