

JOSH GREEN, M.D.
Governor

SYLVIA LUKE
Lt. Governor



SHARON HURD
Chairperson, Board of Agriculture

MORRIS M. ATTA
Deputy to the Chairperson

State of Hawai'i
DEPARTMENT OF AGRICULTURE
KA 'OIHANA MAHI'AI
1428 South King Street
Honolulu, Hawai'i 96814-2512
Phone: (808) 973-9600 FAX: (808) 973-9613

TESTIMONY OF SHARON HURD
CHAIRPERSON, BOARD OF AGRICULTURE

BEFORE THE HOUSE COMMITTEE ON
AGRICULTURE & FOOD SYSTEMS

FEBRUARY 13, 2023
2:20PM
CONFERENCE ROOM 312
AND VIA VIDEOCONFERENCE

HOUSE BILL NO. 309
RELATING TO IRRIGATION

Chairperson Gates and Members of the Committee:

Thank you for the opportunity to testify on House Bill 309. This bill authorizes the director of finance to issue general obligation bonds to finance capital improvements to various irrigation systems. The Department of Agriculture supports this measure provided it does not impact the priorities set in the Governor's executive biennium budget.

The Department respectfully requests that the blank amount on page 1, line 12, be filled in with \$45,700,000. These funds are expected to be used for the following (but not limited to):

1. Molokai Irrigation System Improvements, Molokai - \$2,000,000
2. Kahuku Agricultural Park Miscellaneous Improvements, Oahu - \$2,000,000
3. Waimanalo Irrigation System Improvements, Oahu - \$2,000,000
4. State Irrigation System Reservoir Safety Improvements, Statewide- \$3,000,000 State & \$3,000,000 Federal Funding
5. Waimea Irrigation System Improvements, Hawaii - \$3,500,000
6. Agricultural Infrastructure Improvements, Statewide - \$1,000,000
7. Wahiawa Irrigation System, Wahiawa Dam, and Lake Wilson Reservoir, Oahu - \$22,500,000
8. State Irrigation System Reservoir Safety Improvements, Statewide - \$6,700,000

Thank you for the opportunity to testify on this measure.





February 10, 2023

Representative Cedric Asuega Gates, Chair
Representative Kirstin Kahaloa, Vice-Chair
House Committee on Agriculture & Food Systems

Support of HB 309, Relating to Irrigation (Authorizes the director of finance to issue general obligation bonds to finance capital improvements to various irrigation systems.)

Monday, February 13, 2023, 2:20 p.m.; State Capitol Conference Room 312, Via Videoconference

The Land Use Research Foundation of Hawaii (LURF) is a private, non-profit research and trade association whose members include major Hawaii landowners, developers and a utility company. LURF's mission is to advocate for reasonable, rational and equitable land use planning, legislation and regulations that encourage well-planned economic growth and development, while safeguarding Hawaii's significant natural and cultural resources, and public health and safety.

LURF appreciates the opportunity to express its **support of HB 309** and of the various agricultural stakeholder groups who defend the goals of viable agricultural operations and the conservation and protection of agriculture, including important agricultural lands (IAL) in Hawaii.

HB 309. The purpose of this bill is to provide additional funding for improvements to the Waiahole irrigation system.

LURF's Position. Since large amounts of prime agricultural lands and irrigation systems became available for conversion to diversified agriculture due to the plantation closures in the 1990s, the State has had the opportunity to strengthen and expand Hawaii's diversified agriculture industry. Agricultural lands, however, require significant quantities of water to support and maintain productivity. To ensure that local agricultural producers may continue to receive a dependable supply of water for crops and to support operations, sufficient funding is necessary to improve, repair and maintain Hawaii's irrigation systems. Increasingly extreme weather conditions, including extended drought occurrences also emphasize the need for timely repair and maintenance of these vital systems.

Local farmers and ranchers who rely on irrigation systems to service their agricultural lands consider such resources critical to conduct their agricultural operations and to sustain their businesses. These agricultural stakeholders believe measures such as HB 309 will greatly assist by providing funding necessary to make repairs and improvements to various irrigation systems for the long-term betterment of the State's agricultural industry and look to legislation like this to help them work toward the expansion of diversified agriculture; promote the agricultural self-sufficiency of the State; and to protect water as an important resource.

For the above reasons, LURF **supports HB 309**, and respectfully urges your favorable consideration.

Thank you for the opportunity to provide comments in support of this matter.



P.O. Box 253, Kunia, Hawai'i 96759
Phone: (808) 848-2074; Fax: (808) 848-1921
e-mail info@hfbf.org; www.hfbf.org

February 13, 2023

HEARING BEFORE THE
HOUSE COMMITTEE ON AGRICULTURE & FOOD SYSTEMS

TESTIMONY ON HB 309
RELATING TO IRRIGATION

Conference Room 312 & Videoconference
2:20 PM

Aloha Chair Gates, Vice-Chair Kahaloa, and Members of the Committee:

I am Brian Miyamoto, Executive Director of the Hawai'i Farm Bureau (HFB). Organized since 1948, the HFB is comprised of 1,800 farm family members statewide and serves as Hawai'i's voice of agriculture to protect, advocate and advance the social, economic, and educational interests of our diverse agricultural community.

The Hawai'i Farm Bureau supports HB 309, which authorizes the director of finance to issue general obligation bonds to finance capital improvements to various irrigation systems.

Since the demise of plantation operations across the islands, we have seen the erosion of irrigation systems. Ditches that carried water fell into disrepair with major leaks in the system, and in cases such as Ka'u, cracks in tunnels created enough losses that there is no longer a significant flow of water. The Legislature continues to advocate for increased self-sufficiency and sustainability. Agriculture must play a key role in the process and for there to be agriculture, water is important.

As time passes, these systems continue to degrade. Timely funding is needed to restore these systems to increase the opportunities for viable farm and ranch operations.

For these reasons, Hawai'i Farm Bureau respectfully requests your **strong support of HB 309**, authorizing general obligation bonds to finance the restoration of irrigation systems.

Thank you for this opportunity to provide comments on this measure.



Email: communications@ulupono.com

HOUSE COMMITTEE ON AGRICULTURE & FOOD SYSTEMS
Monday, February 13, 2023 — 2:20 p.m.

Ulupono Initiative supports HB 309, Relating to Irrigation.

Dear Chair Gates and Members of the Committee:

My name is Micah Munekata, and I am the Director of Government Affairs at Ulupono Initiative. We are a Hawai'i-focused impact investment firm that strives to improve the quality of life throughout the islands by helping our communities become more resilient and self-sufficient through locally produced food, renewable energy and clean transportation choices, and better management of freshwater resources.

Ulupono support HB 309, which authorizes the Director of Finance to issue general obligation bonds to finance capital improvements to various irrigation systems.

Ulupono supports funding for critical agricultural water infrastructure across Hawai'i, much of which resides within the management of the State Department of Agriculture (DOA). The DOA is tasked with the operation and maintenance of five irrigation systems and six reservoirs across the state.¹ We are hopeful that the Legislature will consider funding the DOA's CIP Budget that highlights the important support needed to maintain and repair these irrigation systems. These include:

- **Molokai Irrigation System Improvements, Molokai—\$2 million**
Improvements to system pumps, electrical and mechanical systems, system infrastructure, Supervisory Control and Data Acquisition (SCADA), and other improvements.
- **Kahuku Agricultural Park Miscellaneous Improvements, O'ahu—\$2 million**
Improvements to Kahuku Ag Park irrigation system, including replacement of irrigation water storage tank.
- **Waimanalo Irrigation System Improvements, O'ahu—\$2 million**
Improvements to Waimanalo Irrigation System, including costs for construction at Maunawili Valley Phase 2 Improvements.
- **State Irrigation System Reservoir Safety Improvements, O'ahu (State and Federal funds)—\$3 million State and \$3 million Federal**
Safety improvements to reservoirs, including Waimanalo Reservoir spillway and outlet channel, Kualapu'u Reservoir replacement and relocation of reservoir blow-off valve, and Pu'u Pulehu Reservoir inlet improvements.

¹ <https://hdoa.hawaii.gov/arm/irrigation-systems/>

- **Waimea Irrigation System Improvements, Hawai'i—\$3.5 million**
Improvements to Waimea Irrigation System, including improvement work at remote intake locations and restoration/stabilization of tunnel.
- **Agricultural Infrastructure Improvements, Statewide—\$1 million**
Improvements to agricultural water irrigation systems, including pipelines, valves, meters, SCADA, and system assessment.

Agricultural water system infrastructure (irrigation systems) is an essential component of our state's efforts to achieve its goals of increasing local food production and food security. This is affirmed in the DOA's 2019 Agricultural Water Use and Development Plan (AWUDP), which documents how Hawai'i's agricultural industry relies on these water systems to deliver inexpensive water to meet and expand agricultural production even during times of drought. The DOA has identified agricultural water systems as the most important infrastructural requirement needed to expand Hawai'i's diversified agriculture industry. However, most of the large-scale irrigation systems in the state are or will soon be more than 100 years old.

Additionally, according to the Association of State Dam Safety Officials' latest Dam Safety Performance Report, more than a third of Hawai'i's dams are rated either in poor or unsatisfactory condition.

In the AWUDP, the DOA estimates the five-year cost of repairs and maintenance for Hawai'i's most critical agricultural water systems at approximately \$168 million—of that amount, about \$90 million is needed specifically for DOA-managed agricultural water systems over that same period. This is substantial for our small state, requiring an average of more than \$33 million per year for five years. While the price tag to repair and maintain these systems may seem high, the cost to replace these plantation-era water systems would be in the billions of dollars. More importantly, continuing to let these systems fall into disrepair puts Hawai'i's food security at risk, particularly the food security of the next generation who will be forced to adapt to a hotter and dryer planet.

Climate Change in Hawai'i

The importance of well-maintained agricultural water systems becomes even greater when the impacts of climate change on Hawai'i's food security are considered. In April 2021, Hawai'i became the first state to declare a climate emergency, when the State Legislature passed [Senate Concurrent Resolution 44 SD1 HD1](#), which also requested "statewide collaboration toward an immediate just transition and emergency mobilization effort to restore a safe climate."

The people of Hawai'i are seeing first-hand local impacts consistent with the effects of climate change: rising air temperatures; decreased rainfall and stream flow; increased rain intensity; increased frequency of drought; and increased frequency of powerful storms. For example:

- Since 1950, temperatures across the Hawaiian Islands have been on the rise, ranging from increases of 0.2 to 0.4 degrees Fahrenheit per decade;
- The annual total precipitation measured at Hilo International Airport decreased by nearly 20 inches since 1950—the most among Hawai'i's four major airports;
- Rain intensity is becoming as much a destructive factor as drought, with the amount of rain falling in the very heaviest downpours from 1958 to 2007 increasing by approximately 12%;

- The area in Hawai'i burned annually by wildfires has increased four-fold in recent decades, according to University of Hawai'i wildland fire researcher Clay Trauernicht; and
- Powerful storms are anticipated to become more frequent, as warmer climates tend to amplify existing weather patterns and variability, according to Hawai'i's state climatologist, Pao-Shin Chu.

These are each detrimental to local food production on their own; and yet, as an isolated island state we are also susceptible to climate change impacts far from our shores due to Hawai'i's continuing over-reliance on food from imports.

Irrigation Infrastructure IS Part of Climate Change Adaptation

For international and domestic food producers, meeting the global demand of a projected 10 billion people by 2050—an increase of 2.3 billion people over just a quarter of a century—will become increasingly challenging as the Earth's climate continues to warm. Researchers estimate this will require an increase in global food production of 60%, if we are to ensure enough food for all.

In the Biden Administration's fact sheet outlining the Infrastructure Investment and Jobs Act, the White House highlighted investments in **infrastructure to make communities more resilient to the impacts of climate change, including** "funds to protect against droughts and floods..."

Irrigation plays an essential role in increasing food production and is an effective method of climate change adaptation. Globally, irrigated land represents only 16% of arable land, but produces 44% of total crop production. For most crops, irrigation can double or triple crop yields. For example, irrigated crop yields for corn, soybean, and wheat are 165%, 75%, and 140% higher than rain-fed yields. In regards to climate change adaptation, irrigation systems mitigate the impact of decreasing rainfall, increasing frequency of drought, and increasing temperatures; and irrigation can help capture more rainfall during storm events, so that water can be used in the future.

According to research by The Nature Conservancy, climate change will bring increased moisture deficits across the United States. Nationally, the total area irrigated will need to increase by 11-54 million acres (an increase of 19-94%) by 2090 in order to maintain food production.

The DOA's AWUDP plan concludes: "The investment into these agricultural water systems is the key to provide adequate water to continue to grow diversified agriculture. As the saying goes, ...without water there is no agriculture..., which is the reason these agricultural water systems were originally constructed—and why they need to be maintained for another 100 years."

We strongly agree. For generations to come, local food production will depend on these systems and their ability to provide water for local farmers and ranchers. This represents a singular opportunity to make Hawai'i more self-sufficient and resilient.

Respectfully,

Micah Munekata
Director of Government Affairs

HB-309

Submitted on: 2/10/2023 5:46:38 PM

Testimony for AGR on 2/13/2023 2:20:00 PM

Submitted By	Organization	Testifier Position	Testify
Dana Keawe	Individual	Support	Written Testimony Only

Comments:

support