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# A BILL FOR AN ACT

RELATING TO WATER AUDITS.

**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 water.  
3 It requires improving the efficiency of water delivery and  
4 identifying losses to the system. A water audit helps a utility  
5 understand how much water is lost from a distribution system  
6 through the detailed analysis of data, which the utility can use  
7 to make informed decisions to reduce real or apparent losses.

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

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

18 SECTION 2. The commission on water resource management  
19 shall establish a five-year program to conduct standardized  
20 water audits of public water systems in accordance with the  
21 method adopted by the American Water Works Association's Water



1 Audits and Loss Control Programs, Manual of Water Supply  
2 Practices - M36, as amended.

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

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

16 Water loss audit reports shall be validated through a  
17 process that follows the principles and terminology in the  
18 American Water Works Association's Water Audits and Loss Control  
19 Programs, Manual of Water Supply Practices - M36, as amended,  
20 including the American Water Works Association's Free Water  
21 Audit Software, Version 5.0 or subsequent versions.



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

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



1 (C) Water system data, including length of mains,  
 2 number of service connections, average length of  
 3 customer service lines, and average operating  
 4 pressure; and

5 (D) Cost data, including total annual cost of  
 6 operating the water system, customer retail unit  
 7 cost, and variable production costs; and

8 (5) Identifying, quantifying, and assigning costs to  
 9 apparent losses and real losses.

10 SECTION 4. On January 1, 2017, the commission shall  
 11 implement the water audit program developed pursuant to sections  
 12 2 and 3 of this Act.

13 The counties and other operators of public water systems  
 14 subject to this Act shall provide the commission with the  
 15 technical assistance and information necessary to help prepare  
 16 and validate the water loss audit reports.

17 SECTION 5. Beginning in 2018, and for each subsequent  
 18 year thereafter, the commission shall submit, on July 1 of each  
 19 year, a completed and validated water loss audit report for each  
 20 public water system operated by the counties for the previous  
 21 calendar year to the legislature. Beginning in 2021, and for



1 each subsequent year thereafter, the commission shall submit, on  
2 July 1 of each year, a completed and validated water loss audit  
3 report on all remaining large capacity public water systems and  
4 public water systems in designated ground water management areas  
5 for the previous calendar year to the legislature. Each water  
6 loss audit report submitted to the legislature shall be  
7 accompanied by information identifying steps taken in the  
8 preceding year to increase the validity of data entered into the  
9 final audit, reduce the volume of apparent losses, and reduce  
10 the volume of real losses.

11 SECTION 6. As used in this Act:

12 "Commission" means the commission on water resource  
13 management.

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

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

19 "Public water system" means a system subject to Federal  
20 Safe Drinking Water Act regulations, which provides water for  
21 human consumption through pipes or other constructed



1 conveyances. Such a system includes any collection, treatment,  
2 storage, and distribution facilities under the control of a  
3 utility and used primarily in connection with the system.

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

10 The sum appropriated shall be expended by the commission on  
11 water resource management.

12 SECTION 8. This Act shall take effect on July 1, 2050.



**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. Appropriates funds. (HB2041 HD1)

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

