

*Taro Security and Purity Task Force
Queen Liliuokalani's Children's Center
February 19, 2009*



Staff briefing on the

Petition to Amend the Interim Instream Flow Standards for the Surface Water Hydrologic Units of

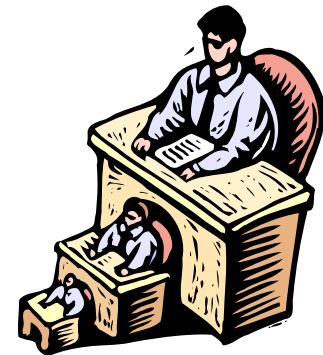
Honopou (6034), Hanehoi (6037), Piinaau (6053),
Waiokamilo (6055), and Wailuanui (6056), Maui



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

Commission on Water Resource Management

- Under the Department of Land and Natural Resources (DLNR)
- Seven (7) member Commission:
 - Chairperson of DLNR
 - Director of the Department of Health (DOH)
 - Five (5) Governor appointees
 - Must have experience in water resource management
 - 1 member must have expertise in traditional Hawaiian water resource management



Major Responsibilities

- Resource assessment and protection
- Water resource planning
- Regulation of water use
- Data collection
- Enforcement and technical support services
- Complaints/dispute resolution
- Protection of water rights



Stream Protection and Management Branch

Current Program Activities:

- Regulate stream channel alterations and stream diversion works statewide via permits
- Designate and Regulate SWMAs
- Update interim instream flow standards
- Develop a methodology for setting instream flow standards Statewide



Petition to Amend IIFS

HONOPOU

- Honopou Stream

HANEHOI

- Hanehoi and Puolua Streams

PIINAAU

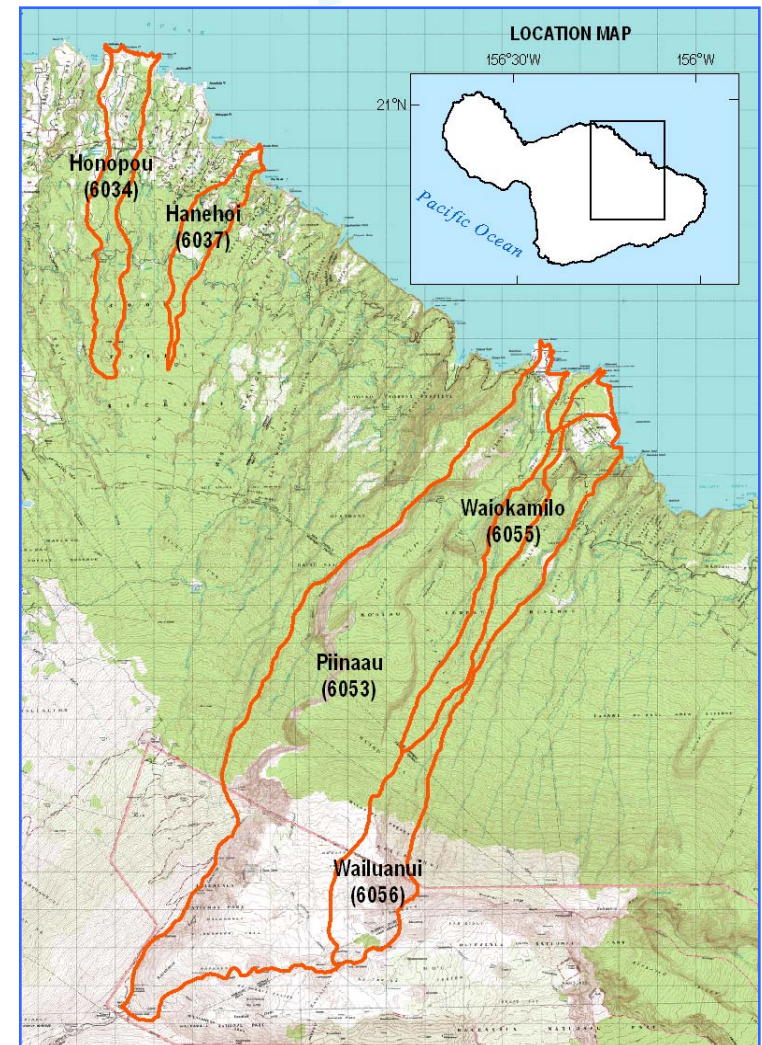
- Piinaau Stream
- Palauhulu Stream

WAIOKAMILO

- Waiokamilo Stream
- Kualani Stream

WAILUANUI

- East and West Wailuanui Streams
- Waikani Waterfall [Stream]



Timeline

- **October 8, 1988**
 - Initial “status quo” interim IFS for East Maui streams
- **May 24, 2001**
 - NHLC filed 27 Petitions to Amend the Interim IFS
- **July 23, 2001**
 - Focus on 5 hydrologic units, 8 petitions
- **March 20, 2002**
 - Commission approved Water Resource Investigations for Northeast Maui Streams

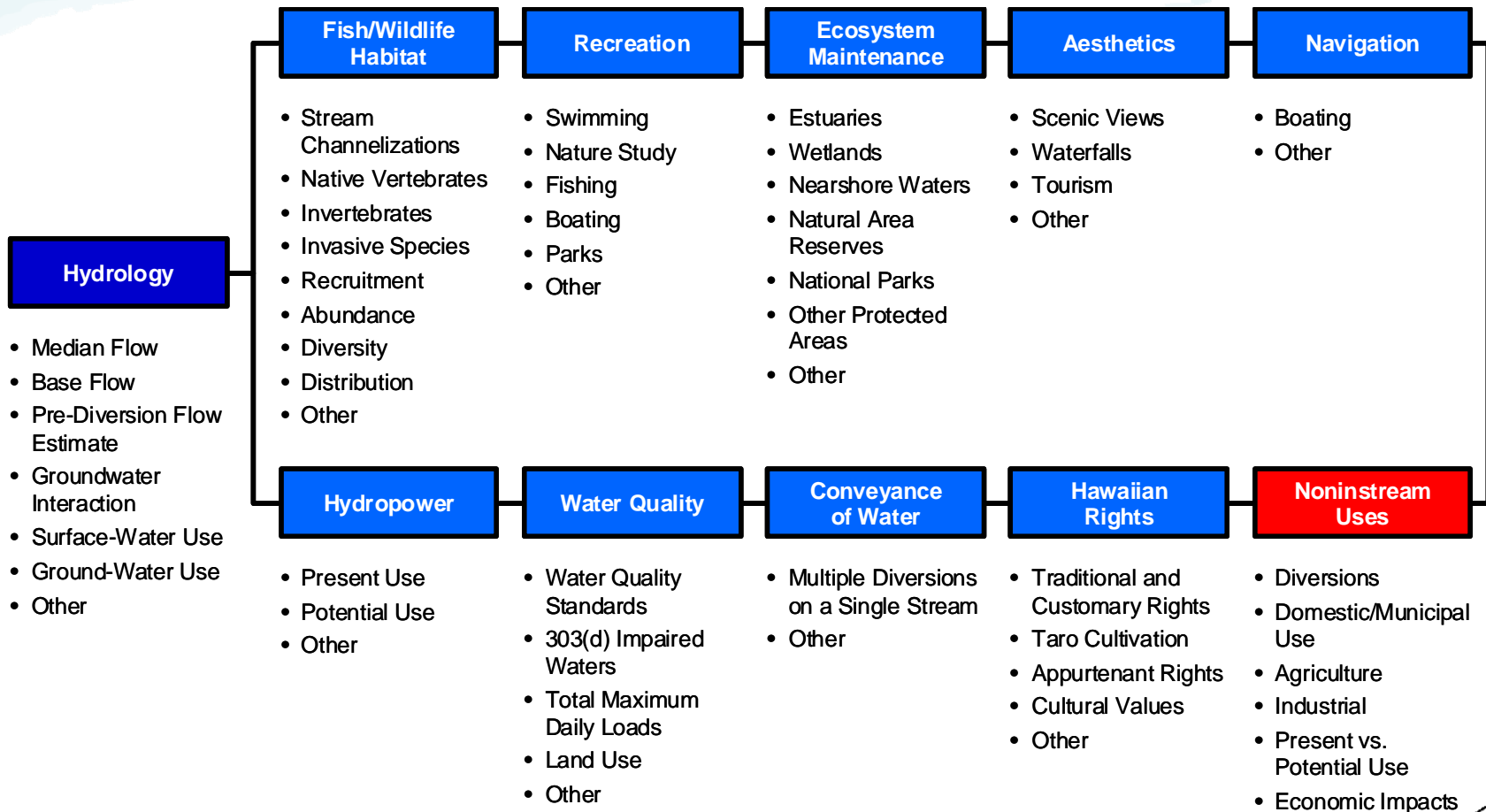


Timeline

- **June 15, 2005**
 - **USGS Report:** Median and Low-Flow Characteristics for Streams Under Natural and Diverted Conditions, Northeast Maui, Hawaii
- **January 2006**
 - **USGS Report:** Effects of Surface-Water Diversions on Habitat Availability for Native Macrofauna, Northeast Maui, Hawaii
- **December 13, 2006**
 - Approval of Interim IFS process
- **April 10, 2008**
 - **Public fact gathering meeting**
- **September 2 & 3, 2008**
 - **Commission site visits**
- **September 24 & 25, 2008**
 - **Commission approval of amended IIFs**

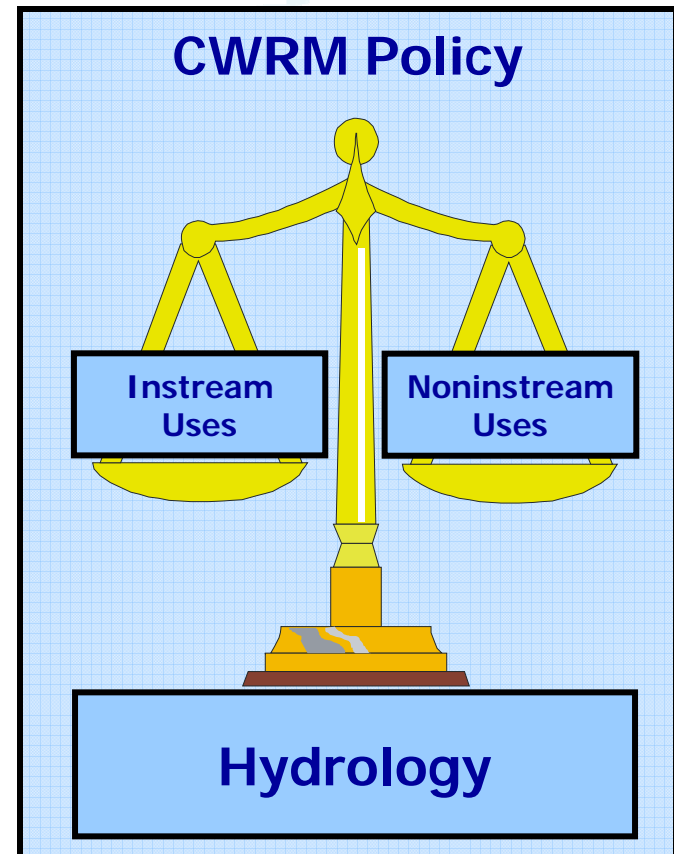


Balancing the Needs

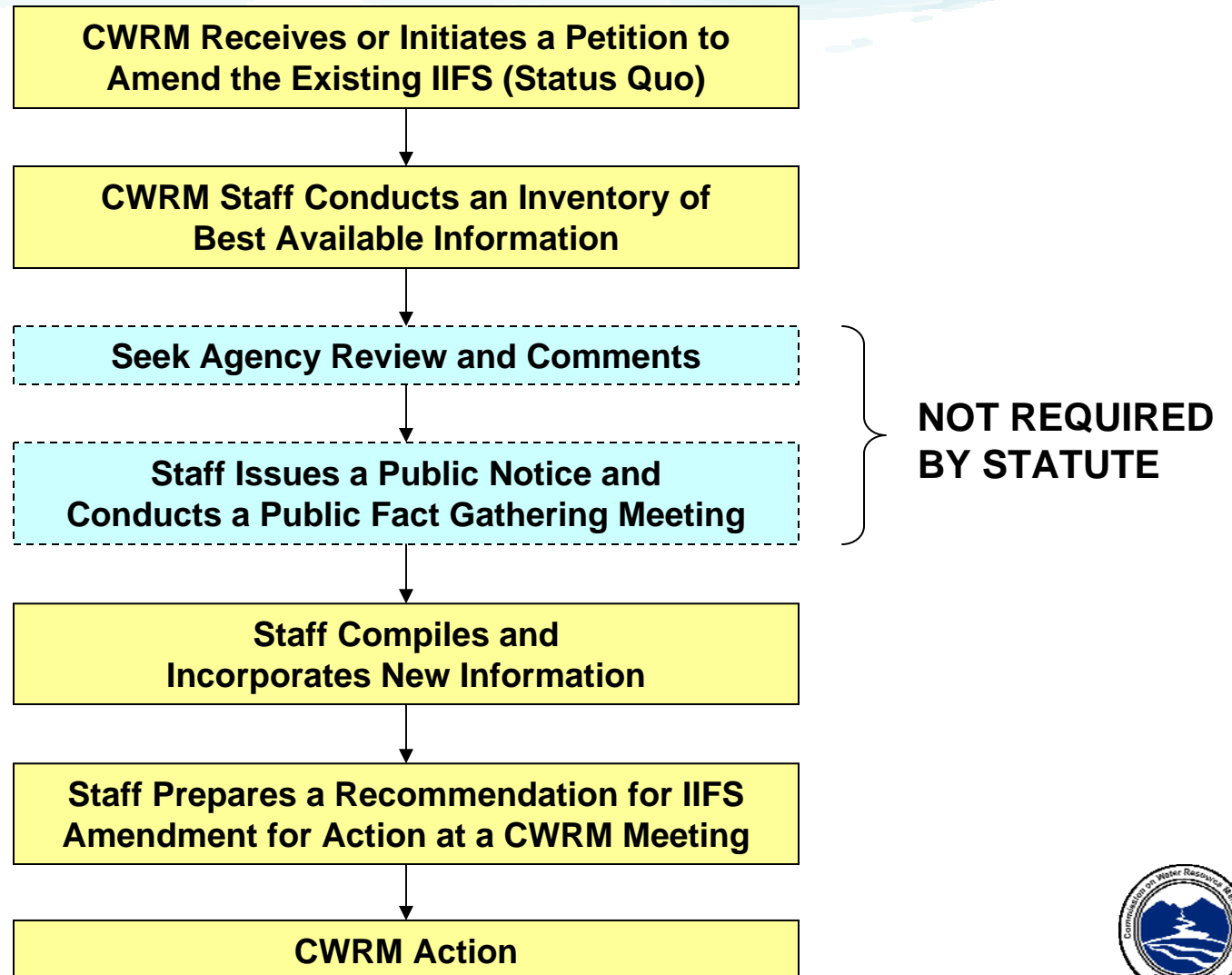


State Water Code

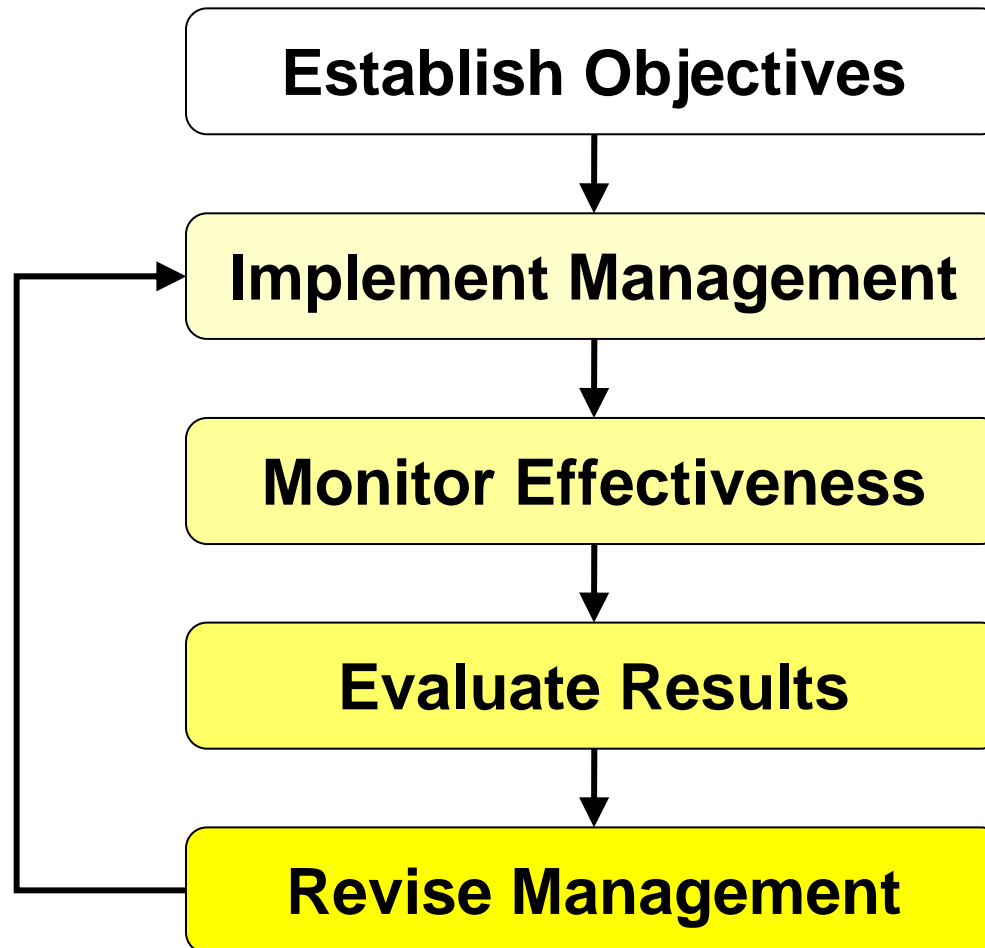
“The Commission shall weigh the importance of the present or potential instream values with the importance of present or potential uses of water for noninstream purposes, including the economic impact of restricting such uses.”



Interim IFS Process



Adaptive Management



An aerial photograph of a coastline, likely Honopou, showing waves crashing against a rocky shore. The water is dark blue-grey, and the waves are white and foamy. The land is a mix of green and brown, suggesting a mix of vegetation and bare earth or sand. The overall scene is dramatic and natural.

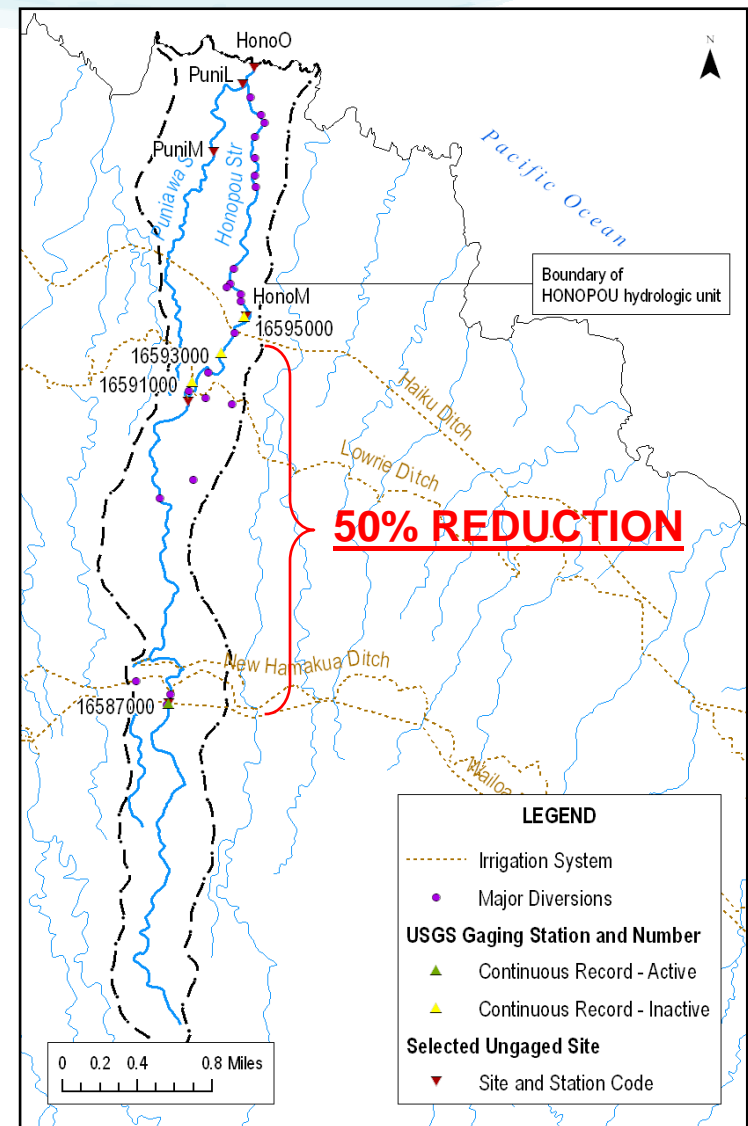
Honopou

Discussion Outline

- Assessment Summary
- Additional Considerations
- Proposed Interim IFS
- Rationale
- Adaptive Management Strategy

Assessment Summary

- **Hydrology**
 - Gaining stream
 - Gain: 2.3 MGD
 - Diversions: 50% reduction
 - Bypass pipes at Haiku Ditch
 - Decreasing long-term trend in streamflow



Assessment Summary

- **Fish and Wildlife**
 - Poor diversity
 - Oopu alamoo in upper reaches
 - Lack of streamflow continuity
 - Deep pools and dewatered sections
 - Pipes in diversion structures

- **Recreational**
 - HSA - swimming

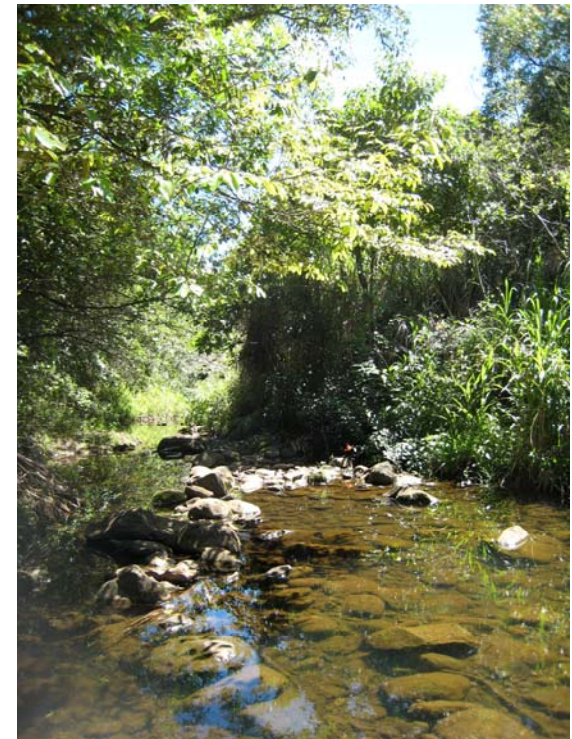


Native Hawaiian fish: Oopu alamoo (Lentipes concolor)



Assessment Summary

- **Ecosystem Maintenance**
 - 40% is East Maui Watershed Partnership area
 - 25% is Koolau Forest Reserve
- **Aesthetic**
 - Limited
- **Water Quality**
 - Class 2 - Puniawa, lower reaches of Honopou Stream
 - Class 1 - Upper reaches of Honopou Stream



Honopou Stream upstream of Haiku Ditch



Assessment Summary

- **Irrigation and Domestic**
 - Total of 15 non-EMI diversions
 - 12 registered domestic uses (no access to county water service)
 - All 15 registered for cultivation of other crops and/or livestock
- **Traditional and Customary**
 - 2 appurtenant rights claimants
 - 6 registered for taro cultivation
 - Gathering



Kekahuna's taro lo'i, Honopou



Assessment Summary

- **Noninstream**

- EMI diversions - 7 major, 2 minor
- EMI supplies water to:
 - HC&S
 - MLP
- Makawao DWS system Effects of decreasing water diverted
 - Irrigation in west and central Maui
 - Long-term trends in ground water levels



*EMI diversions at Wailoa Ditch
and New Hamakua Ditch,
Honopou Stream*



Additional Considerations

- **BLNR Contested Case**
 - Appurtenant rights
 - Accuracy of flow measurements
 - Taro water needs
- **Public testimony**
 - Stream is diverted 4 times by EMI
 - Water temperature
 - Taro root rot
- **Other sources of water**
 - No county water system

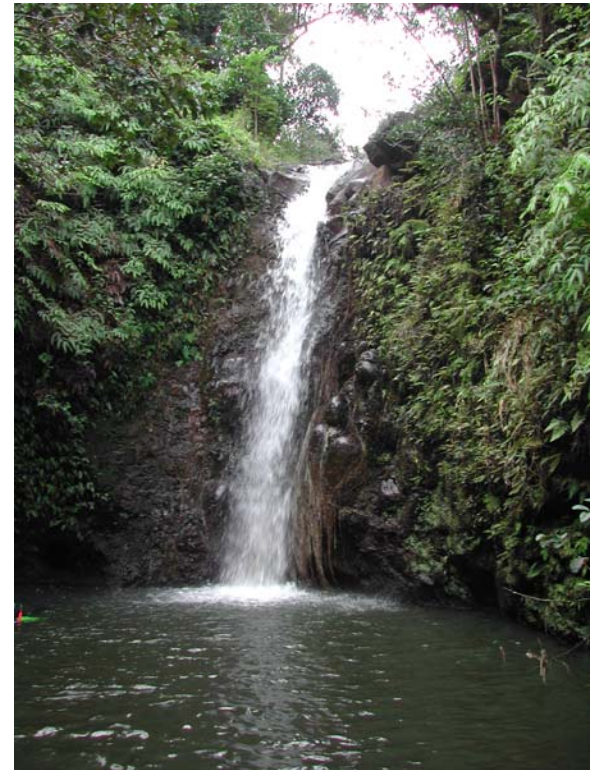


Kekahuna / Walleit auwai, Honopou



Rationale

- **Why restore flow?**
 - Increase flow continuity for stream biota
 - Improve recreational and aesthetic opportunities
 - Ecosystem maintenance (Koolau Forest Reserve)
 - Downstream surface water users
 - Potential water use



Waterfall at Honopou Stream

Rationale

- **Why not full restoration?**
 - Upcountry Maui - domestic use, agriculture
 - Central Maui - agriculture
 - Power to MECO
 - Diversified agriculture
 - Sustainability



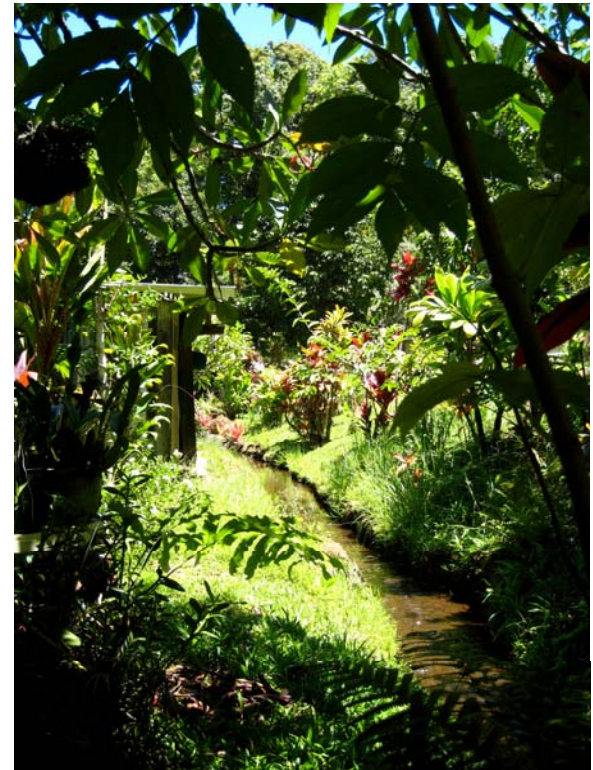
Sugarcane cultivation



Rationale

- **Interim IFS A**
 - Estimate: Based on average annual ground water gain
 - Purpose: Water for downstream users

- **Interim IFS B**
 - Estimate: Based on Q_{90} natural (undiverted) flow
 - Purpose: Biological integrity



Kekahuna / Walleit auwai, Honopou



Proposed Interim IFS

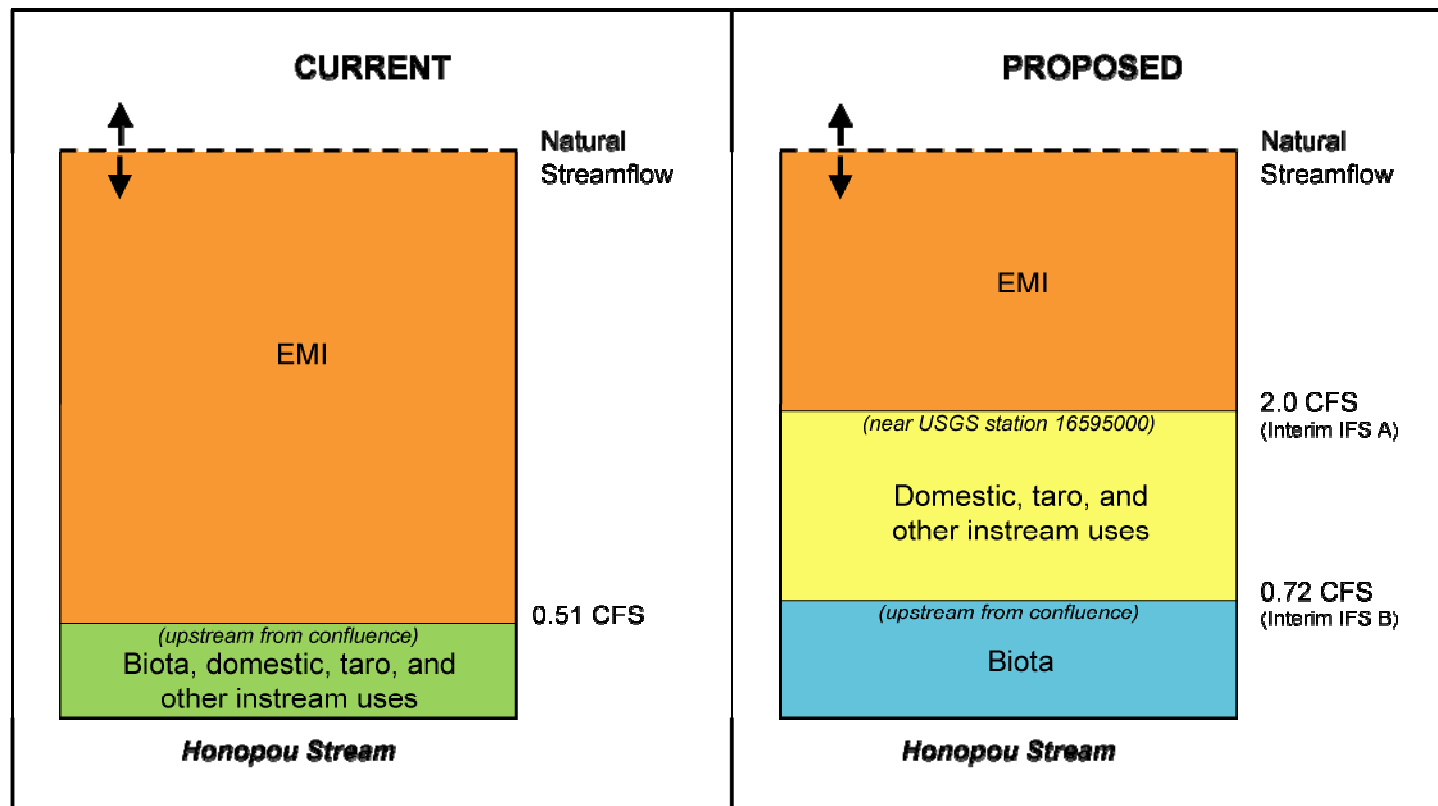


Diagram not to scale



Adaptive Management

- **Hydrologic Unit-Specific**
 - Alter bypass pipes at Haiku Ditch to allow upstream migration of native species



Bypass pipes at Haiku Ditch, Honopou Stream

Adaptive Management

- **General Strategies**

- **Implementation**

- Comply with State Water Code for unregistered diversions
 - Collaborate with agency staff and registered diversion owners to determine appropriate actions
 - Coordinate with EMI and DAR to assess existing conditions and status of EMI diversions



Adaptive Management

- **General Strategies**
 - **Monitoring**
 - Monitor streamflow by taking periodic measurements
 - Conduct periodic biological surveys
 - Affected parties monitor and document the negative impacts of diversions or adopted interim IFS
 - Conduct investigations with granted access to stream channels and private property



Adaptive Management

- **General Strategies**
 - Evaluation
 - Report to Commission within one year from date of adoption
 - Assess implementation of adaptive management strategies
 - Prepare long-term management framework





Wailuanui

Discussion Outline

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Proposed Interim IFS

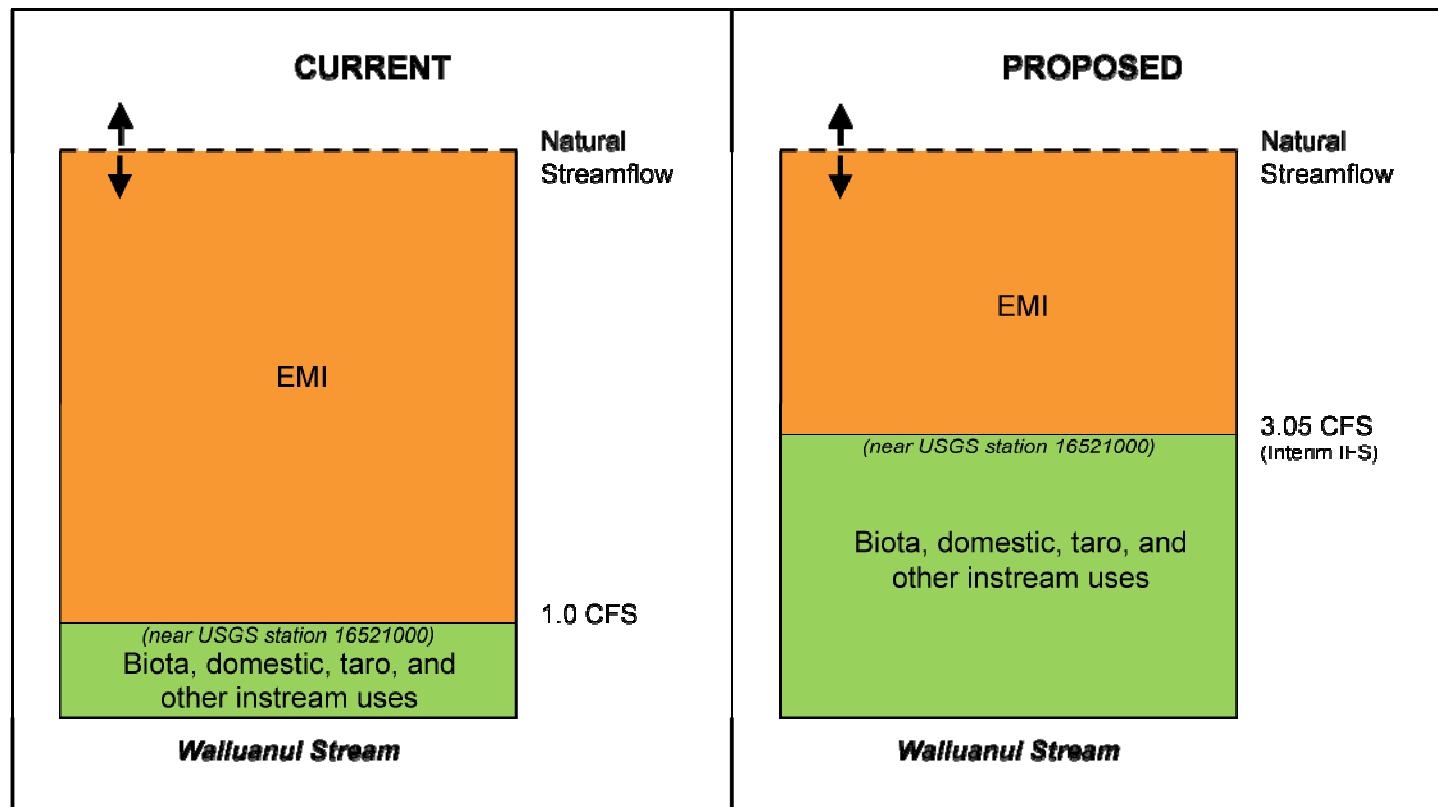


Diagram not to scale



Adaptive Management

- **Hydrologic Unit-Specific**
 - Maintenance of auwai, transmission lines, and intakes
 - Flushing flows for auwai and taro loi
 - Monitor streamflow downstream of Waikani Falls

- **General Strategies**
 - Implementation
 - Monitoring
 - Evaluation



Taro loi in Wailua Valley



AMENDMENTS

- **Approved with the following amendments**
 - Moving forward on the staff's recommendation is the first step in an integrated approach to all 27 (twenty-seven) streams that are subjects of these petitions
 - Staff shall provide progress reports to the Commission at regularly scheduled meetings during the course of the year
 - In cases of return of water to losing streams, staff and all parties shall monitor and report whether there are increases in either downstream flow or ground water in the vicinity



Designated Ground Water or Surface Water Management Area

- Special area where the Commission has determined that the ground or surface water resources may be threatened by existing or proposed withdrawals or diversions of water.
- The Commission or interested person can file a petition to initiate the designation process.
- Government agencies and the public are asked to comment on the designation of the water management area.
- The process includes public hearings and reports.
- The Commission designates the area and establishes administrative control over the withdrawal and diversion of water to ensure reasonable-beneficial use in the public interest.



Criteria for Designation of Surface Water Management Areas

- Need to preserve diminishing surface water supply for future needs, as evidenced by declining surface water levels, not related to rainfall variations, or increasing or proposed diversion of surface waters to levels which may detrimentally affect existing instream uses or prior existing off stream uses.
- Diversion of stream waters are reducing the capacity of the stream to assimilate pollutants to an extent which adversely affects public health or existing instream uses.
- Serious disputes over the use of surface water resources are occurring.



Designation Process

(HRS 174C-41, HAR 13-171-3 to 9)



Designated Water Management Area

- Any person making a withdrawal, diversion, impoundment, or consumptive use of water must obtain a water use permit from the Commission.
- Domestic consumption of water by individual users, or the use of a rain catchment system are exempt from the permit process.
- Users of county municipal systems are exempt from the permit process.
- An existing use in a newly designated area may be continued until the Commission acts on the application.



Commission on Water Resource Management

Website: <http://www.hawaii.gov/dlnr/cwrn>

E-mail: dlnr.cwrn@hawaii.gov

The screenshot shows a Windows Internet Explorer browser window displaying the website for the Commission on Water Resource Management. The address bar shows the URL <http://hawaii.gov/dlnr/cwrn/>. The website header features a large image of a river flowing through a lush forest. Overlaid on the left side of the image is a blue graphic with a white wavy line representing water. The text "COMMISSION ON WATER RESOURCE MANAGEMENT" is centered at the top of the image. Below it, the Hawaiian name "Ke Kahuwai Pono" is written in a stylized font, followed by the tagline "The trustee who oversees the rightful sharing of water." The official seal of the Commission is visible on the right side of the header image. A horizontal navigation menu below the header contains the following items: ABOUT US, NEWS & EVENTS, RESOURCES, PLANNING, SURFACE WATER, and GROUND WATER. The main content area is divided into two columns. The left column is titled "Water News" and features a graphic of a blue river winding through a landscape. It contains two paragraphs of text: the first discusses the development of interim instream flow standards for five surface water hydrologic units in east Maui, and the second discusses the designation of Na Wai Eha as the first surface water management area. The right column is titled "QUICK LINKS" and features a graphic of a green leaf. It contains a list of five links: Applications & Forms, Permit Application Process, State Water Code, Commission Meetings, and 2008 Water Resource Protection Plan Update - Final Draft Plan Available. The browser's status bar at the bottom shows "Internet" and "100%".



Questions?

Discussion



Ke Kahuwai Pono

“The trustee who oversees the rightful sharing of water.”