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

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

**Testimony of
SUZANNE D. CASE
Chairperson**

**Before the House Committee on
WATER AND LAND**

**Monday, February 8, 2016
9:00 AM
State Capitol, Conference Room 325**

**In consideration of
HOUSE BILL 2041
RELATING TO WATER AUDITS**

House Bill 2041 proposes to establish a program within the Commission on Water Resource Management (Commission) to implement standardized water loss audits of public water systems in accordance with methods adopted by the American Water Works Association (AWWA). **The Department of Land and Natural Resources (Department) supports this measure subject to the comments below and provided that this appropriation does not adversely impact appropriations for other priorities in the Executive Supplemental Budget request or any existing funding to the Department's programs, and offers the following comments and amendments to render this proposed water audit program more viable and effective.**

As drafted, this measure would require submission of annual water audits from the county-owned public water systems beginning in 2018 and submission of annual water audits from remaining large capacity public water systems in Hawaii beginning in 2021. This measure assigns the Commission responsibility for preparing and validating the water audits and submitting them to the Legislature. It is not appropriate for the Commission to prepare and validate the audits for the following reasons:

- The counties and private entities that own and operate these systems have an obligation to ensure that drinking water is developed and delivered to their customers as efficiently as possible while maintaining a sustainable water rate schedule.

- There is a growing trend across the continental United States where state and local water authorities are beginning to require public water systems and utilities to conduct annual water audits on their systems.
- The water supply industry trade group, AWWA, considers annual water audits a best practice that should be completed by responsible water utilities.
- The water audits described in this measure should be conducted by the water system owners or operators because they have immediate access to all of the information and data needed to complete the audits and have intimate knowledge of their water system infrastructure and operations.
- The water utility is responsible for preparing its own water audit in all other states that require water audits. These states include California, Colorado, Delaware, Georgia, New Mexico, Pennsylvania, Tennessee, Texas, Washington, and Wisconsin.
- Use of the AWWA Water Audit spreadsheet allows for standardized data input with quality control checks to safeguard data accuracy. Independent validation of the utility's audit will ensure data veracity and objectivity.
- The Commission's role is to encourage and provide technical assistance to the water utilities.
- In preparing its water audit, a utility benefits by understanding the water audit methodology and process.
- Should this measure pass as drafted, the Commission would be responsible for preparing and validating annual water audits of approximately 100 public water systems across the state of Hawaii. The Department estimates that this additional task would require three to four new full-time professional employee positions. In addition, this would require the same amount of funding whether the Commission or the utilities conduct the audits, which we estimate to be \$650,000. The hiring and training of new personnel would delay the program from one to two years. In addition, the Legislature would need to retain staff with the knowledge to evaluate the annually submitted water audits and proposed implementation actions from approximately 100 public water systems.

House Bill 2041 also appropriates \$350,000 out of the general fund to establish and implement the proposed water loss audit program. We believe this level of funding is insufficient to carry out the utility training that would be required under a water audit program. The Department estimates that the water audit program cost would be \$650,000.

Conservation of our precious water resources through efficient delivery and use of water is an effective means to preserve this resource for future generations. We have attached a marked up version of the bill that comports with water audit best practices established by AWWA. We respectfully request your consideration of our proposed amendments.

A BILL FOR AN ACT

RELATING TO WATER AUDIT.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAII:

1 SECTION 1. Article XI, section 7 of Hawaii's Constitution
2 obligates the State to protect, control and regulate the use of
3 Hawaii's water resources for the benefit of its people.

4 Fresh water is the lifeblood of society. The quantity and
5 quality of fresh water directly impacts the health, welfare,
6 economy, and quality of life in Hawaii. Fresh water
7 infrastructure has been constructed to withdraw water from
8 available sources, to treat it to acceptable standards, and to
9 distribute it to our various communities.

10 Based on the department of health's database, there are a
11 little over fifty county-run public water systems statewide and
12 another fifty large capacity public water systems and public
13 water systems operating in designated ground water management
14 areas. Many of these water distribution systems, however, may
15 be operating with inefficiencies that result in the loss of
16 water, increased energy costs, and lost revenue.

1 Water conservation is among the least expensive and most
2 efficient ways to increase the available supply of fresh
3 water. It requires improving the efficiency of water delivery
4 and identifying losses to the system. A water audit helps a
5 utility understand how much water is lost from a distribution
6 system through the detailed analysis of data, which the utility
7 can use to make informed decisions to reduce real or apparent
8 losses.

9 There is a growing trend across the United States where
10 states, including California, Colorado, Delaware, Georgia, New
11 Mexico, Pennsylvania, Tennessee, Texas, Washington, and
12 Wisconsin, and their water authorities have begun to mandate
13 water audits by water utilities.

14 The purpose of this Act is to establish a program to
15 implement standardized water audits of public water systems in
16 accordance with the method adopted by the American Water Works
17 Association's Water Audits and Loss Control Programs, Manual of
18 Water Supply Practices - M36, as amended.

19 SECTION 2. The commission on water resource management
20 shall establish a five-year program to provide technical
21 assistance to public water systems to conduct standardized water
22 audits of public water systems in accordance with the method

1 adopted by the American Water Works Association's Water Audits
2 and Loss Control Programs, Manual of Water Supply Practices -
3 M36, as amended.

4 In the first two years, the commission shall establish a
5 program [~~and~~] for the counties to conduct standardized water
6 audits of public systems operated by the counties. In the
7 following two [~~three~~] years, the commission shall extend the
8 program to all remaining large capacity public water systems and
9 public water systems in designated ground water management
10 areas.

11 In establishing the program, the commission [~~may~~] shall
12 utilize the American Water Works Association's Free Water Audit
13 Software, Version 5.0 or subsequent versions. The program
14 elements shall include water audit training workshops, Level
15 1 validation of water audits and follow-up communication, and
16 recommendations to improve water audit validity scores and to
17 address system losses.

18 [~~Water loss audit reports shall be validated through a~~
19 ~~process which follows the principles and terminology in the~~
20 ~~American Water Works Association's Water Audits and Loss Control~~
21 ~~Programs, Manual of Water Supply Practices - M36, as amended,~~

1 ~~including the American Water Works Association's Free Water~~
2 ~~Audit Software, Version 5.0 or subsequent versions.]~~

3 SECTION 3. The standardized water audits shall follow the
4 key parameters for establishing a water audit outlined in the
5 American Water Works Association's Water Audits and Loss Control
6 Programs, Manual of Water Supply Practices - M36, as amended,
7 including:

- 8 (1) Describing the distribution system boundaries to
9 identify all water sources supplying water to the
10 system, calculate the system input volume, and
11 calculate the volume of water supplied into the
12 distribution system;
- 13 (2) Setting time periods for the audit that are sufficient
14 to allow analysis and evaluation of the system water
15 supply;
- 16 (3) Establishing standardized units of measure so supply
17 and consumption units are the same;
- 18 (4) Assembling records and data from a wide variety of
19 operations in the water systems, including:
- 20 (A) Water supplied, including volume from own
21 sources, and water imported or exported;

- 1 (B) Authorized water consumption, including billed
2 metered, billed unmetered, and unbilled metered;
- 3 (C) Water system data, including length of mains,
4 number of service connections, average length of
5 customer service lines, and average operating
6 pressure; and
- 7 (D) Cost data, including total annual cost of
8 operating the water system, customer retail unit
9 cost, and variable production costs; and
- 10 (5) Identifying, quantifying, and assigning costs to
11 apparent losses and real losses.

12 SECTION 4. On January 1, 2017, the commission shall
13 implement the water audit program developed pursuant to sections
14 2 and 3 of this Act~~[-]~~, and shall include a process for Level 1
15 validation of water loss audit reports which follows the
16 principles and terminology in the American Water Works
17 Association's Water Audit and Loss Control Program, Manual M36,
18 as amended including the Free Water Audit Software, Version 5.0
19 or subsequent versions.

20 The commission shall provide the counties and other
21 operators of public water systems subject to this Act [~~shall~~
22 ~~provide the commission with]~~ the technical assistance and

1 information necessary to help prepare and validate the water
2 loss audit reports.

3 SECTION 5. Beginning in 2018, and for each subsequent
4 year thereafter, the ~~[commission]~~ counties shall submit, on July
5 1 of each year, a completed and validated water loss audit
6 report for each public water system operated by the counties for
7 the previous calendar year to the
8 ~~[legislature-]~~ commission. Beginning in 2020 [2021], and for
9 each subsequent year thereafter, ~~[the commission]~~ all remaining
10 large capacity public water systems and public water systems in
11 water management areas shall submit, on July 1 of each year, a
12 completed and validated water loss audit report on ~~[all~~
13 ~~remaining large capacity public water systems and public water~~
14 ~~systems in designated ground water management areas]~~ their water
15 systems for the previous calendar year to the
16 ~~[legislature-]~~ commission. Each water loss audit report
17 submitted to the legislature shall be accompanied by information
18 identifying steps taken in the preceding year to increase the
19 validity of data entered into the final audit, reduce the volume
20 of apparent losses, and reduce the volume of real losses.

21 SECTION 6. As used in this Act:

1 "Commission" means the commission on water resource
2 management.

3 "Public water system" means a system subject to Federal
4 Safe Drinking Water Act regulations, which provides water for
5 human consumption through pipes or other constructed
6 conveyances. Such a system includes any collection, treatment,
7 storage, and distribution facilities under the control of a
8 utility and used primarily in connection with the system.

9 "Large capacity public water system" means a public water
10 system that serves a population of one thousand or more.

11 "Designated water management area" means a geographic area
12 that has been designated pursuant to section 174C-41, Hawaii
13 Revised Statutes.

14 "Level 1 validation" means a water audit that has been
15 subject to third-party 'desktop review' of data that is
16 immediately available, like supply reports, consumption reports,
17 and testing reports. Level 1 validation includes utility staff
18 interviews with third-party validators focused on outlining
19 organizational practices to make sure that data validity scores
20 have been assigned correctly and consistently, and confirmed,
21 corrected, or noted as needing further investigation.

1 SECTION 7. There is appropriated out of the general
2 revenues of the State of Hawaii the sum of \$650,000 [~~\$350,000~~]
3 or so much thereof as may be necessary for fiscal year 2016-2017
4 to establish and implement the program to conduct standardized
5 water audits of public water systems in accordance with this
6 Act.

7 The sum appropriated shall be expended by the commission on
8 water resource management.

9 SECTION 8. This Act shall take effect on July 1, 2016.

Report Title:

Water Audits; Public Water Systems; Large Capacity Water Systems; Designated Water Management Areas; Appropriation

Description:

Establishes a program to implement standardized water audits of public water systems. Appropriation. (HB 2041 Proposed SD1)

The summary description of legislation appearing on this page is for informational purposes only and is not legislation or evidence of legislative intent.



Wai Maoli

HAWAII FRESH WATER INITIATIVE

827 Fort Street Mall | Honolulu, HI 96813 | (808) 537-6333
HawaiiCommunityFoundation.org

Fresh Water Council Members

William Aila

Stephen Anthony*

Michael Buck

Suzanne Case

Reginald Castanares

Meredith Ching

Derek Chow

Ka'eo Duarte

Sumner Erdman

Mark Fox

Thomas Giambelluca

Timothy Johns

Howard Killian

Patrick Kobayashi

Ernest Lau

Keith Okamoto

Jerry Ornellas

Monty Richards

Kapua Sproat

David Taylor

Dennis Teranishi

Barry Usagawa

*US Geological Survey
Liaison/Scientific Advisor to HCF

**Testimony of the
Hawai'i Fresh Water Initiative
on
H.B. 2041
Relating to Water Audits
House Committee on Water & Land
Monday, February 8, 2016
Conference Room 325**

The Hawaii Fresh Water Initiative strongly supports H.B. 2041, which directs the Commission of Water Resource Management to establish a 5-year program to conduct water audits of public water systems.

The Hawaii Fresh Water Initiative was launched in 2013 to bring many diverse parties together to develop a forward-thinking and consensus-based strategy to increase water security for Hawaii. A blue ribbon panel of water stakeholders drawn from multiple perspectives came together to jointly and unanimously recommend key strategies and policies that will increase Hawaii's water security.

One of the key strategies to achieve a statewide water conservation goal of 40 mgd is to identify and remedy water losses within our water transportation infrastructure.

H.B. 2041 directs the Commission on Water Resource management to establish a 5-year program to support water audits of public water systems. It directs that the audits be conducted according to the process adopted by the American Water Works Association's Audits and Loss Control Programs, Manual of Water Supply Practices – M36, as amended. This included utilization of the AWWA's Free Water Audit Software.

The implementation of water audits is important to establish a baseline for our large capacity public water systems, and to assist in identifying inefficiencies that result in the loss of water, increased energy costs, and lost revenues.

For these reasons, we strongly support H.B. 2041 and urge its passage.

From: mailinglist@capitol.hawaii.gov
Sent: Saturday, February 06, 2016 3:26 PM
To: waltestimony
Cc: dylanarm@hawaii.edu
Subject: *Submitted testimony for HB2041 on Feb 8, 2016 09:00AM*

HB2041

Submitted on: 2/6/2016

Testimony for WAL on Feb 8, 2016 09:00AM in Conference Room 325

Submitted By	Organization	Testifier Position	Present at Hearing
Dylan Armstrong	Individual	Support	No

Comments:

Please note that testimony submitted less than 24 hours prior to the hearing, improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

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DAVID Y. IGE
Governor

SHAN S. TSUTSUI
Lt. Governor



State of Hawaii
DEPARTMENT OF AGRICULTURE
1428 South King Street
Honolulu, Hawaii 96814-2512
Phone: (808) 973-9600 FAX: (808) 973-9613

SCOTT E. ENRIGHT
Chairperson, Board of Agriculture

PHYLLIS SHIMABUKURO-GEISER
Deputy to the Chairperson

LATE

TESTIMONY OF SCOTT E. ENRIGHT
CHAIRPERSON, BOARD OF AGRICULTURE

BEFORE THE HOUSE COMMITTEE ON WATER AND LAND

FEBRUARY 8, 2016
9:00 A.M.
CONFERENCE ROOM 325

HOUSE BILL NO. 2041
RELATING TO WATER AUDITS

Chairperson Yamane and Members of the Committee:

Thank you for the opportunity to testify on House Bill No. 2041. The purpose of this measure is to establish a program to implement standardized water audits of public water systems and makes an appropriation to support this initiative. The Department of Agriculture respectfully offers comments and defers to the Commission on Water Resource Management on implementation.

The efficient use of our limited water resources is of paramount importance to the continued growth and security of our State. Auditing can provide valuable information to help utilities manage their operational and financial resources in a more effective manner.

Thank you for the opportunity to testify on this measure.



LATE

From: mailinglist@capitol.hawaii.gov
Sent: Monday, February 08, 2016 9:05 AM
To: waltestimony
Cc: scoleman@surfrider.org
Subject: Submitted testimony for HB2041 on Feb 8, 2016 09:00AM

HB2041

Submitted on: 2/8/2016
Testimony for WAL on Feb 8, 2016 09:00AM in Conference Room 325

Submitted By	Organization	Testifier Position	Present at Hearing
Stuart Coleman	Surfrider Foundation	Support	No

Comments: Surfrider's Hawaii Chapters support this bill and the efforts to do an audit on our water supply to find where we're losing water and reduce the leaks. Mahalo, Stuart Coleman 2927 Hibiscus Pl. Hon., HI 96815

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From: mailinglist@capitol.hawaii.gov
Sent: Monday, February 08, 2016 8:43 AM
To: waltestimony
Cc: rbergstrom@surfrider.org
Subject: *Submitted testimony for HB2041 on Feb 8, 2016 09:00AM*



HB2041

Submitted on: 2/8/2016

Testimony for WAL on Feb 8, 2016 09:00AM in Conference Room 325

Submitted By	Organization	Testifier Position	Present at Hearing
Rafael Bergstrom	Surfrider Foundation Oahu Chapter	Support	No

Comments:

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BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843



February 8, 2016

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Manager and Chief Engineer

ELLEN E. KITAMURA, P.E.
Deputy Manager and Chief Engineer

The Honorable Ryan Yamane, Chair
and Members
Committee on Water and Land
House of Representatives
Hawaii State Capitol, Room 325
415 South Beretania Street
Honolulu, Hawaii 96813

LATE

Dear Chair and Members:

Subject: House Bill 2041 Relating to Water Audits

We support the intent of House Bill 2041, which establishes a standardized water loss audit program to reduce water loss and conserve potable water resources. We believe the leadership role of the State Commission on Water Resource Management is essential to ensure large public water systems comply in a consistent state-wide approach utilizing the American Water Works Association M-36 manual, which guides water utilities across the nation.

Thank you for your consideration of our testimony on House Bill 2041.

Very truly yours,

ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer

LATE

From: mailinglist@capitol.hawaii.gov
Sent: Monday, February 08, 2016 9:59 AM
To: waltestimony
Cc: milholen.jennifer@gmail.com
Subject: *Submitted testimony for HB2041 on Feb 8, 2016 09:00AM*

HB2041

Submitted on: 2/8/2016
Testimony for WAL on Feb 8, 2016 09:00AM in Conference Room 325

Submitted By	Organization	Testifier Position	Present at Hearing
Jennifer Milholen	Individual	Support	No

Comments:

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