

SB 1225

DAVID Y. IGE
GOVERNOR OF HAWAII



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

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**Testimony of
CARTY S. CHANG
Interim Chairperson**

**Before the Senate Committees on
ENERGY AND ENVIRONMENT
and
GOVERNMENT OPERATIONS**

**Tuesday, February 10, 2015
1:20 PM
State Capitol, Conference Room 414**

**In consideration of
SENATE BILL 1225
RELATING TO WATER RECLAMATION**

Senate Bill 1225 proposes to explore the sustainability and conservation potential of water scalping facilities in Hawaii by requiring the Department of Accounting and General Services (DAGS) to conduct a feasibility study on the use of water scalping technologies in state facilities and implement a four-year water scalping pilot project in conjunction with the Department of Health and county agencies having jurisdiction over wastewater management. This measure also appropriates an unspecified amount of funding to DAGS to implement the pilot program. **While the Department of Land and Natural Resources (Department) supports augmenting Hawaii's natural water resources and reducing the amount of treated effluent currently requiring disposal, the Department nonetheless defers to DAGS regarding the undertaking of the actions called for in this measure.**

As an island state, Hawaii has limited access to natural fresh water supplies. Rising development pressure, population growth, and climate change are expected to create more stressors and competition for water in the future. Therefore, it is imperative to study and promote resource augmentation with options like recycled water in appropriate locations and for appropriate uses. Recycled water is a renewable and drought resistant supply source and is suitable for uses such as irrigation and other non-potable uses.

With few exceptions, wastewater treatment plants in Hawaii are centralized and located along the coasts. While this provides for some efficiencies and economies of scale, it limits opportunities for beneficial water reuse. Unless new recycled water distribution systems are constructed, reuse

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LAND
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would be limited to areas in the immediate vicinity of the wastewater treatment plants. Opportunities for recycled water use at higher elevations would require the installation of new water lines and pumps to move the recycled water back up to higher elevations, incurring additional capital and operational costs. In addition, submerged sewer lines running along the coast have experienced salt water infiltration, in some cases rendering the treated effluent too salty to be used for irrigation.

Water scalping allows the diversion of the liquid portion of the waste stream at higher locations proximal to potential reuse areas. It will help to preserve our limited natural water resources. It will help to achieve our goal of “the right water for the right use” in that non-potable needs may be satisfied with an alternative non-potable water source, thereby reserving higher quality water for domestic and other higher quality uses. It may defer the need to expand existing wastewater treatment plants or the need to construct large centralized wastewater reclamation facilities, which may be more expensive than the development of smaller onsite package plants. It will reduce the amount of treated effluent needing disposal via injection wells or ocean outfalls, and ameliorate any attendant negative environmental and ecological impacts that may be associated with these practices. It should help to achieve better compliance with the Clean Water Act and reduce potential future enforcement actions and sanctions. For these reasons, studying and promoting water scalping – for appropriate uses and in appropriate locations – would be beneficial to the State of Hawaii.

The Department defers to the Department of Health with regard to any rules, regulations, or concerns with the development of water scalping facilities or water reuse.



**STATE OF HAWAII
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**Testimony COMMENTING on SB1225
RELATING TO WATER RECLAMATION**

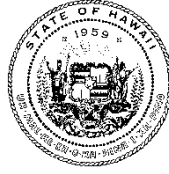
SENATORS MIKE GABBARD AND DONAVAN M. DELA CRUZ, CHAIRS
SENATE COMMITTEES ON ENERGY AND ENVIRONMENT AND GOVERNMENT OPERATIONS

Hearing Date: February 10, 2015
Time: 1:20 p.m.

Room Number: 414

- 1 **Fiscal Implications:** This measure may impact the priorities as set forth in the Governor's Executive
- 2 Budget.
- 3 **Department Testimony:** The Department appreciates the intent of this measure but defers to the
- 4 Department of Accounting and General Services and the Governor's Executive Budget.
- 5 Thank you for the opportunity to testify.
- 6 **Offered Amendments:** None.

DAVID Y. IGE
GOVERNOR



DOUGLAS MURDOCK
Comptroller

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P.O. BOX 119, HONOLULU, HAWAII 96810-0119

WRITTEN TESTIMONY
OF
DOUGLAS MURDOCK, COMPTROLLER
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
TO THE
SENATE COMMITTEES
ON
GOVERNMENT OPERATIONS
AND
ENERGY AND ENVIRONMENT
ON
FEBRUARY 10, 2015

S.B. 1225

RELATING TO WATER RECLAMATION

Chair Dela Cruz, Chair Gabbard, and members of the Committees, thank you for the opportunity to testify on S.B. 1225.

DAGS has reservations on the potential benefit to the State within state infrastructure. In essence, a state water scalping program would divert wastewater generated from state buildings that is currently discharged into the City municipal sewer system into a smaller, yet to be constructed, State-operated regional or district wastewater treatment plant. The wastewater would then have to be treated to "R-1" conditions to irrigate lawns and landscaping. In comparison, "R-1" level treatment surpasses current treatment levels at the Sand Island wastewater treatment plant. To be feasible, a minimum of say 100,000 gallons per day (gpd)

would need to be processed. At 20 gpd per person for offices, this is the equivalent of 5000 workers of service area, or roughly 1,000,000 square feet of occupied office space, to generate the necessary wastewater flow. The R-1 water would then best be used to irrigate large acres of land, similar in size to golf courses and public parks, to offset the high cost of installation and operation. There are few, if any, State owned facilities that may benefit from water scalping.

In addition, the funding required to finance the feasibility study and pilot project would likely replace or adversely impact priorities indicated in the Executive Budget.

Thank you for the opportunity to testify on this matter.

FROM:

**Mel Chiogiogi, PhD
President and CEO**

TO:

**Hawaii State Senate
Committee on Energy and Environment
Committee on Government Operations**



**RE: TESTIMONY IN SUPPORT
SB1225
Relating to Water Reclamation
February 10, 2015, 1:20PM
Hawaii State Capitol, Room 414**

Dear Chairs Gabbard and Dela Cruz:

I submit this testimony in support of SB1225 related to water reclamation.

In an effort to reduce reliance on limited conventional water supplies, many municipalities, industries, and States are becoming increasingly interested in the development of alternative water sources, such as water reclamation. Water reclamation and reuse is a treatment method which has recently increased in popularity in the continental United States. The cost of this method is reasonably inexpensive compared to linear system treatment facilities. The reclaimed water is used for such things as landscape and crop irrigation, soil compaction, industrial processing, heating and cooling, flushing of toilets in commercial buildings, wetland enhancement, stream flow augmentation, and groundwater recharge.

When using water reclamation and reuse as a method of treating wastewater there are many benefits to the environment, as well as communities, which are being served. With this method there is no discharge and when the reclaimed wastewater is reused, no pollutants are discharged into our State's waters. The reuse of wastewater should lower the cost of sewer charges, which Hawaii citizens pay high rates for on a monthly basis along with their costly water bills.

Using a wastewater treatment method of reclamation lowers the need for fresh water. Oahu's aquifers and streams have already begun to decline over the past decade. Expanding paved urban areas and decreasing agricultural production particularly on the island of Oahu—where a majority of the island's population resides—will also further reduce fresh water resupply to the aquifers.

The island of Oahu has sufficient fresh water to supply its near term needs but will begin to strain its fresh water supplies within 100 years. The Hawaii State government estimates that the population on the island of Oahu will increase to about 1,130,000 by 2030 which will demand approximately 206 million gallons of water per day. According to the Board of Water Supply, municipal users consume about 76% of Oahu's ground water and 24% for agriculture, military and other private users.

Increasing conservation measures, such as water reclamation, can prevent future water shortages and provides a pathway to Hawaii's future economic sustainability, growth and prosperity. Therefore, I would appreciate your support and careful consideration to this issue.

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**Hawaii State Senate
Committee on Energy and Environment
Committee on Government Operations**

**RE: TESTIMONY IN SUPPORT
SB1225
Relating to Water Reclamation
February 10, 2015, 1:20PM
Hawaii State Capitol, Room 414**

Dear Chairs Gabbard and Dela Cruz:

I submit this testimony in support of SB1225 related to water reclamation. According to the latest data from the U.S. Drought Monitor on February 3, 2015 the State of Hawaii is currently experiencing either “abnormally dry” or “moderate drought” conditions. The source of this report emanates from the National Drought Mitigation Center located at the University of Nebraska-Lincoln. This report is critical for all of us to understand the importance of water conservation and reclamation necessary to ensure the long-term sustainability of our island state and people.

As an island state we are surrounded by a body of water, the Pacific Ocean. But as we all know, to desalinize ocean water for the purpose of consumption, or reclamation for use in agricultural crops and landscape design it is and continues to be an expensive, non-sustainable venture. Water reclamation, however, provides a pathway for all of us to continue utilizing our fresh water resources while:

1. reducing the impact on our counties sewer systems
2. reducing the impact on fresh water resources for irrigation
3. reducing costs associated with sewer and fresh water usage

Other states like California, Arizona and Texas have implemented successful water reclamation programs to mitigate fresh water usage. Hawaii should be no different and should start the process to ensure water reclamation becomes a part of the daily fabric of our lives. To be sure, water reclamation takes the waste out of wastewater and can be used for irrigation or with further treatment used even as drinking water.

This bill starts the process for Hawaii to move in a more water-sustainable direction than we are today. Therefore I humbly ask for your committees' vote in support.

Respectfully Submitted,

Eassie M. Miller, P.E.
Project Manager
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