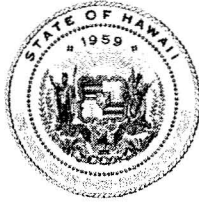
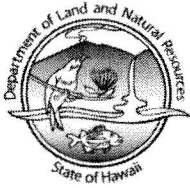


NEIL ABERCROMBIE  
GOVERNOR OF HAWAII



**STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES**

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

**Testimony of  
WILLIAM J. AILA, JR.  
Chairperson**

**Before the House Committee on  
WATER, LAND AND OCEAN RESOURCES**

**Friday, February 11, 2011  
9:00 AM  
State Capitol, Conference Room 325**

**In consideration of  
HOUSE BILL 496  
RELATING TO LAKE WILSON**

**WILLIAM J. AILA, JR.**  
INTERIM CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT

**GUY H. KAULIKUKUI**  
FIRST DEPUTY

**WILLIAM M. TAM**  
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES  
BOATING AND OCEAN RECREATION  
BUREAU OF CONVEYANCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
CONSERVATION AND COASTAL LANDS  
CONSERVATION AND RESOURCES ENFORCEMENT  
ENGINEERING  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
KAHOOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS

House Bill 496 would establish a pilot project within the Department of Land and Natural Resources (Department) to demonstrate the effectiveness of phyto-remediation using native plants to remove pollutants and improve water clarity in Lake Wilson, to submit a report on viability of technologies by the 2012 Legislature, and to appropriate an unspecified sum for a demonstration pilot project. The Department supports the intent of the bill but defers on the fiscal implications until the Executive Biennium Budget is finalized.

The Department has an interest in the improvement of water quality in Lake Wilson (state park, recreational fishing, water use, etc.). In this respect, it would want to participate in such an endeavor. However, the Department alone, does not have the expertise to evaluate the feasibility of phyto-remediation, nor does it have a capacity to implement a pilot project. Water quality improvement programs have historically fallen to government organizations that deal with treating sewage effluent or hazardous wastes removal.

The Department notes that if one of the objectives is clear water, then the *Salvinia molesta* infestation did produce "clear" waters, temporarily until all the plants were removed. However the infestation did not support other objectives such as for water recreation activities.

Thank you for this opportunity to provide testimony.



**HB496**  
**RELATING TO LAKE WILSON**  
House Committee on Water Land and Housing

February 11, 2010

9:00 a.m.

Room 325

The Office of Hawaiian Affairs strongly **SUPPORTS** HB496, which would establish a pilot project within the Department of Land and Natural Resources (DLNR) to demonstrate the effectiveness of marine phytoremediation using plants that are native to Hawai'i to remove pollutants and improve water clarity in Lake Wilson and appropriates funds for the project.

The low water quality in Lake Wilson has limited the public's desire to engage in recreational and subsistence (fishing) opportunities and contributes to the lack of suitable agricultural water for a wider variety of crops on O'ahu's central plains and north shore.

Like the Native Hawaiian relationship with 'āina, the varied ecosystems across Ka Pae 'āina o Hawai'i have evolved over time to achieve a homeostasis, bio-cultural uniqueness and richness recognized worldwide for its priceless beauty and service to the people of Hawai'i and humanity. DLNR should be lauded for its work in promoting bioremediation approaches that maximize the potential of our native resources and strives to respect and work within these unique (sometimes fragile) ecosystems before looking outside for solutions.

Therefore, OHA strongly urges the Committee to PASS HB496. Mahalo for the opportunity to testify on this important measure.

### har3 - Megan

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**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Tuesday, February 08, 2011 1:46 PM  
**To:** WLOtestimony  
**Cc:** surfingmedicine@gmail.com  
**Subject:** Testimony for HB496 on 2/11/2011 9:00:00 AM

Testimony for WLO 2/11/2011 9:00:00 AM HB496

Conference room: 325  
Testifier position: comments only  
Testifier will be present: Yes  
Submitted by: Guy Ragosta  
Organization: Surfing Medicine International 501(c)(3)  
Address: PO Box 548 Waialua, Hawaii, 96791  
Phone:  
E-mail: [surfingmedicine@gmail.com](mailto:surfingmedicine@gmail.com)  
Submitted on: 2/8/2011

Comments:

In January 2006, I was hired as a water quality assessment specialist by Hawaii Department of Health (HI DOH) to create and implement water quality monitoring plans for Lake Wilson and downstream ecosystems of North Shore O'ahu. Upon getting hired by HI DOH, I was told an agreement between the Lake Wilson spillway operator and the Hawaii Department of Health (HI DOH) allows unmonitored water to drain out of Lake Wilson's spillway into Kaukonahua Stream. I shared my evidence in 2006 with the press, among other documents, and was fired by HI DOH shortly thereafter. While many sources of pollution flow into Lake Wilson, the spillway is a very large source of pollution flowing into riparian zones that provide agricultural and recreational water for our community. It is way past time, legally and ethically, to begin monitoring water pollution leaving Lake Wilson's spillway during heavy rain and dry events. The sources of pollution coming into Lake Wilson range from the summits to Schofield Barracks and beyond, and will take decades if not longer to remediate surface water pollution of Lake Wilson. At the very least, monitoring the surface water pollution leaving Lake Wilson's spillway during heavy rain events, will begin to determine the uphill battle that looms to eventually restore the ecological problems caused by historical land abuse in Central and North Shore O'ahu. In conclusion, it is a good start to begin funding to restore surrounding Lake Wilson ecosystems with Native Hawaiian Plants, upstream and downstream, for the future generations that will need clean water, the source of life to provide locally grown safe food. This is an issue of food safety and security, and to not even monitor for US EPA Toxic Pollutants in the water used to grow food spilling from Lake Wilson during heavy rains for such a large amount of people is not only wrong, it is absurd, unethical, and archaic given the current technologies available.

Regards,

Guy Ragosta

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[www.iamscientist.com/people/surfingmedicine](http://www.iamscientist.com/people/surfingmedicine)

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[www.iamscientist.com/people/surfingmedicine](http://www.iamscientist.com/people/surfingmedicine)



# Wahiawa Dam Statistics



# Wahpajawa Dam Statistics

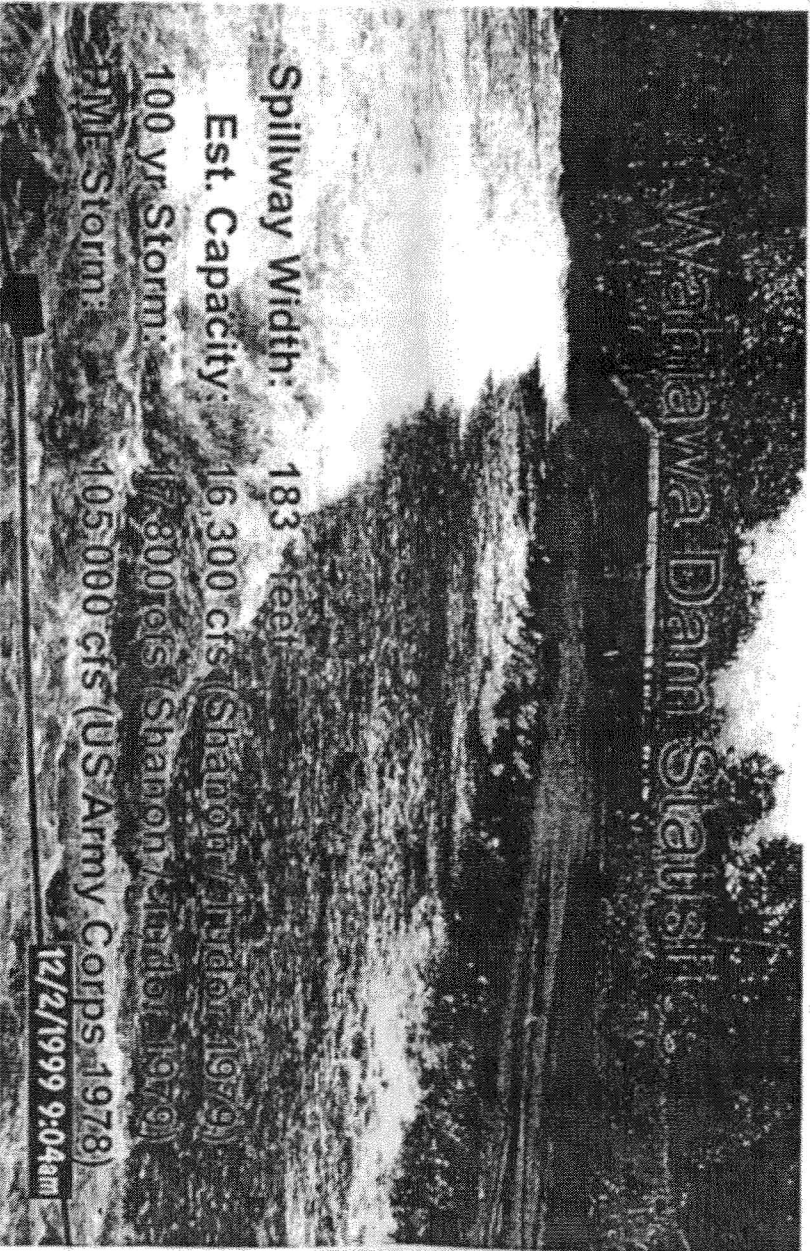
Spillway Width: 183 feet

Est. Capacity: 16,300 cfs (Shannon/Juddor 1979)

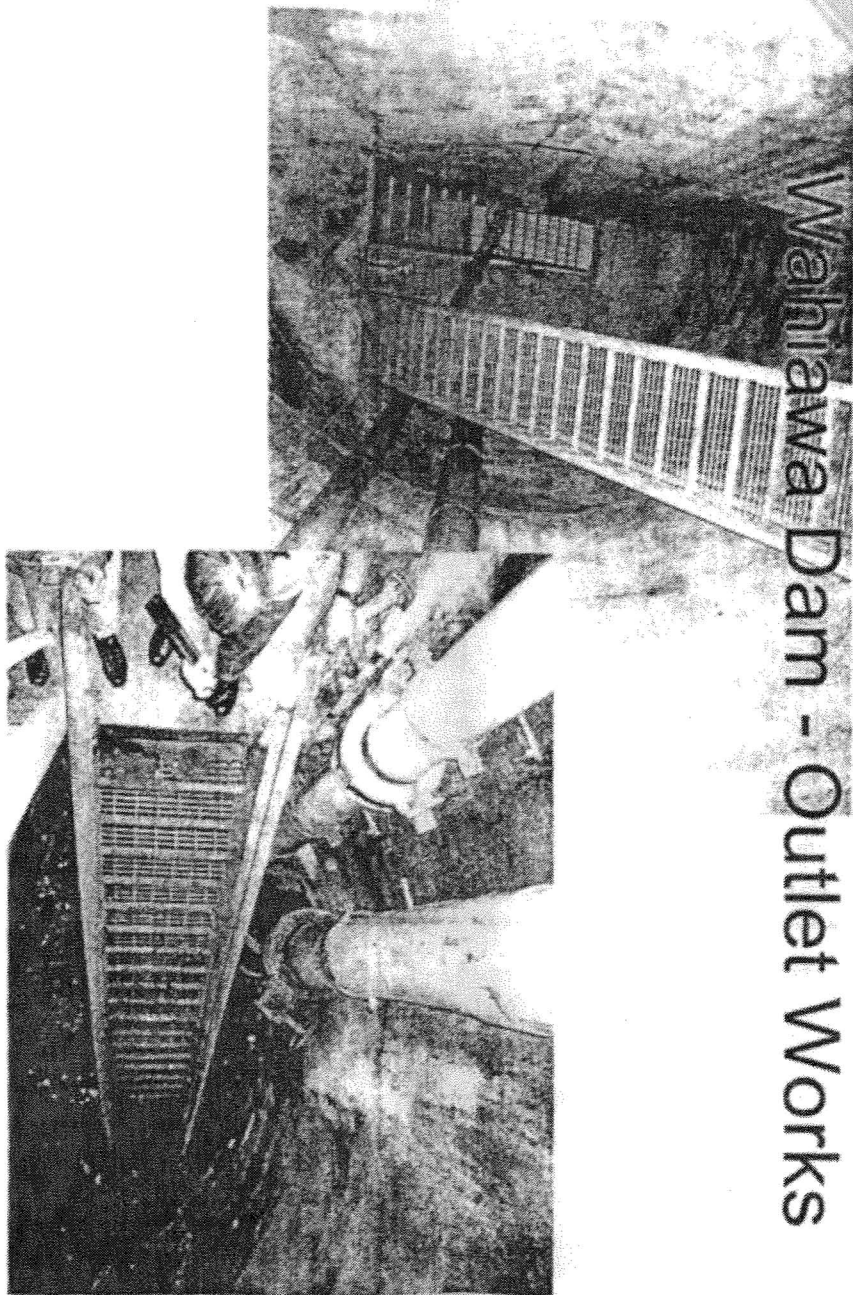
100 yr Storm: 17,800 cfs (Shannon/Juddor 1979)

PME Storm: 105,000 cfs (US Army Corps 1978)

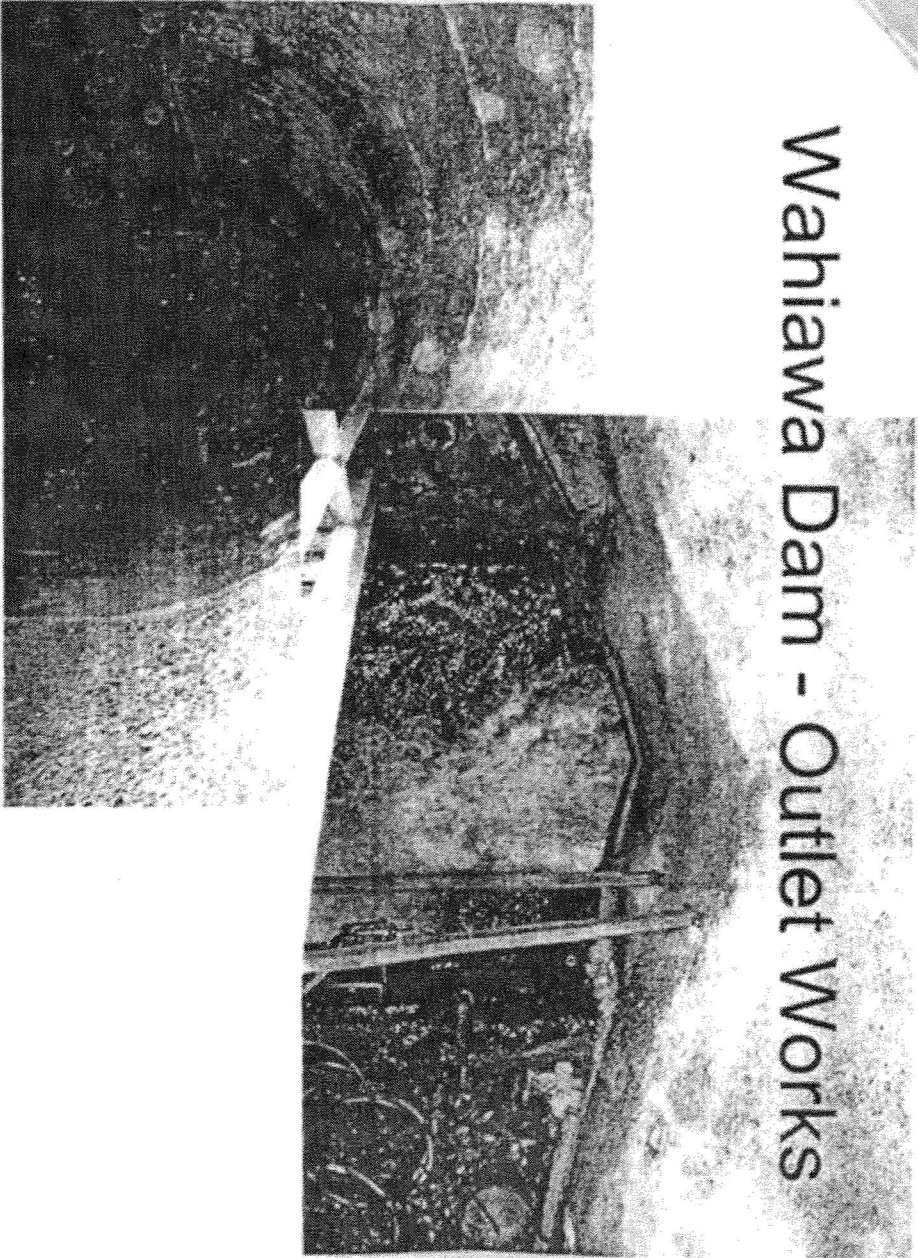
12/2/1999 9:04am



# Walhriawa Dam - Outlet Works



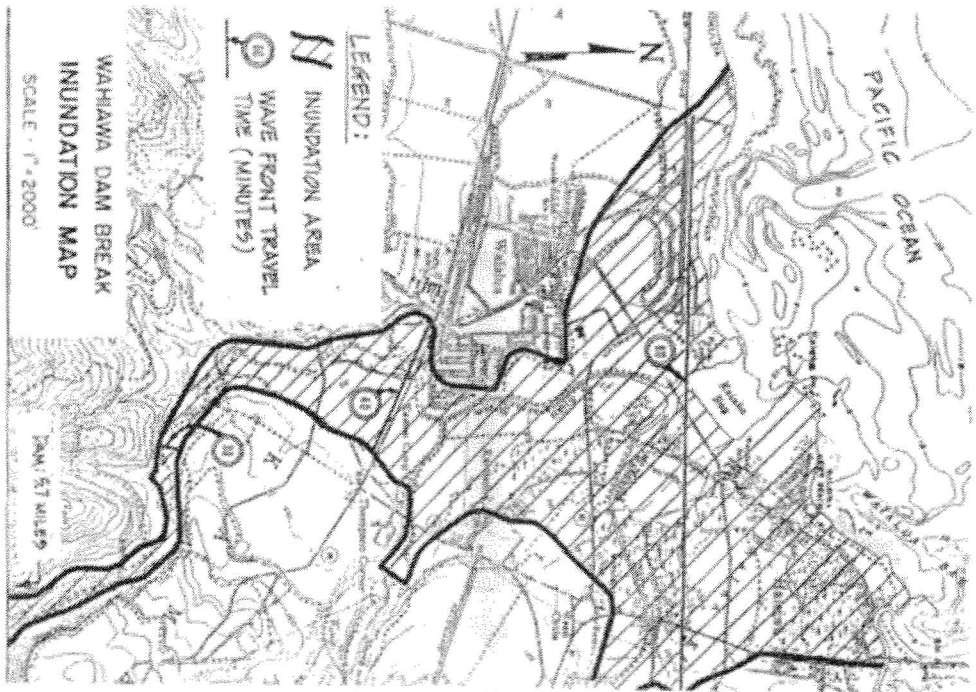
# Wahiawa Dam - Outlet Works





## City Wastewater: Considerations

- **City and County's Wahiawa Wastewater Treatment Plant is authorized to discharge effluent waters into Lake Wilson.**
- **The new discharge line releases the effluent near the bottom of the reservoir.**
- **The effluent waters results in the classification of the lake waters as R-2 reuse waters.**
- **Per NPDES agreement: R-2 Waters are not to be released into the stream, except acts of nature.**
- **It is not anticipated that the City will meet the requirements for R-1 reuse waters.**



**WAHAIWA DAM BREAK  
INUNDATION MAP**

SCALE - 1" = 2000'

- LEGEND:**
-  INUNDATION AREA
  -  WAVE FRONT TRAVEL TIME (MINUTES)

DAM 57 MILE



# Emergency Action Plan

**Unsafe / Emergency Conditions are classified into three general categories:**

**Slowly Developing:** Days or weeks are available for response.

**Rapidly Developing:** Days or Hours are available for response.

**Instantaneous:** Only Minutes to Hours are available for response.

## Dam Safety Considerations

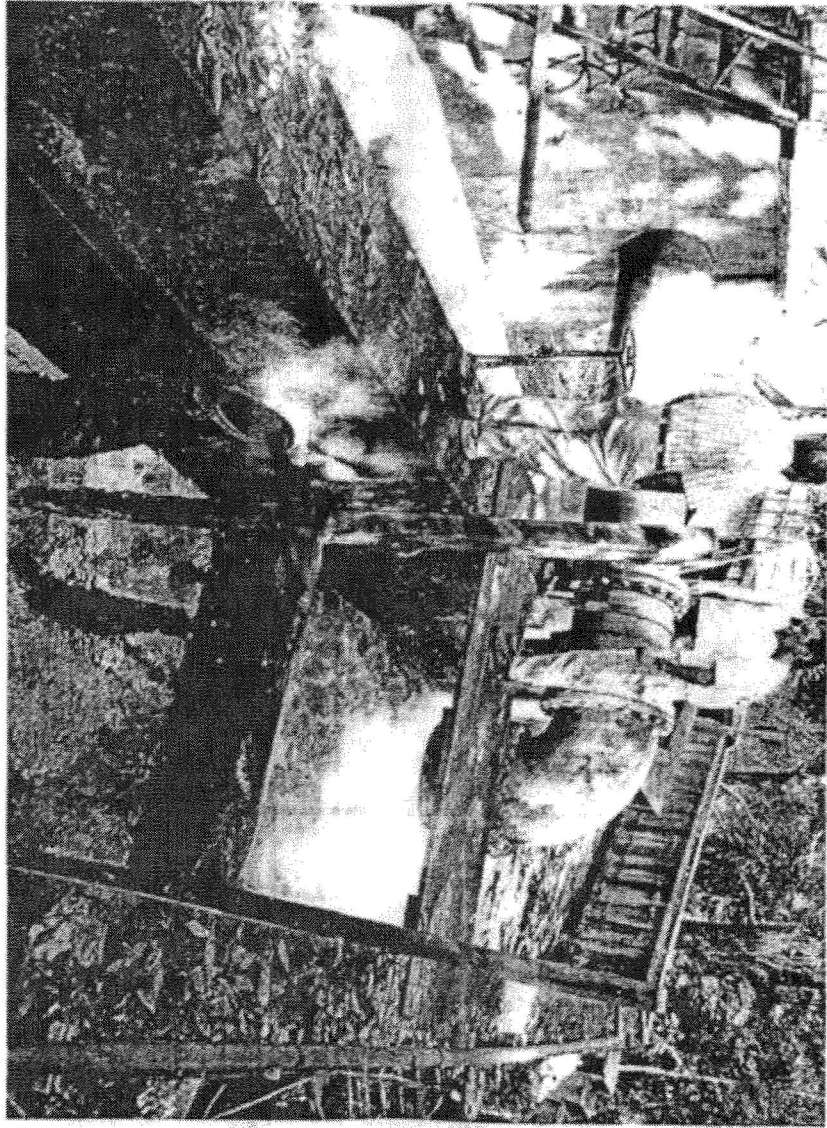
- The Dam spillway is undersized for the (PMF) Probable Maximum Flood of 51,500 cfs (US Army Corps 1978)
- Embankment Dams that experience Overtopping events of and extended duration are in serious danger of being breached.
- Wahiawa Dam does not have any other protection against overtopping besides its spillway.
- The Dam Embankment has large tree growth which has been linked to dam failures in the mainland.
- The outlet works only has one of three gates operable.
- A dam failure is anticipated to result in the flooding of Waialua and Haleiwa Towns.
- An Emergency Action Plan (EAP) is on file with the DLNR and the Honolulu Civil Defense, last updated in 1991

## Wahiawa CD EAP

- **Consider Sounding of sirens and the use of the Emergency Broadcast System for warning**
- **Alert the principal response agencies if not already accomplished.**
- **Direct establishment of roadblocks.**
- **Coordinate the use of the public address system.**
- **Oversee Evacuation and All Clear Status**

## Notable Events

- **1906 Dam Constructed**
- **1921 Dam Failure, Spillway failure**
- **1921 Dam Reconstructed, Spillway Enlarged**
- **1959 Outlet Works Replaced**
- **1990 Waialua Sugar Mill Shut Down**
- **1999 Spillway Flows Flood Otake Camp**



## Flood Mitigation

- The Lake has in the past provided Flood mitigation benefits to the downstream population by providing both flood storage and a dampening of the flood intensity.
- Spillway flows in excess of 5 feet have consistently resulted in downstream flooding to residents?
- Dropping the reservoir to a gage elevation of 40 feet will provide storage for a 100 year storm event. (US Corp 1978 / Shannon & Tudor 1979)
- Operating the reservoir at spillway elevation (80 feet) provides minimal flood dampening benefits for storms events less than 5 year and no flood storage benefits.



## Recommendations (Cont.)

3. Dole Foods shall update their Emergency Action Plan every year, or upon any changes in personnel, and distribute copies of the plan to all appropriate agencies involved.
4. The lowering of the water level in the reservoir shall commence immediately upon the signing of a concurrence letter by the affected parties to expedite the protection of the public's health and safety.
5. All parties to the agreement shall work with due haste in formalizing an acceptable agreement.

## Recommendations (Cont.)

The agreement will specify that DOH shall not take any regulatory actions for release of Lake reservoir waters into Kaukonahua Stream if associated with maintaining water levels at or near 72.5 feet gage elevation.

- D. The agreement will specify that Dole Foods will maintain proper water level in the reservoir at no cost to the State.

## Recreational Considerations

- The Lake under the management of the DLNR Division of Aquatic Resources (DAR) and Division of State Parks
- The lake is home for several different species of Fresh Water Game Fish, including bass and Tucinary.
- DAR anticipates adverse affects to the fish population should the reservoir water level drop beyond 10 feet.
- DAR regularly monitors and polices possible *salvinia molesta* growth within the Lake
- The Wahiawa Fresh Water Park is utilized by two local fishing clubs as well as other residents.

## har3 - Megan

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**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Monday, February 07, 2011 7:28 PM  
**To:** WLOtestimony  
**Cc:** barbarageorge40@yahoo.com  
**Subject:** Testimony for HB496 on 2/11/2011 9:00:00 AM

Testimony for WLO 2/11/2011 9:00:00 AM HB496

Conference room: 325  
Testifier position: support  
Testifier will be present: No  
Submitted by: Barbara George  
Organization: Individual  
Address: Haleiwa, HI  
Phone:  
E-mail: [barbarageorge40@yahoo.com](mailto:barbarageorge40@yahoo.com)  
Submitted on: 2/7/2011

**Comments:**

Support this bill! Oahu needs to improve access to water of sufficient quality to support expanded local agriculture.

## har3 - Megan

---

**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Wednesday, February 09, 2011 7:58 AM  
**To:** WLOtestimony  
**Cc:** annegeertman@gmail.com  
**Subject:** Testimony for HB496 on 2/11/2011 9:00:00 AM

Testimony for WLO 2/11/2011 9:00:00 AM HB496

Conference room: 325  
Testifier position: support  
Testifier will be present: No  
Submitted by: Anne Geertman  
Organization: Individual  
Address:  
Phone:  
E-mail: [annegeertman@gmail.com](mailto:annegeertman@gmail.com)  
Submitted on: 2/9/2011

Comments:

## har3 - Megan

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**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Wednesday, February 09, 2011 7:56 AM  
**To:** WLOtestimony  
**Cc:** pupukea@live.com  
**Subject:** Testimony for HB496 on 2/11/2011 9:00:00 AM

Testimony for WLO 2/11/2011 9:00:00 AM HB496

Conference room: 325  
Testifier position: support  
Testifier will be present: No  
Submitted by: Tanya Molina  
Organization: Individual  
Address:  
Phone:  
E-mail: [pupukea@live.com](mailto:pupukea@live.com)  
Submitted on: 2/9/2011

Comments:

## har3 - Megan

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**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Wednesday, February 09, 2011 7:55 AM  
**To:** WLOtestimony  
**Cc:** josh.leinau@gmail.com  
**Subject:** Testimony for HB496 on 2/11/2011 9:00:00 AM

Testimony for WLO 2/11/2011 9:00:00 AM HB496

Conference room: 325  
Testifier position: support  
Testifier will be present: No  
Submitted by: Joshua Leinau  
Organization: Individual  
Address:  
Phone:  
E-mail: [josh.leinau@gmail.com](mailto:josh.leinau@gmail.com)  
Submitted on: 2/9/2011

Comments:

## har3 - Megan

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**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Wednesday, February 09, 2011 7:48 AM  
**To:** WLOtestimony  
**Cc:** jacque.leinau@gmail.com  
**Subject:** Testimony for HB496 on 2/11/2011 9:00:00 AM

Testimony for WLO 2/11/2011 9:00:00 AM HB496

Conference room: 325  
Testifier position: support  
Testifier will be present: Yes  
Submitted by: Jacqueline Leinau  
Organization: North Shore Neighborhood Board #27, Agriculture Committee  
Address:  
Phone:  
E-mail: [jacque.leinau@gmail.com](mailto:jacque.leinau@gmail.com)  
Submitted on: 2/9/2011

Comments: