HAWAI'I WATER WORKSHOPS

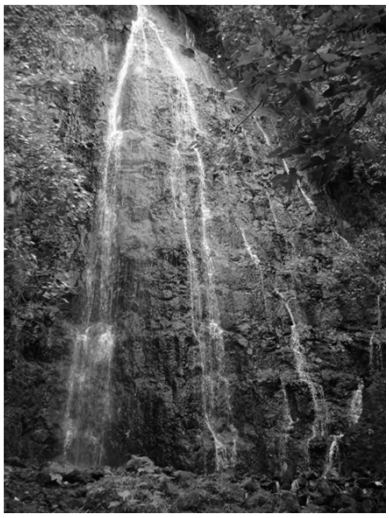
WATER RESOURCE PROTECTION PLAN UPDATE

MARCH 2015

Commission on Water Resource Management

Agenda

1. Water Management in Hawai'i
2. Commission on Water Resource Management
3. Where does our water come from?
4. Hawai'i Water Plan
5. Water Resource Issues
6. Water Management Strategies
7. Breakout Discussion: Local Water Issues and Actions
8. Reconvene
9. Summary of Breakout Discussion
10. Next Steps



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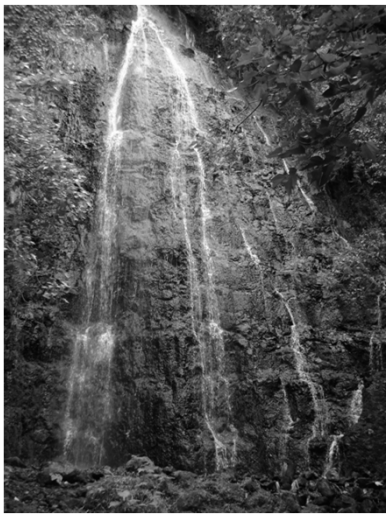

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Water Management in Hawai‘i

Hawai‘i State Constitution, Article XI, Section 1

(emphasis added)

“For the benefit of present and future generations, the State and its political subdivisions shall conserve and protect Hawaii's natural beauty and all natural resources, including land, water, air, minerals and energy sources, and shall promote the development and utilization of these resources in a manner consistent with their conservation and in furtherance of the self-sufficiency of the State”

“all public natural resources are held in trust by the State for the benefit of its people.”

WATER RESOURCE PROTECTION PLAN UPDATE * HAWAI'I WATER WORKSHOPS * MARCH 2015 * 4

Water Management in Hawai‘i

Hawai‘i State Constitution, Article XI, Section 7

(emphasis added)

“The State has an obligation to protect, control and regulate the use of Hawaii’s water resources for the benefit of its people.”

*“The legislature shall provide for a **water resource agency** which… shall set overall water conservation, quality and use policies; define reasonable and beneficial uses; protect ground and surface water resources, watersheds and natural stream environments; establish criteria for water use priorities while assuring appurtenant rights and existing correlative and riparian uses and establish procedures for regulating all uses of Hawaii’s water resources.”*

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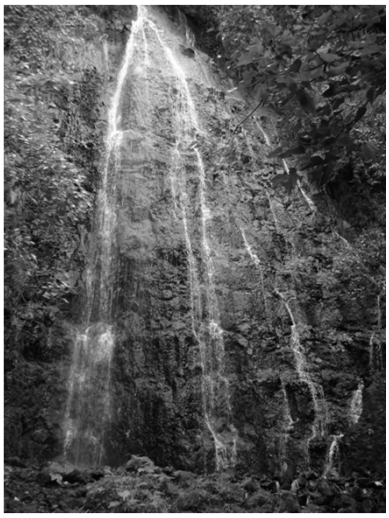


Commission on Water Resource Management

- Seven Members of the Commission
  - Chairperson of BLNR (Chair of Water Commission)
    - Carty Chang

  - Director, State DOH (ex-officio voting member)
    - Viriginia Pressler, M.D.

  - Five members are appointed by the Governor and confirmed by the State Senate

Denise Antolini

Kamana Beamer

Michael G. Buck

Milton Pavao

Jonathan Starr

Ke Kahuwai Pono
"The trustee who oversees the rightful sharing of water."

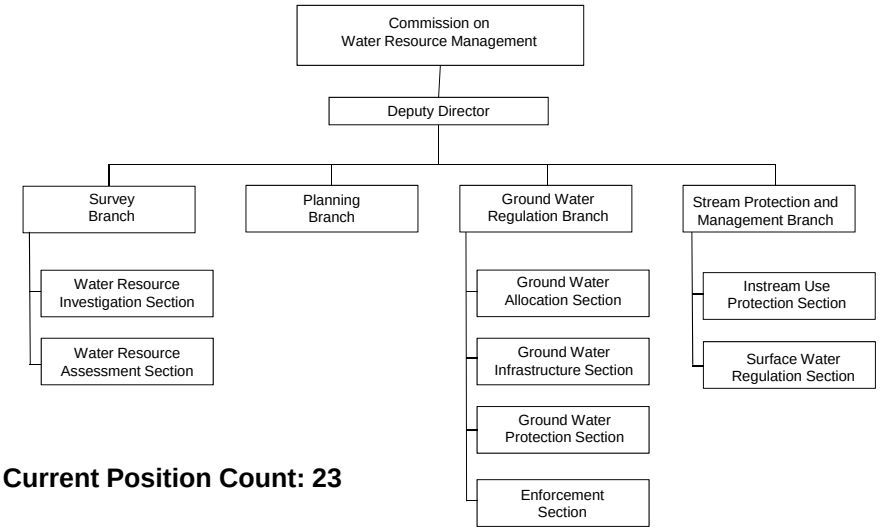
Commission on Water Resource Management

Water Quantity

Water Quality

Ke Kahuwai Pono
"The trustee who oversees the rightful sharing of water."

Commission on Water Resource Management



Current Position Count: 23

WATER RESOURCE PROTECTION PLAN UPDATE * HAWAI'I WATER WORKSHOPS * MARCH 2015 * 9

The State Water Code

(1987)

- *The Code shall be liberally interpreted to obtain maximum beneficial use of the waters of the State for purposes such as domestic uses, agricultural uses, power development, and commercial and industrial uses. (§174C-2(c) HRS)*
- *Adequate provision shall be made for the protection of traditional and customary Hawaiian rights, the protection and procreation of fish and wildlife, the maintenance of proper ecological balance and scenic beauty, and the preservation and enhancement of waters of the State for municipal uses, public recreation, public water supply, agriculture, and navigation. (§174C-2(c) HRS)*

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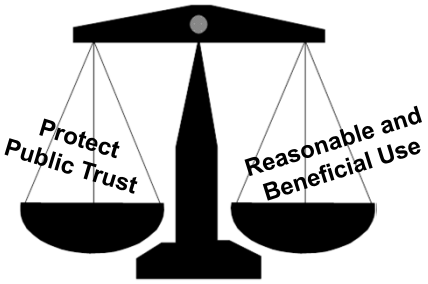
Commission on Water Resource Management

Protect the Public Trust and Ensure Reasonable and Beneficial Uses



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Commission on Water Resource Management

Public Trust Doctrine

"…all public natural resources are held in trust by the State for the benefit of its people."

"The State has an obligation to protect, control and regulate the use of Hawaii's water resources for the benefit of its people."

State Constitution, Article XI

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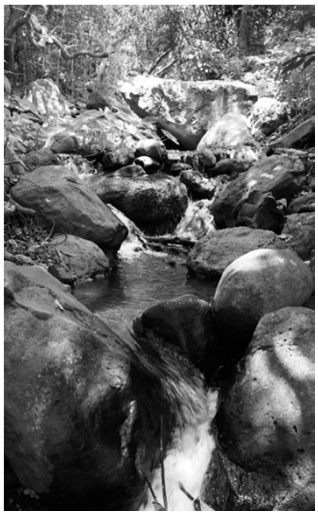
Commission on Water Resource Management

Precautionary Principle

There is a duty to take anticipatory action to prevent harm to public resources.



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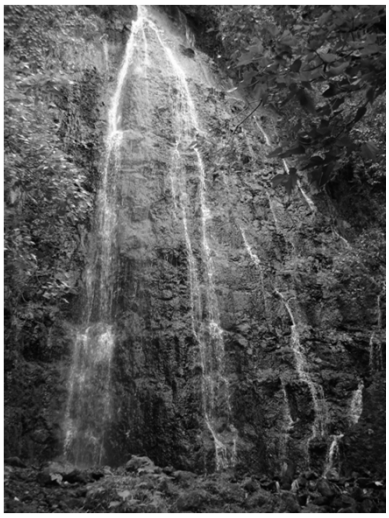

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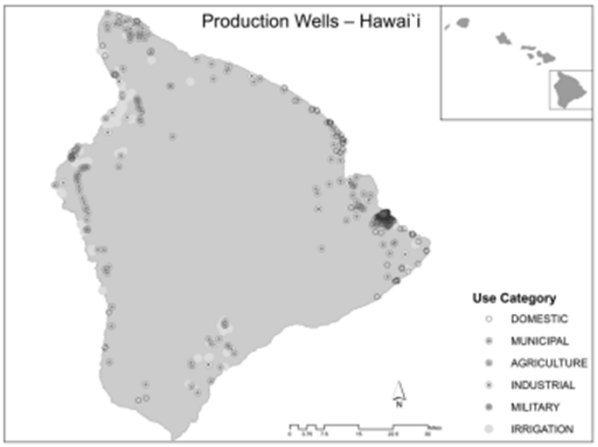
Where does our water come from?

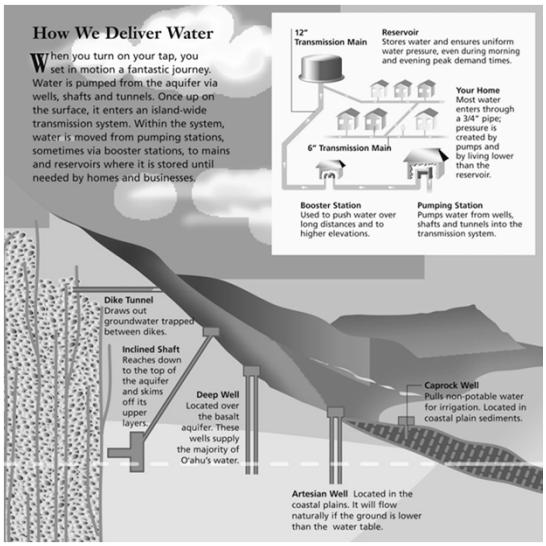
Ground Water



Where does our water come from?

Ground Water

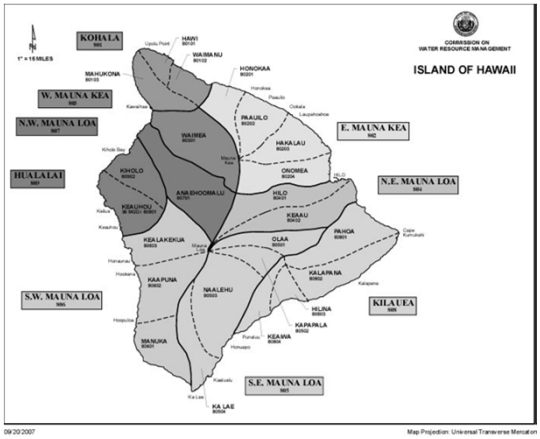
- Wells
- Shafts
- Tunnels



Source: Honolulu Board of Water Supply

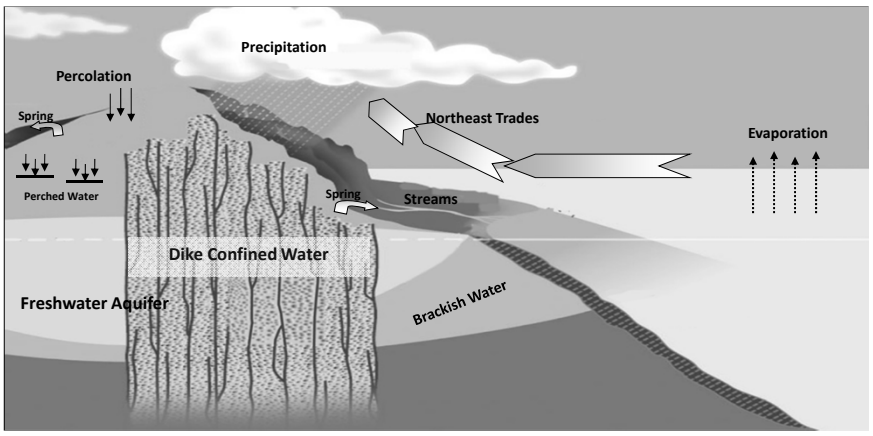
Where does our water come from?

Hawaii's Ground Water Hydrologic Units



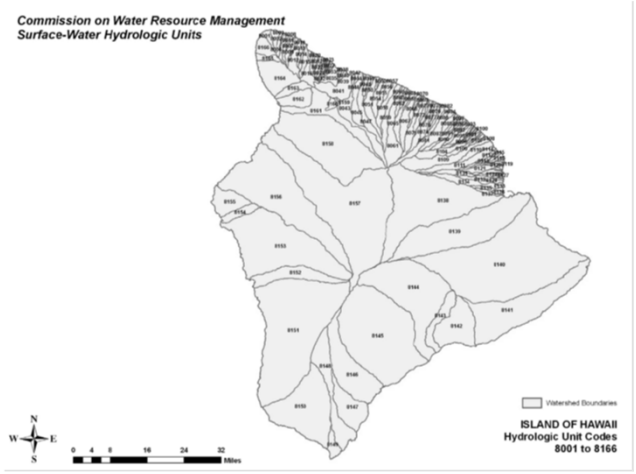
Where does our water come from?

Surface Water



Where does our water come from?

Hawaii's Surface Water Hydrologic Units



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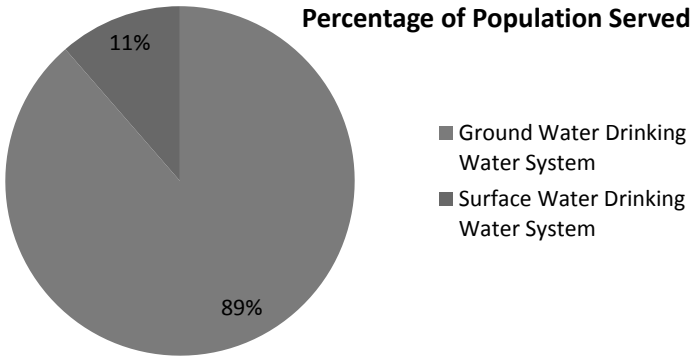
Where does our water come from?

In Hawai'i most of our drinking water is ground water.



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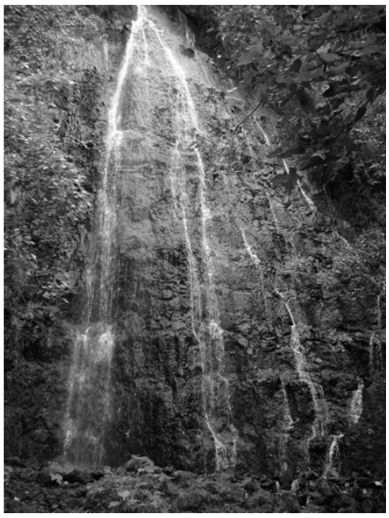

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Hawai‘i Water Plan

*“There is a need for a program of **comprehensive water resources planning** to address the problems of supply and conservation of water.*

*The **Hawaii Water Plan**…is accepted as the guide for developing and implementing this policy.”*

(§174C-2(b) HRS)
(Emphasis added)

WATER RESOURCE PROTECTION PLAN UPDATE * HAWAI'I WATER WORKSHOPS * MARCH 2015 * 22

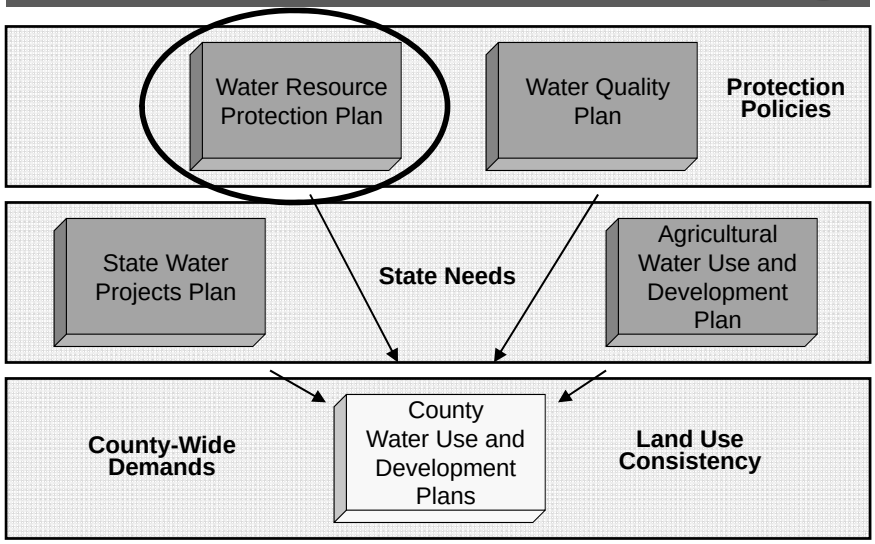
Hawai‘i Water Plan

Objectives

- Set water resource policies
- Proper conservation and development of water
- Reasonable and beneficial use of water
- Ensure adequate water quality
- Control water for public purposes
- Protect water rights
- Recognize county home rule

WATER RESOURCE PROTECTION PLAN UPDATE * HAWAI'I WATER WORKSHOPS * MARCH 2015 * 23

Hawai‘i Water Plan



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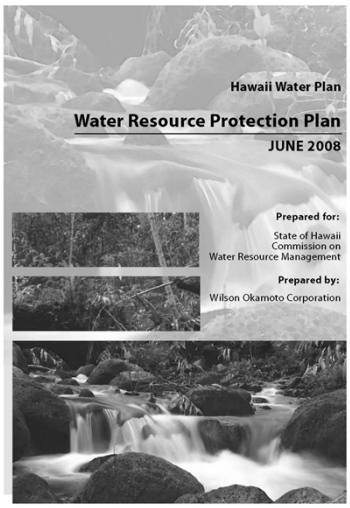
Hawai‘i Water Plan

Water Resource Protection Plan (2008)

1. Introduction
2. General Water Resource Management Principles and Policies
3. Inventory and Assessment of Resources
4. Monitoring of Water Resources
5. CWRM Regulatory Programs
6. Existing and Future Demands
7. Resource Conservation and Augmentation
8. Drought Planning
9. Watershed Protection
10. Water Quality
11. Priority Recommendations and Implementation Plan
12. References



Hawai‘i Water Plan

2015 WRPP Update Table of Contents

1. Introduction
2. Summary of Water Resource Trends and Issues
3. Action Plan
4. Plan Implementation

Appendices

A. Planning Context for the WRPP
B. Legal Authorities and Guidance
C. Stakeholder Outreach Process
D. Inventory and Assessment of Resources
E. Monitoring of Water Resources
F. CWRM Regulatory Programs
G. Existing and Future Demands
H. Resource Conservation and Augmentation
I. Drought Planning
J. Watershed Protection
K. Water Quality
L. Five-Year Action Plan Project and Program Descriptions
M. Long-Term Actions
N. Water Resource Agencies

Hawai'i Water Plan

WRPP Update Process to Date

2014 → 1st Q 2015 → 2nd Q 2015

WATER RESOURCE STATUS

- Organize the project team
- Update 2008 WRPP chapters with new information
- Analysis of data and status of programs

- - - - - - - - - - - - - - - - - -

- Water Commission Briefings
- Water Professionals Group Meetings
- Meetings with Agencies and Non-Governmental Organizations

DRAFT WRPP UPDATE

- Hold public "Water Workshops" to brief communities on water and hear their issues
- Develop an Implementation Plan and Schedule
- Compile the Draft WRPP Report

- - - - - - - - - - - - - -

- Water Commission Briefing

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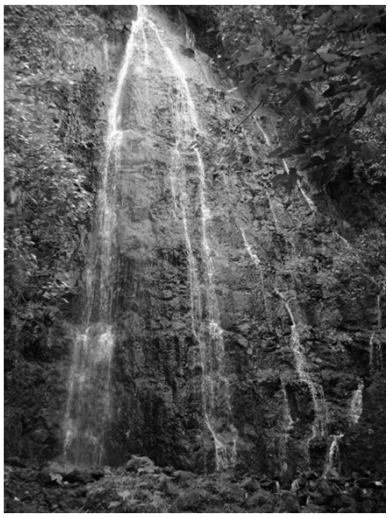

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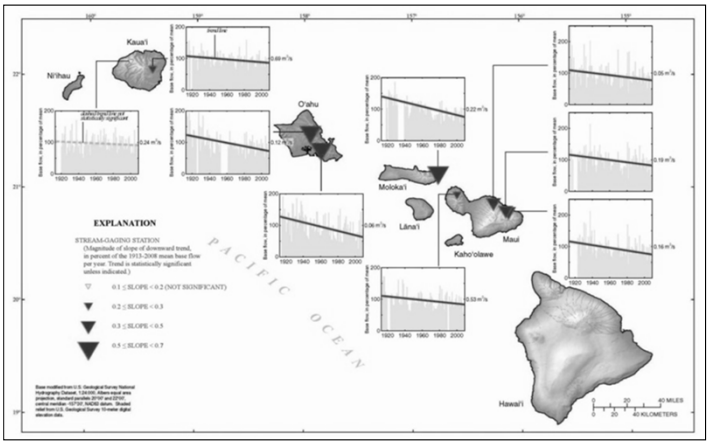
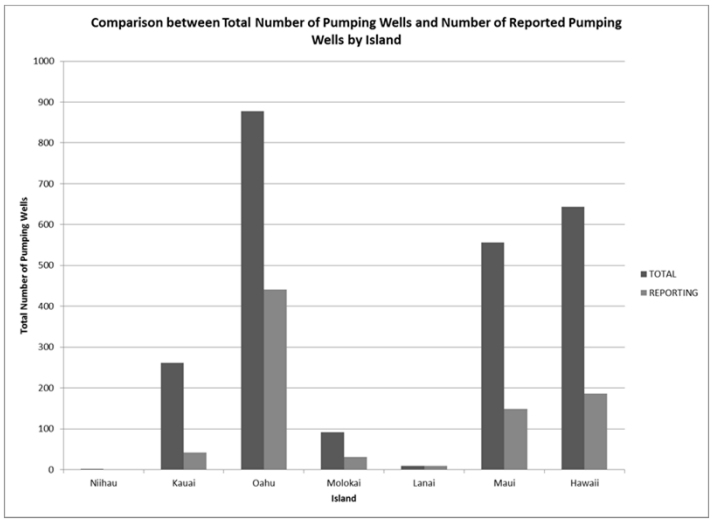
Water Resource Issues

Climate Change



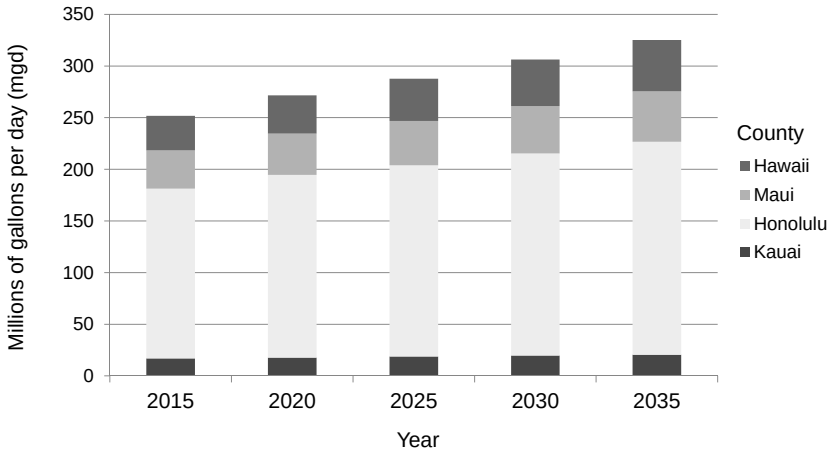
Water Resource Issues

Lack of Water Use Data



Water Resource Issues

Increasing Water Demand



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Water Resource Issues

Ground and Surface Water Interaction

- In some locations, ground water withdrawal affects the amount of water in nearby surface water bodies.
- There is a need to better understand these ground-surface water interactions in order to make better management decisions.

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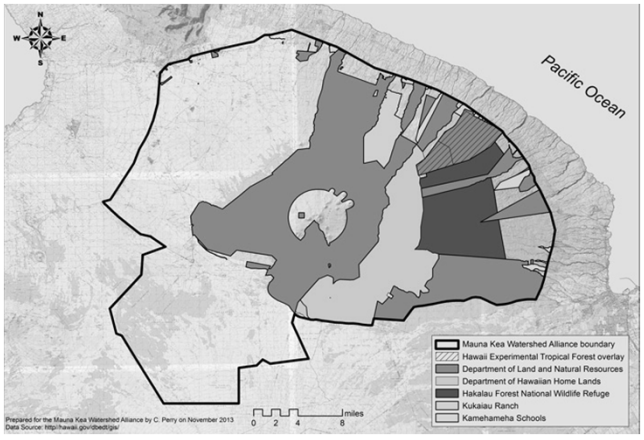
Water Resource Issues

Protection of Water Rights

- Correlative
- Riparian
- Appurtenant
- Traditional and Customary
- Department of Hawaiian Home Lands

Water Resource Issues

Watershed Management



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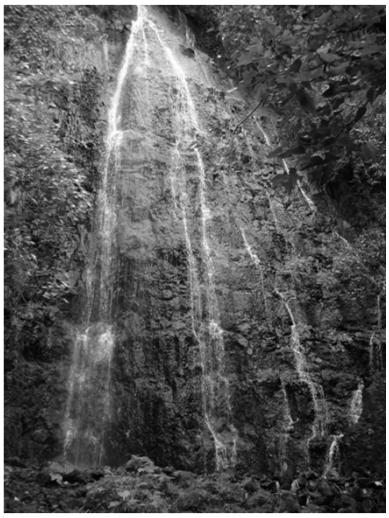

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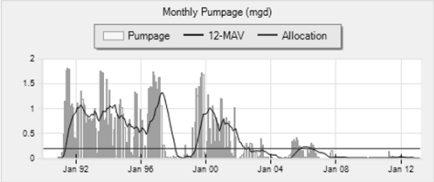
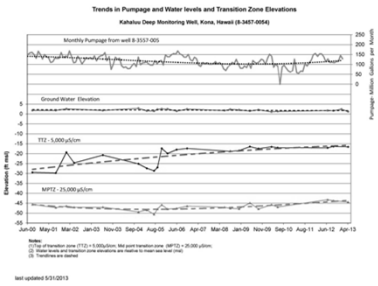
Water Management Strategies

Resource Monitoring

- Water Use Reporting
- Deep Monitor Wells
- Water Level Observation Wells
- Climate
- Chlorides
- Streamflow





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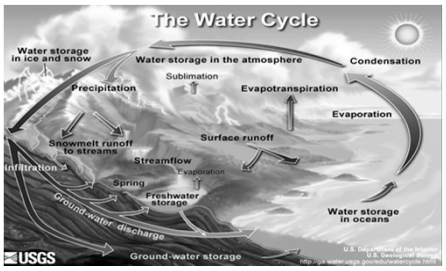
Water Management Strategies

Resource Assessments – Ground Water Sustainable Yields

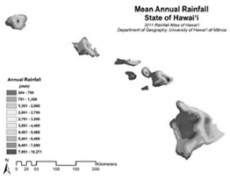
R = RF – DRO – ET

Simplified recharge calculation where:

R = Recharge
RF = Rainfall
DRO = Direct runoff
ET = Evapotranspiration



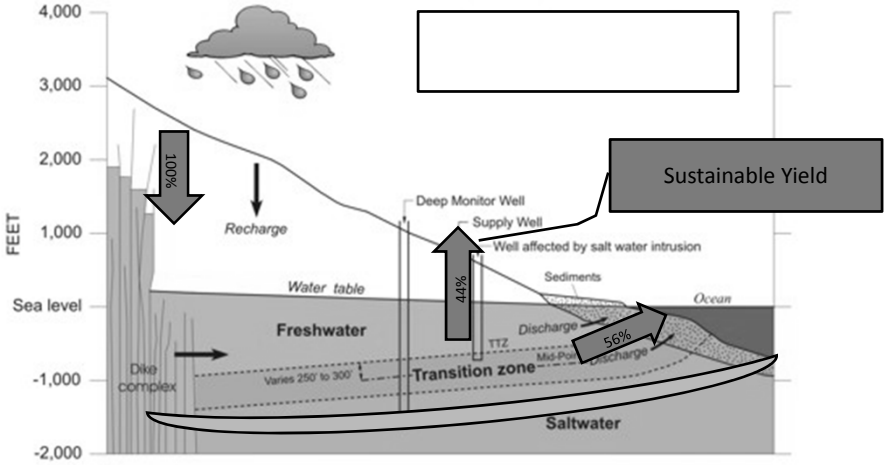
- Rainfall Atlas updated in 2012



- ET Analysis completed in 2013
- Updated Big Island recharge in 2011
- Updated Maui recharge in 2014
- Updated Oahu recharge in 2015

Water Management Strategies

Resource Assessments – Ground Water Sustainable Yields



Water Management Strategies

Resource Assessments – Instream Flow Standards

"A quantity or flow of water or depth of water which is required to be present at a specific location in a stream system at certain specified times of the year to protect fishery, wildlife, recreational, aesthetic, scenic, and other beneficial instream uses."

Hydrology
- Median Flow
- Base Flow
- Pre-Diversion Flow Estimate
- Groundwater Interaction
- Surface-Water Use
- Ground-Water Use
- Other

Fish/Wildlife Habitat
- Stream Channelizations
- Native Vertebrates
- Invertebrates
- Invasive Species
- Recruitment
- Abundance
- Diversity
- Distribution
- Other

Recreation
- Swimming
- Nature Study
- Fishing
- Boating
- Parks
- Other

Ecosystem Maintenance
- Estuaries
- Wetlands
- Nearshore Waters
- Natural Area Reserves
- National Parks
- Other Protected Areas
- Other

Aesthetics
- Scenic Views
- Waterfalls
- Tourism
- Other

Noninstream Uses
- Diversions
- Domestic/Municipal Use
- Agriculture
- Industrial
- Present vs. Potential Use
- Economic Impacts
- Other

Navigation
- Boating
- Other

Hydropower
- Present Use
- Potential Use
- Other

Water Quality
- 303(d) Impaired Waters
- Total Maximum Daily Loads
- Land Use
- Other

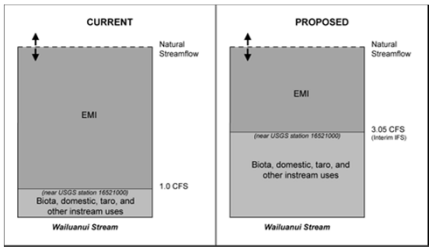
Conveyance of Water
- Multiple Diversions on a Single Stream
- Other

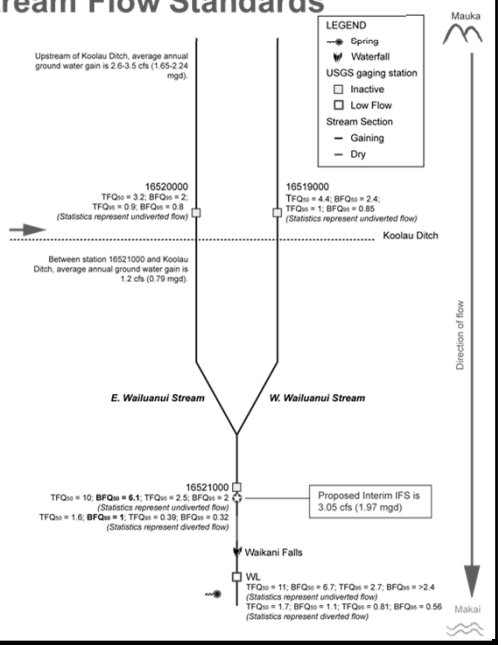
Hawaiian Rights
- Traditional and Customary Rights
- Taro Cultivation
- Appurtenant Rights
- Cultural Values
- Other

WATER RESOURCE PROTECTION PLAN UPDATE * HAWAI'I WATER WORKSHOPS * MARCH 2015 * 39

Resource Assessments – Instream Flow Standards

East Maui IIFS
(Phase I)





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Water Management Strategies

Permitting and Enforcement

Statewide

- Well Construction and Pump Installation Permit
- Stream Diversion Works Permit
- Stream Channel Alteration Permit

Water Management Areas

- Water Use Permit

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

APPLICATION FOR SURFACE WATER USE PERMIT FOR PROPOSED NEW USE IN A DESIGNATED OR REGULATED WATER MANAGEMENT AREA

FORM SWUPA-N

For Official Use Only:

APPLICANT INFORMATION:

SOURCE INFORMATION

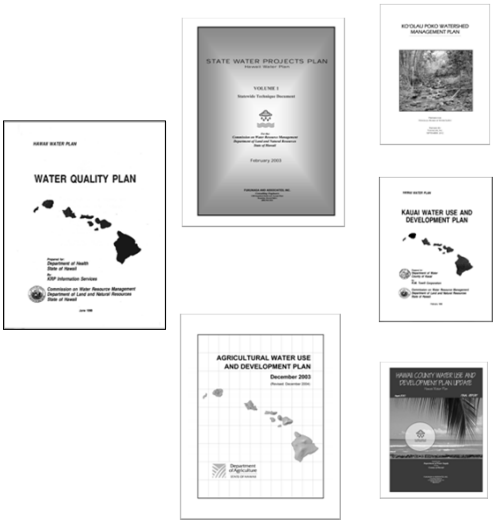
PROPOSED USE INFORMATION

PROPOSED USER INFORMATION

Water Management Strategies

Long-Range Planning

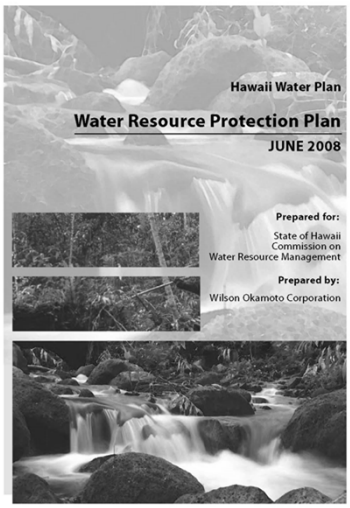
- Hawaii Water Plan
- Drought Planning
- Water Conservation Planning
- Resource Augmentation Planning
- Research and Studies
- Coordination and Outreach



Water Management Strategies

Implementation of 2008 WRPP

- 86 Actions Identified
- 58 Actions Implemented
- Focused on:
  - Monitoring and Data Collection;
  - Resource Investigations and Assessments; and
  - Water Conservation and Water Shortage Planning



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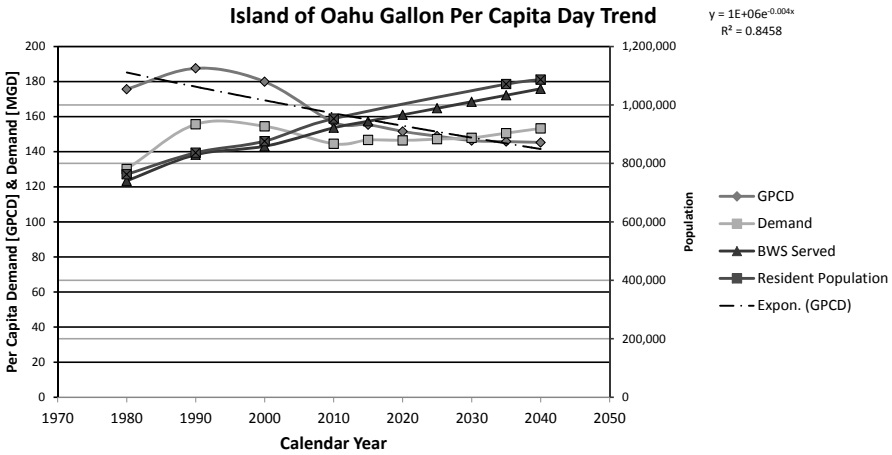
Water Management Strategies

Conservation



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Water Management Strategies

Resource Augmentation

- Recycled Water
- Desalinated Water
- Storm Water
- Grey Water

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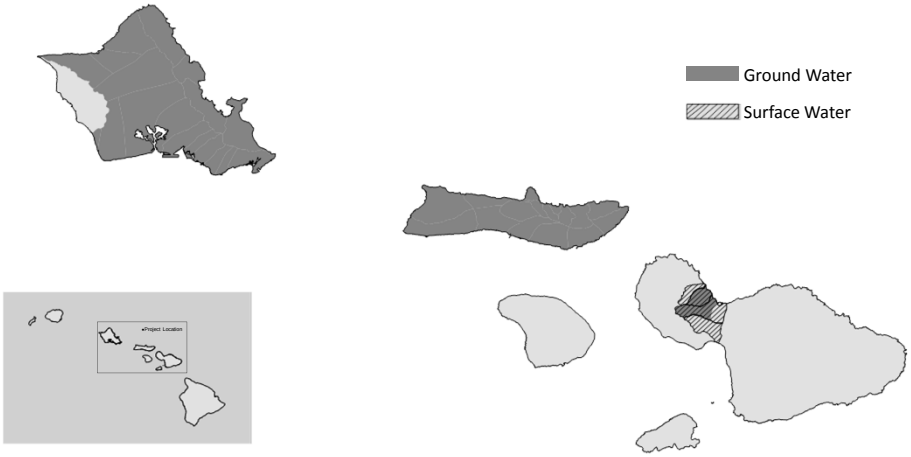
Water Management Strategies

Water Management Areas



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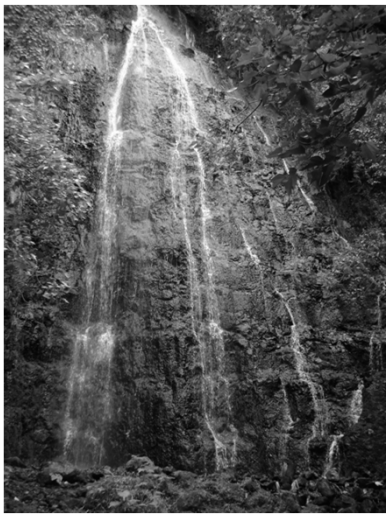
Agenda

1. Water Management in Hawai‘i
2. Commission on Water Resource Management
3. Where does our water come from?
4. Hawai‘i Water Plan
5. Water Resource Issues
6. Water Management Strategies
7. **Breakout Discussion**
   Local Water Issues and Actions
9. Reconvene
   Summary of Breakout Discussion
10. Next Steps



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Breakout Discussion

45 minutes

Break out into small groups to allow for more detailed discussions on specific topics. We will reconvene after 45 minutes to share the top issues from each group.

Photo: Honolulu BWS

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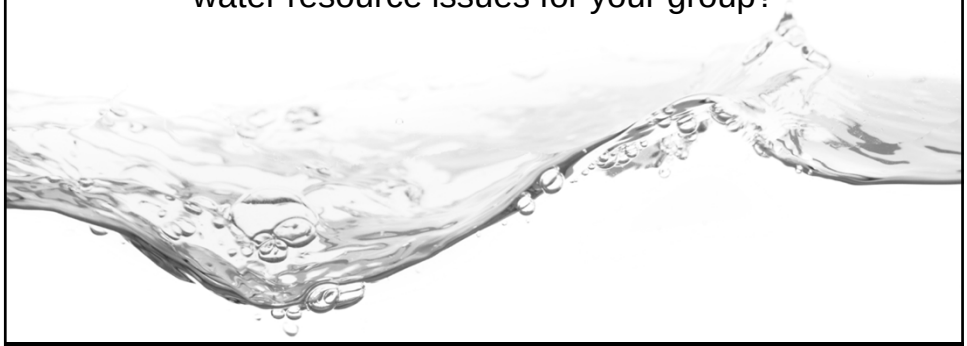
Reconvene Large Group

What were the top
water resource issues for your group?



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Next Steps

Hawai‘i Water Workshops 6:30 pm – 8:30 pm

March 3 - O‘AHU
DLNR Board Room
1151 Punchbowl Street

March 11 - LANA‘I
Lana‘i Senior Center
309 Seventh Street

March 12 – MAUI
Wailuku Community Center
395 Waena Place

March 17 - MOLOKA‘I
DHHL/OHA Conference Room
600 Mauna Loa Highway, Suite D-2

March 19 - KAUA‘I
Planning Commission Meeting Room
4444 Rice Street

March 24 - KONA
West Hawai‘i Civic Center
Community Meeting Hale
74-677 Kealakehe Parkway

March 30 - HILO
Aupuni Center
101 Pauahi Street, Suite 1

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Next Steps

2014 → 1st Q 2015 → 2nd Q 2015 → 3rd Q 2015 → 4th Q 2015 → 1st Q 2016

WATER RESOURCE STATUS
- Organize the project team
- Update 2008 WRPP chapters with new information
- Analysis of data and status of programs

- Water Commission Briefings
- Water Professionals Group Meetings
- Meetings with Agencies and Non-Governmental Organizations

DRAFT WRPP UPDATE
- Hold public "Water Workshops" to brief communities on water and hear their issues
- Develop an Implementation Plan and Schedule
- Compile the Draft WRPP Report

- Water Commission Briefing

PUBLIC REVIEW
- Distribute Public Review Draft WRPP
- Solicit and respond to public comments

- Water Commission Briefing
- Public Hearings
  - Kona
  - Hilo
  - Maui
  - Lānaʻi
  - Molokaʻi
  - Oʻahu
  - Kauaʻi

FINAL WRPP UPDATE
- Revise Draft WRPP Update Report
- Finalize WRPP Update Report

- Water Commission Briefing

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Water Resource Protection Plan

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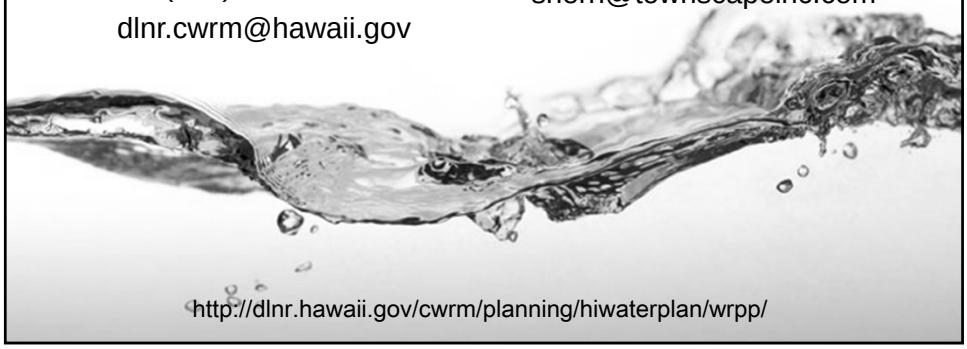

http://dlnr.hawaii.gov/cwrm/planning/hiwaterplan/wrpp/

Water Resource Protection Plan
Thank you!